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# INTRODUCTION

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### VEHICLE IDENTIFICATION NUMBER

#### DESCRIPTION

The Vehicle Identification Number (VIN) plate is located on the lower windshield fence near the left A-pillar. The VIN contains 17 characters that provide data concerning the vehicle. Refer to the VIN decoding chart to determine the identification of a vehicle.

The Vehicle Identification Number is also imprinted on the:

- Body Code Plate.
- Vehicle Safety Certification Label.
- Frame rail.

To protect the consumer from theft and possible fraud the manufacturer is required to include a Check Digit at the ninth position of the Vehicle Identification Number. The check digit is used by the manufacturer and government agencies to verify the authenticity of the vehicle and official documentation. The formula to use the check digit is not released to the general public.

#### VEHICLE IDENTIFICATION NUMBER DECODING CHART

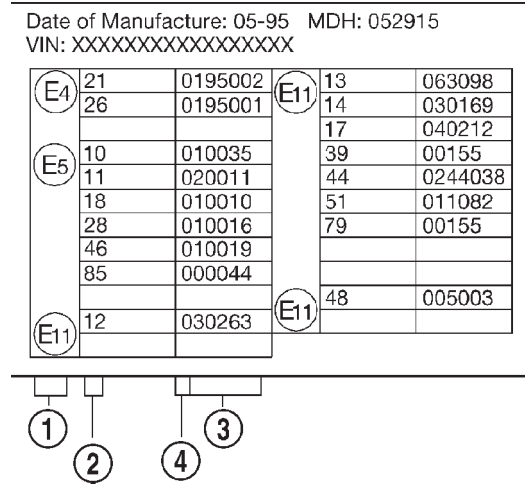
POSITION	INTERPRETATION	CODE = DESCRIPTION
1	Country of Origin	1 = United States
2	Make	J = Jeep
3	Vehicle Type	4 = MPV
4	Gross Vehicle Weight Rating	F = 4001-5000 lbs.
5	Vehicle Line	F = Cherokee 4X4 (LHD) J = Cherokee 4X4 (RHD) EXPORT N = Cherokee 4X4 (RHD) B = Cherokee 4X2 (RHD) T = Cherokee 4X2 (LHD)
6	Series/Transmission	N = 5 Speed Manual A = 3 Speed Auto B = 4 Speed Auto 4 = Sport 6 = Cherokee Country/Limited 5 = Classic
7	Body Style	7 = 2dr Sport Utility 8 = 4dr Sport Utility
8	Engine	M = 2.5L Diesel P = 2.5L Gasoline S = 4.0L Gasoline
9	Check Digit	
10	Model Year	1 = 2001
11	Assembly Plant	L = Toledo Assembly#1
12 thru 17	Vehicle Build Sequence	

# E-MARK LABEL

## DESCRIPTION

An E-mark Label (Fig. 1) is located on the rear shut face of the driver's door. The label contains the following information:

- Date of Manufacture
- Month-Day-Hour (MDH)
- Vehicle Identification Number (VIN)
- Country Codes
- Regulation Number
- Regulation Amendment Number
- Approval Number



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**Fig. 1 E-MARK LABEL**

- 1 - Country Code
- 2 - Regulation Number
- 3 - Approval Number
- 4 - Amendment Number

# LUBRICATION & MAINTENANCE

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## LUBRICATION & MAINTENANCE

### DESCRIPTION - FUEL REQUIREMENTS

Your engine is designed to meet all emissions regulations and provide excellent fuel economy and performance when using high quality unleaded “regular” gasoline having an octane rating of 87. The routine use of premium gasoline is not recommended. Under normal conditions the use of premium fuel will not provide a benefit over high quality regular gasolines and in some circumstances may result in poorer performance.

Light spark knock at low engine speeds is not harmful to your engine. However, continued heavy spark knock at high speeds can cause damage and immediate service is required. Engine damage resulting from operation with a heavy spark knock may not be covered by the new vehicle warranty.

Poor quality gasoline can cause problems such as hard starting, stalling and hesitations. If you experience these symptoms, try another brand of gasoline before considering service for the vehicle.

Over 40 auto manufacturers world-wide have issued and endorsed consistent gasoline specifications (the Worldwide Fuel Charter, WWFC) to define fuel properties necessary to deliver enhanced emissions, performance and durability for your vehicle. We recommend the use of gasolines that meet the WWFC specifications if they are available.

### REFORMULATED GASOLINE

Many areas of the country require the use of cleaner burning gasoline referred to as “reformulated” gasoline. Reformulated gasoline contain oxygenates, and are specifically blended to reduce vehicle emissions and improve air quality.

We strongly support the use of reformulated gasoline. Properly blended reformulated gasoline will provide excellent performance and durability for the engine and fuel system components.

### GASOLINE/OXYGENATE BLENDS

Some fuel suppliers blend unleaded gasoline with oxygenates such as 10% ethanol, MTBE, and ETBE. Oxygenates are required in some areas of the country during the winter months to reduce carbon monoxide emissions. Fuels blended with these oxygenates may be used in your vehicle.

**CAUTION: DO NOT use gasoline containing METHANOL. Gasoline containing methanol may damage critical fuel system components.**

### MMT IN GASOLINE

MMT is a manganese-containing metallic additive that is blended into some gasoline to increase octane. Gasoline blended with MMT provide no performance advantage beyond gasoline of the same octane number without MMT. Gasoline blended with MMT reduce spark plug life and reduce emission system performance in some vehicles. We recommend that gasolines free of MMT be used in your vehicle. The MMT content of gasoline may not be indicated on the gasoline pump; therefore, you should ask your gasoline retailer whether or not his/her gasoline contains MMT.

It is even more important to look for gasoline without MMT in Canada because MMT can be used at levels higher than allowed in the United States. MMT is prohibited in Federal and California reformulated gasoline.

### SULFUR IN GASOLINE

If you live in the northeast United States, your vehicle may have been designed to meet California low emission standards with Cleaner-Burning California reformulated gasoline with low sulfur. If such fuels are not available in states adopting California emission standards, your vehicles will operate satisfactorily on fuels meeting federal specifications, but emission control system performance may be adversely affected. Gasoline sold outside of California is permitted to have higher sulfur levels which may

## LUBRICATION &amp; MAINTENANCE (Continued)

affect the performance of the vehicle's catalytic converter. This may cause the Malfunction Indicator Lamp (MIL), Check Engine or Service Engine Soon light to illuminate. We recommend that you try a different brand of unleaded gasoline having lower sulfur to determine if the problem is fuel related prior to returning your vehicle to an authorized dealer for service.

**CAUTION: If the Malfunction Indicator Lamp (MIL), Check Engine or Service Engine Soon light is flashing, immediate service is required; see on-board diagnostics system section.**

**MATERIALS ADDED TO FUEL**

All gasoline sold in the United States and Canada are required to contain effective detergent additives. Use of additional detergents or other additives is not needed under normal conditions.

**FUEL SYSTEM CAUTIONS**

**CAUTION: Follow these guidelines to maintain your vehicle's performance:**

- The use of leaded gas is prohibited by Federal law. Using leaded gasoline can impair engine performance, damage the emission control system, and could result in loss of warranty coverage.

- An out-of-tune engine, or certain fuel or ignition malfunctions, can cause the catalytic converter to overheat. If you notice a pungent burning odor or some light smoke, your engine may be out of tune or malfunctioning and may require immediate service. Contact your dealer for service assistance.

- When pulling a heavy load or driving a fully loaded vehicle when the humidity is low and the temperature is high, use a premium unleaded fuel to help prevent spark knock. If spark knock persists, lighten the load, or engine piston damage may result.

- The use of fuel additives which are now being sold as octane enhancers is not recommended. Most of these products contain high concentrations of methanol. Fuel system damage or vehicle performance problems resulting from the use of such fuels or additives is not the responsibility of DaimlerChrysler Corporation and may not be covered under the new vehicle warranty.

**NOTE: Intentional tampering with emissions control systems can result in civil penalties being assessed against you.**

**SPECIFICATIONS****FLUID CAPACITIES**

DESCRIPTION	SPECIFICATION
FUEL TANK	76L (20 U.S. Gallons)****
Engine Oil - with Filter	5.7L (6.0 qts.)
Cooling System	11.4L (12 qts.)***
AUTOMATIC TRANSMISSION	
Service Fill - AW4	3.3L (3.5 qts)
O-haul Fill - AW4	8.4L (8.9 qts)
MANUAL TRANSMISSION	
NV3550	3.15L (3.3 qts.)
TRANSFER CASE	
NV231	1.2L (2.5 pts.)
NV242	1.35L (2.85 pts.)
FRONT AXLE	
Model 181 FBI	1.48L (3.13 pts.)
Model 186 FBI	1.18L (2.25 pts.)
REAR AXLE	
Model 194 RBI	1.66L (3.5 pts.)*
8 1/4	2.08L (4.4 pts.)**
* When equipped with Trac-lok, include 3.5 ounces of Friction Modifier.	
** When equipped with Trac-lok, include 4 ounces of Friction Modifier.	
*** Includes 0.9L (1.0 qts.) for coolant reservoir.	
****Nominal refill capacities are shown. A variation may be observed from vehicle to vehicle due to manufacturing tolerance and refill procedure.	

**FLUID TYPES****DESCRIPTION - TRANSFER CASE - NV231**

Recommended lubricant for the NV231 transfer case is Mopar® ATF +4, type 9602, Automatic Transmission Fluid.

**DESCRIPTION - TRANSFER CASE - NV242**

Recommended lubricant for the NV242 transfer case is Mopar® ATF+4, type 9602 Automatic Transmission Fluid.

**DESCRIPTION - GEAR LUBRICATION RECOMMENDATIONS**

A multi-purpose, hypoid gear lubricant which conforms to the following specifications should be used.

## FLUID TYPES (Continued)

Mopar Hypoid Gear Lubricant conforms to all of these specifications.

**FRONT AXLE**

- The lubricant should have MIL-L-2105C and API GL 5 quality specifications.
- Lubricant is a thermally stable SAE 80W-90 gear lubricant.
- Lubricant for axles intended for heavy-duty or trailer tow use is SAE 75W-140 SYNTHETIC gear lubricant.

**REAR AXLE**

- The lubricant should have MIL-L-2105C and API GL 5 quality specifications.
- Lubricant is a thermally stable SAE 80W-90 gear lubricant.
- Lubricant for axles intended for heavy-duty or trailer tow use is SAE 75W-140 SYNTHETIC gear lubricant.

**NOTE:** Trac-lok™ equipped axles require a friction modifier be added to the lubricant.

**CAUTION:** If axle is submerged in water, lubricant must be replaced immediately to avoid possible premature axle failure.

**DESCRIPTION - AUTOMATIC TRANSMISSION FLUID**

**NOTE:** Refer to the maintenance schedules in this group for the recommended maintenance (fluid/filter change) intervals for this transmission.

**NOTE:** Refer to Service Procedures in this group for fluid level checking procedures.

Mopar® Dexron III/Mercon is the recommended fluid for the AW-4 automatic transmissions.

**Dexron II fluid IS NOT recommended. Clutch chatter can result from the use of improper fluid.**

Mopar® Dexron III/Mercon automatic transmission fluid when new is red in color. The ATF is dyed red so it can be identified from other fluids used in the vehicle such as engine oil or antifreeze. The red color is not permanent and is not an indicator of fluid condition. As the vehicle is driven, the ATF will begin to look darker in color and may eventually become brown. **This is normal.** A dark brown/black fluid accompanied with a burnt odor and/or deterioration in shift quality may indicate fluid deterioration or transmission component failure.

**FLUID ADDITIVES**

DaimlerChrysler strongly recommends against the addition of any fluids to the transmission, other than those automatic transmission fluids listed above. Exceptions to this policy are the use of special dyes to aid in detecting fluid leaks.

Various “special” additives and supplements exist that claim to improve shift feel and/or quality. These additives and others also claim to improve converter clutch operation and inhibit overheating, oxidation, varnish, and sludge. These claims have not been supported to the satisfaction of DaimlerChrysler and these additives **must not be used**. The use of transmission “sealers” should also be avoided, since they may adversely affect the integrity of transmission seals.

**DESCRIPTION - ENGINE OIL**

**WARNING: NEW OR USED ENGINE OIL CAN BE IRRITATING TO THE SKIN. AVOID PROLONGED OR REPEATED SKIN CONTACT WITH ENGINE OIL. CONTAMINANTS IN USED ENGINE OIL, CAUSED BY INTERNAL COMBUSTION, CAN BE HAZARDOUS TO YOUR HEALTH. THOROUGHLY WASH EXPOSED SKIN WITH SOAP AND WATER. DO NOT WASH SKIN WITH GASOLINE, DIESEL FUEL, THINNER, OR SOLVENTS, HEALTH PROBLEMS CAN RESULT. DO NOT POLLUTE, DISPOSE OF USED ENGINE OIL PROPERLY. CONTACT YOUR DEALER OR GOVERNMENT AGENCY FOR LOCATION OF COLLECTION CENTER IN YOUR AREA.**

**API SERVICE GRADE CERTIFIED**

Use an engine oil that is API Service Grade Certified. MOPAR® provides engine oils that conform to this service grade.

**SAE VISCOSITY**

An SAE viscosity grade is used to specify the viscosity of engine oil. Use only engine oils with multiple viscosities such as 5W-30 or 10W-30. These oils are specified with a dual SAE viscosity grade which indicates the cold-to-hot temperature viscosity range. Select an engine oil that is best suited to your particular temperature range and variation (Fig. 1).

**ENERGY CONSERVING OIL**

An Energy Conserving type oil is recommended for gasoline engines. The designation of ENERGY CONSERVING is located on the label of an engine oil container.

FLUID TYPES (Continued)

ENGINE OIL VISCOSITY GRADES									
	5W-30			10W-30 (Preferred)					
°F	-20°	0°	10°	20°	32°	60°	80°	100°	
°C	-29°	-18°	-12°	-7°	0°	16°	27°	38°	
Temperature range anticipated before next oil change									
80bce9ea									

Fig. 1 Temperature/Engine Oil Viscosity

CONTAINER IDENTIFICATION

Standard engine oil identification notations have been adopted to aid in the proper selection of engine oil. The identifying notations are located on the label of engine oil plastic bottles and the top of engine oil cans (Fig. 2).



9400-9

Fig. 2 API Symbol

FLUID FILL/CHECK LOCATIONS

DESCRIPTION

The lubricant for the NV3550 is Mopar® Manual Transmission Lubricant. This is the **only** lubricant to be used, no other lubricants are acceptable, or recommended.

The correct transmission lubricant level is to the bottom edge of the fill plug hole (Fig. 3).

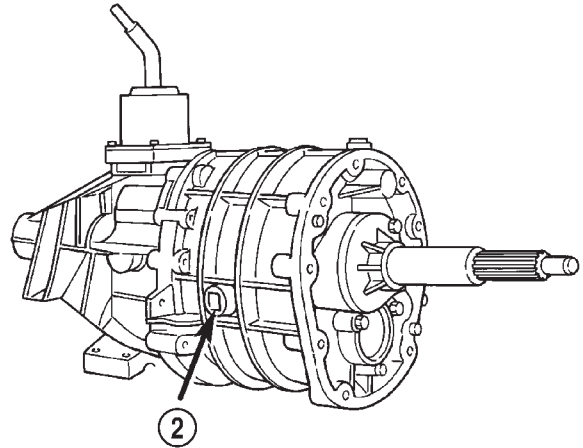
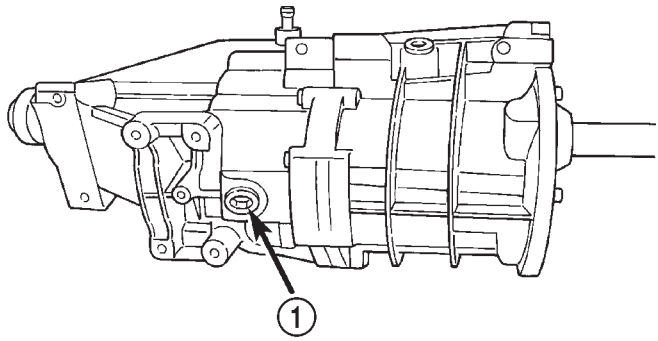
The transmission must be level to obtain an accurate lubricant level check. A drive-on type of hoist is recommended for this purpose.

The lubricant capacity is approximately 3.15 liters (3.3 qts). This is the approximate quantity needed to refill the transmission after a lubricant change or overhaul.

The fill plug is located in the front housing and the drain plug is on the bottom of the housing (Fig. 3).

DESCRIPTION - TRANSFER CASE

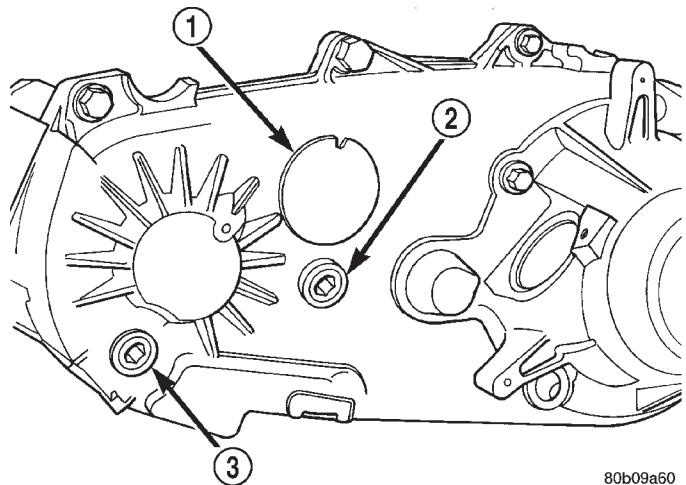
The fill and drain plugs are both in the rear case (Fig. 4). Correct fill level is to the bottom edge of the fill plug hole. Be sure the vehicle is level to ensure an accurate fluid level check.



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Fig. 3 Drain and Fill Plug Locations

- 1 - DRAIN PLUG
- 2 - FILL PLUG



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Fig. 4 Fill/Drain Plug

- 1 - I.D. TAG
- 2 - FILL PLUG
- 3 - DRAIN PLUG

## FLUID FILL/CHECK LOCATIONS (Continued)

**FLUID FILL LOCATIONS AND LUBRICATION POINTS**

The fluid fill/check locations and lubrication points are located in each applicable group.

**MAINTENANCE SCHEDULES****DESCRIPTION**

There are two maintenance schedules that show proper service based on the conditions that the vehicle is subjected to.

Schedule "A", lists scheduled maintenance to be performed when the vehicle is used for general transportation.

Schedule "B", lists maintenance intervals for vehicles that are operated under the conditions listed at the beginning of that schedule section.

Use the schedule that best describes the driving conditions.

Where time and mileage are listed, follow the interval that occurs first.

**UNSCHEDULED INSPECTION*****At Each Stop For Fuel***

- Check engine oil level, add as required.
- Check windshield washer solvent and add if required.

***Once A Month***

- Check tire pressure and look for unusual wear or damage.
- Inspect battery and clean and tighten terminals as required. Check electrolyte level and add water as needed.
- Check fluid levels of coolant reservoir, power steering, brake master cylinder, and transmission and add as needed.
- Check all lights and all other electrical items for correct operation.

***At Each Oil Change***

- Inspect exhaust system.
- Inspect brake hoses.
- Rotate the tires at each oil change interval shown on Schedule "A" (7,500 miles) or every other interval shown on Schedule "B" (6,000 miles).
- Check coolant level, hoses, and clamps.
- After completion of off-road operation, the underside of the vehicle should be thoroughly inspected. Examine threaded fasteners for looseness.

**EMISSION CONTROL SYSTEM MAINTENANCE**

The scheduled emission maintenance listed in **bold type** on the Maintenance Schedules, must be done at

the mileage specified to assure the continued proper functioning of the emission control system. These, and all other maintenance services included in this manual, should be done to provide the best vehicle performance and reliability. More frequent maintenance may be needed for vehicles in severe operating conditions such as dusty areas and very short trip driving.

**FLUID FILL LOCATIONS AND LUBRICATION POINTS**

The fluid fill/check locations and lubrication points are located in each applicable group.

**SCHEDULE—A*****1 000 KM***

- Change engine oil.
- Change engine oil filter.
- Check all fluid levels.
- Check correct torque, intake manifold mounting nuts.
- Check correct torque, exhaust manifold mounting nuts.
- Check correct torque, turbocharger mounting nuts.
- Check correct torque, water manifold bolts.

***10 000 KM***

- Change engine oil.
- Change engine oil filter.

***20 000 KM***

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.

***30 000 KM***

- Change engine oil.
- Change engine oil filter.

***40 000 KM***

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.
- Replace fuel filter/water separator element.\*\*

***50 000 KM***

- Change engine oil.
- Change engine oil filter.
- Drain and fill transfer case fluid.

***60 000 KM***

- Change engine oil.
- Change engine oil filter.



## MAINTENANCE SCHEDULES (Continued)

- Replace air filter element.
- Replace drive belt.
- Check engine smoke.
- Replace engine coolant.

**70 000 KM**

- Change engine oil.
- Change engine oil filter.

**80 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.
- Replace fuel filter/water separator element.\*\*

**90 000 KM**

- Change engine oil.
- Change engine oil filter.

**100 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.
- Check glow plug operation.
- Drain and fill transfer case fluid.

**EVERY 40 000 KM AFTER 80 000 KM**

- Replace fuel filter/water separator element.\*\*

\*\*The fuel filter/water separator element should be replaced once a year if the vehicle is driven less than 40 000 km annually or if power loss from fuel starvation is detected.

**EVERY 10 000 KM AFTER 100 000 KM**

- Change engine oil.
- Change engine oil filter.

**EVERY 20 000 KM AFTER 100 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.
- Check glow plug operation.

**Important:** Inspection and service should also be performed any time a malfunction is observed or suspected.

**SCHEDULE "B"**

Follow Schedule "B" if the vehicle is usually operated under one or more of the following conditions.

- Frequent short trips driving less than 5 miles (8 km).
- Frequent driving in dusty conditions.
- Frequent trailer towing.
- Extensive idling.

• More than 50% of driving is at sustained high speeds during hot weather, above 90°F (32°C).

- Off-road driving.
- Desert operation.

**500 KM**

- Check correct torque, intake manifold mounting nuts.
- Check correct torque, exhaust manifold mounting nuts.
- Check correct torque, turbocharger mounting nuts.
- Check correct torque, water manifold bolts.

**1 000 KM**

- Change engine oil.
- Change engine oil filter.
- Check all fluid levels.

**5 000 KM**

- Change engine oil.
- Change engine oil filter.

**10 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.

**15 000 KM**

- Change engine oil.
- Change engine oil filter.

**20 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.

**25 000 KM**

- Change engine oil.
- Change engine oil filter.

**30 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Replace drive belt.
- Check engine smoke.
- Replace engine coolant.

**35 000 KM**

- Change engine oil.
- Change engine oil filter.

## MAINTENANCE SCHEDULES (Continued)

**40 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.
- Replace fuel filter/water separator element.

**45 000 KM**

- Change engine oil.
- Change engine oil filter.

**50 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.
- Drain and fill transfer case fluid.

**55 000 KM**

- Change engine oil.
- Change engine oil filter.

**60 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.
- Replace fuel filter/water separator element.

**65 000 KM**

- Change engine oil.
- Change engine oil filter.

**70 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.

**75 000 KM**

- Change engine oil.
- Change engine oil filter.

**80 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Replace drive belt.
- Check engine smoke.
- Replace engine coolant.

**85 000 KM**

- Change engine oil.
- Change engine oil filter.

**90 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.

**95 000 KM**

- Change engine oil.
- Change engine oil filter.

**100 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.
- Check glow plug operation.
- Replace fuel filter/water separator element.
- Drain and fill transfer case fluid.

**EVERY 5 000 KM AFTER 100 000 KM**

- Change engine oil.
- Change engine oil filter.

**EVERY 10 000 KM AFTER 100 000 KM**

- Change engine oil.
- Change engine oil filter.
- Replace air filter element.
- Drive belt visual inspection.
- Check glow plug operation.

**EVERY 20 000 KM AFTER 100 000 KM**

• Replace fuel filter/water separator element.  
 ‡Off-highway operation, trailer towing, taxi, limousine, bus, snow plowing, or other types of commercial service or prolonged operation with heavy loading, especially in hot weather, require front and rear axle service indicated with a ‡ in Schedule "B". Perform these services if the vehicle is usually operated under these conditions.

**Important:** Inspection and service should also be performed any time a malfunction is observed or suspected.

**UNSCHEDULED INSPECTION****At Each Stop For Fuel**

- Check engine oil level, add as required.

**Once A Month**

- Check tire pressure and look for unusual wear or damage.
- Inspect battery and clean and tighten terminals as required. Check electrolyte level and add water as needed.

## MAINTENANCE SCHEDULES (Continued)

- Check fluid levels of coolant reservoir, power steering, brake master cylinder, and transmission and add as needed.

- Check all lights and all other electrical items for correct operation.

**At Each Oil Change**

- Inspect exhaust system.
- Inspect brake hoses.
- Rotate the tires at each oil change interval shown on Schedule "A" (7,500 miles) or every other interval shown on Schedule "B" (6,000 miles).
  - Check coolant level, hoses, and clamps.
  - After completion of off-road operation, the underside of the vehicle should be thoroughly inspected. Examine threaded fasteners for looseness.

**EMISSION CONTROL SYSTEM MAINTENANCE**

The scheduled emission maintenance listed in **bold type** on the Maintenance Schedules, must be done at the mileage specified to assure the continued proper functioning of the emission control system. These, and all other maintenance services included in this manual, should be done to provide the best vehicle performance and reliability. More frequent maintenance may be needed for vehicles in severe operating conditions such as dusty areas and very short trip driving.

**FLUID FILL LOCATIONS AND LUBRICATION POINTS**

The fluid fill/check locations and lubrication points are located in each applicable group.

**SCHEDULE "A"****7,500 Miles (12 000 km) or at 6 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage (4x4 only).
- Check manual transmission fluid level.
- Check exhaust system.

**15,000 Miles (24 000 km) or at 12 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage (4x4 and 4x2).
- Check manual transmission fluid level.
- Check exhaust system.

**22,500 Miles (36 000 km) or at 18 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate steering linkage (4x4 only).
- Check manual transmission fluid level.
- Check exhaust system.

**30,000 Miles (48 000 km) or at 24 months**

- **Replace air cleaner element.**
- **Replace spark plugs.**
- Inspect drive belt, adjust tension as necessary.
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage (4x4 and 4x2).
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Drain and refill transfer case fluid.
- Check exhaust system.

**37,500 Miles (60 000 km) or at 30 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage (4x4 only).
- Check manual transmission fluid level.
- Check exhaust system.

**45,000 Miles (72 000 km) or at 36 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.
- Lubricate steering linkage (4x4 and 4x2).
- Check manual transmission fluid level.
- Check exhaust system.

**52,500 Miles (84 000 km) or at 42 months**

- Check engine coolant level, hoses, and clamps.
- Flush and replace engine coolant. Then flush and replace every 24 months or 30,000 miles (48 000 km).
  - Change engine oil.
  - Replace engine oil filter.
  - Inspect brake hoses.
  - Lubricate steering linkage (4x4 only).
  - Check manual transmission fluid level.
  - Check exhaust system.

## MAINTENANCE SCHEDULES (Continued)

**60,000 Miles (96 000 km) or at 48 months**

- **Replace air cleaner element.**
- **Replace ignition cables.**
- **Replace spark plugs.**
- Inspect drive belt, adjust tension as necessary.
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage (4x4 and 4x2).
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Drain and refill transfer case fluid.
- Check exhaust system.

**67,500 Miles (108 000 km) or at 54 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate steering linkage (4x4 only).
- Check manual transmission fluid level.
- Check exhaust system.

**75,000 Miles (120 000 km) or at 60 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage (4x4 and 4x2).
- Check manual transmission fluid level.
- Check exhaust system.

**82,500 Miles (133 000 km) or at 66 months**

- Check engine coolant level, hoses, and clamps.
- Flush and replace engine coolant.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage (4x4 only).
- Check manual transmission fluid level.
- Check exhaust system.

**90,000 Miles (144 000 km) or at 72 months**

- **Replace air cleaner element.**
- **Replace spark plugs.**
- Inspect drive belt, adjust tension as necessary.
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.

- Lubricate steering linkage (4x4 and 4x2).
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Drain and refill transfer case fluid.
- Check exhaust system.

**97,500 Miles (156 000 km) or at 78 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage (4x4 only).
- Check manual transmission fluid level.
- Check exhaust system.

**105,000 Miles (168 000 km) or at 84 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage (4x4 and 4x2).
- Check manual transmission fluid level.
- Check exhaust system.

**112,500 Miles (180 000 km) or at 90 months**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate steering linkage (4x4 only).
- Check manual transmission fluid level.
- Check exhaust system.

**120,000 Miles (192 000 km) or at 96 months**

- **Replace air cleaner element.**
- **Replace ignition cables.**
- **Replace spark plugs.**
- Inspect drive belt, adjust tension as necessary.
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage (4x4 and 4x2).
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Drain and refill transfer case fluid.
- Check exhaust system.

**Important:** Inspection and service should also be performed any time a malfunction is observed or suspected.

**SCHEDULE "B"**

Follow Schedule "B" if the vehicle is usually operated under one or more of the following conditions.

## MAINTENANCE SCHEDULES (Continued)

- Frequent short trips driving less than 5 miles (8 km).
- Frequent driving in dusty conditions.
- Frequent trailer towing.
- Extensive idling.
- More than 50% of driving is at sustained high speeds during hot weather, above 90°F (32°C).
- Off-road driving.
- Desert operation.

**3,000 Miles (5 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**6,000 Miles (10 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Check exhaust system.

**9,000 Miles (14 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**12,000 Miles (19 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.
- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Change front and rear axle fluid.
- Check exhaust system.

**15,000 Miles (24 000 km)**

- **Inspect engine air cleaner element, replace as necessary.**
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.

- Check exhaust system.

**18,000 Miles (29 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Check exhaust system.

**21,000 Miles (34 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**24,000 Miles (38 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.
- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Change front and rear axle fluid.
- Check exhaust system.

**27,000 Miles (43 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**30,000 Miles (48 000 km)**

- **Inspect engine air cleaner element, replace as necessary.**
- **Replace spark plugs.**
- Inspect drive belt, adjust tension as necessary.
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Drain and refill transfer case fluid.
- Check exhaust system.

## MAINTENANCE SCHEDULES (Continued)

**33,000 Miles (53 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**36,000 Miles (58 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.
- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Change front and rear axle fluid.
- Check exhaust system.

**39,000 Miles (62 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**42,000 Miles (67 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Check exhaust system.

**45,000 Miles (72 000 km)**

- **Inspect engine air cleaner element, replace as necessary.**
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**48,000 Miles (77 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.

- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Change front and rear axle fluid.
- Check exhaust system.

**51,000 Miles (82 000 km)**

- Check engine coolant level, hoses, and clamps.
- Flush and replace engine coolant. Then flush and replace every 30,000 miles (48 000 km).
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**54,000 Miles (86 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Check exhaust system.

**57,000 Miles (91 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**60,000 Miles (96 000 km)**

- **Inspect engine air cleaner element, replace as necessary. Replace ignition cables.**
- **Replace spark plugs.**
- Inspect drive belt, adjust tension as necessary.
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.
- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Drain and refill transfer case fluid.
- Change front and rear axle fluid.
- Check exhaust system.

**63,000 Miles (101 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.

## MAINTENANCE SCHEDULES (Continued)

- Lubricate steering linkage.
- Check exhaust system.

**66,000 Miles (106 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Check exhaust system.

**69,000 Miles (110 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**72,000 Miles (115 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.
- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Change front and rear axle fluid.
- Check exhaust system.

**75,000 Miles (120 000 km)**

- **Inspect engine air cleaner element, replace as necessary.**
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**78,000 Miles (125 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Check exhaust system.

**81,000 Miles (130 000 km)**

- Check engine coolant level, hoses, and clamps.
- Flush and replace engine coolant.

- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**84,000 Miles (134 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.
- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Change front and rear axle fluid.
- Check exhaust system.

**87,000 Miles (139 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkag.
- Check exhaust system.

**90,000 Miles (144 000 km)**

- **Inspect engine air cleaner element, replace as necessary.**
- **Replace spark plugs.**
- Inspect drive belt, adjust tension as necessary.
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Drain and refill transfer case fluid.
- Check exhaust system.

**93,000 Miles (149 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkag.
- Check exhaust system.

**96,000 Miles (154 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.

## MAINTENANCE SCHEDULES (Continued)

- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Change front and rear axle fluid.
- Check exhaust system.

**99,000 Miles (158 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkag.
- Check exhaust system.

**102,000 Miles (163 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Check exhaust system.

**105,000 Miles (168 000 km)**

- **Inspect engine air cleaner element, replace as necessary.**
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**108,000 Miles (173 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.
- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Change front and rear axle fluid.
- Check exhaust system.

**111,000 Miles (178 000 km)**

- Check engine coolant level, hoses, and clamps.
- Flush and replace engine coolant.

- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkage.
- Check exhaust system.

**114,000 Miles (182 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate ball joints.
- Lubricate steering linkage.
- Check manual transmission fluid level.
- Check exhaust system.

**117,000 Miles (187 000 km)**

- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Lubricate steering linkag.
- Check exhaust system.

**120,000 Miles (192 000 km)**

- **Inspect engine air cleaner element, replace as necessary. Replace ignition cables.**
- **Replace spark plugs.**
- Inspect drive belt, adjust tension as necessary.
- Check engine coolant level, hoses, and clamps.
- Change engine oil.
- Replace engine oil filter.
- Inspect brake hoses.
- Inspect brake linings.
- Lubricate ball joints.
- Lubricate steering linkage.
- Drain and refill automatic transmission fluid.
- Check manual transmission fluid level.
- Drain and refill transfer case fluid.
- Change front and rear axle fluid.
- Check exhaust system.

**Important:** Inspection and service should also be performed any time a malfunction is observed or suspected.





# DIFFERENTIAL & DRIVELINE

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## FRONT AXLE - 181FBI - 186FBI

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## FRONT AXLE - 181FBI - 186FBI

### SPECIFICATIONS

#### FRONT AXLE

#### AXLE SPECIFICATIONS

DESCRIPTION	SPECIFICATION
Axle Ratio	3.07, 3.55, 3.73, 4.10
Differential Side Gear Clearance	0.12-0.20 mm (0.005-0.008 in.)
Differential Bearing Preload	0.2 mm(0.008 in.)
Ring Gear Diameter	181 mm (7.125 in.)
Ring Gear Backlash	0.12-0.20 mm (0.005-0.008 in.)
Pinion Gear Standard Depth	92.1 mm (3.625 in.)
Pinion Bearing Preload - Original Bearings	1-2 N·m (10-20 in. lbs.)
Pinion Bearing Preload - New Bearings	1.7-3.4 N·m (15-30 in. lbs.)

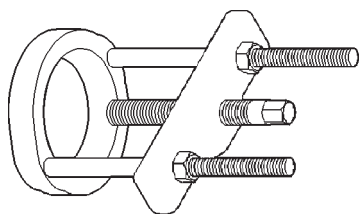
FRONT AXLE - 181FBI - 186FBI (Continued)

TORQUE SPECIFICATIONS

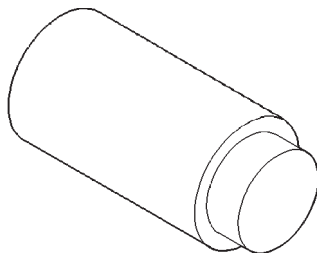
DESCRIPTION	N-m	Ft. Lbs.	In. Lbs.
Fill Hole Plug	34	25	
Differential Cover Bolts	41	30	
Bearing Cap Bolts	61	45	
Ring Gear Bolts	108	80	
Axle Nut	237	175	
Hub Bearing Bolts	102	75	

SPECIAL TOOLS

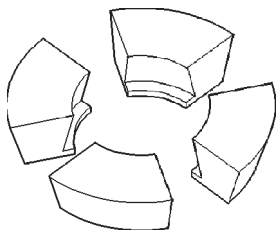
181FBI AXLE



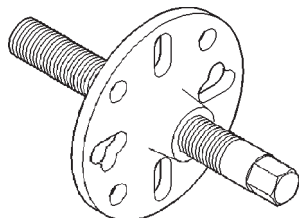
**Puller C-293-PA**



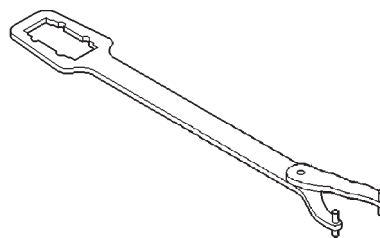
**Plug SP-3289**



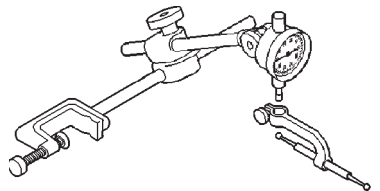
**Adapter C-293-39**



**Puller C-452**

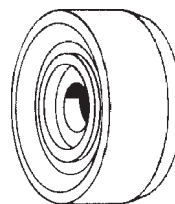


**Wrench C-3281**

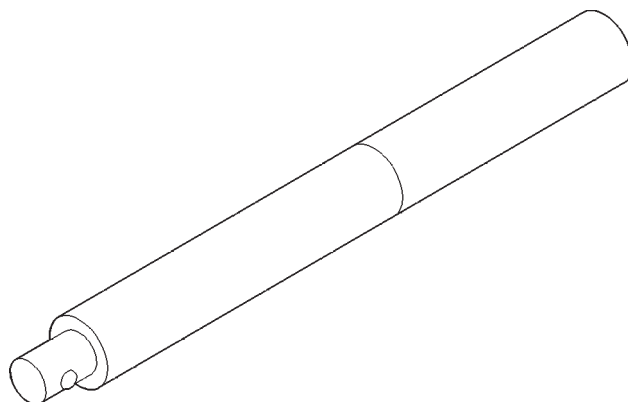


**Dial Indicator C-3339**

90116420

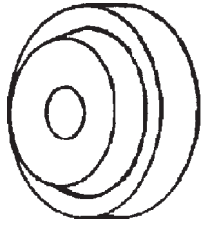


**Installer C-3716-A**

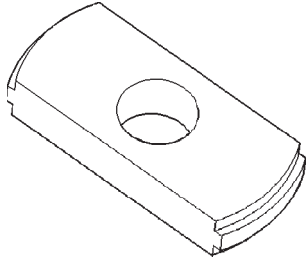


**Handle C-4171**

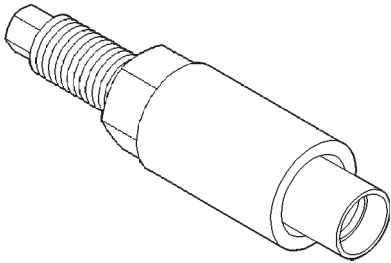
FRONT AXLE - 181FBI - 186FBI (Continued)



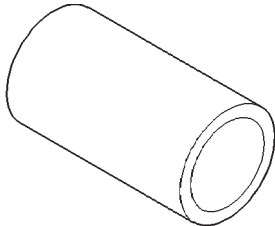
**Installer D-146**



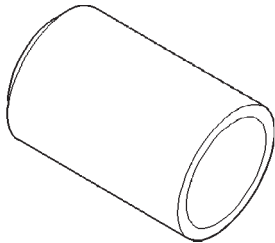
**Remover D-149**



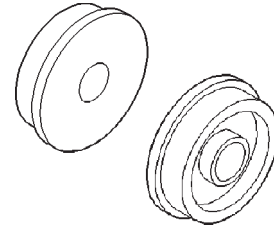
**Installer W-162-D**



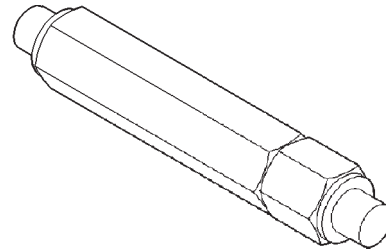
**Cup 8109**



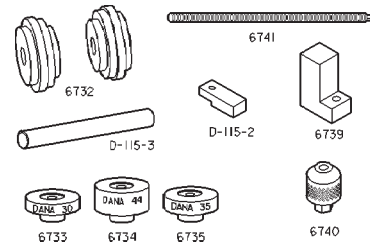
**Installer 6761**



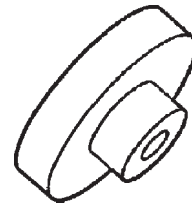
**Installer Discs 8110**



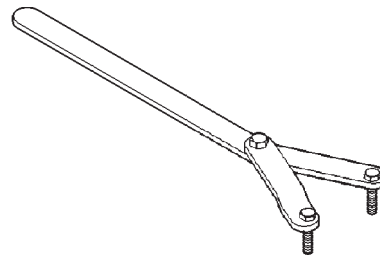
**Turnbuckle 6797**



**Pinion Depth Set 6774**

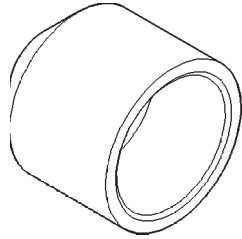


**Pinion Block 6733**

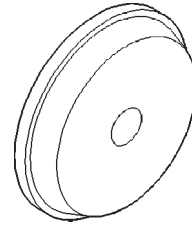


**Spanner Wrench 6958**

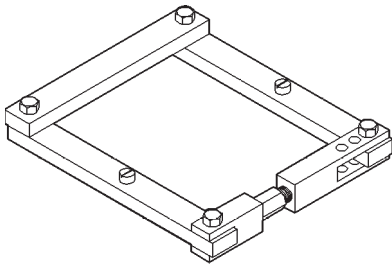
FRONT AXLE - 181FBI - 186FBI (Continued)



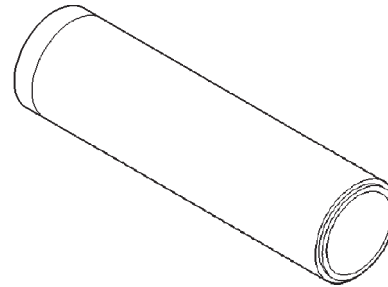
**Installer C-3972-A**



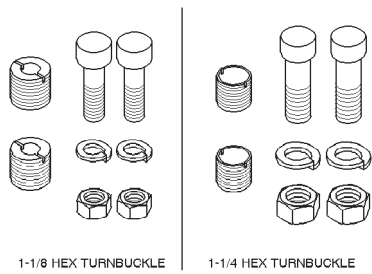
**Installer D-130**



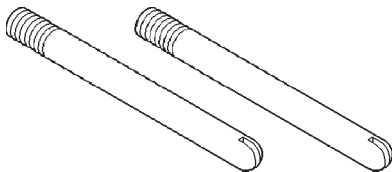
**Spreader W-129-B**



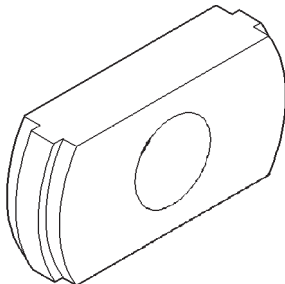
**Installer W-262**



**Adapter Kit 6987**



**Pilot Stud C-3288-B**

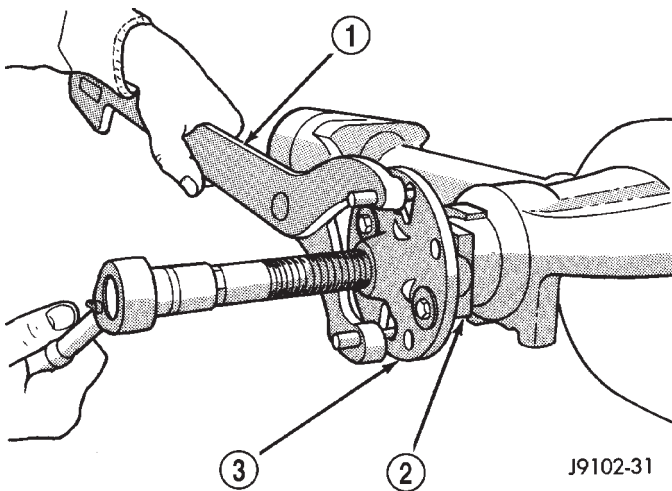


**Remover C-4345**

## PINION SEAL

### REMOVAL

- (1) Raise and support the vehicle.
- (2) Remove wheel and tire assemblies.
- (3) Remove brake rotors (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/ROTORS - REMOVAL) and calipers (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/DISC BRAKE CALIPERS - REMOVAL) .
- (4) Mark propeller shaft and pinion yoke for installation reference.
- (5) Remove propeller shaft from the yoke.
- (6) Rotate pinion gear three or four times.
- (7) Record rotating torque of the pinion gear with an inch pound torque wrench for installation reference.
- (8) Using Spanner Wrench 6958 to hold the pinion yoke, remove the pinion nut and washer.
- (9) Remove pinion yoke with Remover C-452 and Flange Wrench C-3281 (Fig. 1).



**Fig. 1 Pinion Yoke**

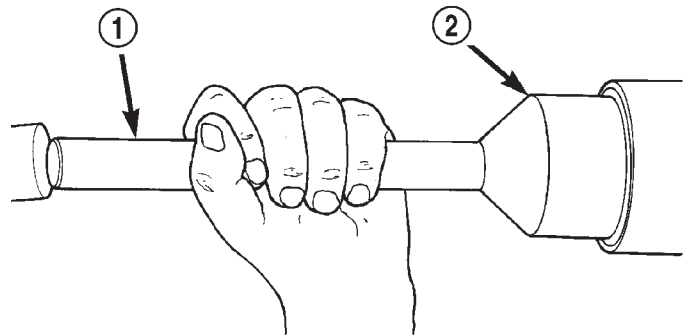
- 1 - WRENCH
- 2 - YOKE
- 3 - REMOVER

- (10) Remove pinion seal with a pry tool or a slide hammer mounted screw.

### INSTALLATION

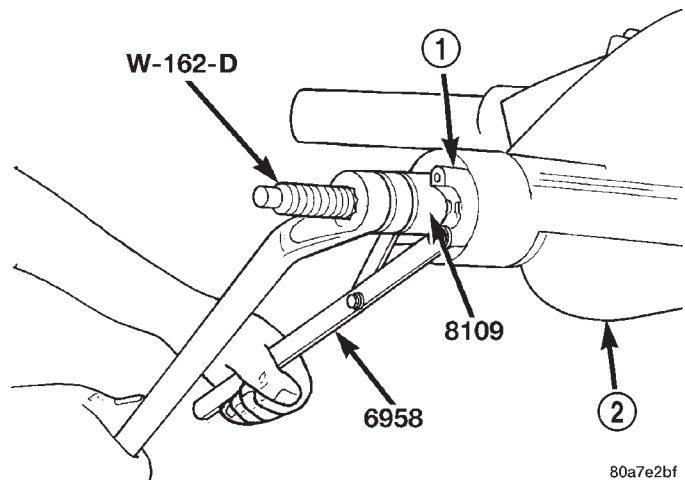
- (1) Apply a light coating of gear lubricant on the lip of pinion seal. Install seal with Installer C-3972-A and Handle C-4171 (Fig. 2).
- (2) Install yoke on the pinion gear with Installer W-162-D, Cup 8109 and Wrench 6958 (Fig. 3).

**CAUTION: Do not exceed the minimum tightening torque 271 N·m (200 ft. lbs.) when installing the pinion yoke retaining nut at this point. Damage to collapsible spacer or bearings may result.**



**Fig. 2 Pinion Seal**

- 1 - HANDLE - C-4171
- 2 - INSTALLER - C-3972-A



**Fig. 3 Pinion Yoke Installation**

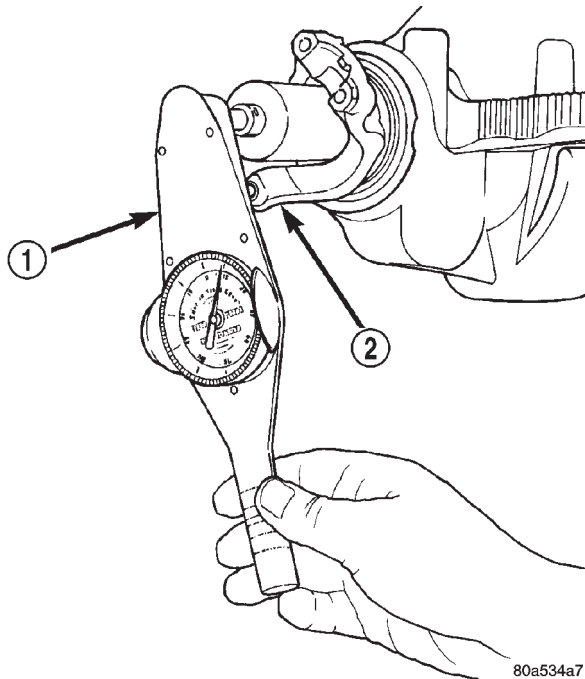
- 1 - PINION YOKE
- 2 - AXLE HOUSING

- (3) Install yoke washer and **new** nut on the pinion gear and tighten nut until there is zero bearing end-play.
- (4) Tighten the nut to 216 N·m (160 ft. lbs.).

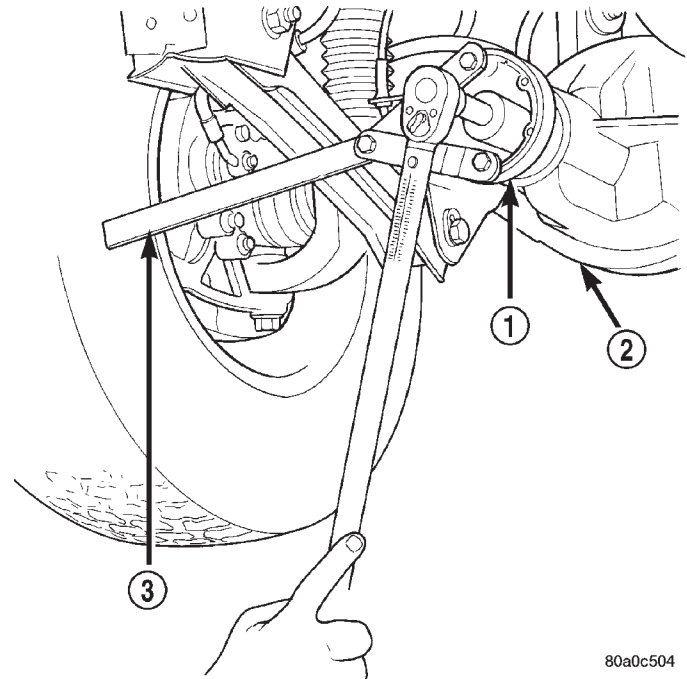
**CAUTION: Never loosen pinion gear nut to decrease pinion gear bearing rotating torque and never exceed specified preload torque. If preload torque or rotating torque is exceeded a new collapsible spacer must be installed.**

- (5) Rotate the pinion shaft using an inch pound torque wrench. Rotating torque should be equal to the reading recorded during removal plus an additional 0.56 N·m (5 in. lbs.) (Fig. 4).
- (6) If the rotating torque is low, use Spanner Wrench 6958 to hold the pinion yoke (Fig. 5) and tighten pinion shaft nut in 6.8 N·m (5 ft. lbs.) increments until proper rotating torque is achieved.

## PINION SEAL (Continued)

**Fig. 4 Pinion Rotating Torque**

- 1 - TORQUE WRENCH
- 2 - PINION YOKE

**Fig. 5 Tightening Pinion Shaft**

- 1 - PINION FLANGE
- 2 - FRONT AXLE
- 3 - SPANNER WRENCH

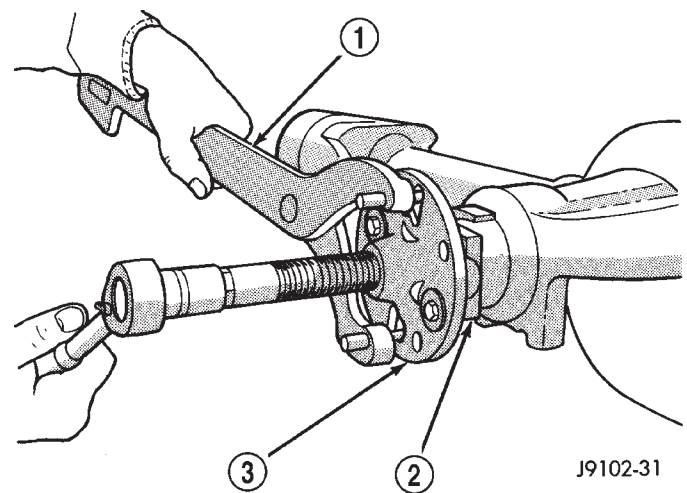
**CAUTION:** If the maximum tightening torque 353 N-m (260 ft. lbs.) is reached prior to reaching the required rotating torque, the collapsible spacer may have been damaged. Replace the collapsible spacer.

- (7) Install propeller shaft with reference marks aligned.
- (8) Check and fill with gear lubricant.
- (9) Install brake rotors (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/ROTORS - INSTALLATION) and calipers (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/DISC BRAKE CALIPERS - INSTALLATION).
- (10) Install wheel and tire assemblies.
- (11) Lower the vehicle.

## COLLAPSIBLE SPACER

### REMOVAL

- (1) Raise and support the vehicle.
- (2) Remove wheel and tire assemblies.
- (3) Remove brake rotors (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/ROTORS - REMOVAL) and calipers (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/DISC BRAKE CALIPERS - REMOVAL).
- (4) Mark propeller shaft and pinion yoke for installation reference.
- (5) Remove propeller shaft from the yoke.

**Fig. 6 Pinion Yoke**

- 1 - SPECIAL TOOL C-3281
- 2 - YOKE
- 3 - SPECIAL TOOL C-452

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COLLAPSIBLE SPACER (Continued)

(10) Remove pinion seal with a suitable pry tool or a slide hammer mounted screw.

(11) Remove front pinion bearing with a pair of pick tools to pull the bearing off the pinion gear shaft. If the bearing becomes bound on the shaft, lightly tap the end of the pinion gear with a rawhide/ rubber hammer.

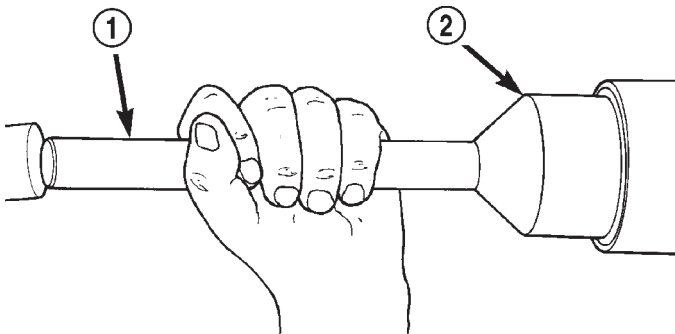
(12) Remove the collapsible spacer.

**INSTALLATION**

(1) Install **new** collapsible spacer on the pinion shaft.

(2) Install pinion front bearing.

(3) Apply a light coating of gear lubricant on the lip of pinion seal and install seal with Installer C-3972-A and Handle C-4171 (Fig. 7).

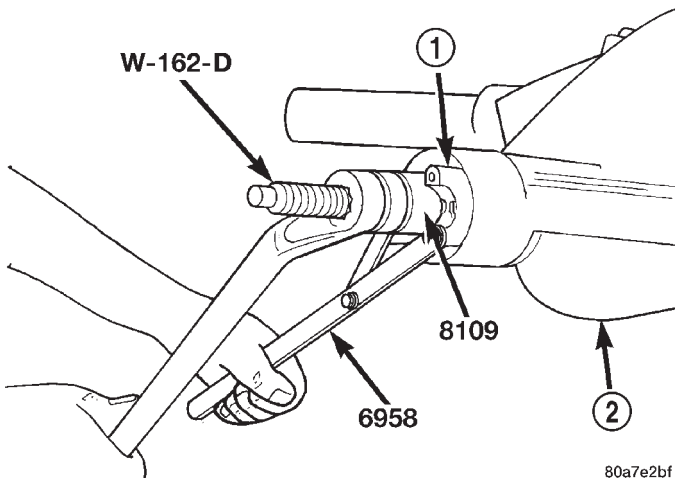


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**Fig. 7 Pinion Seal**

- 1 - HANDLE - C-4171
- 2 - INSTALLER - C-3972-A

(4) Install yoke with Installer W-162-D, Cup 8109 and Holder 6958 (Fig. 8).



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**Fig. 8 Pinion Yoke**

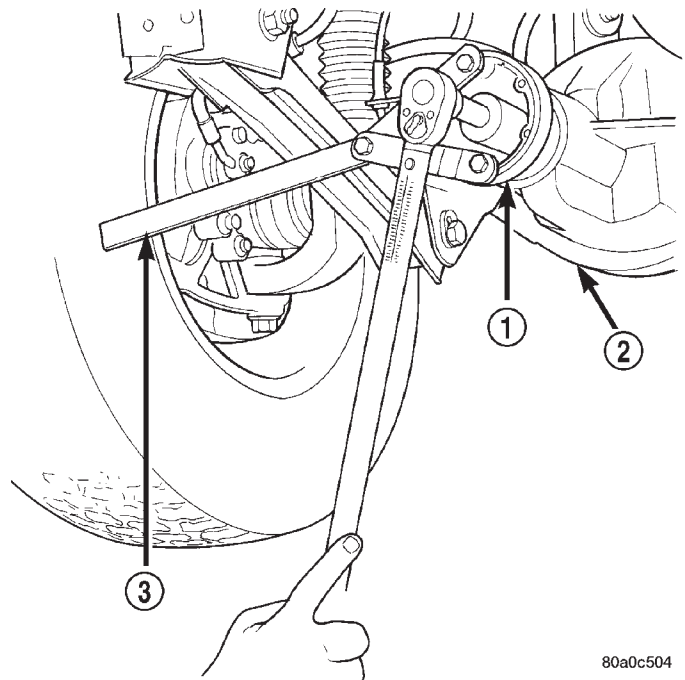
- 1 - YOKE
- 2 - DIFFERENTIAL

(5) Install the pinion washer and a **new** nut and tighten the nut to 217 N-m (160 ft. lbs.).

**CAUTION: Never loosen pinion gear nut to decrease pinion gear bearing rotating torque and never exceed specified preload torque. If preload torque is exceeded, a new collapsible spacer must be installed.**

(6) Using yoke Spanner Wrench 6958 and a torque wrench set at 353 N-m (260 ft. lbs.), slowly tighten the nut (Fig. 9) in 6.8 N-m (5 ft. lbs.) increments until the rotating torque is achieved. Measure the rotating torque with inch pound torque wrench frequently to avoid over crushing the collapsible spacer (Fig. 10).

**NOTE: If more than 353 N-m (260 ft. lbs.) torque is required to crush the collapsible spacer, the spacer is defective and must be replaced.**



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**Fig. 9 Tightening Pinion Nut**

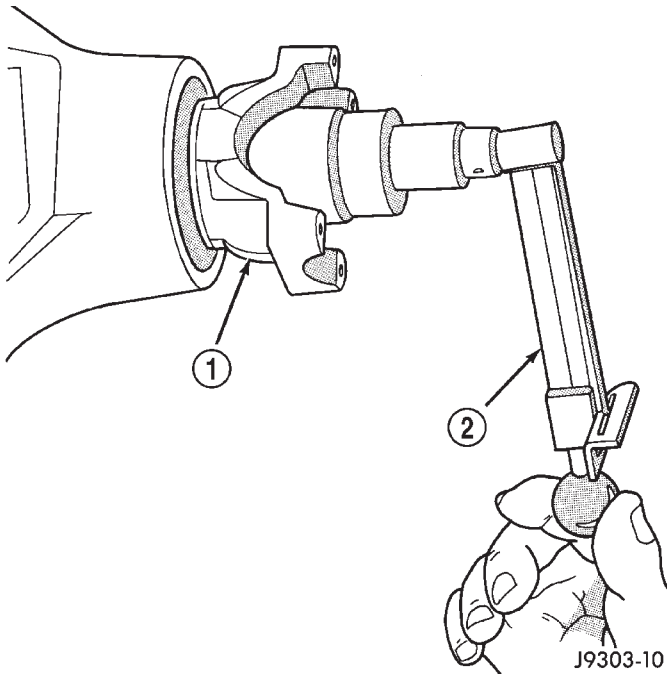
- 1 - SPANNER WRENCH - 6958
- 2 - DIFFERENTIAL
- 3 - TORQUE WRENCH

(7) Rotating torque should be the recorded reading during removal, plus an additional 0.56 N-m (5 in. lbs.).

(8) Install propeller shaft with reference marks aligned.



## COLLAPSIBLE SPACER (Continued)

**Fig. 10 Pinion Gear Rotation Torque**

- 1 - YOKE  
2 - TORQUE WRENCH

(9) Install brake rotors (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/ROTORS - INSTALLATION) and calipers (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/DISC BRAKE CALIPERS - INSTALLATION) .

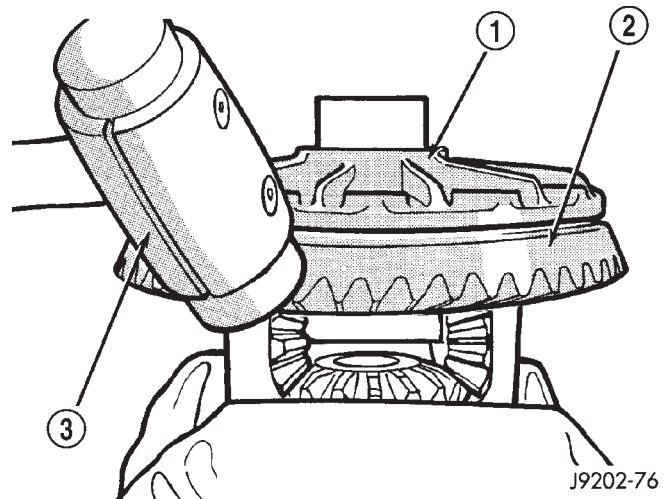
- (10) Install wheel and tire assemblies.  
(11) Lower vehicle.

## PINION GEAR/RING GEAR

## REMOVAL

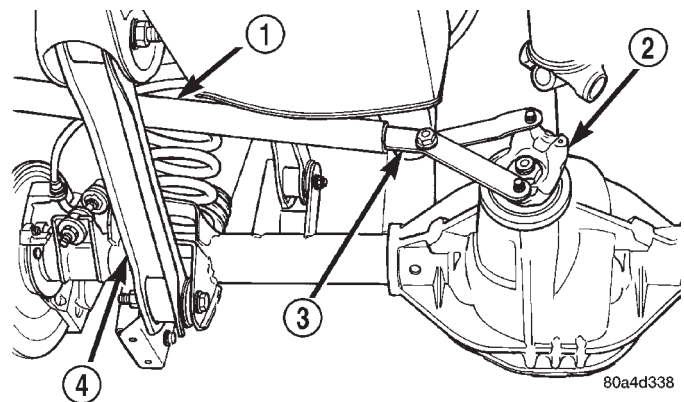
**NOTE:** The ring and pinion gears are serviced as a matched set. Never replace one gear without replacing the other gear.

- (1) Raise and support the vehicle.
- (2) Mark pinion yoke and propeller shaft for installation reference.
- (3) Disconnect propeller shaft from pinion yoke and tie propeller shaft to underbody.
- (4) Remove differential from axle housing.
- (5) Secure differential case in a vise with soft metal jaw (Fig. 11).
- (6) Remove ring gear bolts from the differential case.
- (7) Drive ring gear off the differential case with a rawhide hammer (Fig. 11).

**Fig. 11 Ring Gear**

- 1 - DIFFERENTIAL CASE  
2 - RING GEAR  
3 - HAMMER

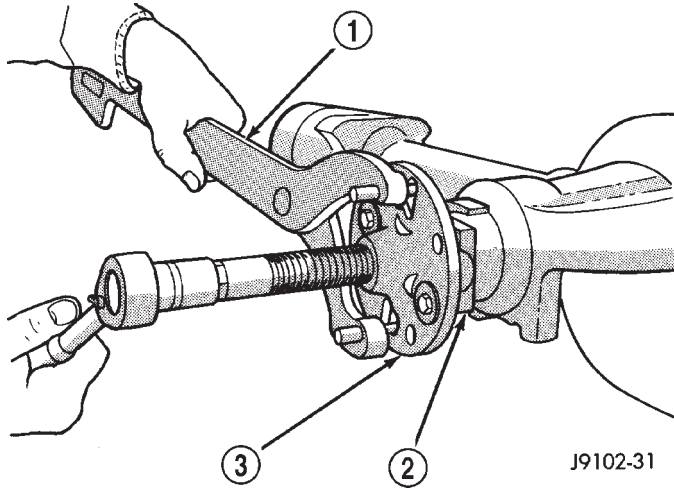
(8) Hold yoke with Spanner Wrench 6958 and remove the pinion nut and washer (Fig. 12).

**Fig. 12 Pinion Yoke**

- 1 - PIPE  
2 - PINION YOKE  
3 - SPANNER WRENCH - 6958  
4 - LOWER CONTROL ARM

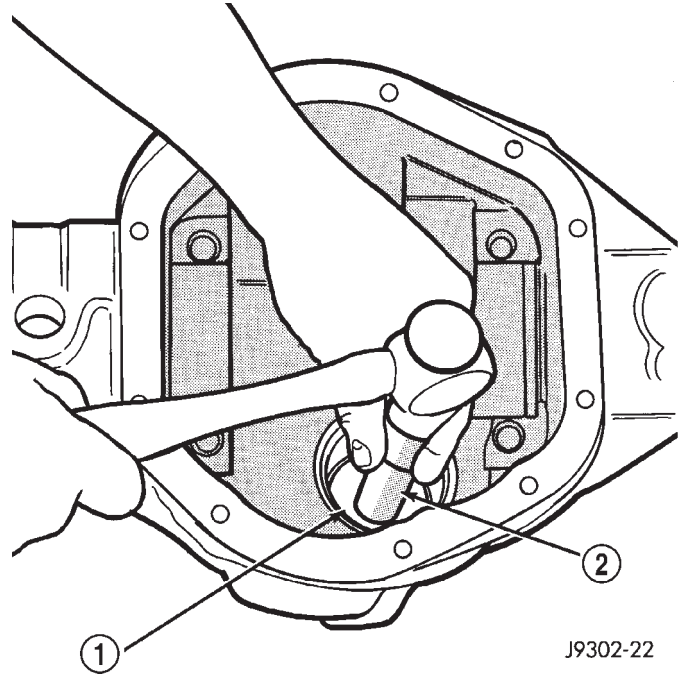
- (9) Remove pinion yoke with Remover C-452 and Flange Wrench C-3281 (Fig. 13).
- (10) Remove pinion and collapsible spacer from the housing (Fig. 14).
- (11) Remove front pinion bearing cup, bearing, oil slinger, if equipped, and pinion seal with Remover D-103 and Handle C-4171 (Fig. 15).
- (12) Remove rear pinion bearing cup from the housing (Fig. 16) with Remover D-149 and Handle C-4171.
- (13) Remove collapsible spacer from pinion shaft (Fig. 17).

PINION GEAR/RING GEAR (Continued)



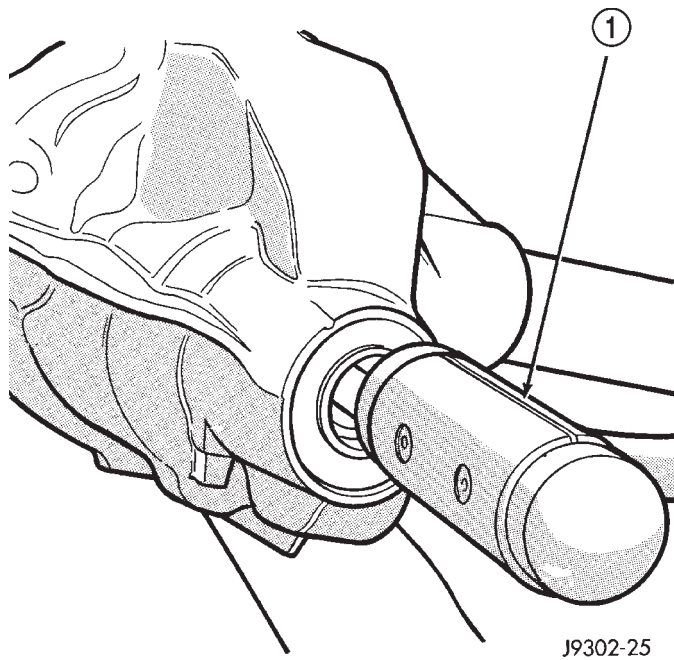
**Fig. 13 Pinion Yoke**

- 1 - FLANGE WRENCH - C-3281
- 2 - YOKE
- 3 - REMOVER - C-452



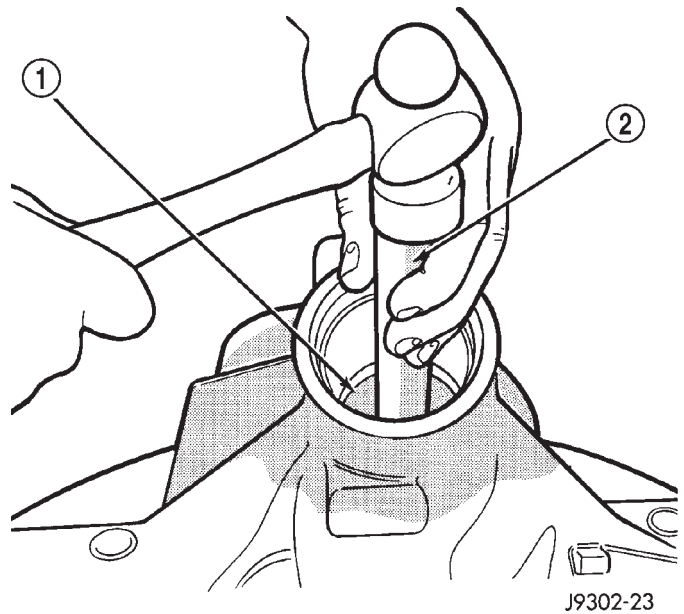
**Fig. 15 Front Bearing Cup**

- 1 - REMOVER - D-103
- 2 - HANDLE - C-4171



**Fig. 14 Remove Pinion**

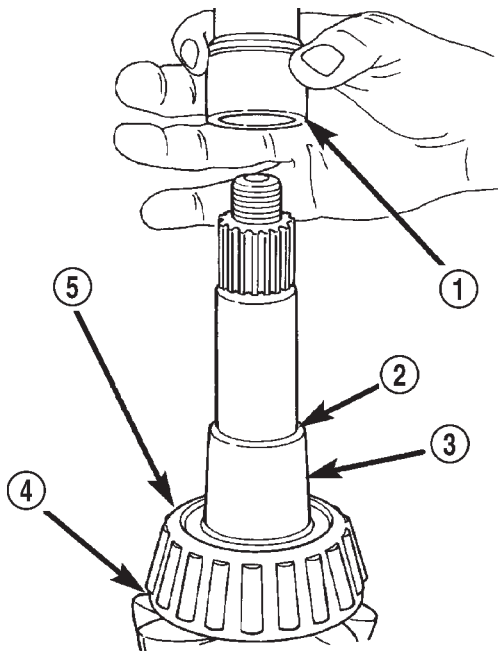
- 1 - RAWHIDE HAMMER



**Fig. 16 Rear Bearing Cup**

- 1 - DRIVER - D-149
- 2 - HANDLE - C-4171

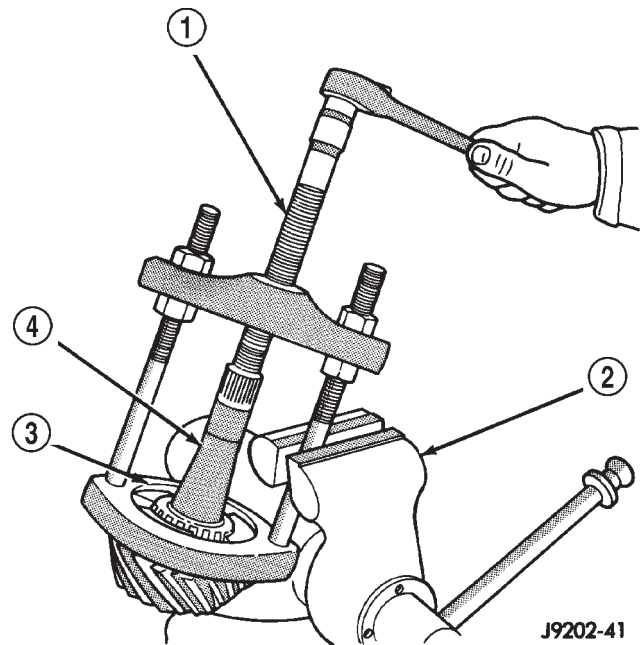
## PINION GEAR/RING GEAR (Continued)



**Fig. 17 Collapsible Spacer**

- 1 - COLLAPSIBLE SPACER
- 2 - SHOULDER
- 3 - PINION
- 4 - PINION DEPTH SHIM
- 5 - REAR BEARING

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**Fig. 18 Rear Pinion Bearing**

- 1 - PULLER - C-293-PA
- 2 - VISE
- 3 - ADAPTERS - C-293-39
- 4 - PINION GEAR SHAFT

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(14) Remove rear pinion bearing with Puller/Press C-293-PA and Adapters C-293-39 (Fig. 18).

**Place 4 adapter blocks so they do not damage the bearing cage.**

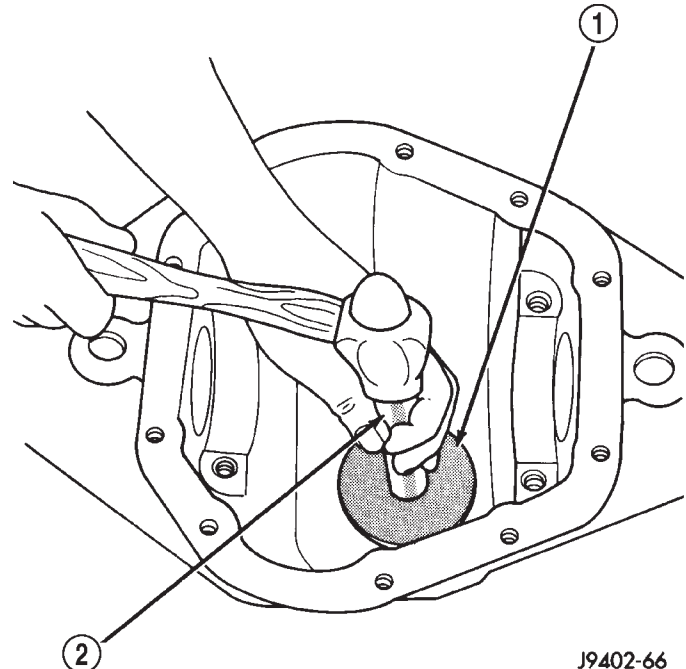
(15) Remove pinion depth shim/oil slinger from the pinion shaft and record thickness.

## INSTALLATION

**NOTE:** A pinion depth shim/oil slinger is placed between the rear pinion bearing cone and the pinion head to achieve proper ring gear and pinion mesh. If ring gear and pinion are reused, the pinion depth shim/oil slinger should not require replacement. Refer to **Adjustment (Pinion Gear Depth)** to select the proper thickness shim/oil slinger if ring and pinion gears are replaced.

(1) Apply Mopar® Door Ease or equivalent lubricant to outside surface of rear pinion bearing cup. Install bearing cup with Installer D-146 and Driver Handle C-4171 (Fig. 19) and verify cup is seated.

(2) Apply Mopar® Door Ease or equivalent lubricant to outside surface of front pinion bearing cup. Install bearing cup with Installer D-130 and Handle C-4171 (Fig. 20) and verify cup is seated.

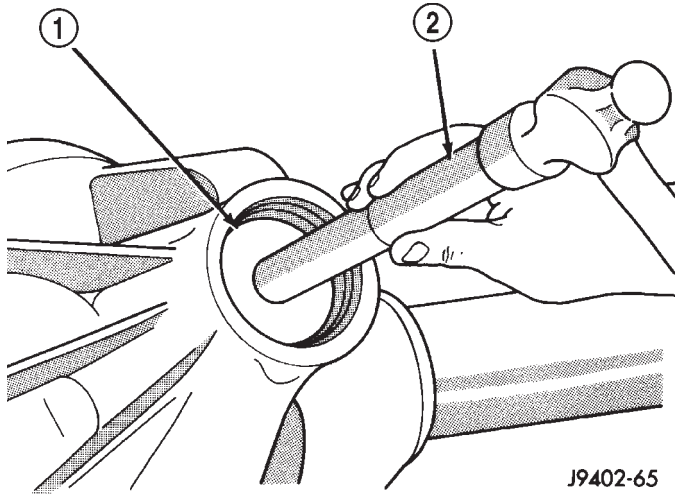


**Fig. 19 Rear Pinion Bearing Cup**

- 1 - INSTALLER - D-146
- 2 - HANDLE - C-4171

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PINION GEAR/RING GEAR (Continued)



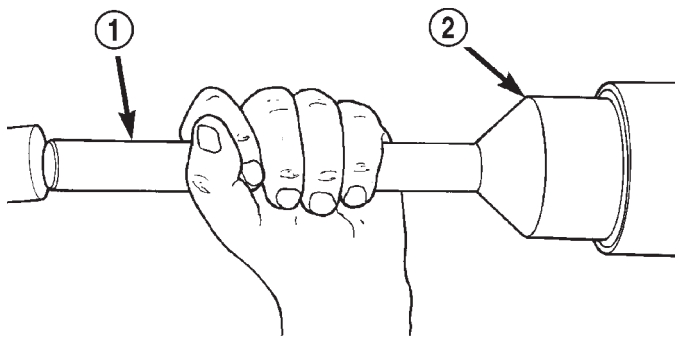
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**Fig. 20 Front Pinion Bearing Cup**

- 1 - INSTALLER - D-130
- 2 - HANDLE - C-4171

(3) Install front pinion bearing, and oil slinger, if equipped.

(4) Apply a light coating of gear lubricant on the lip of pinion seal and install seal with Installer C-3972-A and Handle C-4171 (Fig. 21).

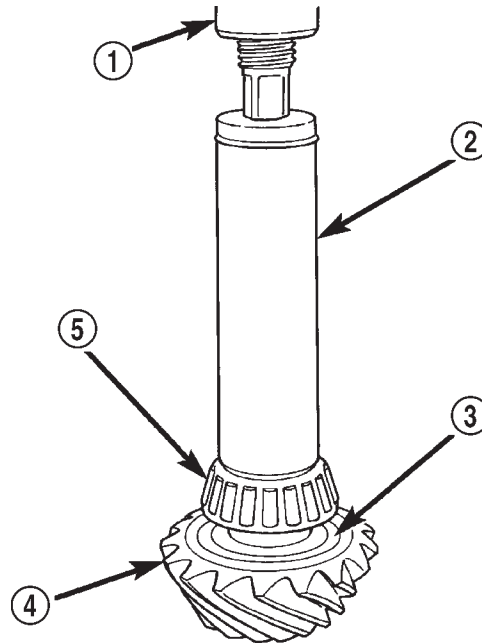


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**Fig. 21 Pinion Seal**

- 1 - HANDLE - C-4171
- 2 - INSTALLER - C-3972-A

(5) Install rear pinion depth shim/oil slinger and bearing on the pinion shaft with Installer W-262 and a press (Fig. 22).



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**Fig. 22 Rear Pinion Bearing**

- 1 - PRESS
- 2 - INSTALLATION TOOL - W-262
- 3 - PINION DEPTH SHIM/OIL BAFFLE
- 4 - DRIVE PINION
- 5 - REAR PINION BEARING

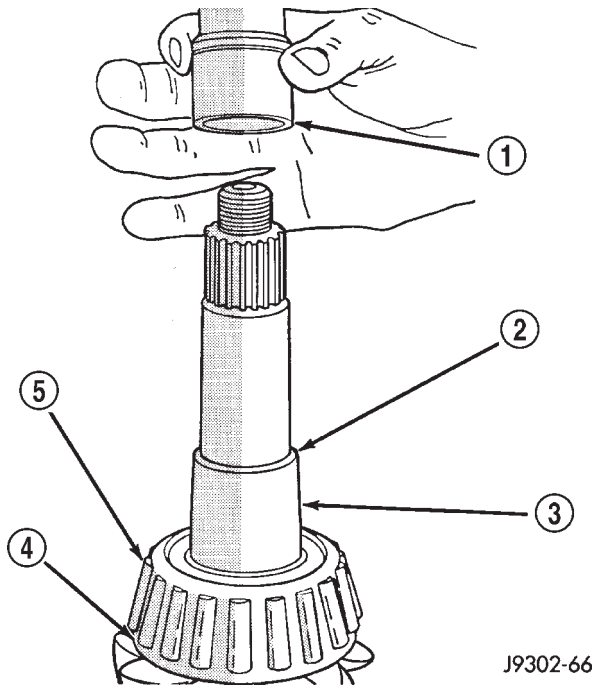
(6) Install **new** collapsible spacer on pinion shaft and install pinion into the housing (Fig. 23).

(7) Install yoke with Installer W-162-B, Cup 8109 and Spanner Wrench 6958 (Fig. 24).

(8) Install pinion washer and a **new** nut onto the pinion. Tighten the nut to 216 N·m (160 ft. lbs.).

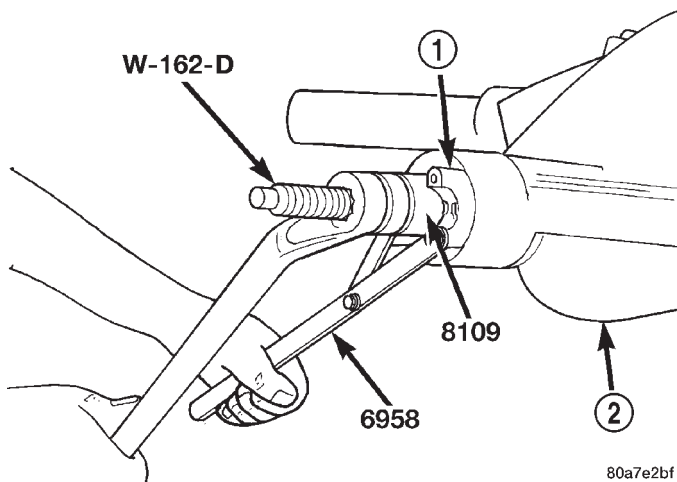
**CAUTION:** Never loosen the pinion nut to decrease pinion bearing rotating torque and never exceed specified preload torque. If preload torque is exceeded a new collapsible spacer must be installed.

PINION GEAR/RING GEAR (Continued)



**Fig. 23 Collapsible Preload Spacer**

- 1 - COLLAPSIBLE SPACER
- 2 - SHOULDER
- 3 - PINION GEAR
- 4 - OIL SLINGER
- 5 - REAR BEARING

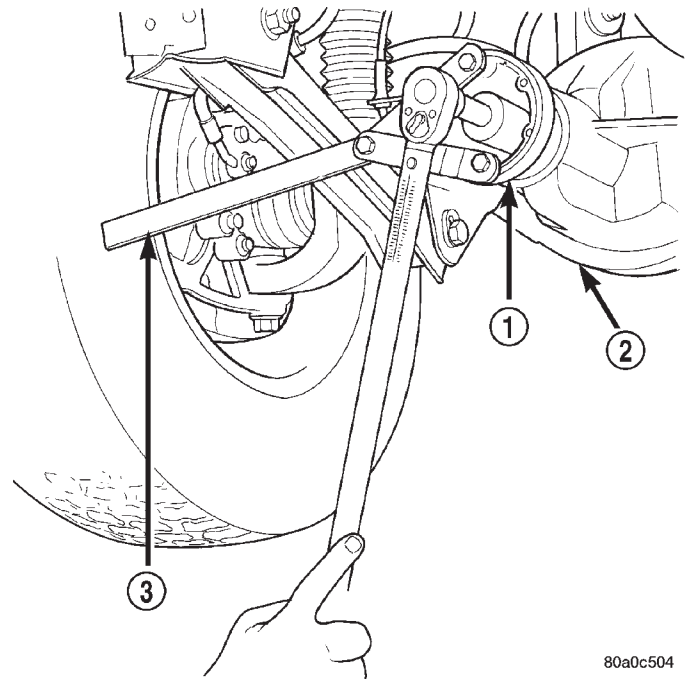


**Fig. 24 Pinion Yoke**

- 1 - PINION YOKE
- 2 - DIFFERENTIAL HOUSING

(9) Using Spanner Wrench 6958 and torque wrench set at 352 N·m (260 ft. lbs.) (Fig. 25). Slowly tighten the nut in 6.8 N·m (5 ft. lb.) increments until the rotating torque is achieved. Measure rotating torque frequently to avoid over crushing the collapsible spacer (Fig. 26).

**CAUTION:** If more than 352 N·m (260 ft. lbs.) torque is required to crush the collapsible spacer, the spacer is defective and must be replaced.



**Fig. 25 Tightening Pinion Nut - Typical**

- 1 - PINION FLANGE
- 2 - DIFFERENTIAL HOUSING
- 3 - SPANNER WRENCH - 6958

(10) Check bearing rotating torque with an inch pound torque wrench (Fig. 26). The torque necessary to rotate the pinion should be:

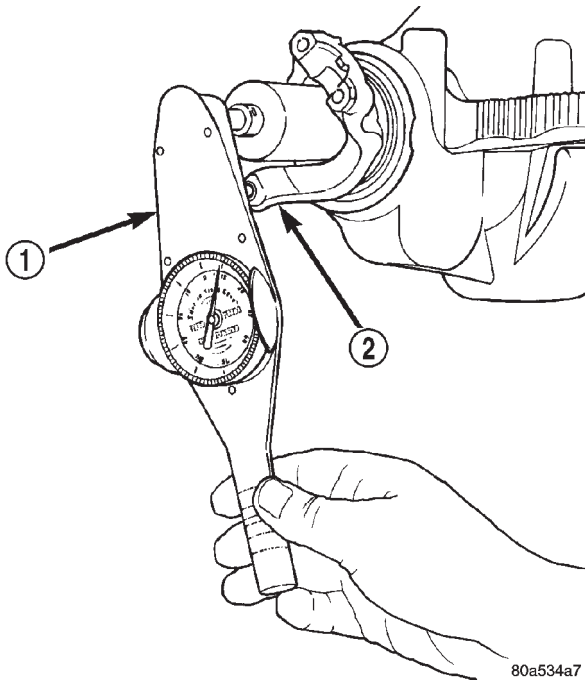
- Original Bearings: 1 to 2 N·m (10 to 20 in. lbs.).
- New Bearings: 1.7 to 3.4 N·m (15 to 30 in. lbs.).

(11) Invert the differential case and start two ring gear bolts. This will provide case-to-ring gear bolt hole alignment.

(12) Invert the differential case in the vise and install **new** ring gear bolts and alternately tighten to 108 N·m (80 ft. lbs.) (Fig. 27).

**CAUTION:** Do not reuse ring gear bolts, the bolts can fracture causing extensive damage.

PINION GEAR/RING GEAR (Continued)

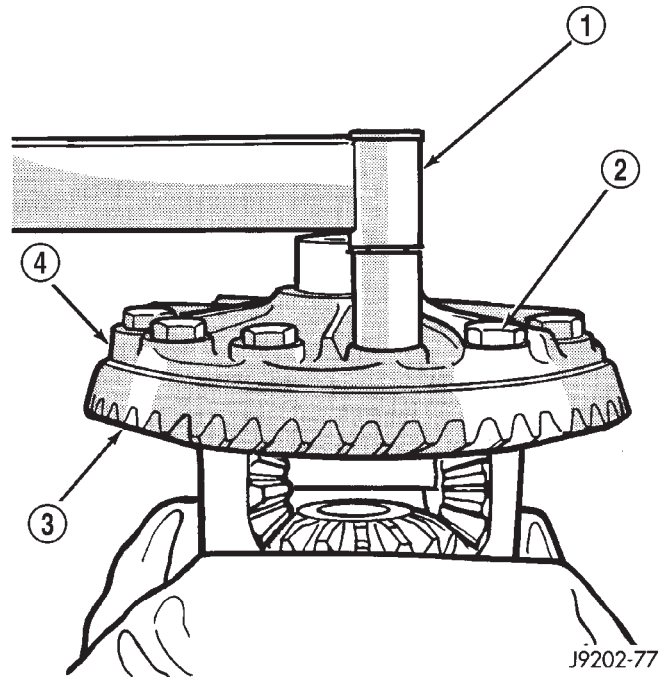


**Fig. 26 Check Pinion Rotation Torque**

- 1 - TORQUE WRENCH
- 2 - PINION YOKE

(13) Install differential in the housing and verify differential bearing preload, gear mesh and contact pattern.

(14) Install differential cover and fill with gear lubricate.



**Fig. 27 Ring Gear Bolt**

- 1 - TORQUE WRENCH
- 2 - RING GEAR BOLT
- 3 - RING GEAR
- 4 - CASE

(15) Install propeller shaft with reference marks aligned.

(16) Remove supports and lower vehicle.

## REAR AXLE - 194RBI

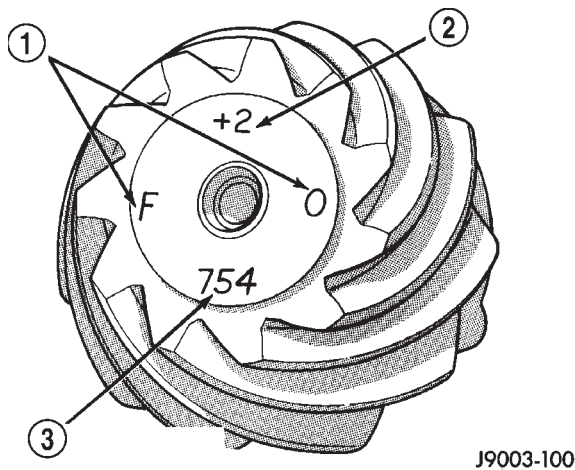
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## REAR AXLE - 194RBI

### ADJUSTMENT

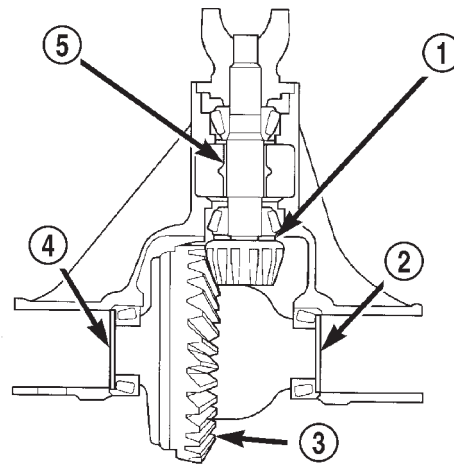
Ring and pinion gears are supplied as matched sets only. The identifying numbers for the ring and pinion gear are etched into the face of each gear (Fig. 1). A plus (+) number, minus (-) number or zero (0) is etched into the face of the pinion gear. This number is the amount (in thousandths of an inch) the depth varies from the standard depth setting of a pinion etched with a (0). The standard setting from the center line of the ring gear to the back face of the pinion is 96.850 mm (3.813 in.). The standard depth provides the best teeth contact pattern. Refer to Backlash and Contact Pattern Analysis Paragraph in this section for additional information.



**Fig. 1 Pinion Gear ID Numbers**

- 1 - PRODUCTION NUMBERS
- 2 - PINION GEAR DEPTH VARIANCE
- 3 - GEAR MATCHING NUMBER

Compensation for pinion depth variance is achieved with select shims. The shims are placed under the inner pinion bearing cone (Fig. 2).



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**Fig. 2 Adjustment Shim Locations**

- 1 - PINION GEAR DEPTH SHIM
- 2 - DIFFERENTIAL BEARING SHIM
- 3 - RING GEAR
- 4 - DIFFERENTIAL BEARING SHIM
- 5 - COLLAPSIBLE SPACER

If a new gear set is being installed, note the depth variance etched into both the original and replacement pinion gear. Add or subtract the thickness of the original depth shims to compensate for the difference in the depth variances. Refer to the Depth Variance charts.

Note where Old and New Pinion Marking columns intersect. Intersecting figure represents plus or minus amount needed.

Note the etched number on the face of the drive pinion gear (-1, -2, 0, +1, +2, etc.). The numbers represent thousands of an inch deviation from the standard. If the number is negative, add that value to the required thickness of the depth shim(s). If the number is positive, subtract that value from the thickness of the depth shim(s). If the number is 0 no change is necessary. Refer to the Pinion Gear Depth Variance Chart.

REAR AXLE - 194RBI (Continued)

PINION GEAR DEPTH VARIANCE

Original Pinion Gear Depth Variance	Replacement Pinion Gear Depth Variance									
	-4	-3	-2	-1	0	+1	+2	+3	+4	
+4	+0.008	+0.007	+0.006	+0.005	+0.004	+0.003	+0.002	+0.001	0	-0.001
+3	+0.007	+0.006	+0.005	+0.004	+0.003	+0.002	+0.001	0	-0.001	-0.002
+2	+0.006	+0.005	+0.004	+0.003	+0.002	+0.001	0	-0.001	-0.002	-0.003
+1	+0.005	+0.004	+0.003	+0.002	+0.001	0	-0.001	-0.002	-0.003	-0.004
0	+0.004	+0.003	+0.002	+0.001	0	-0.001	-0.002	-0.003	-0.004	-0.005
-1	+0.003	+0.002	+0.001	0	-0.001	-0.002	-0.003	-0.004	-0.005	-0.006
-2	+0.002	+0.001	0	-0.001	-0.002	-0.003	-0.004	-0.005	-0.006	-0.007
-3	+0.001	0	-0.001	-0.002	-0.003	-0.004	-0.005	-0.006	-0.007	-0.008
-4	0	-0.001	-0.002	-0.003	-0.004	-0.005	-0.006	-0.007	-0.008	

**PINION DEPTH MEASUREMENT**

Measurements are taken with pinion cups and pinion bearings installed in the housing. Take measurements with a Pinion Gauge Set, Pinion Block 6735, Arbor Discs 6732 and Dial Indicator C-3339 (Fig. 3).

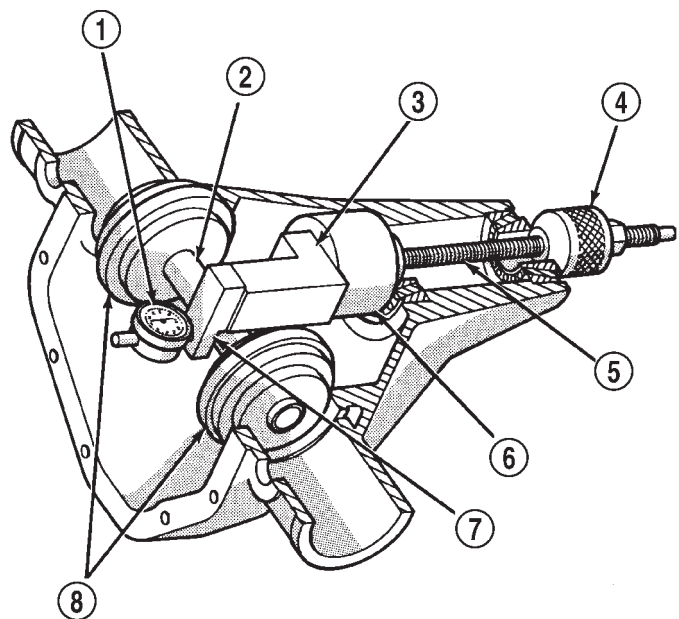
(1) Assemble Pinion Height Block 6739, Pinion Block 6735 and rear pinion bearing onto Screw 6741 (Fig. 3).

(2) Insert assembled height gauge components, rear bearing and screw into the housing through pinion bearing cups (Fig. 4).

(3) Install front pinion bearing and Cone 6740 hand tight (Fig. 3).

(4) Place Arbor Disc 6732 on Arbor D-115-3 in position in the housing side bearing cradles (Fig. 5). Install differential bearing caps on Arbor Discs and tighten cap bolts. Refer to the Torque Specifications in this section.

**NOTE:** Arbor Discs 6732 have different step diameters to fit other axle sizes. Pick correct size step for axle being serviced.



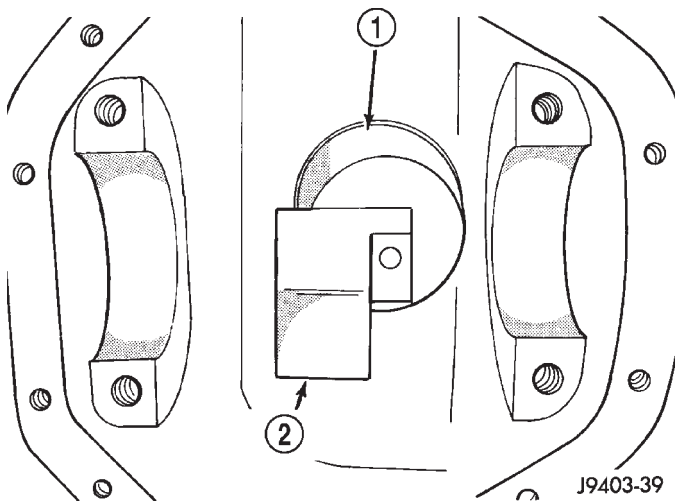
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**Fig. 3 Pinion Gear Depth Tools**

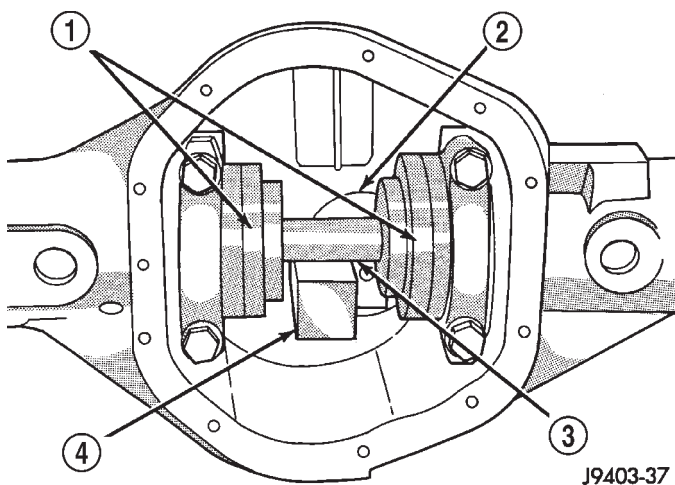
- 1 - DIAL INDICATOR
- 2 - ARBOR
- 3 - PINION HEIGHT BLOCK
- 4 - CONE
- 5 - SCREW
- 6 - PINION BLOCK
- 7 - SCOOTER BLOCK
- 8 - ARBOR DISC



## REAR AXLE - 194RBI (Continued)

**Fig. 4 Pinion Height Block**

- 1 - PINION BLOCK
- 2 - PINION HEIGHT BLOCK

**Fig. 5 Gauge Tools In Housing**

- 1 - ARBOR DISC
- 2 - PINION BLOCK
- 3 - ARBOR
- 4 - PINION HEIGHT BLOCK

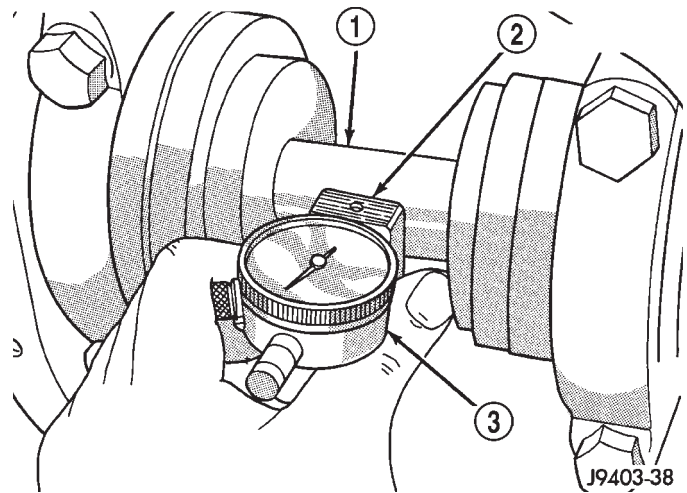
(5) Assemble Dial Indicator C-3339 into Scooter Block D-115-2 and secure set screw.

(6) Place Scooter Block/Dial Indicator in position in axle housing so dial probe and scooter block are flush against the surface of the pinion height block. Hold scooter block in place and zero the dial indicator. Tighten dial indicator face lock screw.

(7) With scooter block still in position against the pinion height block, slowly slide the dial indicator probe over the edge of the pinion height block. Observe how many revolutions counterclockwise the dial pointer travels (approximately 0.125 in.) to the out-stop of the dial indicator.

(8) Slide the dial indicator probe across the gap between the pinion height block and the arbor bar with the scooter block against the pinion height block (Fig. 6). When the dial probe contacts the arbor bar, the dial pointer will turn clockwise. Continue moving the dial probe to the crest of the arbor bar and record the highest reading. If the dial indicator can not achieve the zero reading, the rear bearing cup or the pinion depth gauge set is not installed correctly.

(9) Select a shim equal to the dial indicator reading plus the drive pinion gear depth variance number etched in the face of the pinion gear (Fig. 1) using the opposite sign on the variance number. For example, if the depth variance is  $-2$ , add  $+0.002$  in. to the dial indicator reading.

**Fig. 6 Pinion Gear Depth Measurement**

- 1 - ARBOR
- 2 - SCOOTER BLOCK
- 3 - DIAL INDICATOR

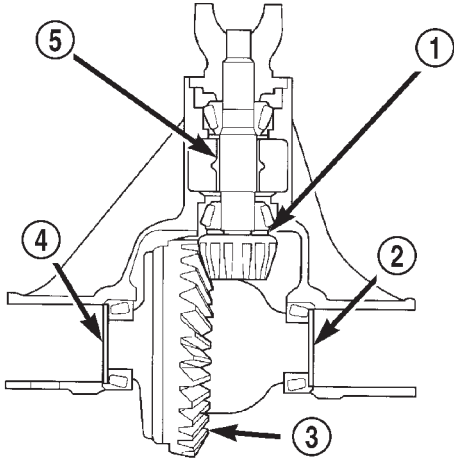
(10) Remove the pinion depth gauge components from the housing

**DIFFERENTIAL BEARING PRELOAD**

Differential side bearing preload and gear backlash is achieved by selective shims inserted between the bearing cup and the housing. The proper shim thickness can be determined using slip-fit Dummy Bearings D-348 in place of the differential side bearings and a Dial Indicator C-3339. Before proceeding with the differential bearing preload and gear backlash measurements, measure the pinion gear depth and prepare the pinion gear for installation. Establishing proper pinion gear depth is essential to establishing gear backlash and tooth contact patterns. After the overall shim thickness to take up differential side play is measured, the pinion gear is installed and the gear backlash shim thickness is measured. The overall shim thickness is the total of the dial indicator reading, starting point shim thickness and the pre-

REAR AXLE - 194RBI (Continued)

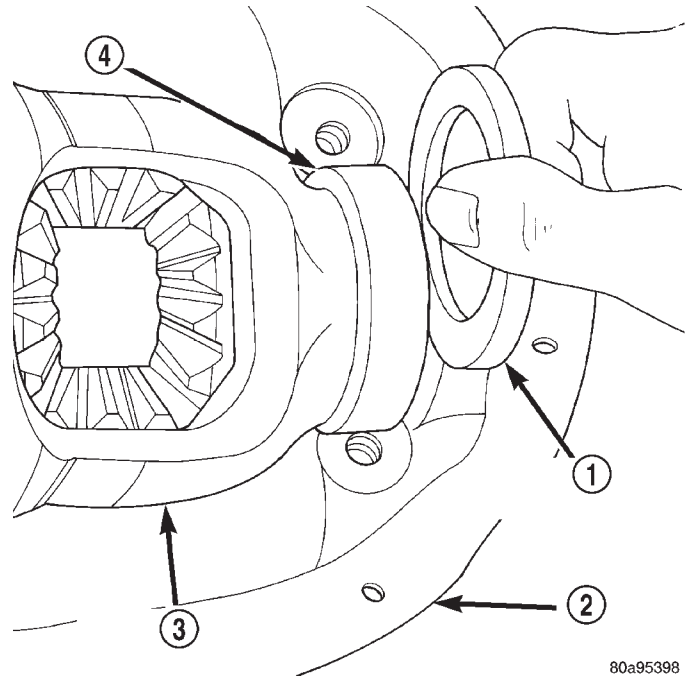
load specification added together. The gear backlash measurement determines the thickness of the shim used on the ring gear side of the differential case. Subtract the gear backlash shim thickness from the total overall shim thickness and select that amount for the pinion gear side of the differential (Fig. 7).



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**Fig. 7 Adjustment Shim**

- 1 - PINION GEAR DEPTH SHIM
- 2 - DIFFERENTIAL BEARING SHIM
- 3 - RING GEAR
- 4 - DIFFERENTIAL BEARING SHIM
- 5 - COLLAPSIBLE SPACER



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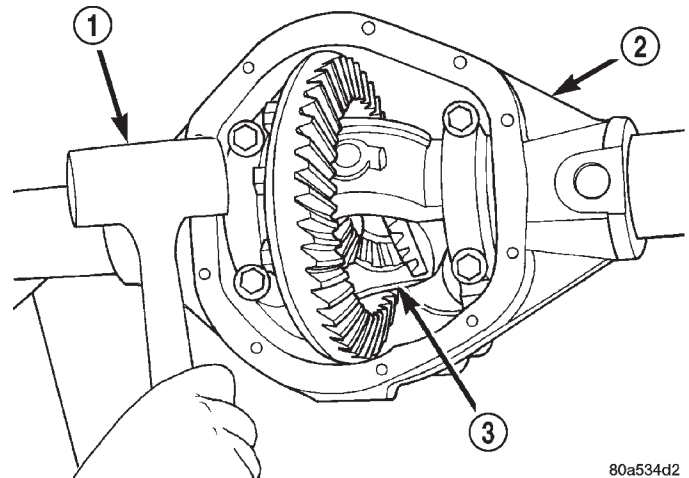
**Fig. 8 Starting Point**

- 1 - DUMMY SHIM
- 2 - DIFFERENTIAL HOUSING
- 3 - DIFFERENTIAL CASE
- 4 - DUMMY BEARINGS

**PRELOAD SHIM SELECTION**

**NOTE:** It is difficult to salvage the differential side bearings during the removal procedure. Install replacement bearings if necessary.

- (1) Remove side bearings from differential case.
- (2) Install ring gear, if necessary, on differential case and tighten bolts to specification.
- (3) Install Dummy Bearings D-348 on differential case.
- (4) Install differential case in the housing.
- (5) Insert Dummy Shims 8107 (0.118 in. / 3.0 mm) starting point shims between the dummy bearing and the housing (Fig. 8).
- (6) Install bearing caps in their correct positions and snug the bolts.
- (7) Using a dead-blow hammer to seat the differential dummy bearings to each side of the housing (Fig. 9) and (Fig. 10).

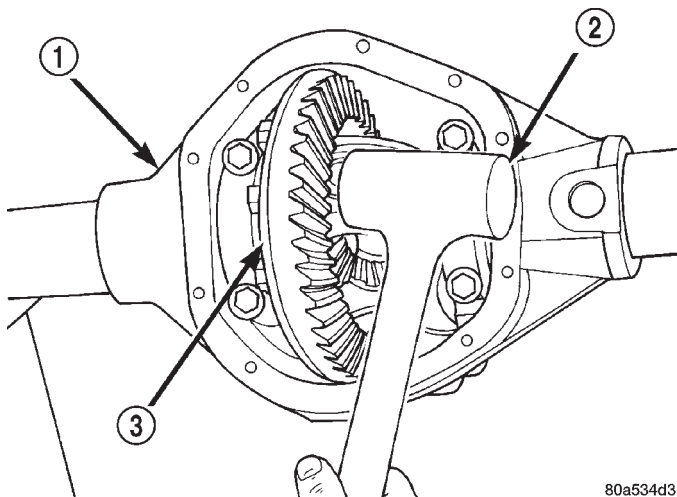


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**Fig. 9 Seat Pinion Side Dummy Bearing**

- 1 - DEAD-BLOW HAMMER
- 2 - DIFFERENTIAL HOUSING
- 3 - DIFFERENTIAL CASE

REAR AXLE - 194RBI (Continued)



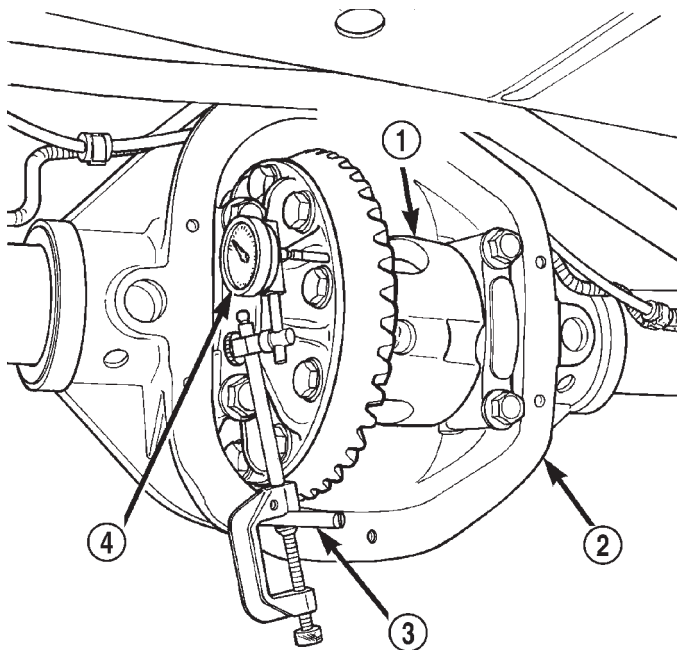
80a534d3

**Fig. 10 Seat Ring Gear Side Dummy Bearing**

- 1 - DIFFERENTIAL HOUSING
- 2 - DEAD-BLOW HAMMER
- 3 - DIFFERENTIAL CASE

(8) Thread Pilot Stud C-3288-B into rear cover bolt hole below ring gear (Fig. 11).

(9) Attach Dial Indicator C-3339 to the pilot stud and position indicator plunger on a flat surface of the ring gear bolt head (Fig. 11).

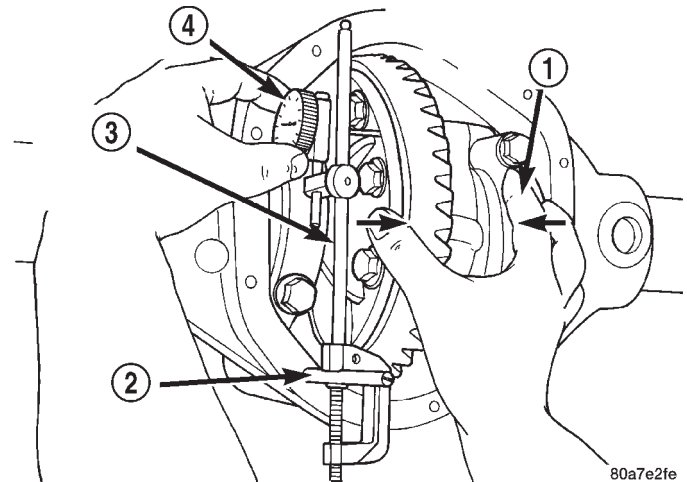


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**Fig. 11 Differential Side play**

- 1 - DIFFERENTIAL CASE
- 2 - AXLE HOUSING
- 3 - SPECIAL TOOL C-3288-B
- 4 - SPECIAL TOOL C-3339

(10) Push the differential case firmly to the pinion gear side of the housing (Fig. 12) and zero dial indicator.

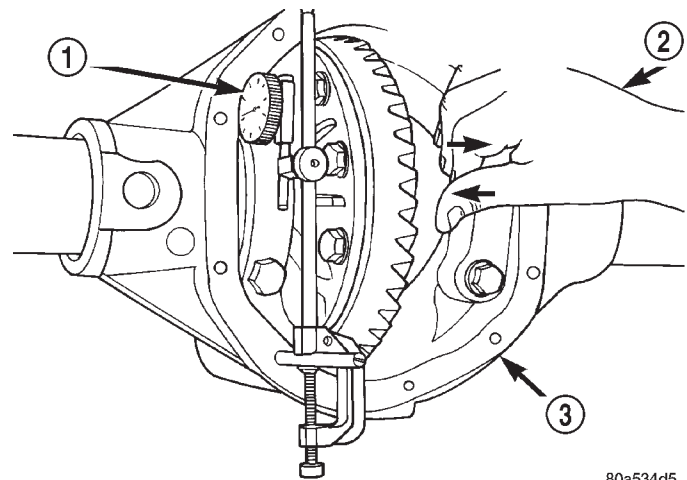


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**Fig. 12 Zero Dial Indicator**

- 1 - FORCE CASE TO PINION SIDE
- 2 - PILOT STUD
- 3 - DIAL INDICATOR EXTENSION
- 4 - DIAL INDICATOR

(11) Push differential case firmly to the ring gear side and record dial indicator reading (Fig. 13).



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**Fig. 13 Read Dial Indicator**

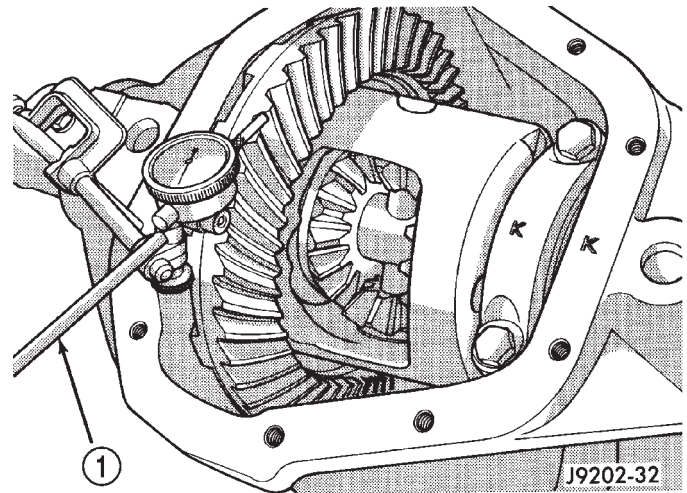
- 1 - DIAL INDICATOR
- 2 - FORCE CASE TO RING GEAR SIDE
- 3 - DIFFERENTIAL HOUSING

(12) Add the dial indicator reading to the starting point shim thickness to determine total shim thickness to achieve zero differential end play.

(13) Add 0.008 in. (0.2 mm) to the zero end play total. This new total represents the thickness of shims to compress or preload the new bearings when the differential is installed.

REAR AXLE - 194RBI (Continued)

- (14) Rotate dial indicator out of the way.
- (15) Remove differential case, dummy bearings and starting point shims from the housing.
- (16) Install pinion gear in the housing. Install the yoke and establish the correct pinion rotating torque.
- (17) Install differential case and dummy bearings in the housing (without shims) and tighten retaining cap bolts.
- (18) Position the dial indicator plunger on a flat surface between the ring gear bolt heads (Fig. 11).
- (19) Push and hold differential case toward pinion gear.
- (20) Zero dial indicator face to pointer.
- (21) Push and hold differential case to ring gear side of the housing and record dial indicator reading.
- (22) Subtract 0.002 in. (0.05 mm) from the dial indicator reading to compensate for backlash between ring and pinion gears. This total is the thickness of shim required to achieve proper backlash.
- (23) Subtract the backlash shim thickness from the total preload shim thickness. The remainder is the shim thickness required on the pinion side of the housing.

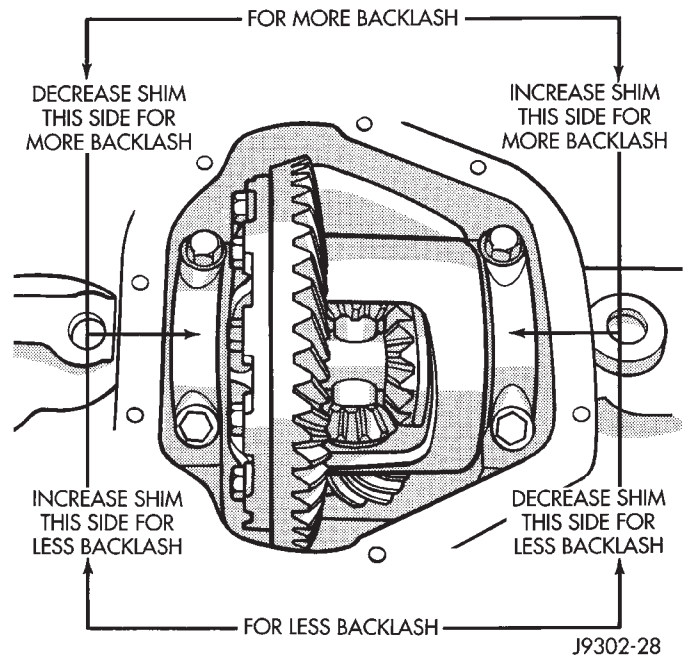


**Fig. 14 Ring Gear Backlash**

1 - DIAL INDICATOR

After the proper backlash is achieved, perform the Gear Contact Pattern Analysis procedure.

- (24) Rotate dial indicator out of the way on pilot stud.
- (25) Remove differential case and dummy bearings from the housing.
- (26) Install new side bearing cones and cups on differential case.
- (27) Install spreader W-129-B and some components of Adapter Set 6987 on differential housing and spread axle opening enough to receive differential case.
- (28) Place side bearing shims into the housing against the axle tubes.
- (29) Install differential case in the housing.
- (30) Rotate the differential case several times to seat the side bearings.
- (31) Position the indicator plunger against a ring gear tooth (Fig. 14).
- (32) Push and hold ring gear upward while not allowing the pinion gear to rotate.
- (33) Zero dial indicator face to pointer.
- (34) Push and hold ring gear downward while not allowing the pinion gear to rotate. Dial indicator reading should be between 0.12 mm (0.005 in.) and 0.20 mm (0.008 in.). If backlash is not within specifications transfer the necessary amount of shim thickness from one side of the differential housing to the other (Fig. 15).



**Fig. 15 Backlash Shim**

- (35) Verify differential case and ring gear runout by measuring ring to pinion gear backlash at eight locations around the ring gear. Readings should not vary more than 0.05 mm (0.002 in.). If readings vary more than specified, the ring gear or the differential case is defective.

## REAR AXLE - 194RBI (Continued)

**GEAR CONTACT PATTERN**

The ring gear and pinion teeth contact patterns will show if the pinion depth is correct in the housing. It will also show if the ring gear backlash has been adjusted correctly. The backlash can be adjusted within specifications to achieve desired tooth contact patterns.

(1) Apply a thin coat of hydrated ferric oxide or equivalent to the drive and coast side of the ring gear teeth.

(2) Wrap, twist, and hold a shop towel around the pinion yoke to increase the turning resistance of the pinion. This will provide a more distinct contact pattern.

(3) With a boxed end wrench on a ring gear bolt, rotate the differential case one complete revolution in both directions while a load is being applied from shop towel.

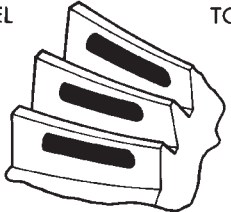
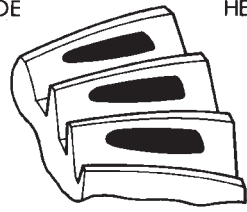

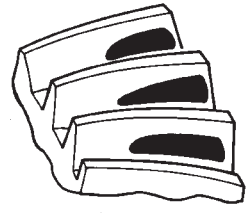
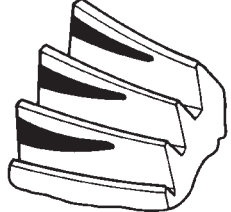
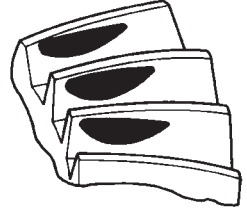
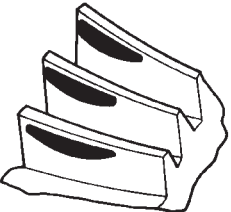
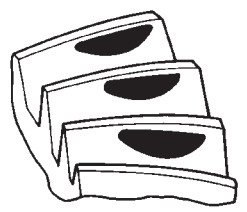
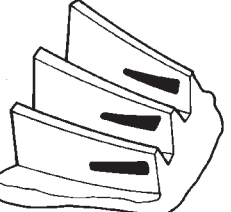
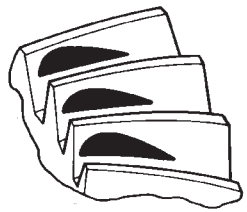
The areas on the ring gear teeth with the greatest degree of contact against the pinion teeth will squeeze the compound to the areas with the least amount of contact. Note and compare patterns on the ring gear teeth to Gear Tooth Contact Patterns chart (Fig. 16) and adjust pinion depth and gear backlash as necessary.

**DIFFERENTIAL BEARING PRELOAD CHECK**

The final check on the differential assembly before installing the axles is torque to rotate pinion and differential combined. This will verify the correct differential bearing preload.

Torque to rotate the differential and pinion should be the torque to rotate the pinion plus 0.79-1.24 N·m (7-11 in. lbs.).

REAR AXLE - 194RBI (Continued)

<p>DRIVE SIDE OF RING GEAR TEETH</p> <p>HEEL TOE</p> 	<p>COAST SIDE OF RING GEAR TEETH</p> <p>TOE HEEL</p> 	<p>DESIRABLE CONTACT PATTERN. PATTERN SHOULD BE CENTERED ON THE DRIVE SIDE OF TOOTH. PATTERN SHOULD BE CENTERED ON THE COAST SIDE OF TOOTH, BUT MAY BE SLIGHTLY TOWARD THE TOE. THERE SHOULD ALWAYS BE SOME CLEARANCE BETWEEN CONTACT PATTERN AND TOP OF THE TOOTH.</p>
		<p>RING GEAR BACKLASH CORRECT. <b>THINNER</b> PINION GEAR DEPTH SHIM REQUIRED.</p>
		<p>RING GEAR BACKLASH CORRECT. <b>THICKER</b> PINION GEAR DEPTH SHIM REQUIRED.</p>
		<p>PINION GEAR DEPTH SHIM CORRECT. <b>DECREASE</b> RING GEAR BACKLASH.</p>
		<p>PINION GEAR DEPTH SHIM CORRECT. <b>INCREASE</b> RING GEAR BACKLASH.</p>

J9003-24

Fig. 16 Gear Tooth Contact Patterns

REAR AXLE - 194RBI (Continued)

## SPECIFICATIONS

## REAR AXLE

## AXLE SPECIFICATIONS

DESCRIPTION	SPECIFICATION
Axle Ratio	3.07, 3.55, 3.73
Differential Bearing Preload	0.2 mm (0.008 in.)
Differential Side Gear Clearance	0.0-0.15 mm (0.0-0.006 in.)
Ring Gear Diameter	194 mm (7.638 in.)
Ring Gear Backlash	0.12-0.20 mm (0.005-0.008 in.)
Pinion Gear Standard Depth	96.85 mm (3.813 in.)
Pinion Bearing Preload - Original Bearings	1-2 N·m (10-20 in. lbs.)
Pinion Bearing Preload - New Bearings	1.7-3.4 N·m (15-30 in. lbs.)

## TORQUE SPECIFICATIONS

DESCRIPTION	N·m	Ft. Lbs.	In. Lbs.
Differential Cover Bolts	41	30	
Bearing Cap Bolts	77	57	
Ring Gear Bolts - 3/8 in.	108	80	
Ring Gear Bolts - 7/16 in.	136	100	
Pinion Nut	271-474	200-350	
Pinion Mate Shaft Screw	16.25	12	

## REAR AXLE - 8 1/4

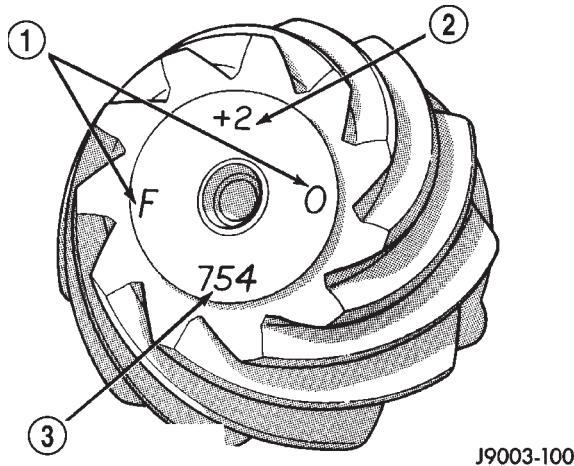
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## REAR AXLE - 8 1/4

### ADJUSTMENTS

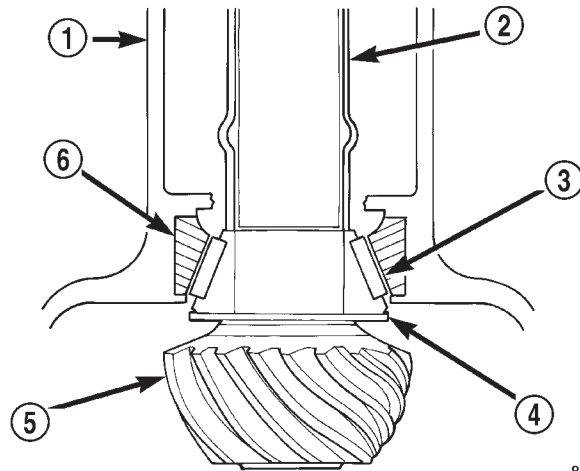
Ring gears and pinions are supplied as matched sets only. The identifying numbers for the ring gear and pinion are etched into the face of each gear (Fig. 1). A plus (+) number, minus (-) number or zero (0) is etched into the face of the pinion. This number is the amount (in thousandths of an inch) the depth varies from the standard depth setting of a pinion etched with a (0). The standard depth provides the best gear tooth contact pattern. Refer to Backlash and Contact Pattern Analysis paragraph in this section for additional information.



**Fig. 1 Pinion Gear ID Numbers**

- 1 - PRODUCTION NUMBERS
- 2 - DRIVE PINION GEAR DEPTH VARIANCE
- 3 - GEAR MATCHING NUMBER (SAME AS RING GEAR NUMBER)

Compensation for pinion depth variance is achieved with select shims. The shims are placed behind the rear pinion bearing (Fig. 2).



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**Fig. 2 Adjustment Shim Locations**

- 1 - DIFFERENTIAL HOUSING
- 2 - COLLAPSIBLE SPACER
- 3 - REAR PINION BEARING
- 4 - PINION DEPTH SHIM
- 5 - PINION GEAR
- 6 - BEARING CUP

If a new gear set is being installed, note the depth variance etched into both the original and replacement pinion. Add or subtract the thickness of the original depth shims to compensate for the difference in the depth variances. Refer to the Depth Variance chart.

Note where Old and New Pinion Marking columns intersect. Intersecting figure represents plus or minus the amount needed.

Note the etched number on the face of the pinion gear head (-1, -2, 0, +1, +2, etc.). The numbers represent thousands of an inch deviation from the standard. If the number is negative, add that value to the required thickness of the depth shims. If the number is positive, subtract that value from the thickness of the depth shim. If the number is 0 no change is necessary.



## REAR AXLE - 8 1/4 (Continued)

## PINION GEAR DEPTH VARIANCE

Original Pinion Gear Depth Variance	Replacement Pinion Gear Depth Variance									
	-4	-3	-2	-1	0	+1	+2	+3	+4	
+4	+0.008	+0.007	+0.006	+0.005	+0.004	+0.003	+0.002	+0.001	0	-0.001
+3	+0.007	+0.006	+0.005	+0.004	+0.003	+0.002	+0.001	0	-0.001	-0.002
+2	+0.006	+0.005	+0.004	+0.003	+0.002	+0.001	0	-0.001	-0.002	-0.003
+1	+0.005	+0.004	+0.003	+0.002	+0.001	0	-0.001	-0.002	-0.003	-0.004
0	+0.004	+0.003	+0.002	+0.001	0	-0.001	-0.002	-0.003	-0.004	-0.005
-1	+0.003	+0.002	+0.001	0	-0.001	-0.002	-0.003	-0.004	-0.005	-0.006
-2	+0.002	+0.001	0	-0.001	-0.002	-0.003	-0.004	-0.005	-0.006	-0.007
-3	+0.001	0	-0.001	-0.002	-0.003	-0.004	-0.005	-0.006	-0.007	-0.008
-4	0	-0.001	-0.002	-0.003	-0.004	-0.005	-0.006	-0.007	-0.008	

## PINION DEPTH MEASUREMENT

Measurements are taken with pinion bearing cups and pinion bearings installed in the housing. Take measurements with Pinion Gauge Set and Dial Indicator C-3339.

(1) Assemble Pinion Height Block 6739, Pinion Block 8540 and rear pinion bearing onto Screw 6741 (Fig. 3).

(2) Insert assembled height gauge components, rear bearing, and screw into the housing through pinion bearing cups (Fig. 4).

(3) Install front pinion bearing and Cone-Nut 6740 hand tight (Fig. 3).

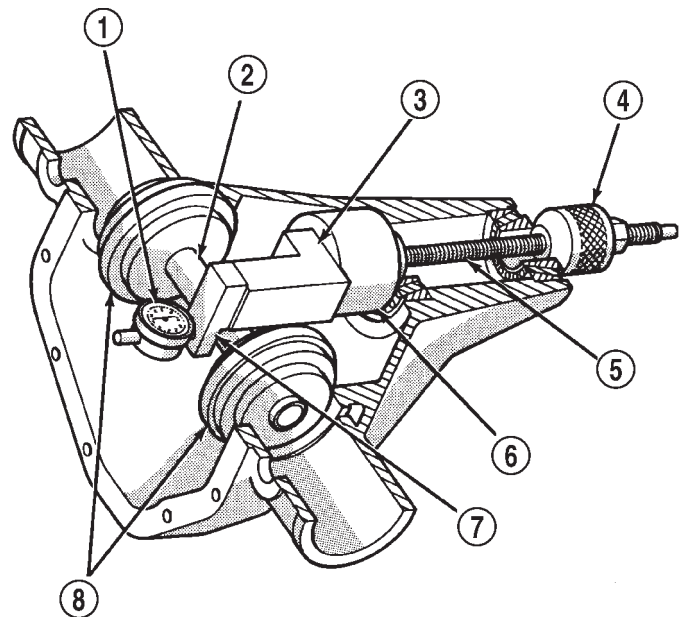
(4) Place Arbor Disc 8541 on Arbor D-115-3 in position in the housing side bearing cradles (Fig. 5). Install differential bearing caps on Arbor Discs and tighten cap bolts to 41 N·m (30 ft. lbs.).

**NOTE:** Arbor Discs 8541 has different step diameters to fit other axles. Choose proper step for axle being serviced.

(5) Assemble Dial Indicator C-3339 into Scooter Block D-115-2 and secure set screw.

(6) Place Scooter Block/Dial Indicator in position in axle housing so dial probe and scooter block are flush against the rearward surface of the pinion height block (Fig. 3). Hold scooter block in place and zero the dial indicator. Tighten dial indicator face lock screw.

(7) Slowly slide the dial indicator probe over the edge of the pinion height block.

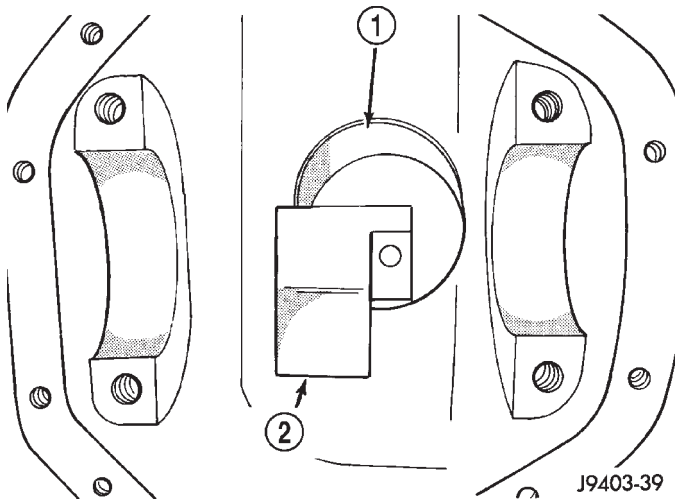


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**Fig. 3 Pinion Depth Gauge Tools**

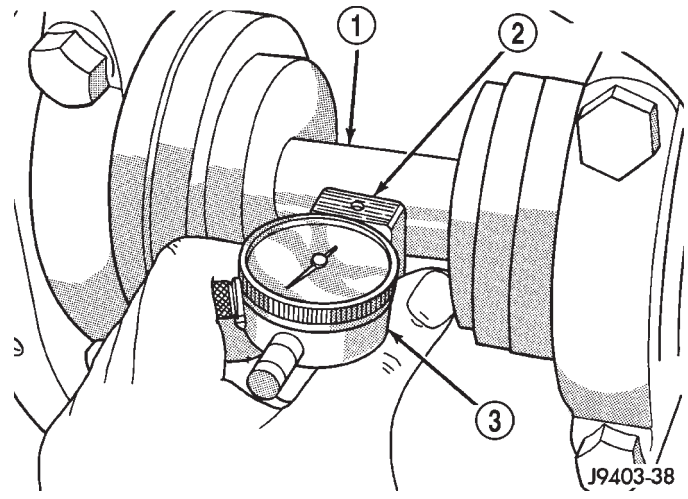
- 1 - DIAL INDICATOR
- 2 - ARBOR
- 3 - PINION HEIGHT BLOCK
- 4 - CONE
- 5 - SCREW
- 6 - PINION BLOCK
- 7 - SCOOTER BLOCK
- 8 - ARBOR DISC

REAR AXLE - 8 1/4 (Continued)



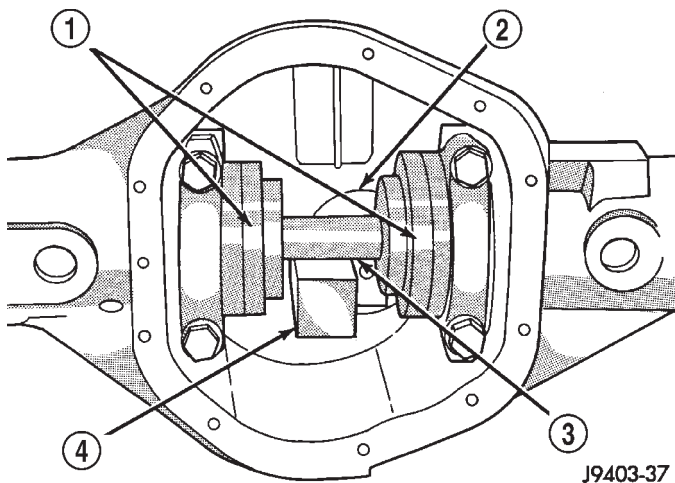
**Fig. 4 Pinion Height Block**

- 1 - PINION BLOCK
- 2 - PINION HEIGHT BLOCK



**Fig. 6 Pinion Gear Depth Measurement**

- 1 - ARBOR
- 2 - SCOOTER BLOCK
- 3 - DIAL INDICATOR



**Fig. 5 Gauge Tools In Housing**

- 1 - ARBOR DISC
- 2 - PINION BLOCK
- 3 - ARBOR
- 4 - PINION HEIGHT BLOCK

(8) Slide the dial indicator probe across the gap between the pinion height block and the arbor bar with the scooter block against the pinion height block (Fig. 6). When the dial probe contacts the arbor bar, the dial pointer will turn clockwise. Continue moving the dial probe to the crest of the arbor bar and record the highest reading. If the dial indicator can not achieve the zero reading, the rear bearing cup or the pinion depth gauge set is not installed correctly.

(9) Select a shim equal to the dial indicator reading plus the drive pinion gear depth variance number etched in the face of the pinion (Fig. 1). For example, if the depth variance is -2, add +0.002 in. to the dial indicator reading.

**BEARING PRELOAD AND GEAR BACKLASH**

The following must be considered when adjusting bearing preload and gear backlash:

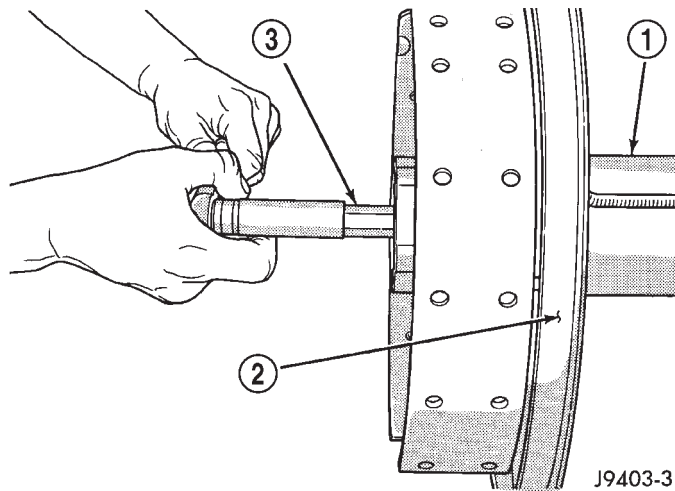
- The maximum ring gear backlash variation is 0.003 inch (0.076 mm).
- Mark the gears so the same teeth are meshed during all backlash measurements.
- Maintain the torque while adjusting the bearing preload and ring gear backlash.
- Excessive adjuster torque will introduce a high bearing load and cause premature bearing failure. Insufficient adjuster torque can result in excessive differential case free-play and ring gear noise.
- Insufficient adjuster torque will not support the ring gear correctly and can cause excessive differential case free-play and ring gear noise.

**NOTE:** The differential bearing cups will not always immediately follow the threaded adjusters as they are moved during adjustment. To ensure accurate bearing cup responses to the adjustments:

- Maintain the gear teeth engaged (meshed) as marked.
- The bearings must be seated by rapidly rotating the pinion gear a half turn back and forth.
- Do this five to ten times each time the threaded adjusters are adjusted.

(1) Use Wrench C-4164 to adjust each threaded adjuster inward until the differential bearing free-play is eliminated (Fig. 7). Allow some ring gear backlash (approximately 0.01 inch/0.25 mm) between the ring and pinion gear. Seat the bearing cups with the procedure described above.

## REAR AXLE - 8 1/4 (Continued)

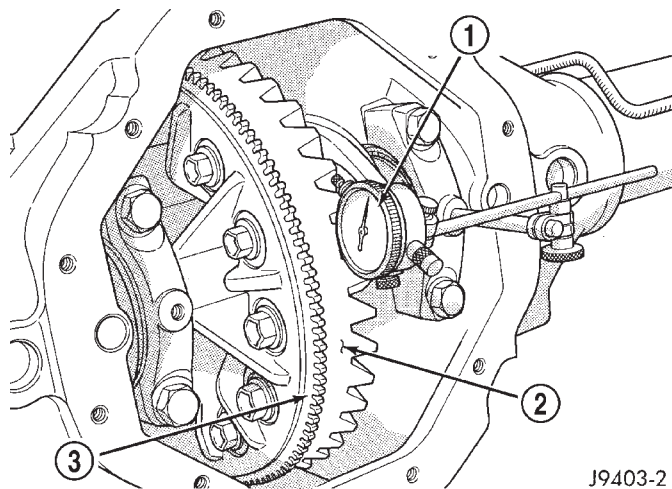


**Fig. 7 Threaded Adjuster**

- 1 - AXLE TUBE  
2 - BACKING PLATE  
3 - ADJUSTER WRENCH

(2) Install dial indicator and position the plunger against the drive side of a ring gear tooth (Fig. 8). Measure the backlash at 4 positions (90 degrees apart) around the ring gear. Locate and mark the area of minimum backlash.

(3) Rotate the ring gear to the position of the least backlash. Mark the gear so that all future backlash measurements will be taken with the same gear teeth meshed.



**Fig. 8 Ring Gear Backlash**

- 1 - DIAL INDICATOR  
2 - RING GEAR  
3 - EXCITER RING

(4) Loosen the right-side, tighten the left-side threaded adjuster. Obtain backlash of 0.003 to 0.004 inch (0.076 to 0.102 mm) with each adjuster tight-

ened to 14 N-m (10 ft. lbs.). Seat the bearing cups with the procedure described above.

(5) Tighten the differential bearing cap bolts 95 N-m (70 ft. lbs.).

(6) Tighten the right-side threaded adjuster to 102 N-m (75 ft. lbs.). Seat the bearing cups with the procedure described above. Continue to tighten the right-side adjuster and seat bearing cups until the torque remains constant at 102 N-m (75 ft. lbs.)

(7) Measure the ring gear backlash. The range of backlash is 0.006 to 0.008 inch (0.15 to 0.203 mm).

(8) Continue increasing the torque at the right-side threaded adjuster until the specified backlash is obtained.

**NOTE:** The left-side threaded adjuster torque should have approximately 102 N-m (75 ft. lbs.). If the torque is considerably less, the complete adjustment procedure must be repeated.

(9) Tighten the left-side threaded adjuster until 102 N-m (75 ft. lbs.) torque is indicated. Seat the bearing rollers with the procedure described above. Do this until the torque remains constant.

(10) Install the threaded adjuster locks and tighten the lock screws to 10 N-m (90 in. lbs.).

After the proper backlash is achieved, perform the Gear Contact Pattern procedure.

### GEAR CONTACT PATTERN

The ring gear and pinion teeth contact patterns will show if the pinion depth is correct in the housing. It will also show if the ring gear backlash has been adjusted correctly. The backlash can be adjusted within specifications to achieve desired tooth contact patterns.

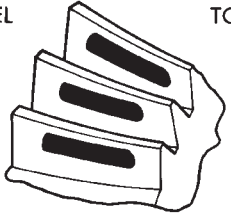
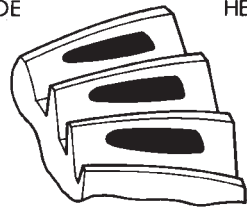
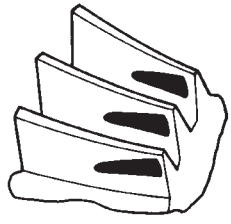
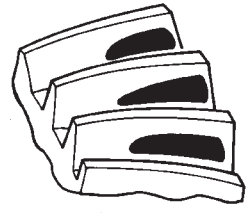
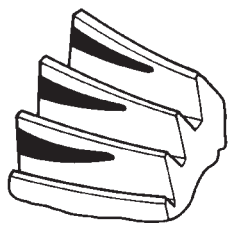
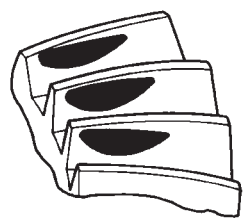
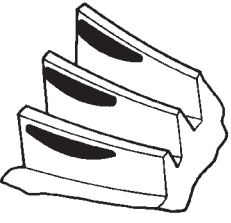
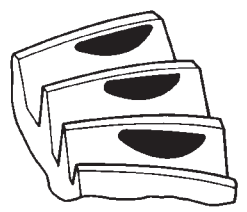
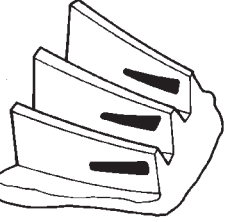
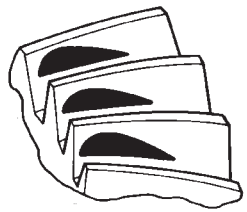
(1) Apply a thin coat of hydrated ferric oxide or equivalent, to the drive and coast side of the ring gear teeth.

(2) Wrap, twist and hold a shop towel around the pinion yoke to increase the turning resistance of the pinion. This will provide a more distinct contact pattern.

(3) With a boxed end wrench on a ring gear bolt, rotate the differential case one complete revolution in both directions while a load is being applied from shop towel.

The areas on the ring gear teeth with the greatest degree of contact against the pinion teeth will squeeze the compound to the areas with the least amount of contact. Note and compare patterns on the ring gear teeth to Gear Tooth Contact Patterns chart (Fig. 9) and adjust pinion depth and gear backlash as necessary.

REAR AXLE - 8 1/4 (Continued)

<p>DRIVE SIDE OF RING GEAR TEETH</p> <p>HEEL TOE</p> 	<p>COAST SIDE OF RING GEAR TEETH</p> <p>TOE HEEL</p> 	<p>DESIRABLE CONTACT PATTERN. PATTERN SHOULD BE CENTERED ON THE DRIVE SIDE OF TOOTH. PATTERN SHOULD BE CENTERED ON THE COAST SIDE OF TOOTH, BUT MAY BE SLIGHTLY TOWARD THE TOE. THERE SHOULD ALWAYS BE SOME CLEARANCE BETWEEN CONTACT PATTERN AND TOP OF THE TOOTH.</p>
		<p>RING GEAR BACKLASH CORRECT. <b>THINNER</b> PINION GEAR DEPTH SHIM REQUIRED.</p>
		<p>RING GEAR BACKLASH CORRECT. <b>THICKER</b> PINION GEAR DEPTH SHIM REQUIRED.</p>
		<p>PINION GEAR DEPTH SHIM CORRECT. <b>DECREASE</b> RING GEAR BACKLASH.</p>
		<p>PINION GEAR DEPTH SHIM CORRECT. <b>INCREASE</b> RING GEAR BACKLASH.</p>

J9003-24

Fig. 9 Gear Tooth Contact Patterns

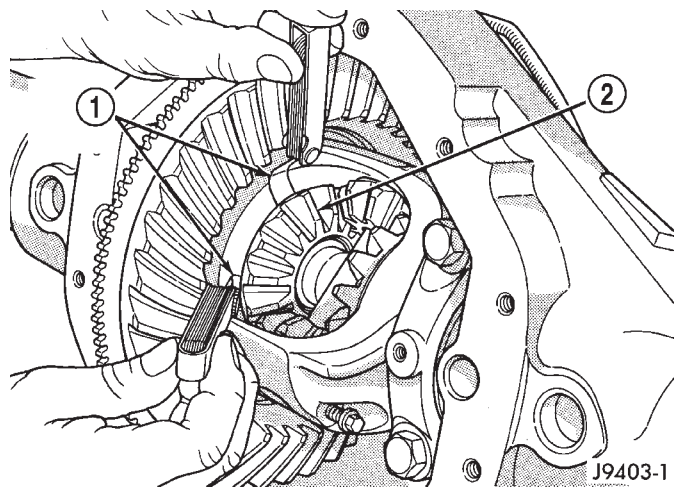
REAR AXLE - 8 1/4 (Continued)

**SIDE GEAR CLEARANCE**

When measuring side gear clearance, check each gear independently. If it necessary to replace a side gear, replace both gears as a matched set.

(1) Install the axle shafts and C-locks and pinion mate shaft.

(2) Measure each side gear clearance. Insert a matched pair of feeler gauge blades between the gear and differential housing on opposite sides of the hub (Fig. 10) .



**Fig. 10 Side Gear Clearance**

- 1 - FEELER GAUGE BLADES
- 2 - SIDE GEAR

(3) If side gear clearances is no more than 0.005 inch. Determine if the axle shaft is contacting the pinion mate shaft. **Do not remove the feeler gauges, inspect the axle shaft with the feeler gauge inserted behind the side gear.** If the end of the axle shaft is not contacting the pinion mate shaft, the side gear clearance is acceptable.

(4) If clearance is more than 0.005 inch (axle shaft not contacting mate shaft), record the side gear clearance. Remove the thrust washer and measure its thickness with a micrometer. Add the washer thickness to the recorded side gear clearance. The sum of gear clearance and washer thickness will determine required thickness of replacement thrust washer (Fig. 11).

SIDE GEAR CLEARANCE	0.007
THRUST WASHER THICKNESS	+ 0.033
<b>TOTAL</b>	<b>0.040</b>
<hr/>	
REPLACEMENT WASHER THICKNESS	0.040
NEW SIDE GEAR CLEARANCE	- 0.037
	0.003
	J9203-31

**Fig. 11 Side Gear Calculations**

In some cases, the end of the axle shaft will move and contact the mate shaft when the feeler gauge is inserted. The C-lock is preventing the side gear from sliding on the axle shaft.

(5) If there is no side gear clearance, remove the C-lock from the axle shaft. Use a micrometer to measure the thrust washer thickness. Record the thickness and re-install the thrust washer. Assemble the differential case without the C-lock installed and re-measure the side gear clearance.

(6) Compare both clearance measurements. If the difference is less than 0.012 inch (0.305 mm), add clearance recorded when the C-lock was installed to thrust washer thickness measured. The sum will determine the required thickness of the replacement thrust washer.

(7) If clearance is 0.012 inch (0.305 mm) or greater, both side gears must be replaced (matched set) and the clearance measurements repeated.

(8) If clearance (above) continues to be 0.012 inch (0.305 mm) or greater, the case must be replaced.

## REAR AXLE - 8 1/4 (Continued)

## SPECIFICATIONS

## REAR AXLE - 8 1/4

## AXLE SPECIFICATIONS

DESCRIPTION	SPECIFICATION
Axle Ratio	3.07, 3.55, 4.10
Differential Case Flange Runout	0.076 mm (0.003 in.)
Differential Case Clearance	0.12 mm (0.005 in.)
Ring Gear Diameter	209.5 mm (8.25 in.)
Ring Gear Backlash	0.12-0.20 mm (0.005-0.008 in.)
Ring Gear Runout	0.12 mm (0.005 in.)
Pinion Bearing Preload - Original Bearings	1-2 N·m (10-20 in. lbs.)
Pinion Bearing Preload - New Bearings	1-3.4 N·m (10-30 in. lbs.)

## TORQUE SPECIFICATIONS

DESCRIPTION	N·m	Ft. Lbs.	In. Lbs.
Differential Cover Bolts	41	30	
Bearing Cap Bolts	136	100	
Ring Gear Bolts	95	70	
Pinion Nut Minimum	285	210	
Pinion Mate Shaft Screw	16.25	12	



# WIRING

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ANTILOCK BRAKES.....	8Wa-35-1	POWER MIRRORS.....	8Wa-62-1
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## 8Wa-01 WIRING DIAGRAM INFORMATION

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## WIRING DIAGRAM INFORMATION

### DESCRIPTION - HOW TO USE WIRING DIAGRAMS

DaimlerChrysler Corporation wiring diagrams are designed to provide information regarding the vehicles wiring content. In order to effectively use the wiring diagrams to diagnose and repair DaimlerChrysler Corporation vehicles, it is important to understand all of their features and characteristics.

Diagrams are arranged such that the power (B+) side of the circuit is placed near the top of the page, and the ground (B-) side of the circuit is placed near the bottom of the page (Fig. 1).

All switches, components, and modules are shown in the at rest position with the doors closed and the key removed from the ignition (Fig. 2).

Components are shown two ways. A solid line around a component indicates that the component is complete. A dashed line around the component indicates that the component is being shown is not complete. Incomplete components have a reference number to indicate the page where the component is shown complete.

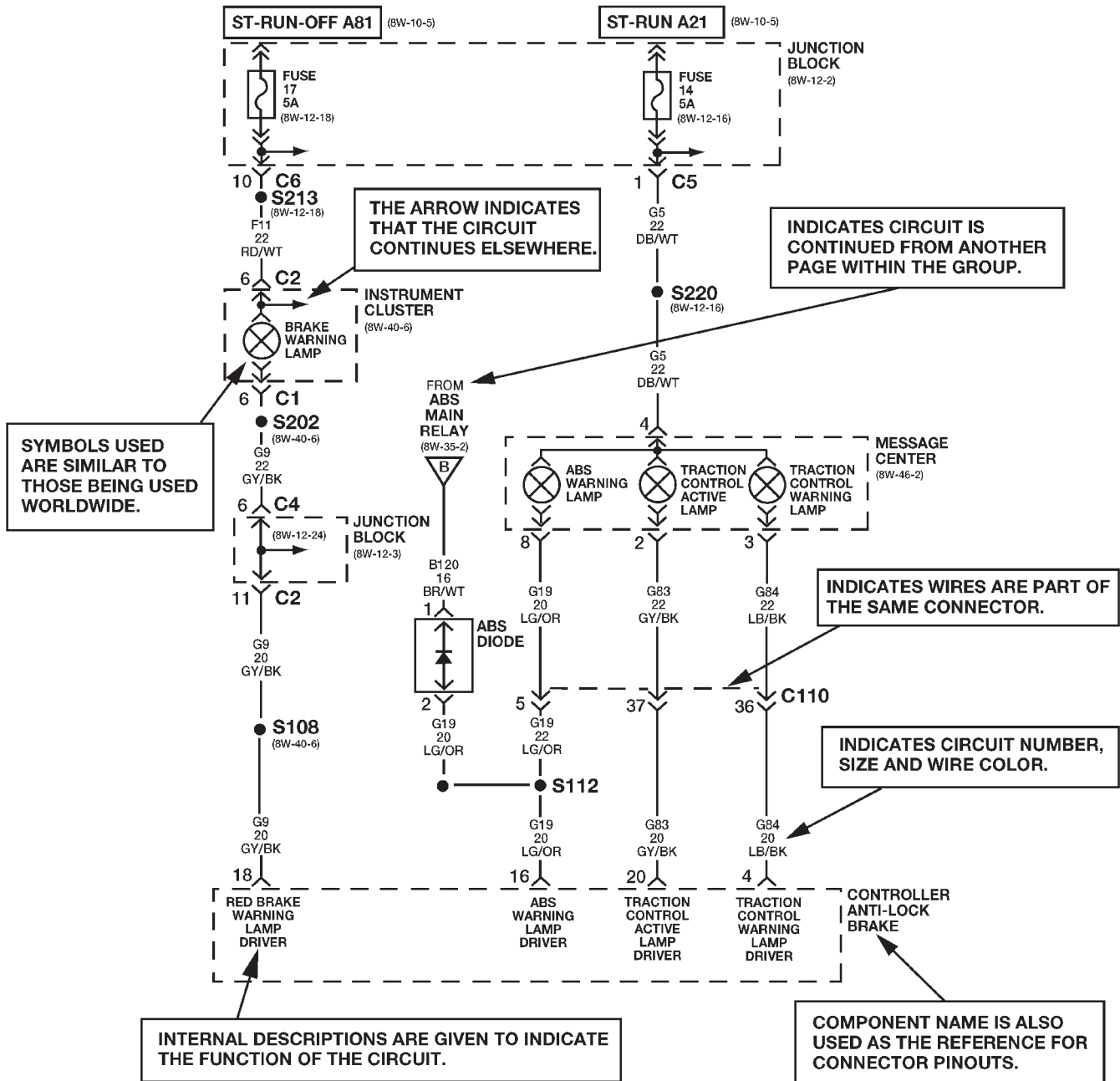
It is important to realize that no attempt is made on the diagrams to represent components and wiring as they appear on the vehicle. For example, a short piece of wire is treated the same as a long one. In addition, switches and other components are shown as simply as possible, with regard to function only.

### SYMBOLS

International symbols are used throughout the wiring diagrams. These symbols are consistent with those being used around the world (Fig. 3).

WIRING DIAGRAM INFORMATION (Continued)

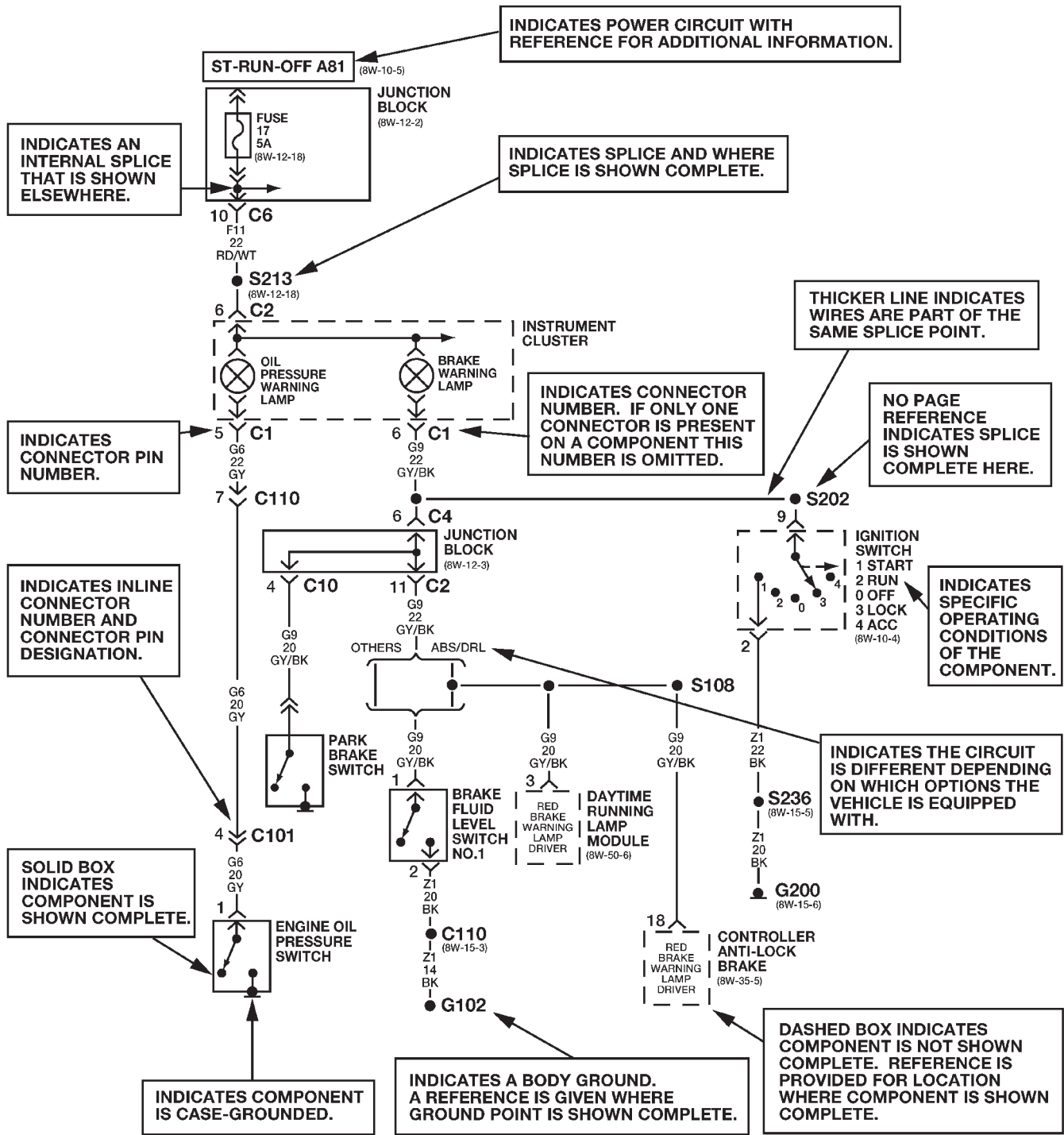
DIAGRAMS ARE ARRANGED WITH THE POWER B+ SIDE OF THE CIRCUIT NEAR THE TOP OF THE PAGE, AND THE GROUND SIDE OF THE CIRCUIT NEAR THE BOTTOM OF THE PAGE.



The System shown here is an EXAMPLE ONLY. It does not represent the actual circuit shown in the WIRING DIAGRAM SECTION.

Fig. 1 WIRING DIAGRAM EXAMPLE 1

WIRING DIAGRAM INFORMATION (Continued)



The System shown here is an EXAMPLE ONLY. It does not represent the actual circuit shown in the WIRING DIAGRAM SECTION.

Fig. 2 WIRING DIAGRAM EXAMPLE 2

WIRING DIAGRAM INFORMATION (Continued)








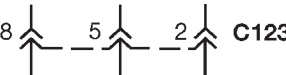













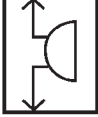

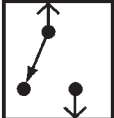





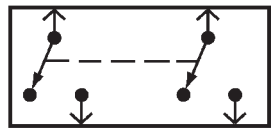
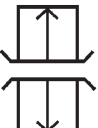



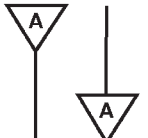






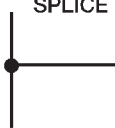









 BATTERY  GENERATOR STATOR COILS	 IN-LINE CONNECTORS 
 FUSIBLE LINK  FUSE  CIRCUIT BREAKER	 MULTIPLE CONNECTOR  MALE CONNECTOR  FEMALE CONNECTOR
 HOT BAR  CHOICE BRACKET  (8W-30-10) PAGE REFERENCE	 SINGLE FILAMENT LAMP  DUAL FILAMENT LAMP  ANTENNA
 CLOCKSPRING  GROUND  SCREW TERMINAL	 NPN TRANSISTOR  PNP TRANSISTOR  TONE GENERATOR
 OPEN SWITCH  CLOSED SWITCH	 LED  PHOTODIODE  DIODE  ZENER DIODE
 GANGED SWITCH  SLIDING DOOR CONTACT	 OXYGEN SENSOR  GAUGE  PIEZOELECTRIC CELL
 WIRE ORIGIN & DESTINATION SHOWN WITHIN CELL  WIRE DESTINATION SHOWN IN ANOTHER CELL	 RESISTOR  POTENTIOMETER  VARIABLE RESISTOR  HEATER ELEMENT
 EXTERNAL SPLICE  INTERNAL SPLICE  INCOMPLETE SPLICE (INTERNAL)	 NON-POLARIZED CAPACITOR  POLARIZED CAPACITOR  VARIABLE CAPACITOR
 ONE SPEED MOTOR  TWO SPEED MOTOR  REVERSIBLE MOTOR	 COIL  SOLENOID  SOLENOID VALVE

Fig. 3 WIRING DIAGRAM SYMBOLS

WIRING DIAGRAM INFORMATION (Continued)

**TERMINOLOGY**

This is a list of terms and definitions used in the wiring diagrams.

- LHD . . . . . Left Hand Drive Vehicles
- RHD . . . . . Right Hand Drive Vehicles
- ATX . . . Automatic Transmissions-Front Wheel Drive
- MTX . . . Manual Transmissions-Front Wheel Drive
- AT . . . . Automatic Transmissions-Rear Wheel Drive
- MT . . . . Manual Transmissions-Rear Wheel Drive
- SOHC . . . . . Single Over Head Cam Engine
- DOHC . . . . . Double Over Head Cam Engine
- Built-Up-Export . . . . . Vehicles Built For Sale In  
Markets Other Than North America
- Except-Built-Up-Export . . Vehicles Built For Sale In  
North America

**WARNINGS - GENERAL**

**WARNINGS** provide information to prevent personal injury and vehicle damage. Below is a list of general warnings that should be followed any time a vehicle is being serviced.

**WARNING:: ALWAYS WEAR SAFETY GLASSES FOR EYE PROTECTION.**

**WARNING: USE SAFETY STANDS ANYTIME A PROCEDURE REQUIRES BEING UNDER A VEHICLE.**

**WARNING: BE SURE THAT THE IGNITION SWITCH ALWAYS IS IN THE OFF POSITION, UNLESS THE PROCEDURE REQUIRES IT TO BE ON.**

**WARNING: SET THE PARKING BRAKE WHEN WORKING ON ANY VEHICLE. AN AUTOMATIC TRANSMISSION SHOULD BE IN PARK. A MANUAL TRANSMISSION SHOULD BE IN NEUTRAL.**

**WARNING: OPERATE THE ENGINE ONLY IN A WELL-VENTILATED AREA.**

**WARNING: KEEP AWAY FROM MOVING PARTS WHEN THE ENGINE IS RUNNING, ESPECIALLY THE FAN AND BELTS.**

**WARNING: TO PREVENT SERIOUS BURNS, AVOID CONTACT WITH HOT PARTS SUCH AS THE RADIA-**

**TOR, EXHAUST MANIFOLD(S), TAIL PIPE, CATALYTIC CONVERTER AND MUFFLER.**

**WARNING: DO NOT ALLOW FLAME OR SPARKS NEAR THE BATTERY. GASES ARE ALWAYS PRESENT IN AND AROUND THE BATTERY.**

**WARNING: ALWAYS REMOVE RINGS, WATCHES, LOOSE HANGING JEWELRY AND LOOSE CLOTHING.**

**DIAGNOSIS AND TESTING - WIRING HARNESS**

**TROUBLESHOOTING TOOLS**

When diagnosing a problem in an electrical circuit there are several common tools necessary. These tools are listed and explained below.

- Jumper Wire - This is a test wire used to connect two points of a circuit. It can be used to bypass an open in a circuit.

**WARNING: NEVER USE A JUMPER WIRE ACROSS A LOAD, SUCH AS A MOTOR, CONNECTED BETWEEN A BATTERY FEED AND GROUND.**

- Voltmeter - Used to check for voltage on a circuit. Always connect the black lead to a known good ground and the red lead to the positive side of the circuit.

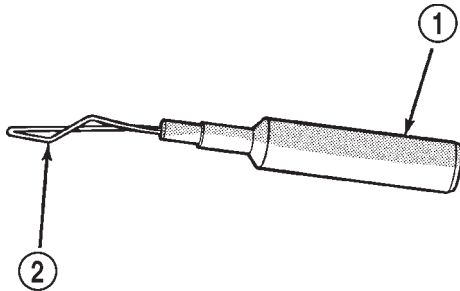
**CAUTION: Most of the electrical components used in today's vehicles are Solid State. When checking voltages in these circuits, use a meter with a 10 - megohm or greater impedance rating.**

- Ohmmeter - Used to check the resistance between two points of a circuit. Low or no resistance in a circuit means good continuity.

**CAUTION: Most of the electrical components used in today's vehicles are Solid State. When checking resistance in these circuits use a meter with a 10 - megohm or greater impedance rating. In addition, make sure the power is disconnected from the circuit. Circuits that are powered up by the vehicle's electrical system can cause damage to the equipment and provide false readings.**

## WIRING DIAGRAM INFORMATION (Continued)

• **Probing Tools** - These tools are used for probing terminals in connectors (Fig. 4) Select the proper size tool from Special Tool Package 6807, and insert it into the terminal being tested. Use the other end of the tool to insert the meter probe.



948W-233

**Fig. 4 PROBING TOOL**

- 1 - SPECIAL TOOL 6801  
2 - PROBING END

**INTERMITTENT AND POOR CONNECTIONS**

Most intermittent electrical problems are caused by faulty electrical connections or wiring. It is also possible for a sticking component or relay to cause a problem. Before condemning a component or wiring assembly, check the following items.

- Connectors are fully seated
- Spread terminals, or terminal push out
- Terminals in the wiring assembly are fully seated into the connector/component and locked into position
- Dirt or corrosion on the terminals. Any amount of corrosion or dirt could cause an intermittent problem
- Damaged connector/component casing exposing the item to dirt or moisture
- Wire insulation that has rubbed through causing a short to ground
- Some or all of the wiring strands broken inside of the insulation
- Wiring broken inside of the insulation

**TROUBLESHOOTING WIRING PROBLEMS**

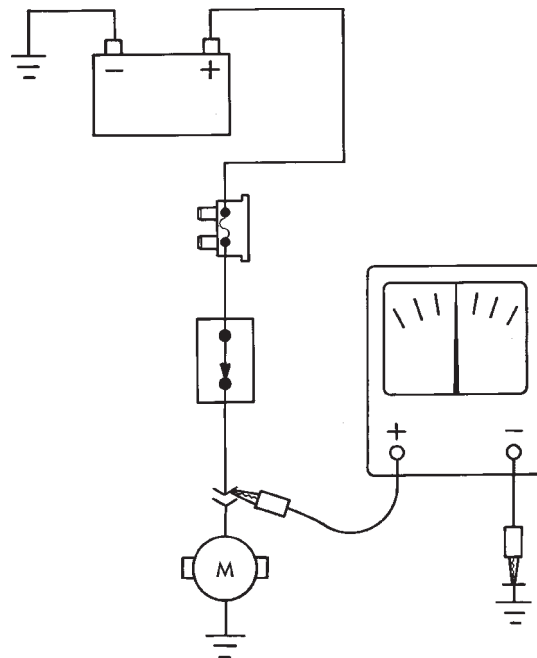
When troubleshooting wiring problems there are six steps which can aid in the procedure. The steps are listed and explained below. Always check for non-factory items added to the vehicle before doing any

diagnosis. If the vehicle is equipped with these items, disconnect them to verify these add-on items are not the cause of the problem.

- (1) Verify the problem.
- (2) Verify any related symptoms. Do this by performing operational checks on components that are in the same circuit. Refer to the wiring diagrams.
- (3) Analyze the symptoms. Use the wiring diagrams to determine what the circuit is doing, where the problem most likely is occurring and where the diagnosis will continue.
- (4) Isolate the problem area.
- (5) Repair the problem area.
- (6) Verify the proper operation. For this step, check for proper operation of all items on the repaired circuit. Refer to the wiring diagrams.

**STANDARD PROCEDURE - TESTING FOR VOLTAGE POTENTIAL**

- (1) Connect the ground lead of a voltmeter to a known good ground (Fig. 5).
- (2) Connect the other lead of the voltmeter to the selected test point. The vehicle ignition may need to be turned ON to check voltage. Refer to the appropriate test procedure.



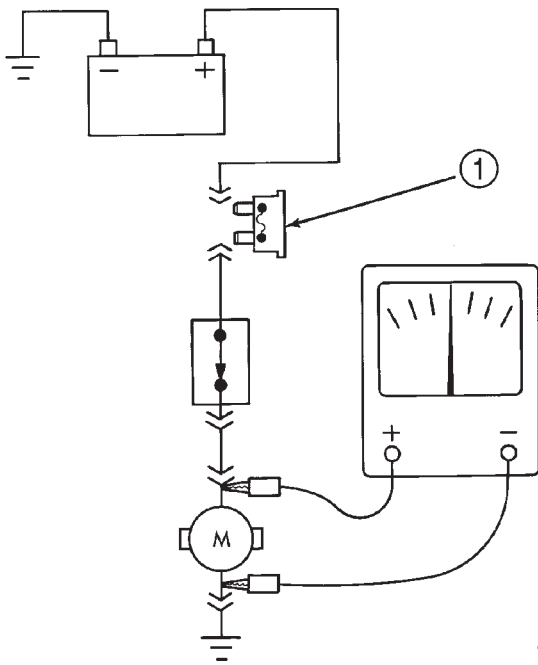
948W-194

**Fig. 5 Testing for Voltage Potential**

WIRING DIAGRAM INFORMATION (Continued)

**STANDARD PROCEDURE - TESTING FOR CONTINUITY**

- (1) Remove the fuse for the circuit being checked or, disconnect the battery.
- (2) Connect one lead of the ohmmeter to one side of the circuit being tested (Fig. 6)
- (3) Connect the other lead to the other end of the circuit being tested. Low or no resistance means good continuity.



948W-195

**Fig. 6 Testing for Continuity**

1 - FUSE REMOVED FROM CIRCUIT

**STANDARD PROCEDURE - TESTING FOR A SHORT TO GROUND**

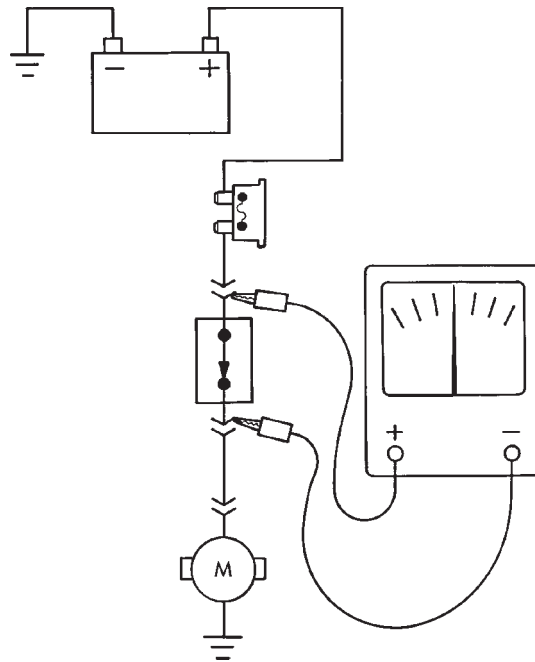
- (1) Remove the fuse and disconnect all items involved with the fuse.
- (2) Connect a test light or a voltmeter across the terminals of the fuse.
- (3) Starting at the fuse block, wiggle the wiring harness about six to eight inches apart and watch the voltmeter/test lamp.
- (4) If the voltmeter registers voltage or the test lamp glows, there is a short to ground in that general area of the wiring harness.

**STANDARD PROCEDURE - TESTING FOR SHORT TO GROUND ON FUSES POWERING SEVERAL LOADS**

- (1) Refer to the wiring diagrams and disconnect or isolate all items on the suspected fused circuits.
- (2) Replace the blown fuse.
- (3) Supply power to the fuse by turning ON the ignition switch or re-connecting the battery.
- (4) Start connecting the items in the fuse circuit one at a time. When the fuse blows the circuit with the short to ground has been isolated.

**STANDARD PROCEDURE - TESTING FOR A VOLTAGE DROP**

- (1) Connect the positive lead of the voltmeter to the side of the circuit closest to the battery (Fig. 7).
- (2) Connect the other lead of the voltmeter to the other side of the switch or component.
- (3) Operate the item.
- (4) The voltmeter will show the difference in voltage between the two points.



948W-196

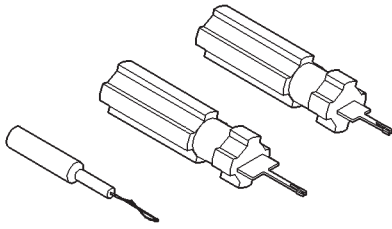
**Fig. 7 Testing for Voltage Drop**

**SPECIAL TOOLS**

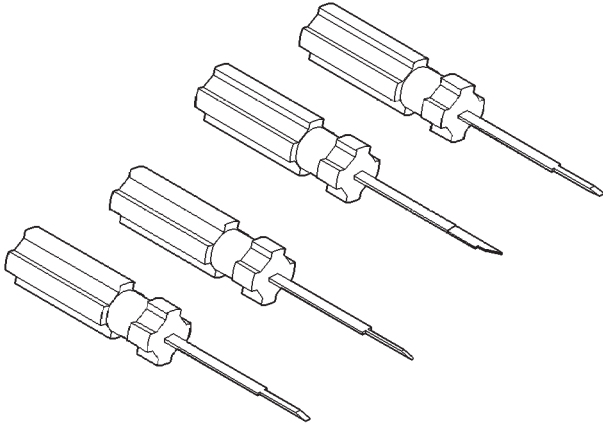
**SPECIAL TOOLS - WIRING/TERMINAL**



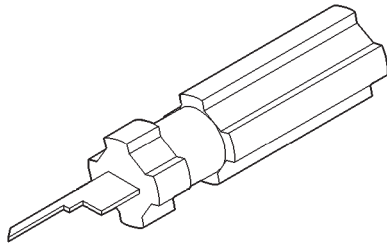
CONNECTOR - AUGAT (Continued)



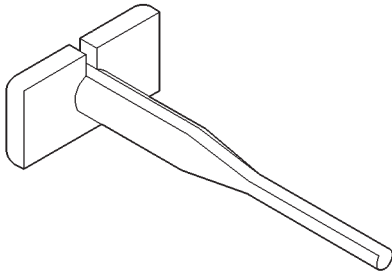
**PROBING TOOL PACKAGE 6807**



**TERMINAL PICK 6680**



**TERMINAL REMOVING TOOL 6932**



**TERMINAL REMOVING TOOL 6934**

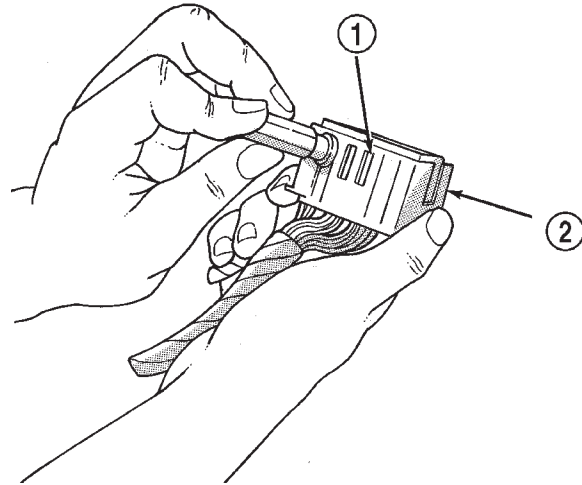
CONNECTOR - AUGAT

REMOVAL

(1) Disconnect battery.

(2) Disconnect the connector from its mating half/component.

(3) Push down on the yellow connector locking tab to release the terminals (Fig. 8).

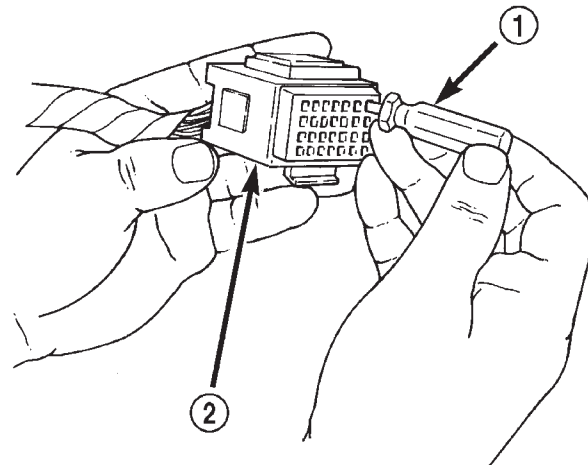


958W-54

**Fig. 8 AUGAT CONNECTOR REPAIR**

- 1 - LOCKING TAB
- 2 - CONNECTOR

(4) Using special tool 6932, push the terminal to remove it from the connector (Fig. 9).



803f5845

**Fig. 9 USING**

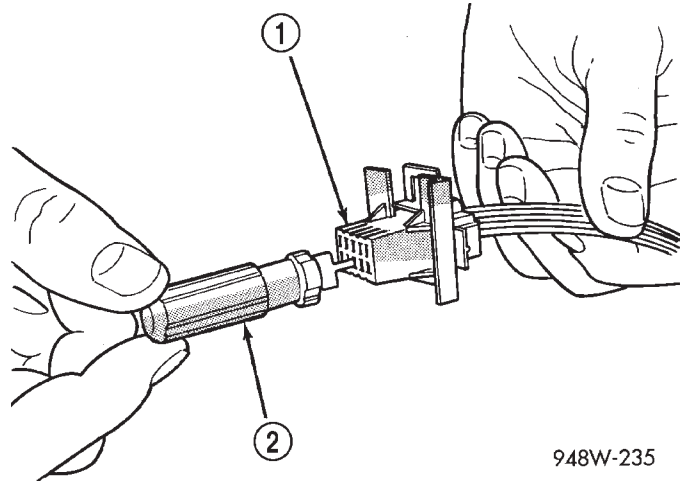
- 1 - SPECIAL TOOL 6932
- 2 - CONNECTOR

(5) Repair or replace the terminal as necessary.

CONNECTOR - AUGAT (Continued)

**INSTALLATION**

- (1) Reset the terminal locking tang.
- (2) Insert the removed wire in the same cavity on the repair connector.
- (3) Repeat steps for each wire in the connector, being sure that all wires are inserted into the proper cavities. For additional connector pin-out identification, refer to the wiring diagrams.
- (4) When the connector is re-assembled, the locking tab must be placed in the locked position to prevent terminal push out.
- (5) Connect connector to its mating half/component.
- (6) Connect battery and test all affected systems.



948W-235

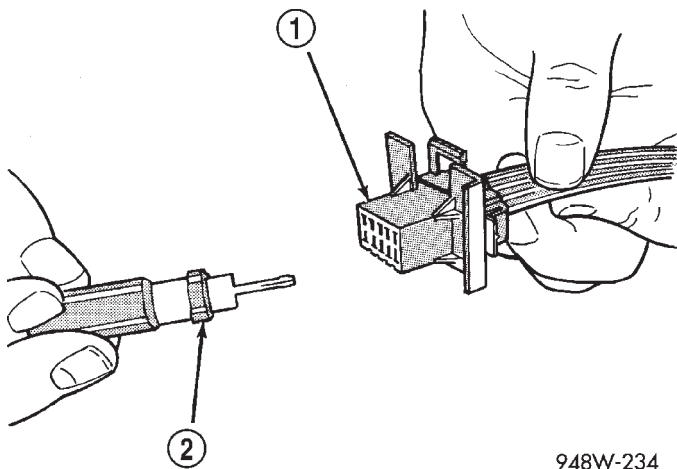
**Fig. 11 USING SPECIAL TOOL 6742**

- 1 - CONNECTOR
- 2 - SPECIAL TOOL 6742

CONNECTOR - MOLEX

**REMOVAL**

- (1) Disconnect battery.
- (2) Disconnect the connector from its mating half/component.
- (3) Insert special tool 6742 into the terminal end of the connector (Fig. 10).



948W-234

**Fig. 10 MOLEX CONNECTOR REPAIR**

- 1 - CONNECTOR
- 2 - SPECIAL TOOL 6742

- (4) Using special tool 6742, release the locking fingers on the terminal (Fig. 11).
- (5) Pull on the wire to remove it from the connector.
- (6) Repair or replace the terminal as necessary.

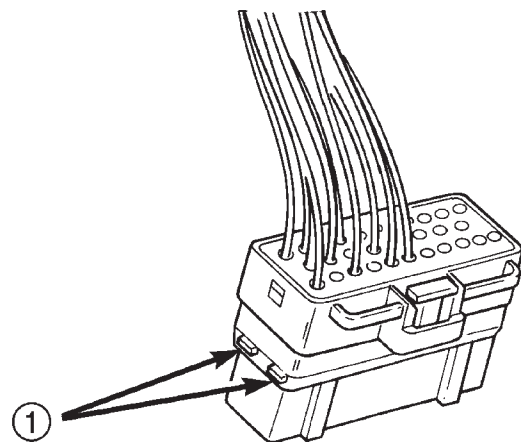
**INSTALLATION**

- (1) Reset the terminal locking tang.
- (2) Insert the removed wire in the same cavity on the repair connector.
- (3) Repeat steps for each wire in the connector, being sure that all wires are inserted into the proper cavities. For additional connector pin-out identification, refer to the wiring diagrams.

CONNECTOR - THOMAS AND BETTS

**REMOVAL**

- (1) Disconnect battery.
- (2) Disconnect the connector from its mating half/component.
- (3) Push in the two lock tabs on the side of the connector (Fig. 12).



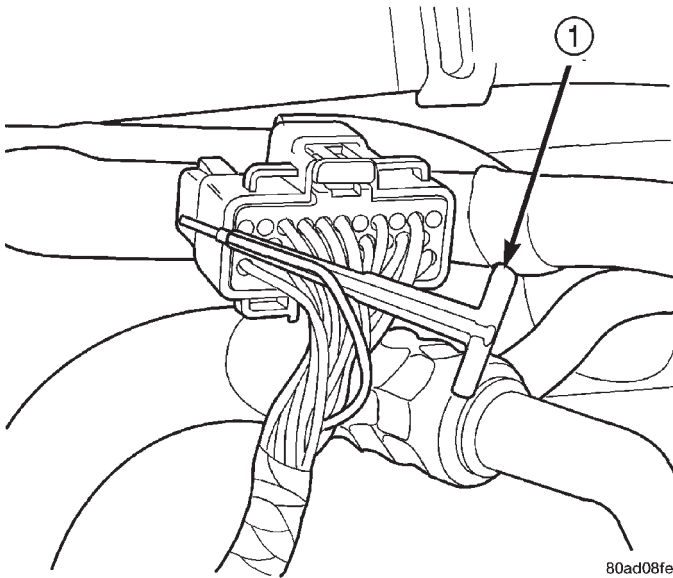
803f588a

**Fig. 12 THOMAS AND BETTS CONNECTOR LOCK RELEASE TABS**

- 1 - LOCK TABS

## CONNECTOR - THOMAS AND BETTS (Continued)

(4) Insert the probe end of special tool 6934 into the back of the connector cavity (Fig. 13).



**Fig. 13 REMOVING WIRE TERMINAL**

1 - SPECIAL TOOL 6934

(5) Grasp the wire and tool 6934, then slowly remove the wire and terminal from the connector.

(6) Repair or replace the terminal as necessary.

## INSTALLATION

(1) Reset the terminal locking tang.

(2) Insert the removed wire in the same cavity on the repair connector.

(3) Repeat steps for each wire in the connector, being sure that all wires are fully seated into the proper cavities. For additional connector pin-out identification, refer to the wiring diagrams.

(4) Push in the single lock tab on the side of the connector (Fig. 14).

(5) Connect connector to its mating half/component.

(6) Connect battery and test all affected systems.

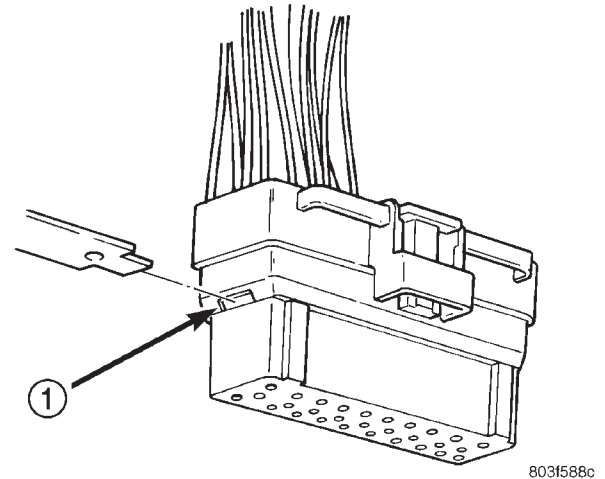
## DIODE

### REMOVAL

(1) Disconnect the battery.

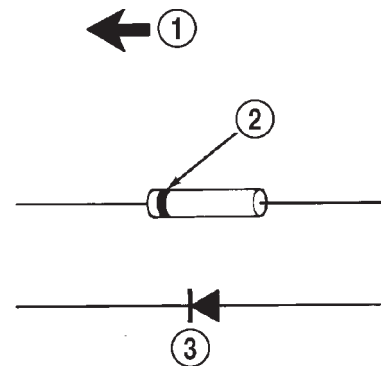
(2) Locate the diode in the harness, and remove the protective covering.

(3) Remove the diode from the harness, pay attention to the current flow direction (Fig. 15).



**Fig. 14 SINGLE LOCK TAB**

1 - SINGLE LOCK TAB



**Fig. 15 DIODE IDENTIFICATION**

1 - CURRENT FLOW

2 - BAND AROUND DIODE INDICATES CURRENT FLOW

3 - DIODE AS SHOWN IN THE DIAGRAMS

### INSTALLATION

(1) Remove the insulation from the wires in the harness. Only remove enough insulation to solder in the new diode.

(2) Install the new diode in the harness, making sure current flow is correct. If necessary, refer to the appropriate wiring diagram for current flow (Fig. 15).

(3) Solder the connection together using rosin core type solder only. **Do not use acid core solder.**

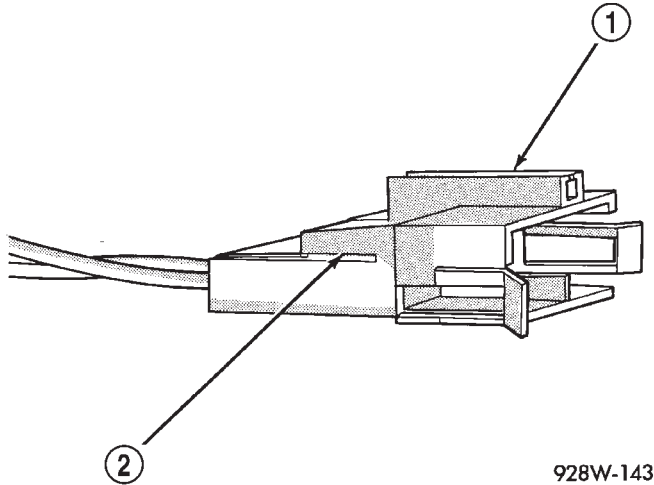
(4) Tape the diode to the harness using electrical tape. Make sure the diode is completely sealed from the elements.

(5) Re-connect the battery and test affected systems.

## TERMINAL

### REMOVAL

- (1) Disconnect battery.
- (2) Disconnect the connector being repaired from its mating half/component.
- (3) Remove the connector locking wedge, if required (Fig. 16).

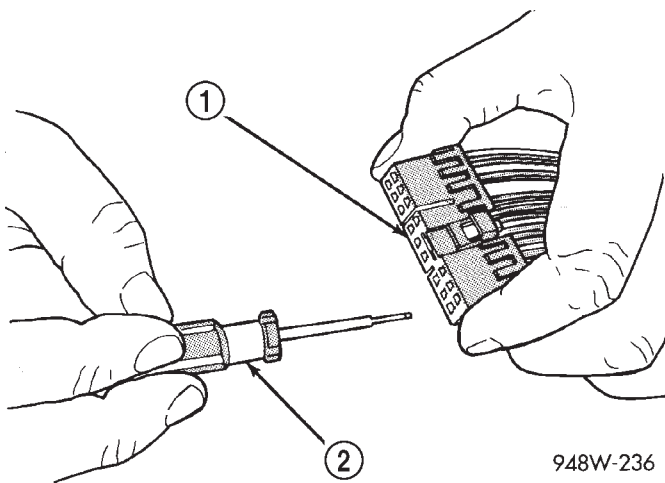


928W-143

**Fig. 16 CONNECTOR LOCKING WEDGE TAB (TYPICAL)**

- 1 - CONNECTOR
- 2 - CONNECTOR LOCKING WEDGE TAB

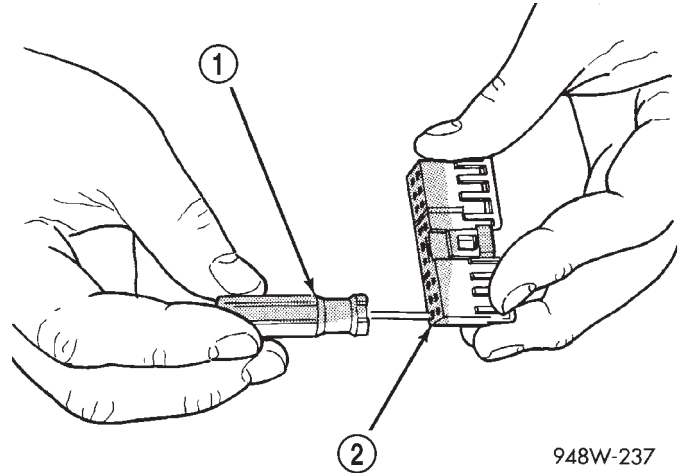
- (4) Position the connector locking finger away from the terminal using the proper pick from special tool kit 6680. Pull on the wire to remove the terminal from the connector (Fig. 17) (Fig. 18).



948W-236

**Fig. 17 TERMINAL REMOVAL**

- 1 - CONNECTOR
- 2 - FROM SPECIAL TOOL KIT 6680



948W-237

**Fig. 18 TERMINAL REMOVAL USING SPECIAL TOOL**

- 1 - FROM SPECIAL TOOL KIT 6680
- 2 - CONNECTOR

- (5) Cut the wire 6 inches from the back of the connector.

### INSTALLATION

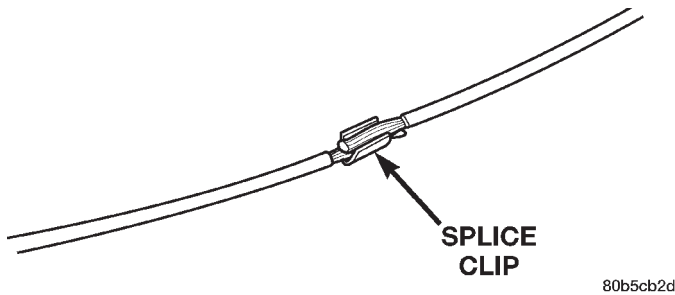
- (1) Select a wire from the terminal repair assembly that best matches the color wire being repaired.
- (2) Cut the repair wire to the proper length and remove one-half (1/2) inch of insulation.
- (3) Splice the repair wire to the wire harness .
- (4) Insert the repaired wire into the connector.
- (5) Install the connector locking wedge, if required, and reconnect the connector to its mating half/component.
- (6) Re-tape the wire harness starting at 1-1/2 inches behind the connector and 2 inches past the repair.
- (7) Connect battery and test all affected systems.

## WIRE

### STANDARD PROCEDURE - WIRE SPLICING

When splicing a wire, it is important that the correct gage be used as shown in the wiring diagrams.

- (1) Remove one-half (1/2) inch of insulation from each wire that needs to be spliced.
- (2) Place a piece of adhesive lined heat shrink tubing on one side of the wire. Make sure the tubing will be long enough to cover and seal the entire repair area.
- (3) Place the strands of wire overlapping each other inside of the splice clip (Fig. 19).

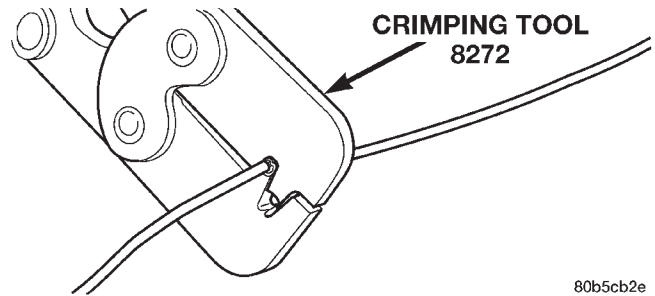


**Fig. 19 SPLICE CLIP**

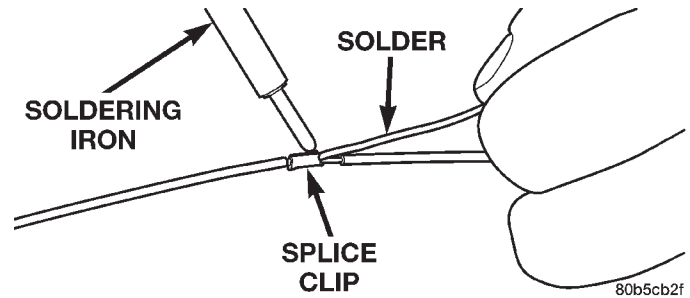
- (4) Using crimping tool, Miller p/n 8272, crimp the splice clip and wires together (Fig. 20)
- (5) Solder the connection together using rosin core type solder only (Fig. 21).

**CAUTION: DO NOT USE ACID CORE SOLDER.**

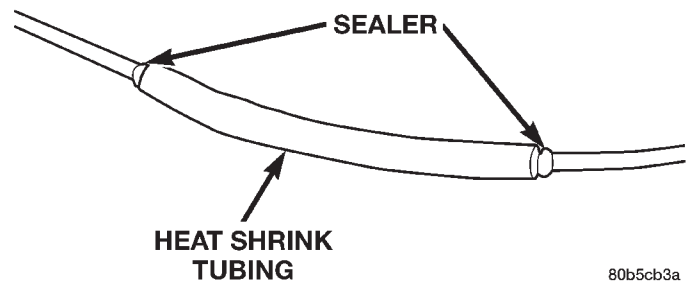
- (6) Center the heat shrink tubing over the joint and heat using a heat gun. Heat the joint until the tubing is tightly sealed and sealant comes out of both ends of the tubing (Fig. 22).



**Fig. 20 CRIMPING TOOL**



**Fig. 21 SOLDER**



**Fig. 22 HEAT SHRINK TUBING**

## 8Wa-02 COMPONENT INDEX

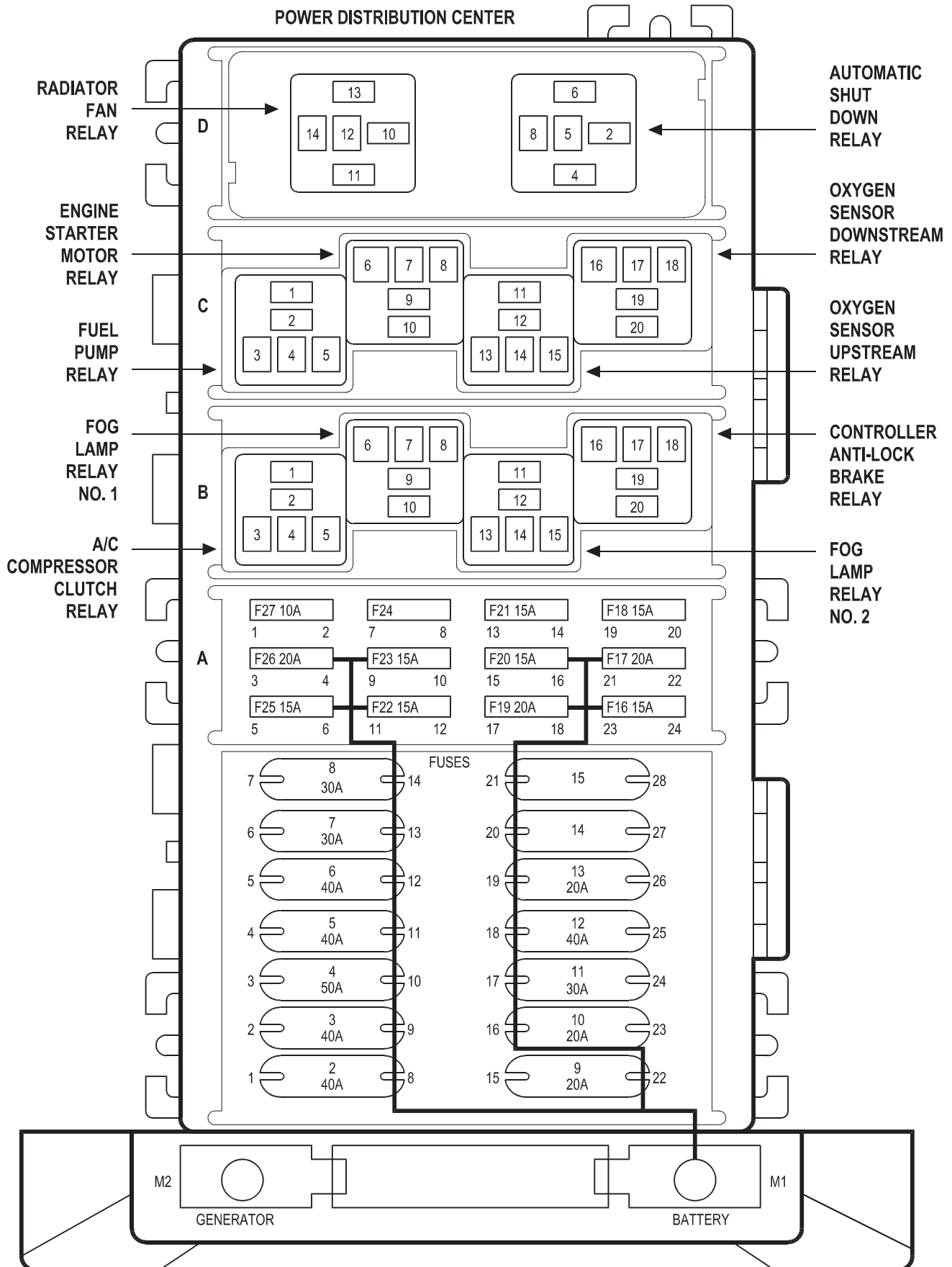
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Accelerator Pedal Position Sensor . . . . .	8Wa-30	Evap/Purge Solenoid . . . . .	8Wa-30
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Clutch Interlock Switch . . . . .	8Wa-21	Headlamp Delay Module . . . . .	8Wa-50
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Fuse 10 (JB)	8Wa-10-18	Rear Window Defogger Relay	8Wa-10-19, 25, 26
Fuse 10 (PDC)(Diesel)	8Wa-10-14, 17	Remote Keyless Entry Module	8Wa-10-29, 30, 31
Fuse 10 (PDC)(Gas)	8Wa-10-12, 26	Right Courtesy Lamp	8Wa-10-28, 31
Fuse 11 (JB)	8Wa-10-18	Right Fog Lamp	8Wa-10-34, 36
Fuse 11 (PDC)(Diesel)	8Wa-10-14, 27	Right Tail/Stop Lamp	8Wa-10-33, 34
Fuse 11 (PDC)(Gas)	8Wa-10-12, 13, 26	Right Visor/Vanity Lamp	8Wa-10-29, 30, 31
Fuse 12 (JB)	8Wa-10-19	Sentry Key Immobilizer Module	8Wa-10-23, 33
Fuse 12 (PDC)(Diesel)	8Wa-10-14, 15, 27	Transmission Control Module	8Wa-10-28
Fuse 12 (PDC)(Gas)	8Wa-10-12, 13, 26	Underhood Lamp/Switch	8Wa-10-28, 31
Fuse 13 (JB)	8Wa-10-25, 26		
Fuse 13 (PDC)(Diesel)	8Wa-10-14, 15, 27		
Fuse 13 (PDC)(Gas)	8Wa-10-13, 26		
Fuse 14 (JB)	8Wa-10-25, 26		
Fuse 14 (PDC)	8Wa-10-15, 27		





**FUSES**

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	-	-	-
2	40A	A1 12RD	FUSED B(+)
3	40A	A2 12PK/BK	FUSED B(+)
4	50A	A7 10RD/BK	FUSED B(+)
5	40A	F141 12LG/RD	FUSED B(+)
6	40A	A111 12RD/LG	FUSED B(+)
7	30A	A3 14RD/WT	FUSED B(+)
		△△ A3 14RD/WT	
8	30A	A16 14RD/LG	FUSED B(+)
9	20A	A17 16RD/BK	FUSED B(+)
		A17 16RD/BK	
10	20A	A41 16YL	FUSED B(+)
11	30A	A4 12BK/PK	FUSED B(+)
12	▽▽ 40A	A10 12RD/DG	FUSED B(+)
13	▽▽ 20A	A20 12RD/DB	FUSED B(+)
14	-	-	FUSED B(+)
15	-	-	FUSED B(+)
16	15A	M1 20PK	FUSED B(+)
17	20A	F99 18RD	FUSED B(+)
18	15A	A142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
19	20A	F34 18TN/BK	FUSED B(+)
20	15A	L9 20BK/PK	FUSED B(+)
21	15A	F142 18DG/WT	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
22	15A	A61 14DG/BK	FUSED B(+)
23	15A	F32 20PK/DB	FUSED B(+)
24	-	-	-
25	15A	F61 20WT/OR	FUSED B(+)
26	20A	F75 16VT	FUSED B(+)
27	△△ 10A	F1 20DB/GY	FUSED B(+)

▽▽ ABS  
 △△ DRL

A/C  
COMPRESSOR  
CLUTCH  
RELAY

CAVITY	CIRCUIT	FUNCTION
B1	A17 16RD/BK	FUSED B(+)
B2	C3 16DB/BK	A/C COMPRESSOR CLUTCH RELAY OUTPUT
B3	C13 18DB/OR	A/C COMPRESSOR CLUTCH RELAY CONTROL
B4	-	-
B5	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)

AUTOMATIC  
SHUT  
DOWN  
RELAY

CAVITY	CIRCUIT	FUNCTION
D2	A16 14RD/LG	FUSED B(+)
D4	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
D5	-	-
D6	K51 18DB/YL	AUTOMATIC SHUT DOWN RELAY CONTROL
D8	A999 16RD	AUTOMATIC SHUT DOWN RELAY OUTPUT
	A999 16RD	

CONTROLLER  
ANTI-LOCK  
BRAKE  
RELAY

CAVITY	CIRCUIT	FUNCTION
B16	F15 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)
B17	Z1 20BK	GROUND
B17	Z1 20BK ▽▽	GROUND
B18	G83 18GY/BK	ABS RELAY CONTROL
B19	-	-
B20	G19 20LG/OR	ABS WARNING INDICATOR DRIVER

ENGINE  
STARTER  
MOTOR  
RELAY  
(A/T)

CAVITY	CIRCUIT	FUNCTION
C6	T41 20BK/WT	PARK/NEUTRAL POSITION SWITCH SENSE
	T41 20BK/WT	PARK/NEUTRAL POSITION SWITCH SENSE
C7	-	-
C8	F45 20YL/RD •	FUSED B(+) ENGINE STARTER MOTOR RELAY
C8	T141 20YL ••	IGNITION SWITCH OUTPUT (START)
C9	T40 16BR	ENGINE STARTER MOTOR RELAY OUTPUT
C10	A41 16YL	FUSED B(+)

• LHD  
•• RHD  
▽▽ ABS EXCEPT DRL

**ENGINE  
 STARTER  
 MOTOR  
 RELAY  
 (M/T)**

CAVITY	CIRCUIT	FUNCTION
C6	Z1 20BK	GROUND
C6	Z1 20BK     ○	GROUND
C7	-	-
C8	T141 20YL	IGNITION SWITCH OUTPUT (START)
C9	T40 16BR	ENGINE STARTER MOTOR RELAY OUTPUT
C10	A41 16YL	FUSED B(+)

**FOG  
 LAMP  
 RELAY  
 NO. 1**

CAVITY	CIRCUIT	FUNCTION
B6	G34 16RD/GY     △△	HIGH BEAM INDICATOR DRIVER
	G34 16RD/GY     △△	HIGH BEAM INDICATOR DRIVER
B6	L33 20RD/WT     △△△	FUSED B(+)
B7	L139 20VT	FOG LAMP RELAY OUTPUT NO. 1
B8	Z1 20BK	GROUND
	Z1 20BK	GROUND
B9	-	-
B10	L77 20BR/YL	FUSED HEADLAMP SWITCH OUTPUT
	L77 20BR/YL	FUSED HEADLAMP SWITCH OUTPUT

○ BASE  
 △△ DRL  
 △△△ EXCEPT DRL

FOG  
LAMP  
RELAY  
NO. 2

CAVITY	CIRCUIT	FUNCTION
B11	F61 20WT/OR	FUSED B(+)
B12	L39 20LB	FOG LAMP RELAY OUTPUT
B13	Z1 20BK	GROUND
B14	-	-
B15	L92 20PK	FOG LAMP SWITCH OUTPUT

FUEL  
PUMP  
RELAY

CAVITY	CIRCUIT	FUNCTION
C1	A61 14DG/BK	FUSED B(+)
	A61 16DG/BK	FUSED B(+)
C2	A141 14DG/WT	FUEL PUMP RELAY OUTPUT
C3	K31 18BR	FUEL PUMP RELAY CONTROL
C4	-	-
C5	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)

**OXYGEN  
SENSOR  
DOWNSTREAM  
RELAY  
(GAS)**

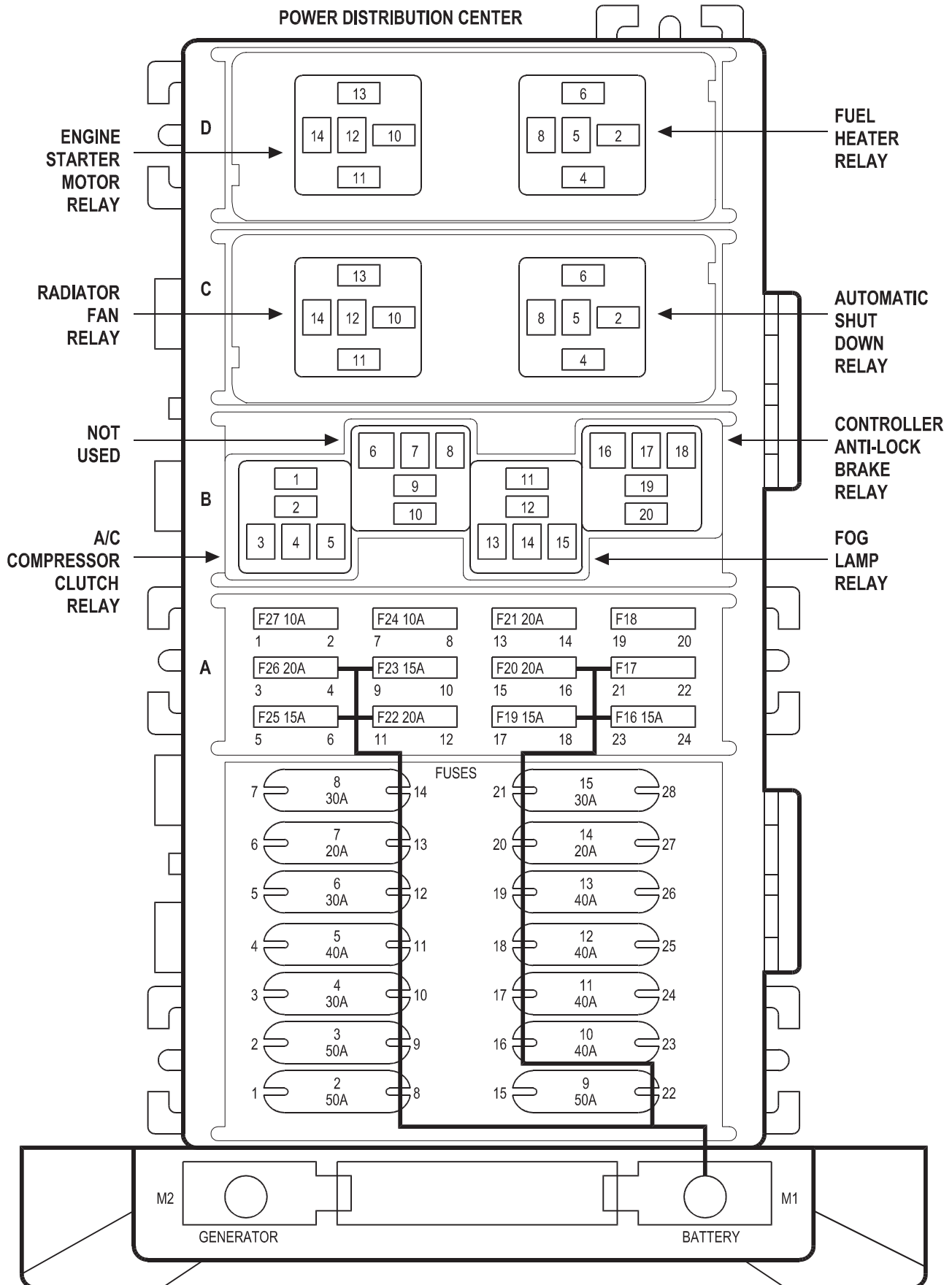
CAVITY	CIRCUIT	FUNCTION
C16	K74 18BR/VT	OXYGEN SENSOR DOWNSTREAM RELAY CONTROL
C17	-	-
C18	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
C19	A242 18VT/OR	OXYGEN SENSOR 1/2 DOWNSTREAM
C20	F99 18RD	FUSED B(+)
	F99 18RD	FUSED B(+)

**OXYGEN  
SENSOR  
UPSTREAM  
RELAY  
(GAS)**

CAVITY	CIRCUIT	FUNCTION
C11	F99 18RD	FUSED B(+)
C12	A42 18DG	OXYGEN SENSOR 1/1 UPSTREAM
C13	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
C14	-	-
C15	K73 18BR/OR	KNOCK SENSOR SIGNAL (-)

**RADIATOR  
FAN  
RELAY**

CAVITY	CIRCUIT	FUNCTION
D10	F141 12LG/RD	FUSED B(+)
D11	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
D12	-	-
D13	C27 18DB/PK	RADIATOR FAN RELAY CONTROL
D14	C25 12LB	RADIATOR FAN RELAY OUTPUT



## FUSES

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	-	-	-
2	50A	A54 12RD/GY	FUSED B(+)
3	50A	A54 12RD/GY	FUSED B(+)
4	30A	A16 12RD/LG	FUSED B(+)
5	40A	A1 12RD	FUSED B(+)
6	30A	A61 14LG/RD	FUSED B(+)
7	20A	A41 16YL	FUSED B(+)
8	30A	A3 14RD/WT	FUSED B(+)
9	50A	A7 10RD/BK	FUSED B(+)
10	40A	A2 12PK/BK	FUSED B(+)
11	40A	A111 12RD/LG	FUSED B(+)
12	▽▽ 40A	A10 12RD/DG	FUSED B(+)
13	40A	F141 12LG/RD	FUSED B(+)
14	▽▽ 20A	A20 12RD/DB	FUSED B(+)
15	30A	A4 12BK/PK	FUSED B(+)
16	15A	M1 20PK	FUSED B(+)
		M1 20PK	
17	-	-	-
18	-	-	-
19	15A	F32 20PK/DB	FUSED B(+)
20	20A	A17 18RD/BK	FUSED B(+)
		A17 16RD/BK	
21	20A	F142 16DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
22	20A	F75 16VT	FUSED B(+)
23	15A	L9 20BK/PK	FUSED B(+)
24	10A	F16 16RD/LG	FUSED B(+)
25	15A	F61 20WT/OR	FUSED B(+)
26	20A	F34 18TN/BK	FUSED B(+)
27	10A	F1 20DB/GY	FUSED B(+)

▽▽ ABS



A/C  
COMPRESSOR  
CLUTCH  
RELAY

CAVITY	CIRCUIT	FUNCTION
B1	A17 16RD/BK	FUSED B(+)
B2	C3 16DB/BK	A/C COMPRESSOR CLUTCH RELAY OUTPUT
B3	C13 20DB/OR	A/C COMPRESSOR CLUTCH RELAY CONTROL
B4	-	-
B5	A142 18DG	AUTOMATIC SHUT DOWN RELAY OUTPUT

AUTOMATIC  
SHUT  
DOWN  
RELAY

CAVITY	CIRCUIT	FUNCTION
C2	A16 12RD/LG	FUSED B(+)
C4	A16 12RD/LG	FUSED B(+)
C5	-	-
C6	K51 20DB/YL	AUTOMATIC SHUT DOWN RELAY CONTROL
C8	A142 16DG/OR	AUTOMATIC SHUT DOWN RELAY OUTPUT
	A142 18DG	AUTOMATIC SHUT DOWN RELAY OUTPUT

CONTROLLER  
ANTI-LOCK  
BRAKE  
RELAY

CAVITY	CIRCUIT	FUNCTION
B16	G83 18GY/BK	ABS RELAY CONTROL
B17	Z1 20BK	GROUND
B18	F15 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)
	F15 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)
B19	-	-
B20	G19 20LG/OR	ABS WARNING INDICATOR DRIVER

ENGINE  
STARTER  
MOTOR  
RELAY

CAVITY	CIRCUIT	FUNCTION
D10	A41 16YL	FUSED B(+)
D11	T141 20YL	IGNITION SWITCH OUTPUT (START)
D12	-	-
D13	Z1 20BK	GROUND
	Z1 20BK/YL	GROUND
D14	T40 16BR	ENGINE STARTER MOTOR RELAY OUTPUT

FOG  
LAMP  
RELAY

CAVITY	CIRCUIT	FUNCTION
B11	F61 20WT/OR	FUSED B(+)
B12	L39 20LB	FOG LAMP RELAY OUTPUT
B13	Z1 20BK ▽▽	GROUND
	Z1 20BK/YL	GROUND
B14	-	-
B15	L92 20PK	FUSED FOG LAMP SWITCH FEED

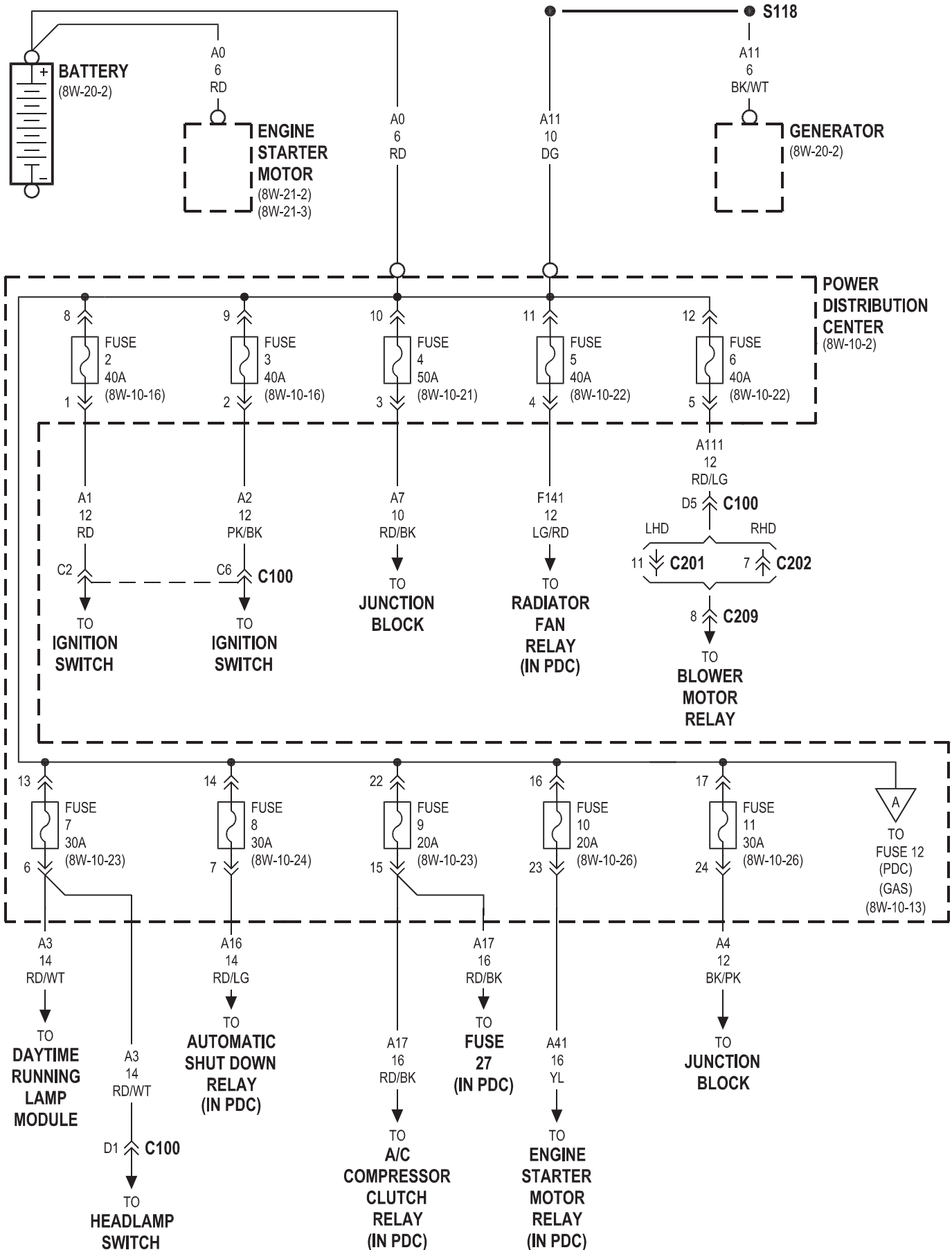
FUEL  
HEATER  
RELAY

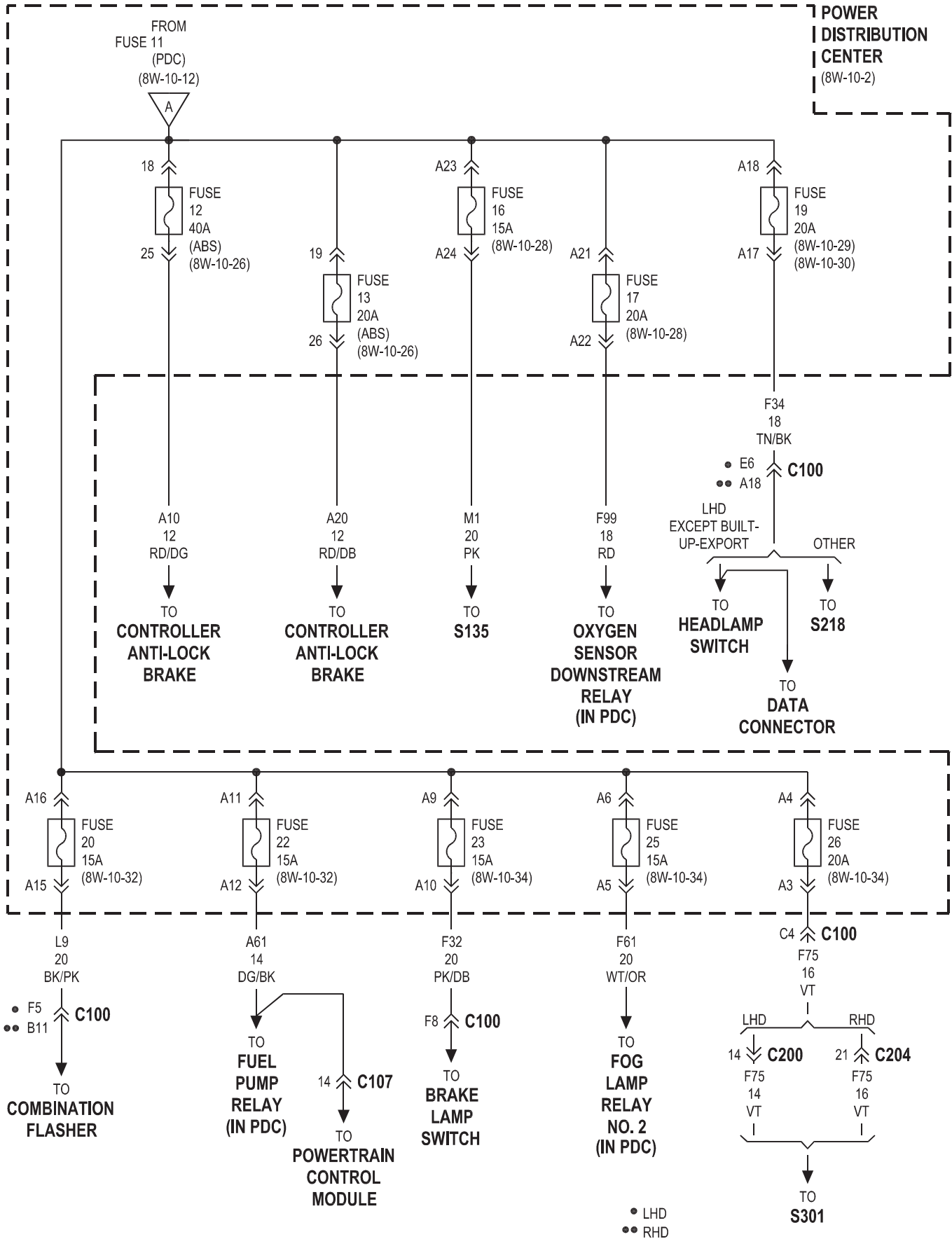
CAVITY	CIRCUIT	FUNCTION
D2	A61 14LG/RD	FUSED B(+)
D4	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
D5	-	-
D6	Z1 20BK	GROUND
D8	A93 14RD/BK	FUEL HEATER RELAY OUTPUT

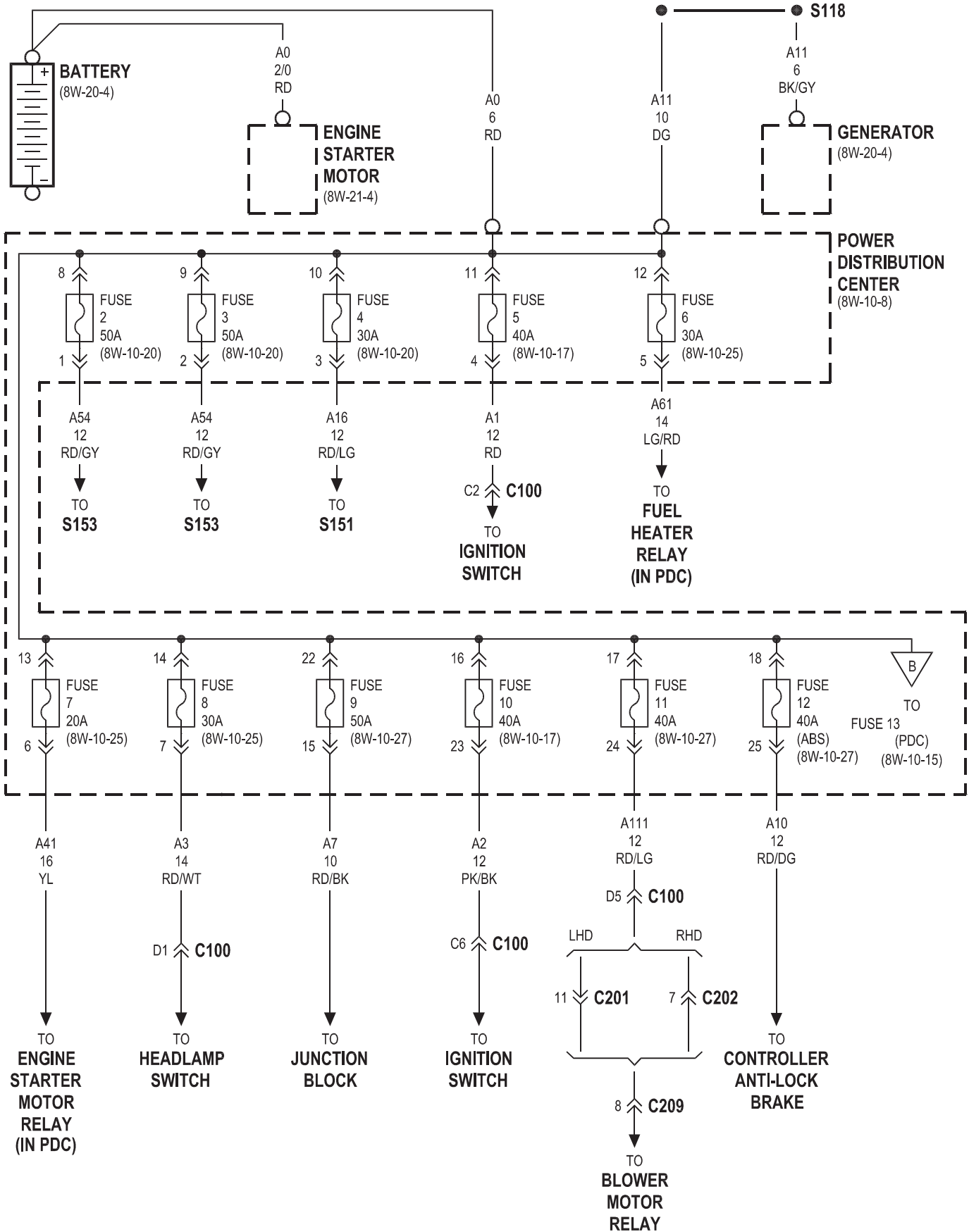
RADIATOR  
FAN  
RELAY

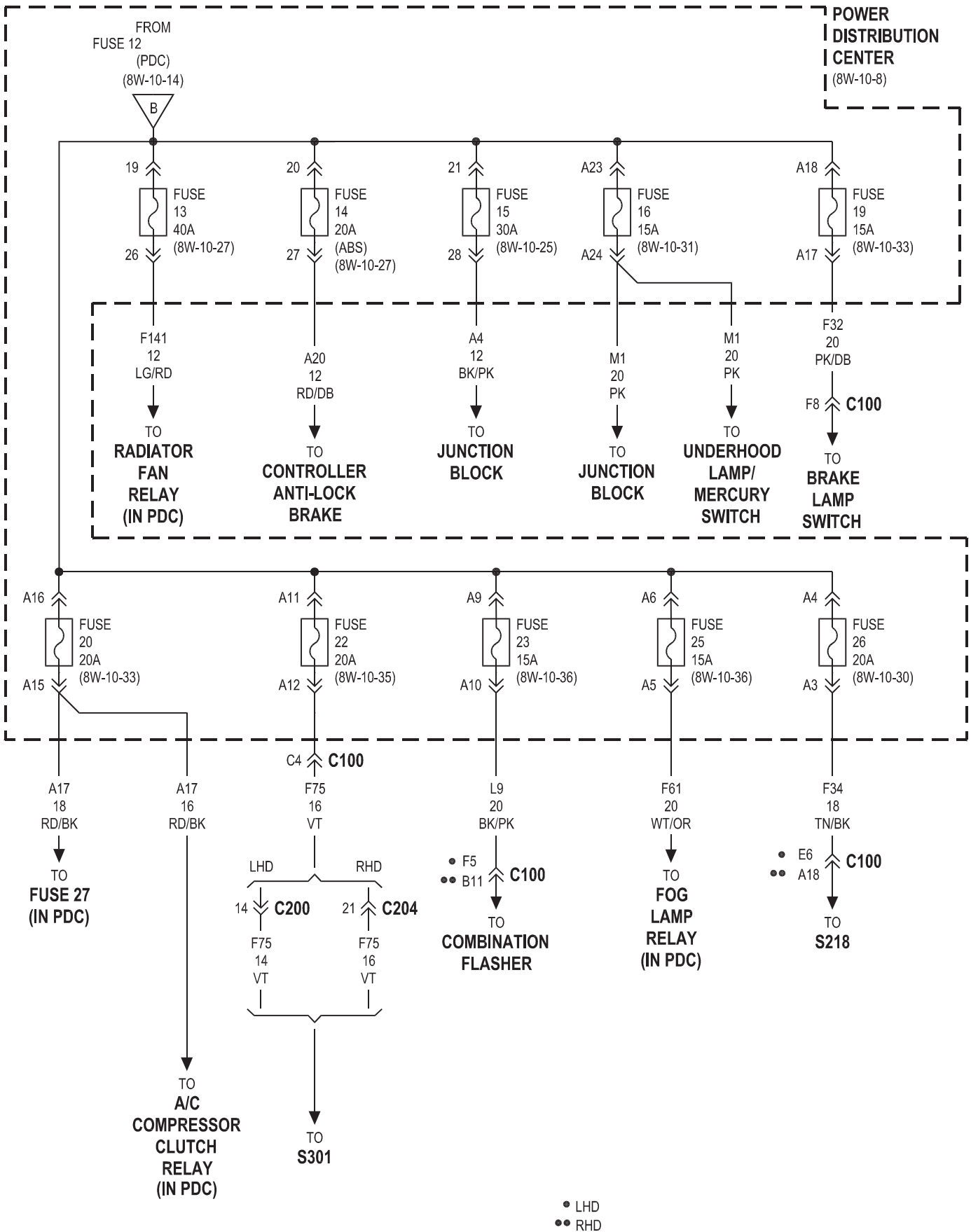
CAVITY	CIRCUIT	FUNCTION
C10	F141 12LG/RD	FUSED B(+)
C11	A142 18DG	AUTOMATIC SHUT DOWN RELAY OUTPUT
	A142 18DG	AUTOMATIC SHUT DOWN RELAY OUTPUT
C12	-	-
C13	C27 18DB/PK ●●	RADIATOR FAN RELAY CONTROL
C13	C27 20DB/PK ●	RADIATOR FAN RELAY CONTROL
C14	C25 12LB	RADIATOR FAN RELAY OUTPUT

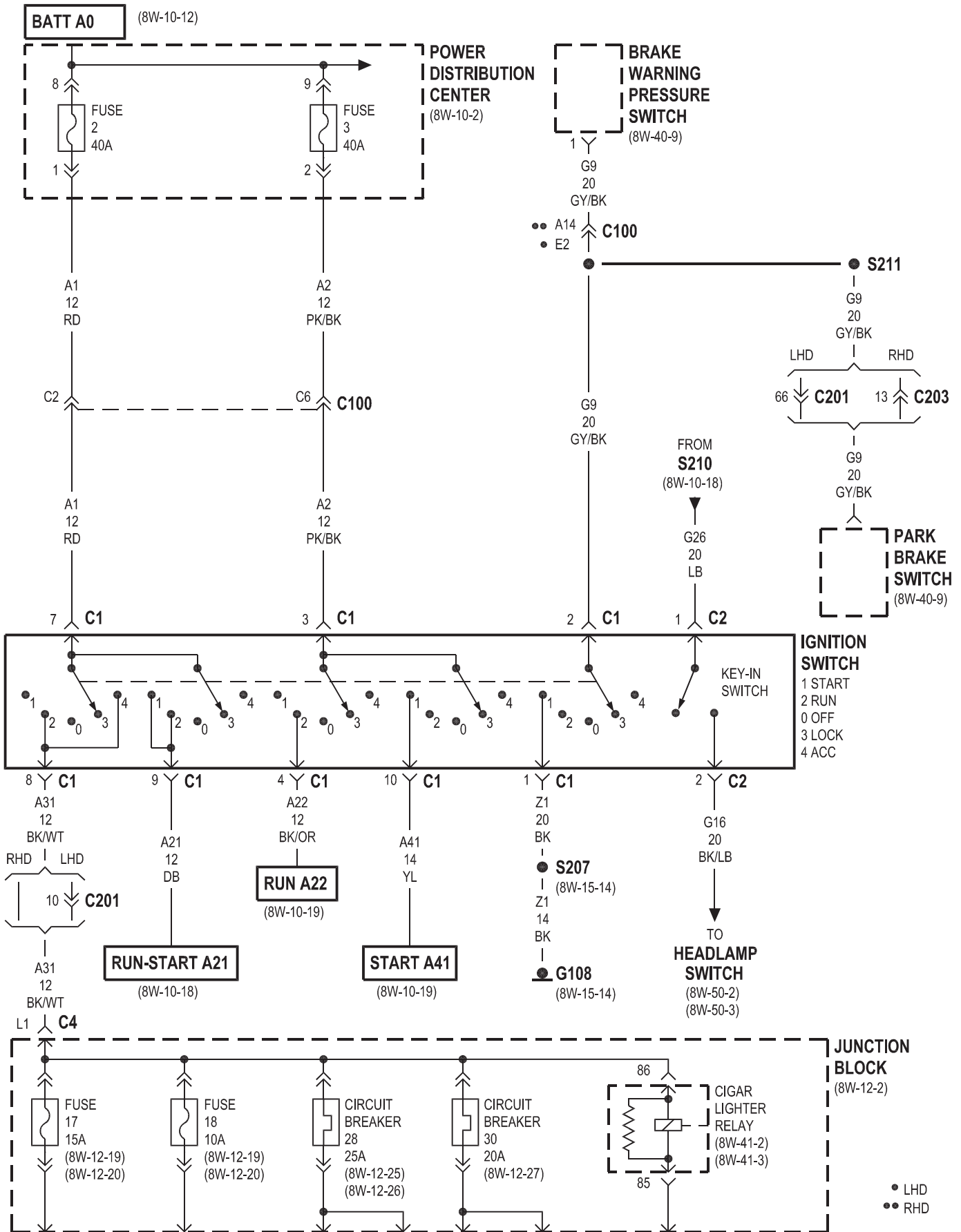
● LHD  
●● RHD  
▽▽ ABS

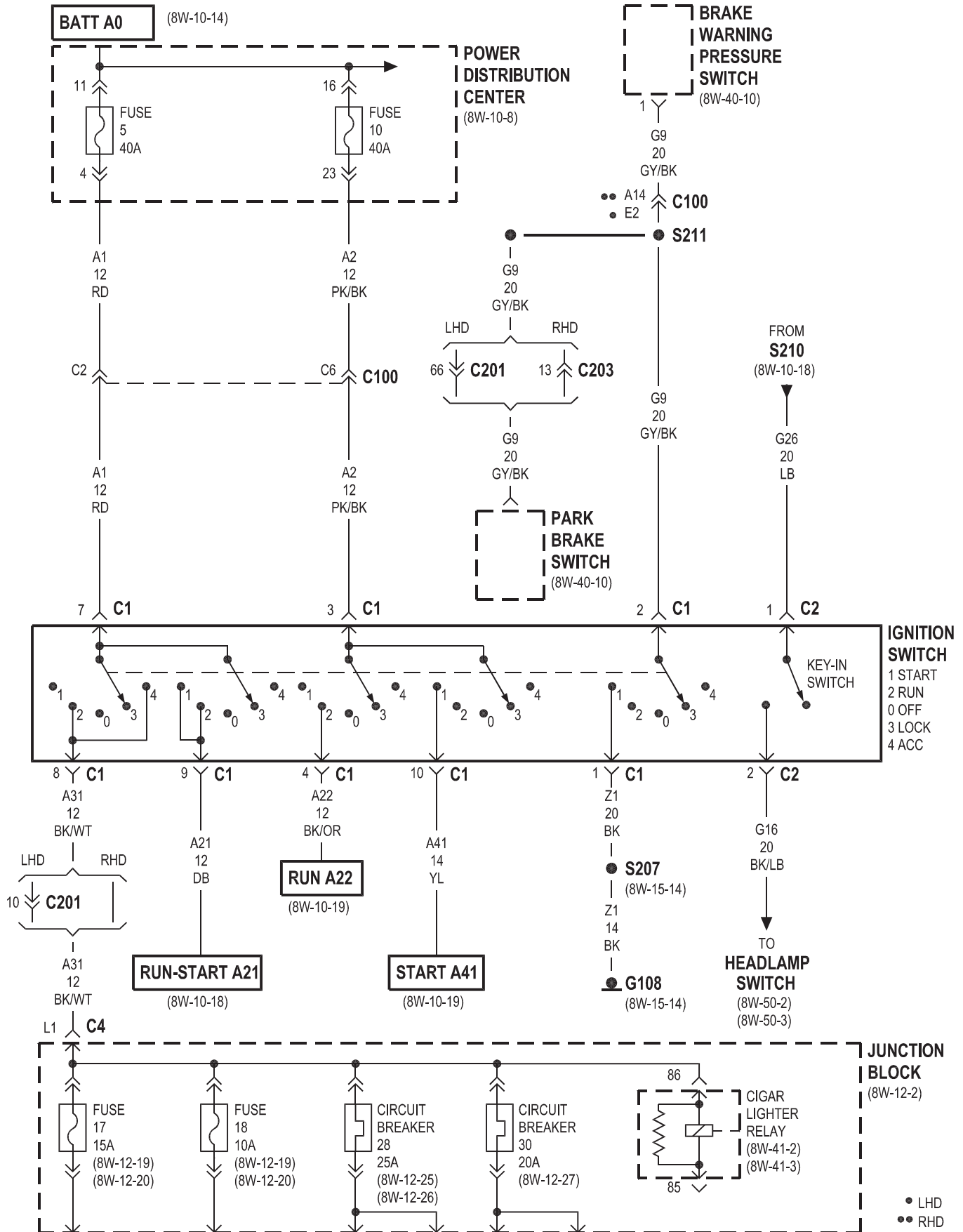




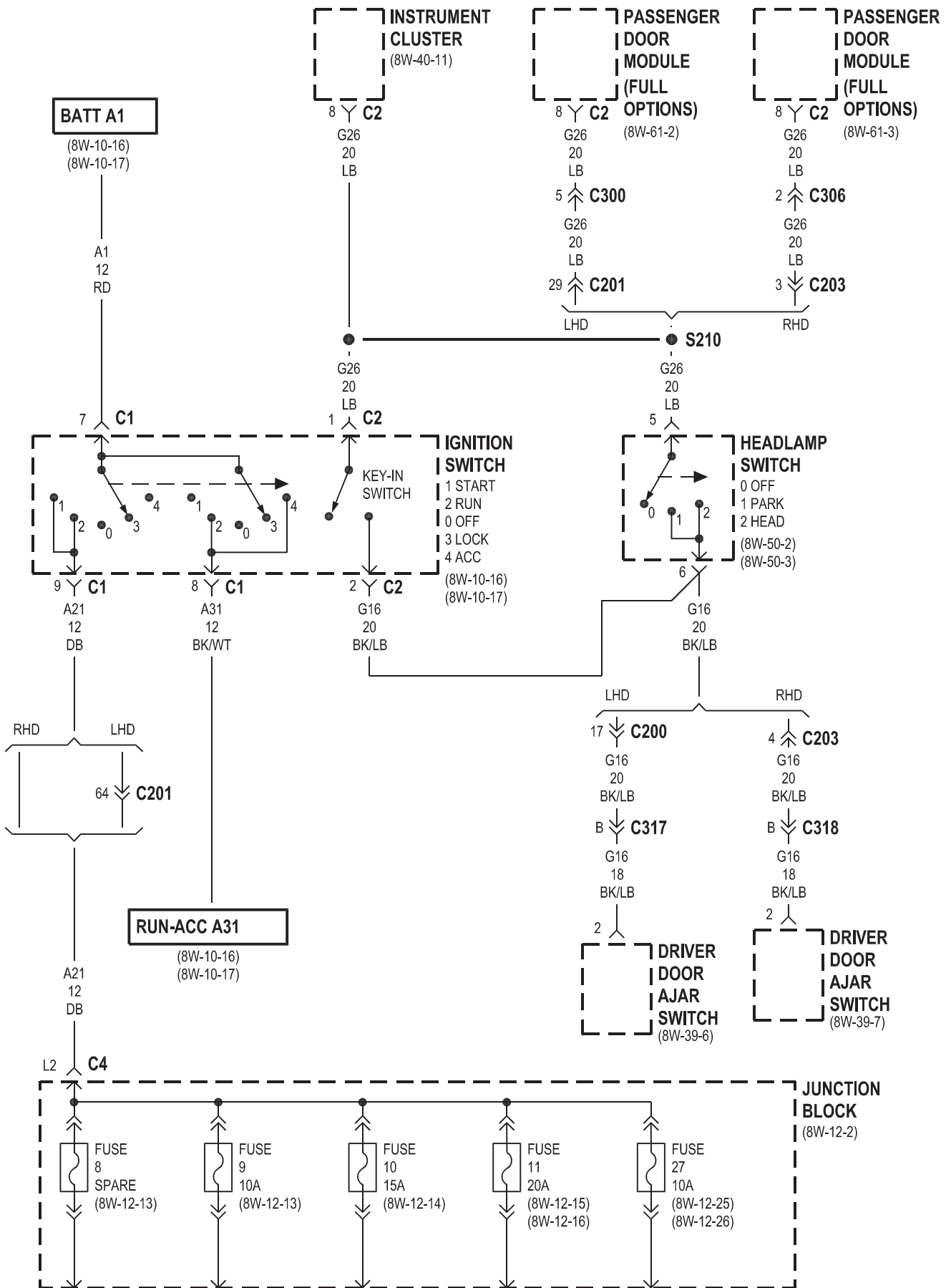


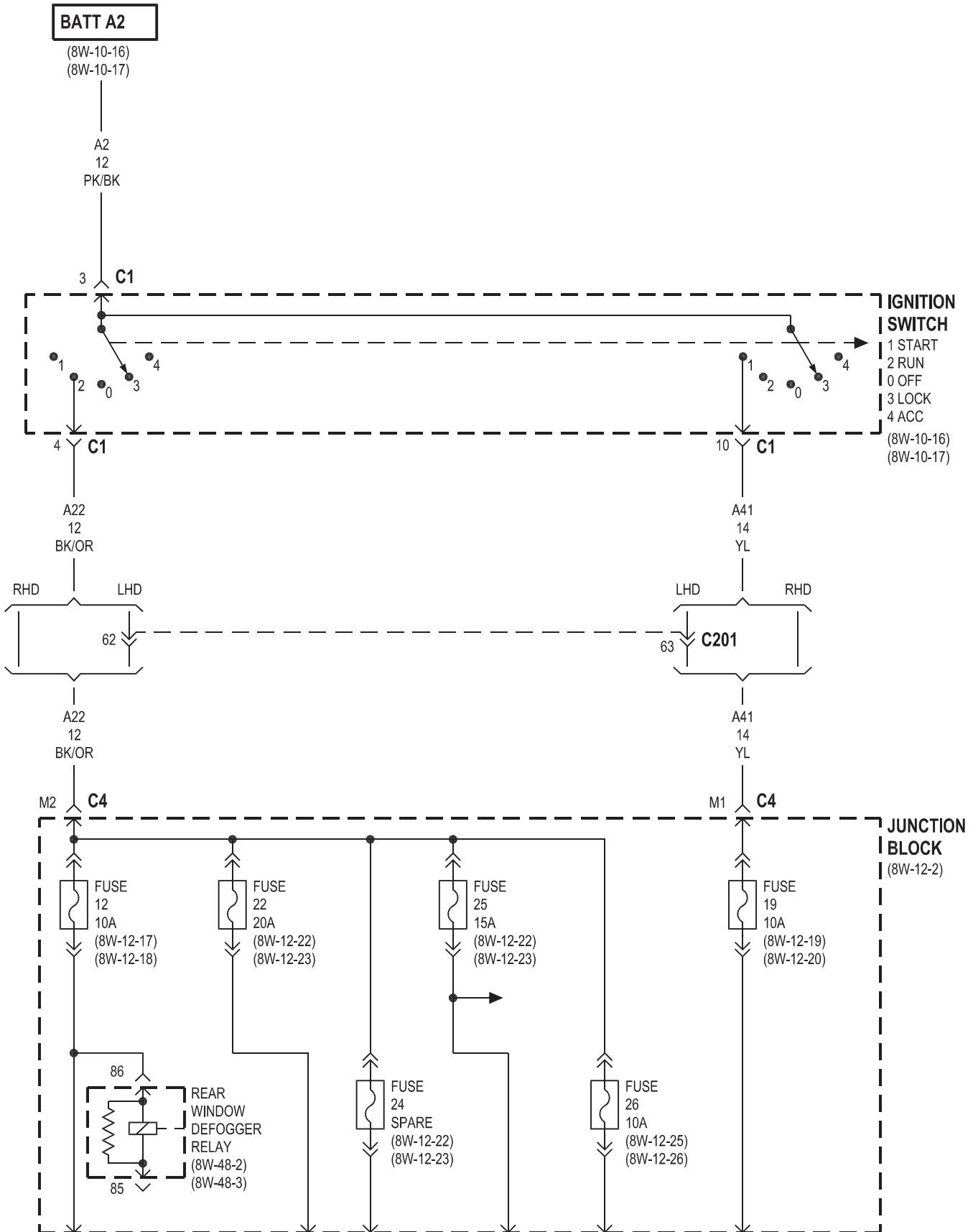


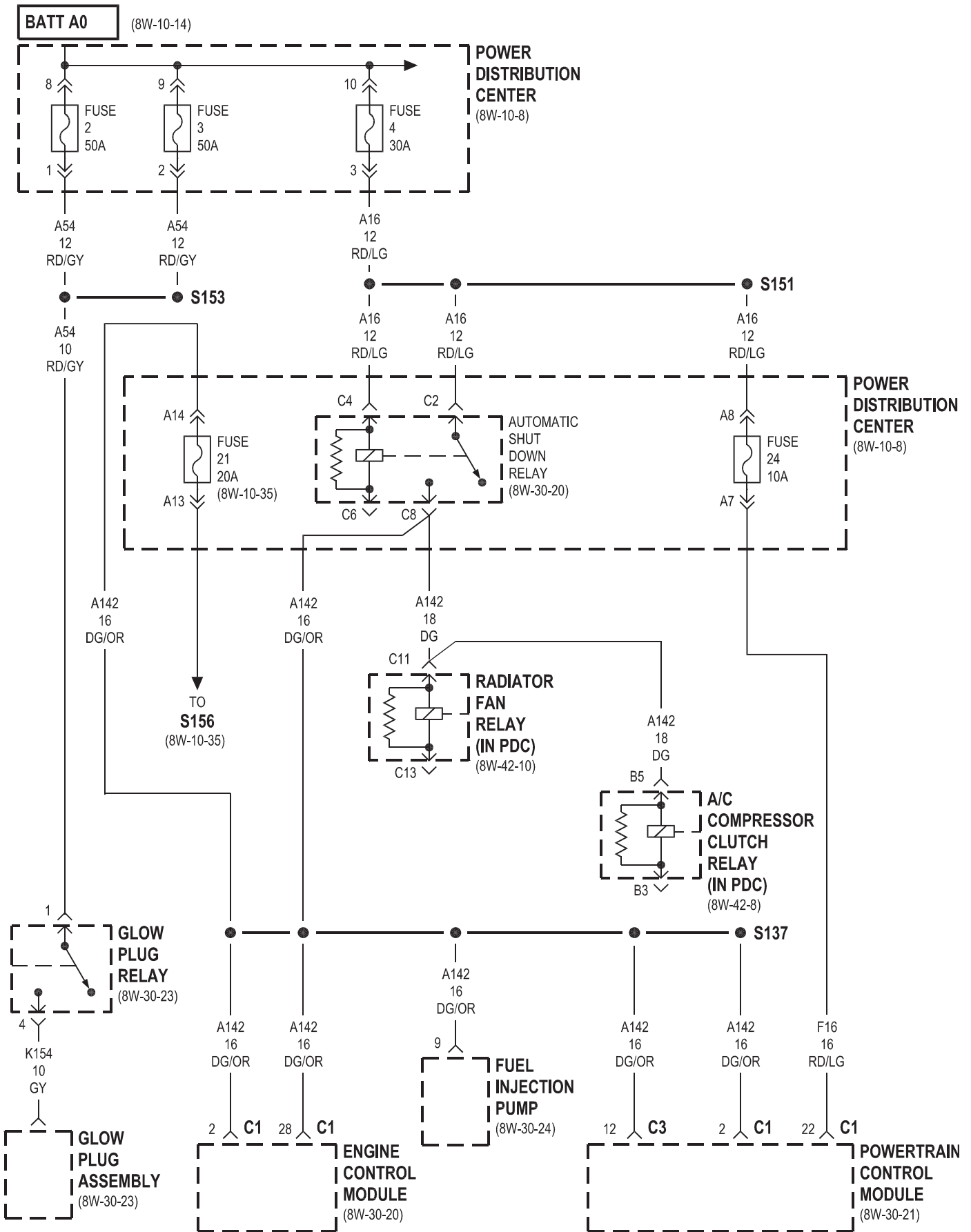


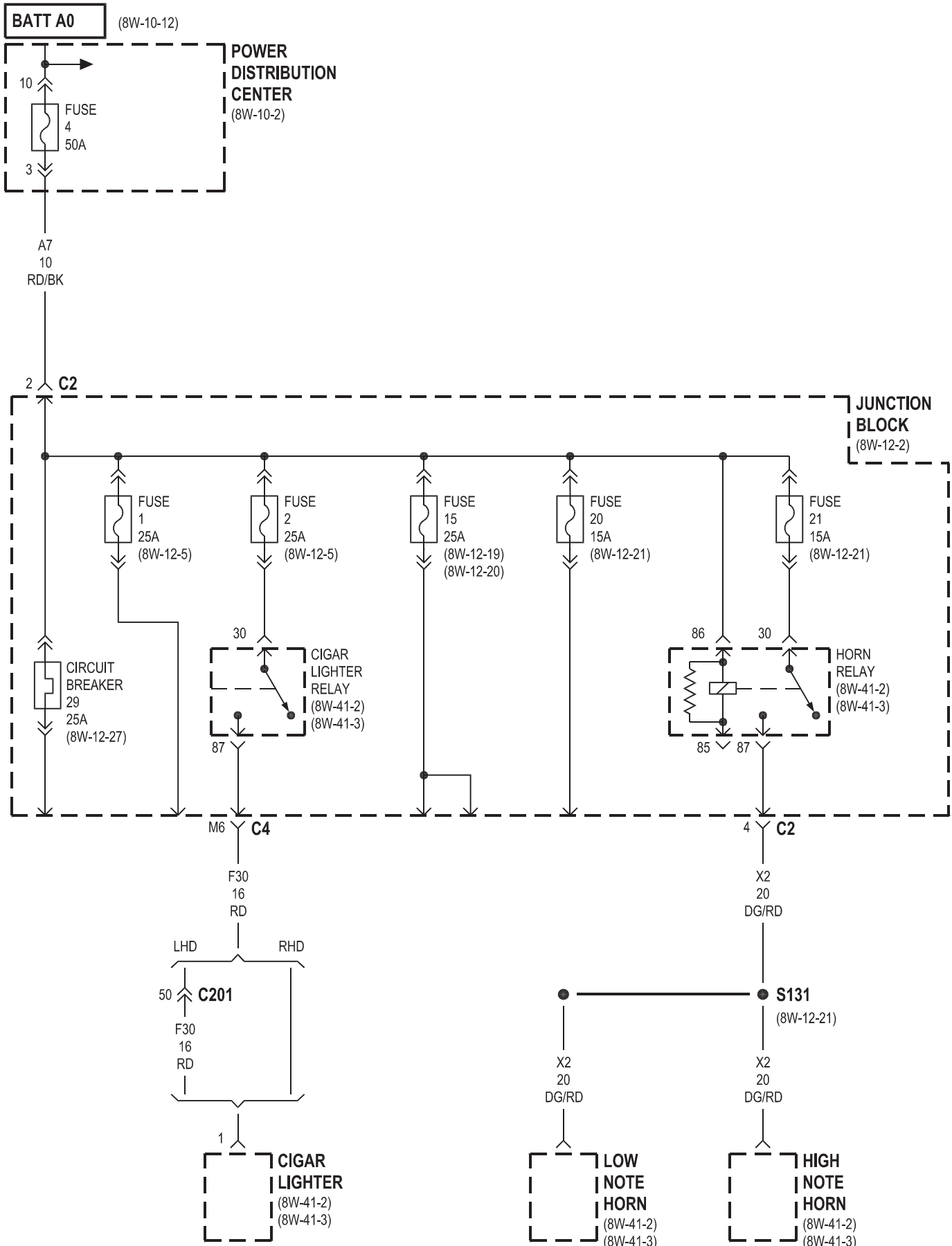


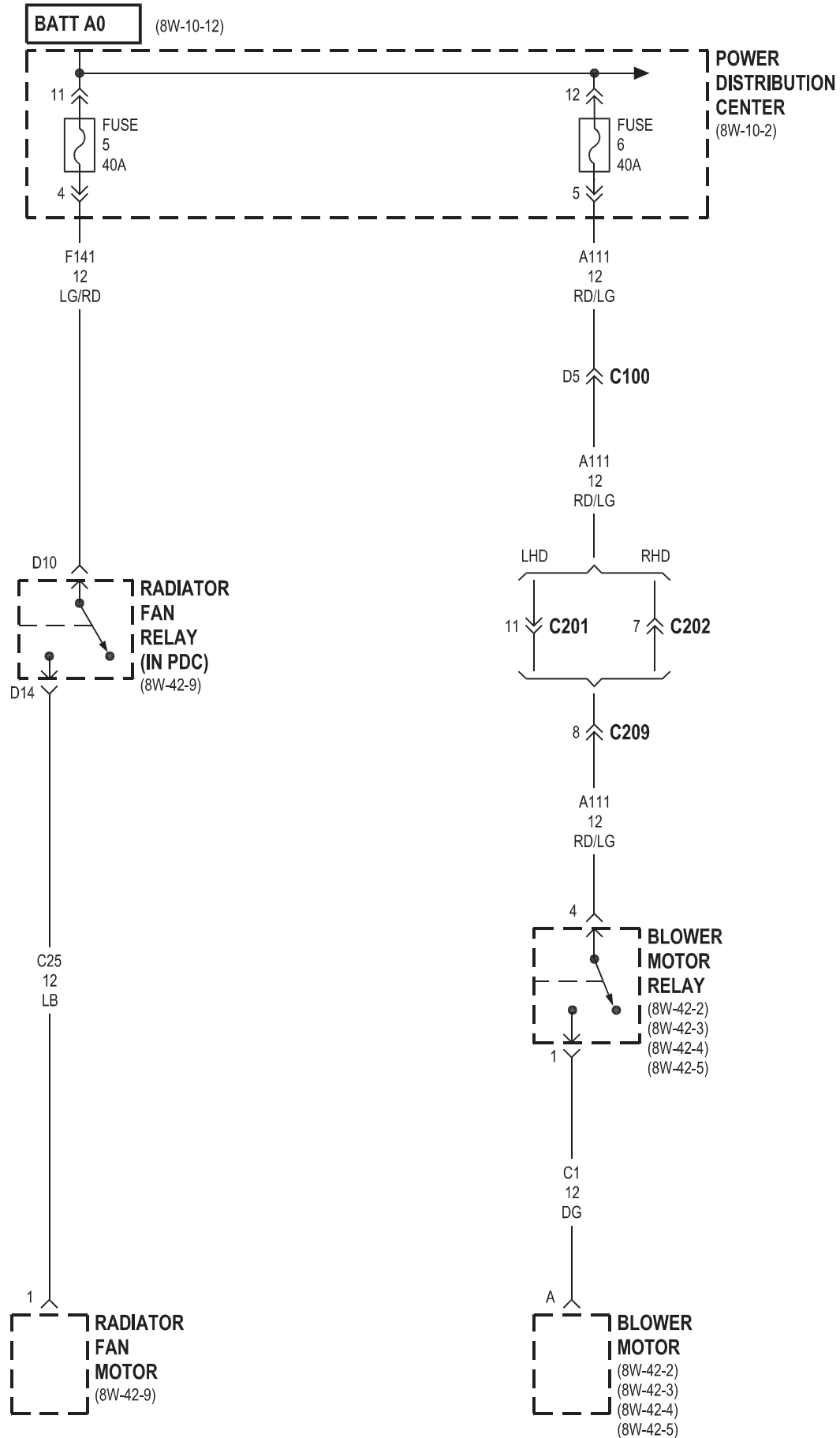


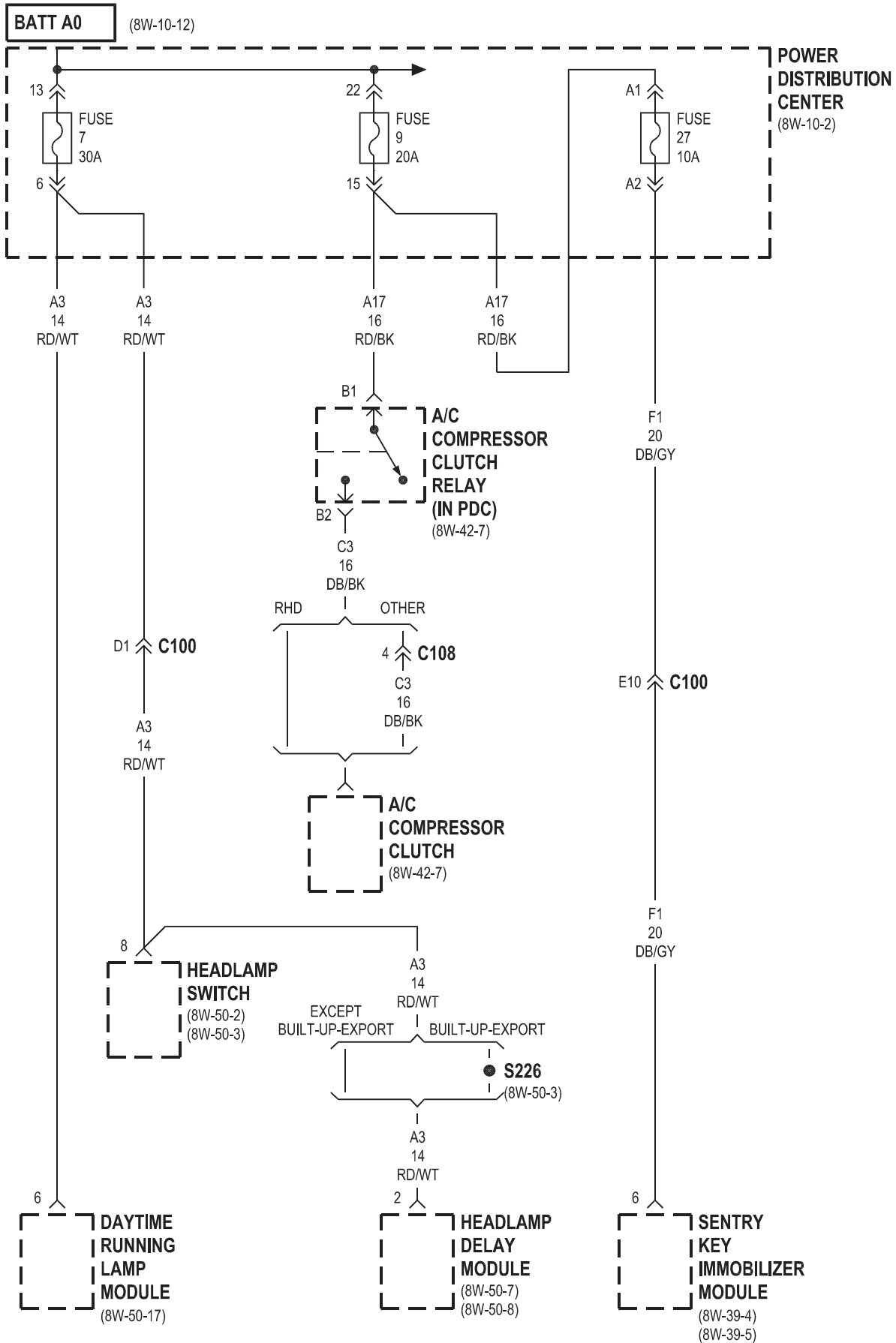


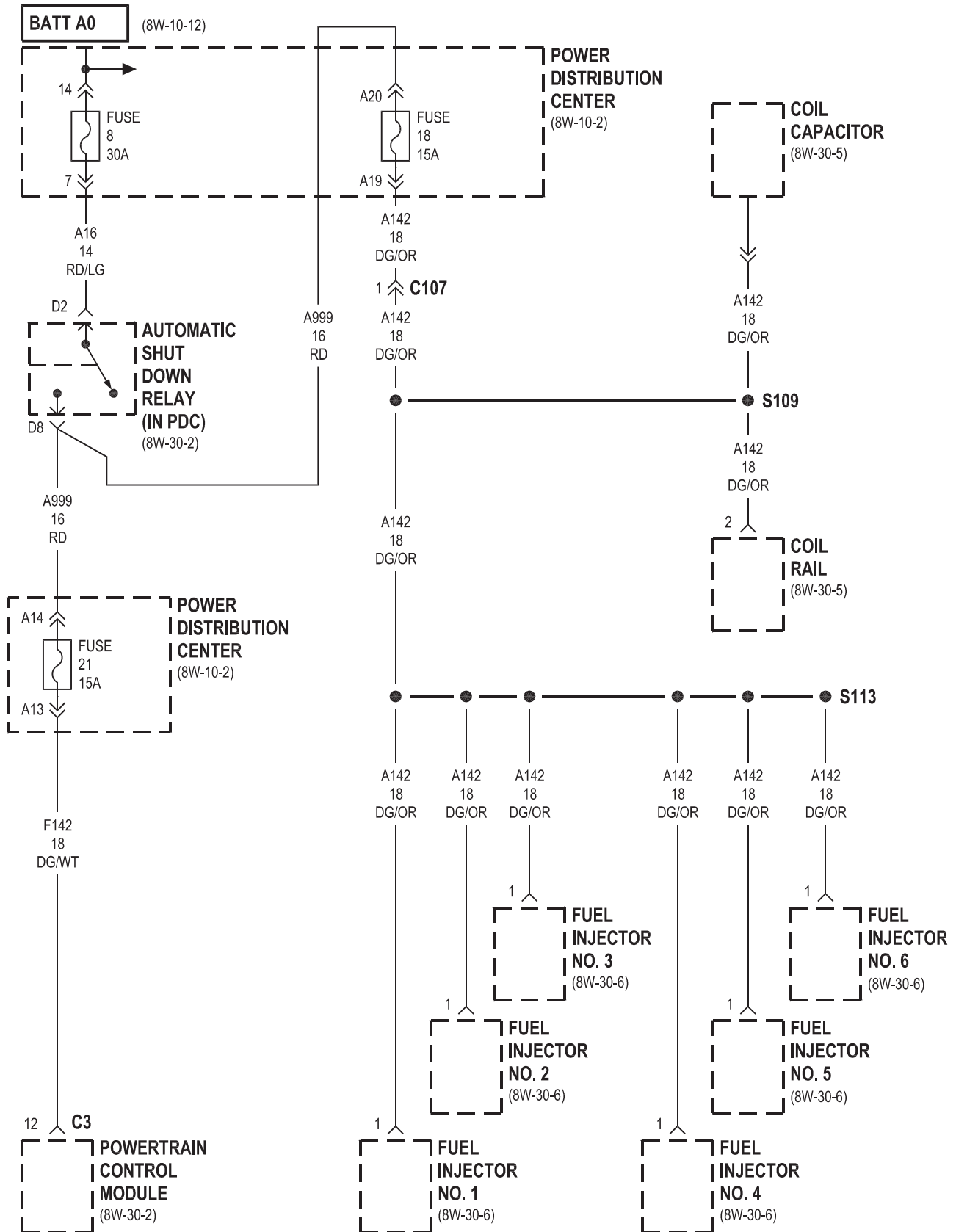


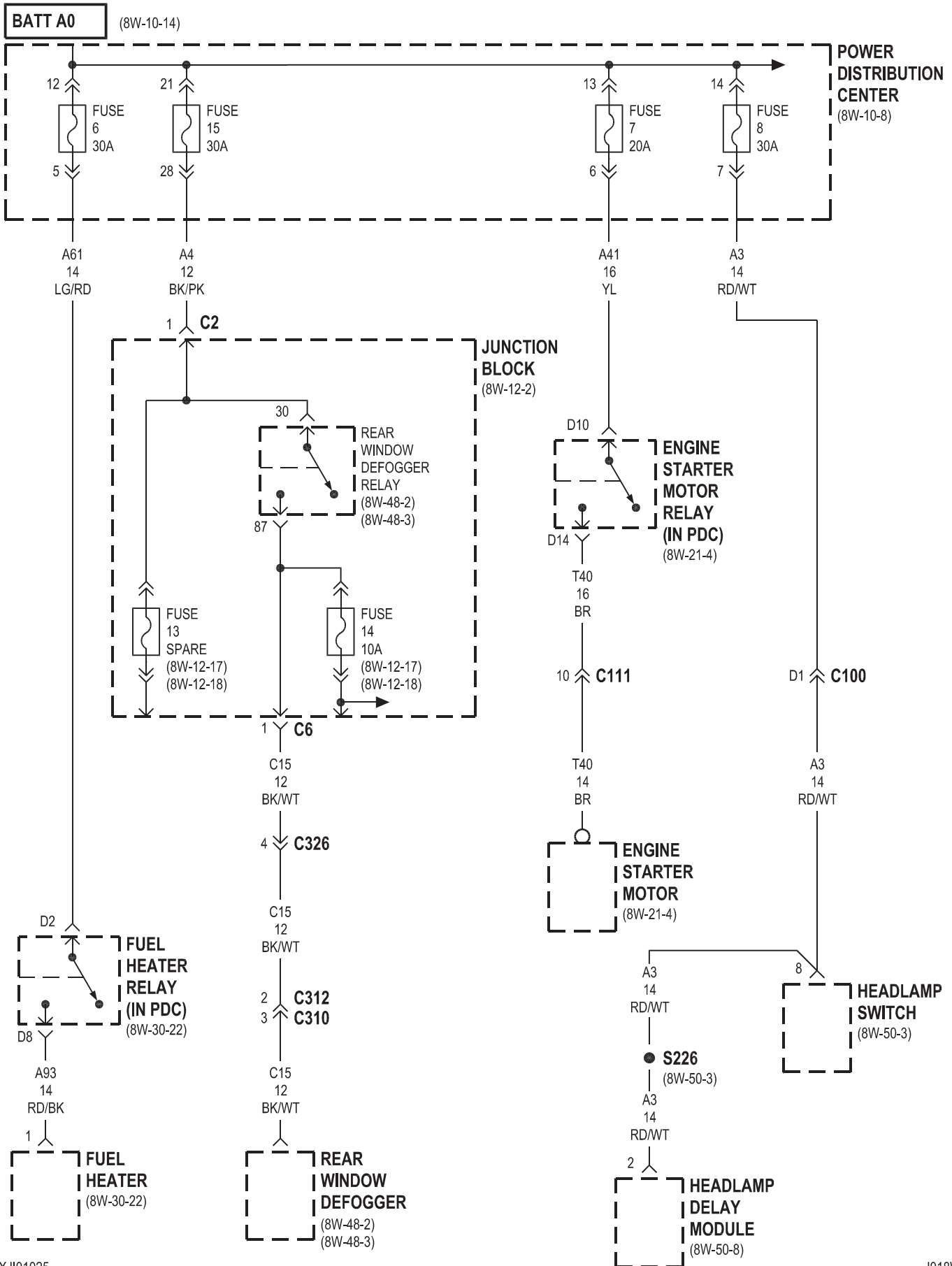




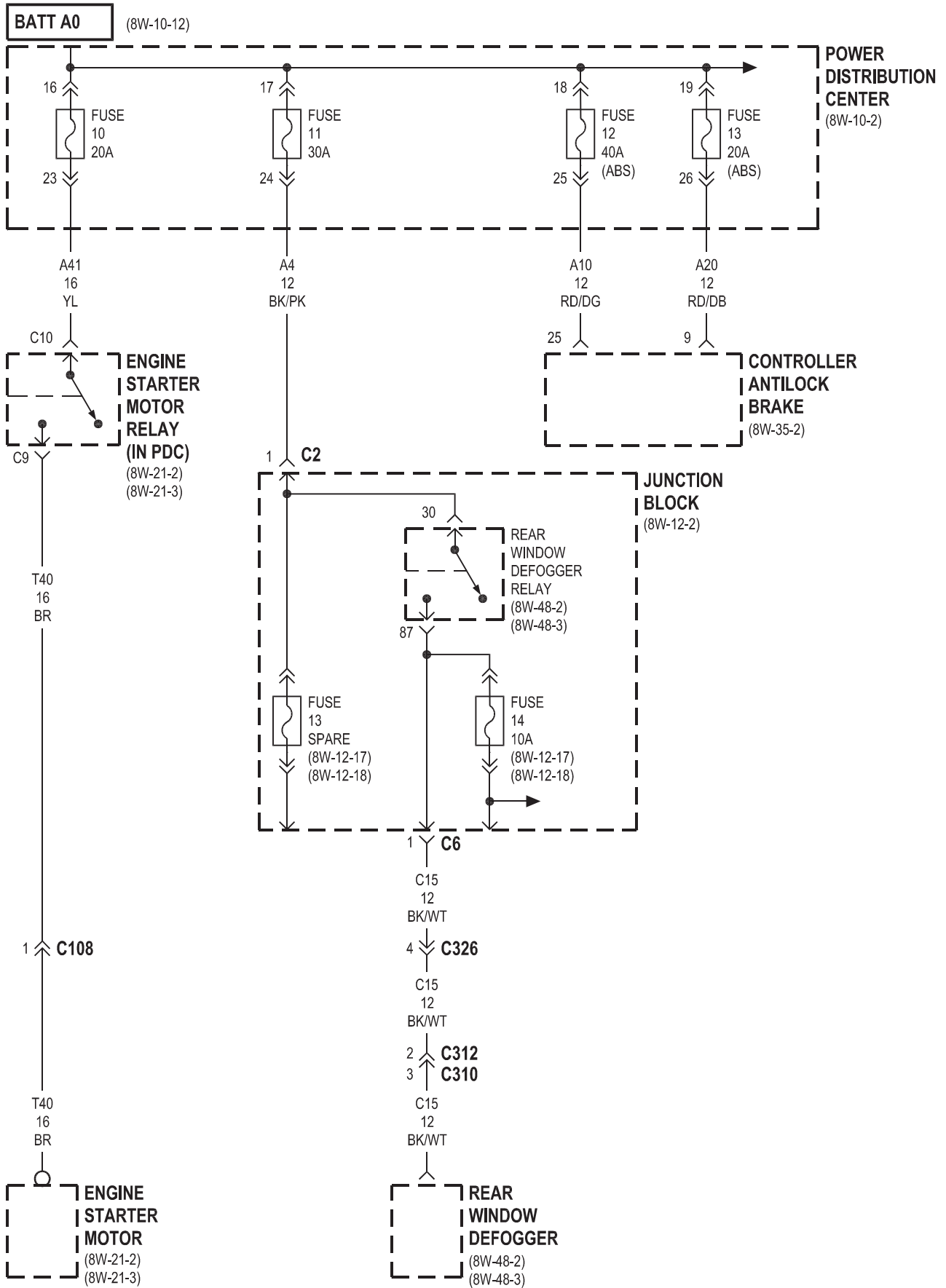


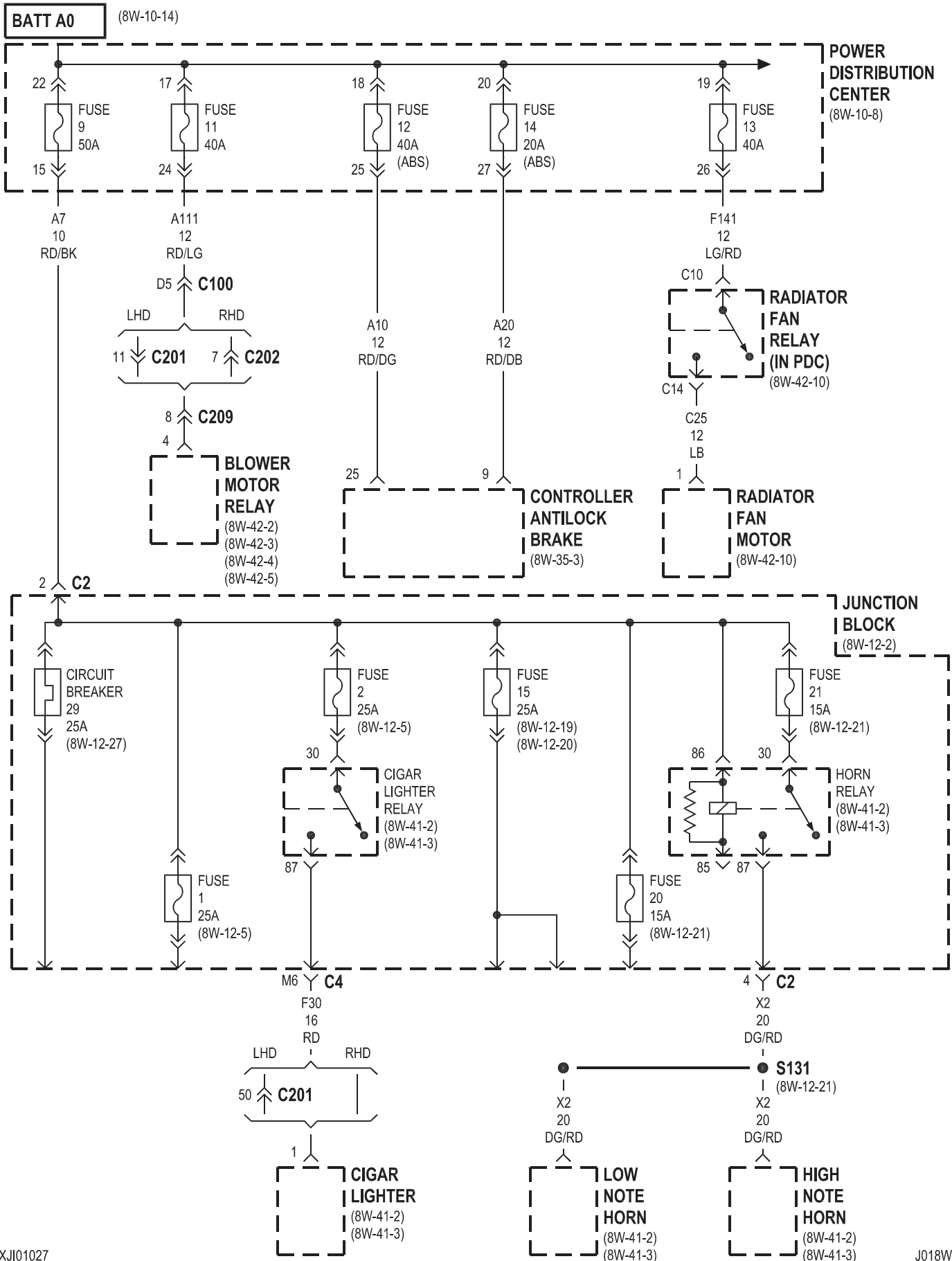


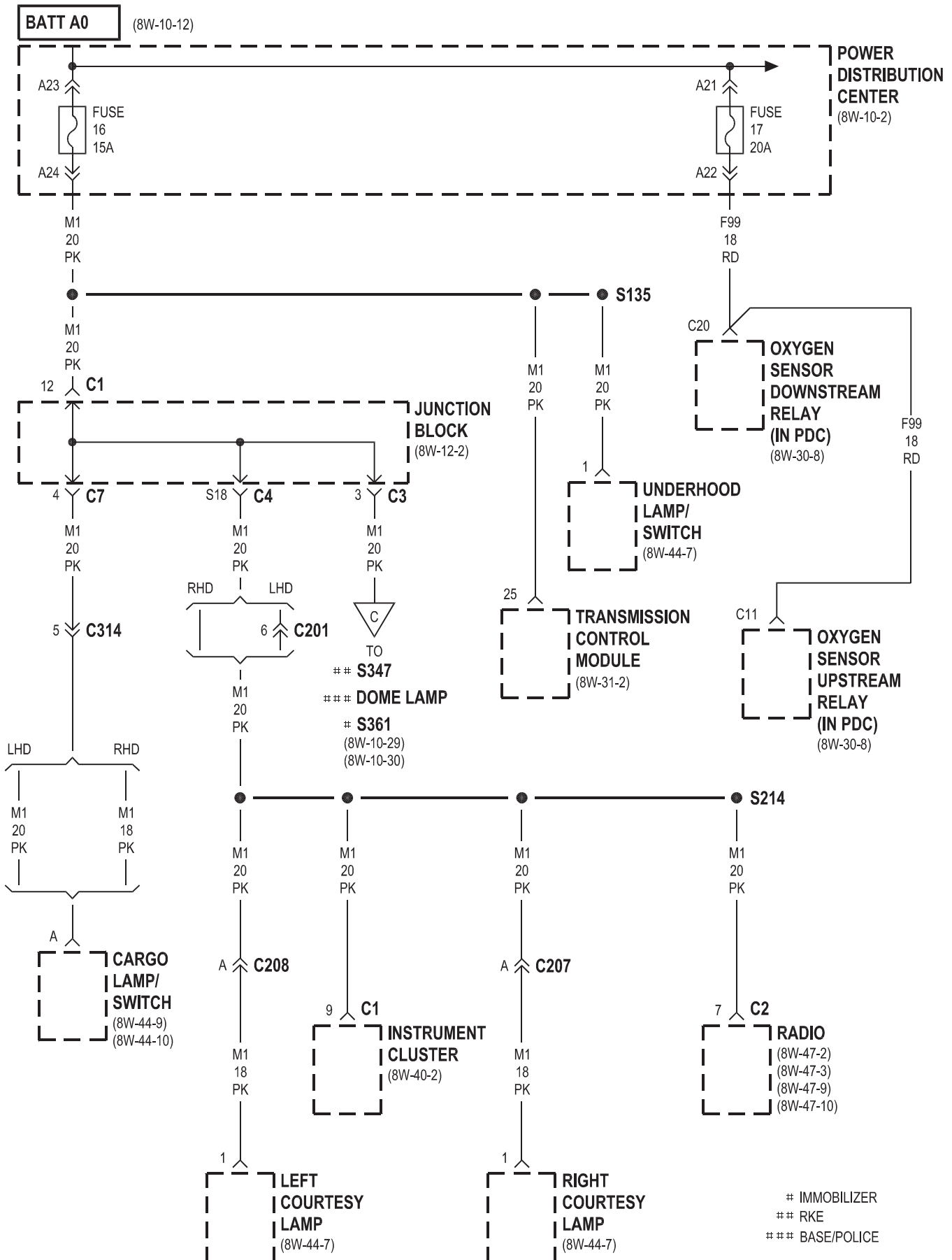


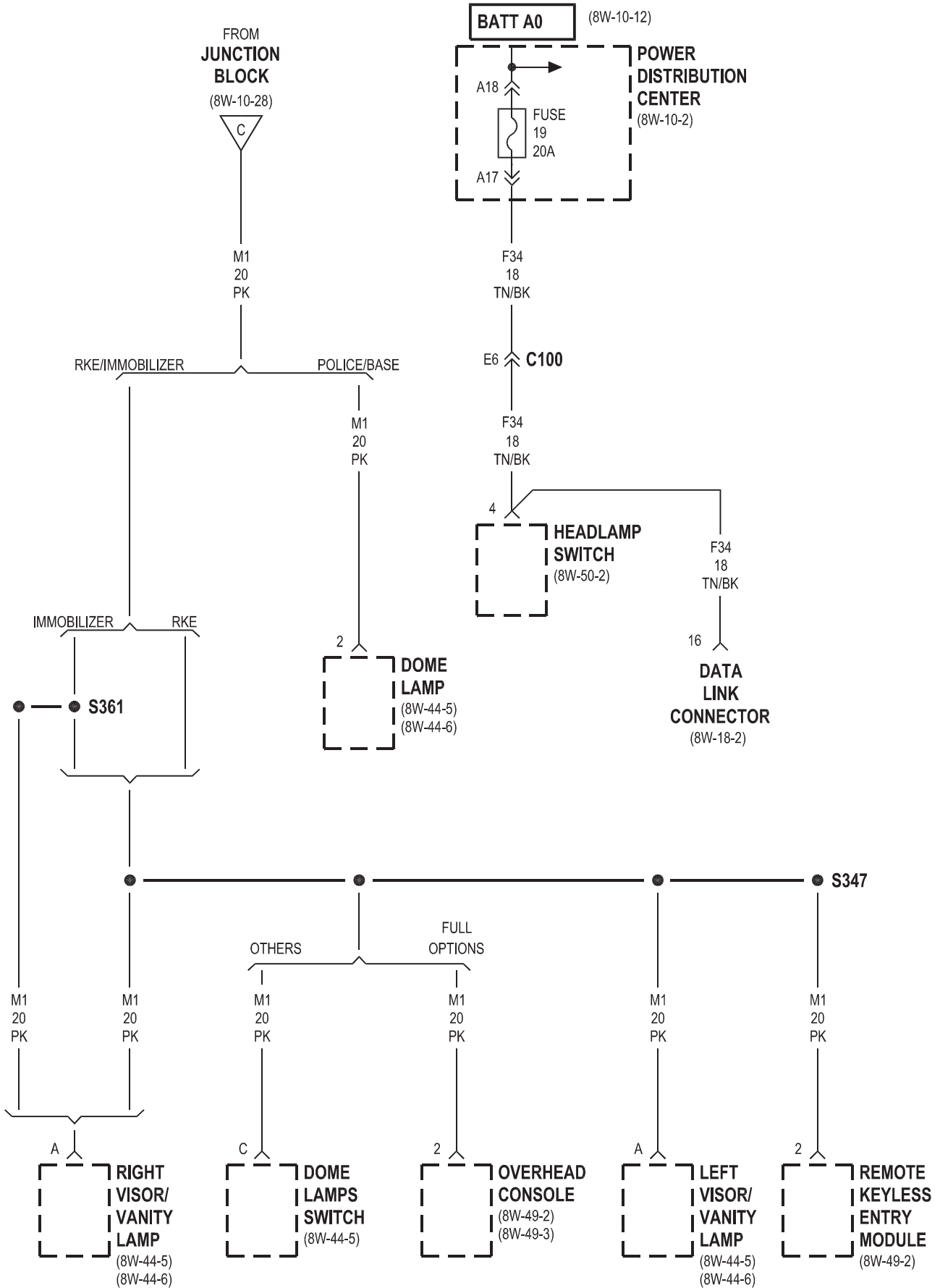


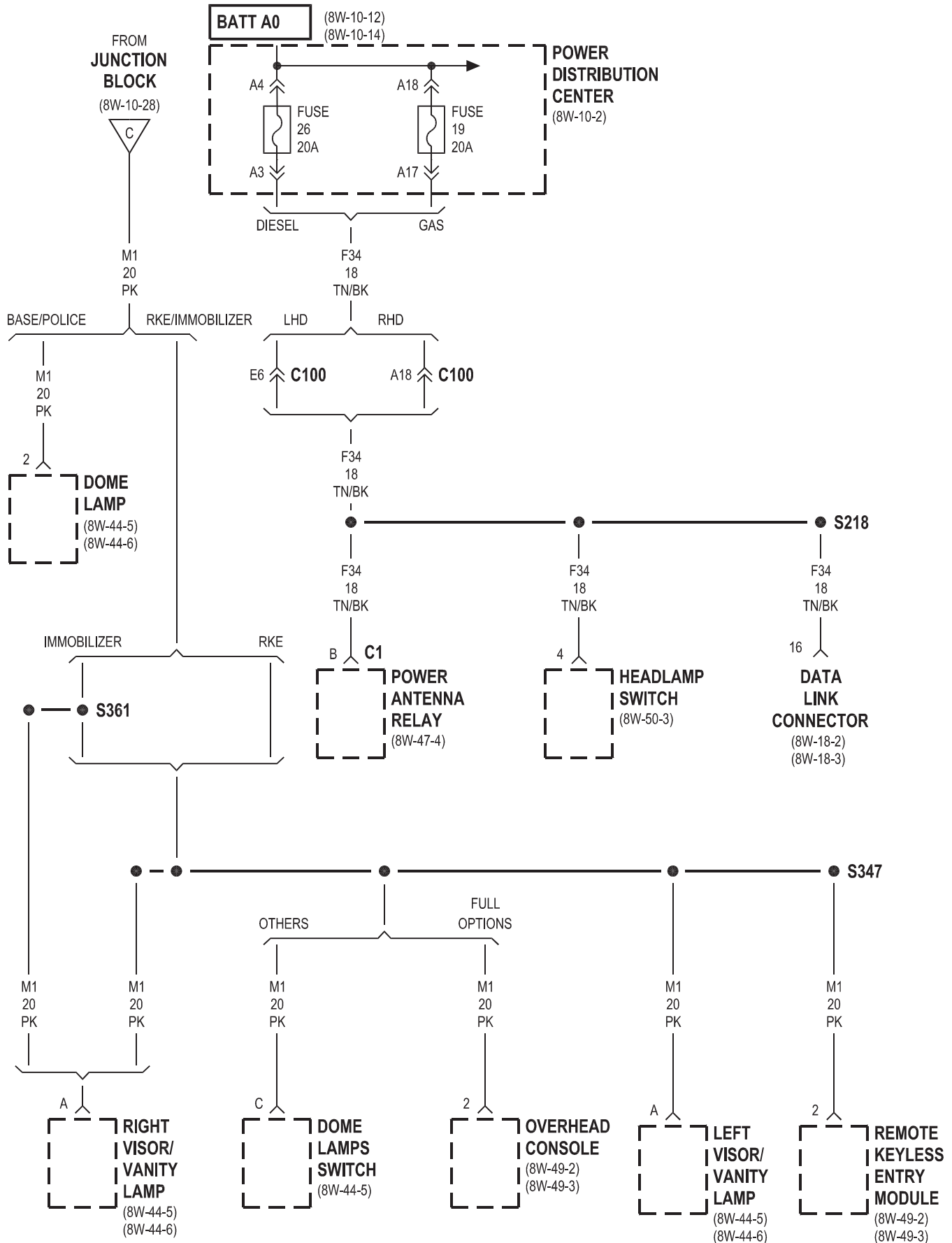


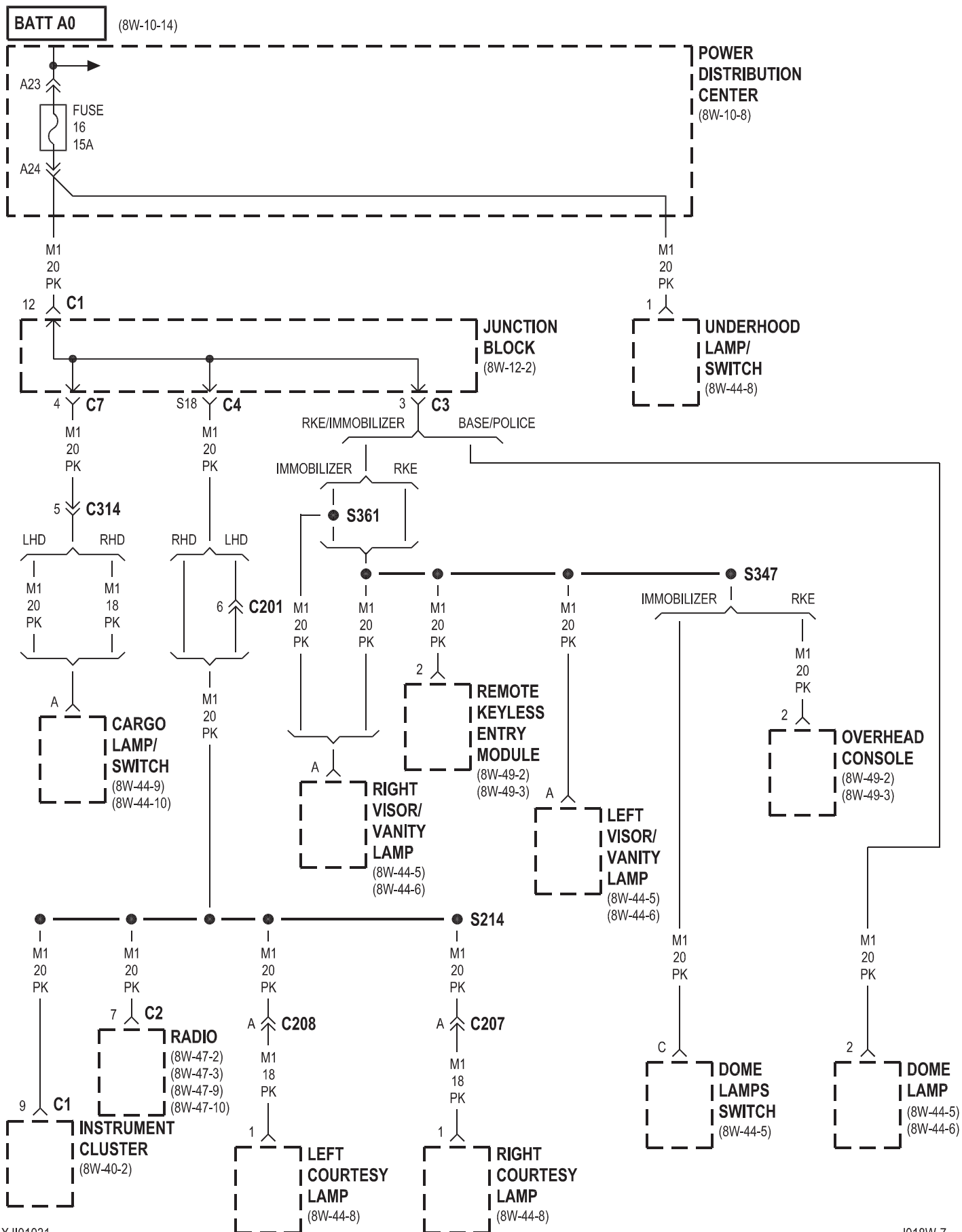


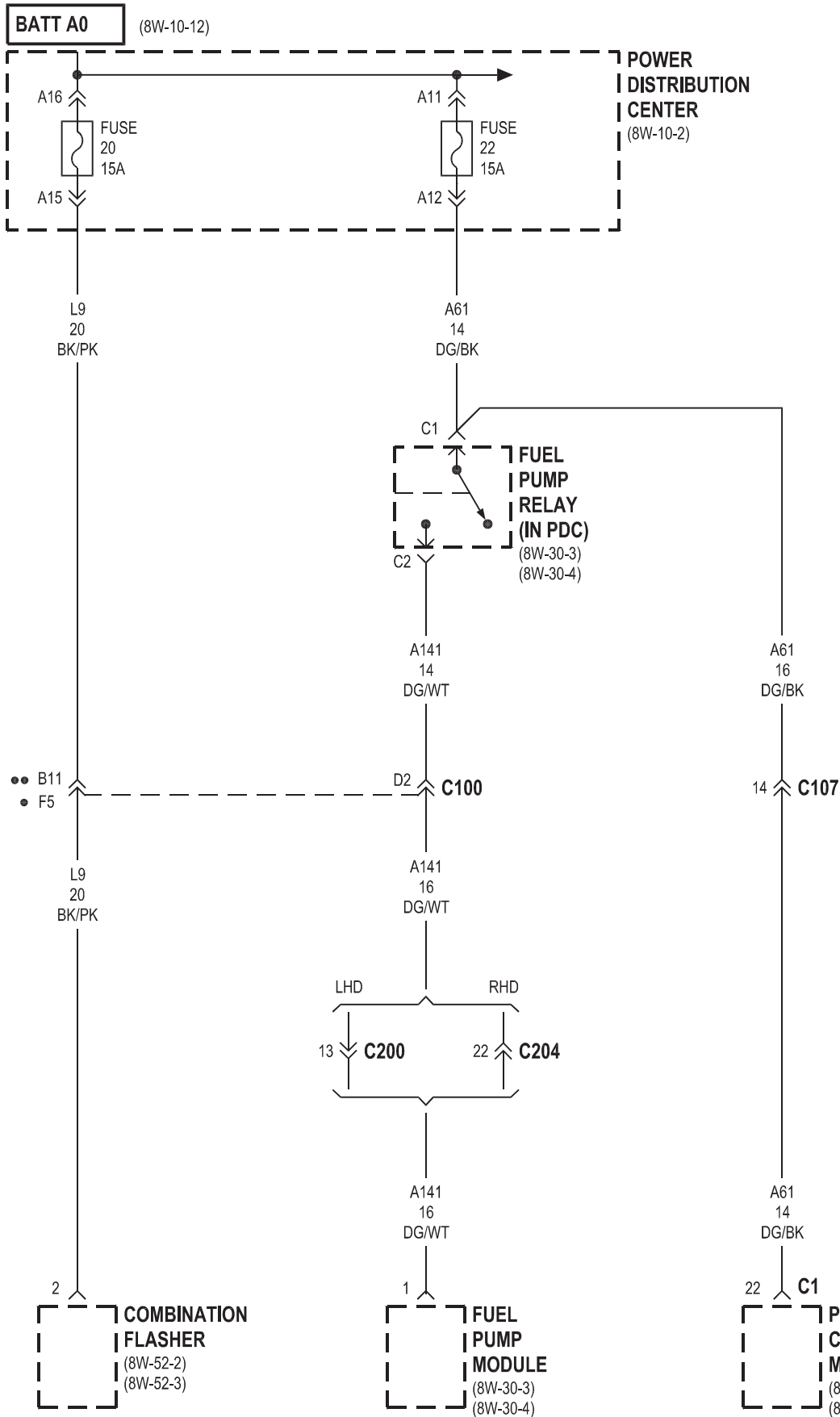




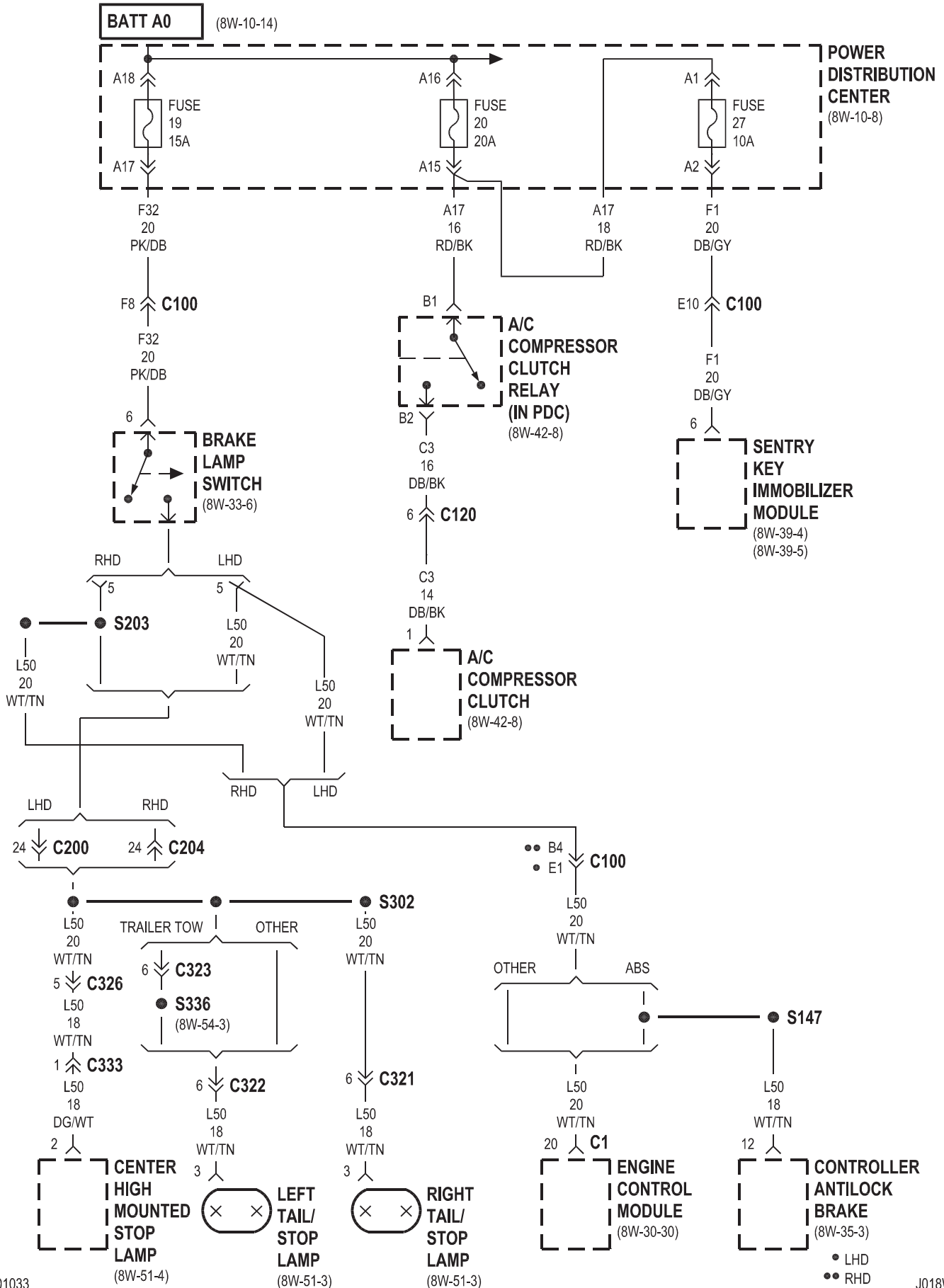




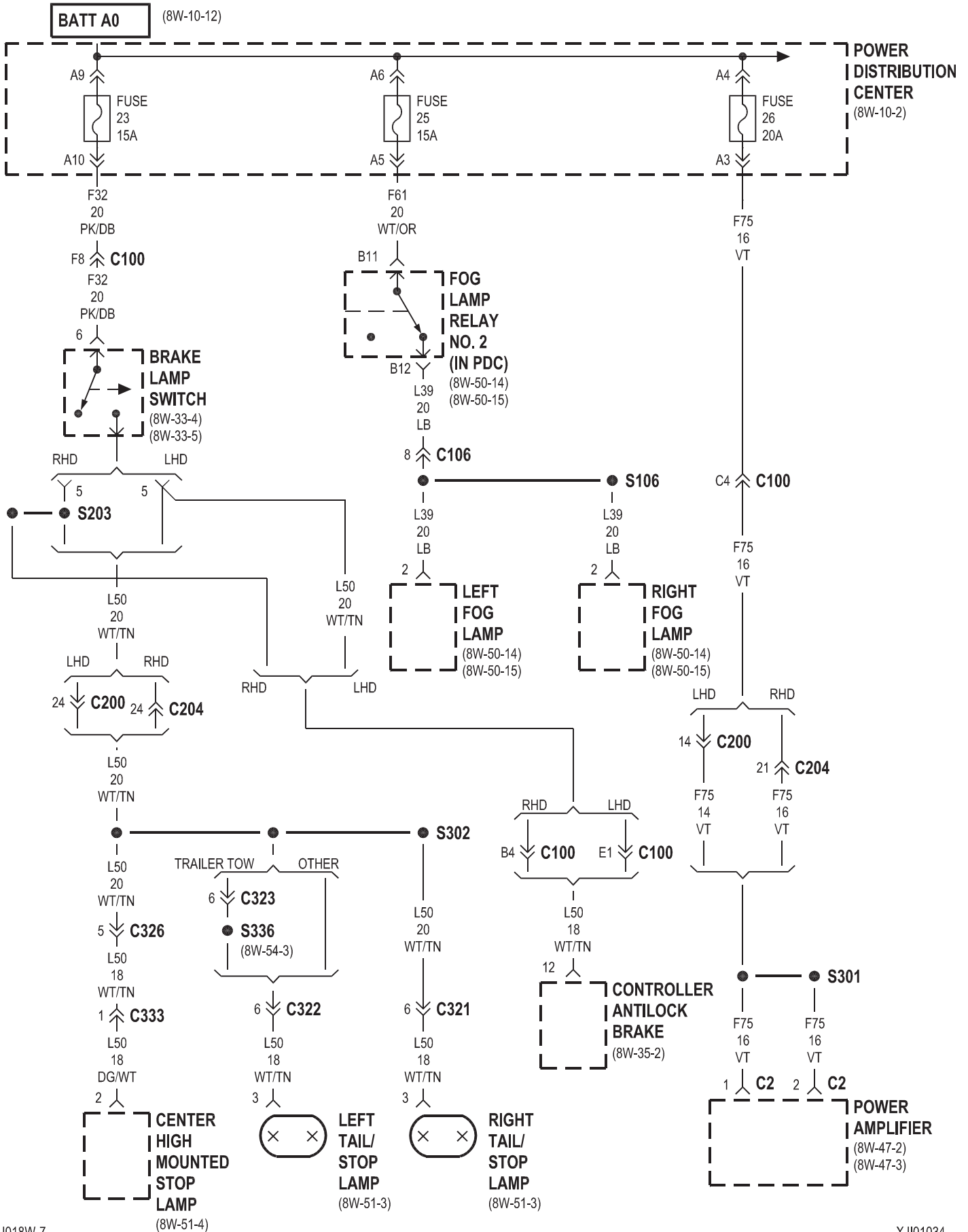


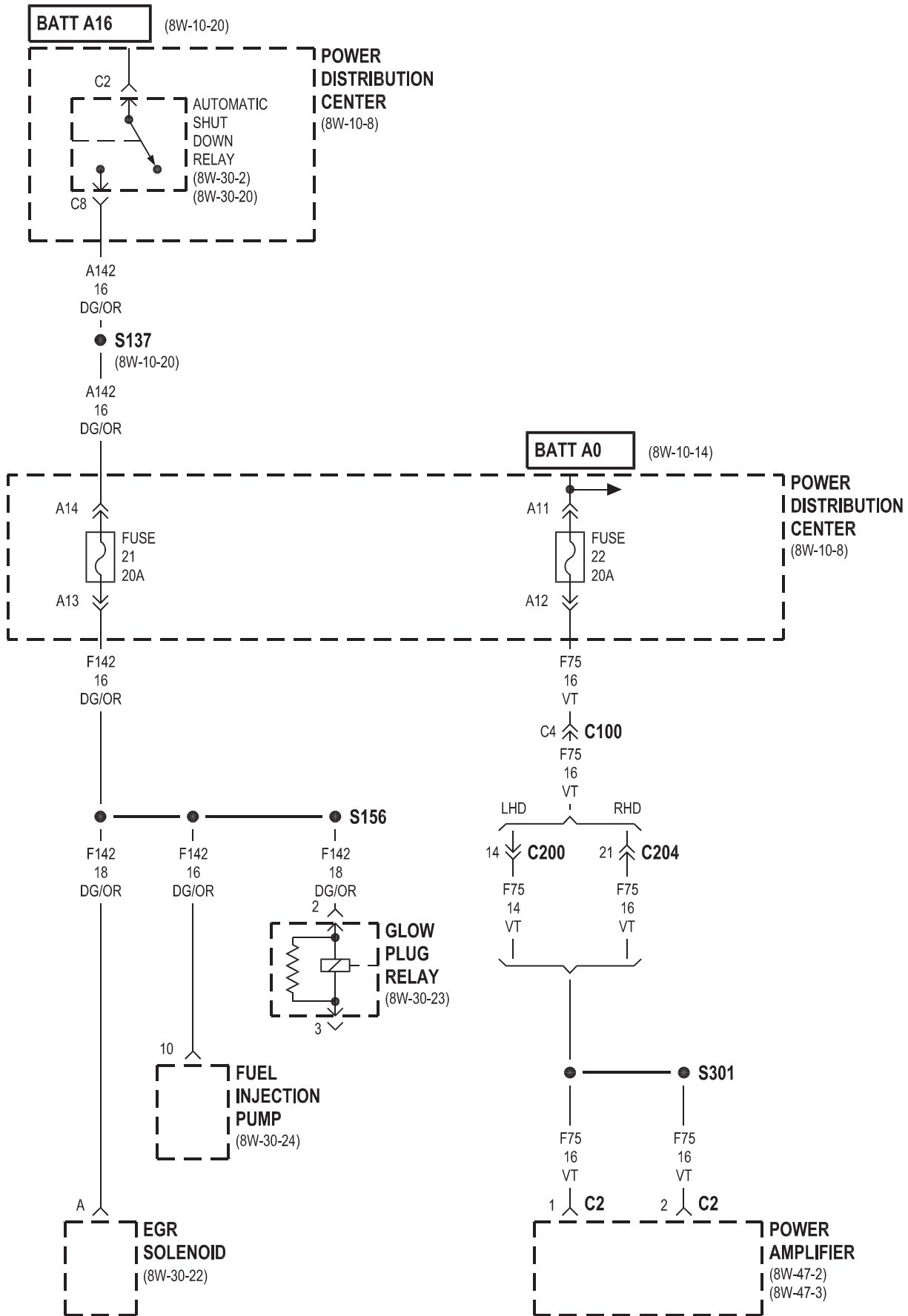


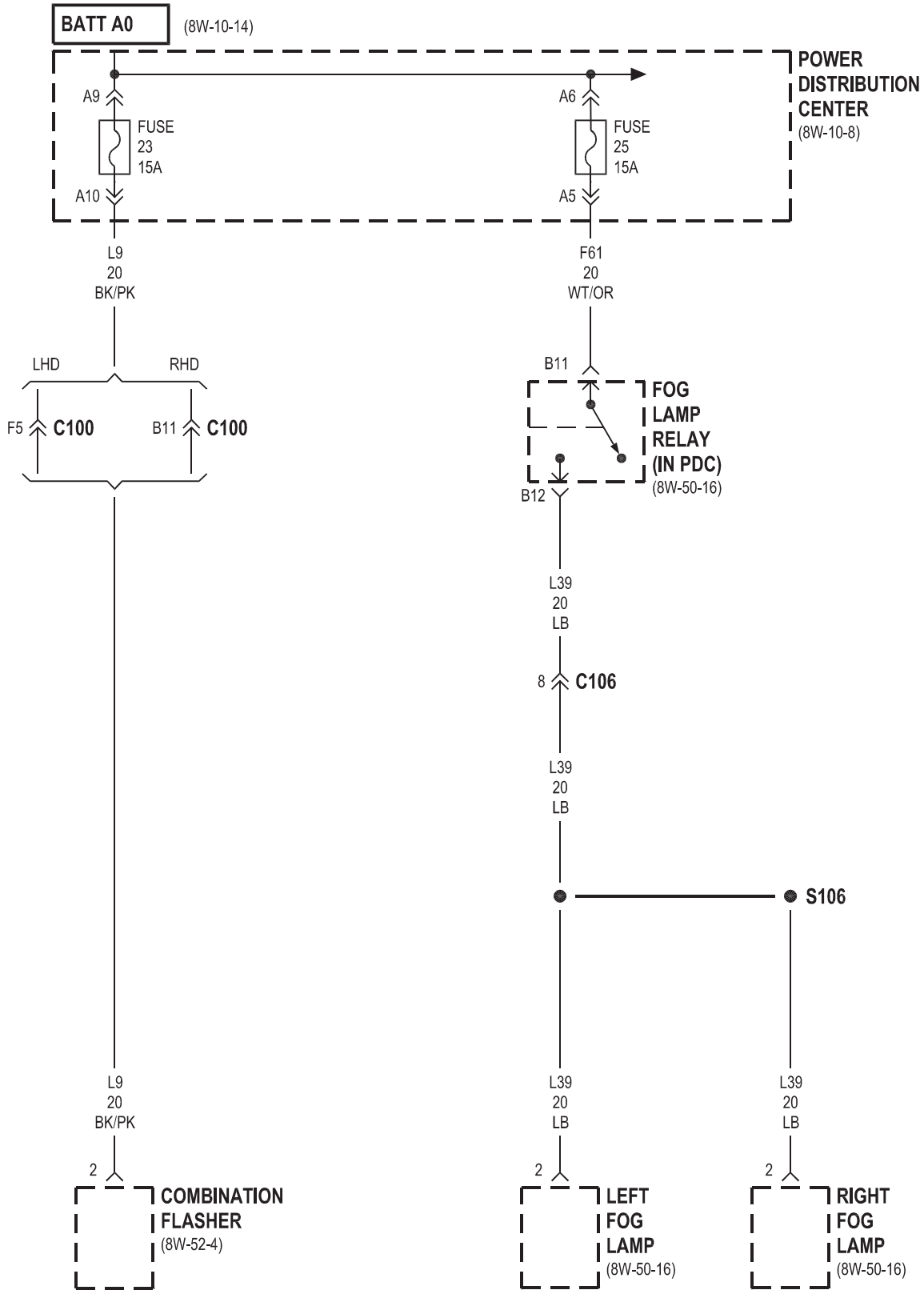
• LHD  
•• RHD







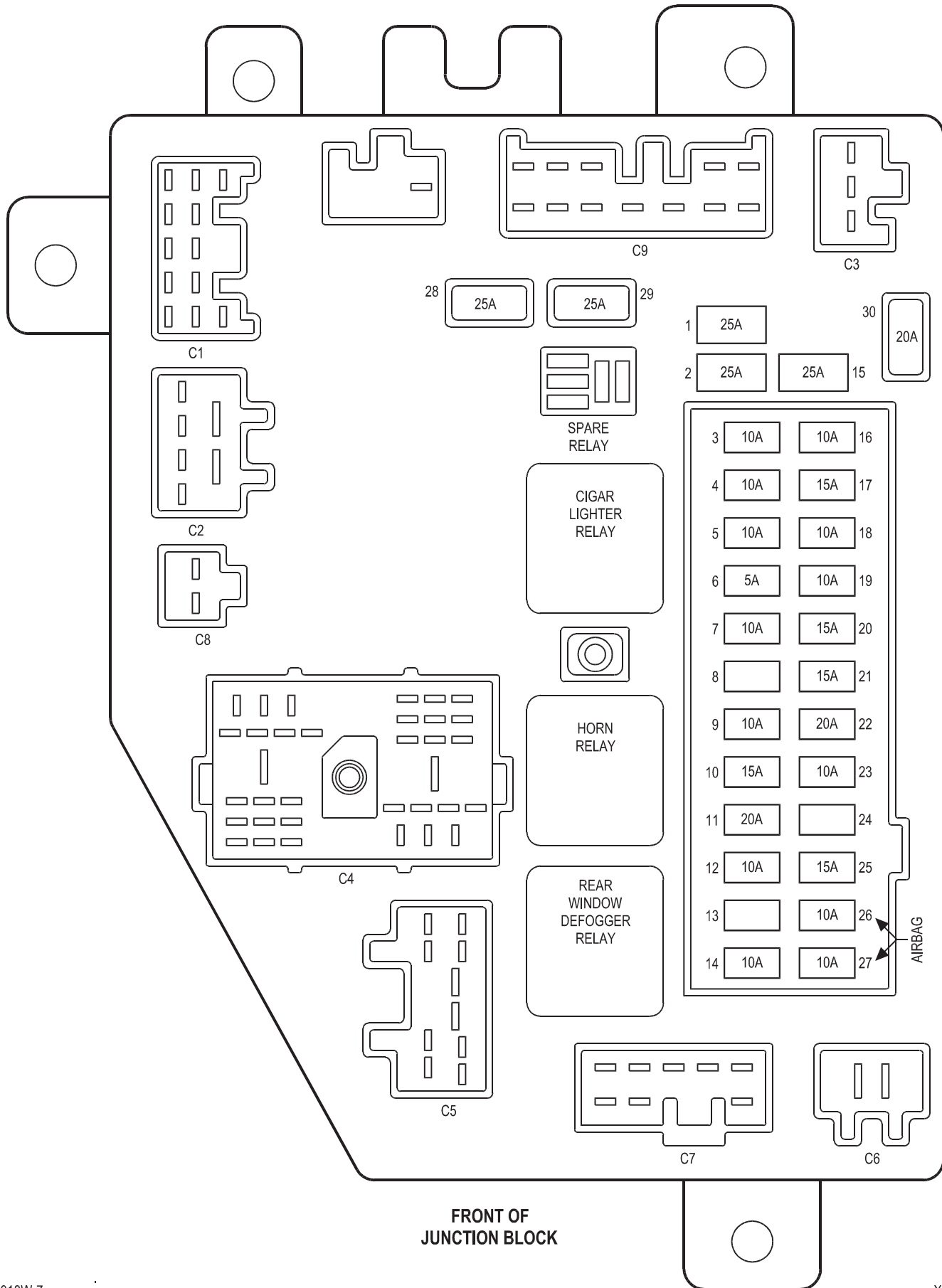




## 8Wa-12 JUNCTION BLOCK

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## FUSES

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	25A	INTERNAL	FUSED B(+)
2	25A	INTERNAL	FUSED B(+)
3	10A	INTERNAL	DIMMER SWITCH HIGH BEAM OUTPUT
4	10A	INTERNAL	DIMMER SWITCH LOW BEAM OUTPUT
5	10A	INTERNAL	DIMMER SWITCH LOW BEAM OUTPUT
6	5A	E2 20OR	PANEL LAMPS DIMMER SWITCH SIGNAL
7	10A	INTERNAL	HEADLAMP SWITCH OUTPUT
8	-	-	IGNITION SWITCH OUTPUT (RUN-START)
9	10A	F87 20WT/BK	IGNITION SWITCH OUTPUT (RUN-START)
10	15A	F20 18WT	IGNITION SWITCH OUTPUT (RUN-START)
11	20A	F12 18DB/WT	IGNITION SWITCH OUTPUT (RUN-START)
12	10A	INTERNAL	IGNITION SWITCH OUTPUT (RUN)
13	-	-	FUSED B(+)
14	10A	INTERNAL	REAR WINDOW DEFOGGER RELAY OUTPUT
15	25A	INTERNAL	FUSED B(+)
16	10A	INTERNAL	DIMMER SWITCH HIGH BEAM OUTPUT
17	15A	INTERNAL	IGNITION SWITCH OUTPUT (RUN-ACC)
18	10A	INTERNAL	IGNITION SWITCH OUTPUT (RUN-ACC)
19	10A	F45 20YL/RD	IGNITION SWITCH OUTPUT (START)
20	15A	A6 20RD/OR	FUSED B(+)
21	15A	INTERNAL	FUSED B(+)
22	20A	V23 18BR/PK	IGNITION SWITCH OUTPUT (RUN)
23	10A	INTERNAL	HEADLAMP SWITCH OUTPUT
24	-	-	IGNITION SWITCH OUTPUT (RUN)
25	15A	INTERNAL	IGNITION SWITCH OUTPUT (RUN)
26	10A	F14 18LG/YL	IGNITION SWITCH OUTPUT (RUN)
27	10A	F23 18DB/YL	IGNITION SWITCH OUTPUT (RUN-START)

**CIRCUIT  
BREAKERS**

CB NO.	AMPS	FUSED CIRCUIT	FUNCTION
28	25A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
29	25A	F37 14RD/LB	FUSED B(+)
30	20A	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)

**CIGAR  
LIGHTER  
RELAY**

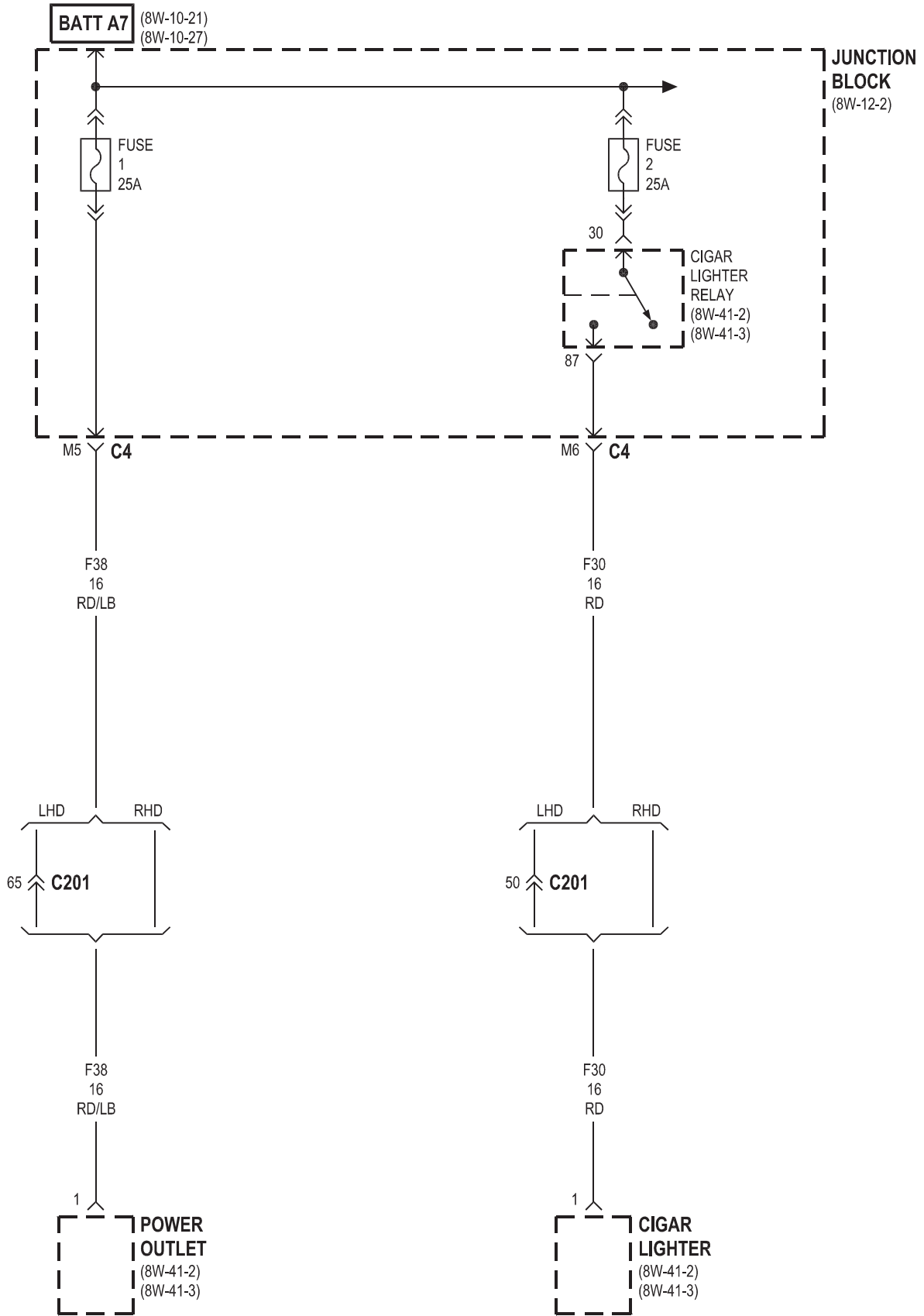
CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	GROUND
86	A31 12BK/WT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
87	F30 16RD	CIGAR LIGHTER RELAY OUTPUT
87A	-	-

**HORN  
RELAY**

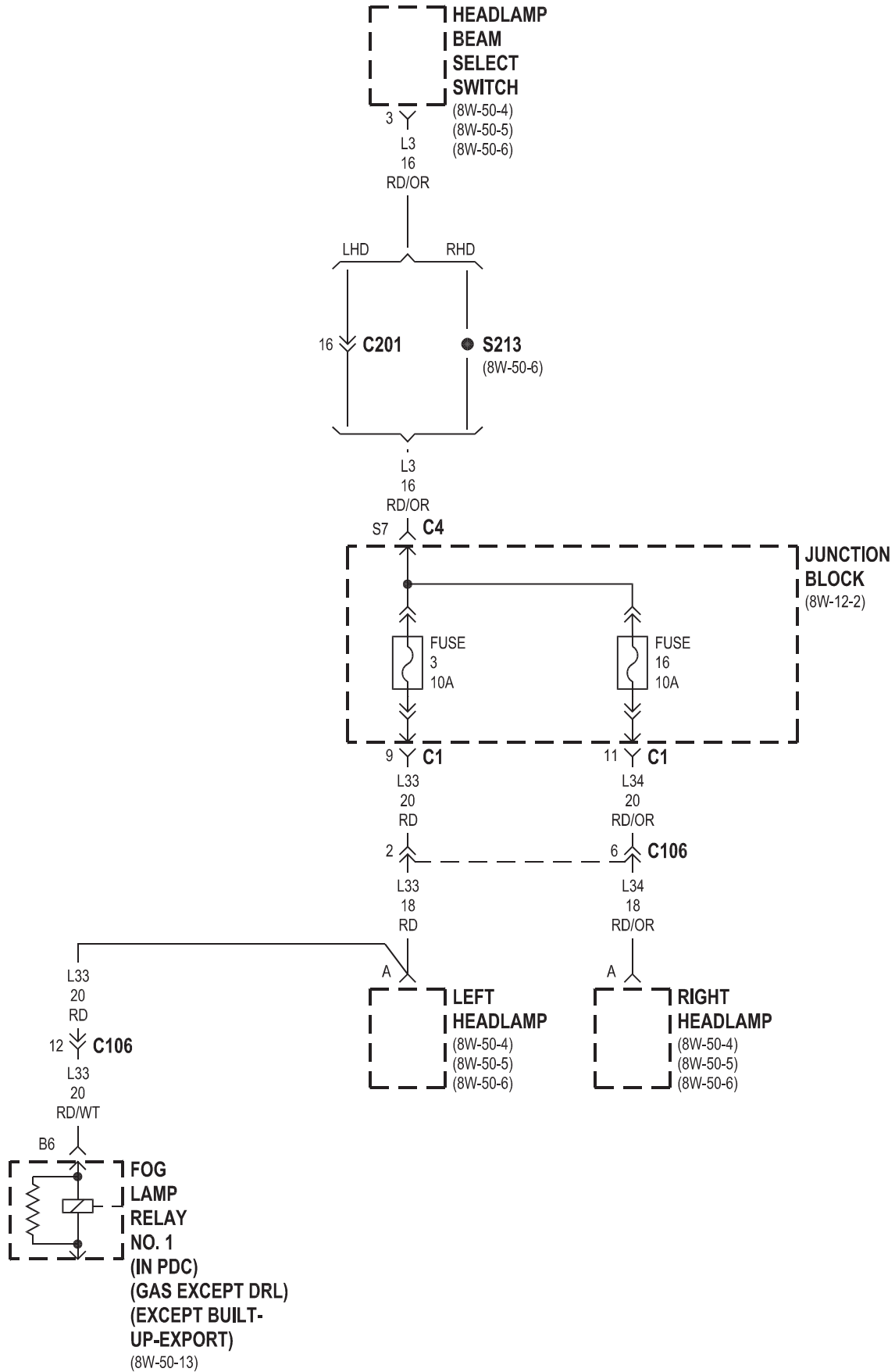
CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	HORN RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	X2 20DG/RD	HORN RELAY OUTPUT
87A	-	-

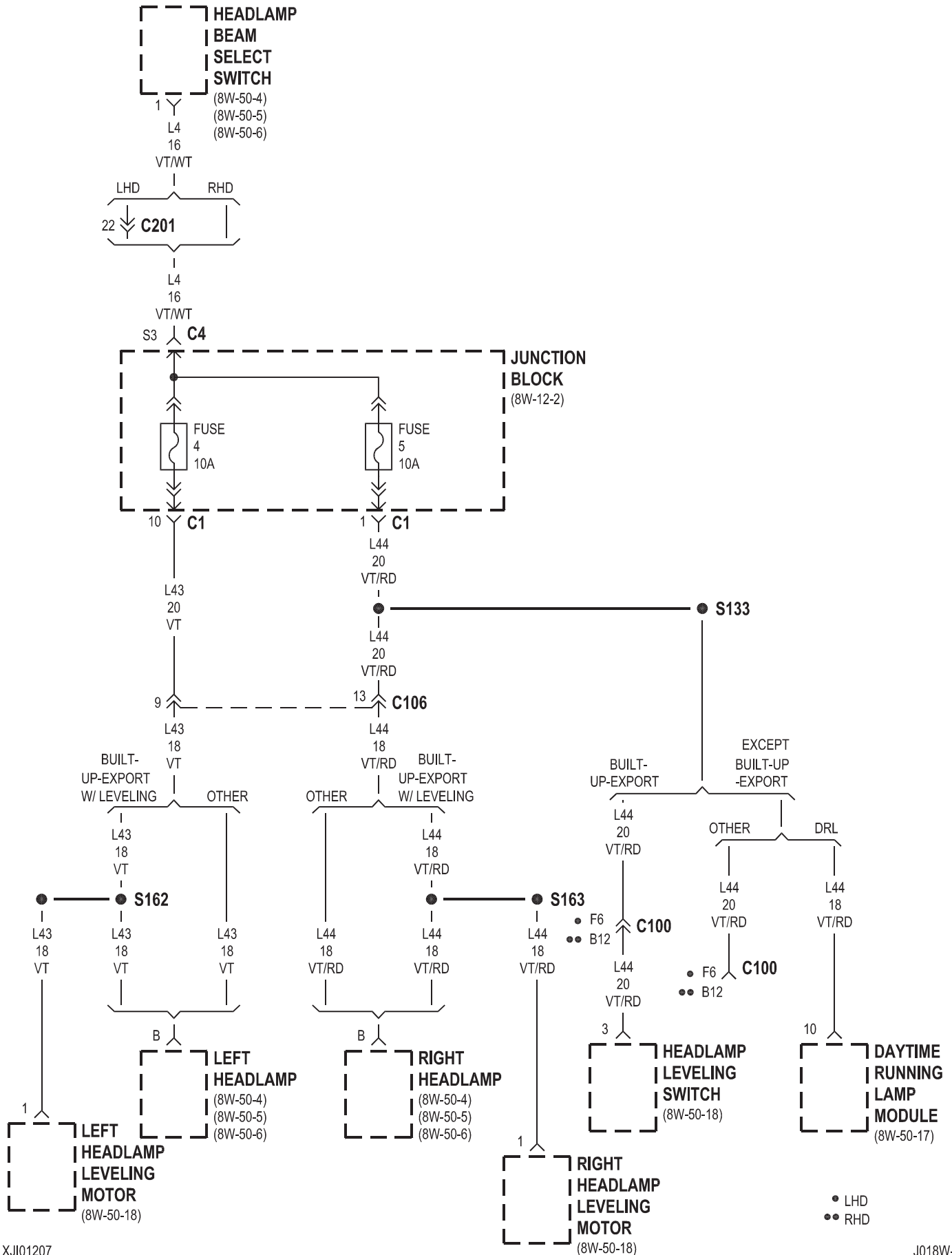
**REAR  
WINDOW  
DEFOGGER  
RELAY**

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	C81 20LB/WT	REAR WINDOW DEFOGGER RELAY CONTROL
86	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN)
87	INTERNAL	REAR WINDOW DEFOGGER RELAY OUTPUT
87A	-	-

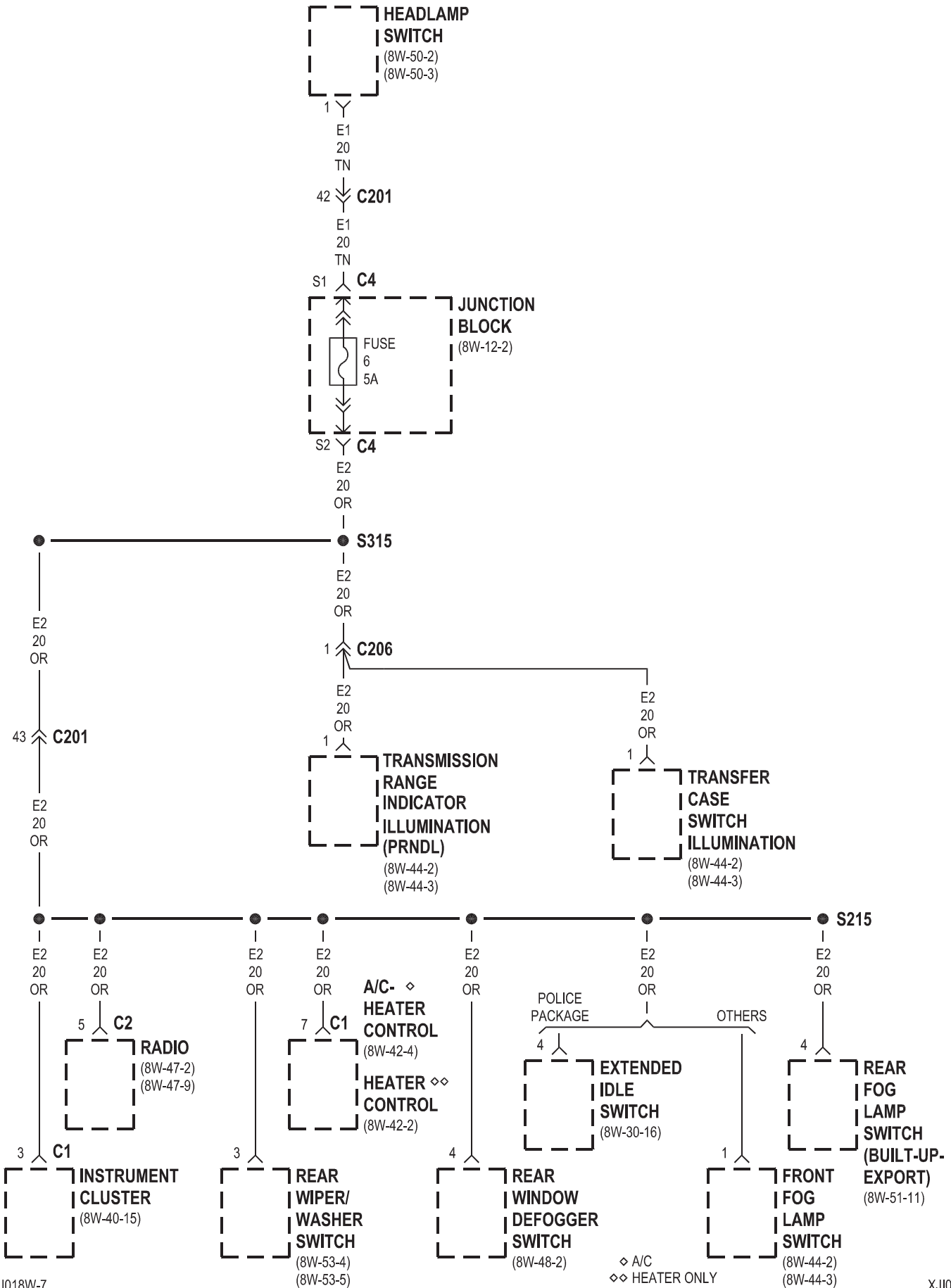


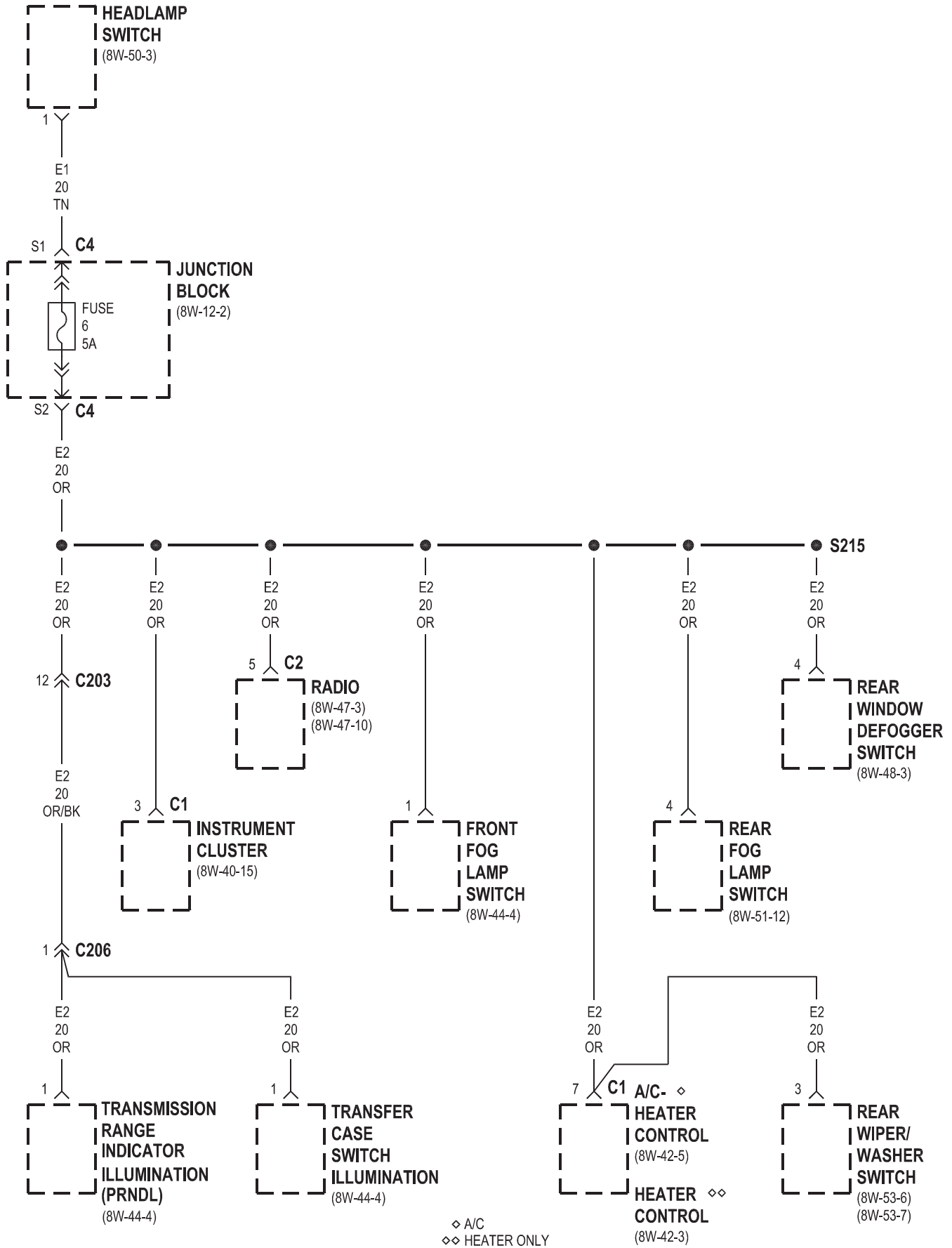




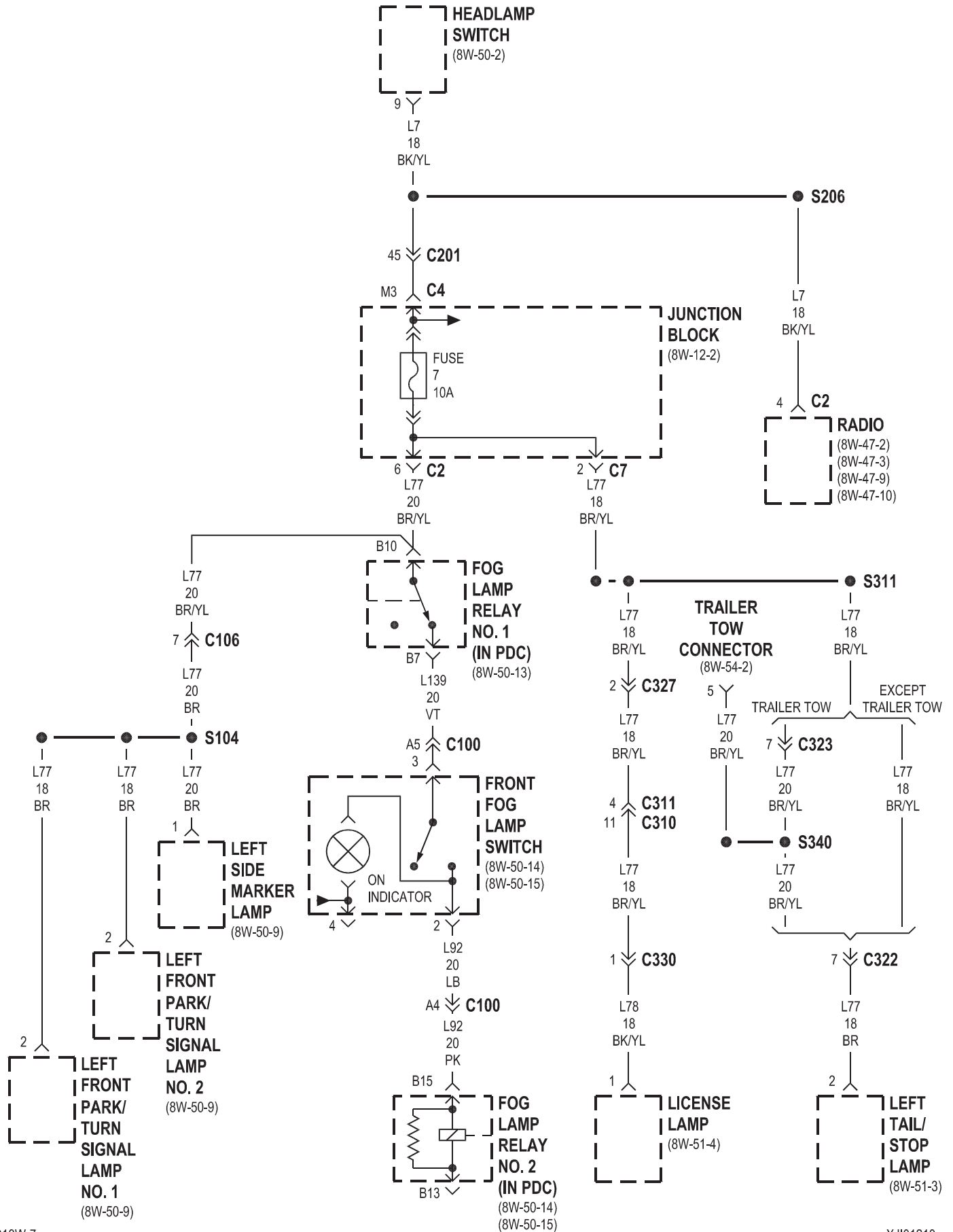


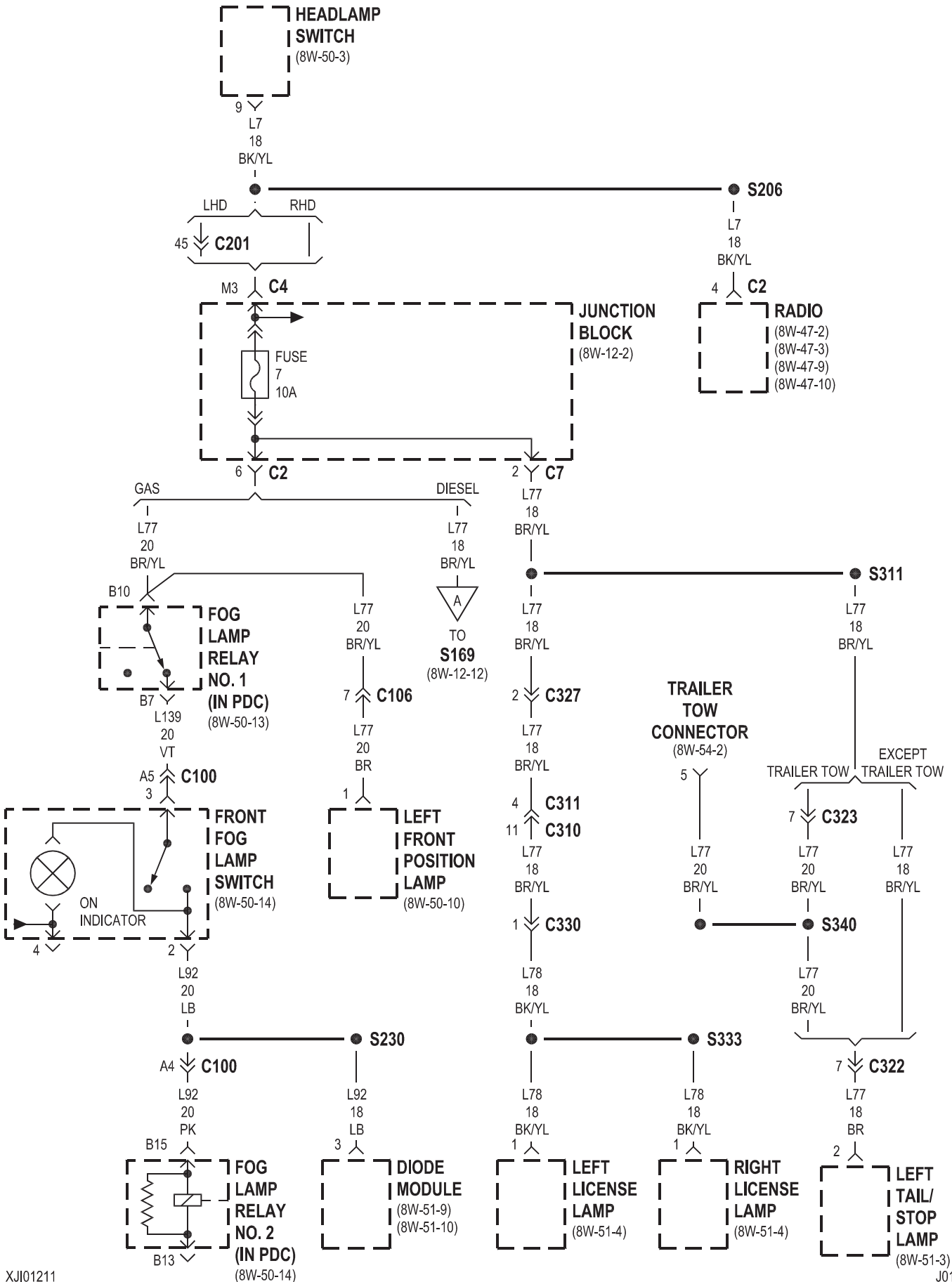
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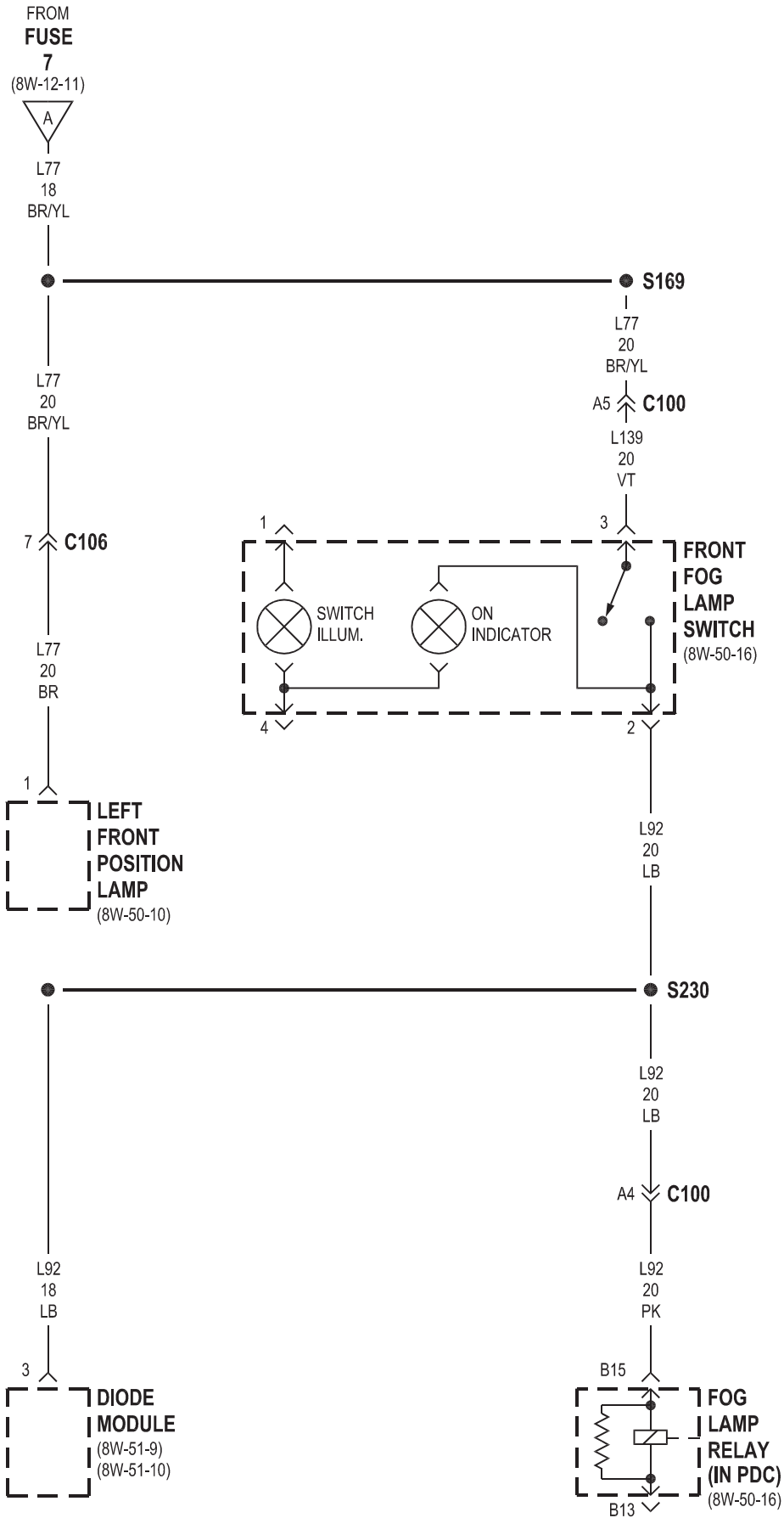


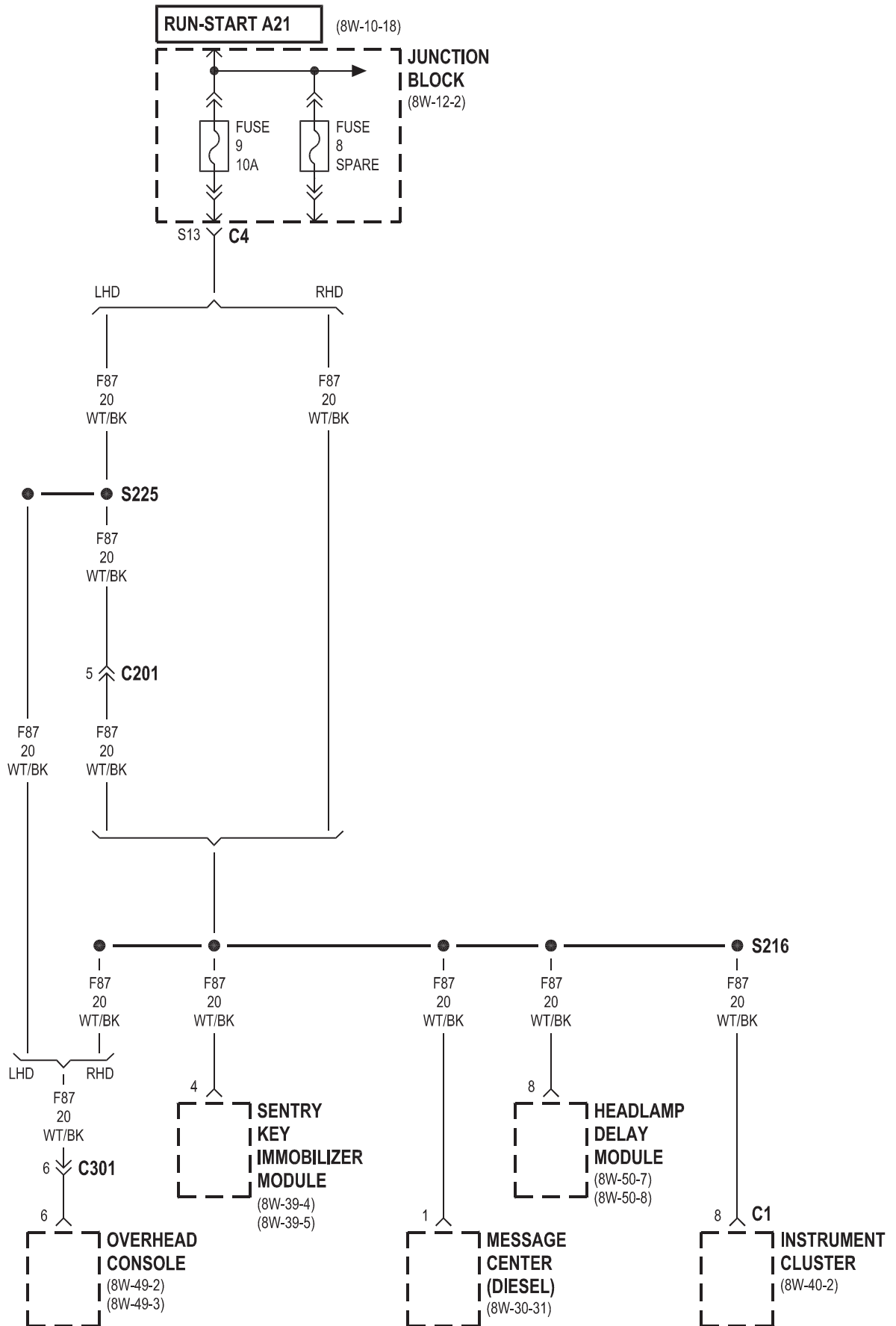


8Wa-12 JUNCTION BLOCK  
EXCEPT BUILT-UP-EXPORT

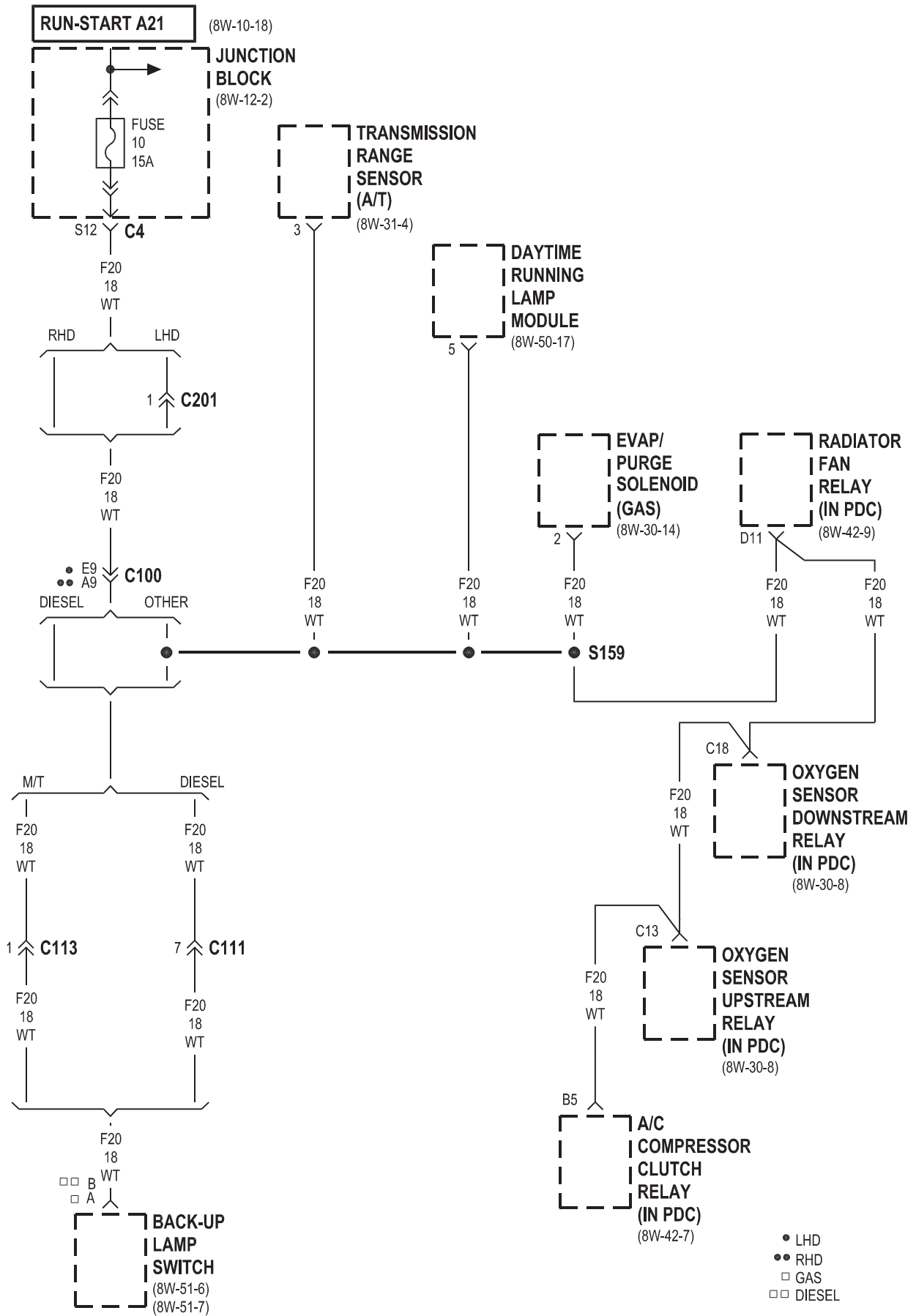


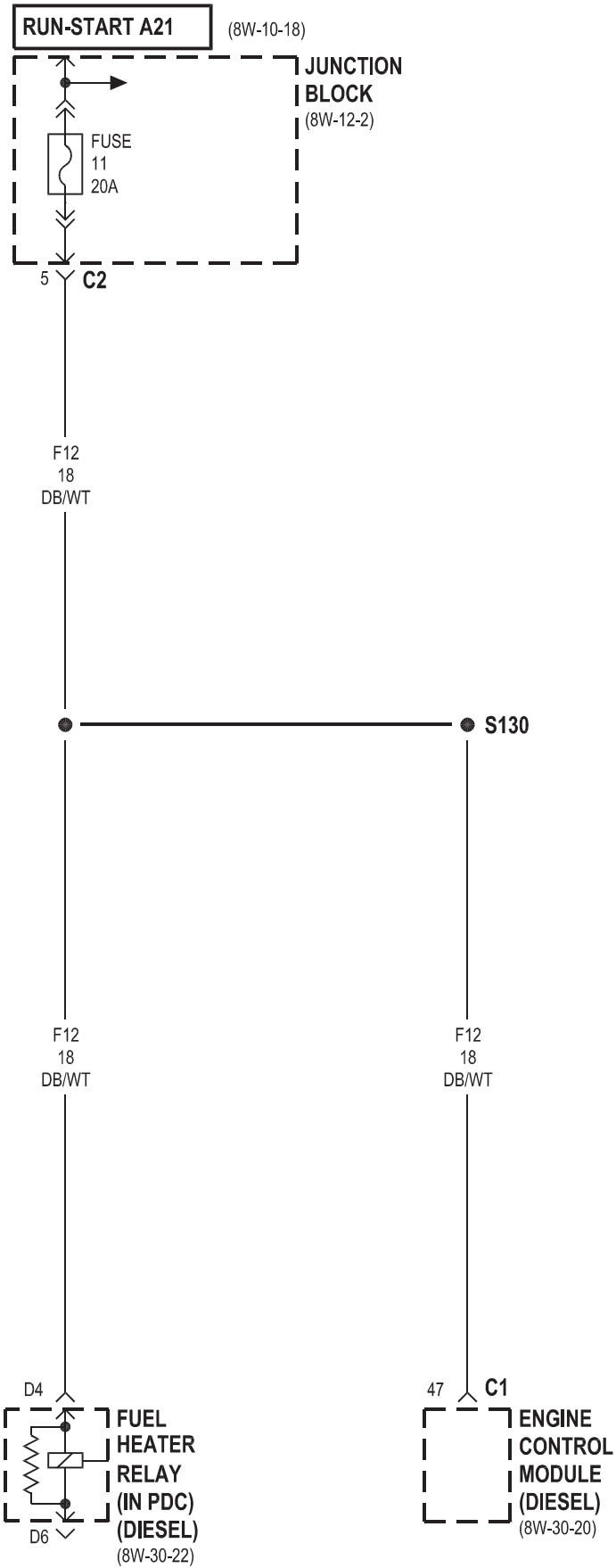


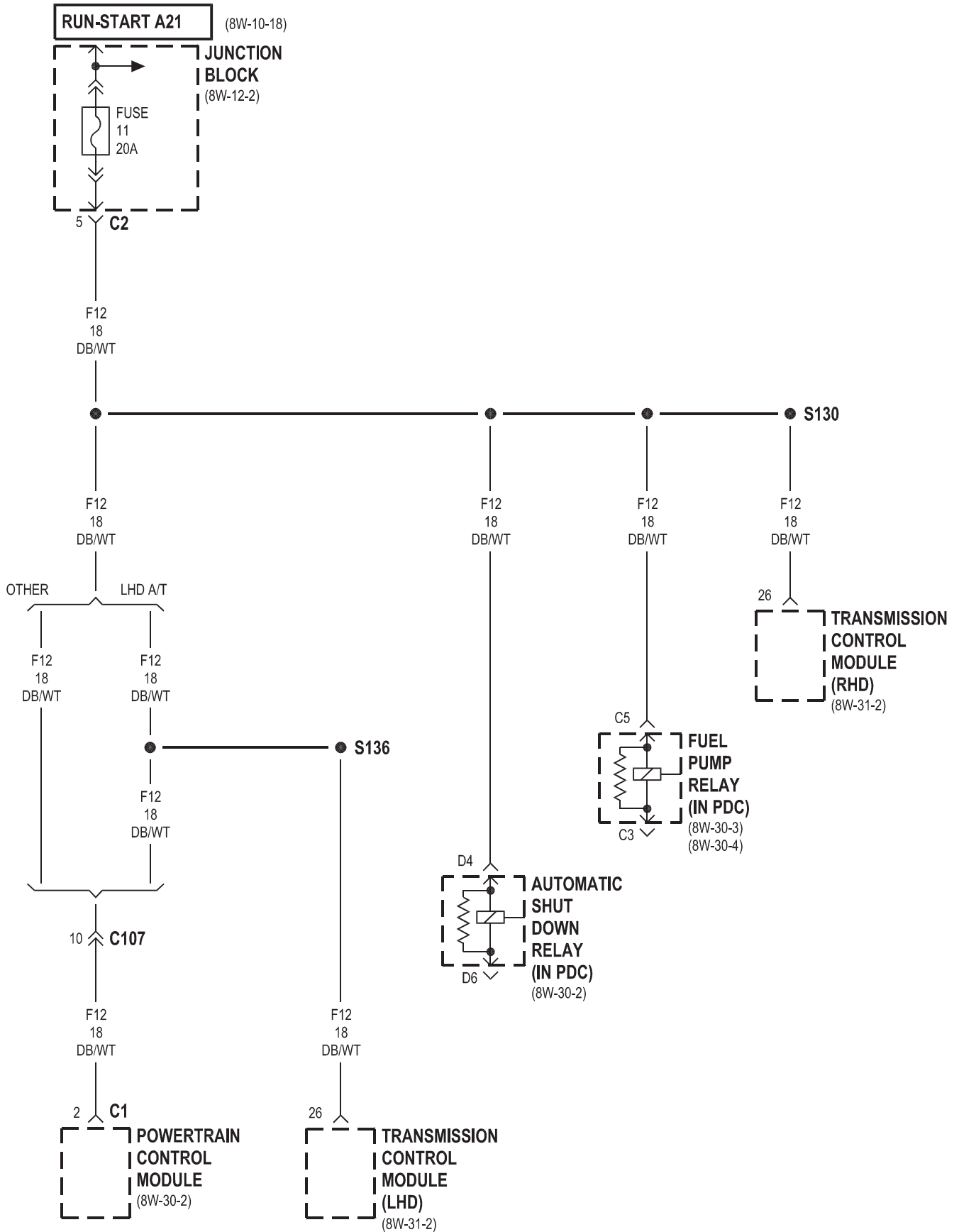


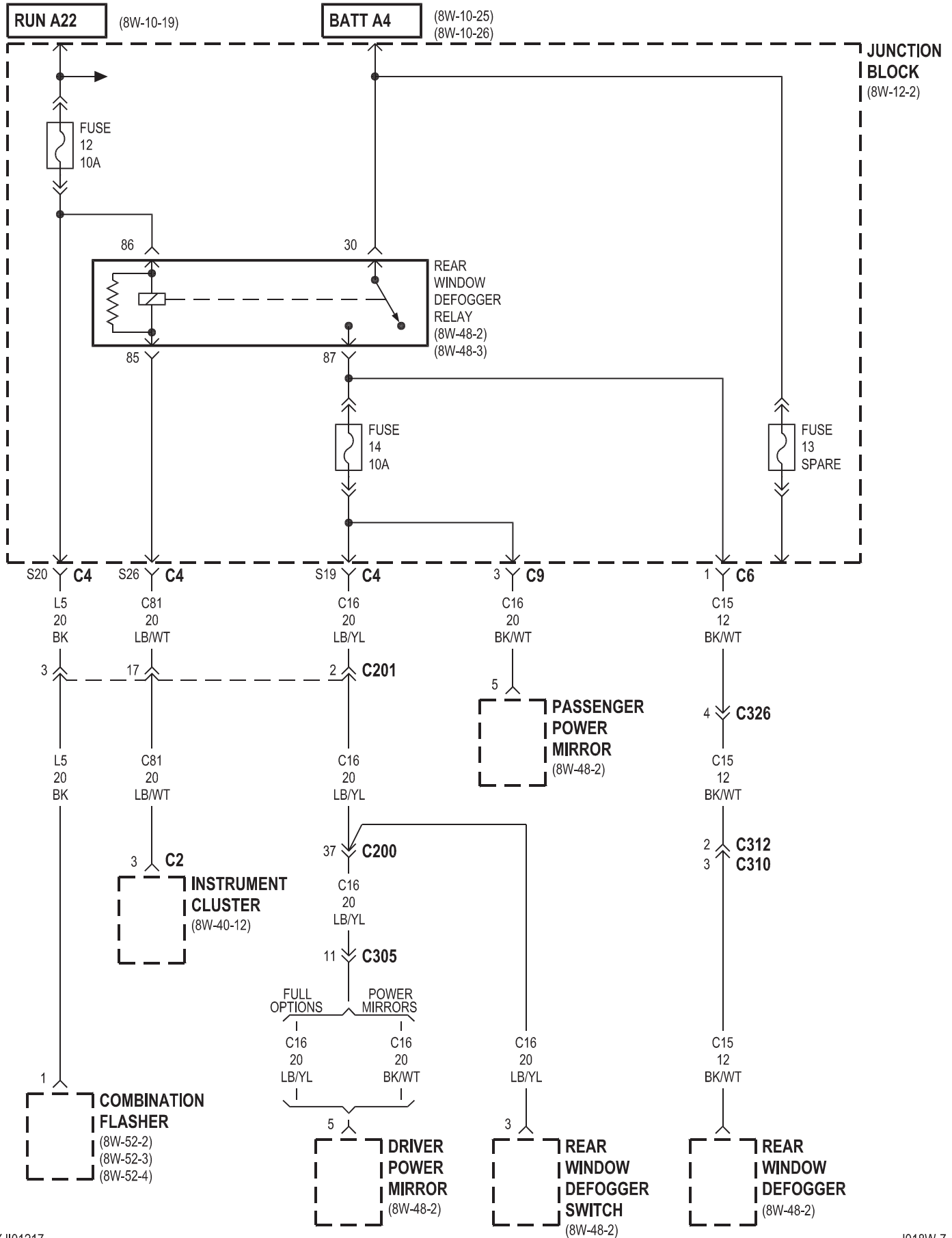


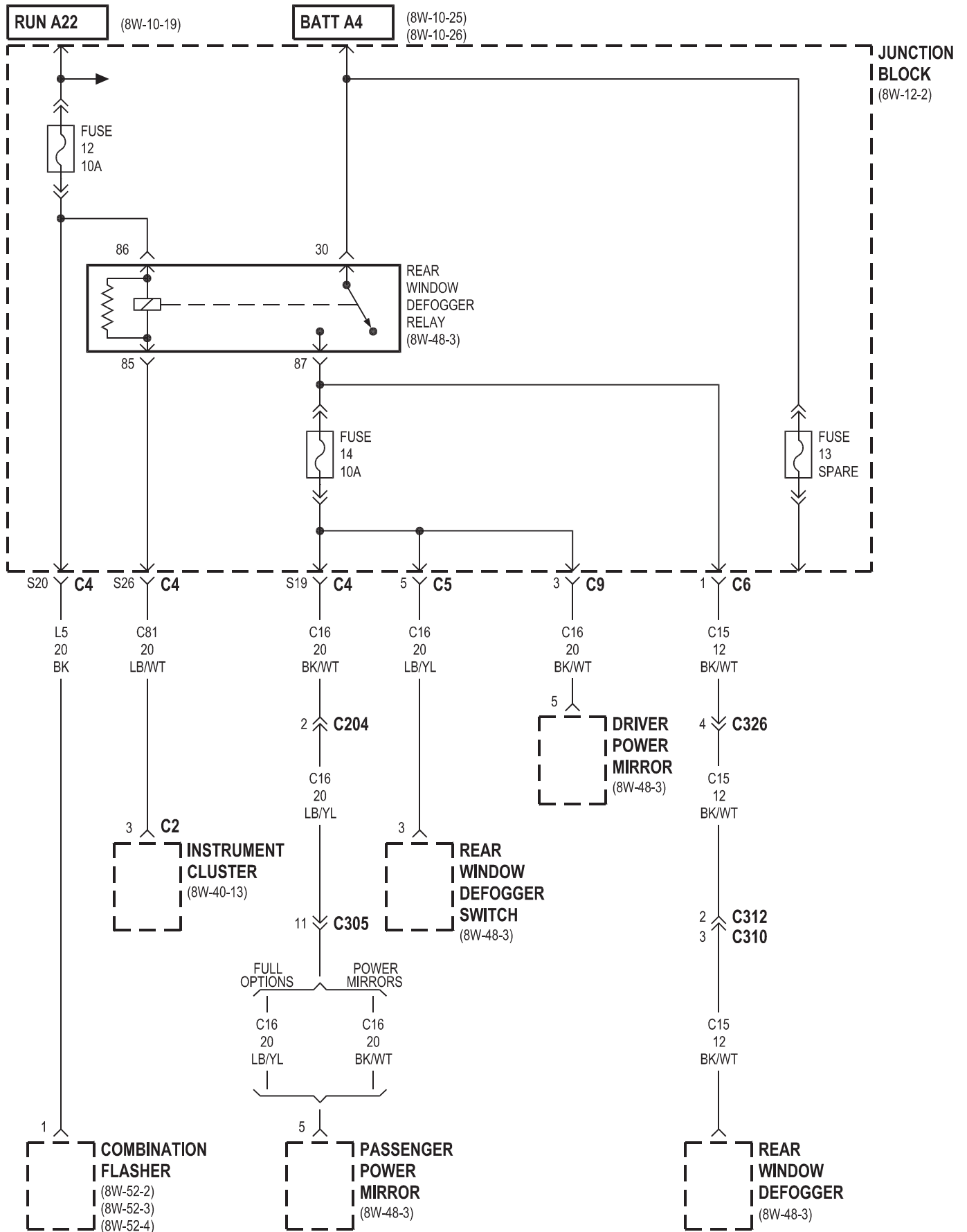




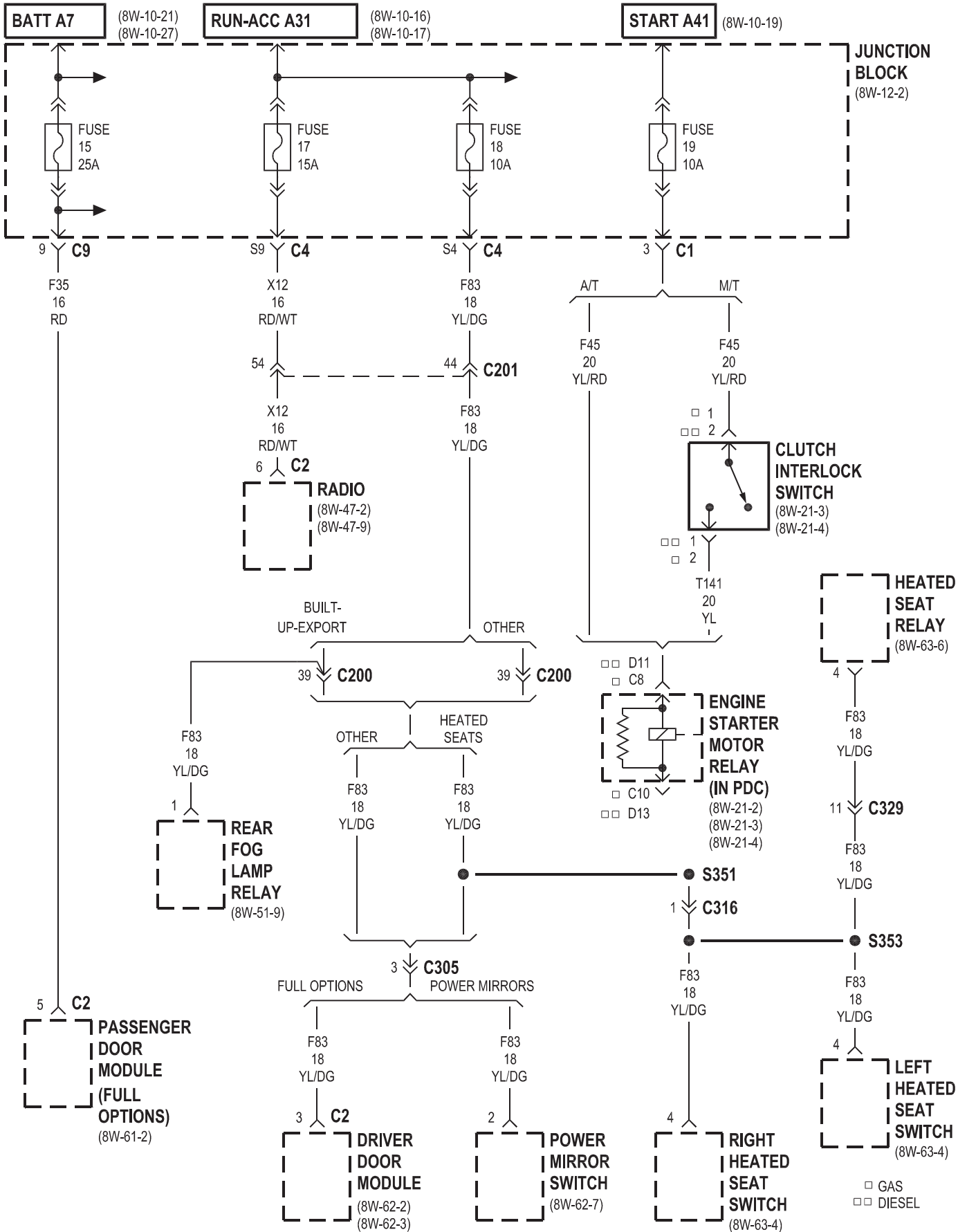


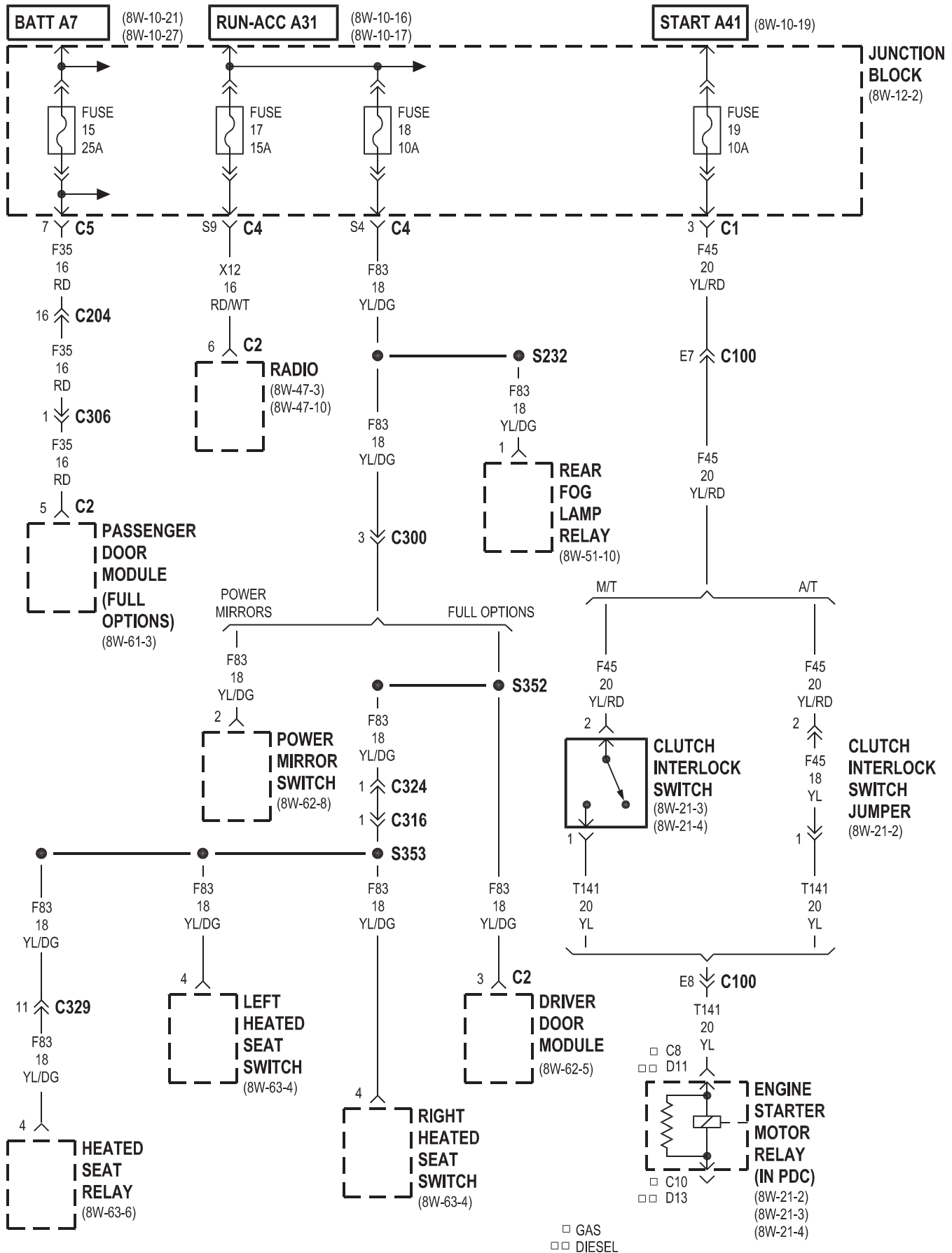


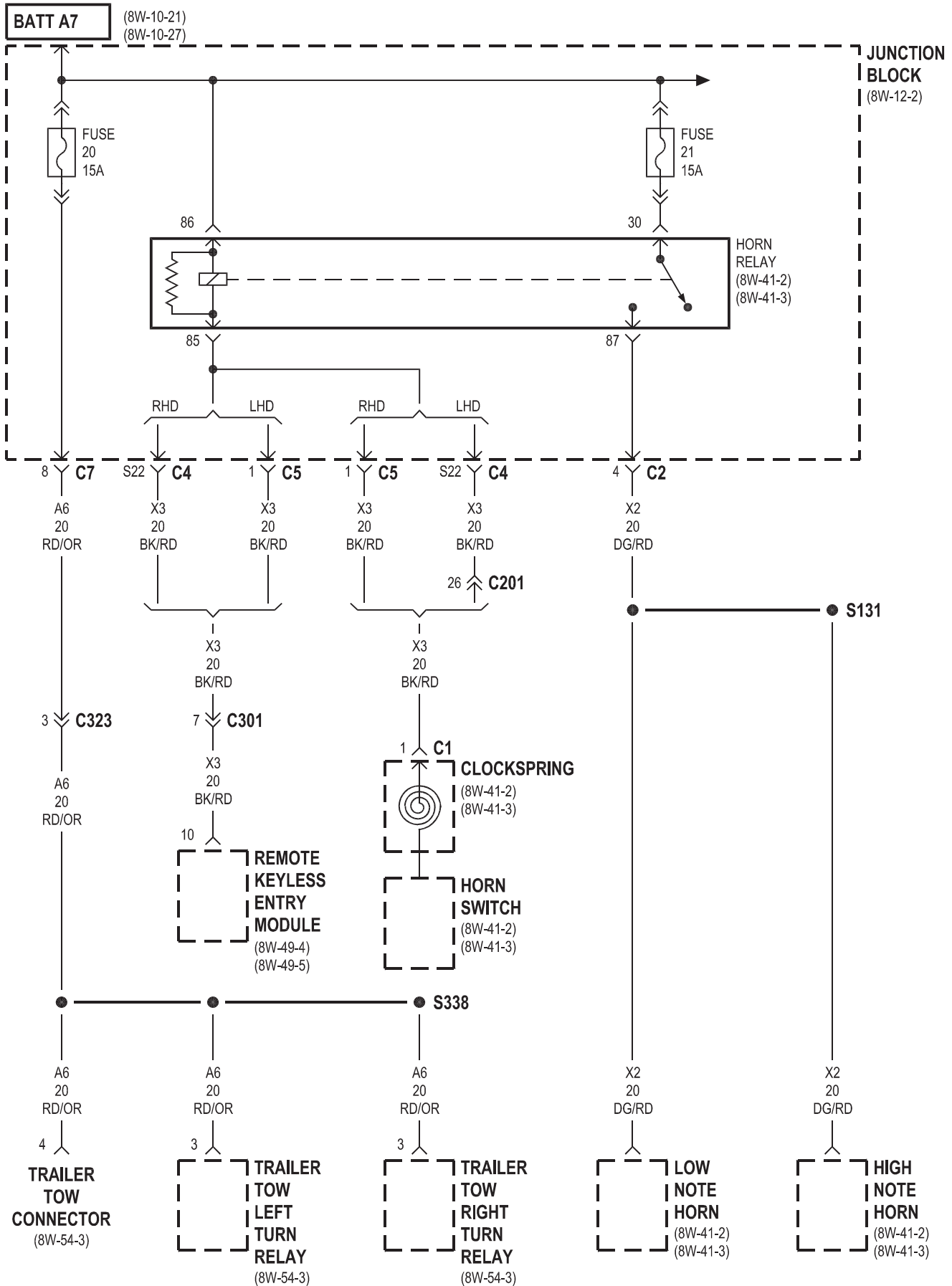




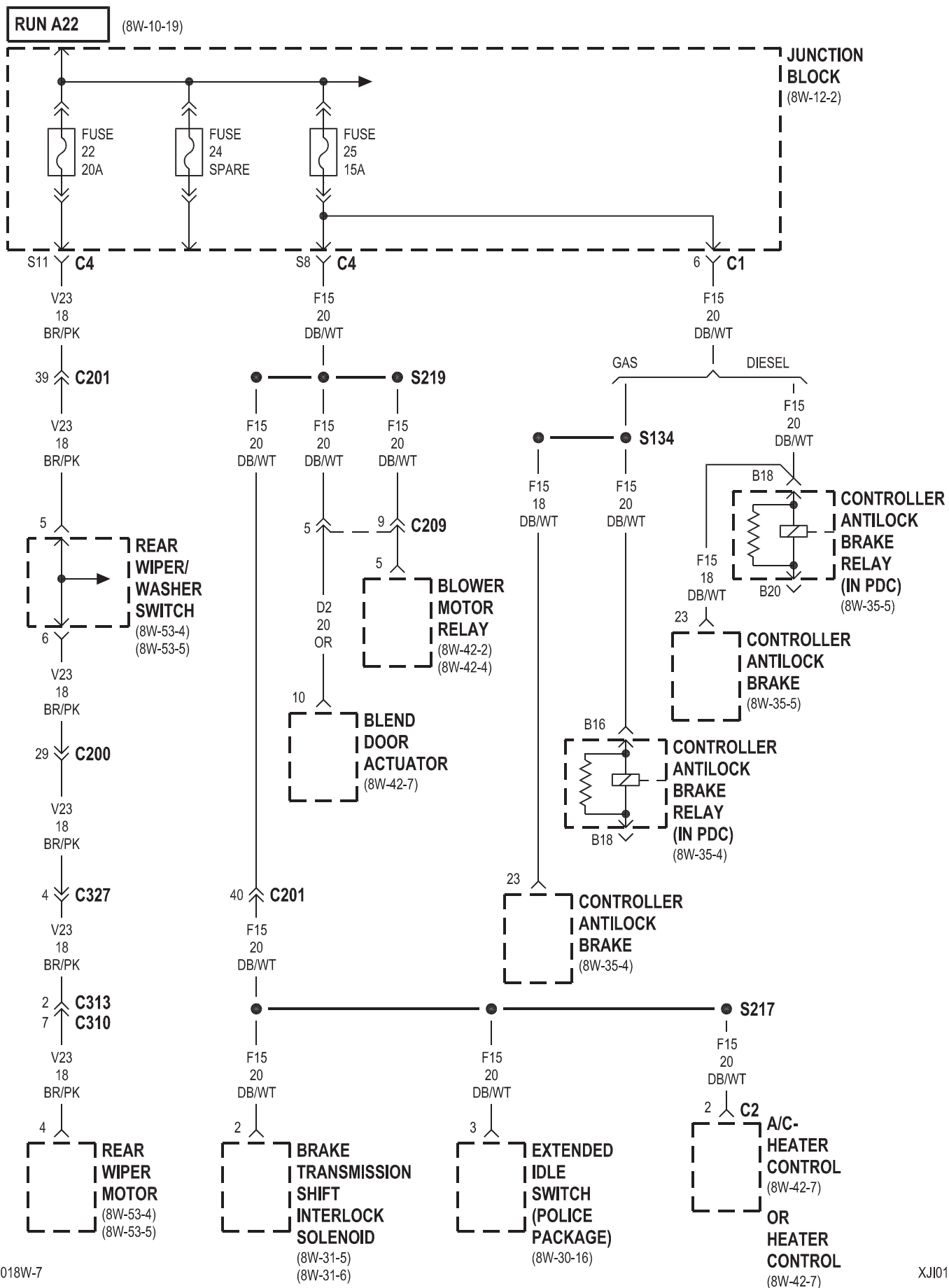
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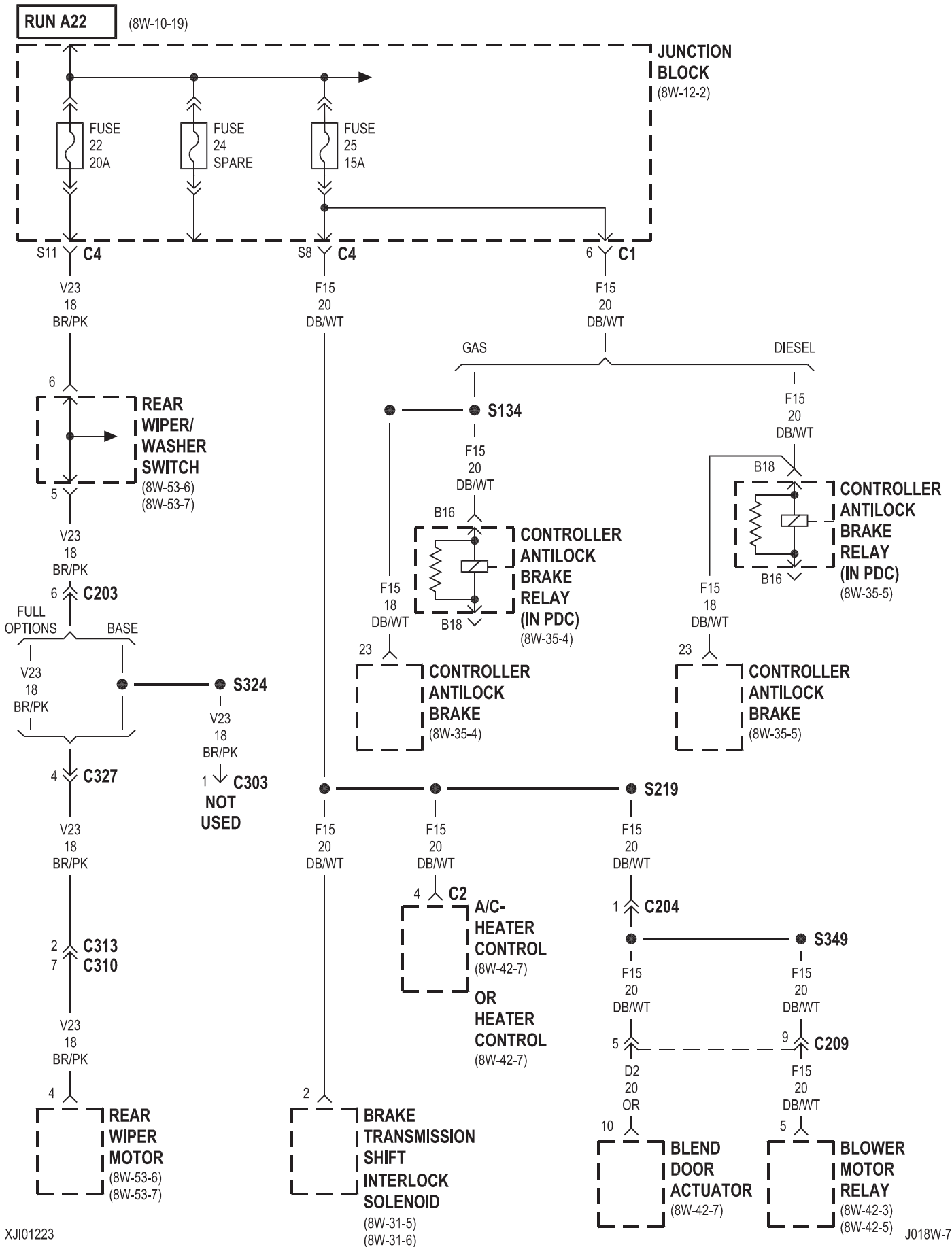


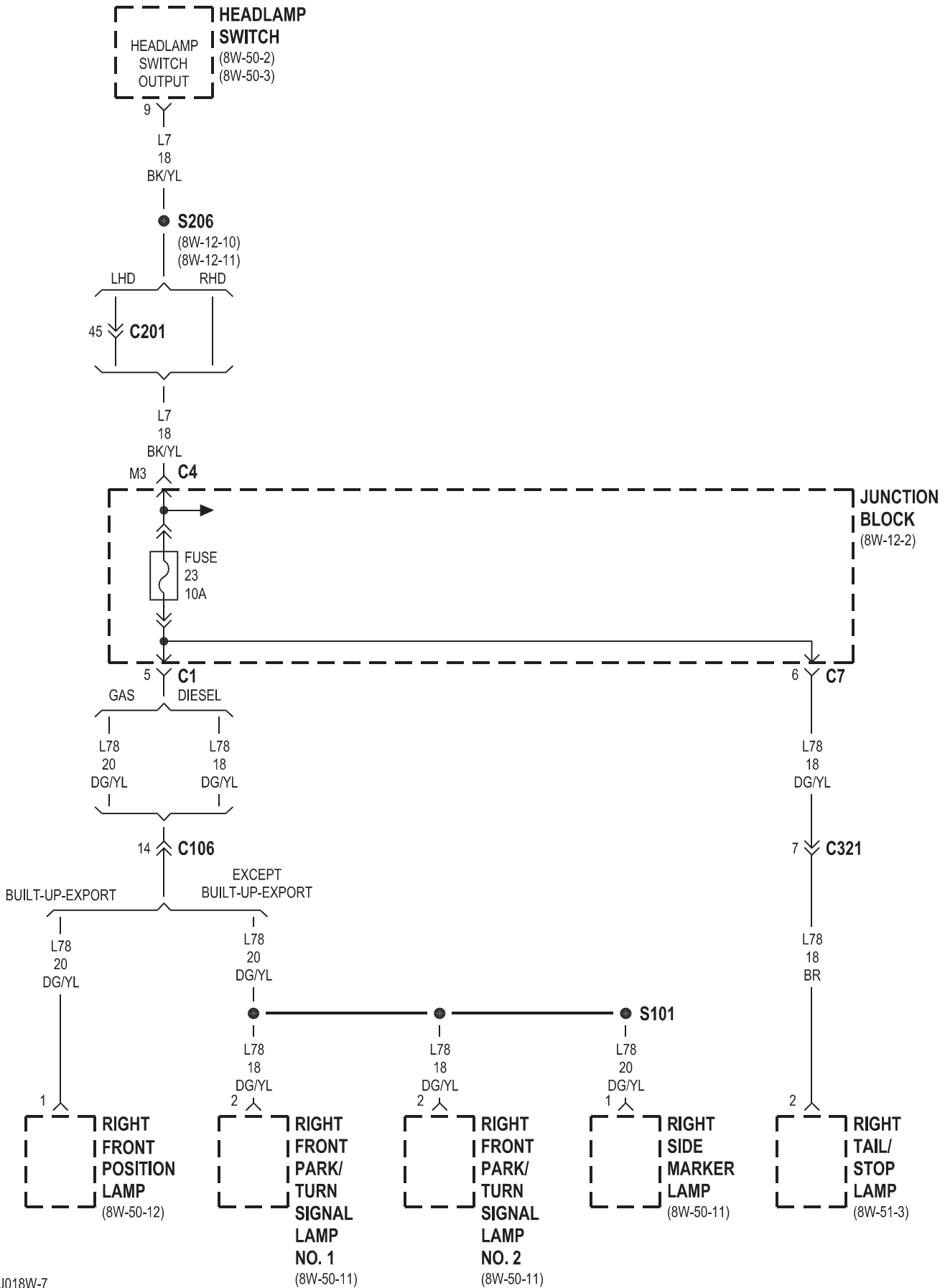


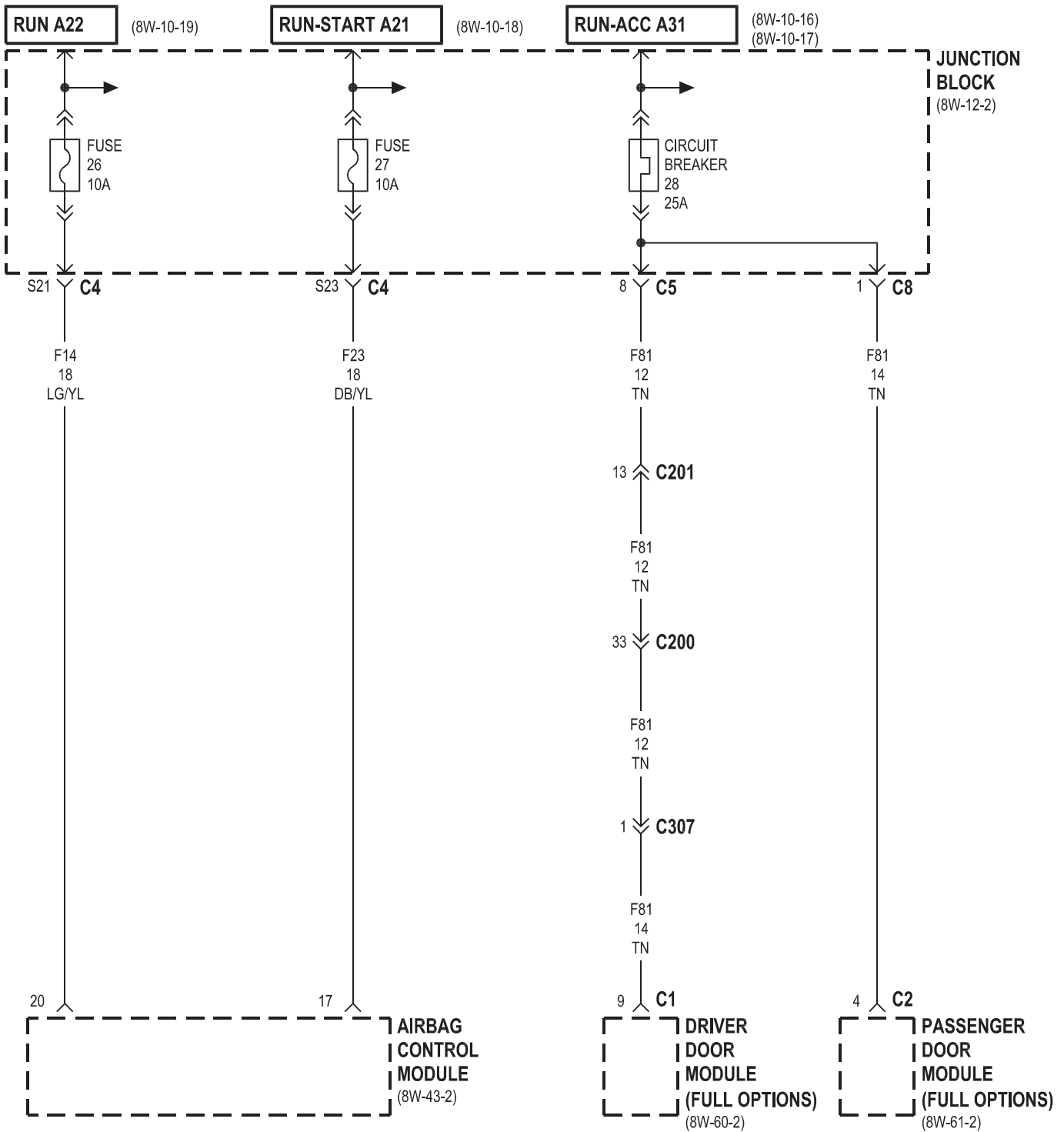


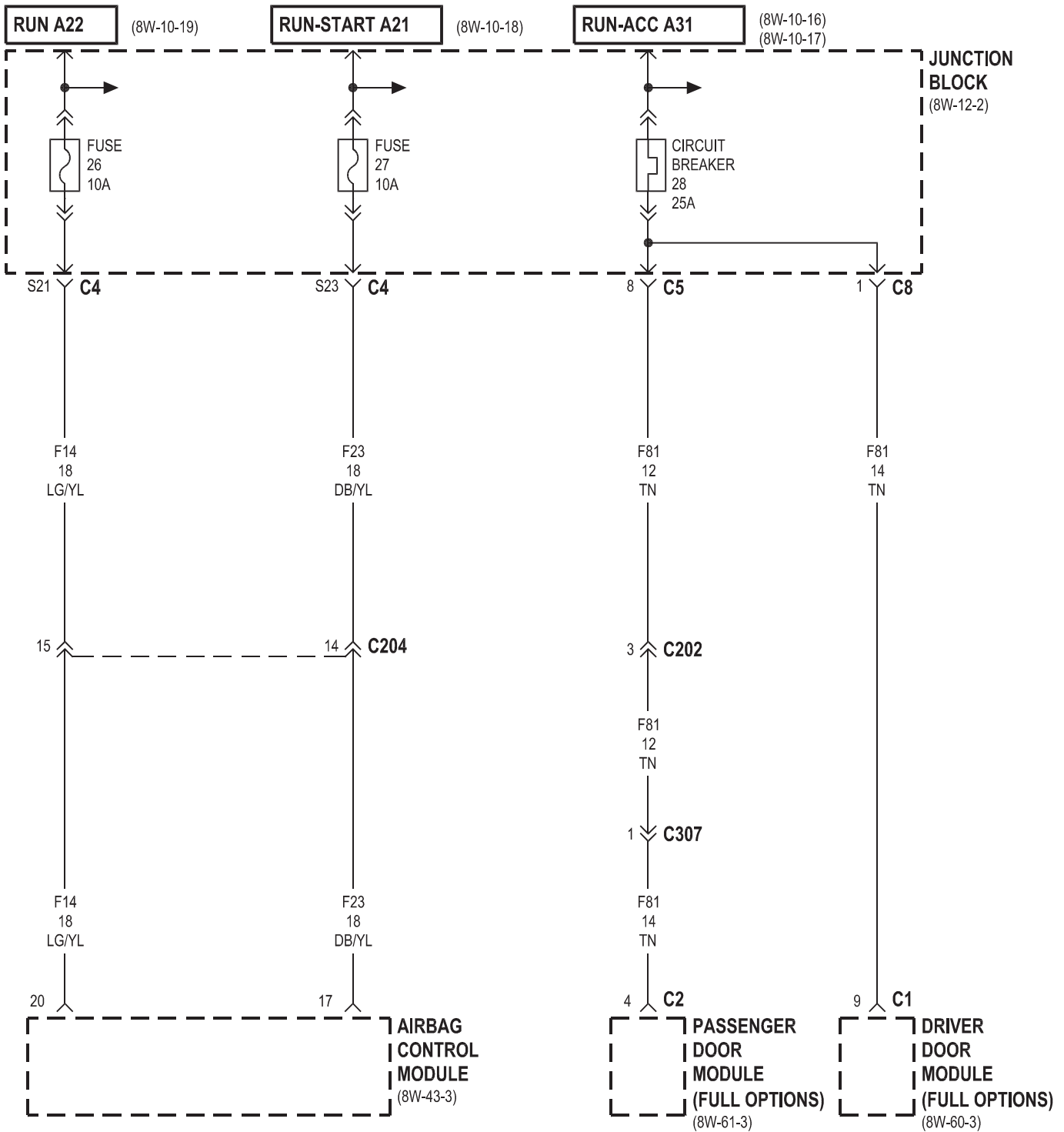


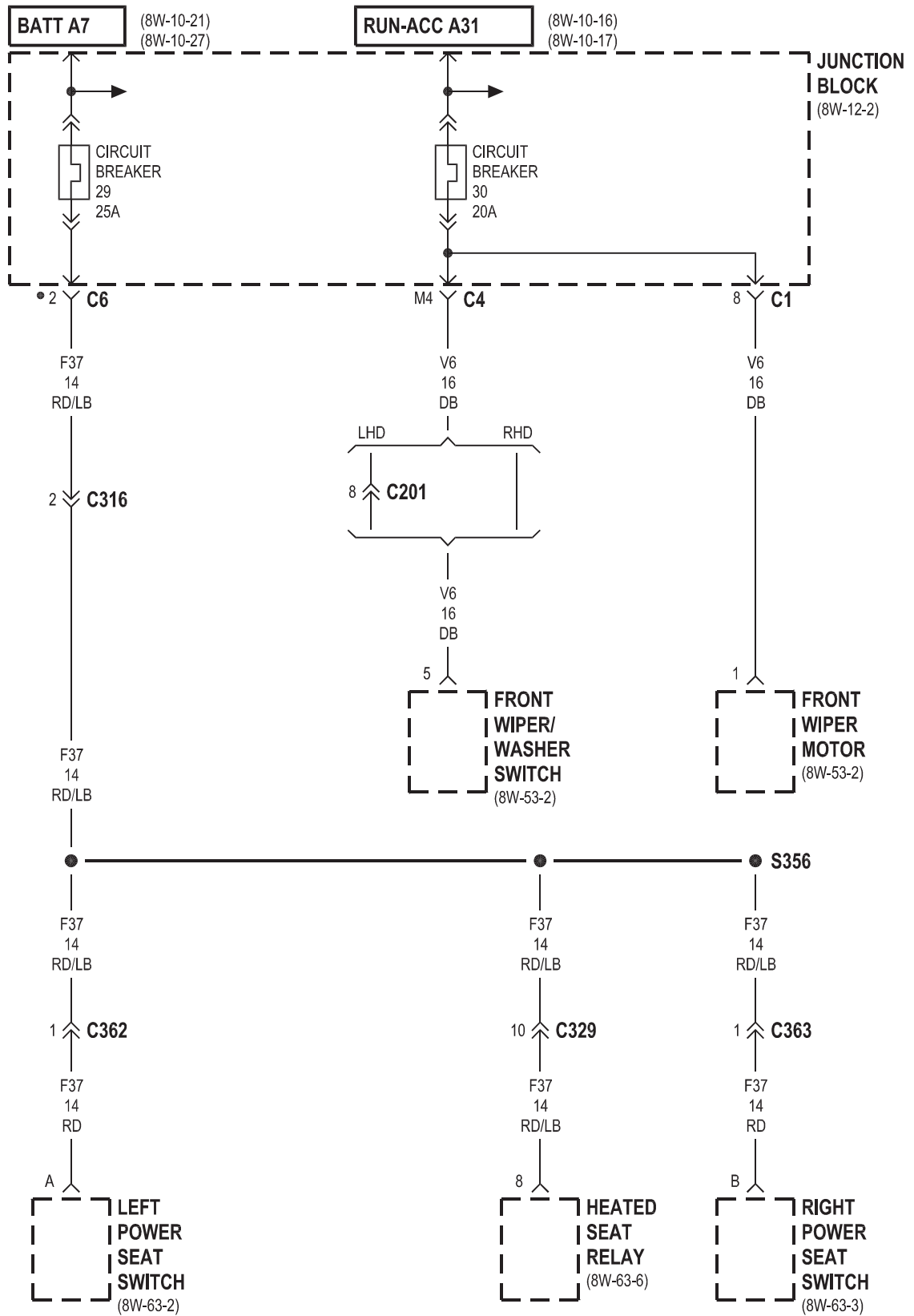




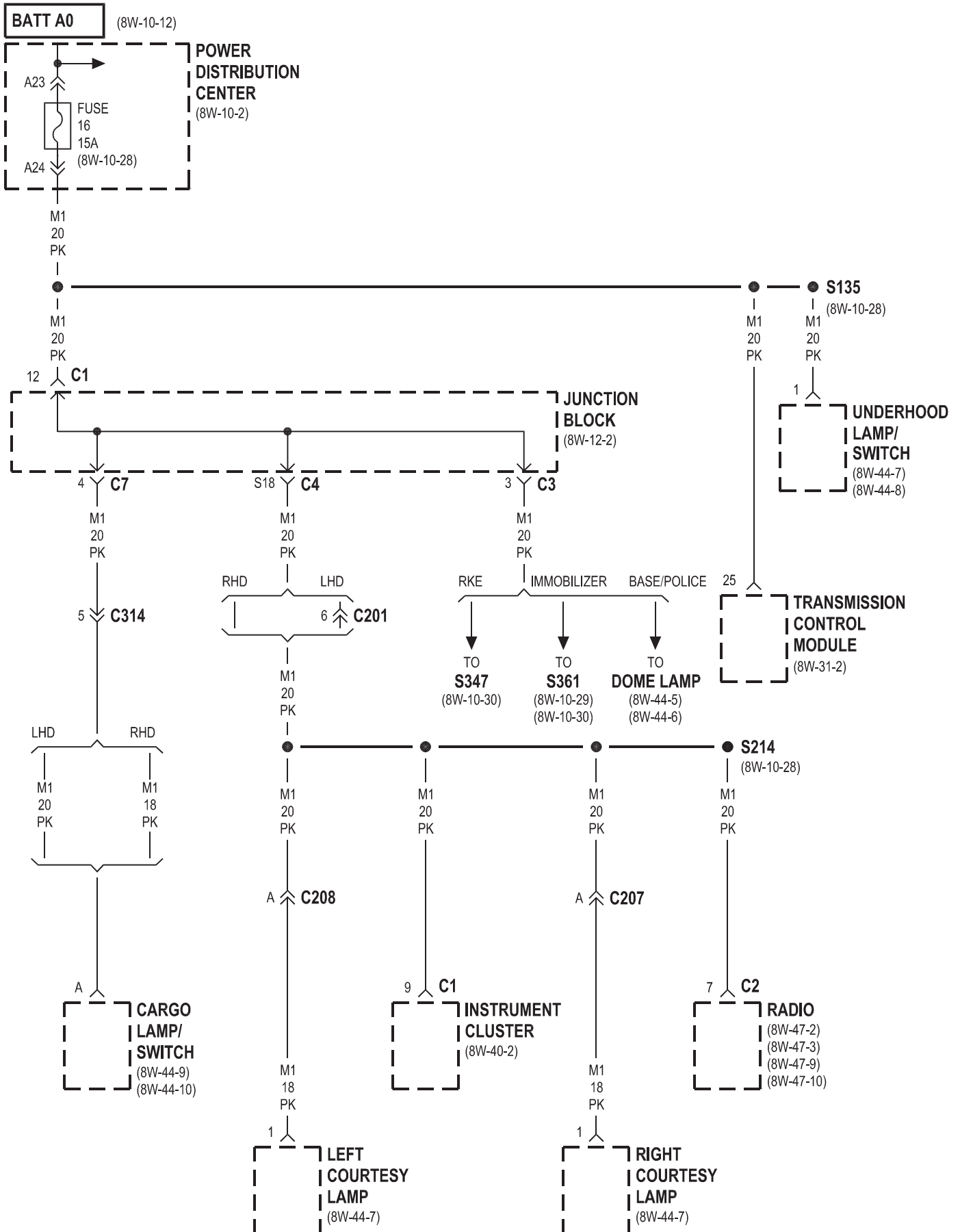


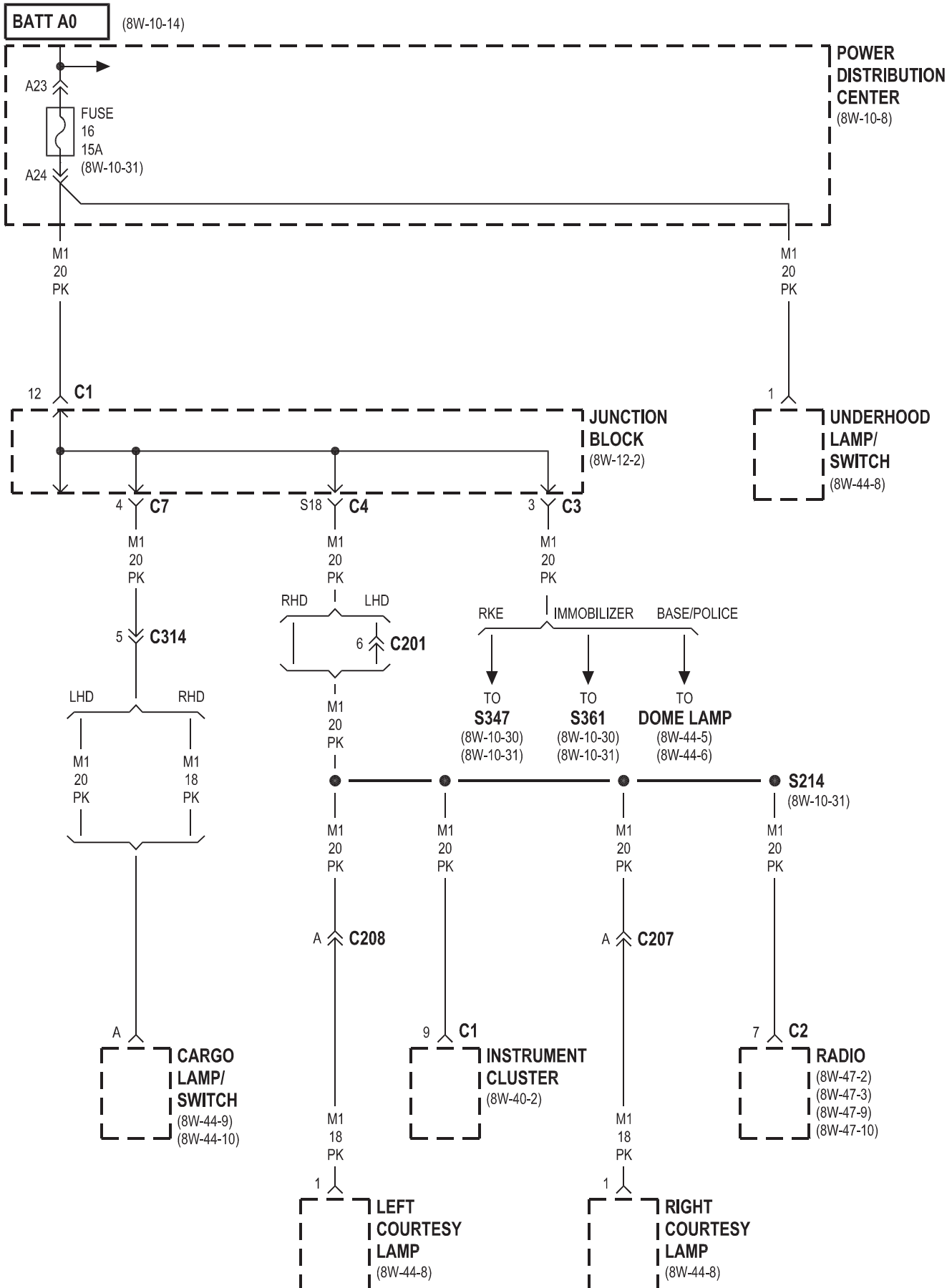




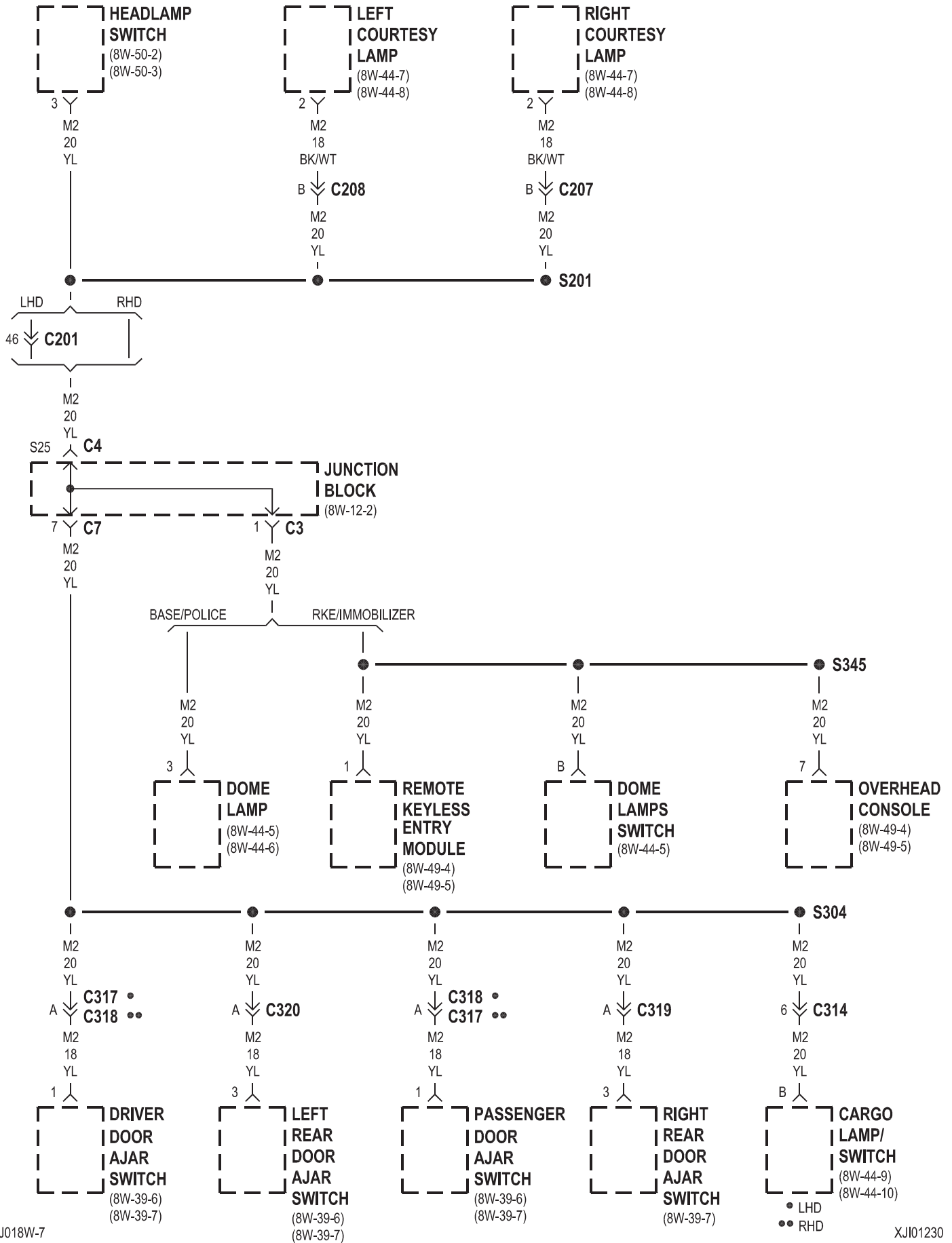


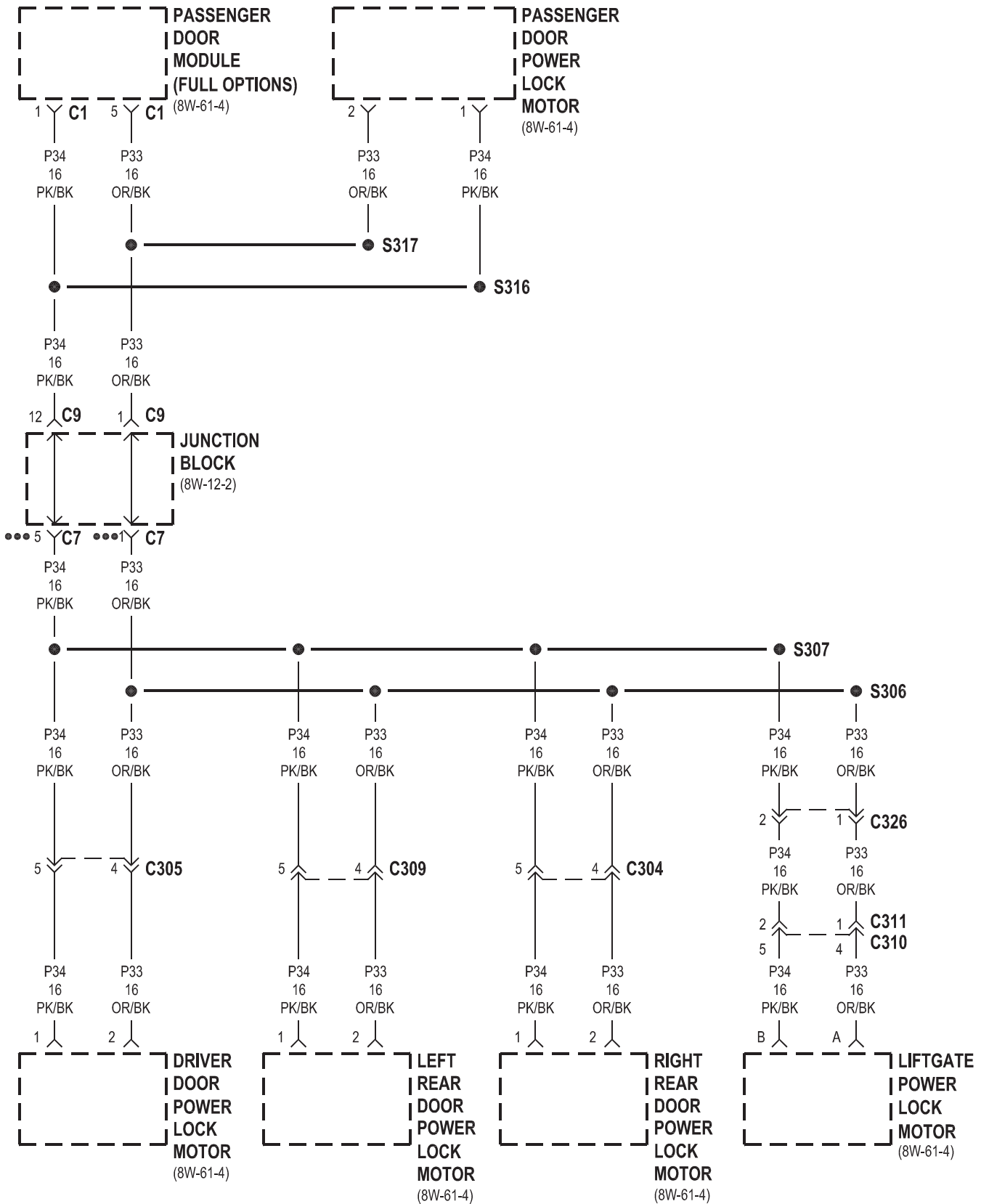
• POWER SEATS



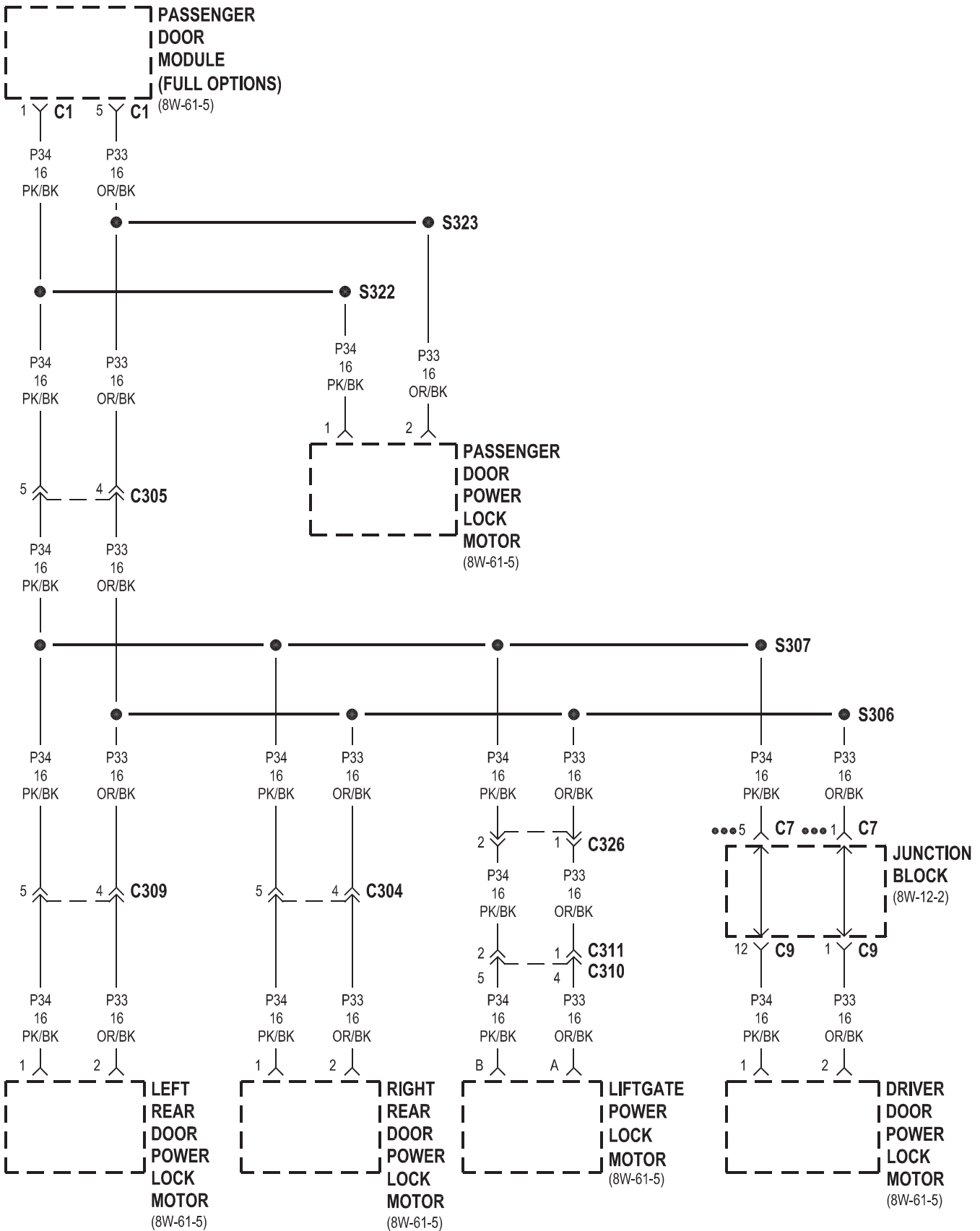




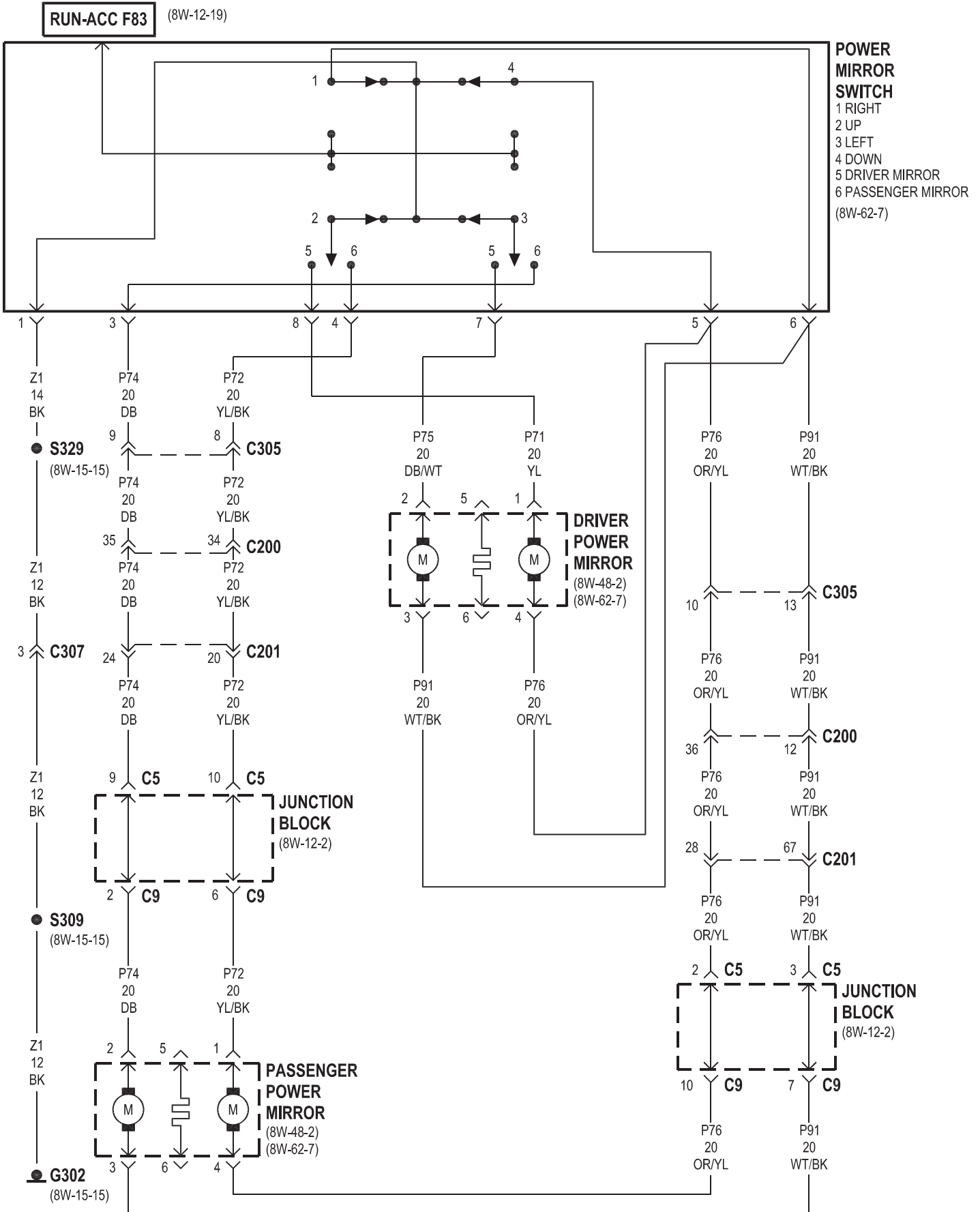


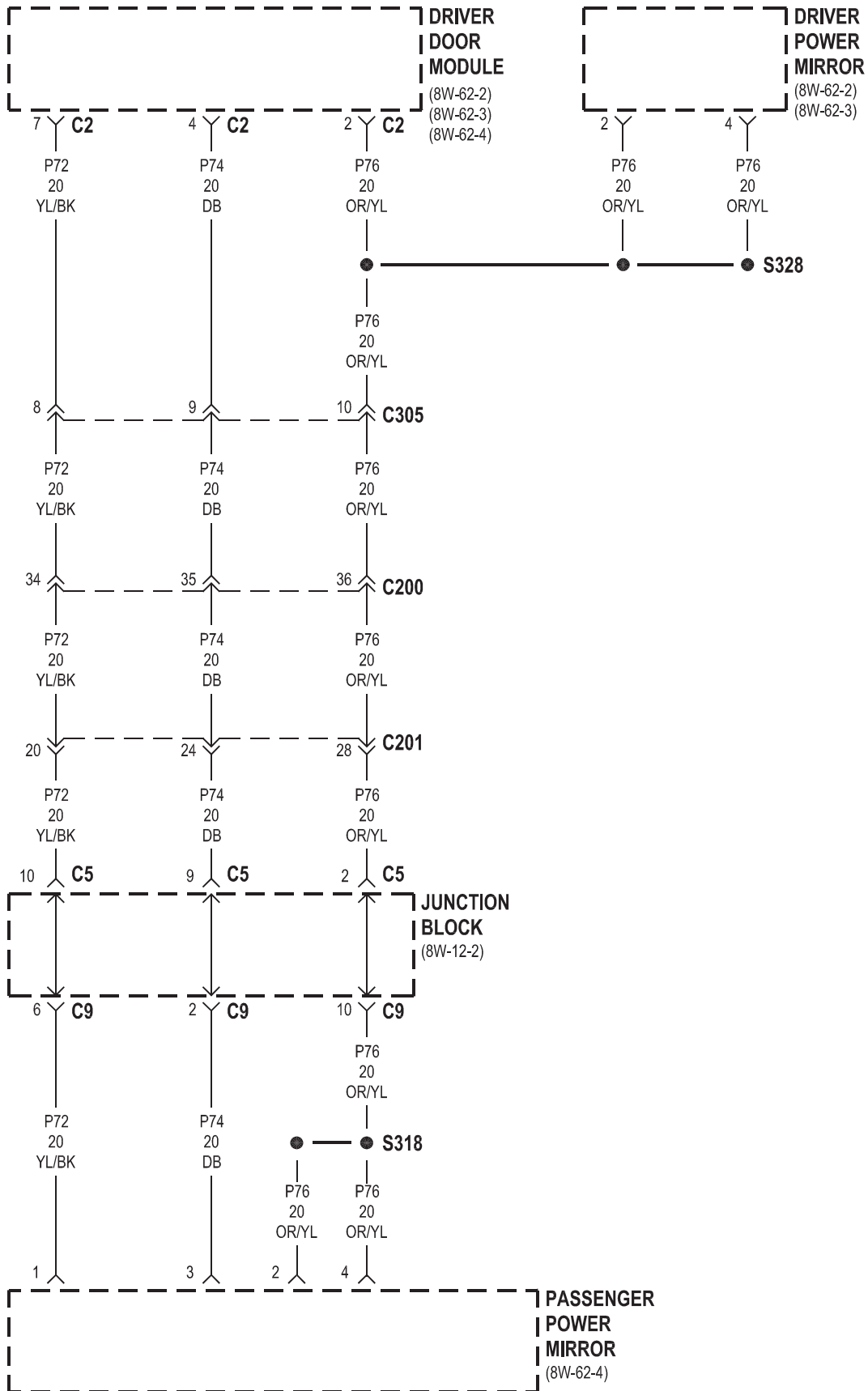


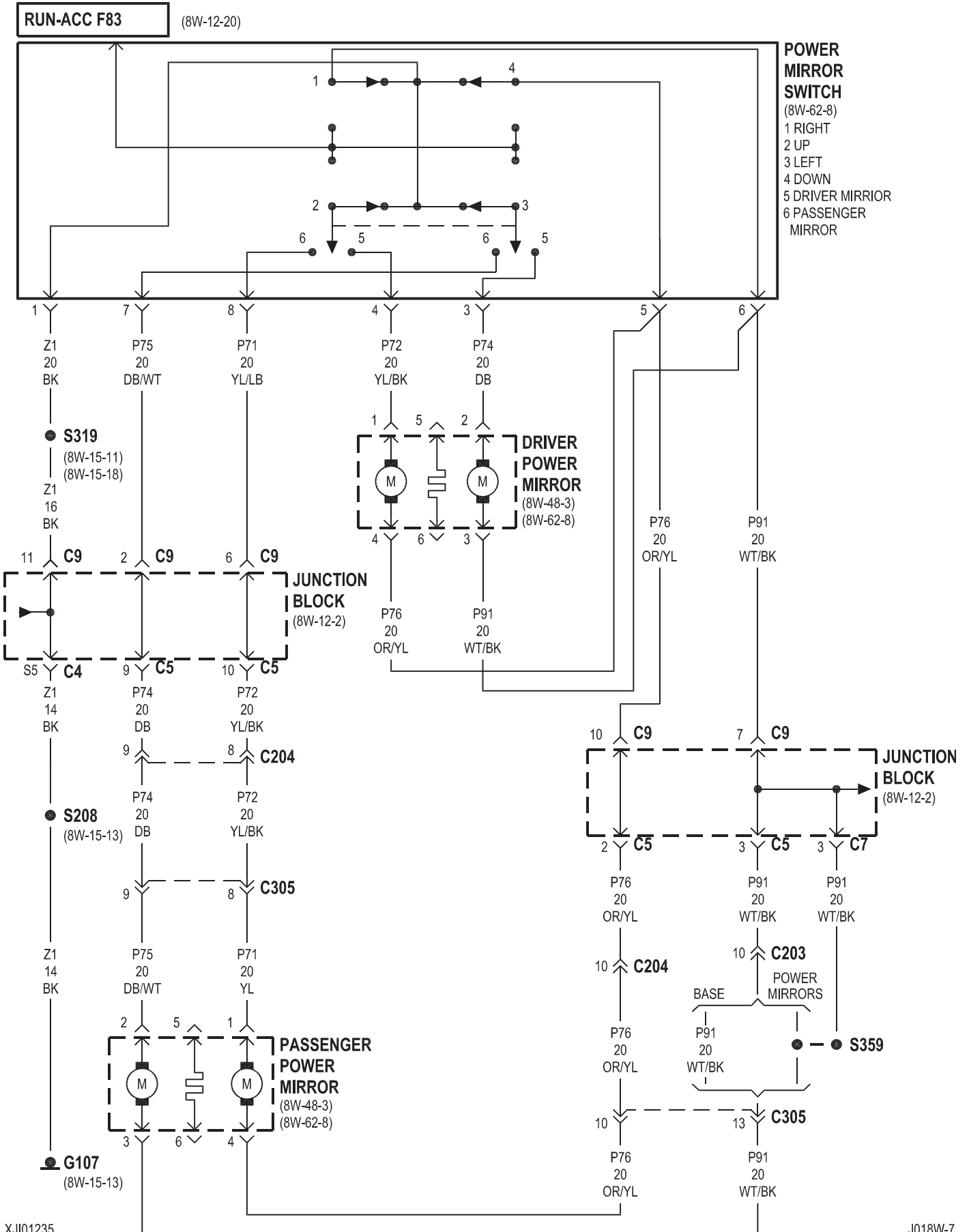
●●● FULL OPTIONS

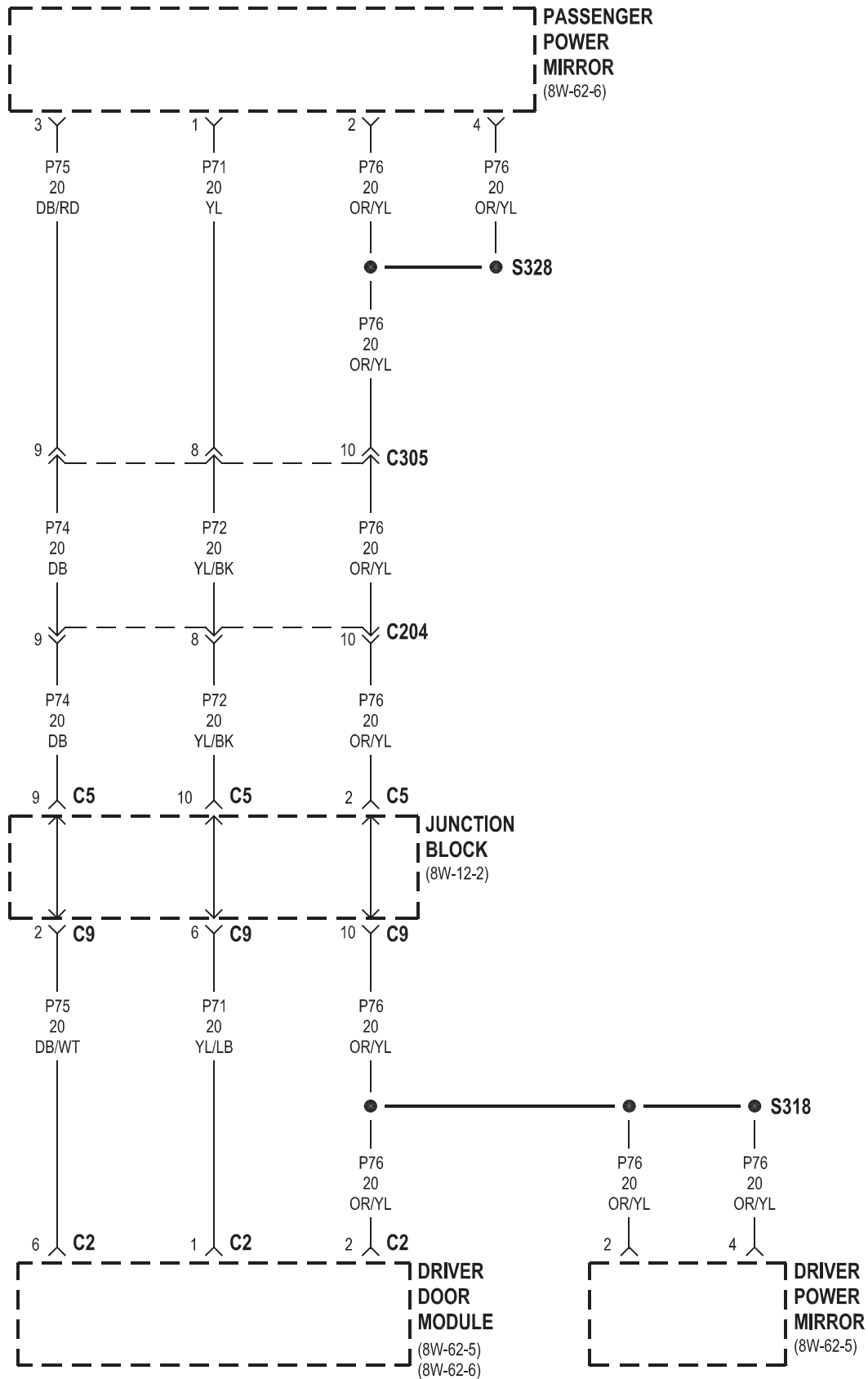


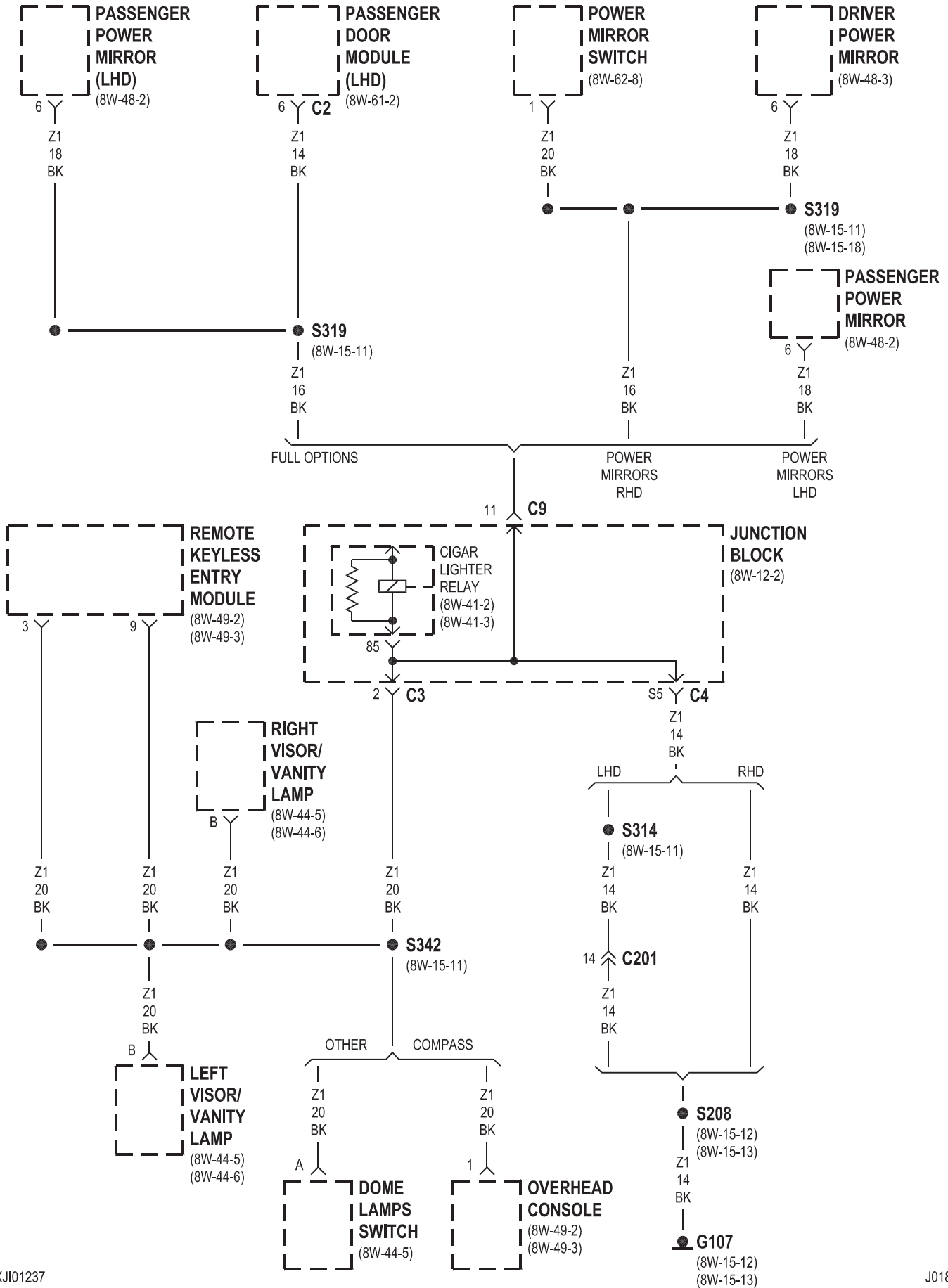
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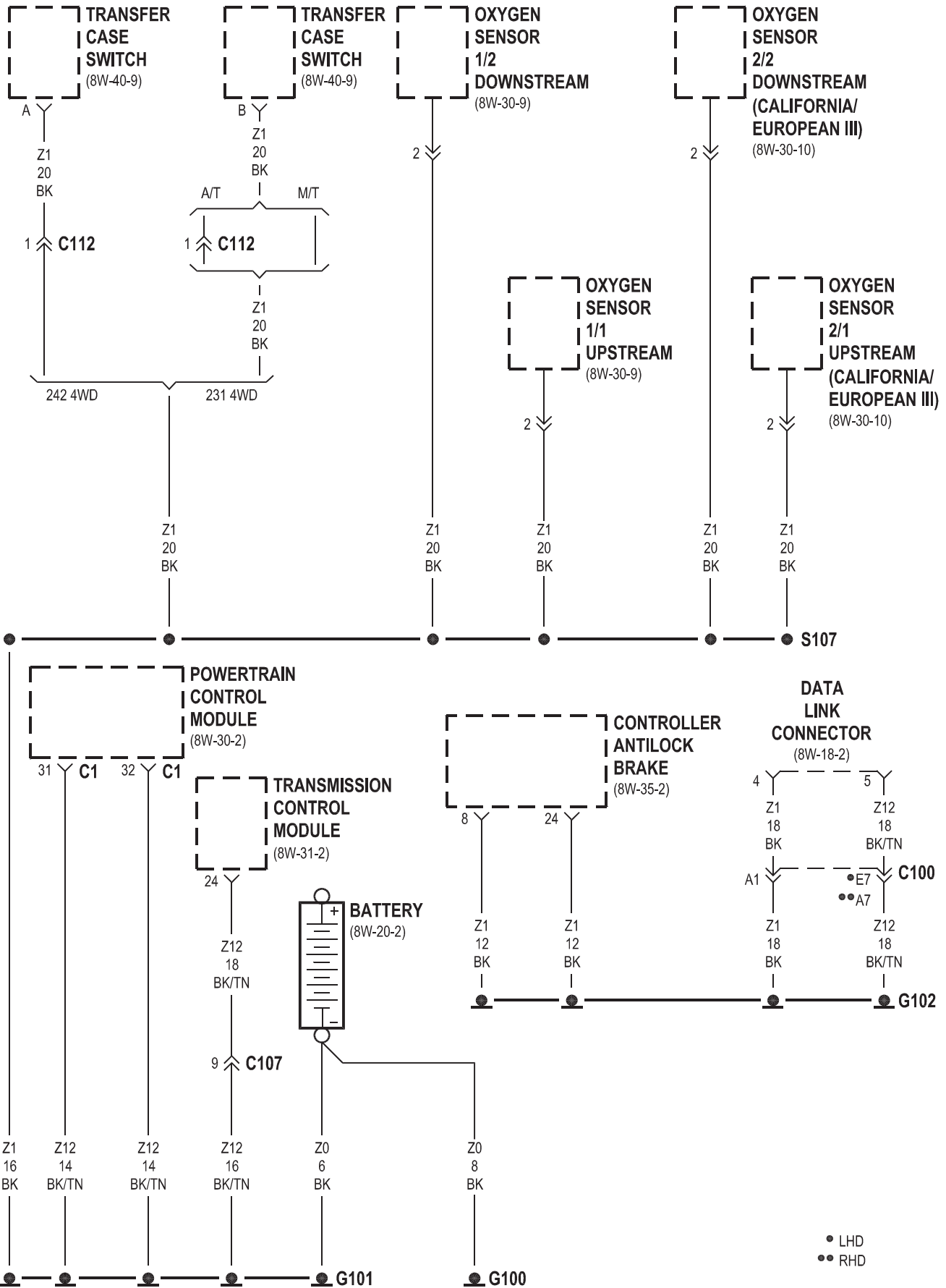




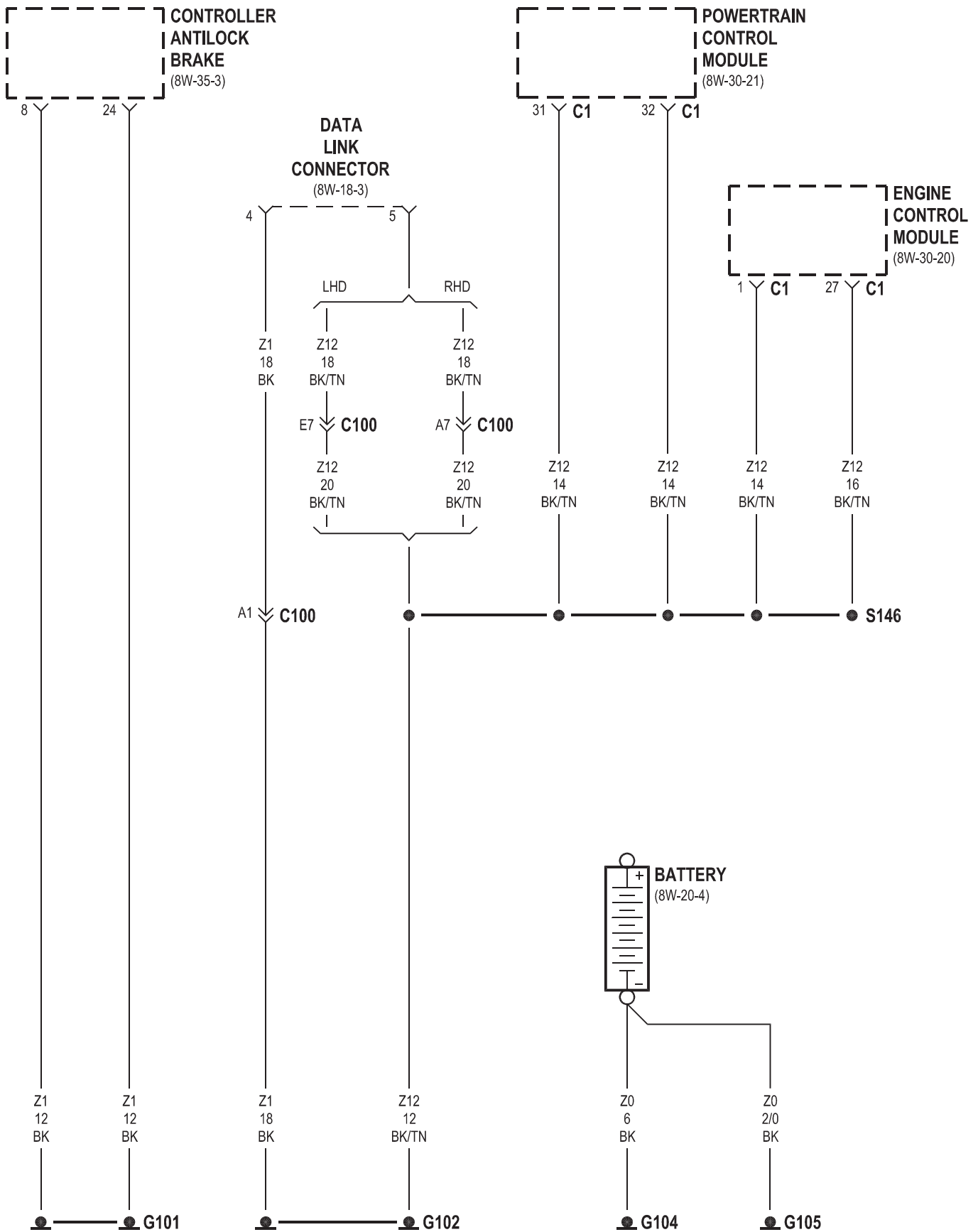


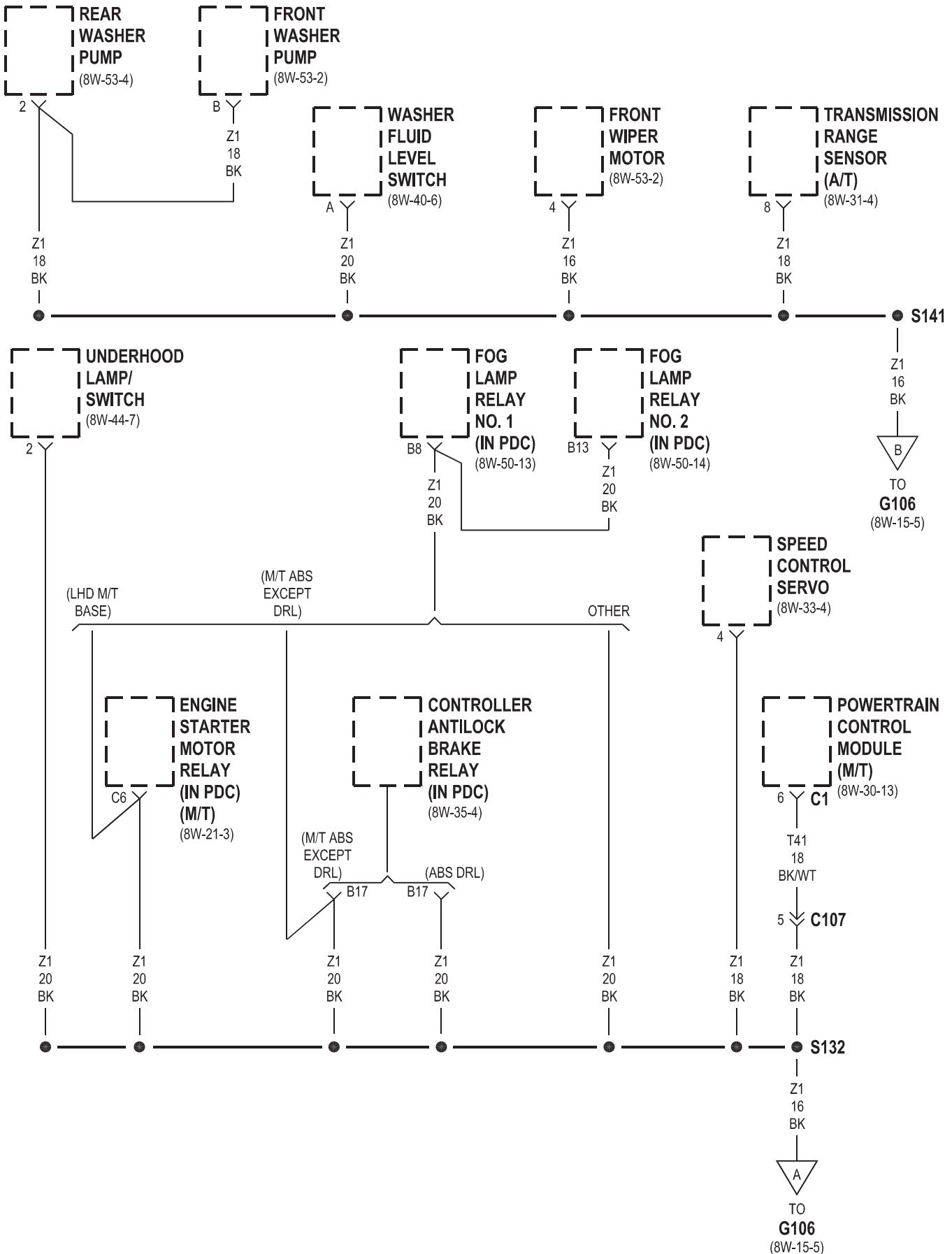
## 8Wa-15 GROUND DISTRIBUTION

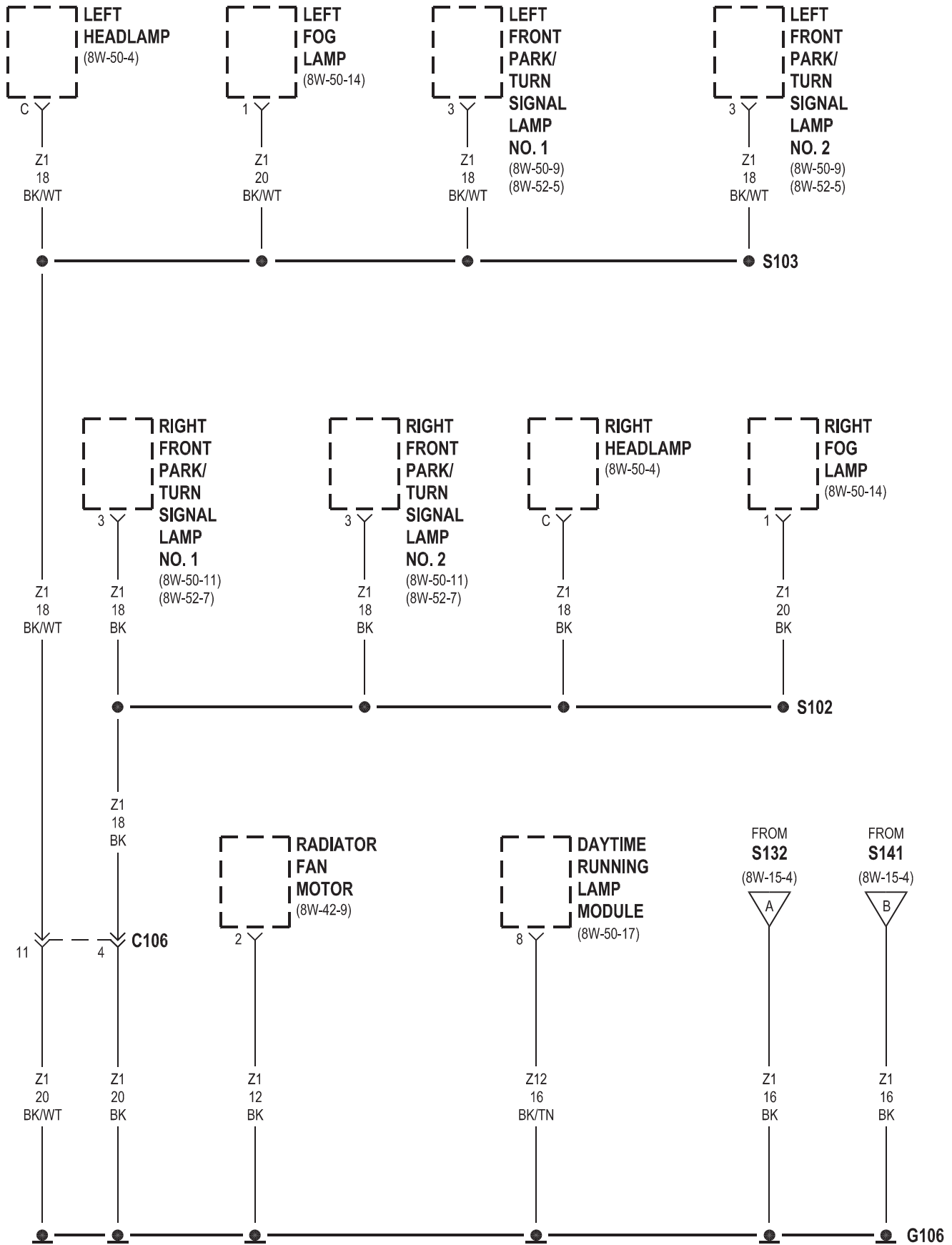
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
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Extended Idle Switch . . . . .	8Wa-15-12	Power Outlet . . . . .	8Wa-15-12, 13
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Front Wiper/Washer Switch . . . . .	8Wa-15-14	Rear Window Defogger Switch . . . . .	8Wa-15-12, 13
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G106 . . . . .	8Wa-15-4, 5, 6, 7, 8, 9, 10	Right Front Turn Signal Lamp No. 1 . . . . .	8Wa-15-8, 10
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G200 . . . . .	8Wa-15-15	Right Headlamp Leveling Motor . . . . .	8Wa-15-8, 10
G300 . . . . .	8Wa-15-16	Right Heated Seat Back . . . . .	8Wa-15-20
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G304 . . . . .	8Wa-15-19	Right Rear Door Ajar Switch . . . . .	8Wa-15-17, 18
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Headlamp Switch . . . . .	8Wa-15-14	Right Turn Signal Lamp . . . . .	8Wa-15-17, 18
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Left Front Position Lamp . . . . .	8Wa-15-8, 10	Transmission Range Indicator Illumination . . . . .	8Wa-15-11, 16
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Left Headlamp Leveling Motor . . . . .	8Wa-15-8, 10		

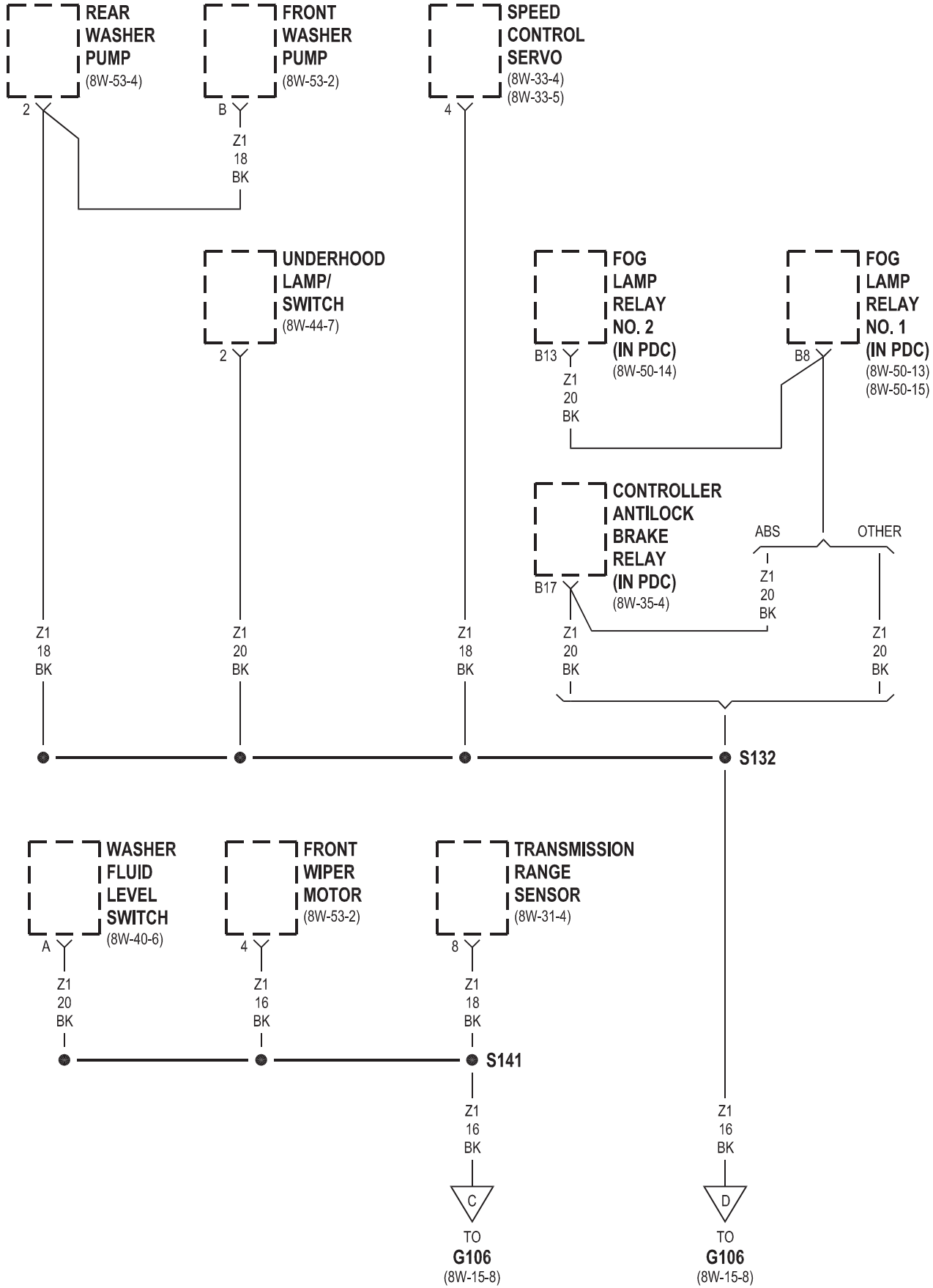


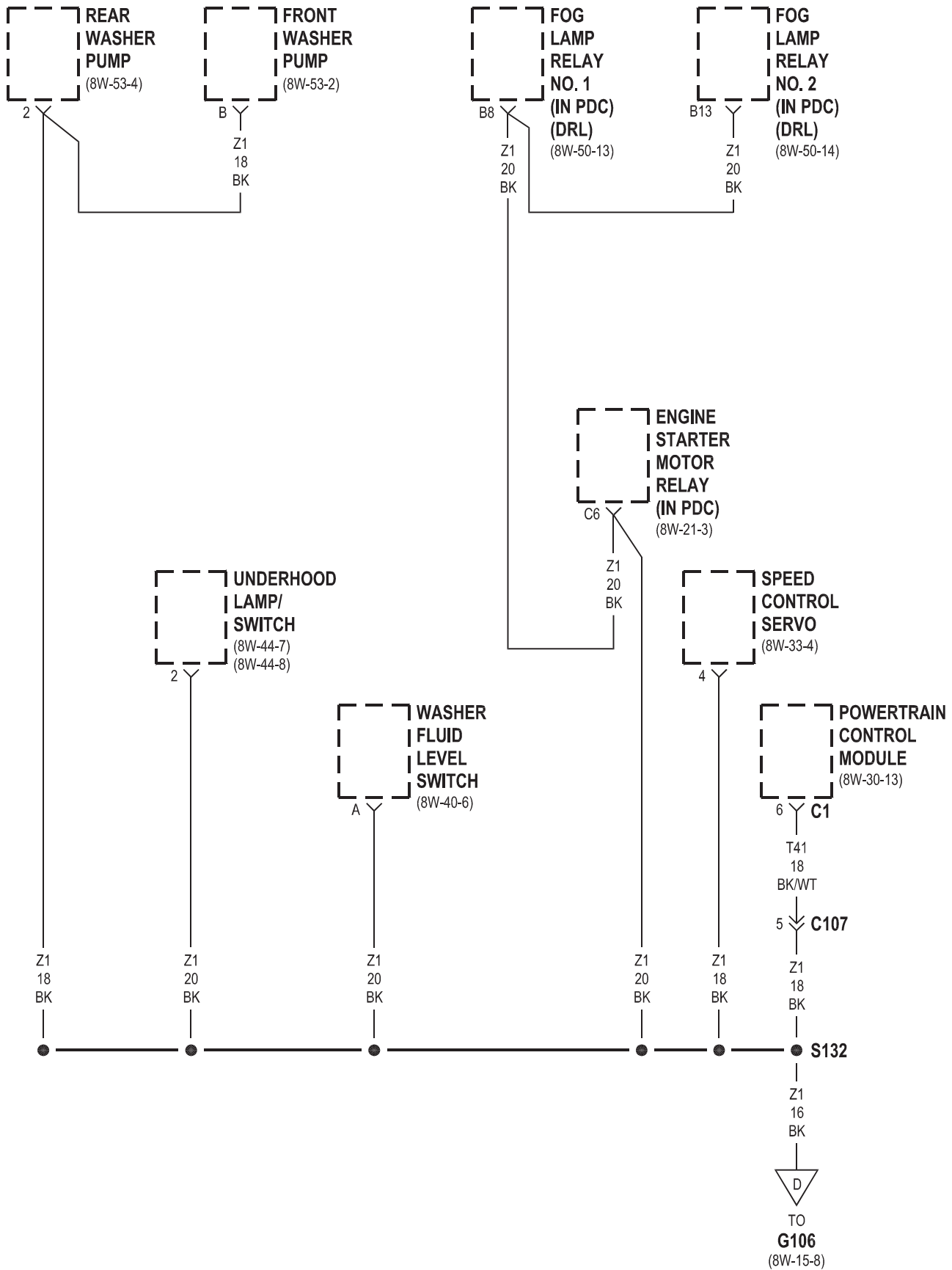
**XJ** ————— **8Wa-15 GROUND DISTRIBUTION** ————— **8Wa - 15 - 3**  
**DIESEL**



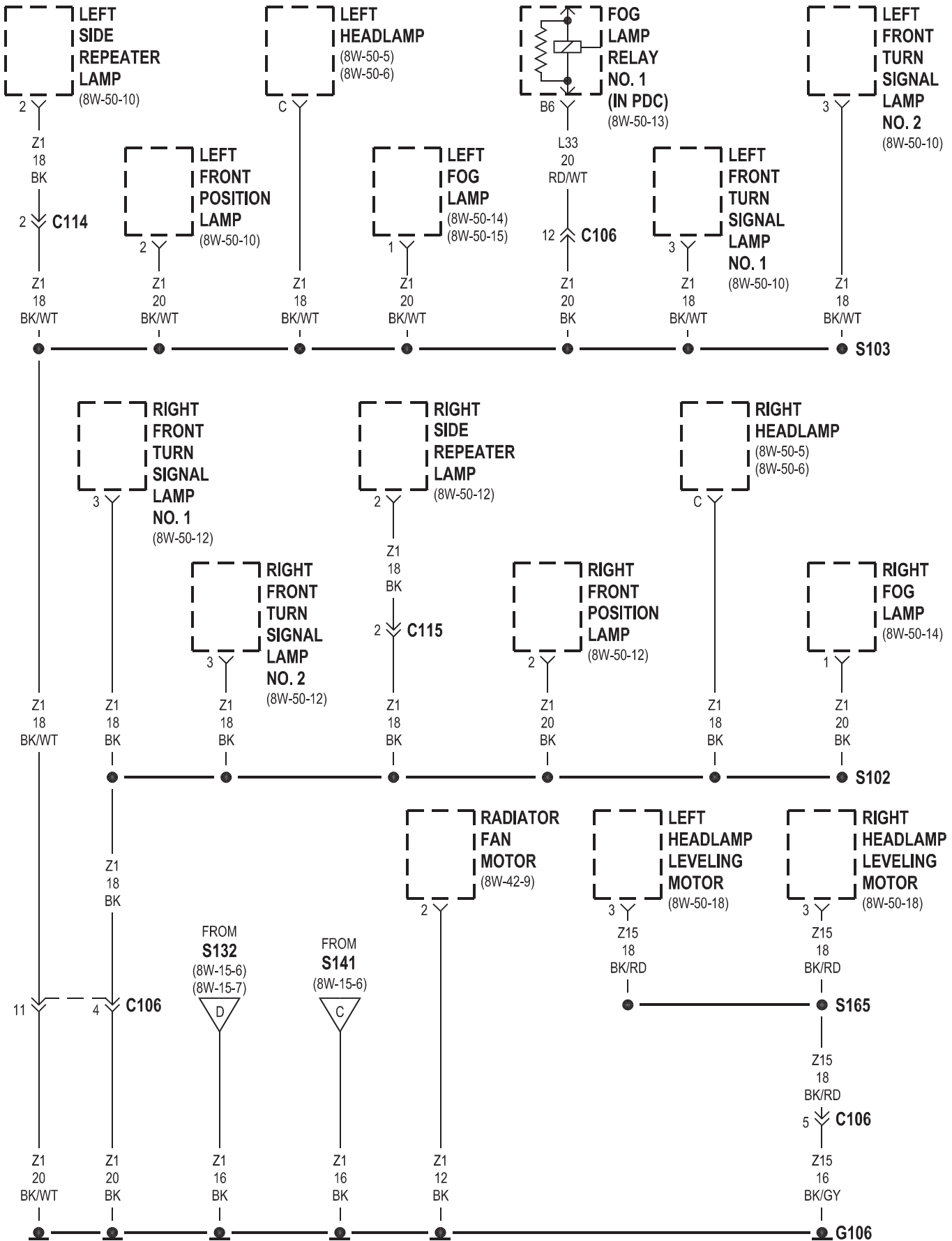


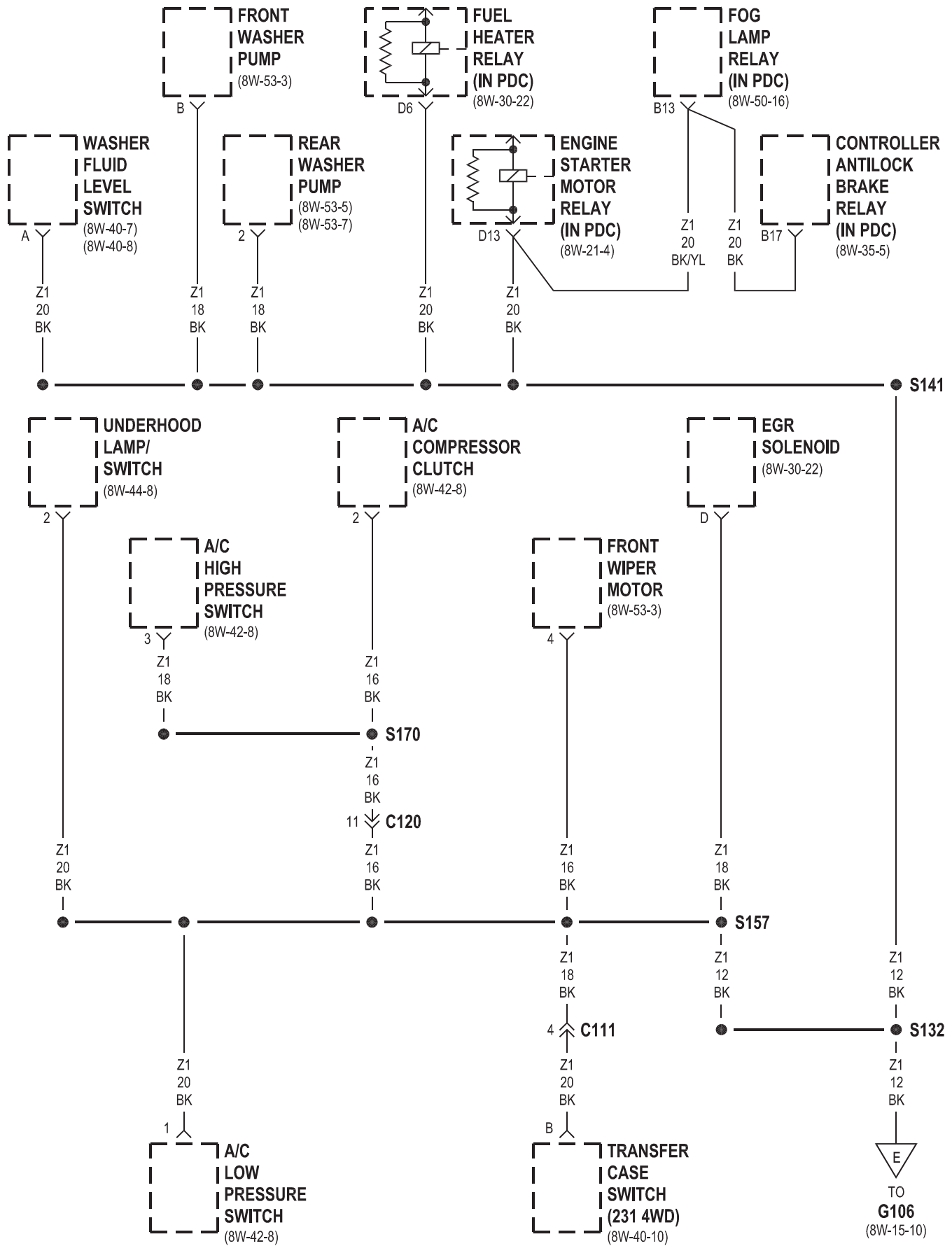


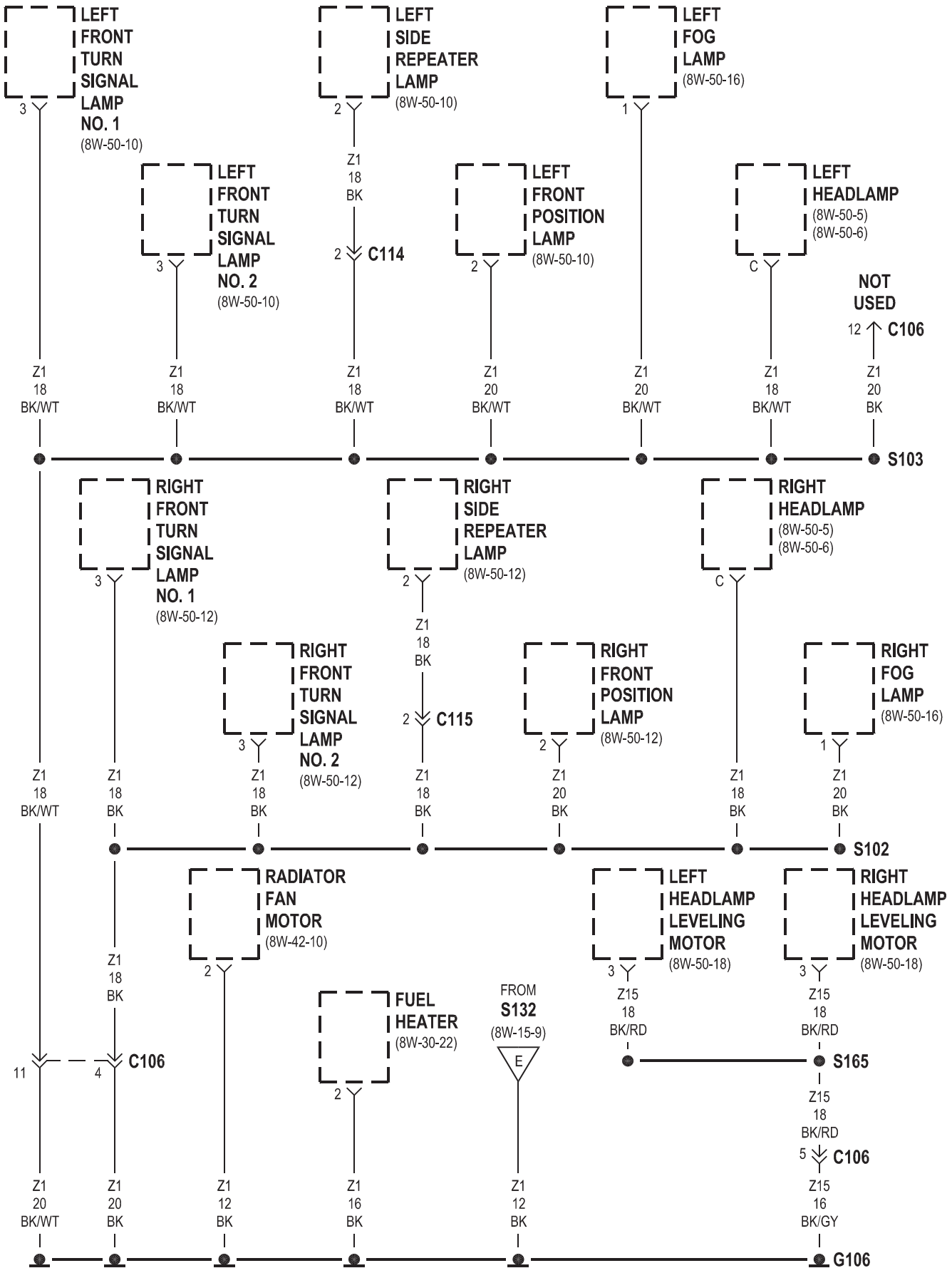


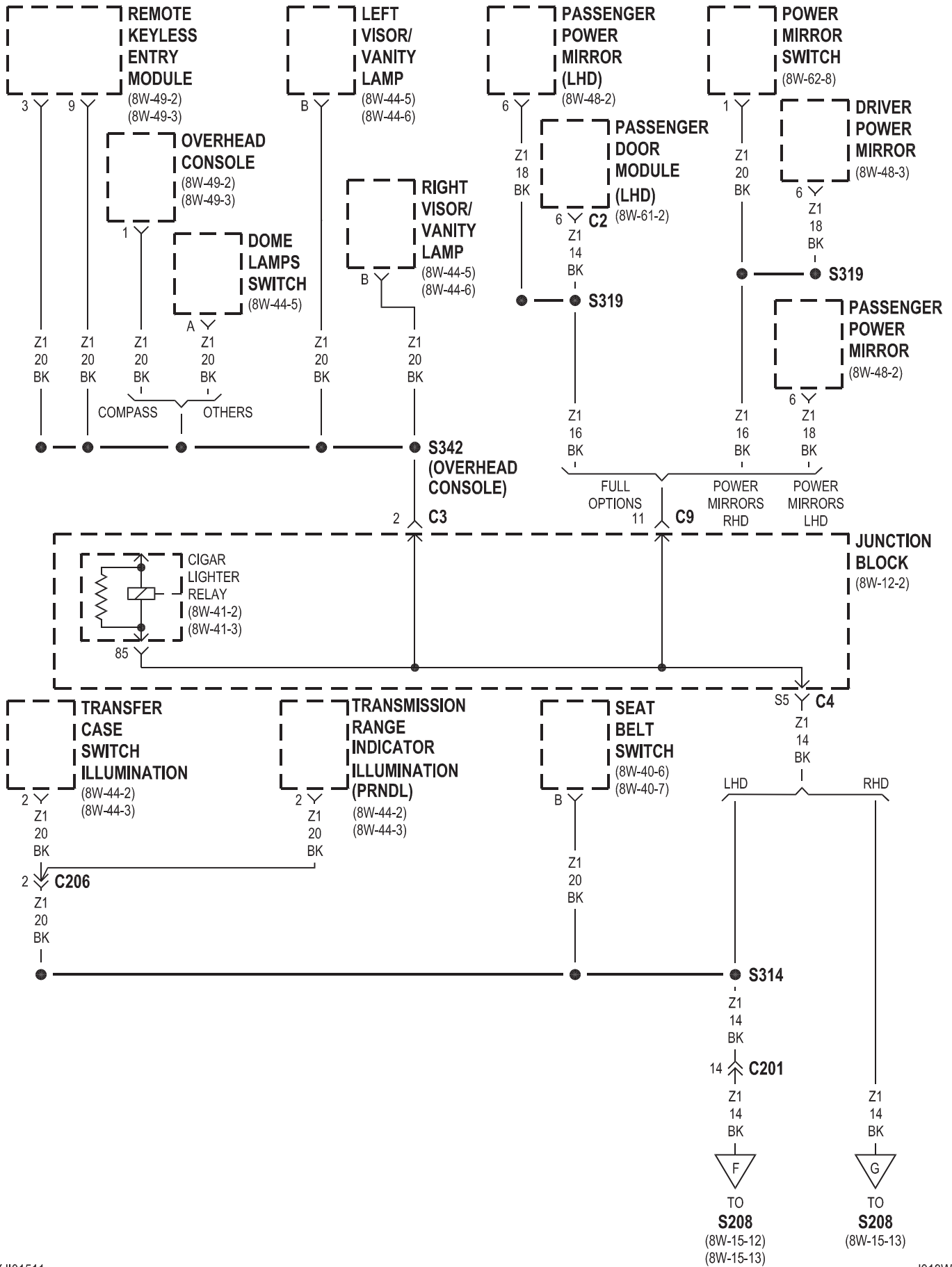


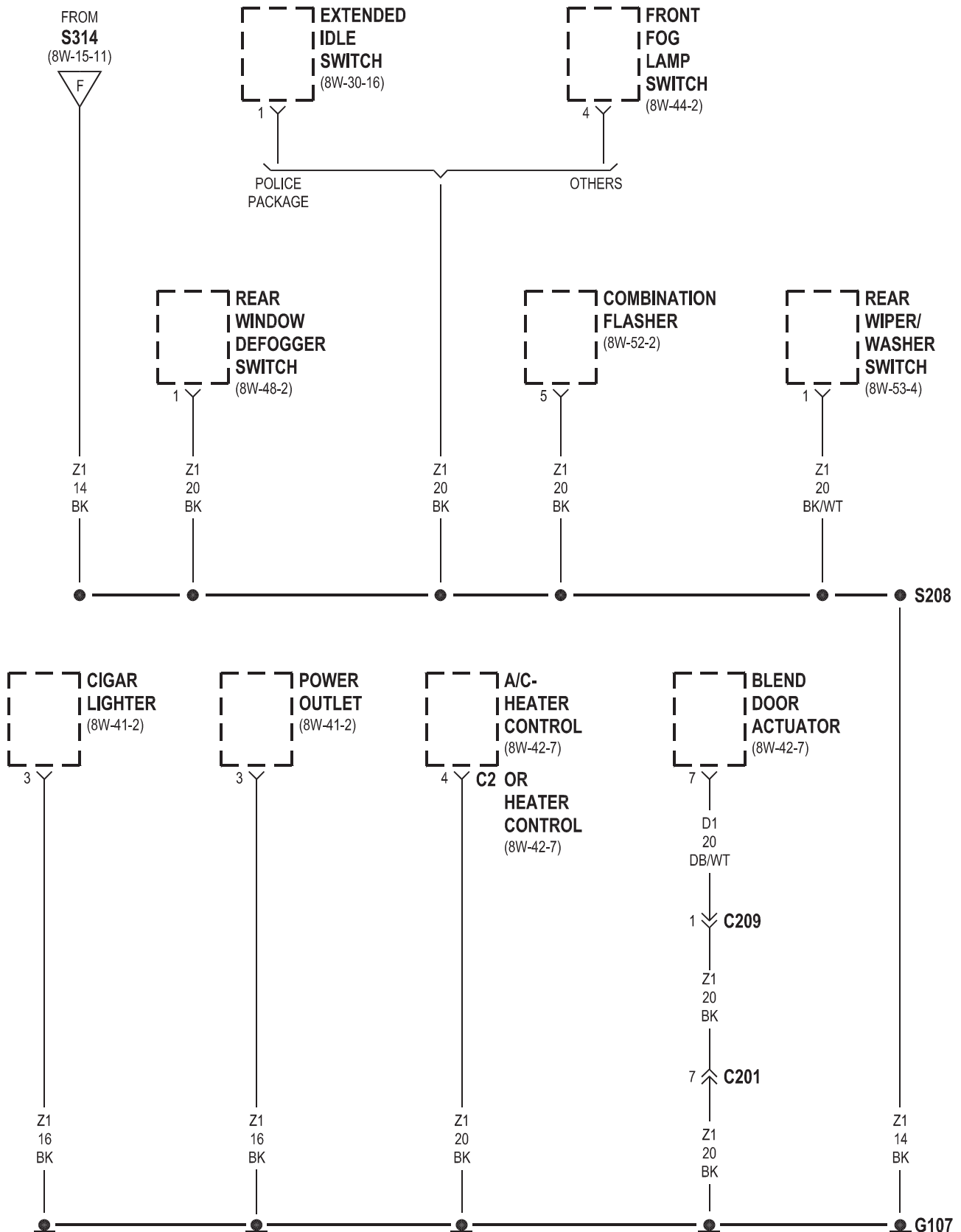


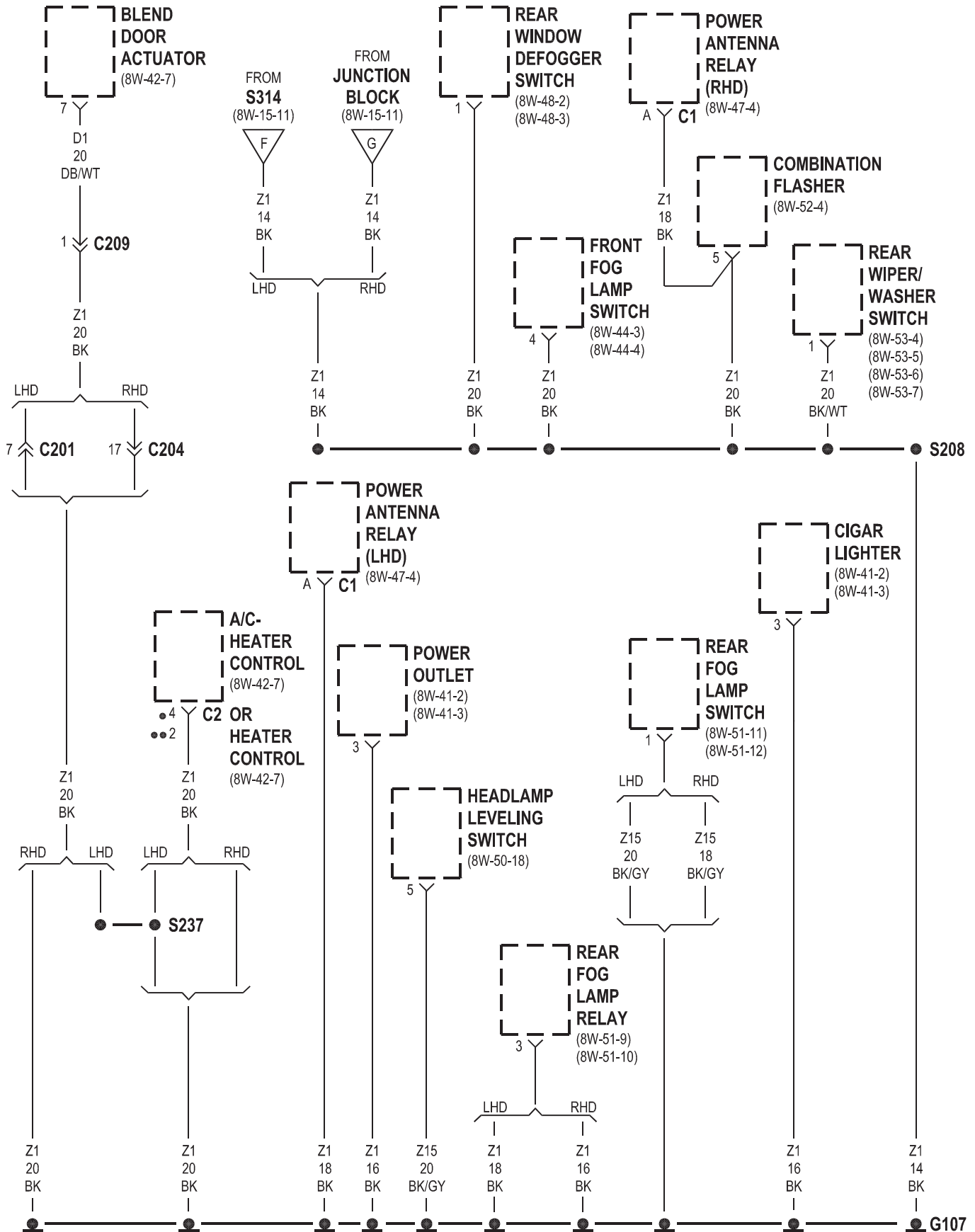




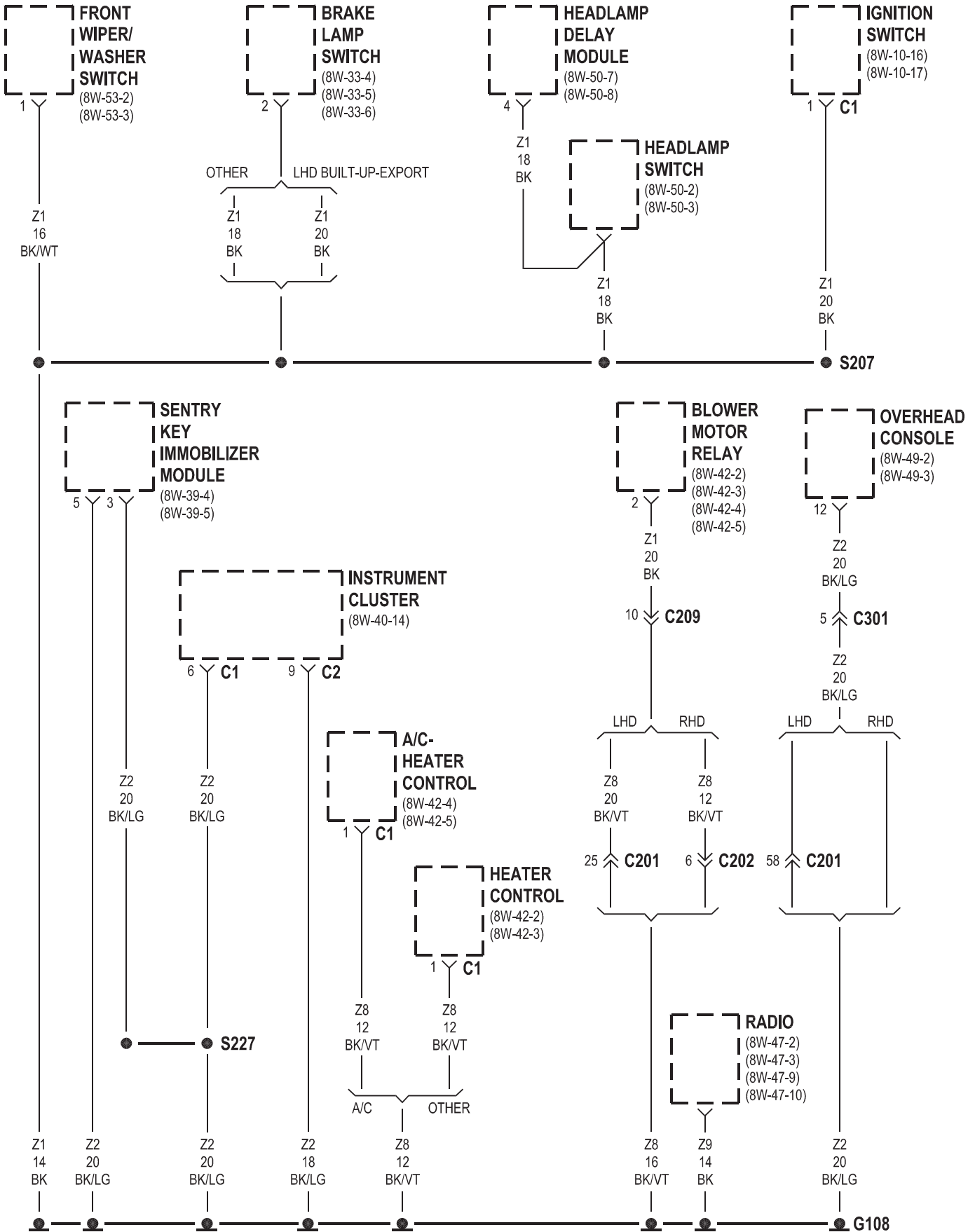




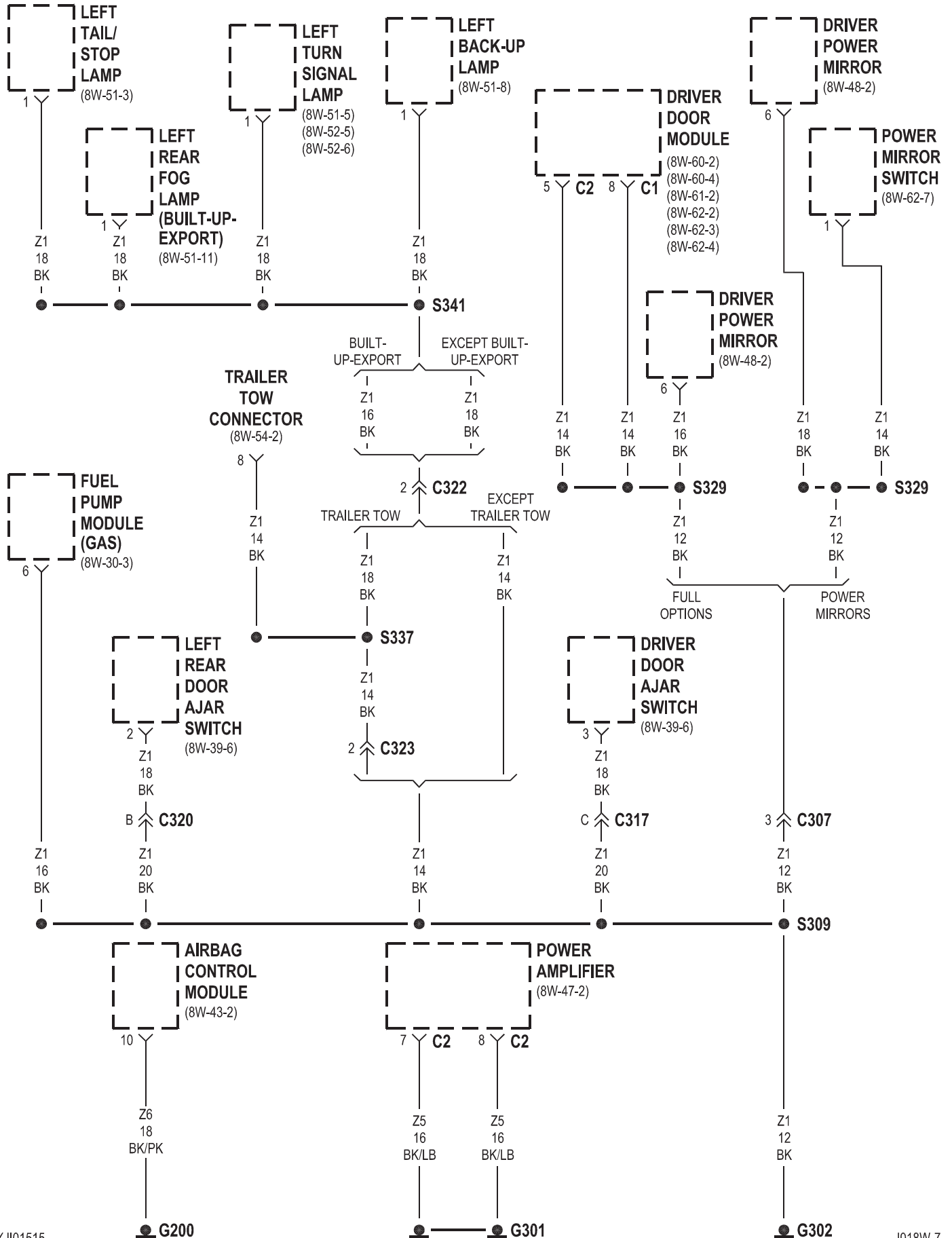




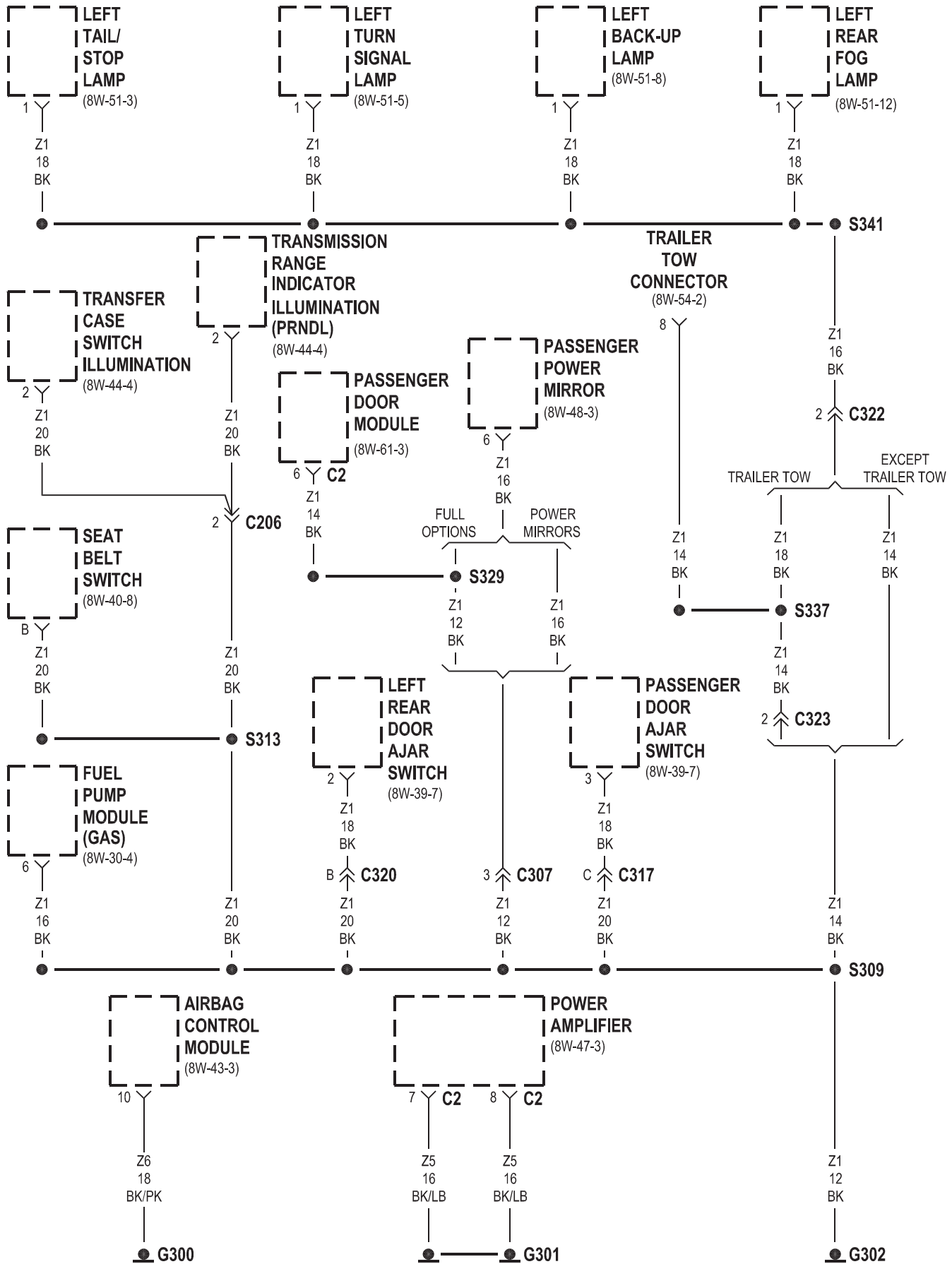
- LHD
- RHD



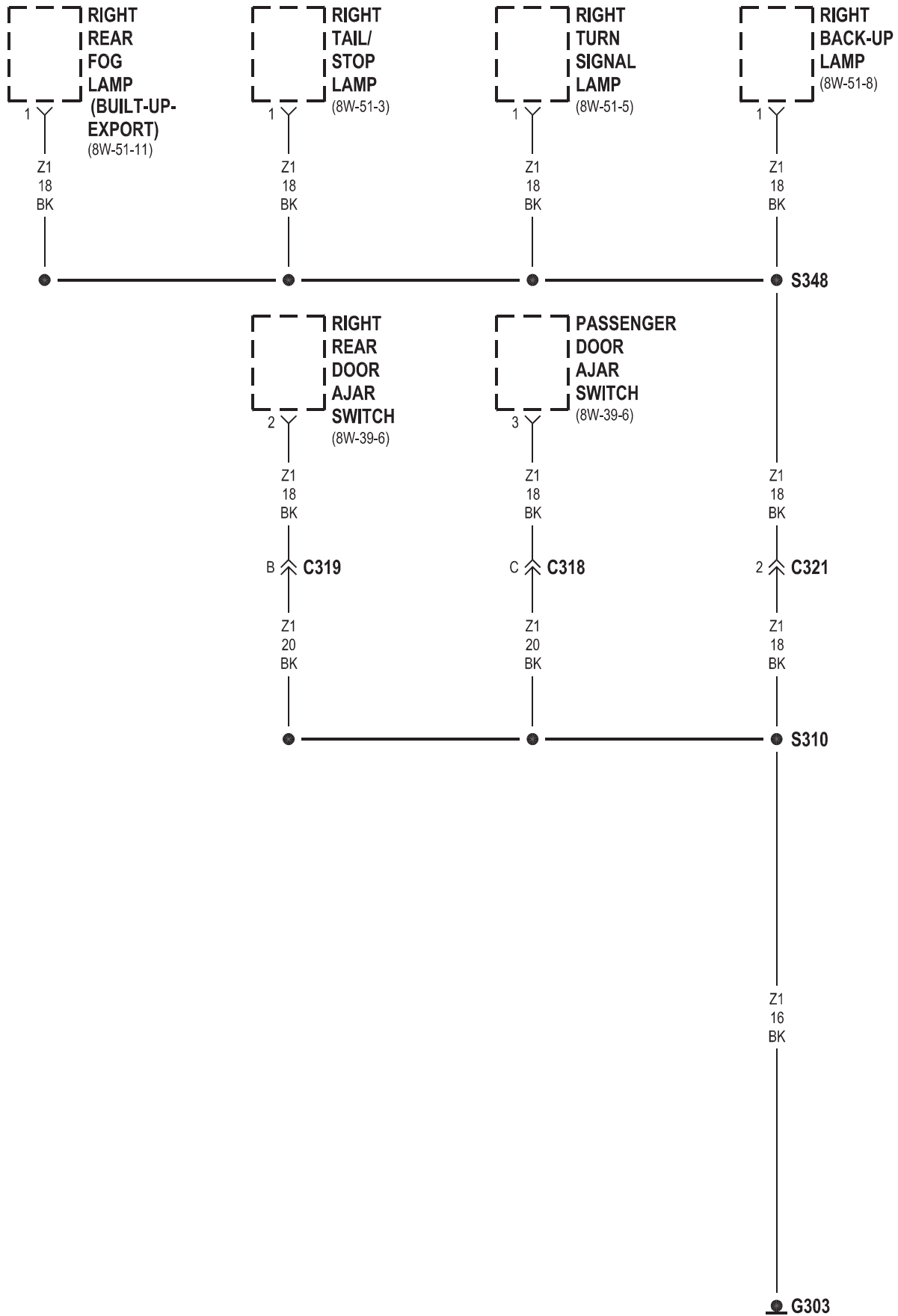
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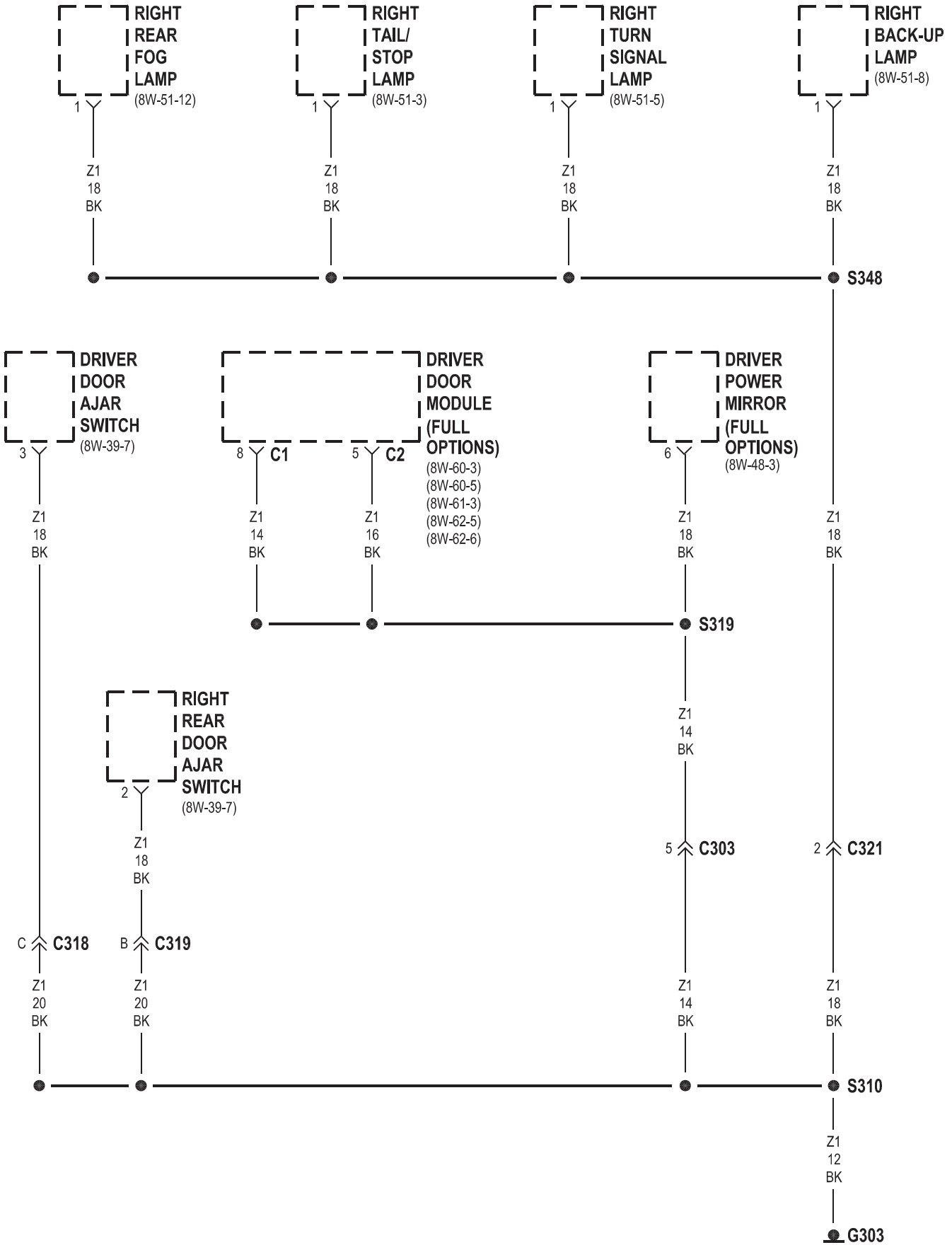


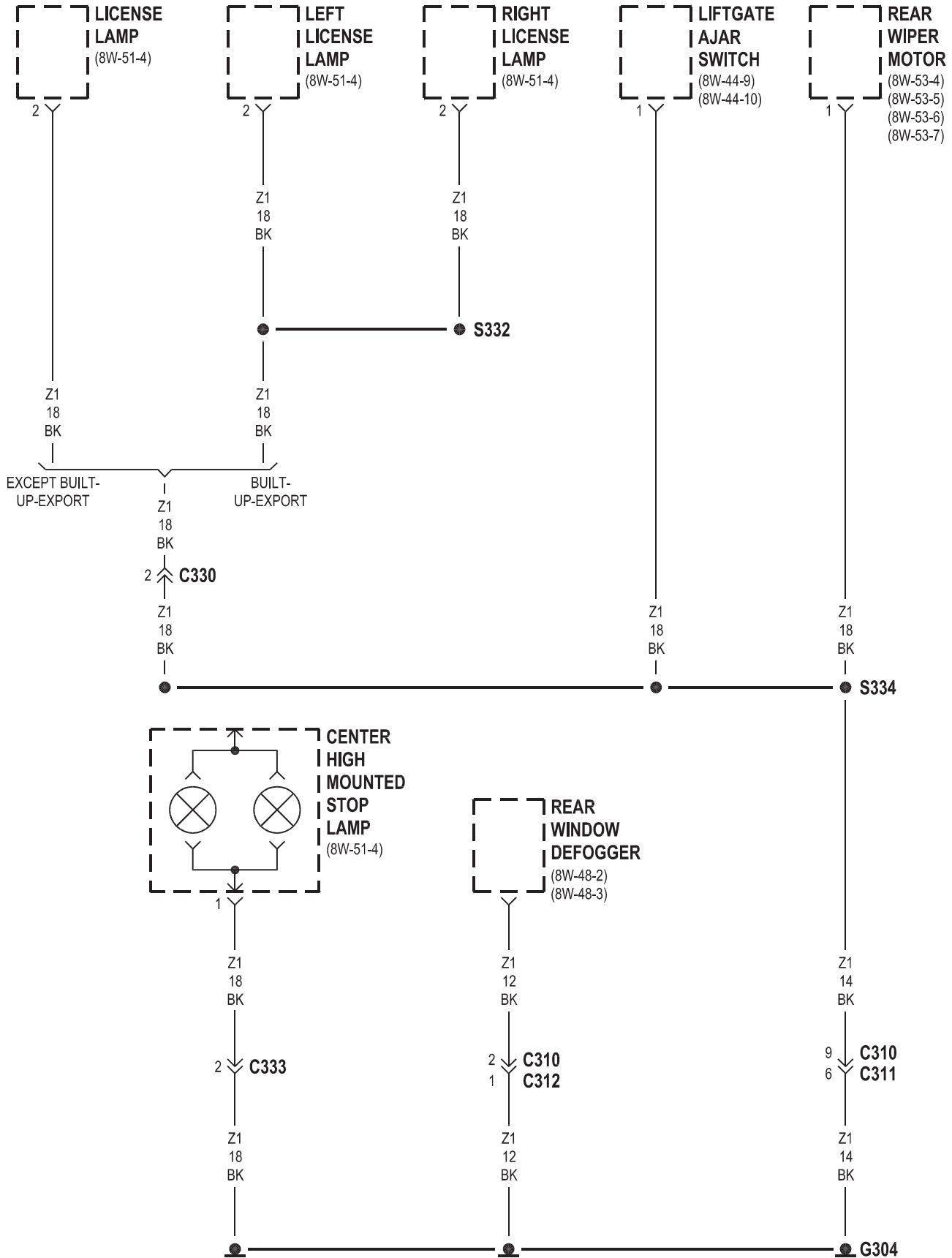


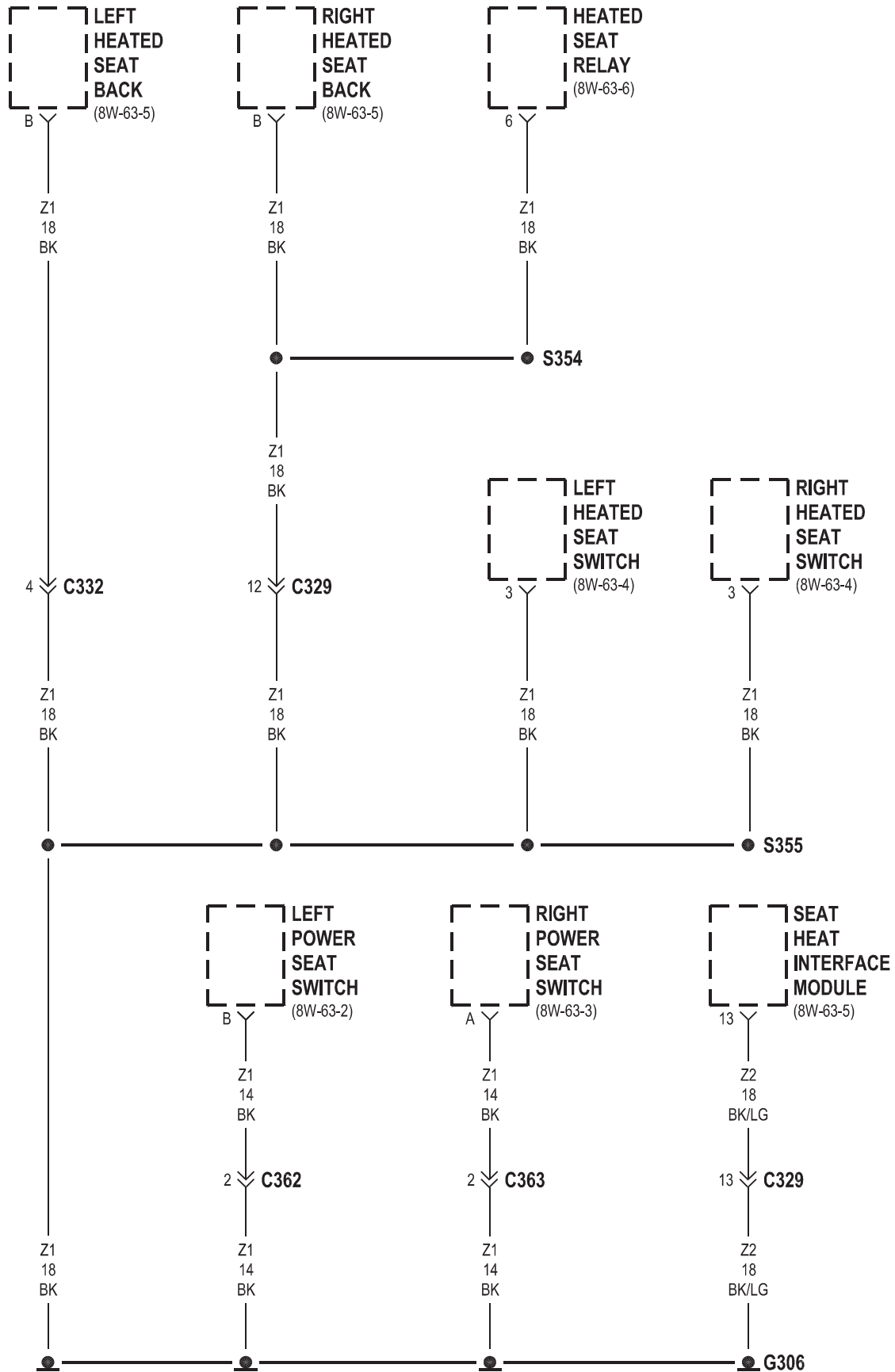


**XJ** ————— **8Wa-15 GROUND DISTRIBUTION** ————— **8Wa - 15 - 17**  
**LHD**





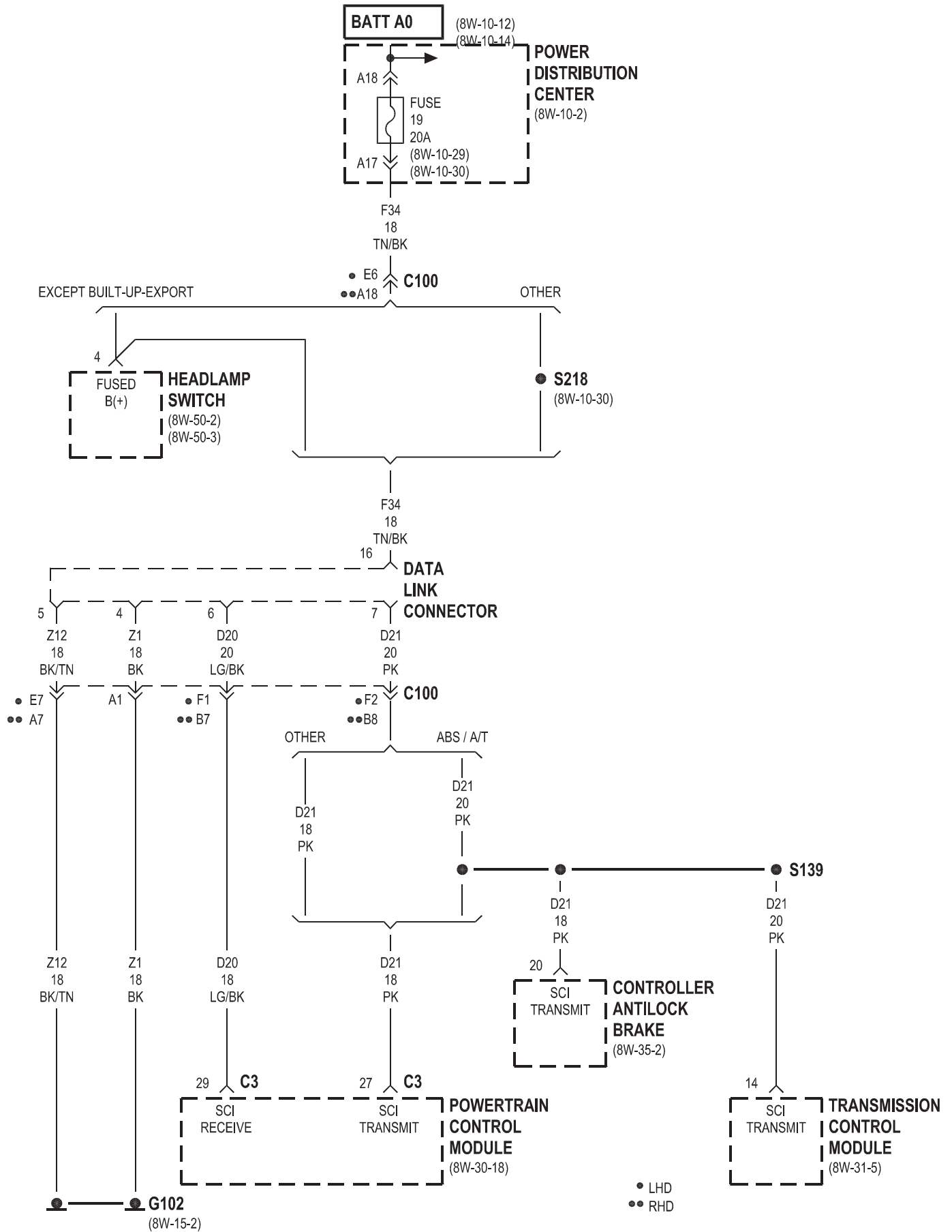


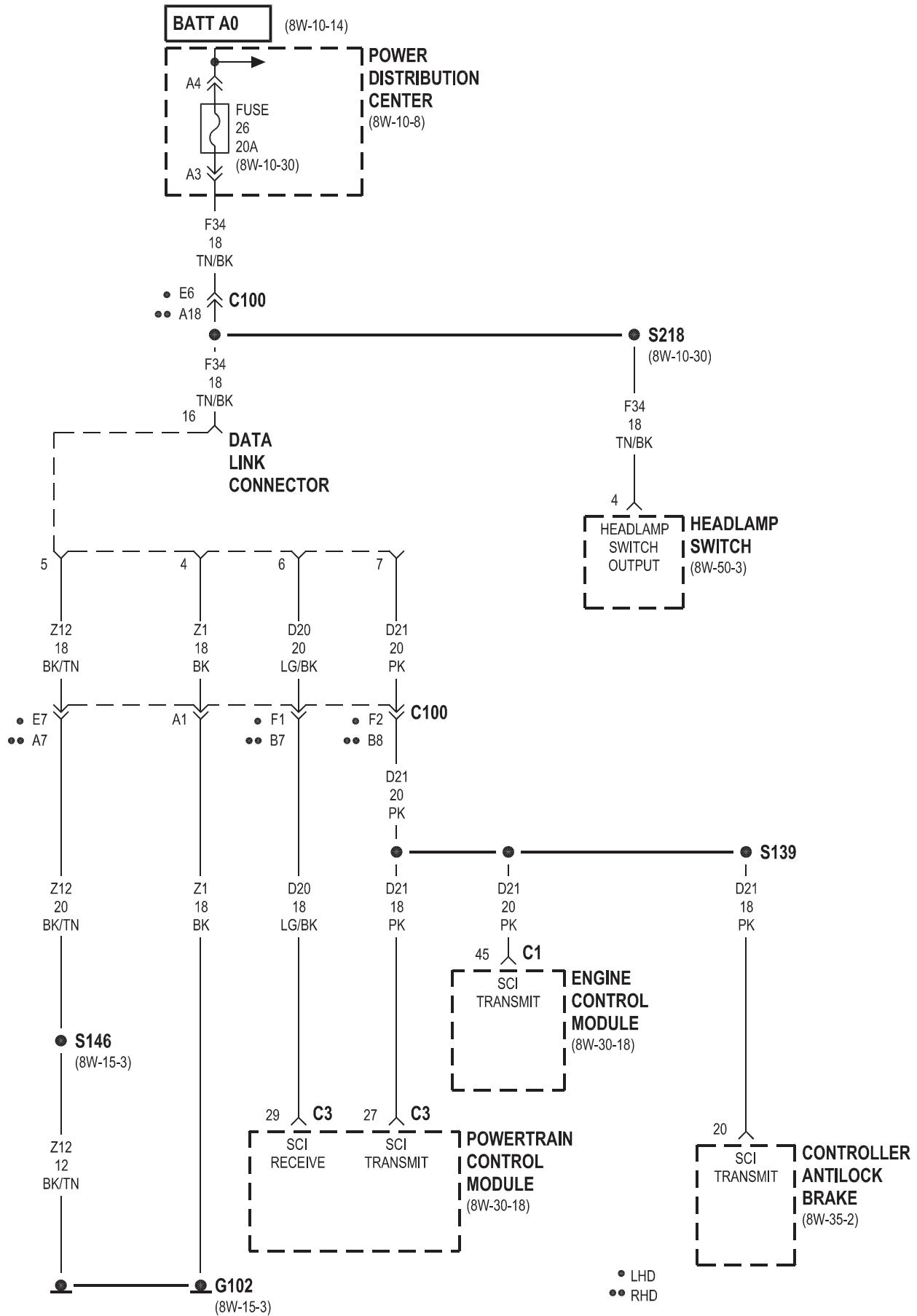


## 8Wa-18 BUS COMMUNICATIONS

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Airbag Control Module . . . . .	8Wa-18-4, 5	Instrument Cluster . . . . .	8Wa-18-4, 5
Controller Antilock Brake . . . . .	8Wa-18-2, 3	Overhead Console . . . . .	8Wa-18-4, 5
Data Link Connector . . . . .	8Wa-18-2, 3, 4, 5	Power Distribution Center . . . . .	8Wa-18-2, 3
Engine Control Module . . . . .	8Wa-18-3	Powertrain Control Module . . . . .	8Wa-18-2, 3, 4, 5
Fuse 19 (PDC) . . . . .	8Wa-18-2	Remote Keyless Entry Module . . . . .	8Wa-18-4, 5
Fuse 26 (PDC) . . . . .	8Wa-18-3	Sentry Key Immobilizer Module . . . . .	8Wa-18-4, 5
G102 . . . . .	8Wa-18-2, 3	Transmission Control Module . . . . .	8Wa-18-2, 4, 5
Headlamp Switch . . . . .	8Wa-18-2, 3		

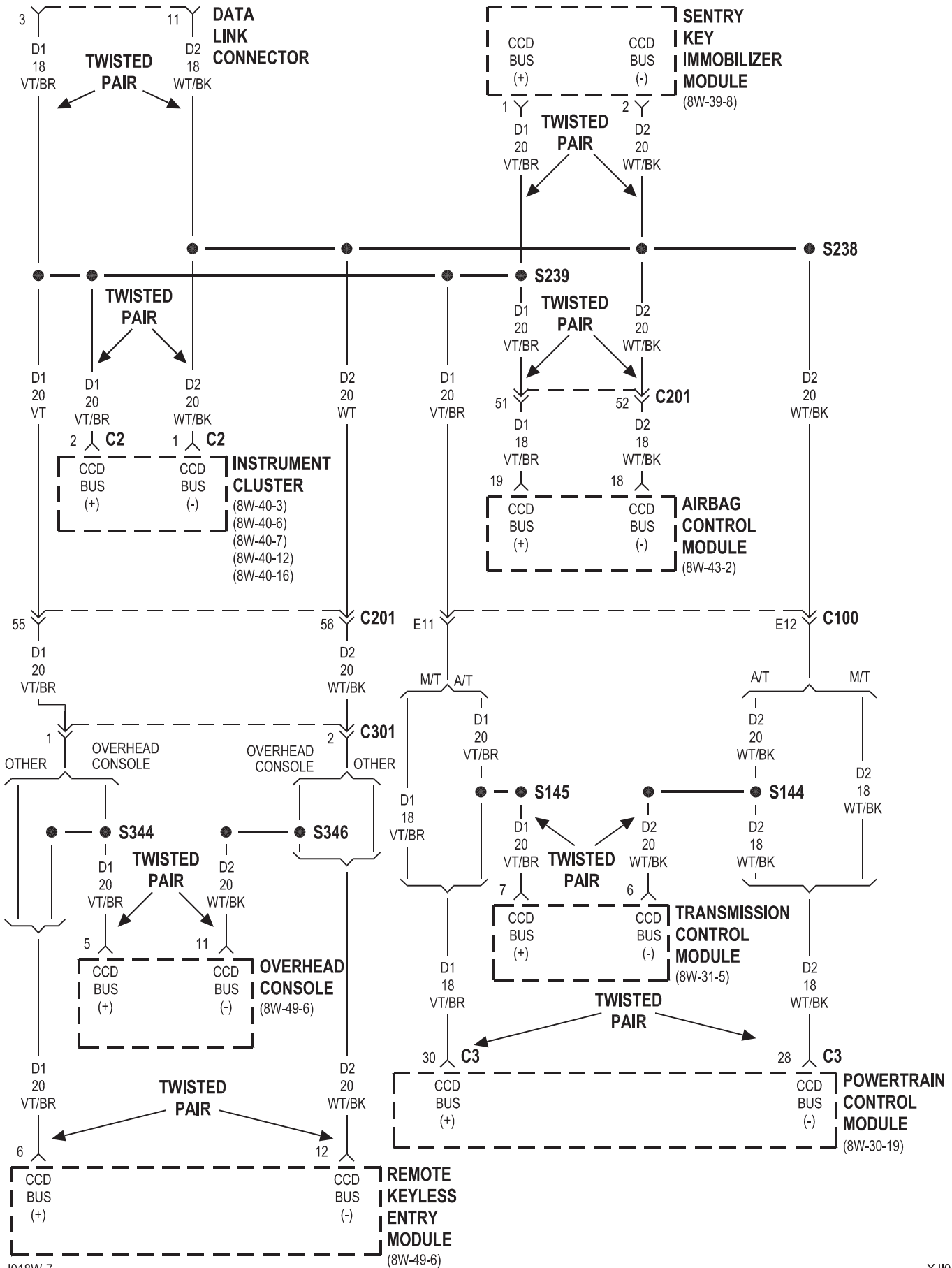
GAS



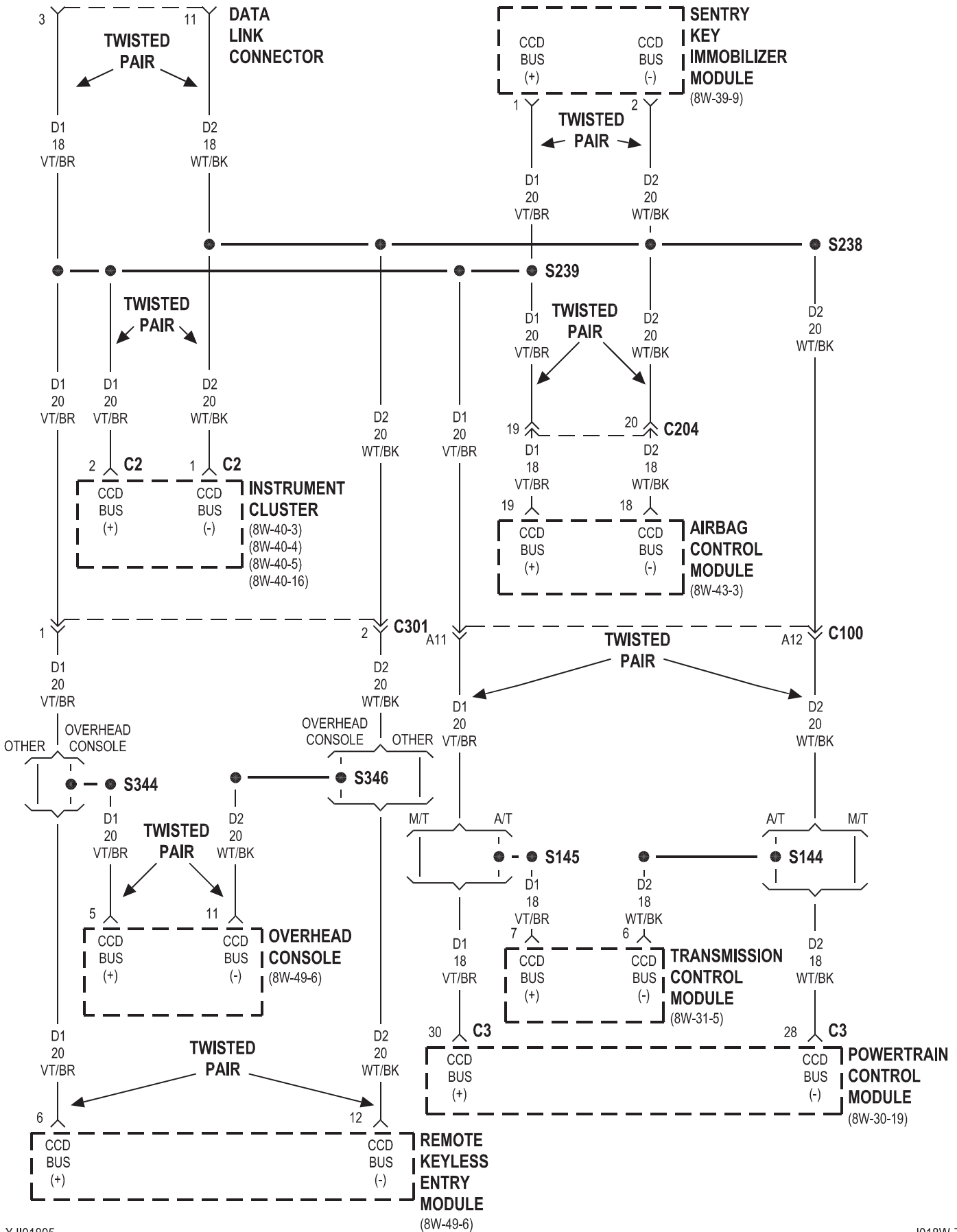




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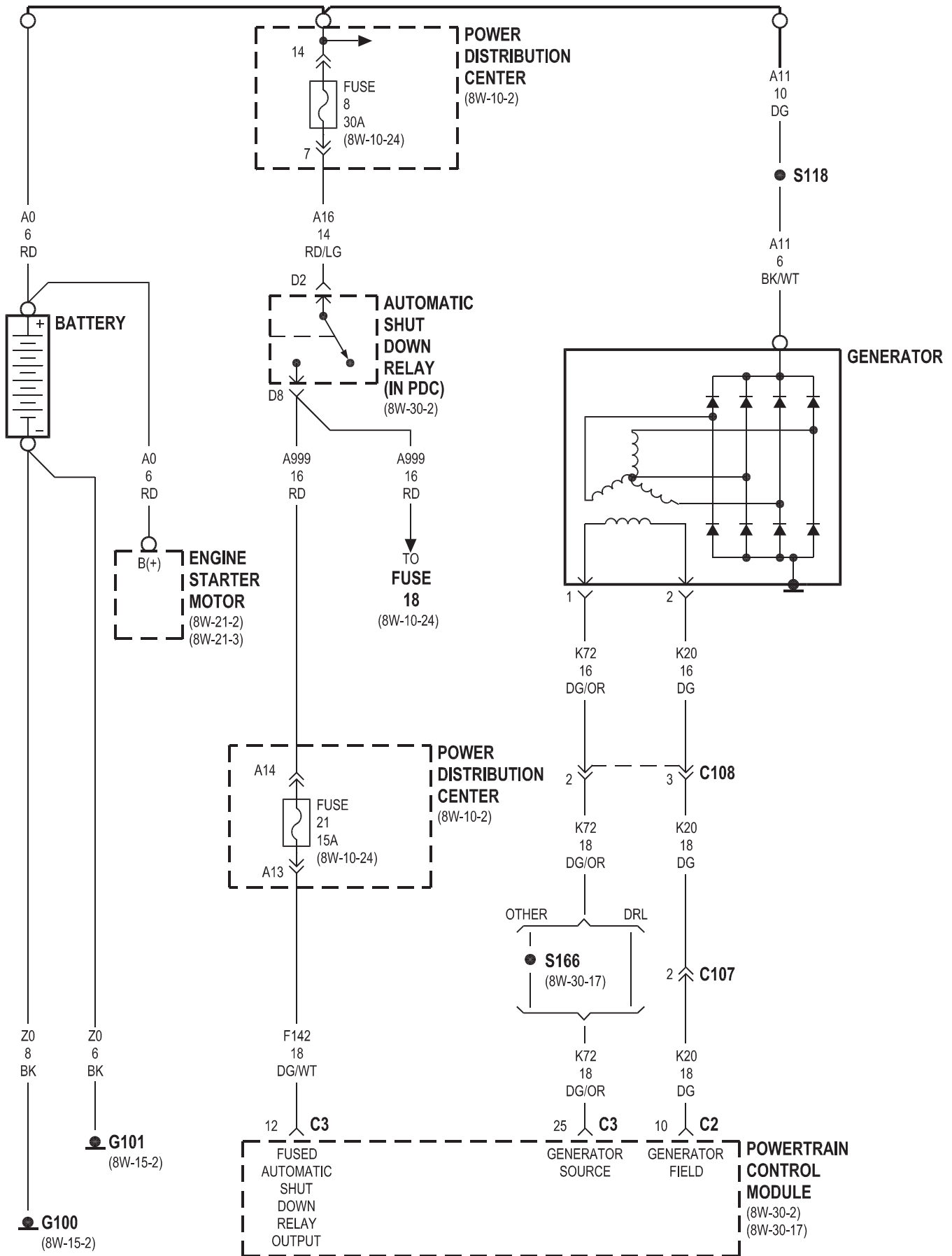
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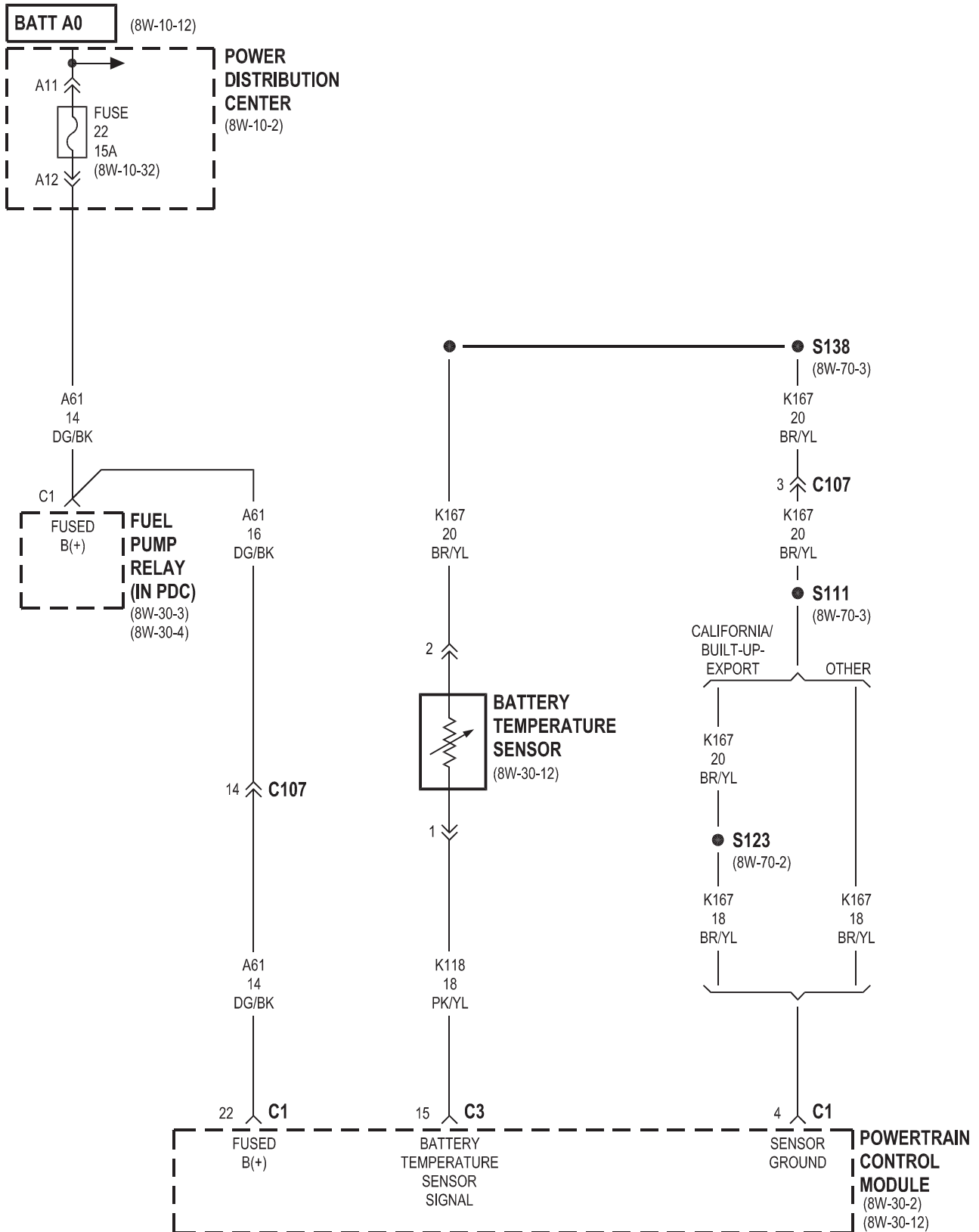


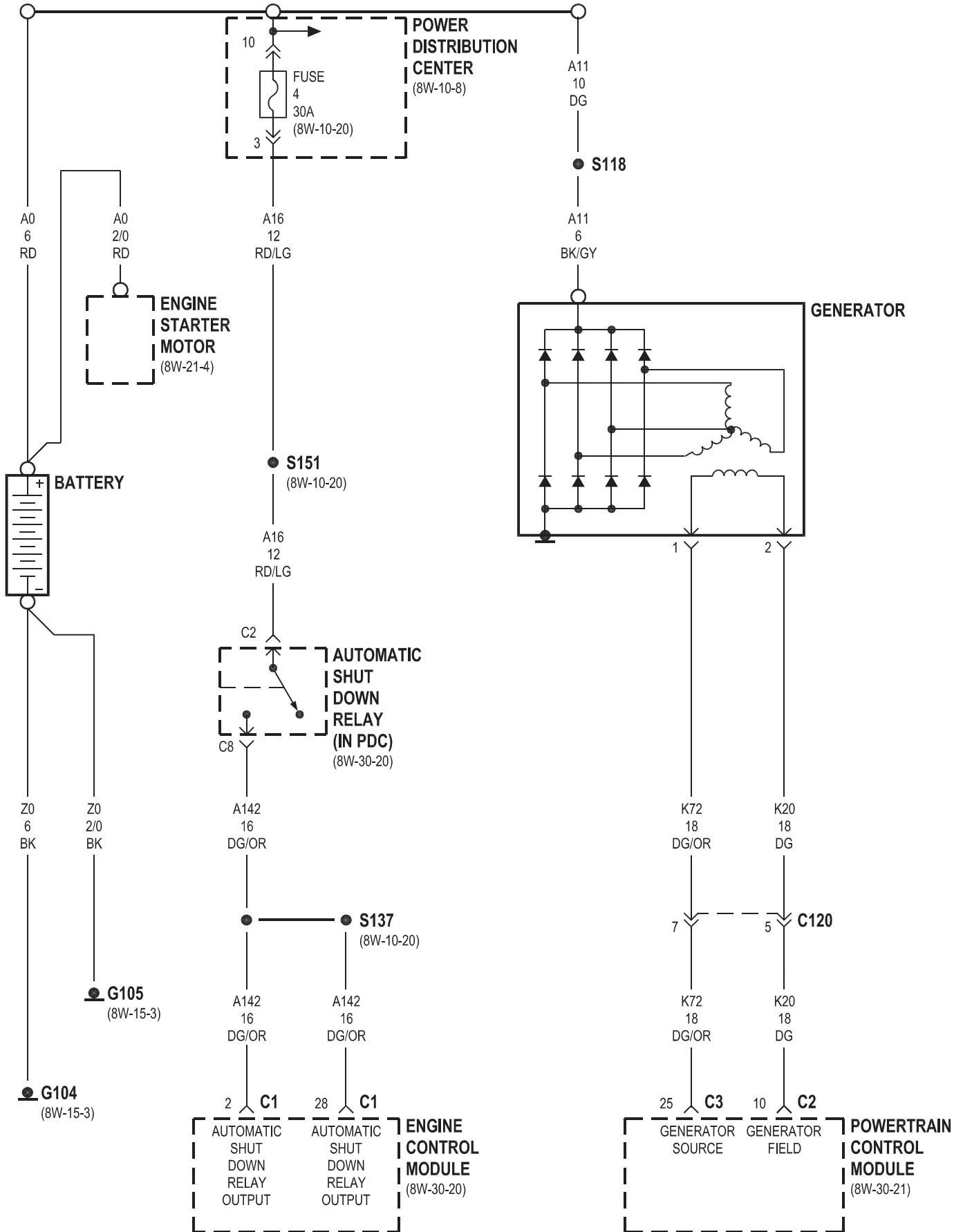


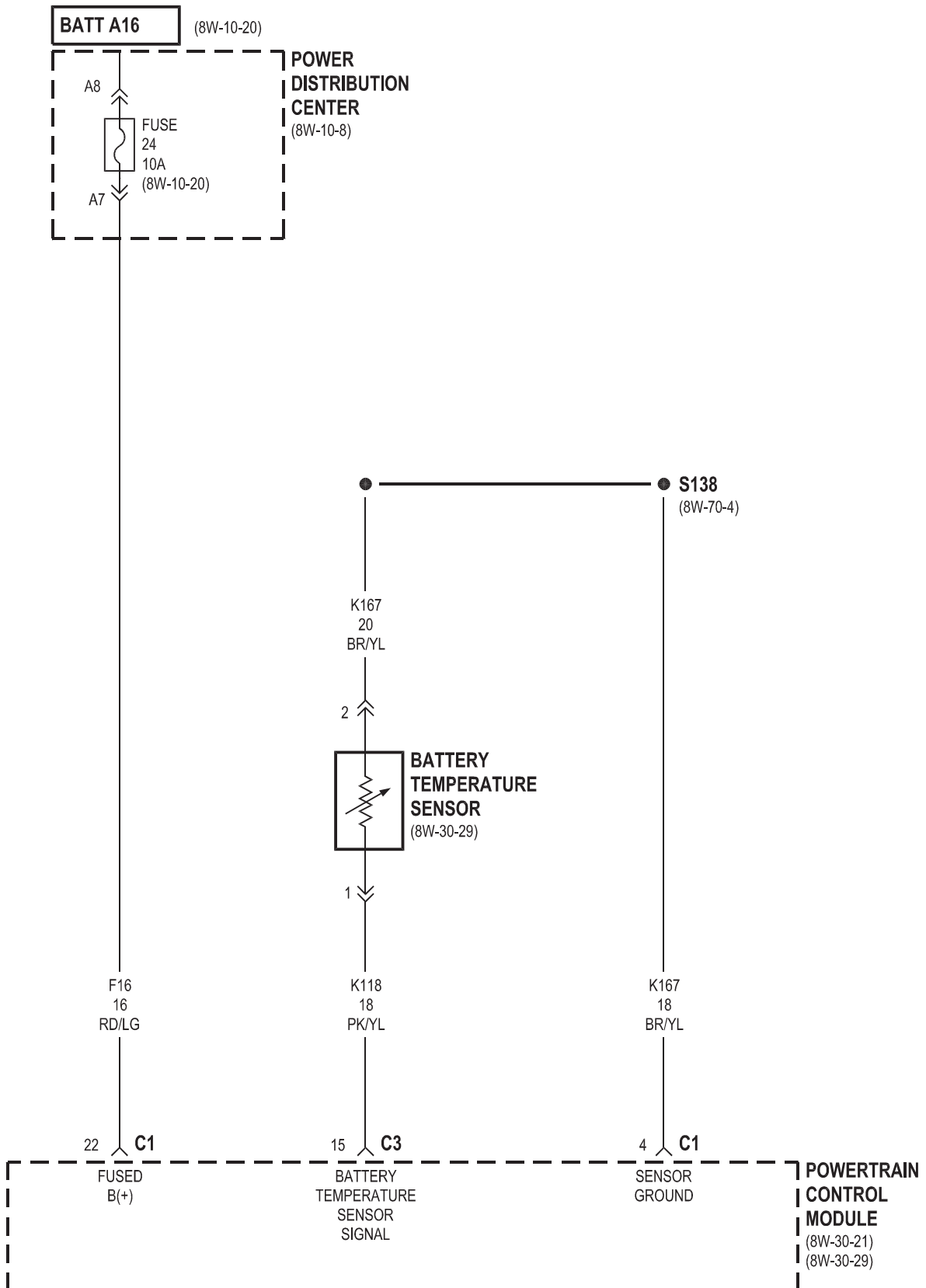
## 8Wa-20 CHARGING SYSTEM

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Automatic Shut Down Relay . . . . .	8Wa-20-2, 4	Fuse 22 (PDC) . . . . .	8Wa-20-3
Battery . . . . .	8Wa-20-2, 4	Fuse 24 (PDC) . . . . .	8Wa-20-5
Battery Temperature Sensor . . . . .	8Wa-20-3, 5	G100 . . . . .	8Wa-20-2
Engine Control Module . . . . .	8Wa-20-4	G101 . . . . .	8Wa-20-2
Engine Starter Motor . . . . .	8Wa-20-2, 4	G104 . . . . .	8Wa-20-4
Fuel Pump Relay . . . . .	8Wa-20-3	G105 . . . . .	8Wa-20-4
Fuse 4 (PDC) . . . . .	8Wa-20-4	Generator . . . . .	8Wa-20-2, 4
Fuse 8 (PDC) . . . . .	8Wa-20-2	Power Distribution Center . . . . .	8Wa-20-2, 3, 4, 5
Fuse 18 (PDC) . . . . .	8Wa-20-2	Powertrain Control Module . . . . .	8Wa-20-2, 3, 4, 5
Fuse 21 (PDC) . . . . .	8Wa-20-2		







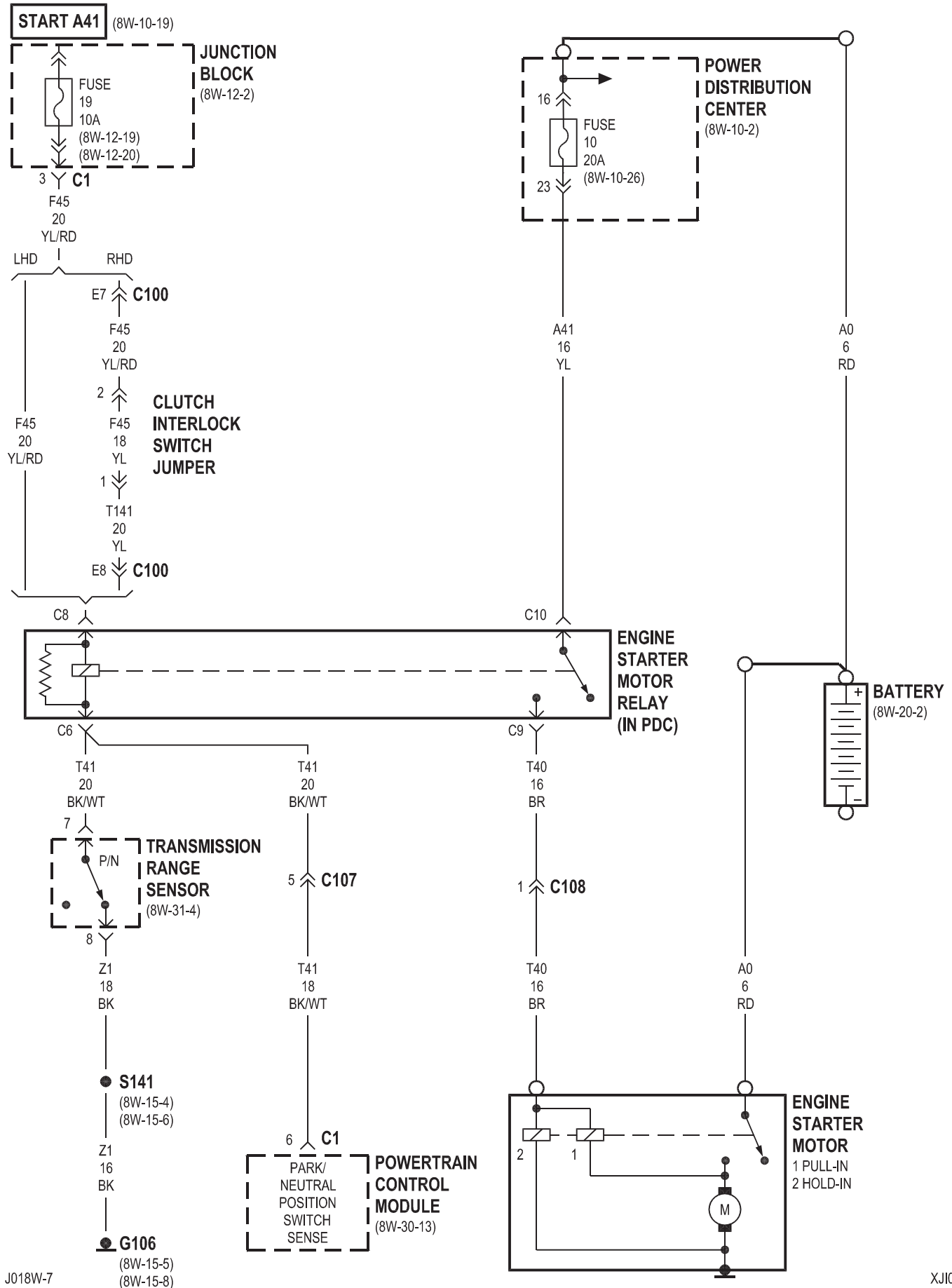


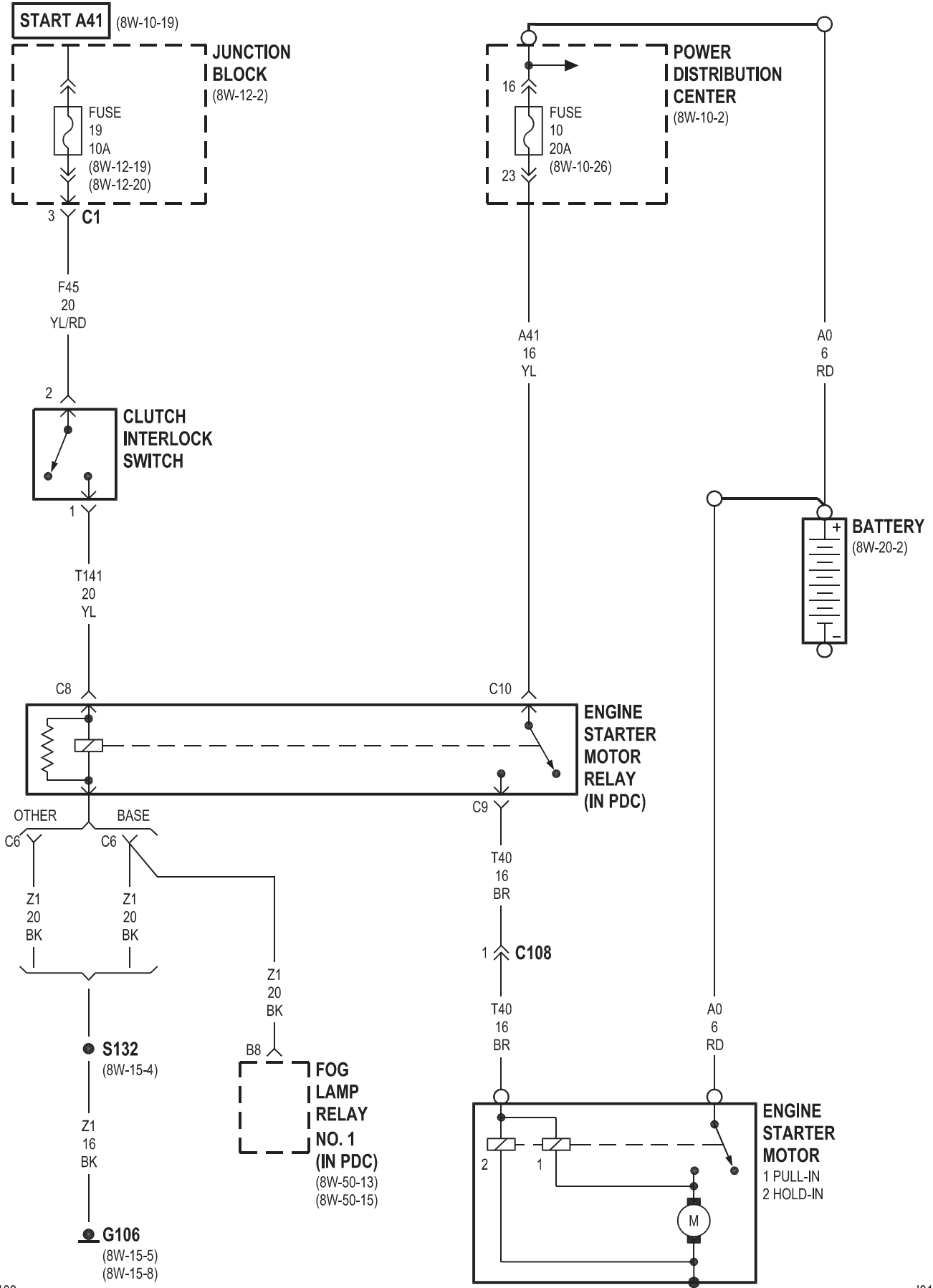


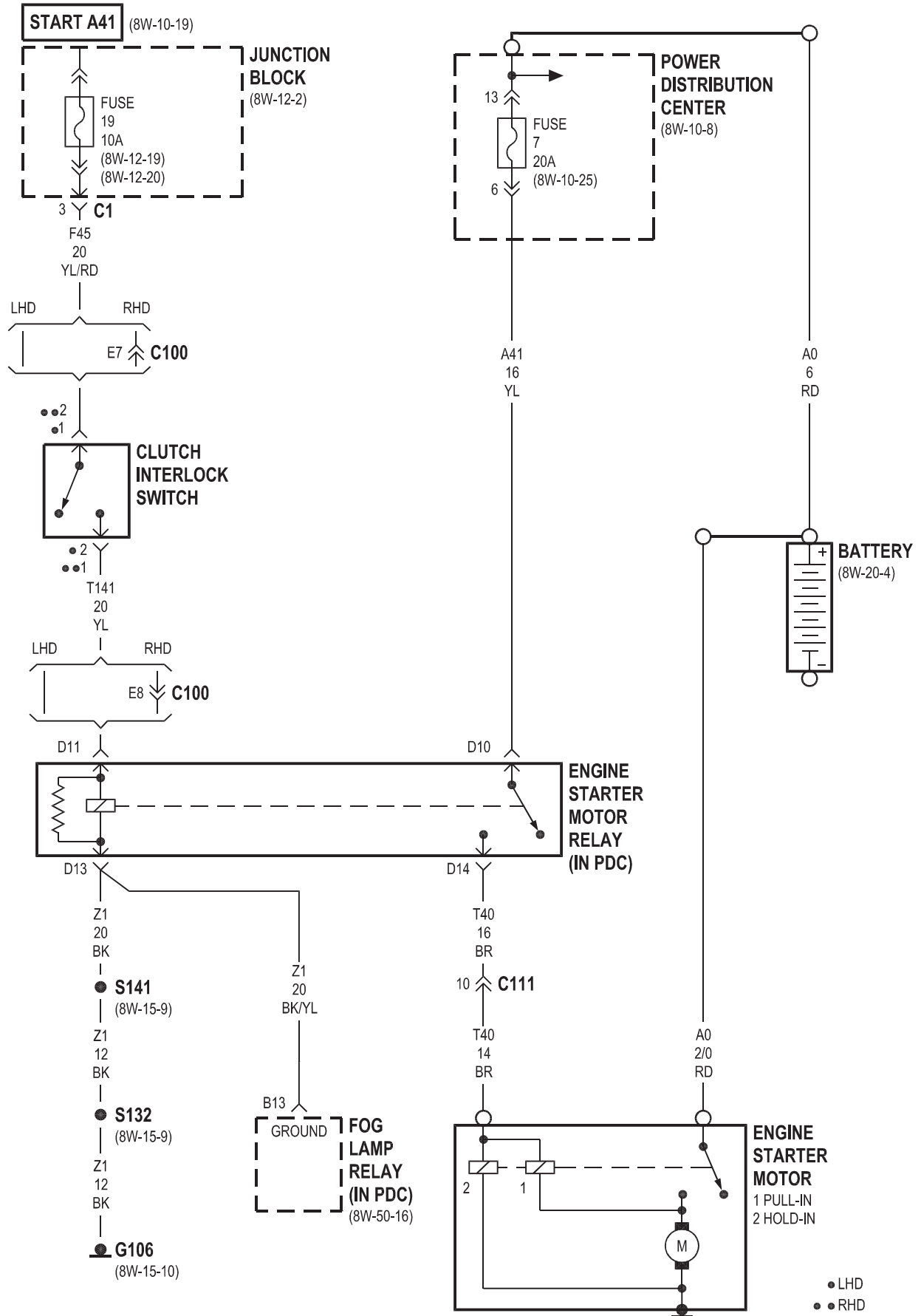


## 8Wa-21 STARTING SYSTEM

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Battery .....	8Wa-21-2, 3, 4	Fuse 10 (PDC) .....	8Wa-21-2, 3
Clutch Interlock Switch .....	8Wa-21-3, 4	Fuse 19 (JB) .....	8Wa-21-2, 3, 4
Clutch Interlock Switch Jumper .....	8Wa-21-2	G106 .....	8Wa-21-2, 3, 4
Engine Starter Motor .....	8Wa-21-2, 3, 4	Junction Block .....	8Wa-21-2, 3, 4
Engine Starter Motor Relay .....	8Wa-21-2, 3, 4	Power Distribution Center .....	8Wa-21-2, 3, 4
Fog Lamp Relay .....	8Wa-21-4	Powertrain Control Module .....	8Wa-21-2
Fog Lamp Relay No. 1 .....	8Wa-21-3	Transmission Range Sensor .....	8Wa-21-2
Fuse 7 (PDC) .....	8Wa-21-4		

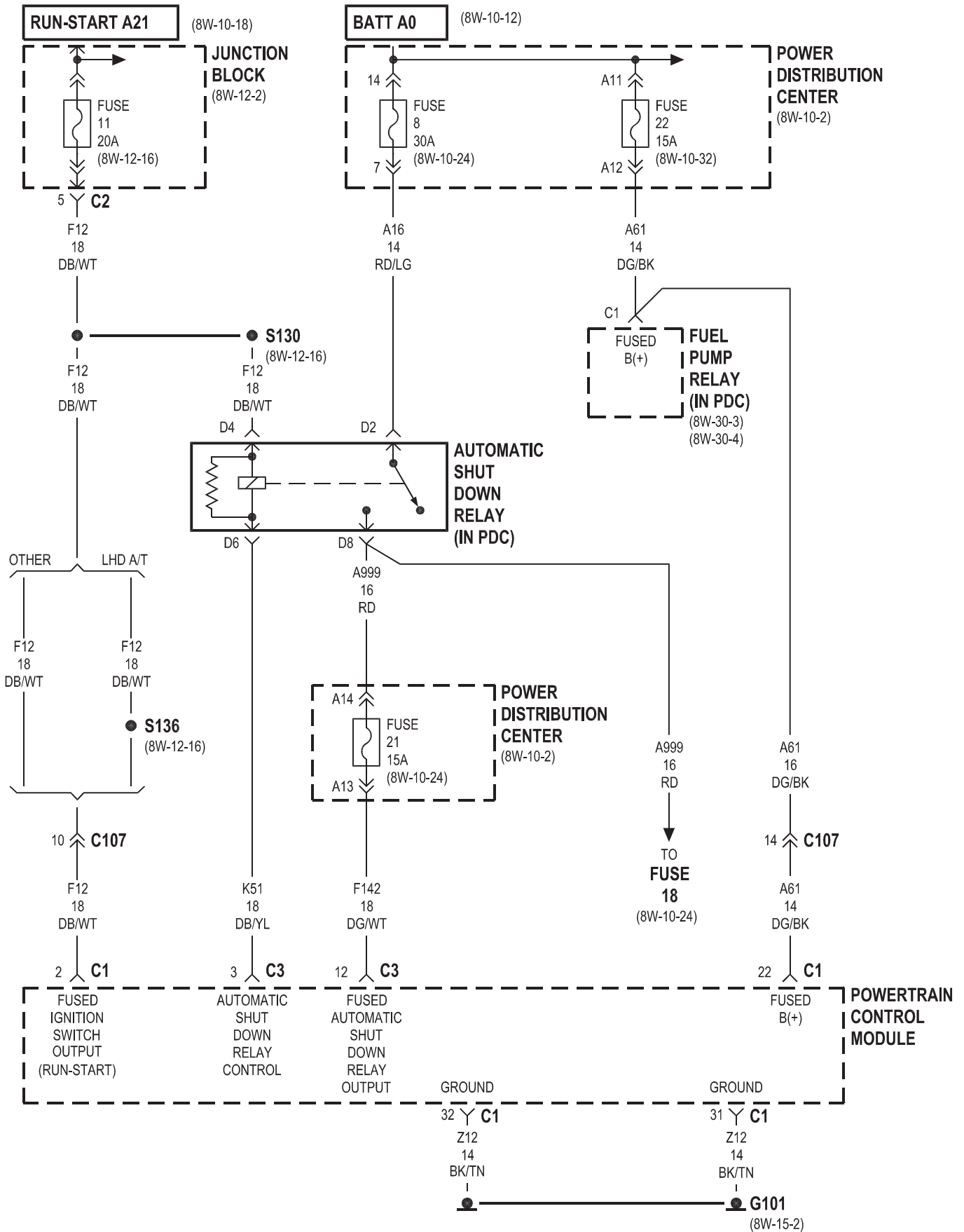




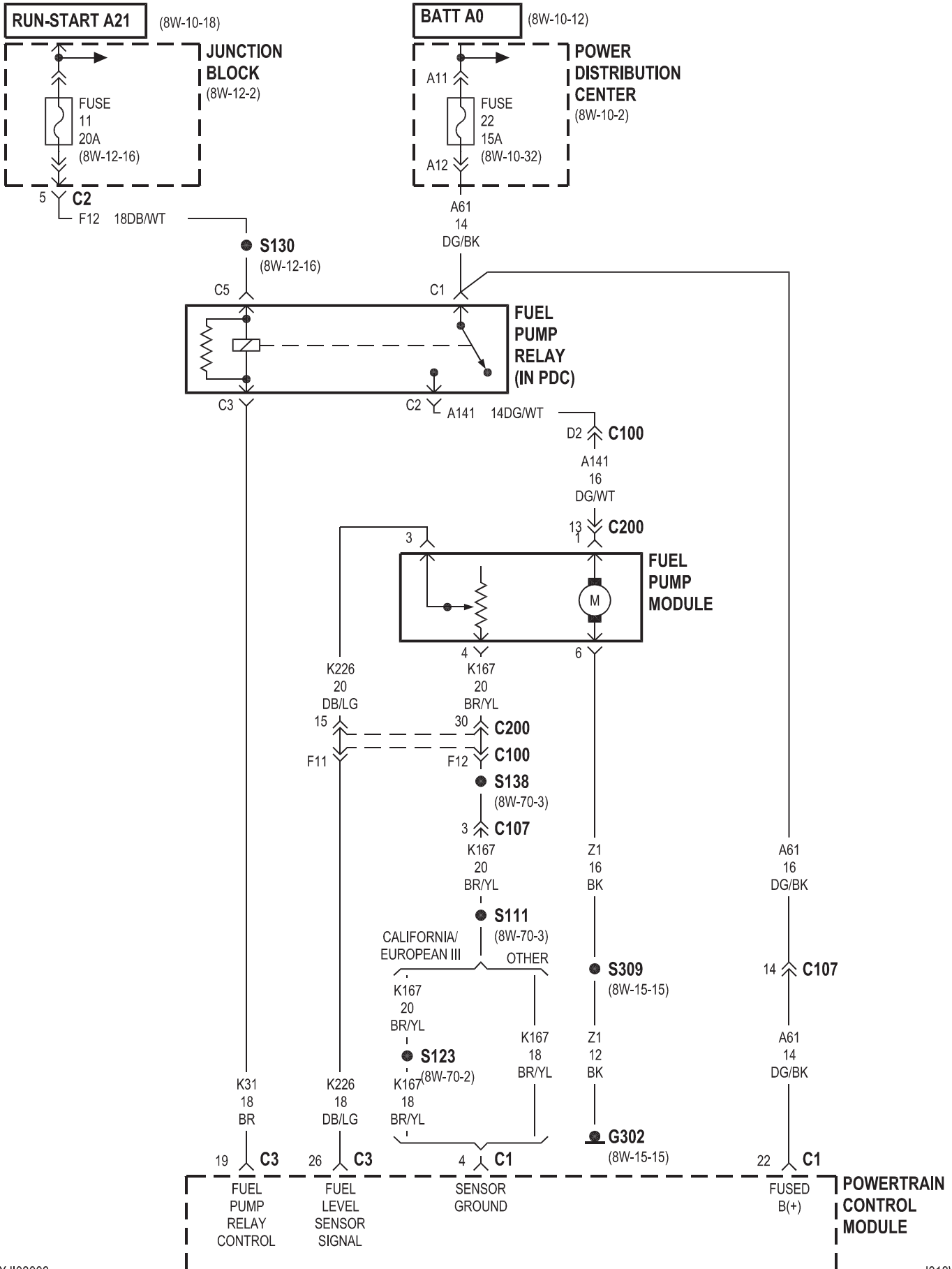


## 8Wa-30 FUEL/IGNITION SYSTEM

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
A/C Compressor Clutch Relay . . . . .	8Wa-30-8, 20, 25, 17	Fuse 21 (PDC)(Diesel) . . . . .	8Wa-30-22, 23, 24
A/C High Pressure Switch . . . . .	8Wa-30-17, 28	Fuse 21 (PDC)(Gas) . . . . .	8Wa-30-2, 6
A/C Low Pressure Switch . . . . .	8Wa-30-17	Fuse 22 (PDC) . . . . .	8Wa-30-2, 3, 4
A/C- Heater Control . . . . .	8Wa-30-28, 17	Fuse 24 (PDC) . . . . .	8Wa-30-21
Accelerator Pedal Position Sensor . . . . .	8Wa-30-26	Fuse 25 (JB) . . . . .	8Wa-30-16
Automatic Shut Down		G101 . . . . .	8Wa-30-2, 9, 10
Relay . . . . .	8Wa-30-2, 5, 6, 20, 21, 22, 23, 24, 25, 31	G102 . . . . .	8Wa-30-20, 21
Battery Temperature Sensor . . . . .	8Wa-30-29, 12	G106 . . . . .	8Wa-30-22, 13
Brake Lamp Switch . . . . .	8Wa-30-30, 13, 15	G107 . . . . .	8Wa-30-16
Camshaft Position Sensor . . . . .	8Wa-30-5	G108 . . . . .	8Wa-30-30, 15
Clockspring . . . . .	8Wa-30-30, 12	G123 . . . . .	8Wa-30-29
Coil Capacitor . . . . .	8Wa-30-5	G154 . . . . .	8Wa-30-31
Coil Rail . . . . .	8Wa-30-5	G302 . . . . .	8Wa-30-3, 4
Crankshaft Position Sensor . . . . .	8Wa-30-5	Generator . . . . .	8Wa-30-21, 17
Data Link Connector . . . . .	8Wa-30-18, 19	Glow Plug Assembly . . . . .	8Wa-30-23
Daytime Running Lamp Module . . . . .	8Wa-30-11	Glow Plug No. 1 . . . . .	8Wa-30-23
EGR Solenoid . . . . .	8Wa-30-22	Glow Plug No. 2 . . . . .	8Wa-30-23
Engine Control Module . . . . .	8Wa-30-18, 20, 22, 23, 24, 25, 26, 27, 28, 30, 31	Glow Plug No. 3 . . . . .	8Wa-30-23
Engine Coolant Temperature Sensor . . . . .	8Wa-30-7	Glow Plug No. 4 . . . . .	8Wa-30-23
Engine Coolant Temperature		Glow Plug Relay . . . . .	8Wa-30-23
Sensor No. 1 . . . . .	8Wa-30-27	Headlamp Switch . . . . .	8Wa-30-16
Engine Coolant Temperature		Idle Air Control Motor . . . . .	8Wa-30-15
Sensor No. 2 . . . . .	8Wa-30-27	Intake Air Temperature Sensor . . . . .	8Wa-30-7
Engine Oil Pressure Sensor . . . . .	8Wa-30-11, 27	Junction Block . . . . .	8Wa-30-2, 3, 4, 8, 14, 16, 20, 22, 31
Engine Speed Sensor . . . . .	8Wa-30-28	Leak Detection Pump . . . . .	8Wa-30-17
Engine Starter Motor Relay . . . . .	8Wa-30-13	Left Speed Control Switch . . . . .	8Wa-30-12, 30
Evap/Purge Solenoid . . . . .	8Wa-30-14	Low Coolant Switch . . . . .	8Wa-30-29
Extended Idle Switch . . . . .	8Wa-30-16	Manifold Absolute Pressure Sensor . . . . .	8Wa-30-11
Fuel Heater . . . . .	8Wa-30-22	Message Center . . . . .	8Wa-30-31
Fuel Heater Relay . . . . .	8Wa-30-22	Needle Movement Sensor . . . . .	8Wa-30-26
Fuel Injection Pump . . . . .	8Wa-30-24, 25	Oxygen Sensor 1/1 Upstream . . . . .	8Wa-30-8, 9, 10
Fuel Injector No. 1 . . . . .	8Wa-30-6	Oxygen Sensor 1/2 Downstream . . . . .	8Wa-30-8, 9, 10
Fuel Injector No. 2 . . . . .	8Wa-30-6	Oxygen Sensor 2/1 Upstream . . . . .	8Wa-30-10
Fuel Injector No. 3 . . . . .	8Wa-30-6	Oxygen Sensor 2/2 Downstream . . . . .	8Wa-30-10
Fuel Injector No. 4 . . . . .	8Wa-30-6	Oxygen Sensor Downstream Relay . . . . .	8Wa-30-8, 9, 10
Fuel Injector No. 5 . . . . .	8Wa-30-6	Oxygen Sensor Upstream Relay . . . . .	8Wa-30-8, 9, 10
Fuel Injector No. 6 . . . . .	8Wa-30-6	Power Distribution Center . . . . .	8Wa-30-2, 3, 4, 5, 6, 8, 13, 20, 21, 22, 23, 24, 25, 30, 31
Fuel Level Sensor . . . . .	8Wa-30-29	Powertrain Control Module . . . . .	8Wa-30-2, 4, 5, 6, 7, 8, 9, 10, 14, 18, 19, 21, 27, 28, 29, 31
Fuel Pump Module . . . . .	8Wa-30-3, 4	Radiator Fan Relay . . . . .	8Wa-30-8, 17, 20, 25, 31
Fuel Pump Relay . . . . .	8Wa-30-2, 3, 4	Right Speed Control Switch . . . . .	8Wa-30-12, 30
Fuse 2 (PDC) . . . . .	8Wa-30-23	Speed Control Servo . . . . .	8Wa-30-13
Fuse 3 (PDC) . . . . .	8Wa-30-23	Throttle Position Sensor . . . . .	8Wa-30-7
Fuse 4 (PDC) . . . . .	8Wa-30-20	Transmission Control Module . . . . .	8Wa-30-7, 18
Fuse 6 (JB) . . . . .	8Wa-30-16	Transmission Range Sensor . . . . .	8Wa-30-13
Fuse 6 (PDC) . . . . .	8Wa-30-22	Turbo Boost Pressure Sensor . . . . .	8Wa-30-25
Fuse 8 (PDC) . . . . .	8Wa-30-2	Vehicle Speed Sensor . . . . .	8Wa-30-11, 27
Fuse 9 (JB) . . . . .	8Wa-30-31	Water In Fuel Sensor . . . . .	8Wa-30-29
Fuse 10 (JB) . . . . .	8Wa-30-8, 14		
Fuse 11 (JB) . . . . .	8Wa-30-2, 3, 4, 14, 20, 22		
Fuse 17 (PDC) . . . . .	8Wa-30-8		
Fuse 18 (PDC) . . . . .	8Wa-30-2, 5, 6		
Fuse 19 (PDC) . . . . .	8Wa-30-30		

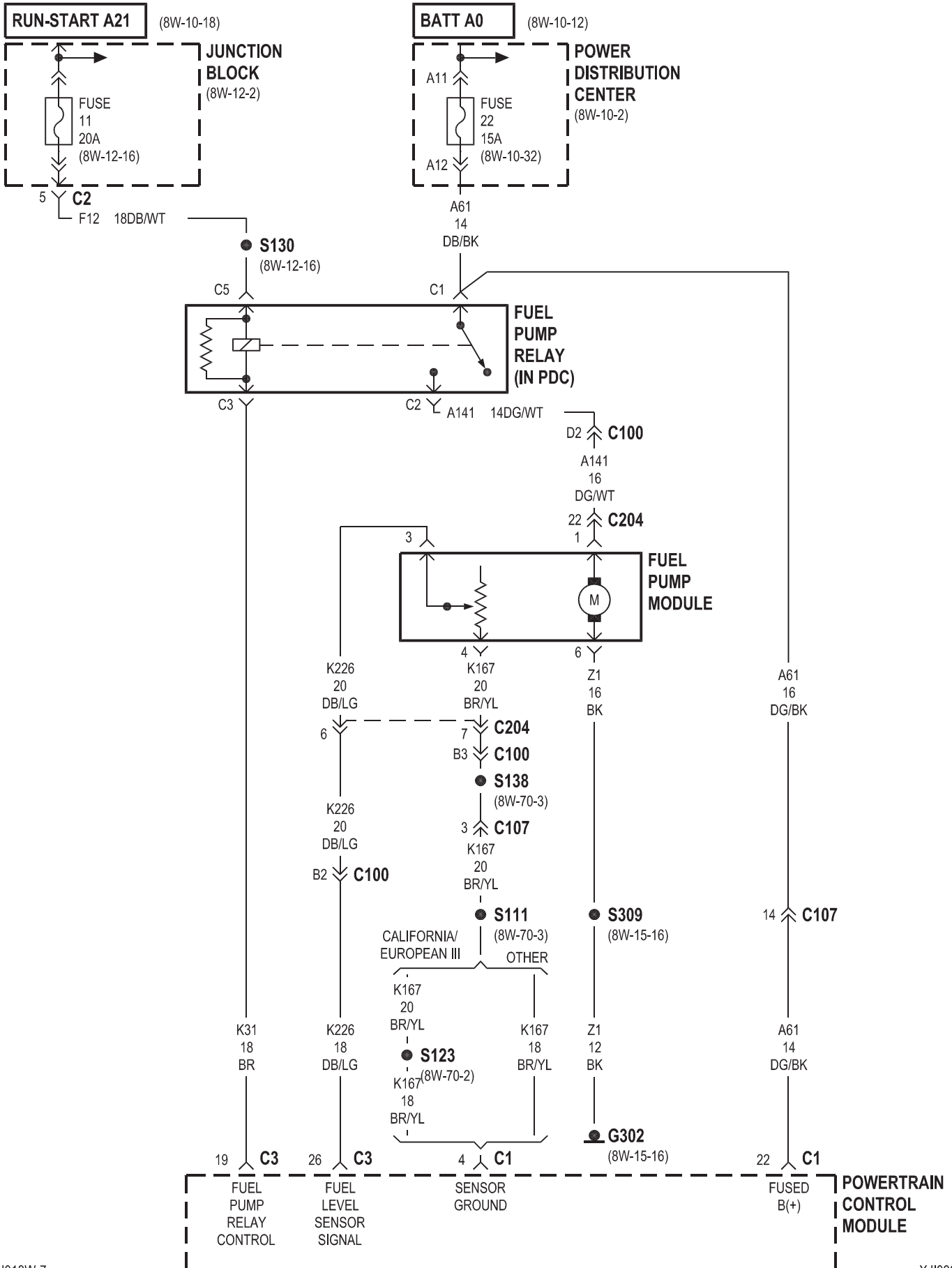


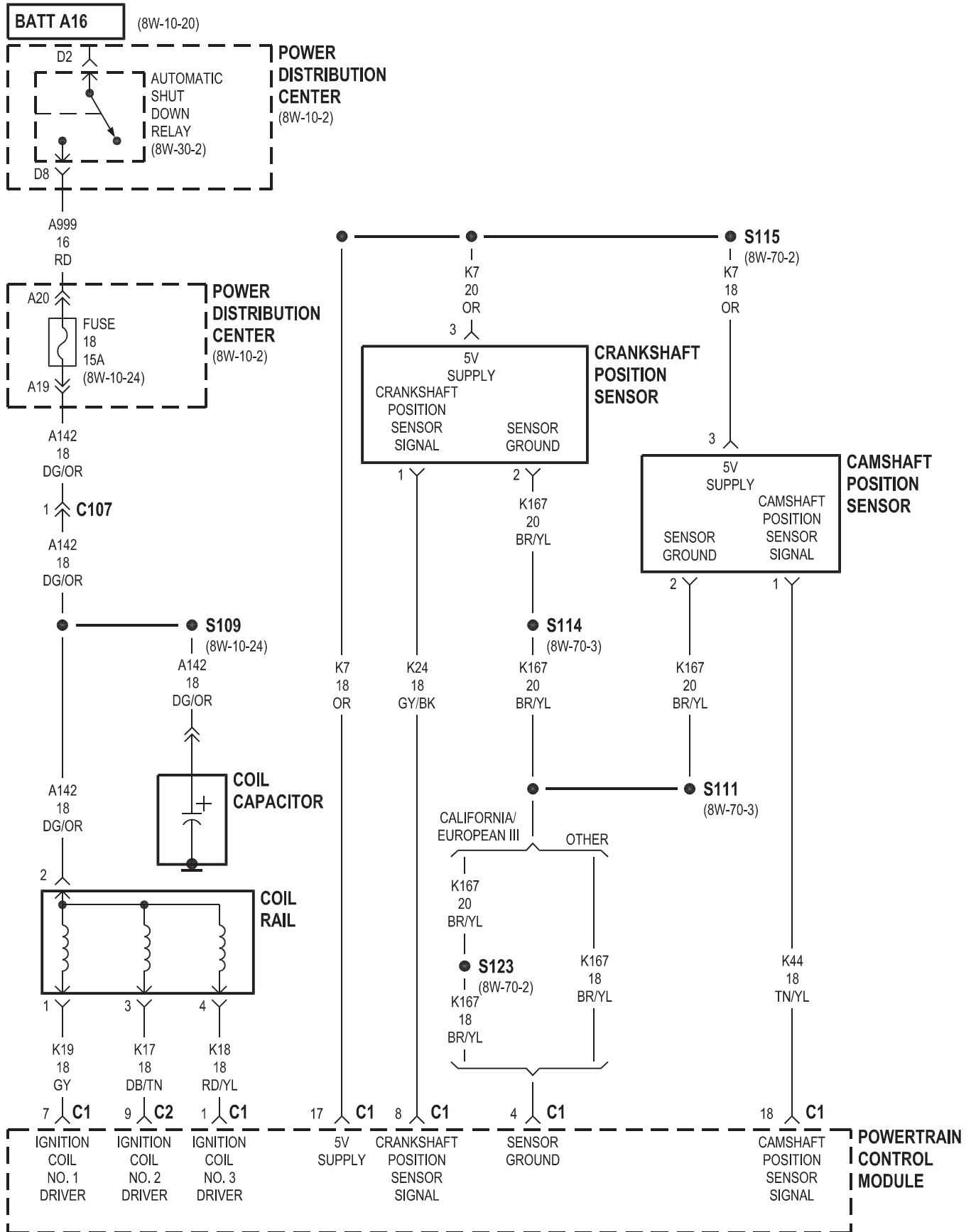
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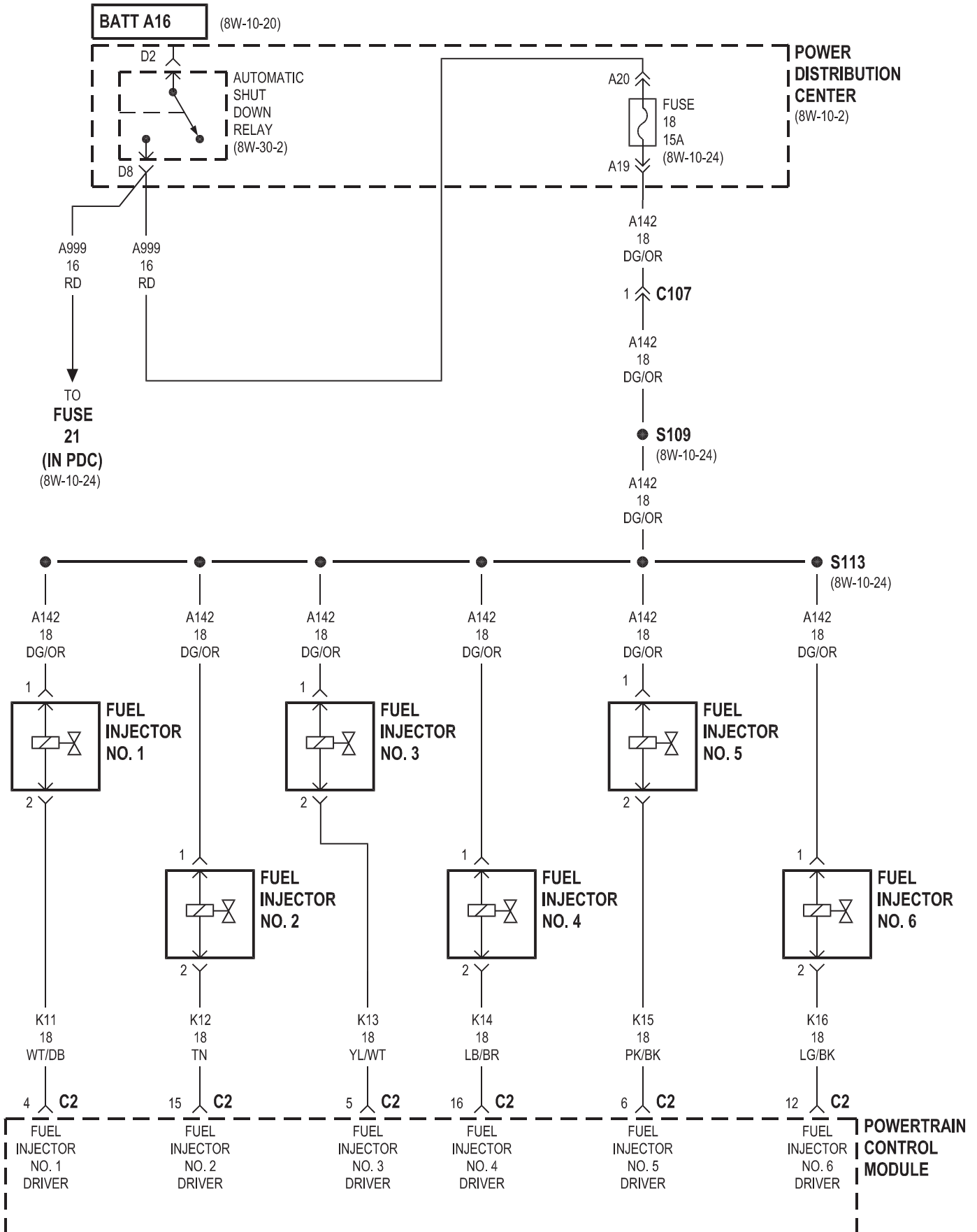


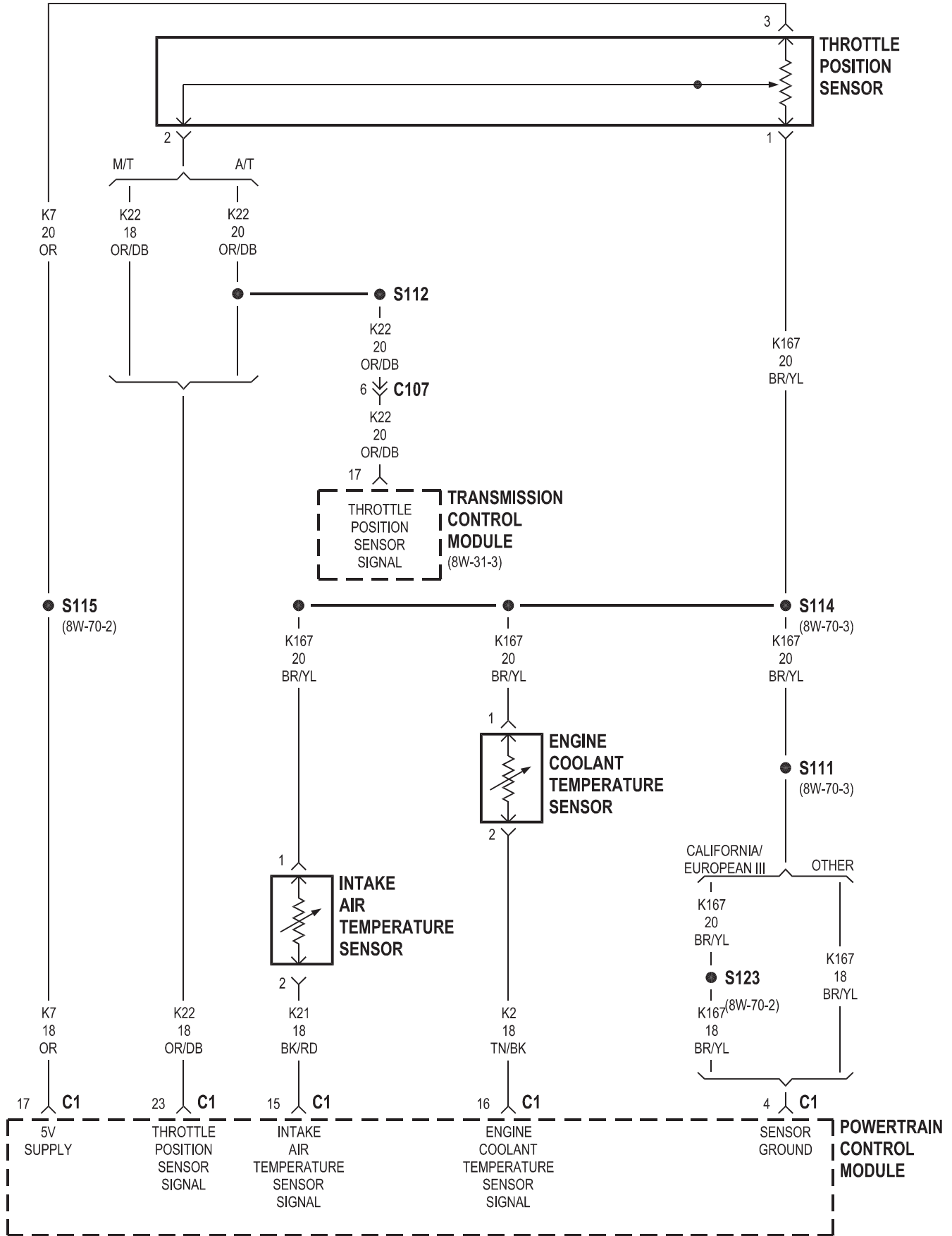


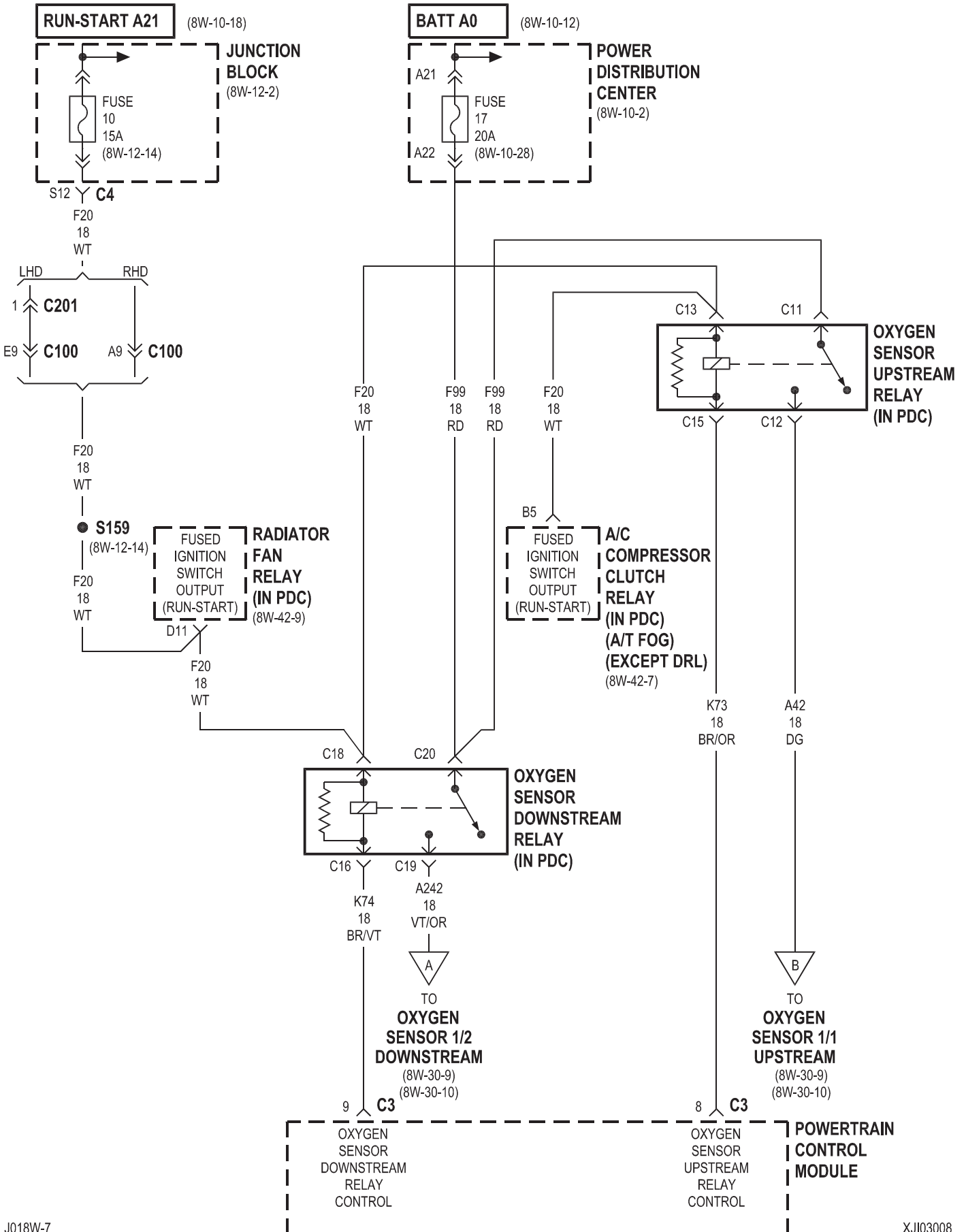
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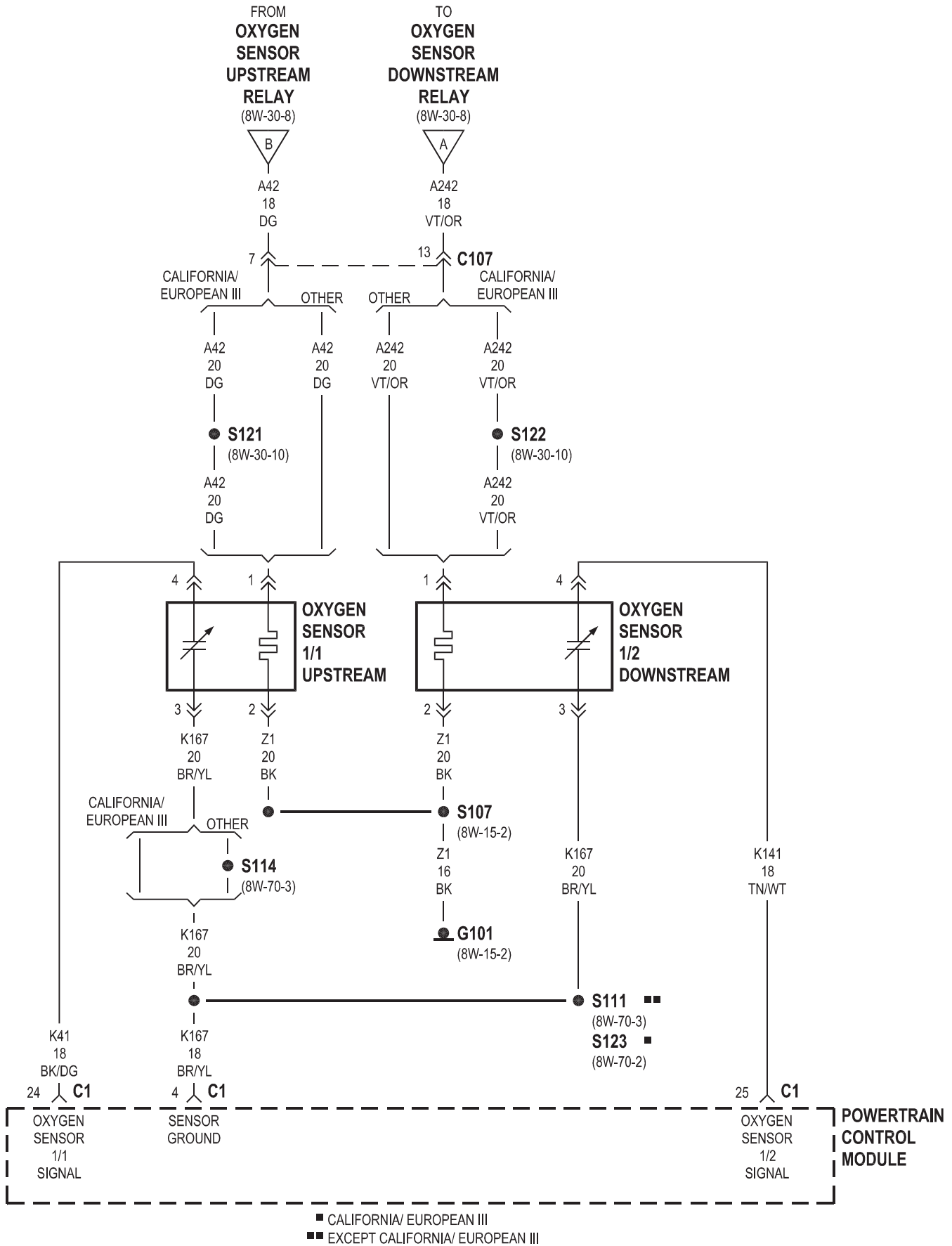


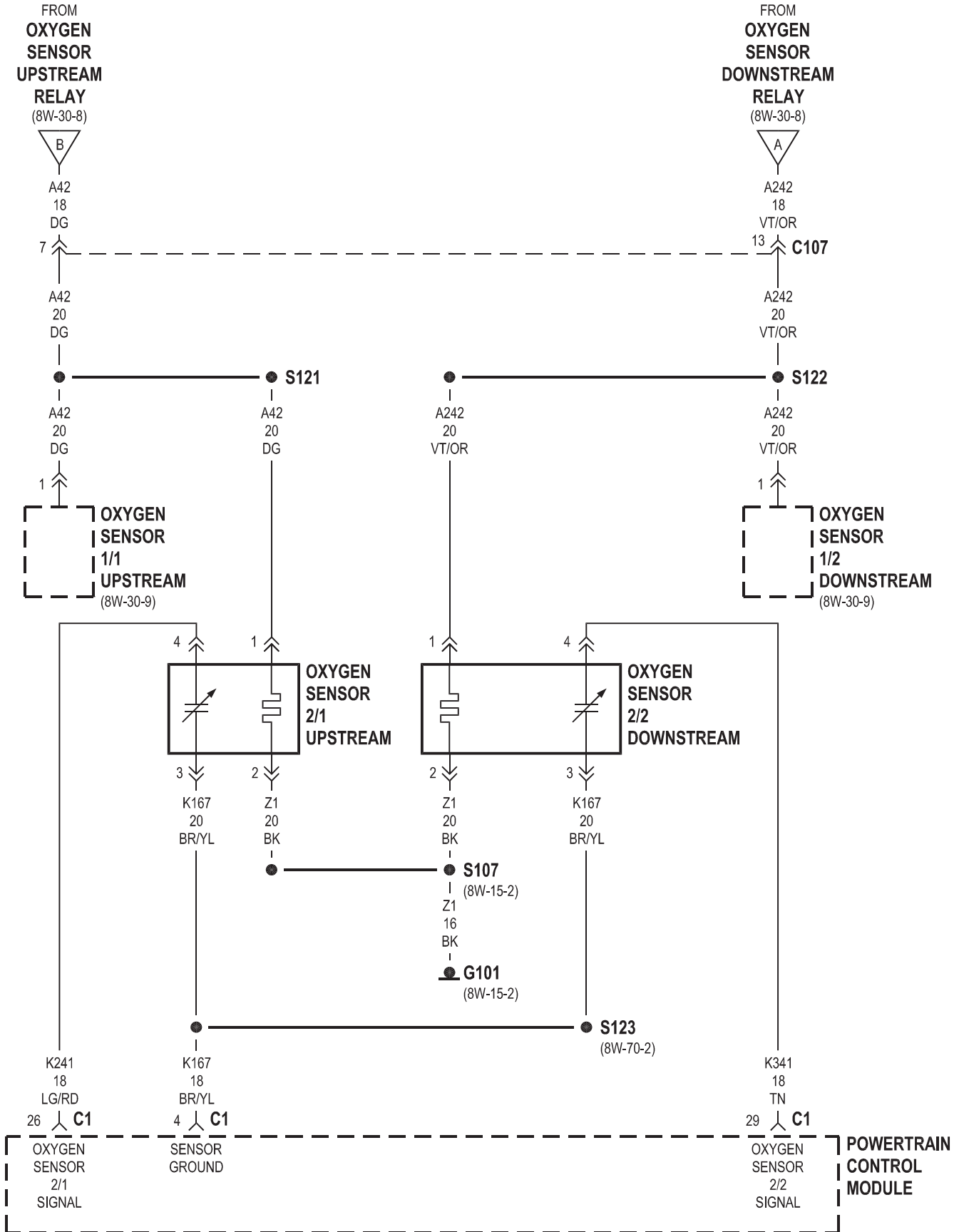


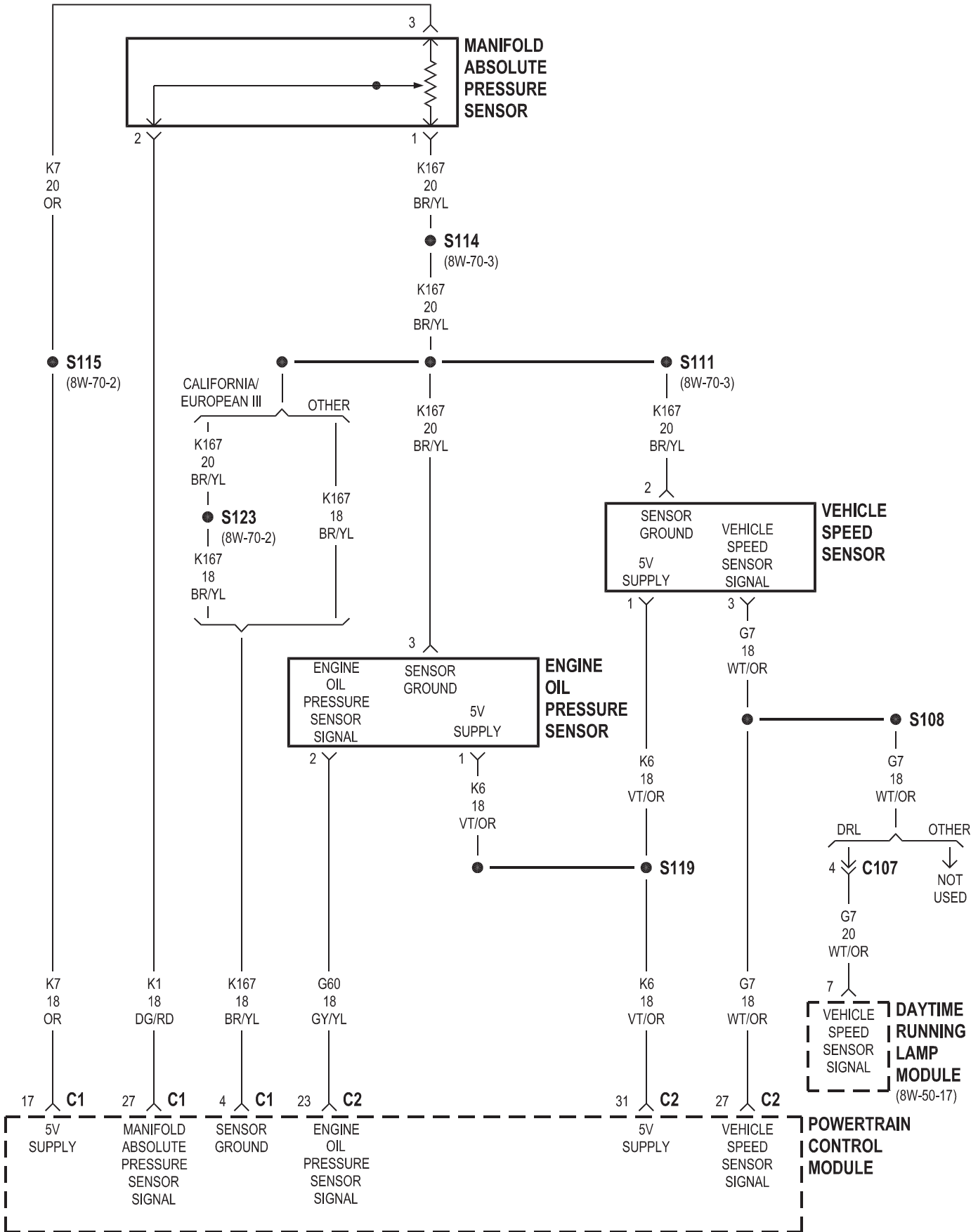




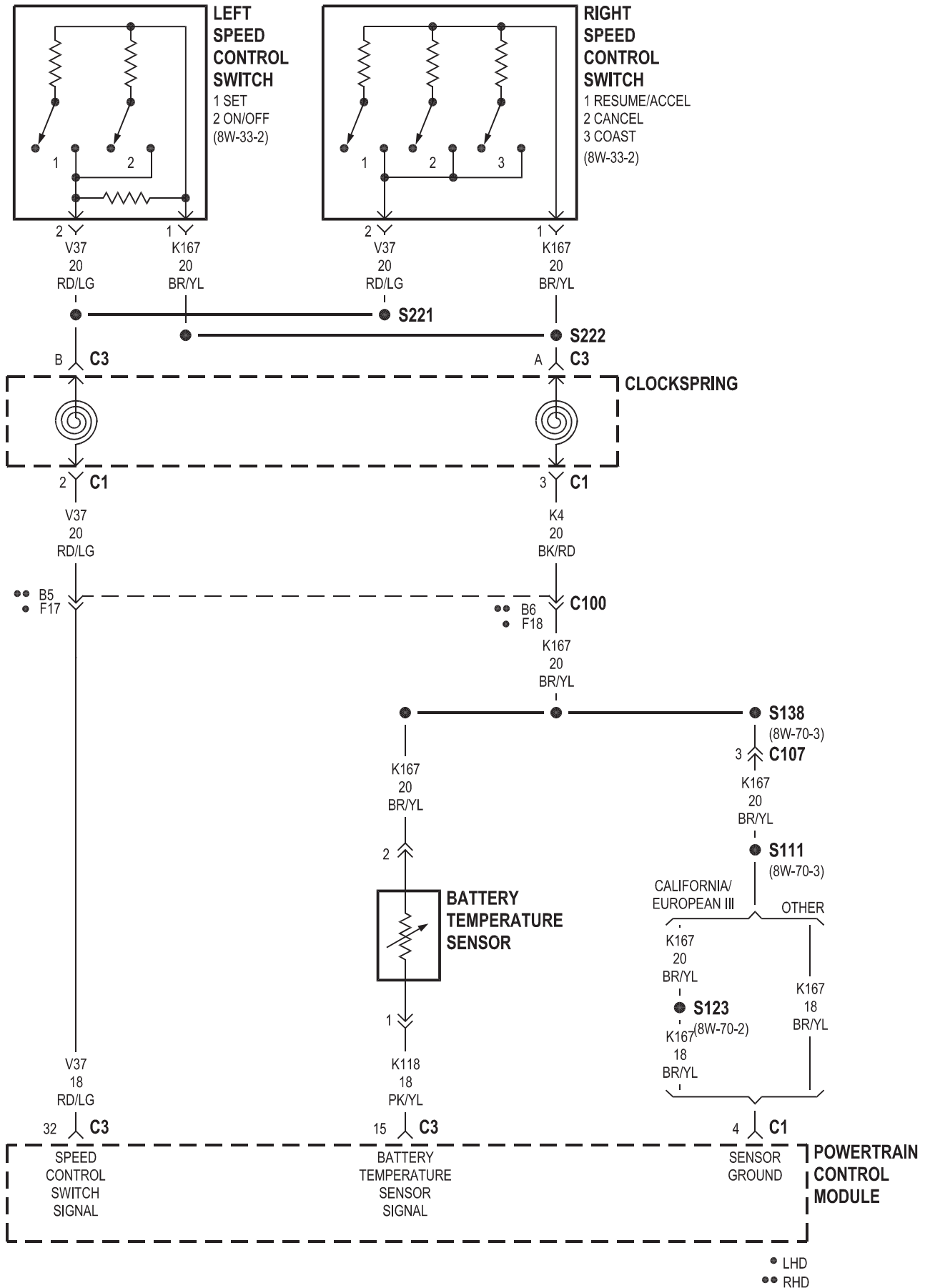






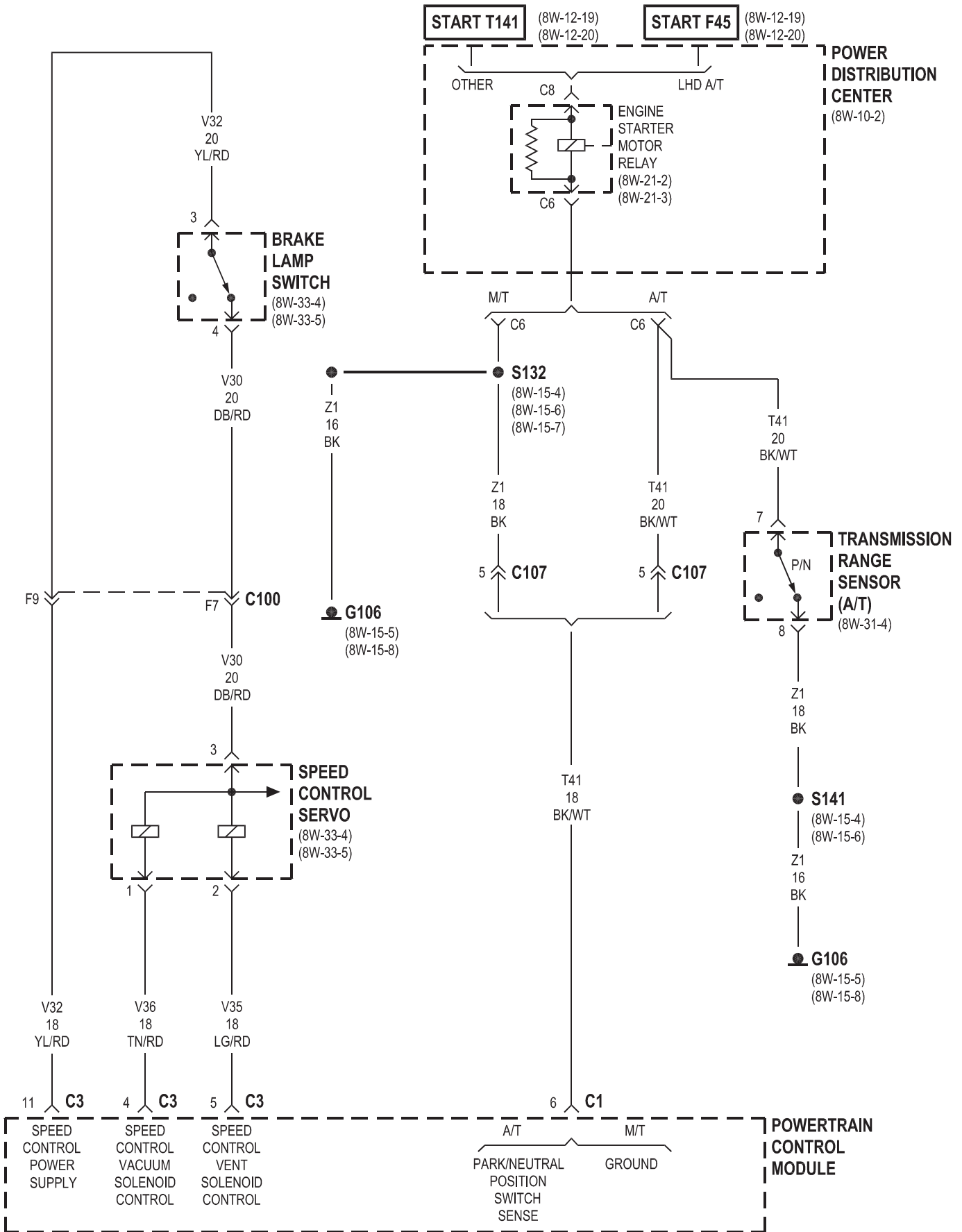


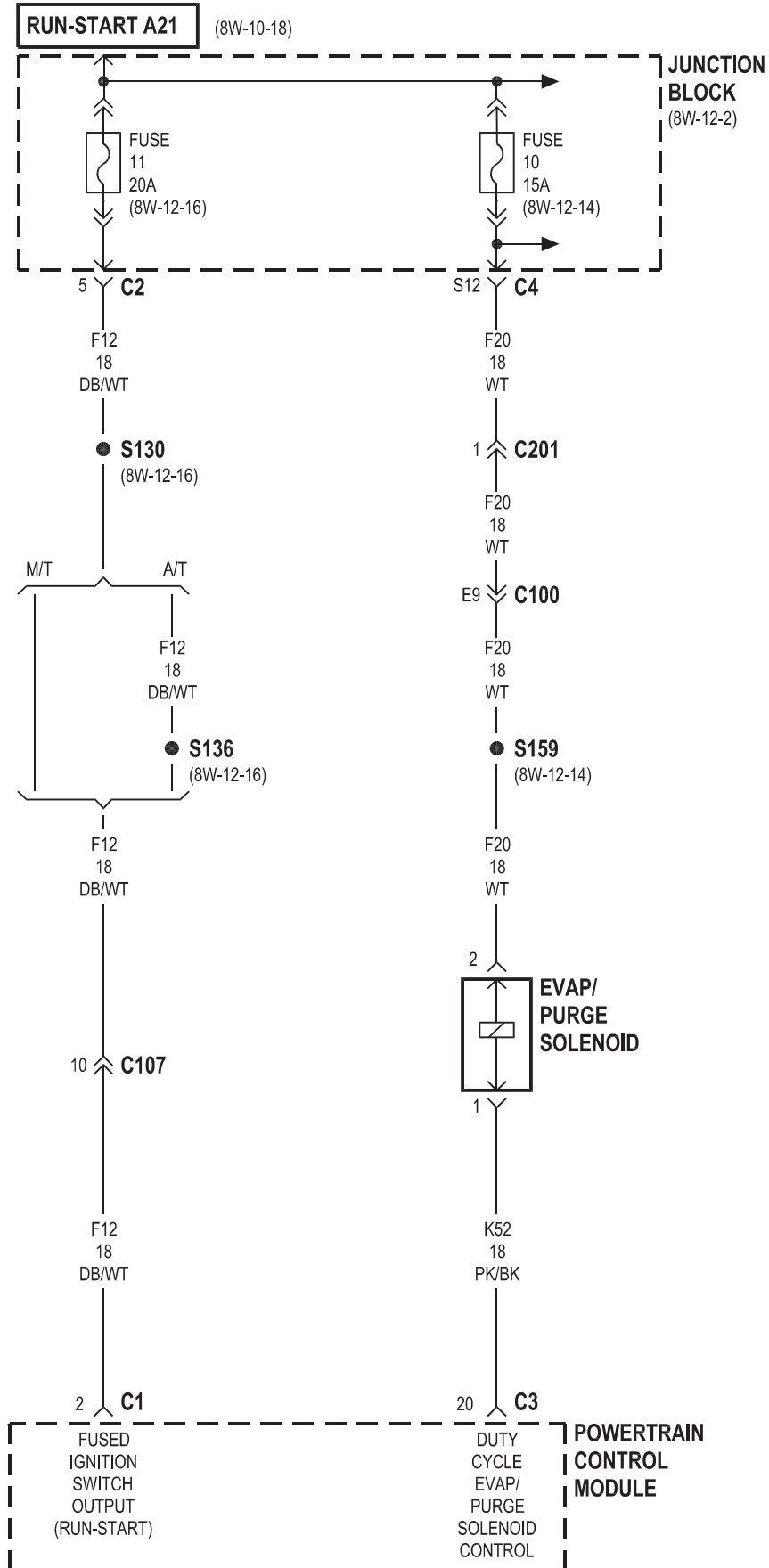


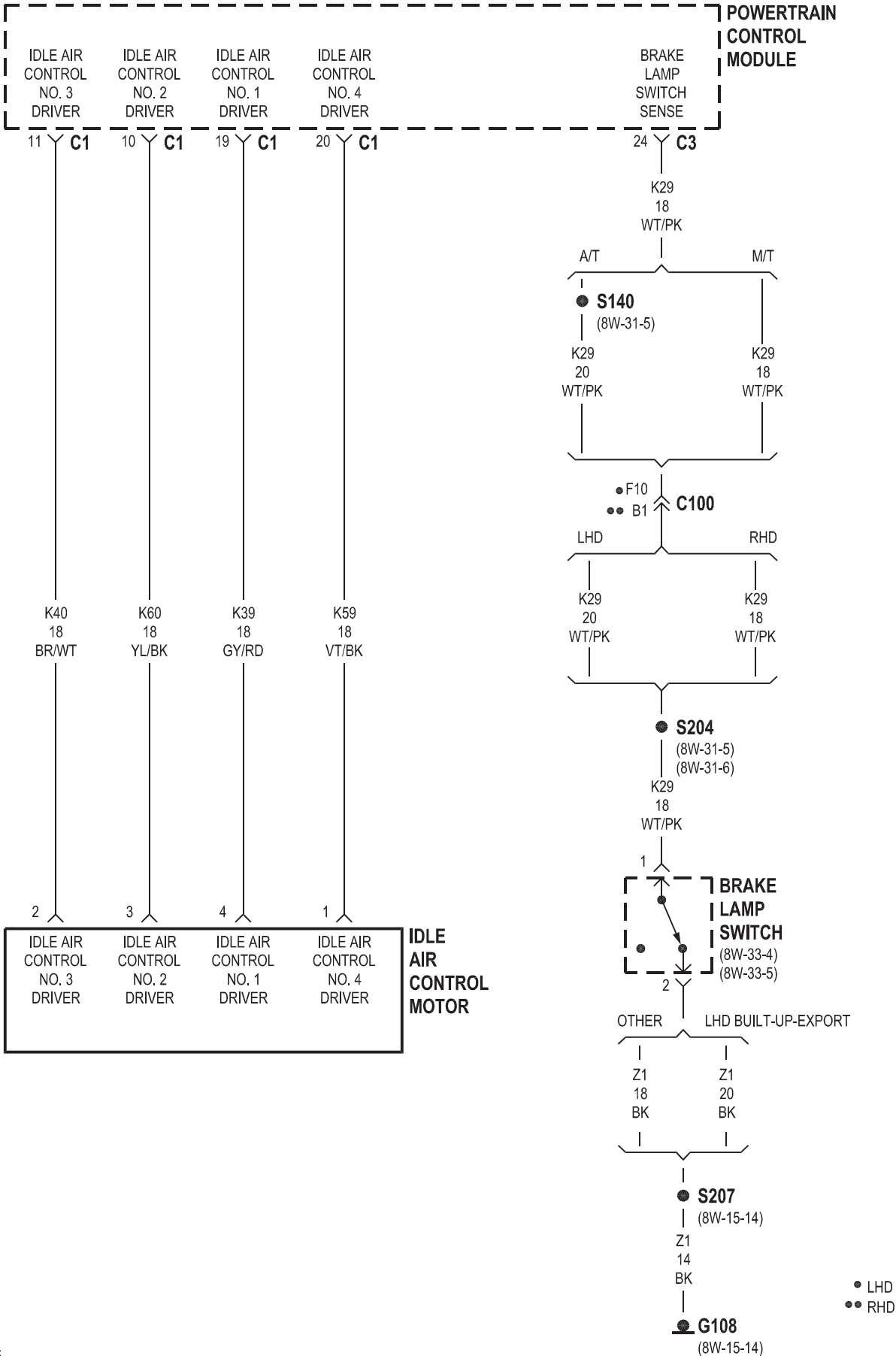


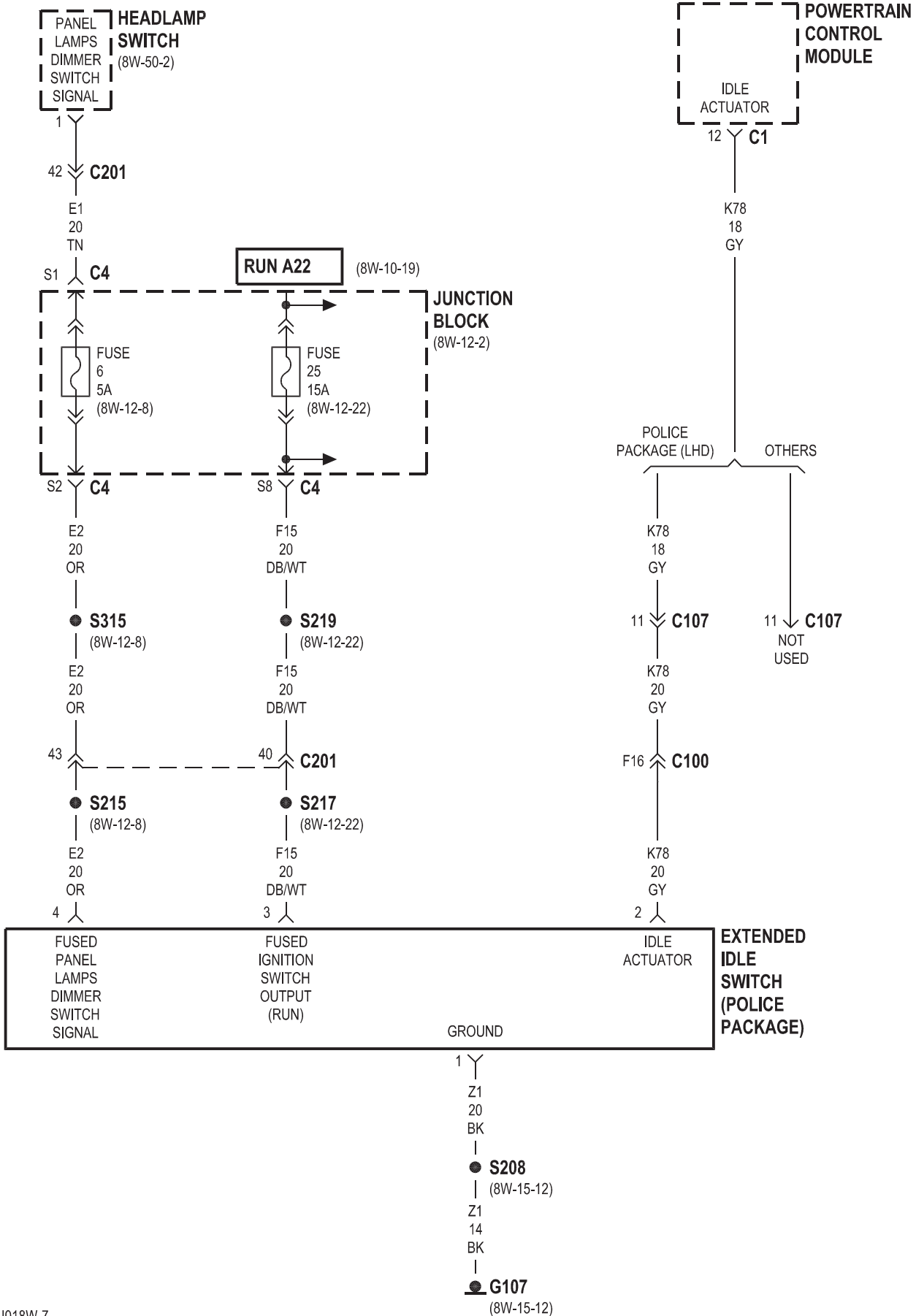
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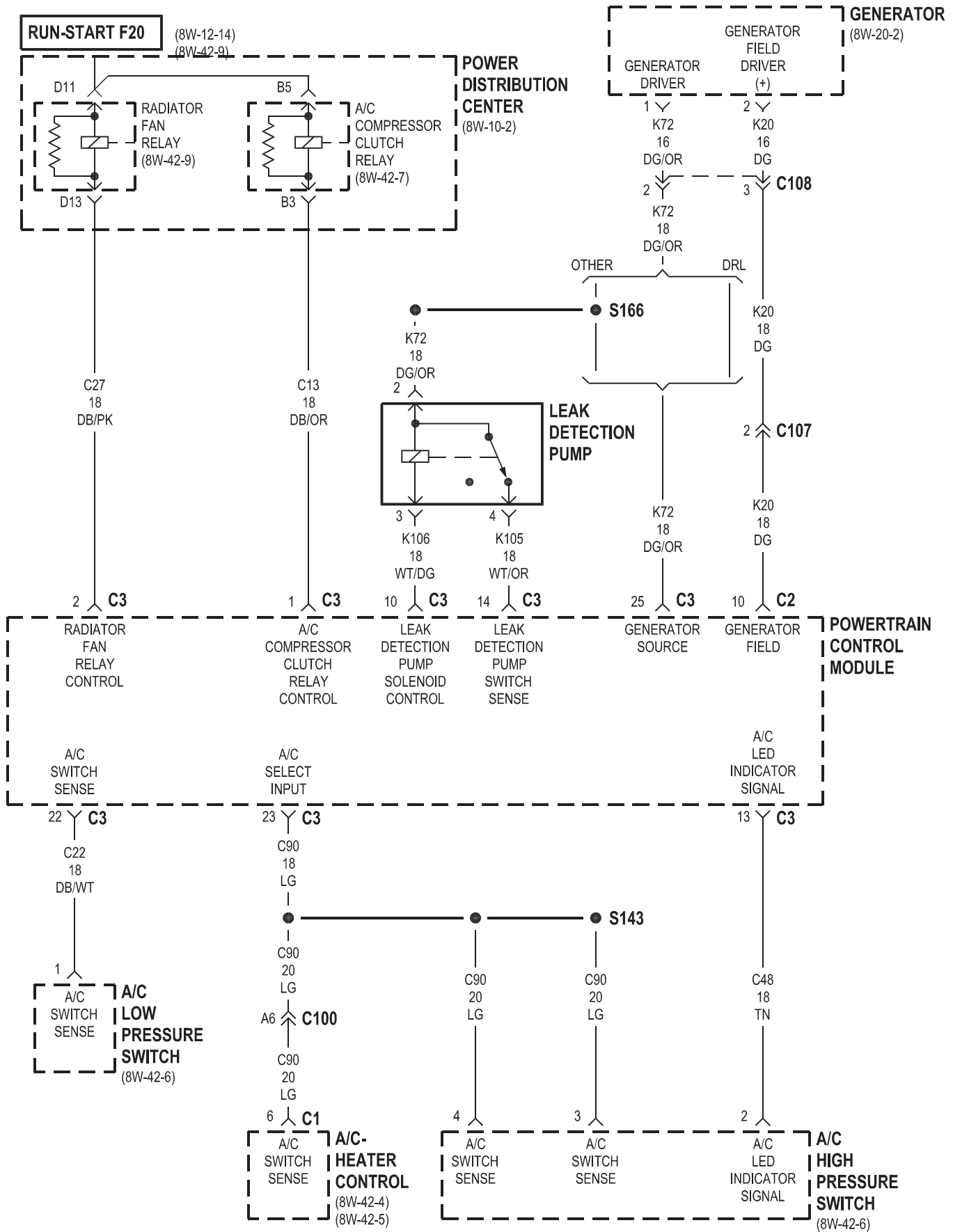
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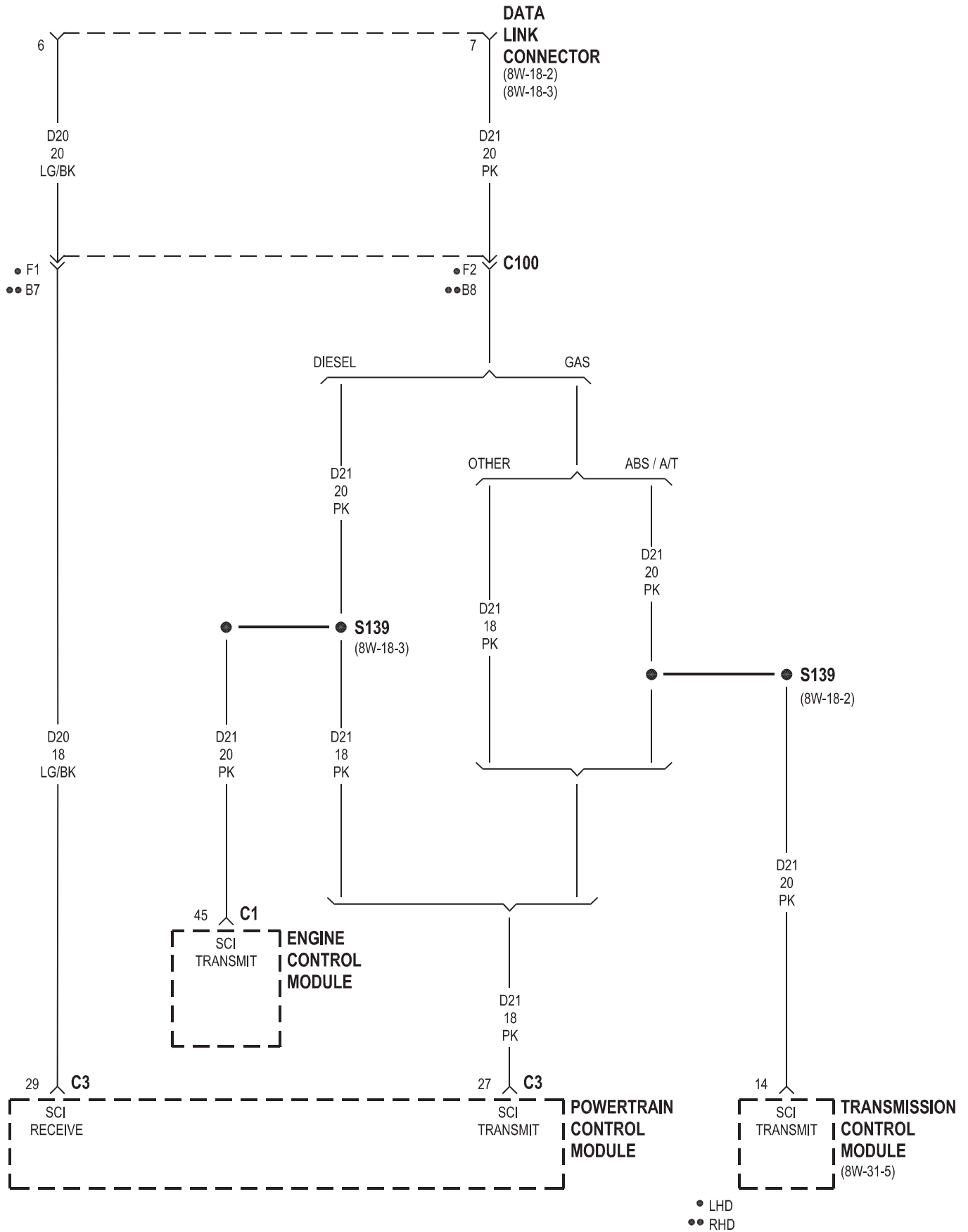


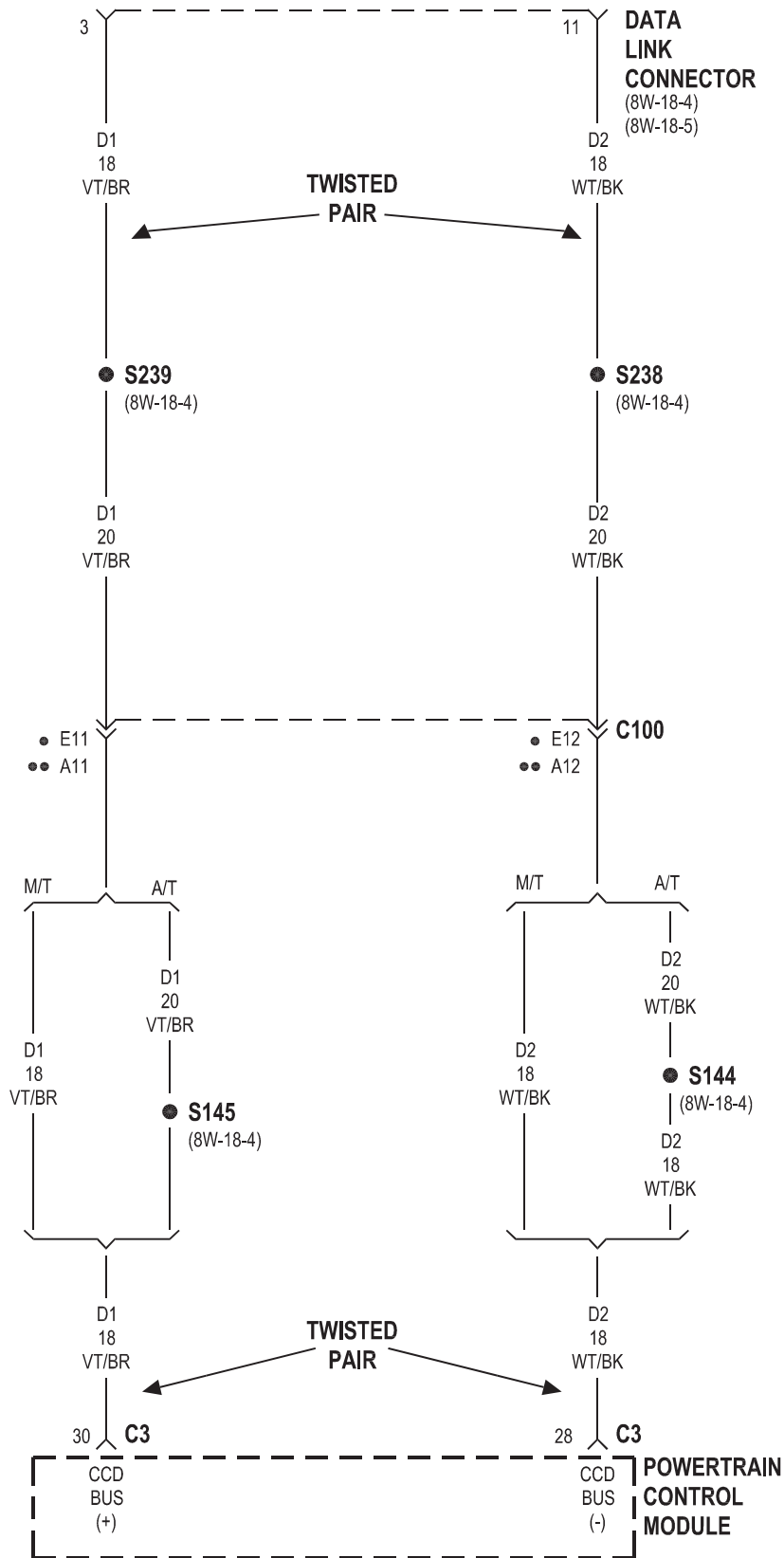








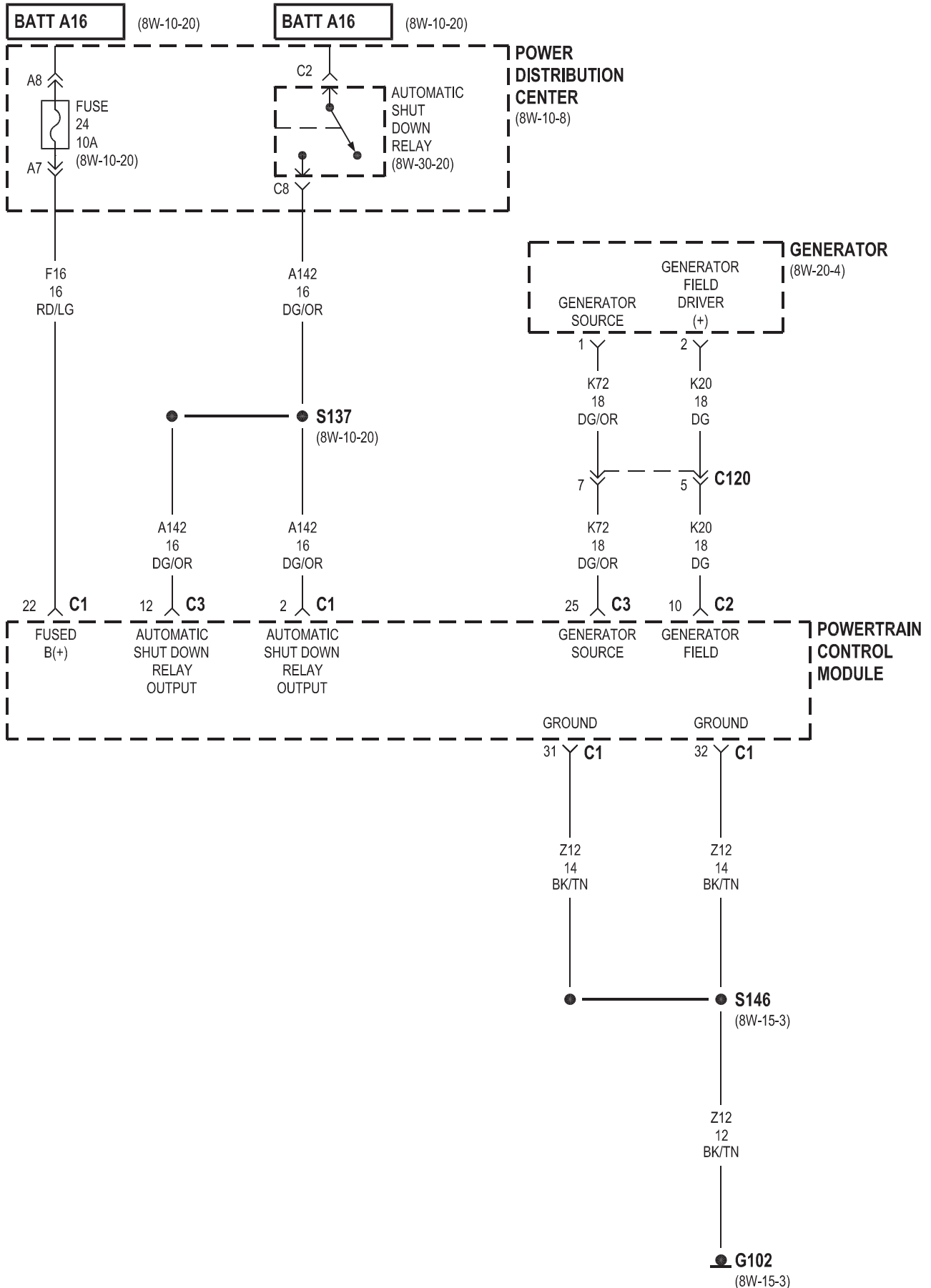


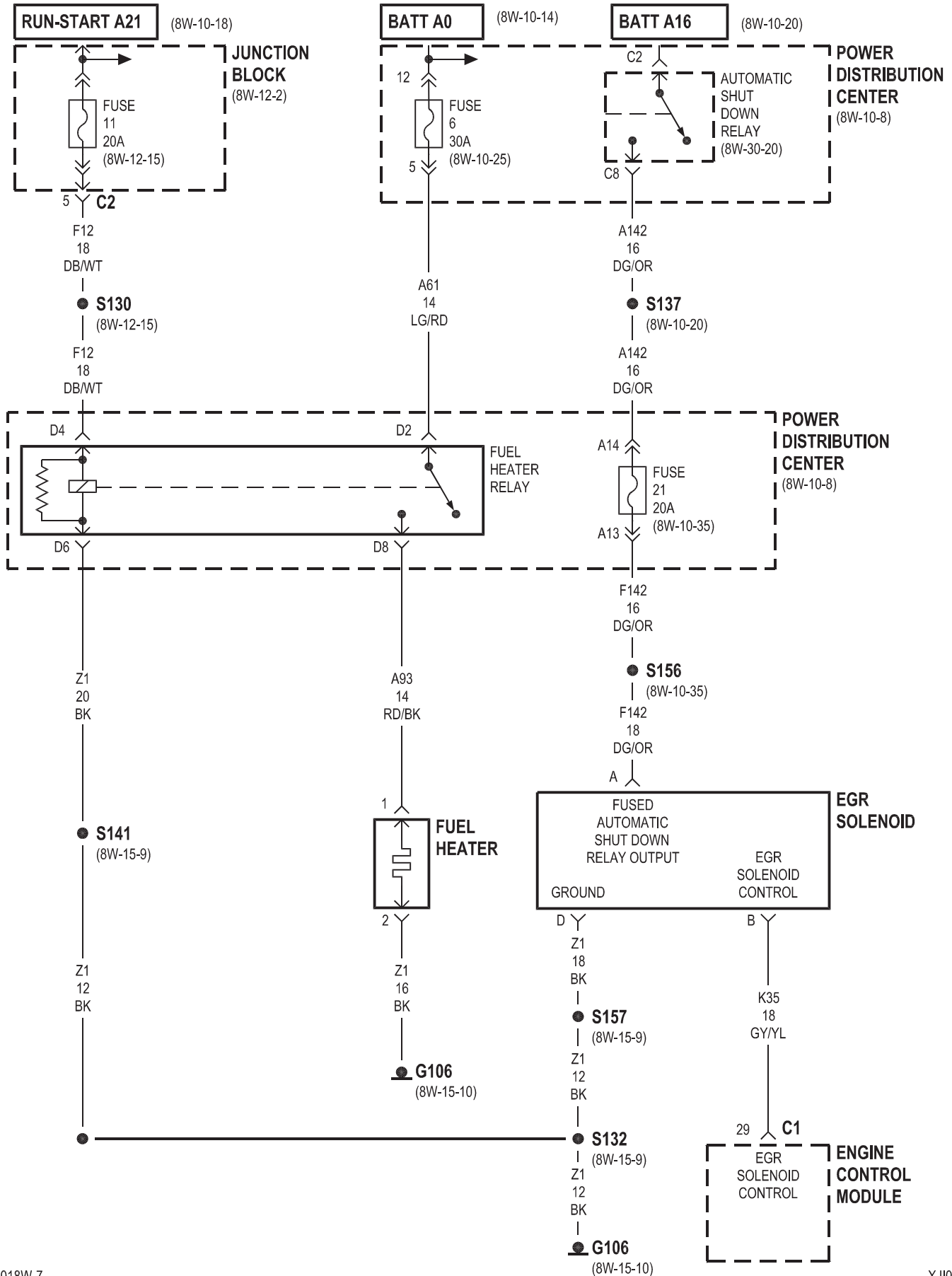


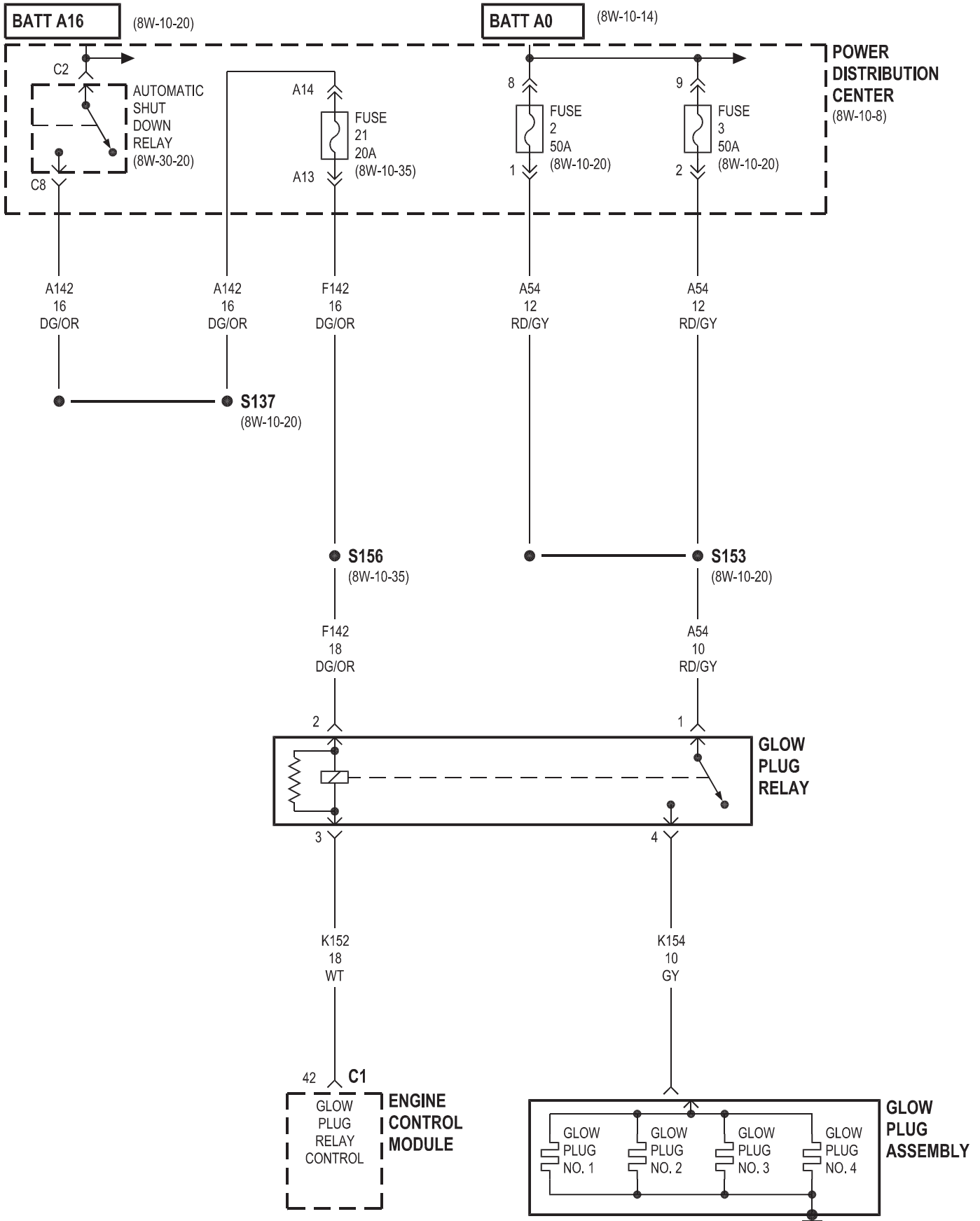
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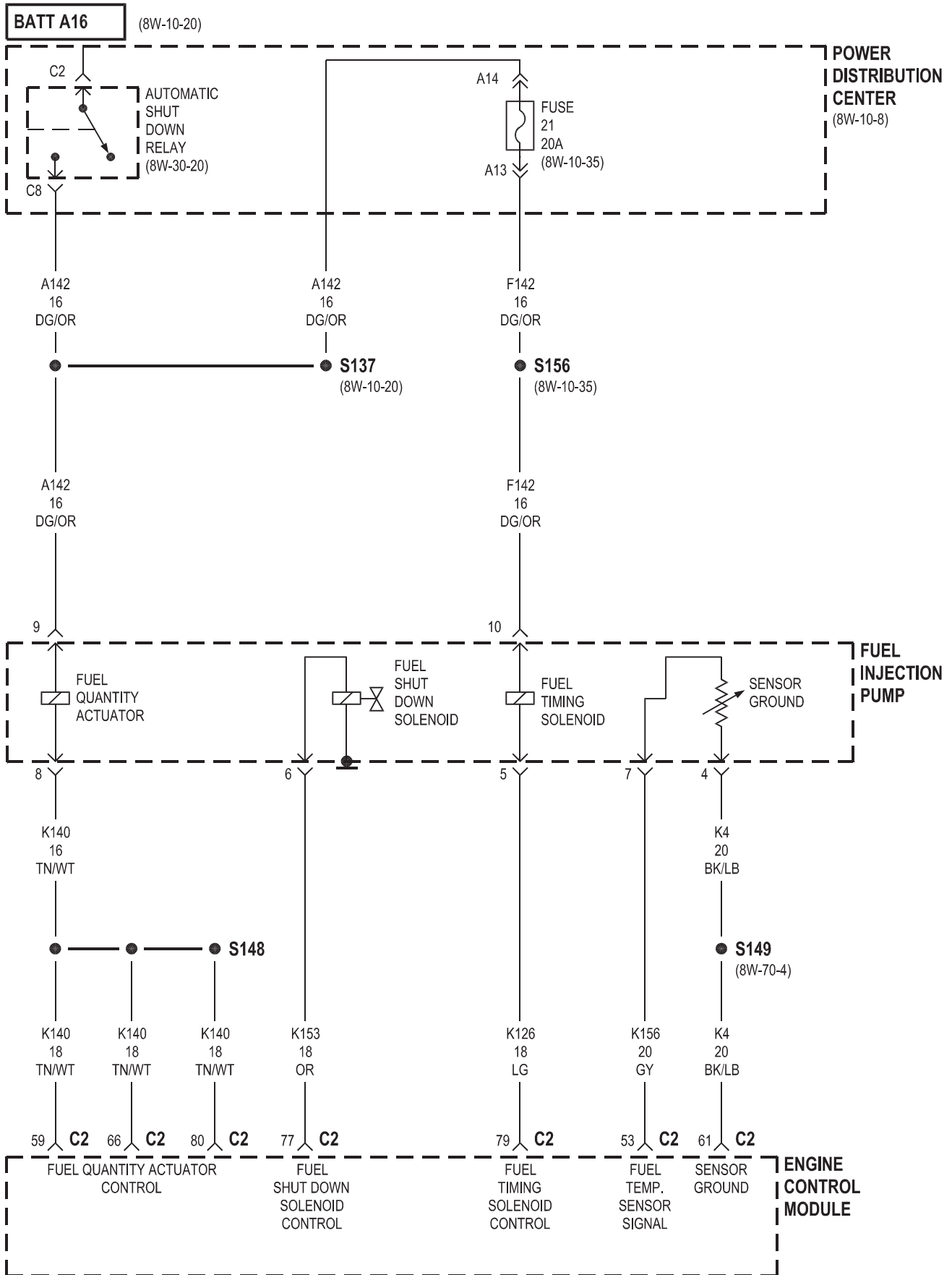


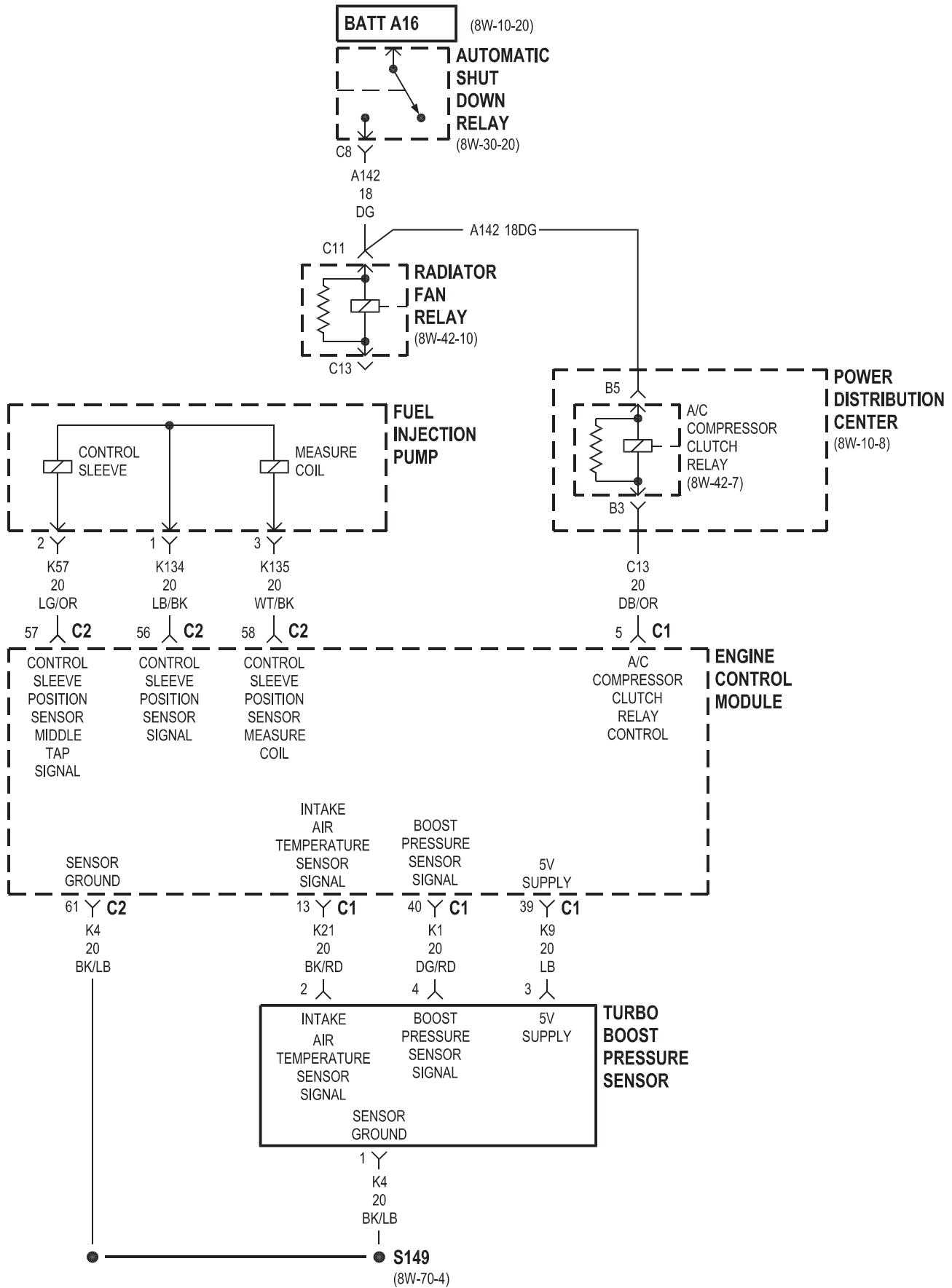


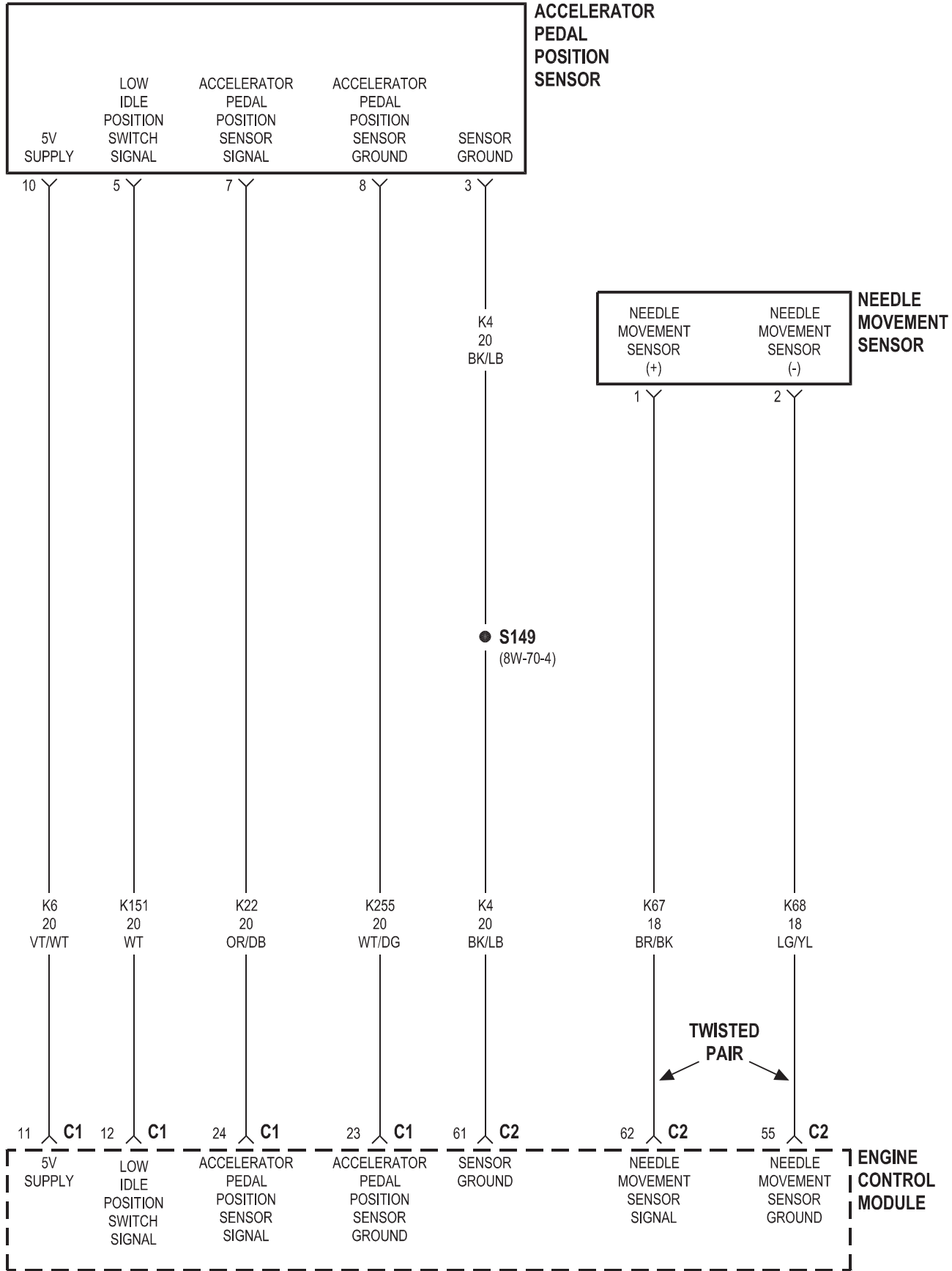


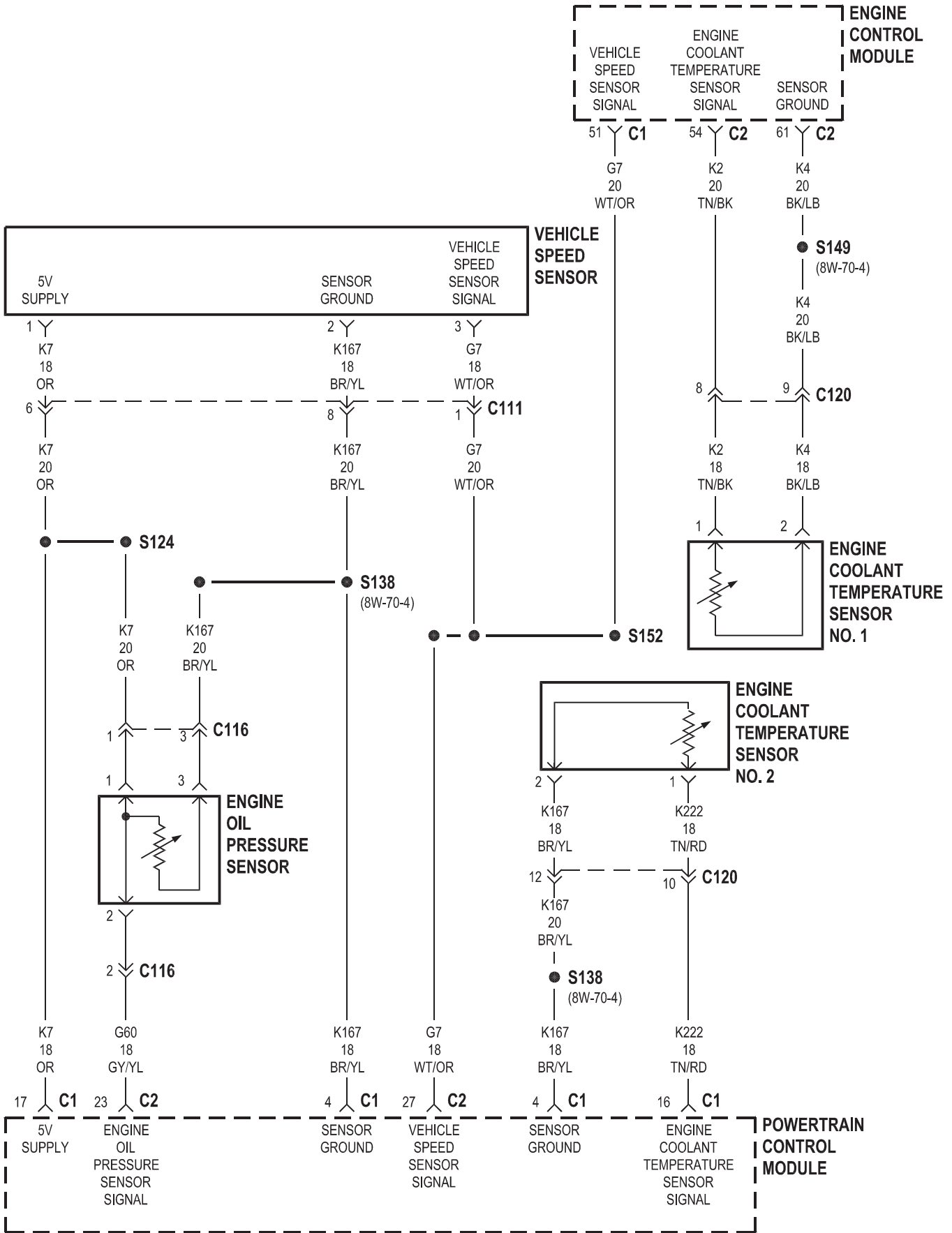




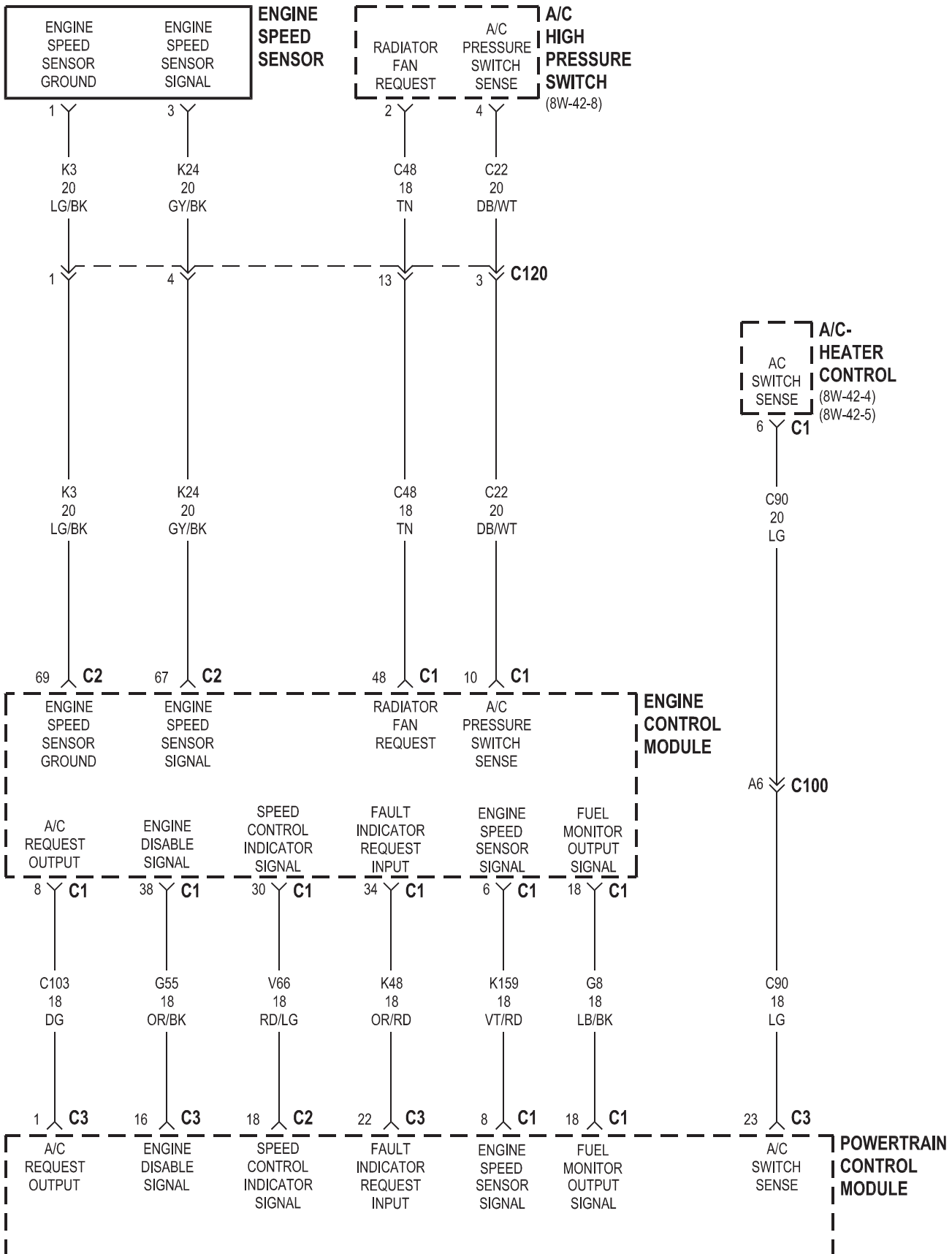


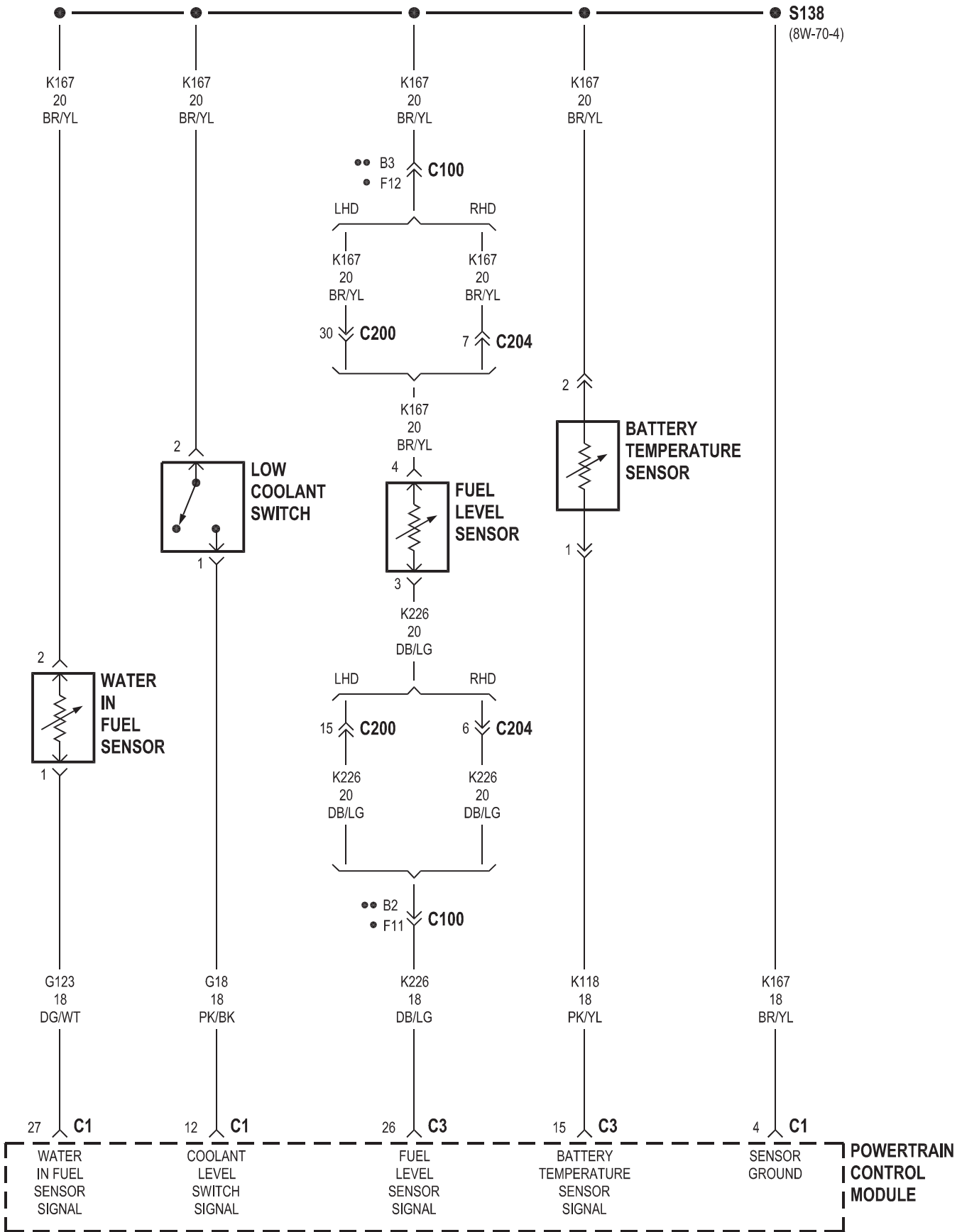




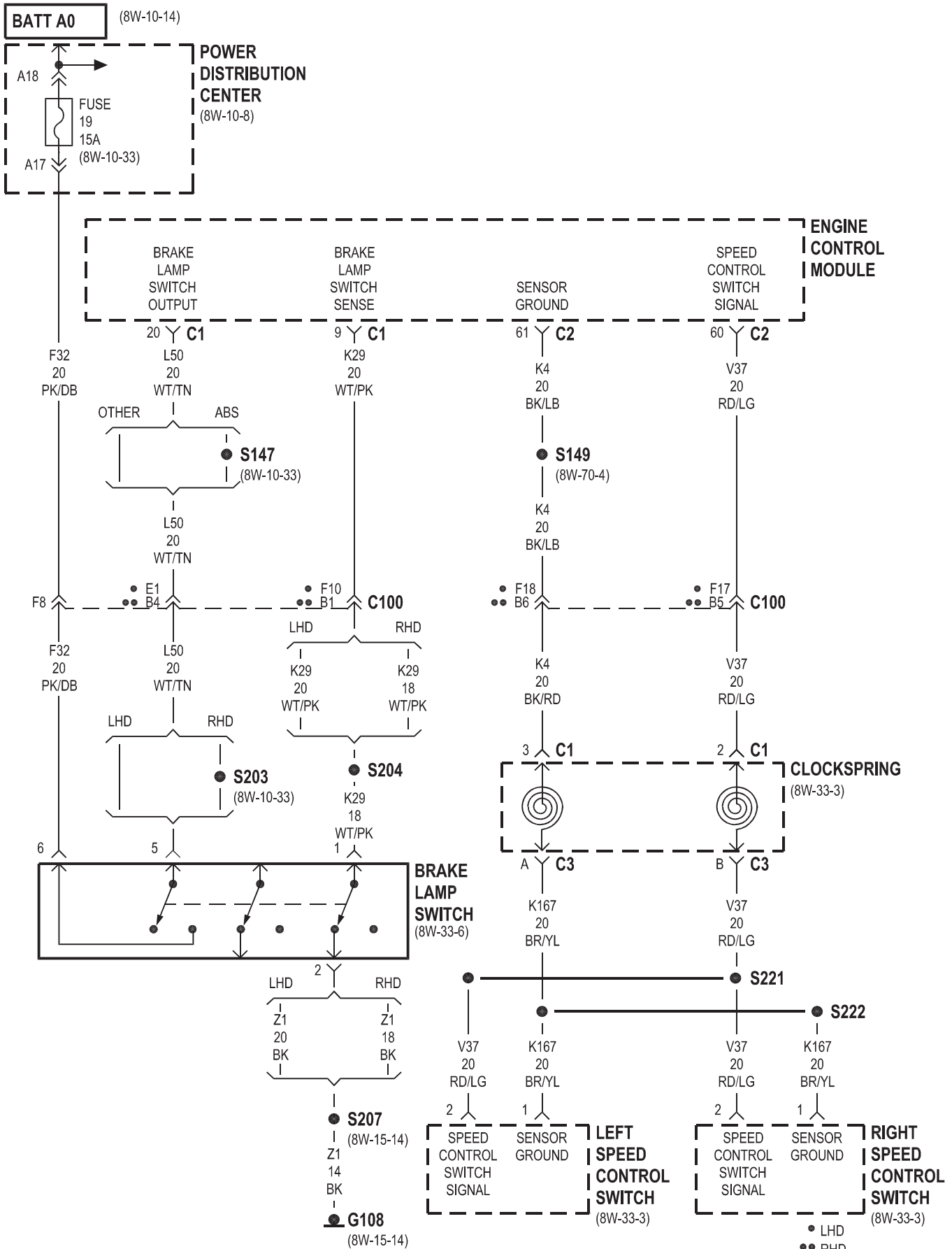


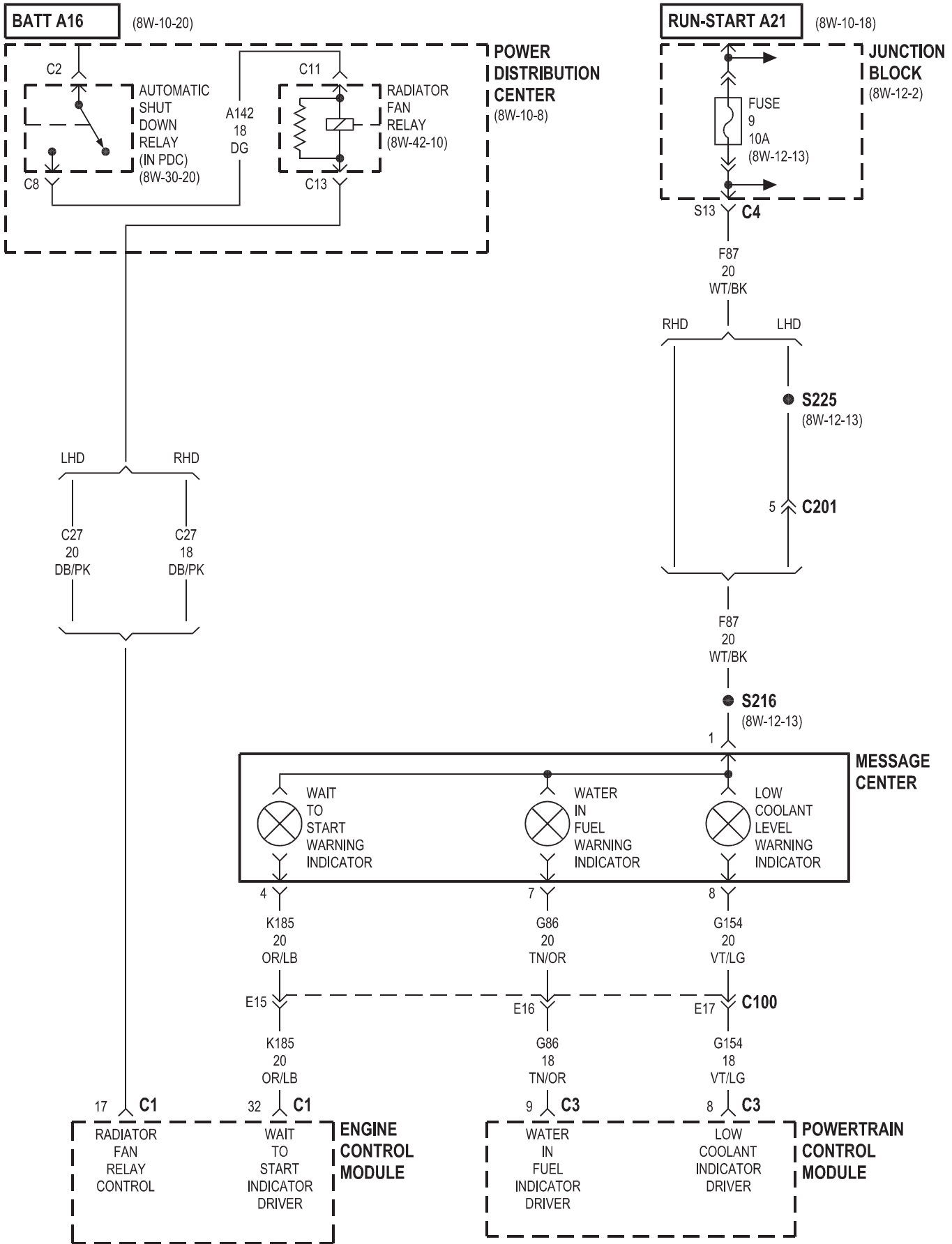






- LHD
- RHD

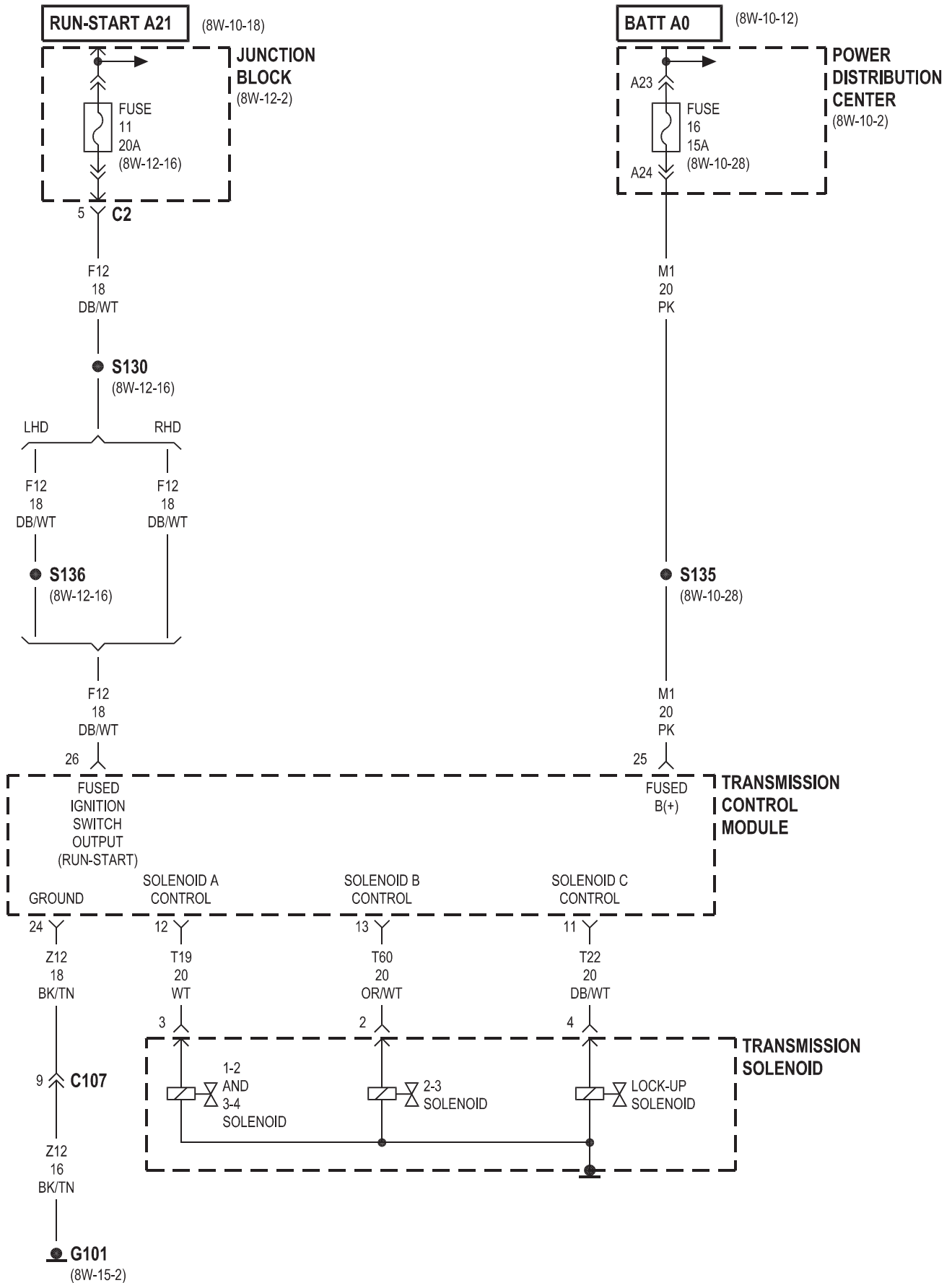


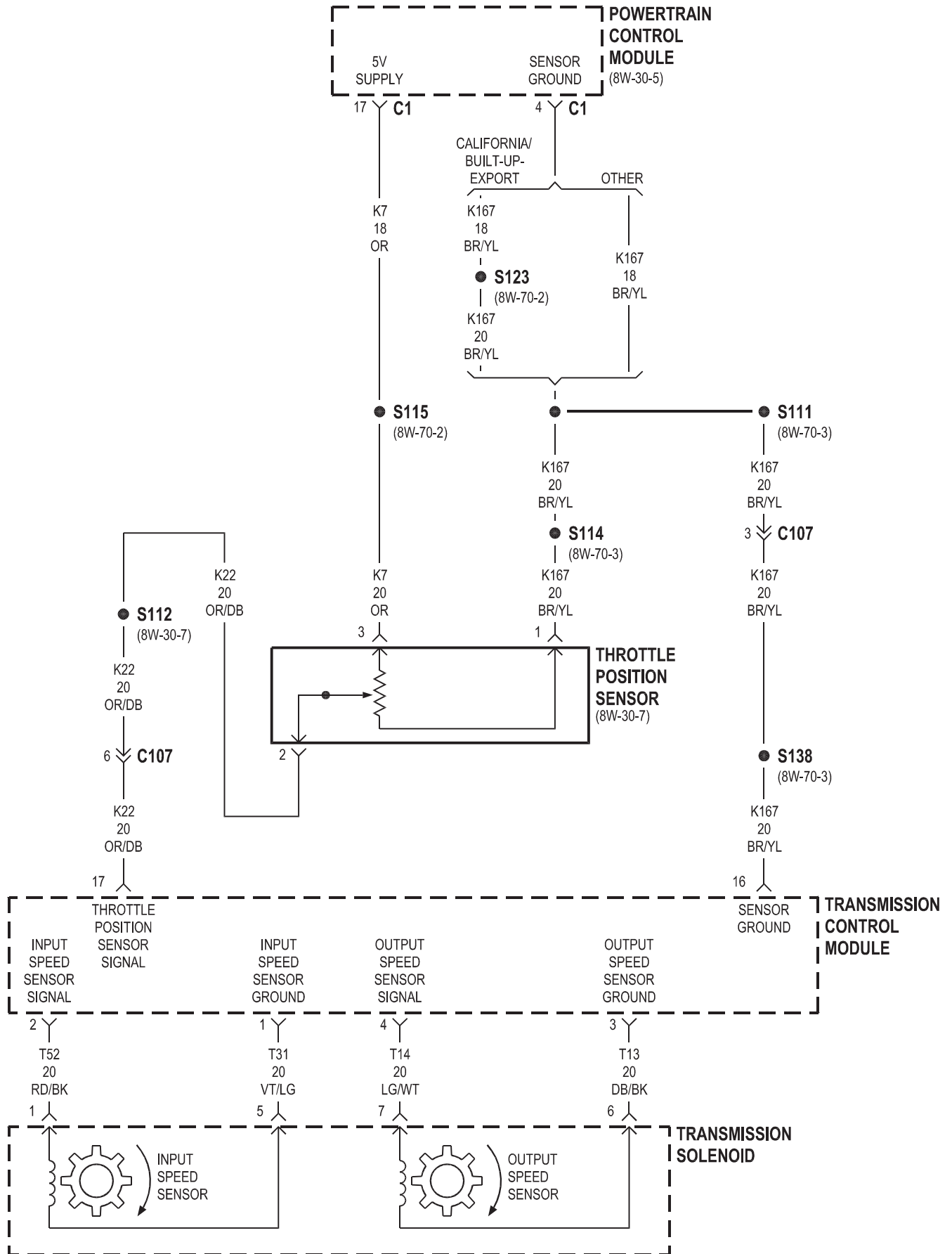




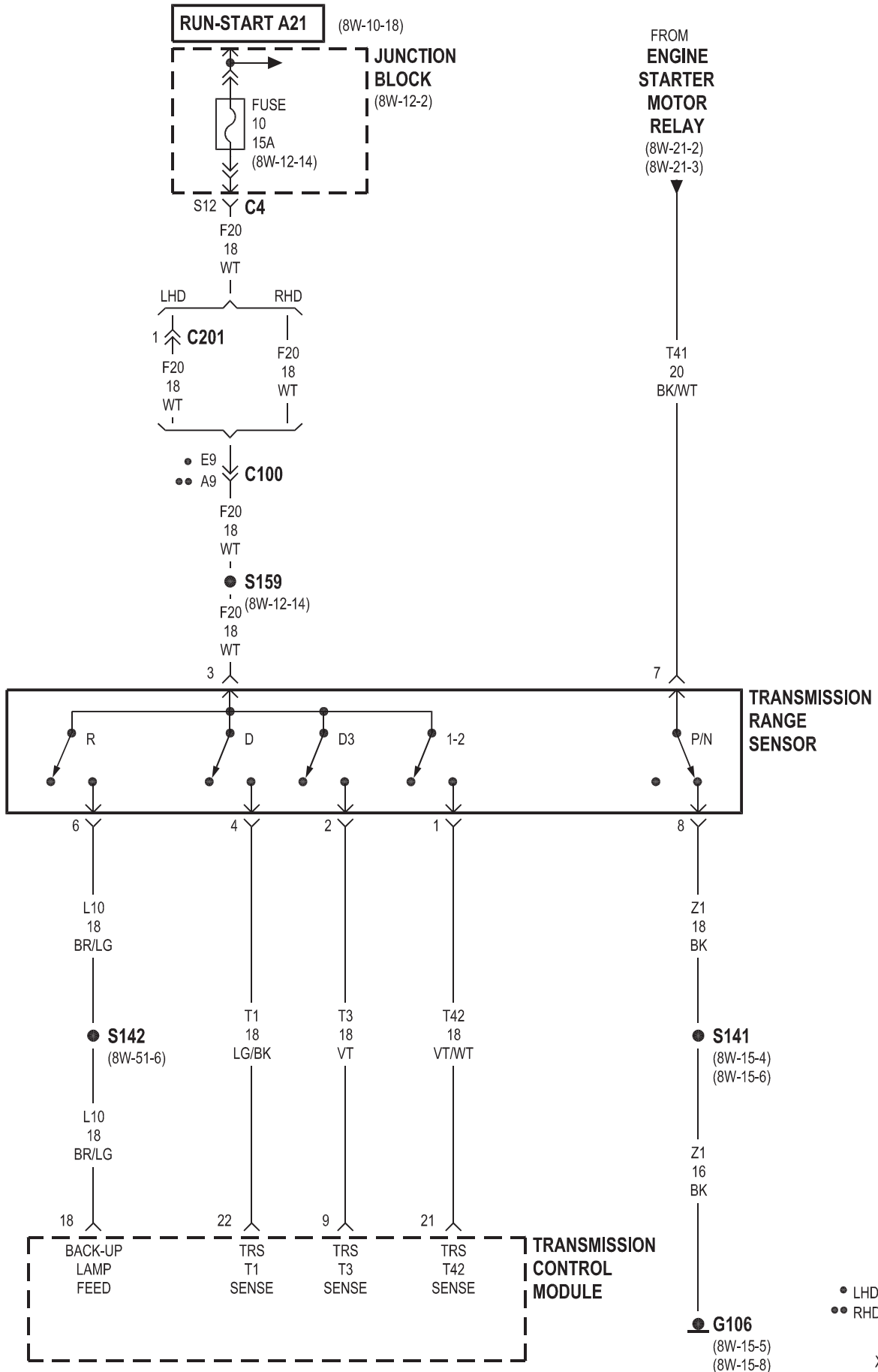
## 8Wa-31 TRANSMISSION CONTROL SYSTEM

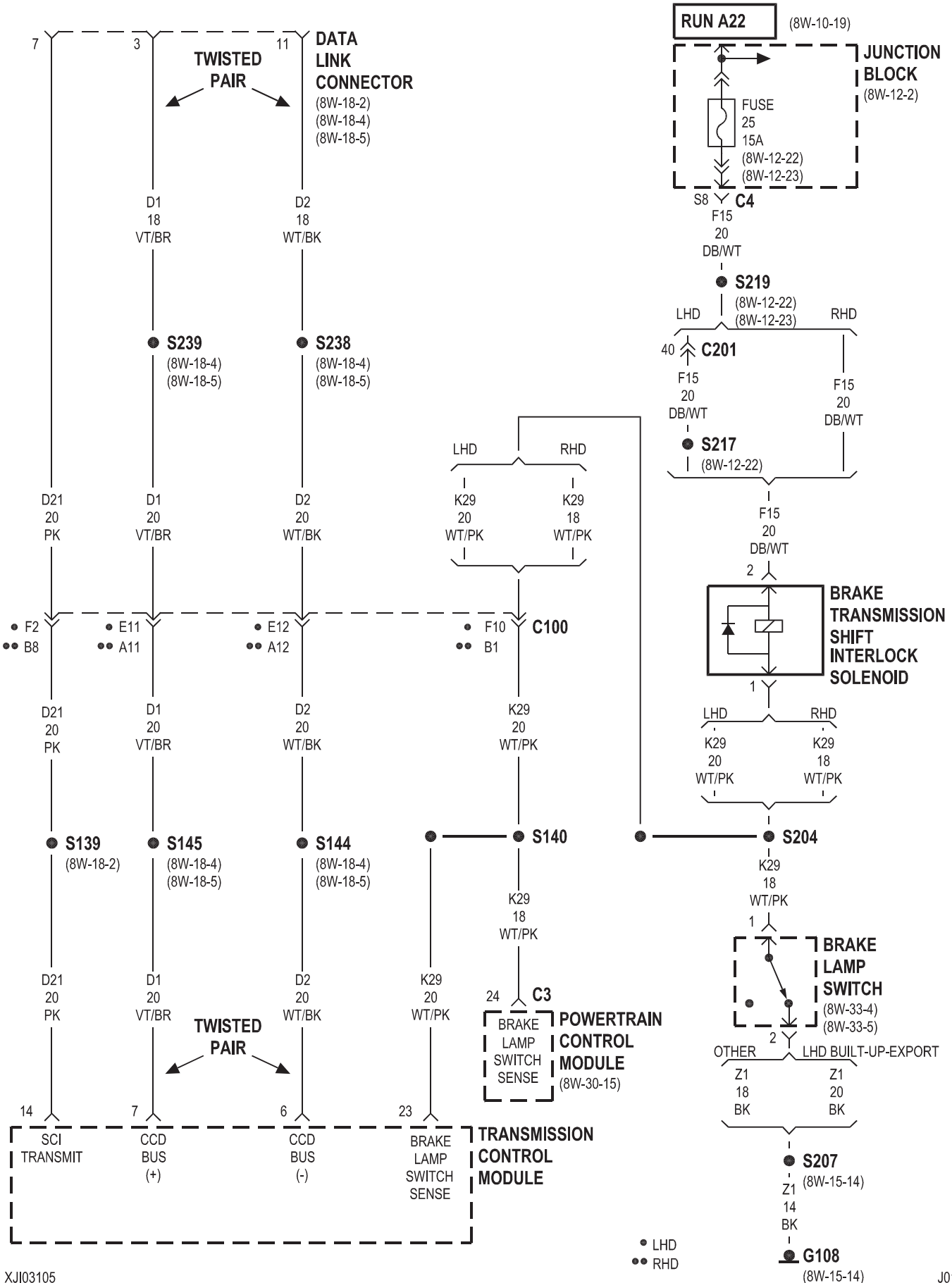
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Brake Lamp Switch . . . . .	8Wa-31-5, 6	G106 . . . . .	8Wa-31-4
Brake Transmission Shift Interlock Solenoid . . . . .	8Wa-31-5, 6	G108 . . . . .	8Wa-31-5, 6
Data Link Connector . . . . .	8Wa-31-5, 6	Junction Block . . . . .	8Wa-31-2, 4, 5, 6
Engine Starter Motor Relay . . . . .	8Wa-31-4	Power Distribution Center . . . . .	8Wa-31-2
Fuse 10 (JB) . . . . .	8Wa-31-4	Powertrain Control Module . . . . .	8Wa-31-3, 5, 6
Fuse 11 (JB) . . . . .	8Wa-31-2	Throttle Position Sensor . . . . .	8Wa-31-3
Fuse 16 (PDC) . . . . .	8Wa-31-2	Transmission Control Module . . . . .	8Wa-31-2, 3, 4, 5
Fuse 25 (JB) . . . . .	8Wa-31-5, 6	Transmission Range Sensor . . . . .	8Wa-31-4
G101 . . . . .	8Wa-31-2	Transmission Solenoid . . . . .	8Wa-31-2, 3

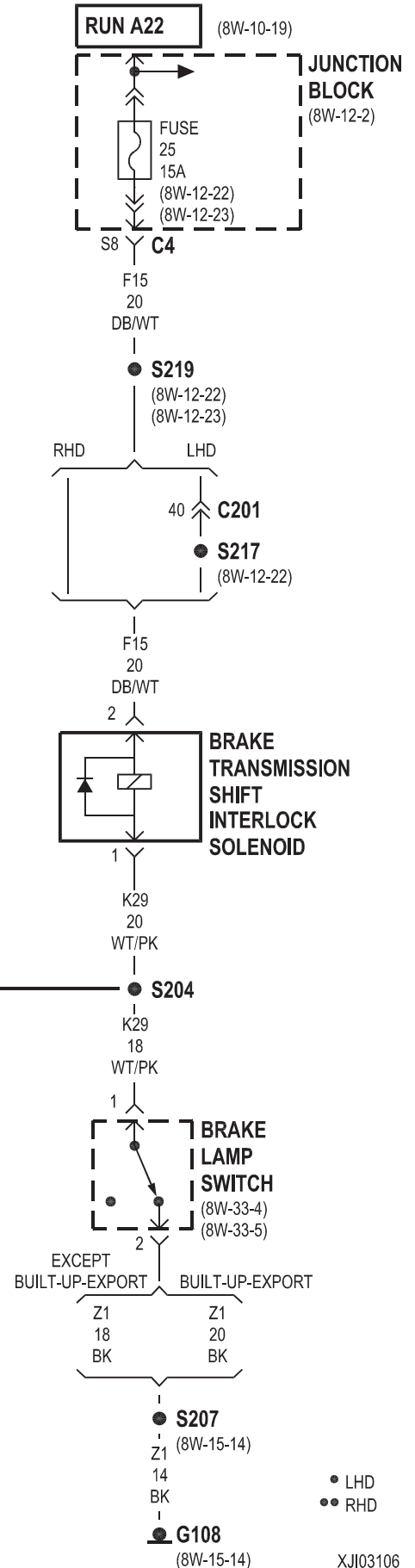
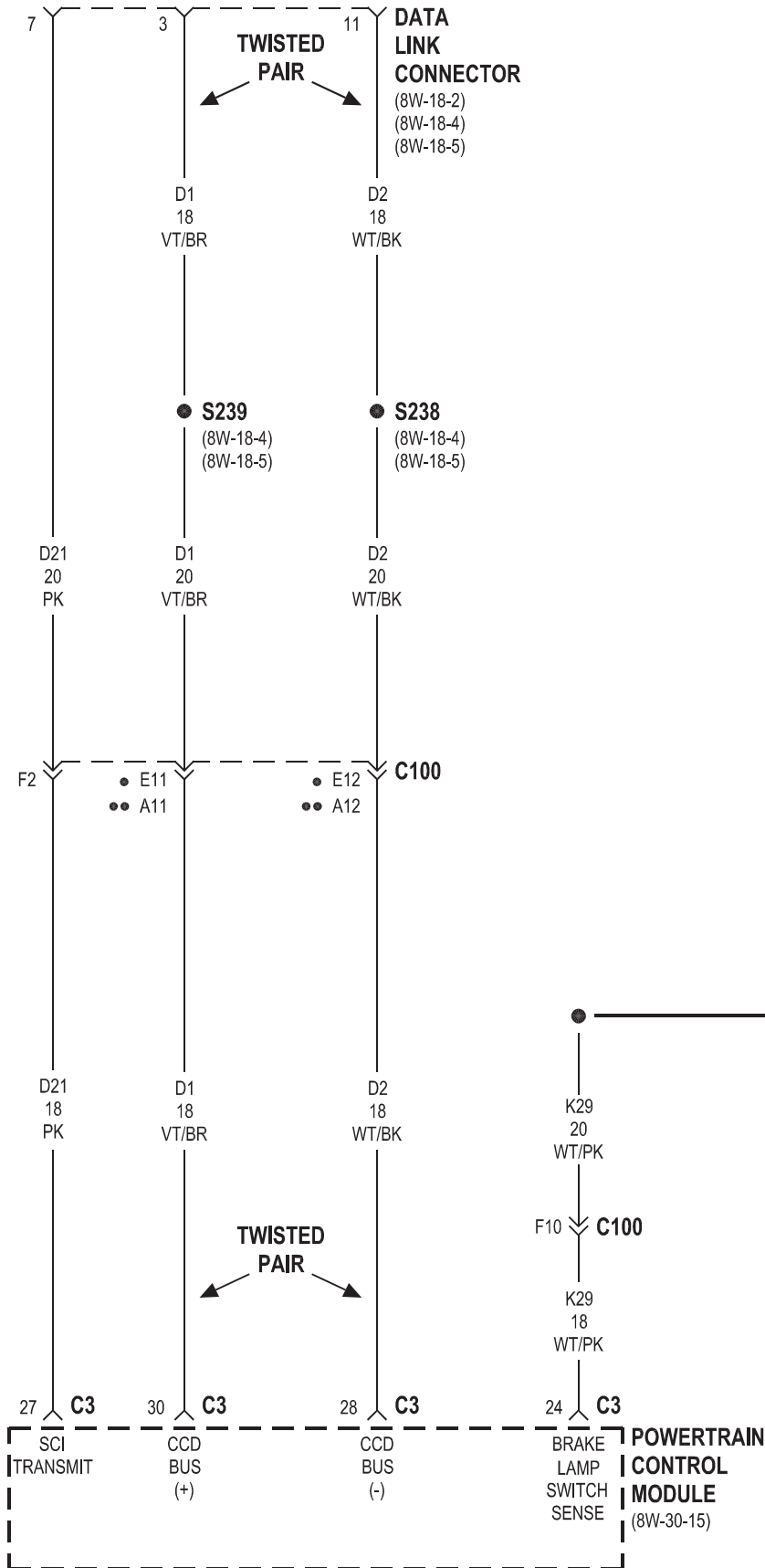






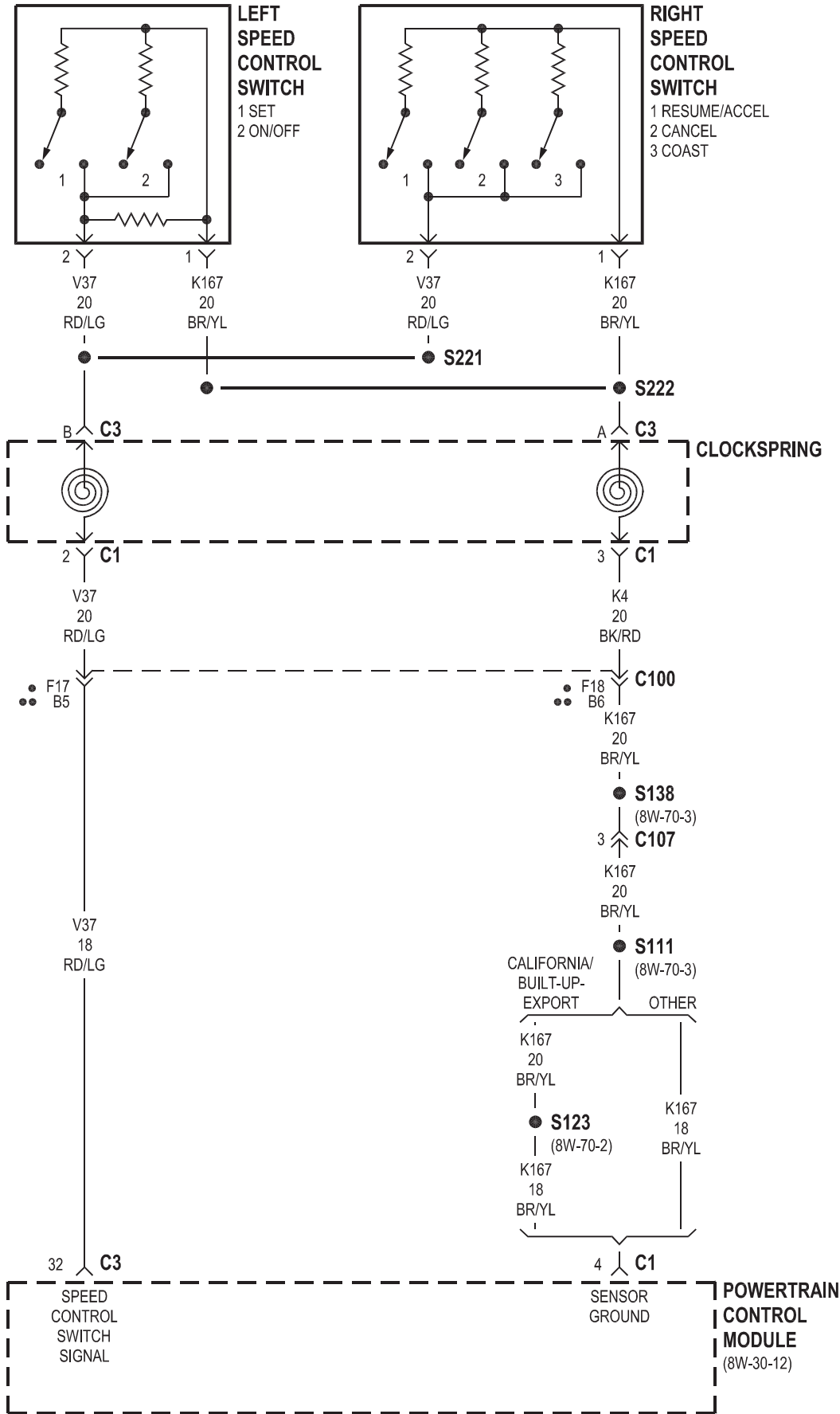




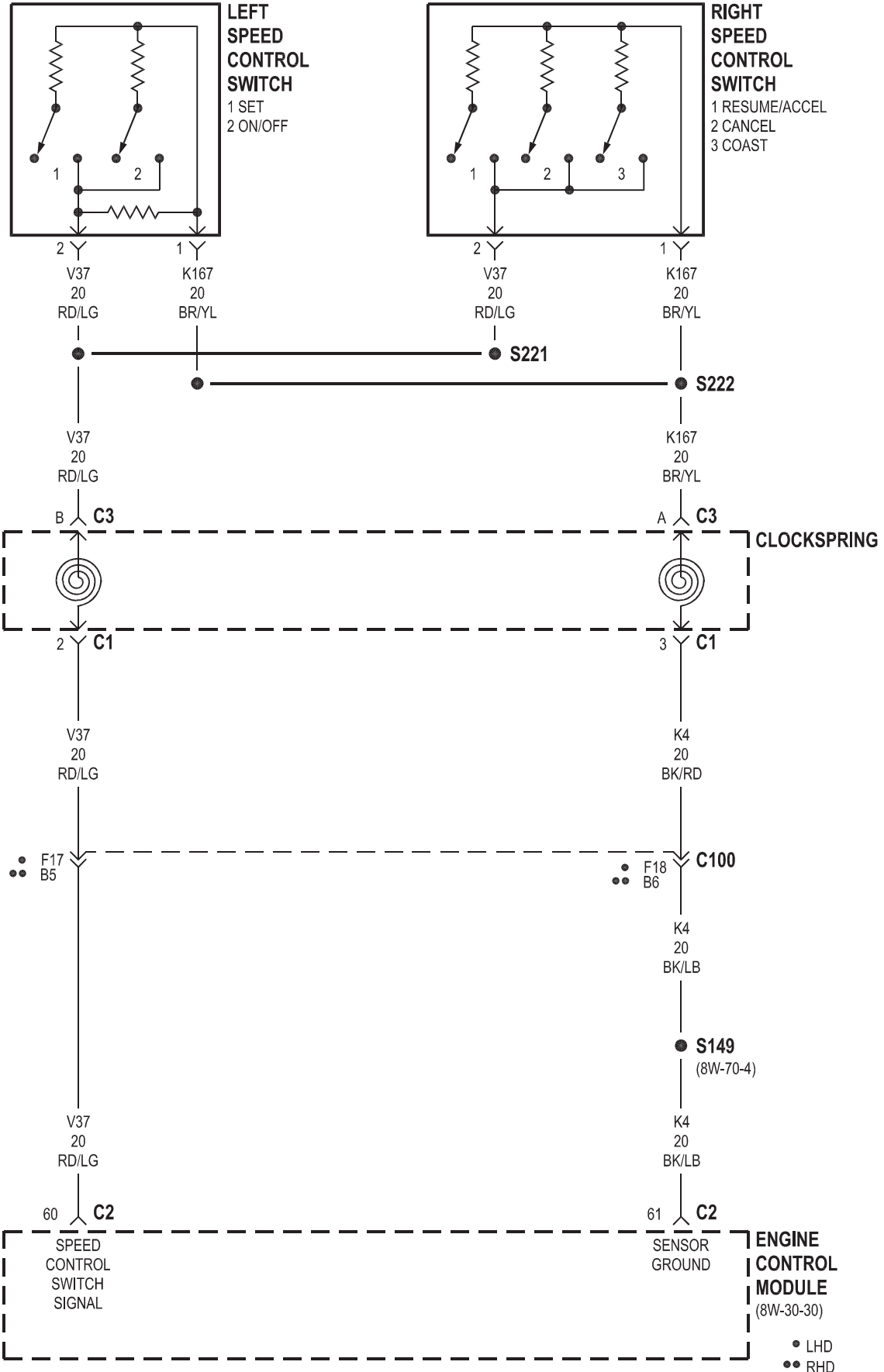


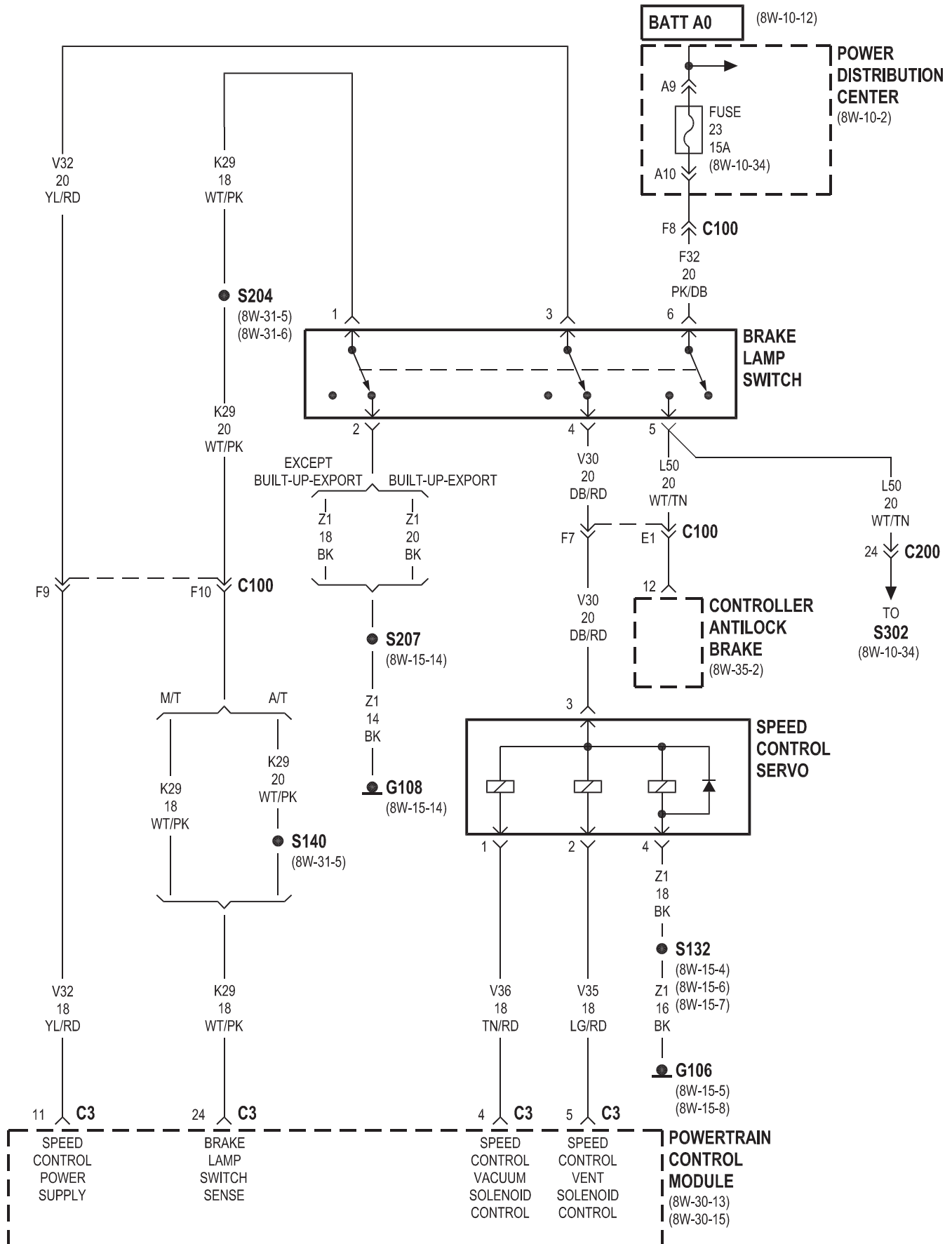
## 8Wa-33 VEHICLE SPEED CONTROL

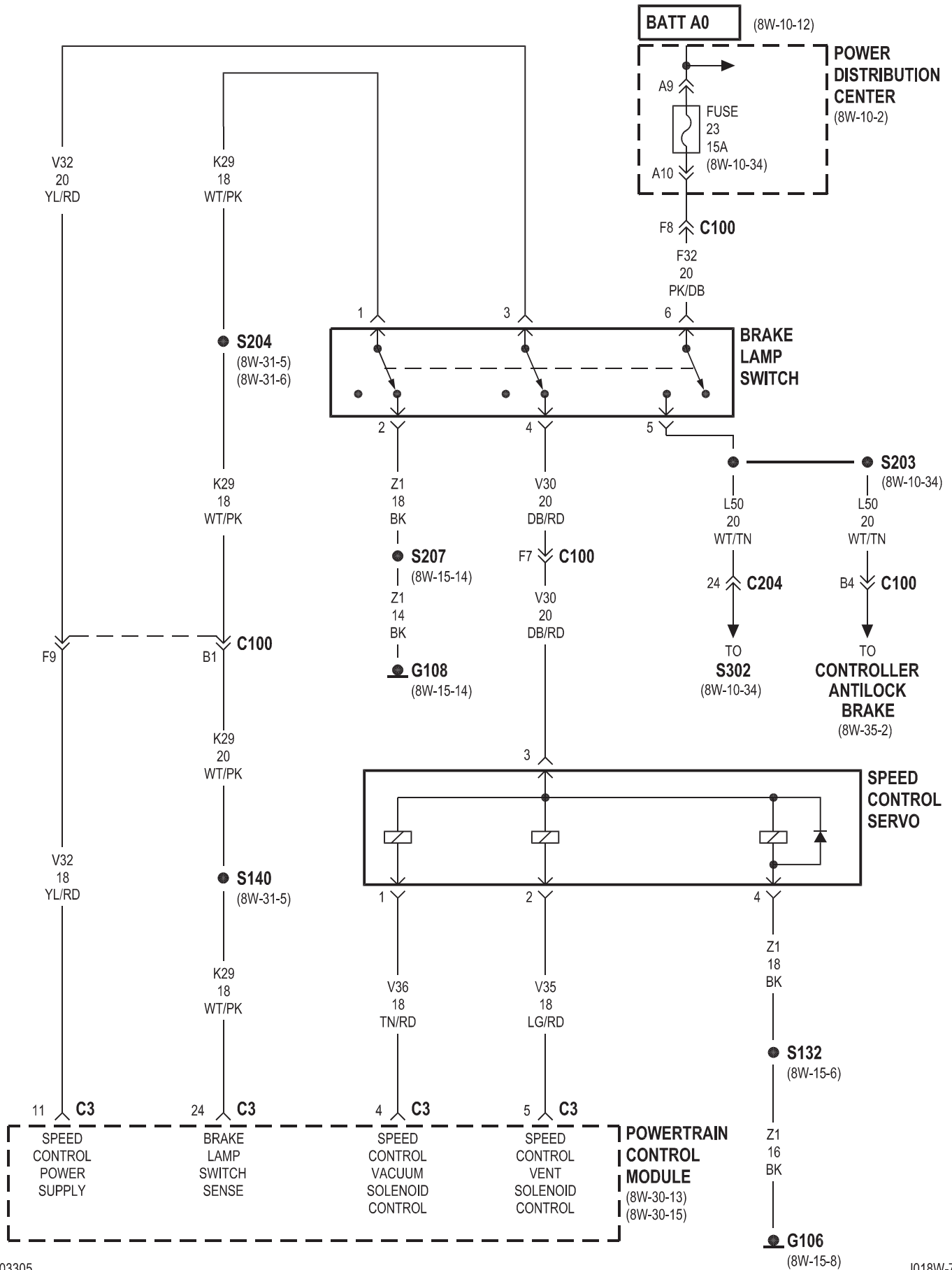
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Accelerator Pedal Position Sensor . . . . .	8Wa-33-6	G106 . . . . .	8Wa-33-4, 5
Brake Lamp Switch . . . . .	8Wa-33-4, 5, 6	G108 . . . . .	8Wa-33-4, 5, 6
Clockspring . . . . .	8Wa-33-2, 3	Left Speed Control Switch . . . . .	8Wa-33-2, 3
Controller Antilock Brake . . . . .	8Wa-33-4, 5	Power Distribution Center . . . . .	8Wa-33-4, 5, 6
Engine Control Module . . . . .	8Wa-33-3, 6	Powertrain Control Module . . . . .	8Wa-33-2, 4, 5, 6
Fuel Injection Pump . . . . .	8Wa-33-6	Right Speed Control Switch . . . . .	8Wa-33-2, 3
Fuse 19 (PDC) Diesel . . . . .	8Wa-33-6	Speed Control Servo . . . . .	8Wa-33-4, 5
Fuse 23 (PDC) Gas . . . . .	8Wa-33-4, 5		



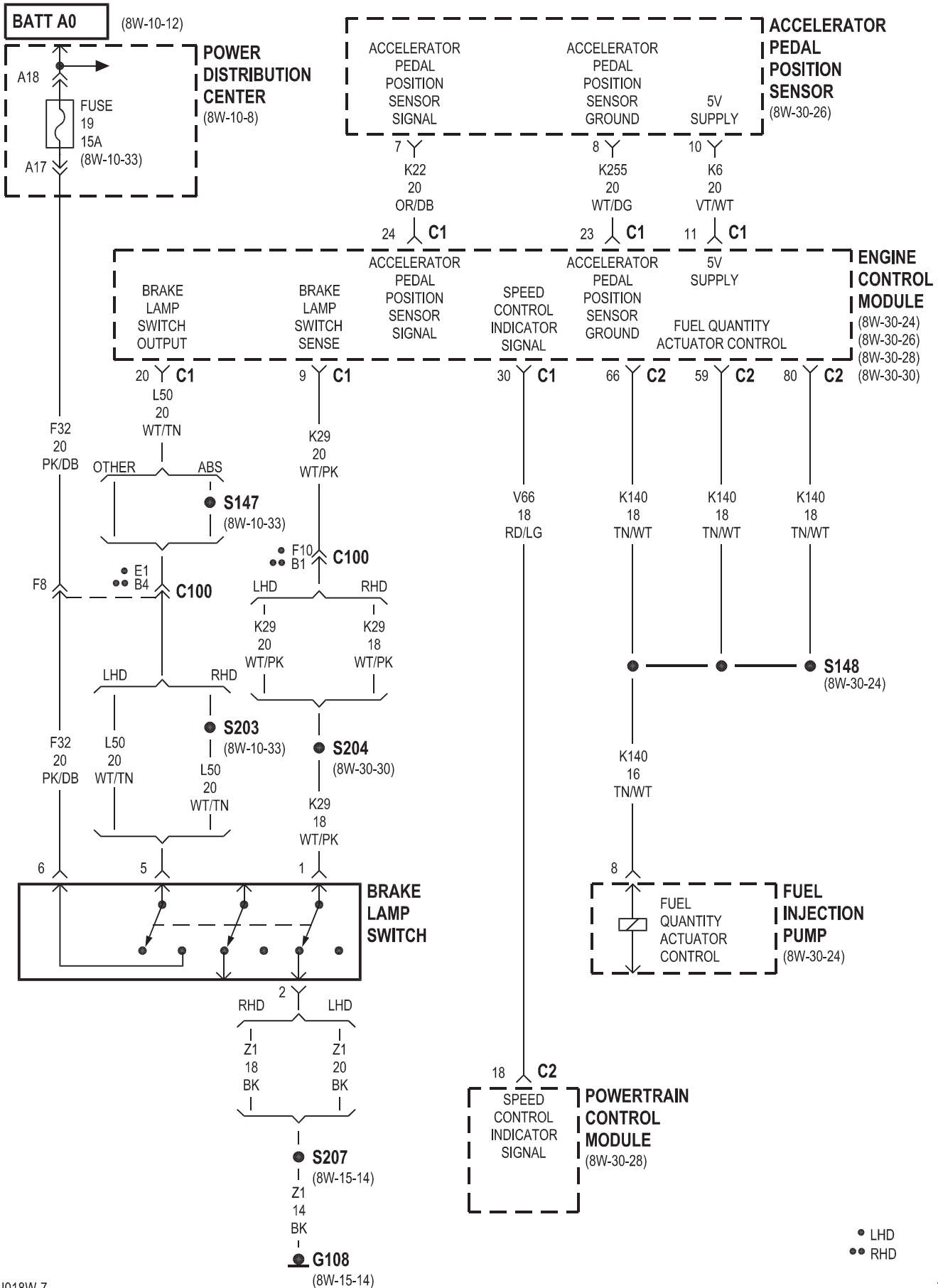
- LHD
- RHD





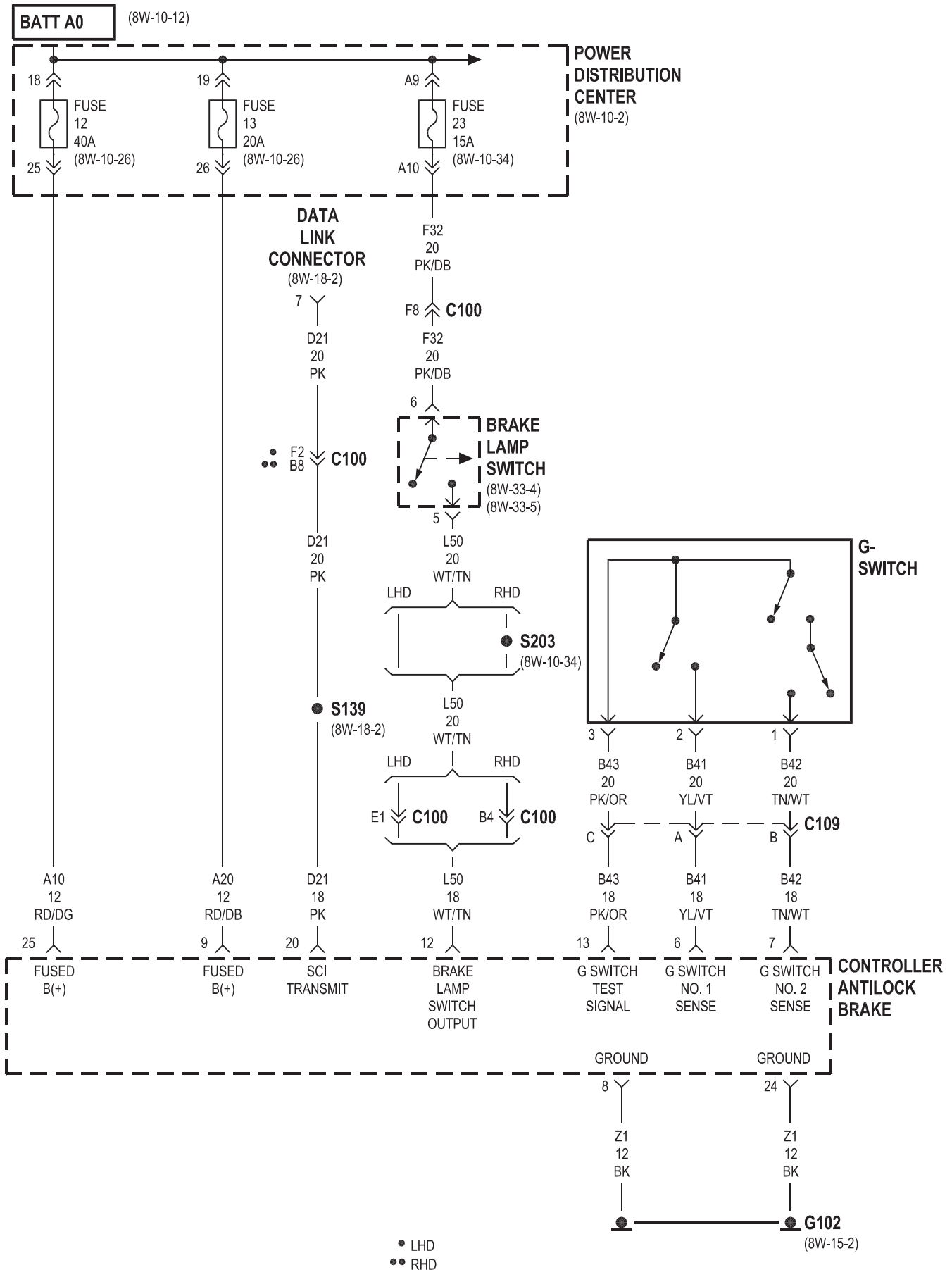


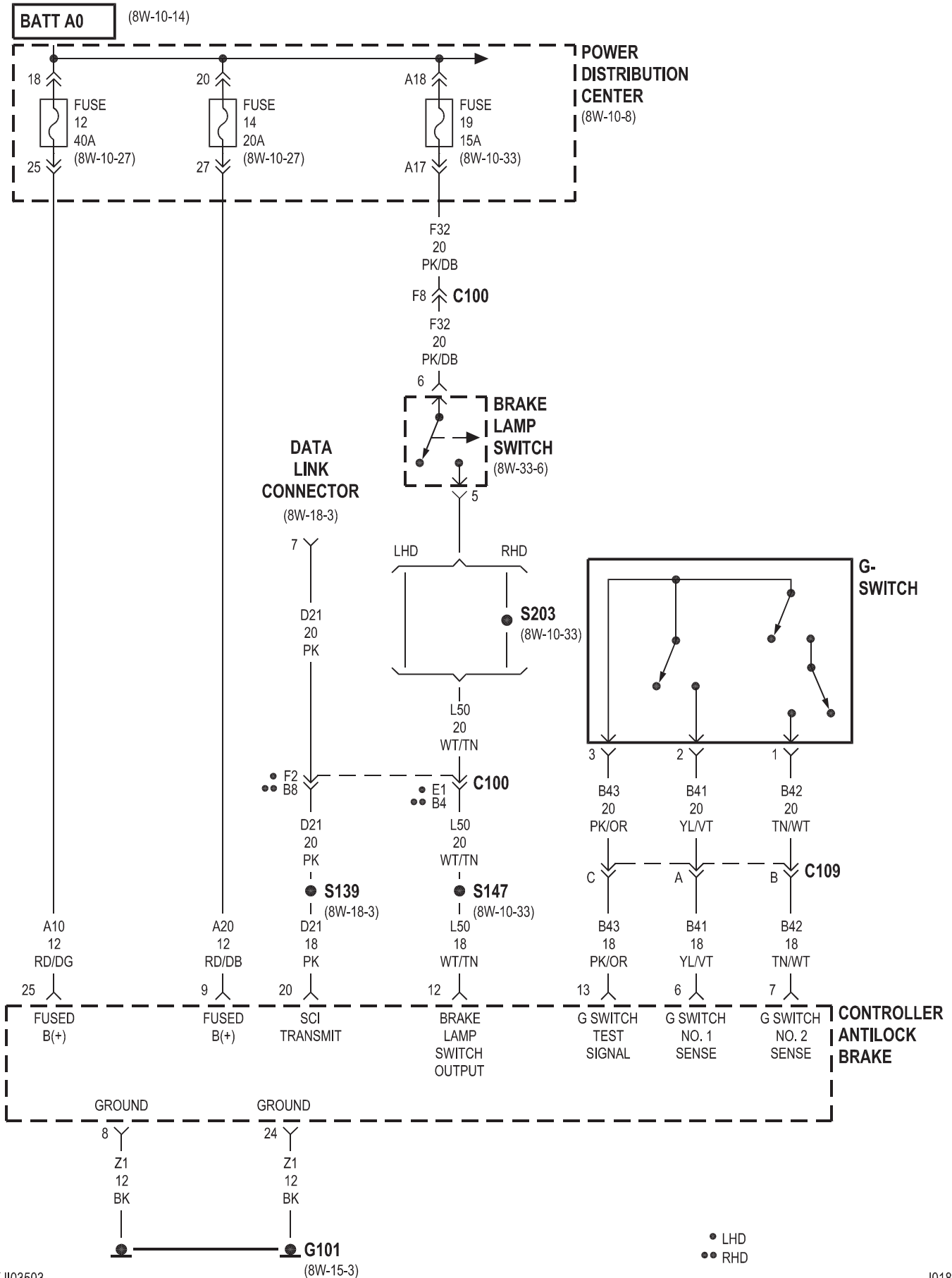


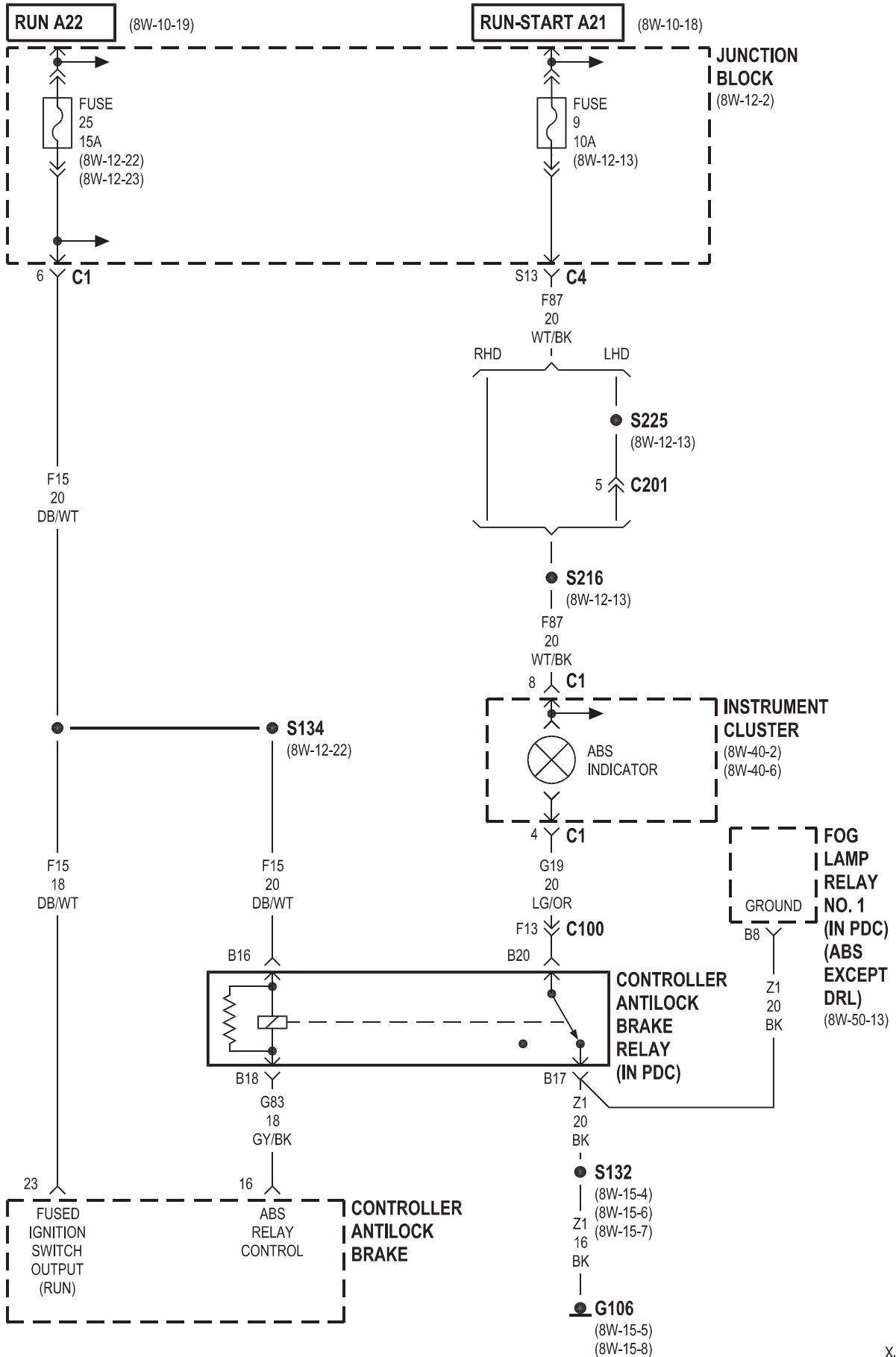


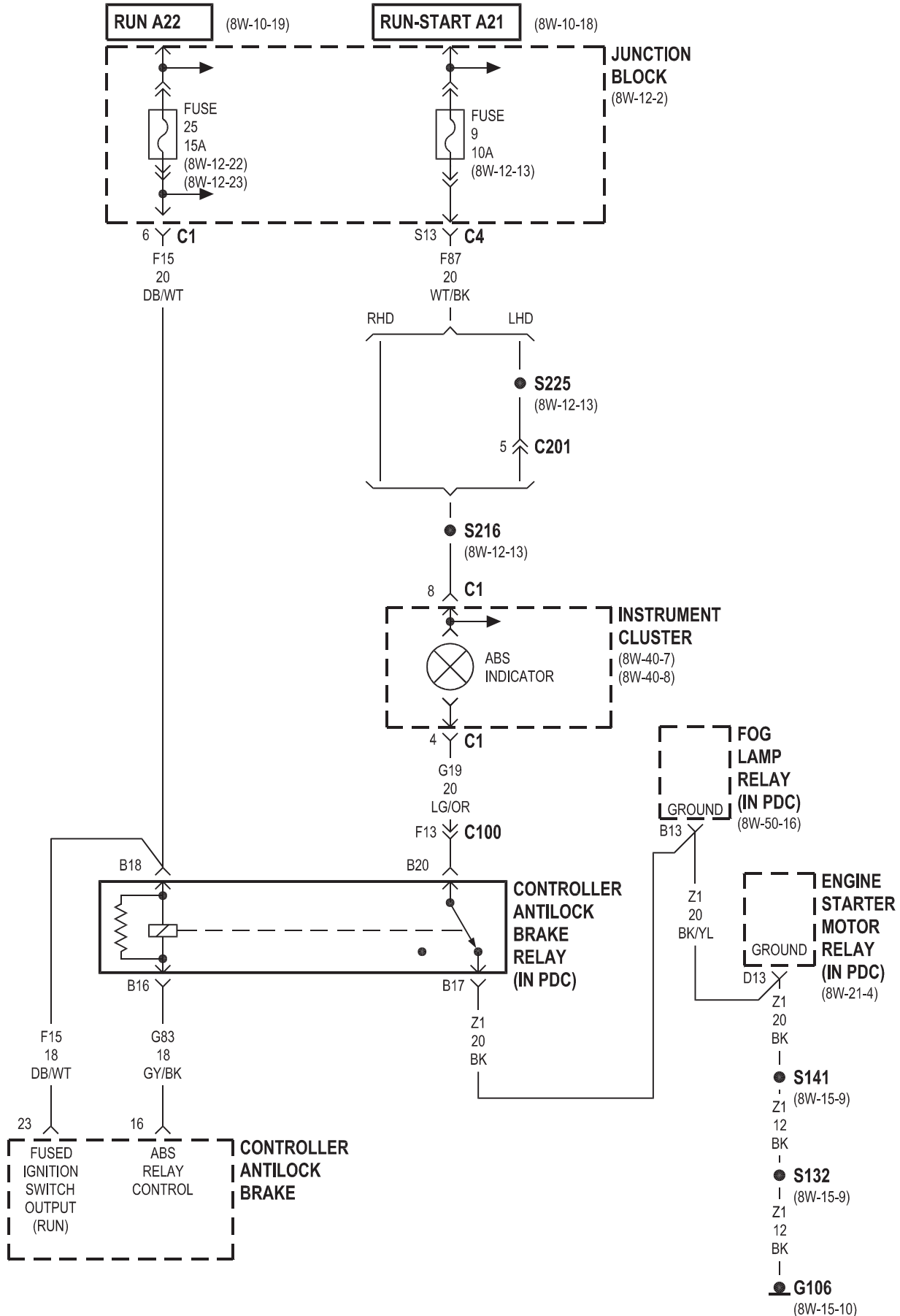
## 8Wa-35 ANTILOCK BRAKES

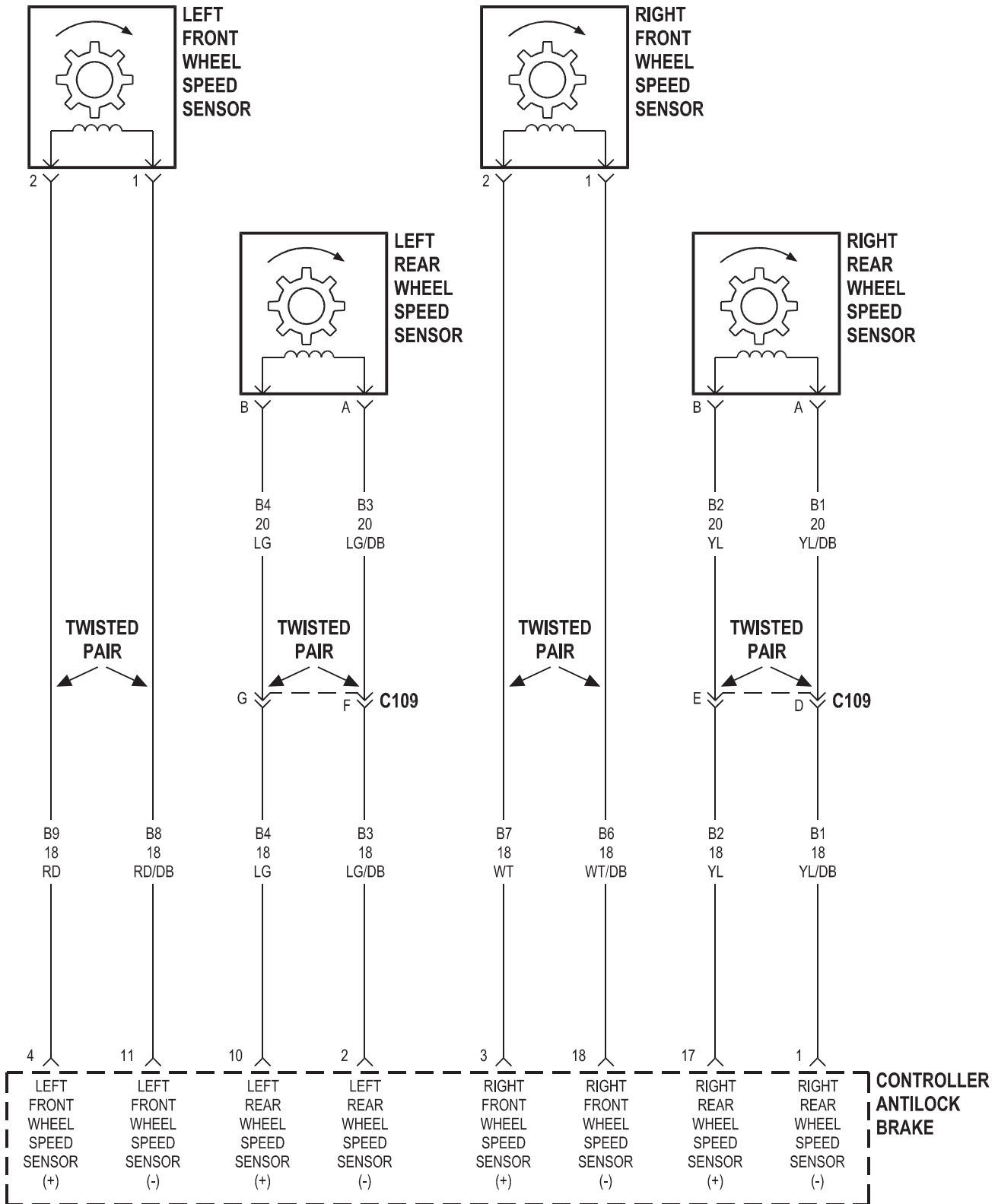
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Brake Lamp Switch . . . . .	8Wa-35-2, 3	Fuse 23 (PDC) . . . . .	8Wa-35-2
Controller Antilock Brake . . . . .	8Wa-35-2, 3, 4, 5, 6	Fuse 25 (JB) . . . . .	8Wa-35-4, 5
Controller Antilock Brake Relay . . . . .	8Wa-35-4, 5	G- Switch . . . . .	8Wa-35-2, 3
Data Link Connector . . . . .	8Wa-35-2, 3	G101 . . . . .	8Wa-35-3
Engine Starter Motor Relay . . . . .	8Wa-35-5	G102 . . . . .	8Wa-35-2
Fog Lamp Relay . . . . .	8Wa-35-5	G106 . . . . .	8Wa-35-4, 5
Fog Lamp Relay No. 1 . . . . .	8Wa-35-4	Instrument Cluster . . . . .	8Wa-35-4, 5
Fuse 9 (JB) . . . . .	8Wa-35-4, 5	Junction Block . . . . .	8Wa-35-4, 5
Fuse 12 (PDC)(Diesel) . . . . .	8Wa-35-3	Left Front Wheel Speed Sensor . . . . .	8Wa-35-6
Fuse 12 (PDC)(Gas) . . . . .	8Wa-35-2	Left Rear Wheel Speed Sensor . . . . .	8Wa-35-6
Fuse 13 (PDC) . . . . .	8Wa-35-2	Power Distribution Center . . . . .	8Wa-35-2, 3
Fuse 14 (PDC) . . . . .	8Wa-35-3	Right Front Wheel Speed Sensor . . . . .	8Wa-35-6
Fuse 19 (PDC) . . . . .	8Wa-35-3	Right Rear Wheel Speed Sensor . . . . .	8Wa-35-6









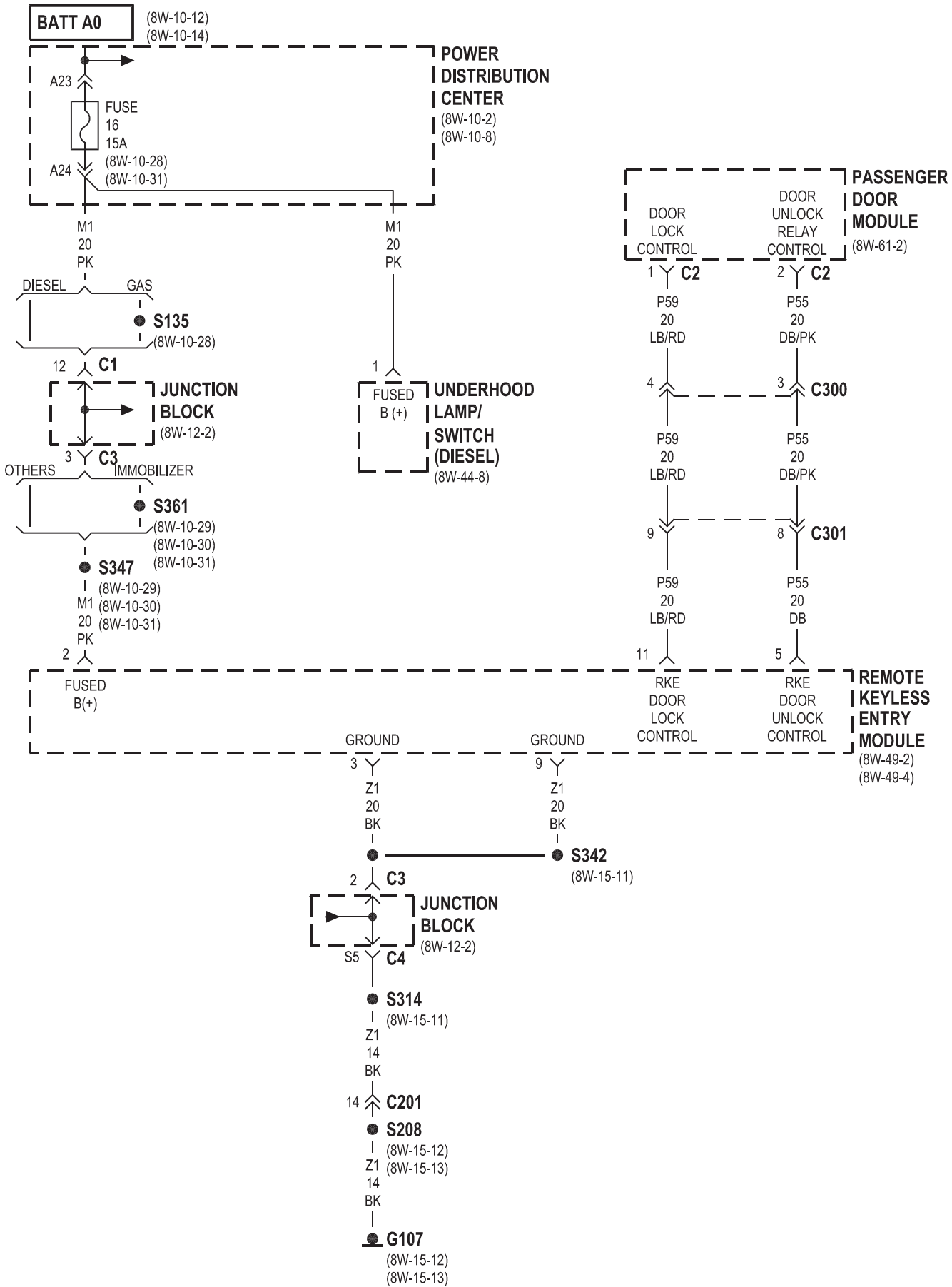


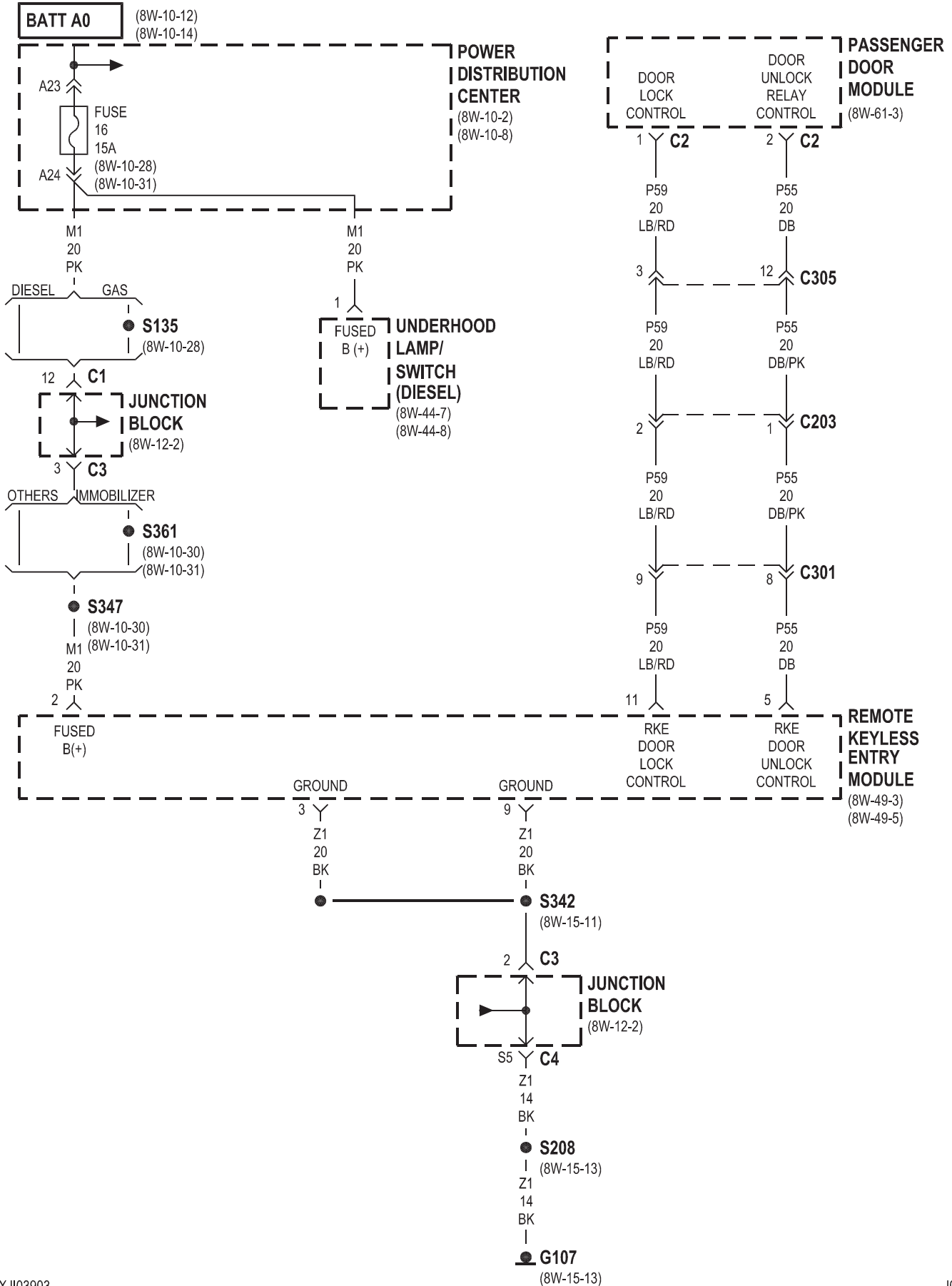
## 8Wa-39 VEHICLE THEFT SECURITY SYSTEM

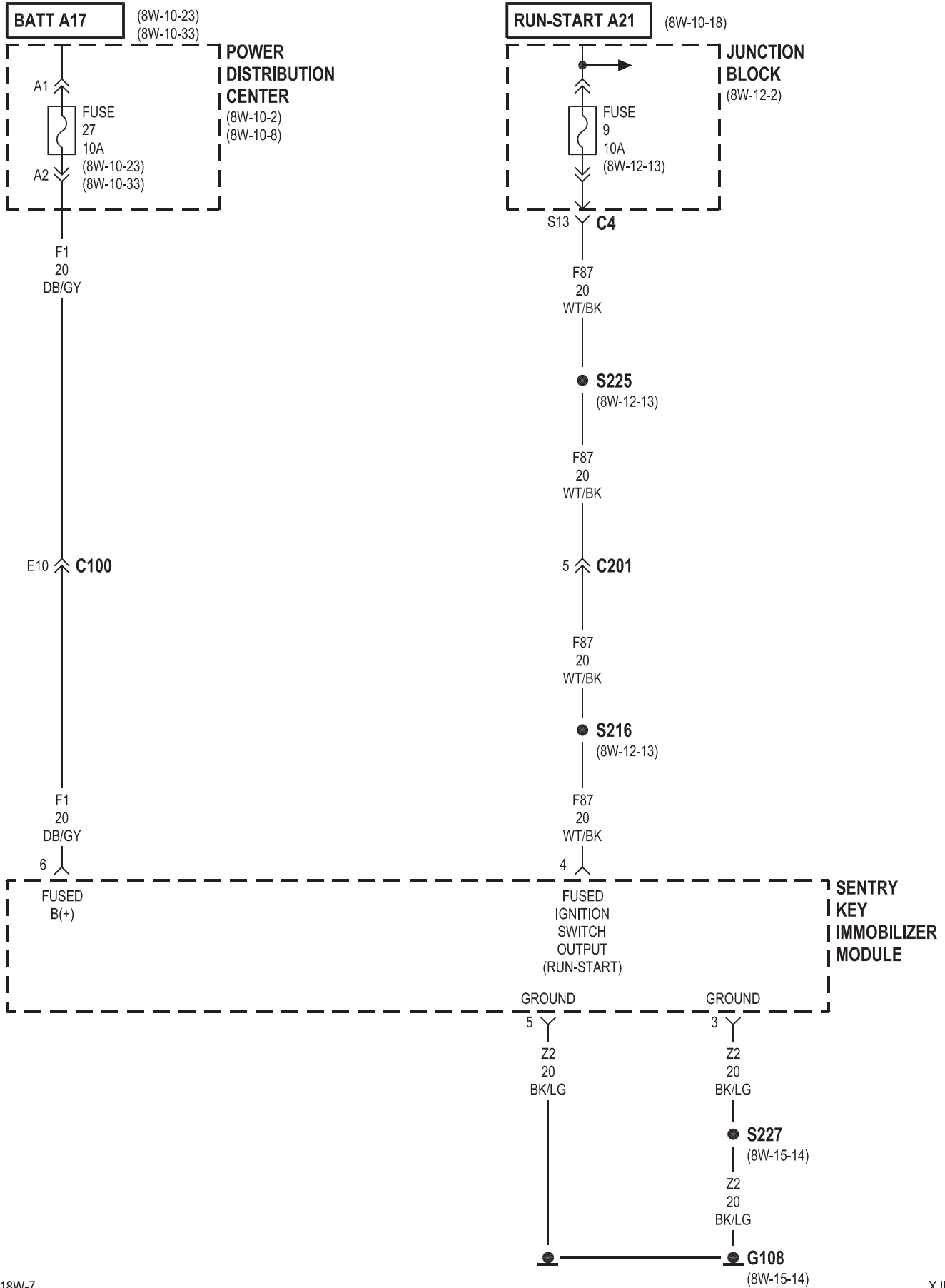
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Cargo Lamp/Switch . . . . .	8Wa-39-6, 7	Instrument Cluster . . . . .	8Wa-39-8, 9
Data Link Connector . . . . .	8Wa-39-8, 9	Junction Block . . . . .	8Wa-39-2, 3, 4, 5, 6, 7, 8, 9
Driver Door Ajar Switch . . . . .	8Wa-39-6, 7	Left Rear Door Ajar Switch . . . . .	8Wa-39-6, 7
Engine Control Module . . . . .	8Wa-39-8, 9	Liftgate Ajar Switch . . . . .	8Wa-39-6, 7
Fuse 9 (JB) . . . . .	8Wa-39-4, 5	Passenger Door Ajar Switch . . . . .	8Wa-39-6, 7
Fuse 16 (PDC) . . . . .	8Wa-39-2, 3	Passenger Door Module . . . . .	8Wa-39-2, 3
Fuse 27 (PDC) . . . . .	8Wa-39-4, 5	Power Distribution Center . . . . .	8Wa-39-2, 3, 4, 5
G107 . . . . .	8Wa-39-2, 3	Powertrain Control Module . . . . .	8Wa-39-8, 9
G108 . . . . .	8Wa-39-4, 5	Remote Keyless Entry Module . . . . .	8Wa-39-2, 3, 6, 7, 8, 9
G302 . . . . .	8Wa-39-6, 7	Right Rear Door Ajar Switch . . . . .	8Wa-39-6, 7
G303 . . . . .	8Wa-39-6, 7	Sentry Key Immobilizer Module . . . . .	8Wa-39-4, 5, 8, 9
G304 . . . . .	8Wa-39-6, 7	Underhood Lamp/Switch . . . . .	8Wa-39-2, 3
Headlamp Switch . . . . .	8Wa-39-6, 7		
Horn Relay . . . . .	8Wa-39-8, 9		
Ignition Switch . . . . .	8Wa-39-6, 7		

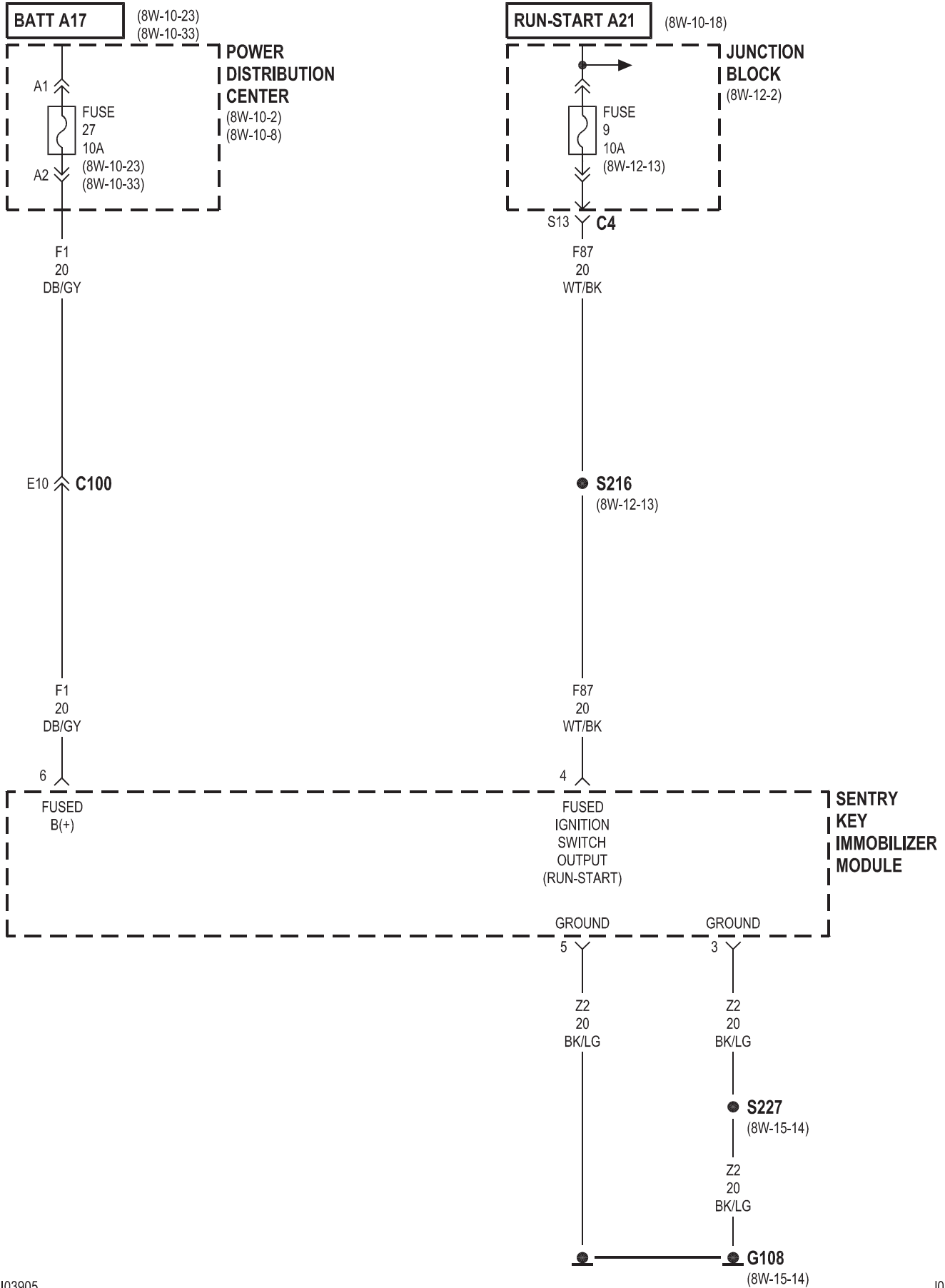


LHD

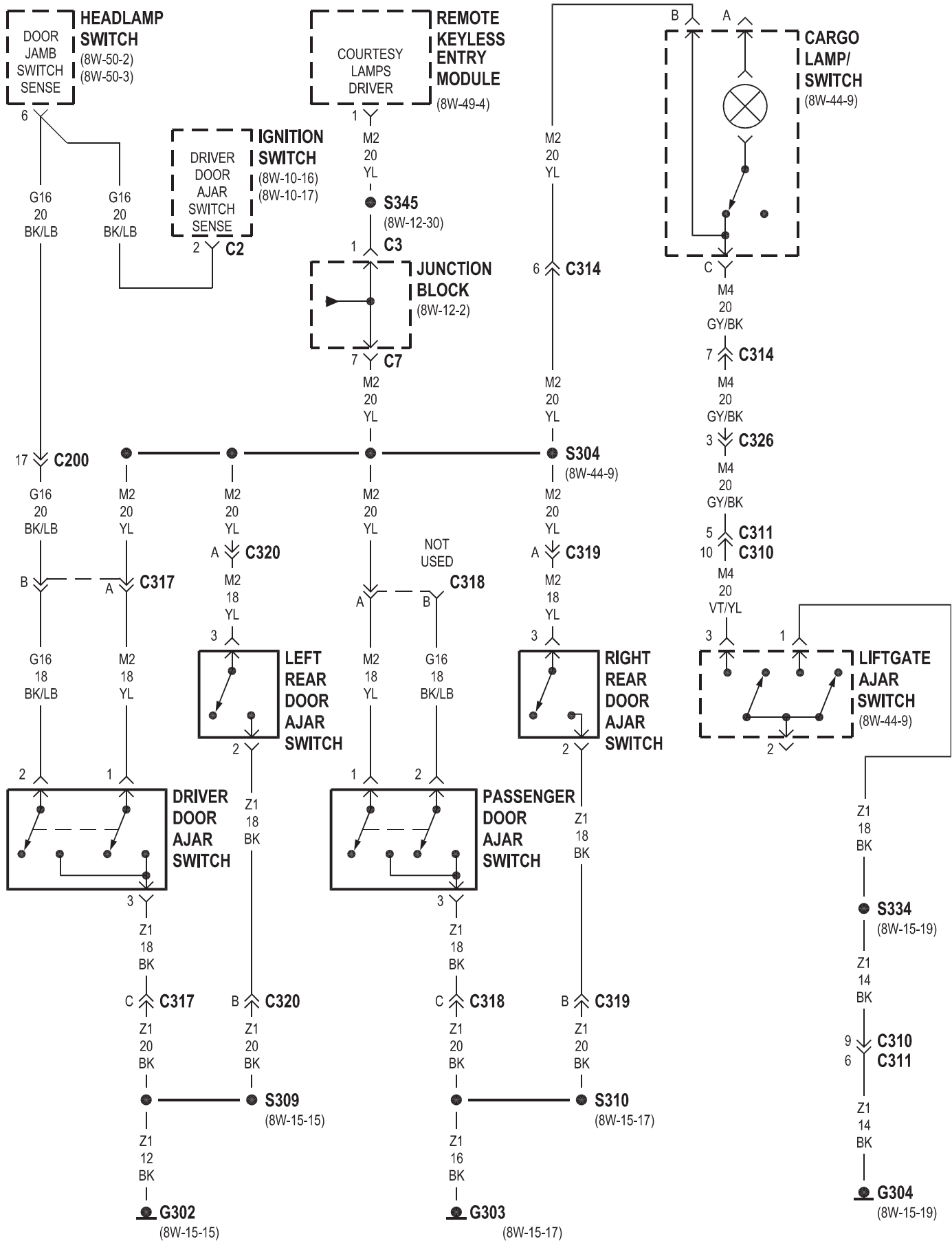


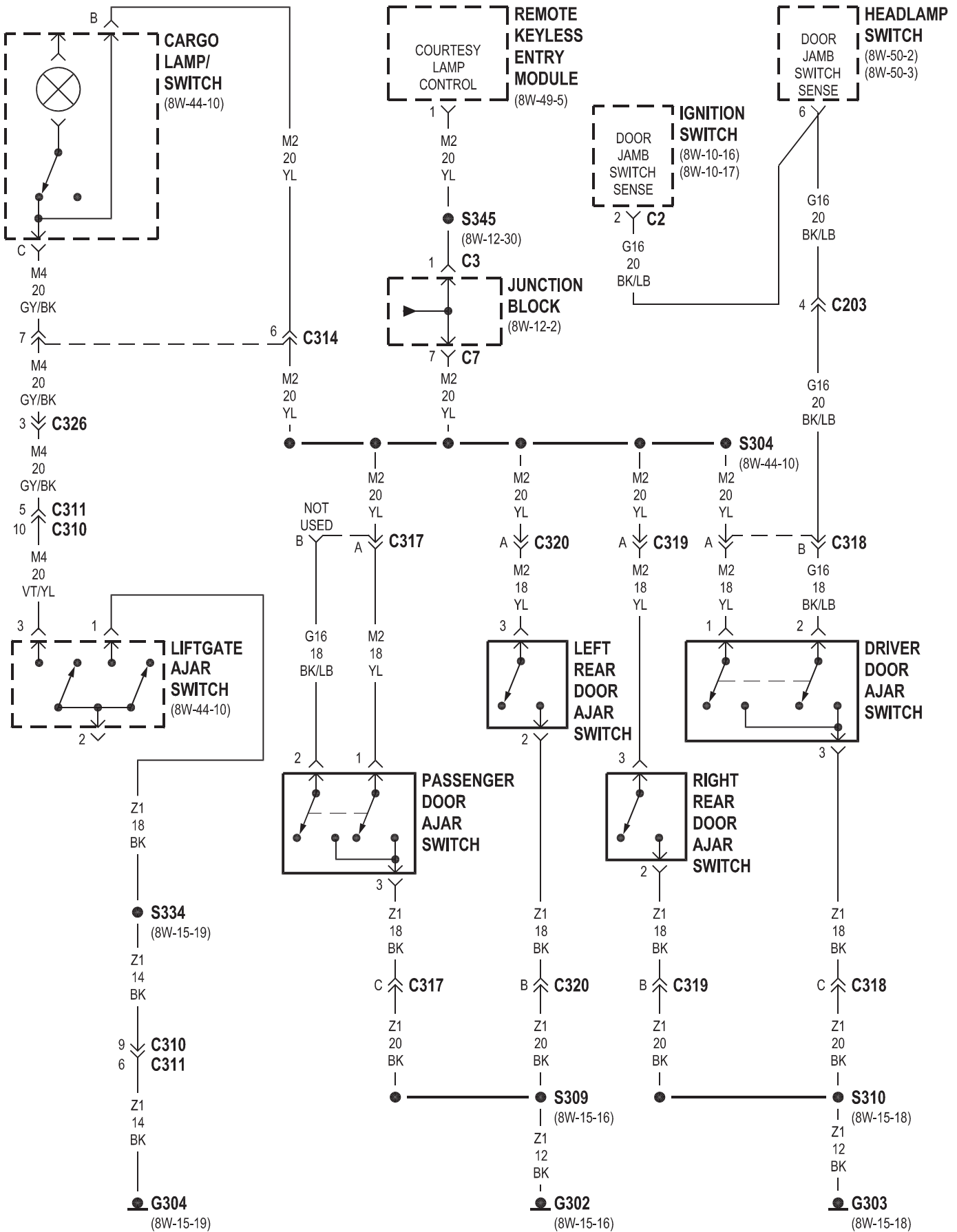




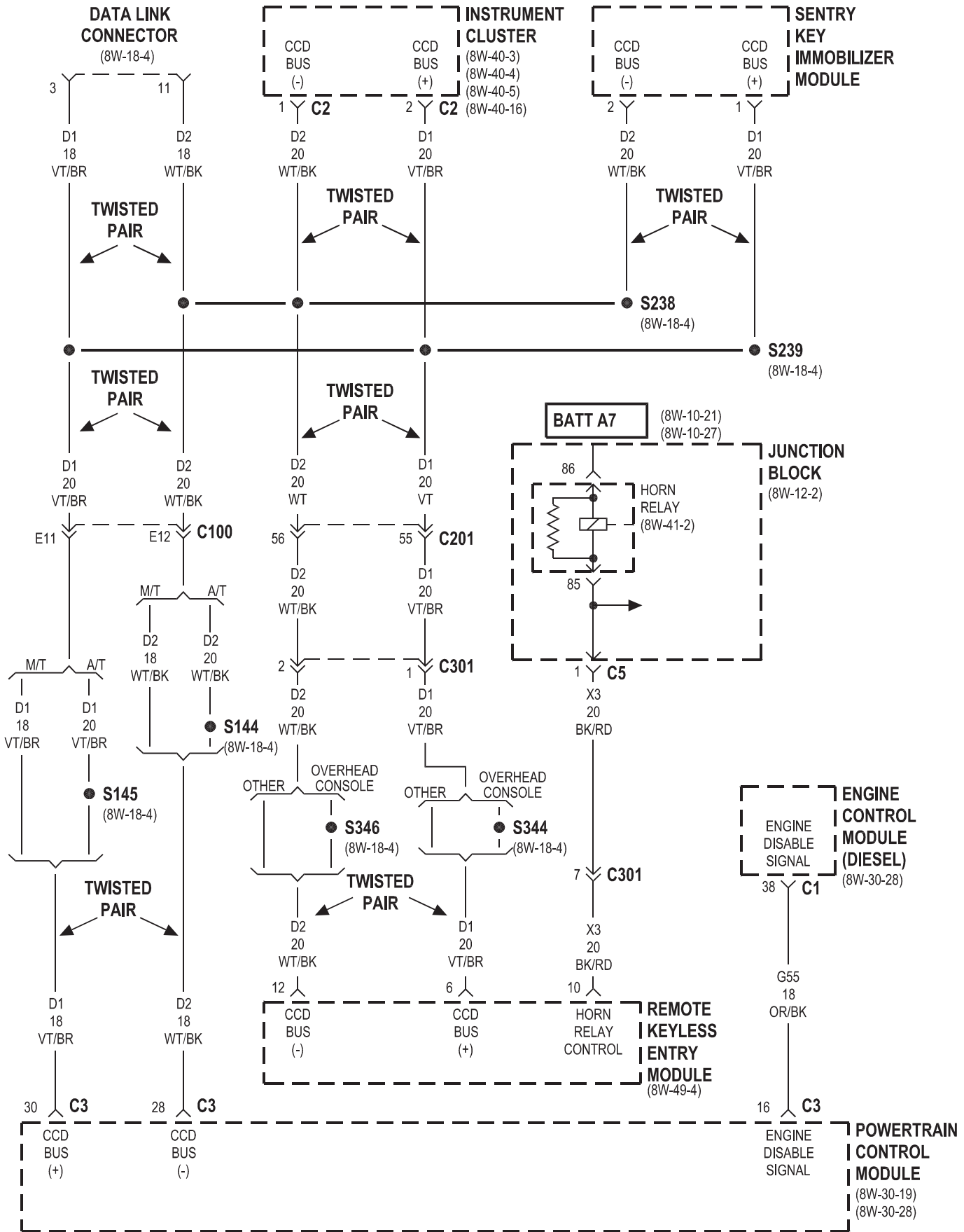


LHD

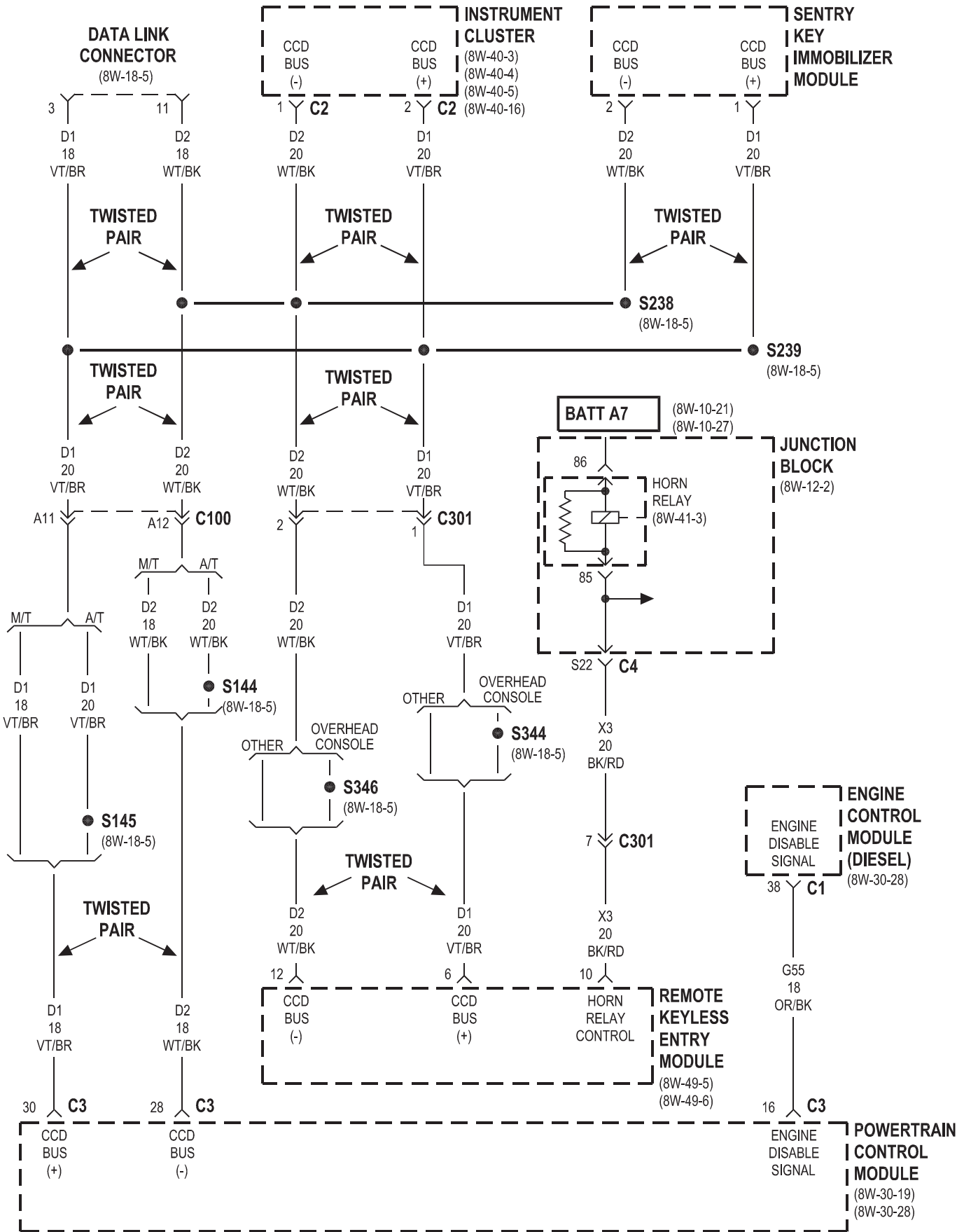




LHD



RHD

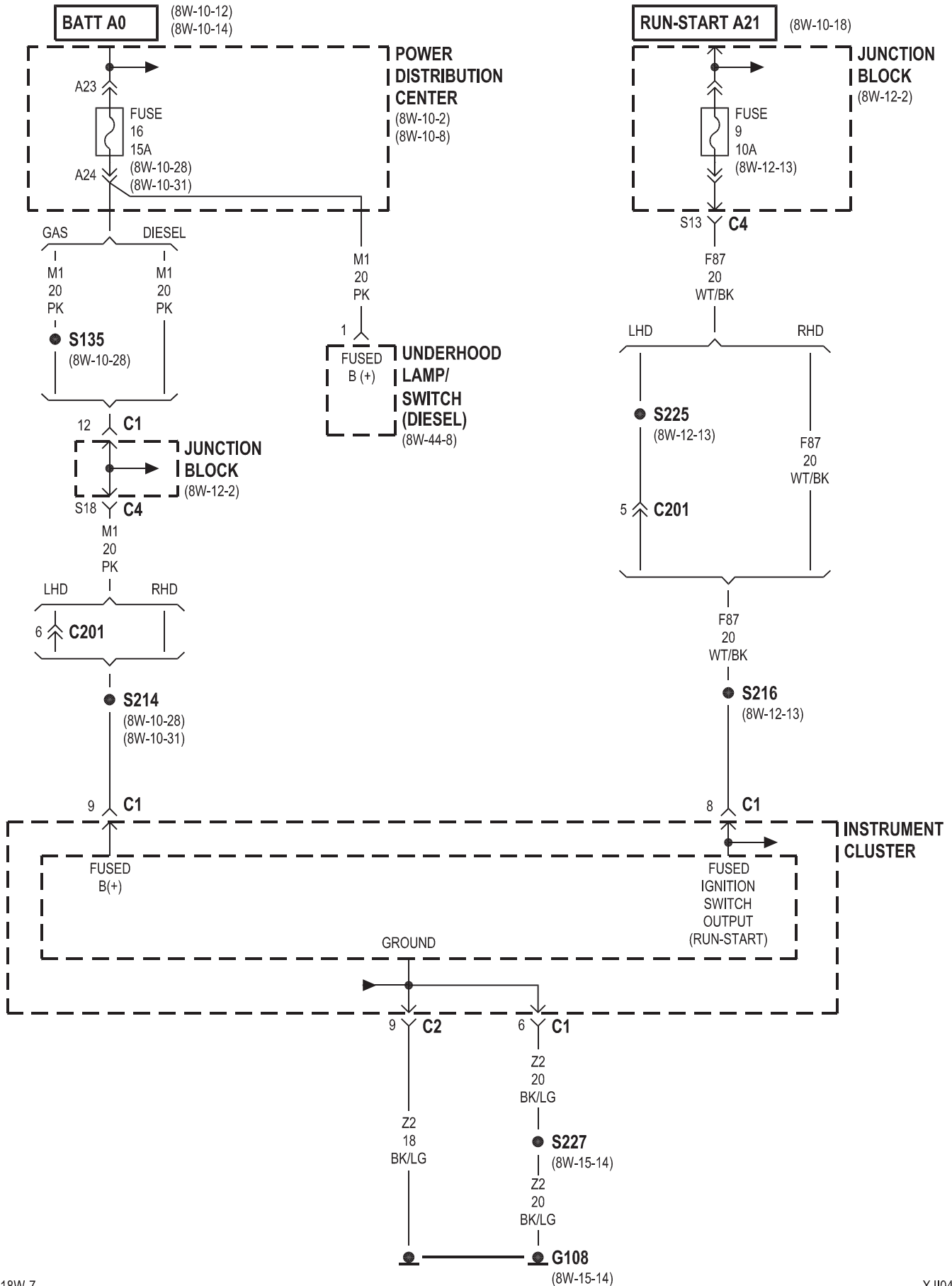


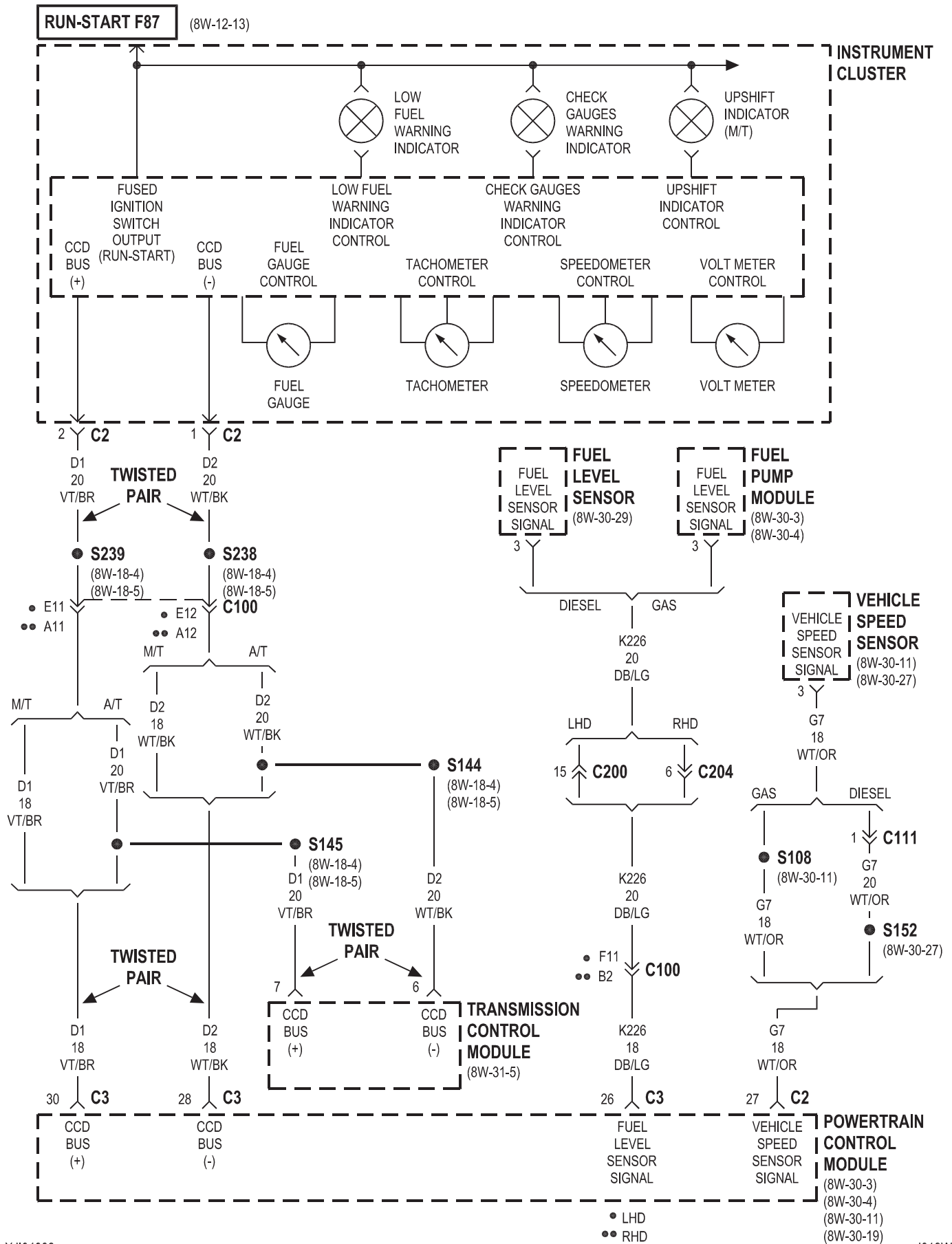


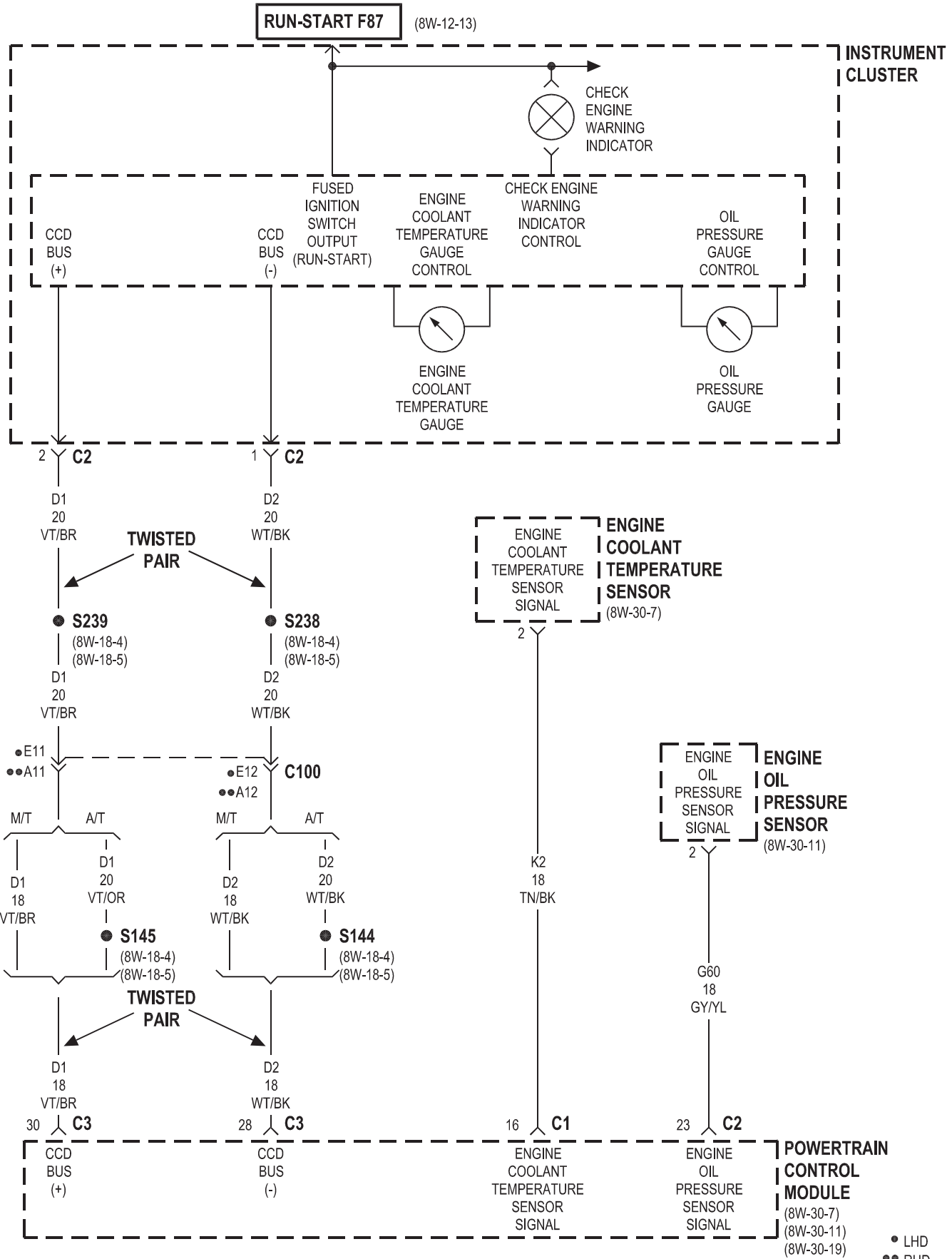


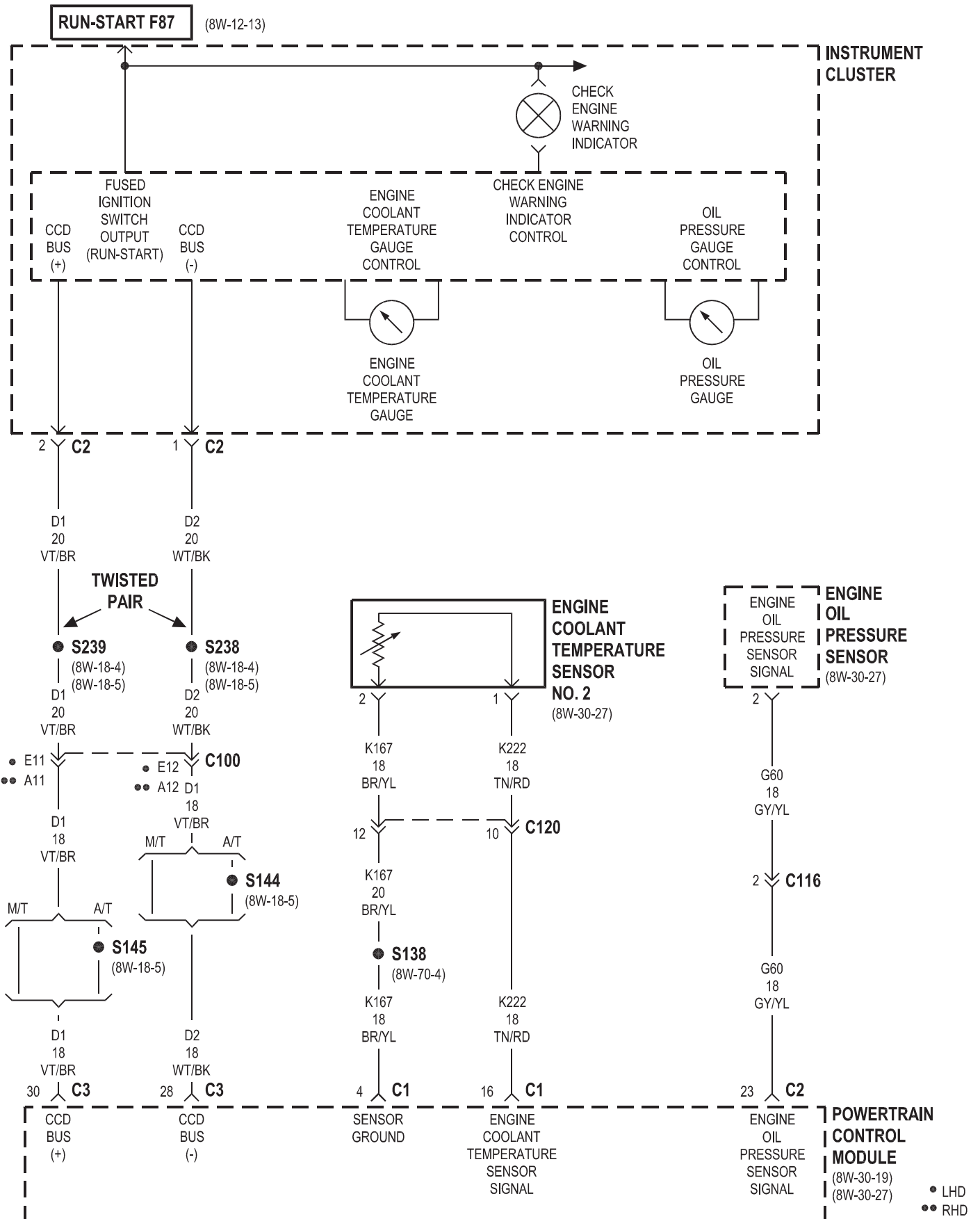
## 8Wa-40 INSTRUMENT CLUSTER

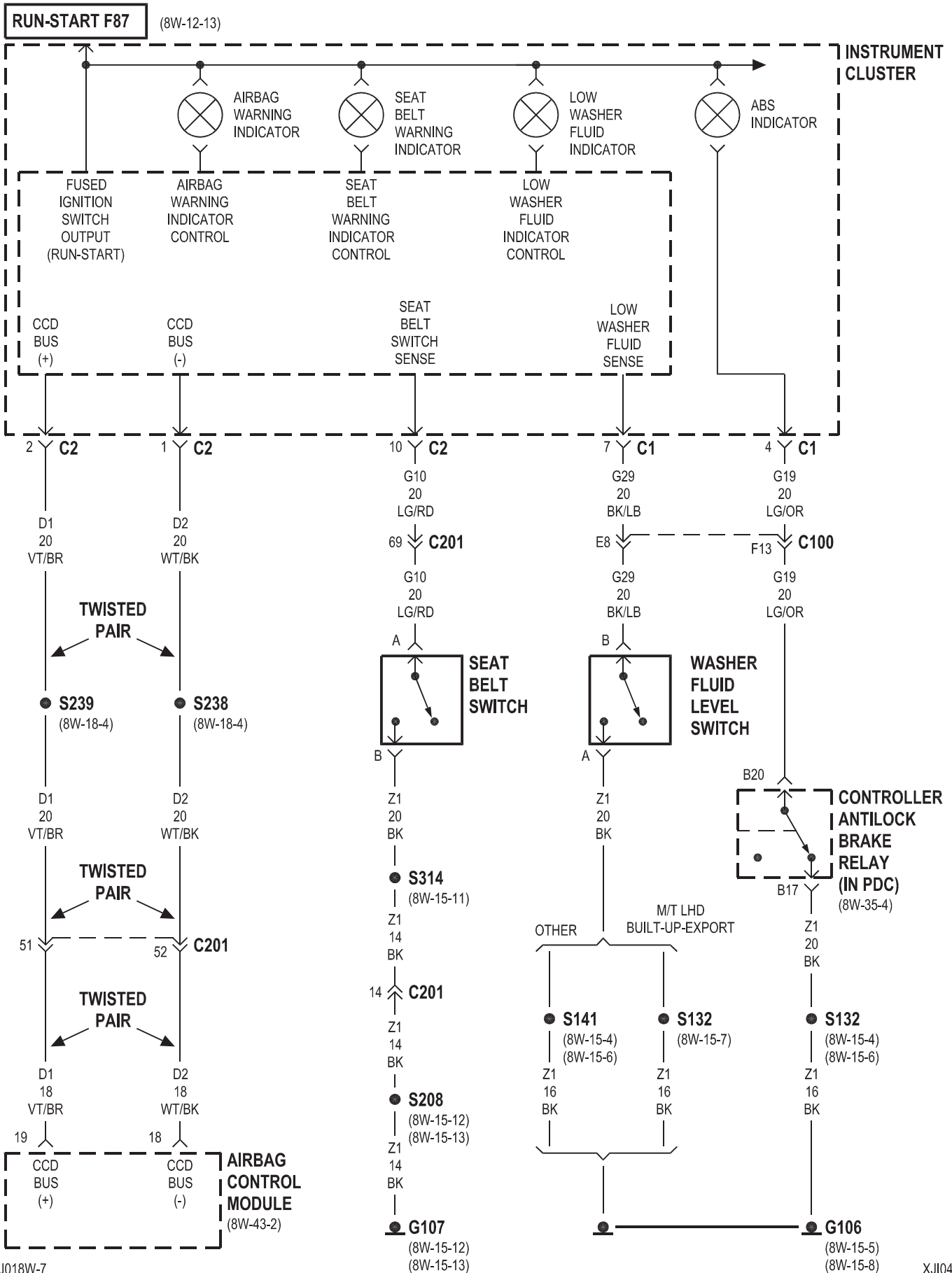
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Airbag Control Module . . . . .	8Wa-40-6, 7, 8	G303 . . . . .	8Wa-40-11
Brake Warning Pressure Switch . . . . .	8Wa-40-10, 9	Headlamp Beam Select Switch . . . . .	8Wa-40-14
Controller Antilock Brake Relay . . . . .	8Wa-40-6, 7, 8	Headlamp Switch . . . . .	8Wa-40-11, 15
Daytime Running Lamp Module . . . . .	8Wa-40-14	Ignition Switch . . . . .	8Wa-40-10, 11, 9
Driver Door Ajar Switch . . . . .	8Wa-40-11	Instrument Cluster . . . . .	8Wa-40-2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
Engine Control Module . . . . .	8Wa-40-16, 17	Junction Block . . . . .	8Wa-40-2, 12, 13, 15, 17
Engine Coolant Temperature Sensor . . . . .	8Wa-40-4	Liftgate Ajar Switch . . . . .	8Wa-40-15
Engine Coolant Temperature Sensor No. 2 . . . . .	8Wa-40-5	Low Coolant Switch . . . . .	8Wa-40-17
Engine Oil Pressure Sensor . . . . .	8Wa-40-4, 5	Message Center . . . . .	8Wa-40-17
Engine Starter Motor Relay . . . . .	8Wa-40-7, 8	Park Brake Switch . . . . .	8Wa-40-10, 9
Fog Lamp Relay . . . . .	8Wa-40-7, 8	Power Distribution Center . . . . .	8Wa-40-2
Fog Lamp Relay No. 1 . . . . .	8Wa-40-14	Powertrain Control Module . . . . .	8Wa-40-3, 4, 5, 16, 17
Fuel Level Sensor . . . . .	8Wa-40-3	Rear Window Defogger Relay . . . . .	8Wa-40-12, 13
Fuel Pump Module . . . . .	8Wa-40-3	Rear Window Defogger Switch . . . . .	8Wa-40-12, 13
Fuse 6 (JB) . . . . .	8Wa-40-15	Remote Keyless Entry Module . . . . .	8Wa-40-12, 13
Fuse 9 (JB) . . . . .	8Wa-40-17, 2	Seat Belt Switch . . . . .	8Wa-40-6, 7, 8
Fuse 12 (JB) . . . . .	8Wa-40-12, 13	Sentry Key Immobilizer Module . . . . .	8Wa-40-12, 13
Fuse 16 (PDC) . . . . .	8Wa-40-2	Transfer Case Switch . . . . .	8Wa-40-10, 9
G101 . . . . .	8Wa-40-9	Transmission Control Module . . . . .	8Wa-40-3
G106 . . . . .	8Wa-40-10, 6, 7, 8	Turn Signal/Hazard Switch . . . . .	8Wa-40-14
G107 . . . . .	8Wa-40-12, 13, 6, 7	Underhood Lamp/Switch . . . . .	8Wa-40-2
G108 . . . . .	8Wa-40-10, 14, 2, 9	Vehicle Speed Sensor . . . . .	8Wa-40-3
G123 . . . . .	8Wa-40-17	Washer Fluid Level Switch . . . . .	8Wa-40-6, 7, 8
G154 . . . . .	8Wa-40-17	Water In Fuel Sensor . . . . .	8Wa-40-17
G302 . . . . .	8Wa-40-11, 8		

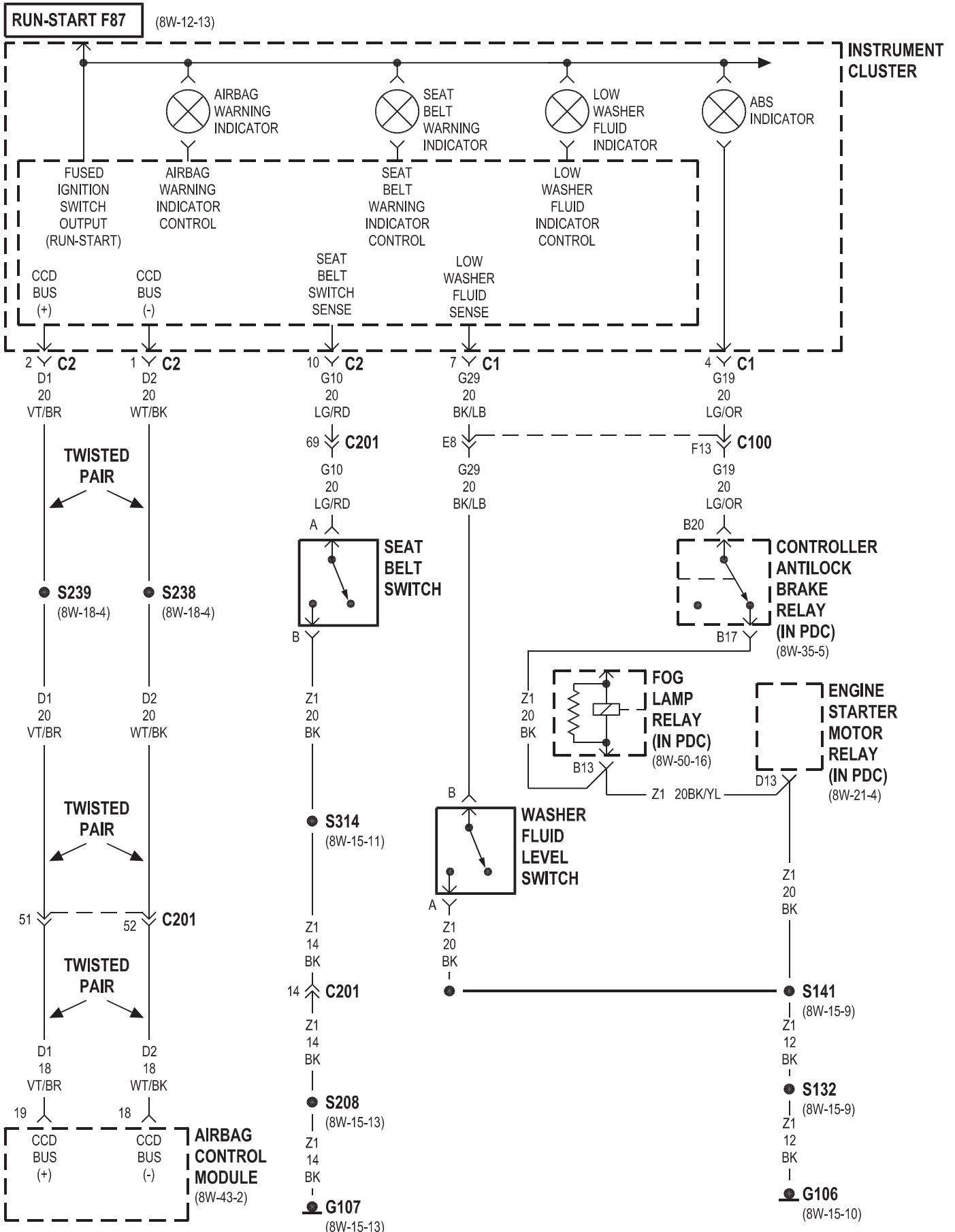




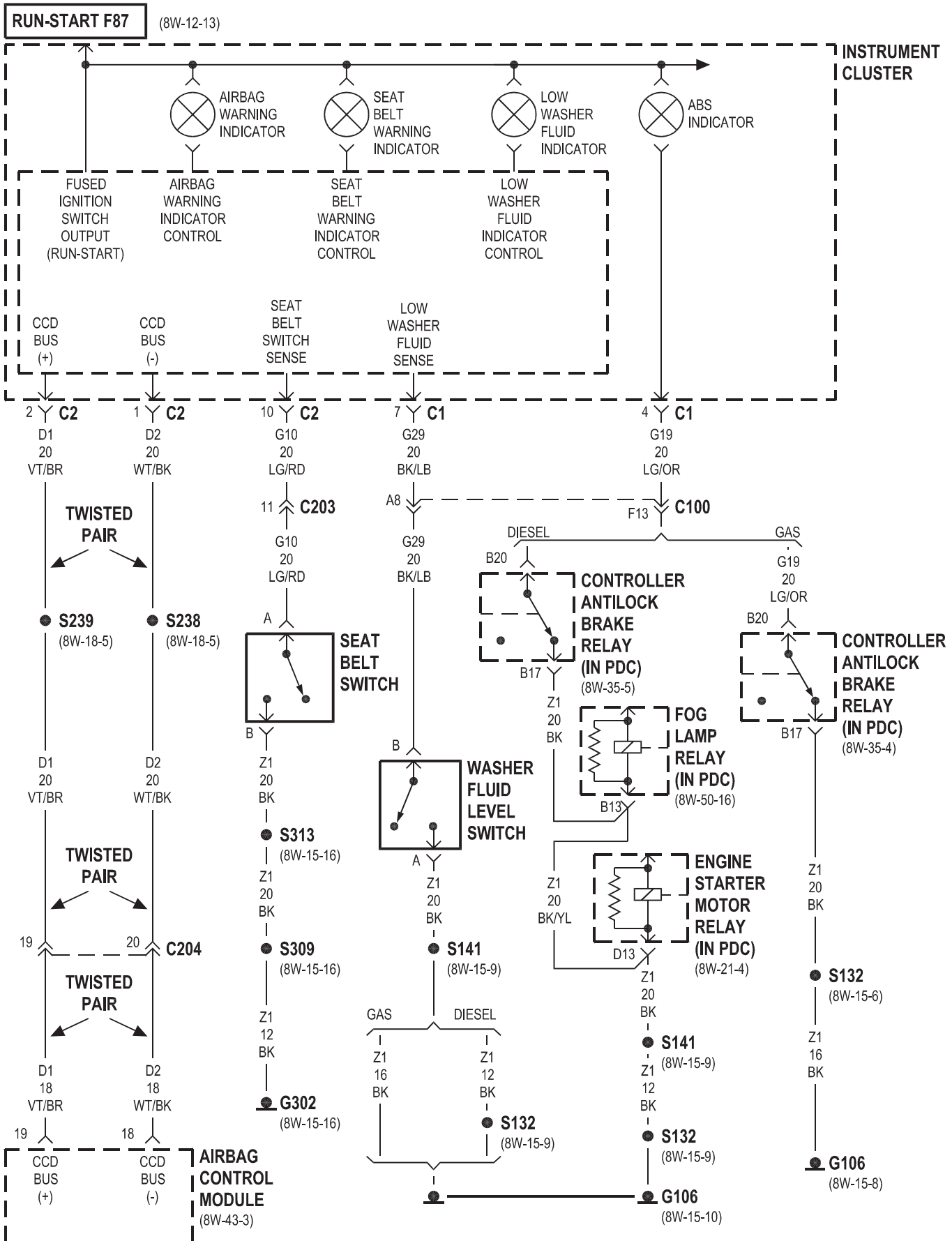


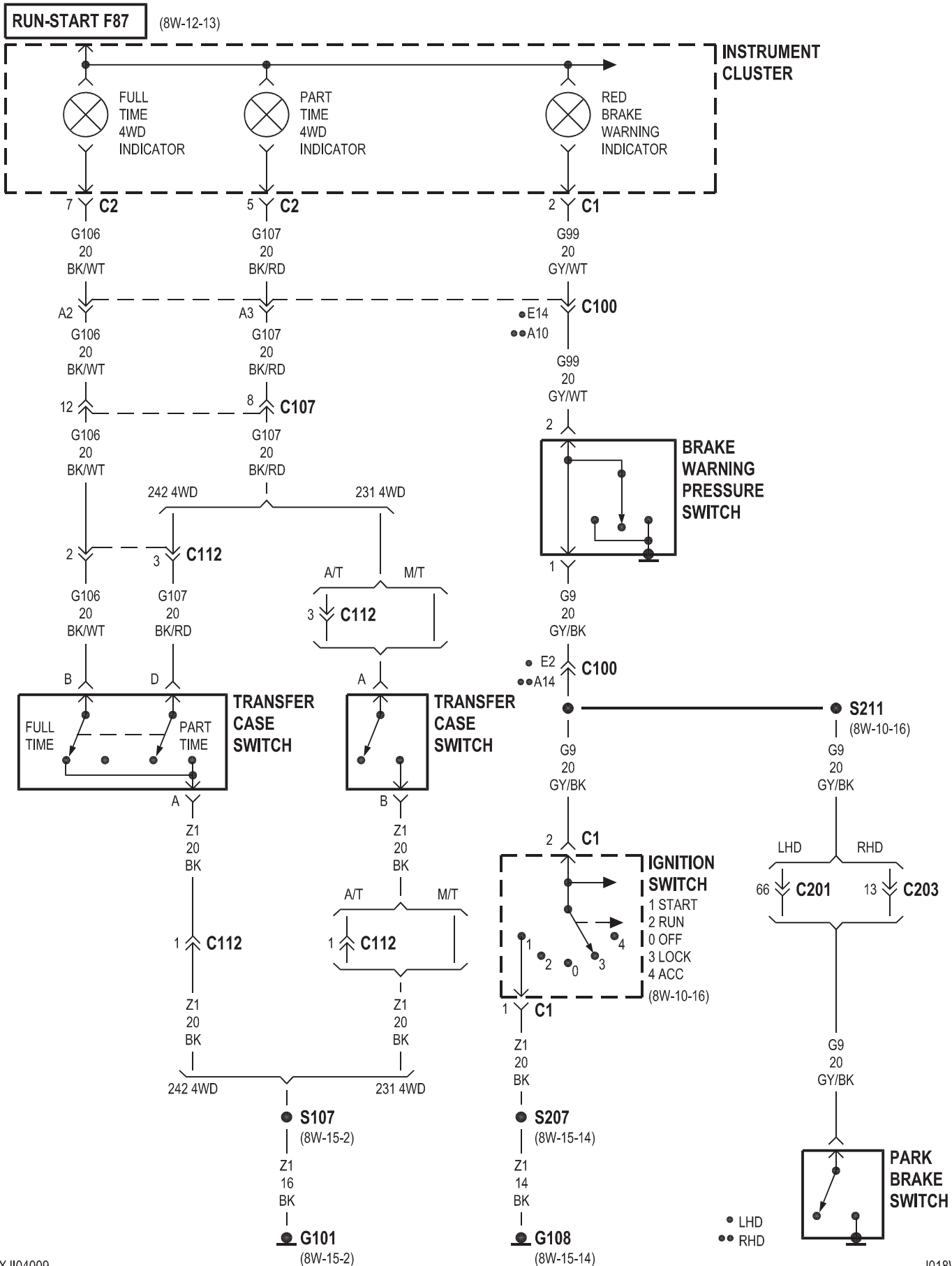


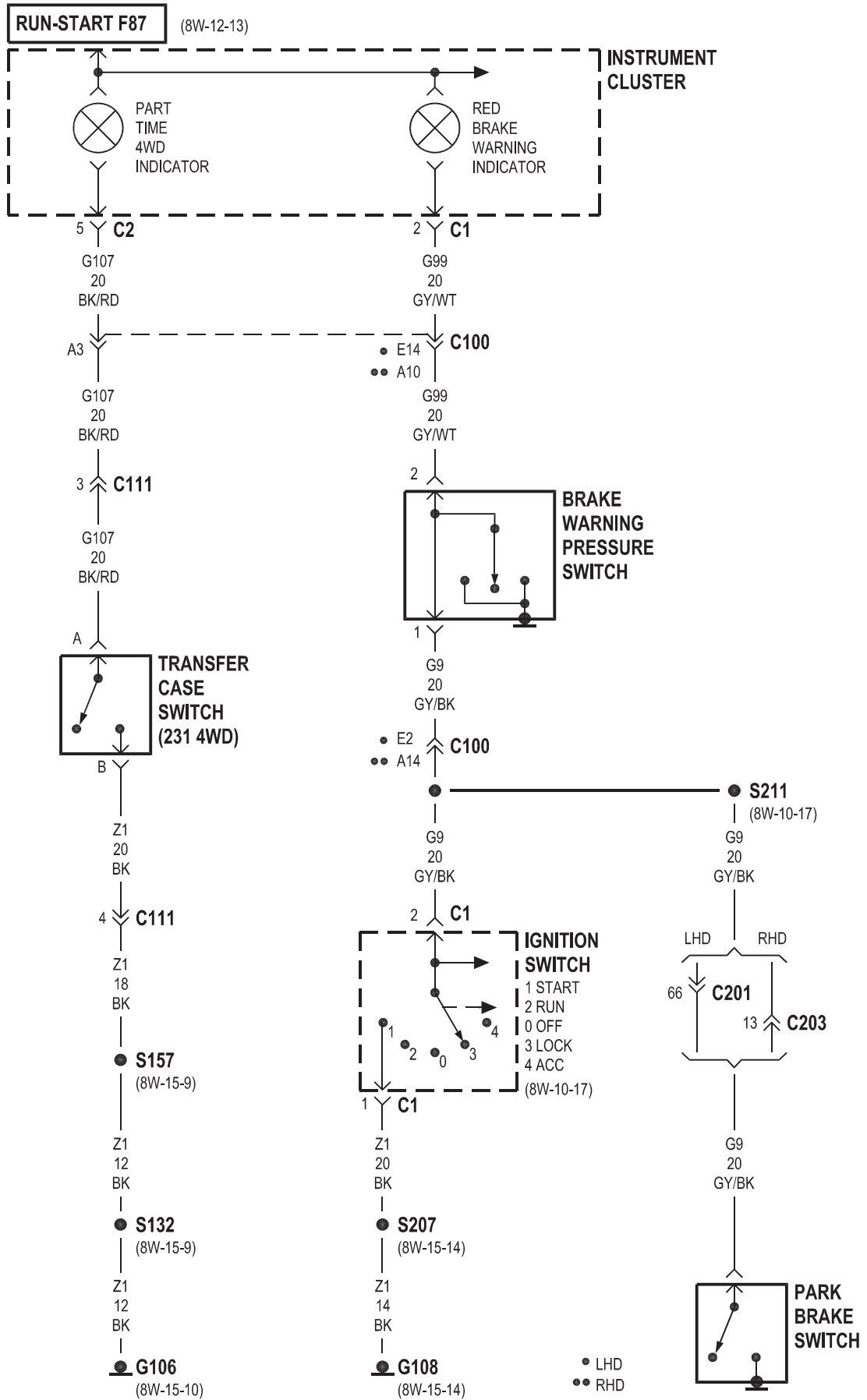


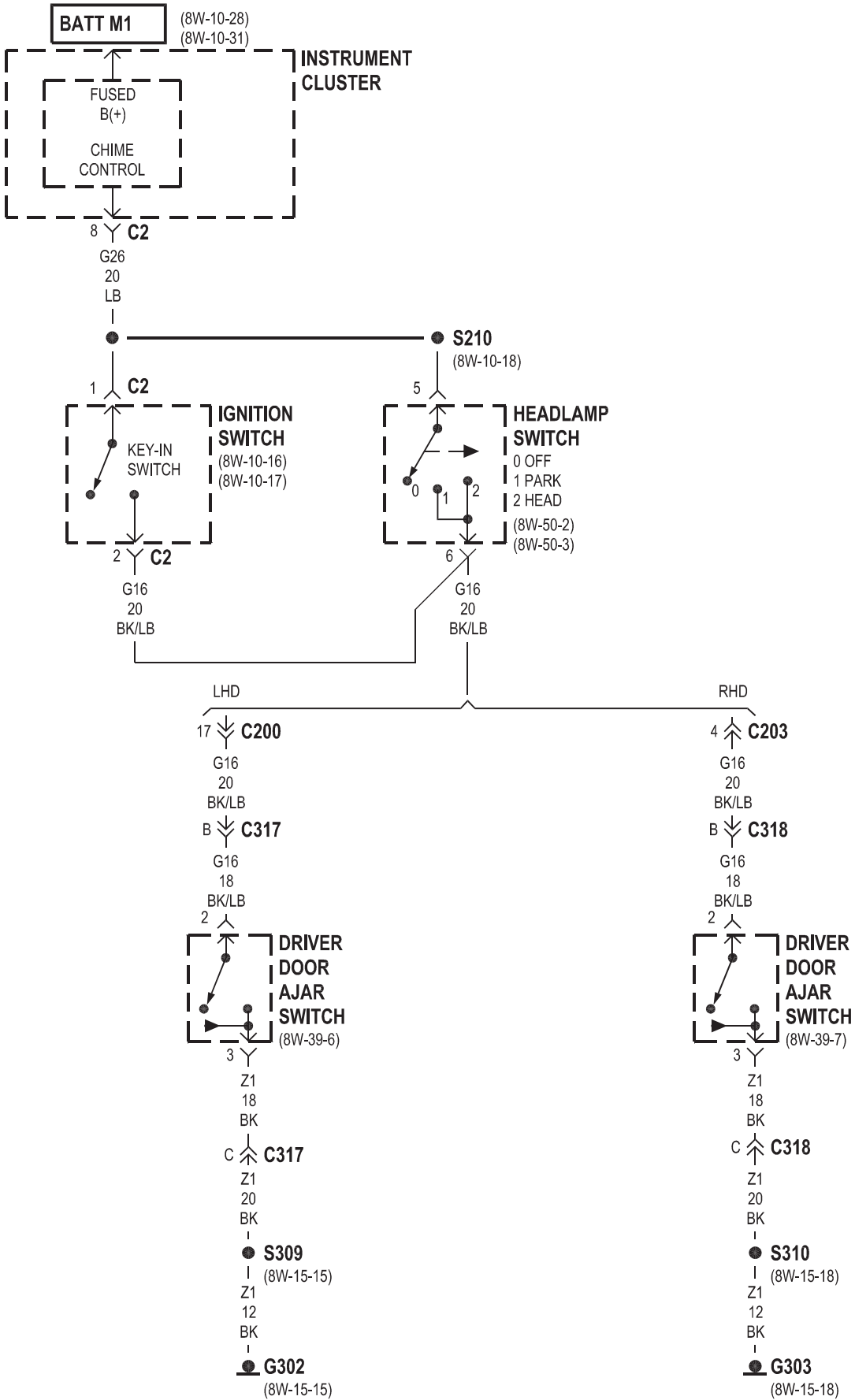




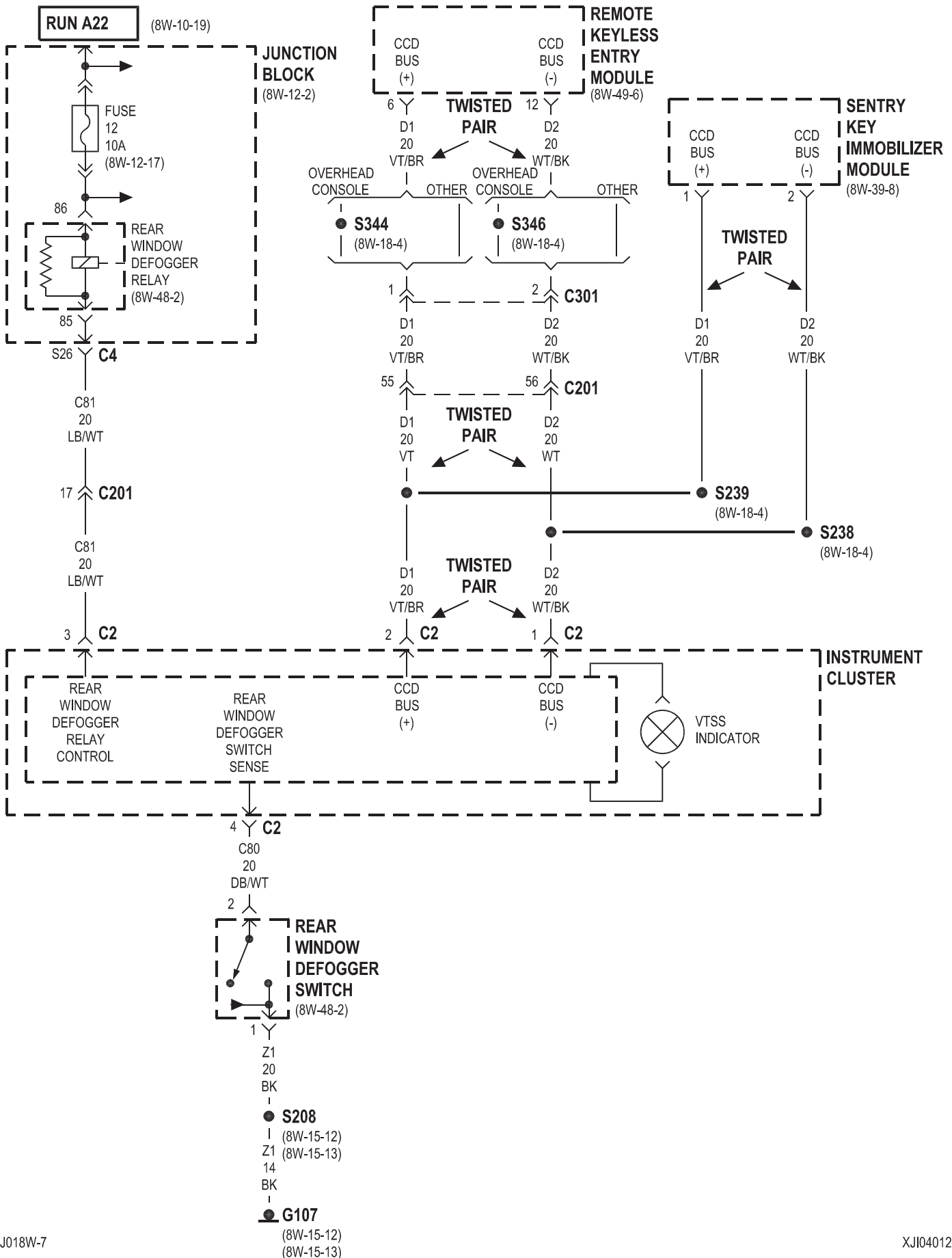




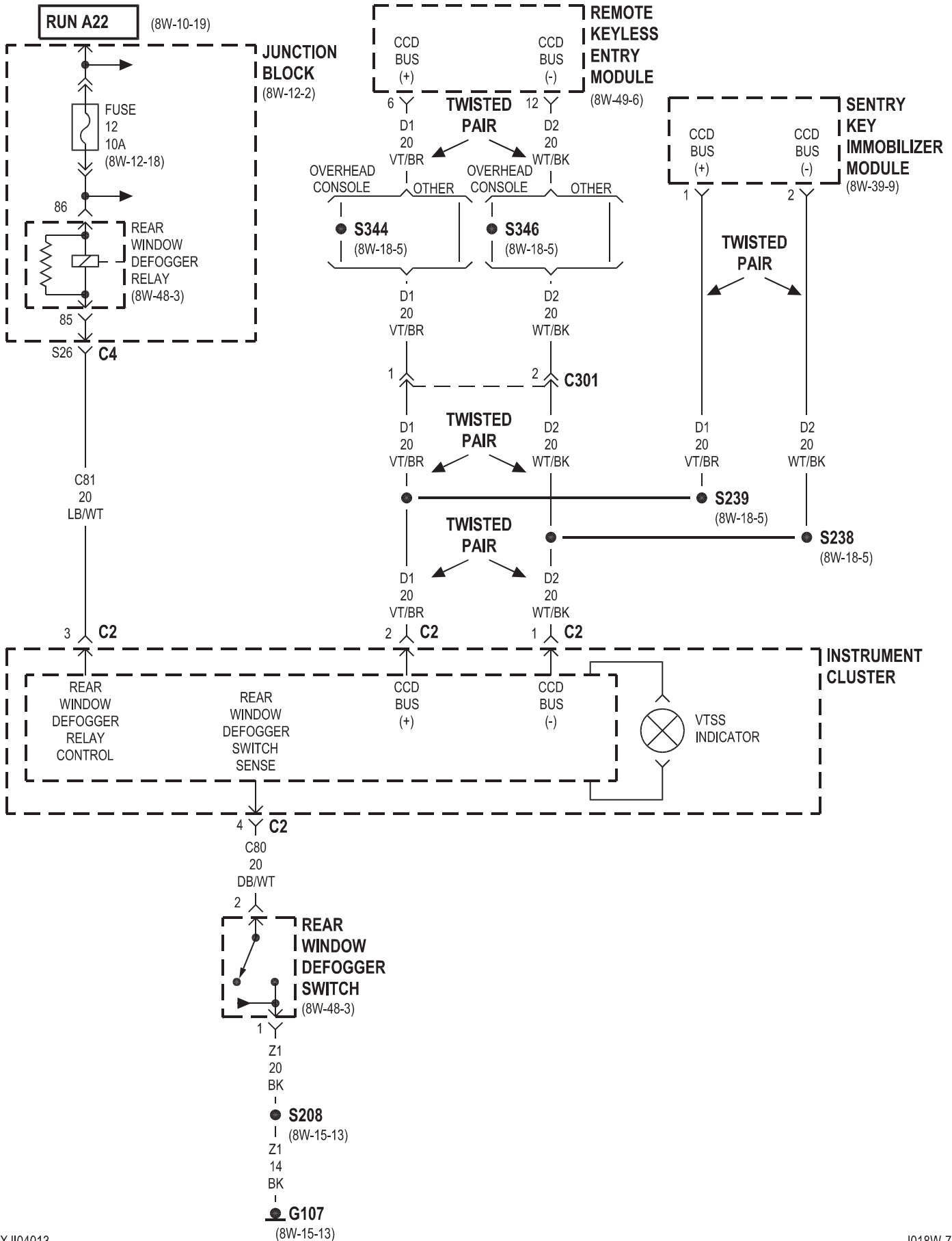


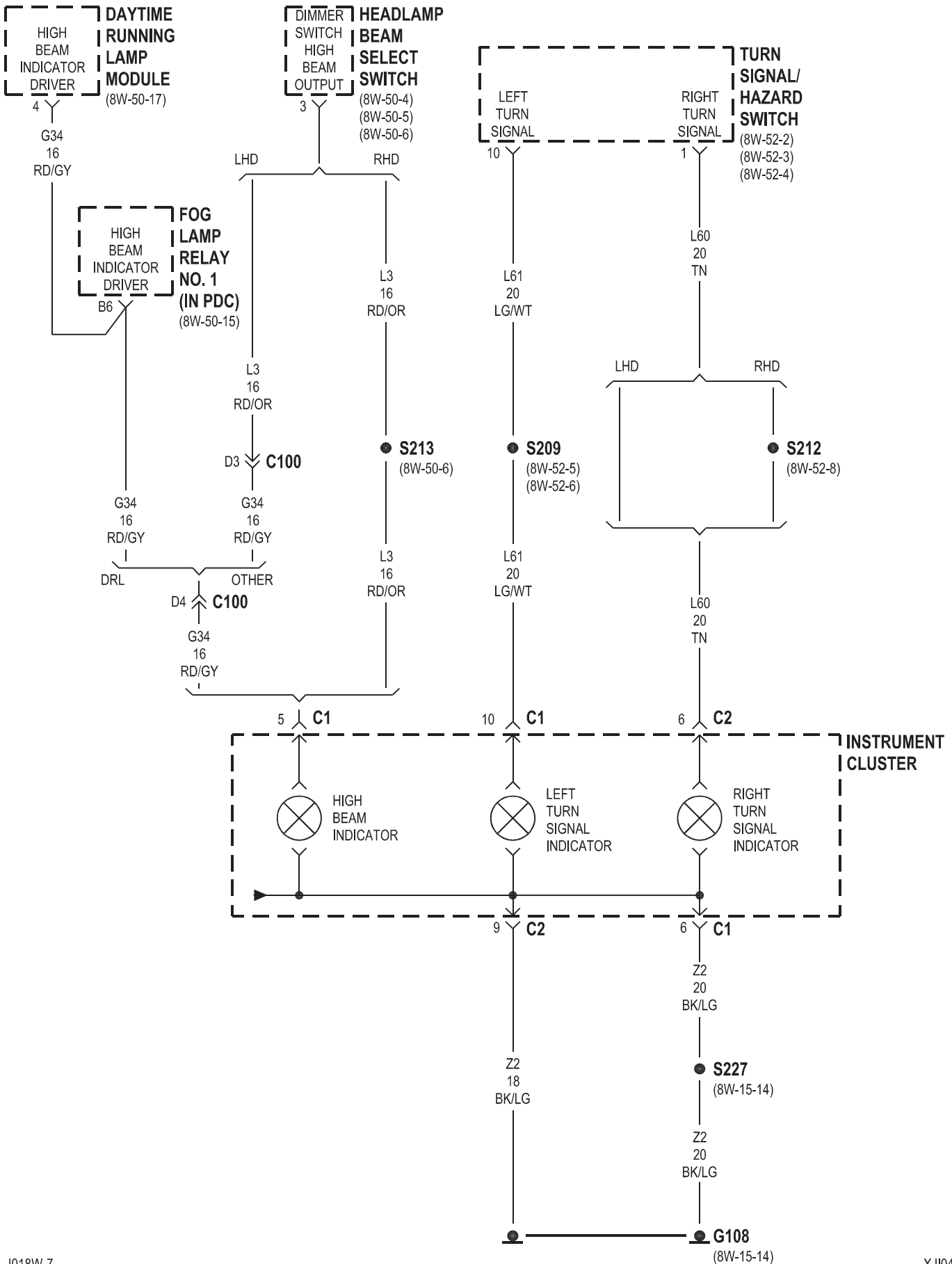


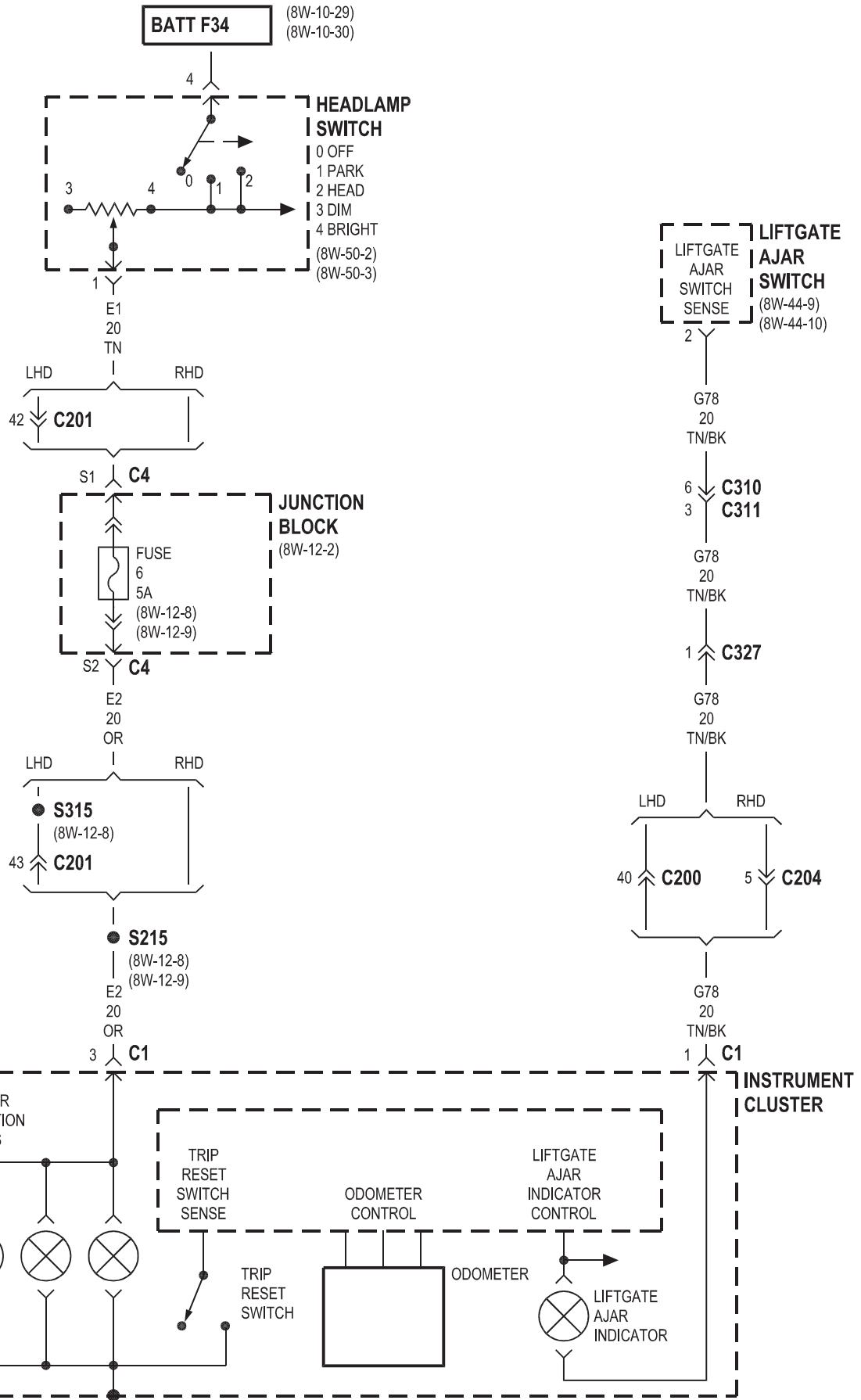
LHD



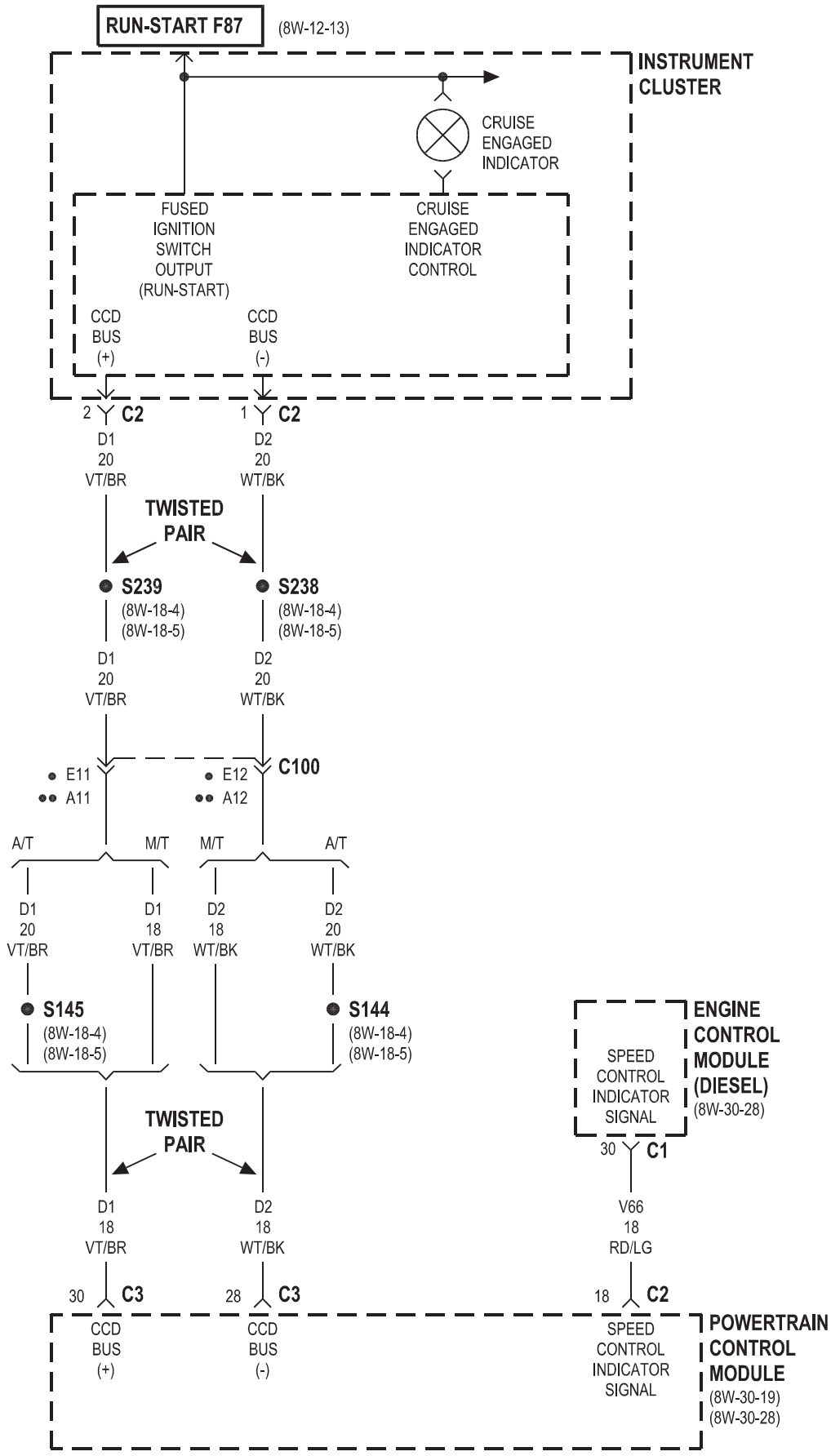
RHD

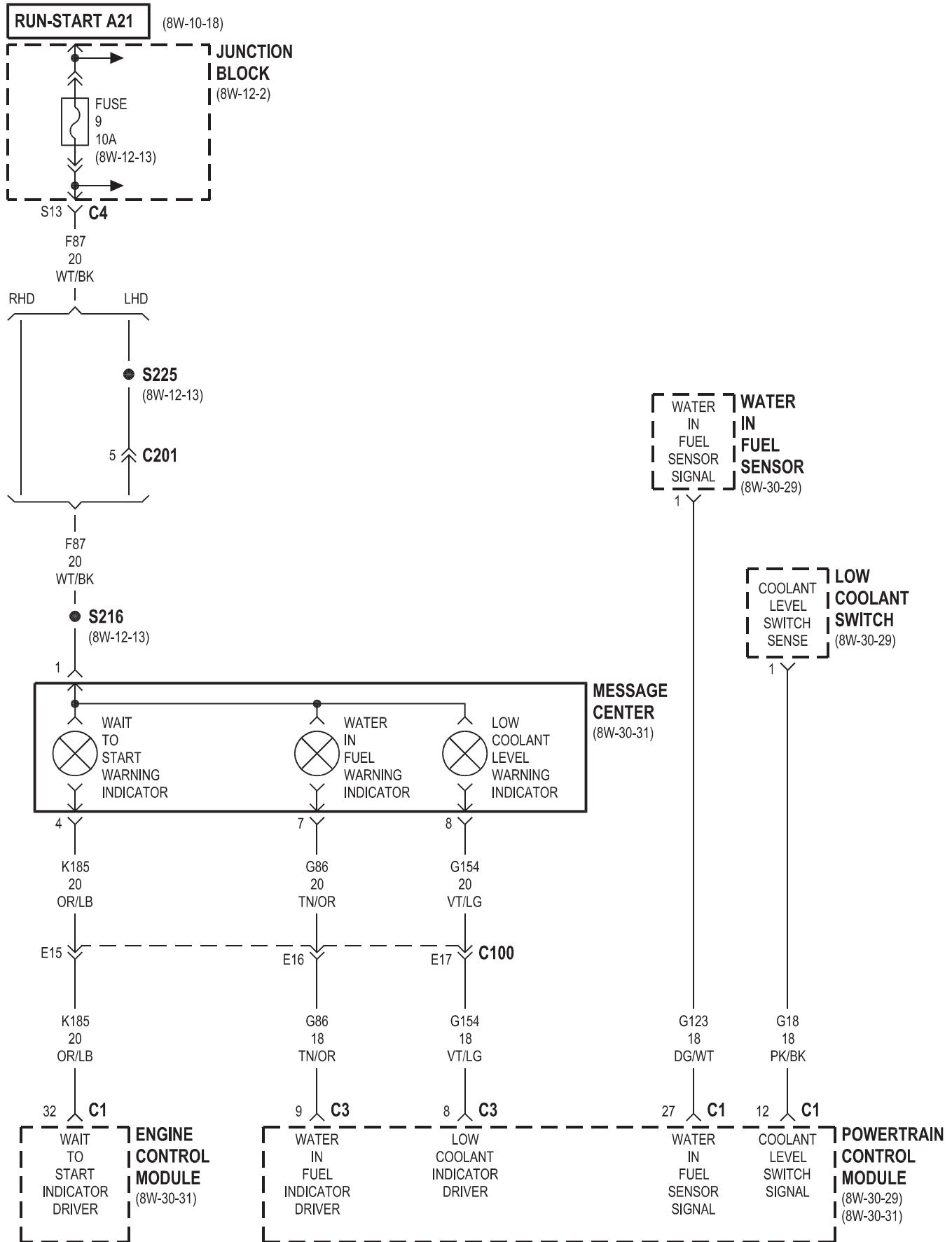








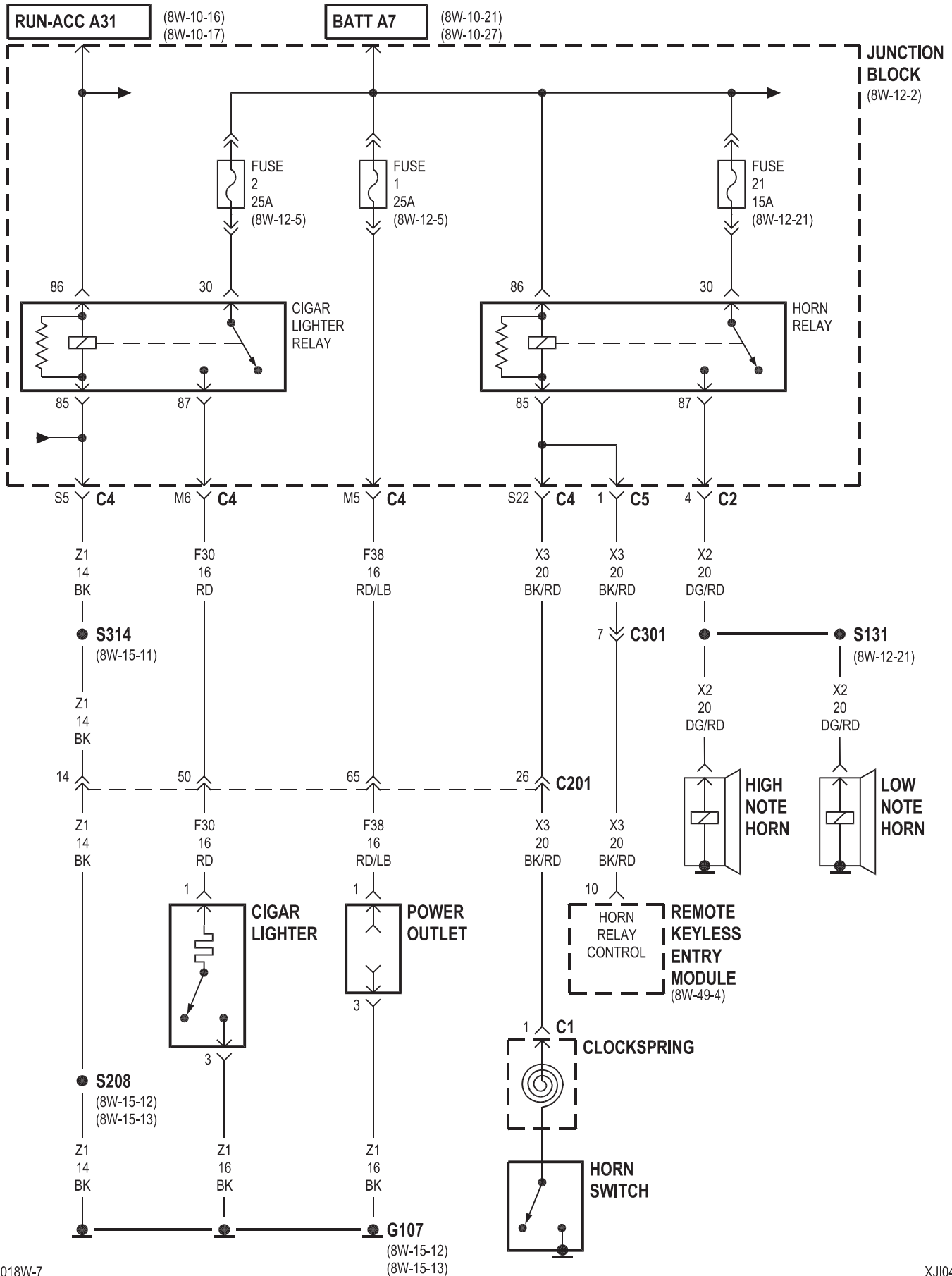


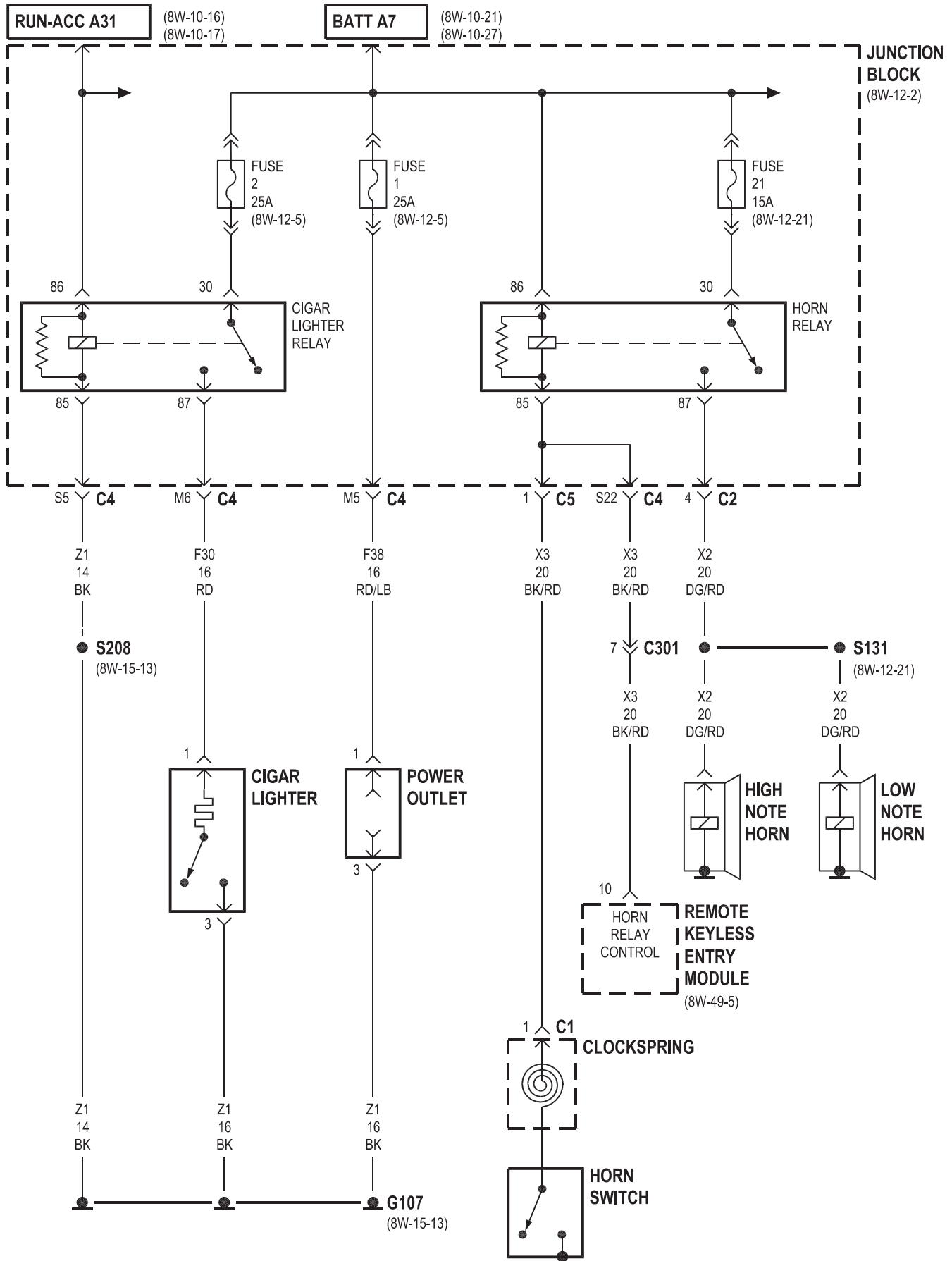




## 8Wa-41 HORN/CIGAR LIGHTER/POWER OUTLET

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Cigar Lighter .....	8Wa-41-2, 3	High Note Horn.....	8Wa-41-2, 3
Cigar Lighter Relay.....	8Wa-41-2, 3	Horn Relay .....	8Wa-41-2, 3
Clockspring .....	8Wa-41-2, 3	Horn Switch .....	8Wa-41-2, 3
Fuse 1 (JB) .....	8Wa-41-2, 3	Junction Block.....	8Wa-41-2, 3
Fuse 2 (JB) .....	8Wa-41-2, 3	Low Note Horn .....	8Wa-41-2, 3
Fuse 21 (JB) .....	8Wa-41-2, 3	Power Outlet .....	8Wa-41-2, 3
G107 .....	8Wa-41-2, 3	Remote Keyless Entry Module .....	8Wa-41-2, 3



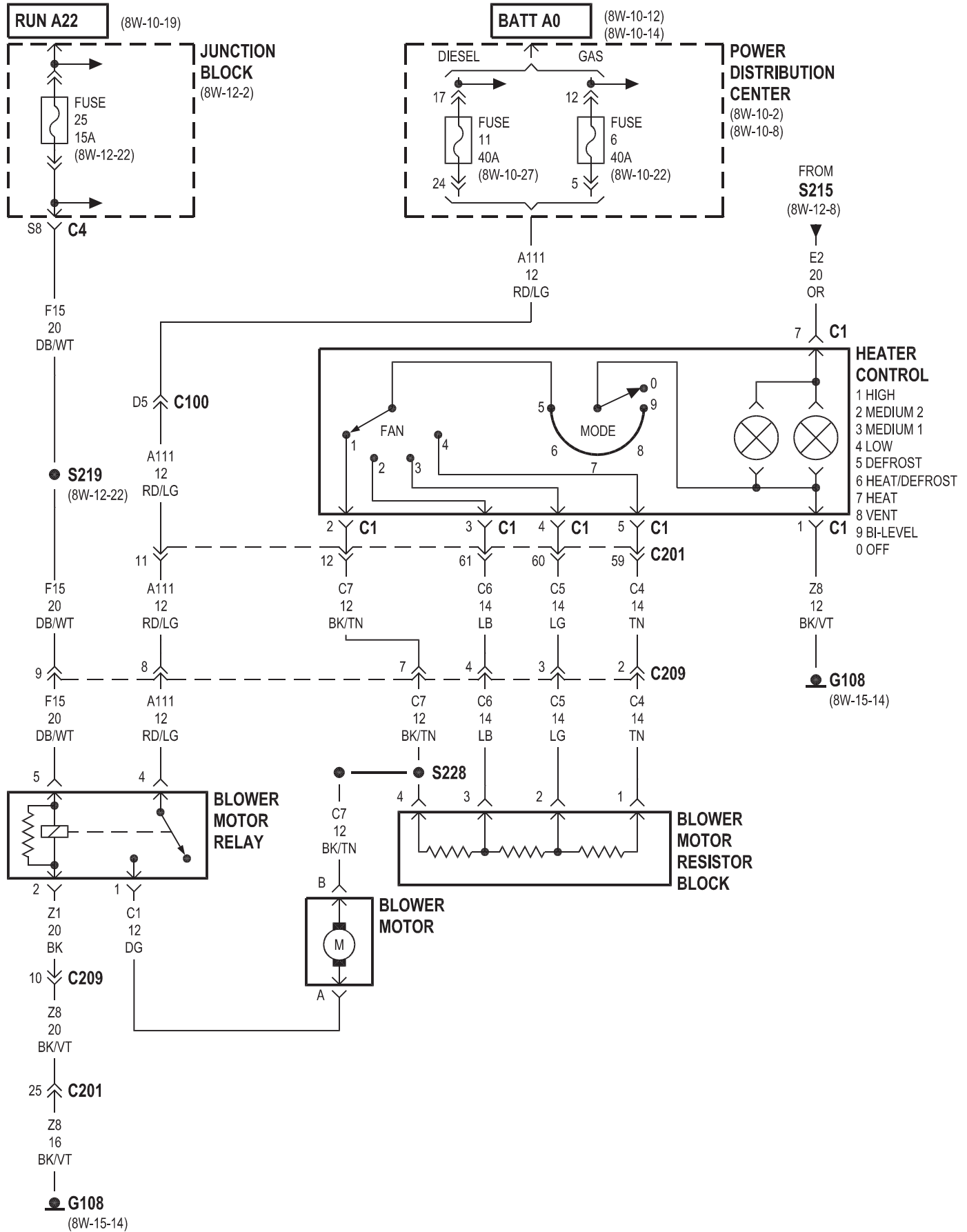


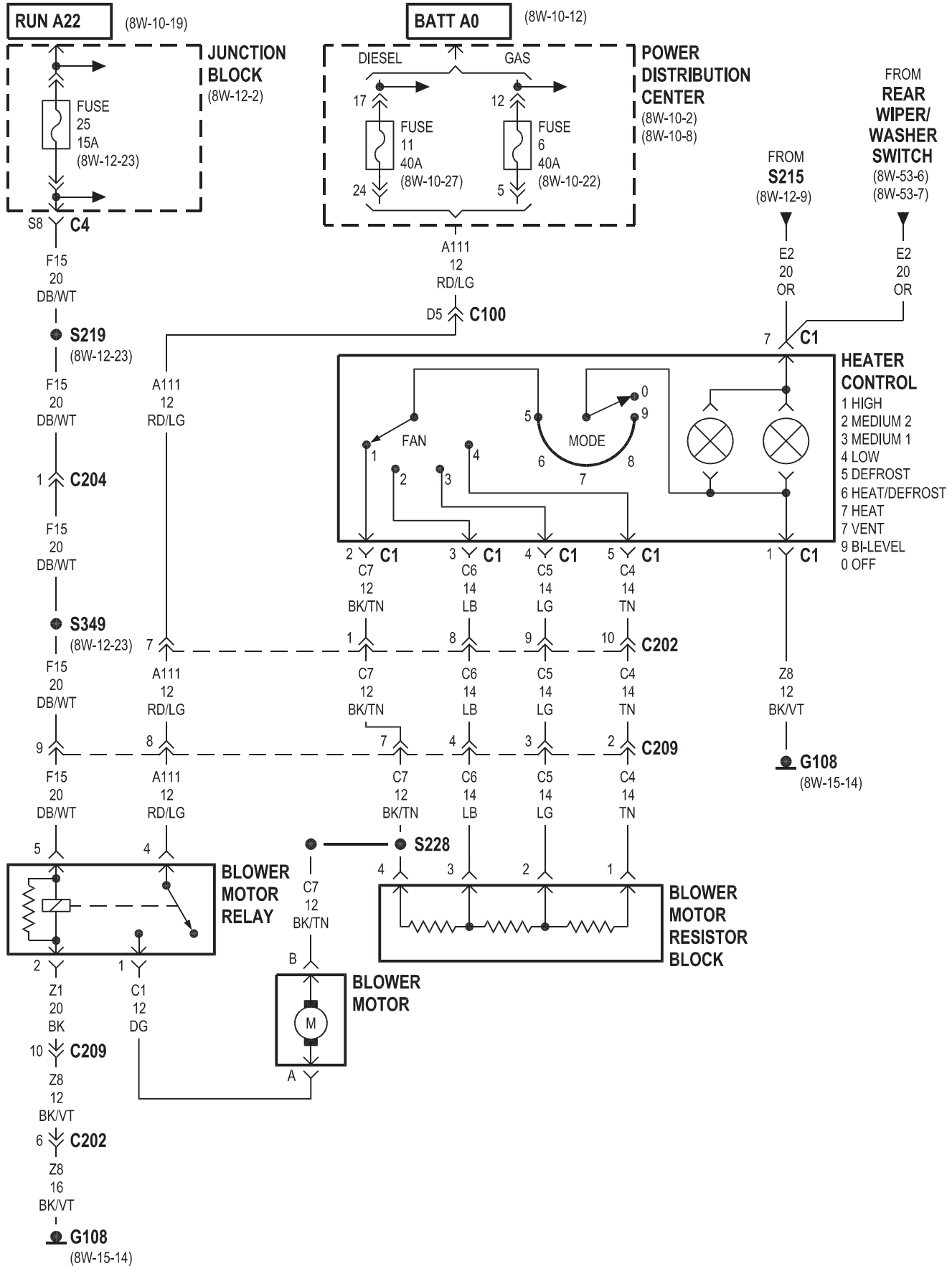


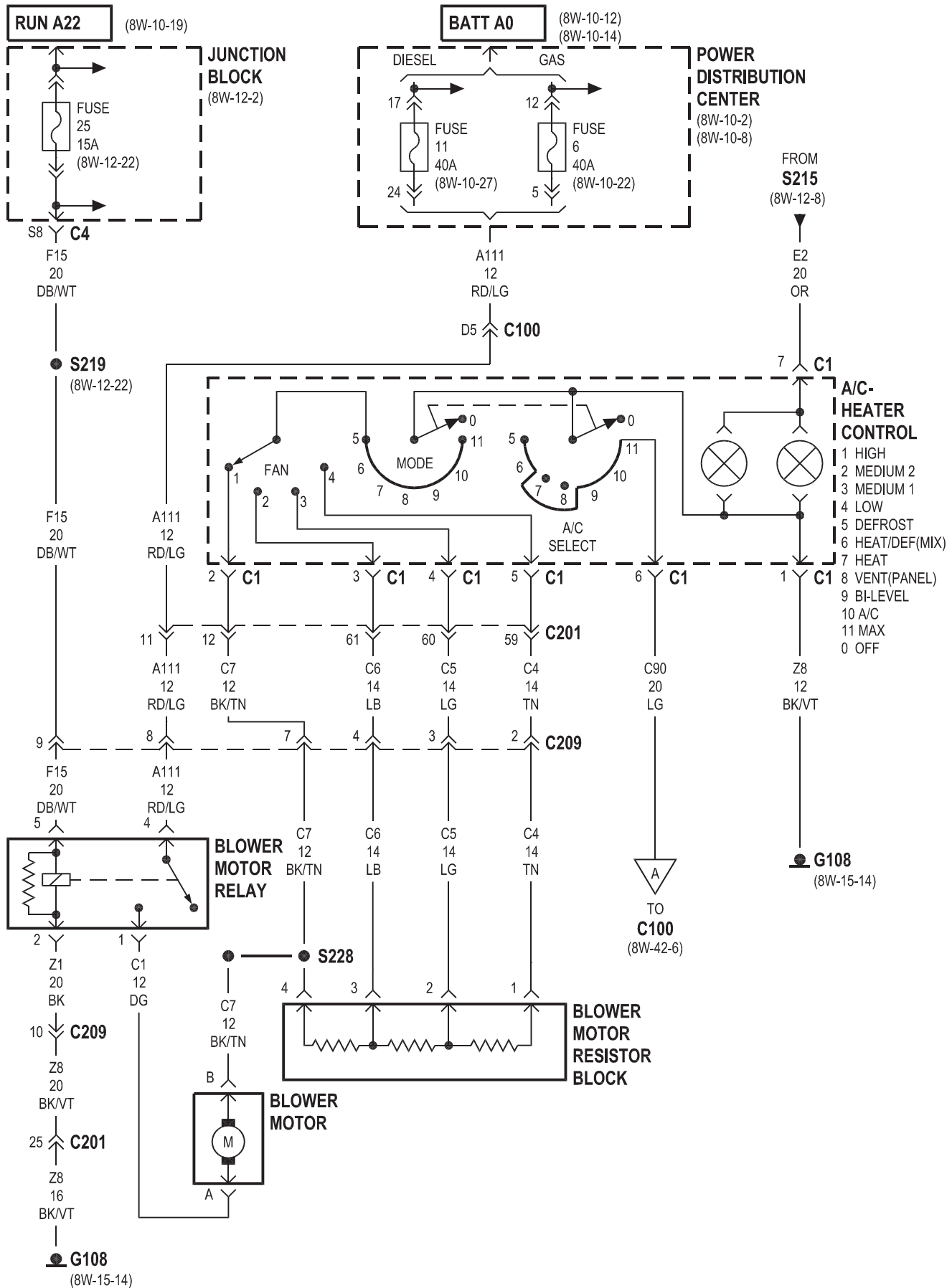
## 8Wa-42 AIR CONDITIONING-HEATER

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
A/C Compressor Clutch . . . . .	8Wa-42-7, 8	Fuse 25 (JB) . . . . .	8Wa-42-2, 3, 4, 5, 7
A/C Compressor Clutch Relay . . . . .	8Wa-42-7, 8, 10	G106 . . . . .	8Wa-42-10, 8, 9
A/C High Pressure Switch . . . . .	8Wa-42-6, 8	G107 . . . . .	8Wa-42-7
A/C Low Pressure Switch . . . . .	8Wa-42-6, 8	G108 . . . . .	8Wa-42-2, 3, 4, 5
A/C- Heater Control . . . . .	8Wa-42-4, 5, 6, 7	Heater Control . . . . .	8Wa-42-2, 3, 7
Automatic Shut Down Relay . . . . .	8Wa-42-8, 10	Junction Block . . . . .	8Wa-42-2, 3, 4, 5, 7, 9
Blend Door Actuator . . . . .	8Wa-42-7	Oxygen Sensor Downstream Relay . . . . .	8Wa-42-9
Blower Motor . . . . .	8Wa-42-2, 3, 4, 5	Power Distribution	
Blower Motor Relay . . . . .	8Wa-42-2, 3, 4, 5	Center . . . . .	8Wa-42-2, 3, 4, 5, 7, 10
Blower Motor Resistor Block . . . . .	8Wa-42-2, 3, 4, 5	Power Distribution Center . . . . .	8Wa-42-8, 9
Engine Control Module . . . . .	8Wa-42-10, 8	Powertrain Control Module . . . . .	8Wa-42-6, 7, 9
Fuse 5 (PDC) . . . . .	8Wa-42-9	Radiator Fan Motor . . . . .	8Wa-42-9, 10
Fuse 6 (PDC) . . . . .	8Wa-42-2, 3, 4, 5	Radiator Fan Relay . . . . .	8Wa-42-8, 9, 10
Fuse 10 (JB) . . . . .	8Wa-42-9	Rear Wiper/Washer Switch . . . . .	8Wa-42-3, 5
Fuse 11 (PDC) . . . . .	8Wa-42-2, 3, 4, 5		

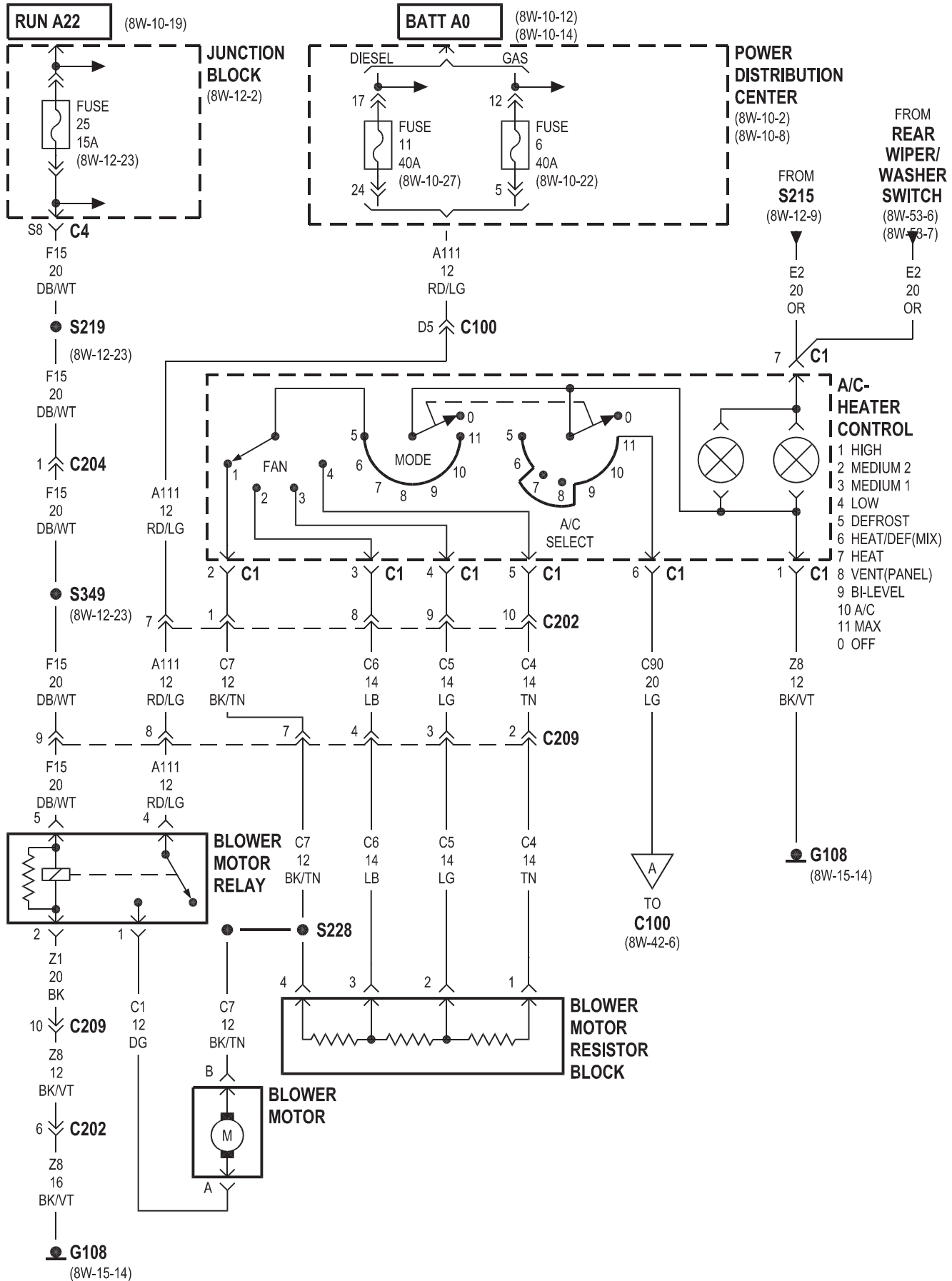


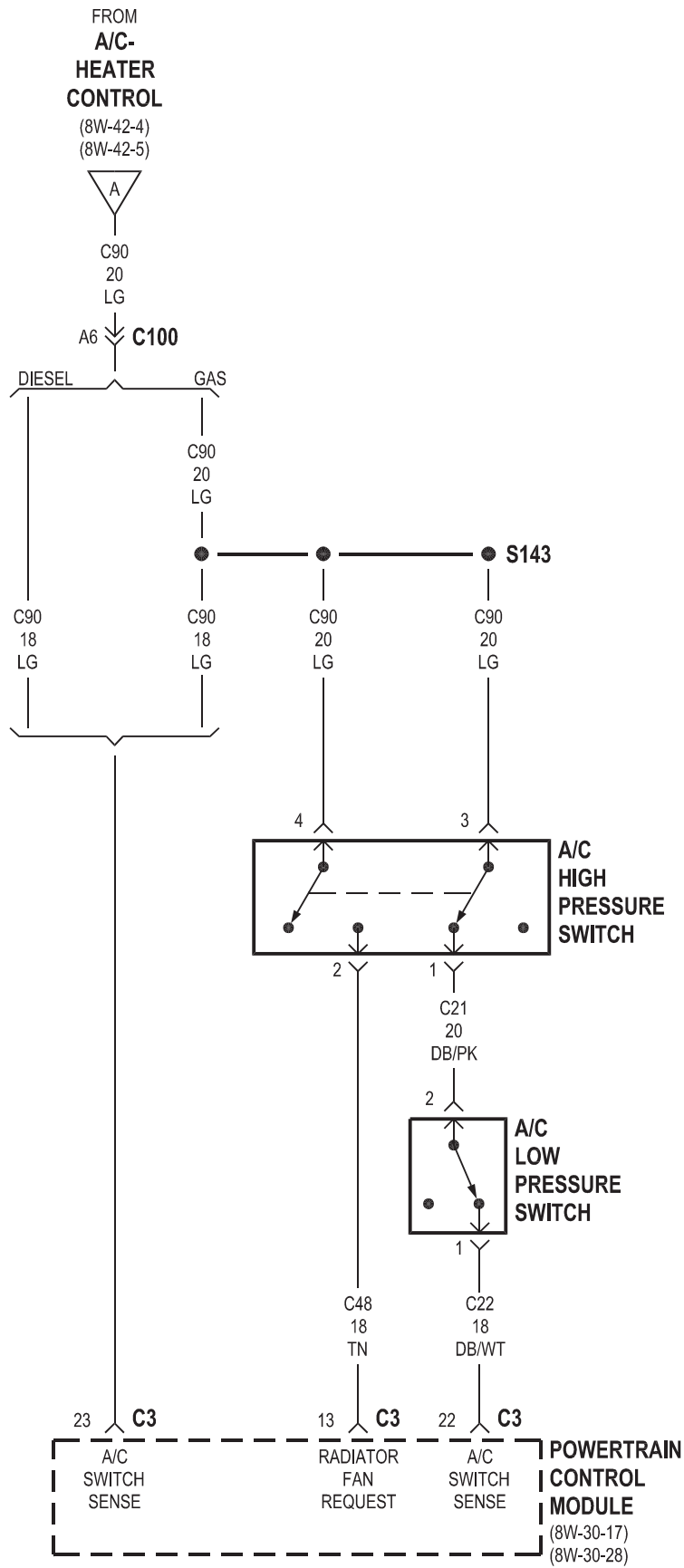


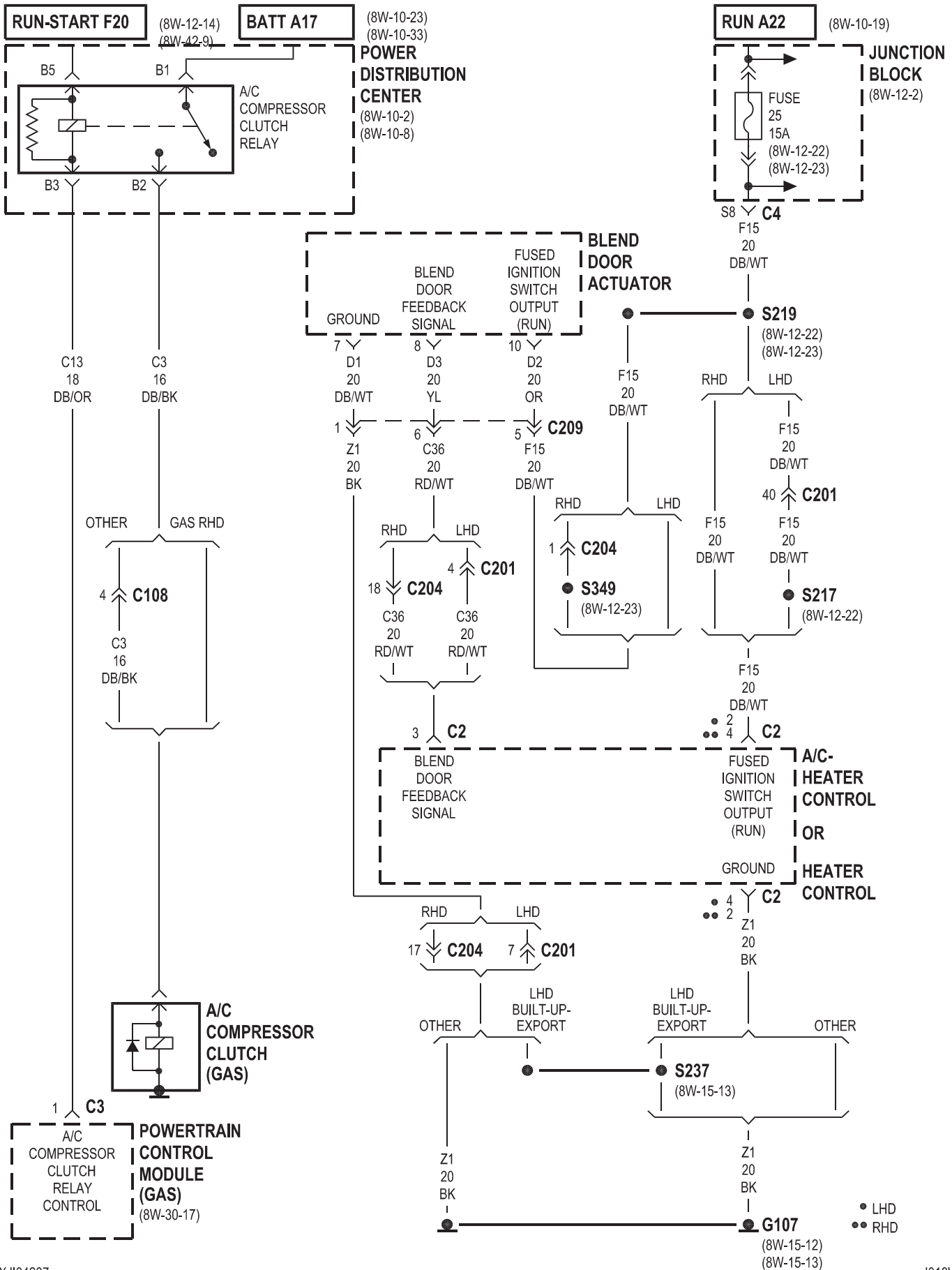


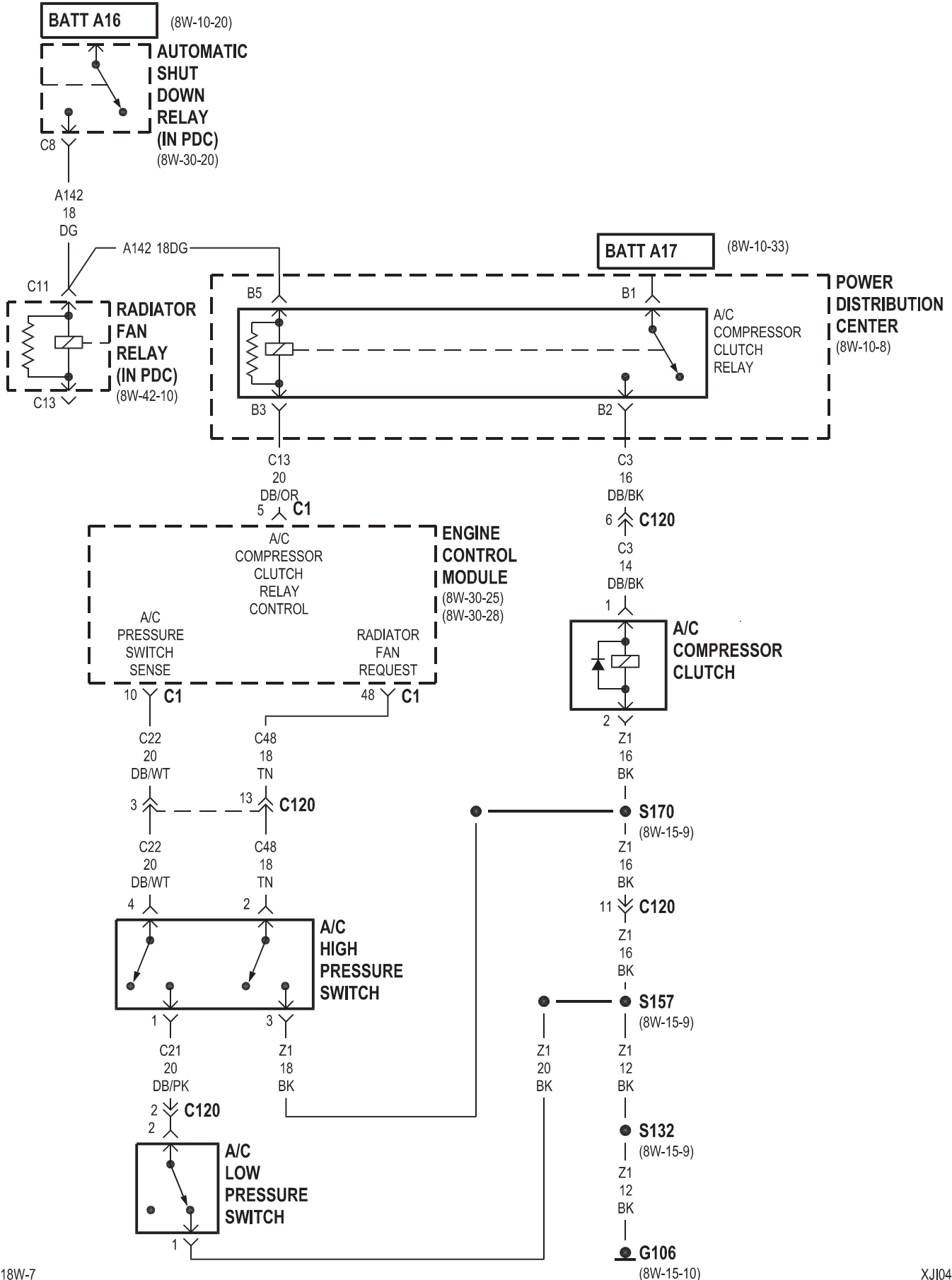


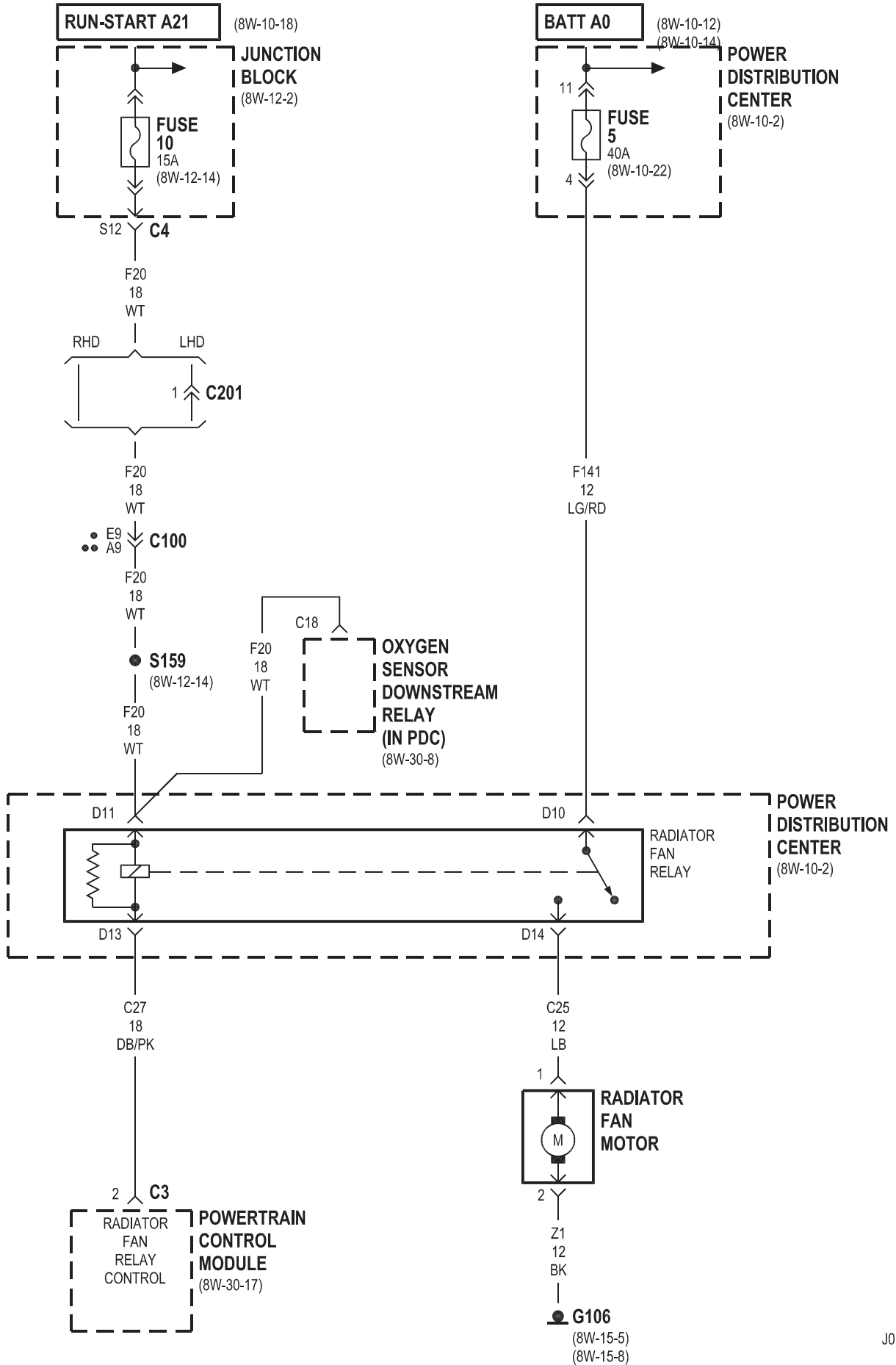
RHD



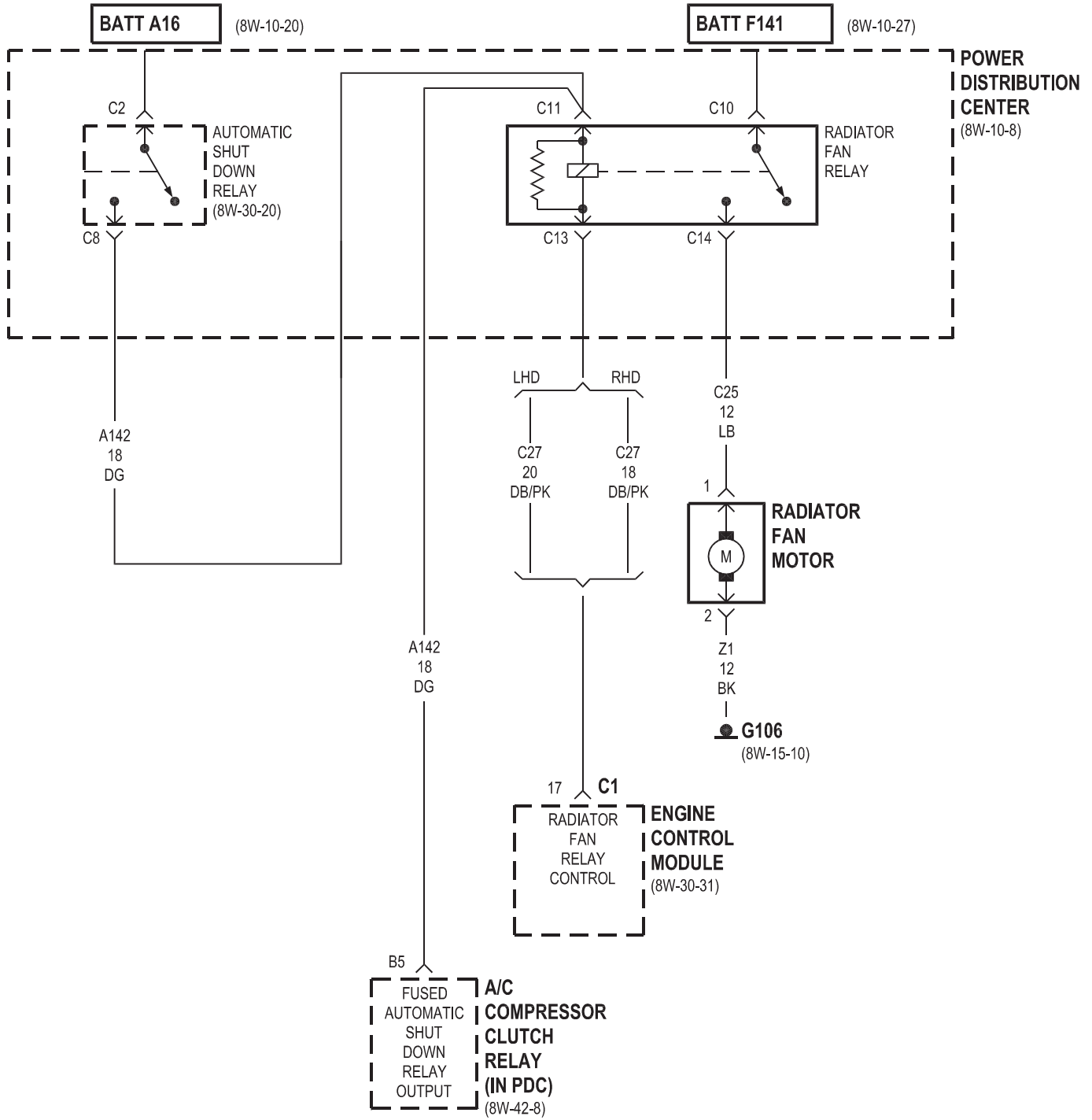








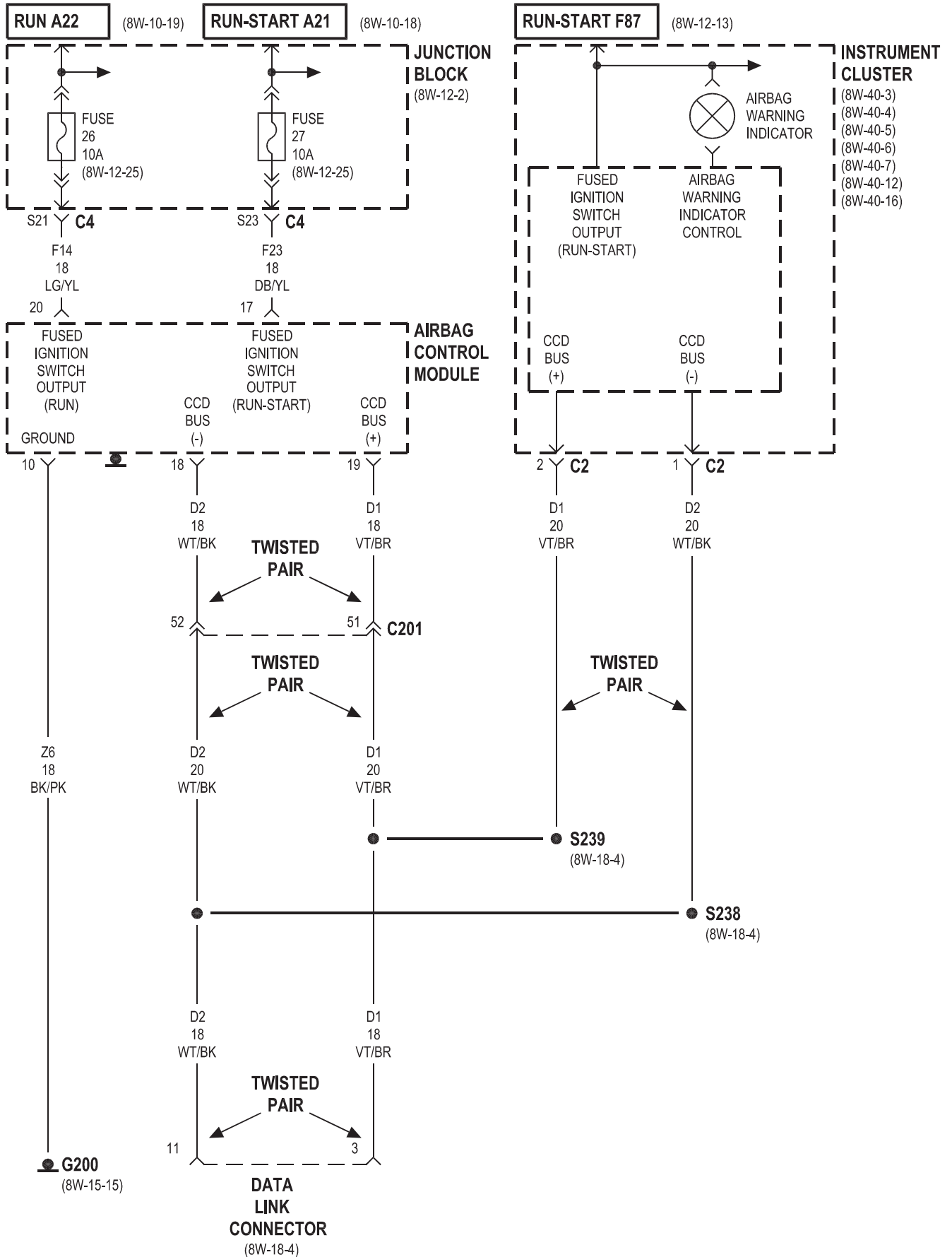




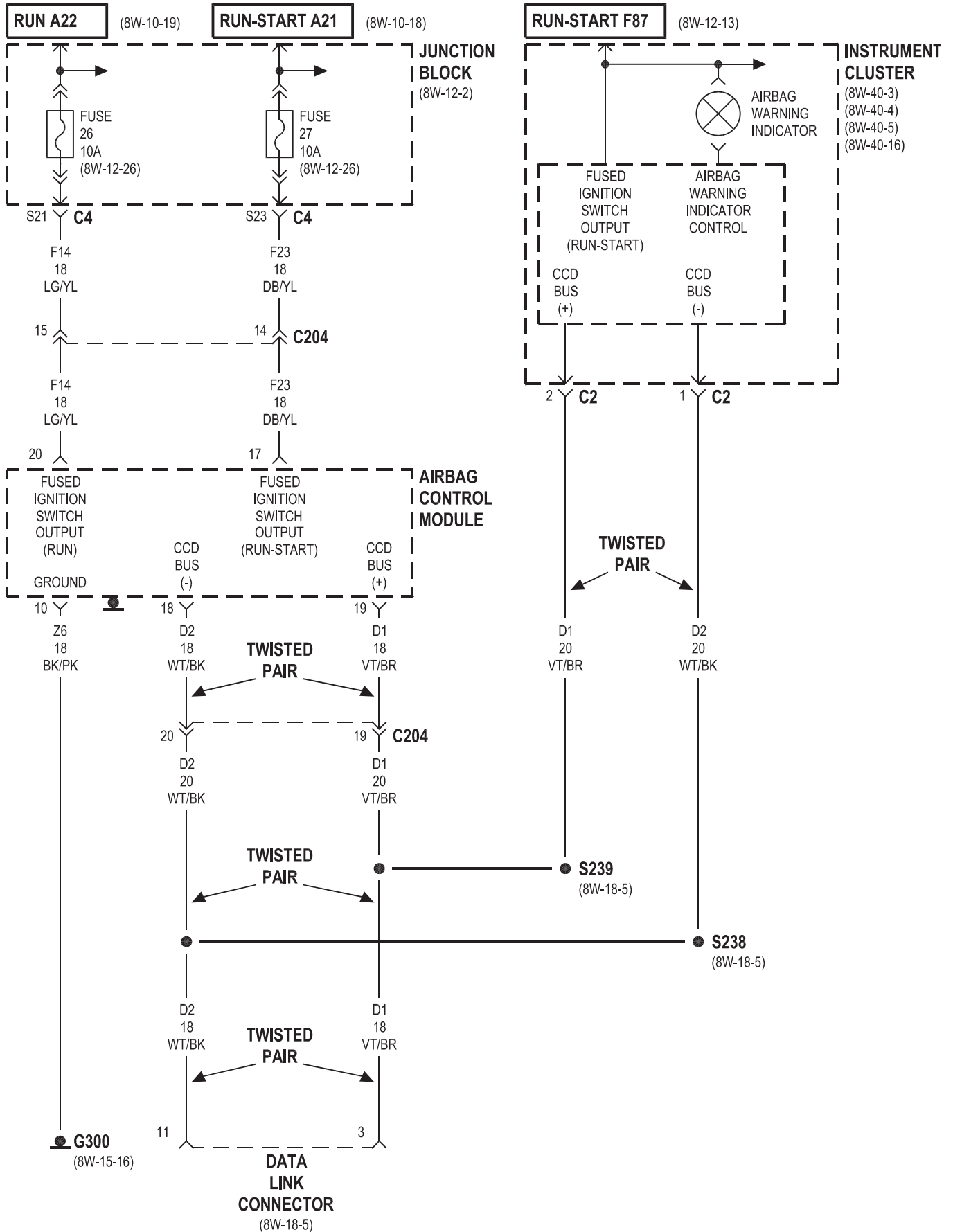
## 8Wa-43 AIRBAG SYSTEM

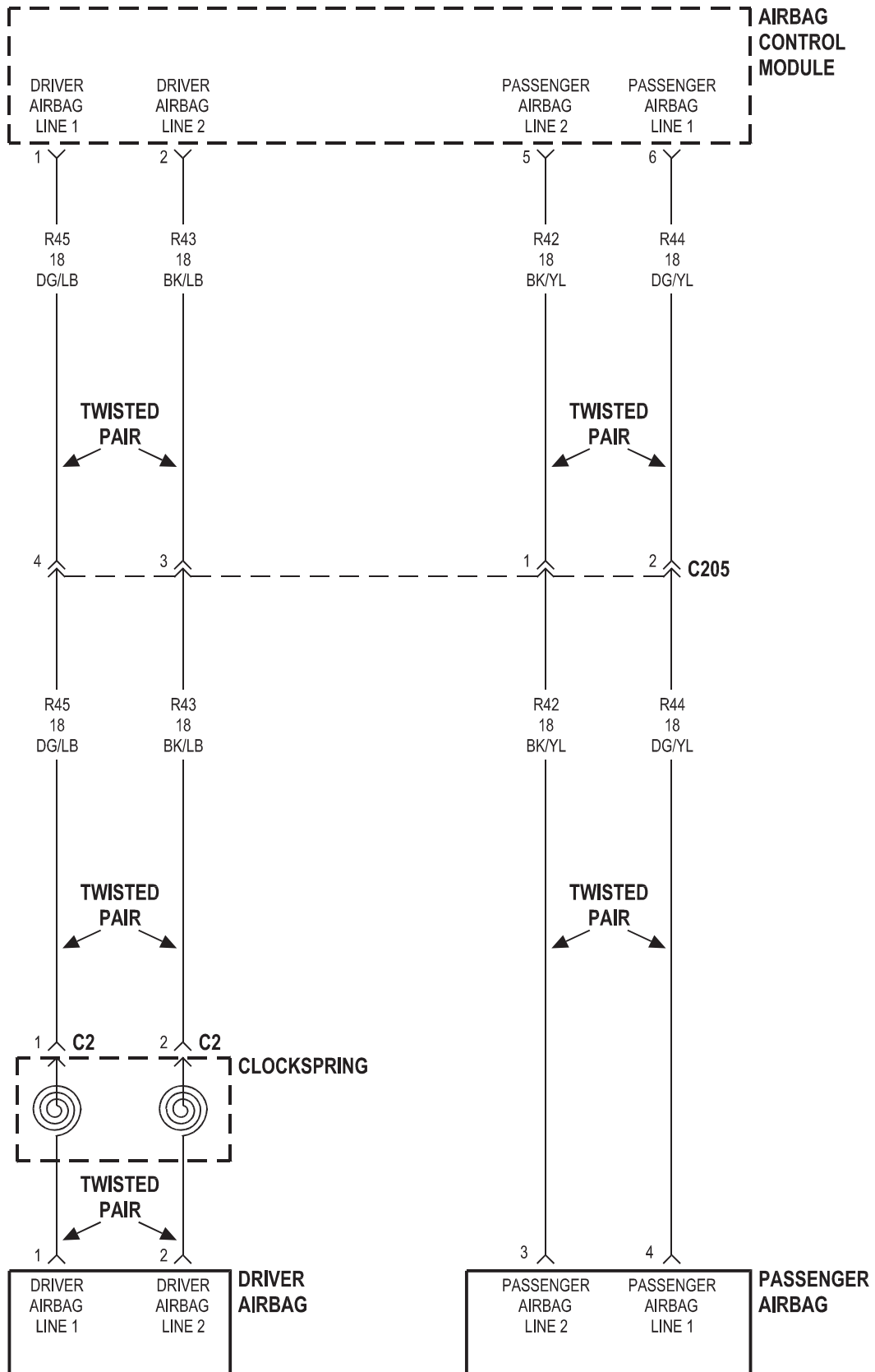
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Airbag Control Module . . . . .	8Wa-43-2, 3, 4	G200 . . . . .	8Wa-43-2
Clockspring . . . . .	8Wa-43-4	G300 . . . . .	8Wa-43-3
Data Link Connector . . . . .	8Wa-43-2, 3	Instrument Cluster . . . . .	8Wa-43-2, 3
Driver Airbag . . . . .	8Wa-43-4	Junction Block . . . . .	8Wa-43-2, 3
Fuse 26 (JB) . . . . .	8Wa-43-2, 3	Passenger Airbag . . . . .	8Wa-43-4
Fuse 27 (JB) . . . . .	8Wa-43-2, 3		

LHD



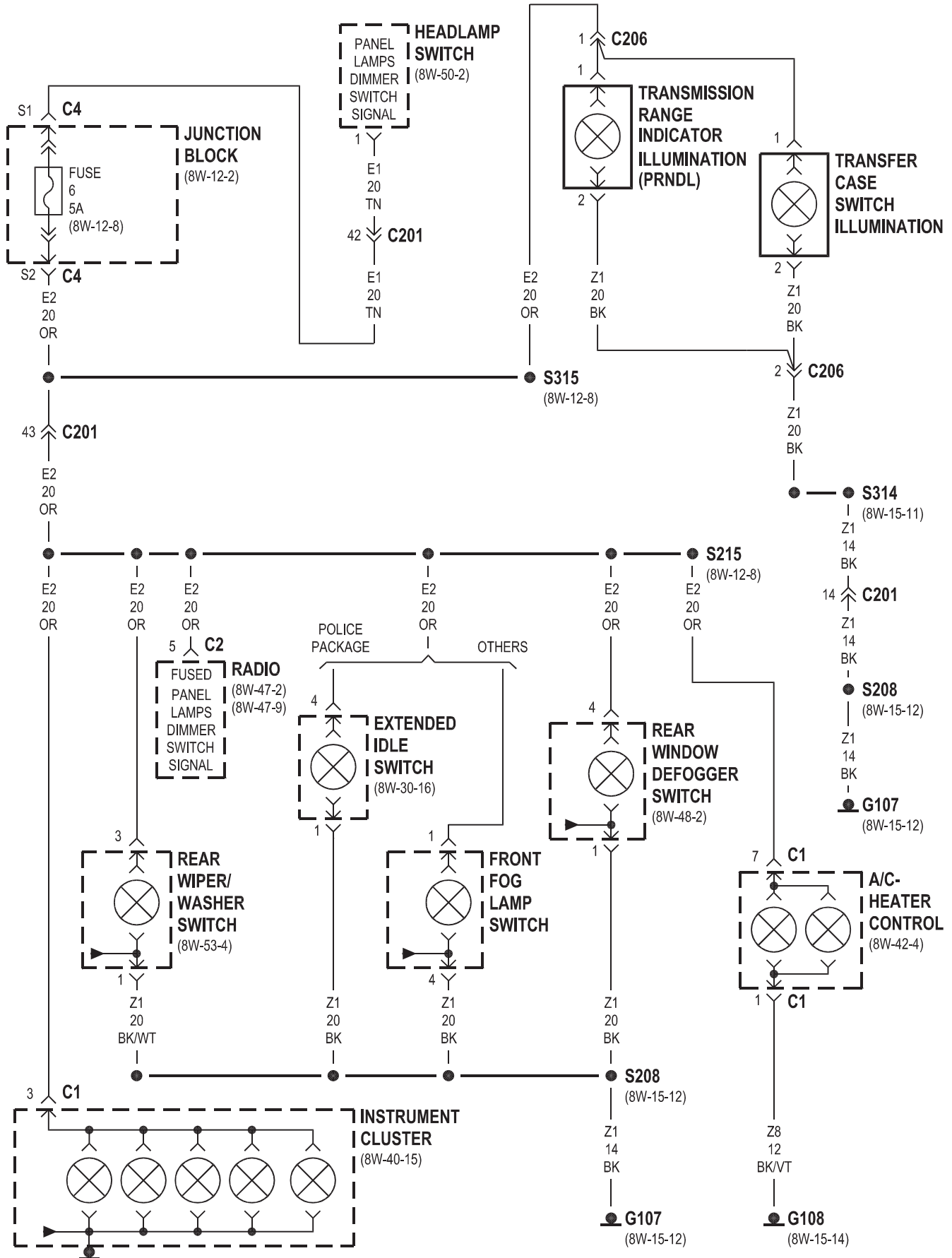
RHD

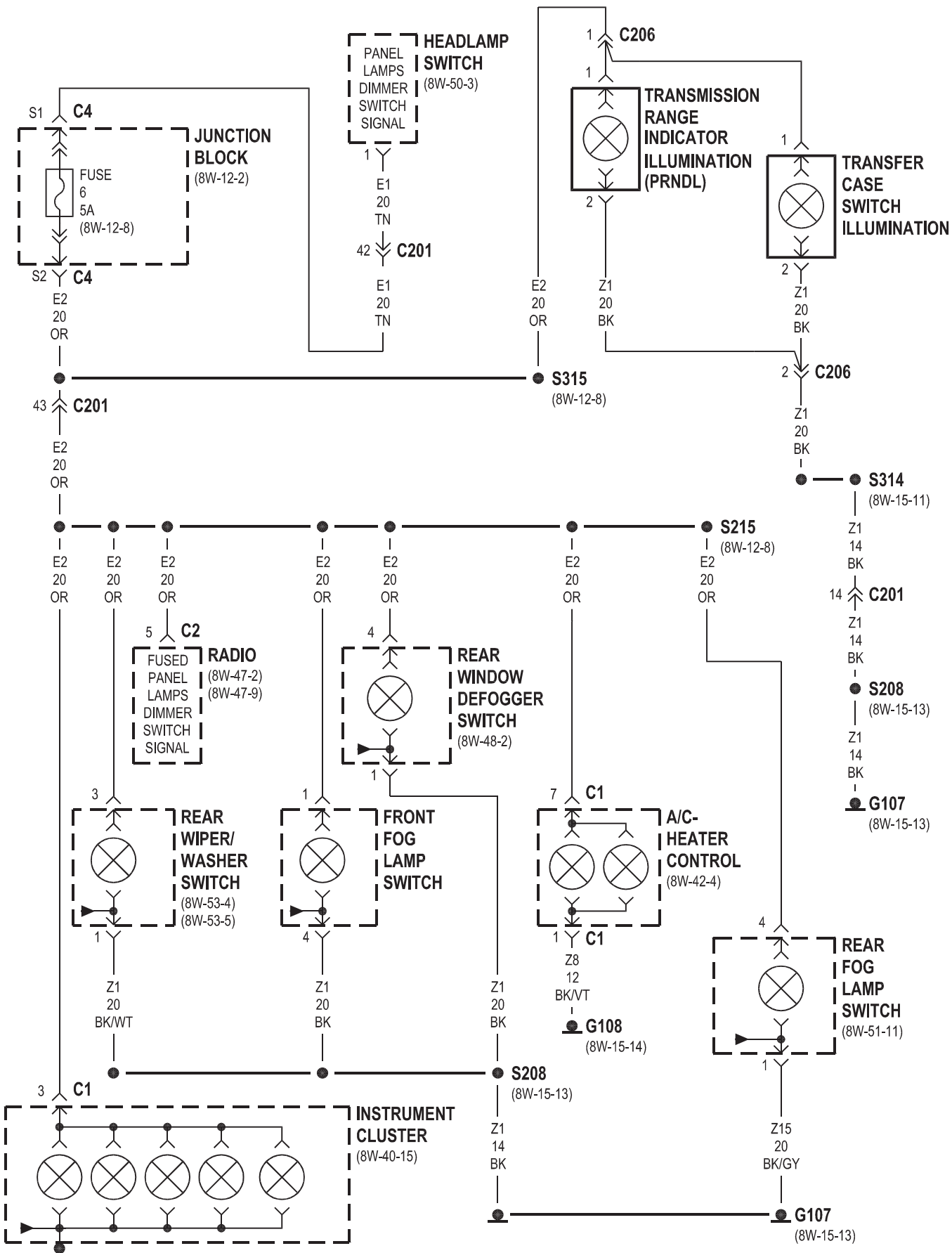




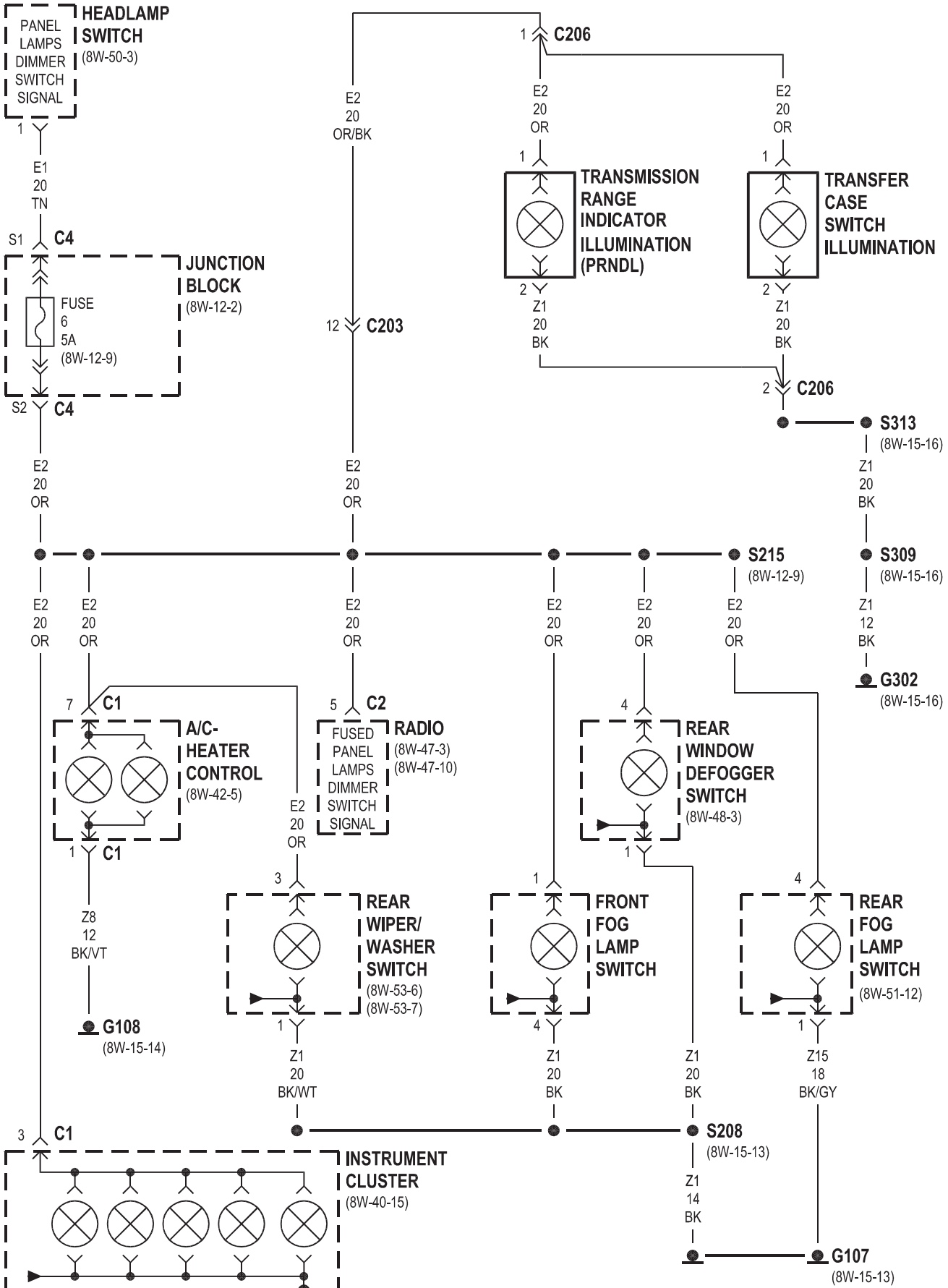
## 8Wa-44 INTERIOR LIGHTING

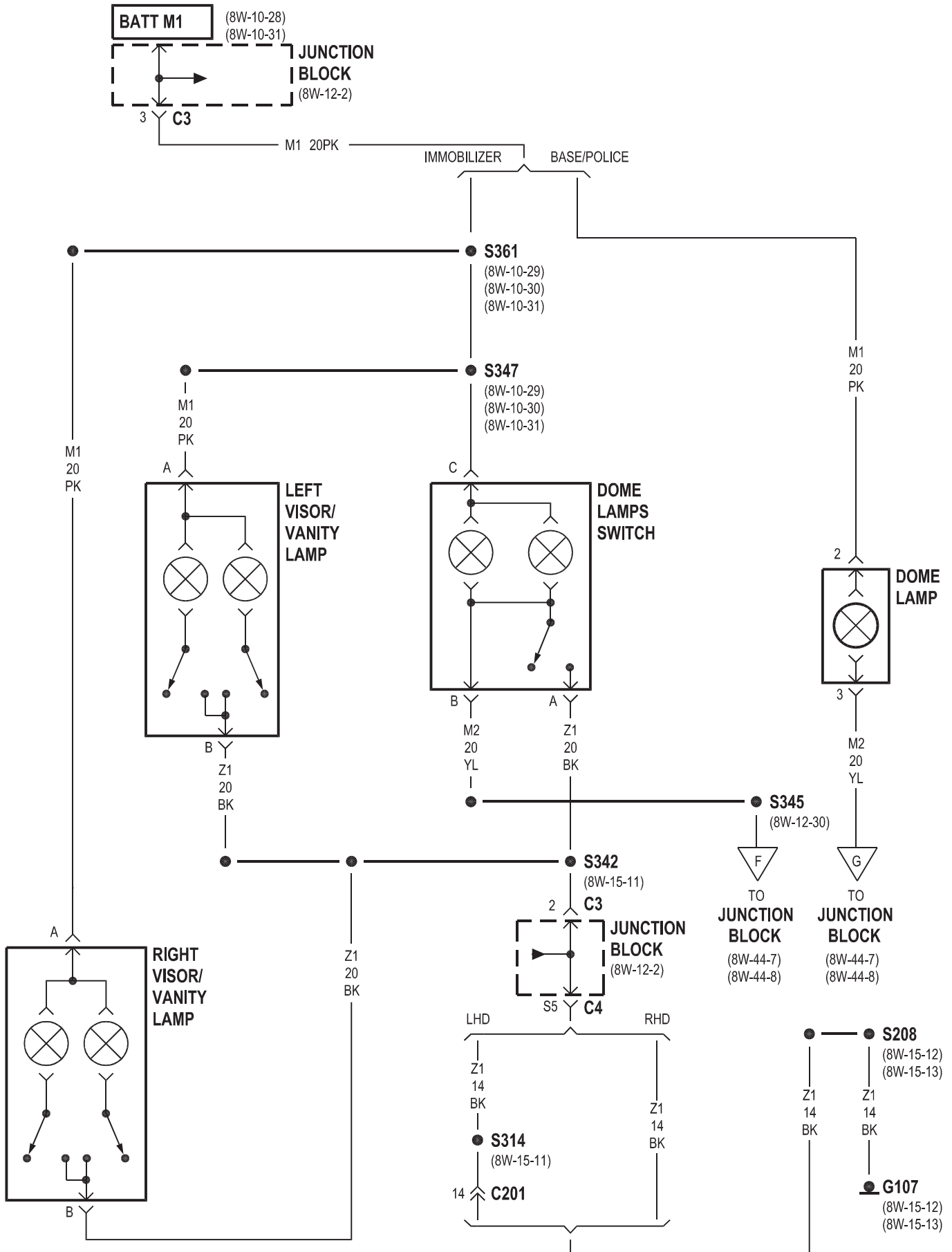
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
A/C- Heater Control . . . . .	8Wa-44-2, 3, 4	Left Courtesy Lamp . . . . .	8Wa-44-7, 8
Cargo Lamp/Switch . . . . .	8Wa-44-7, 8, 9, 10	Left Rear Door Ajar Switch . . . . .	8Wa-44-9, 10
Dome Lamp . . . . .	8Wa-44-5, 6, 7, 8	Left Visor/Vanity Lamp . . . . .	8Wa-44-5, 6
Dome Lamps Switch . . . . .	8Wa-44-5	Liftgate Ajar Switch . . . . .	8Wa-44-9, 10
Driver Door Ajar Switch . . . . .	8Wa-44-10, 9	Overhead Console . . . . .	8Wa-44-6
Extended Idle Switch . . . . .	8Wa-44-2	Passenger Door Ajar Switch . . . . .	8Wa-44-9, 10
Front Fog Lamp Switch . . . . .	8Wa-44-2, 3, 4	Power Distribution Center . . . . .	8Wa-44-7, 8
Fuse 6 (JB) . . . . .	8Wa-44-2, 3, 4	Radio . . . . .	8Wa-44-2, 3, 4
Fuse 16 (PDC) . . . . .	8Wa-44-7, 8	Rear Fog Lamp Switch . . . . .	8Wa-44-3, 4
G106 . . . . .	8Wa-44-7, 8	Rear Window Defogger Switch . . . . .	8Wa-44-2, 3, 4
G107 . . . . .	8Wa-44-2, 3, 4, 5, 6	Rear Wiper/Washer Switch . . . . .	8Wa-44-2, 3, 4
G108 . . . . .	8Wa-44-2, 3, 4, 7, 8	Right Courtesy Lamp . . . . .	8Wa-44-7, 8
G302 . . . . .	8Wa-44-4, 9, 10	Right Rear Door Ajar Switch . . . . .	8Wa-44-9, 10
G303 . . . . .	8Wa-44-9, 10	Right Visor/Vanity Lamp . . . . .	8Wa-44-5, 6
G304 . . . . .	8Wa-44-9, 10	Transfer Case Switch Illumination . .	8Wa-44-2, 3, 4
Headlamp Delay Module . . . . .	8Wa-44-7, 8	Transmission Range Indicator Illumination . . . . .	8Wa-44-2, 3, 4
Headlamp Switch . . . . .	8Wa-44-2, 3, 4, 7, 8	Underhood Lamp/Switch . . . . .	8Wa-44-7, 8
Instrument Cluster . . . . .	8Wa-44-2, 3, 4, 9, 10		
Junction Block . . . . .	8Wa-44-2, 3, 4, 5, 6, 7, 8, 9, 10		



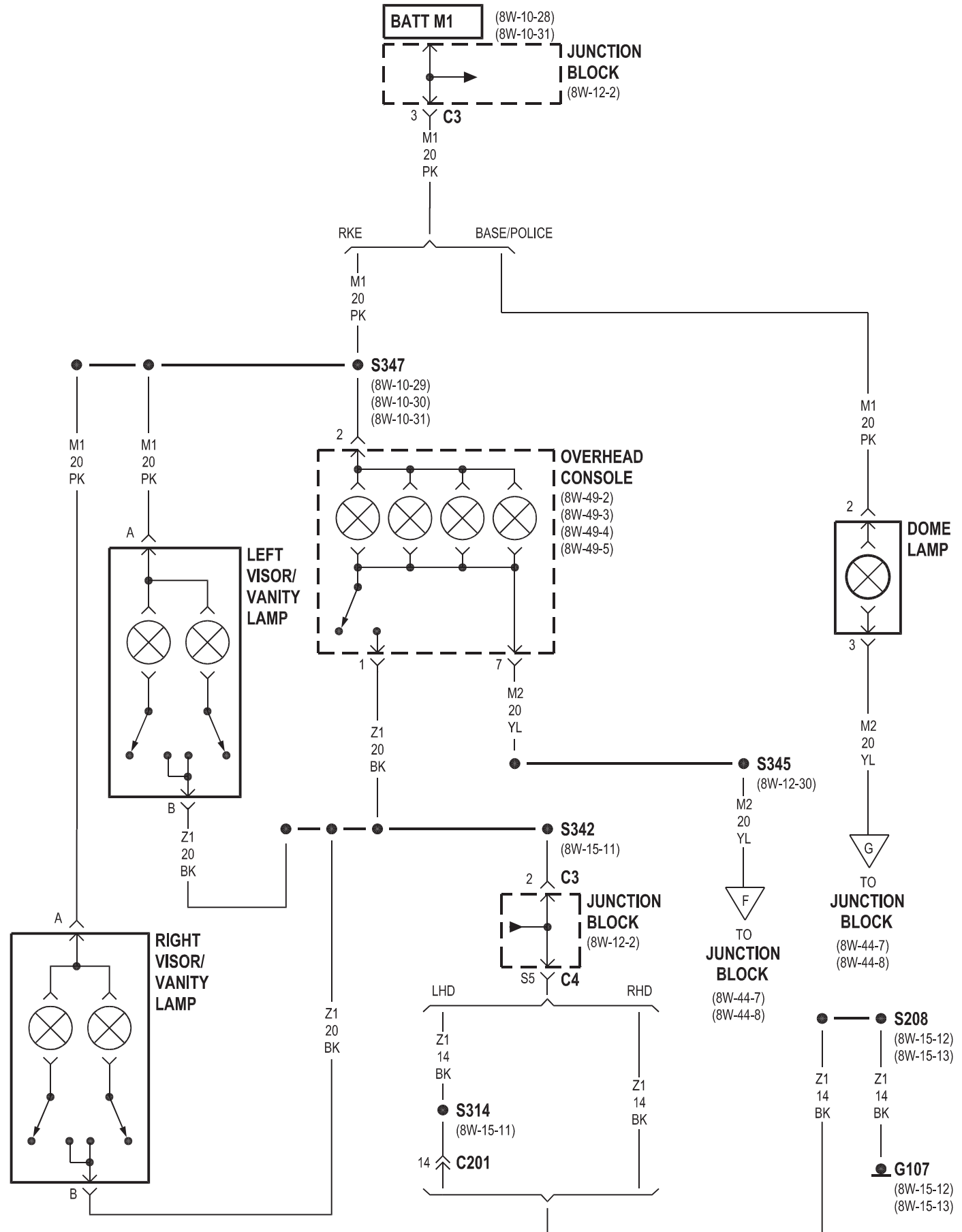


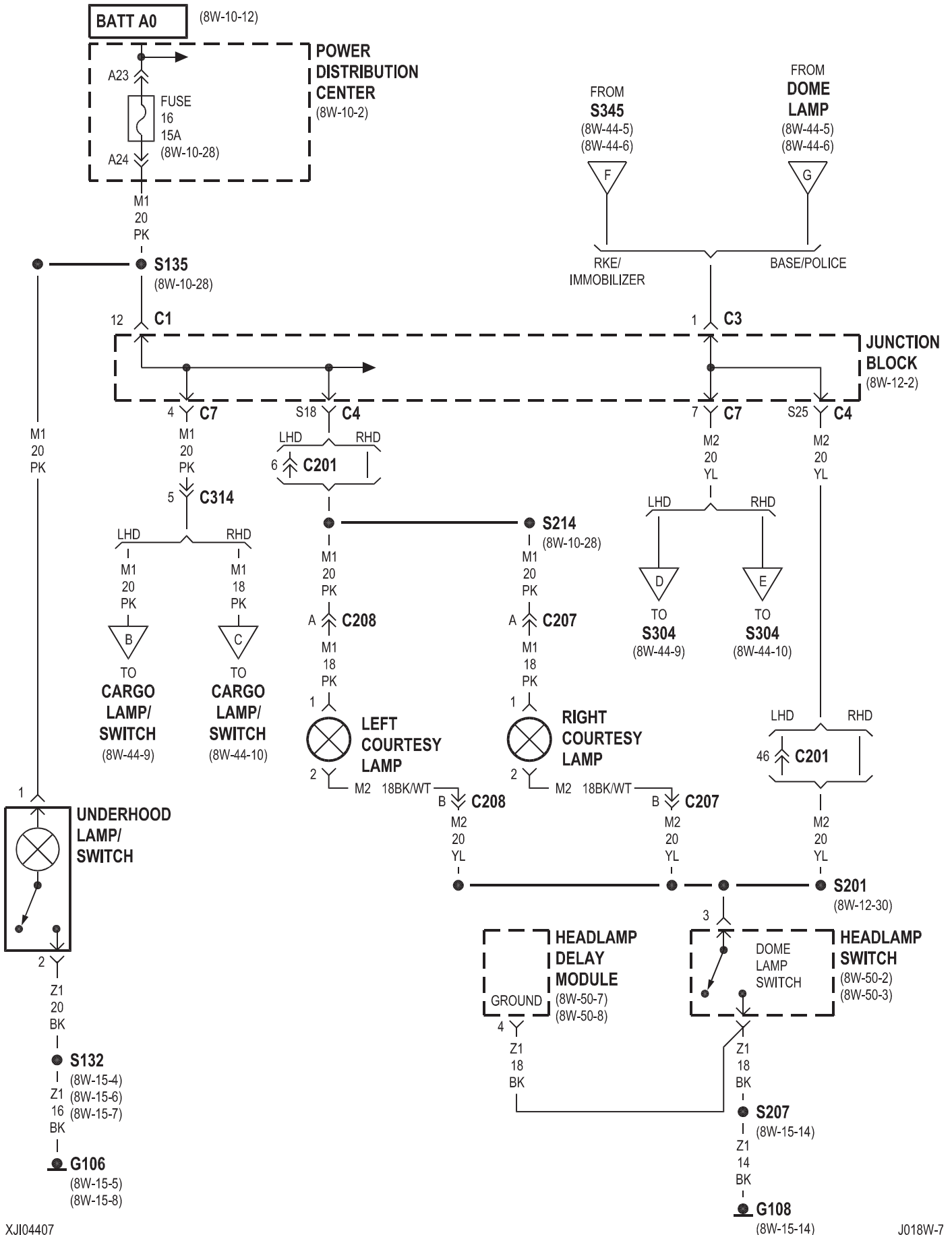


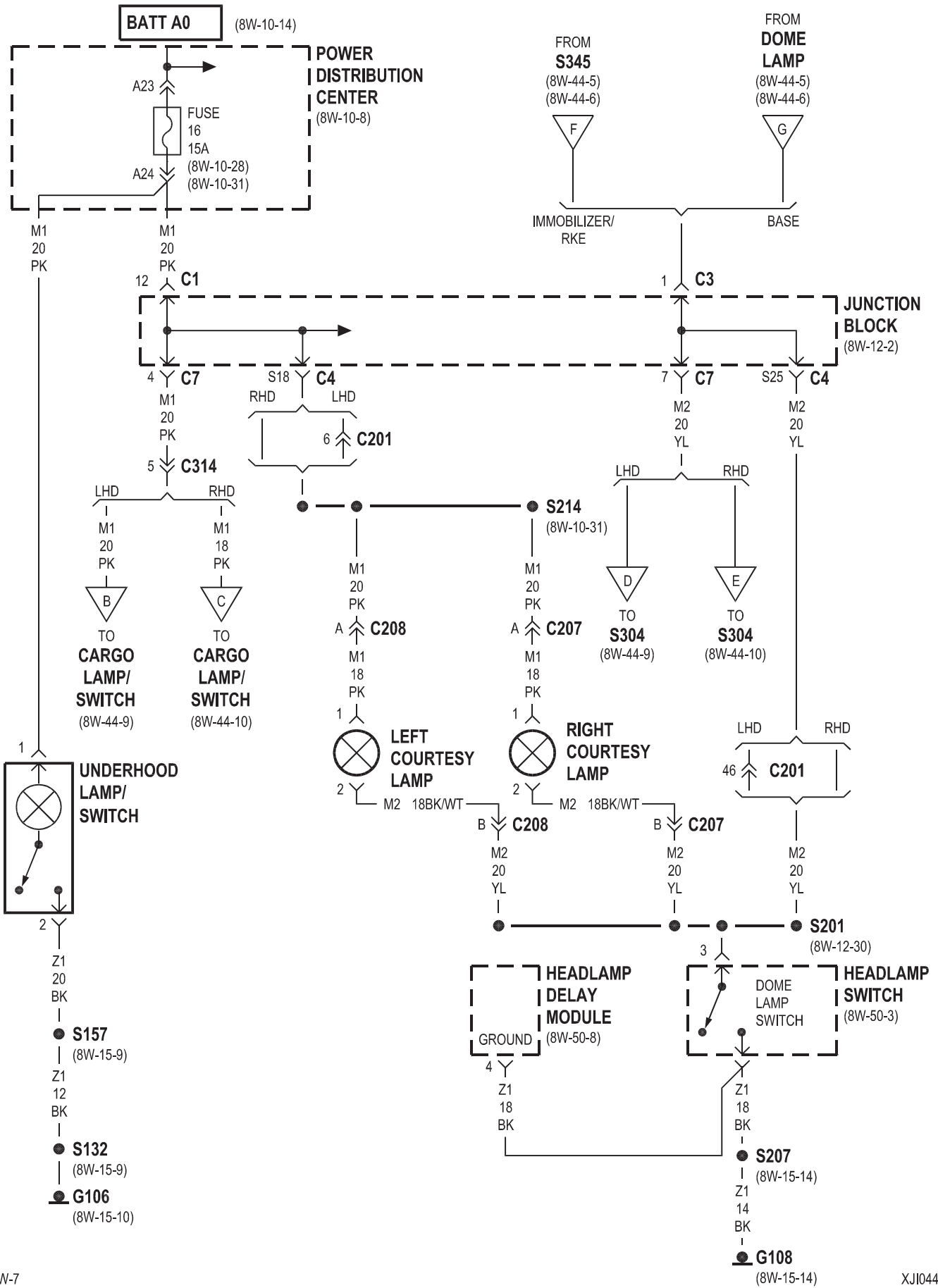


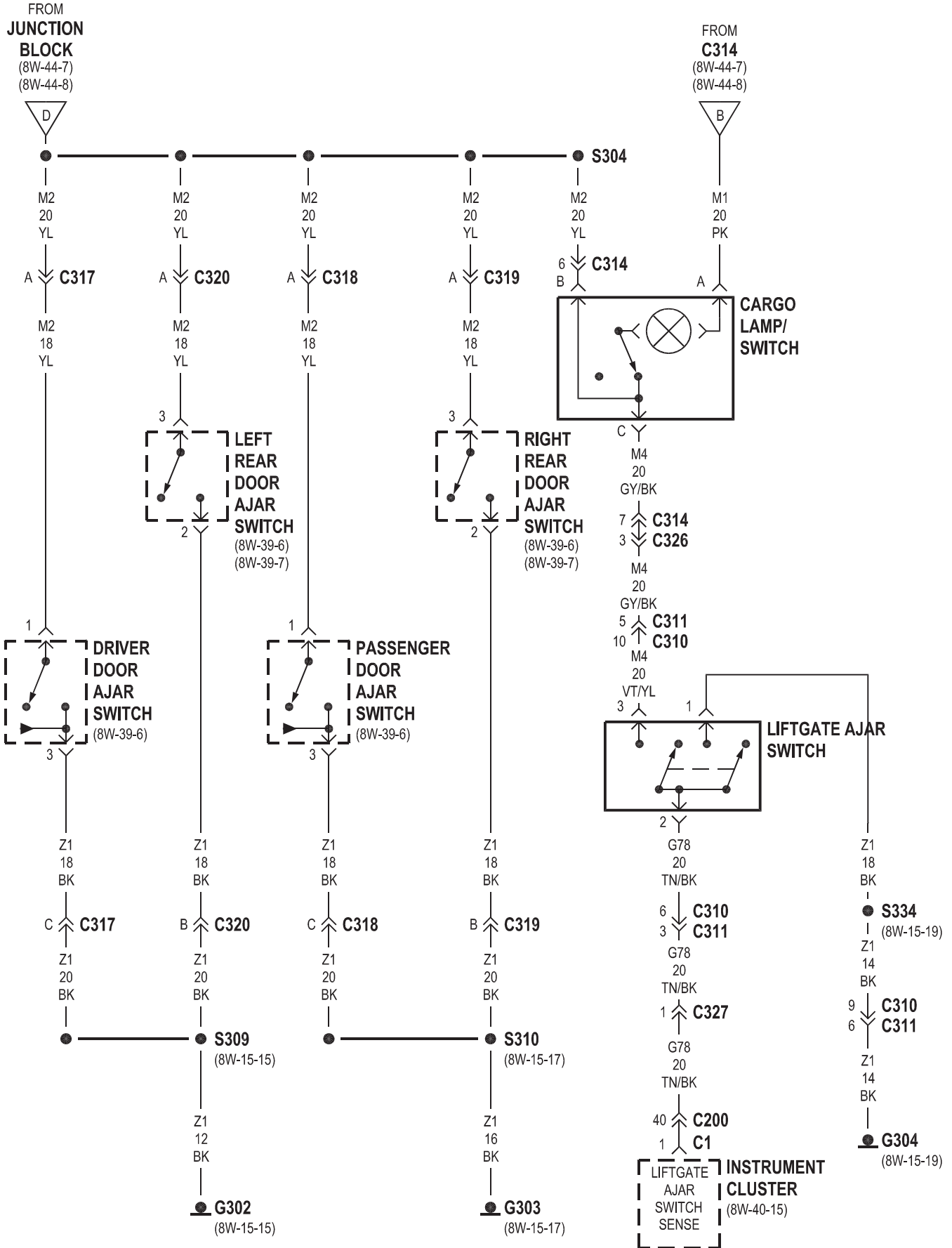


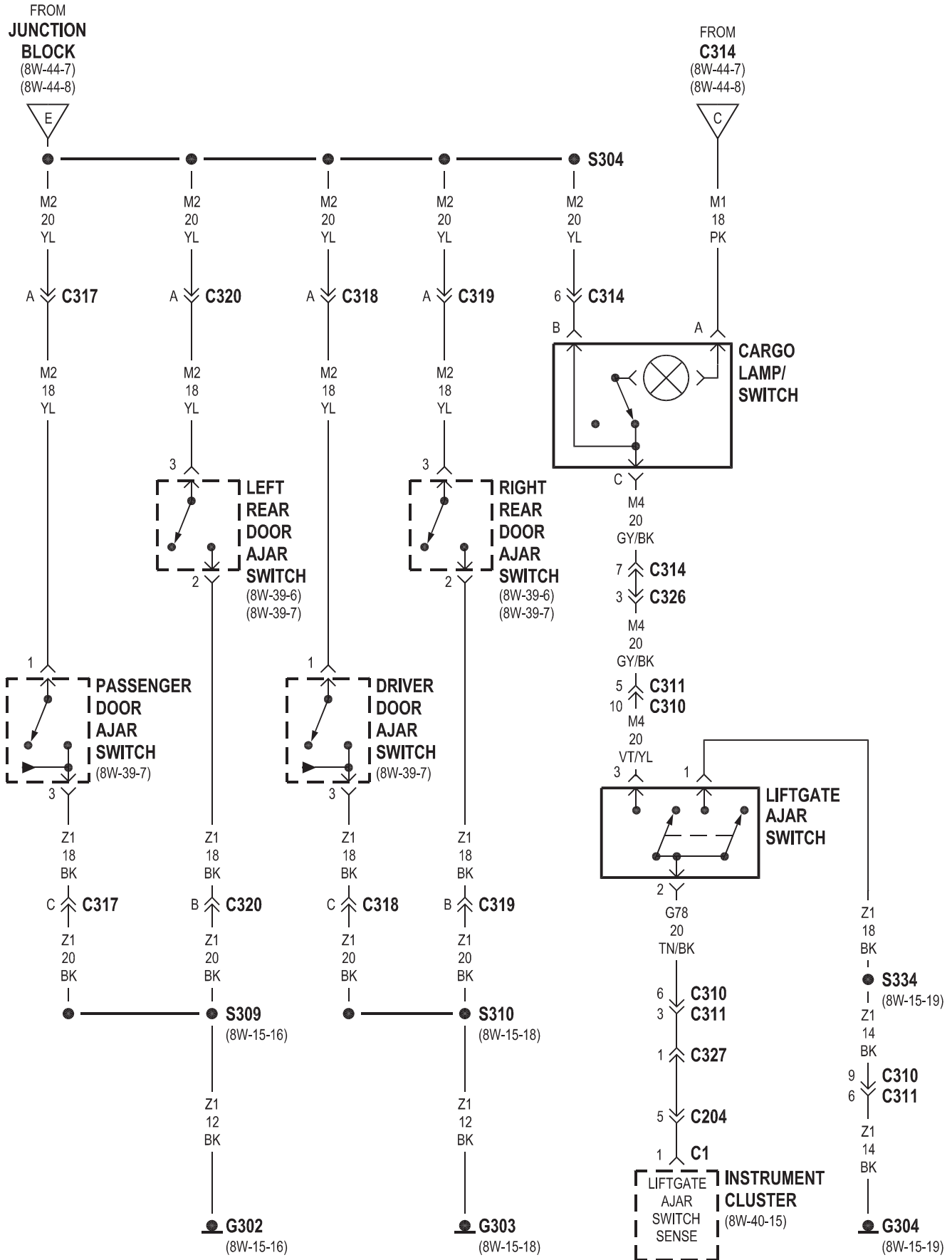
RKE







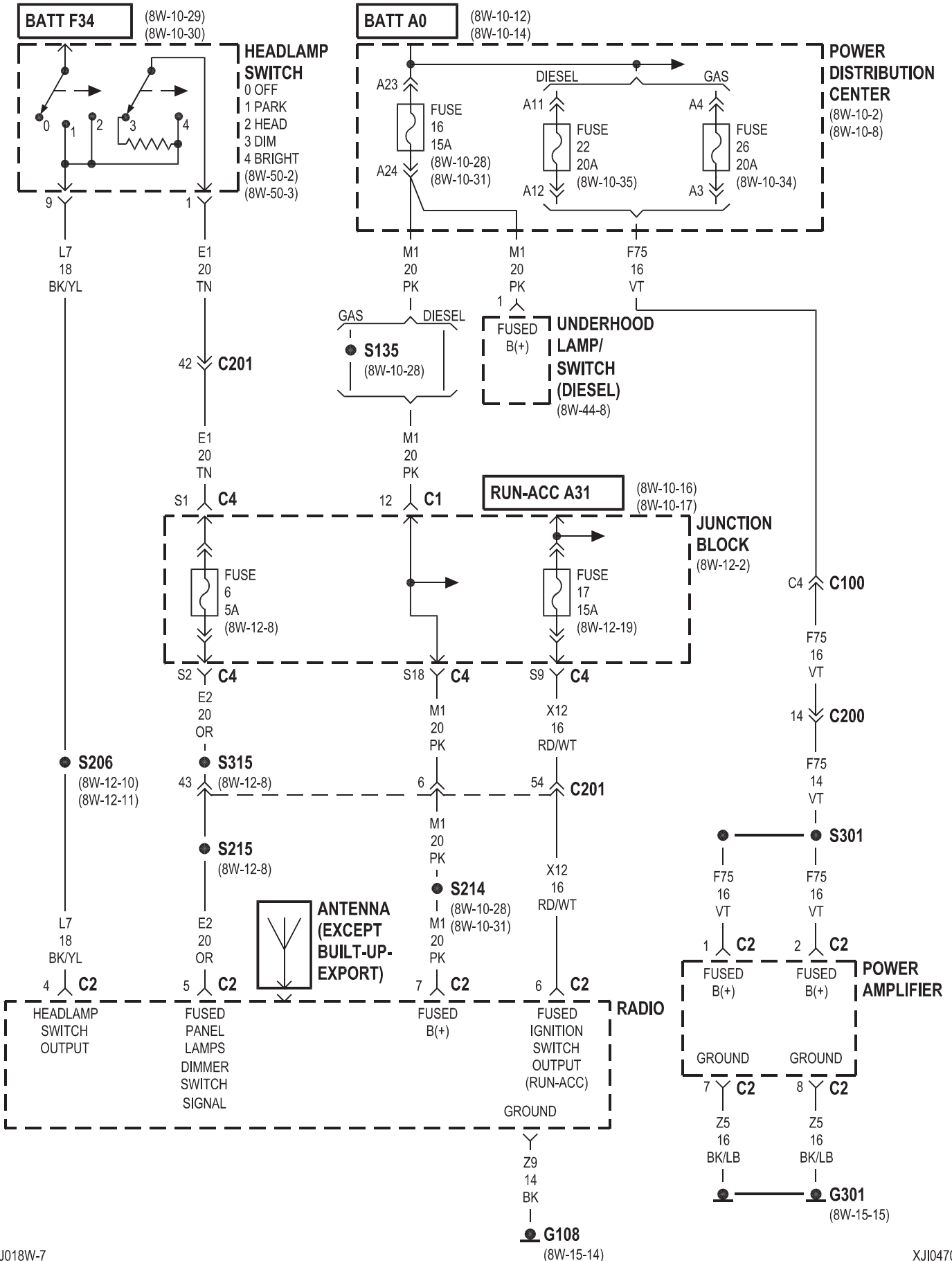


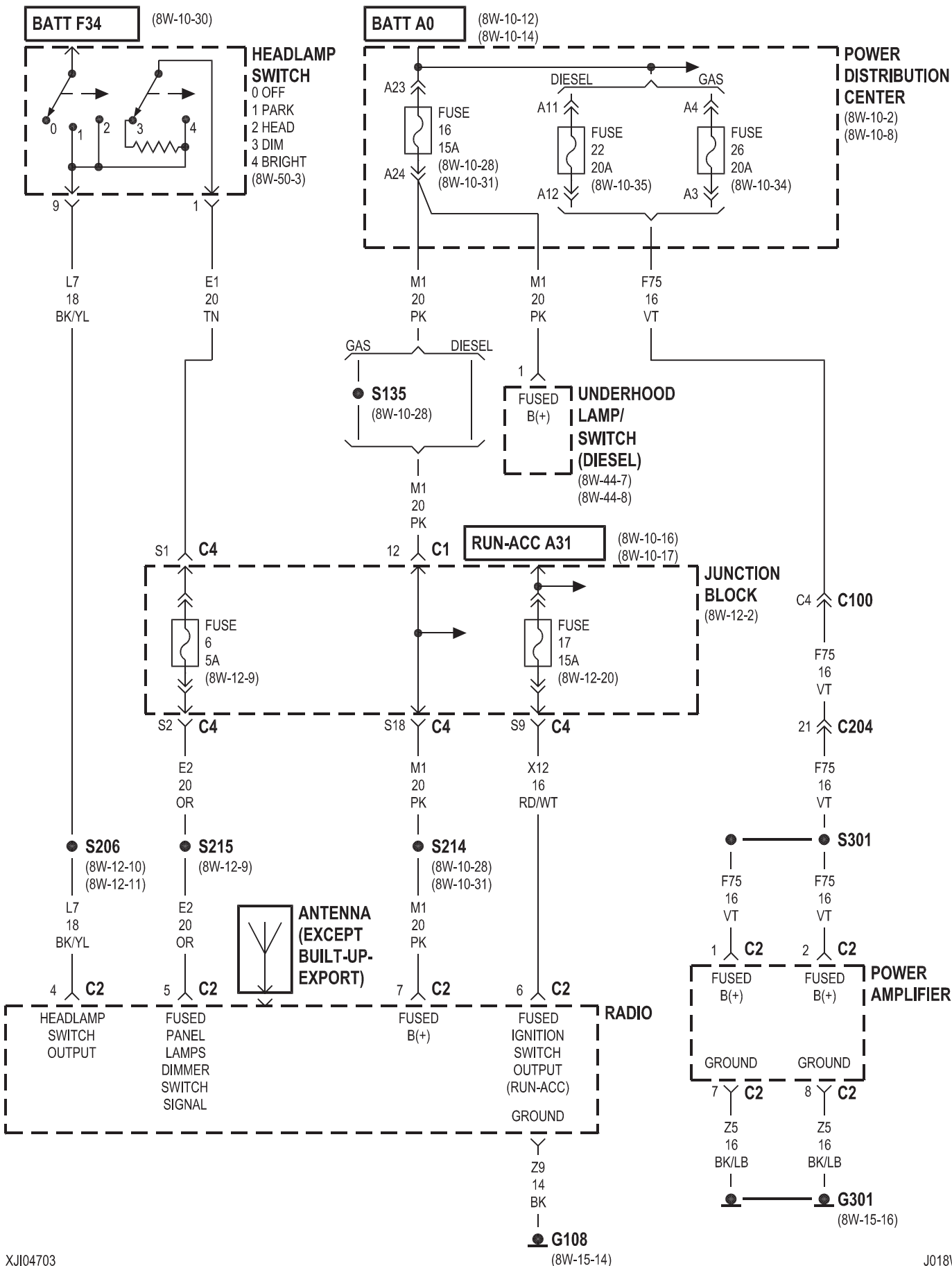


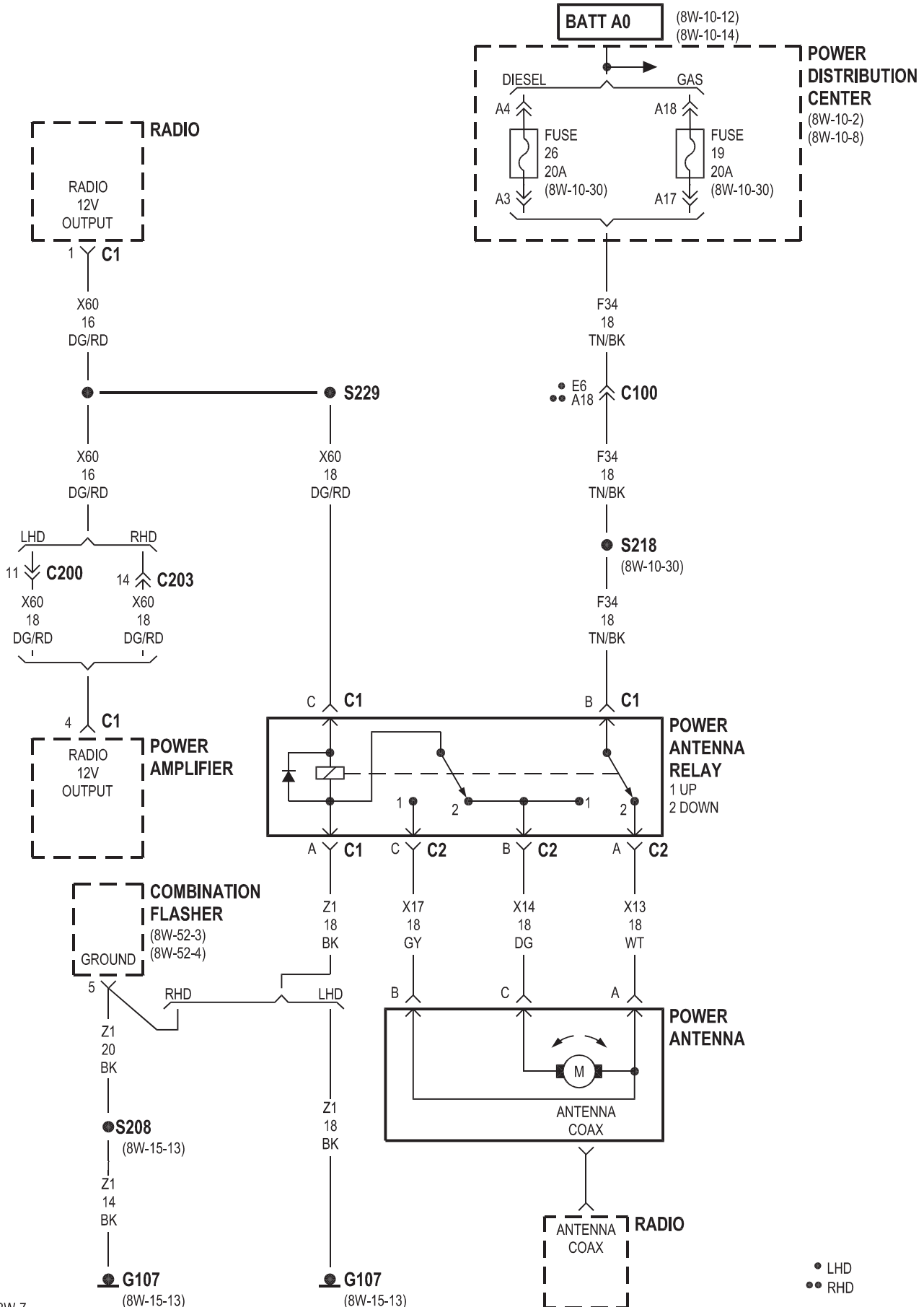
## 8Wa-47 AUDIO SYSTEM

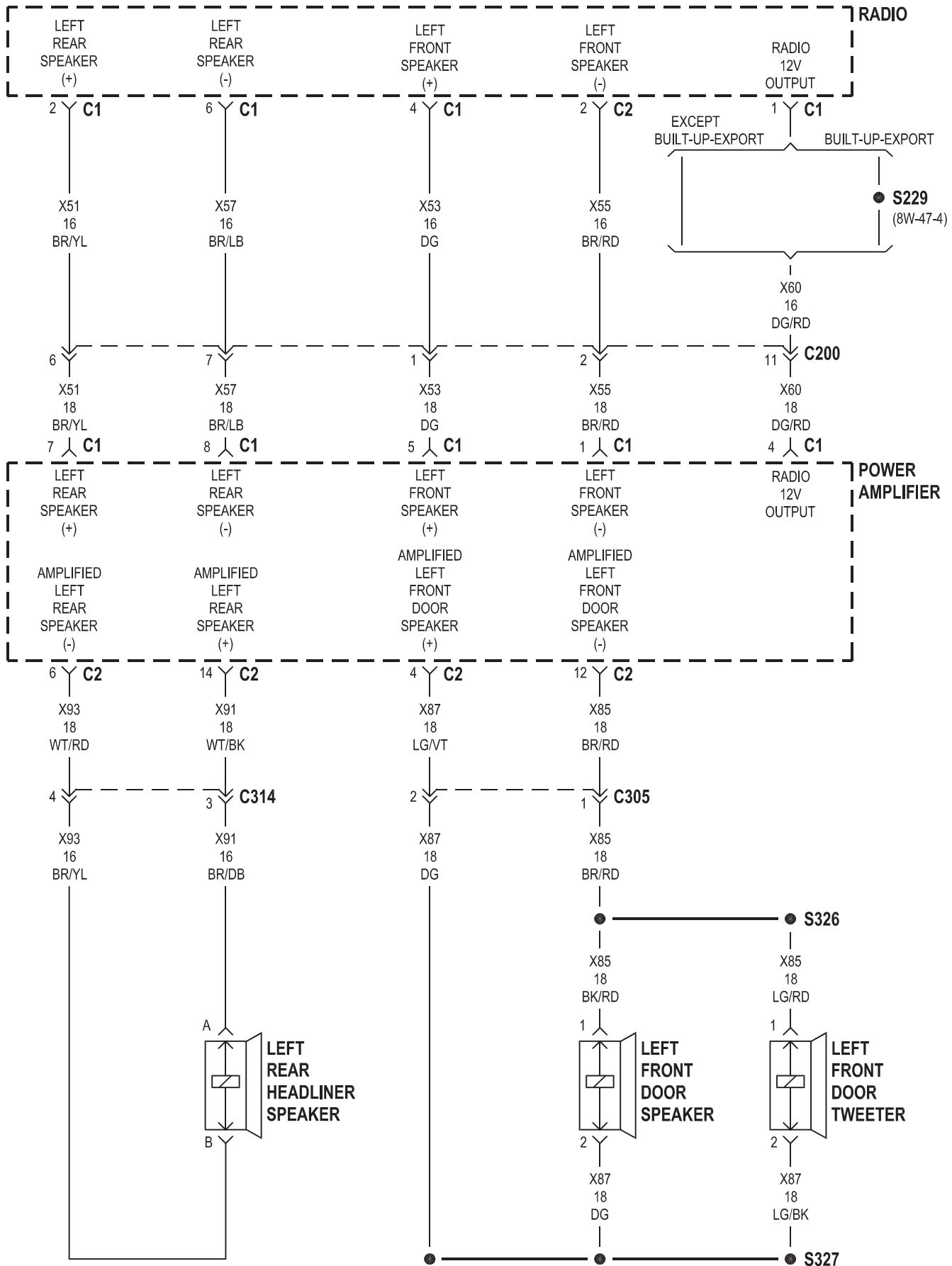
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Antenna . . . . .	8Wa-47-2, 3, 9	Junction Block . . . . .	8Wa-47-2, 3, 9, 10
Combination Flasher . . . . .	8Wa-47-4	Left Front Door Speaker . . . . .	8Wa-47-5, 6, 9, 10
Fuse 6 (JB) . . . . .	8Wa-47-2, 3, 9, 10	Left Front Door Tweeter . . . . .	8Wa-47-5, 6
Fuse 16 (PDC) . . . . .	8Wa-47-2, 3	Left Rear Headliner Speaker . . . . .	8Wa-47-5, 6, 11
Fuse 17 (JB) . . . . .	8Wa-47-2, 3, 9, 10	Power Amplifier . . . . .	8Wa-47-2, 3, 4, 5, 6, 7, 8
Fuse 19 (PDC) . . . . .	8Wa-47-4	Power Antenna Relay . . . . .	8Wa-47-4
Fuse 22 (PDC) . . . . .	8Wa-47-2, 3	Power Distribution Center . . . . .	8Wa-47-2, 3, 4
Fuse 26 (PDC) . . . . .	8Wa-47-2, 3, 4	Radio . . . . .	8Wa-47-2, 3, 4, 5, 6, 7, 8, 9, 10, 11
G107 . . . . .	8Wa-47-4	Right Front Door Speaker . . . . .	8Wa-47-7, 8, 9, 10
G108 . . . . .	8Wa-47-2, 3, 9, 10	Right Front Door Tweeter . . . . .	8Wa-47-7, 8
G301 . . . . .	8Wa-47-2, 3	Right Rear Headliner Speaker . . . . .	8Wa-47-7, 8, 11
Headlamp Switch . . . . .	8Wa-47-2, 3, 9, 10	Underhood Lamp/Switch . . . . .	8Wa-47-2, 3

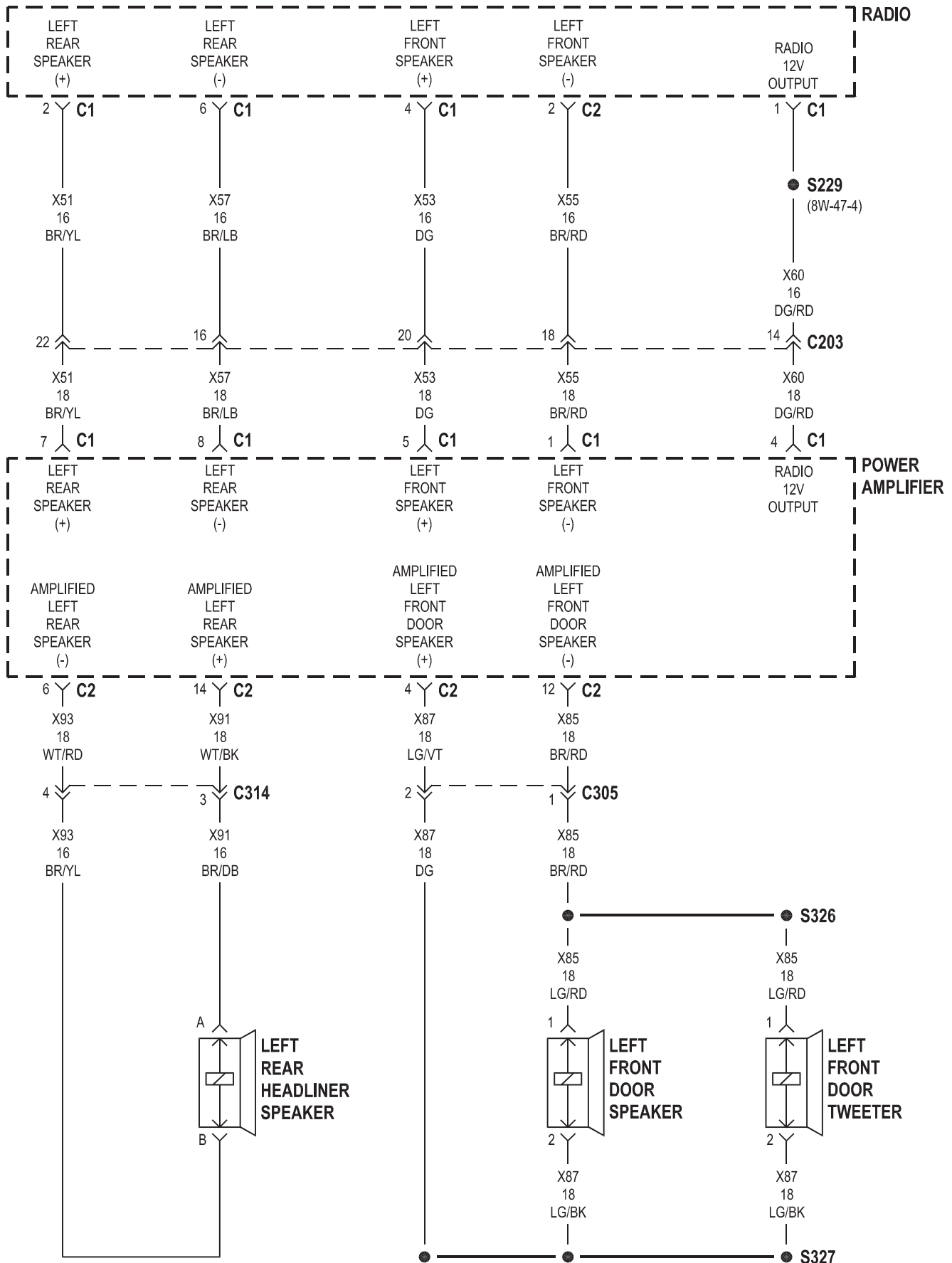


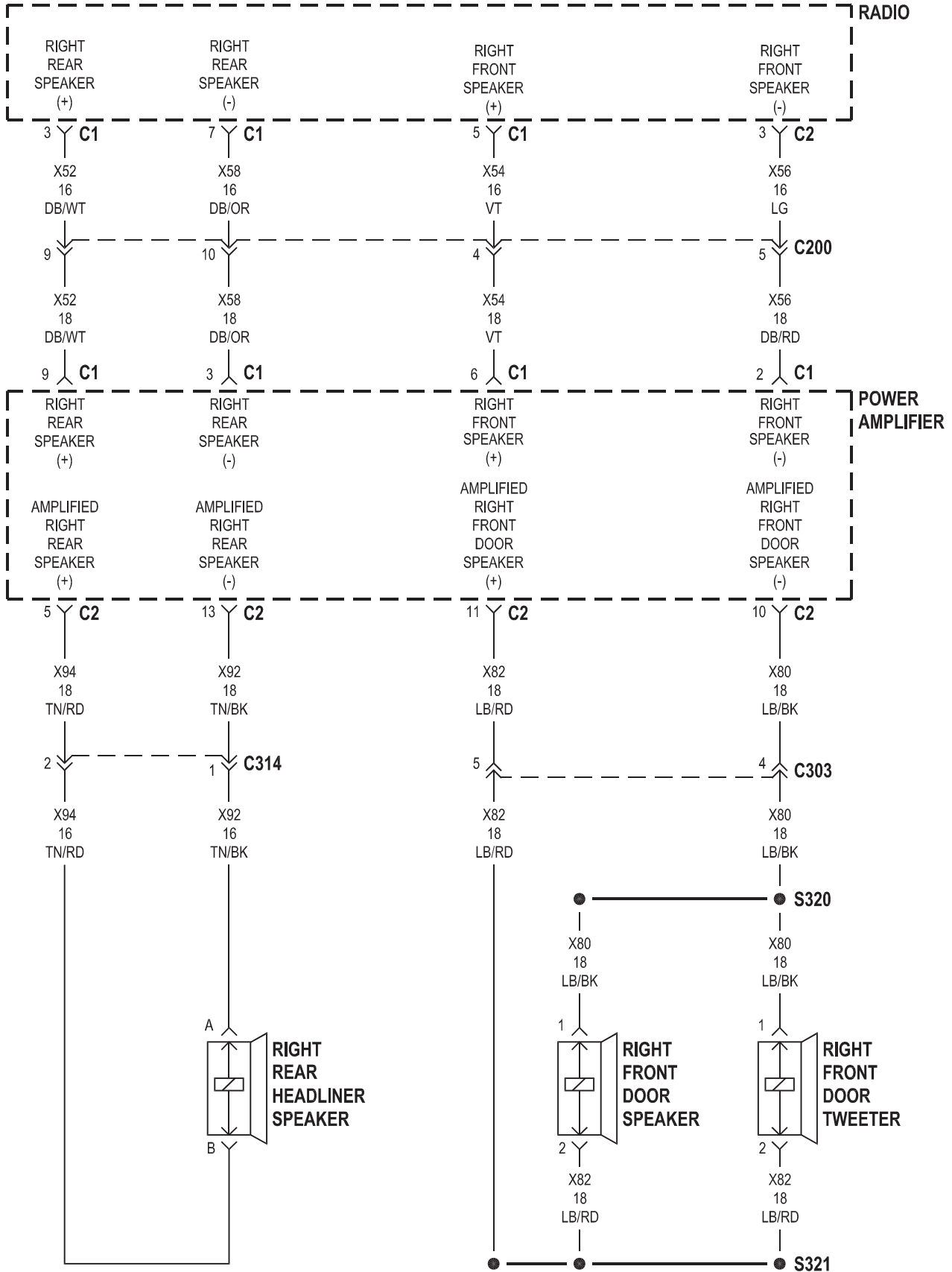


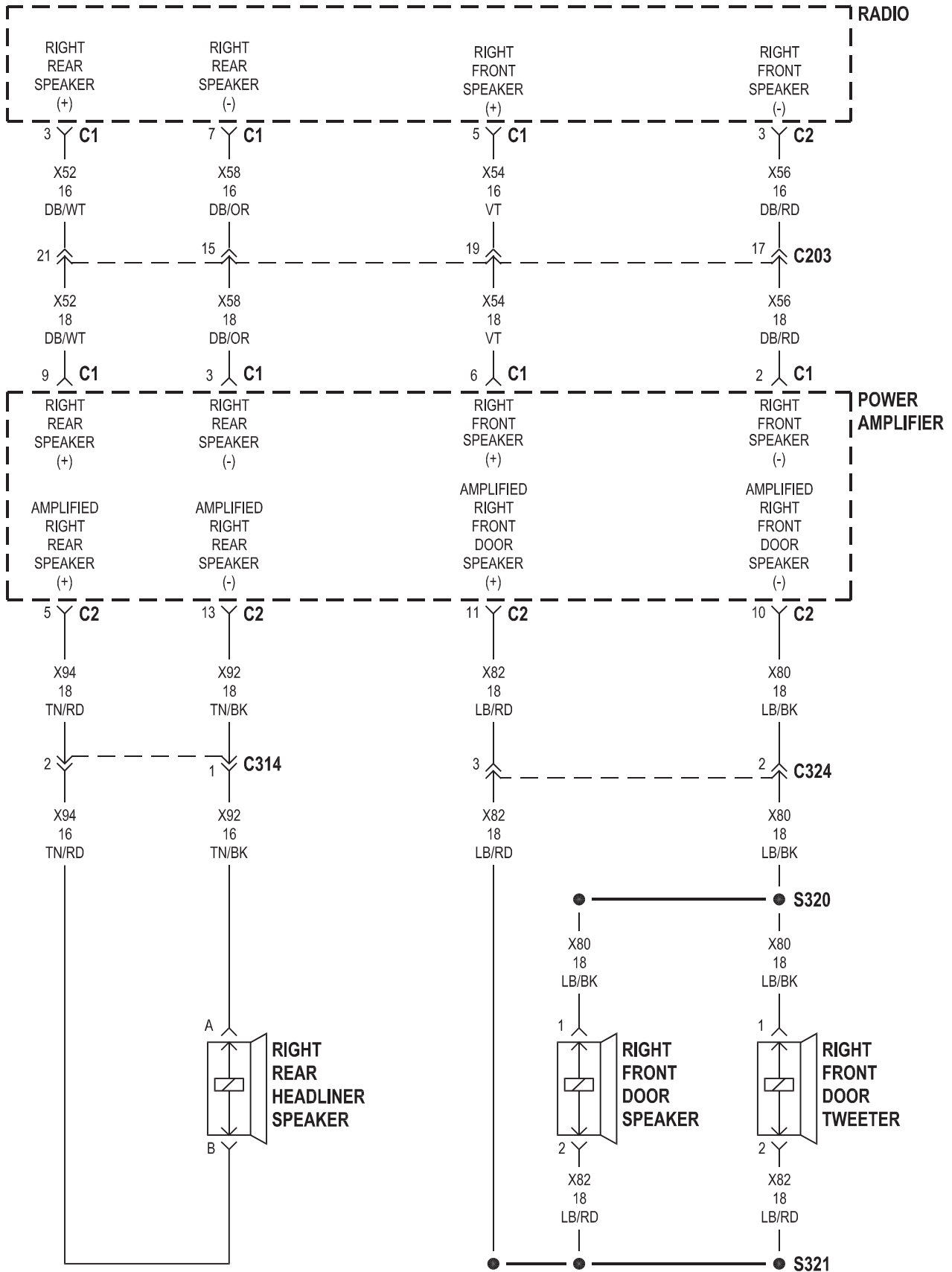


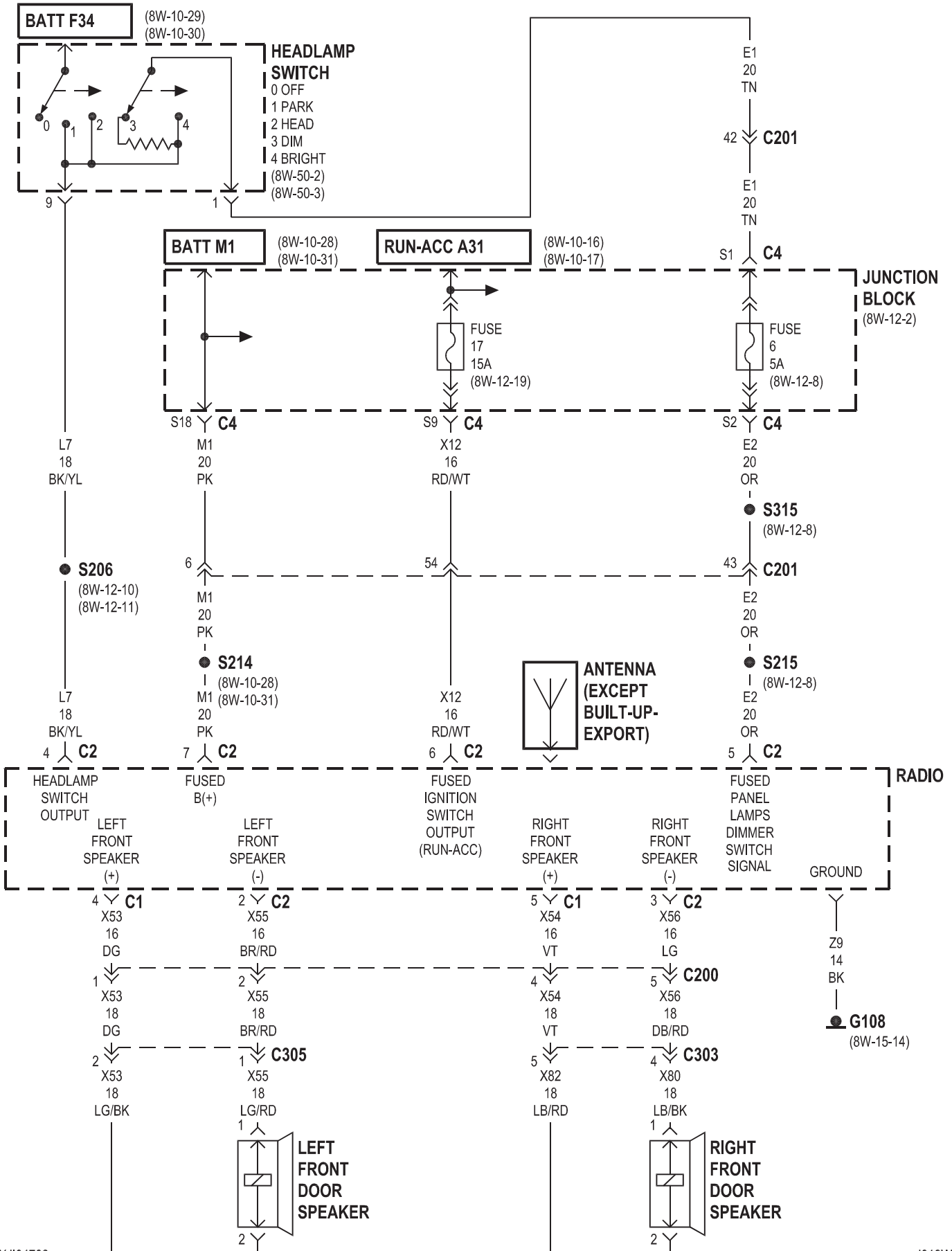




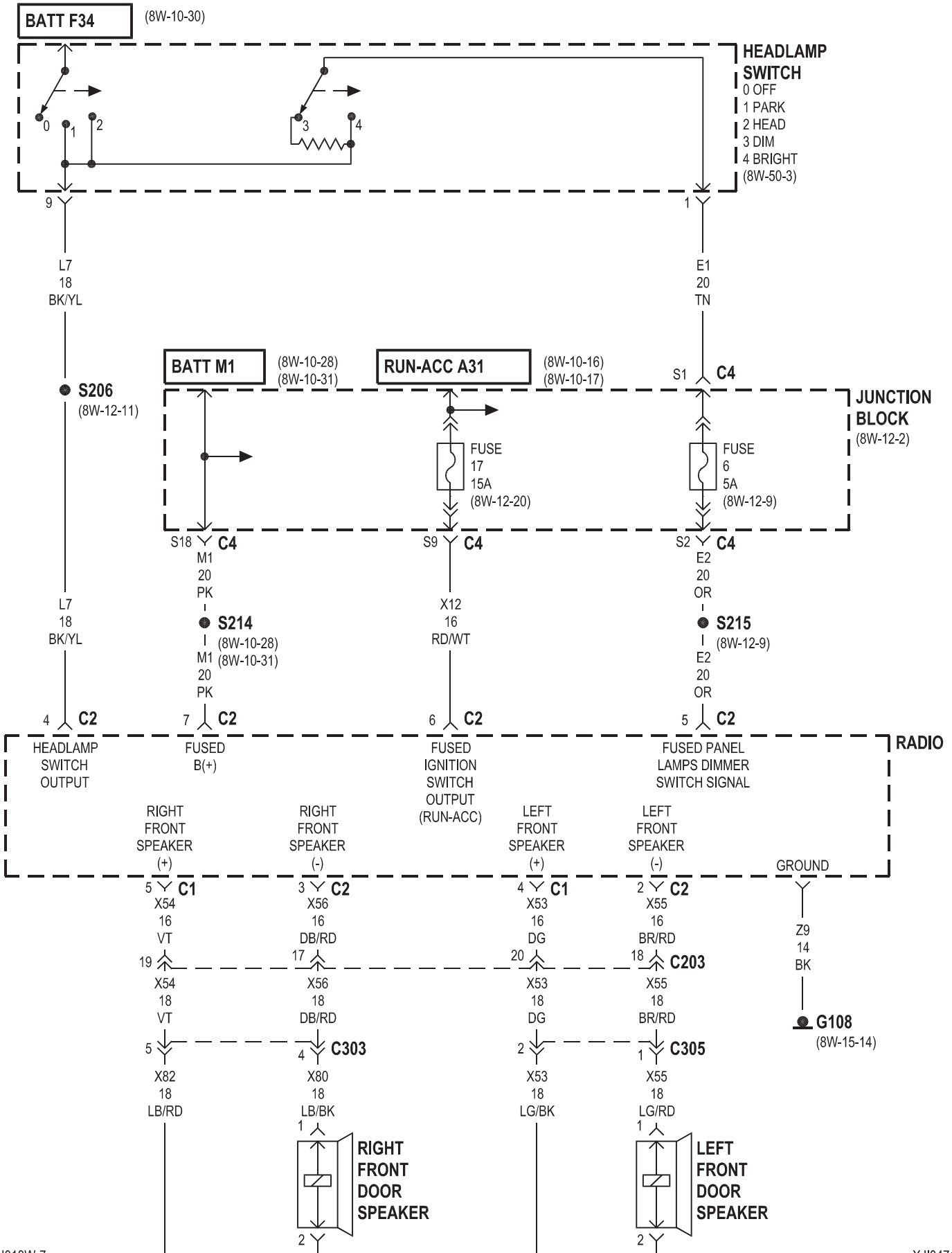


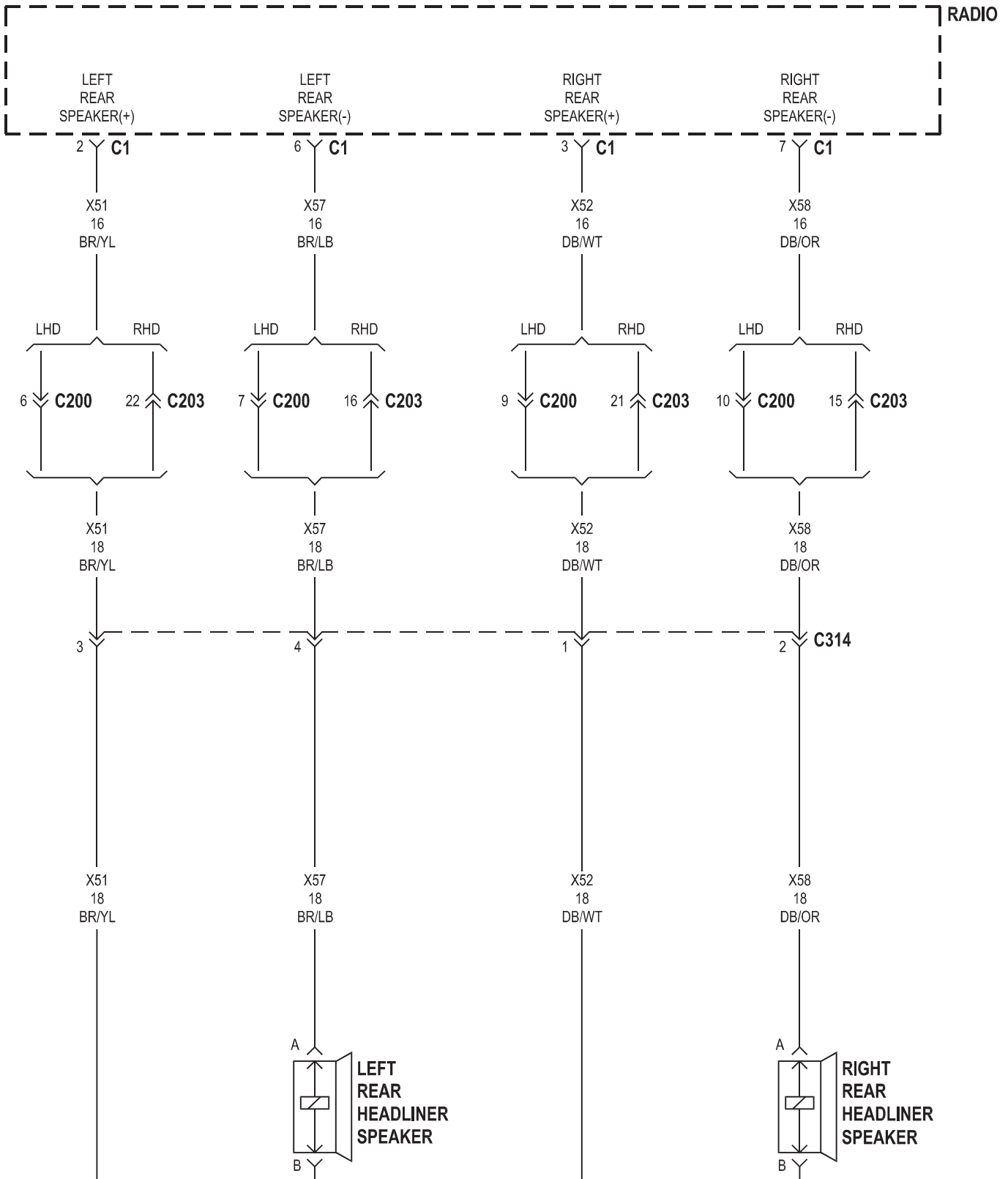










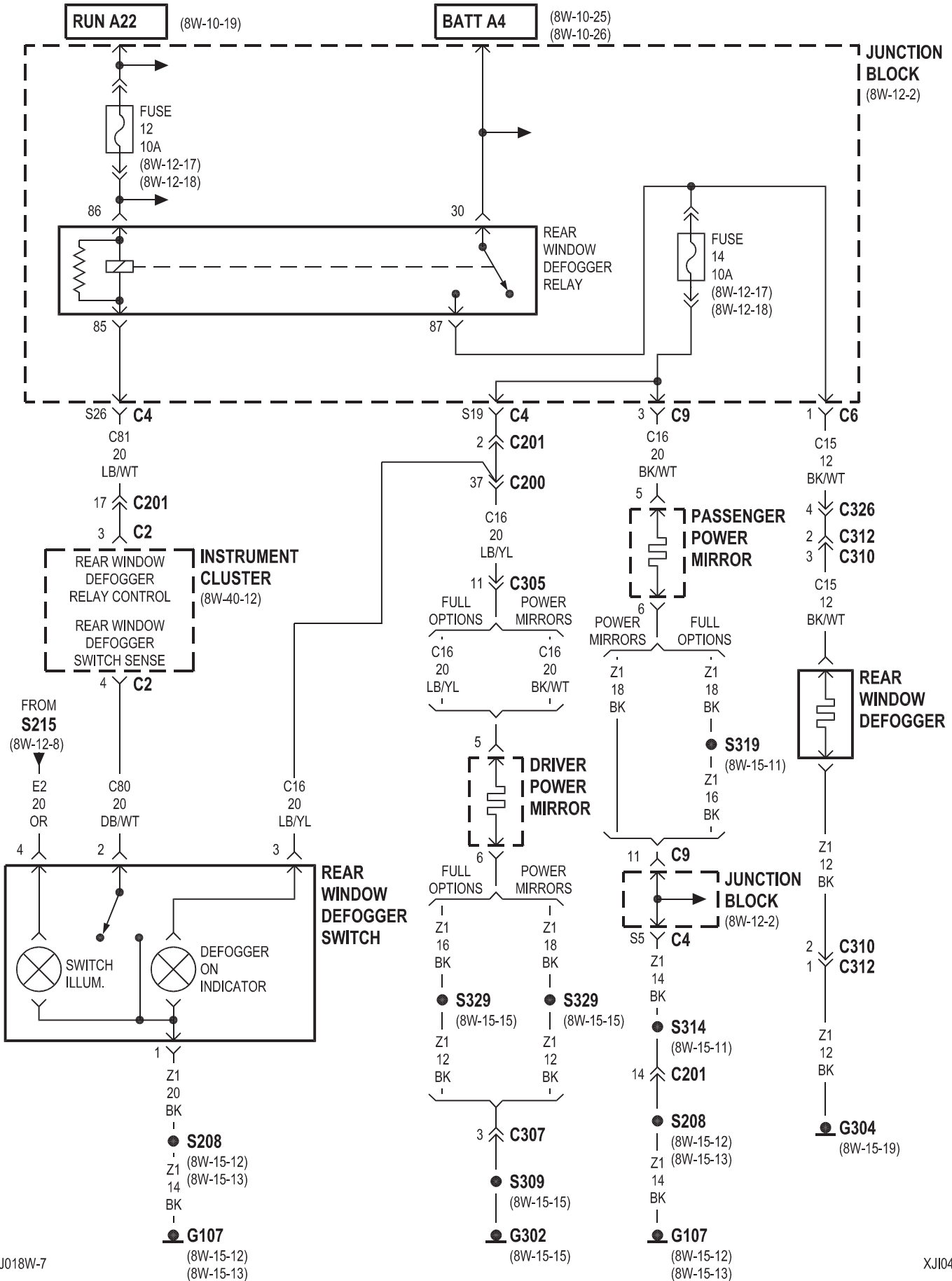


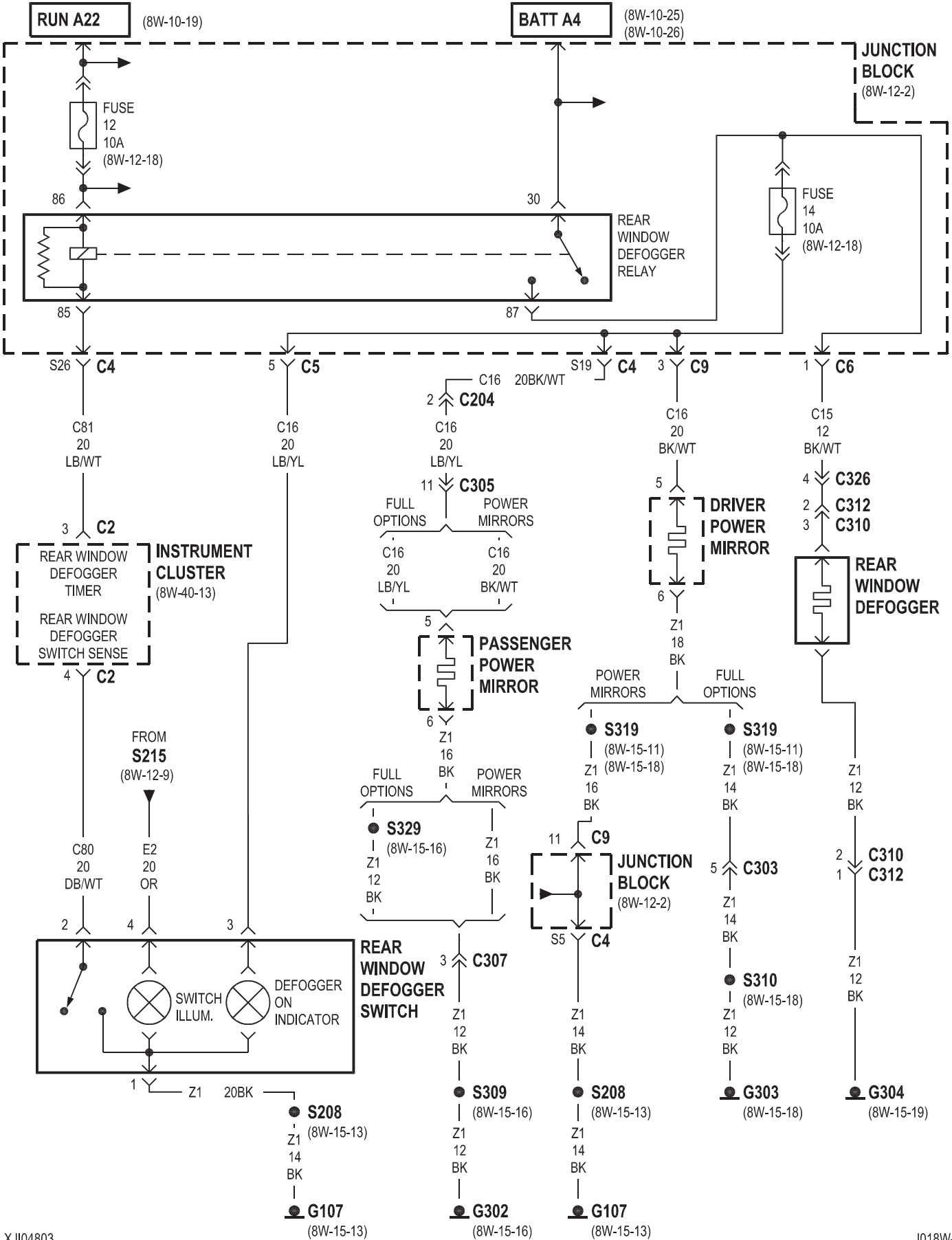


## 8Wa-48 REAR WINDOW DEFOGGER

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Driver Power Mirror .....	8Wa-48-2, 3	Instrument Cluster .....	8Wa-48-2, 3
Fuse 12 (JB) .....	8Wa-48-2, 3	Junction Block .....	8Wa-48-2, 3
Fuse 14 (JB) .....	8Wa-48-2, 3	Passenger Power Mirror .....	8Wa-48-2, 3
G107 .....	8Wa-48-2, 3	Rear Window Defogger .....	8Wa-48-2, 3
G302 .....	8Wa-48-2, 3	Rear Window Defogger Relay .....	8Wa-48-2, 3
G303 .....	8Wa-48-3	Rear Window Defogger Switch .....	8Wa-48-2, 3
G304 .....	8Wa-48-2, 3		

LHD



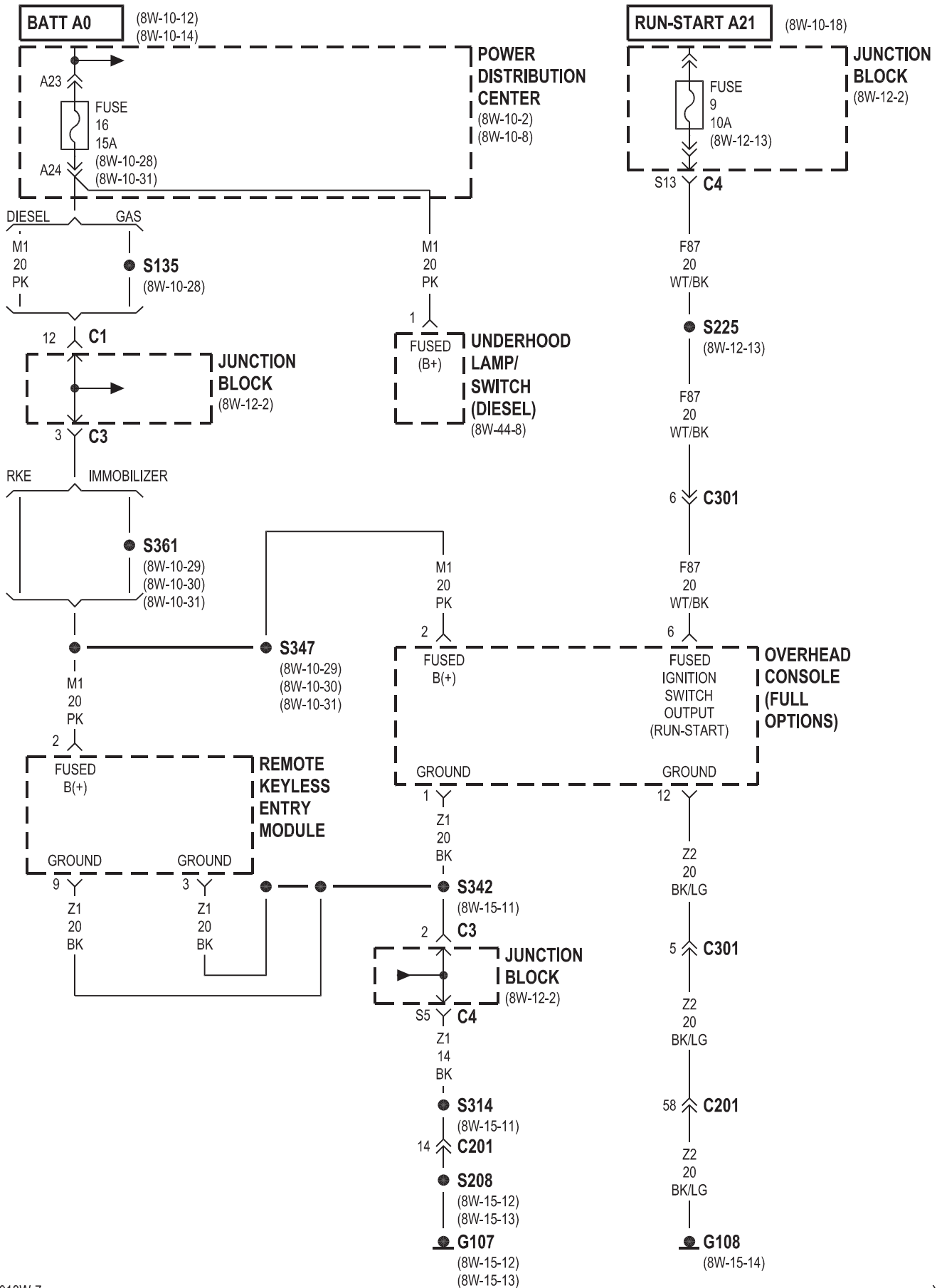


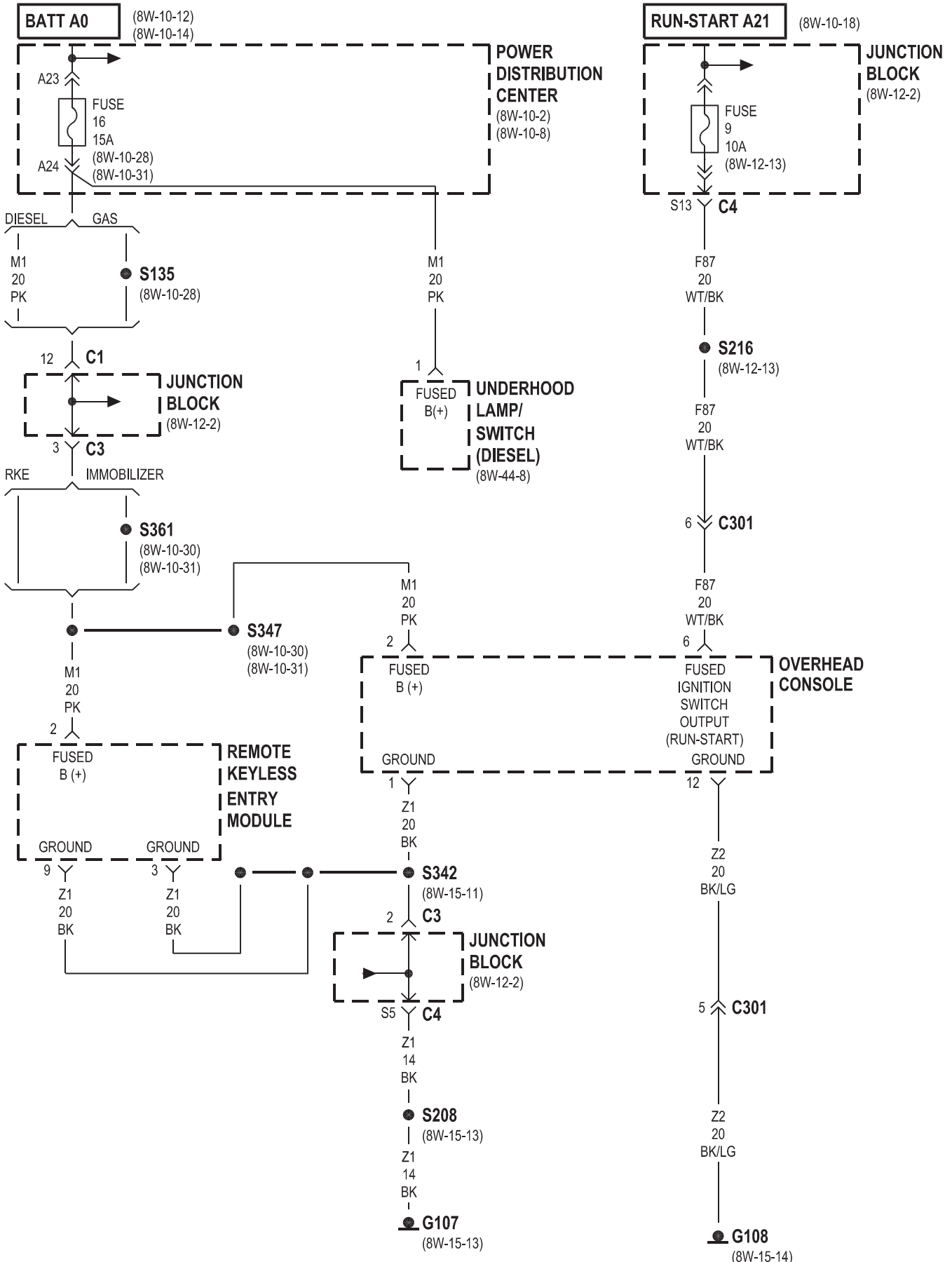


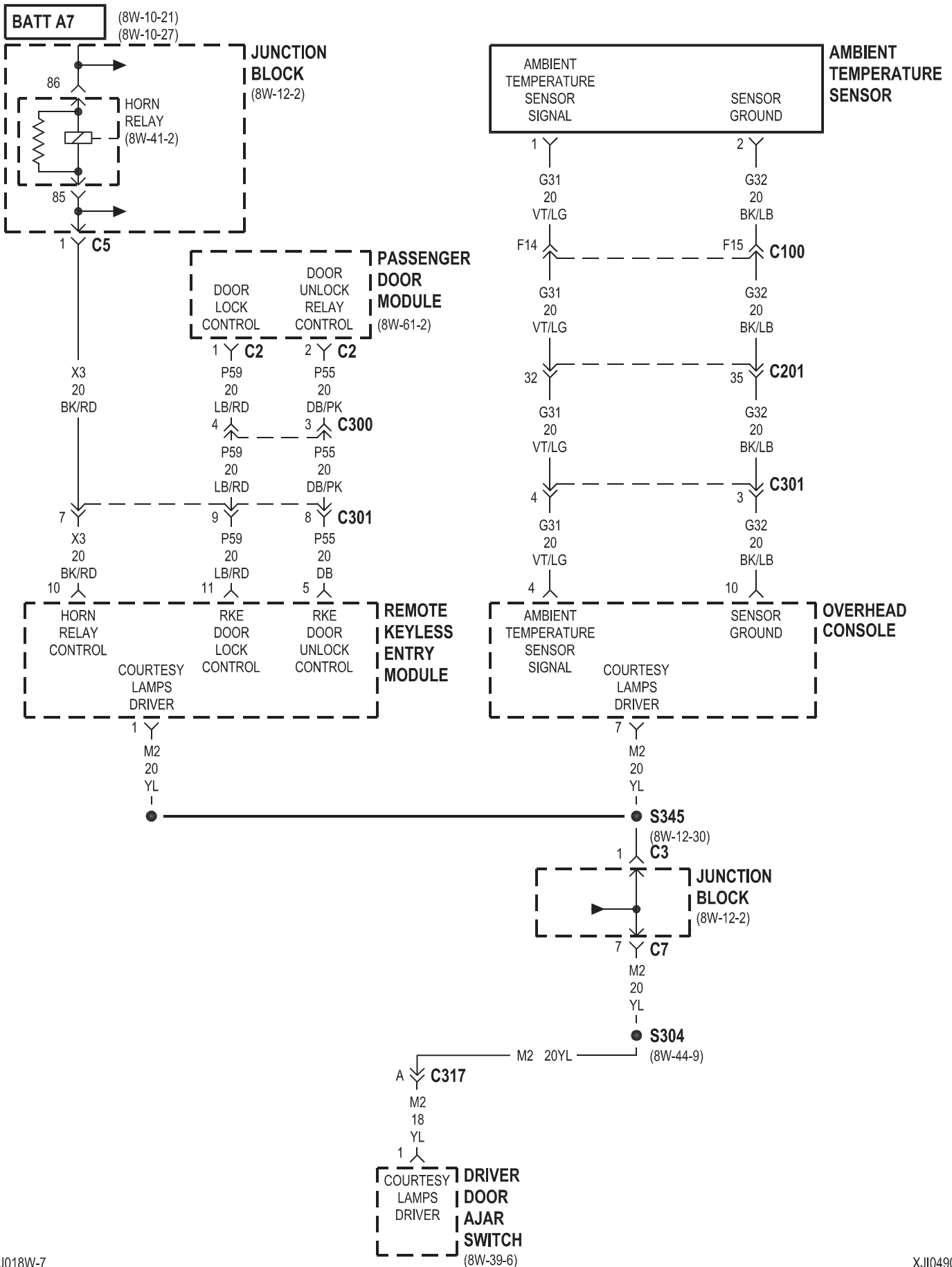
## 8Wa-49 OVERHEAD CONSOLE

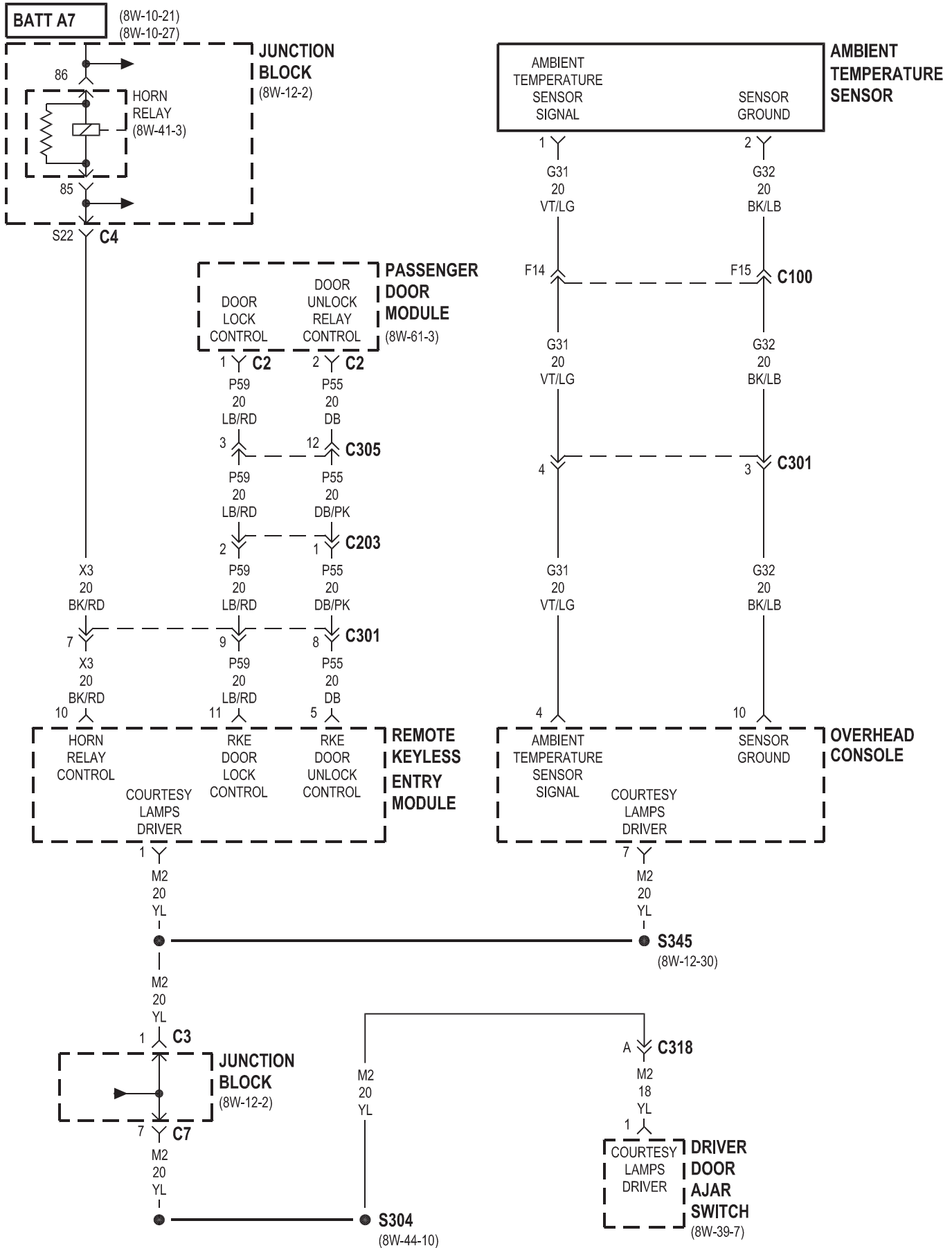
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Ambient Temperature Sensor . . . . .	8Wa-49-4, 5	Horn Relay . . . . .	8Wa-49-4, 5
Data Link Connector . . . . .	8Wa-49-6	Junction Block . . . . .	8Wa-49-2, 3, 4, 5
Driver Door Ajar Switch . . . . .	8Wa-49-4, 5	Overhead Console . . . . .	8Wa-49-2, 3, 4, 5, 6
Fuse 9 (JB) . . . . .	8Wa-49-2, 3	Passenger Door Module . . . . .	8Wa-49-4, 5
Fuse 16 (PDC) . . . . .	8Wa-49-2, 3	Power Distribution Center . . . . .	8Wa-49-2, 3
G107 . . . . .	8Wa-49-2, 3	Remote Keyless Entry Module . .	8Wa-49-2, 3, 4, 5, 6
G108 . . . . .	8Wa-49-2, 3	Underhood Lamp/Switch . . . . .	8Wa-49-2, 3

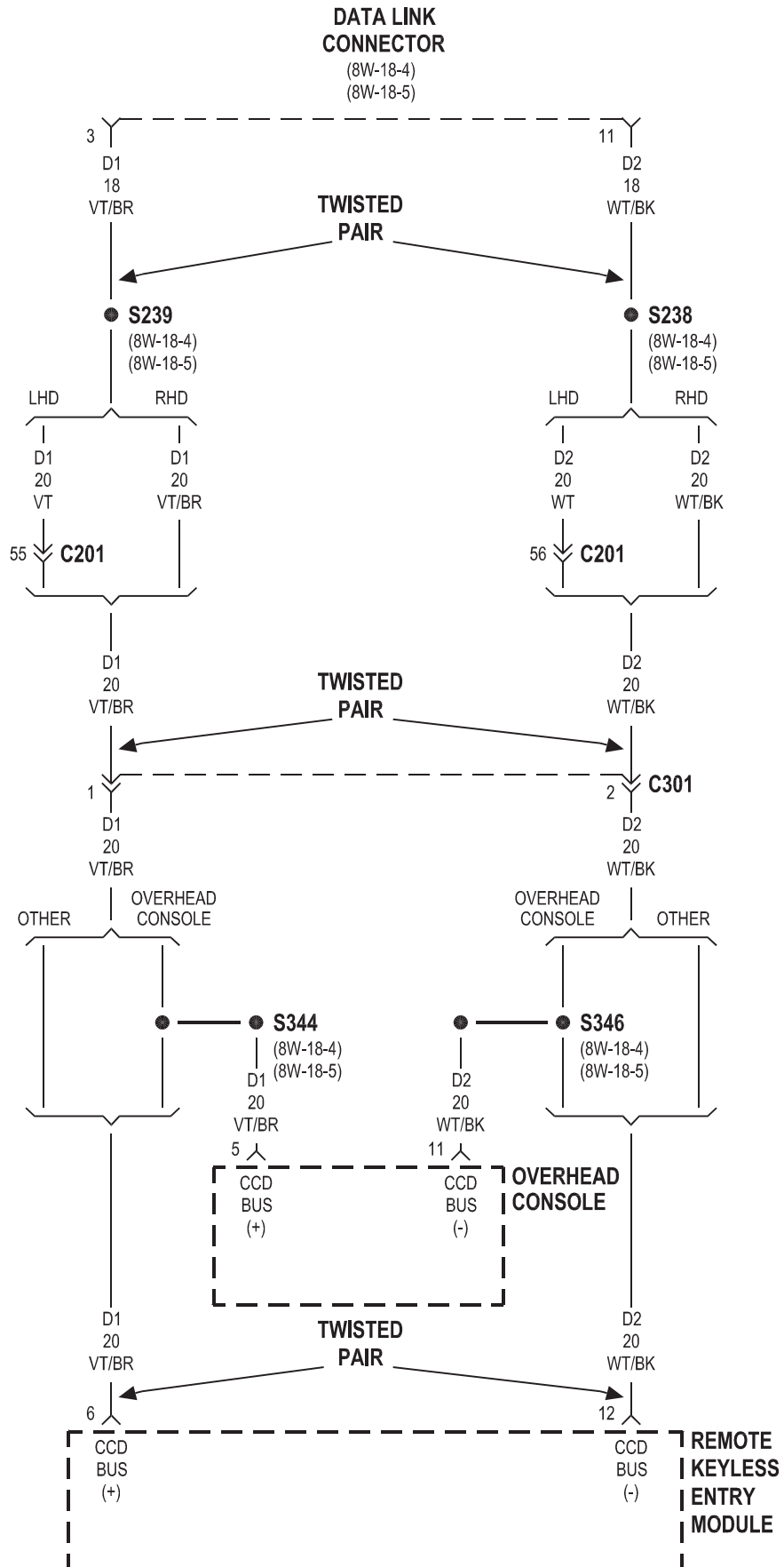








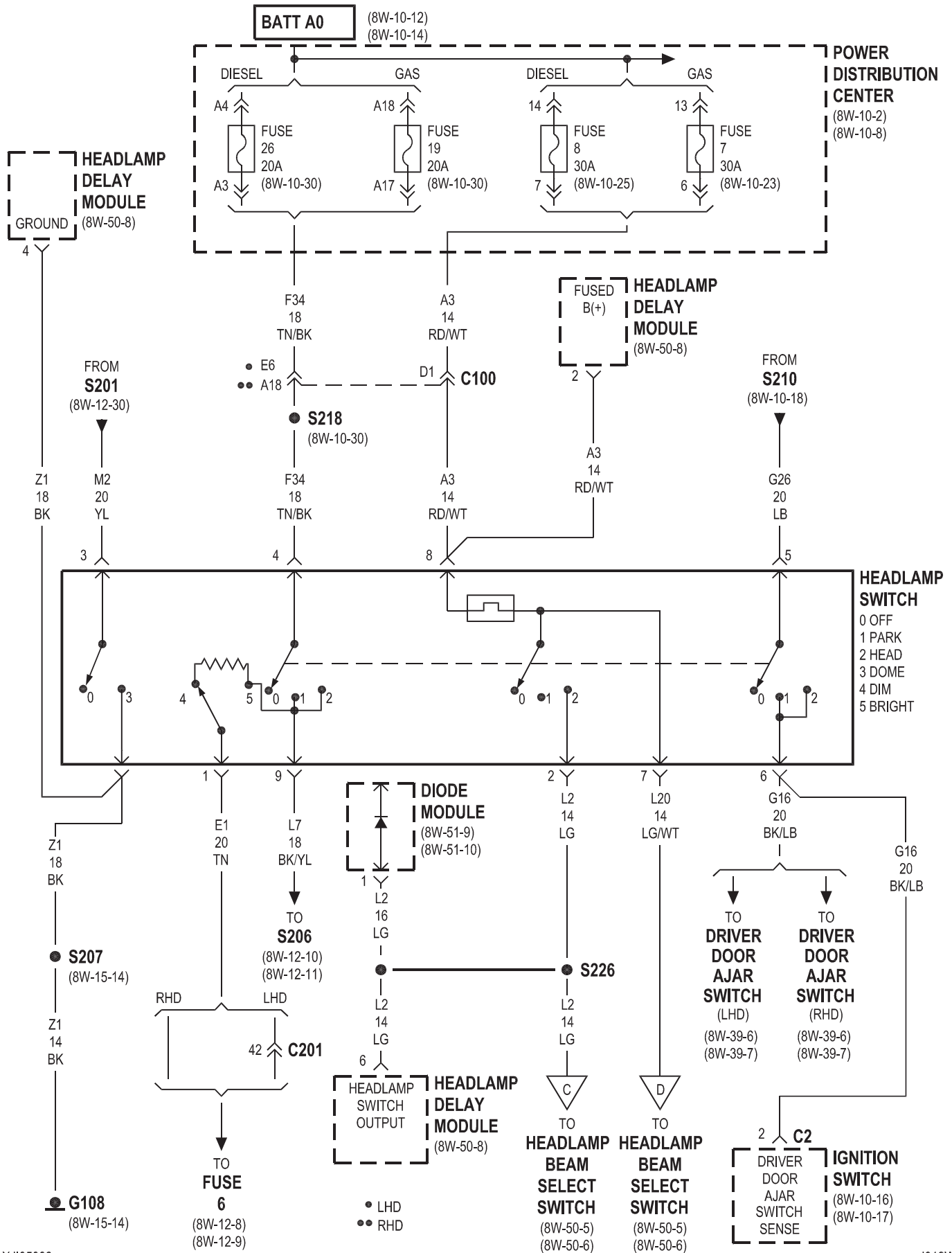




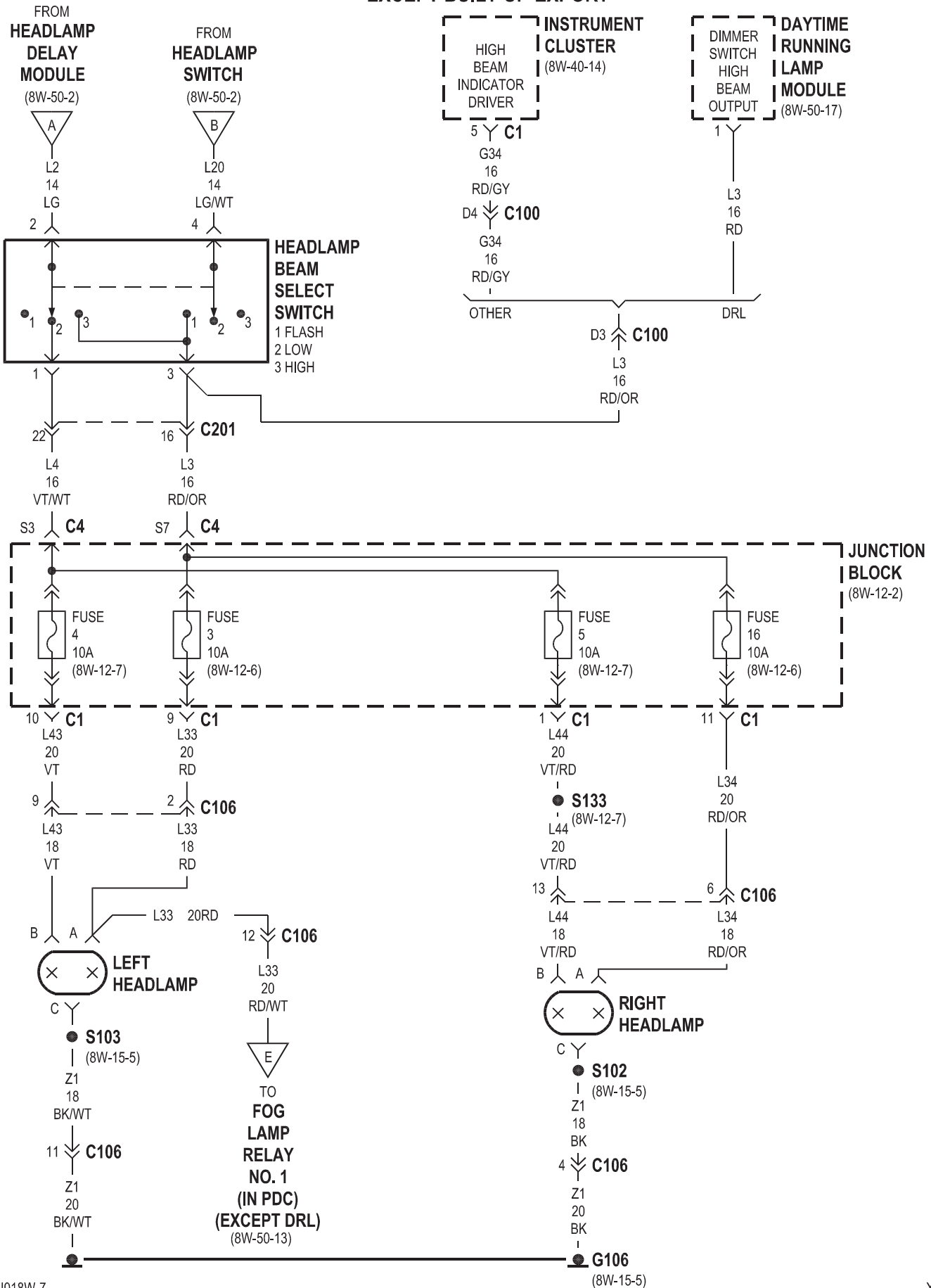
## 8Wa-50 FRONT LIGHTING

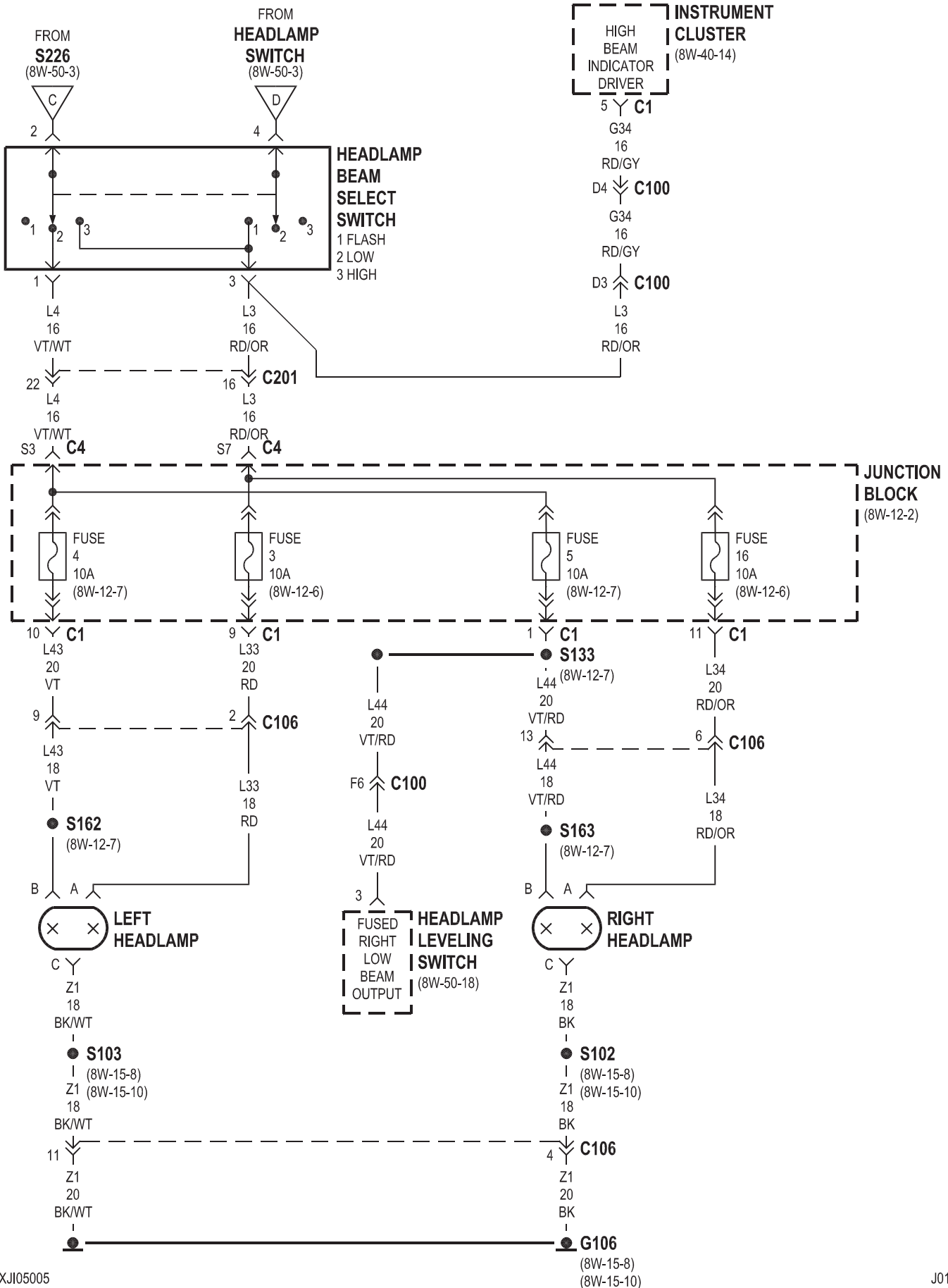
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Controller Antilock Brake Relay . . . .	8Wa-50-13, 16	Ignition Switch . . . . .	8Wa-50-2, 3
Data Link Connector . . . . .	8Wa-50-2	Instrument Cluster . . . . .	8Wa-50-4, 5, 6, 15, 17
Daytime Running Lamp		Junction Block . . . . .	8Wa-50-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18
Module . . . . .	8Wa-50-2, 4, 7, 15, 17	Left Fog Lamp . . . . .	8Wa-50-14, 15, 16
Diode Module . . . . .	8Wa-50-3, 14, 16	Left Front Park/Turn Signal	
Driver Door Ajar Switch . . . . .	8Wa-50-2, 3	Lamp No. 1 . . . . .	8Wa-50-9
Engine Starter Motor Relay . . . . .	8Wa-50-13, 16	Left Front Park/Turn Signal	
Fog Lamp Relay . . . . .	8Wa-50-16	Lamp No. 2 . . . . .	8Wa-50-9
Fog Lamp Relay		Left Front Position Lamp . . . . .	8Wa-50-10, 13, 16
No. 1 . . . . .	8Wa-50-4, 9, 10, 13, 14, 15, 17	Left Front Turn Signal Lamp No. 1 . . . . .	8Wa-50-10
Fog Lamp Relay No. 2 . . . . .	8Wa-50-13, 14, 15	Left Front Turn Signal Lamp No. 2 . . . . .	8Wa-50-10
Front Fog Lamp Switch . . . . .	8Wa-50-13, 14, 15, 16	Left Headlamp . . . . .	8Wa-50-4, 5, 6, 18
Fuse 3 (JB) . . . . .	8Wa-50-4, 5, 6, 17	Left Headlamp Leveling Motor . . . . .	8Wa-50-18
Fuse 4 (JB) . . . . .	8Wa-50-4, 5, 6, 18	Left Side Marker Lamp . . . . .	8Wa-50-9
Fuse 5 (JB) . . . . .	8Wa-50-4, 5, 6, 18	Left Side Repeater Lamp . . . . .	8Wa-50-10
Fuse 6 (JB) . . . . .	8Wa-50-2, 3	Power Distribution Center . . . . .	8Wa-50-2, 3, 7, 8, 13, 14, 15, 16, 17
Fuse 7 (JB) . . . . .	8Wa-50-9, 10, 13, 15, 16	Right Fog Lamp . . . . .	8Wa-50-14, 15, 16
Fuse 7 (PDC) . . . . .	8Wa-50-2, 3, 7, 8, 17	Right Front Park/Turn Signal	
Fuse 8 (PDC) . . . . .	8Wa-50-3, 8	Lamp No. 1 . . . . .	8Wa-50-11
Fuse 9 (JB) . . . . .	8Wa-50-7, 8	Right Front Park/Turn Signal	
Fuse 10 (JB) . . . . .	8Wa-50-17	Lamp No. 2 . . . . .	8Wa-50-11
Fuse 16 (JB) . . . . .	8Wa-50-4, 5, 6, 17	Right Front Position Lamp . . . . .	8Wa-50-12
Fuse 19 (PDC) . . . . .	8Wa-50-2, 3	Right Front Turn Signal Lamp No. 1 . . . . .	8Wa-50-12
Fuse 23 (JB) . . . . .	8Wa-50-11, 12	Right Front Turn Signal Lamp No. 2 . . . . .	8Wa-50-12
Fuse 26 (PDC) . . . . .	8Wa-50-3	Right Headlamp . . . . .	8Wa-50-4, 5, 6, 17, 18
G106 . . . . .	8Wa-50-4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18	Right Headlamp Leveling Motor . . . . .	8Wa-50-18
G107 . . . . .	8Wa-50-14, 15, 16, 18	Right Side Marker Lamp . . . . .	8Wa-50-11
G108 . . . . .	8Wa-50-2, 3, 7, 8	Right Side Repeater Lamp . . . . .	8Wa-50-12
Headlamp Beam Select		Turn Signal/Hazard Switch . . . . .	8Wa-50-9, 10, 11, 12
Switch . . . . .	8Wa-50-2, 3, 4, 5, 6, 7, 8, 17, 18	Vehicle Speed Sensor . . . . .	8Wa-50-17
Headlamp Delay Module . . . . .	8Wa-50-2, 3, 4, 7, 8		
Headlamp Leveling Switch . . . . .	8Wa-50-5, 6, 18		
Headlamp Switch . . . . .	8Wa-50-2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16		

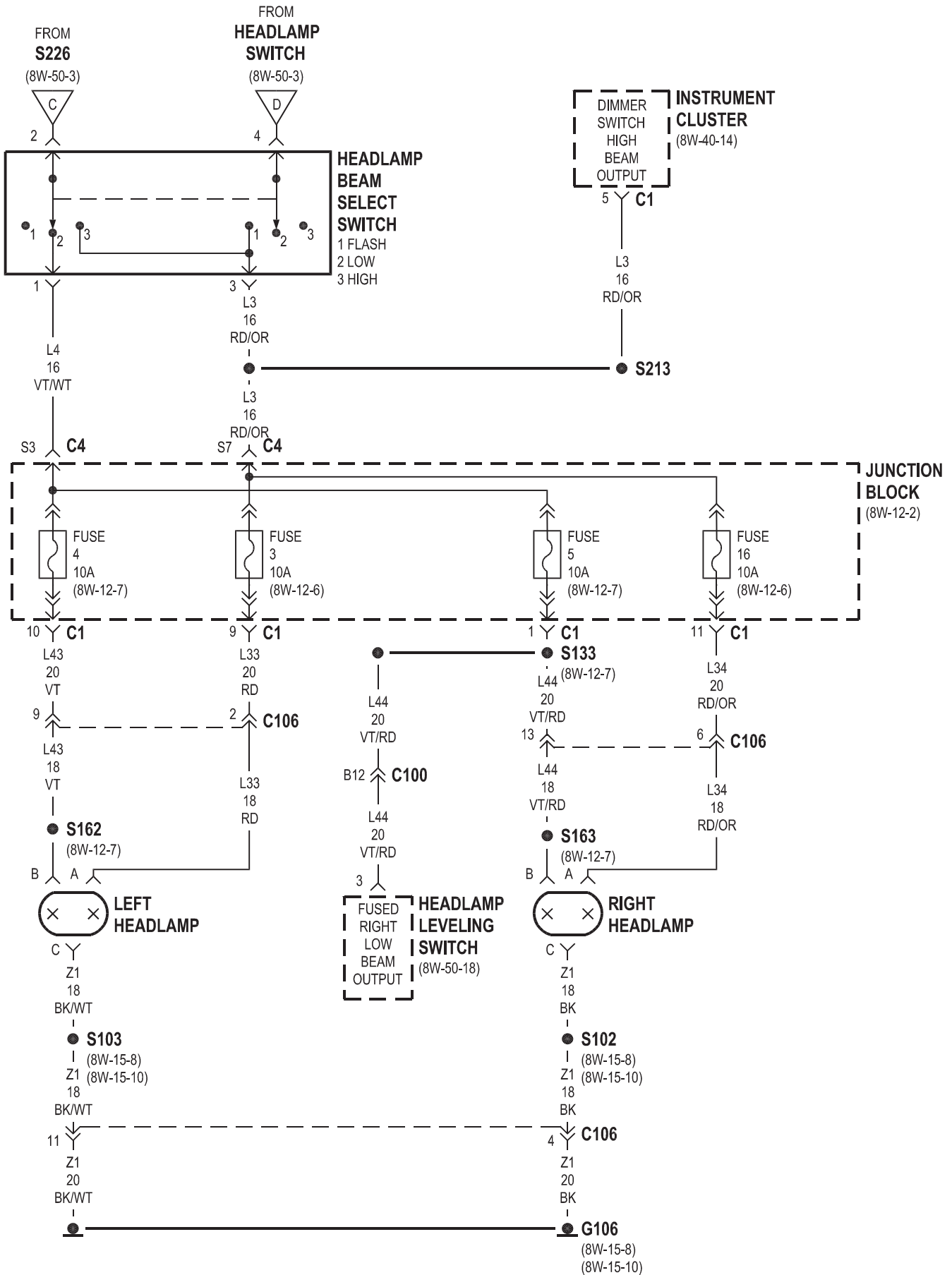


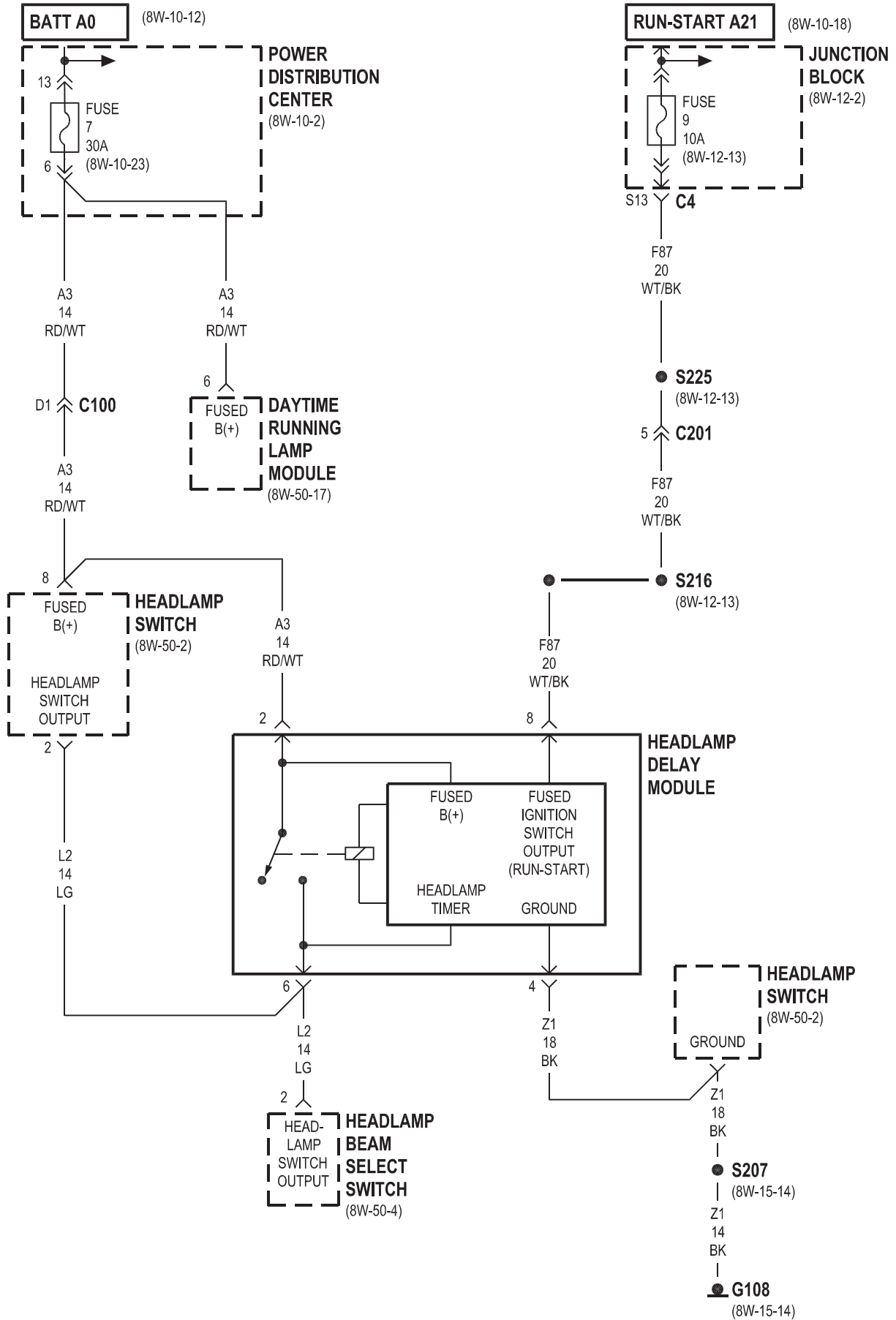


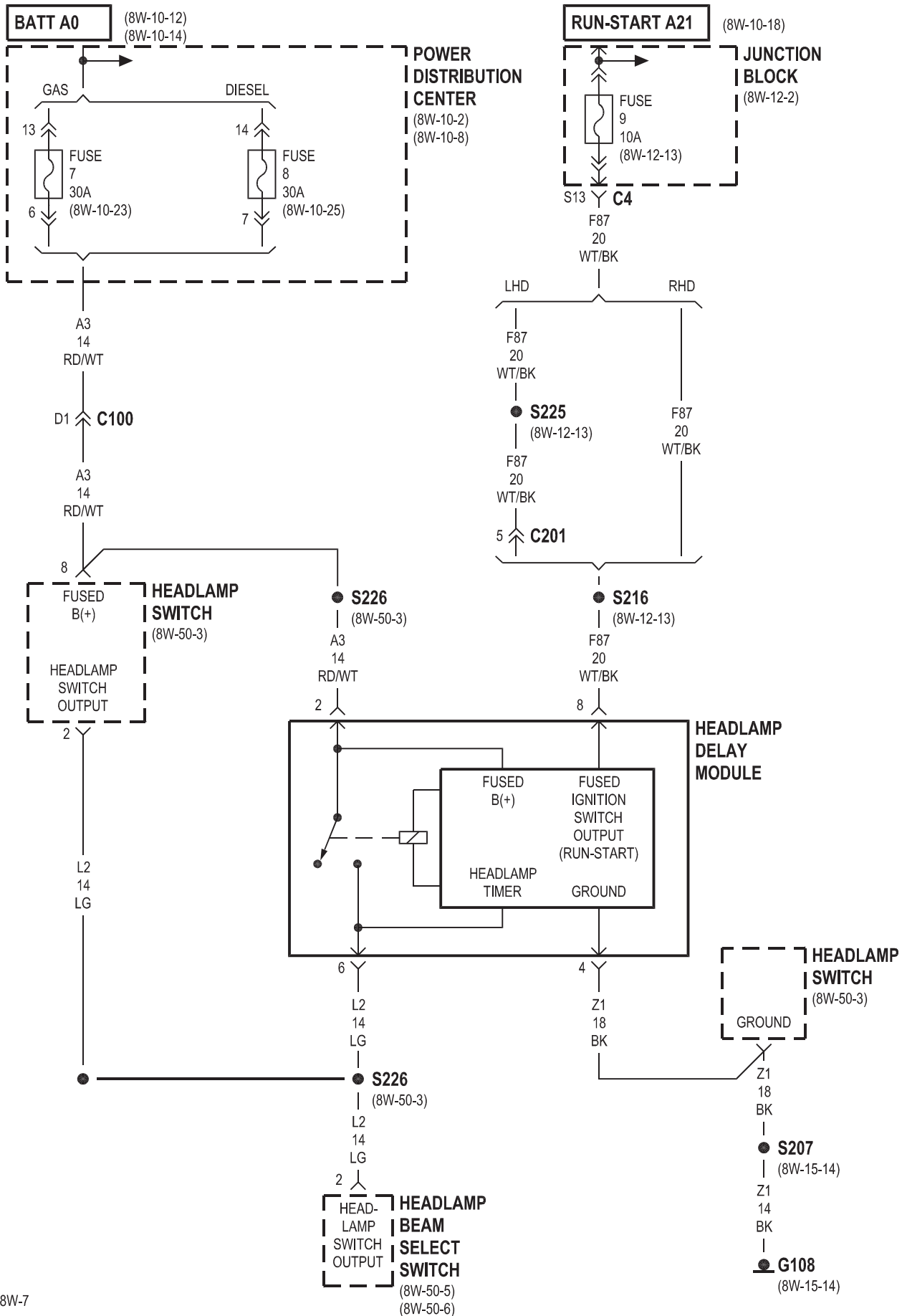


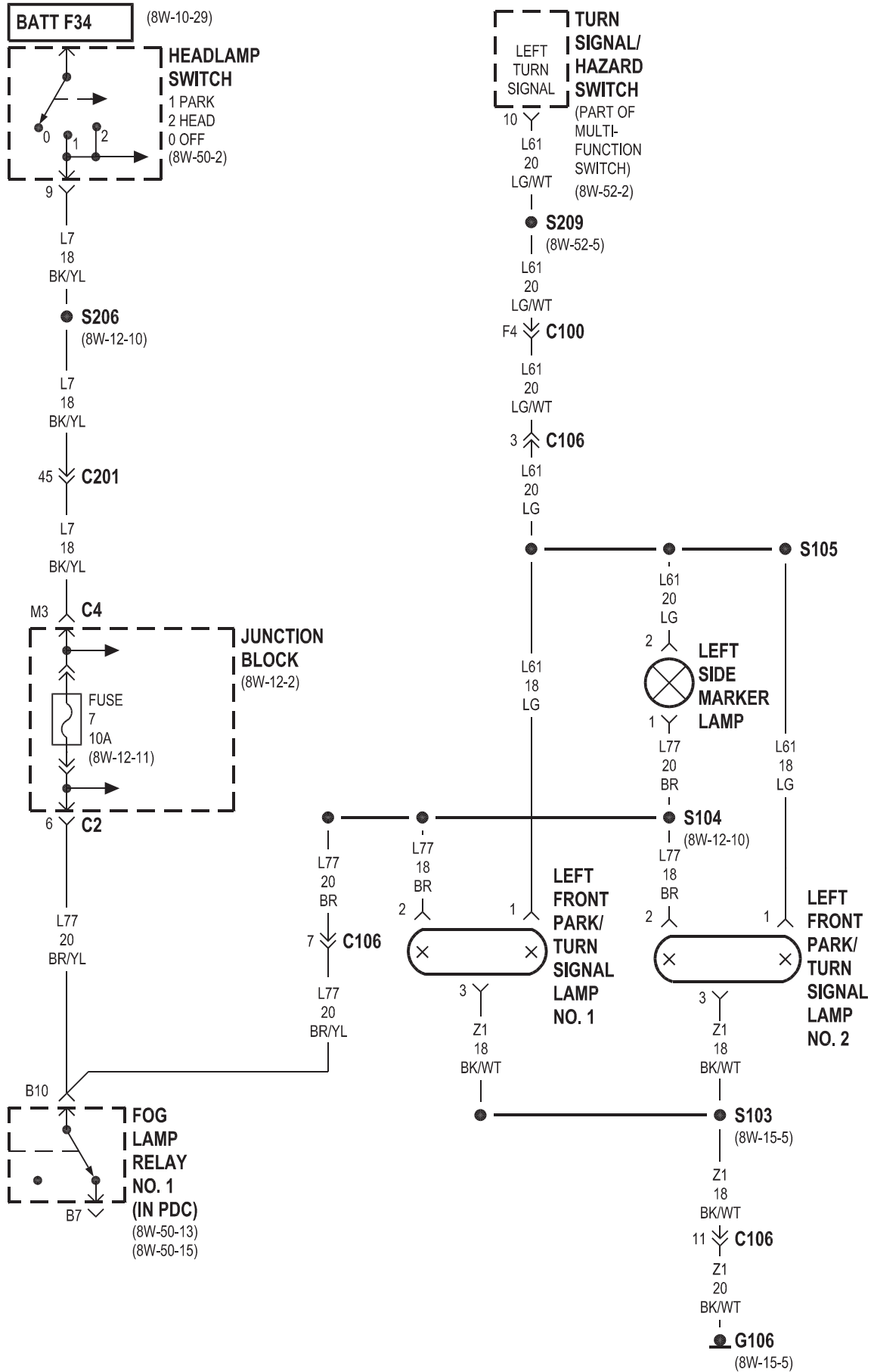


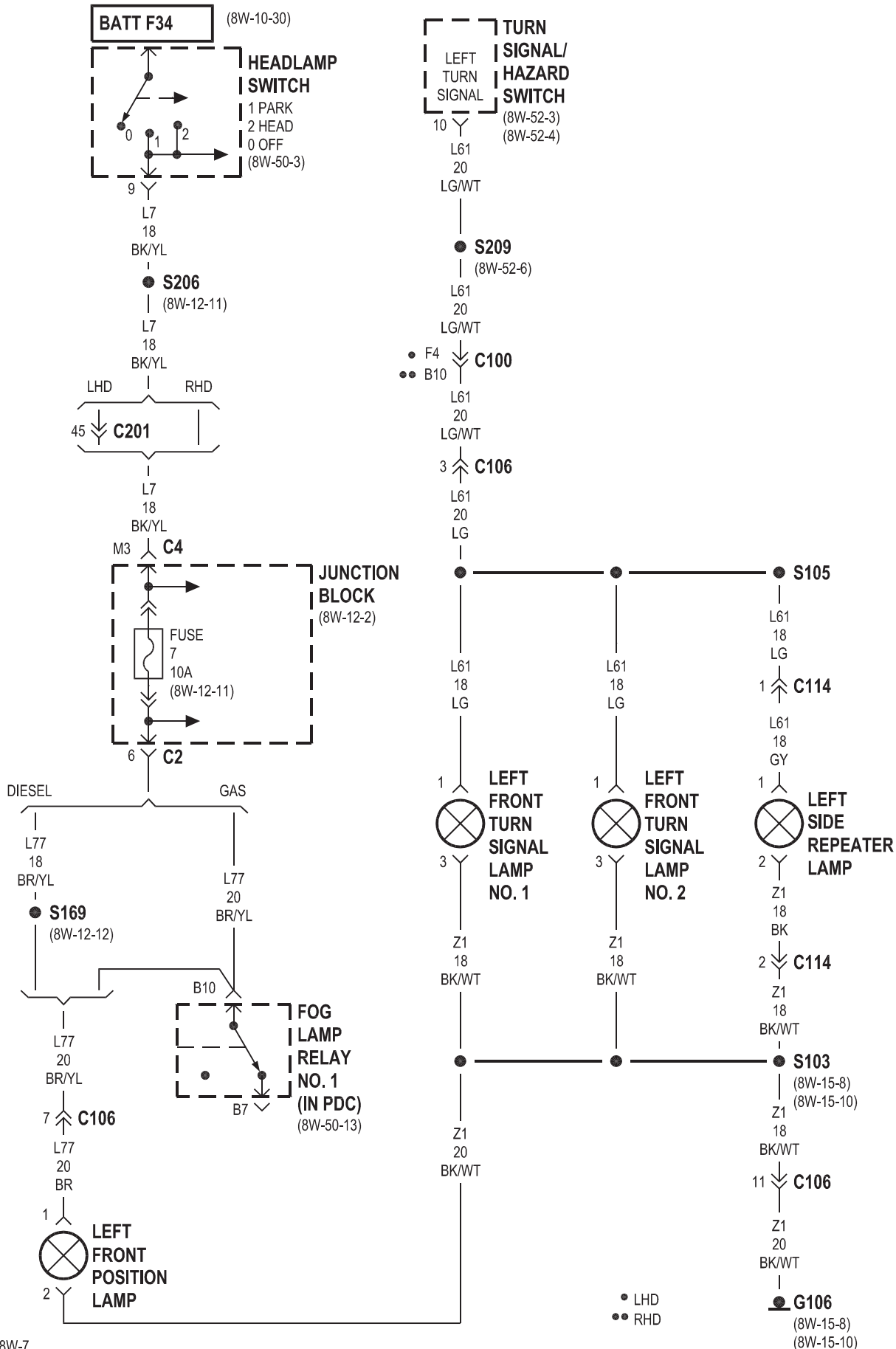


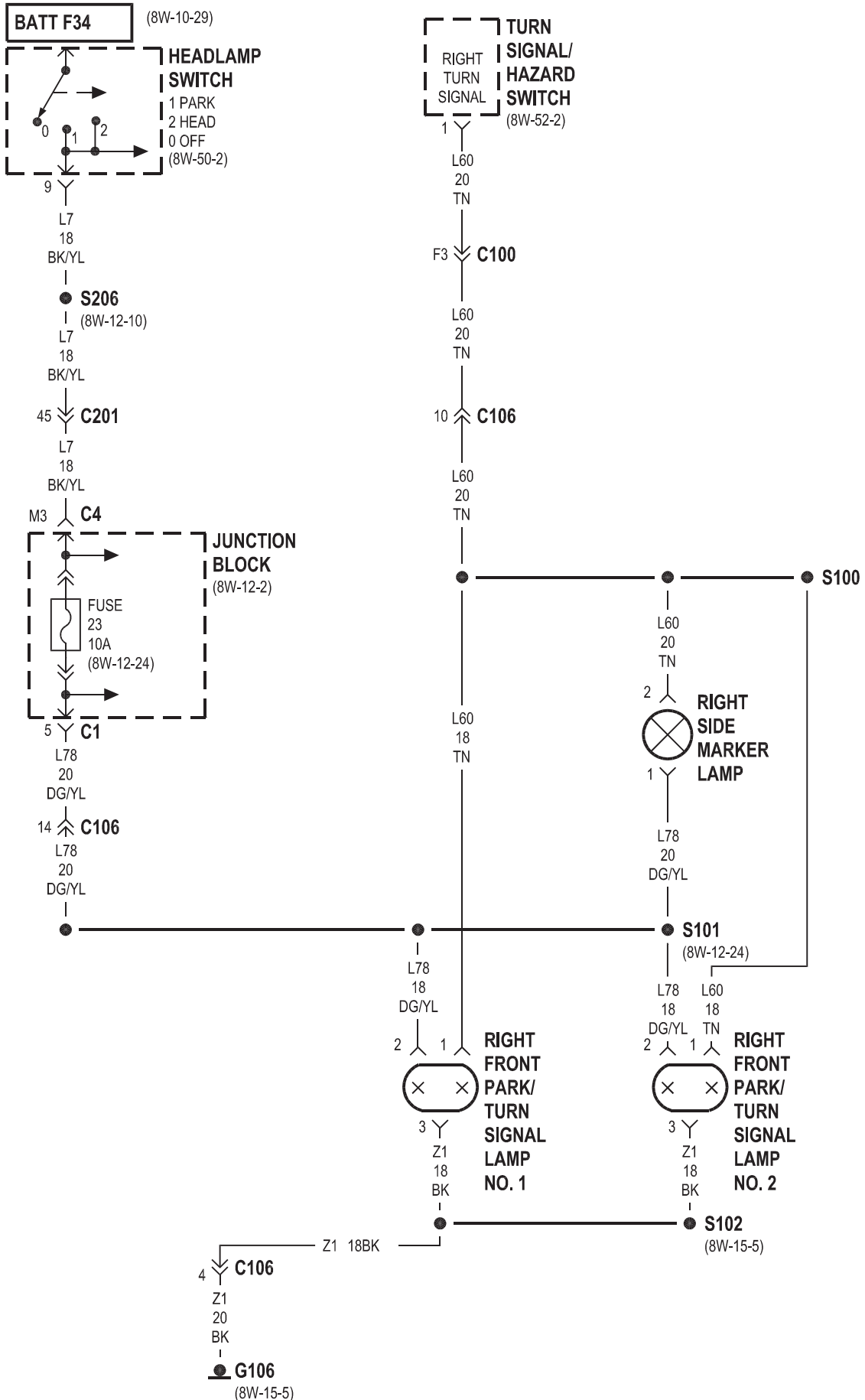




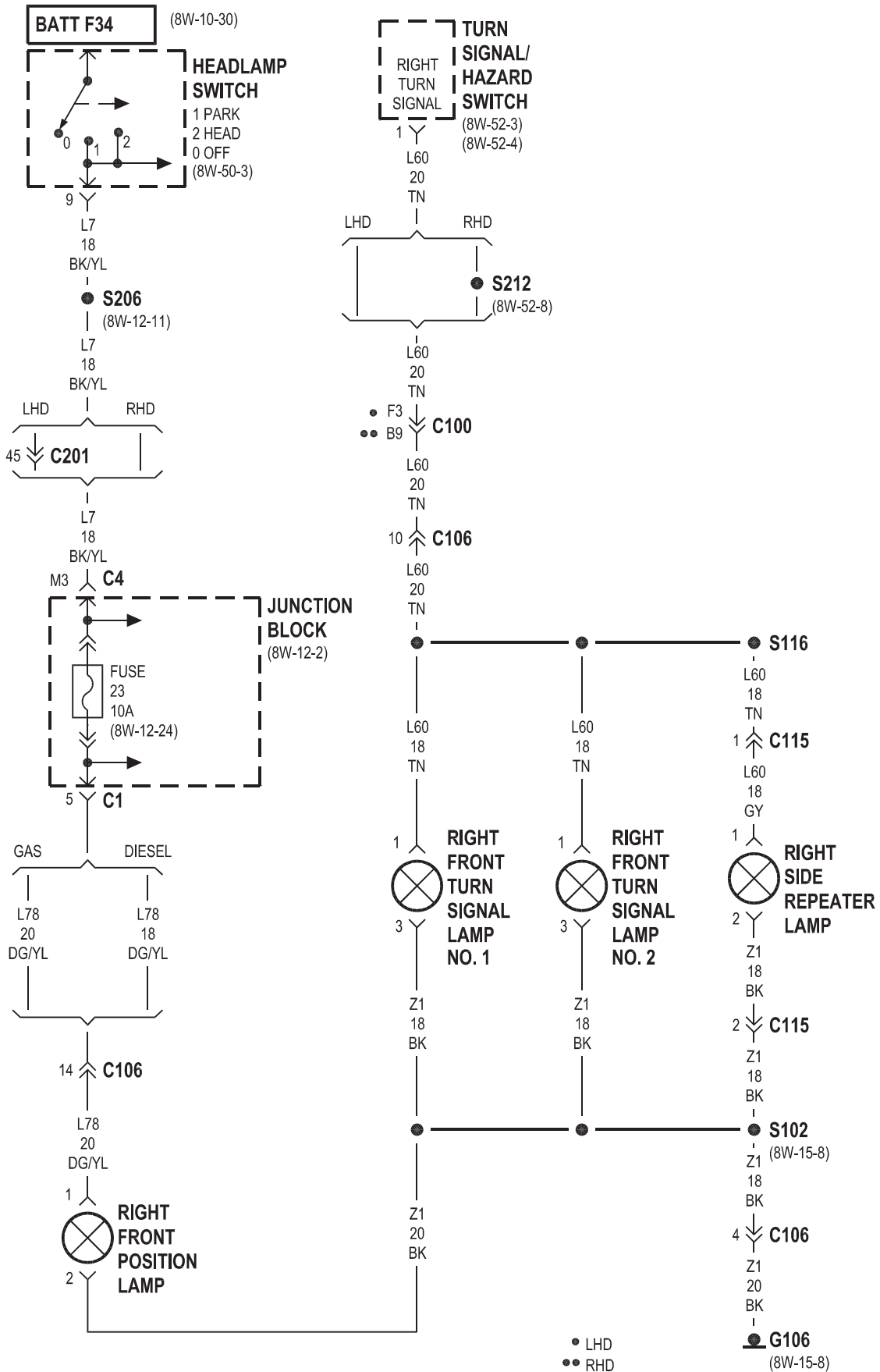


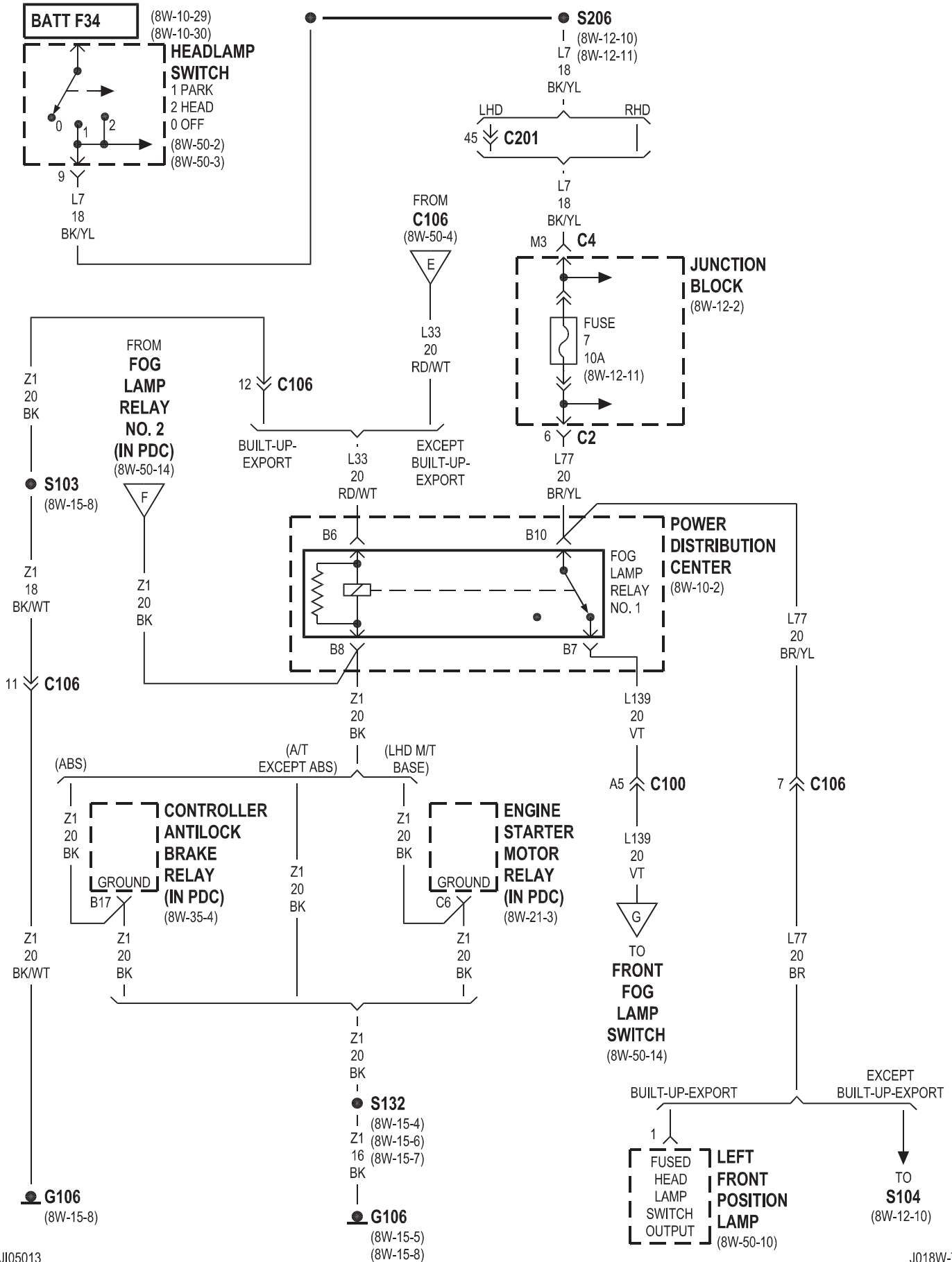


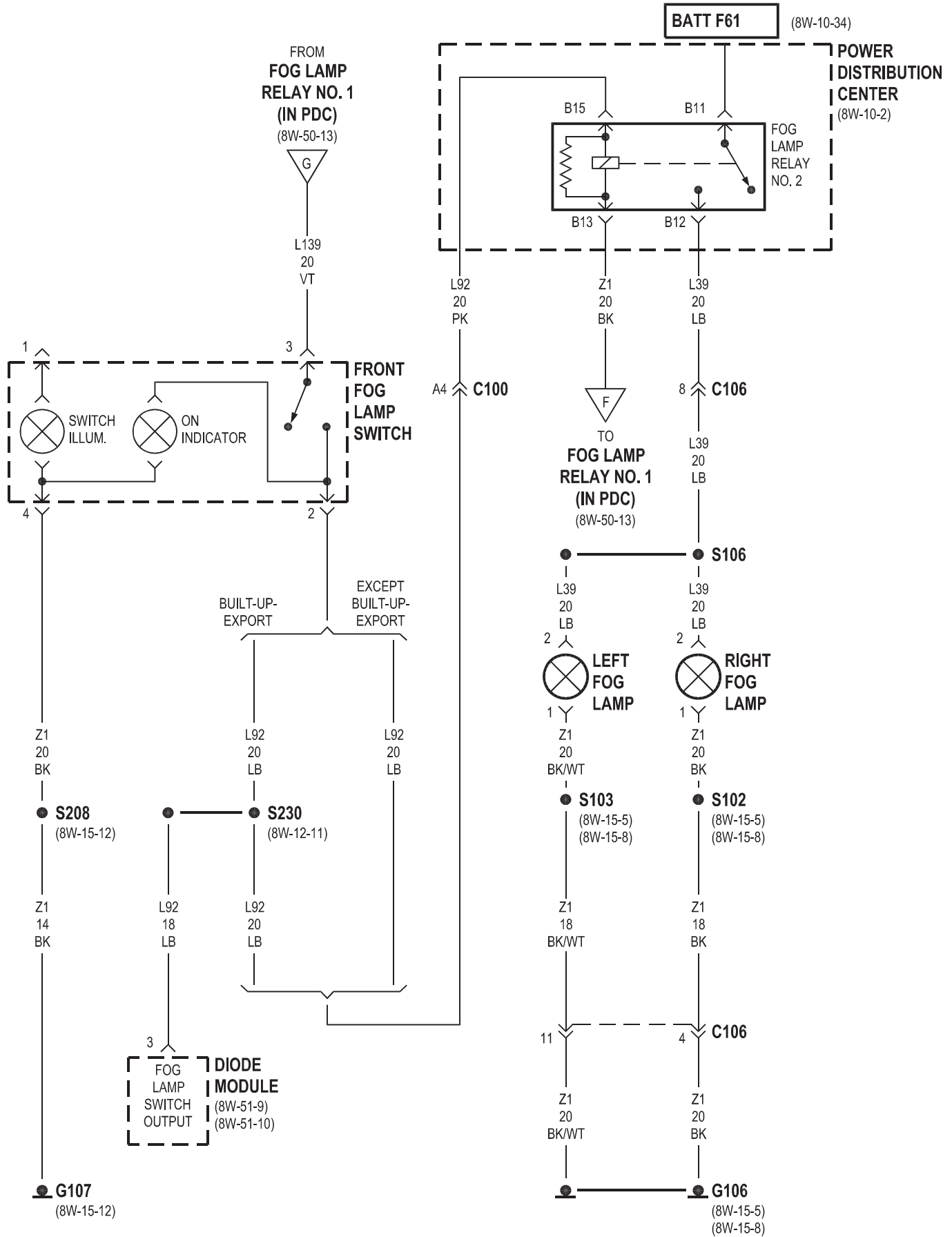




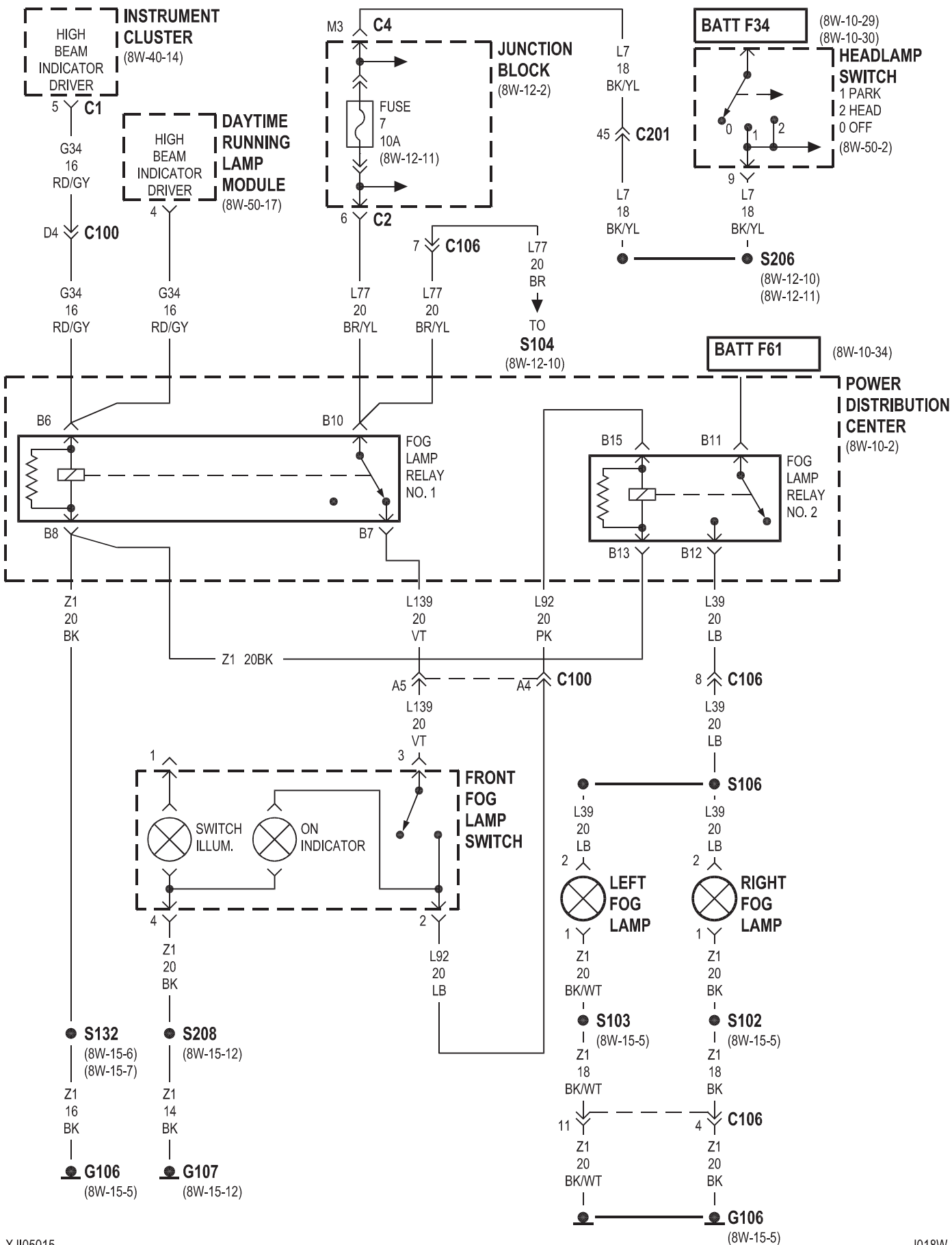


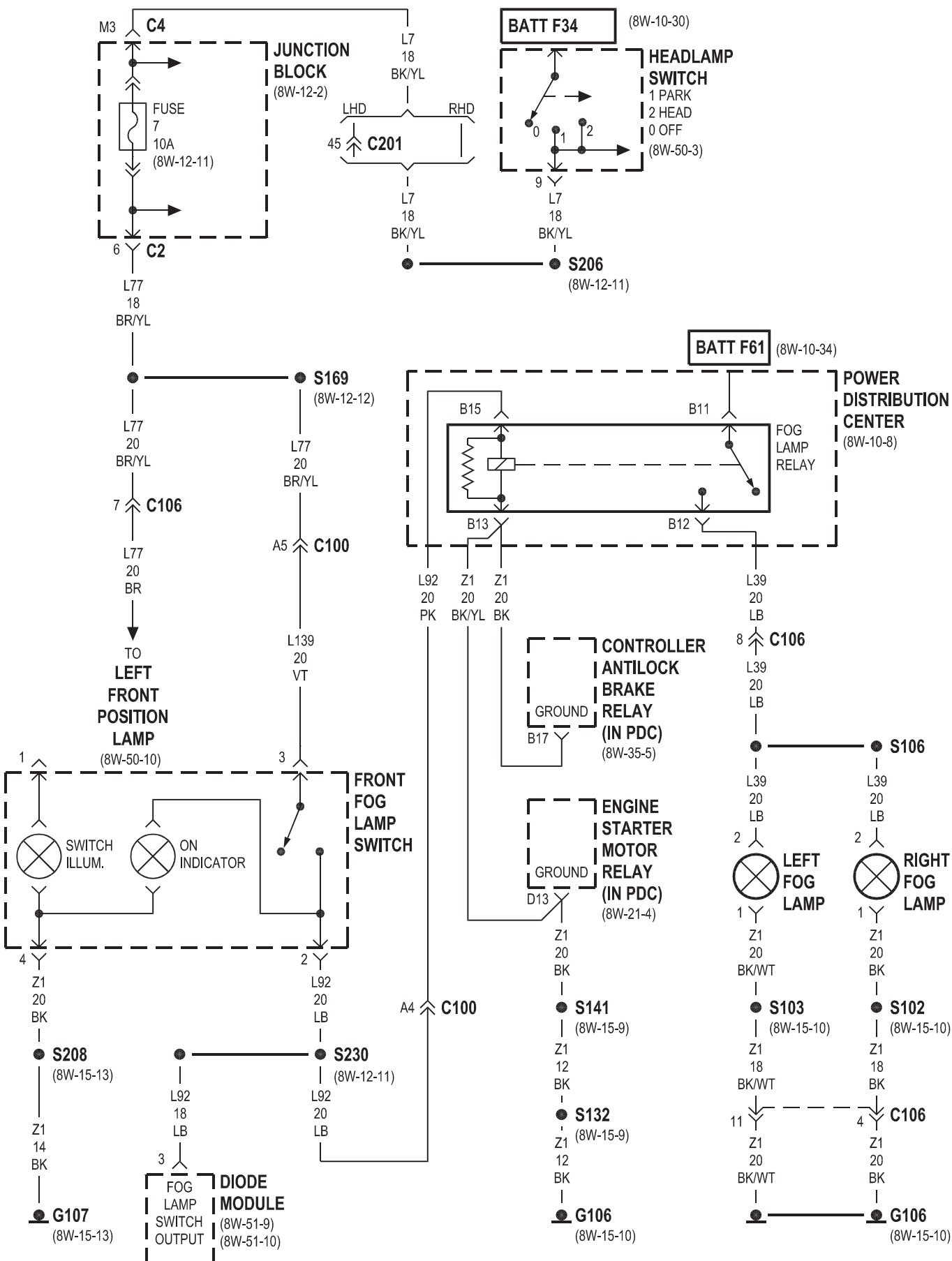


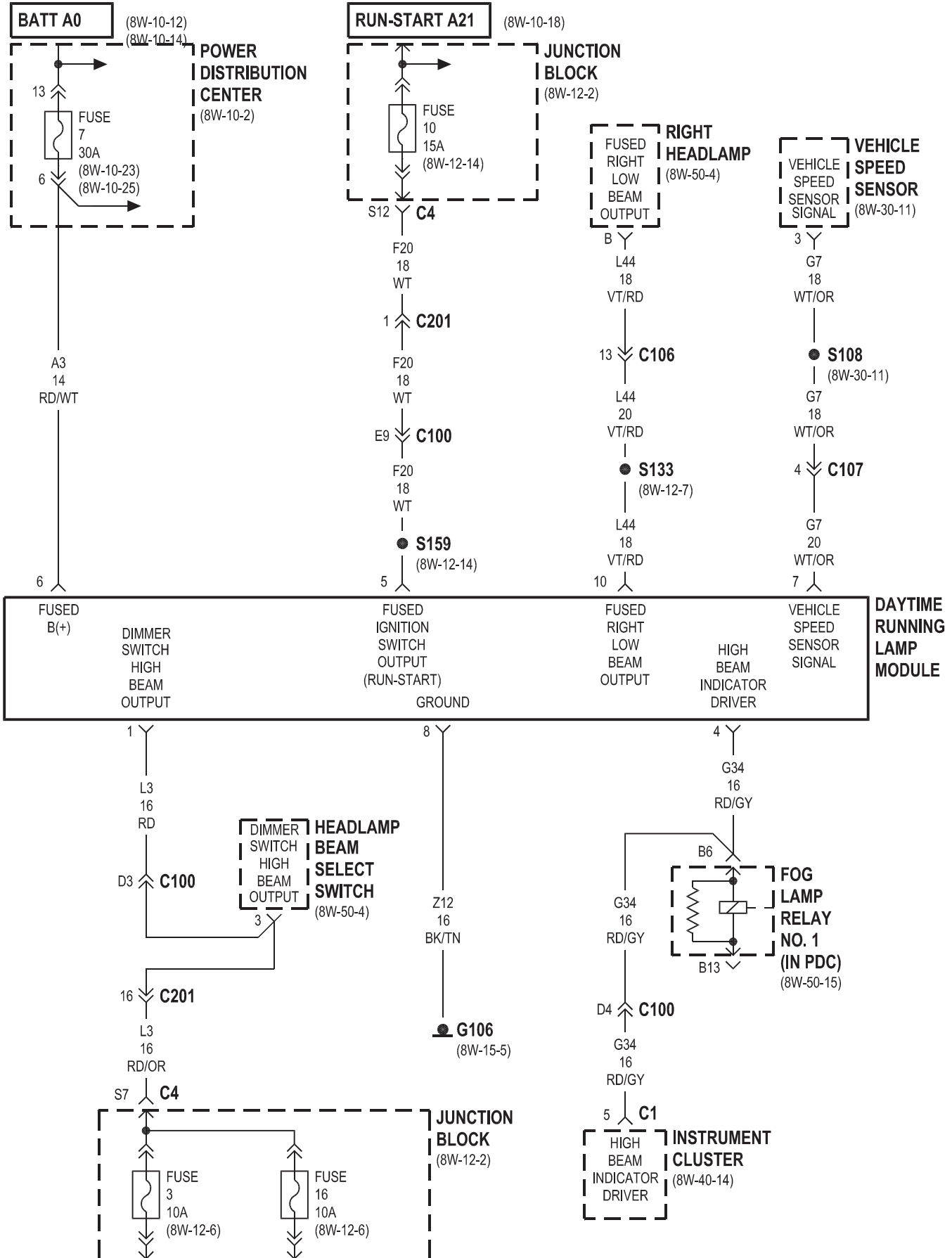


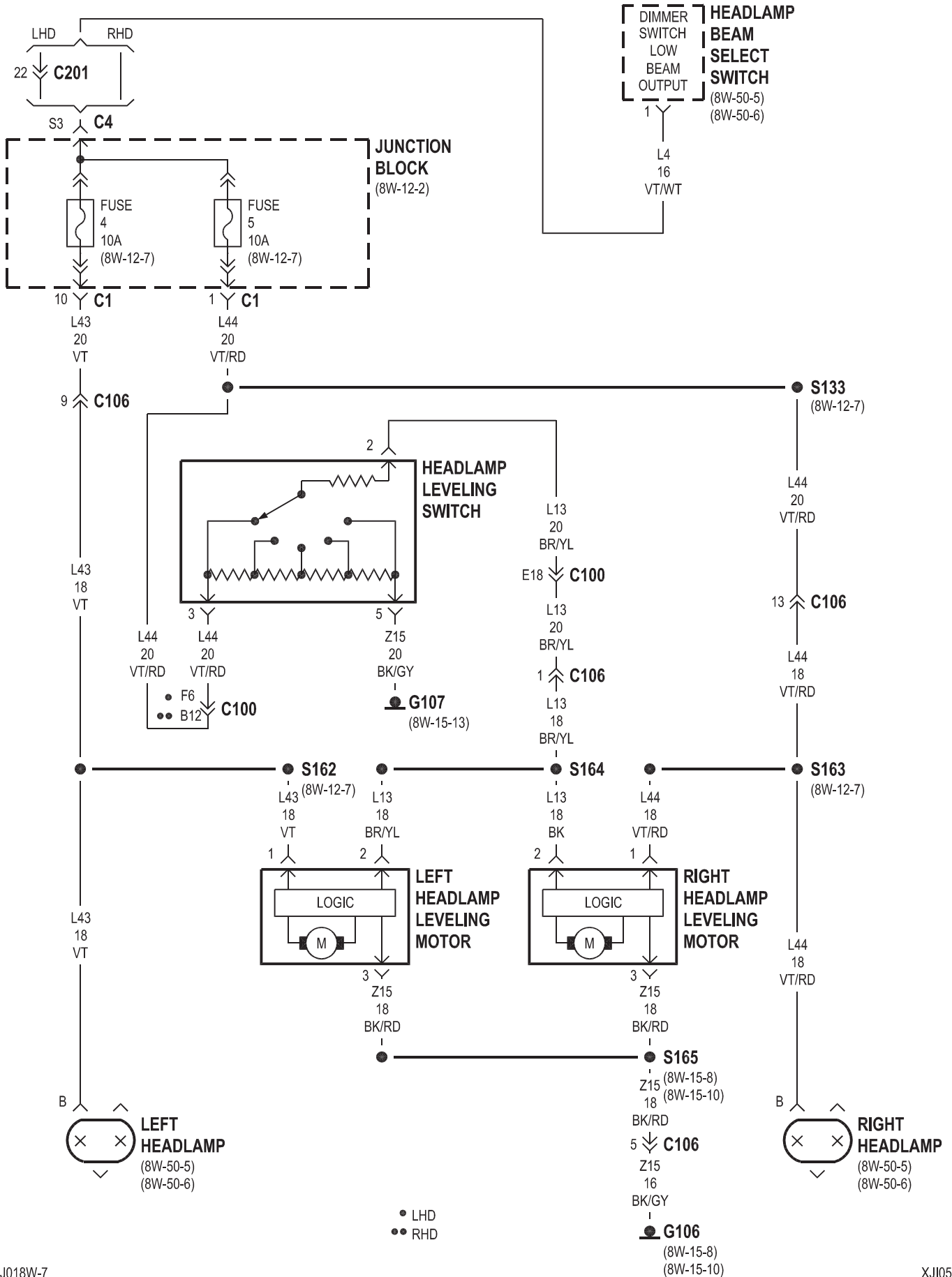


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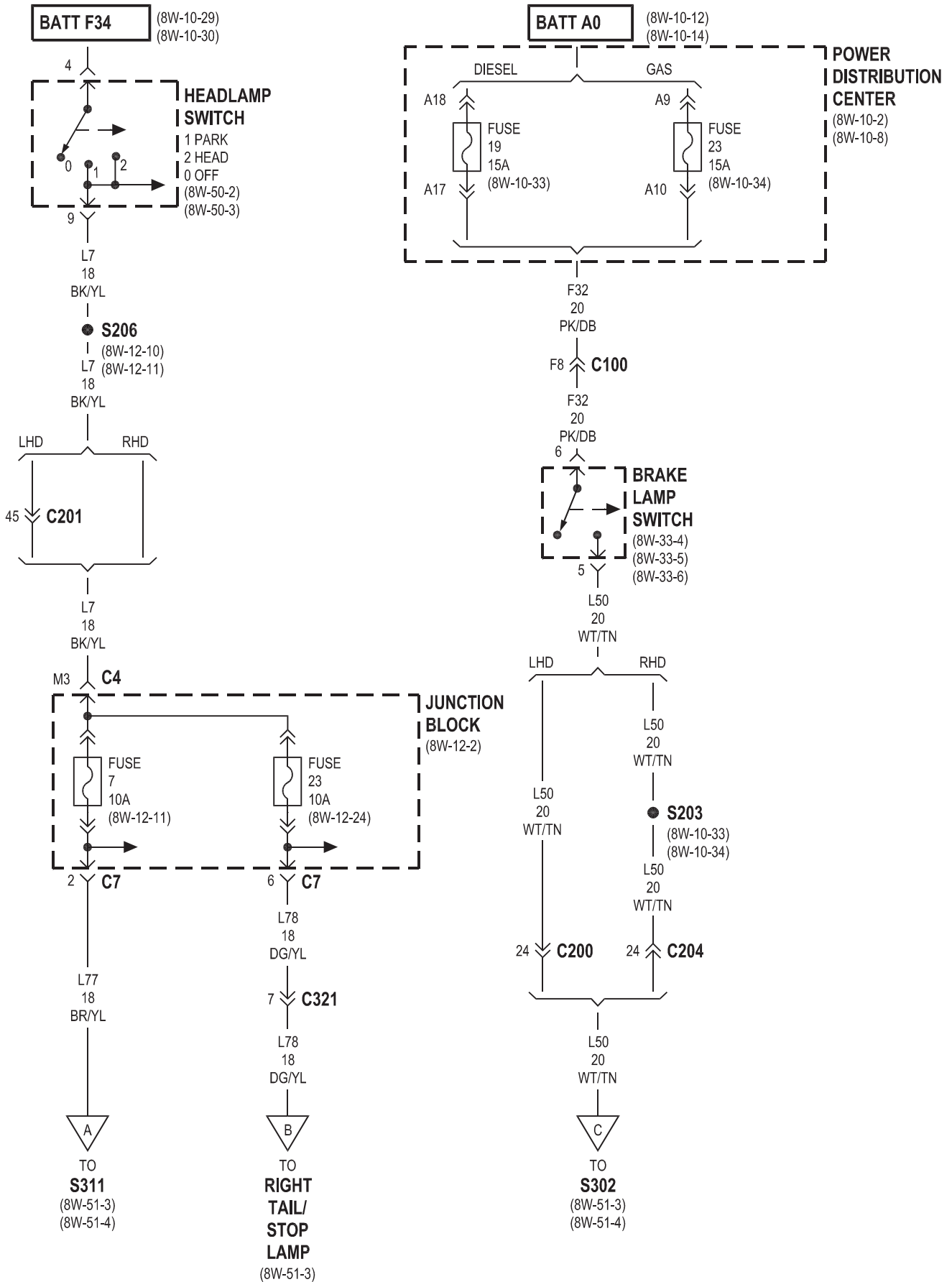


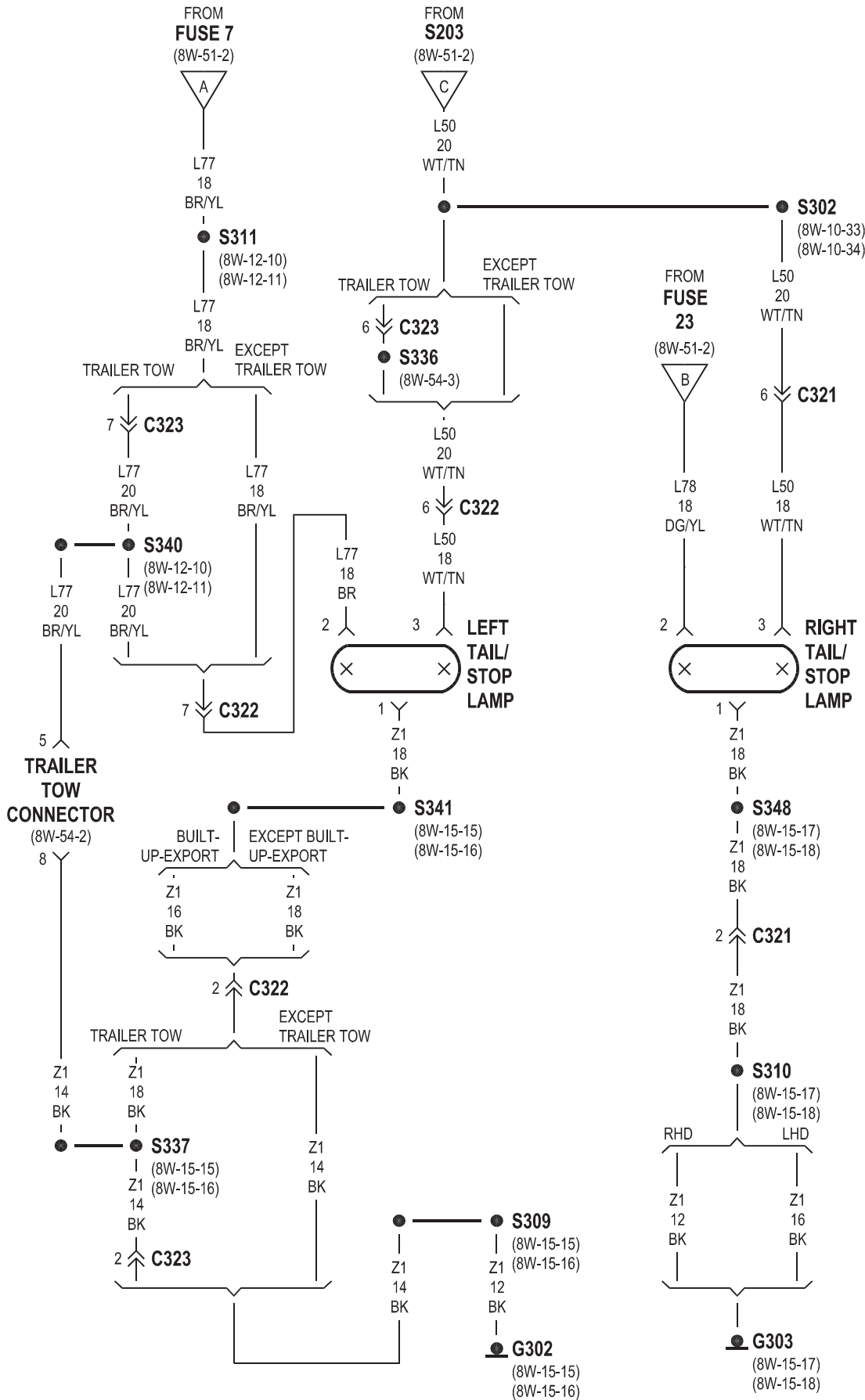


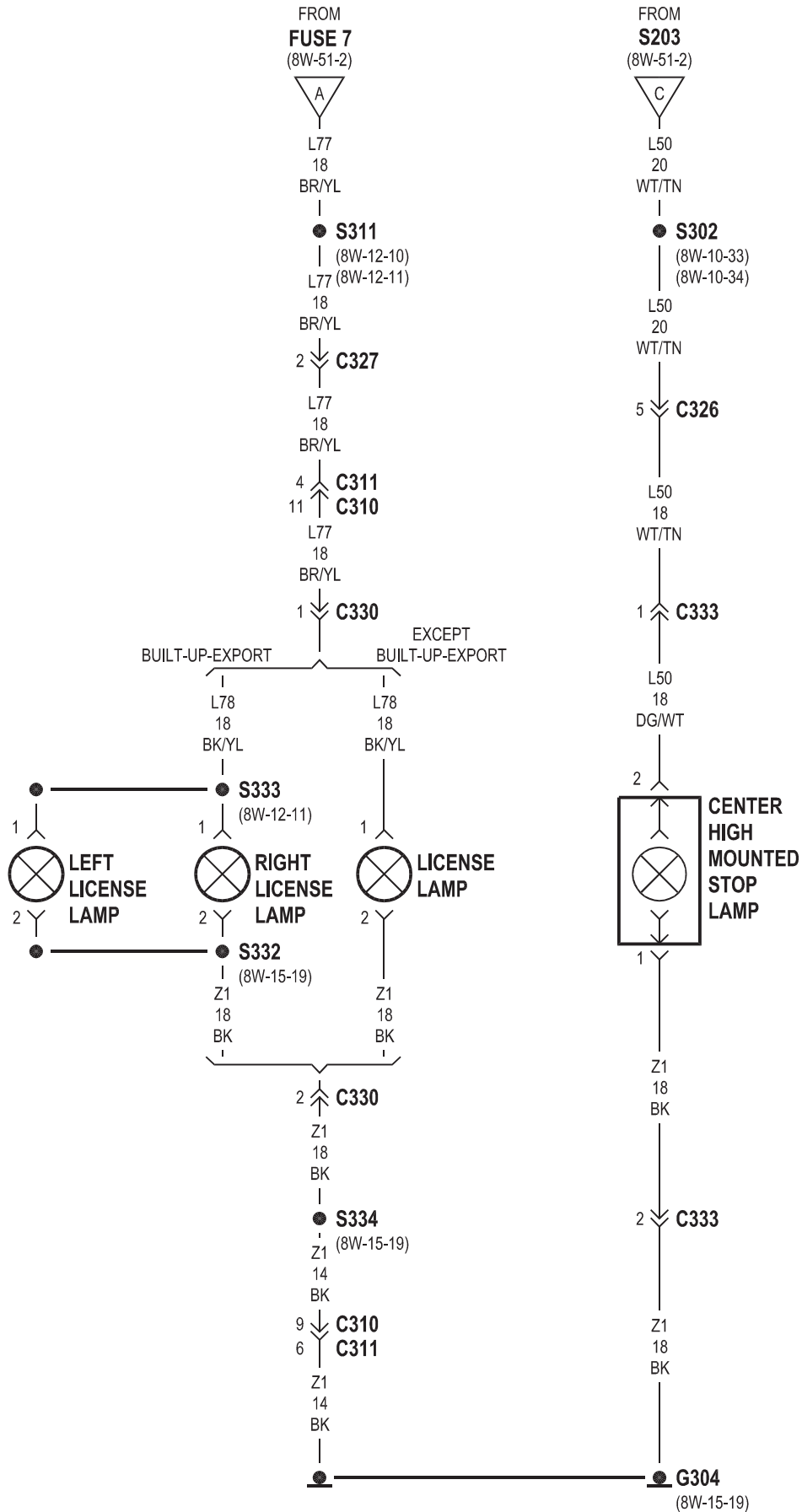
## 8Wa-51 REAR LIGHTING

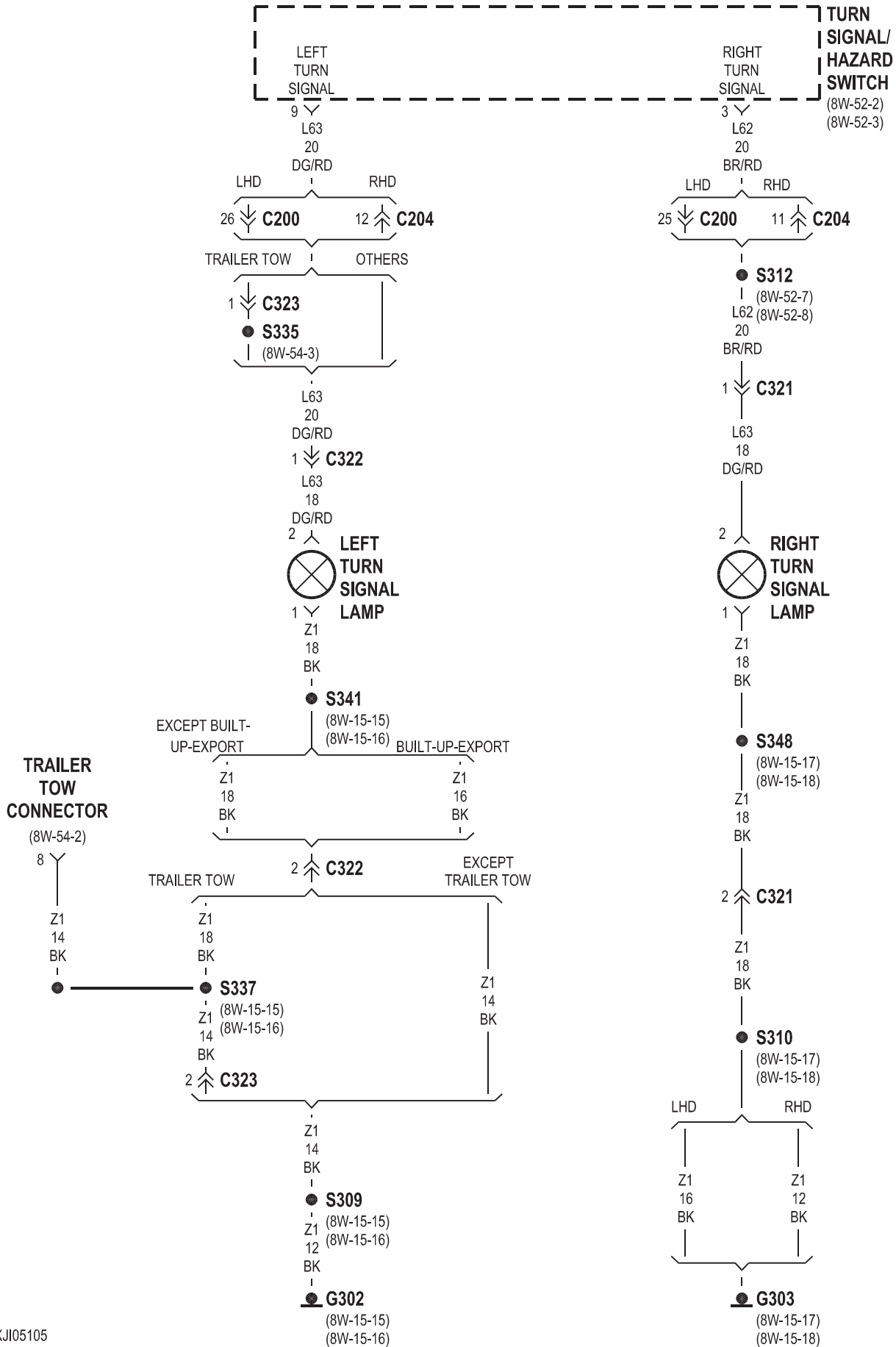
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Back-Up Lamp Switch . . . . .	8Wa-51-6, 7, 8	Junction Block . . . . .	8Wa-51-2, 6, 7, 9, 10
Brake Lamp Switch . . . . .	8Wa-51-2	Left Back-Up Lamp . . . . .	8Wa-51-8
Center High Mounted Stop Lamp . . . . .	8Wa-51-4	Left License Lamp . . . . .	8Wa-51-4
Diode Module . . . . .	8Wa-51-9, 10	Left Rear Fog Lamp . . . . .	8Wa-51-11, 12
Driver Door Module . . . . .	8Wa-51-9, 10	Left Tail/Stop Lamp . . . . .	8Wa-51-3
Fog Lamp Relay . . . . .	8Wa-51-9, 10	Left Turn Signal Lamp . . . . .	8Wa-51-5
Fog Lamp Relay No. 2 . . . . .	8Wa-51-9, 10	License Lamp . . . . .	8Wa-51-4
Front Fog Lamp Switch . . . . .	8Wa-51-9, 10	Power Distribution Center . . . . .	8Wa-51-2, 9, 10, 11, 12
Fuse 10 (JB) . . . . .	8Wa-51-6, 7	Rear Fog Lamp Switch . . . . .	8Wa-51-9, 10, 11, 12
Fuse 18 (JB) . . . . .	8Wa-51-9, 10	Right Back-Up Lamp . . . . .	8Wa-51-8
Fuse 19 (PDC) Diesel . . . . .	8Wa-51-2	Right License Lamp . . . . .	8Wa-51-4
Fuse 23 (JB) . . . . .	8Wa-51-2, 3	Right Rear Fog Lamp . . . . .	8Wa-51-11, 12
Fuse 23 (PDC) . . . . .	8Wa-51-2	Right Tail/Stop Lamp . . . . .	8Wa-51-2, 3
Fuse 7 (JB) . . . . .	8Wa-51-2, 3, 4	Right Turn Signal Lamp . . . . .	8Wa-51-5
G107 . . . . .	8Wa-51-9, 10, 11, 12	Trailer Tow Connector . . . . .	8Wa-51-3, 5, 8
G302 . . . . .	8Wa-51-3, 5, 8, 11, 12	Transmission Control Module . . . . .	8Wa-51-6
G303 . . . . .	8Wa-51-3, 5, 8, 11, 12	Transmission Range Sensor . . . . .	8Wa-51-6
G304 . . . . .	8Wa-51-4	Turn Signal/Hazard Switch . . . . .	8Wa-51-5
Headlamp Switch . . . . .	8Wa-51-2, 9, 10		

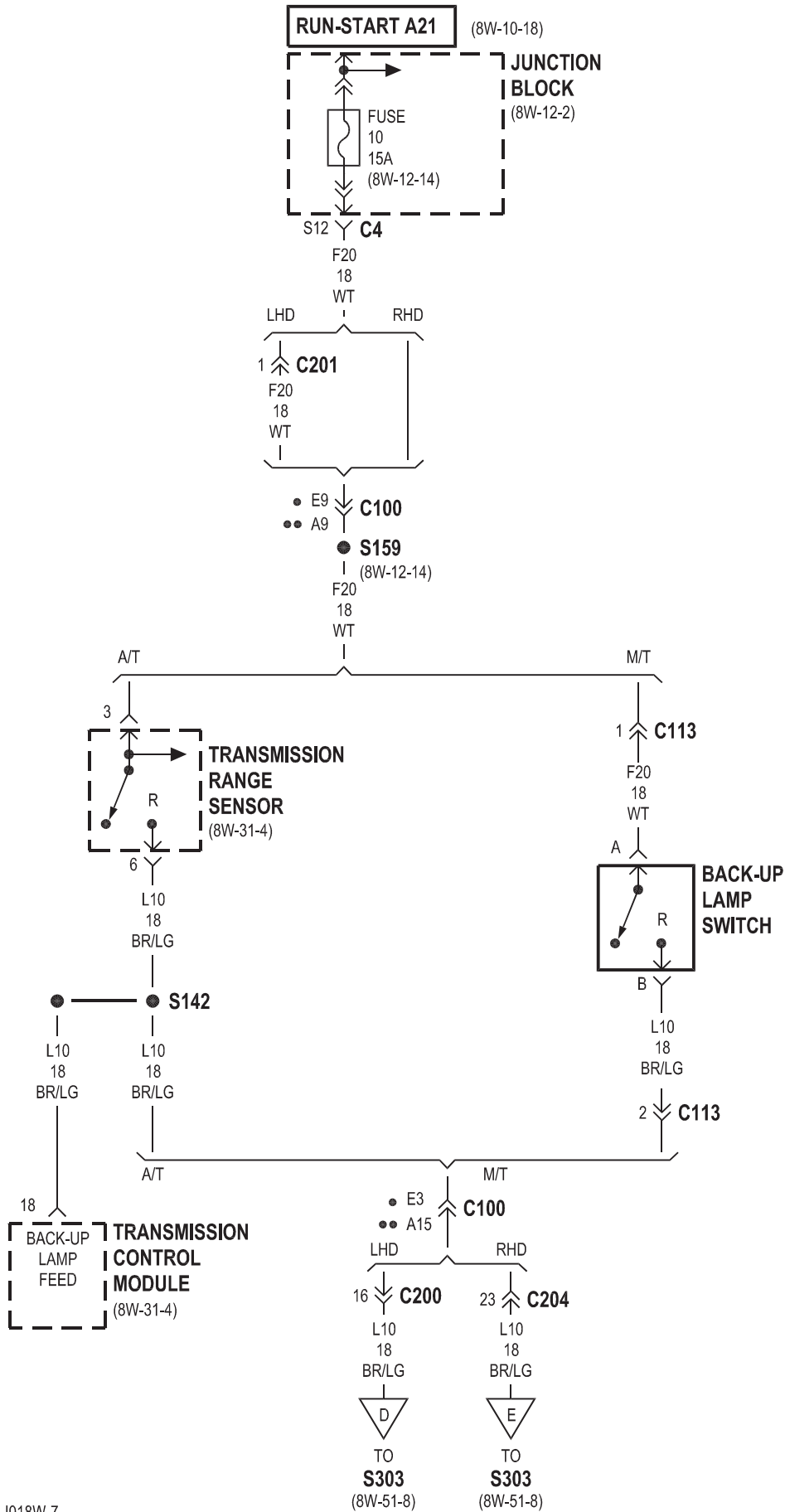


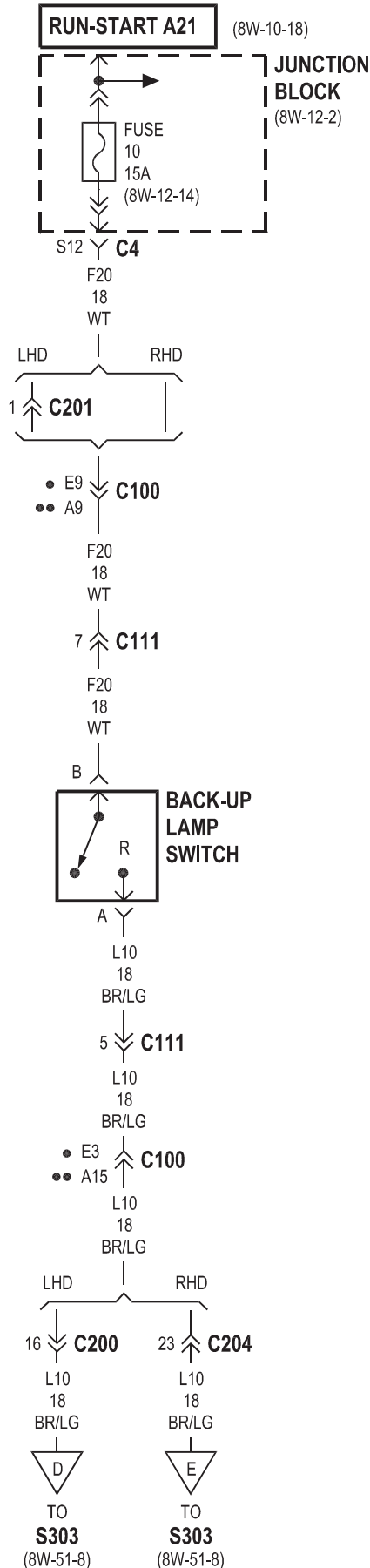




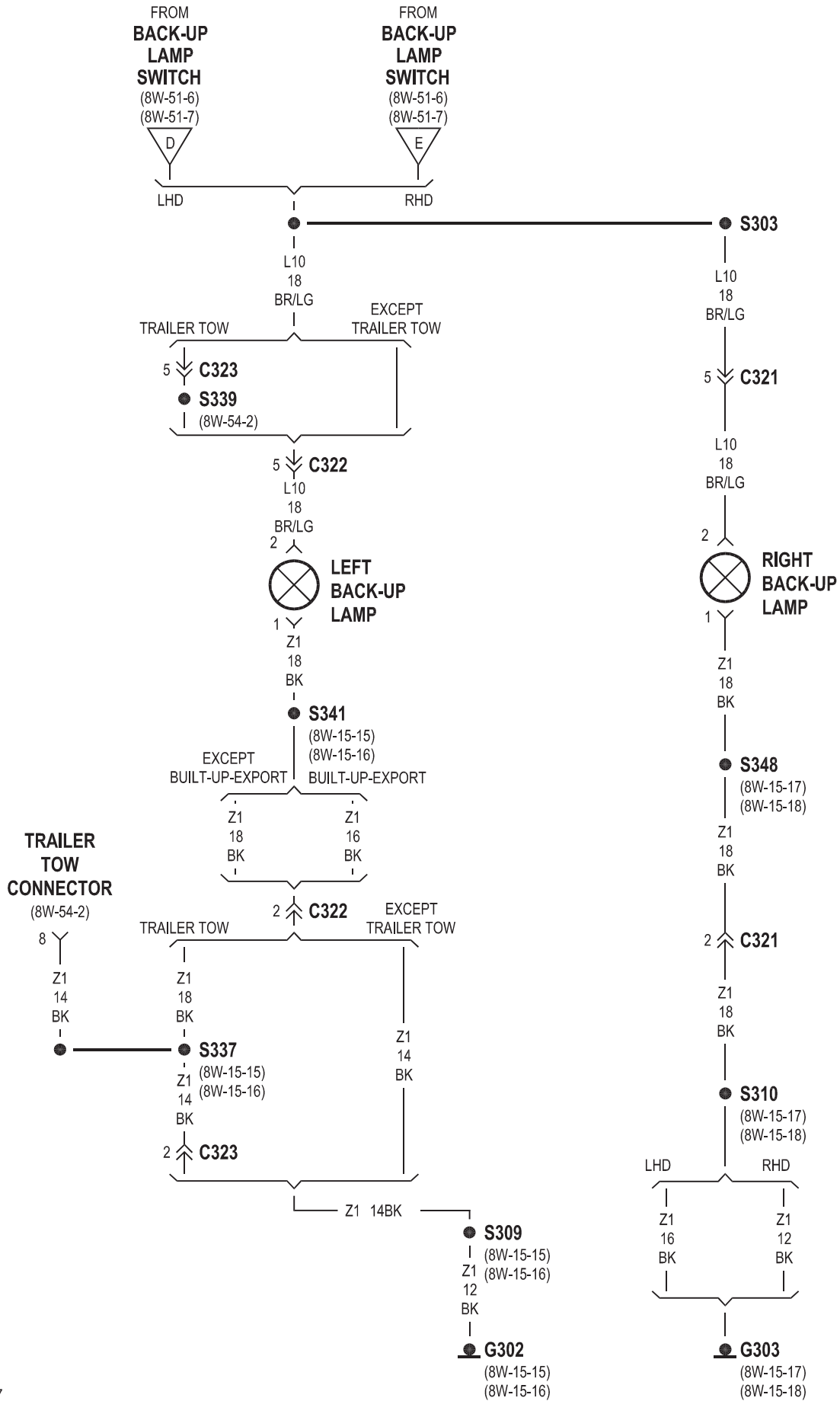


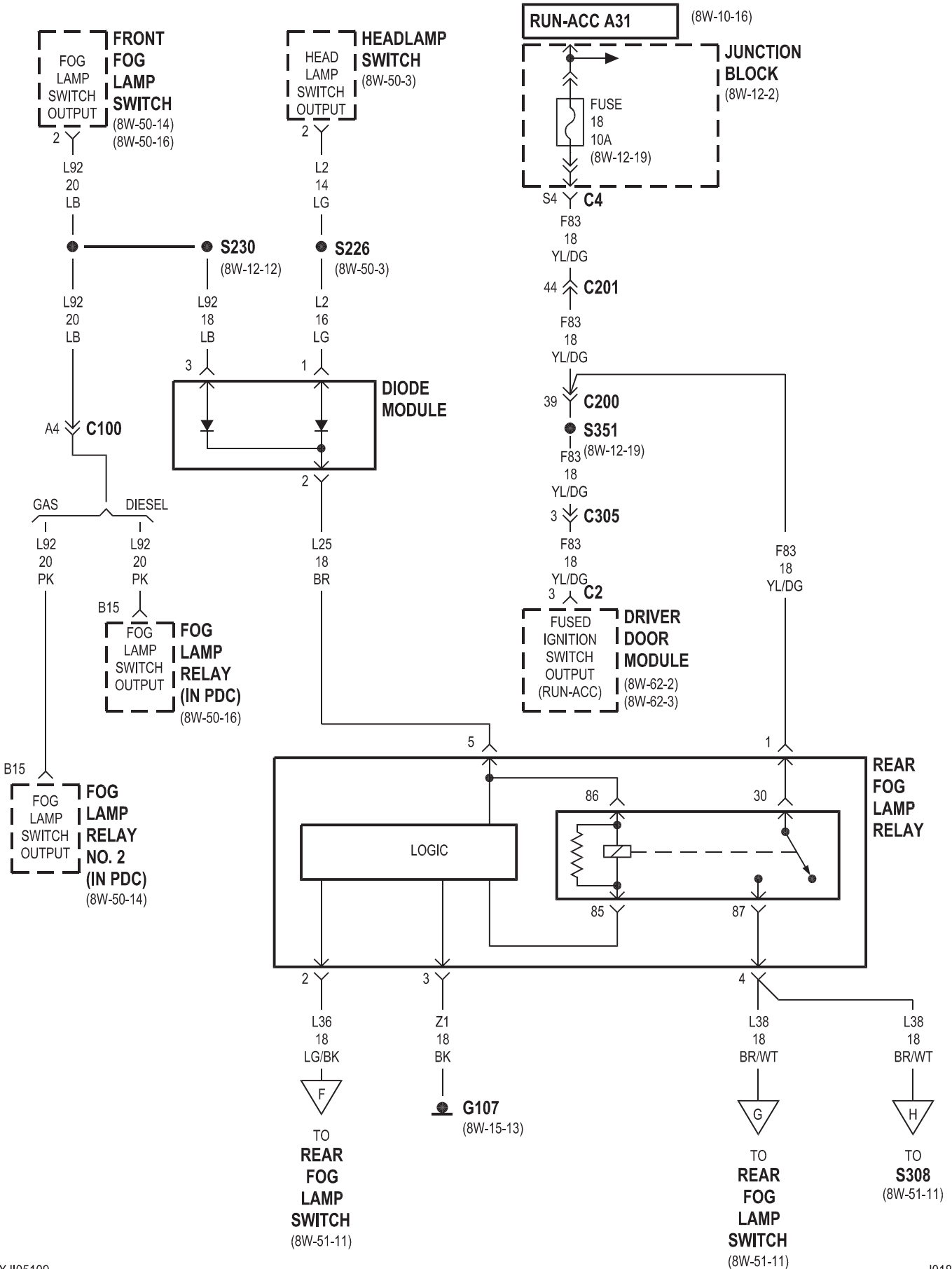




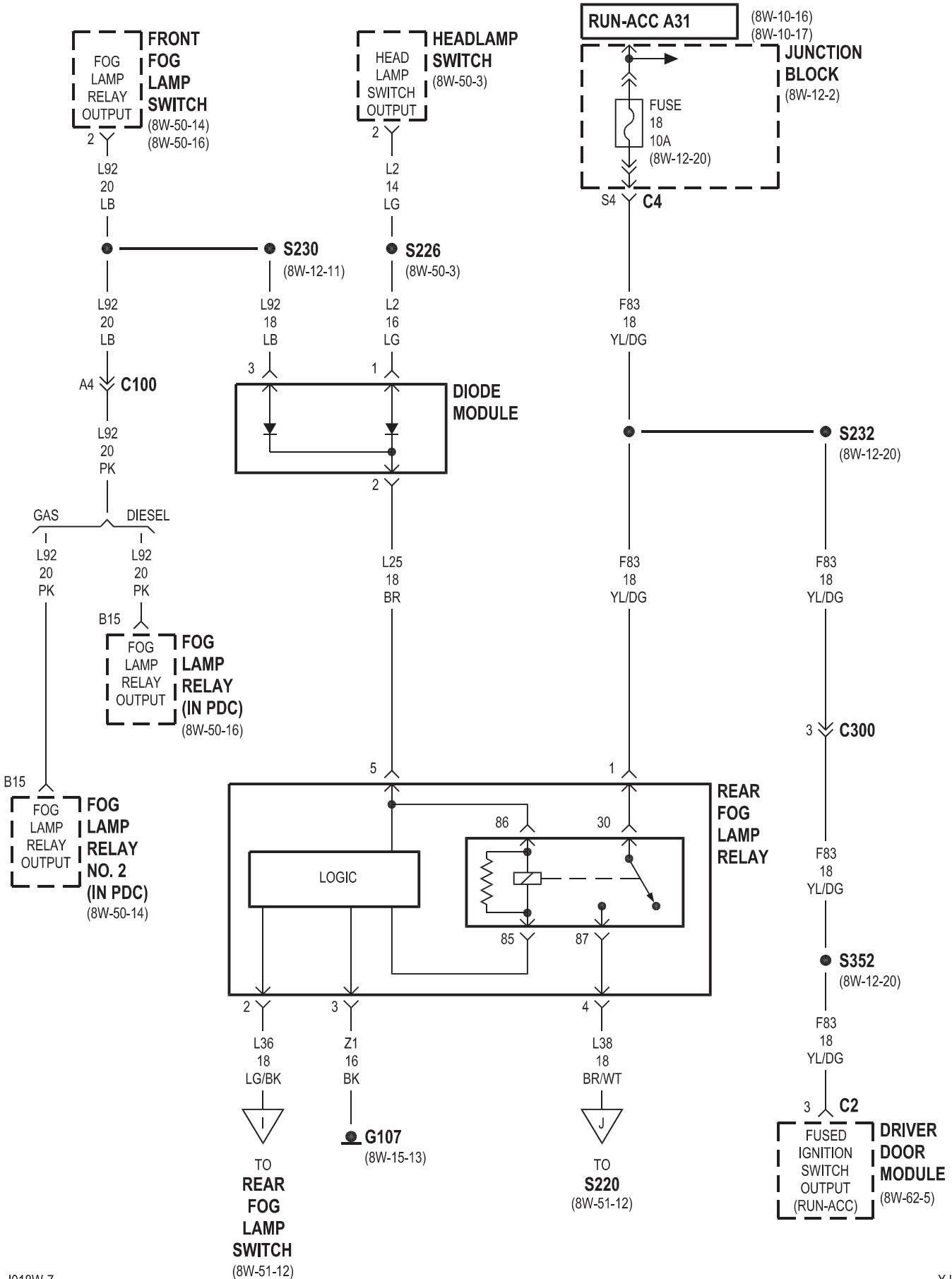


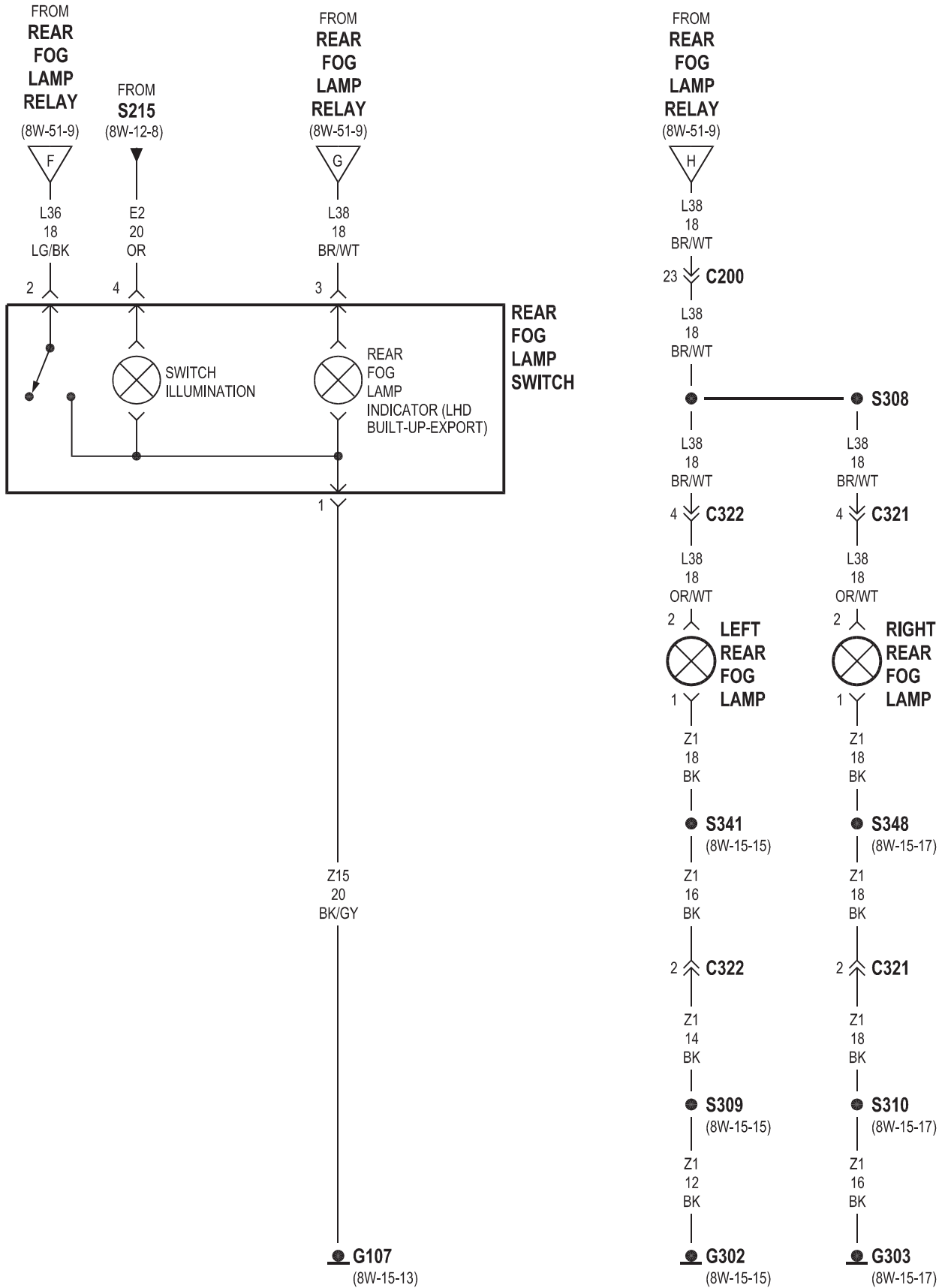
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•• RHD

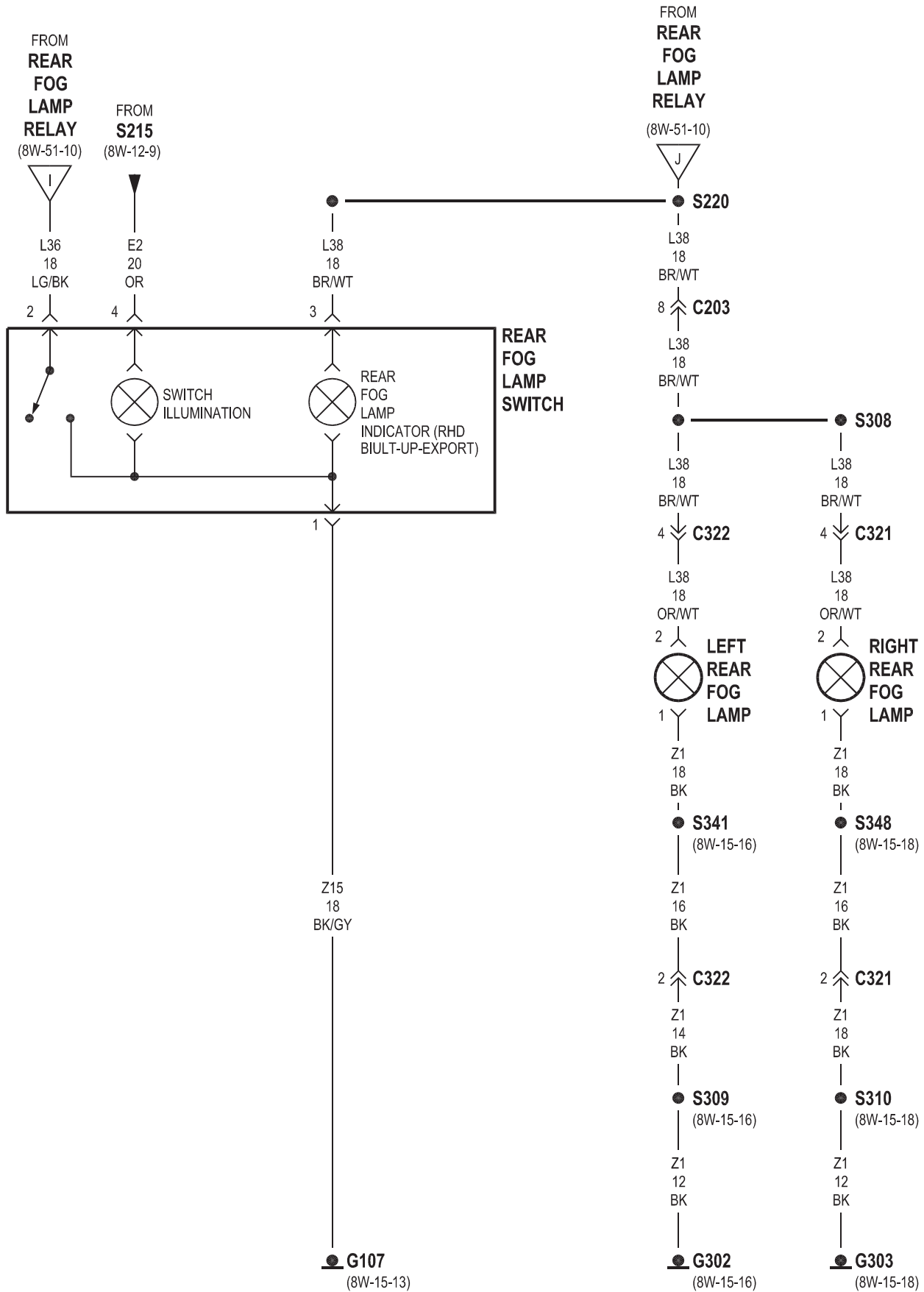






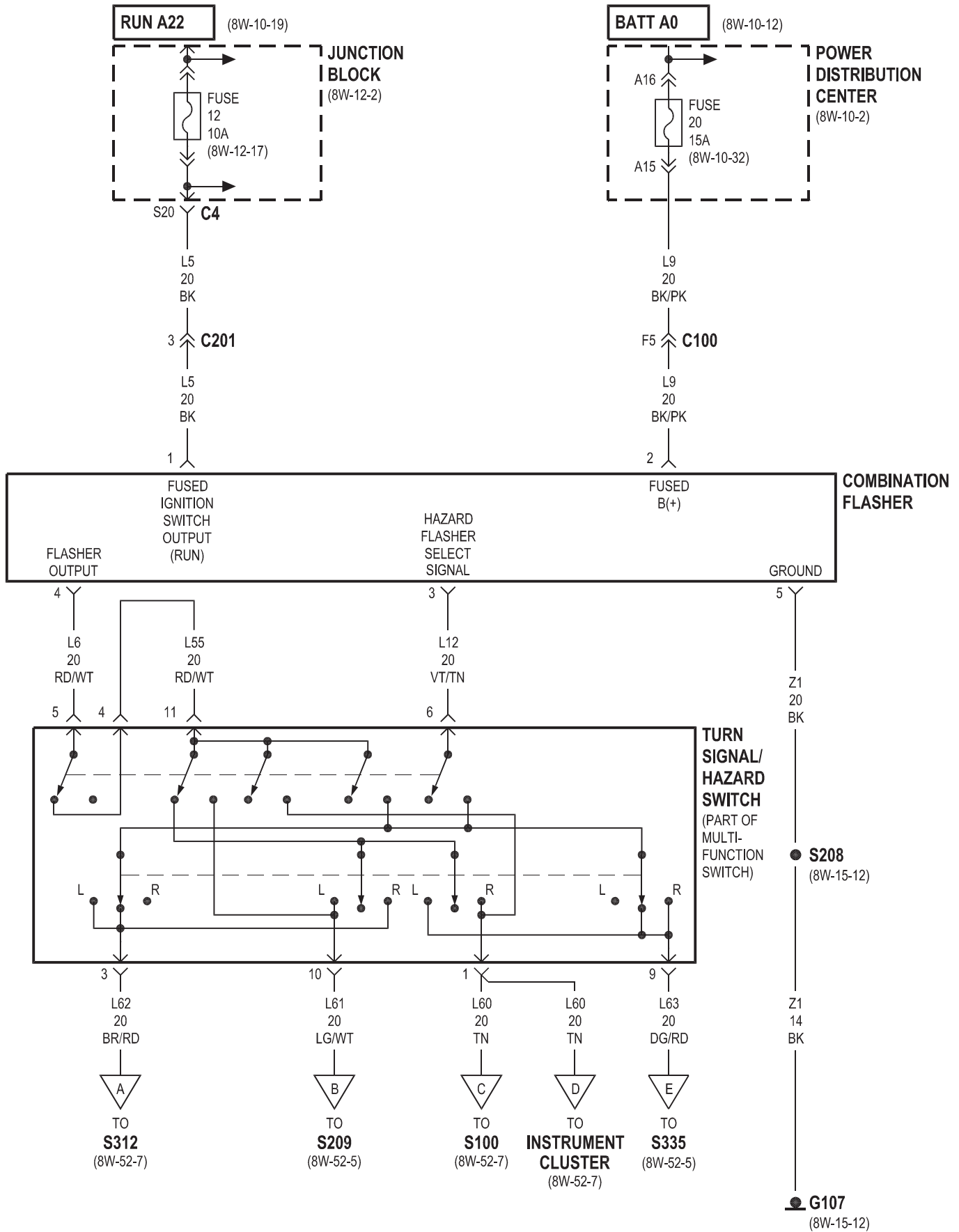


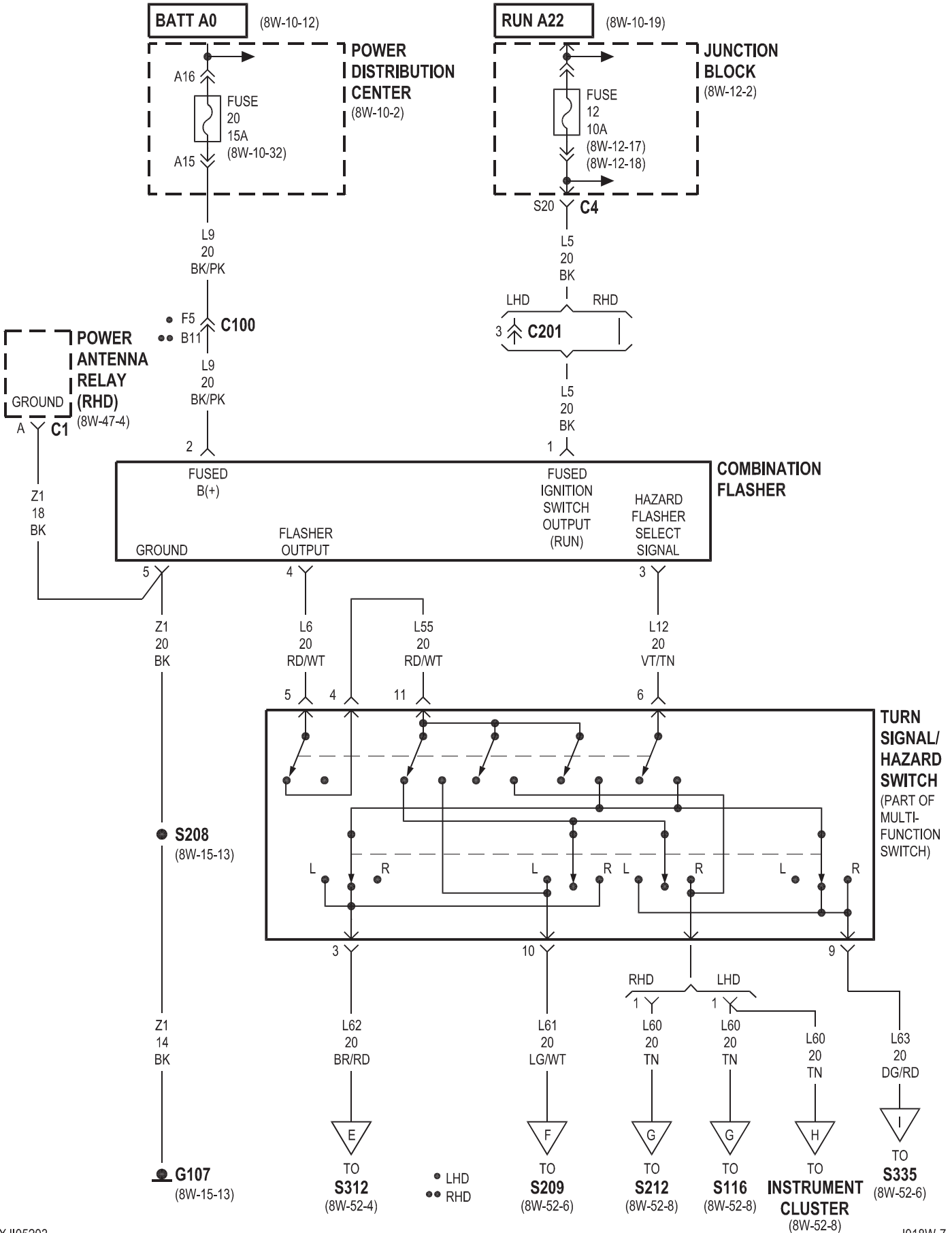


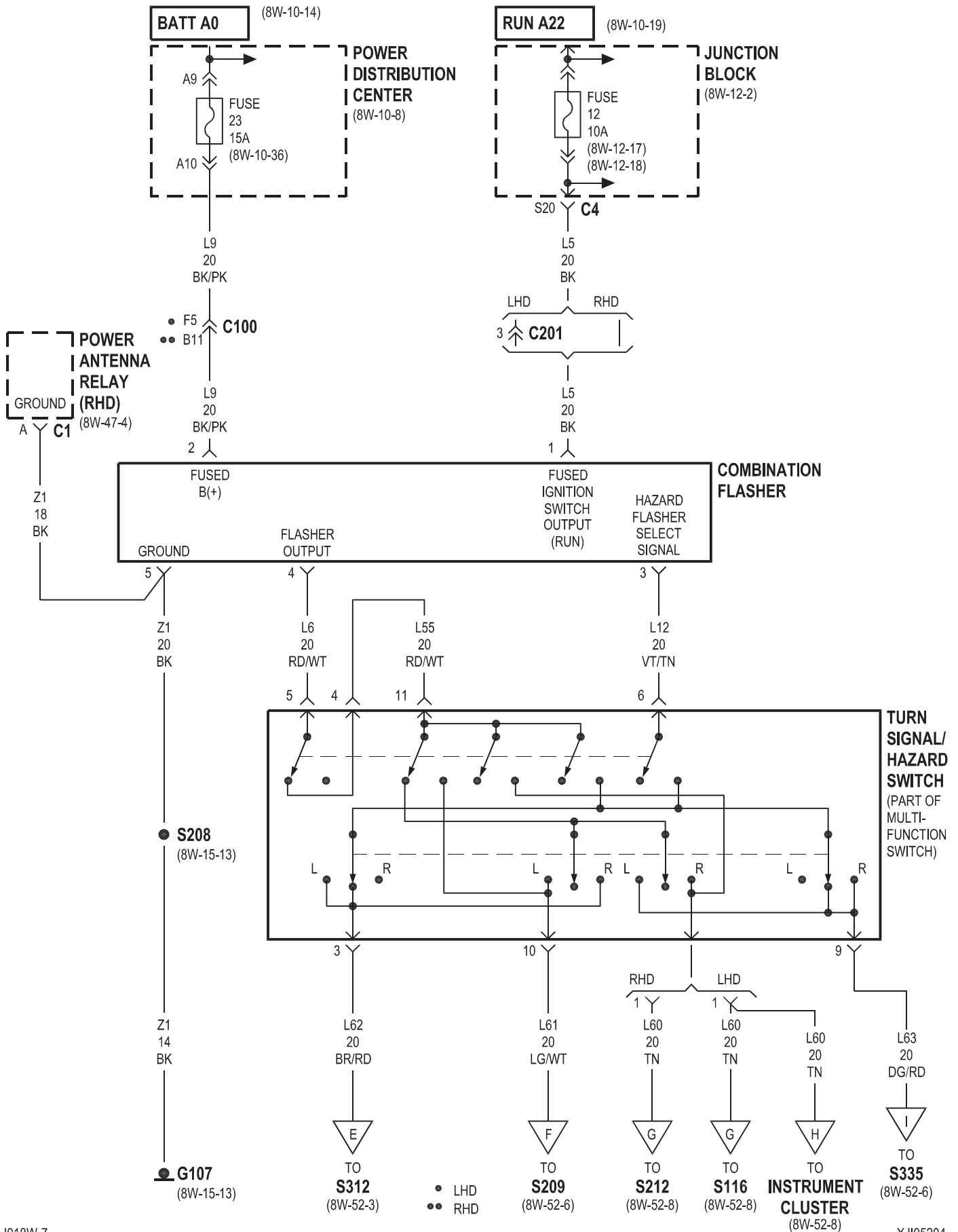


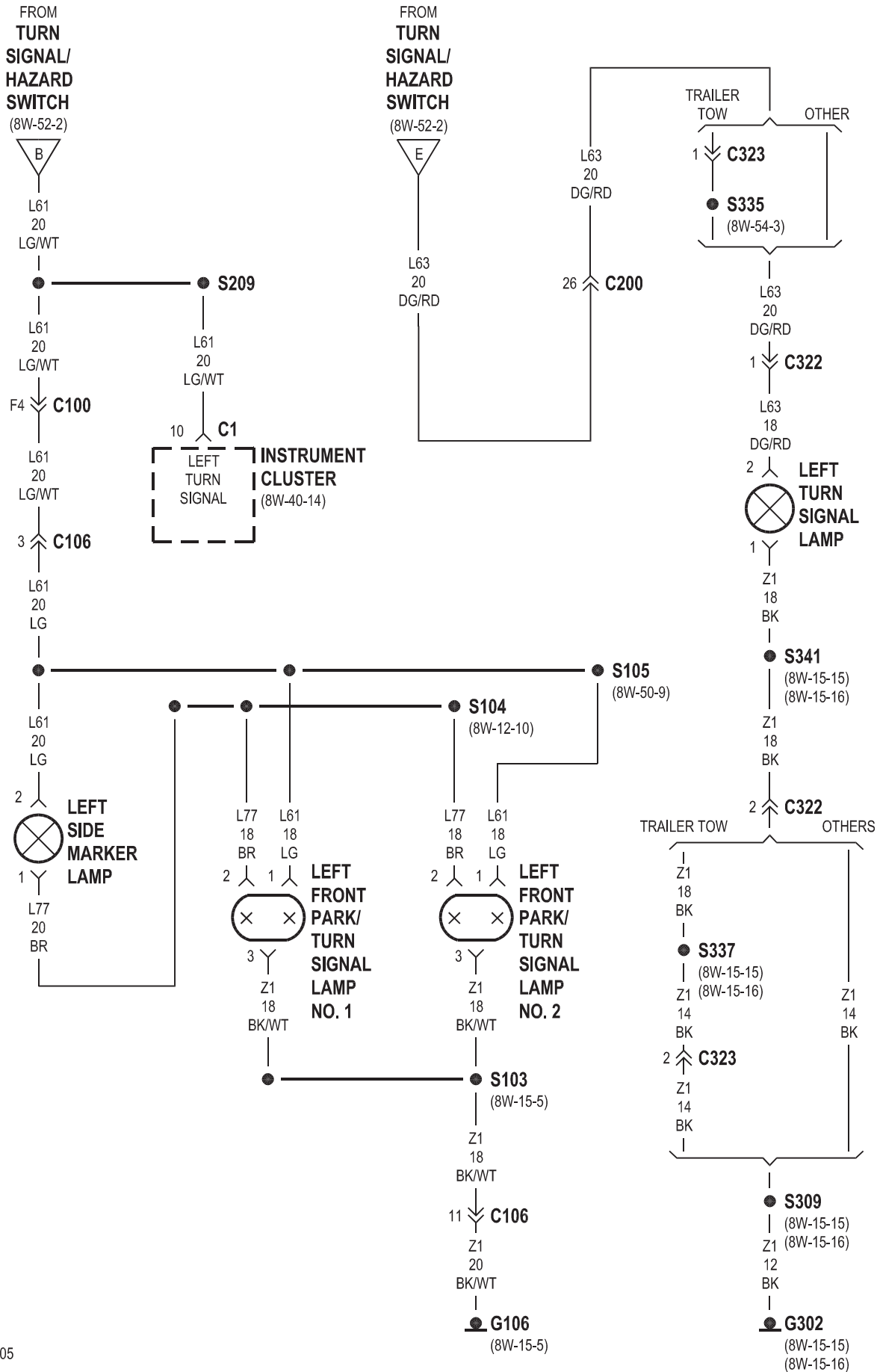
## 8Wa-52 TURN SIGNALS

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Combination Flasher . . . . .	8Wa-52-2, 3, 4	Left Side Repeater Lamp . . . . .	8Wa-52-6
Fuse 12 (JB) . . . . .	8Wa-52-2, 3, 4	Left Turn Signal Lamp . . . . .	8Wa-52-5, 6
Fuse 20 (PDC) . . . . .	8Wa-52-2, 3	Power Antenna Relay . . . . .	8Wa-52-3, 4
Fuse 23 (PDC) . . . . .	8Wa-52-4	Power Distribution Center . . . . .	8Wa-52-2, 3, 4
G106 . . . . .	8Wa-52-5, 6, 7, 8	Right Front Park/Turn Signal Lamp No. 1 . . . . .	8Wa-52-7
G107 . . . . .	8Wa-52-2, 3, 4	Right Front Park/Turn Signal Lamp No. 2 . . . . .	8Wa-52-7
G302 . . . . .	8Wa-52-5, 6	Right Front Turn Signal Lamp No. 1 . . . .	8Wa-52-8
G303 . . . . .	8Wa-52-7, 8	Right Front Turn Signal Lamp No. 2 . . . .	8Wa-52-8
Instrument Cluster . . . . .	8Wa-52-2, 3, 4, 5, 6, 7, 8	Right Side Marker Lamp . . . . .	8Wa-52-7
Junction Block . . . . .	8Wa-52-2, 3, 4	Right Side Repeater Lamp . . . . .	8Wa-52-8
Left Front Park/Turn Signal Lamp No. 1 . . . . .	8Wa-52-5	Right Turn Signal Lamp . . . . .	8Wa-52-7, 8
Left Front Park/Turn Signal Lamp No. 2 . . . . .	8Wa-52-5	Trailer Tow Right Turn Relay . . . . .	8Wa-52-7, 8
Left Front Turn Signal Lamp No. 1 . . . . .	8Wa-52-6	Turn Signal/Hazard Switch . . . . .	8Wa-52-2, 3, 4, 5, 6, 7, 8
Left Front Turn Signal Lamp No. 2 . . . . .	8Wa-52-6		
Left Side Marker Lamp . . . . .	8Wa-52-5		

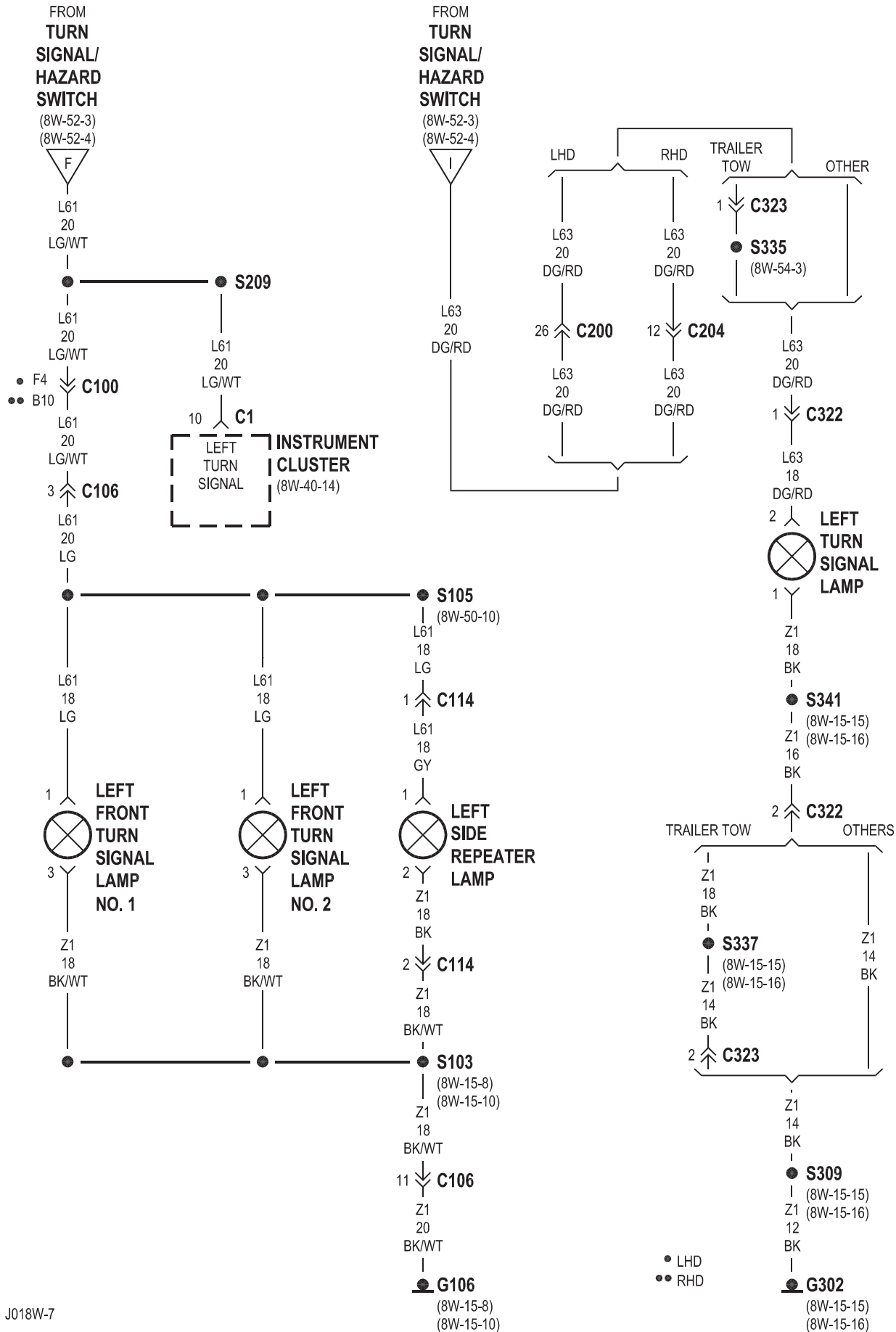


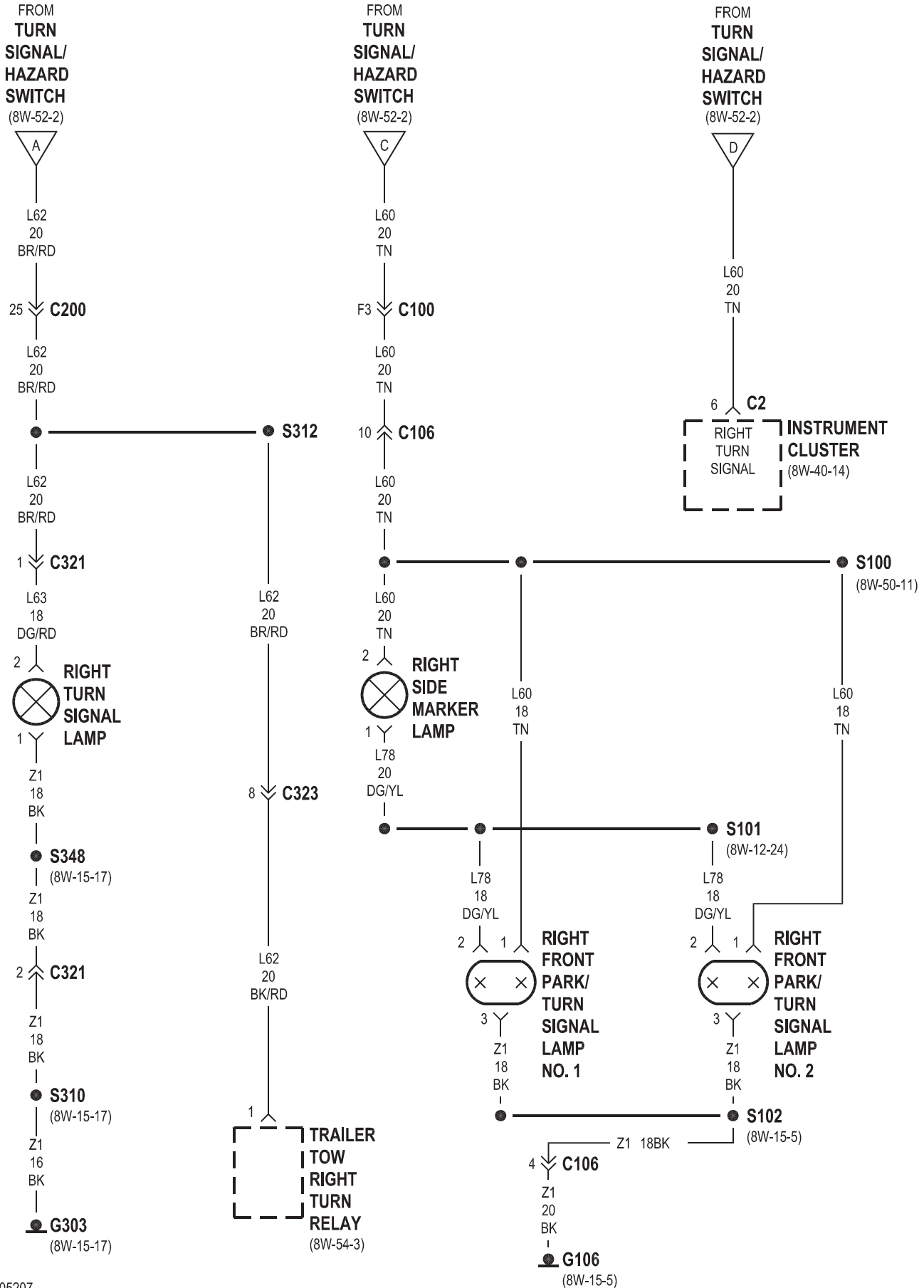


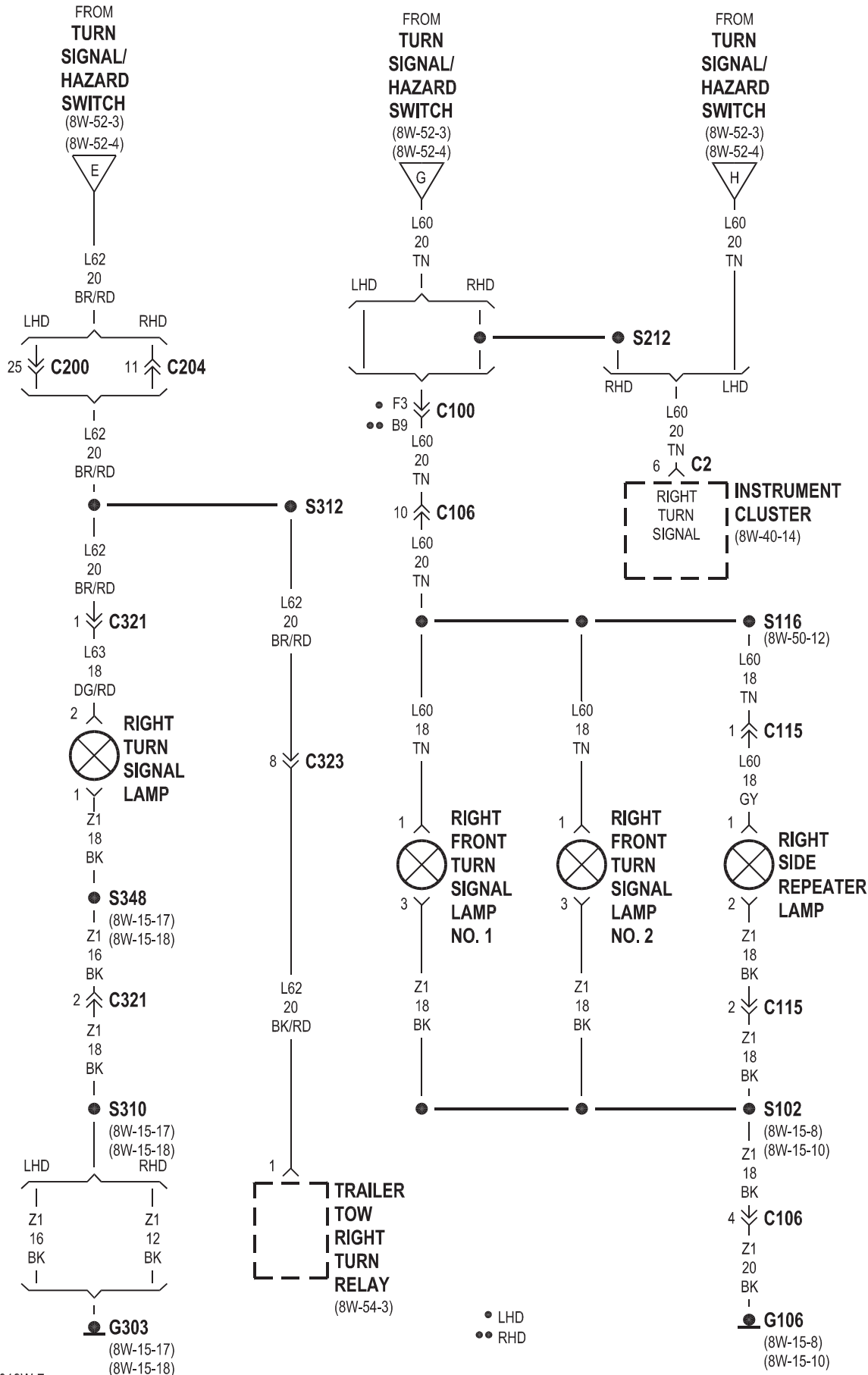






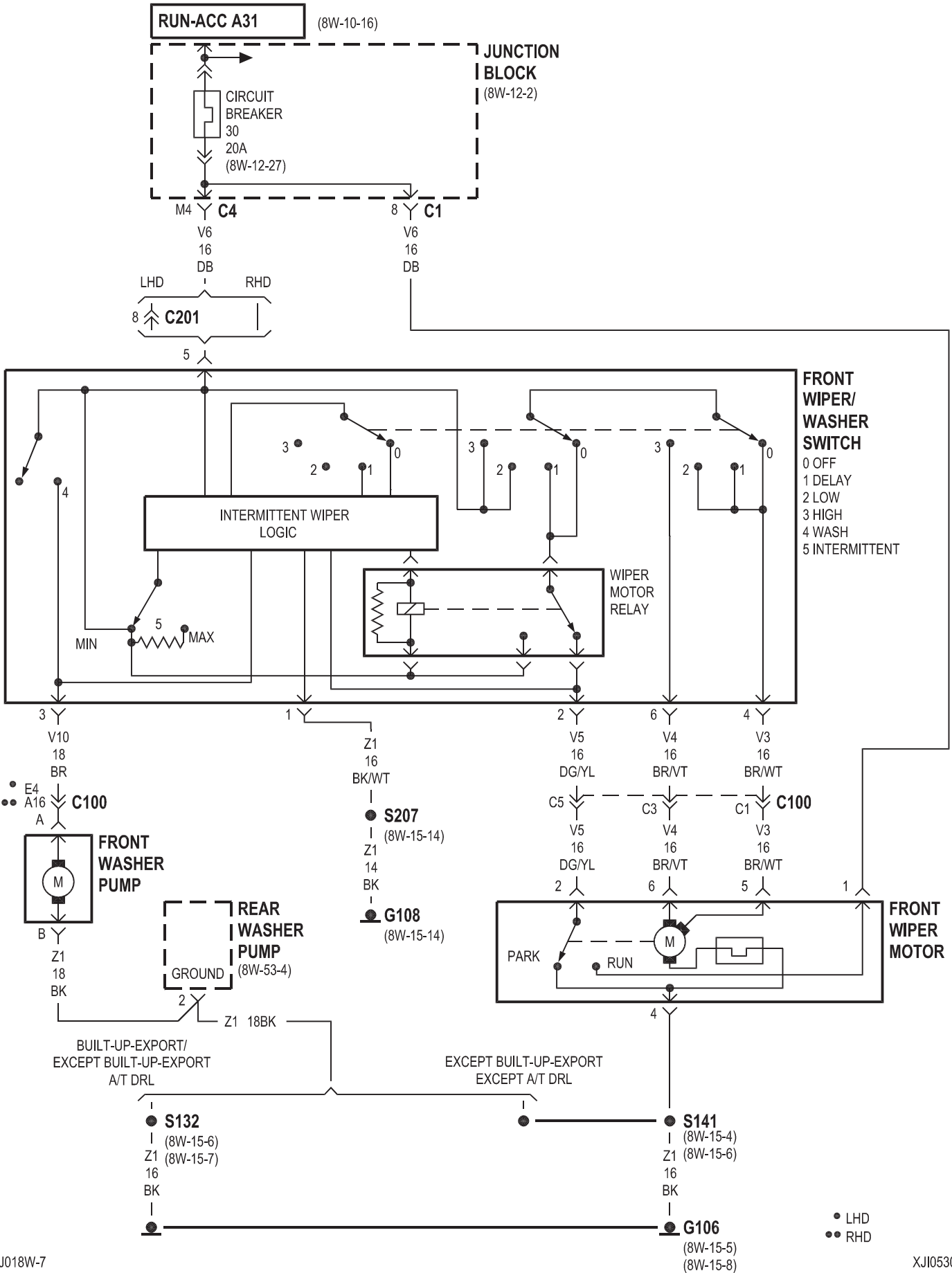


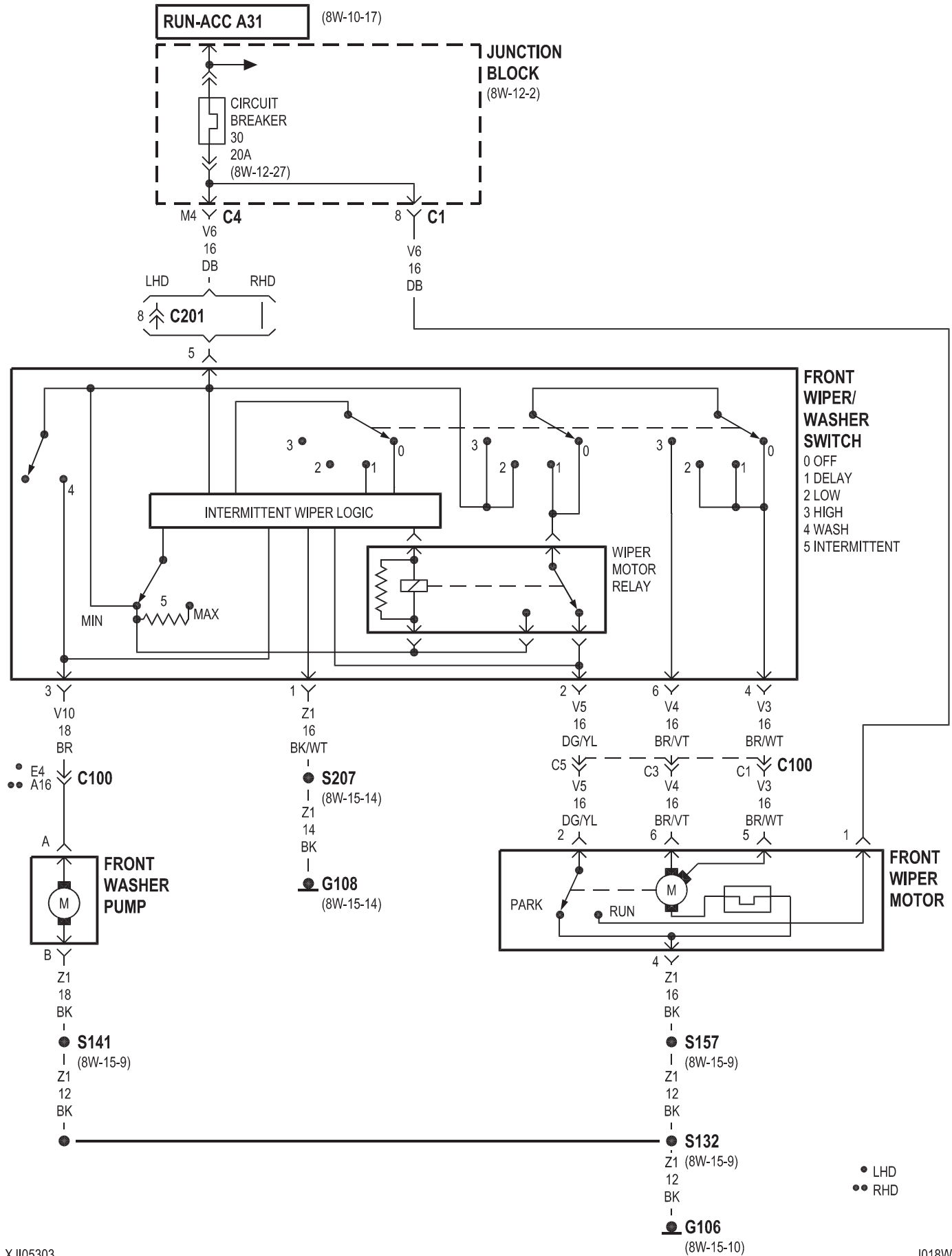


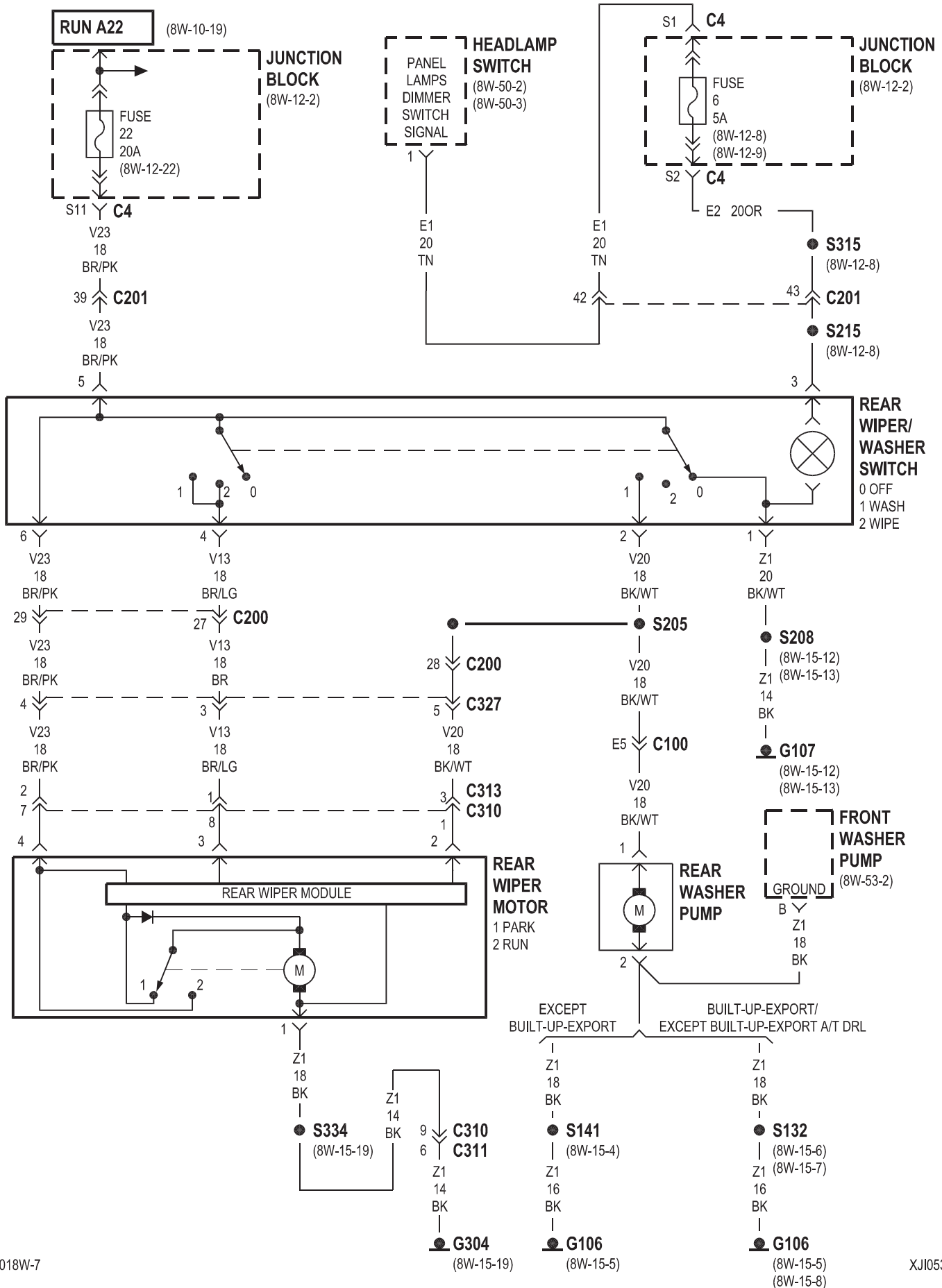


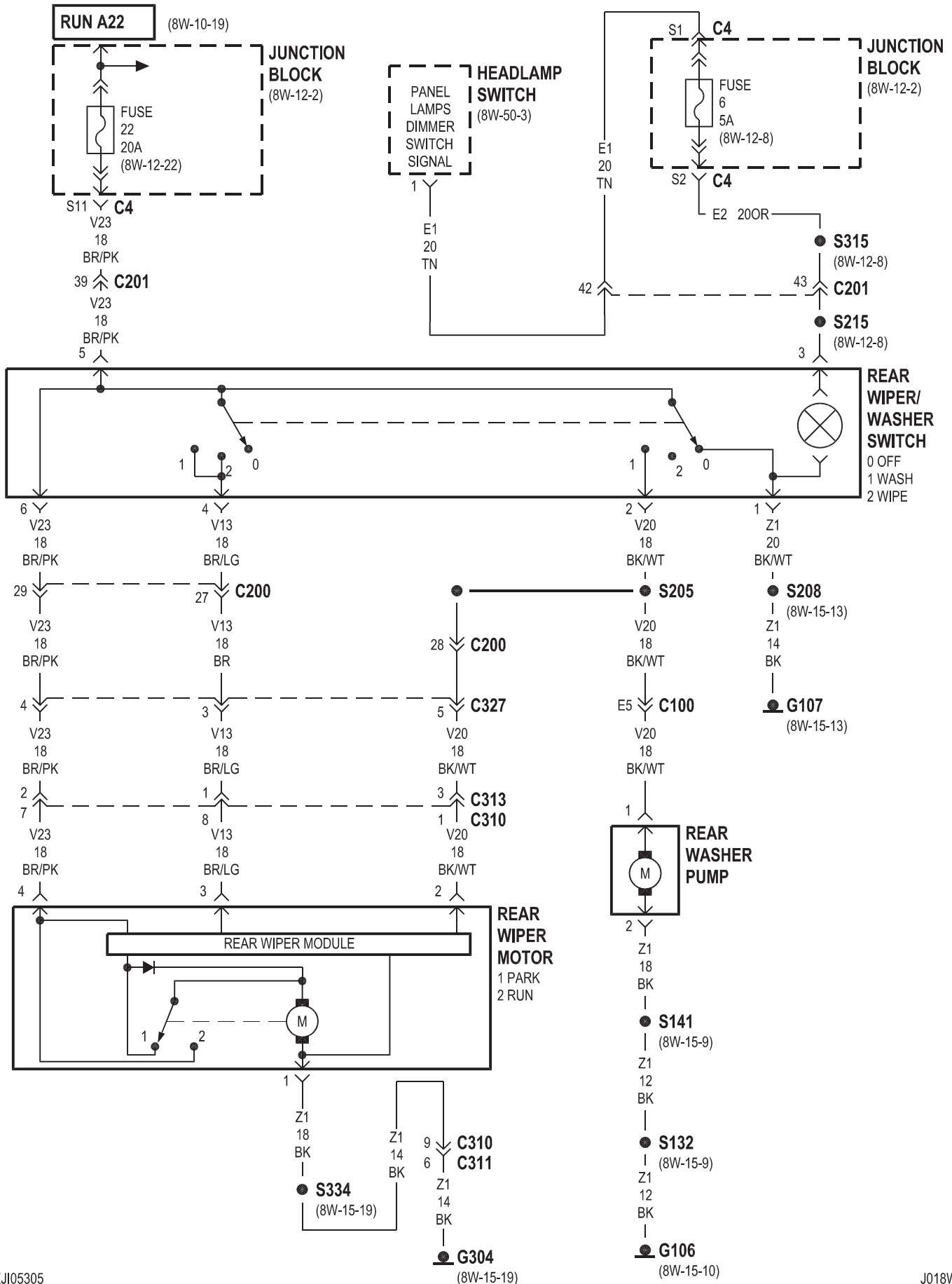
## 8Wa-53 WIPERS

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
A/C- Heater Control . . . . .	8Wa-53-6, 7	G108 . . . . .	8Wa-53-2, 3
Circuit Breaker 30 (JB) . . . . .	8Wa-53-2, 3	G304 . . . . .	8Wa-53-4, 5, 6, 7
Front Washer Pump . . . . .	8Wa-53-2, 3, 4, 6	Headlamp Switch . . . . .	8Wa-53-4, 5, 6, 7
Front Wiper Motor . . . . .	8Wa-53-2, 3	Junction Block . . . . .	8Wa-53-2, 3, 4, 5, 6, 7
Front Wiper/Washer Switch . . . . .	8Wa-53-2, 3	Rear Washer Pump . . . . .	8Wa-53-2, 4, 5, 6, 7
Fuse 6 (JB) . . . . .	8Wa-53-4, 5, 6, 7	Rear Wiper Motor . . . . .	8Wa-53-4, 5, 6, 7
Fuse 22 (JB) . . . . .	8Wa-53-4, 5, 6, 7	Rear Wiper/Washer Switch . . . . .	8Wa-53-4, 5, 6, 7
G106 . . . . .	8Wa-53-2, 3, 4, 5, 6, 7	Wiper Motor Relay . . . . .	8Wa-53-2, 3
G107 . . . . .	8Wa-53-4, 5, 6, 7		

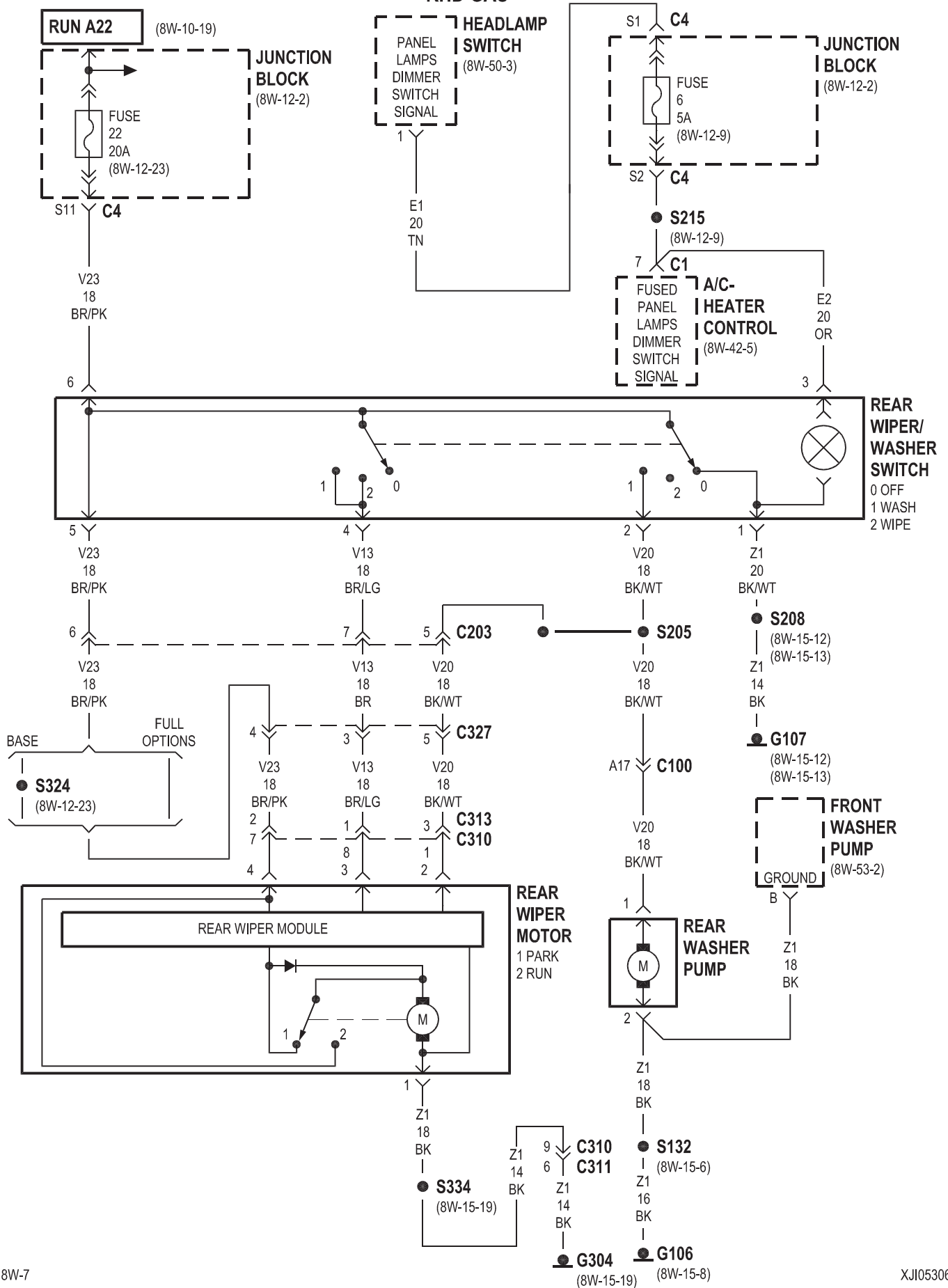


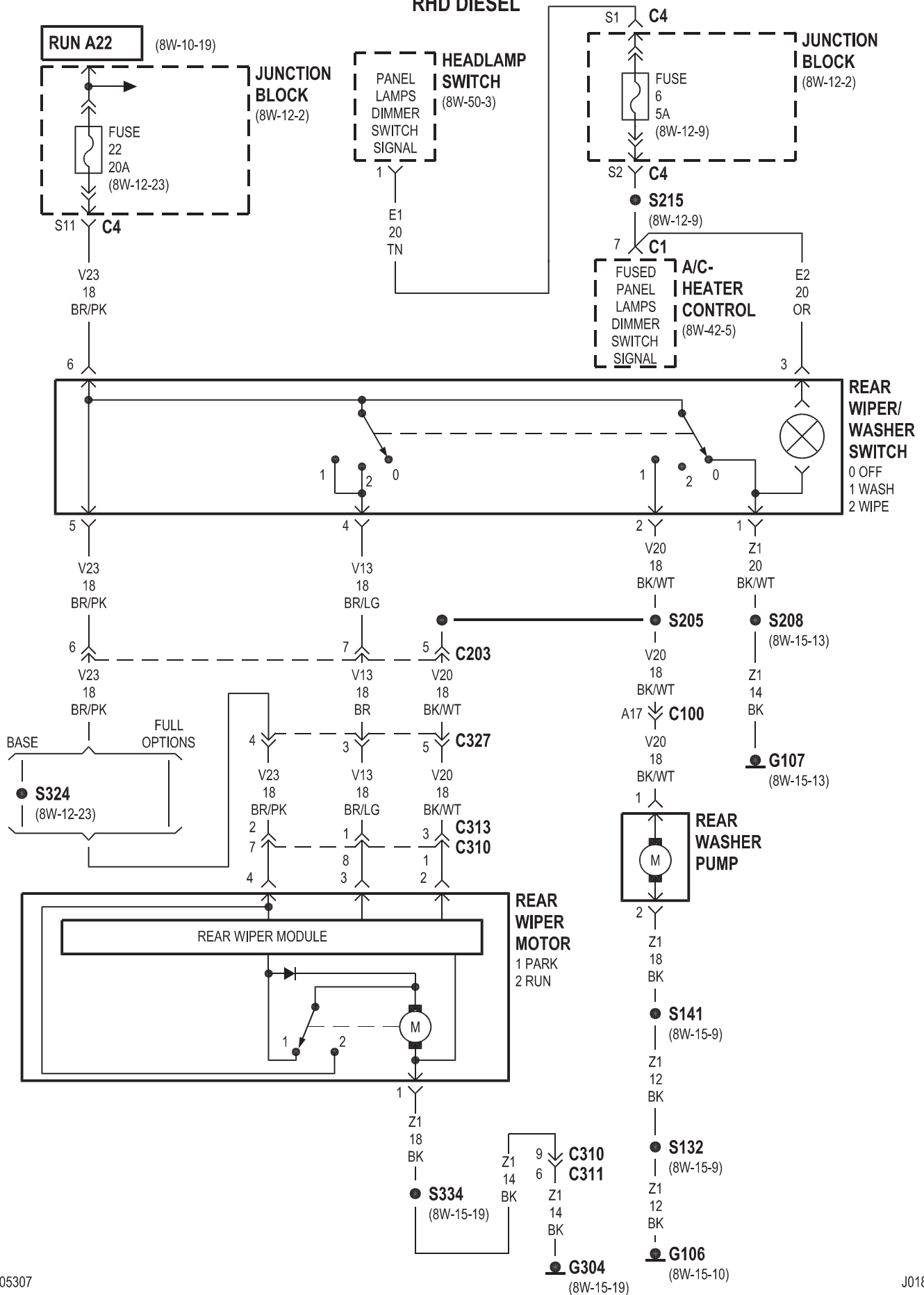








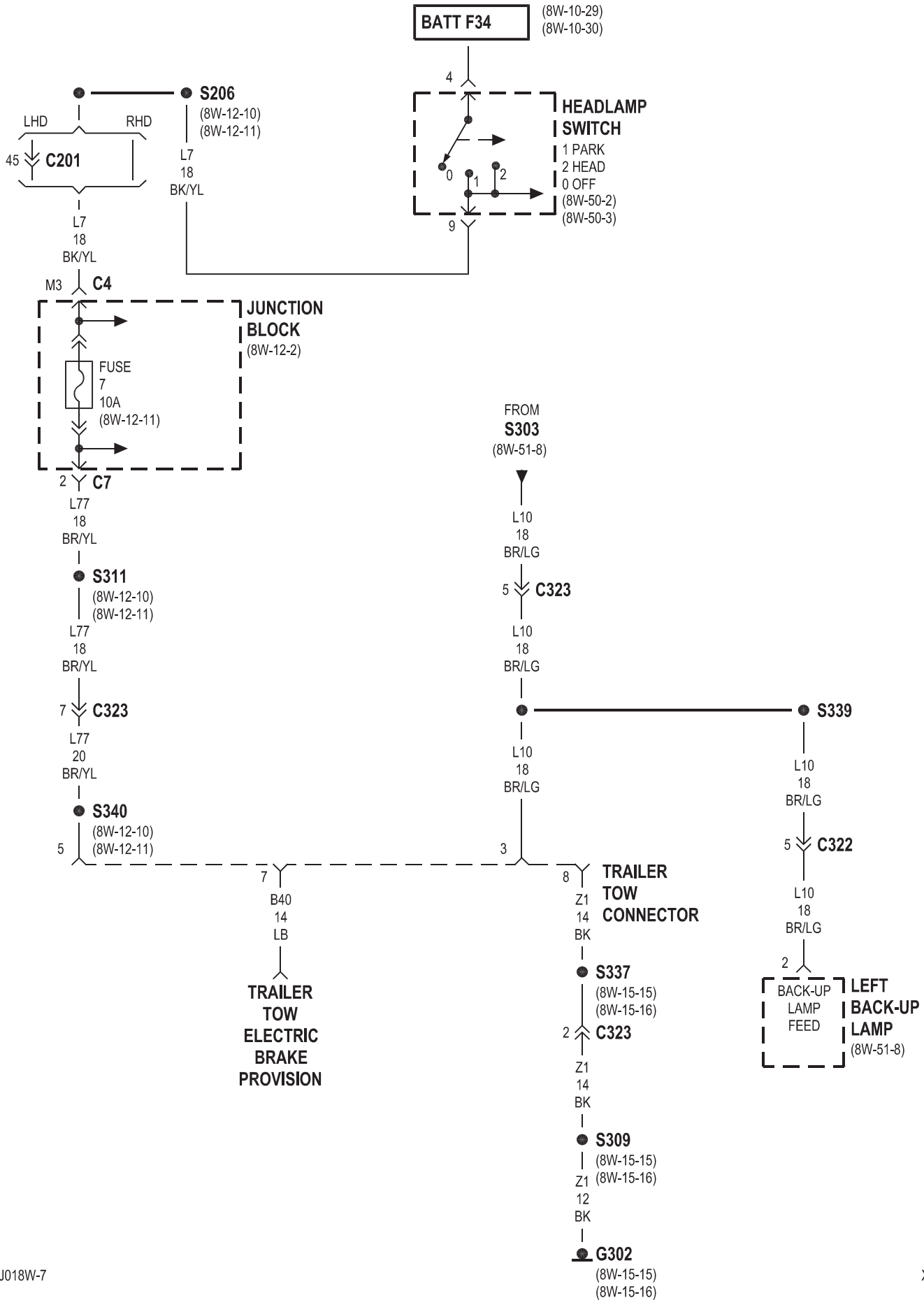


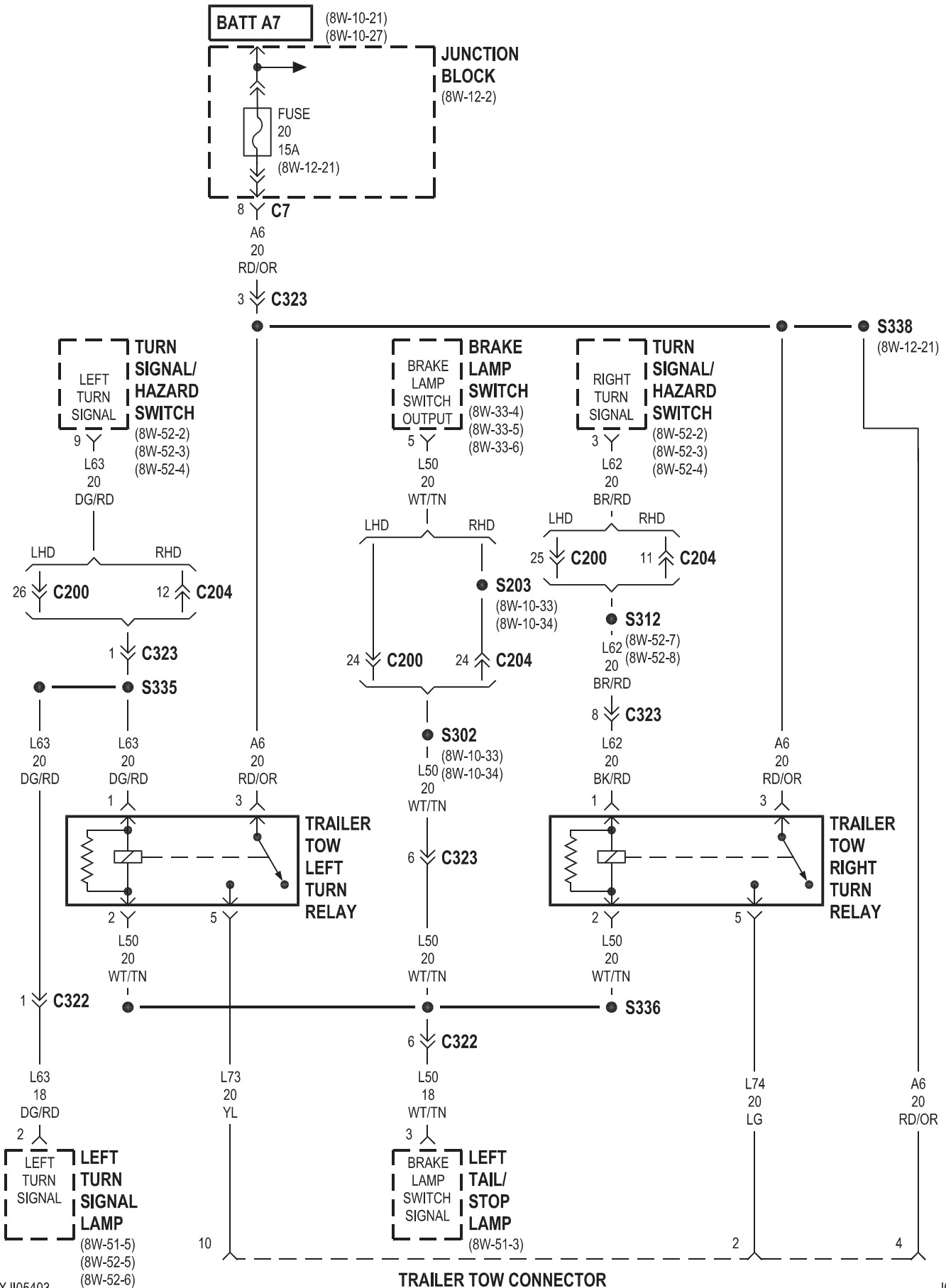




## 8Wa-54 TRAILER TOW

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Brake Lamp Switch .....	8Wa-54-3	Left Tail/Stop Lamp .....	8Wa-54-3
Fuse 7 (JB) .....	8Wa-54-2	Left Turn Signal Lamp .....	8Wa-54-3
Fuse 20 (JB) .....	8Wa-54-3	Trailer Tow Connector .....	8Wa-54-2, 3
G302 .....	8Wa-54-2	Trailer Tow Electric Brake Provision.....	8Wa-54-2
Headlamp Switch .....	8Wa-54-2	Trailer Tow Left Turn Relay .....	8Wa-54-3
Junction Block.....	8Wa-54-2, 3	Trailer Tow Right Turn Relay .....	8Wa-54-3
Left Back-Up Lamp.....	8Wa-54-2	Turn Signal/Hazard Switch .....	8Wa-54-3





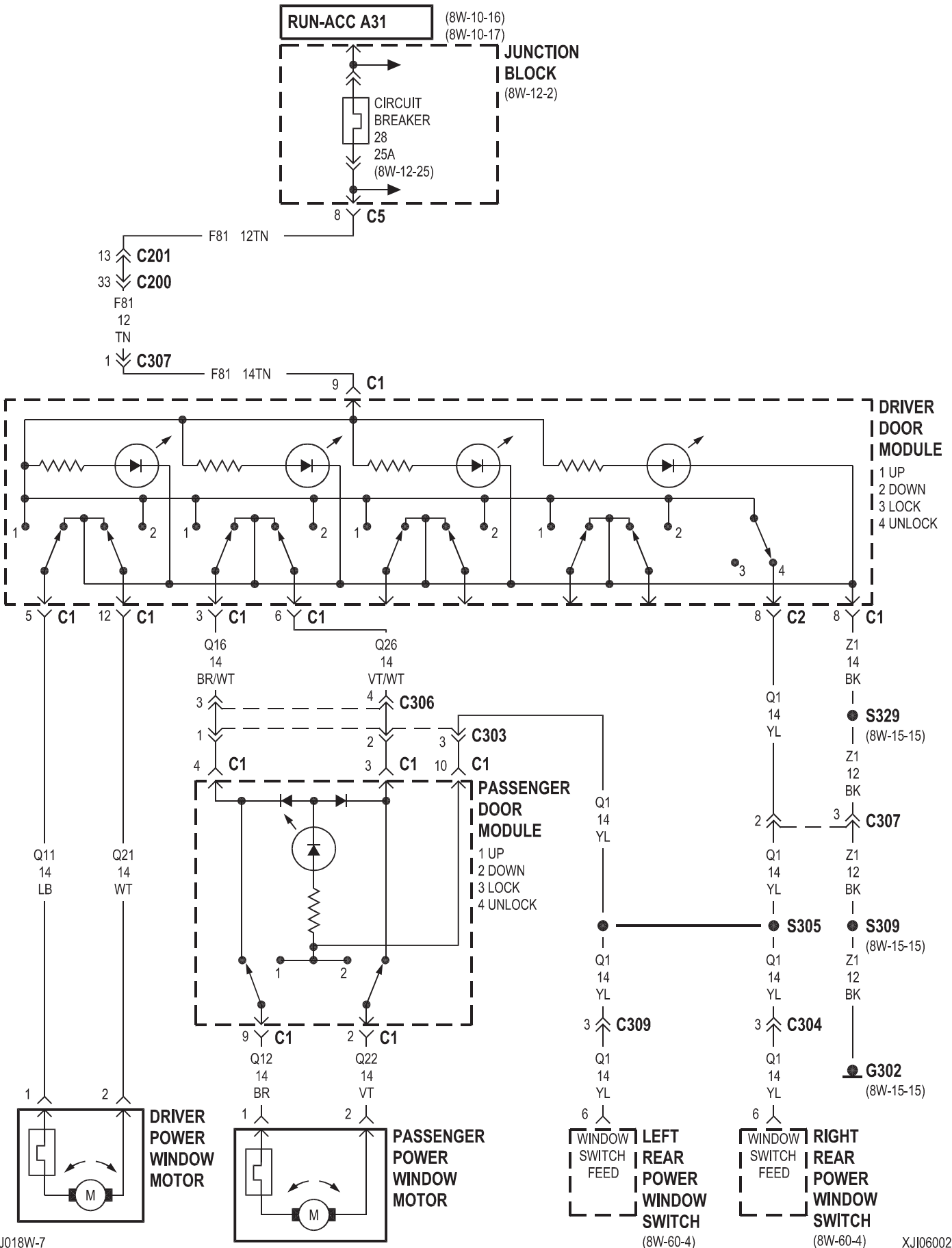


## 8Wa-60 POWER WINDOWS

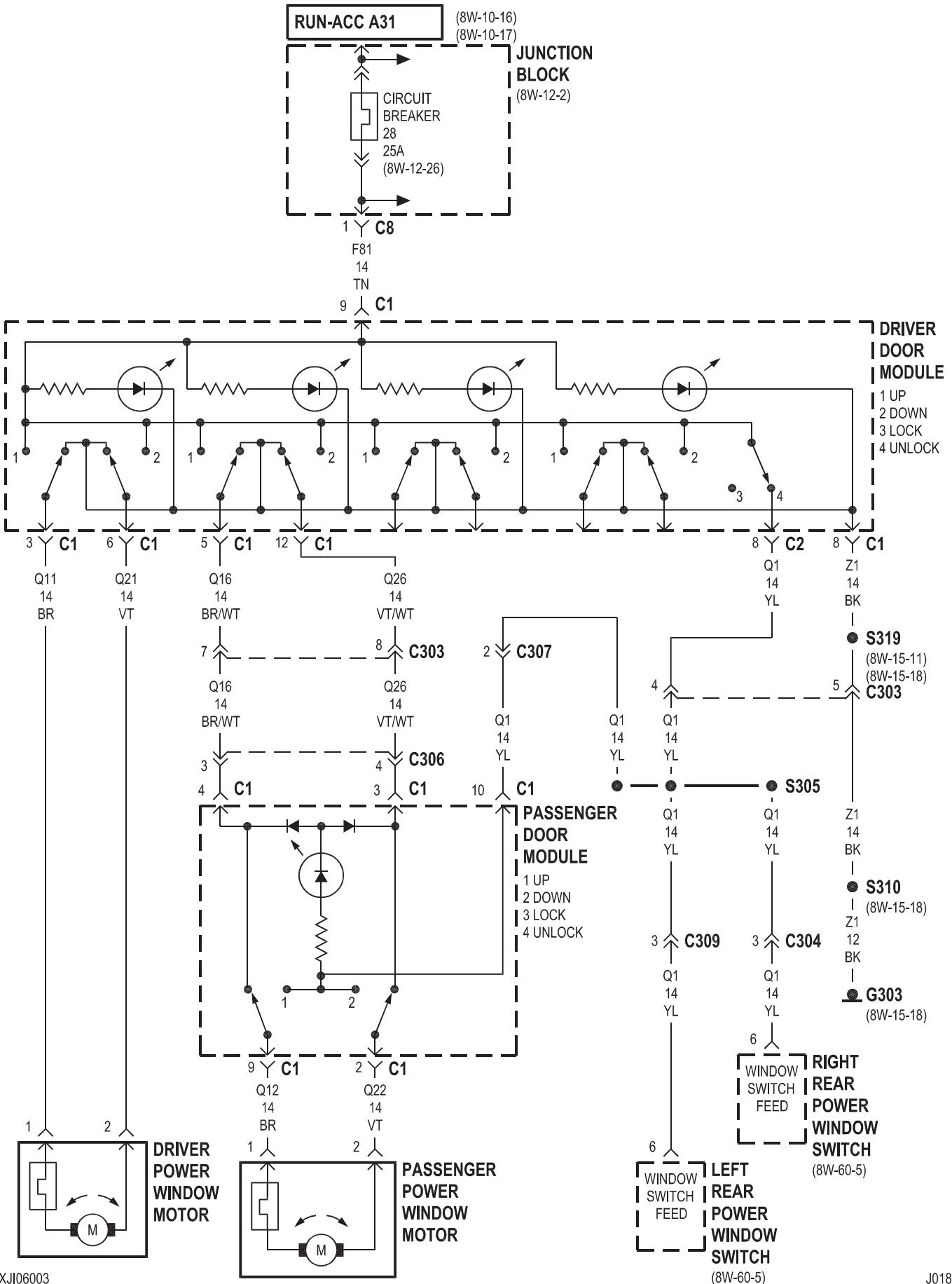
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Circuit Breaker 28 (JB) . . . . .	8Wa-60-2, 3	Left Rear Power Window Switch . .	8Wa-60-2, 3, 4, 5
Driver Door Module . . . . .	8Wa-60-2, 3, 4, 5	Passenger Door Module . . . . .	8Wa-60-2, 3
Driver Power Window Motor . . . . .	8Wa-60-2, 3	Passenger Power Window Motor . . . . .	8Wa-60-2, 3
G302 . . . . .	8Wa-60-2, 4	Right Rear Power Window Motor . . . . .	8Wa-60-4, 5
G303 . . . . .	8Wa-60-3, 5	Right Rear Power Window Switch . . . . .	8Wa-60-2, 3, 4, 5
Junction Block . . . . .	8Wa-60-2, 3		
Left Rear Power Window Motor . . . . .	8Wa-60-4, 5		

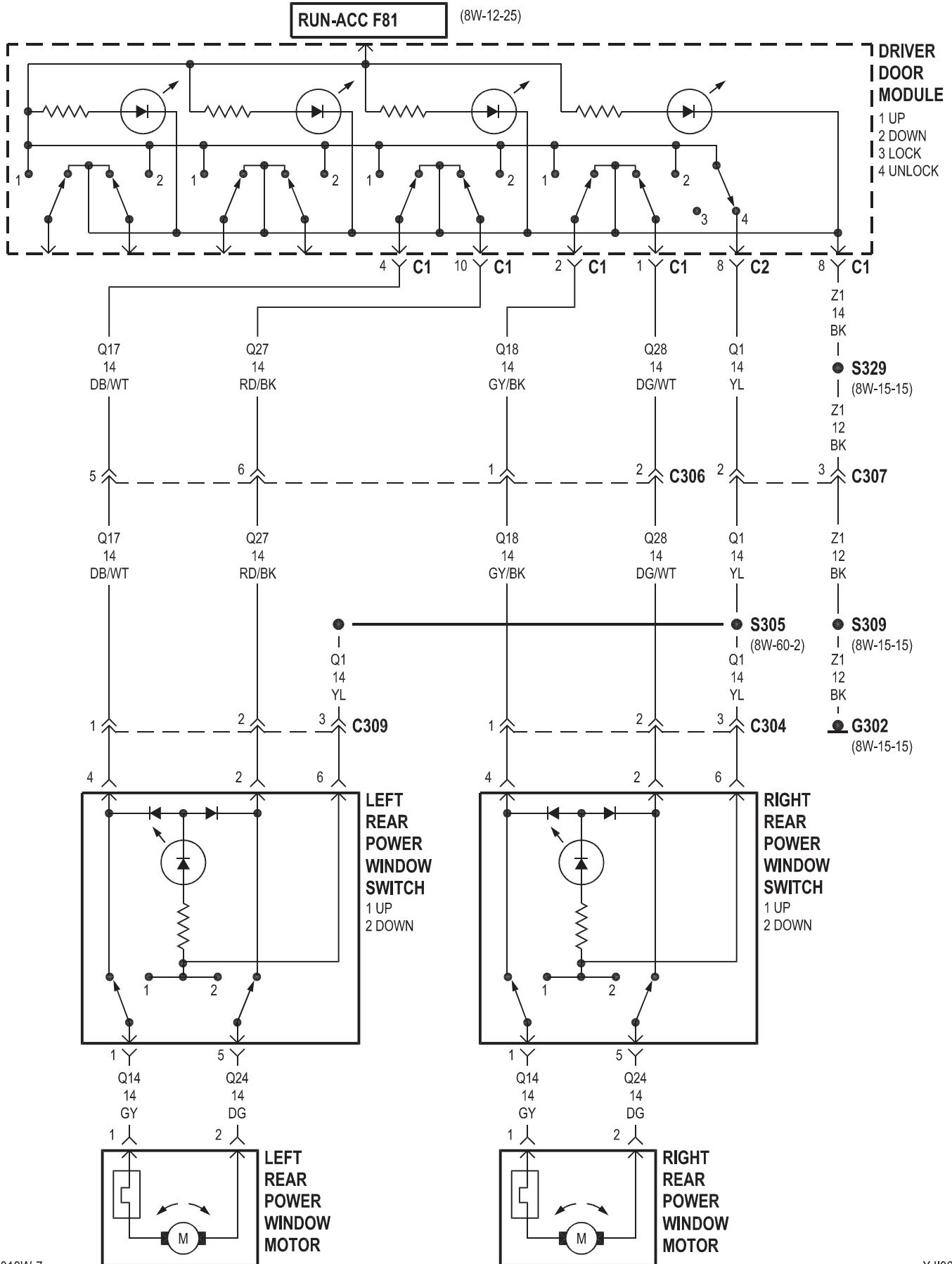


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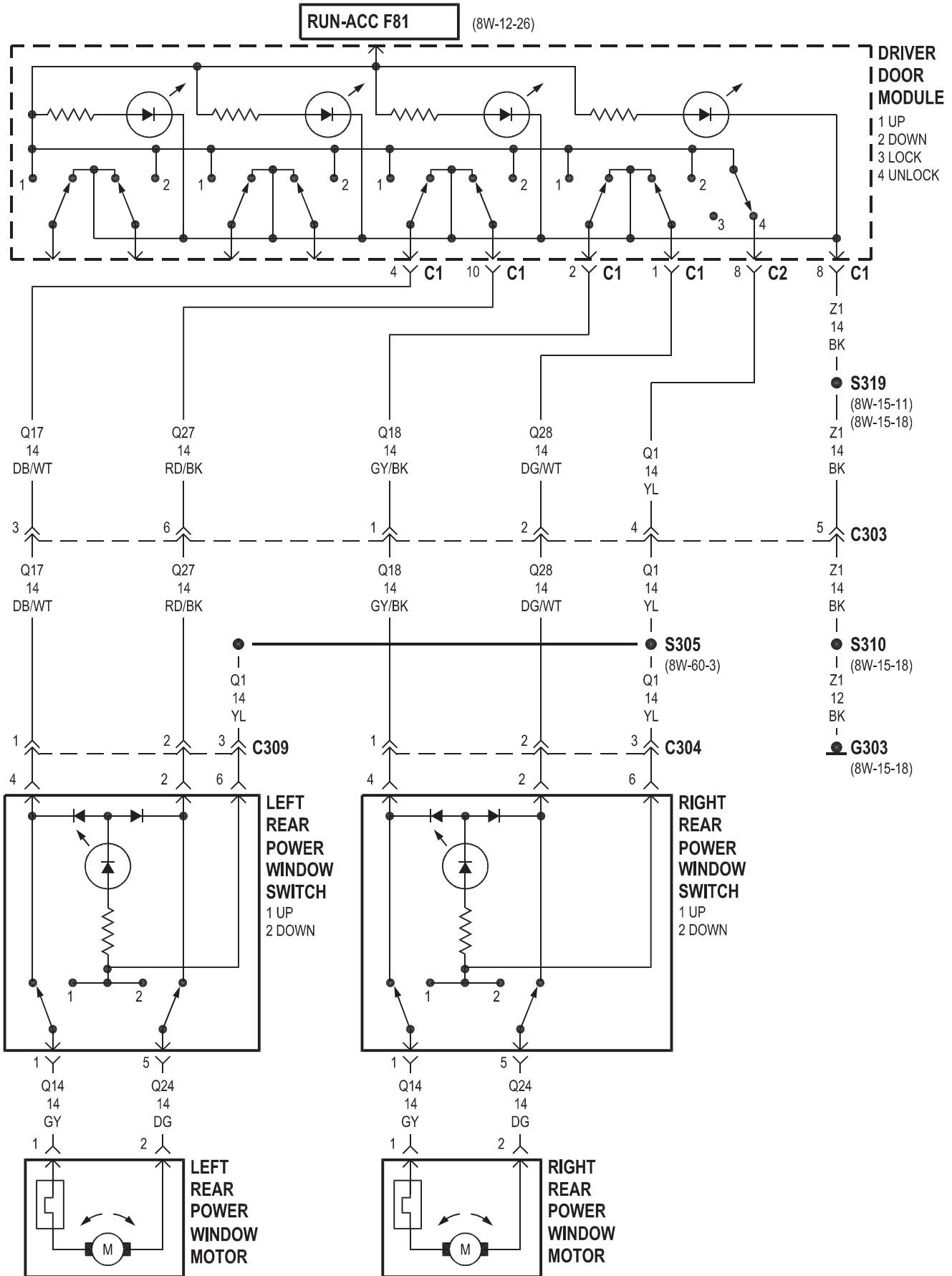


RHD





RHD

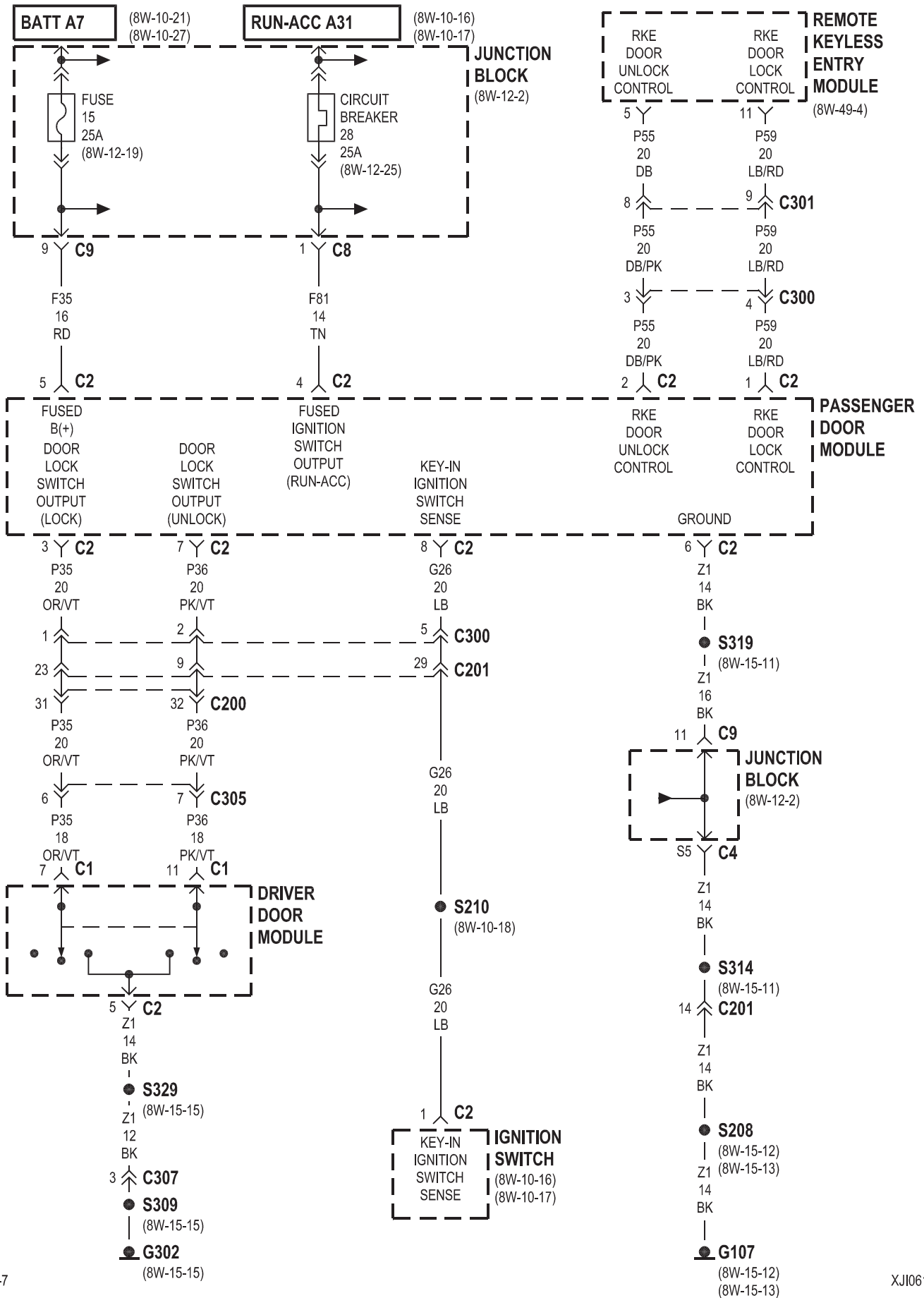




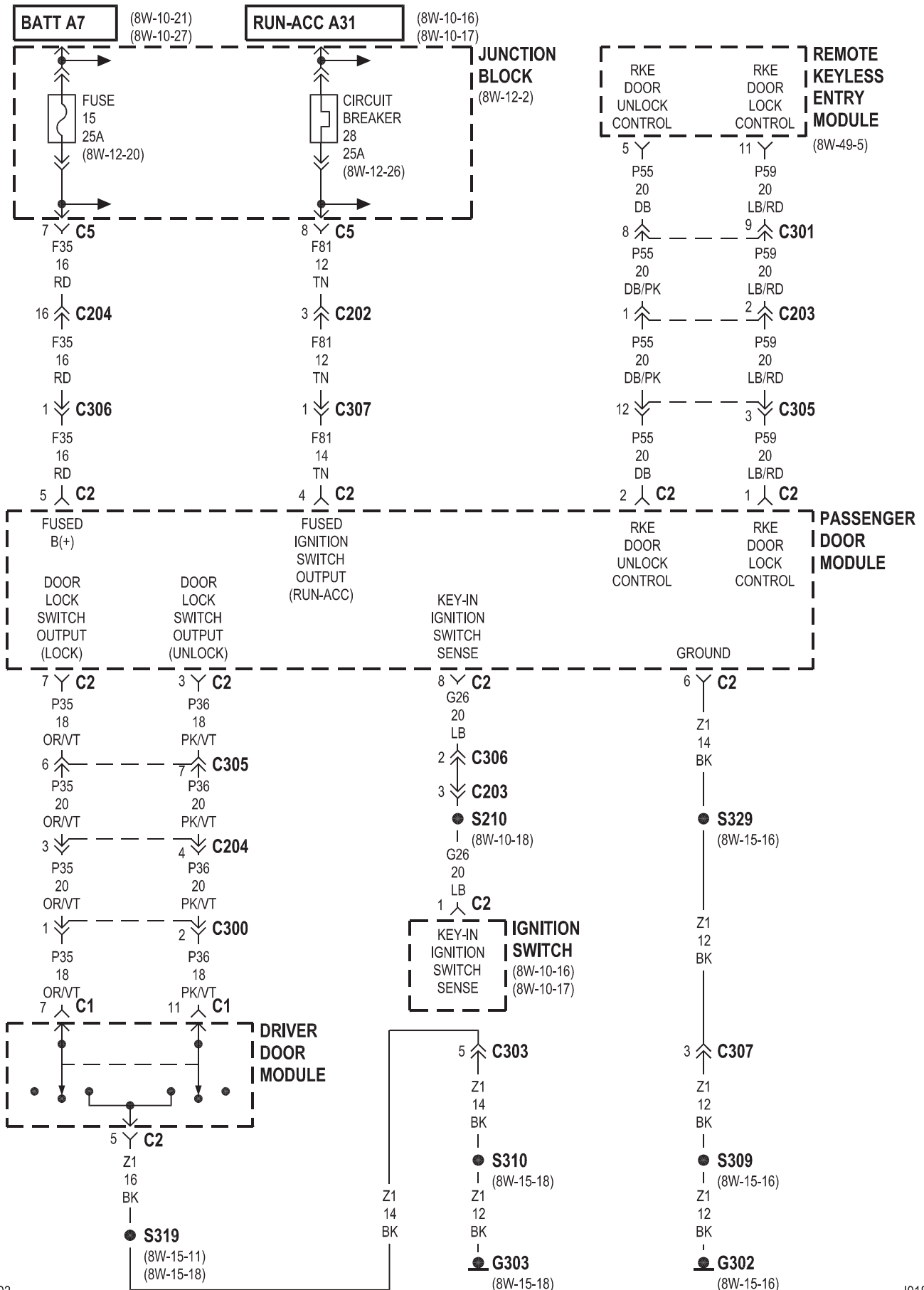
## 8Wa-61 POWER DOOR LOCKS

<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Circuit Breaker 28 (JB) . . . . .	8Wa-61-2, 3	Junction Block . . . . .	8Wa-61-2, 3, 4, 5
Driver Door Module . . . . .	8Wa-61-2, 3	Left Rear Door Power Lock Motor . . . . .	8Wa-61-4, 5
Driver Door Power Lock Motor . . . . .	8Wa-61-4, 5	Liftgate Power Lock Motor . . . . .	8Wa-61-4, 5
Fuse 15 (JB) . . . . .	8Wa-61-2, 3	Passenger Door Module . . . . .	8Wa-61-2, 3, 4, 5
G107 . . . . .	8Wa-61-2	Passenger Door Power Lock Motor . . . . .	8Wa-61-4, 5
G302 . . . . .	8Wa-61-2, 3	Remote Keyless Entry Module . . . . .	8Wa-61-2, 3
G303 . . . . .	8Wa-61-3	Right Rear Door Power Lock Motor . . . . .	8Wa-61-4, 5
Ignition Switch . . . . .	8Wa-61-2, 3		

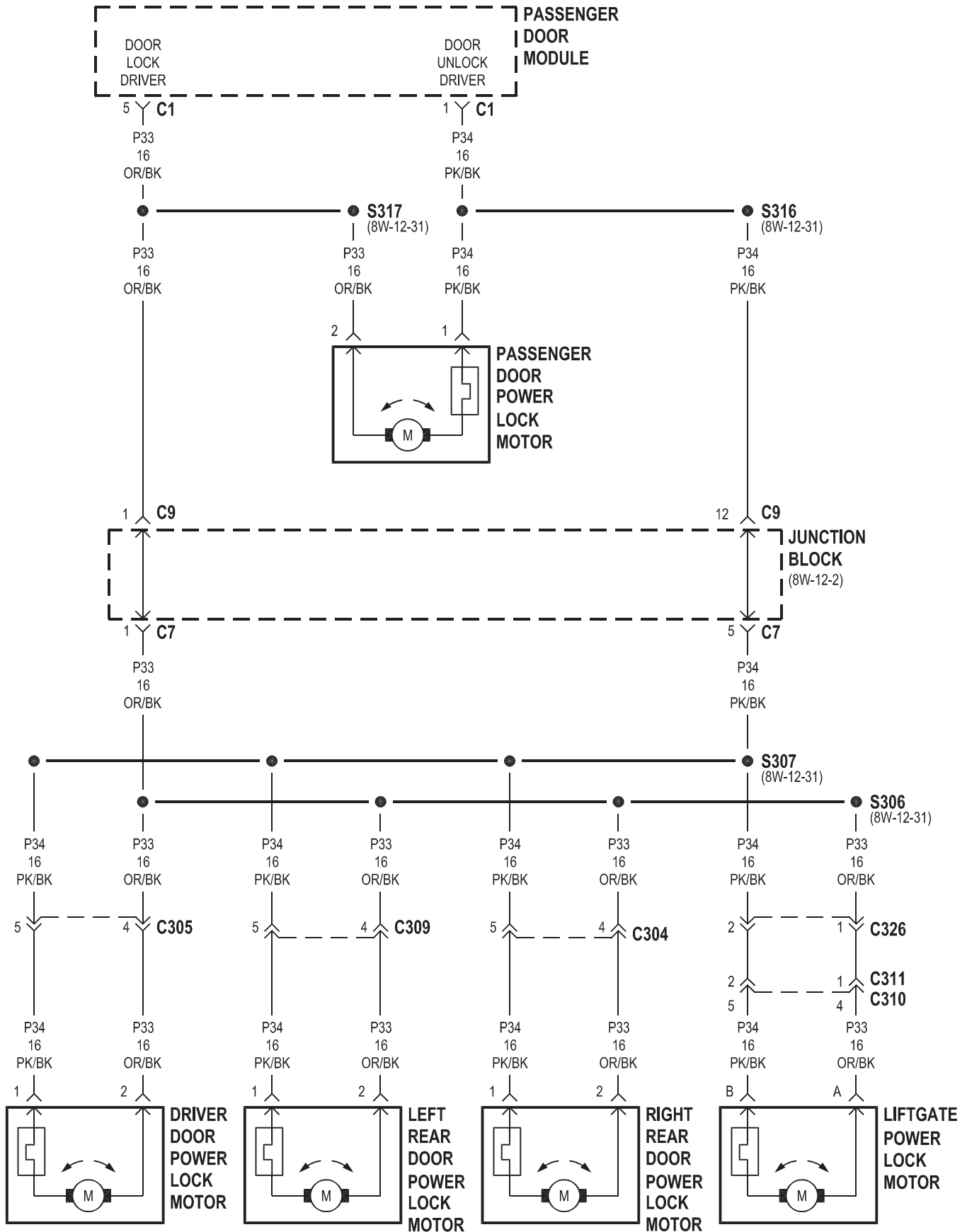
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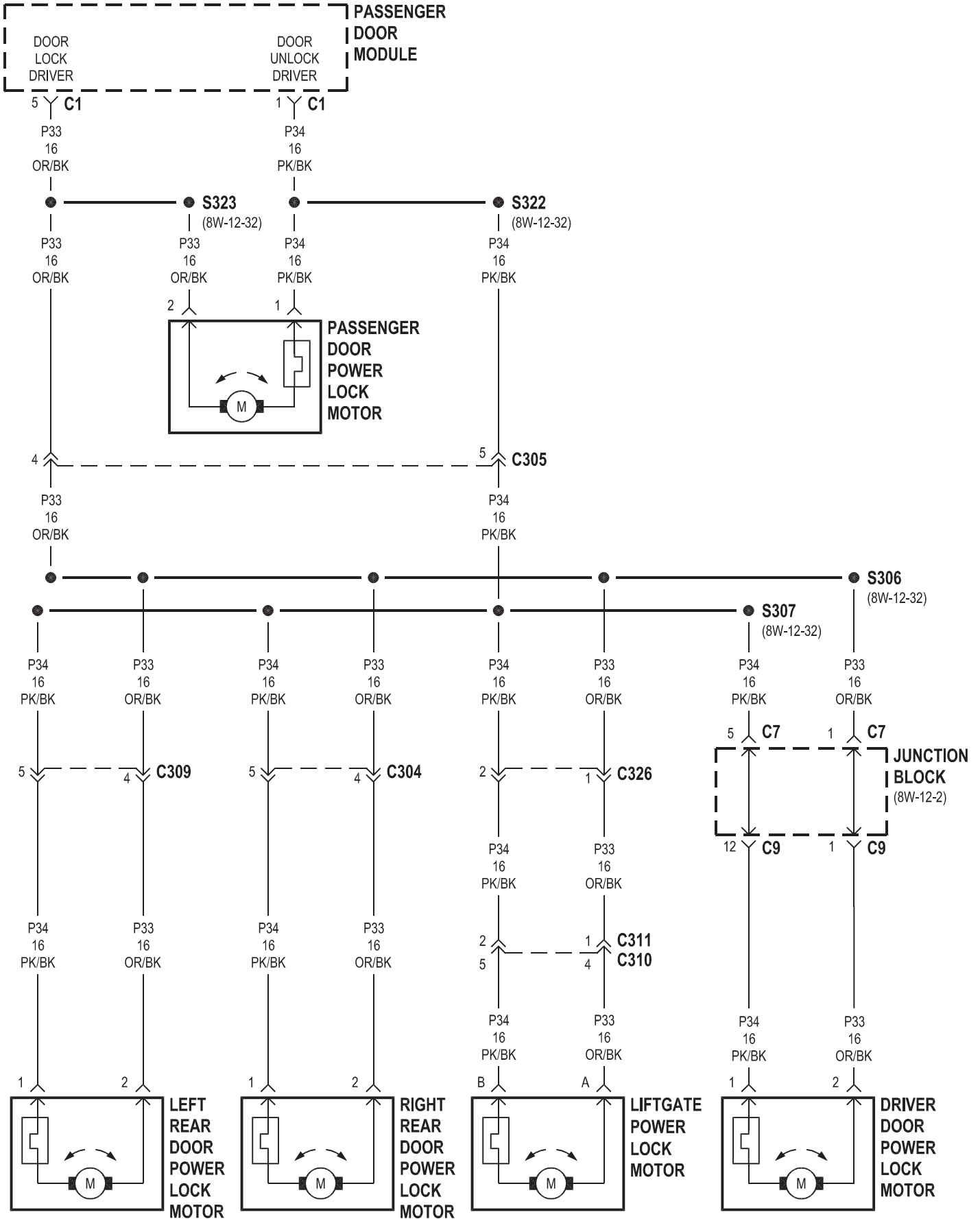


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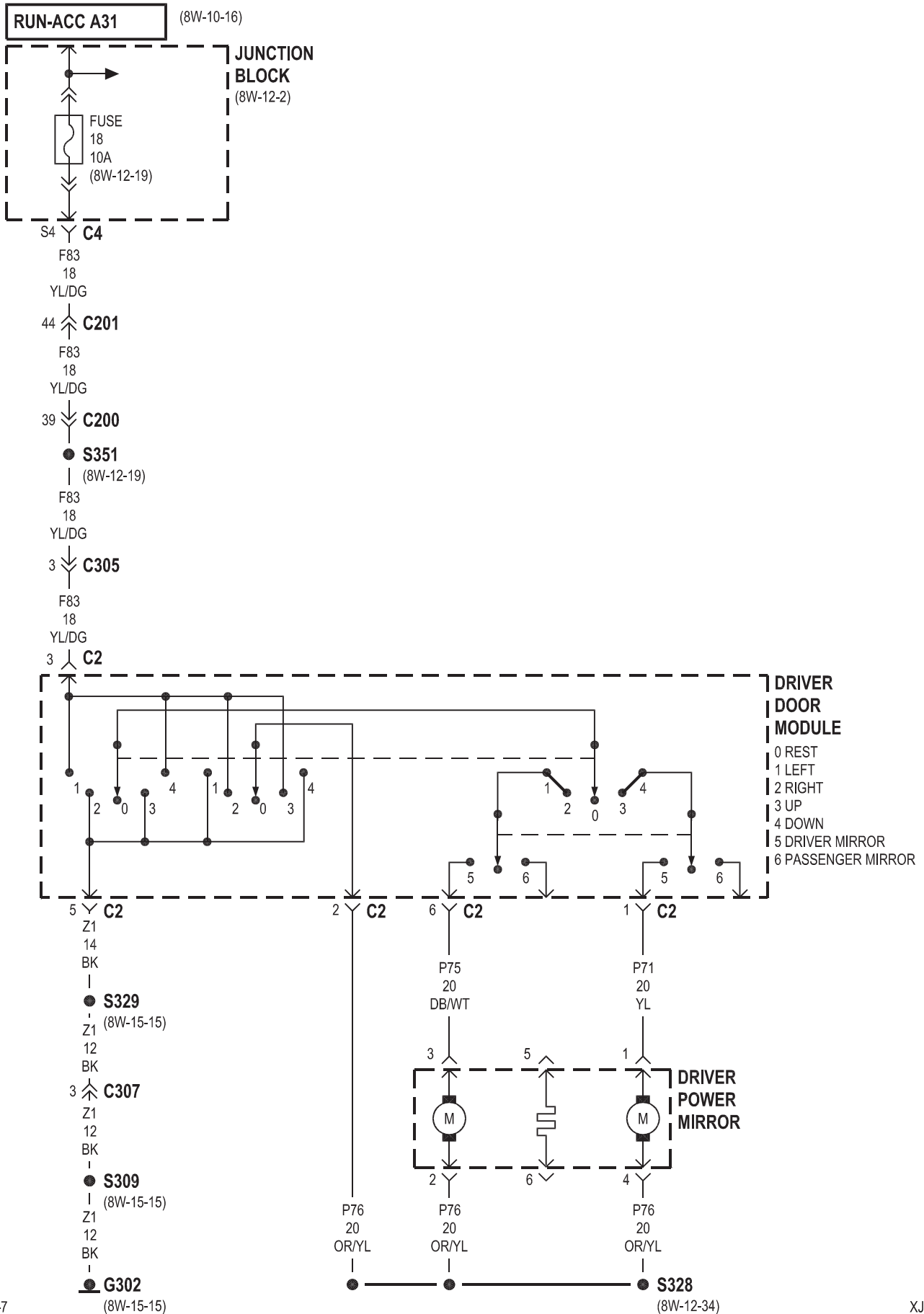


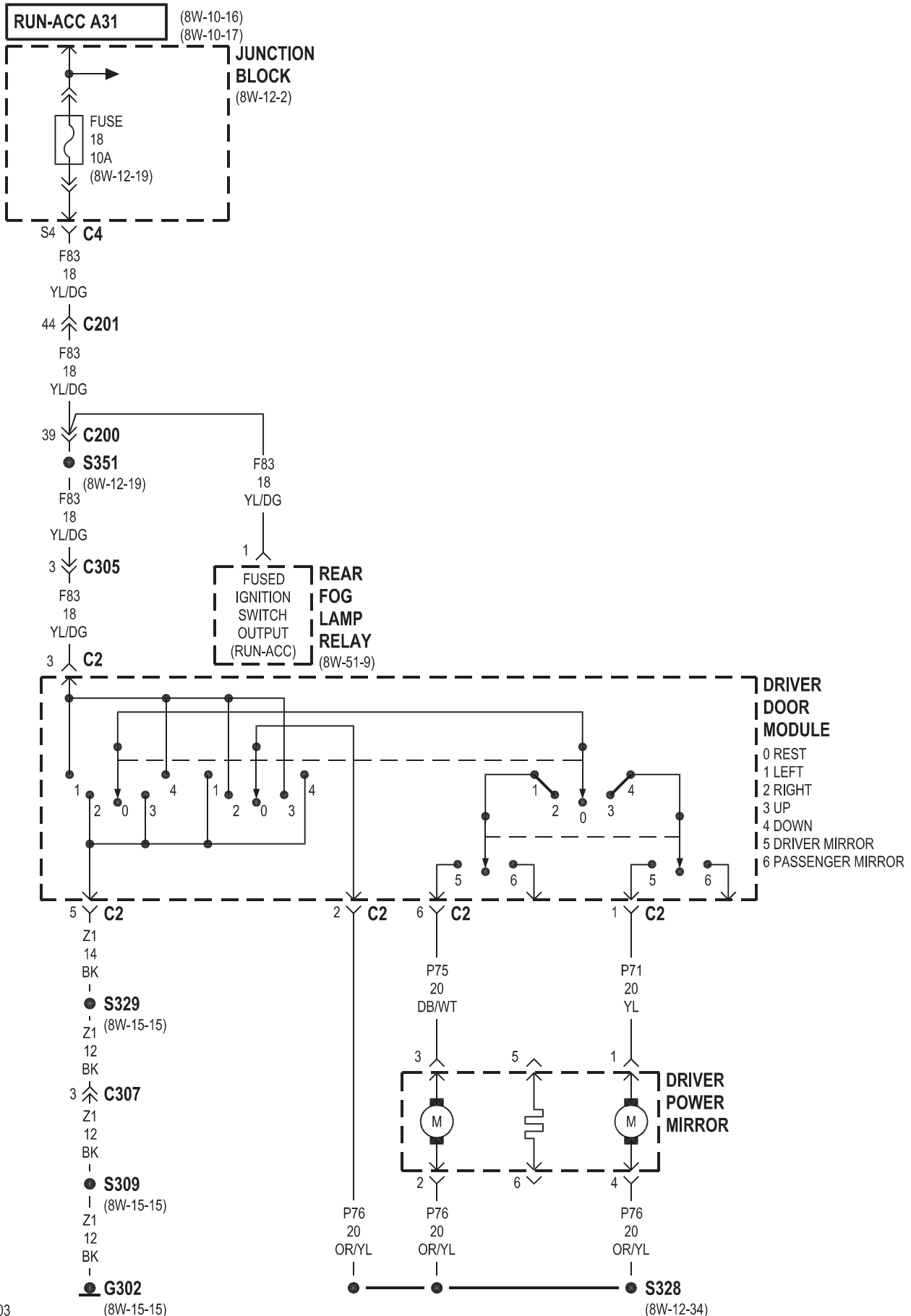


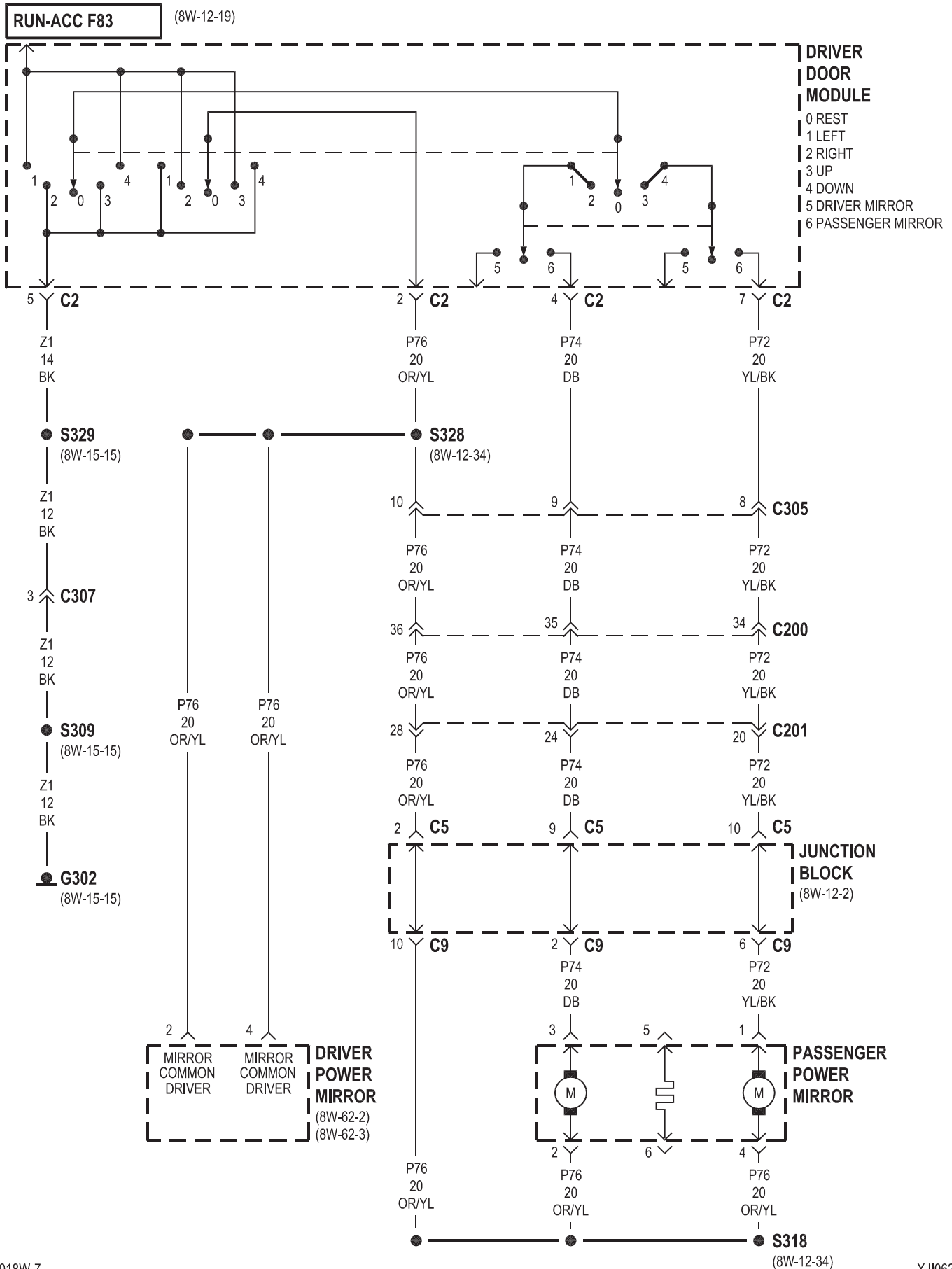


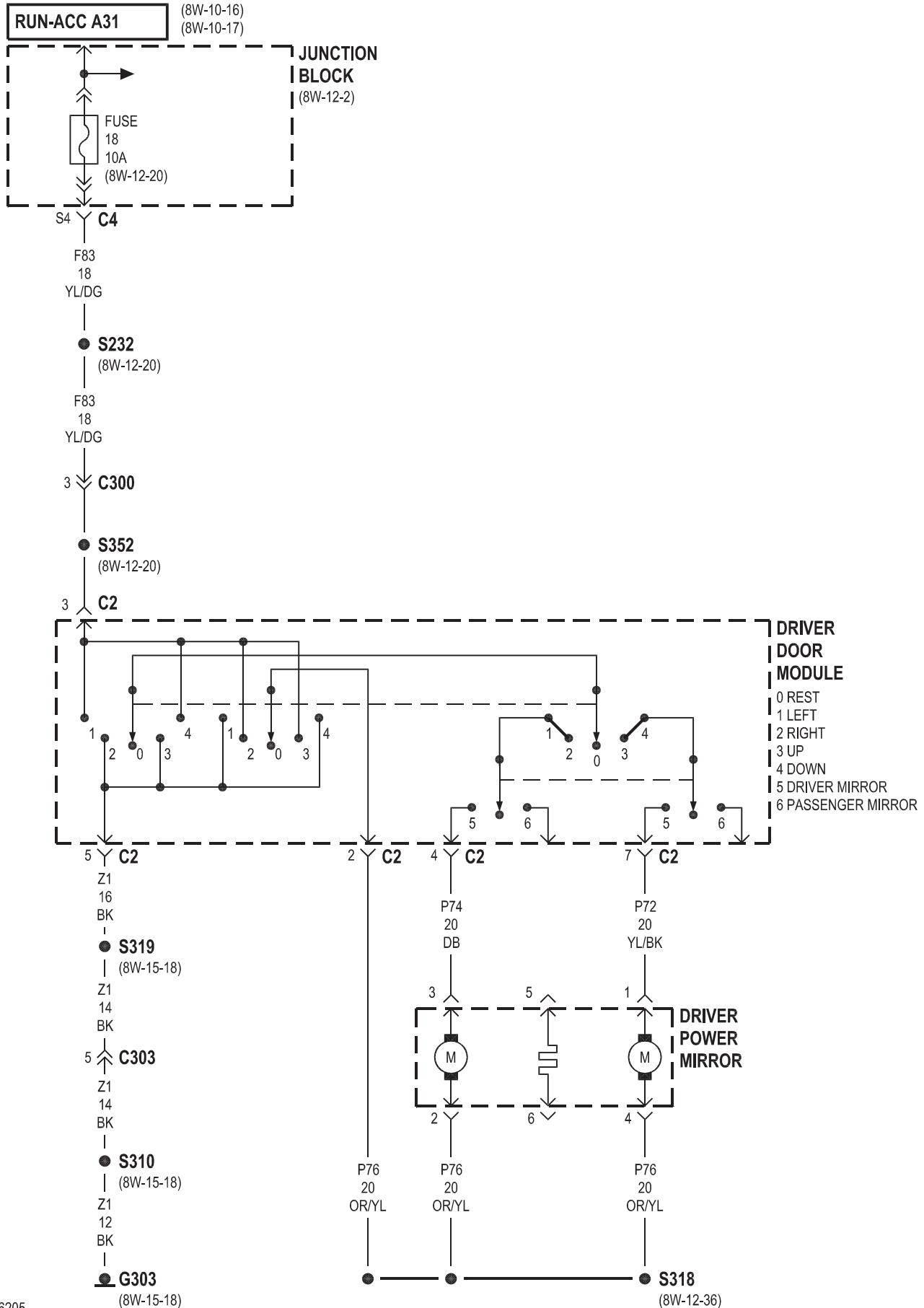
## 8Wa-62 POWER MIRRORS

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Driver Door Module . . . . .	8Wa-62-2, 3, 4, 5, 6	G303 . . . . .	8Wa-62-5, 6
Driver Power Mirror . . . . .	8Wa-62-2, 3, 4, 5, 6, 7, 8	Junction Block . . . . .	8Wa-62-2, 3, 4, 5, 6, 7, 8
Fuse 18 (JB) . . . . .	8Wa-62-2, 3, 5	Passenger Power Mirror . . . . .	8Wa-62-4, 6, 7, 8
G107 . . . . .	8Wa-62-8	Power Mirror Switch . . . . .	8Wa-62-7, 8
G302 . . . . .	8Wa-62-2, 3, 4, 7	Rear Fog Lamp Relay . . . . .	8Wa-62-3

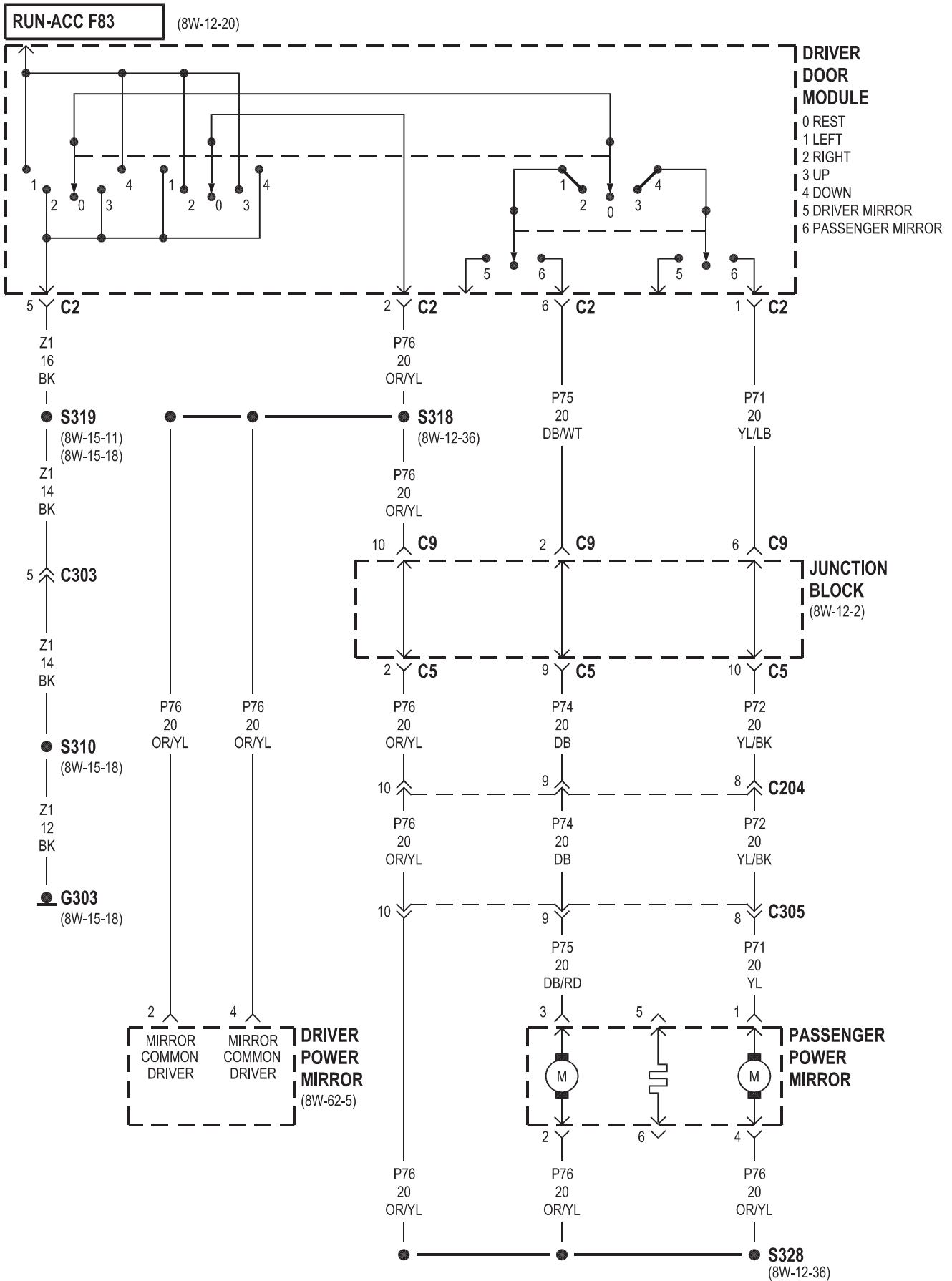


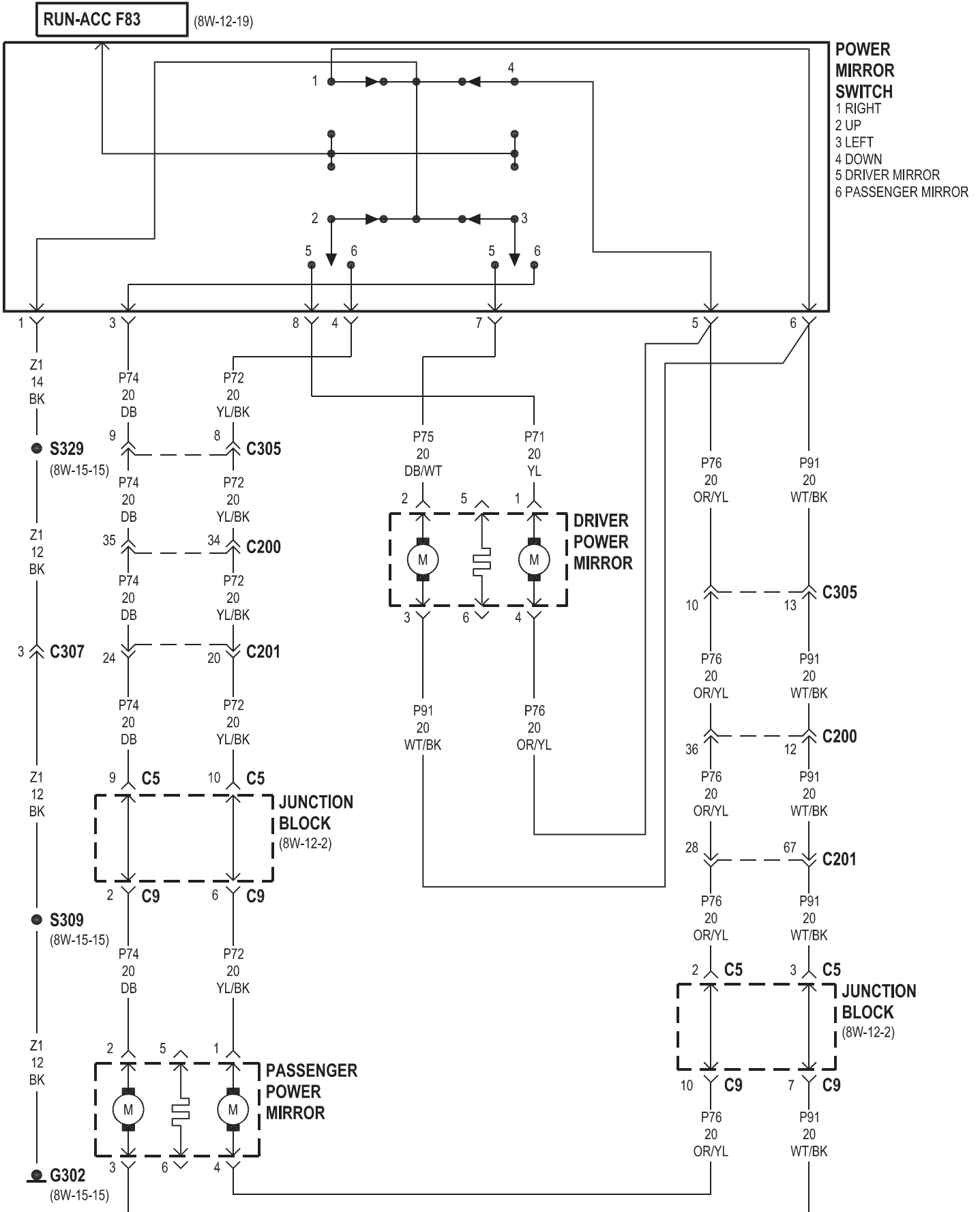


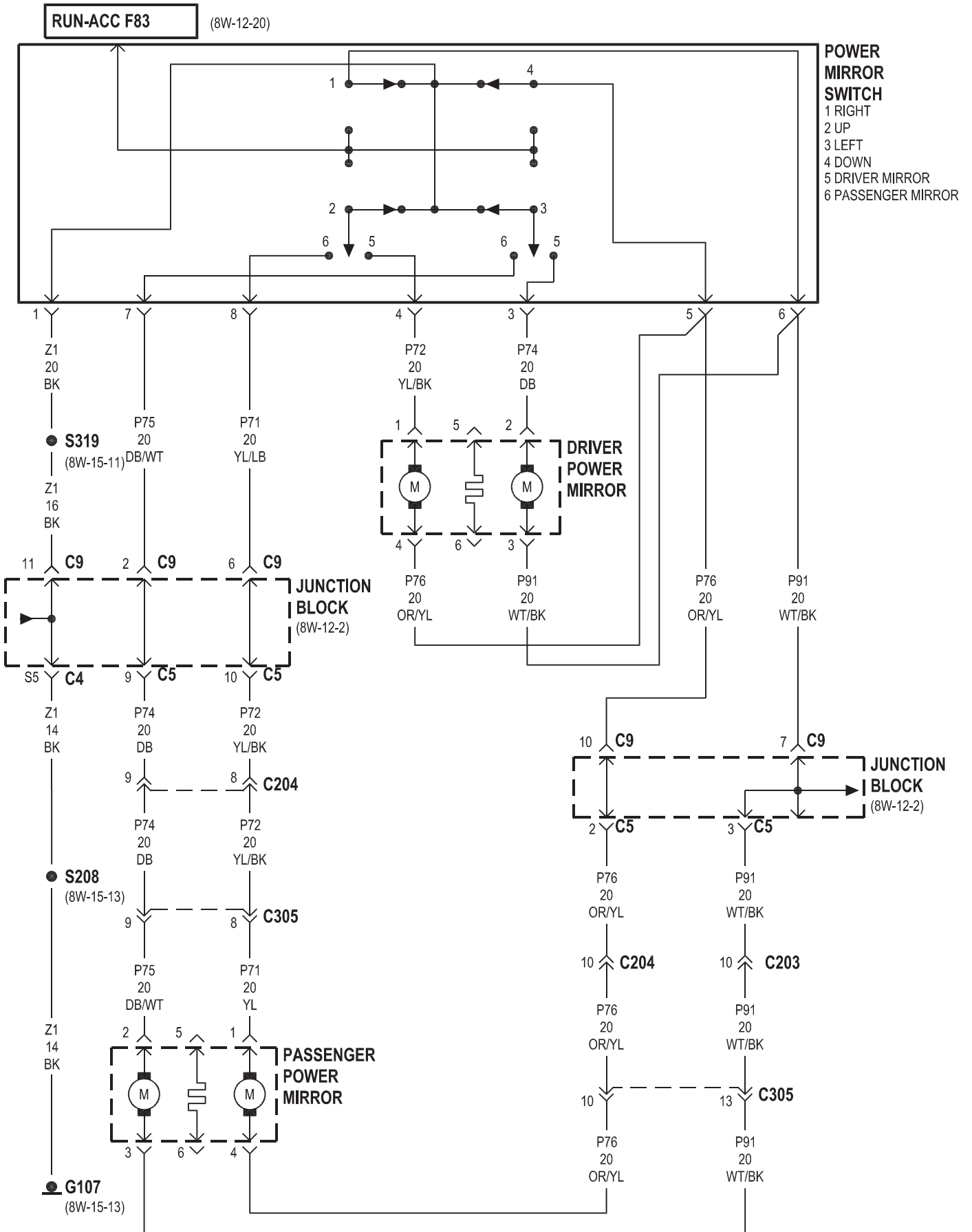






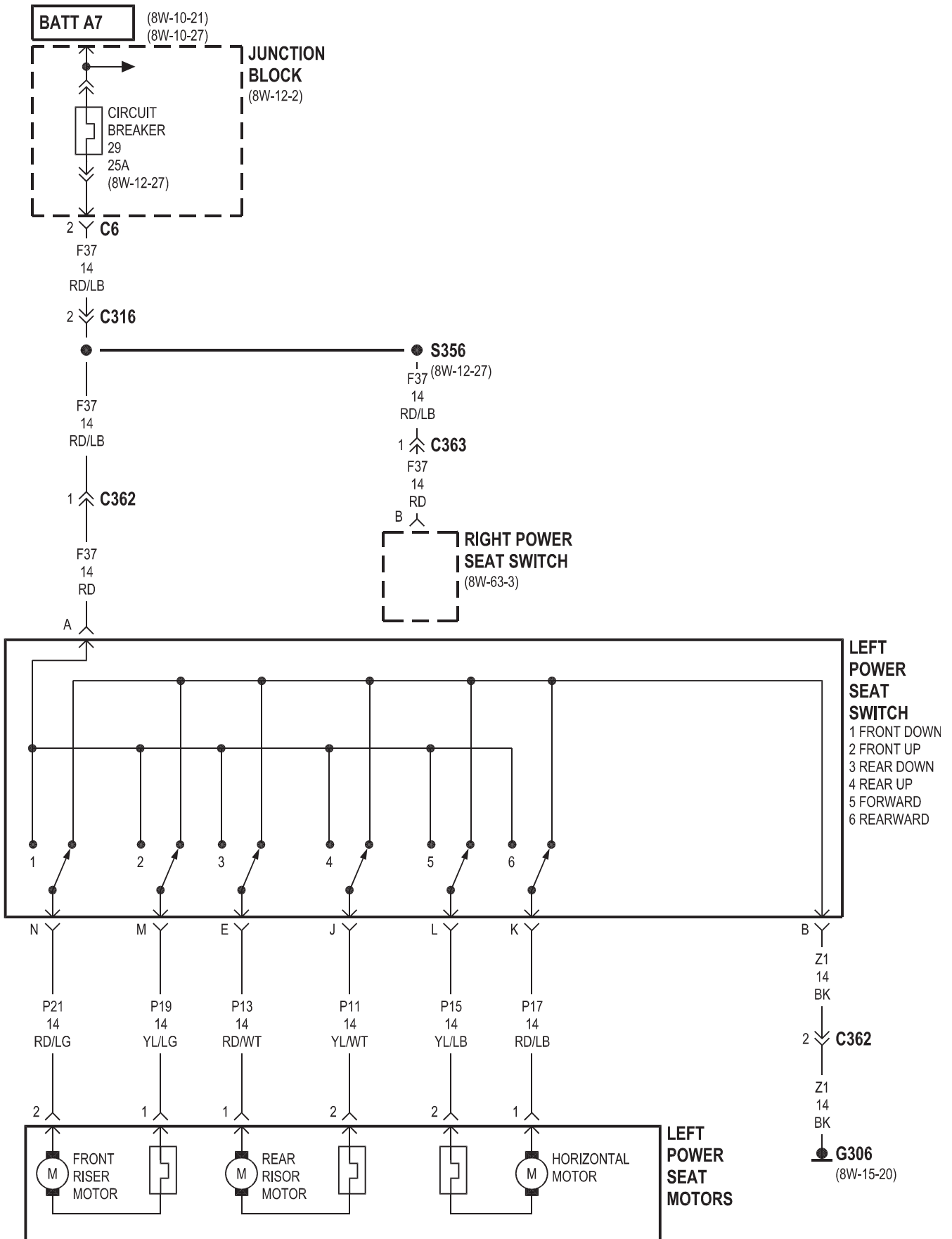


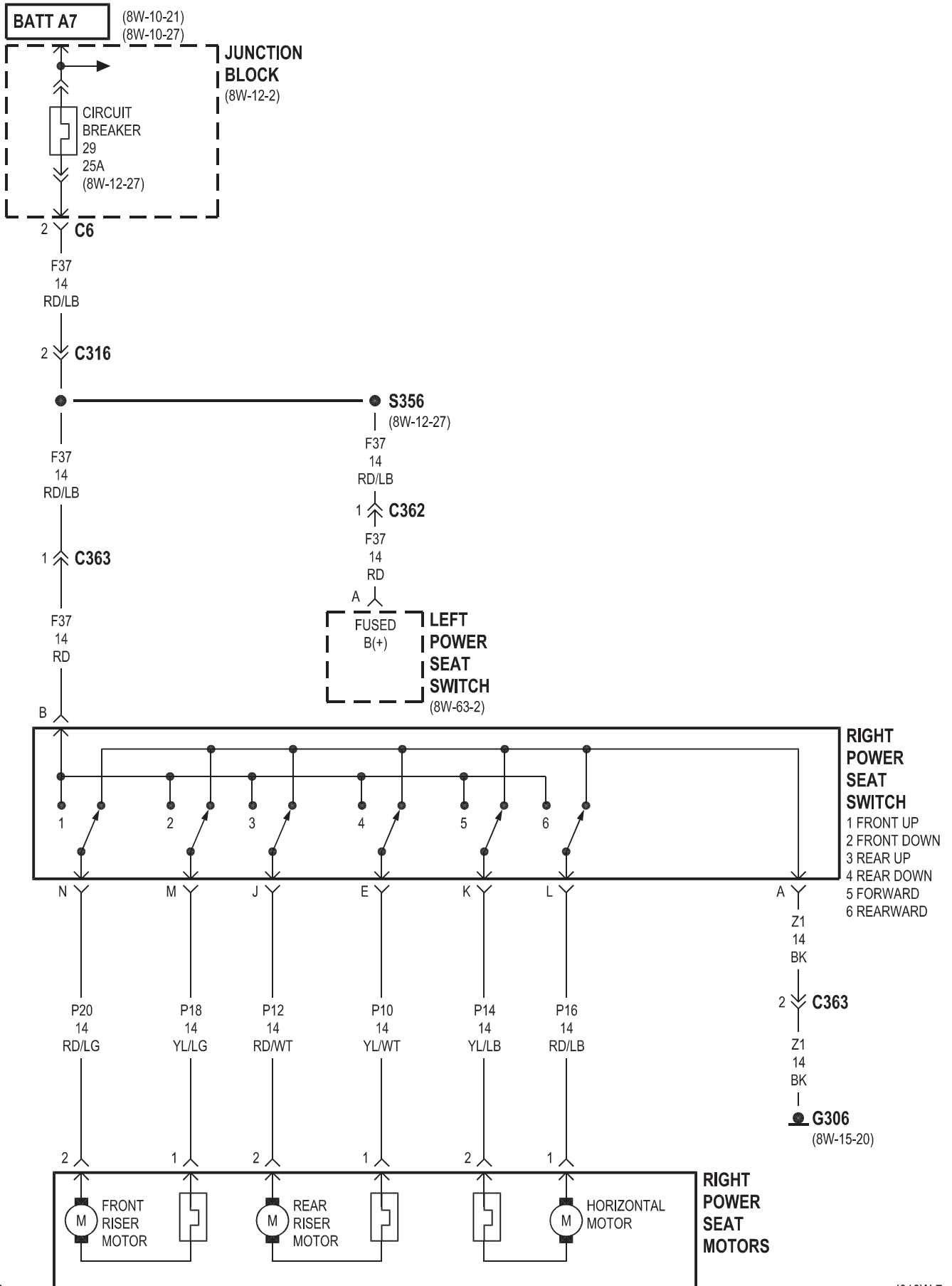


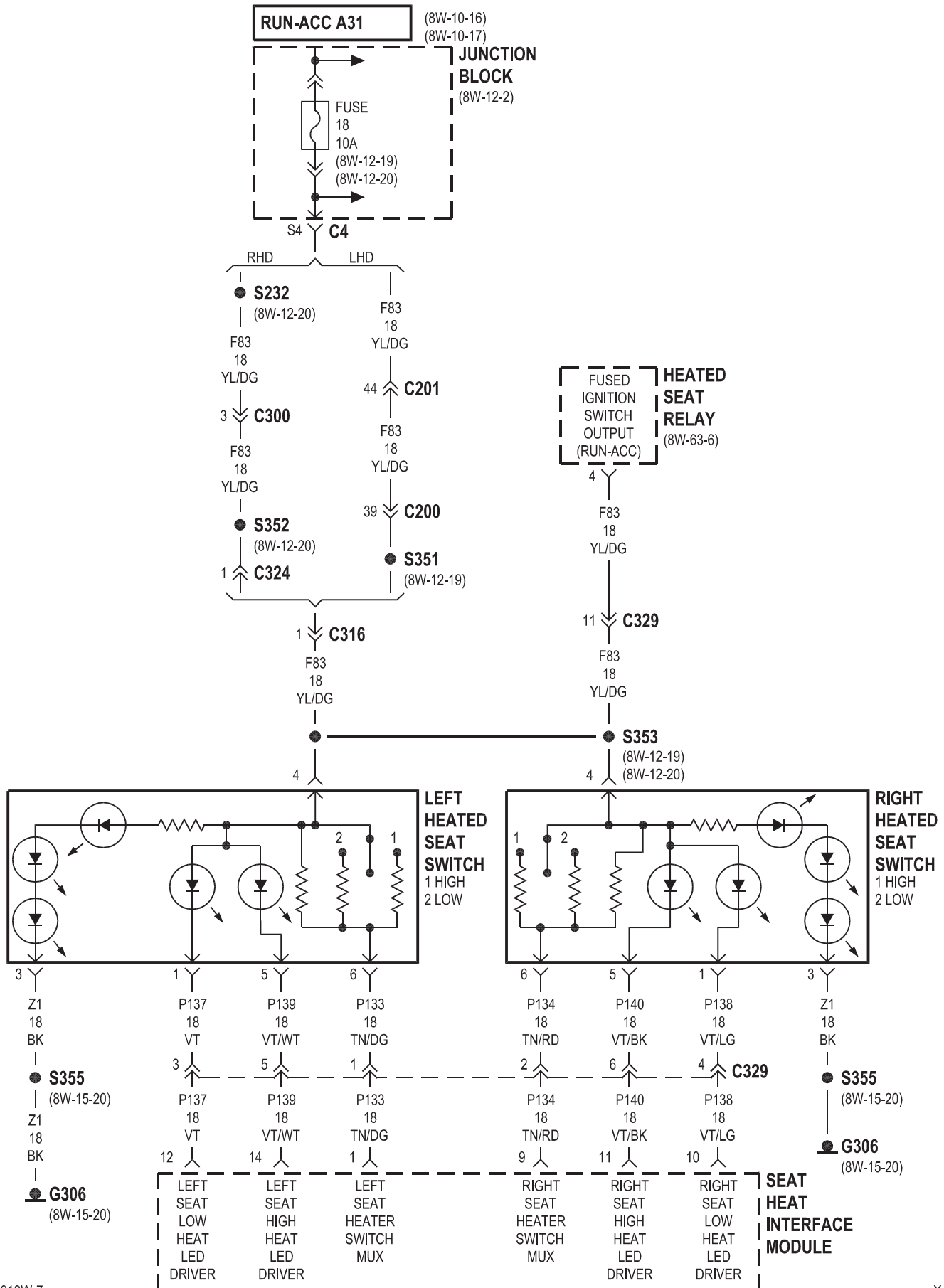


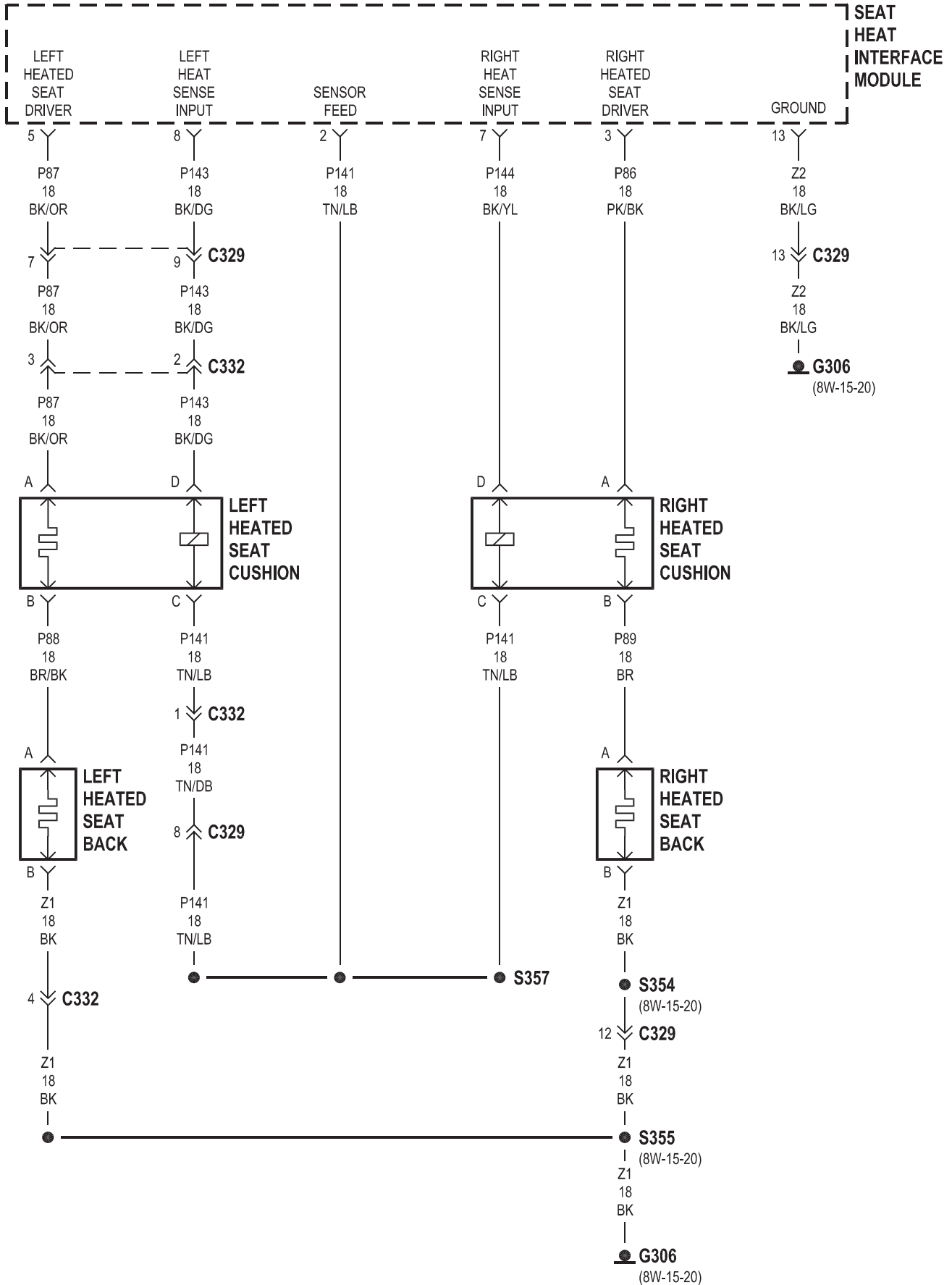
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Circuit Breaker 29 (JB) . . . . .	8Wa-63-2, 3, 6	Left Power Seat Motors . . . . .	8Wa-63-2
Fuse 18 (JB) . . . . .	8Wa-63-4, 6	Left Power Seat Switch . . . . .	8Wa-63-2, 3, 6
G306 . . . . .	8Wa-63-2, 3, 4, 5, 6	Right Heated Seat Back . . . . .	8Wa-63-5
Heated Seat Relay . . . . .	8Wa-63-4, 6	Right Heated Seat Cushion . . . . .	8Wa-63-5
Junction Block . . . . .	8Wa-63-2, 3, 4, 6	Right Heated Seat Switch . . . . .	8Wa-63-4
Left Heated Seat Back . . . . .	8Wa-63-5	Right Power Seat Motors . . . . .	8Wa-63-3
Left Heated Seat Cushion . . . . .	8Wa-63-5	Right Power Seat Switch . . . . .	8Wa-63-2, 3, 6
Left Heated Seat Switch . . . . .	8Wa-63-4	Seat Heat Interface Module . . . . .	8Wa-63-4, 5, 6

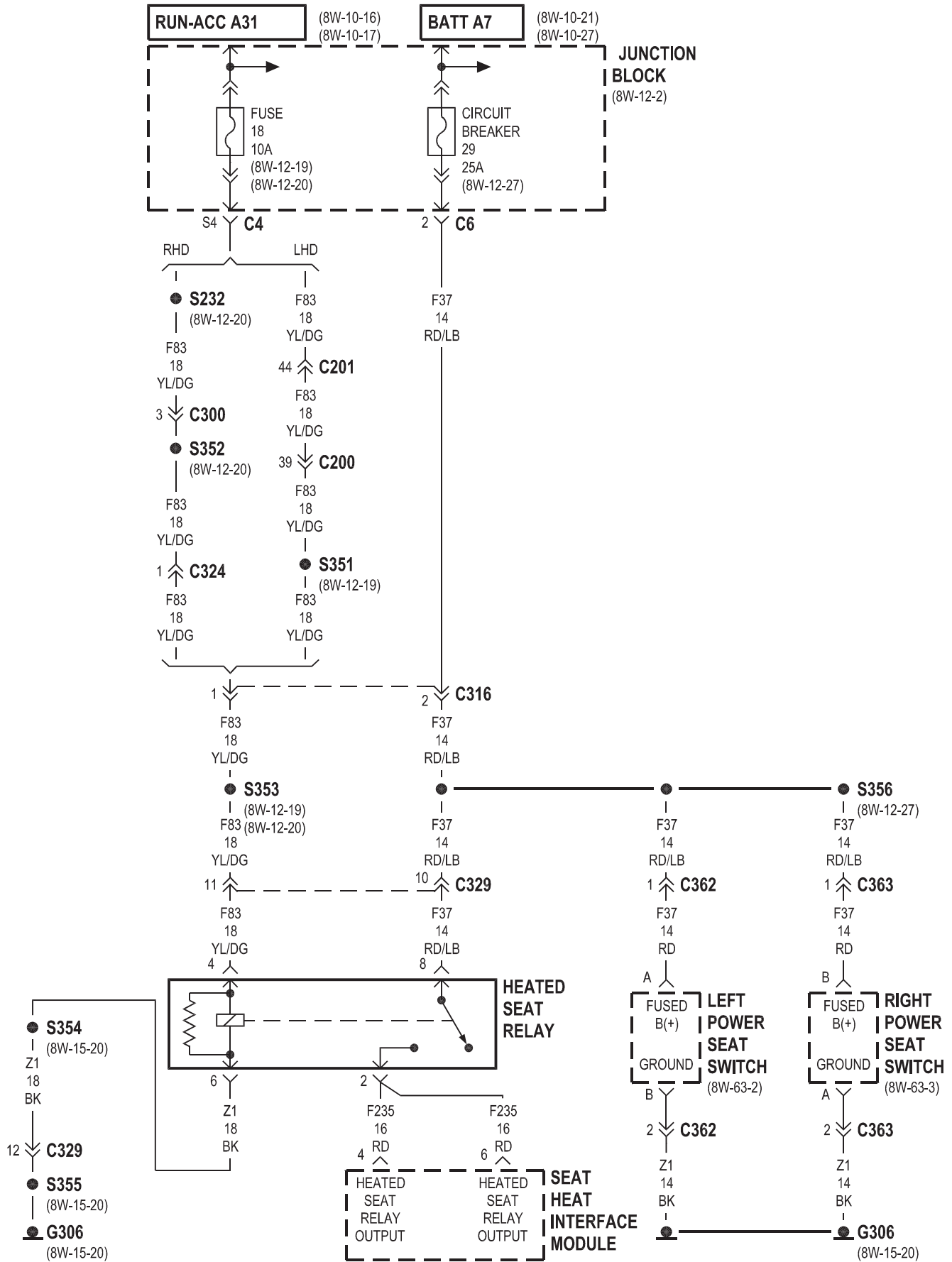






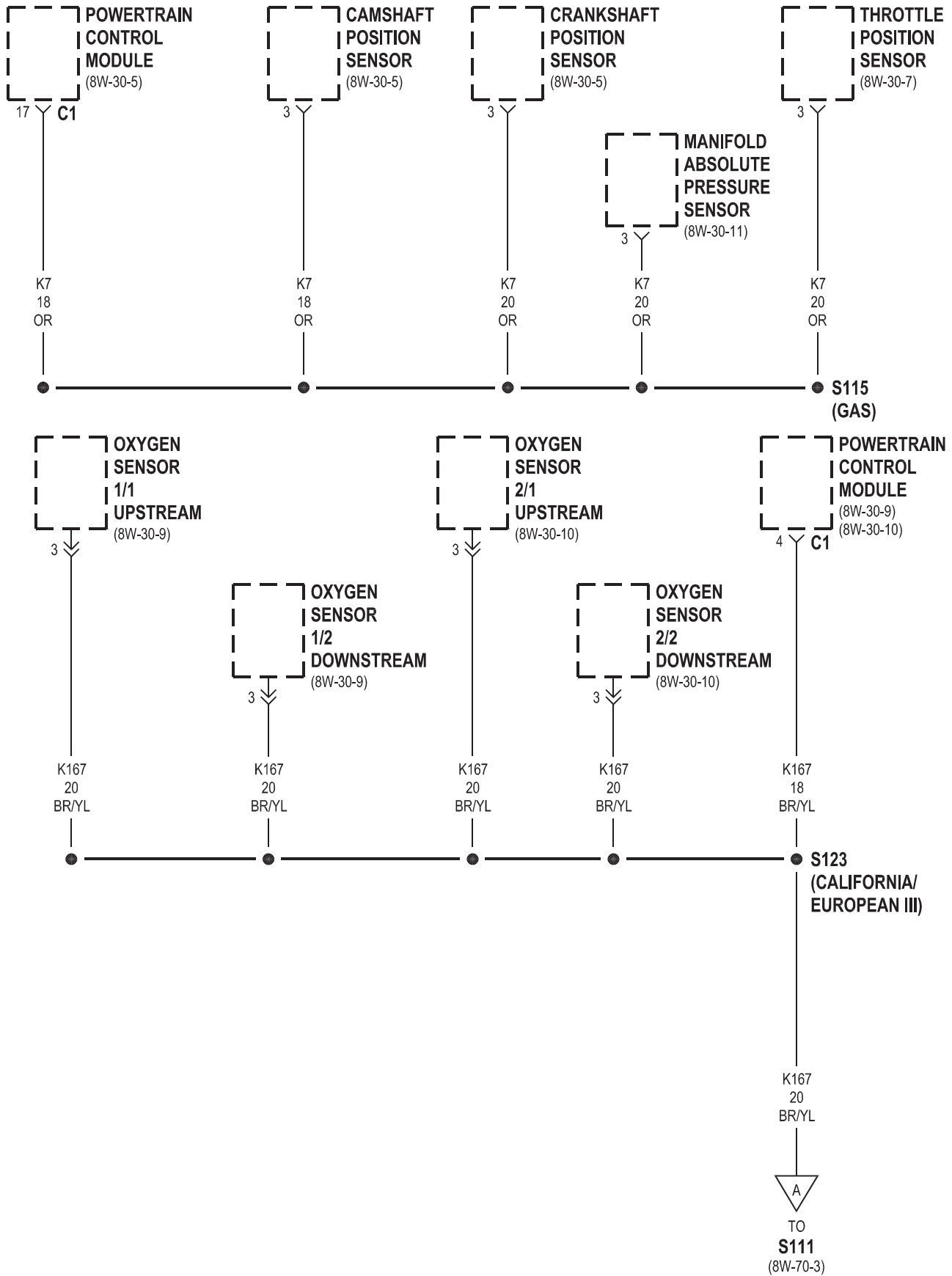




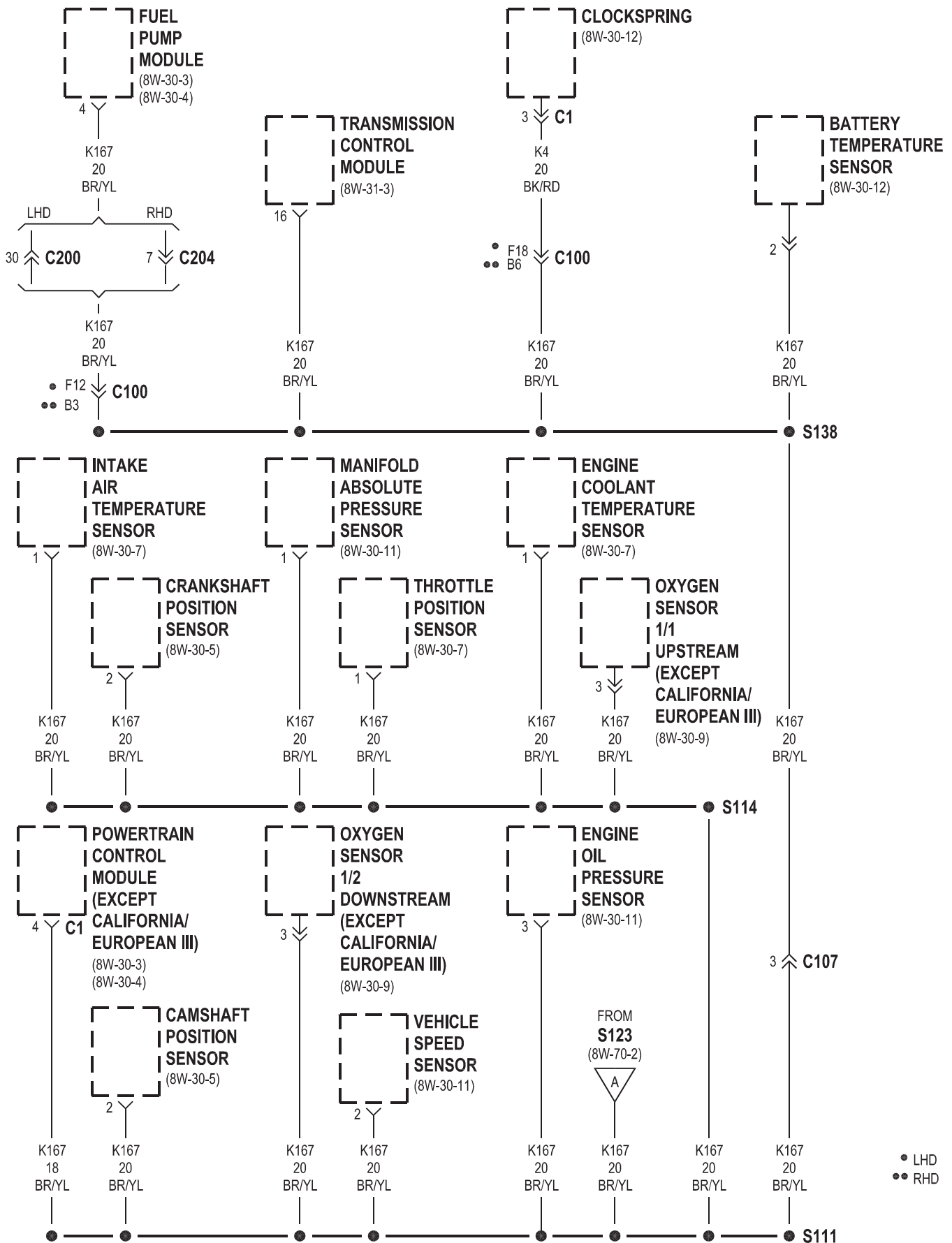


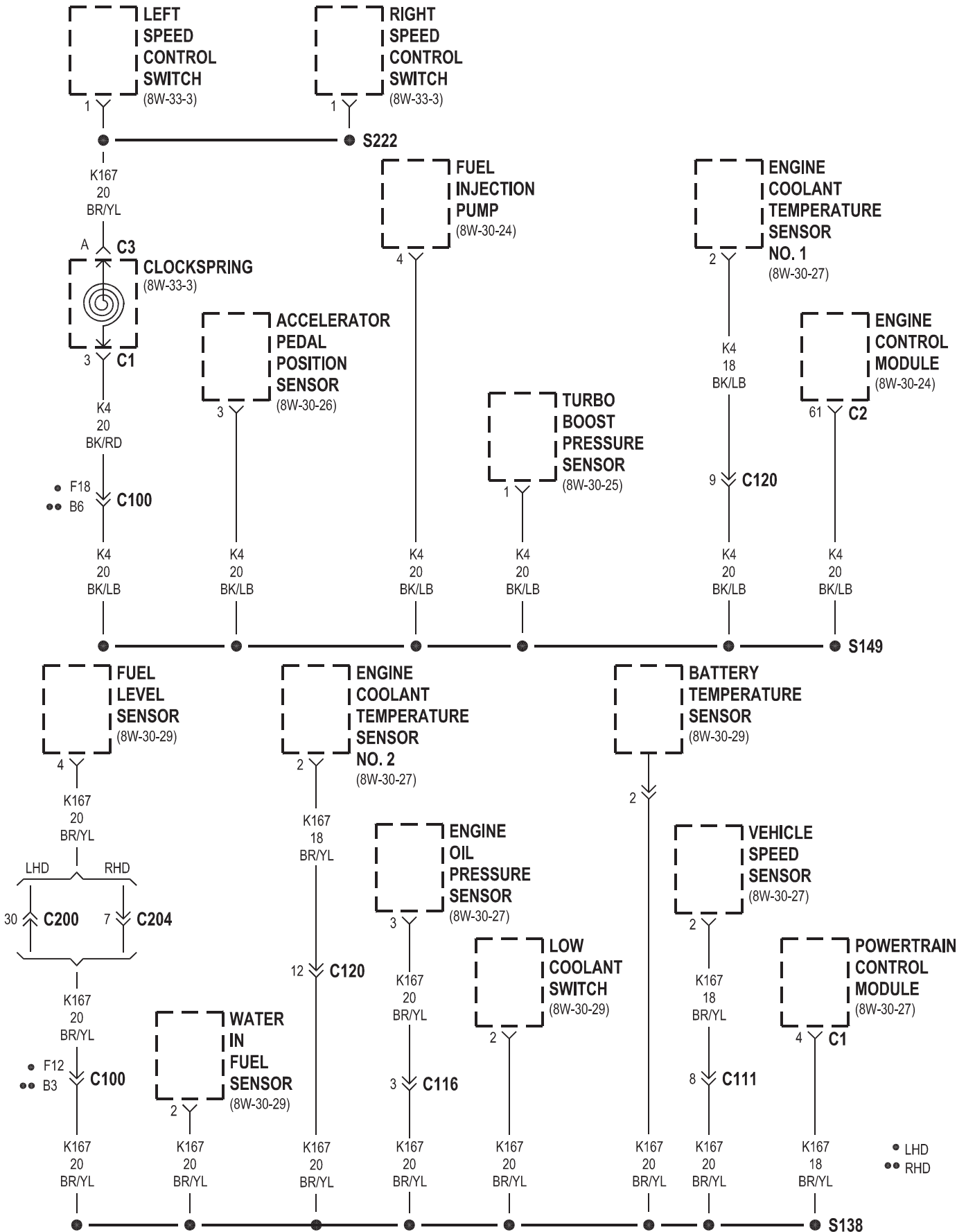
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GAS





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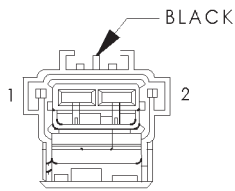
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Liftgate Ajar Switch - Black 3 Way . . . . .	8Wa-80-82	Radiator Fan Motor - Lt. Gray 2 Way . . .	8Wa-80-93

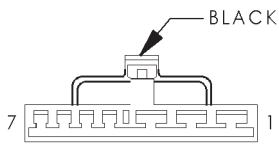
<b>Component</b>	<b>Page</b>	<b>Component</b>	<b>Page</b>
Radio C1 - Black 7 Way . . . . .	8Wa-80-93	Right Rear Headliner Speaker - 2 Way .	8Wa-80-100
Radio C2 - Gray 7 Way . . . . .	8Wa-80-93	Right Rear Wheel Speed Sensor -	
Rear Fog Lamp Relay (Built Up Export) -		Red 2 Way . . . . .	8Wa-80-100
5 Way . . . . .	8Wa-80-93	Right Rear Power Window Motor -	
Rear Fog Lamp Switch (Built Up Export) -		Black 2 Way . . . . .	8Wa-80-100
White 4 Way . . . . .	8Wa-80-94	Right Rear Power Window Switch -	
Rear Washer Pump - Black 2 Way . . . . .	8Wa-80-94	Blue 6 Way . . . . .	8Wa-80-101
Rear Window Defogger Switch -		Right Side Marker Lamp (Except Built Up	
Gray 4 Way . . . . .	8Wa-80-94	Export) - Natural 2 Way . . . . .	8Wa-80-101
Rear Wiper Motor - 4 Way . . . . .	8Wa-80-94	Right Side Repeater Lamp (Built Up Export) -	
Rear Wiper/Washer Switch -		2 Way . . . . .	8Wa-80-101
Black 6 Way . . . . .	8Wa-80-94	Right Speed Control Switch - 2 Way . . .	8Wa-80-101
Remote Keyless Entry Module -		Right Tail/Stop Lamp - 3 Way . . . . .	8Wa-80-101
Black 12 Way . . . . .	8Wa-80-95	Right Turn Signal Lamp - 2 Way . . . . .	8Wa-80-102
Right Back-Up Lamp - Gray 2 Way . . . . .	8Wa-80-95	Right Visor/Vanity Lamp - Black 2 Way .	8Wa-80-102
Right Courtesy Lamp - Black 2 Way . . . .	8Wa-80-95	Seat Belt Switch - Black 2 Way . . . . .	8Wa-80-102
Right Fog Lamp - Gray 2 Way . . . . .	8Wa-80-95	Seat Heat Interface Module -	
Right Front Position Lamp (Built Up Export) -		Black 14 Way . . . . .	8Wa-80-102
2 Way . . . . .	8Wa-80-96	Sentry Key Immobilizer Module -	
Right Front Door Speaker -		Black 6 Way . . . . .	8Wa-80-103
Black 2 Way . . . . .	8Wa-80-96	Speed Control Servo - Black 4 Way . . . .	8Wa-80-103
Right Front Door Tweeter -		Throttle Position Sensor -	
Black 2 Way . . . . .	8Wa-80-96	White 3 Way . . . . .	8Wa-80-103
Right Front Park/Turn Signal Lamp No. 1		Trailer Tow Connector -	
(Except Built Up Export) . . . . .	8Wa-80-96	Lt. Gray 10 Way . . . . .	8Wa-80-103
Right Front Park/Turn Signal Lamp No. 2		Trailer Tow Left Turn Relay -	
(Except Built Up Export) . . . . .	8Wa-80-96	Black 5 Way . . . . .	8Wa-80-104
Right Front Turn Signal Lamp No. 1		Trailer Tow Right Turn Relay -	
(Built Up Export) - Gray 3 Way . . . . .	8Wa-80-97	Black 5 Way . . . . .	8Wa-80-104
Right Front Turn Signal Lamp No. 2		Transfer Case Switch (231 4wd) -	
(Built Up Export) - Gray 3 Way . . . . .	8Wa-80-97	Black 2 Way . . . . .	8Wa-80-104
Right Front Wheel Speed Sensor - 2 Way.	8Wa-80-97	Transfer Case Switch (242 4wd) -	
Right Headlamp - 3 Way . . . . .	8Wa-80-97	Black 4 Way . . . . .	8Wa-80-104
Right Headlamp Leveling Motor		Transfer Case Switch Illumination -	
(Built Up Export) - Black 3 Way . . . . .	8Wa-80-97	Black 2 Way . . . . .	8Wa-80-104
Right Heated Seat Back - 2 Way . . . . .	8Wa-80-98	Transmission Solenoid - Black 8 Way . .	8Wa-80-105
Right Heated Seat Cushion - 4 Way . . . .	8Wa-80-98	Transmission Control Module -	
Right Heated Seat Switch -		Black 26 Way . . . . .	8Wa-80-105
Blue 6 Way . . . . .	8Wa-80-98	Transmission Range Indicator Illumination	
Right License Lamp (Built Up Export) -		(Prndl) - 2 Way . . . . .	8Wa-80-106
2 Way . . . . .	8Wa-80-98	Transmission Range Sensor (A/T) -	
Right Power Seat Front Vertical Motor -		Black 8 Way . . . . .	8Wa-80-106
Yellow 2 Way . . . . .	8Wa-80-98	Turbo Boost Pressure Sensor (Diesel) -	
Right Power Seat Horizontal Motor -		Black 4 Way . . . . .	8Wa-80-106
Yellow 2 Way . . . . .	8Wa-80-99	Turn Signal/Hazard Switch -	
Right Power Seat Rear Vertical Motor -		Black 11 Way . . . . .	8Wa-80-106
Yellow 2 Way . . . . .	8Wa-80-99	Underhood Lamp/Switch -	
Right Power Seat Switch -		Black 2 Way . . . . .	8Wa-80-107
Black 12 Way . . . . .	8Wa-80-99	Vehicle Speed Sensor (Diesel) - 3 Way . .	8Wa-80-107
Right Rear Door Ajar Switch -		Vehicle Speed Sensor (Gas) -	
Black 3 Way . . . . .	8Wa-80-99	Black 3 Way . . . . .	8Wa-80-107
Right Rear Door Power Lock Motor -		Washer Fluid Level Switch -	
Black 2 Way . . . . .	8Wa-80-100	Black 2 Way . . . . .	8Wa-80-107
Right Rear Fog Lamp (Built Up Export) -		Water In Fuel Sensor (Diesel) -	
Black 2 Way . . . . .	8Wa-80-100	Black 2 Way . . . . .	8Wa-80-107



A/C COMPRESSOR CLUTCH (DIESEL)

A/C COMPRESSOR CLUTCH (DIESEL) - BLACK 2 WAY

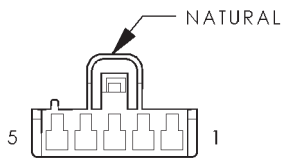
CAV	CIRCUIT	FUNCTION
1	C3 14DB/BK	A/C COMPRESSOR CLUTCH RELAY OUTPUT
2	Z1 16BK	GROUND



A/C-HEATER CONTROL-C1 OR HEATER CONTROL-C1

A/C HEATER CONTROL C1 OR HEATER CONTROL C1 - BLACK 7 WAY

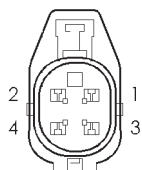
CAV	CIRCUIT	FUNCTION
1	Z8 12BK/VT	GROUND
2	C7 12BK/TN	BLOWER MOTOR HIGH DRIVER
3	C6 14LB	BLOWER MOTOR M2 DRIVER
4	C5 14LG	BLOWER MOTOR M1 DRIVER
5	C4 14TN	BLOWER MOTOR LOW DRIVER
6	C90 20LG (A/C ONLY)	A/C SWITCH SENSE
7	E2 20OR (RHD)	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
7	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL



A/C-HEATER CONTROL-C2 OR HEATER CONTROL-C2

A/C HEATER CONTROL C2 OR HEATER CONTROL - NATURAL 5 WAY

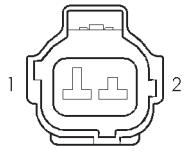
CAV	CIRCUIT	FUNCTION
1	-	-
2	Z1 20BK (RHD)	GROUND
2	F15 20DB/WT (LHD)	FUSED IGNITION SWITCH OUTPUT (RUN)
3	C36 20RD/WT (LHD)	BLEND DOOR FEEDBACK SIGNAL
4	F15 20DB/WT (RHD)	FUSED IGNITION SWITCH OUTPUT (RUN)
4	Z1 20BK (LHD)	GROUND
5	-	-



A/C HIGH PRESSURE SWITCH

A/C HIGH PRESSURE SWITCH - 4 WAY

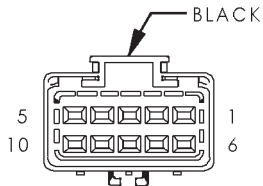
CAV	CIRCUIT	FUNCTION
1	C21 20DB/PK	A/C SWITCH SENSE
2	C48 18TN	RADIATOR FAN REQUEST
3	C90 20LG (GAS)	A/C SWITCH SENSE
3	Z1 18BK (DIESEL)	GROUND
4	C22 20DB/WT (DIESEL)	A/C PRESSURE SWITCH SENSE
4	C90 20LG (GAS)	A/C SWITCH SENSE



A/C LOW PRESSURE SWITCH

A/C LOW PRESSURE SWITCH - 2 WAY

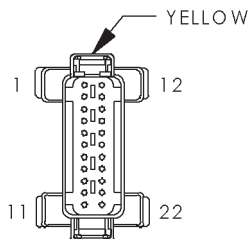
CAV	CIRCUIT	FUNCTION
1	Z1 20BK (DIESEL)	GROUND
1	C22 18DB/WT (GAS)	PRESSURE SWITCH OUTPUT
2	C21 20DB/PK	A/C SWITCH SENSE



ACCELERATOR PEDAL POSITION SENSOR (DIESEL)

ACCELERATOR PEDAL POSITION SENSOR (DIESEL) - BLACK 10 WAY

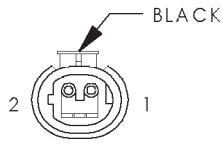
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	K4 20BK/LB	SENSOR GROUND
4	-	-
5	K151 20WT	LOW IDLE POSITION SWITCH SIGNAL
6	-	-
7	K22 20OR/DB	ACCELERATOR PEDAL POSITION SENSOR SIGNAL
8	K255 20WT/DG	ACCELERATOR PEDAL POSITION SENSOR GROUND
9	-	-
10	K6 20VT/WT	5V SUPPLY



AIRBAG CONTROL MODULE

AIRBAG CONTROL MODULE - YELLOW 22 WAY

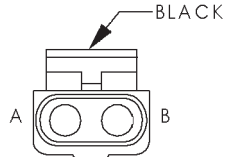
CAV	CIRCUIT	FUNCTION
1	R45 18DG/LB	DRIVER AIRBAG LINE 2
2	R43 18BK/LB	DRIVER AIRBAG LINE 1
3	-	-
4	-	-
5	R42 18BK/YL	PASSENGER AIRBAG LINE 1
6	R44 18DG/YL	PASSENGER AIRBAG LINE 2
7	-	-
8	-	-
9	-	-
10	Z6 18BK/PK	GROUND
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
18	D2 18WT/BK	CCD BUS(-)
19	D1 18VT/BR	CCD BUS(+)
20	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN)



AMBIENT TEMPERATURE SENSOR

AMBIENT TEMPERATURE SENSOR - BLACK 2 WAY

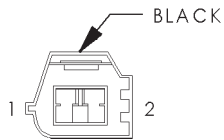
CAV	CIRCUIT	FUNCTION
1	G31 20VT/LG	AMBIENT TEMPERATURE SENSOR SIGNAL
2	G32 20BK/LB	SENSOR GROUND



BACK-UP LAMP SWITCH

BACK-UP LAMP SWITCH - BLACK 2 WAY

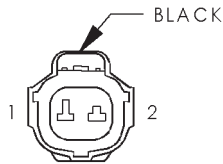
CAV	CIRCUIT	FUNCTION
A	F20 18WT (GAS)	FUSED IGNITION SWITCH OUTPUT (RUN-START)
A	L10 18BR/LG (DIESEL)	BACK UP LAMP FEED
B	F20 18WT (DIESEL)	FUSED IGNITION SWITCH OUTPUT (RUN-START)
B	L10 18BR/LG (GAS)	BACK UP LAMP FEED



BATTERY TEMPERATURE SENSOR (GAS)

BATTERY TEMPERATURE SENSOR (GAS) - BLACK 2 WAY

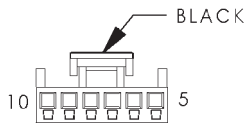
CAV	CIRCUIT	FUNCTION
1	K118 18PK/YL	BATTERY TEMPERATURE SENSOR SIGNAL
2	K167 20BR/YL	SENSOR GROUND



BATTERY TEMPERATURE SENSOR (DIESEL)

BATTERY TEMPERATURE SENSOR (DIESEL) - BLACK 2 WAY

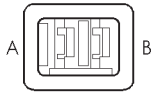
CAV	CIRCUIT	FUNCTION
1	K118 18PK/YL	BATTERY TEMPERATURE SENSOR SIGNAL
2	K167 20BR/YL	SENSOR GROUND



BLEND DOOR ACTUATOR

BLEND DOOR ACTUATOR - BLACK 6 WAY

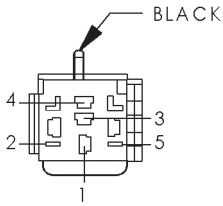
CAV	CIRCUIT	FUNCTION
5	-	-
6	-	-
7	D1 20DB/WT	GROUND
8	D3 20YL	BLEND DOOR FEEDBACK SIGNAL
9	-	-
10	D2 20OR	FUSED IGNITION SWITCH OUTPUT (RUN)



BLOWER MOTOR

BLOWER MOTOR - 2 WAY

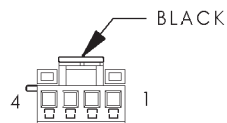
CAV	CIRCUIT	FUNCTION
A	C1 12DG	BLOWER MOTOR RELAY OUTPUT
B	C7 12BK/TN	BLOWER MOTOR HIGH DRIVER



BLOWER MOTOR RELAY

BLOWER MOTOR RELAY - BLACK 5 WAY

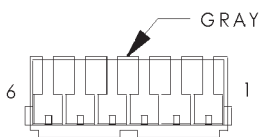
CAV	CIRCUIT	FUNCTION
1	C1 12DG	BLOWER MOTOR RELAY OUTPUT
2	Z1 20BK	GROUND
3	-	-
4	A111 12RD/LG	FUSED B(+)
5	F15 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)



BLOWER MOTOR RESISTOR BLOCK

BLOWER MOTOR RESISTOR BLOCK - BLACK 4 WAY

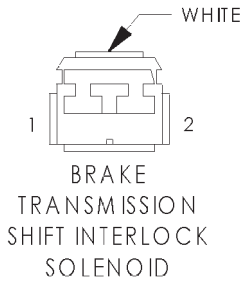
CAV	CIRCUIT	FUNCTION
1	C4 14TN	BLOWER MOTOR LOW DRIVER
2	C5 14LG	BLOWER MOTOR M1 DRIVER
3	C6 14LB	BLOWER MOTOR M2 DRIVER
4	C7 12BK/TN	BLOWER MOTOR HIGH DRIVER



BRAKE LAMP SWITCH

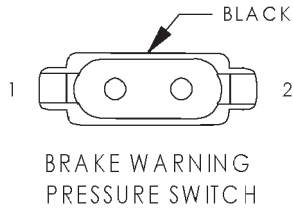
BRAKE LAMP SWITCH - GRAY 6 WAY

CAV	CIRCUIT	FUNCTION
1	K29 18WT/PK (GAS)	BRAKE LAMP SWITCH SENSE
1	K29 18WT/PK (DIESEL)	SECONDARY BRAKE SWITCH SIGNAL
2	Z1 18BK	GROUND
2	Z1 20BK (LHD BUILT UP EXPORT)	GROUND
3	V32 20YL/RD	SPEED CONTROL SUPPLY
4	V30 20DB/RD	SPEED CONTROL BRAKE SWITCH OUTPUT
5	L50 20WT/TN (LHD GAS)	BRAKE LAMP SWITCH OUTPUT
5	L50 20WT/TN (GAS)	BRAKE LAMP SWITCH OUTPUT
5	L50 20WT/TN (DIESEL)	PRIMARY BRAKE SWITCH SIGNAL
6	F32 20PK/DB	FUSED B(+)



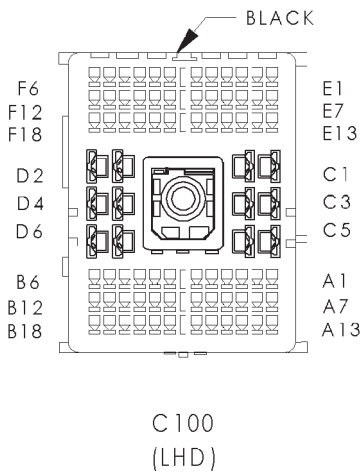
BRAKE TRANSMISSION SHIFT INTERLOCK SOLENOID - WHITE 2 WAY

CAV	CIRCUIT	FUNCTION
1	K29 20WT/PK (LHD)	BRAKE SWITCH SENSE
1	K29 18WT/PK (RHD)	BRAKE SWITCH SENSE
2	F15 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)



BRAKE WARNING PRESSURE SWITCH - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
2	G99 20GY/WT	RED BRAKE WARNING INDICATOR DRIVER



C100 (LHD) - BLACK (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
A1	Z1 18BK
A2	G106 20BK/WT (A/T)
A3	G107 20BK/RD
A4	L92 20PK (FOG LAMPS)
A5	L139 20VT (FOG LAMPS)
A5	L77 20BR/YL (DIESEL)
A6	C90 18LG (DIESEL)
A6	C90 20LG (GAS)
A7	-
A8	-
A9	-
A10	-
A11	-
A12	-
A13	-
A14	-
A15	-
A16	-
A17	-
A18	-
B1	-
B2	-
B3	-
B4	-
B5	-
B6	-
B7	-
B8	-
B9	-
B10	-
B11	-
B12	-
B13	-
B14	-

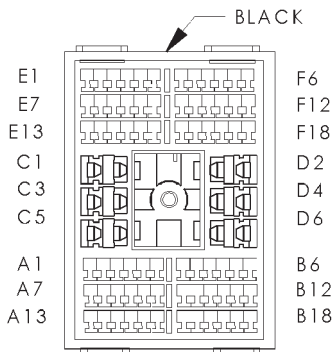
C100 (LHD) - BLACK (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
B15	-
B16	-
B17	-
B18	-
C1	V3 16BR/WT
C2	A1 12RD
C3	V4 16BR/VT
C4	F75 16VT (POWER AMPLIFIER)
C5	V5 16DG/YL
C6	A2 12PK/BK
D1	A3 14RD/WT
D2	A141 14DG/WT
D3	G34 16RD/GY (EXCEPT DRL)
D4	G34 16RD/GY
D5	A111 12RD/LG
D6	-
E1	L50 20WT/TN (DIESEL)
E1	L50 18WT/TN (GAS)
E2	G9 20GY/BK
E3	L10 18BR/LG
E4	V10 18BR
E5	V20 18BK/WT
E6	F34 18TN/BK
E7	Z12 20BK/TN (DIESEL)
E7	Z12 18BK/TN (GAS)
E8	G29 20BK/LB
E9	F20 18WT
E10	F1 20DB/GY (SENTRY KEY IMMOBILIZER MODULE)
E11	D1 20VT/BR (A/T)
E11	D1 18VT/BR (M/T)
E12	D2 20WT/BK (A/T)
E12	D2 18WT/BK (M/T)
E13	-
E14	G99 20GY/WT
E15	K185 20OR/LB
E16	G86 18TN/OR
E17	G154 18VT/LG
E18	L13 20BR/YL (GAS)
E18	L13 18BR/YL (DIESEL)
F1	D20 18LG/BK
F2	D21 20PK
F3	L60 20TN
F4	L61 20LG/WT
F5	L9 20BK/PK
F6	L44 20VT/RD
F7	V30 20DB/RD
F8	F32 20PK/DB
F9	V32 18YL/RD
F10	K29 18WT/PK (M/T EXCEPT DIESEL)
F10	K29 20WT/PK (A/T)
F11	K226 18DB/LG
F12	K167 20BR/YL
F13	G19 20LG/OR (ABS)
F14	G31 20VT/LG
F15	G32 20BK/LB



C100 (LHD) - BLACK (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
F16	K78 20GY
F17	V37 20RD/LG (DIESEL)
F17	V37 18RD/LG (GAS)
F18	K4 20BK/LB (DIESEL)
F18	K167 20BR/YL (GAS)
D3	L3 16RD (DAYTIME RUNNING LAMPS)



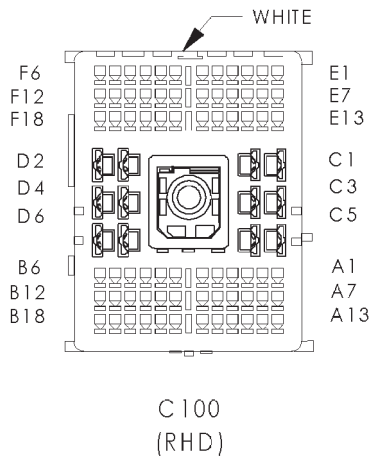
C100  
(LHD)

C100 (LHD) - BLACK (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
A1	Z1 18BK
A2	G106 20BK/WT (A/T)
A3	G107 20BK/RD
A4	L92 20LB (FOG LAMPS)
A5	L139 20VT (FOG LAMPS)
A6	C90 20LG
A7	-
A8	-
A9	-
A10	-
A11	-
A12	-
A13	-
A14	-
A15	-
A16	-
A17	-
A18	-
B1	-
B2	-
B3	-
B4	-
B5	-
B6	-
B7	-
B8	-
B9	-
B10	-
B11	-
B12	-
B13	-
B14	-
B15	-
B16	-
B17	-
B18	-
C1	V3 16BR/WT
C2	A1 12RD
C3	V4 16BR/VT
C4	F75 16VT (POWER AMPLIFIER)
C5	V5 16DG/YL

C100 (LHD) - BLACK (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
C6	A2 12PK/BK
D1	A3 14RD/WT
D2	A141 16DG/WT
D3	L3 16RD/OR
D4	G34 16RD/GY
D5	A111 12RD/LG
D6	-
E1	L50 20WT/TN
E2	G9 20GY/BK
E3	L10 18BR/LG
E4	V10 18BR
E5	V20 18BK/WT
E6	F34 18TN/BK
E7	Z12 18BK/TN
E8	G29 20BK/LB
E9	F20 18WT
E10	F1 20DB/GY (SENTRY KEY IMMOBILIZER MODULE)
E11	D1 20VT/BR
E12	D2 20WT/BK
E13	-
E14	G99 20GY/WT
E15	K185 20OR/LB
E16	G86 20TN/OR
E17	G154 20VT/LG
E18	L13 20BR/YL (HEADLAMP LEVELING)
F1	D20 20LG/BK
F2	D21 18PK
F3	L60 20TN
F4	L61 20LG/WT
F5	L9 20BK/PK
F6	L44 20VT/RD (HEADLAMP LEVELING)
F7	V30 20DB/RD
F8	F32 20PK/DB
F9	V32 20YL/RD
F10	K29 20WT/PK
F11	K226 20DB/LG
F12	K167 20BR/YL
F13	G19 20LG/OR (ABS)
F14	G31 20VT/LG
F15	G32 20BK/LB
F16	K78 20GY
F17	V37 20RD/LG
F18	K4 20BK/RD

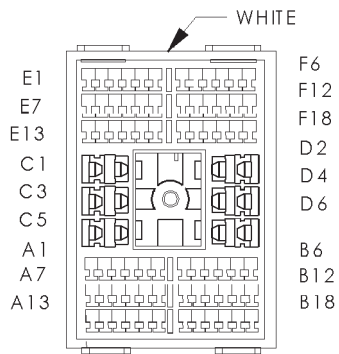


C100 (RHD) - WHITE (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
A1	Z1 18BK
A2	G106 20BK/WT (A/T)
A3	G107 20BK/RD
A4	L92 20PK (FOG LAMPS)
A5	L77 20BR/YL (DIESEL FOGLAMPS)
A5	L139 20VT (GAS FOG LAMPS)
A6	C90 18LG (DIESEL)
A6	C90 20LG (GAS)
A7	Z12 18BK/TN (GAS)
A7	Z12 20BK/TN (DIESEL)
A8	G29 20BK/LB
A9	F20 18WT
A10	G99 20GY/WT
A11	D1 18VT/BR (M/T)
A11	D1 20VT/BR (A/T)
A12	D2 18WT/BK (M/T)
A12	D2 20WT/BK (A/T)
A13	-
A14	G9 20GY/BK
A15	L10 18BR/LG
A16	V10 18BR
A17	V20 18BK/WT
A18	F34 18TN/BK
B1	K29 20WT/PK
B2	K226 18DB/LG
B3	K167 20BR/YL
B4	L50 18WT/TN (GAS ABS)
B4	L50 18WT/TN (DIESEL)
B5	V37 18RD/LG (GAS)
B5	V37 20RD/LG (DIESEL)
B6	K4 20BK/LB (DIESEL)
B6	K167 20BR/YL (GAS)
B7	D20 18LG/BK
B8	D21 20PK
B9	L60 20TN
B10	L61 20LG/WT
B11	L9 20BK/PK
B12	L44 20VT/RD
B13	-
B14	-
B15	-
B16	-
B17	-
B18	-
C1	V3 16BR/WT
C2	A1 12RD
C3	V4 16BR/VT
C4	F75 16VT (POWER AMPLIFIER)
C5	V5 16DG/YL
C6	A2 12PK/BK
D1	A3 14RD/WT
D2	A141 14DG/WT
D3	L3 16RD

C100 (RHD) - WHITE (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
D4	-
D5	A111 12RD/LG
D6	-
E1	-
E2	-
E3	-
E4	-
E5	-
E6	-
E7	F45 20YL/RD
E8	T141 20YL
E9	-
E10	F1 20DB/GY (SENTRY KEY IMMOBILIZER MODULE)
E11	-
E12	-
E13	-
E14	-
E15	K185 20OR/LB (MESSAGE CENTER)
E16	G86 18TN/OR (MESSAGE CENTER)
E17	G154 18VT/LG (MESSAGE CENTER)
E18	L13 20BR/YL (GAS HEADLAMP LEVELING)
E18	L13 18BR/YL (DIESEL)
F1	D20 18LG/BK
F2	-
F3	-
F4	-
F5	-
F6	-
F7	V30 20DB/RD
F8	F32 20PK/DB
F9	V32 18YL/RD
F10	-
F11	-
F12	-
F13	G19 20LG/OR (ABS)
F14	G31 20VT/LG
F15	G32 20BK/LB
F16	-
F17	-
F18	-



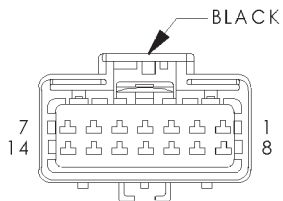
C100  
(RHD)

C100 (RHD) - WHITE (INSTRUMENT PANEL  
SIDE)

CAV	CIRCUIT
A1	Z1 18BK
A2	G106 20BK/WT (A/T)
A3	G107 20BK/RD
A4	L92 20LB (FOG LAMPS)
A5	L139 20VT (FOG LAMPS)
A6	C90 20LG
A7	Z12 18BK/TN
A8	G29 20BK/LB
A9	F20 18WT
A10	G99 20GY/WT
A11	D1 20VT/BR
A12	D2 20WT/BK
A13	-
A14	G9 20GY/BK
A15	L10 18BR/LG
A16	V10 18BR
A17	V20 18BK/WT
A18	F34 18TN/BK
B1	K29 18WT/PK
B2	K226 18DB/LG
B3	K167 20BR/YL
B4	L50 20WT/TN
B5	V37 20RD/LG
B6	K4 20BK/RD
B7	D20 20LG/BK
B8	D21 20PK
B9	L60 20TN
B10	L61 20LG/WT
B11	L9 20BK/PK
B12	L44 20VT/RD (HEADLAMP LEVELING)
B13	-
B14	-
B15	-
B16	-
B17	-
B18	-
C1	V3 16BR/WT
C2	A1 12RD
C3	V4 16BR/VT
C4	F75 16VT (POWER AMPLIFIER)
C5	V5 16DG/YL
C6	A2 12PK/BK
D1	A3 14RD/WT
D2	A141 16DG/WT
D3	-
D4	-
D5	A111 12RD/LG
D6	-
E1	-
E2	-
E3	-
E4	-
E5	-

C100 (RHD) - WHITE (INSTRUMENT PANEL SIDE)

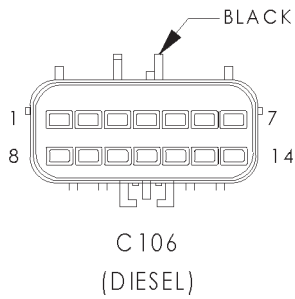
CAV	CIRCUIT
E6	-
E7	F45 20YL/RD
E8	T141 20YL
E9	-
E10	F1 20DB/GY (SENTRY KEY IMMOBILIZER MODULE)
E11	-
E12	-
E13	-
E14	-
E15	K185 20OR/LB (MESSAGE CENTER)
E16	G86 20TN/OR (MESSAGE CENTER)
E17	G154 20VT/LG (MESSAGE CENTER)
E18	L13 20BR/YL (HEADLAMP LEVELING)
F1	-
F2	-
F3	-
F4	-
F5	-
F6	-
F7	V30 20DB/RD
F8	F32 20PK/DB
F9	V32 20YL/RD
F10	-
F11	-
F12	-
F13	G19 20LG/OR
F14	G31 20VT/LG
F15	G32 20BK/LB
F16	-
F17	-
F18	-



C 106  
(DIESEL)

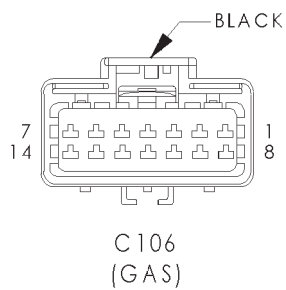
C106 (DIESEL) - BLACK (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
1	L13 18BR/YL (HEADLAMP LEVELING)
2	L33 20RD
3	L61 20LG/WT
4	Z1 20BK
5	Z15 16BK/GY (HEADLAMP LEVELING)
6	L34 20RD/OR
7	L77 20BR/YL
8	L39 20LB (FOG LAMPS)
9	L43 20VT
10	L60 20TN
11	Z1 20BK/WT
12	-
13	L44 20VT/RD
14	L78 18DG/YL



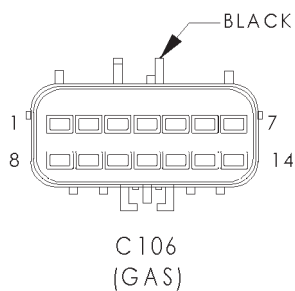
C106 (DIESEL) - BLACK (FRONT END LIGHTING SIDE)

CAV	CIRCUIT
1	L13 18BR/YL (HEADLAMP LEVELING)
2	L33 18RD
3	L61 20LG
4	Z1 18BK
5	Z15 18BK/RD (HEADLAMP LEVELING)
6	L34 18RD/OR
7	L77 20BR
8	L39 20LB (FOG LAMPS)
9	L43 VT
10	L60 20TN
11	Z1 18BK/WT
12	Z1 20BK (FOG LAMPS)
13	L44 18VT/RD
14	L78 20DG/YL



C106 (GAS) - BLACK (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
1	L13 20BR/YL (HEADLAMP LEVELING)
2	L33 20RD
3	L61 20LG/WT
4	Z1 20BK
5	Z15 16BK/GY (HEADLAMP LEVELING)
6	L34 20RD/OR
7	L77 20BR/YL
8	L39 20LB (FOG LAMPS)
9	L43 20VT
10	L60 20TN
11	Z1 20BK/WT
12	L33 20RD/WT
13	L44 20VT/RD
14	L78 20DG/YL

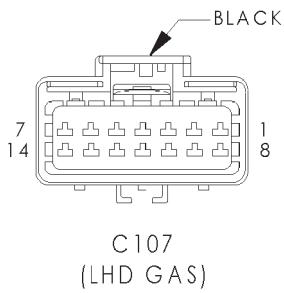


C106 (GAS) - BLACK (FRONT END LIGHTING SIDE)

CAV	CIRCUIT
1	L13 18BR/YL (HEADLAMP LEVELING)
2	L33 18RD
3	L61 20LG
4	Z1 18BK
5	Z15 18BK/RD (HEADLAMP LEVELING)
6	L34 18RD/OR
7	L77 20BR
8	L39 20LB (FOG LAMPS)
9	L43 18VT

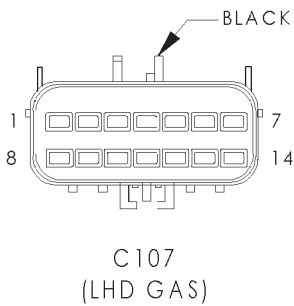
C106 (GAS) - BLACK (FRONT END LIGHTING SIDE)

CAV	CIRCUIT
10	L60 20TN
11	Z1 18BK (EXCEPT BUILT UP EXPORT)
11	Z1 18BK/WT (BUILT UP EXPORT)
12	L33 20RD (EXCEPT BUILT UP EXPORT FOG LAMPS)
13	L44 18VT/RD
14	L78 20DG/YL
12	Z1 20BK (BUILT UP EXPORT)



C107 (LHD GAS) - BLACK (HEADLAMP AND DASH SIDE)

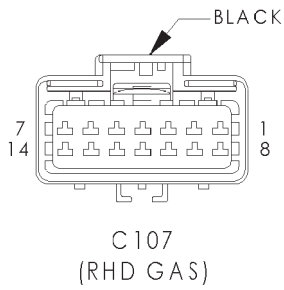
CAV	CIRCUIT
1	A142 18DG/OR
2	K20 18DG
3	K167 20BR/YL
4	G7 20WT/OR (DRL)
5	T41 20BK/WT (A/T)
5	Z1 18K (M/T)
6	K22 20OR/DB (A/T)
7	A42 18DG
8	G107 20BK/RD (4WD)
9	Z12 18BK/TN (A/T)
10	F12 18DB/WT
11	K78 20GY (EXTENDED IDLE)
12	G106 20BK/WT (4WD)
13	A242 18VT/OR
14	A61 16DG/BK



C107 (LHD GAS) - BLACK (ENGINE SIDE)

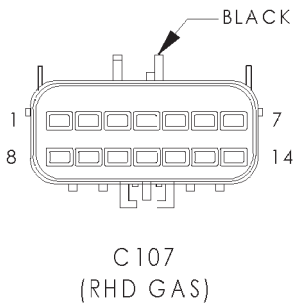
CAV	CIRCUIT
1	A142 18DG/OR
2	K20 18DG
3	K167 20BR/YL
4	G7 18WT/OR (DRL)
5	T41 18BK/WT
6	K22 20OR/DB (A/T)
7	A42 20DG
8	G107 20BK/RD (4WD)
9	Z12 16BK/TN (A/T)
10	F12 18DB/WT
11	K78 18GY (A/T)
12	G106 20BK/WT (4WD A/T)
13	A242 20VT/OR
14	A61 16DG/BK





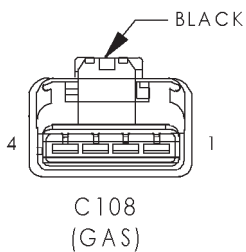
C107 (RHD GAS) - BLACK (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
1	A142 18DG/OR
2	K20 18DG
3	K167 20BR/YL
4	G7 20WT/OR (DRL)
5	T41 20BK/WT (A/T)
5	Z1 18BK (M/T)
6	K22 20OR/DB (A/T)
7	A42 18DG
8	G107 20BK/RD (4WD)
9	Z12 18BK/TN (A/T)
10	F12 18DB/WT
11	-
12	G106 20BK/WT (4WD A/T)
13	A242 18VT/OR
14	A61 16DG/BK



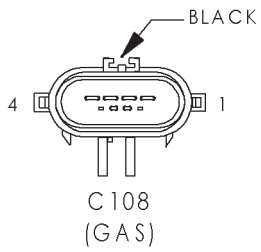
C107 (RHD GAS) - BLACK (ENGINE SIDE)

CAV	CIRCUIT
1	A142 18DG/OR
2	K20 18DG
3	K167 20BR/YL
4	G7 20WT/OR
5	T41 18BK/WT
6	K22 20OR/DB (A/T)
7	A42 20DG
8	G107 20BK/RD (4WD)
9	Z12 16BK/TN (A/T)
10	F12 18DB/WT
11	-
12	G106 20BK/WT (4WD A/T)
13	A242 20VT/OR
14	A61 14DG/BK



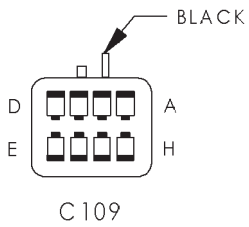
C108 (GAS) - BLACK (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
1	T40 16BR
2	K72 18DG/OR
3	K20 18DG
4	C3 16DB/BK



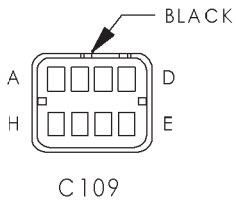
C108 (GAS) - BLACK (BATTERY SIDE)

CAV	CIRCUIT
1	T40 16BR
2	K72 16DG/OR
3	K20 16DG
4	C3 16DB/BK



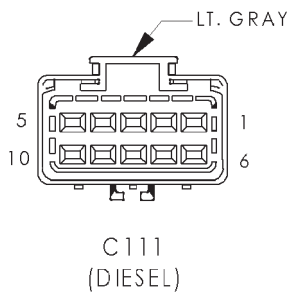
C109 - BLACK (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
A	B41 18YL/VT
B	B42 18TN/WT
C	B43 18PK/OR
D	B1 18YL/DB
E	B2 18YL
F	B3 18LG/DB
G	B4 18LG



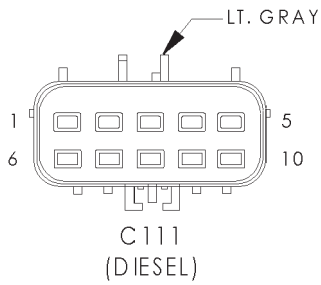
C109 - BLACK (ABS TO G-SENSOR SIDE)

CAV	CIRCUIT
A	B41 20YL/VT
B	B42 20TN/WT
C	B43 20PK/OR
D	B1 20YL/DB
E	B2 20YL
F	B3 20LG/DB
G	B4 20LG



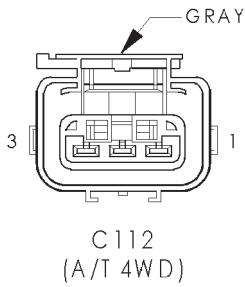
C111 (DIESEL) - LT. GRAY (HEADLAMP AND DASH SIDE)

CAV	CIRCUIT
1	G7 20WT/OR
2	-
3	G107 20BK/RD
4	Z1 18BK
5	L10 18BR/LG
6	K7 20OR
7	F20 18WT
8	K167 20BR/YL
9	-
10	T40 16BR



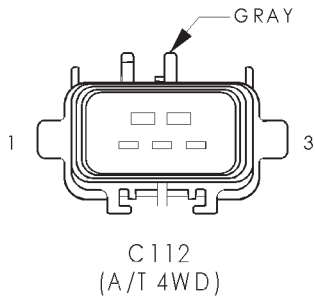
C111 (DIESEL) - LT. GRAY (ENGINE SIDE)

CAV	CIRCUIT
1	G7 18WT/OR
2	-
3	G107 20BK/RD
4	Z1 20BK
5	L10 18BR/LG
6	K7 18OR
7	F20 18WT
8	K167 18BR/YL
9	-
10	T40 14BR



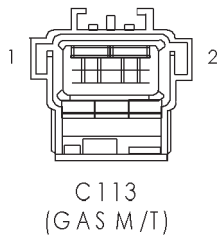
C112 (A/T 4WD) - GRAY (TRANS. CASE SW. JUMP SIDE)

CAV	CIRCUIT
1	Z1 20BK
2	G106 20BK/WT
3	G107 20BK/RD



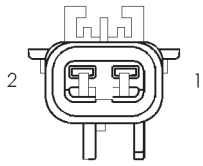
C112 (A/T 4WD) - GRAY (ENGINE SIDE)

CAV	CIRCUIT
1	Z1 20BK
2	G106 20BK/WT
3	G107 20BK/RD



C113 (GAS M/T) - (HEADLAMP AND DASH SIDE)

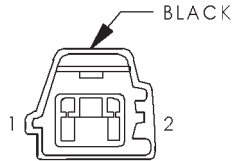
CAV	CIRCUIT
1	F20 18WT
2	L10 18BR/LG



C113  
(GAS M/T)

C113 (GAS M/T) - (ENGINE SIDE)

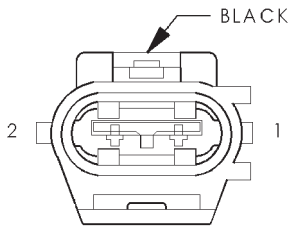
CAV	CIRCUIT
1	F20 18WT
2	L10 18BR/LG



C114  
(BUILT-UP-EXPORT)

C114 (BUILT UP EXPORT) - BLACK (HEADLAMP AND DASH SIDE)

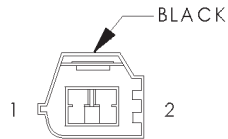
CAV	CIRCUIT
1	L61 18LG
2	Z1 18BK/WT



C114  
(BUILT-UP-EXPORT)

C114 (BUILT UP EXPORT) - BLACK (ENGINE SIDE)

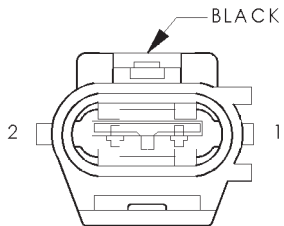
CAV	CIRCUIT
1	L61 18GY
2	Z1 18BK



C115  
(BUILT-UP-EXPORT)

C115 (BUILT UP EXPORT) - BLACK (HEADLAMP AND DASH SIDE)

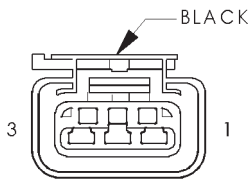
CAV	CIRCUIT
1	L60 18TN
2	Z1 18BK



C115  
(BUILT-UP-EXPORT)

C115 (BUILT UP EXPORT) - BLACK (ENGINE SIDE)

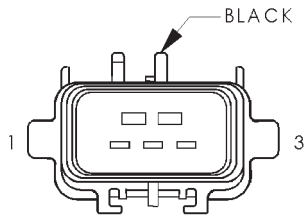
CAV	CIRCUIT
1	L60 18GY
2	Z1 18BK



C116  
(DIESEL)

C116 (DIESEL) - BLACK (HEADLAMP AND DASH SIDE)

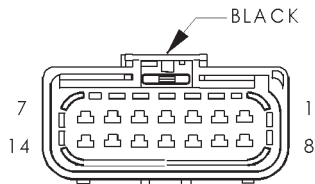
CAV	CIRCUIT
1	K7 200R
2	G60 18GY/YL
3	K167 20BR/YL



C116  
(DIESEL)

C116 (DIESEL) - BLACK (ENGINE SIDE)

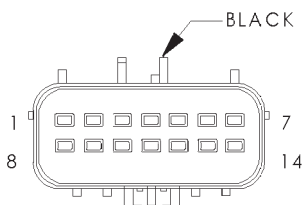
CAV	CIRCUIT
1	K7 180R
2	G60 18GY/YL
3	K167 18BR/YL



C120  
(DIESEL)

C120 (DIESEL) - BLACK (HEADLAMP AND DASH SIDE)

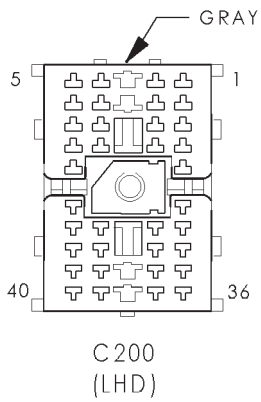
CAV	CIRCUIT
1	K3 20LG/BK
2	C21 20DB/PK
3	C22 20DB/WT
4	K24 20GY/BK
5	K20 18DG
6	C3 16DB/BK
7	K72 18DG/OR
8	K2 20TN/BK
9	K4 20BK/LB
10	K222 18TN/RD
11	Z1 16BK
12	K167 20BR/YL
13	C48 18TN
14	-



C120  
(DIESEL)

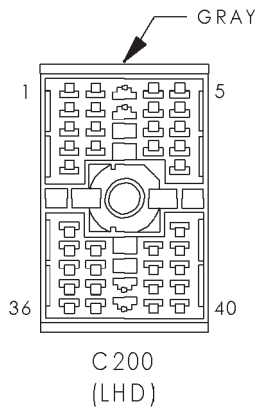
C120 (DIESEL) - BLACK (ENGINE SIDE)

CAV	CIRCUIT
1	K3 20LG/BK
2	C21 20DB/PK
3	C22 20DB/WT
4	K24 20GY/BK
5	K20 18DG
6	C3 14DB/BK
7	K72 18DG/OR
8	K2 18TN/BK
9	K4 18BK/LB
10	K222 18TN/RD
11	Z1 16BK
12	K167 18BR/YL
13	C48 18TN
14	-



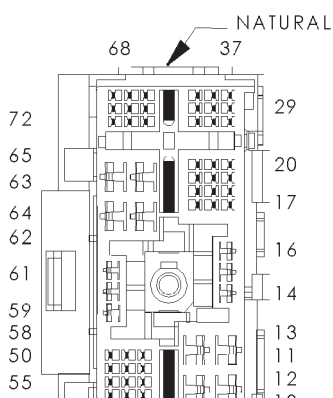
C200 (LHD) - GRAY (UNIBODY SIDE)

CAV	CIRCUIT
1	X53 18DG
2	X55 18BR/RD
3	-
4	X54 18VT
5	X56 18DB/RD
6	X51 18BR/YL
7	X57 18BR/LB
8	-
9	X52 18DB/WT
10	X58 18DB/OR
11	X60 18DG/RD (FULL OPTIONS WITH POWER AMPLIFIER)
12	P91 20WT/BK
13	A141 16DG/WT
14	F75 14VT (FULL OPTIONS WITH POWER AMPLIFIER)
15	K226 20DB/LG
16	L10 18BR/LG
17	G16 20BK/LB
18	-
19	-
20	-
21	-
22	-
23	L38 18BR/WT
24	L50 20WT/TN
25	L62 20BR/RD
26	L63 20DG/RD
27	V13 18BR
28	V20 18BK/WT
29	V23 18BR/PK
30	K167 20BR/YL
31	P35 20OR/VT (FULL OPTIONS)
32	P36 20PK/VT (FULL OPTIONS)
33	F81 12TN (FULL OPTIONS)
34	P72 20YL/BK
35	P74 20DB
36	P76 20OR/YL
37	C16 20LB/YL
38	-
39	F83 18YL/DG
40	G78 20TN/BK



C200 (LHD) - GRAY (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	X53 16DG
2	X55 16BR/RD
3	-
4	X54 16VT
5	X56 16LG
6	X51 16BR/YL
7	X57 16BR/LB
8	-
9	X52 16DB/WT
10	X58 16DB/OR
11	X60 16DG/RD (FULL OPTIONS WITH POWER AMPLIFIER)
12	P91 20WT/BK
13	A141 16DG/WT
14	F75 16VT (FULL OPTIONS WITH POWER AMPLIFIER)
15	K226 20DB/LG
16	L10 18BR/LG
17	G16 20BK/LB
18	-
19	-
20	-
21	-
22	-
23	L38 18BR/WT (BUILT UP EXPORT)
24	L50 20WT/TN
25	L62 20BR/RD
26	L63 20DG/RD
27	V13 18BR/LG
28	V20 18BK/WT
29	V23 18BR/PK
30	K167 20BR/YL
31	P35 20OR/VT (FULL OPTIONS)
32	P36 20PK/VT (FULL OPTIONS)
33	F81 12TN (FULL OPTIONS)
34	P72 20YL/BK
35	P74 20DB
36	P76 20OR/YL
37	C16 20LB/YL
37	C16 20LB/YL
38	-
39	F83 18YL/DG
39	F83 18YL/DG (BUILT UP EXPORT)
40	G78 20TN/BK



C201 (LHD) - NATURAL (LOWER INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	F20 18WT
2	C16 20LB/YL
3	L5 20BK
4	C36 20RD/WT
5	F87 20WT/BK
6	M1 20PK

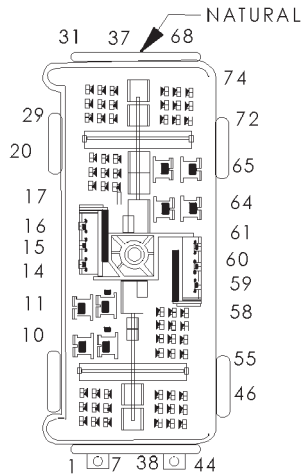
C201 (LHD) - NATURAL (LOWER INSTRUMENT  
PANEL SIDE)

CAV	CIRCUIT
7	Z1 20BK
8	V6 16DB
9	P36 20PK/VT
10	A31 12BK/WT
11	A111 12RD/LG
12	C7 12BK/TN
13	F81 12TN
14	Z1 14BK
15	-
16	L3 16RD/OR
17	C81 20LB/WT
18	-
19	-
20	P72 20YL/BK
21	-
22	L4 16VT/WT
23	P35 20OR/VT
24	P74 20DB
25	Z8 20BK/VT
26	X3 20BK/RD
27	-
28	P76 20OR/YL
29	G26 20LB
30	-
31	-
32	G31 20VT/LG
33	-
34	-
35	G32 20BK/LB
36	-
37	-
38	-
39	V23 18BR/PK
40	F15 20DB/WT
41	-
42	E1 20TN
43	E2 20OR
44	F83 18YL/DG
45	L7 18BK/YL
46	M2 20YL
47	-
48	-
49	-
50	F30 16RD
51	D1 18VT/BR
52	D2 18WT/BK
53	-
54	X12 16RD/WT
55	D1 20VT/BR
56	D2 20WT/BK
57	-
58	Z2 20BK/LG
59	C4 14TN
60	C5 14LG
61	C6 14LB



C201 (LHD) - NATURAL (LOWER INSTRUMENT  
PANEL SIDE)

CAV	CIRCUIT
62	A22 12BK/OR
63	A41 14YL
64	A21 12DB
65	F38 16RD/LB
66	G9 20GY/BK
67	P91 20WT/BK
68	-
69	G10 20LG/RD
70	-
71	-
72	-
73	-
74	-



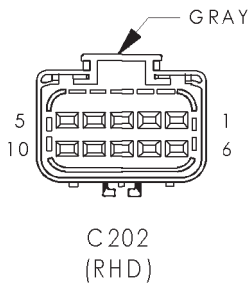
C 201  
(LHD)

C201 (LHD) - NATURAL (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	F20 18WT
2	C16 20LB/YL
3	L5 20BK
4	C36 20RD/WT
5	F87 20WT/BK
6	M1 20PK
7	Z1 20BK
8	V6 16DB
9	P36 20PK/VT
10	A31 12BK/WT
11	A111 12RD/LG
12	C7 12BK/TN
13	F81 12TN
14	Z1 14BK
15	-
16	L3 16RD/OR
17	C81 20LB/WT
18	-
19	-
20	P72 20YL/BK
21	-
22	L4 16VT/WT
23	P35 20OR/VT
24	P74 20DB
25	Z8 16BK/VT
26	X3 20BK/RD
27	-
28	P76 20OR/YL
29	G26 20LB
30	-
31	-
32	G31 20VT/LG
33	-
34	-
35	G32 20BK/LB
36	-
37	-
38	-
39	V23 18BR/PK
40	F15 20DB/WT
41	-
42	E1 20TN
43	E2 20OR
44	F83 18YL/DG
45	L7 18BK/YL
46	M2 20YL
47	-
48	-
49	-
50	F30 16RD
51	D1 20VT/BR
52	D2 20WT/BK
53	-
54	X12 16RD/WT

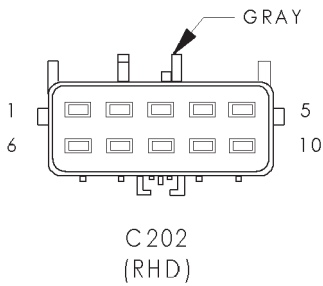
C201 (LHD) - NATURAL (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
55	D1 20VT
56	D2 20WT
57	-
58	Z2 20BK/LG
59	C4 14TN
60	C5 14LG
61	C6 14LB
62	A22 12BK/OR
63	A41 14YL
64	A21 12DB
65	F38 16RD/LB
66	G9 20GY/BK
67	P91 20WT/BK
68	-
69	G10 20LG/RD
70	-
71	-
72	-
73	-
74	-



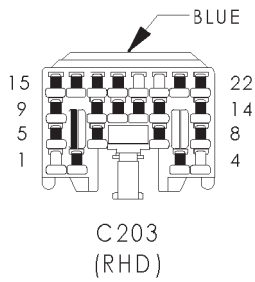
C202 (RHD) - GRAY (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	C7 12BK/TN
2	-
3	F81 12TN (FULL OPTIONS)
4	-
5	-
6	Z8 16BK/VT
7	A111 12RD/LG
8	C6 14LB
9	C5 14LG
10	C4 14TN



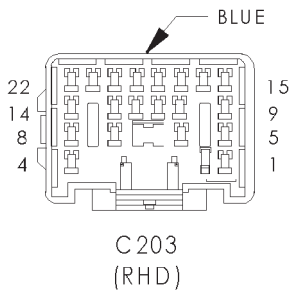
C202 (RHD) - GRAY (UNIBODY SIDE)

CAV	CIRCUIT
1	C7 12BK/TN
2	-
3	F81 12TN (FULL OPTIONS)
4	-
5	-
6	Z8 12BK/VT
7	A111 12RD/LG
8	C6 14LB
9	C5 14LG
10	C4 14TN



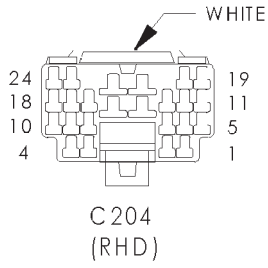
C203 (RHD) - BLUE (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	P55 20DB/PK (FULL OPTIONS)
2	P59 20LB/RD (FULL OPTIONS)
3	G26 20LB (FULL OPTIONS)
4	G16 20BK/LB
5	V20 18BK/WT
6	V23 18BR/PK
7	V13 18BR/LG
8	L38 18BR/WT (BUILT UP EXPORT)
9	-
10	P91 20WT/BK
11	G10 20LG/RD
12	E2 20OR
13	G9 20GY/BK
14	X60 16DG/RD
15	X58 16DB/OR
16	X57 16BR/LB
17	X56 16DB/RD
18	X55 16BR/RD
19	X54 16VT
20	X53 16DG
21	X52 16DB/WT
22	X51 16BR/YL



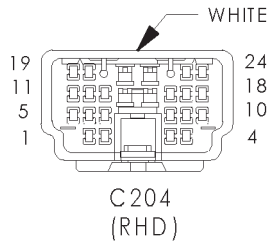
C203 (RHD) - BLUE (UNIBODY SIDE)

CAV	CIRCUIT
1	P55 20DB/PK (FULL OPTIONS)
2	P59 20LB/RD (FULL OPTIONS)
3	G26 20LB (FULL OPTIONS)
4	G16 20BK/LB
5	V20 18BK/WT
6	V23 18BR/PK
7	V13 18BR
8	L38 18BR/WT
9	-
10	P91 20WT/BK
11	G10 20LG/RD
12	E2 20OR/BK
13	G9 20GY/BK
14	X60 18DG/RD (FULL OPTIONS W/POWER AMPLIFIER)
15	X58 18DB/OR
16	X57 18BR/LB
17	X56 18DB/RD
18	X55 18BR/RD
19	X54 18VT
20	X53 18DG
21	X52 18DB/WT
22	X51 18BR/YL



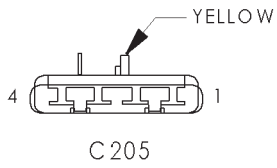
C204 (RHD) - WHITE (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	F15 20DB/WT
2	C16 20BK/WT
3	P35 20OR/VT
4	P36 20PK/VT
5	G78 20TN/BK
6	K226 20DB/LG
7	K167 20BR/YL
8	P72 20YL/BK
9	P74 20DB
10	P76 20OR/YL
11	L62 20BR/RD
12	L63 20DG/RD
13	-
14	F23 18DB/YL
15	F14 18LG/YL
16	F35 16RD
17	Z1 20BK
18	C36 20RD/WT
19	D1 20VT/BR
20	D2 20WT/BK
21	F75 16VT (FULL OPTIONS)
22	A141 16DG/WT
23	L10 18BR/LG
24	L50 20WT/TN



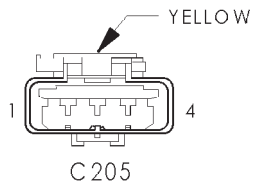
C204 (RHD) - WHITE (UNIBODY SIDE)

CAV	CIRCUIT
1	F15 20DB/WT
2	C16 20LB/YL
3	P35 20OR/VT (FULL OPTIONS)
4	P36 20PK/VT (FULL OPTIONS)
5	G78 20TN/BK
6	K226 20DB/LG
7	K167 20BR/YL
8	P72 20YL/BK
9	P74 20DB
10	P76 20OR/YL
11	L62 20BR/RD
12	L63 20DG/RD
13	-
14	F23 18DB/YL
15	F14 18LG/YL
16	F35 16RD (FULL OPTIONS)
17	Z1 20BK
18	C36 20RD/WT
19	D1 18VT/BR
20	D2 18WT/BK
21	F75 16VT (FULL OPTIONS W/POWER AMP)
22	A141 16DG/WT
23	L10 18BR/LG
24	L50 20WT/TN



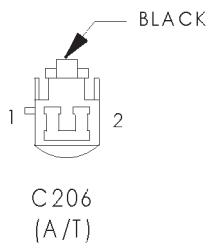
C205 - YELLOW (UNIBODY SIDE)

CAV	CIRCUIT
1	R42 18BK/YL
2	R44 18DG/YL
3	R43 18BK/LB
4	R45 18DG/LB



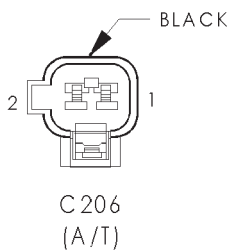
C205 - YELLOW (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	R42 18BK/YL
2	R44 18DG/YL
3	R43 18BK/LB
4	R45 18DG/LB



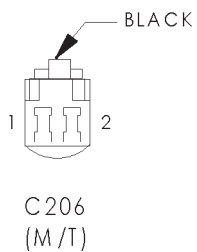
C206 (A/T) - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
1	E2 200R (LHD)
1	E2 200R/BK (RHD)
2	Z1 20BK



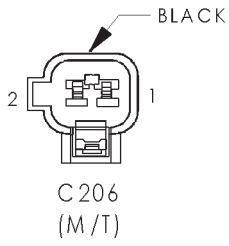
C206 (A/T) - BLACK (CONSOLE ILLUMINATION SIDE)

CAV	CIRCUIT
1	E2 200R
1	E2 200R
2	Z1 20BK
2	Z1 20BK



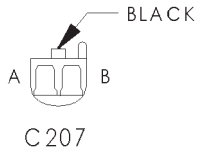
C206 (M/T) - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
1	E2 200R (RHD)
1	E2 200R/BK (LHD)
2	Z1 20BK



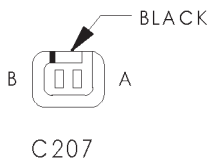
C206 (M/T) - BLACK (CONSOLE ILLUMINATION SIDE)

CAV	CIRCUIT
1	E2 200R
2	Z1 20BK



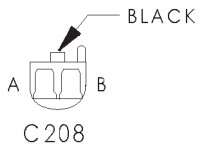
C207 - BLACK (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
A	M1 20PK
B	M2 20YL



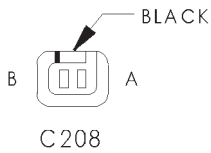
C207 - BLACK (RIGHT COURTESY LAMP SIDE)

CAV	CIRCUIT
A	M1 18PK
B	M2 18BK/WT



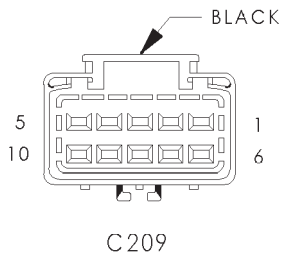
C208 - BLACK (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
A	M1 20PK
B	M2 20YL



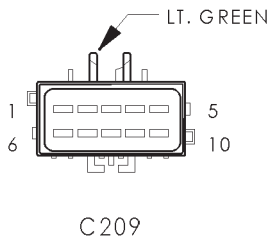
C208 - BLACK (LEFT COURTESY LAMP SIDE)

CAV	CIRCUIT
A	M1 18PK
B	M2 18BK/WT



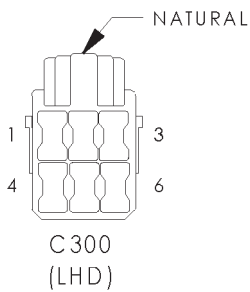
C209 - BLACK (BODY SIDE (RHD) LOWER INSTRUMENT PANEL SIDE(LHD))

CAV	CIRCUIT
1	Z1 20BK
2	C4 14TN
3	C5 14LG
4	C6 14LB
5	F15 20DB/WT
6	C36 20RD/WT
7	C7 12BK/TN
8	A111 12RD/LG
9	F15 20DB/WT
10	Z8 12BK/VT (RHD)
10	Z8 20BK/VT (LHD)



C209 - LT. GREEN (HVAC SIDE)

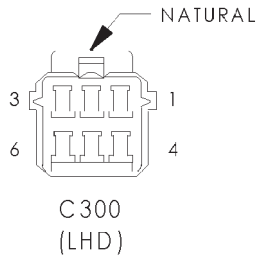
CAV	CIRCUIT
1	D1 20DB/WT
2	C4 14TN
3	C5 14LG
4	C6 14LB
5	D2 20OR
6	D3 20YL
7	C7 12BK/TN
8	A111 12RD/LG
9	F15 20DB/WT
10	Z1 20BK



C300 (LHD) - NATURAL (RIGHT FRONT DOOR SIDE)

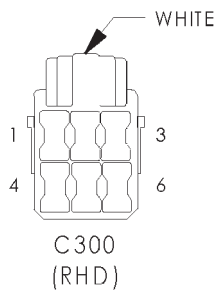
CAV	CIRCUIT
1	P35 20OR/VT
2	P36 20PK/VT
3	P55 20DB/PK
4	P59 20LB/RD
5	G26 20LB
6	-





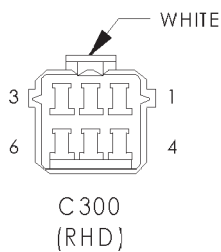
C300 (LHD) - NATURAL (LOWER INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	P35 200R/VT
2	P36 20PK/VT
3	P55 20DB/PK
4	P59 20LB/RD
5	G26 20LB
6	-



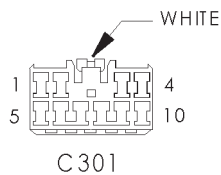
C300 (RHD) - WHITE (RIGHT FRONT DOOR SIDE)

CAV	CIRCUIT
1	P35 180R/VT
2	P36 18PK/VT
3	F83 18YL/DG (FULL OPTIONS AND POWER MIRRORS)
4	-
5	-
6	-



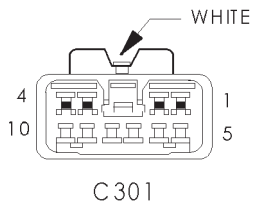
C300 (RHD) - WHITE (LOWER INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	P35 200R/VT
2	P36 20PK/VT
3	F83 18YL/DG (FULL OPTIONS AND POWER MIRRORS)
4	-
5	-
6	-



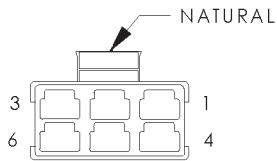
C301 - WHITE (OVERHEAD CONSOLE DOME WITH IMMOBILIZER SIDE)

CAV	CIRCUIT
1	D1 20VT/BR
2	D2 20WT/BK
3	G32 20BK/LB (OVERHEAD CONSOLE)
4	G31 20VT/LG (OVERHEAD CONSOLE)
5	Z2 20BK/LG (OVERHEAD CONSOLE)
6	F87 20WT/BK (OVERHEAD CONSOLE)
7	X3 20BK/RD
8	P55 20DB
9	P59 20LB/RD
10	-



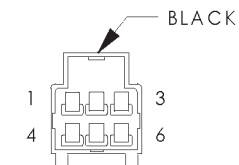
C301 - WHITE (INSTRUMENT PANEL SIDE)

CAV	CIRCUIT
1	D1 20VT/BR
2	D2 20WT/BK
3	G32 20BK/LB
4	G31 20VT/LG
5	Z2 20BK/LG
6	F87 20WT/BK
7	X3 20BK/RD
8	P55 20DB/PK
9	P59 20LB/RD
10	-



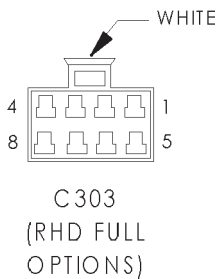
C303 (EXCEPT RHD FULL OPTIONS) - NATURAL  
(RIGHT FRONT DOOR SIDE)

CAV	CIRCUIT
1	-
2	-
3	-
4	X80 18LB/BK
5	X82 18LB/RD
6	-



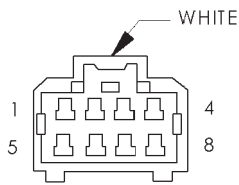
C303 (EXCEPT RHD FULL OPTIONS) - BLACK  
(UNIBODY SIDE)

CAV	CIRCUIT
1	V23 18BR/PK
2	-
3	-
4	X80 18LB/BK (6 SPEAKER SYSTEM)
4	X56 18DB/RD (4 SPEAKER SYSTEM)
5	X82 18LB/RD (6 SPEAKER SYSTEM)
5	X54 18VT (4 SPEAKER SYSTEM)
6	-



C303 (RHD FULL OPTIONS) - WHITE (RIGHT  
FRONT DOOR SIDE)

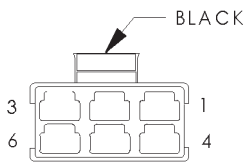
CAV	CIRCUIT
1	Q18 14GY/BK
2	Q28 14DG/WT
3	Q17 14DB/WT
4	Q1 14YL
5	Z1 14BK
6	Q27 14RD/BK
7	Q16 14BR/WT
8	Q26 14VT/WT



C 303  
(RHD FULL  
OPTIONS)

C303 (RHD FULL OPTIONS) - WHITE (UNIBODY  
SIDE)

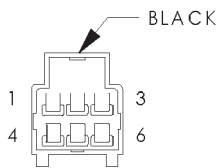
CAV	CIRCUIT
1	Q18 14GY/BK
2	Q28 14DG/WT
3	Q17 14DB/WT
4	Q1 14YL
5	Z1 14BK
6	Q27 14RD/BK
7	Q16 14BR/WT
8	Q26 14VT/WT



C 304  
(LHD)

C304 (LHD) - BLACK (UNIBODY SIDE)

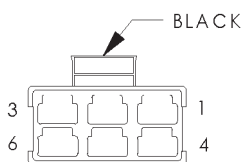
CAV	CIRCUIT
1	Q18 14GY/BK
2	Q28 14DG/WT
3	Q1 14YL
4	P33 16OR/BK
5	P34 16PK/BK
6	-



C 304  
(LHD)

C304 (LHD) - BLACK (REAR DOOR SIDE)

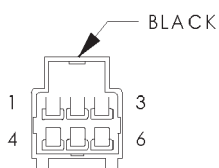
CAV	CIRCUIT
1	Q18 14GY/BK
2	Q28 14DG/WT
3	Q1 14YL
4	P33 16OR/BK
5	P34 16PK/BK
6	-



C 304  
(RHD)

C304 (RHD) - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
1	Q18 14GY/BK
2	Q28 14DG/WT
3	Q1 14YL
4	P33 16OR/BK
5	P34 16PK/BK
6	-



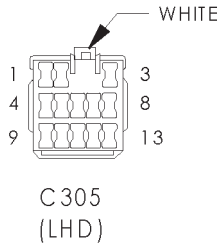
C 304

C304 (RHD) - BLACK (REAR DOOR SIDE)

CAV	CIRCUIT
1	Q18 14GY/BK

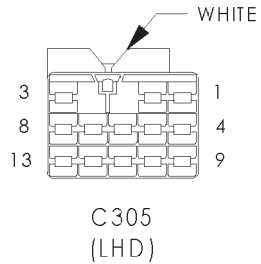
C304 (RHD) - BLACK (REAR DOOR SIDE)

CAV	CIRCUIT
2	Q28 14DG/WT
3	Q1 14YL
4	P33 16OR/BK
5	P34 16PK/BK
6	-



C305 (LHD) - WHITE (LEFT FRONT DOOR SIDE)

CAV	CIRCUIT
1	X85 18BR/RD (6 SPEAKERS)
1	X55 18LG/RD (4 SPEAKERS)
2	X87 18DG (6 SPEAKERS)
2	X53 18LG/BK (4 SPEAKERS)
3	F83 18YL/DG (FULL OPTIONS AND POWER MIRRORS)
4	P33 16OR/BK (POWER LOCK/WINDOWS)
5	P34 16PK/BK (POWER LOCK/WINDOWS)
6	P35 18OR/VT (POWER LOCK/WINDOWS)
7	P36 18PK/VT (POWER LOCK/WINDOWS)
8	P72 20YL/BK
9	P74 20DB
10	P76 20OR/YL
11	C16 20LB/YL (FULL OPTIONS)
11	C16 20BK/WT (POWER MIRRORS)
12	-
13	P91 20WT/BK (FULL OPSTIONS AND POWER MIRRORS)

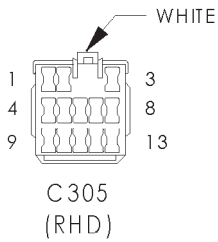


C305 (LHD) - WHITE (UNIBODY SIDE)

CAV	CIRCUIT
1	X85 18BR/RD (6 SPEAKERS)
1	X55 18BR/RD (4 SPEAKERS)
2	X87 18LG/VT (6 SPEAKERS)
2	X53 18DG (4 SPEAKERS)
3	F83 18YL/DG (FULL OPTIONS AND POWER MIRRORS)
4	P33 16OR/BK
5	P34 16PK/BK
6	P35 18OR/VT
7	P36 20PK/VT
8	P72 20YL/BK
9	P74 20DB
10	P76 20OR/YL
11	C16 20LB/YL
12	-

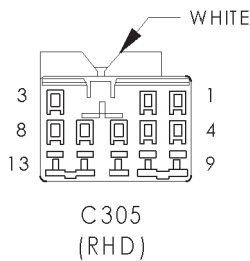
C305 (LHD) - WHITE (UNIBODY SIDE)

CAV	CIRCUIT
13	P91 20WT/BK (FULL OPTIONS AND POWER MIRRORS)



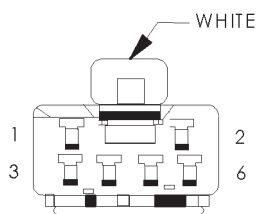
C305 (RHD) - WHITE (LEFT FRONT DOOR SIDE)

CAV	CIRCUIT
1	X85 18LG/RD (6 SPEAKERS)
1	X55 18LG/RD (4 SPEAKERS)
1	X85 18BR/RD (FULL OPTIONS)
2	X87 18LG/BK (6 SPEAKERS)
2	X53 18LG/BK (4 SPEAKERS)
3	P59 20LB/RD
4	P33 16OR/BK (POWER LOCK/WINDOW SWITCHES)
5	P34 16PK/BK (POWER LOCK/WINDOW SWITCHES)
6	P35 18OR/VT (POWER LOCK/WINDOW SWITCHES)
7	P36 18PK/VT (POWER LOCK/WINDOW SWITCHES)
8	P71 20YL
9	P75 20DB/RD (FULL OPTIONS)
9	P75 20 DB/WT (POWER MIRRORS W/O FULL OPTIONS)
10	P76 20OR/YL
11	C16 20LB/YL (FULL OPTIONS)
11	C16 20BK/WT (POWER MIRRORS)
12	P55 20DB
13	P91 20WT/BK



C305 (RHD) - WHITE (UNIBODY SIDE)

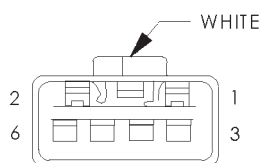
CAV	CIRCUIT
1	X85 18BR/RD (6 SPEAKERS)
1	X55 18BR/RD (4 SPEAKERS)
2	X87 18LG/VT (6 SPEAKERS)
2	X53 18DG (4 SPEAKERS)
3	P59 20LB/RD
4	P33 16OR/BK
5	P34 16PK/BK
6	P35 20OR/VT
7	P36 20PK/VT
8	P72 20YL/BK
9	P74 20DB
10	P76 20OR/YL
11	C16 20LB/YL
12	P55 20DB/PK
13	P91 20WT/BK



C 306  
(LHD)  
(POWER WINDOWS)

C306 (LHD) (POWER WINDOWS) - WHITE  
(LEFT FRONT DOOR SIDE)

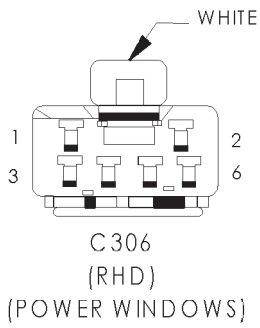
CAV	CIRCUIT
1	Q18 14GY/BK
2	Q28 14DG/WT
3	Q16 14BR/WT
4	Q26 14VT/WT
5	Q17 14DB/WT
6	Q27 14RD/BK



C 306  
(LHD)  
(FULL OPTIONS)

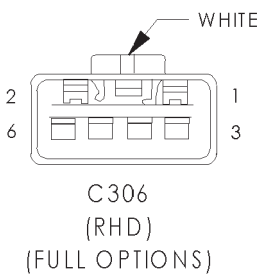
C306 (LHD) (FULL OPTIONS) - WHITE (UNI-  
BODY SIDE)

CAV	CIRCUIT
1	Q18 14GY/BK
2	Q28 14DG/WT
3	Q16 14BR/WT
4	Q26 14VT/WT
5	Q17 14DB/WT
6	Q27 14RD/BK



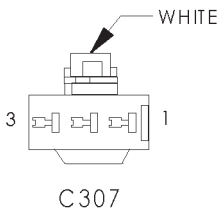
C306 (RHD) (POWER WINDOWS) - WHITE  
(LEFT FRONT DOOR SIDE)

CAV	CIRCUIT
1	F35 16RD
2	G26 20LB
3	Q16 14BR/WT
4	Q26 14VT/WT
5	-
6	-



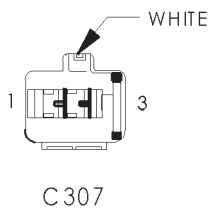
C306 (RHD) (FULL OPTIONS) - WHITE (UNI-BODY SIDE)

CAV	CIRCUIT
1	F35 16RD
2	G26 20LB
3	Q16 14BR/WT
4	Q26 14VT/WT
5	-
6	-



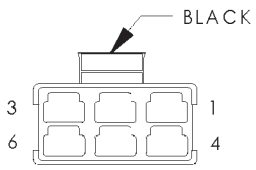
C307 - WHITE (LEFT FRONT DOOR SIDE)

CAV	CIRCUIT
1	F81 14TN (FULL OPTIONS)
2	Q1 14YL
3	Z1 12BK (FULL OPTIONS)
3	Z1 16BK (POWER MIRRORS)



C307 - WHITE (UNIBODY SIDE)

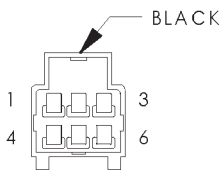
CAV	CIRCUIT
1	F81 14TN (FULL OPTIONS)
2	Q1 14YL (FULL OPTIONS)
3	Z1 12BK



C309  
(FULL OPTIONS)

C309 (FULL OPTIONS) - BLACK (UNIBODY SIDE)

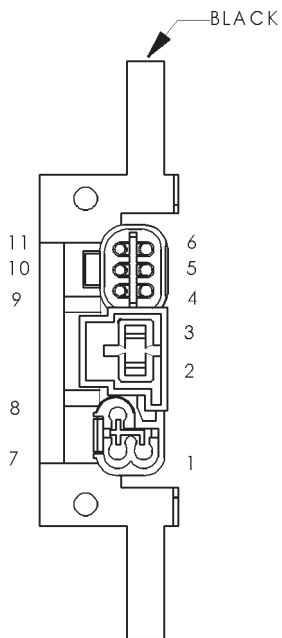
CAV	CIRCUIT
1	Q17 14DB/WT
2	Q27 14RD/BK
3	Q1 14YL
4	P33 16OR/BK
5	P34 16PK/BK
6	-



C309  
(FULL OPTIONS)

C309 (FULL OPTIONS) - BLACK 6 WAY

CAV	CIRCUIT
1	Q17 14DB/WT
2	Q27 14RD/BK
3	Q1 14YL
4	P33 16OR/BK
5	P34 16PK/BK
6	-

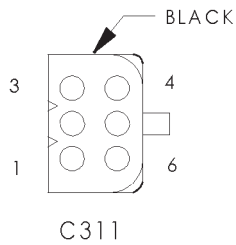


C310

C310 - BLACK (LIFTGATE SIDE)

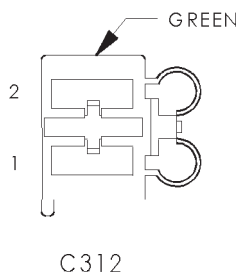
CAV	CIRCUIT
1	V20 18BK/WT
2	Z1 12BK
3	C15 12BK/WT
4	P33 16OR/BK
5	P34 16PK/BK
6	G78 20TN/BK
7	V23 18BR/PK
8	V13 18BR/LG
9	Z1 14BK
10	M4 20VT/YL
11	L77 18BR/YL





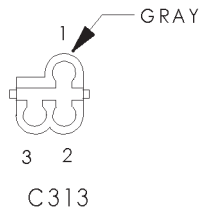
C311 - BLACK (BODY TO LIFTGATE SIDE)

CAV	CIRCUIT
1	P33 16OR/BK
2	P34 16PK/BK
3	G78 20TN/BK
4	L77 18BR/YL
5	M4 20GY/BK
6	Z1 14BK



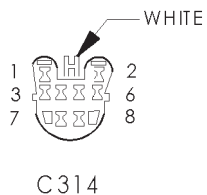
C312 - GREEN (BODY TO LIFTGATE SIDE)

CAV	CIRCUIT
1	Z1 12BK
2	C15 12BK/WT



C313 - GRAY (BODY TO LIFTGATE SIDE)

CAV	CIRCUIT
1	V13 18BR/LG
2	V23 18BR/PK
3	V20 18BK/WT

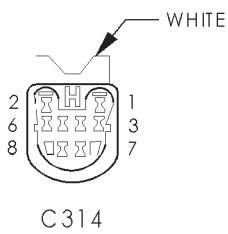


C314 - WHITE

CAV	CIRCUIT
1	X92 16TN/BK (6 SPEAKER)
1	X52 18DB/WT (4 SPEAKER)
2	X94 16TN/RD (6 SPEAKER)
2	X58 18DB/OR (4 SPEAKER)
3	X91 16BR/DB (6 SPEAKER)
3	X51 18BR/YL (4 SPEAKER)
4	X93 16BR/YL (6 SPEAKER)
4	X57 18BR/LB (4 SPEAKER)
5	M1 20PK
6	M2 20YL
7	M4 20GY/BK
8	-
1	X92 18TN/BK (6 SPEAKER)
1	X52 18DB/WT (4 SPEAKER)
2	X94 18TN/RD (6 SPEAKER)
2	X58 18DB/OR (4 SPEAKER)
3	X91 18WT/BK (6 SPEAKER)

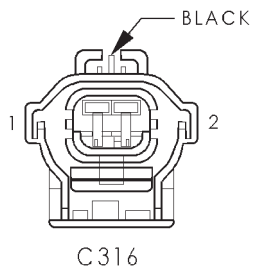
C314 - WHITE

CAV	CIRCUIT
3	X51 18BR/YL (4 SPEAKER)
4	X93 18WT/RD (6 SPEAKER)
4	X57 18BR/LB (4 SPEAKER)
5	M1 18PK (RHD)
5	M1 20PK (LHD)
6	M2 20YL
7	M4 20GY/BK
8	-



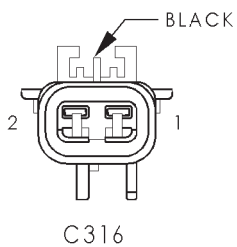
C314 - WHITE (UNIBODY SIDE)

CAV	CIRCUIT
1	X92 18TN/BK (6 SPEAKER)
1	X52 18DB/WT (4 SPEAKER)
2	X94 18TN/RD (6 SPEAKER)
2	X58 18DB/OR (4 SPEAKER)
3	X91 18WT/BK (6 SPEAKER)
3	X51 18BR/YL (4 SPEAKER)
4	X93 18WT/RD (6 SPEAKER)
4	X57 18BR/LB (4 SPEAKER)
5	M1 18PK (RHD)
5	M1 20PK (LHD)
6	M2 20YL
7	M4 20GY/BK
8	-



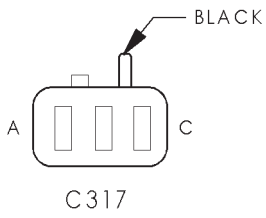
C316 - BLACK (POWER HEAT SEAT LH AND RH AND POWER SEAT DUAL SIDE)

CAV	CIRCUIT
1	F83 18YL/DG (HEATED SEATS)
2	F37 14RD/LB



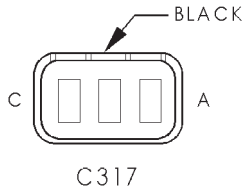
C316 - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
1	F83 18YL/DG
2	F37 14RD/LB



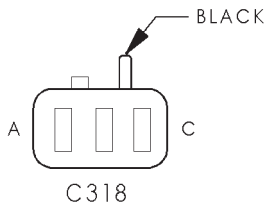
C317 - BLACK (DOOR JAMB SWITCH SIDE)

CAV	CIRCUIT
A	M2 18YL
B	G16 18BK/LB
C	Z1 18BK



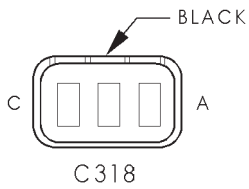
C317 - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
A	M2 20YL
B	G16 20BK/LB (LHD)
C	Z1 20BK



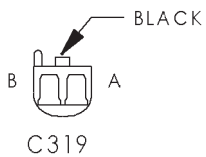
C318 - BLACK (DOOR JAMB SWITCH SIDE)

CAV	CIRCUIT
A	M2 18YL
B	G16 18BK/LB
C	Z1 18BK



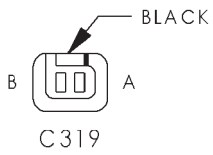
C318 - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
A	M2 20YL
B	G16 20BK/LB (RHD)
C	Z1 20BK



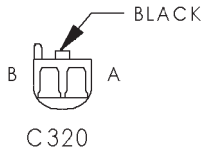
C319 - BLACK (SWITCH ADAPTIVE REAR DOORS SIDE (L))

CAV	CIRCUIT
A	M2 18YL
B	Z1 18BK



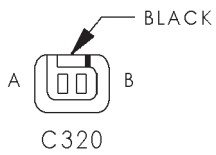
C319 - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
A	M2 20YL
B	Z1 20BK



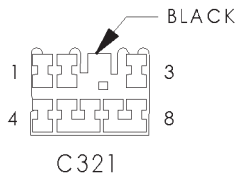
C320 - BLACK (SWITCH ADAPTIVE REAR DOORS SIDE (R))

CAV	CIRCUIT
A	M2 18YL
B	Z1 18BK



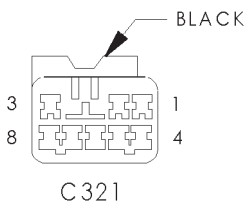
C320 - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
A	M2 20YL
B	Z1 20BK



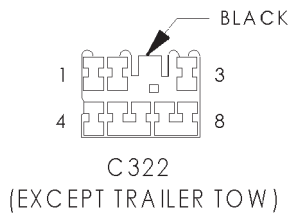
C321 - BLACK (RIGHT TAIL LAMP HARNESS SIDE)

CAV	CIRCUIT
1	L62 18BR/RD
2	Z1 18BK
3	-
4	L38 18OR/WT (BUILT UP EXPORT)
5	L10 18BR/LG
6	L50 18WT/TN
7	L78 18DG/YL
8	-



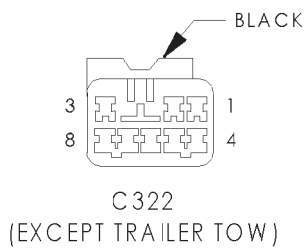
C321 - BLACK (UNIBODY SIDE)

CAV	CIRCUIT
1	L62 20BR/RD
2	Z1 18BK
3	-
4	L38 18BR/WT
5	L10 18BR/LG
6	L50 20WT/TN
7	L78 18DG/YL
8	-



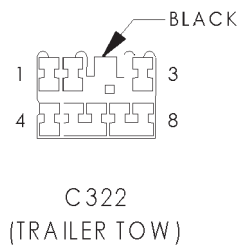
C322 (EXCEPT TRAILER TOW) - BLACK (LEFT TAIL LAMP HARNESS SIDE)

CAV	CIRCUIT
1	L63 18DG/RD
2	Z1 18BK (EXCEPT BUILT UP EXPORT)
3	-
4	L38 18OR/WT (BUILT UP EXPORT)
5	L10 18BR/LG
6	L50 18WT/TN
7	L77 18BR
8	-
2	Z1 16BK (BUILT UP EXPORT)



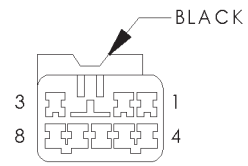
C322 (EXCEPT TRAILER TOW) - BLACK (TRAILER TOW OR UNIBODY SIDE)

CAV	CIRCUIT
1	L63 20DG/RD
2	Z1 14BK
3	A6 20RD/OR
4	L38 18BR/WT
5	L10 18BR/LG
6	L50 20WT/TN
7	L77 18BR/YL
8	L62 20BR/RD



C322 (TRAILER TOW) - BLACK (LEFT TAIL LAMP HARNESS SIDE)

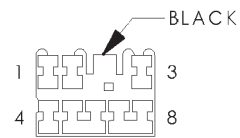
CAV	CIRCUIT
1	L63 18DG/RD
2	Z1 18BK (EXCEPT BUILT UP EXPORT)
3	-
4	L38 18OR/WT (BUILT UP EXPORT)
5	L10 18BR/LG
6	L50 18WT/TN
7	L77 18BR
8	-
2	Z1 16BK (BUILT UP EXPORT)



C322  
(TRAILER TOW)

C322 (TRAILER TOW) - BLACK (TRAILER TOW OR UNIBODY SIDE)

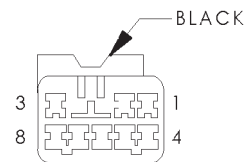
CAV	CIRCUIT
1	L63 20DG/RD
2	Z1 18BK
3	-
4	L38 18BR/WT
5	L10 18BR/LG
6	L50 20WT/TN
7	L77 18BR/YL
8	-



C323  
(TRAILER TOW)

C323 (TRAILER TOW) - BLACK (TRAILER TOW SIDE)

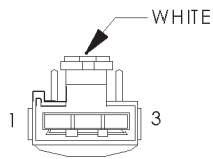
CAV	CIRCUIT
1	L63 20DG/RD
2	Z1 14BK
3	A6 20RD/OR
4	L38 20OR/WT
5	L10 18BR/LG
6	L50 20WT/TN
7	L77 20BR/YL
8	L62 20BK/RD



C323  
(TRAILER TOW)

C323 (TRAILER TOW) - BLACK (UNIBODY SIDE)

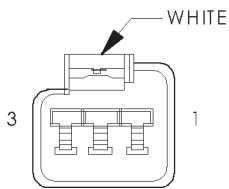
CAV	CIRCUIT
1	L63 20DG/RD
2	Z1 14BK
3	A6 20RD/OR
4	L38 18BR/WT
5	L10 18BR/LG
6	L50 20WT/TN
7	L77 18BR/YL
8	L62 20BR/RD



C324  
(RHD)  
(FULL OPTIONS)

C324 (RHD) (FULL OPTIONS) - WHITE (RIGHT FRONT DOOR SIDE)

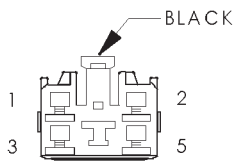
CAV	CIRCUIT
1	F83 18YL/DG
2	X80 18LB/BK
3	X82 18LB/RD



C324  
(RHD)  
(FULL OPTIONS)

C324 (RHD) (FULL OPTIONS) - WHITE (UNI-BODY SIDE)

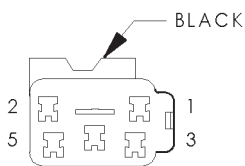
CAV	CIRCUIT
1	F83 18YL/DG
2	X80 18LB/BK (W/ POWER AMPLIFIER)
3	X82 18LB/RD (W/ POWER AMPLIFIER)



C326

C326 - BLACK (BODY TO LIFTGATE SIDE)

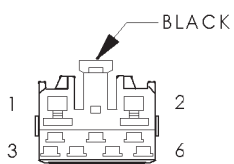
CAV	CIRCUIT
1	P33 16OR/BK
2	P34 16PK/BK
3	M4 20GY/BK
4	C15 12BK/WT
5	L50 18WT/TN



C326

C326 - BLACK (UNIBODY SIDE)

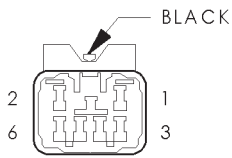
CAV	CIRCUIT
1	P33 16OR/BK (FULL OPTIONS)
2	P34 16PK/BK (FULL OPTIONS)
3	M4 20GY/BK
4	C15 12BK/WT
5	L50 20WT/TN



C327

C327 - BLACK (BODY TO LIFTGATE SIDE)

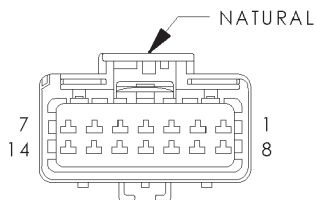
CAV	CIRCUIT
1	G78 20TN/BK
2	L77 18BR/YL
3	V13 18BR/LG
4	V23 18BR/PK
5	V20 18BK/WT
6	-



C 327

C327 - BLACK (UNIBODY SIDE)

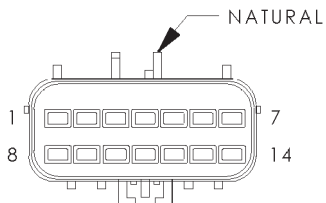
CAV	CIRCUIT
1	G78 20TN/BK
2	L77 18BR/YL
3	V13 18BR
4	V23 18BR/PK
5	V20 18BK/WT
6	-



C 329

C329 - NATURAL (POWER AND HEAT SEAT LH AND RH SIDE)

CAV	CIRCUIT
1	P133 18TN/LG
2	P134 18TN/RD
3	P137 18VT
4	P138 18VT/LG
5	P139 18VT/WT
6	P140 18VT/BK
7	P87 18BK/OR
8	P141 18TN/DB
9	P143 18BK/DG
10	F37 14RD/LB
11	F83 18YL/DG
12	Z1 18BK
13	Z2 18BK/LG
14	-

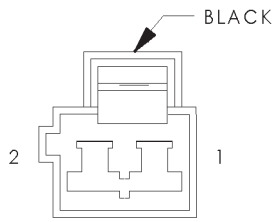


C 329

C329 - NATURAL (HEATED SEAT RH SIDE)

CAV	CIRCUIT
1	P133 18TN/DG
2	P134 18TN/RD
3	P137 18VT
4	P138 18VT/LG
5	P139 18VT/WT
6	P140 18VT/BK
7	P87 18BK/OR
8	P141 18TN/LB
9	P143 18BK/DG
10	F37 14RD/LB
11	F83 18YL/DG
12	Z1 18BK
13	Z2 18BK/LG
14	-

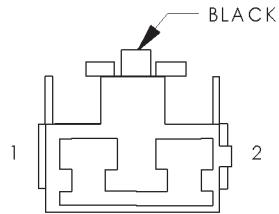




C 330

C330 - BLACK (LIFTGATE SIDE)

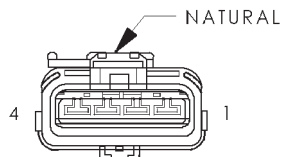
CAV	CIRCUIT
1	L77 18BR/YL
2	Z1 18BK



C 330

C330 - BLACK (LICENSE LAMP SIDE)

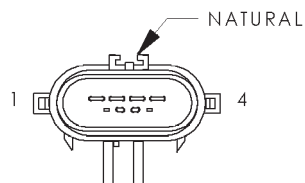
CAV	CIRCUIT
1	L78 18BK/YL
2	Z1 18BK



C 332

C332 - NATURAL (POWER AND HEAT SEAT LH AND RH SIDE)

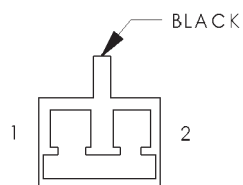
CAV	CIRCUIT
1	P141 18TN/DB
2	P143 18BK/DG
3	P87 18BK/OR
4	Z1 18BK



C 332

C332 - NATURAL (HEATED SEAT LH SIDE)

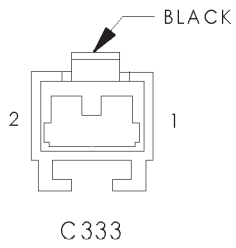
CAV	CIRCUIT
1	P141 18TN/LB
2	P143 18BK/DG
3	P87 18BK/OR
4	Z1 18BK



C 333

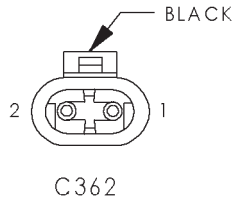
C333 - BLACK (BODY TO LIFTGATE SIDE)

CAV	CIRCUIT
1	L50 18WT/TN
2	Z1 18BK



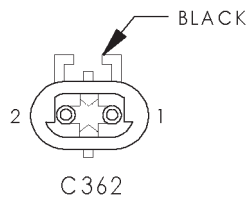
C333- BLACK (CHMSL SIDE)

CAV	CIRCUIT
1	L50 18DG/WT
2	Z1 18BK



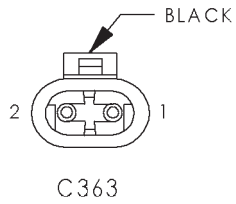
C362 - BLACK (POWER AND HEAT SEAT L AND R POWER SEAT DUAL SIDE)

CAV	CIRCUIT
1	F37 14RD/LB
2	Z1 14BK



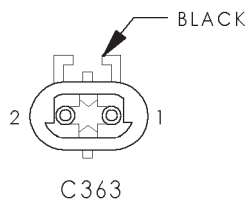
C362 - BLACK (LH POWER SEAT SIDE)

CAV	CIRCUIT
1	F37 14RD
2	Z1 14BK



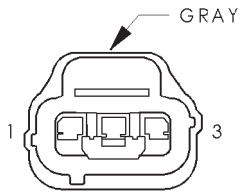
C363 - BLACK (POWER AND HEAT SEAT L AND R POWER SEAT DUAL SIDE)

CAV	CIRCUIT
1	F37 14RD/LB
2	Z1 14BK



C363 - BLACK (RH POWER SEAT SIDE)

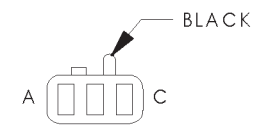
CAV	CIRCUIT
1	F37 14RD
2	Z1 14BK



CAMSHAFT  
POSITION  
SENSOR  
(GAS)

CAMSHAFT POSITION SENSOR (GAS) - GRAY 3 WAY

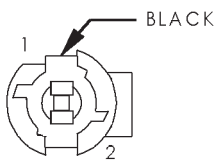
CAV	CIRCUIT	FUNCTION
1	K44 18TN/YL	CAMSHAFT POSITION SENSOR SIGNAL
2	K167 20BR/YL	SENSOR GROUND
3	K7 18OR	5V SUPPLY



CARGO  
LAMP/SWITCH

CARGO LAMP/SWITCH - BLACK 3 WAY

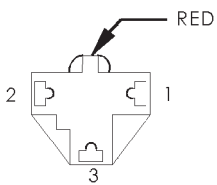
CAV	CIRCUIT	FUNCTION
A	M1 18PK (RHD)	FUSED B(+)
A	M1 20PK (LHD)	FUSED B(+)
C	M2 20YL	COURTESY LAMPS DRIVER
D	M4 20GY/BK	LIFTGATE COURTESY LAMP DRIVER



CENTER HIGH  
MOUNTED STOP  
LAMP

CENTER HIGH MOUNTED STOP LAMP - BLACK 2 WAY

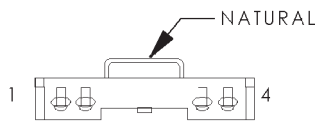
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L50 18DG/WT	PRIMARY BRAKE LAMP SWITCH SIGNAL



CIGAR  
LIGHTER

CIGAR LIGHTER - RED 3 WAY

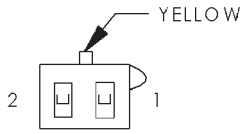
CAV	CIRCUIT	FUNCTION
1	F30 16RD	CIGAR LIGHTER RELAY OUTPUT
2	-	-
3	Z1 16BK	GROUND



CLOCKSPRING - C1

CLOCKSPRING C1 - NATURAL 4 WAY

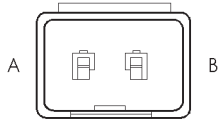
CAV	CIRCUIT	FUNCTION
1	X3 20BK/RD	HORN RELAY CONTROL
2	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL
3	K4 20BK/RD	SENSOR GROUND
4	-	-



CLOCKSPRING - C2

CLOCKSPRING C2 - YELLOW 2 WAY

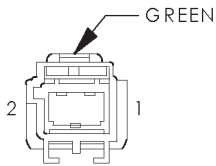
CAV	CIRCUIT	FUNCTION
A	R45 18DG/LB	DRIVER AIRBAG LINE 2
B	R43 18BK/LB	DRIVER AIRBAG LINE 1



CLOCKSPRING - C3

CLOCKSPRING C3 - 2 WAY

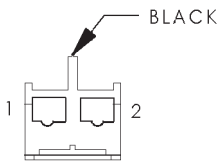
CAV	CIRCUIT	FUNCTION
1	K167 20BR/YL	SENSOR GROUND
2	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL



CLUTCH INTERLOCK SWITCH

CLUTCH INTERLOCK SWITCH - GREEN 2 WAY

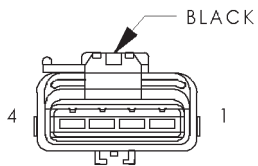
CAV	CIRCUIT	FUNCTION
1	T141 20YL (EXCEPT LHD DIESEL)	IGNITION SWITCH OUTPUT (START)
2	F45 20YL/RD (EXCEPT LHD DIESEL)	FUSED IGNITION SWITCH OUTPUT (START)
1	F45 20YL/RD (LHD DIESEL)	FUSED IGNITION SWITCH OUTPUT (START)
2	T141 20YL (LHD DIESEL)	IGNITION SWITCH OUTPUT (START)



CLUTCH INTERLOCK SWITCH JUMPER

CLUTCH INTERLOCK SWITCH JUMPER - BLACK 2 WAY

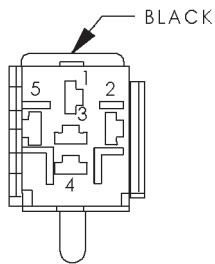
CAV	CIRCUIT	FUNCTION
1	F45 18YL	FUSED IGNITION SWITCH OUTPUT (START)
2	F45 18YL	FUSED IGNITION SWITCH OUTPUT (START)



COIL RAIL

COIL RAIL - BLACK 4 WAY

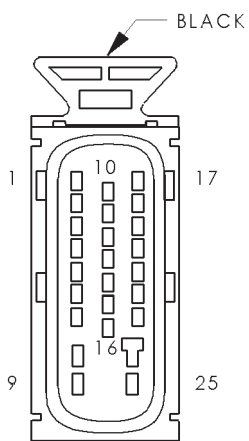
CAV	CIRCUIT	FUNCTION
1	K19 18GY	IGNITION COIL NO. 1 DRIVER
2	A142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
3	K17 18DB/TN	IGNITION COIL NO. 2 DRIVER
4	K18 18RD/YL	IGNITION COIL NO. 3 DRIVER



COMBINATION  
FLASHER

COMBINATION FLASHER - BLACK 5 WAY

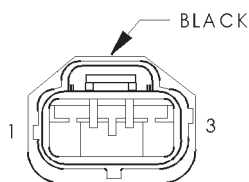
CAV	CIRCUIT	FUNCTION
1	L5 20BK	FUSED IGNITION SWITCH OUTPUT (RUN)
2	L9 20BK/PK	FUSED B(+)
3	L12 20VT/TN	HAZARD FLASHER SELECT SIGNAL
4	L6 20RD/WT	FLASHER OUTPUT
5	Z1 20BK	GROUND
5	Z1 18BK (RHD)	GROUND



CONTROLLER  
ANTI-LOCK  
BRAKE

CONTROLLER ANTILOCK BRAKE - BLACK 25 WAY

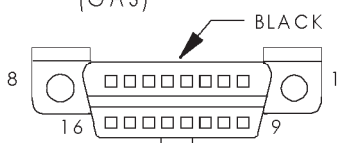
CAV	CIRCUIT	FUNCTION
1	B1 18YL/DB	RIGHT REAR WHEEL SPEED SENSOR (-)
2	B3 18LG/DB	LEFT REAR WHEEL SPEED SENSOR (-)
3	B7 18WT	RIGHT FRONT WHEEL SPEED SENSOR (+)
4	B9 18RD	LEFT FRONT WHEEL SPEED SENSOR (+)
5	-	-
6	B41 18YL/VT	G SWITCH NO. 1 SENSE
7	B42 18TN/WT	G SWITCH NO. 2 SENSE
8	Z1 12BK	GROUND
9	A20 12RD/DB	FUSED B(+)
10	B4 18LG	LEFT REAR WHEEL SPEED SENSOR (+)
11	B8 18RD/DB	LEFT FRONT WHEEL SPEED SENSOR (-)
12	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
13	B43 18PK/OR	G SWITCH TEST SIGNAL
14	-	-
15	-	-
16	G83 18GY/BK	ABS RELAY CONTROL
17	B2 18YL	RIGHT REAR WHEEL SPEED SENSOR (+)
18	B6 18WT/DB	RIGHT FRONT WHEEL SPEED SENSOR (+)
19	-	-
20	D21 18PK	SCI TRANSMIT
21	-	-
22	-	-
23	F15 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)
24	Z1 12BK	GROUND
25	A10 12RD/DG	FUSED B(+)



CRANKSHAFT  
POSITION  
SENSOR  
(GAS)

CRANKSHAFT POSITION SENSOR - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
1	K24 18GY/BK	CRANKSHAFT POSITION SENSOR SIGNAL
2	K167 20BR/YL	SENSOR GROUND
3	K7 20OR	5V SUPPLY



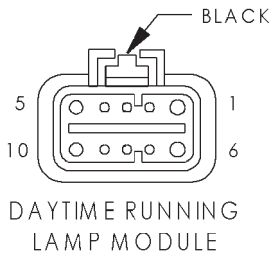
DATA LINK  
CONNECTOR

DATA LINK CONNECTOR - BLACK 16 WAY

CAV	CIRCUIT	FUNCTION
1	-	-

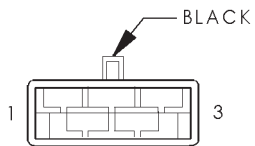
DATA LINK CONNECTOR - BLACK 16 WAY

CAV	CIRCUIT	FUNCTION
2	-	-
3	D1 18VT/BR	CCD BUS (+)
4	Z1 18BK	GROUND
5	Z12 18BK/TN	GROUND
6	D20 20LG/BK	SCI RECEIVE
7	D21 20PK	SCI TRANSMIT
8	-	-
9	-	-
10	-	-
11	D2 18WT/BK	CCD BUS (-)
12	-	-
13	-	-
14	-	-
15	-	-
16	F34 18TN/BK	FUSED B(+)



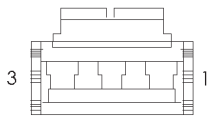
DAYTIME RUNNING LAMP MODULE - BLACK 10 WAY

CAV	CIRCUIT	FUNCTION
1	L3 16RD	DIMMER SWITCH HIGH BEAM OUTPUT
2	-	-
3	-	-
4	G34 16RD/GY	HIGH BEAM INDICATOR DRIVER
5	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
6	A3 14RD/WT	FUSED B(+)
7	G7 20WT/OR	VEHICLE SPEED SENSOR SIGNAL
8	Z12 16BK/TN	GROUND
9	-	-
10	L44 18VT/RD	FUSED RIGHT LOW BEAM OUTPUT



DIODE MODULE (BUILT-UP-EXPORT) - BLACK 3 WAY

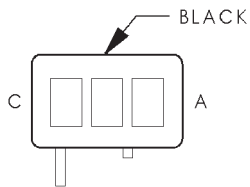
CAV	CIRCUIT	FUNCTION
1	L2 16LG	HEADLAMP RELAY OUTPUT
2	L25 18BR	REAR FOG LAMP FEED
3	L92 18LB	FOG LAMP SWITCH OUTPUT



DOME LAMP  
(BASE/POLICE)

DOME LAMP (BASE/POLICE) - 3 WAY

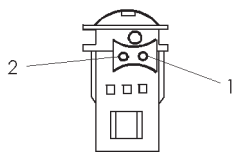
CAV	CIRCUIT	FUNCTION
1	-	-
2	M1 20PK	FUSED B(+)
3	M2 20YL	COURTESY LAMPS DRIVER



DOME LAMPS  
SWITCH  
(MIDLINE)

DOME LAMPS SWITCH (MIDLINE) - BLACK 3 WAY

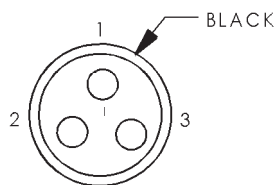
CAV	CIRCUIT	FUNCTION
A	Z1 20BK	GROUND
B	M2 20YL	COURTESY LAMPS DRIVER
C	M1 20PK	FUSED B(+)



DRIVER AIRBAG

DRIVER AIRBAG - 2 WAY

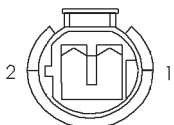
CAV	CIRCUIT	FUNCTION
1	BK	DRIVER AIRBAG LINE 2
2	BK	DRIVER AIRBAG LINE 1



DRIVER DOOR  
AJAR SWITCH

DRIVER DOOR AJAR SWITCH - BLACK 3 WAY

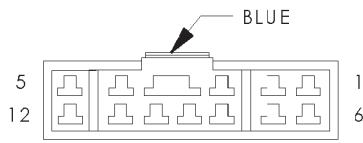
CAV	CIRCUIT	FUNCTION
1	M2 18YL	COURTESY LAMPS DRIVER
2	G16 18BK/LB	DRIVER DOOR AJAR SWITCH SENSE
3	Z1 18BK	GROUND



DRIVER DOOR  
POWER LOCK  
MOTOR

DRIVER DOOR LOCK MOTOR - 2 WAY

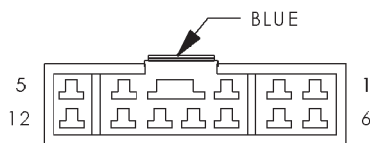
CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	P33 16OR/BK	DOOR LOCK DRIVER



DRIVER DOOR  
MODULE-C1  
(LHD)  
(FULL OPTIONS)

DRIVER DOOR MODULE C1 (LHD) (FULL OPTIONS) - BLUE 12 WAY

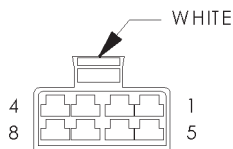
CAV	CIRCUIT	FUNCTION
1	Q28 14DG/WT	MASTER WINDOW SWITCH RIGHT REAR DOWN
2	Q18 14GY/BK	RIGHT REAR WINDOW DRIVER UP
3	Q16 14BR/WT	MASTER WINDOW SWITCH PASSENGER UP
4	Q17 14DB/WT	LEFT REAR WINDOW DRIVER UP
5	Q11 14LB	DRIVER WINDOW DRIVER UP
6	Q26 14VT/WT	MASTER WINDOW SWITCH PASSENGER DOWN
7	P35 18OR/VT	DOOR LOCK SWITCH OUTPUT (LOCK)
8	Z1 14BK	GROUND
9	F81 14TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	Q27 14RD/BK	LEFT REAR WINDOW DRIVER DOWN
11	P36 18PK/VT	DOOR LOCK SWITCH OUTPUT (UNLOCK)
12	Q21 14WT	DRIVER WINDOW DRIVER DOWN



DRIVER DOOR  
MODULE-C1  
(RHD)  
(FULL OPTIONS)

DRIVER DOOR MODULE C1 (RHD) (FULL OPTIONS) - BLUE 12 WAY

CAV	CIRCUIT	FUNCTION
1	Q28 14DG/WT	MASTER WINDOW SWITCH RIGHT REAR DOWN
2	Q18 14GY/BK	RIGHT REAR WINDOW DRIVER UP
3	Q11 14BR	DRIVER WINDOW DRIVER UP
4	Q17 14DB/WT	LEFT REAR WINDOW DRIVER UP
5	Q16 14BR/WT	MASTER WINDOW SWITCH PASSENGER UP
6	Q21 14VT	DRIVER WINDOW DRIVER DOWN
7	P35 18OR/VT	DOOR LOCK SWITCH OUTPUT (LOCK)
8	Z1 14BK	GROUND
9	F81 14TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	Q27 14RD/BK	LEFT REAR WINDOW DRIVER DOWN
11	P36 18PK/VT	DOOR LOCK SWITCH OUTPUT (UNLOCK)
12	Q26 14VT/WT	MASTER WINDOW SWITCH PASSENGER DOWN

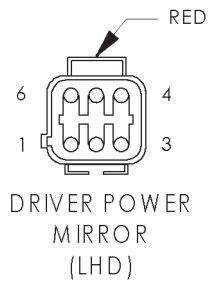


DRIVER DOOR  
MODULE-C2  
(FULL OPTIONS)

DRIVER DOOR MODULE C2 (FULL OPTIONS) - WHITE 8 WAY

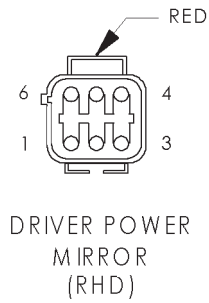
CAV	CIRCUIT	FUNCTION
1	P71 20YL (LHD)	LEFT MIRROR VERTICAL DRIVER
1	P71 20YL/LB (RHD)	LEFT MIRROR VERTICAL DRIVER
2	P76 20OR/YL	MIRROR COMMON DRIVER
3	F83 18YL/DG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
4	P74 20DB	RIGHT MIRROR HORIZONTAL DRIVER
5	Z1 14BK (LHD)	GROUND
5	Z1 16BK (RHD)	GROUND
6	P75 20DB/WT	LEFT MIRROR HORIZONTAL DRIVER
7	P72 20YL/BK	RIGHT MIRROR VERTICAL DRIVER
8	Q1 14YL	WINDOW SWITCH FEED





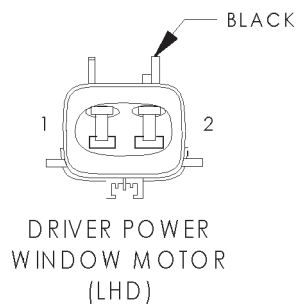
DRIVER POWER MIRROR (LHD) - RED 6 WAY

CAV	CIRCUIT	FUNCTION
1	P71 20YL	LEFT MIRROR VERTICAL DRIVER
2	P75 20DB/WT (POWER MIRRORS)	LEFT MIRROR HORIZONTAL DRIVER
2	P76 20OR/YL (FULL OPTIONS)	MIRROR COMMON DRIVER
3	P91 20WT/BK (POWER MIRRORS)	MIRROR COMMON DRIVER
3	P75 20DB/WT (FULL OPTIONS)	LEFT MIRROR HORIZONTAL DRIVER
4	P76 20OR/YL	MIRROR COMMON DRIVER
5	C16 20BK/WT (POWER MIRRORS)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
5	C16 20LB/YL (FULL OPTIONS)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
6	Z1 18BK (POWER MIRRORS)	GROUND
6	Z1 16BK (FULL OPTIONS)	GROUND



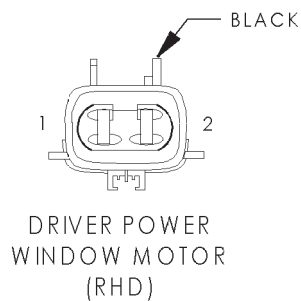
DRIVER POWER MIRROR (RHD) - RED 6 WAY

CAV	CIRCUIT	FUNCTION
1	P72 20YL/BK	RIGHT MIRROR VERTICAL DRIVER
2	P74 20DB (POWER MIRRORS)	RIGHT MIRROR HORIZONTAL DRIVER
2	P76 20OR/YL (FULL OPTIONS)	MIRROR COMMON DRIVER
3	P91 20WT/BK (POWER MIRRORS)	MIRROR COMMON DRIVER
3	P74 20DB (FULL OPTIONS)	RIGHT MIRROR HORIZONTAL DRIVER
4	P76 20OR/YL	MIRROR COMMON DRIVER
5	C16 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
6	Z1 18BK	GROUND



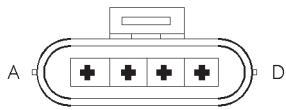
DRIVER POWER WINDOW MOTOR (LHD) - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	Q11 14LB	LEFT FRONT WINDOW DRIVER UP
2	Q21 14WT	LEFT FRONT WINDOW DRIVER DOWN



DRIVER POWER WINDOW MOTOR (RHD) - BLACK 2 WAY

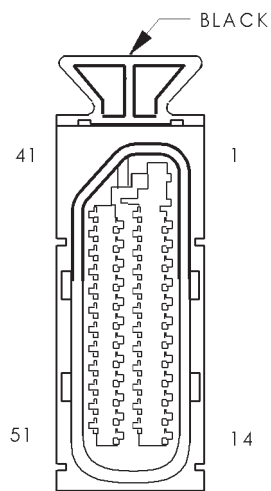
CAV	CIRCUIT	FUNCTION
1	Q11 14BR	RIGHT FRONT WINDOW DRIVER (UP)
2	Q21 14VT	RIGHT FRONT WINDOW DRIVER (DOWN)



EGR SOLENOID  
(DIESEL)

EGR SOLENOID (DIESEL) - 4 WAY

CAV	CIRCUIT	FUNCTION
A	F142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
B	K35 18GY/YL	EGR SOLENOID CONTROL
C	-	-
D	Z1 18BK	GROUND



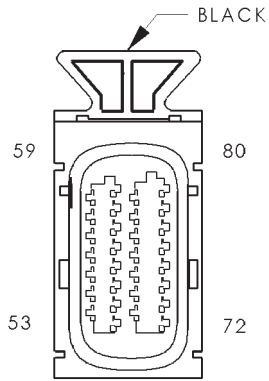
ENGINE CONTROL  
MODULE - C1  
(DIESEL)

ENGINE CONTROL MODULE C1 (DIESEL) - BLACK 51 WAY

CAV	CIRCUIT	FUNCTION
1	Z12 14BK/TN	GROUND
2	A142 16DG/OR	AUTOMATIC SHUT DOWN RELAY OUTPUT
3	-	-
4	-	-
5	C13 20DB/OR	A/C COMPRESSOR CLUTCH RELAY CONTROL
6	K159 18VT/RD	ENGINE SPEED SENSOR SIGNAL
7	-	-
8	C103 18DG	A/C REQUEST INPUT
9	K29 20WT/PK	BRAKE LAMP SWITCH SENSE
10	C22 20DB/WT	A/C PRESSURE SWITCH SENSE
11	K6 20VT/WT	5V SUPPLY
12	K151 20WT	LOW IDLE POSITION SWITCH SIGNAL
13	K21 20BK/RD	INTAKE AIR TEMPERATURE SENSOR SIGNAL
14	-	-
15	-	-
16	-	-
17	C27 18DB/PK	RADIATOR FAN RELAY CONTROL
18	G8 18LB/BK	FUEL MONITOR OUTPUT SIGNAL
19	-	-
20	L50 20WT/TN	BRAKE LAMP SWITCH OUTPUT
21	-	-
22	-	-
23	K255 20WT/DG	ACCELERATOR PEDAL POSITION SENSOR GROUND
24	K22 20OR/DB	ACCELERATOR PEDAL POSITION SENSOR SIGNAL
25	-	-
26	-	-
27	Z12 16BK/TN	GROUND
28	A142 16DG/OR	AUTOMATIC SHUT DOWN RELAY OUTPUT
29	K35 18GY/YL	EGR SOLENOID CONTROL
30	V66 18RD/LG	SPEED CONTROL INDICATOR SIGNAL
31	-	-
32	K185 20OR/LB	WAIT TO START INDICATOR DRIVER
33	K51 20DB/YL	AUTOMATIC SHUT DOWN RELAY CONTROL
34	K48 18OR/RD	FAULT INDICATOR REQUEST INPUT
35	-	-
36	-	-
37	-	-
38	G55 18OR/BK	ENGINE DISABLE SIGNAL
39	K9 20LB	5V SUPPLY
40	K1 20DG/RD	BOOST PRESSURE SENSOR SIGNAL
41	-	-

ENGINE CONTROL MODULE C1 (DIESEL) - BLACK 51 WAY

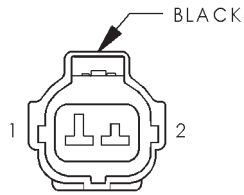
CAV	CIRCUIT	FUNCTION
42	K152 18WT	GLOW PLUG RELAY CONTROL
43	-	-
44	-	-
45	D21 20PK	SCI TRANSMIT
46	-	-
47	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
48	C48 18TN	RADIATOR FAN REQUEST
49	-	-
50	-	-
51	G7 20WT/OR	VEHICLE SPEED SENSOR SIGNAL



ENGINE CONTROL MODULE - C2 (DIESEL)

ENGINE CONTROL MODULE C2 (DIESEL) - BLACK 29 WAY

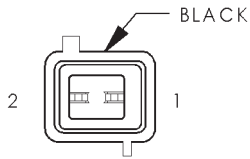
CAV	CIRCUIT	FUNCTION
52	-	-
53	K156 20GY	FUEL TEMPERATURE SENSOR SIGNAL
54	K2 20TN/BK	ENGINE COOLANT TEMPERATURE SENSOR SIGNAL
55	K68 18LG/YL	NEEDLE MOVEMENT SENSOR GROUND
56	K134 20LB/BK	CONTROL SLEEVE POSITION SENSOR SIGNAL
57	K57 20LG/OR	CONTROL SLEEVE POSITION SENSOR MIDDLE TAP
58	K135 20WT/BK	CONTROL SLEEVE POSITION SENSOR MEASURE COIL
59	K140 18TN/WT	FUEL QUANTITY ACTUATOR CONTROL
60	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL
61	K4 20BK/LB	SENSOR GROUND
62	K67 18BR/BK	NEEDLE MOVEMENT SENSOR SIGNAL
63	-	-
64	-	-
65	-	-
66	K140 18TN/WT	FUEL QUANTITY ACTUATOR CONTROL
67	K24 20GY/BK	ENGINE SPEED SENSOR SIGNAL
68	-	-
69	K3 20LG/BK	ENGINE SPEED SENSOR GROUND
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	K153 18OR	FUEL SHUTDOWN SOLENOID CONTROL
78	-	-
79	K126 18LG	FUEL TIMING SOLENOID CONTROL
80	K140 18TN/WT	FUEL QUANTITY ACTUATOR CONTROL



ENGINE COOLANT TEMPERATURE SENSOR (GAS)

ENGINE COOLANT TEMPERATURE SENSOR (GAS) - BLACK 2 WAY

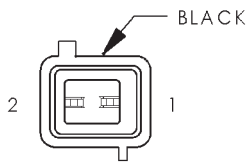
CAV	CIRCUIT	FUNCTION
1	K167 20BR/YL	SENSOR GROUND
2	K2 18TN/BK	ENGINE COOLANT TEMPERATURE SENSOR SIGNAL



ENGINE COOLANT TEMPERATURE SENSOR NO. 1 (DIESEL ECM)

ENGINE COOLANT TEMPERATURE SENSOR NO. 1 (DIESEL ECM) - BLACK 2 WAY

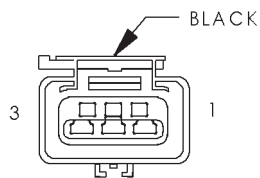
CAV	CIRCUIT	FUNCTION
1	K2 18TN/BK	ECM ENGINE COOLANT TEMPERATURE SENSOR SIGNAL
2	K4 18BK/LB	SENSOR GROUND



ENGINE COOLANT TEMPERATURE SENSOR NO. 2 (DIESEL PCM)

ENGINE COOLANT TEMPERATURE SENSOR NO. 2 (DIESEL PCM) - BLACK 2 WAY

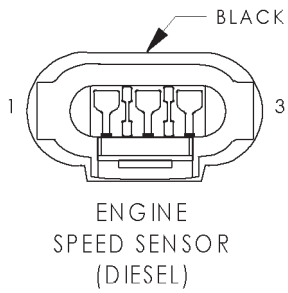
CAV	CIRCUIT	FUNCTION
1	K222 18TN/RD	PCM ENGINE COOLANT TEMPERATURE SENSOR SIGNAL
2	K167 18BR/YL	SENSOR GROUND



ENGINE OIL PRESSURE SENSOR

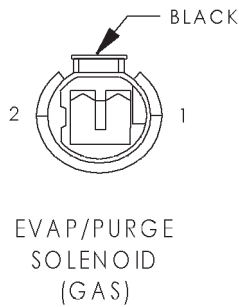
ENGINE OIL PRESSURE SENSOR - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
1	K6 18VT/OR (GAS)	5V SUPPLY
2	G60 18GY/YL	ENGINE OIL PRESSURE SENSOR SIGNAL
3	K167 18BR/YL (GAS)	SENSOR GROUND
1	K7 20OR (DIESEL)	5V SUPPLY
3	K167 20BR/YL (DIESEL)	SENSOR GROUND



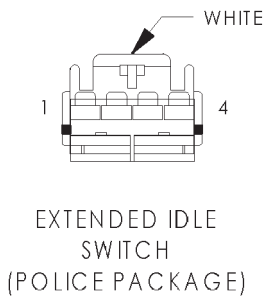
ENGINE SPEED SENSOR (DIESEL) - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
1	K3 20LG/BK	ENGINE SPEED SENSOR GROUND
2	-	-
3	K24 20GY/BK	ENGINE SPEED SENSOR SIGNAL



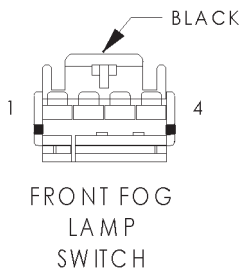
EVAP/PURGE SOLENOID (GAS)- BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	K52 18PK/BK	DUTY CYCLE EVAP PURGE/SOLENOID CONTROL
2	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)



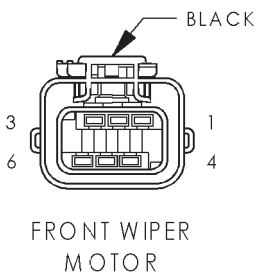
EXTENDED IDLE SWITCH (POLICE PACKAGE) - WHITE 4 WAY

CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	K78 20GY	IDLE ACTUATOR
3	F15 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)
4	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL



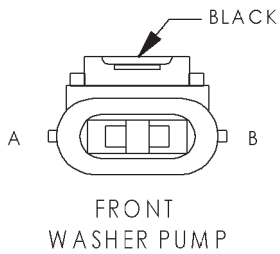
FRONT FOG LAMP SWITCH - BLACK 4 WAY

CAV	CIRCUIT	FUNCTION
1	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
2	L92 20LB	FOG LAMP SWITCH OUTPUT
3	L139 20VT	FUSED HEADLAMP SWITCH OUTPUT
4	Z1 20BK	GROUND



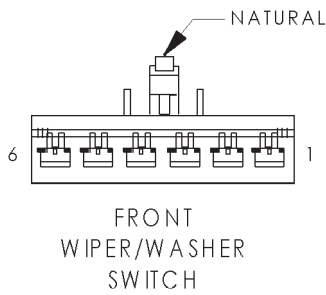
FRONT WIPER MOTOR - BLACK 6 WAY

CAV	CIRCUIT	FUNCTION
1	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
2	V5 16DG/YL	WIPER PARK SWITCH SENSE
3	-	-
4	Z1 16BK	GROUND
5	V3 16BR/WT	WIPER LOW SPEED OUTPUT
6	V4 16BR/VT	WIPER HIGH SPEED OUTPUT



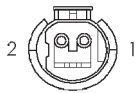
FRONT WASHER PUMP - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
A	V10 18BR	WASHER PUMP CONTROL
B	Z1 18BK	GROUND



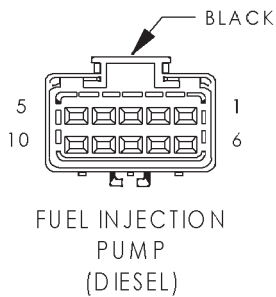
FRONT WIPER/WASHER SWITCH - NATURAL 6 WAY

CAV	CIRCUIT	FUNCTION
1	Z1 16BK/WT	GROUND
2	V5 16DG/YL	WIPER PARK SWITCH SENSE
3	V10 18BR	WASHER PUMP CONTROL
4	V3 16BR/WT	WIPER LOW SPEED OUTPUT
5	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
6	V4 16BR/VT	WIPER HIGH SPEED OUTPUT



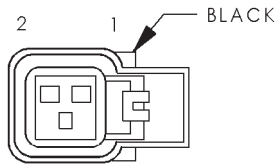
FUEL HEATER (DIESEL) - 2 WAY

CAV	CIRCUIT	FUNCTION
1	A93 14RD/BK	FUEL HEATER RELAY OUTPUT
2	Z1 16BK	GROUND



FUEL INJECTION PUMP (DIESEL) - BLACK 10 WAY

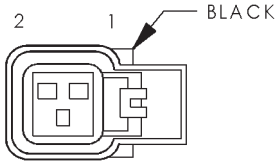
CAV	CIRCUIT	FUNCTION
1	K134 20LB/BK	CONTROL SLEEVE POSITION SENSOR SIGNAL
2	K57 20LG/OR	CONTROL SLEEVE POSITION SENSOR MIDDLE TAP SIGNAL
3	K135 20WT/BK	CONTROL SLEEVE POSITION SENSOR MEASURE COIL
4	K4 20BK/LB	SENSOR GROUND
5	K126 18LG	FUEL TIMING SOLENOID CONTROL
6	K153 18OR	FUEL SHUT DOWN SOLENOID CONTROL
7	K156 20GY	FUEL TEMPERATURE SENSOR SIGNAL
8	K140 16TN/WT	FUEL QUANTITY ACTUATOR CONTROL
9	A142 16DG/OR	AUTOMATIC SHUT DOWN RELAY OUTPUT
10	F142 16DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT



FUEL INJECTOR NO. 1

FUEL INJECTOR NO. 1 - BLACK 2 WAY

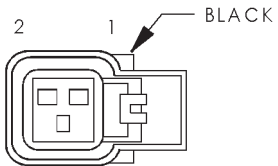
CAV	CIRCUIT	FUNCTION
1	A142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
2	K11 18WT/DB	FUEL INJECTOR NO. 1 DRIVER



FUEL INJECTOR NO. 2

FUEL INJECTOR NO. 2 - BLACK 2 WAY

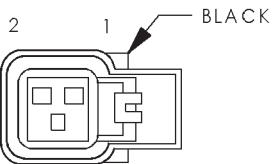
CAV	CIRCUIT	FUNCTION
1	A142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
2	K11 18TN	FUEL INJECTOR NO. 2 DRIVER



FUEL INJECTOR NO. 3

FUEL INJECTOR NO. 3 - BLACK 2 WAY

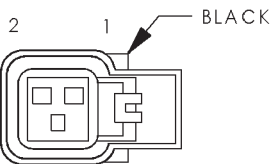
CAV	CIRCUIT	FUNCTION
1	A142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
2	K13 18YL/WT	FUEL INJECTOR NO. 3 DRIVER



FUEL INJECTOR NO. 4

FUEL INJECTOR NO. 4 - BLACK 2 WAY

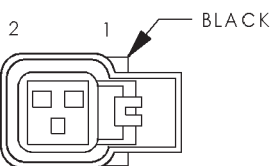
CAV	CIRCUIT	FUNCTION
1	A142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
2	K11 18LB/BR	FUEL INJECTOR NO. 4 DRIVER



FUEL INJECTOR NO. 5

FUEL INJECTOR NO. 5 - BLACK 2 WAY

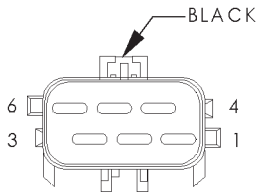
CAV	CIRCUIT	FUNCTION
1	A142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
2	K15 18PK/BK	FUEL INJECTOR NO. 5 DRIVER



FUEL INJECTOR NO. 6

FUEL INJECTOR NO. 6 - BLACK 2 WAY

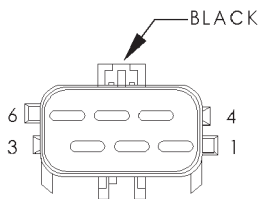
CAV	CIRCUIT	FUNCTION
1	A142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
2	K16 18LG/BK	FUEL INJECTOR NO. 6 DRIVER



FUEL LEVEL  
SENSOR  
(DIESEL)

FUEL LEVEL SENSOR (DIESEL) - BLACK 6 WAY

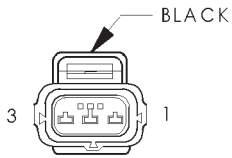
CAV	CIRCUIT	FUNCTION
1	A141 16DG/WT	NOT USED
2	-	-
3	K226 20DB/LG	FUEL LEVEL SENSOR SIGNAL
4	K167 20BR/YL	SENSOR GROUND
5	-	-
6	Z1 16BK	NOT USED



FUEL PUMP  
MODULE  
(GAS)

FUEL PUMP MODULE (GAS) - BLACK 6 WAY

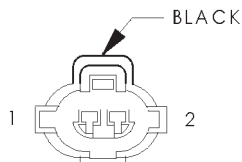
CAV	CIRCUIT	FUNCTION
1	A141 16DG/WT	FUEL PUMP RELAY OUTPUT
2	-	-
3	K226 20DB/LG	FUEL LEVEL SENSOR SIGNAL
4	K167 20BR/YL	SENSOR GROUND
5	-	-
6	Z1 16BK	GROUND



G-SWITCH

G-SWITCH - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
1	B42 20TN/WT	G SWITCH NO. 2 SENSE
2	B41 20YL/VT	G SWITCH NO. 1 SENSE
3	B43 20PK/OR	G SWITCH TEST SIGNAL

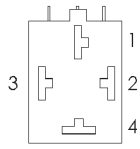


GENERATOR

GENERATOR - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	K72 16DG/OR (GAS)	GENERATOR SOURCE
2	K20 16DG (GAS)	GENERATOR FIELD
1	K72 18DG/OR (DIESEL)	GENERATOR SOURCE
2	K20 18DG (DIESEL)	GENERATOR FIELD

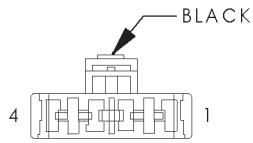




GLOW PLUG RELAY (DIESEL)

GLOW PLUG RELAY (DIESEL) - 4 WAY

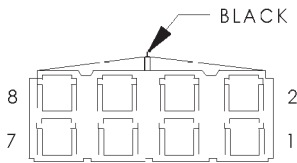
CAV	CIRCUIT	FUNCTION
1	A54 10RD/GY	FUSED B(+)
2	F142 18DG/OR	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
3	K152 18WT	GLOW PLUG RELAY CONTROL
4	K154 10GY	GLOW PLUG RELAY OUTPUT



HEADLAMP BEAM SELECT SWITCH

HEADLAMP BEAM SELECT SWITCH - BLACK 4 WAY

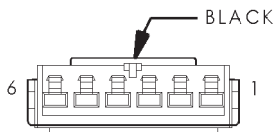
CAV	CIRCUIT	FUNCTION
1	L4 16VT/WT	DIMMER SWITCH LOW BEAM OUTPUT
2	L2 14LG	HEADLAMP SWITCH OUTPUT
3	L3 16RD/OR	DIMMER SWITCH HIGH BEAM OUTPUT
4	L20 14LG/WT	FUSED B(+)
3	L3 16RD/OR	DIMMER SWITCH HIGH BEAM OUTPUT



HEADLAMP DELAY MODULE

HEADLAMP DELAY MODULE - BLACK 8 WAY

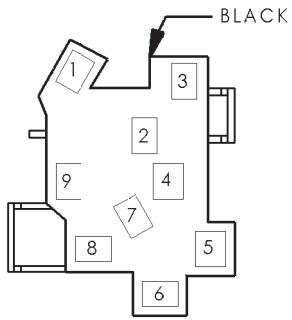
CAV	CIRCUIT	FUNCTION
1	-	-
2	A3 14RD/WT	FUSED B(+)
3	-	-
4	Z1 18BK	GROUND
5	-	-
6	L2 14LG (EXCEPT BUILT UP EXPORT)	HEADLAMP SWITCH OUTPUT
6	L2 14LG	HEADLAMP SWITCH OUTPUT
7	-	-
8	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)



HEADLAMP LEVELING SWITCH (BUILT-UP-EXPORT)

HEADLAMP LEVELING SWITCH (BUILT UP EXPORT) - BLACK 6 WAY

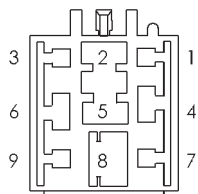
CAV	CIRCUIT	FUNCTION
1	-	-
2	L13 20BR/YL	HEADLAMP ADJUST SIGNAL
3	L44 20VT/RD	FUSED RIGHT LOW BEAM OUTPUT
4	-	-
5	Z15 20BK/GY	GROUND
6	-	-



HEADLAMP SWITCH

HEADLAMP SWITCH - BLACK 9 WAY

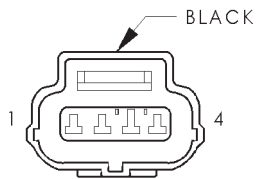
CAV	CIRCUIT	FUNCTION
1	E1 20TN	PANEL LAMPS DIMMER SWITCH SIGNAL
2	L2 14LG	HEADLAMP SWITCH OUTPUT
3	M2 20YL	COURTESY LAMPS DRIVER
4	F34 18TN/BK	FUSED B(+)
4	F34 18TN/BK (LHD EXCEPT BUILT UP EXPORT)	FUSED B(+)
5	G26 20LB	KEY-IN IGNITION SWITCH SENSE
6	G16 20BK/LB	DRIVER DOOR AJAR SWITCH SENSE
7	L20 14LG/WT	FUSED B(+)
8	A3 14RD/WT	FUSED B(+)
8	A3 14RD/WT	FUSED B(+)
9	L7 18BK/YL	HEADLAMP SWITCH OUTPUT
6	G16 20BK/LB	DRIVER DOOR AJAR SWITCH SENSE



HEATED SEAT RELAY

HEATED SEAT RELAY - 9 WAY

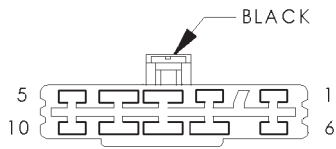
CAV	CIRCUIT	FUNCTION
1	-	-
2	F235 16RD	B(+) TO HEATED SEAT MODULE
2	F235 16RD	B(+) TO HEATED SEAT MODULE
3	-	-
4	F38 18YL/DG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
5	-	-
6	Z1 18BK	GROUND
7	-	-
8	F37 14RD/LB	FUSED B(+)
9	-	-



IDLE AIR CONTROL MOTOR

IDLE AIR CONTROL MOTOR - BLACK 4 WAY

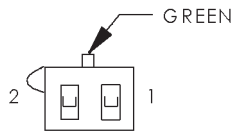
CAV	CIRCUIT	FUNCTION
1	K59 18VT/BK	IDLE AIR CONTROL NO. 4 DRIVER
2	K40 18BR/WT	IDLE AIR CONTROL NO. 3 DRIVER
3	K60 18YL/BK	IDLE AIR CONTROL NO. 2 DRIVER
4	K39 18GY/RD	IDLE AIR CONTROL NO. 1 DRIVER



IGNITION SWITCH - C1

IGNITION SWITCH C1 - BLACK 10 WAY

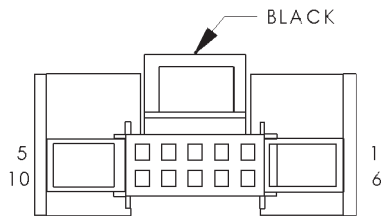
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
3	A2 12PK/BK	FUSED B(+)
4	A22 12BK/OR	IGNITION SWITCH OUTPUT (RUN)
5	-	-
6	-	-
7	A1 12RD	FUSED B(+)
8	A31 12BK/WT	IGNITION SWITCH OUTPUT (RUN-ACC)
9	A21 12DB	IGNITION SWITCH OUTPUT (RUN-START)
10	A41 14YL	IGNITION SWITCH OUTPUT (START)



IGNITION SWITCH - C2

IGNITION SWITCH C2 - GREEN 2 WAY

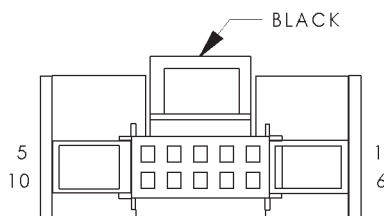
CAV	CIRCUIT	FUNCTION
1	G26 20LB	KEY-IN IGNITION SWITCH SENSE
2	G16 20BK/LB	DRIVER DOOR AJAR SWITCH SENSE



INSTRUMENT CLUSTER - C1 (LHD)

INSTRUMENT CLUSTER C1 (LHD) - BLACK 10 WAY

CAV	CIRCUIT	FUNCTION
1	G78 20TN/BK	LIFTGATE AJAR SWITCH SENSE
2	G99 20GY/WT	RED BRAKE WARNING INDICATOR DRIVER
3	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
4	G19 20LG/OR	ABS WARNING INDICATOR DRIVER
5	G34 16RD/GY	HIGH BEAM INDICATOR DRIVER
6	Z2 20BK/LG	GROUND
7	G29 20BK/LB	LOW WASHER FLUID SENSE
8	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
9	M1 20PK	FUSED B(+)
10	L61 20LG/WT	LEFT TURN SIGNAL



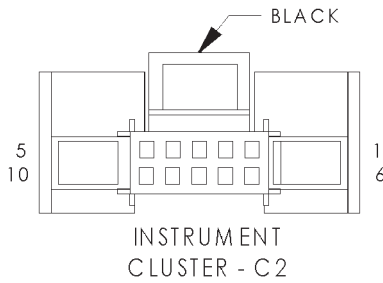
INSTRUMENT CLUSTER - C1 (RHD)

INSTRUMENT CLUSTER C1 (RHD) - BLACK 10 WAY

CAV	CIRCUIT	FUNCTION
1	G78 20TN/BK	LIFTGATE AJAR SWITCH SENSE
2	G99 20GY/WT	RED BRAKE WARNING INDICATOR DRIVER
3	E2 20OR	FUSED PANEL LAMPS SWITCH SIGNAL
4	G19 20LG/OR	ABS WARNING INDICATOR DRIVER
5	L3 16RD/OR	DIMMER SWITCH HIGH BEAM OUTPUT
6	Z2 20BK/LG	GROUND
7	G29 20BK/LB	LOW WASHER FLUID SENSE
8	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
9	M1 20PK	FUSED B(+)

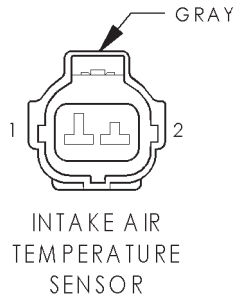
INSTRUMENT CLUSTER C1 (RHD) - BLACK 10 WAY

CAV	CIRCUIT	FUNCTION
10	L61 20LG/WT	LEFT TURN SIGNAL



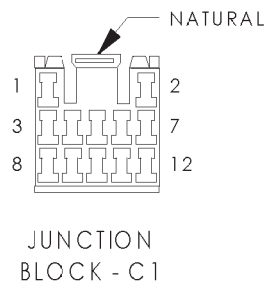
INSTRUMENT CLUSTER C2 - BLACK 10 WAY

CAV	CIRCUIT	FUNCTION
1	D2 20WT/BK	CCD BUS(-)
2	D1 20VT/BR	CCD BUS(+)
3	C81 20LB/WT	REAR WINDOW DEFOGGER RELAY CONTROL
4	C80 20DB/WT	REAR WINDOW DEFOGGER SWITCH SENSE
5	G107 20BK/RD	4WD SWITCH SENSE (PART-TIME)
6	L60 20TN	RIGHT TURN SIGNAL
7	G106 20BK/WT	4WD SWITCH SENSE (FULL-TIME)
8	G26 20LB	KEY-IN IGNITION SWITCH SENSE
9	Z2 18BK/LG	GROUND
10	G10 20LG/RD	SEAT BELT SWITCH SENSE



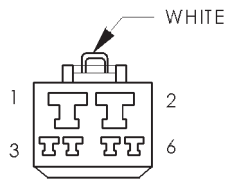
INTAKE AIR TEMPERATURE SENSOR - GRAY 2 WAY

CAV	CIRCUIT	FUNCTION
1	K167 20BR/YL	SENSOR GROUND
2	K21 18BK/RD	INTAKE AIR TEMPERATURE SENSOR SIGNAL



JUNCTION BLOCK C1 - NATURAL 12 WAY

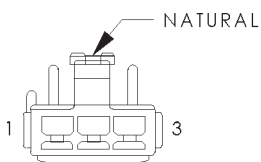
CAV	CIRCUIT	FUNCTION
1	L44 20VT/RD	FUSED RIGHT LOW BEAM OUTPUT
2	-	-
3	F45 20YL/RD	FUSED B(+) ENGINE STARTER MOTOR RELAY
4	-	-
5	L78 20DG/YL (DIESEL)	FUSED HEADLAMP SWITCH OUTPUT
6	F15 20DB/WT (ABS)	FUSED IGNITION SWITCH OUTPUT (RUN)
7	-	-
8	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
9	L33 20RD	FUSED LEFT HIGH BEAM OUTPUT
10	L43 20VT	FUSED LEFT LOW BEAM OUTPUT
11	L34 20RD/OR	FUSED RIGHT HIGH BEAM OUTPUT
12	M1 20PK	FUSED B(+)
5	L78 20DG/YL (GAS)	FUSED HEADLAMP SWITCH OUTPUT



JUNCTION BLOCK - C2

JUNCTION BLOCK C2 - WHITE 6 WAY

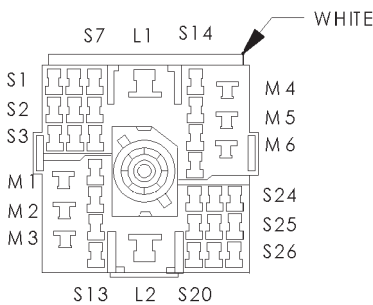
CAV	CIRCUIT	FUNCTION
1	A4 12BK/PK	FUSED B(+)
2	A7 10RD/BK	FUSED B(+)
3	-	-
4	X2 20DG/RD	HORN RELAY OUTPUT
5	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
6	L77 20BR/YL (GAS)	FUSED HEADLAMP SWITCH OUTPUT
6	L77 18BR/YL	FUSED HEADLAMP SWITCH OUTPUT



JUNCTION BLOCK - C3

JUNCTION BLOCK C3 - NATURAL 3 WAY

CAV	CIRCUIT	FUNCTION
1	M2 20YL	COURTESY LAMPS DRIVER
2	Z1 20BK (OVERHEAD CONSOLE)	GROUND
3	M1 20PK	FUSED B(+)



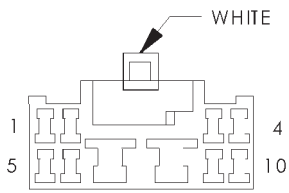
JUNCTION BLOCK - C4

JUNCTION BLOCK C4 - WHITE 34 WAY

CAV	CIRCUIT	FUNCTION
L1	A31 12BK/WT	IGNITION SWITCH OUTPUT (RUN-ACC)
L2	A21 12DB	IGNITION SWITCH OUTPUT (RUN-START)
M1	A41 14YL	IGNITION SWITCH OUTPUT (START)
M2	A22 12BK/OR	IGNITION SWITCH OUTPUT (RUN)
M3	L7 18BK/YL	HEADLAMP SWITCH OUTPUT
M4	V6 16DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
M5	F38 16RD/LB	FUSED B(+)
M6	F30 16RD	CIGAR LIGHTER RELAY OUTPUT
S1	E1 20TN	PANEL LAMPS DIMMER SWITCH SIGNAL
S2	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
S3	L4 16VT/WT	DIMMER SWITCH LOW BEAM OUTPUT
S4	F83 18YL/DG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
S5	Z1 14BK	GROUND
S6	-	-
S7	L3 16RD/OR	DIMMER SWITCH HIGH BEAM OUTPUT
S8	F15 20DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN)
S9	X12 16RD/WT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
S10	-	-
S11	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
S12	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
S13	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
S14	-	-
S15	-	-
S16	-	-
S17	-	-
S18	M1 20PK	FUSED B(+)
S19	C16 20LB/YL (LHD)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
S19	C16 20BK/WT (RHD)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
S20	L5 20BK	FUSED IGNITION SWITCH OUTPUT (RUN)

JUNCTION BLOCK C4 - WHITE 34 WAY

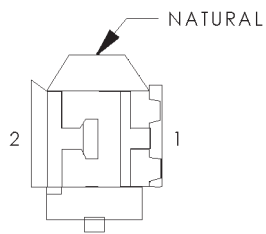
CAV	CIRCUIT	FUNCTION
S21	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
S22	X3 20BK/RD	HORN RELAY CONTROL
S23	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN-START)
S24	-	-
S25	M2 20YL	COURTESY LAMPS DRIVER
S26	C81 20LB/WT	REAR WINDOW DEFOGGER RELAY CONTROL



JUNCTION BLOCK - C5

JUNCTION BLOCK C5 - WHITE 10 WAY

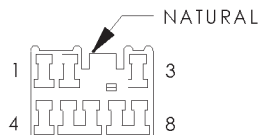
CAV	CIRCUIT	FUNCTION
1	X3 20BK/RD	HORN RELAY CONTROL
2	P76 20OR/YL	MIRROR COMMON DRIVER
3	P91 20WT/BK	MIRROR COMMON DRIVER
4	-	-
5	C16 20LB/YL (RHD)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
6	-	-
7	F35 16RD (RHD)	FUSED B(+)
8	F81 12TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
9	P74 20DB (RHD)	LEFT MIRROR HORIZONTAL DRIVER
9	P74 20DB (LHD)	RIGHT MIRROR HORIZONTAL DRIVER
10	P72 20YL/BK (RHD)	LEFT MIRROR VERTICAL DRIVER
10	P72 20YL/BK (LHD)	RIGHT MIRROR VERTICAL DRIVER



JUNCTION BLOCK - C6

JUNCTION BLOCK C6 - NATURAL 2 WAY

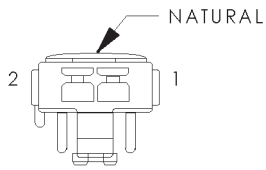
CAV	CIRCUIT	FUNCTION
1	C15 12BK/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
2	F37 14RD/LB (POWER SEATS)	FUSED B(+)



JUNCTION BLOCK - C7

JUNCTION BLOCK C7 - NATURAL 8 WAY

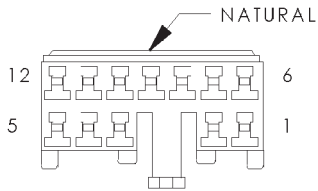
CAV	CIRCUIT	FUNCTION
1	P33 16OR/BK (FULL OPTIONS)	DOOR LOCK DRIVER
2	L77 18BR/YL	FUSED HEADLAMP SWITCH OUTPUT
3	P91 20WT/BK (RHD EXCEPT FULL OPTIONS)	MIRROR COMMON DRIVER
4	M1 20PK	FUSED B(+)
5	P34 16PK/BK (FULL OPTIONS)	DOOR UNLOCK DRIVER
6	L78 18DG/YL	FUSED HEADLAMP SWITCH OUTPUT
7	M2 20YL	COURTESY LAMPS DRIVER
8	A6 20RD/OR	FUSED B(+)



JUNCTION BLOCK - C8

JUNCTION BLOCK C8 - NATURAL 2 WAY

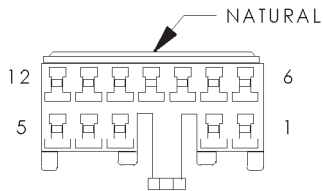
CAV	CIRCUIT	FUNCTION
1	F81 14TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
2	-	-



JUNCTION BLOCK - C9 (LHD)

JUNCTION BLOCK C9 (LHD) - NATURAL 12 WAY

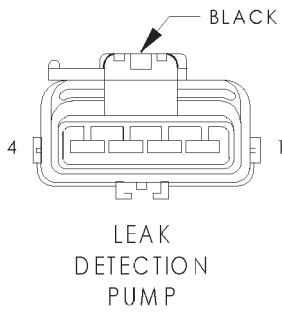
CAV	CIRCUIT	FUNCTION
1	P33 16OR/BK	DOOR LOCK DRIVER
2	P74 20DB (POWER MIRROR)	RIGHT MIRROR HORIZONTAL DRIVER
3	C16 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
4	-	-
5	-	-
6	P72 20YL/BK (POWER MIRROR)	RIGHT MIRROR VERTICAL DRIVER
7	P91 20WT/BK (POWER MIRROR)	MIRROR COMMON DRIVER
8	-	-
9	F35 16RD	FUSED B(+)
10	P76 20OR/YL (POWER MIRROR)	MIRROR COMMON DRIVER
11	Z1 18BK (POWER MIRROR)	GROUND
11	Z1 16BK (FULL OPTIONS)	GROUND
12	P34 16PK/BK	DOOR UNLOCK DRIVER



JUNCTION BLOCK - C9 (RHD)

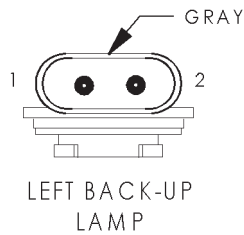
JUNCTION BLOCK C9 (RHD) - NATURAL 12 WAY

CAV	CIRCUIT	FUNCTION
1	P33 16OR/BK	DOOR LOCK DRIVER
2	P75 20DB/WT	LEFT MIRROR HORIZONTAL DRIVER
3	C16 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
4	-	-
5	-	-
6	P71 20YL/LB	LEFT MIRROR VERTICAL DRIVER
7	P91 20WT/BK (POWER MIRROR)	MIRROR COMMON DRIVER
8	-	-
9	-	-
10	P76 20OR/YL	MIRROR COMMON DRIVER
11	Z1 16BK (POWER MIRROR)	GROUND
12	P34 16PK/BK	DOOR UNLOCK DRIVER



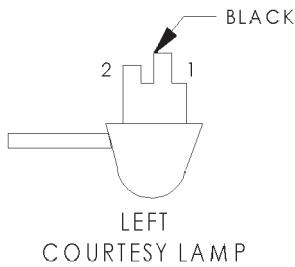
LEAK DETECTION PUMP - BLACK 4 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	K72 18DG/OR	GENERATOR DRIVER
3	K106 18WT/DG	LEAK DETECTION PUMP SOLENOID CONTROL
4	K105 18WT/OR	LEAK DETECTION PUMP SWITCH SENSE



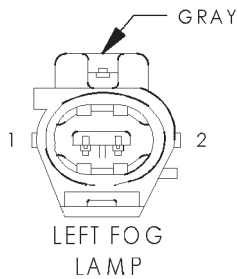
LEFT BACK-UP LAMP - GRAY 2 WAY

CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L10 18BR/LG	BACK-UP LAMP FEED



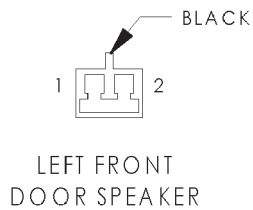
LEFT COURTESY LAMP - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	M1 18PK	FUSED B(+)
2	M2 18BK/WT	COURTESY LAMPS DRIVER



LEFT FOG LAMP - GRAY 2 WAY

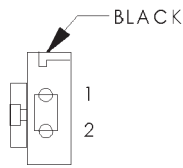
CAV	CIRCUIT	FUNCTION
1	Z1 20BK/WT	GROUND
2	L39 20LB	FOG LAMP RELAY OUTPUT



LEFT FRONT DOOR SPEAKER - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	X85 18BK/RD (6 SPEAKER LHD)	AMPLIFIED LEFT FRONT DOOR SPEAKER(-)
1	X55 18LG/RD (4 SPEAKER)	LEFT FRONT SPEAKER(-)
1	X85 18LG/RD (6 SPEAKER RHD)	AMPLIFIED LEFT FRONT DOOR SPEAKER(-)
2	X87 18DG (6 SPEAKER LHD)	AMPLIFIED LEFT FRONT DOOR SPEAKER(+)
2	X53 18LG/BK (4 SPEAKER)	LEFT FRONT SPEAKER(+)
2	X87 18LG/BK (6 SPEAKER RHD)	AMPLIFIED LEFT FRONT DOOR SPEAKER(+)

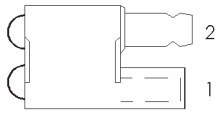




LEFT FRONT DOOR TWEETER

LEFT FRONT DOOR TWEETER - BLACK 2 WAY

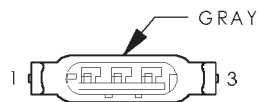
CAV	CIRCUIT	FUNCTION
1	X85 18LG/RD	AMPLIFIED LEFT FRONT DOOR SPEAKER(-)
2	X87 18LG/BK	AMPLIFIED LEFT FRONT DOOR SPEAKER(+)



LEFT FRONT POSITION LAMP (BUILT-UP-EXPORT)

LEFT FRONT POSITION LAMP (BUILT UP EXPORT) - 2 WAY

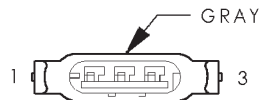
CAV	CIRCUIT	FUNCTION
1	L77 20BR	FUSED HEADLAMP SWITCH OUTPUT
2	Z1 20BK/WT	GROUND



LEFT FRONT PARK/TURN SIGNAL LAMP NO. 1 (EXCEPT BUILT-UP-EXPORT)

LEFT FRONT PARK/TURN SIGNAL LAMP NO. 1 (EXCEPT BUILT UP EXPORT) - GRAY

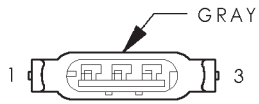
CAV	CIRCUIT	FUNCTION
1	L61 18LG	LEFT TURN SIGNAL
2	L77 18BR	FUSED HEADLAMP SWITCH OUTPUT
3	Z1 18BK/WT	GROUND



LEFT FRONT PARK/TURN SIGNAL LAMP NO. 2 (EXCEPT BUILT-UP-EXPORT)

LEFT FRONT PARK/TURN SIGNAL LAMP NO. 2 (EXCEPT BUILT UP EXPORT) - GRAY

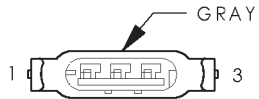
CAV	CIRCUIT	FUNCTION
1	L61 18LG	LEFT TURN SIGNAL
2	L77 18BR	FUSED HEADLAMP SWITCH OUTPUT
3	Z1 18BK/WT	GROUND



LEFT FRONT  
TURN SIGNAL  
LAMP NO. 1  
(BUILT-UP-EXPORT)

LEFT FRONT TURN SIGNAL LAMP NO. 1 (BUILT UP EXPORT) - GRAY 3 WAY

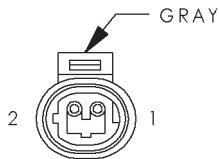
CAV	CIRCUIT	FUNCTION
1	L61 18LG	LEFT TURN SIGNAL
2	-	-
3	Z1 18BK/WT	GROUND



LEFT FRONT  
TURN SIGNAL  
LAMP NO. 2  
(BUILT-UP-EXPORT)

LEFT FRONT TURN SIGNAL LAMP NO. 2 (BUILT UP EXPORT) - GRAY 3 WAY

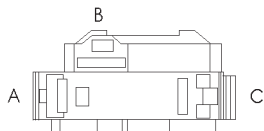
CAV	CIRCUIT	FUNCTION
1	L61 18LG	LEFT TURN SIGNAL
2	-	-
3	Z1 18BK/WT	GROUND



LEFT FRONT  
WHEEL SPEED  
SENSOR

LEFT FRONT WHEEL SPEED SENSOR - GRAY 2 WAY

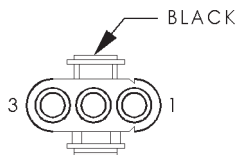
CAV	CIRCUIT	FUNCTION
1	B8 18RD/DB	LEFT FRONT WHEEL SPEED SENSOR (-)
2	B9 18RD	LEFT FRONT WHEEL SPEED SENSOR (+)



LEFT HEADLAMP

LEFT HEADLAMP - 3 WAY

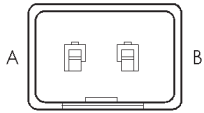
CAV	CIRCUIT	FUNCTION
A	L33 18RD	FUSED LEFT HIGH BEAM OUTPUT
A	L33 20RD (FOG LAMPS)	FUSED LEFT HIGH BEAM OUTPUT
B	L43 18VT	FUSED LEFT LOW BEAM OUTPUT
C	Z1 18BK/WT	GROUND



LEFT HEADLAMP  
LEVELING MOTOR  
(BUILT-UP-EXPORT)

LEFT HEADLAMP LEVELING MOTOR (BUILT UP EXPORT) - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
1	L43 18VT	FUSED LEFT LOW BEAM OUTPUT
2	L13 18BR/YL	HEADLAMP ADJUST SIGNAL
3	Z15 18BK/RD	GROUND



LEFT HEATED SEAT BACK

LEFT HEATED SEAT BACK - 2 WAY

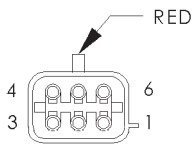
CAV	CIRCUIT	FUNCTION
A	P88 18BR/BK	LEFT HEATED SEAT BACK DRIVER
B	Z1 18BK	GROUND



LEFT HEATED SEAT CUSHION

LEFT HEATED SEAT CUSHION - 4 WAY

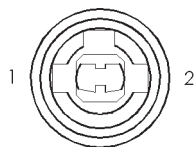
CAV	CIRCUIT	FUNCTION
A	P87 18BK/OR	LEFT HEATED SEAT DRIVER
B	P88 18BR/BK	LEFT HEATED SEAT BACK DRIVER
C	P141 18TN/LB	SENSOR FEED
D	P143 18BK/DG	LEFT HEAT SENSE INPUT



LEFT HEATED SEAT SWITCH

LEFT HEATED SEAT SWITCH - RED 6 WAY

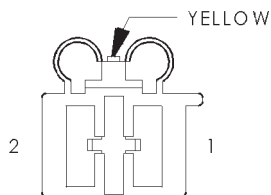
CAV	CIRCUIT	FUNCTION
1	P137 18VT	LEFT SEAT LOW HEAT LED DRIVER
2	-	-
3	Z1 18BK	GROUND
4	F83 18YL/DG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
5	P139 18VT/WT	LEFT SEAT HIGH HEAT LED DRIVER
6	P133 18TN/DG	LEFT SEAT HEATER SWITCH MUX



LEFT LICENSE LAMP (BUILT-UP-EXPORT)

LEFT LICENSE LAMP (BUILT UP EXPORT) - 2 WAY

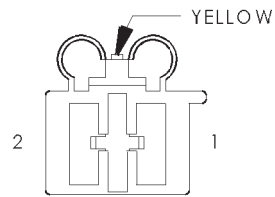
CAV	CIRCUIT	FUNCTION
1	L78 18BK/YL	FUSED HEADLAMP SWITCH OUTPUT
2	Z1 18BK	GROUND



LEFT POWER SEAT FRONT RISER MOTOR

LEFT POWER SEAT FRONT VERTICAL MOTOR - YELLOW 2 WAY

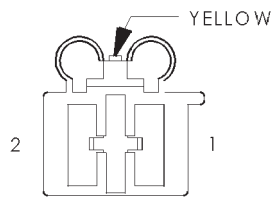
CAV	CIRCUIT	FUNCTION
1	P19 14YL/LG	LEFT SEAT FRONT UP
2	P21 14RD/LG	LEFT SEAT FRONT DOWN



LEFT POWER SEAT HORIZONTAL MOTOR

LEFT POWER SEAT HORIZONTAL MOTOR - YELLOW 2 WAY

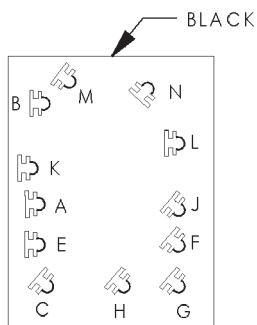
CAV	CIRCUIT	FUNCTION
1	P17 14RD/LB	LEFT SEAT HORIZONTAL REARWARD
2	P15 14YL/LB	LEFT SEAT HORIZONTAL FORWARD



LEFT POWER SEAT REAR RISER MOTOR

LEFT POWER SEAT REAR VERTICAL MOTOR - YELLOW 2 WAY

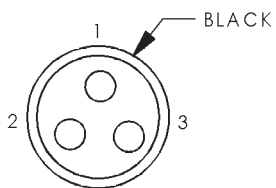
CAV	CIRCUIT	FUNCTION
1	P13 14RD/WT	LEFT SEAT REAR DOWN
2	P11 14YL/WT	LEFT SEAT REAR UP



LEFT POWER SEAT SWITCH

LEFT POWER SEAT SWITCH - BLACK 12 WAY

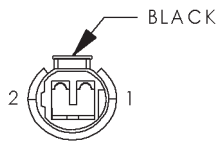
CAV	CIRCUIT	FUNCTION
A	F37 14RD	FUSED B(+)
B	Z1 14BK	GROUND
C	-	-
E	P13 14RD/WT	LEFT SEAT REAR DOWN
F	-	-
G	-	-
H	-	-
J	P11 14YL/WT	LEFT SEAT REAR UP
K	P17 14RD/LB	LEFT SEAT HORIZONTAL REARWARD
L	P15 14YL/LB	LEFT SEAT HORIZONTAL FORWARD
M	P19 14YL/LG	LEFT SEAT FRONT UP
N	P21 14RD/LG	LEFT SEAT FRONT DOWN



LEFT REAR DOOR AJAR SWITCH

LEFT REAR DOOR AJAR SWITCH - BLACK 3 WAY

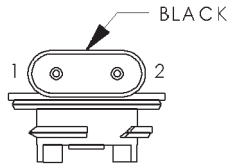
CAV	CIRCUIT	FUNCTION
1	-	-
2	Z1 18BK	GROUND
3	M2 18YL	COURTESY LAMPS DRIVER



LEFT REAR  
DOOR POWER  
LOCK MOTOR

LEFT REAR DOOR POWER LOCK MOTOR - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	P33 16OR/BK	DOOR LOCK DRIVER



LEFT REAR  
FOG LAMP  
(BUILT-UP-EXPORT)

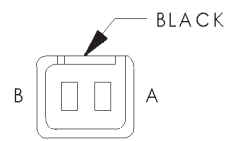
LEFT REAR FOG LAMP (BUILT UP EXPORT) - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L38 18OR/WT	REAR FOG LAMP FEED

LEFT REAR  
HEADLINER  
SPEAKER

LEFT REAR HEADLINER SPEAKER - 2 WAY

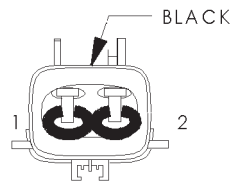
CAV	CIRCUIT	FUNCTION
A	X57 18BR/LB (4 SPEAKER SYSTEM)	LEFT REAR SPEAKER(-)
A	X91 16BR/DB (6 SPEAKER SYSTEM)	AMPLIFIED LEFT REAR SPEAKER(+)
B	X51 18BR/YL (4 SPEAKER SYSTEM)	LEFT REAR SPEAKER(+)
B	X93 16BR/YL	AMPLIFIED LEFT REAR SPEAKER(-)



LEFT REAR  
WHEEL SPEED  
SENSOR

LEFT REAR WHEEL SPEED SENSOR - BLACK 2 WAY

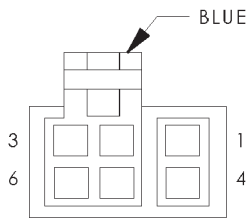
CAV	CIRCUIT	FUNCTION
A	B3 20LG/DB	LEFT REAR WHEEL SPEED SENSOR (-)
B	B4 20LG	LEFT REAR WHEEL SPEED SENSOR (+)



LEFT REAR  
POWER WINDOW  
MOTOR

LEFT REAR POWER WINDOW MOTOR - BLACK 2 WAY

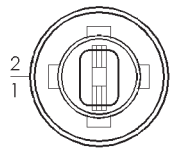
CAV	CIRCUIT	FUNCTION
1	Q14 14GY	WINDOW LEFT REAR B(+) UP
2	Q24 14DG	LEFT REAR WINDOW DRIVER DOWN



LEFT REAR  
POWER WINDOW  
SWITCH

LEFT REAR POWER WINDOW SWITCH - BLUE 6 WAY

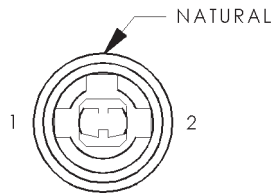
CAV	CIRCUIT	FUNCTION
1	Q14 14GY	WINDOW LEFT REAR B(+) UP
2	Q27 14RD/BK	LEFT REAR WINDOW DRIVER DOWN
3	-	-
4	Q17 14DB/WT	LEFT REAR WINDOW DRIVER UP
5	Q24 14DG	LEFT REAR WINDOW DRIVER DOWN
6	Q1 14YL	WINDOW SWITCH FEED



LEFT SIDE  
REPEATER  
LAMP  
(BUILT-UP-EXPORT)

LEFT SIDE REPEATER LAMP (BUILT UP EXPORT) - 2 WAY

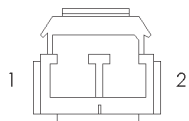
CAV	CIRCUIT	FUNCTION
1	L61 18GY	LEFT TURN SIGNAL
2	Z1 18BK	GROUND



LEFT SIDE  
MARKER LAMP  
(EXCEPT BUILT  
-UP-EXPORT)

LEFT SIDE MARKER LAMP (EXCEPT BUILT UP EXPORT) - NATURAL 2 WAY

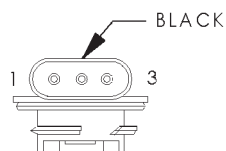
CAV	CIRCUIT	FUNCTION
1	L77 20BR	FUSED LEFT HEADLAMP SWITCH OUTPUT
2	L61 20LG	LEFT TURN SIGNAL



LEFT SPEED  
CONTROL  
SWITCH

LEFT SPEED CONTROL SWITCH - 2 WAY

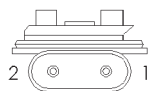
CAV	CIRCUIT	FUNCTION
1	K167 20BR/YL	SENSOR GROUND
2	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL



LEFT TAIL/  
STOP LAMP

LEFT TAIL/STOP LAMP - BLACK 3 WAY

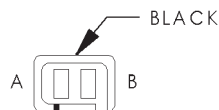
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L77 18BR	FUSED LEFT HEADLAMP SWITCH OUTPUT
3	L50 18WT/TN	PRIMARY BRAKE LAMP SWITCH SIGNAL



LEFT TURN SIGNAL LAMP

LEFT TURN SIGNAL LAMP - 2 WAY

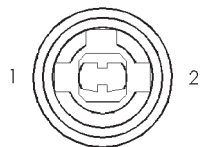
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L63 18DG/RD	LEFT TURN SIGNAL



LEFT VISOR/  
VANITY  
LAMP

LEFT VISOR/VANITY LAMP - BLACK 2 WAY

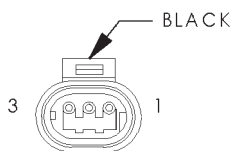
CAV	CIRCUIT	FUNCTION
A	M1 20PK	FUSED B(+)
B	Z1 20BK	GROUND



LICENSE LAMP

LICENSE LAMP - 2 WAY

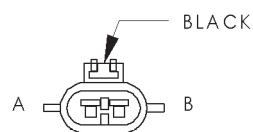
CAV	CIRCUIT	FUNCTION
1	L78 18BK/YL	FUSED HEADLAMP SWITCH OUTPUT
2	Z1 18BK	GROUND



LIFTGATE AJAR SWITCH

LIFTGATE AJAR SWITCH - BLACK 3 WAY

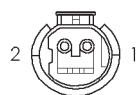
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	G78 20TN/BK	LIFTGATE AJAR SWITCH SENSE
3	M4 20VT/YL	LIFTGATE COURTESY LAMP DRIVER



LIFTGATE POWER LOCK MOTOR

LIFTGATE POWER LOCK MOTOR - BLACK 2 WAY

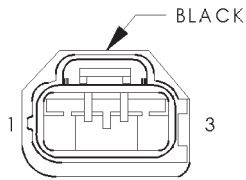
CAV	CIRCUIT	FUNCTION
A	P33 16OR/BK	DOOR LOCK DRIVER
B	P34 16PK/BK	DOOR UNLOCK DRIVER



LOW COOLANT SWITCH (DIESEL)

LOW COOLANT SWITCH (DIESEL) - 2 WAY

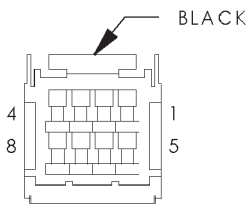
CAV	CIRCUIT	FUNCTION
1	G18 18PK/BK	COOLANT LEVEL SWITCH SIGNAL
2	K167 20BR/YL	SENSOR GROUND



MANIFOLD  
ABSOLUTE  
PRESSURE  
SENSOR

MANIFOLD ABSOLUTE PRESSURE SENSOR - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
1	K167 20BR/YL	SENSOR GROUND
2	K1 18DG/RD	MANIFOLD ABSOLUTE PRESSURE SENSOR SIGNAL
3	K7 20OR	5V SUPPLY



MESSAGE  
CENTER  
(DIESEL)

MESSAGE CENTER (DIESEL) - BLACK 8 WAY

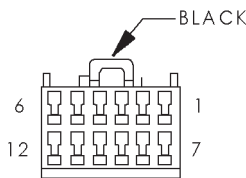
CAV	CIRCUIT	FUNCTION
1	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
2	-	-
3	-	-
4	K185 20OR/LB	WAIT TO START INDICATOR DRIVER
5	-	-
6	-	-
7	G86 20TN/OR	WATER IN FUEL INDICATOR DRIVER
8	G154 20VT/LG	LOW COOLANT INDICATOR DRIVER



NEEDLE  
MOVEMENT  
SENSOR  
(DIESEL)

NEEDLE MOVEMENT SENSOR (DIESEL) - 2 WAY

CAV	CIRCUIT	FUNCTION
1	K67 18BR/BK	NEEDLE MOVEMENT SENSOR (+)
2	K68 18LG/YL	NEEDLE MOVEMENT SENSOR (-)

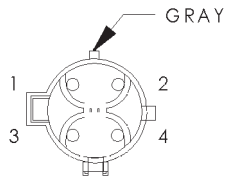


OVERHEAD  
CONSOLE

OVERHEAD CONSOLE - BLACK 12 WAY

CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	M1 20PK	FUSED B(+)
3	-	-
4	G31 20VT/LG	AMBIENT TEMPERATURE SENSOR SIGNAL
5	D1 20VT/BR	CCD BUS (+)
6	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
7	M2 20YL	COURTESY LAMPS DRIVER
8	-	-
9	-	-
10	G32 20BK/LB	SENSOR GROUND
11	D2 20WT/BK	CCD BUS(-)
12	Z2 20BK/LG	GROUND

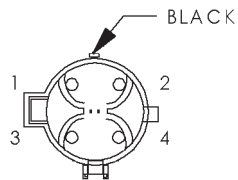




OXYGEN  
SENSOR 1/1  
UPSTREAM

OXYGEN SENSOR 1/1 UPSTREAM - GRAY 4 WAY

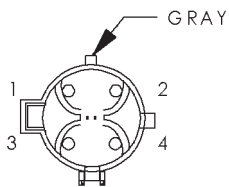
CAV	CIRCUIT	FUNCTION
1	A42 20DG	FUSED AUTOMATIC SHUTDOWN RELAY OUTPUT
2	Z1 20BK	GROUND
3	K167 20BR/YL	SENSOR GROUND
4	K41 18BK/DG	OXYGEN SENSOR 1/1 SIGNAL



OXYGEN  
SENSOR 1/2  
DOWNSTREAM

OXYGEN SENSOR 1/2 DOWNSTREAM - BLACK 4 WAY

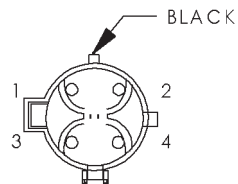
CAV	CIRCUIT	FUNCTION
1	A242 20VT/OR	OXYGEN SENSOR RELAY OUTPUT
2	Z1 20BK	GROUND
3	K167 20BR/YL	SENSOR GROUND
4	K141 18TN/WT	OXYGEN SENSOR 1/2 SIGNAL



OXYGEN  
SENSOR 2/1  
UPSTREAM  
(CALIFORNIA/  
EUROPEAN III)

OXYGEN SENSOR 2/1 UPSTREAM (CALIFORNIA/EUROPEAN III) - GRAY 4 WAY

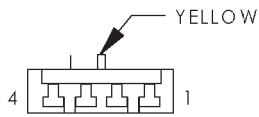
CAV	CIRCUIT	FUNCTION
1	A42 20DG	OXYGEN SENSOR RELAY OUTPUT
2	Z1 20BK	GROUND
3	K167 20BR/YL	SENSOR GROUND
4	K241 18LG/RD	OXYGEN SENSOR 2/1 SIGNAL



OXYGEN  
SENSOR 2/2  
DOWNSTREAM  
(CALIFORNIA/  
EUROPEAN III)

OXYGEN SENSOR 2/2 DOWNSTREAM (CALIFORNIA/EUROPEAN III) - BLACK 4 WAY

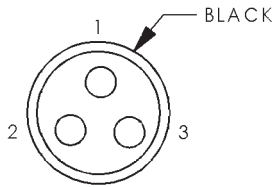
CAV	CIRCUIT	FUNCTION
1	A242 20VT/OR	OXYGEN SENSOR RELAY OUTPUT
2	Z1 20BK	GROUND
3	K167 20BR/YL	SENSOR GROUND
4	K341 18TN	OXYGEN SENSOR 2/2 SIGNAL



PASSENGER AIRBAG

PASSENGER AIRBAG - YELLOW 4 WAY

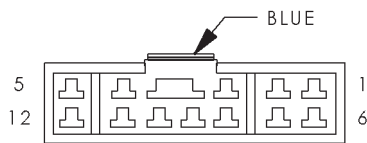
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	R42 18BK/YL	PASSENGER AIRBAG LINE 2
4	R44 18DG/YL	PASSENGER AIRBAG LINE 1



PASSENGER DOOR AJAR SWITCH

PASSENGER DOOR AJAR SWITCH - BLACK 3 WAY

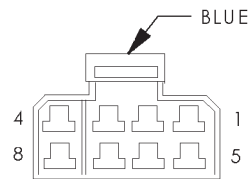
CAV	CIRCUIT	FUNCTION
1	M2 18YL	COURTESY LAMPS DRIVER
2	G16 18BK/LB	DRIVER DOOR AJAR SWITCH SENSE
3	Z1 18BK	GROUND



PASSENGER DOOR MODULE-C1 (FULL OPTIONS)

PASSENGER DOOR MODULE C1 (FULL OPTIONS) - BLUE 12 WAY

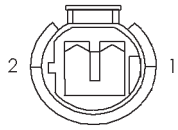
CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	Q22 14VT	PASSENGER FRONT WINDOW DRIVER DOWN
3	Q26 14VT/WT	MASTER WINDOW SWITCH PASSENGER FRONT DOWN
4	Q16 14BR/WT	MASTER WINDOW SWITCH PASSENGER FRONT UP
5	P33 16OR/BK	DOOR LOCK DRIVER
6	-	-
7	-	-
8	-	-
9	Q12 14BR	PASSENGER FRONT WINDOW DRIVER UP
10	Q1 14YL	WINDOW SWITCH FEED
11	-	-
12	-	-



PASSENGER DOOR MODULE-C2 (FULL OPTIONS)

PASSENGER DOOR MODULE C2 (FULL OPTIONS) - BLUE 8 WAY

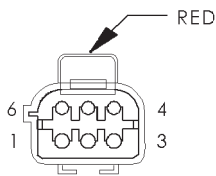
CAV	CIRCUIT	FUNCTION
1	P59 20LB/RD	DOOR LOCK CONTROL
2	P55 20DB/PK (LHD)	DOOR UNLOCK RELAY CONTROL
2	P55 20DB (RHD)	DOOR UNLOCK RELAY CONTROL
3	P35 20OR/VT (LHD)	DOOR LOCK SWITCH OUTPUT (LOCK)
3	P36 18PK/VT (RHD)	DOOR LOCK SWITCH OUTPUT (UNLOCK)
4	F81 14TN	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
5	F35 16RD	FUSED B(+)
6	Z1 14BK	GROUND
7	P36 20PK/VT (LHD)	DOOR LOCK SWITCH OUTPUT (UNLOCK)
7	P35 18OR/VT (RHD)	DOOR LOCK SWITCH OUTPUT (LOCK)
8	G26 20LB	KEY-IN IGNITION SWITCH SENSE



PASSENGER DOOR  
POWER LOCK  
MOTOR

PASSENGER DOOR POWER LOCK MOTOR - 2 WAY

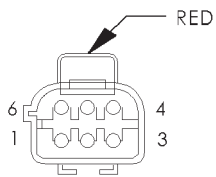
CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	P33 16OR/BK	DOOR LOCK DRIVER



PASSENGER  
POWER MIRROR  
(LHD)

PASSENGER POWER MIRROR (LHD) - RED 6 WAY

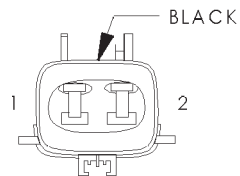
CAV	CIRCUIT	FUNCTION
1	P72 20YL/BK	RIGHT MIRROR LEFT VERTICAL DRIVER
2	P74 20DB (POWER MIRRORS)	RIGHT MIRROR HORIZONTAL DRIVER
2	P76 20OR/YL (FULL OPTIONS)	MIRROR COMMON DRIVER
3	P91 20WT/BK (POWER MIRRORS)	MIRROR COMMON DRIVER
3	P74 20DB (FULL OPTIONS)	RIGHT MIRROR HORIZONTAL DRIVER
4	P76 20OR/YL	MIRROR COMMON DRIVER
5	C16 20BK/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
6	Z1 18BK	GROUND



PASSENGER  
POWER MIRROR  
(RHD)

PASSENGER POWER MIRROR (RHD) - RED 6 WAY

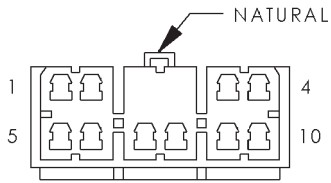
CAV	CIRCUIT	FUNCTION
1	P71 20YL	LEFT MIRROR VERTICAL DRIVER
2	P75 20DB/WT (POWER MIRRORS)	LEFT MIRROR HORIZONTAL DRIVER
2	P76 20OR/YL (FULL OPTIONS)	MIRROR COMMON DRIVER
3	P91 20WT/BK (POWER MIRRORS)	MIRROR COMMON DRIVER
3	P75 20DB/RD (FULL OPTIONS)	LEFT MIRROR HORIZONTAL DRIVER
4	P76 20OR/YL	MIRROR COMMON DRIVER
5	C16 20BK/WT (POWER MIRRORS)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
5	C16 20LB/YL (FULL OPTIONS)	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
6	Z1 16BK	GROUND



PASSENGER POWER  
WINDOW MOTOR

PASSENGER POWER WINDOW MOTOR - BLACK 2 WAY

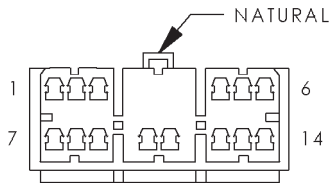
CAV	CIRCUIT	FUNCTION
1	Q12 14BR	RIGHT FRONT WINDOW DRIVER (UP)
2	Q22 14VT	RIGHT FRONT WINDOW DRIVER (DOWN)



POWER AMPLIFIER - C 1

POWER AMPLIFIER C1 - NATURAL 10 WAY

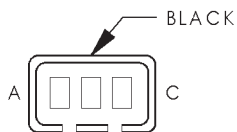
CAV	CIRCUIT	FUNCTION
1	X55 18BR/RD	LEFT FRONT SPEAKER(-)
2	X56 18DB/RD	RIGHT FRONT SPEAKER(-)
3	X58 18DB/OR	RIGHT REAR SPEAKER(-)
4	X60 18DG/RD	RADIO 12V OUTPUT
5	X53 18DG	LEFT FRONT SPEAKER(+)
6	X54 18VT	RIGHT FRONT SPEAKER(+)
7	X51 18BR/YL	LEFT REAR SPEAKER(+)
8	X57 18BR/LB	LEFT REAR SPEAKER(-)
9	X52 18DB/WT	RIGHT REAR SPEAKER(+)
10	-	-



POWER AMPLIFIER - C 2

POWER AMPLIFIER C2 - NATURAL 14 WAY

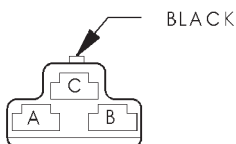
CAV	CIRCUIT	FUNCTION
1	F75 16VT	FUSED B(+)
2	F75 16VT	FUSED B(+)
3	-	-
4	X87 18LG/VT	AMPLIFIED LEFT FRONT DOOR SPEAKER(+)
5	X94 18TN/RD	AMPLIFIED RIGHT REAR SPEAKER(+)
6	X93 18WT/RD	AMPLIFIED LEFT REAR SPEAKER(-)
7	Z5 16BK/LB	GROUND
8	Z5 16BK/LB	GROUND
9	-	-
10	X80 18LB/BK	AMPLIFIED RIGHT FRONT DOOR SPEAKER(-)
11	X82 18LB/RD	AMPLIFIED RIGHT FRONT DOOR SPEAKER(+)
12	X85 18BR/RD	AMPLIFIED LEFT FRONT DOOR SPEAKER(-)
13	X92 18TN/BK	AMPLIFIED RIGHT REAR SPEAKER(-)
14	X91 18WT/BK	AMPLIFIED LEFT REAR SPEAKER(+)



POWER ANTENNA (BUILT-UP-EXPORT)

POWER ANTENNA (BUILT UP EXPORT) - BLACK 3 WAY

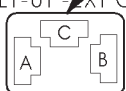
CAV	CIRCUIT	FUNCTION
A	X13 18WT	RADIO CHOKE OUTPUT
B	X17 18GY	ANTENNA UP (-)
C	X14 18DG	ANTENNA DOWN B(+)



POWER ANTENNA RELAY - C 1 (BUILT-UP-EXPORT)

POWER ANTENNA RELAY C1 (BUILT UP EXPORT) - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
A	Z1 18BK	GROUND
B	F34 18TN/BK	FUSED B(+)
C	X60 18DG/RD	RADIO 12V OUTPUT



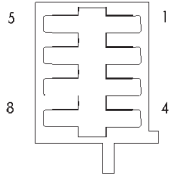
POWER ANTENNA RELAY - C 2 (BUILT-UP-EXPORT)

POWER ANTENNA RELAY C2 (BUILT UP EXPORT) - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
A	X13 18WT	RADIO CHOKE OUTPUT
B	X14 18DG	ANTENNA DOWN B(+)

POWER ANTENNA RELAY C2 (BUILT UP EXPORT) - BLACK 3 WAY

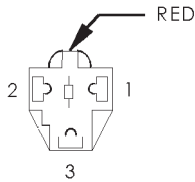
CAV	CIRCUIT	FUNCTION
C	X17 18GY	ANTENNA UP (-)



POWER MIRROR SWITCH

POWER MIRROR SWITCH - 8 WAY

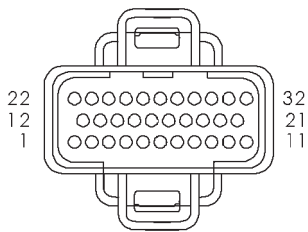
CAV	CIRCUIT	FUNCTION
1	Z1 20BK (RHD)	GROUND
1	Z1 14BK (LHD)	GROUND
2	F83 18YL/DG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
3	P74 20DB	RIGHT MIRROR HORIZONTAL DRIVER
4	P72 20YL/BK	RIGHT MIRROR VERTICAL DRIVER
5	P76 20OR/YL	MIRROR COMMON DRIVER
5	P76 20OR/YL	MIRROR COMMON DRIVER
6	P91 20WT/BK	LEFT/RIGHT MIRROR HORIZONTAL SUPPLY
6	P91 20WT/BK	LEFT/RIGHT MIRROR HORIZONTAL SUPPLY
7	P75 20DB/WT	LEFT MIRROR HORIZONTAL DRIVER
8	P71 20YL/LB (RHD)	LEFT MIRROR VERTICAL DRIVER
8	P71 20YL (LHD)	LEFT MIRROR VERTICAL DRIVER



POWER OUTLET

POWER OUTLET - RED 3 WAY

CAV	CIRCUIT	FUNCTION
1	F38 16RD/LB	FUSED B(+)
2	-	-
3	Z1 16BK	GROUND



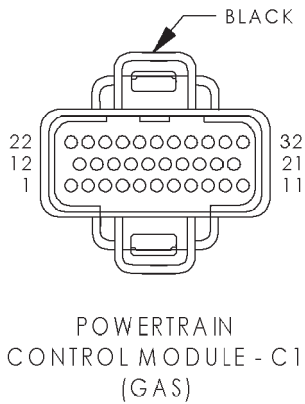
POWERTRAIN CONTROL MODULE - C1 (DIESEL)

POWERTRAIN CONTROL MODULE C1 (DIESEL) - 32 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	A142 16DG/OR	AUTOMATIC SHUT DOWN RELAY OUTPUT
3	-	-
4	K167 18BR/YL	SENSOR GROUND
5	-	-
6	-	-
7	-	-
8	K159 18VT/RD	ENGINE SPEED SENSOR SIGNAL
9	-	-
10	-	-
11	-	-
12	G18 18PK/BK	COOLANT LEVEL SWITCH SIGNAL
13	-	-
14	-	-
15	-	-
16	K222 18TN/RD	ENGINE COOLANT TEMP SENSOR SIGNAL
17	K7 18OR	5V SUPPLY

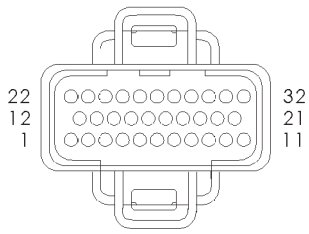
POWERTRAIN CONTROL MODULE C1 (DIESEL) - 32 WAY

CAV	CIRCUIT	FUNCTION
18	G8 18LB/BK	FUEL MONITOR OUTPUT SIGNAL
19	-	-
20	-	-
21	-	-
22	F16 16RD/LG	FUSED B(+)
23	-	-
24	-	-
25	-	-
26	-	-
27	G123 18DG/WT	WATER IN FUEL SENSOR SIGNAL
28	-	-
29	-	-
30	-	-
31	Z12 14BK/TN	GROUND
32	Z12 14BK/TN	GROUND



POWERTRAIN CONTROL MODULE C1 (GAS) - BLACK 32 WAY

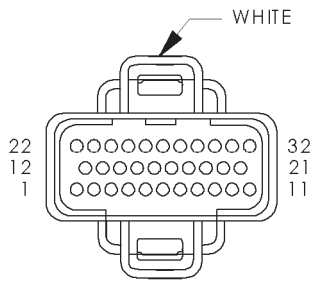
CAV	CIRCUIT	FUNCTION
1	K18 18RD/YL	IGNITION COIL NO. 3 DRIVER
2	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
3	-	-
4	K167 18BR/YL	SENSOR GROUND
5	-	-
6	T41 18BK/WT	PARK/NEUTRAL POSITION SWITCH SENSE
7	K19 18GY	IGNITION COIL NO. 1 DRIVER
8	K24 18GY/BK	CRANKSHAFT POSITION SENSOR SIGNAL
9	-	-
10	K60 18YL/BK	IDLE AIR CONTROL NO. 2 DRIVER
11	K40 18BR/WT	IDLE AIR CONTROL NO. 3 DRIVER
12	K78 18GY (A/T)	IDLE ACTUATOR
13	-	-
14	-	-
15	K21 18BK/RD	INTAKE AIR TEMPERATURE SENSOR SIGNAL
16	K2 18TN/BK	ENGINE COOLANT TEMPERATURE SENSOR SIGNAL
17	K7 18OR	5V SUPPLY
18	K44 18TN/YL	CAMSHAFT POSITION SENSOR SIGNAL
19	K39 18GY/RD	IDLE AIR CONTROL NO. 1 DRIVER
20	K59 18VT/BK	IDLE AIR CONTROL NO. 4 DRIVER
21	-	-
22	A61 14DG/BK	FUSED B(+)
23	K22 18OR/DB	THROTTLE POSITION SENSOR SIGNAL
24	K41 18BK/DG	OXYGEN SENSOR 1/1 SIGNAL
25	K141 18TN/WT	OXYGEN SENSOR 1/2 SIGNAL
26	K241 18LG/RD (CALIFORNIA/BUILT UP EXPORT)	OXYGEN SENSOR 2/1 SIGNAL
27	K1 18DG/RD	MANIFOLD ABSOLUTE PRESSURE SENSOR SIGNAL
28	-	-
29	K341 18TN (CALIFORNIA/BUILT UP EXPORT)	OXYGEN SENSOR 2/2 SIGNAL
30	-	-
31	Z12 14BK/TN	GROUND
32	Z12 14BK/TN	GROUND



POWERTRAIN  
CONTROL MODULE - C2  
(DIESEL)

POWERTRAIN CONTROL MODULE C2 (DIESEL) - 32 WAY

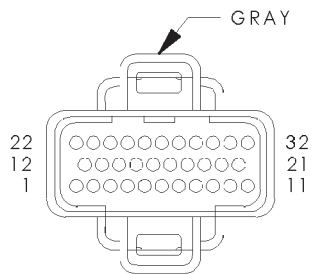
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	K20 18DG	GENERATOR FIELD
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	V66 18RD/LG	SPEED CONTROL INDICATOR SIGNAL
19	-	-
20	-	-
21	-	-
22	-	-
23	G60 18GY/YL	ENGINE OIL PRESSURE SENSOR SIGNAL
24	-	-
25	-	-
26	-	-
27	G7 18WT/OR	VEHICLE SPEED SENSOR SIGNAL
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-



POWERTRAIN CONTROL MODULE - C2 (GAS)

POWERTRAIN CONTROL MODULE C2 (GAS) - WHITE 32 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	K11 18WT/DB	FUEL INJECTOR NO. 1 DRIVER
5	K13 18YL/WT	FUEL INJECTOR NO. 3 DRIVER
6	K15 18PK/BK	FUEL INJECTOR NO. 5 DRIVER
7	-	-
8	-	-
9	K17 18DB/TN	IGNITION COIL NO. 2 DRIVER
10	K20 18DG	GENERATOR FIELD
11	-	-
12	K16 18LG/BK	FUEL INJECTOR NO. 6 DRIVER
13	-	-
14	-	-
15	K12 18TN	FUEL INJECTOR NO. 2 DRIVER
16	K14 18LB/BR	FUEL INJECTOR NO. 4 DRIVER
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	G60 18GY/YL	ENGINE OIL PRESSURE SENSOR SIGNAL
24	-	-
25	-	-
26	-	-
27	G7 18WT/OR	VEHICLE SPEED SENSOR SIGNAL
28	-	-
29	-	-
30	-	-
31	K6 18VT/OR	5V SUPPLY
32	-	-



POWERTRAIN CONTROL MODULE - C3 (DIESEL)

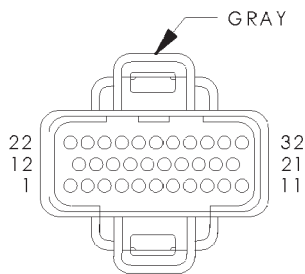
POWERTRAIN CONTROL MODULE C3 (DIESEL) - 32 WAY

CAV	CIRCUIT	FUNCTION
1	C103 18DG	A/C REQUEST OUTPUT
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	G154 18VT/LG	LOW COOLANT INDICATOR DRIVER
9	G86 18TN/OR	WATER IN FUEL INDICATOR DRIVER
10	-	-
11	-	-
12	A142 16DG/OR	AUTOMATIC HUT DOWN RELAY OUTPUT
13	-	-
14	-	-



POWERTRAIN CONTROL MODULE C3 (DIESEL) - 32 WAY

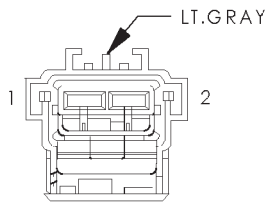
CAV	CIRCUIT	FUNCTION
15	K118 18PK/YL	BATTERY TEMPERATURE SENSOR SIGNAL
16	G55 18OR/BK	ENABLE DISABLE SIGNAL
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	K48 18OR/RD	FAULT INDICATOR REQUEST INPUT
23	C90 18LG	A/C SWITCH SENSE
24	-	-
25	K72 18DG/OR	GENERATOR SOURCE
26	K226 18DB/LG	FUEL LEVEL SENSOR SIGNAL
27	D21 18BK	SCI TRANSMIT
28	D2 18WT/BK	CCD BUS (-)
29	D20 18LG/BK	SCI RECEIVE
30	D1 18VT/BR	CCD BUS (+)
31	-	-
32	-	-



POWERTRAIN CONTROL MODULE - C3 (GAS)

POWERTRAIN CONTROL MODULE C3 (GAS) - GRAY 32 WAY

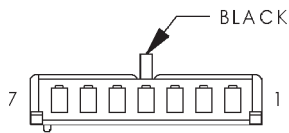
CAV	CIRCUIT	FUNCTION
1	C13 18DB/OR	A/C COMPRESSOR CLUTCH RELAY CONTROL
2	C27 18DB/PK	RADIATOR FAN RELAY CONTROL
3	K51 18DB/YL	AUTOMATIC SHUT DOWN RELAY CONTROL
4	V36 18TN/RD	SPEED CONTROL VACUUM SOLENOID CONTROL
5	V35 18LG/RD	SPEED CONTROL VENT SOLENOID CONTROL
6	-	-
7	-	-
8	K73 18BR/OR	OXYGEN SENSOR UPSTREAM RELAY CONTROL
9	K74 18BR/VT	OXYGEN SENSOR DOWNSTREAM RELAY CONTROL
10	K106 18WT/DG (LEAK DETECTION)	LEAK DETECTION PUMP SOLENOID CONTROL
11	V32 18YL/RD	SPEED CONTROL SUPPLY
12	F142 18DG/WT	FUSED AUTOMATIC SHUT DOWN RELAY OUTPUT
13	C48 18TN	RADIATOR FAN REQUEST
14	K105 18WT/OR (LEAK DETECTION)	LEAK DETECTION PUMP SWITCH SENSE
15	K118 18PK/YL	BATTERY TEMPERATURE SENSOR SIGNAL
16	-	-
17	-	-
18	-	-
19	K31 18BR	FUEL PUMP RELAY CONTROL
20	K52 18PK/BK	DUTY CYCLE EVAP/PURGE SOLENOID CONTROL
21	-	-
22	C22 18DB/WT	A/C SWITCH SENSE
23	C90 18LG	A/C SELECT INPUT
24	K29 18WT/PK	BRAKE LAMP SWITCH SENSE
25	K72 18DG/OR	GENERATOR SOURCE
26	K226 18DB/LG	FUEL LEVEL SENSOR SIGNAL
27	D21 18PK	SCI TRANSMIT
28	D2 18WT/BK	CCD BUS(-)
29	D20 18LG/BK	SCI RECEIVE
30	D1 18VT/BR	CCD BUS(+)
31	-	-
32	V37 18RD/LG	SPEED CONTROL SWITCH SIGNAL



RADIATOR FAN MOTOR

RADIATOR FAN MOTOR - LT. GRAY 2 WAY

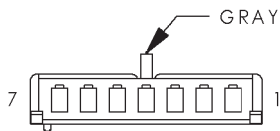
CAV	CIRCUIT	FUNCTION
1	C25 12LB	RADIATOR FAN RELAY OUTPUT
2	Z1 12BK	GROUND



RADIO - C1

RADIO C1 - BLACK 7 WAY

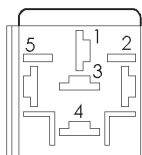
CAV	CIRCUIT	FUNCTION
1	X60 16DG/RD	RADIO 12V OUTPUT
2	X51 16BR/YL	LEFT REAR SPEAKER(+)
3	X52 16DB/WT	RIGHT REAR SPEAKER(+)
4	X53 16DG	LEFT FRONT SPEAKER(+)
5	X54 16VT	RIGHT FRONT SPEAKER(+)
6	X57 16BR/LB	LEFT REAR SPEAKER(-)
7	X58 16DB/OR	RIGHT REAR SPEAKER(-)



RADIO - C2

RADIO C2 - GRAY 7 WAY

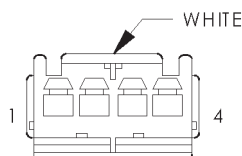
CAV	CIRCUIT	FUNCTION
1	-	-
2	X55 16BR/RD	LEFT FRONT SPEAKER(-)
3	X56 16LG (LHD)	RIGHT FRONT SPEAKER(-)
4	L7 18BK/YL	HEADLAMP SWITCH OUTPUT
5	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
6	X12 16RD/WT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
7	M1 20PK	FUSED B(+)
3	X56 16DB/RD	RIGHT FRONT SPEAKER (-)



REAR FOG LAMP RELAY (BUILT-UP-EXPORT)

REAR FOG LAMP RELAY (BUILT UP EXPORT) - 5 WAY

CAV	CIRCUIT	FUNCTION
1	F83 18YL/DG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
2	L36 18YL/BK	REAR FOG LAMP
3	Z1 16BK	GROUND
4	L38 18BR/WT	REAR FOG LAMP FEED
4	L38 18BR/WT (LHD)	REAR FOG LAMP FEED
5	L25 18BR	REAR FOG LAMP FEED



REAR FOG LAMP

REAR FOG LAMP SWITCH (BUILT UP EXPORT) - WHITE 4 WAY

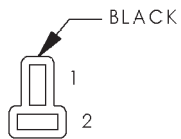
CAV	CIRCUIT	FUNCTION
1	Z15 18BK/GY (RHD)	GROUND
1	Z15 20BK/GY (LHD)	GROUND

REAR FOG LAMP SWITCH (BUILT UP EXPORT) - WHITE 4 WAY

CAV	CIRCUIT	FUNCTION
2	L36 18LG/BK	REAR FOG LAMP
3	L38 18BR/WT	REAR FOG LAMP FEED
4	E2 20 OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL

REAR WASHER PUMP - BLACK 2 WAY

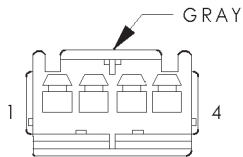
CAV	CIRCUIT	FUNCTION
1	V20 18BK/WT	REAR WASHER MOTOR CONTROL
2	Z1 18BK (GAS)	GROUND
2	Z1 18BK	GROUND



REAR  
WASHER  
PUMP

REAR WINDOW DEFOGGER SWITCH - GRAY 4 WAY

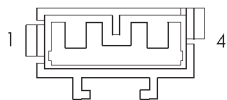
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	C80 20DB/WT	REAR WINDOW DEFOGGER SWITCH SENSE
3	C16 20LB/YL	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
4	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL



REAR  
WINDOW  
DEFOGGER  
SWITCH

REAR WIPER MOTOR - 4 WAY

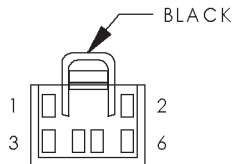
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	V20 18BK/WT	REAR WASHER MOTOR CONTROL
3	V13 18BR/LG	REAR WIPER MOTOR CONTROL
4	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (RUN)



REAR WIPER  
MOTOR

REAR WIPER/WASHER SWITCH - BLACK 6 WAY

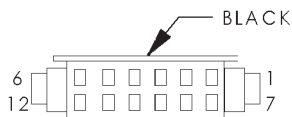
CAV	CIRCUIT	FUNCTION
1	Z1 20BK/WT	GROUND
2	V20 18BK/WT	REAR WASHER MOTOR CONTROLLER
3	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
4	V13 18BR/LG	REAR WIPER MOTOR CONTROL
5	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (RUN)
6	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (RUN)



REAR WIPER/  
WASHER SWITCH

REMOTE KEYLESS ENTRY MODULE - BLACK 12 WAY

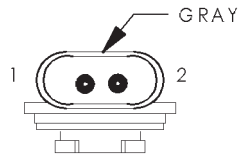
CAV	CIRCUIT	FUNCTION
1	M2 20YL	COURTESY LAMPS DRIVER
2	M1 20PK	FUSED B(+)



REMOTE  
KEYLESS ENTRY

REMOTE KEYLESS ENTRY MODULE - BLACK 12 WAY

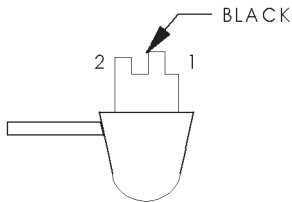
CAV	CIRCUIT	FUNCTION
3	Z1 20BK	GROUND
4	-	-
5	P55 20DB	RKE DOOR UNLOCK CONTROL
6	D1 20VT/BR	CCD BUS(+)
7	-	-
8	-	-
9	Z1 20BK	GROUND
10	X3 20BK/RD	HORN RELAY CONTROL
11	P59 20LB/RD	DOOR LOCK CONTROL
12	D2 20WT/BK	CCD BUS(-)



RIGHT BACK-UP LAMP

RIGHT BACK-UP LAMP - GRAY 2 WAY

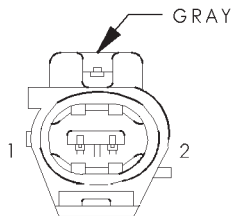
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L10 18BR/LG	BACK-UP LAMP FEED



RIGHT COURTESY LAMP

RIGHT COURTESY LAMP - BLACK 2 WAY

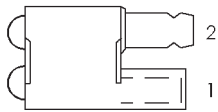
CAV	CIRCUIT	FUNCTION
1	M1 18PK	FUSED B(+)
2	M2 18BK/WT	COURTESY LAMPS DRIVER



RIGHT FOG LAMP

RIGHT FOG LAMP - GRAY 2 WAY

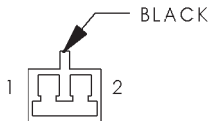
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	L39 20LB	FOG LAMP RELAY OUTPUT



RIGHT FRONT POSITION LAMP (BUILT-UP-EXPORT)

RIGHT FRONT POSITION LAMP (BUILT UP EXPORT) - 2 WAY

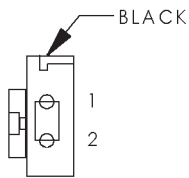
CAV	CIRCUIT	FUNCTION
1	L78 20DG/YL	FUSED HEADLAMP SWITCH OUTPUT
2	Z1 20BK	GROUND



RIGHT FRONT DOOR SPEAKER

RIGHT FRONT DOOR SPEAKER - BLACK 2 WAY

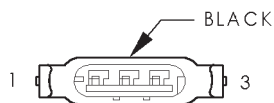
CAV	CIRCUIT	FUNCTION
1	X80 18LB/BK	AMPLIFIED RIGHT FRONT DOOR SPEAKER(-)
2	X82 18LB/RD	AMPLIFIED RIGHT FRONT DOOR SPEAKER(+)



RIGHT FRONT DOOR TWEETER

RIGHT FRONT DOOR TWEETER - BLACK 2 WAY

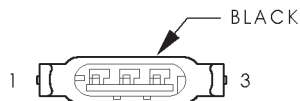
CAV	CIRCUIT	FUNCTION
1	X80 18LB/BK	AMPLIFIED RIGHT FRONT DOOR SPEAKER(-)
2	X82 18LB/RD	AMPLIFIED RIGHT FRONT DOOR SPEAKER(+)



RIGHT FRONT PARK/TURN SIGNAL LAMP NO. 1 (EXCEPT BUILT-UP-EXPORT)

RIGHT FRONT PARK/TURN SIGNAL LAMP NO. 1 (EXCEPT BUILT UP EXPORT)

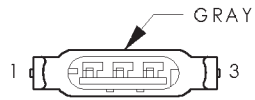
CAV	CIRCUIT	FUNCTION
1	L60 18TN	RIGHT TURN SIGNAL
2	L78 18DG/YL	FUSED HEADLAMP SWITCH OUTPUT
3	Z1 18BK	GROUND



RIGHT FRONT PARK/TURN SIGNAL LAMP NO. 2 (EXCEPT BUILT-UP-EXPORT)

RIGHT FRONT PARK/TURN SIGNAL LAMP NO. 2 (EXCEPT BUILT UP EXPORT)

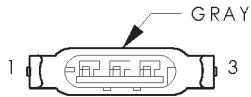
CAV	CIRCUIT	FUNCTION
1	L60 18TN	RIGHT TURN SIGNAL
2	L78 18DG/YL	FUSED HEADLAMP SWITCH OUTPUT
3	Z1 18BK	GROUND



RIGHT FRONT  
TURN SIGNAL  
LAMP NO. 1  
(BUILT-UP-EXPORT)

RIGHT FRONT TURN SIGNAL LAMP NO. 1 (BUILT UP EXPORT) - GRAY 3 WAY

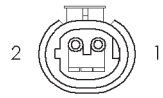
CAV	CIRCUIT	FUNCTION
1	L60 18TN	RIGHT TURN SIGNAL
3	Z1 18BK	GROUND
2	-	-



RIGHT FRONT  
TURN SIGNAL  
LAMP NO.2  
(BUILT-UP-EXPORT)

RIGHT FRONT TURN SIGNAL LAMP NO. 2 (BUILT UP EXPORT) - GRAY 3 WAY

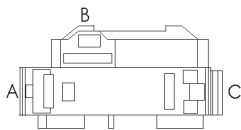
CAV	CIRCUIT	FUNCTION
1	L60 18TN	RIGHT TURN SIGNAL
2	-	-
3	Z1 18BK	GROUND



RIGHT FRONT  
WHEEL SPEED  
SENSOR

RIGHT FRONT WHEEL SPEED SENSOR - 2 WAY

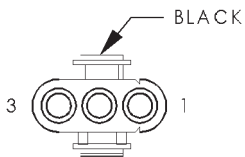
CAV	CIRCUIT	FUNCTION
1	B6 18WT/DB	RIGHT FRONT WHEEL SPEED SENSOR (-)
2	B7 18WT	RIGHT FRONT WHEEL SPEED SENSOR (+)



RIGHT  
HEADLAMP

RIGHT HEADLAMP - 3 WAY

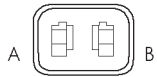
CAV	CIRCUIT	FUNCTION
A	L34 18RD/OR	FUSED RIGHT HIGH BEAM OUTPUT
B	L44 18VT/RD	FUSED RIGHT LOW BEAM OUTPUT
C	Z1 18BK	GROUND



RIGHT HEADLAMP  
LEVELING MOTOR  
(BUILT-UP-EXPORT)

RIGHT HEADLAMP LEVELING MOTOR (BUILT UP EXPORT) - BLACK 3 WAY

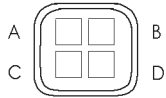
CAV	CIRCUIT	FUNCTION
1	L44 18VT/RD	FUSED RIGHT LOW BEAM OUTPUT
2	L13 18BK	HEADLAMP ADJUST SIGNAL
3	Z15 18BK/RD	GROUND



RIGHT HEATED SEAT BACK

RIGHT HEATED SEAT BACK - 2 WAY

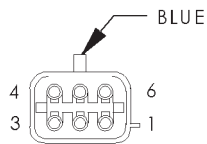
CAV	CIRCUIT	FUNCTION
A	P89 18BR	RIGHT HEATED SEAT BACK DRIVER
B	Z1 18BK	GROUND



RIGHT HEATED SEAT CUSHION

RIGHT HEATED SEAT CUSHION - 4 WAY

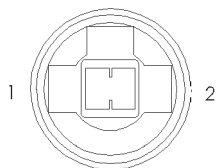
CAV	CIRCUIT	FUNCTION
A	P86 18PK/BK	RIGHT HEAT SEAT DRIVER
B	P89 18BR	RIGHT HEATED SEAT BACK DRIVER
C	P141 18TN/LB	SENSOR FEED
D	P144 18BK/YL	RIGHT HEAT SENSE INPUT



RIGHT HEATED SEAT SWITCH

RIGHT HEATED SEAT SWITCH - BLUE 6 WAY

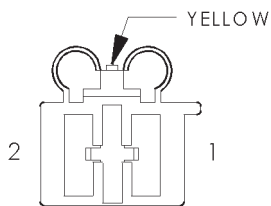
CAV	CIRCUIT	FUNCTION
1	P138 18VT/LG	RIGHT SEAT LOW HEAT LED DRIVER
2	-	-
3	Z1 18BK	GROUND
4	F83 18YL/DG	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
5	P140 18VT/BK	RIGHT SEAT HIGH HEAT LED DRIVER
6	P134 18TN/RD	RIGHT SEAT HEATER SWITCH MUX



RIGHT LICENSE LAMP (BUILT-UP-EXPORT)

RIGHT LICENSE LAMP (BUILT UP EXPORT) - 2 WAY

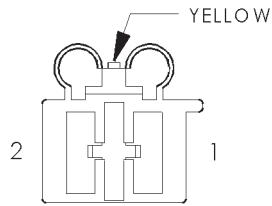
CAV	CIRCUIT	FUNCTION
1	L78 18BK/YL	FUSED HEADLAMP SWITCH OUTPUT
2	Z1 18BK	GROUND



RIGHT POWER SEAT FRONT RISER MOTOR

RIGHT POWER SEAT FRONT VERTICAL MOTOR - YELLOW 2 WAY

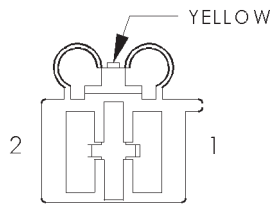
CAV	CIRCUIT	FUNCTION
1	P18 14YL/LG	RIGHT SEAT FRONT UP
2	P20 14RD/LG	RIGHT SEAT FRONT DOWN



RIGHT POWER SEAT HORIZONTAL MOTOR

RIGHT POWER SEAT HORIZONTAL MOTOR - YELLOW 2 WAY

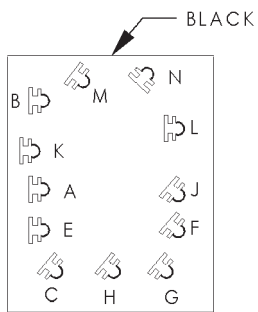
CAV	CIRCUIT	FUNCTION
1	P16 14RD/LB	RIGHT SEAT HORIZONTAL REARWARD
2	P14 14YL/LB	RIGHT SEAT HORIZONTAL FORWARD



RIGHT POWER SEAT REAR RISER MOTOR

RIGHT POWER SEAT REAR VERTICAL MOTOR - YELLOW 2 WAY

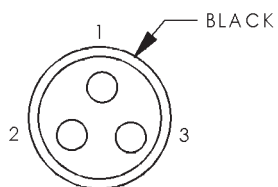
CAV	CIRCUIT	FUNCTION
1	P10 14YL/WT	RIGHT SEAT REAR UP
2	P12 14RD/WT	RIGHT SEAT REAR DOWN



RIGHT POWER SEAT SWITCH

RIGHT POWER SEAT SWITCH - BLACK 12 WAY

CAV	CIRCUIT	FUNCTION
A	Z1 14BK	GROUND
B	F37 14RD	FUSED B(+)
C	-	-
E	P10 14YL/WT	RIGHT POWER SEAT REAR UP
F	-	-
G	-	-
H	-	-
J	P12 14RD/WT	RIGHT SEAT REAR DOWN
K	P14 14YL/LB	RIGHT SEAT HORIZONTAL FORWARD
L	P16 14RD/LB	RIGHT SEAT HORIZONTAL REARWARD
M	P18 14YL/LG	RIGHT SEAT FRONT UP
N	P20 14RD/LG	RIGHT SEAT FRONT DOWN

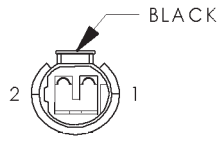


RIGHT REAR DOOR AJAR SWITCH

RIGHT REAR DOOR AJAR SWITCH - BLACK 3 WAY

CAV	CIRCUIT	FUNCTION
1	-	-
2	Z1 18BK	GROUND
3	M2 18YL	COURTESY LAMPS DRIVER

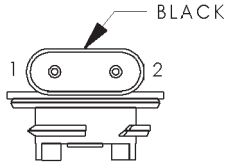




RIGHT REAR  
DOOR POWER  
LOCK MOTOR

RIGHT REAR DOOR POWER LOCK MOTOR - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	P34 16PK/BK	DOOR UNLOCK DRIVER
2	P33 16OR/BK	DOOR LOCK DRIVER



RIGHT REAR  
FOG LAMP  
(BUILT-UP-EXPORT)

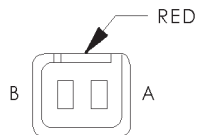
RIGHT REAR FOG LAMP (BUILT UP EXPORT) - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L38 18OR/WT	REAR FOG LAMP FEED

RIGHT REAR  
HEADLINER  
SPEAKER

RIGHT REAR HEADLINER SPEAKER - 2 WAY

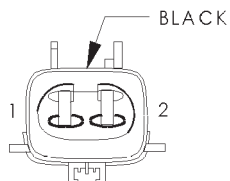
CAV	CIRCUIT	FUNCTION
A	X58 18DB/OR (4 SPEAKER SYSTEM)	RIGHT REAR SPEAKER(-)
A	X92 16TN/BK (6 SPEAKER SYSTEM)	AMPLIFIED RIGHT REAR SPEAKER(-)
B	X52 18DB/WT (4 SPEAKER SYSTEM)	RIGHT REAR SPEAKER(+)
B	X94 16TN/RD (6 SPEAKER SYSTEM)	AMPLIFIED RIGHT REAR SPEAKER(+)



RIGHT REAR  
WHEEL SPEED  
SENSOR

RIGHT REAR WHEEL SPEED SENSOR - RED 2 WAY

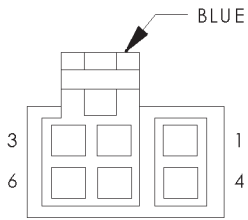
CAV	CIRCUIT	FUNCTION
A	B1 20YL/DB	RIGHT REAR WHEEL SPEED SENSOR (-)
B	B2 20YL	RIGHT REAR WHEEL SPEED SENSOR (+)



RIGHT REAR  
POWER WINDOW  
MOTOR

RIGHT REAR POWER WINDOW MOTOR - BLACK 2 WAY

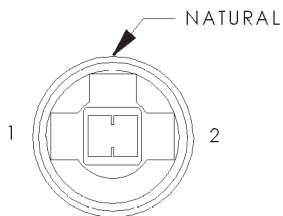
CAV	CIRCUIT	FUNCTION
1	Q14 14GY	WINDOW RIGHT REAR B(+) UP
2	Q24 14DG	RIGHT REAR WINDOW DRIVER DOWN



RIGHT REAR  
POWER WINDOW  
SWITCH

RIGHT REAR POWER WINDOW SWITCH - BLUE 6 WAY

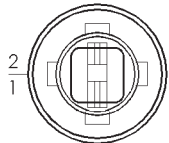
CAV	CIRCUIT	FUNCTION
1	Q14 14GY	WINDOW RIGHT REAR B(+) UP
2	Q28 14DG/WT	MASTER WINDOW SWITCH RIGHT REAR DOWN
3	-	-
4	Q18 14GY/BK	RIGHT REAR WINDOW DRIVER (UP)
5	Q24 14DG	RIGHT REAR WINDOW DRIVER (DOWN)
6	Q1 14YL	WINDOW SWITCH FEED



RIGHT SIDE  
MARKER LAMP  
(EXCEPT BUILT  
-UP-EXPORT)

RIGHT SIDE MARKER LAMP (EXCEPT BUILT UP EXPORT) - NATURAL 2 WAY

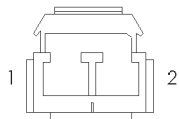
CAV	CIRCUIT	FUNCTION
1	L78 20DG/YL	FUSED HEADLAMP SWITCH OUTPUT
2	L60 20TN	RIGHT TURN SIGNAL



RIGHT SIDE  
REPEATER  
LAMP  
(BUILT-UP-EXPORT)

RIGHT SIDE REPEATER LAMP (BUILT UP EXPORT) - 2 WAY

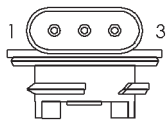
CAV	CIRCUIT	FUNCTION
1	L60 18GY	RIGHT TURN SIGNAL
2	Z1 18BK	GROUND



RIGHT SPEED  
CONTROL SWITCH

RIGHT SPEED CONTROL SWITCH - 2 WAY

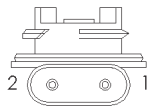
CAV	CIRCUIT	FUNCTION
1	K167 20BR/YL	SENSOR GROUND
2	V37 20RD/LG	SPEED CONTROL SWITCH SIGNAL



RIGHT TAIL/  
STOP LAMP

RIGHT TAIL/STOP LAMP - 3 WAY

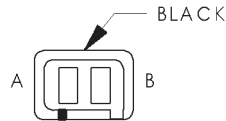
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L78 18DG/YL	FUSED HEADLAMP SWITCH OUTPUT
3	L50 18WT/TN	PRIMARRY BRAKE LAMP SWITCH SIGNAL



RIGHT TURN SIGNAL LAMP

RIGHT TURN SIGNAL LAMP - 2 WAY

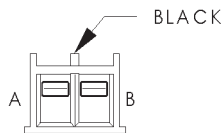
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	L63 18BR/RD	RIGHT TURN SIGNAL



RIGHT VISOR/  
VANITY  
LAMP

RIGHT VISOR/VANITY LAMP - BLACK 2 WAY

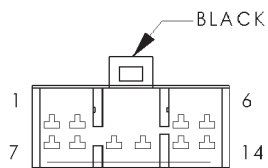
CAV	CIRCUIT	FUNCTION
A	M1 20PK	FUSED B(+)
B	Z1 20BK	GROUND



SEAT BELT SWITCH

SEAT BELT SWITCH - BLACK 2 WAY

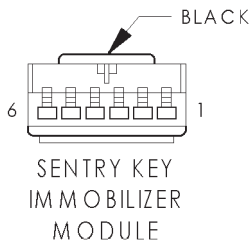
CAV	CIRCUIT	FUNCTION
A	G10 20LG/RD	SEAT BELT SWITCH SENSE
B	Z1 20BK	GROUND



SEAT  
HEAT  
INTERFACE  
MODULE

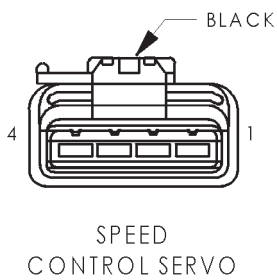
SEAT HEAT INTERFACE MODULE - BLACK 14 WAY

CAV	CIRCUIT	FUNCTION
1	P133 18TN/DG	LEFT SEAT HEATER SWITCH MUX
2	P141 18TN/LB	SENSOR FEED
3	P86 18PK/BK	RIGHT HEAT ELEMENT OUTPUT
4	F235 16RD	HEATED SEAT RELAY OUTPUT
5	P87 18BK/OR	LEFT HEAT ELEMENT OUTPUT
6	F235 16RD	HEATED SEAT RELAY OUTPUT
7	P144 18BK/YL	RIGHT HEAT SENSE INPUT
8	P143 18BK/DG	LEFT HEAT SENSE INPUT
9	P134 18TN/RD	RIGHT SEAT HEATER SWITCH MUX
10	P138 18VT/LG	RIGHT SEAT LOW HEAT LED DRIVER
11	P140 18VT/BK	RIGHT SEAT HIGH HEAT LED DRIVER
12	P137 18VT	LEFT SEAT LOW HEAT LED DRIVER
13	Z2 18BK/LG	GROUND
14	P139 18VT/WT	LEFT SEAT HIGH HEAT LED DRIVER



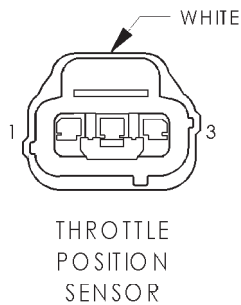
SENTRY KEY IMMOBILIZER MODULE - BLACK 6 WAY

CAV	CIRCUIT	FUNCTION
1	D1 20VT/BR	CCD BUS(+)
2	D2 20WT/BK	CCD BUS(-)
3	Z2 20BK/LG	GROUND
4	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (RUN-START)
5	Z2 20BK/LG	GROUND
6	F1 20DB/GY	FUSED B(+)



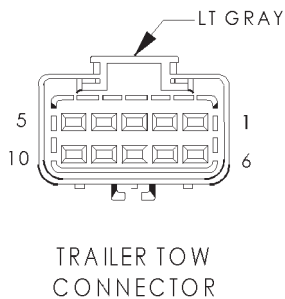
SPEED CONTROL SERVO - BLACK 4 WAY

CAV	CIRCUIT	FUNCTION
1	V36 18TN/RD	SPEED CONTROL VACUUM SOLENOID CONTROL
2	V35 18LG/RD	SPEED CONTROL VENT SOLENOID CONTROL
3	V30 20DB/RD	SPEED CONTROL BRAKE SWITCH OUTPUT
4	Z1 18BK	GROUND



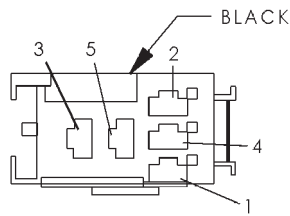
THROTTLE POSITION SENSOR - WHITE 3 WAY

CAV	CIRCUIT	FUNCTION
1	K167 20BR/YL	SENSOR GROUND
2	K22 180R/DB (M/T)	THROTTLE POSITION SENSOR SIGNAL
2	K22 200R/DB (A/T)	THROTTLE POSITION SENSOR SIGNAL
3	K7 200R	5V SUPPLY



TRAILER TOW CONNECTOR - LT. GRAY 10 WAY

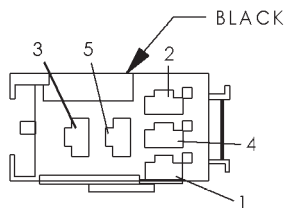
CAV	CIRCUIT	FUNCTION
1	-	-
2	L74 20LG	BRAKE LAMP SWITCH OUTPUT
3	L10 18BR/LG	BACK-UP LAMP FEED
4	A6 20RD/OR	FUSED B(+)
5	L77 20BR/YL	FUSED HEADLAMP SWITCH OUTPUT
6	-	-
7	B40 14LB	TRAILER TOW BRAKE B(+)
8	Z1 14BK	GROUND
9	-	-
10	L73 20YL	BRAKE LAMP SWITCH OUTPUT



TRAILER TOW  
LEFT TURN RELAY

TRAILER TOW LEFT TURN RELAY - BLACK 5 WAY

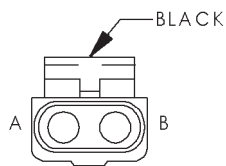
CAV	CIRCUIT	FUNCTION
1	L63 20DG/RD	LEFT TURN SIGNAL
2	L50 20WT/TN	BRAKE LAMP SWITCH OUTPUT
3	A6 20RD/OR	FUSED B(+)
4	-	-
5	L73 20YL	BRAKE LAMP SWITCH OUTPUT



TRAILER TOW  
RIGHT TURN RELAY

TRAILER TOW RIGHT TURN RELAY - BLACK 5 WAY

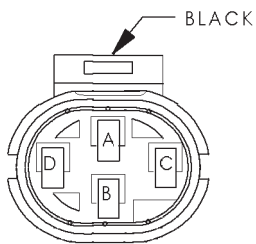
CAV	CIRCUIT	FUNCTION
1	L62 20BK/RD	RIGHT TURN SIGNAL
2	L50 20WT/TN	BRAKE LAMP SWITCH OUTPUT
3	A6 20RD/OR	FUSED B(+)
4	-	-
5	L74 20LG	BRAKE LAMP SWITCH OUTPUT



TRANSFER  
CASE SWITCH  
(231 4WD)

TRANSFER CASE SWITCH (231 4WD) - BLACK 2 WAY

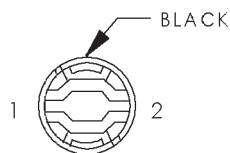
CAV	CIRCUIT	FUNCTION
A	G107 20BK/RD	4WD SWITCH SENSE (PART-TIME)
B	Z1 20BK	GROUND



TRANSFER  
CASE SWITCH  
(242 4WD)

TRANSFER CASE SWITCH (242 4WD) - BLACK 4 WAY

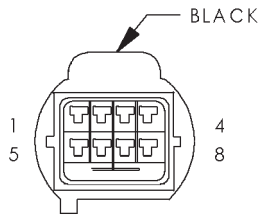
CAV	CIRCUIT	FUNCTION
A	Z1 20BK	GROUND
B	G106 20BK/WT	4WD SWITCH SENSE (FULL-TIME)
C	-	-
D	G107 20BK/RD	4WD SWITCH SENSE (PART-TIME)



TRANSFER CASE  
SWITCH  
ILLUMINATION

TRANSFER CASE SWITCH ILLUMINATION - BLACK 2 WAY

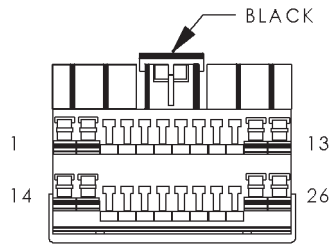
CAV	CIRCUIT	FUNCTION
1	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
2	Z1 20BK	GROUND



TRANSMISSION SOLENOID

TRANSMISSION SOLENOID - BLACK 8 WAY

CAV	CIRCUIT	FUNCTION
1	T52 20RD/BK	INPUT SPEED SENSOR SIGNAL
2	T60 20OR/WT	SOLENOID B CONTROL
3	T19 20WT	SOLENOID A CONTROL
4	T22 20DB/WT	SOLENOID C CONTROL
5	T31 20VT/LG	INPUT SPEED SENSOR GROUND
6	T13 20DB/BK	OUTPUT SPEED SENSOR GROUND
7	T14 20LG/WT	OUTPUT SPEED SENSOR SIGNAL
8	-	-



TRANSMISSION CONTROL MODULE

TRANSMISSION CONTROL MODULE - BLACK 26 WAY

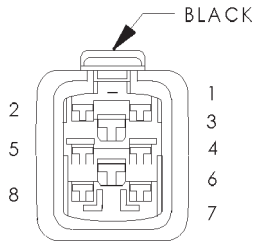
CAV	CIRCUIT	FUNCTION
1	T31 20VT/LG	INPUT SPEED SENSOR GROUND
2	T52 20RD/BK	INPUT SPEED SENSOR SIGNAL
3	T13 20DB/BK	OUTPUT SPEED SENSOR GROUND
4	T14 20LG/WT	OUTPUT SPEED SENSOR SIGNAL
5	-	-
6	D2 20WT/BK	CCD BUS(-)
7	D1 20VT/BR	CCD BUS(+)
8	-	-
9	T3 18VT	TRS 3 SENSE
10	-	-
11	T22 20DB/WT	SOLENOID C CONTROL
12	T19 20WT	SOLENOID A CONTROL
13	T60 20OR/WT	SOLENOID B CONTROL
14	D21 20PK	SCI TRANSMIT
15	-	-
16	K167 20BR/YL	SENSOR GROUND
17	K22 20OR/DB	THROTTLE POSITION SENSOR SIGNAL
18	L10 18BR/LG	TRS REVERSE SENSE
19	-	-
20	-	-
21	T42 18VT/WT	TRS 1-2 SENSE
22	T1 18LG/BK	TRS OVERDRIVE SENSE
23	K29 20WT/PK	BRAKE LAMP SWITCH SENSE
24	Z12 18BK/TN	GROUND
25	M1 20PK	FUSED B(+)
26	F12 18DB/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)



TRANSMISSION RANGE INDICATOR ILLUMINATION (PRNDL)

TRANSMISSION RANGE INDICATOR ILLUMINATION (PRNDL) - 2 WAY

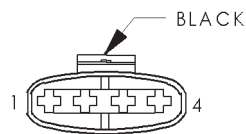
CAV	CIRCUIT	FUNCTION
1	E2 20OR	FUSED PANEL LAMPS DIMMER SWITCH SIGNAL
2	Z1 20BK	GROUND



TRANSMISSION RANGE SENSOR (A/T)

TRANSMISSION RANGE SENSOR (A/T) - BLACK 8 WAY

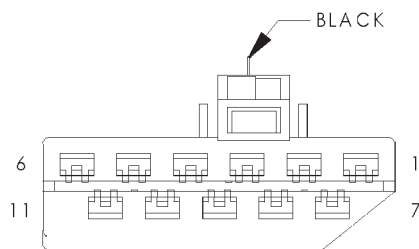
CAV	CIRCUIT	FUNCTION
1	T42 18VT/WT	TRS 1-2 SENSE
2	T3 18VT	TRS 3 SENSE
3	F20 18WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
4	T1 18LG/BK	TRS OVERDRIVE SENSE
5	-	-
6	L10 18BR/LG	TRS REVERSE SENSE
7	T41 20BK/WT	PARK/NEUTRAL POSITION SWITCH SENSE
8	Z1 18BK	GROUND



TURBO BOOST PRESSURE SENSOR (DIESEL)

TURBO BOOST PRESSURE SENSOR (DIESEL) - BLACK 4 WAY

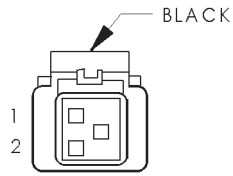
CAV	CIRCUIT	FUNCTION
1	K4 20BK/LB	SENSOR GROUND
2	K21 20BK/RD	INTAKE AIR TEMPERATURE SENSOR SIGNAL
3	K9 20LB	5V SUPPLY
4	K1 20DG/RD	BOOST PRESSURE SENSOR SIGNAL



TURN SIGNAL/HAZARD SWITCH

TURN SIGNAL/HAZARD SWITCH - BLACK 11 WAY

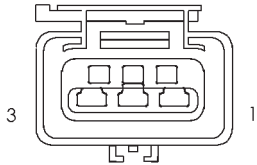
CAV	CIRCUIT	FUNCTION
1	L60 20TN	RIGHT TURN SIGNAL
2	-	-
3	L62 20BR/RD	RIGHT TURN SIGNAL
4	L55 20RD/WT	COMBINATION FLASHER INPUT
5	L6 20RD/WT	FLASHER OUTPUT
6	L12 20VT/TN	HAZARD FLASHER SELECT SIGNAL
7	-	-
8	-	-
9	L63 20DG/RD	LEFT TURN SIGNAL
10	L61 20LG/WT	LEFT TURN SIGNAL
11	L55 20RD/WT	COMBINATION FLASHER INPUT
1	L60 20TN (LHD BUILT UP EXPORT)	RIGHT TURN SIGNAL



UNDERHOOD LAMP/ SWITCH

UNDERHOOD LAMP/SWITCH - BLACK 2 WAY

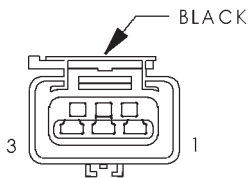
CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B(+)
2	Z1 20BK	GROUND



VEHICLE SPEED SENSOR (DIESEL)

VEHICLE SPEED SENSOR (DIESEL) - 3 WAY

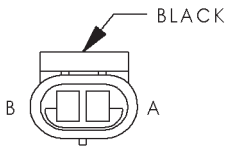
CAV	CIRCUIT	FUNCTION
1	K7 18OR	5V SUPPLY
2	K167 18BR/YL	SENSOR GROUND
3	G7 8WT/OR	VEHICLE SPEED SENSOR SIGNAL



VEHICLE SPEED SENSOR (GAS)

VEHICLE SPEED SENSOR (GAS) - BLACK 3 WAY

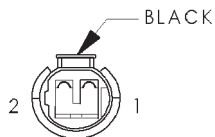
CAV	CIRCUIT	FUNCTION
1	K6 18VT/OR	5V SUPPLY
2	K167 20BR/YL	SENSOR GROUND
3	G7 18WT/OR	VEHICLE SPEED SENSOR SIGNAL



WASHER FLUID LEVEL SWITCH

WASHER FLUID LEVEL SWITCH - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
A	Z1 20BK	GROUND
B	G29 20BK/LB	LOW WASHER FLUID SENSE



WATER IN FUEL SENSOR (DIESEL)

WATER IN FUEL SENSOR (DIESEL) - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	G123 18DG/WT	WATER IN FUEL SENSOR SIGNAL
2	K167 20BR/YL	SENSOR GROUND





## 8Wa-90 CONNECTOR/GROUND LOCATIONS

### TABLE OF CONTENTS

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**CONNECTOR/GROUND LOCATIONS**

DESCRIPTION . . . . . 1

## CONNECTOR/GROUND LOCATIONS

### DESCRIPTION

This section provides illustrations identifying component and connector locations in the vehicle. A con-

connector index is provided. Use the wiring diagrams in each section for connector identification. Refer to the index for the proper figure number. For items that are not shown in this section N/S is placed in the Fig. column.

Connector Name/Number	Color	Location	Fig.
A/C Compressor Clutch (Diesel)	BK	Left Rear of Engine Compartment	35, 36
A/C-Heater Control - C1 or Heater Control - C1	BK	Center of Instrument Panel	13, 14
A/C-Heater Control - C2 or Heater Control - C2	NAT	Center of Instrument Panel	13, 14
A/C High Pressure Switch (LHD)		A/C High Pressure Switch (4.0L)(LHD)	5, 7
A/C High Pressure Switch (RHD)		Left Side of Engine Compartment Near T/O for A/C Compressor Clutch	8
A/C High Pressure Switch (Diesel)		Left Side of Engine	35, 36
A/C Low Pressure Switch (Diesel)(LHD)		Right Rear of Engine Compartment	33
A/C Low Pressure Switch (Diesel)(RHD)		Left Rear of Engine Compartment	28
A/C Low Pressure Switch (Gas)(LHD)		Right Rear of Engine Compartment	5
A/C Low Pressure Switch (Gas)(RHD)		Left Rear of Engine Compartment	5
Accelerator Pedal Position Sensor (Diesel) (LHD)	BK	Near T/O for Engine Control Module - C1, C2	N/S
Accelerator Pedal Position Sensor (Diesel)(RHD)	BK	Right Kick Panel Area	34
Airbag Control Module	YL	Under Center Console	18, 21, 32
Ambient Temperature Sensor	BK	Center Grill Opening	5, 6, 33, 40
Back-Up Lamp Switch (4.0L)	BK	Left Side of Transmission	11
Back-Up Lamp Switch (Diesel)	BK	Left Side of Transmission	37
Battery Temperature Sensor	BK	At Battery	5, 6, 7, 8, 32
Blend Door Actuator	BK	T/O at T/O for C209 on HVAC Harness	N/S
Blower Motor		On HVAC Harness	N/S
Blower Motor Relay	BK	Near T/O for C209	N/S

## CONNECTOR/GROUND LOCATIONS (Continued)

Connector Name/Number	Color	Location	Fig.
Blower Motor Resistor Block	BK	On HVAC Harness	N/S
Brake Lamp Switch	GY	Near Brake Pedal	12, 15, 16
Brake Warning Pressure Switch (LHD)	BK	Left Side of Engine Compartment	3, 30
Brake Warning Pressure Switch (RHD)	BK	Right Side of Engine Compartment	6, 8, 8, 40
C100 (LHD)	BK	Left Lower Instrument Panel	7, 12, 16
C100 (RHD)	WT	Right Lower Instrument Panel	15, 40
C106	BK	Left Front Engine Compartment	1, 7, 8, 32
C107 (4.0L)	BK	Rear of Engine Compartment	5, 6, 9
C108 (Gas)	BK	Right Side of Engine Compartment	5, 6, 7, 8
C109	BK	Left Lower Instrument Panel	7, 8, 17, 18, 32
C111 (Diesel)	LTGY	Left Rear of Engine Compartment	30, 31, 36
C112 (4.0L A/T 4WD)	GY	Left Side of Transfer Case	11
C113 (Gas M/T)		Rear Center of Engine Compartment	5, 9
C114 (Built-Up-Export)	BK	T/O at Left Headlamp T/O	1
C115 (Built-Up-Export)	BK	T/O at Right Headlamp T/O	N/S
C116 (Diesel)	BK	Right Side of Engine	33, 34, 35
C120 (Diesel)	BK	Rear of Engine	30, 28, 35
C200 (LHD)	GY	Left Lower Instrument Panel	12, 17, 23
C201 (LHD)	NAT	Lower Center of Instrument Panel	12
C202 (RHD)	GY	Lower Center of Instrument Panel	15, 18
C203 (RHD)	BL	Lower Center of Instrument Panel	15, 18
C204 (RHD)	WT	Lower Center of Instrument Panel	15, 18
C205 (LHD)	YL	Left Lower Instrument Panel	12, 13, 21
C205 (RHD)	YL	Right Lower Instrument Panel	14, 15
C206	BK	At Center Console	17, 18, 21, 32
C207	BK	Right Lower Instrument Panel	12, 15
C208	BK	Left Lower Instrument Panel	12, 15
C209 (LHD)	BK	Right Lower Instrument Panel	21, 32
C209 (RHD)	BK	Left Lower Instrument Panel	18
C300 (LHD)	NAT	At Right Kick Panel	21, 32
C300 (RHD)	WT	At Right Kick Panel	15
C301	WT	At Right Kick Panel	15, 21, 23, 32
C303 (Except RHD Full Options)	NAT	T/O at Junction Block - C7 T/O	23
C303 (RHD Full Options)	WT	T/O at Junction Block - C7 T/O	23
C304	BK	Right Lower B Pillar	22
C305	WT	At Left Kick Panel	17, 18
C306	WT	At Left Kick Panel	17, 18
C307	WT	At Left Kick Panel	17, 18

## CONNECTOR/GROUND LOCATIONS (Continued)

Connector Name/Number	Color	Location	Fig.
C309	BK	Left Lower B Pillar	17, 18
C310	BK	Top Center of Liftgate	25
C311	BK	Top Center of Liftgate	25
C312	GN	Top Center of Liftgate	25
C313	GY	Top Center of Liftgate	25
C314	WT	At Soundbar	N/S
C316	BK	Under Right Front Seat	17, 18, 22
C317	BK	Left Lower A Pillar	17, 18
C318	BK	Right Lower A Pillar	22
C319	BK	Right Lower B Pillar	22
C320	BK	Left Lower B Pillar	17, 18
C321	BK	At Right Tail Lamp Harness	N/S
C322 (Trailer Tow)	BK	At Left Tail Lamp Harness	27
C322 (Without Trailer Tow)	BK	At Left Tail Lamp Harness	19
C323 (Trailer Tow)	BK	At Trailer Tow Harness	19, 27
C324 (RHD)	WT	In T/O for Junction Block - C7	N/S
C326	BK	At Left Rear Quarter Panel	19, 20
C327	BK	At Left Rear Quarter Panel	19, 20
C329	NAT	Under Right Front Seat	17, 18
C330	BK	Center of Liftgate	25
C332	NAT	Under Left Front Seat	17, 18
C333	BK	At Center High Mounted Stop Lamp Jumper	N/S
C362	BK	Under Left Front Seat	17, 18
C363	BK	Under Right Front Seat	17, 18
Camshaft Position Sensor (GAS)	GY	Right Side of Engine	9
Cargo Lamp/Switch	BK	At Lamp	N/S
Center High Mounted Stop Lamp	BK	At Liftgate	N/S
Cigar Lighter	RD	Lower Center of Instrument Panel	13, 14
Clockspring - C1	NAT	At Clockspring	29
Clockspring - C2		At Clockspring	N/S
Clockspring - C3	YL	At Clockspring	29
Clutch Interlock Switch	GN	At Clutch Pedal	7, 15, 16
Clutch Interlock Switch Jumper (LHD)	BK	Lower Steering Column	N/S
Clutch Interlock Switch Jumper (RHD)	BK	Lower Steering Column	15
Combination Flasher	BK	Lower Left of Instrument Panel	12
Controller Anti-Lock Brake	BK	Left Side of Engine Compartment	3, 30, 37
Crankshaft Position Sensor (Gas)	BK	Left Side of Transmission	11
Data Link Connector (LHD)	BK	Lower Left of Instrument Panel	12
Data Link Connector (RHD)	BK	Lower Right of Instrument Panel	N/S
Daytime Running Lamp Module (Except Built-Up-Export)	BK	Right Rear of Engine Compartment	7

## CONNECTOR/GROUND LOCATIONS (Continued)

Connector Name/Number	Color	Location	Fig.
Diode Module (Built-Up-Export)	BK	T/O at Rear Fog Lamp Relay T/O	N/S
Dome Lamp (Base/Police)		At Lamp	N/S
Dome Lamps Switch (Midline)	BK	At Switch	N/S
Driver Door Ajar Switch	BK	Left Lower A Pillar	N/S
Driver Door Lock Motor		At Motor	24
Driver Door Module C1	BL	At Switch	24
Driver Door Module C2	WT	At Switch	24
Driver Power Mirror	RD	At Mirror	24
Driver Power Window Motor	BK	At Motor	24
Duty Cycle EVAP/Purge Solenoid (Gas) (LHD)	BK	Right Rear of Engine Compartment	3, 5
Duty Cycle EVAP/Purge Solenoid (Gas) (RHD)	BK	Left Rear of Engine Compartment	4
EGR Solenoid (Diesel)		Right Front of Engine Compartment	33, 34
Engine Control Module - C1 (Diesel)	BK	Center of Cowl Under Instrument Panel	32
Engine Control Module - C2 (Diesel)	BK	Center of Cowl Under Instrument Panel	32
Engine Coolant Temperature Sensor (GAS)	BK	Front of Engine	9
Engine Coolant Temperature Sensor NO.1 (Diesel)	BK	Left Rear of Engine	35
Engine Coolant Temperature Sensor NO.2 (Diesel)	BK	Left Side of Engine	35, 36
Engine Oil Pressure Sensor	BK	Right Side of Engine	9, 35
Engine Speed Sensor (Diesel)	BK	Left Side of Engine	35
EVAP Leak Detection Pump (Except Built-Up-Export)	BK	In T/O for Power Distribution Center	N/S
Extended Idle Switch (Police Package)	WT	Instrument Panel Harness Near T/O to Power Outlet	N/S
Front Fog Lamp Switch	BK	Lower Center of Instrument Panel	13, 14
Front Wiper Motor	BK	At Wiper Motor	2
Fuel Heater (Diesel)		Left Rear of Engine Compartment	30, 28
Fuel Injection Pump (Diesel)	BK	Left Side of Engine	30, 28, 42
Fuel Injector No. 1	BK	At Injector	9
Fuel Injector No. 2	BK	At Injector	9
Fuel Injector No. 3	BK	At Injector	9
Fuel Injector No. 4	BK	At Injector	9
Fuel Injector No. 5 (4.0L)	BK	At Injector	9
Fuel Injector No. 6 (4.0L)	BK	At Injector	9
Fuel Level Sensor (Diesel)	BK	At Sensor	19
Fuel Pump Module (GAS)	BK	At Fuel Pump Module	19
G100 (4.0L)		Right Front of Engine Compartment	5, 6
G101		Right Side of Engine	9

## CONNECTOR/GROUND LOCATIONS (Continued)

Connector Name/Number	Color	Location	Fig.
G102 (Diesel)		Right Side of Engine	33, 34
G102 (Gas)		Rear of Engine Compartment	5, 6
G104 (Gas)		T/O at Engine Starter Motor T/O on Battery Harness	N/S
G104 (Diesel)		T/O at Battery Negative Terminal on Battery Harness	N/S
G105 (Diesel)		On Negative Battery Harness	N/S
G106		Left Side of Engine Compartment	3
G107 (LHD)		Right Side of Instrument Panel	12
G107 (RHD)		Left Side of Instrument Panel	15
G108 (LHD)		Left Side of Instrument Panel	12
G108 (RHD)		Right Side of Instrument Panel	15
G200		Under Left Front Seat	18, 21, 32
G300		In T/O for Airbag Control Module	N/S
G301		Near T/O for Power Amplifier	19
G302		At Left Rear Quarter Panel	19
G303		Under Right Front Seat	17, 18, 22
G304		T/O at T/O's for C326 and C327	20
G306		Under Right Front Seat	17, 18
G Switch	BK	Under Rear Seat	19, 22
Generator (4.0L)	BK	At Generator	10
Generator (Diesel)	BK	At Generator	41, 42
Glow Plug Relay (Diesel)		Left Rear of Engine Compartment	30, 28
Headlamp Beam Select Switch	BK	On Steering Column	29
HeadLamp Delay Module (LHD)	BK	Lower Left of Instrument Panel	12
Headlamp Delay Module (RHD)	BK	Lower Right of Instrument Panel	N/S
Headlamp Leveling Switch (Built-Up-Export)	BK	Lower Center of Instrument Panel	13, 14
Headlamp Switch (LHD)	BK	Left Side of Instrument Panel	13, 23
Headlamp Switch (RHD)	BK	Right Side of Instrument Panel	14
Heated Seat Relay		Under Right Front Seat	N/S
Idle Air Control Motor	BK	Left Side of Engine	9
Ignition Switch - C1	BK	At Steering Column	12, 15, 29
Ignition Switch - C2	GN	At Steering Column	12, 15, 29
Instrument Cluster - C1	BK	At Instrument Cluster	12, 13, 14, 15
Instrument Cluster - C2	BK	At Instrument Cluster	12, 13, 14, 15
Intake Air Temperature Sensor	GY	Left Side of Engine	9
Junction Block - C1	NAT	At Right Kick Panel Area	16, 22
Junction Block - C2	WT	At Right Kick Panel Area	16, 22
Junction Block - C3	NAT	At Right Kick Panel Area	22
Junction Block - C4	WT	At Right Kick Panel Area	15, 22, 23

## CONNECTOR/GROUND LOCATIONS (Continued)

Connector Name/Number	Color	Location	Fig.
Junction Block - C5	WT	At Right Kick Panel Area	15, 22, 23
Junction Block - C6	NAT	At Right Kick Panel Area	22
Junction Block - C7	NAT	At Right Kick Panel Area	22
Junction Block - C8	NAT	At Right Kick Panel Area	22
Junction Block - C9	NAT	At Right Kick Panel Area	22
Left Back-Up Lamp	GY	At Lamp	N/S
Left City Lamp (Built-Up-Export)		At Lamp	1
Left Courtesy Lamp	BK	Lower Left of Instrument Panel	12, 15
Left Fog Lamp	GY	At Lamp	1
Left Front Door Speaker	BK	At Speaker	24
Left Front Door Tweeter	BK	Left Front Door	24
Left Front Park/Turn Signal Lamp NO.1 (Except Built-Up-Export)	GY	At Lamp	1
Left Front Park/Turn Signal Lamp NO.2 (Except Built-Up-Export)	GY	At Lamp	1
Left Front Turn Signal Lamp NO.1 (Built-Up-Export)	GY	At Lamp	1
Left Front Turn Signal Lamp NO.2 (Built-Up-Export)	GY	At Lamp	1
Left Front Wheel Speed Sensor	GY	Left Side of Engine Compartment	3, 32
Left Headlamp		At Headlamp	1
Left Headlamp Leveling Motor (Built-Up-Export)	BK	At Headlamp	1
Left Heated Seat Back		At Left Seat	N/S
Left Heated Seat Cushion		At Left Seat	N/S
Left Heated Seat Switch	RD	At Center Console	17, 18
Left License Lamp (Built-Up-Export)		At Lamp	N/S
Left Power Seat Front Vertical Motor	YL	Under Left Seat	N/S
Left Power Seat Horizontal Motor	YL	Under Left Seat	N/S
Left Power Seat Rear Vertical Motor	YL	Under Left Seat	N/S
Left Power Seat Switch	BK	At Switch	N/S
Left Rear Door Ajar Switch	BK	At Left B Pillar	N/S
Left Rear Door Lock Motor	BK	In Left Rear Door	24
Left Rear Fog Lamp (Built-Up-Export)	BK	At Lamp	N/S
Left Rear Wheel Speed Sensor	BK	Under Rear Seat	19
Left Rear Window Motor	BK	In Left Rear Door	24
Left Rear Window Switch	BL	In Left Rear Door	24
Left Repeater Lamp (Built-Up-Export)		At Lamp	1
Left Side Marker Lamp (Except Built-Up-Export)	NAT	At Lamp	1

## CONNECTOR/GROUND LOCATIONS (Continued)

Connector Name/Number	Color	Location	Fig.
Left Soundbar Speaker		At Soundbar	N/S
Left Speed Control Switch		On Steering Wheel	N/S
Left Tail/Stop Lamp	BK	At Lamp	N/S
Left Turn Signal Lamp		At Rear Lamp	N/S
Left Visor/Vanity Lamp	BK	Left Side of Headliner	28
License Lamp		At Lamp	N/S
Liftgate Lock Motor	BK	In Liftgate	25
Liftgate Ajar Switch	BK	In Liftgate	25
Low Coolant Switch (Diesel)		Right Side of Engine Compartment	33, 34
Manifold Absolute Pressure Sensor	BK	Left Side of Engine	9
Overhead Console	BK	At Front Headliner	N/S
Message Center (Diesel)	BK	Upper Center of Instrument Panel	12, 13, 14, 15
Needle Movement sensor (Diesel)		Rear of Engine Compartment	30, 28
Overhead Console	BK	Front Headliner	N/S
Oxygen Sensor 1/1 Upstream (4.0L)	GY	Right Side of Transmission	11
Oxygen Sensor 1/1 Upstream (California/European III)	GY	Left Side of Engine	9
Oxygen Sensor 1/2 Downstream (4.0L)	BK	Right Side of Transmission	11
Oxygen Sensor 1/2 Downstream (California/European III)	BK	Left Side of Engine	9
Oxygen Sensor 2/1 Upstream (California/European III)	GY	Left Side of Engine	9
Oxygen Sensor 2/2 Downstream (California/European III)	BK	Left Side of Engine	11
Passenger Airbag	YL	At Airbag	12, 13, 14, 15
Passenger Door Ajar Switch	BK	Kick Panel Area at Door Opening	22
Passenger Door Lock Motor		At Motor	24
Passenger Door Module C1	BL	At Switch	24
Passenger Door Module C2	BL	At Switch	24
Passenger Power Mirror	RD	At Mirror	24
Passenger Power Window Motor	BK	At Motor	24
Power Amplifier - C1	NAT	Under Left Rear Seat	19
Power Amplifier - C2	NAT	Under Left Rear Seat	19
Power Antenna (Built-Up-Export)	BK	Right Side of Instrument Panel	12, 15
Power Antenna Relay - C1 (Built-Up-Export)	BK	Right Side of Instrument Panel	12, 15
Power Antenna Relay - C2 (Built-Up-Export)	BK	Right Side of Instrument Panel	12, 15
Power Mirror Switch		At Switch	N/S
Power Outlet	RD	Lower Center of Instrument Panel	13, 14



## CONNECTOR/GROUND LOCATIONS (Continued)

Connector Name/Number	Color	Location	Fig.
Powertrain Control Module - C1 (Diesel)		Right Side of Engine Compartment	33, 34
Powertrain Control Module - C1 (Gas)	BK	Left Side of Engine Compartment	2, 9
Powertrain Control Module - C2 (Diesel)		Right Side of Engine Compartment	33, 34
Powertrain Control Module - C2 (Gas)	WT	Left Side of Engine Compartment	2, 9
Powertrain Control Module - C3 (Diesel)	GY	Right Side of Engine Compartment	33, 34
Powertrain Control Module - C3 (Gas)	GY	Left Side of Engine Compartment	2, 3
Radiator Fan Motor	LT GY	Front of Engine Compartment	3, 7, 8, 30, 30, 28, 32
Radio - C1	BK	Center of Instrument Panel	13, 14
Radio - C2	GY	Center of Instrument Panel	13, 14
Rail Coil (4.0L)	BK	Right Side of Engine	9
Rear Fog Lamp Relay (Built-Up-Export) (LHD)		Right Side of Instrument Panel	12
Rear Fog Lamp Relay (Built-Up-Export) (RHD)		Left Side of Instrument Panel	15
Rear Fog Lamp Switch (Built-Up-Export)	WT	Center of Instrument Panel	13, 14
Rear Washer Pump	BK	Left Front of Engine Compartment	2, 3, 30, 28
Rear Window Defogger Switch	GY	Center of Instrument Panel	13, 14
Rear Wiper Motor		In Liftgate	25
Rear Wiper/Washer Switch	BK	Center of Instrument Panel	13, 14
Remote Keyless Entry Module	BK	Front Center of Headliner	28
Right Back-Up Lamp	GY	At Lamp	N/S
Right City Lamp (Built-Up-Export)		At Lamp	1
Right Courtesy Lamp	BK	Lower Right of Instrument Panel	12, 15
Right Fog Lamp	GY	At Lamp	1
Right Front Door Speaker	BK	At Speaker	24
Right Front Door Tweeter	BK	At Right Front Door	24
Right Front Park/Turn Signal Lamp NO.1 (Except Built-Up-Export)	BK	At Lamp	1
Right Front Park/Turn Signal lamp NO.2 (Except Built-Up-Export)	BK	At Lamp	1
Right Front Turn Signal Lamp NO.1 (Built-Up-Export)	GY	At Lamp	1
Right Front Turn Signal Lamp NO.2 (Built-Up-Export)	GY	At Lamp	1
Right Front Wheel Speed Sensor		Right Side of Engine Compartment	5, 33, 40, 34
Right Headlamp		At Headlamp	1

## CONNECTOR/GROUND LOCATIONS (Continued)

Connector Name/Number	Color	Location	Fig.
Right Headlamp Leveling Motor (Built-Up-Export)	BK	At Headlamp	1
Right Heated Seat Back		At Right Seat	N/S
Right Heated Seat Cushion		At Right Seat	N/S
Right Heated Seat Switch	BL	At Center Console	17, 18
Right License Lamp (Built-Up-Export)		At Lamp	N/S
Right Power Seat Front Vertical Motor	YL	Under Right Seat	N/S
Right Power Seat Horizontal Motor	YL	Under Right Seat	N/S
Right Power Seat Rear Vertical Motor	YL	Under Right Seat	N/S
Right Power Seat Switch	BK	At Switch	N/S
Right Rear Door Ajar Switch	BK	At Right B Pillar	22
Right Rear Door Lock Motor	BK	In Right Rear Door	24
Right Rear Fog Lamp (Built-Up-Export)	BK	At Lamp	N/S
Right Rear Wheel Speed Sensor	RD	Under Rear Seat	19
Right Rear Window Motor	BK	In Right Rear Door	24
Right Rear Window Switch	BL	In Right Rear Door	24
Right Repeater Lamp (Built-Up-Export)		At Lamp	N/S
Right Side Marker Lamp (Except Built-Up-Export)	NAT	At Lamp	1
Right Sound Bar Speaker		At Soundbar	N/S
Right Speed Control Switch		On Steering Wheel	N/S
Right Tail/Stop Lamp		At Lamp	N/S
Right Turn Signal Lamp		At Rear Lamp	N/S
Right Visor/Vanity Lamp	BK	Right Side of Headliner	28
Seat Belt Switch (LHD)	BK	T/O at T/O for Airbag Control Module	21, 32
Seat Belt Switch (RHD)	BK	T/O at T/O for C206	N/S
Seat Heat Interface Module	BK	Under Right Front Seat	N/S
Sentry Key Immobilizer Module	BK	At Steering Column	12, 15
Shift Lock Solenoid (LHD)	WT	At Steering Column	12, 29
Shift Lock Solenoid (RHD)	WT	At Steering Column	29
Throttle Position Sensor	WT	Left Side of Engine	9
Trailer Tow Connector	LT GY	At Rear Bumper	27
Trailer Tow Left Turn Relay	BK	At Left Rear Quarter Panel	27
Trailer Tow Right Turn Relay	BK	At Left Rear Quarter Panel	27
Transfer Case Switch (231 4WD)	BK	Left Side of Transmission	11, 37
Transfer Case Switch (242 4WD)	BK	Left Side of Transmission	11
Transfer Case Switch Illumination	BK	At Center Console	17, 18

## CONNECTOR/GROUND LOCATIONS (Continued)

Connector Name/Number	Color	Location	Fig.
Transmission Control Assembly or Transmission Solenoid (4.0L)	BK	Rear of Engine Compartment	5, 6
Transmission Control Module (4.0L)	BK	Under Instrument Panel near Transmission Tunnel	7, 7, 8, 16
Transmission Range Indicator Illumination (PRNDL)		At Center Console	17, 18
Transmission Range Sensor (4.0L A/T)	BK/GY	Rear of Engine Compartment	5, 6
Turbo Boost Pressure Sensor (Diesel)	BK	Rear of Engine Compartment	30, 31
Turn Signal/Hazard Switch	BK	At Steering Column	12, 15, 29
Underhood Lamp/Switch	BK	At Lamp	3, 30, 28
Vehicle Speed Control Servo (LHD)	BK	Right Front of Engine Compartment	5, 7
Vehicle Speed Control Servo (RHD)	BK	Right Rear of Engine Compartment	2, 6, 8
Vehicle Speed Sensor (Diesel)		Left Side of Transmission	43, 37
Vehicle Speed Sensor (Gas)	BK	Left Side of Transmission	11
Washer Fluid Level Switch	BK	Left Front of Engine Compartment	2, 3, 30, 28
Water In Fuel Sensor (Diesel)	BK	Rear of Engine Compartment	30, 28
Windshield Washer Pump	BK	Left Front of Engine Compartment	2, 3, 30, 31
Wipe/Wash Switch	NAT	At Steering Column	12, 15, 29

CONNECTOR/GROUND LOCATIONS (Continued)

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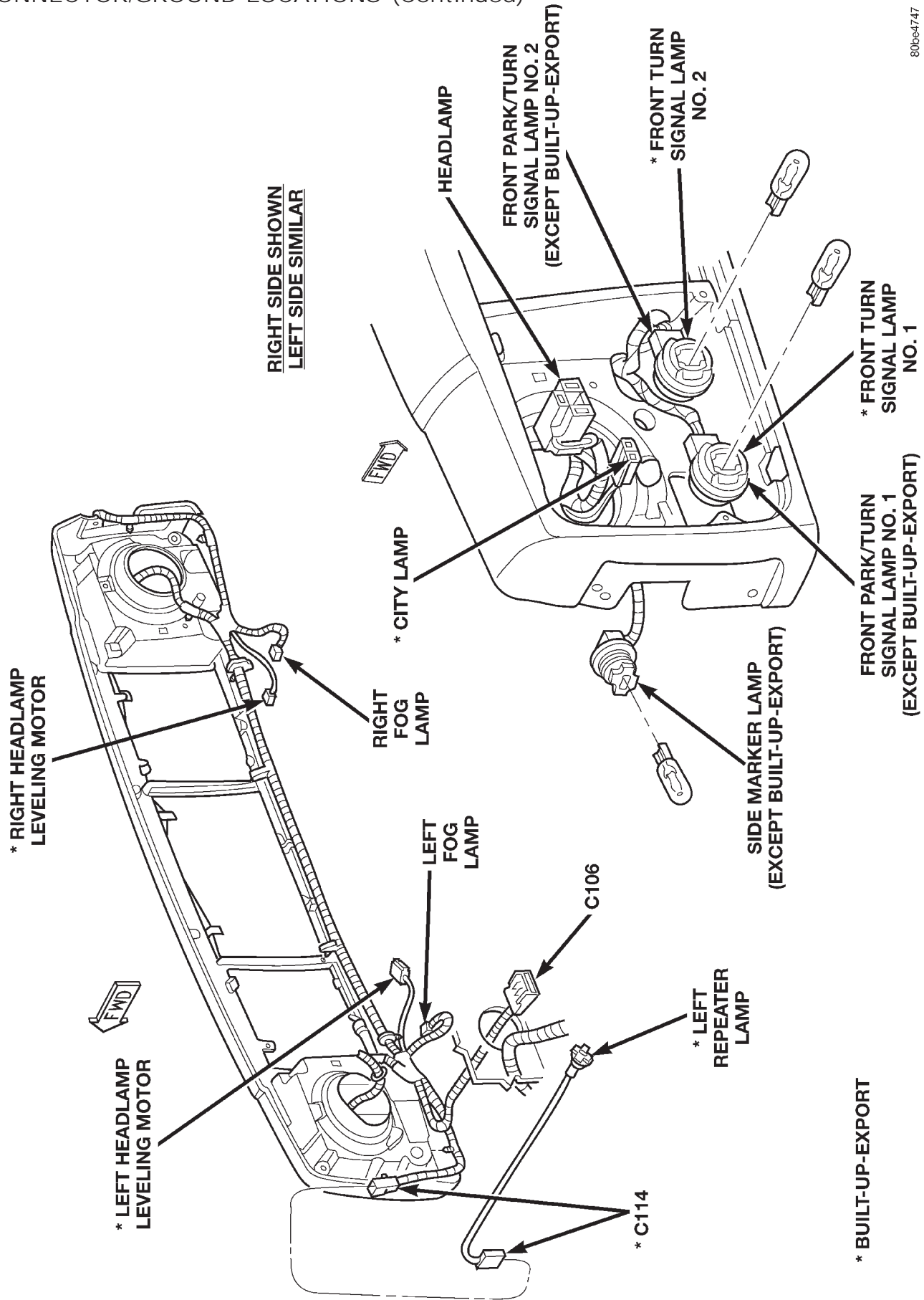
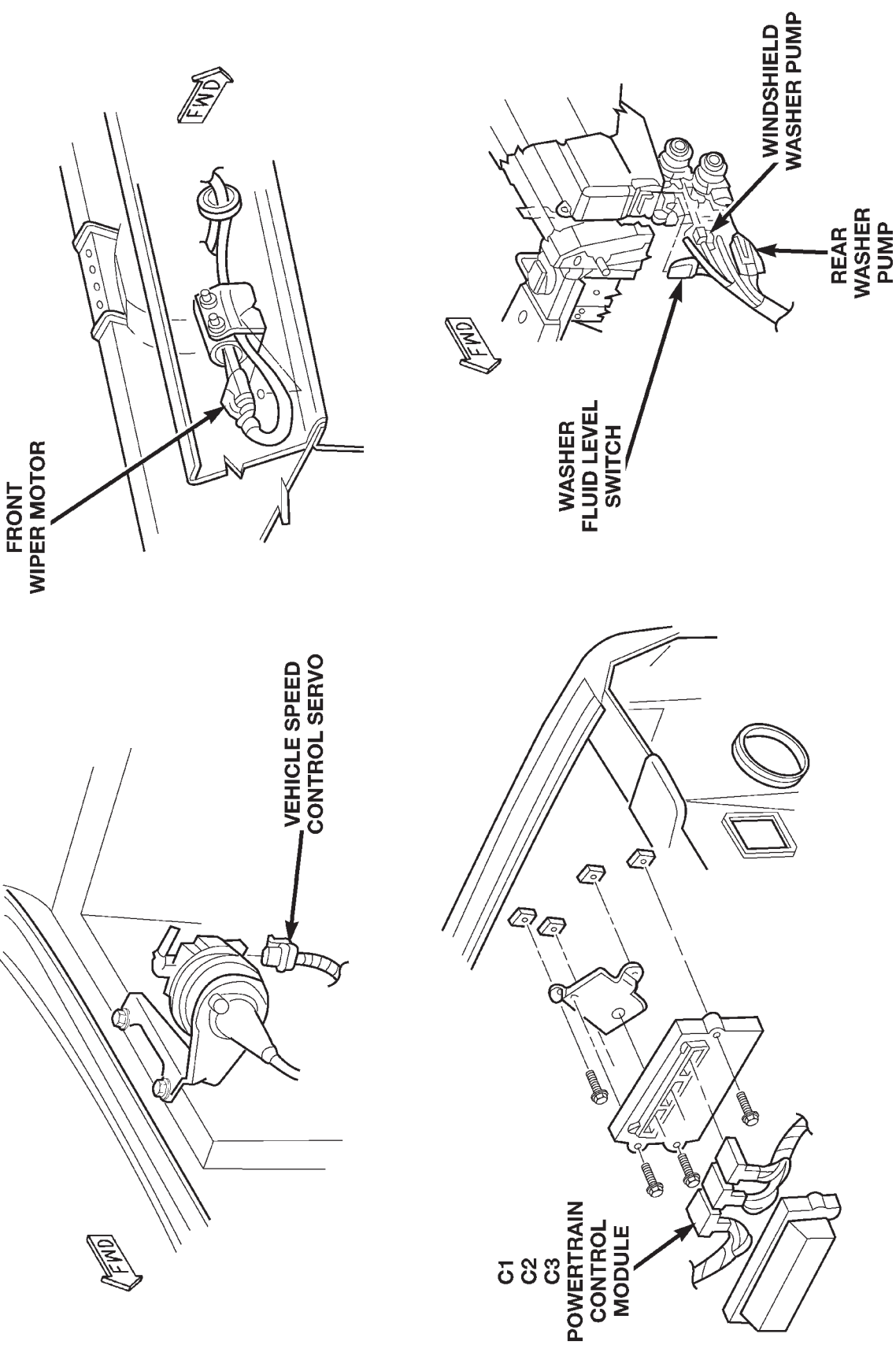


Fig. 1 FRONT END LIGHTING

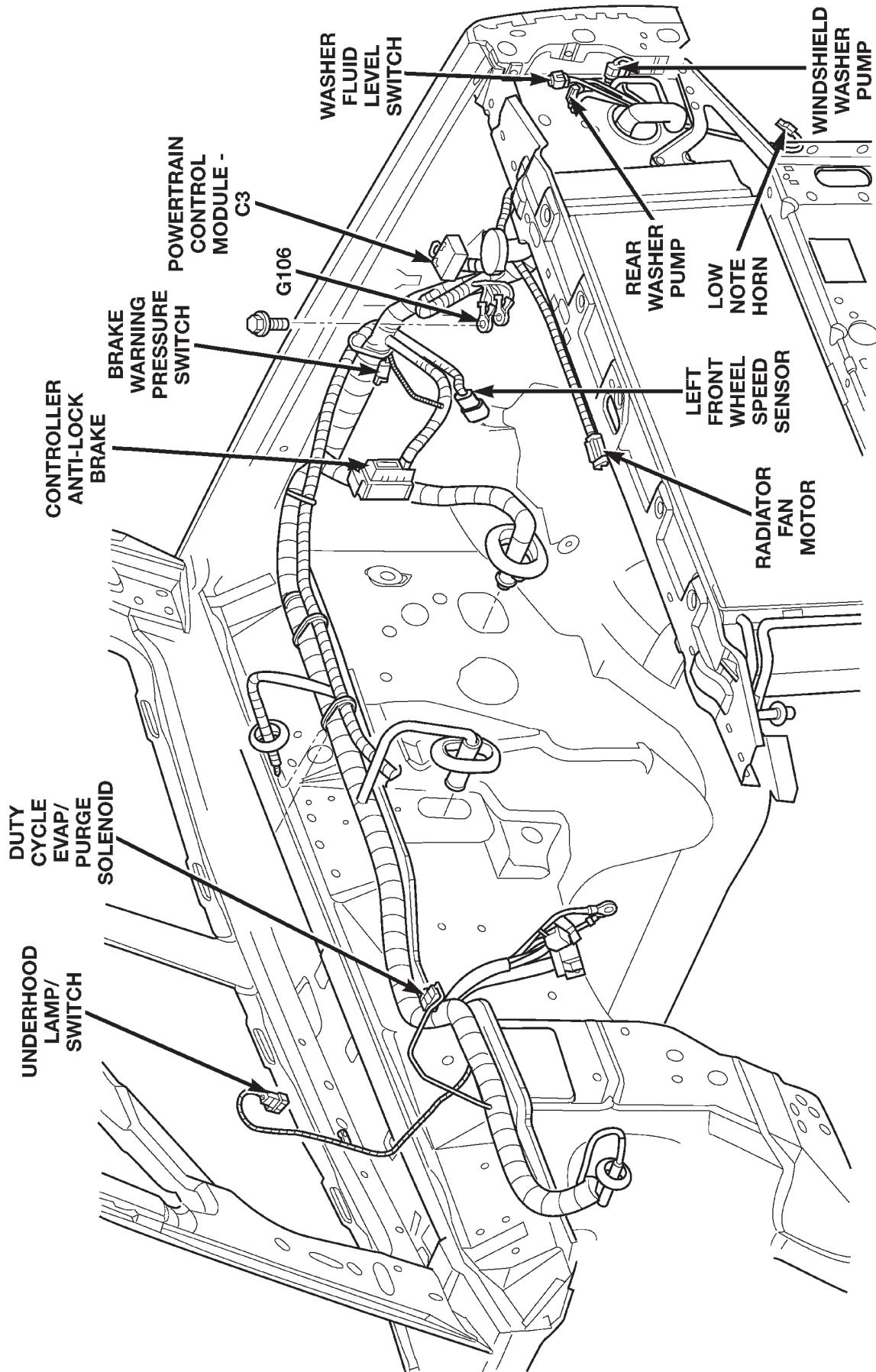
CONNECTOR/GROUND LOCATIONS (Continued)



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Fig. 2 ENGINE COMPARTMENT COMPONENTS RHD

CONNECTOR/GROUND LOCATIONS (Continued)



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Fig. 3 LEFT ENGINE COMPARTMENT 4.0L ENGINE LHD

CONNECTOR/GROUND LOCATIONS (Continued)

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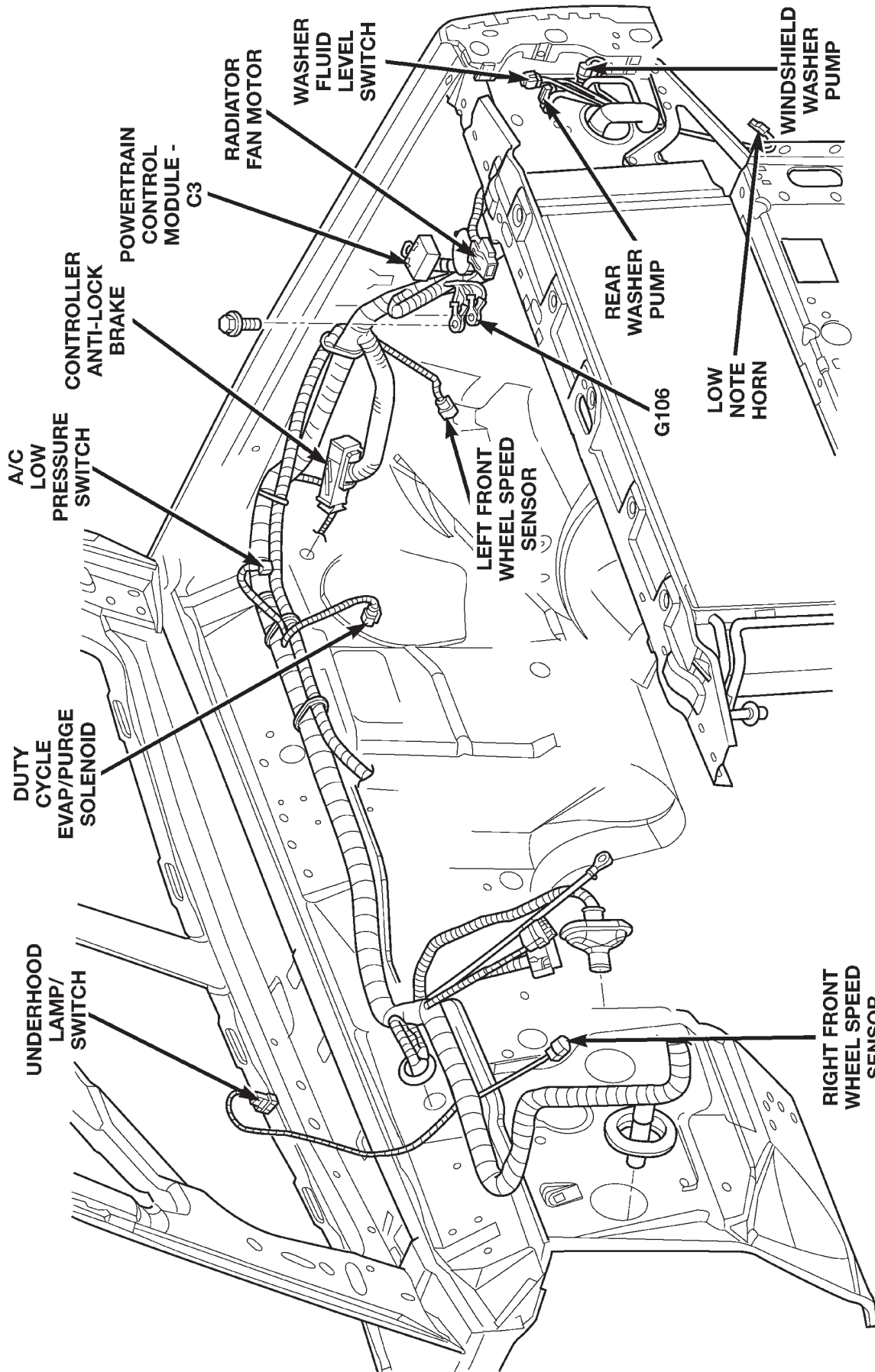


Fig. 4 LEFT ENGINE COMPARTMENT 4.0L ENGINE RHD

CONNECTOR/GROUND LOCATIONS (Continued)

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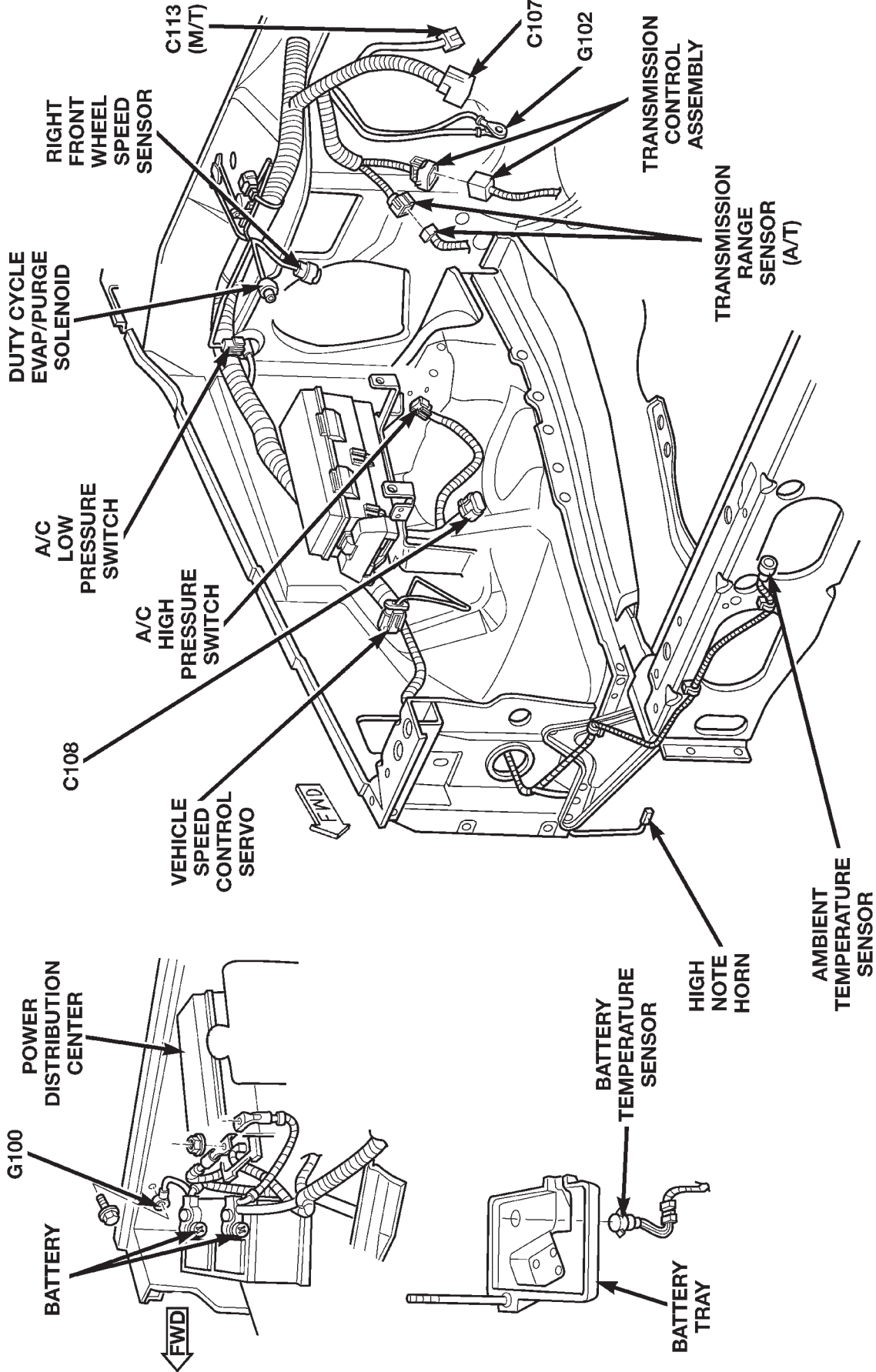
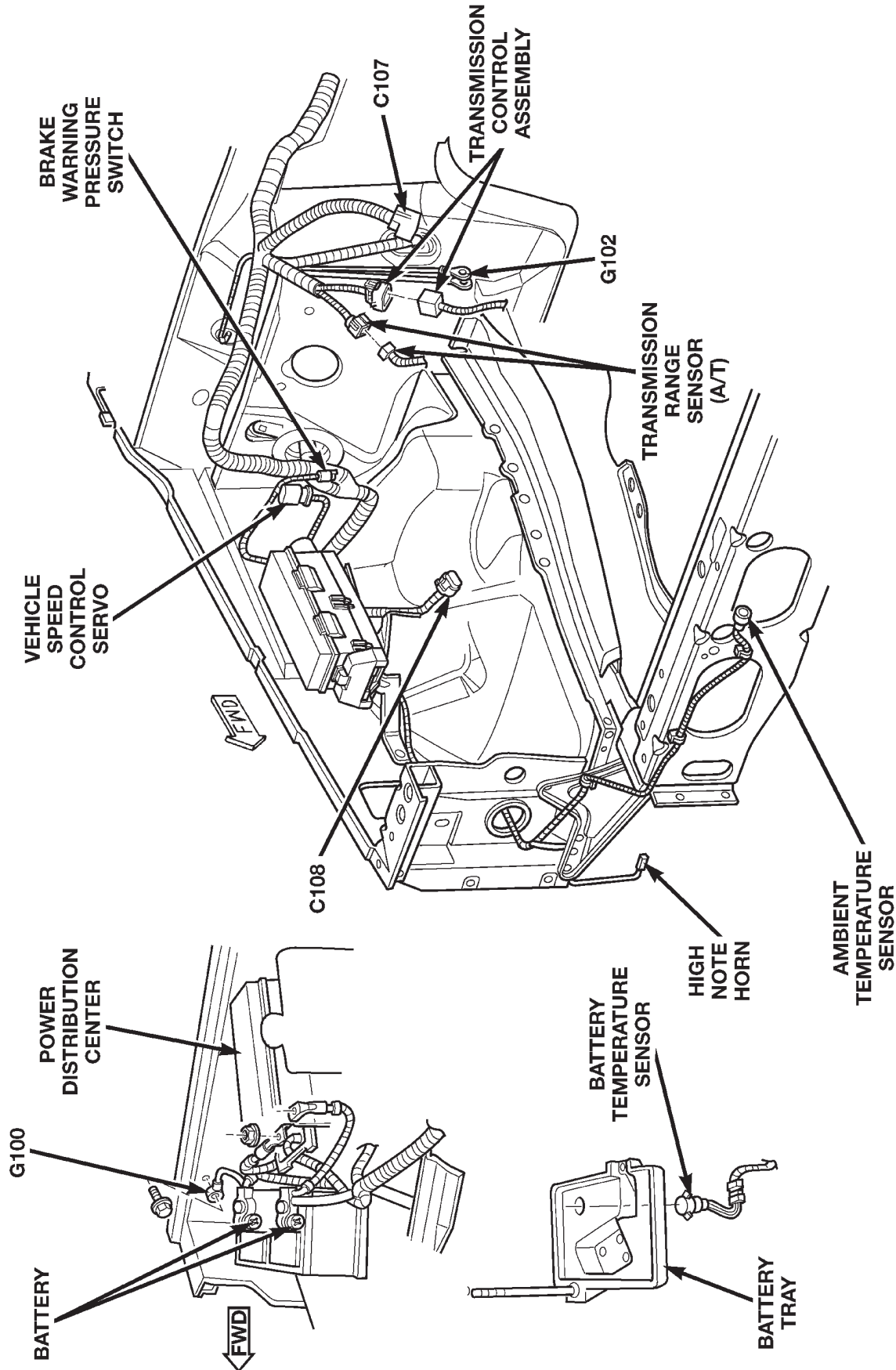


Fig. 5 RIGHT ENGINE COMPARTMENT 4.0L ENGINE LHD



CONNECTOR/GROUND LOCATIONS (Continued)



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Fig. 6 RIGHT ENGINE COMPARTMENT 4.0L ENGINE RHD

CONNECTOR/GROUND LOCATIONS (Continued)

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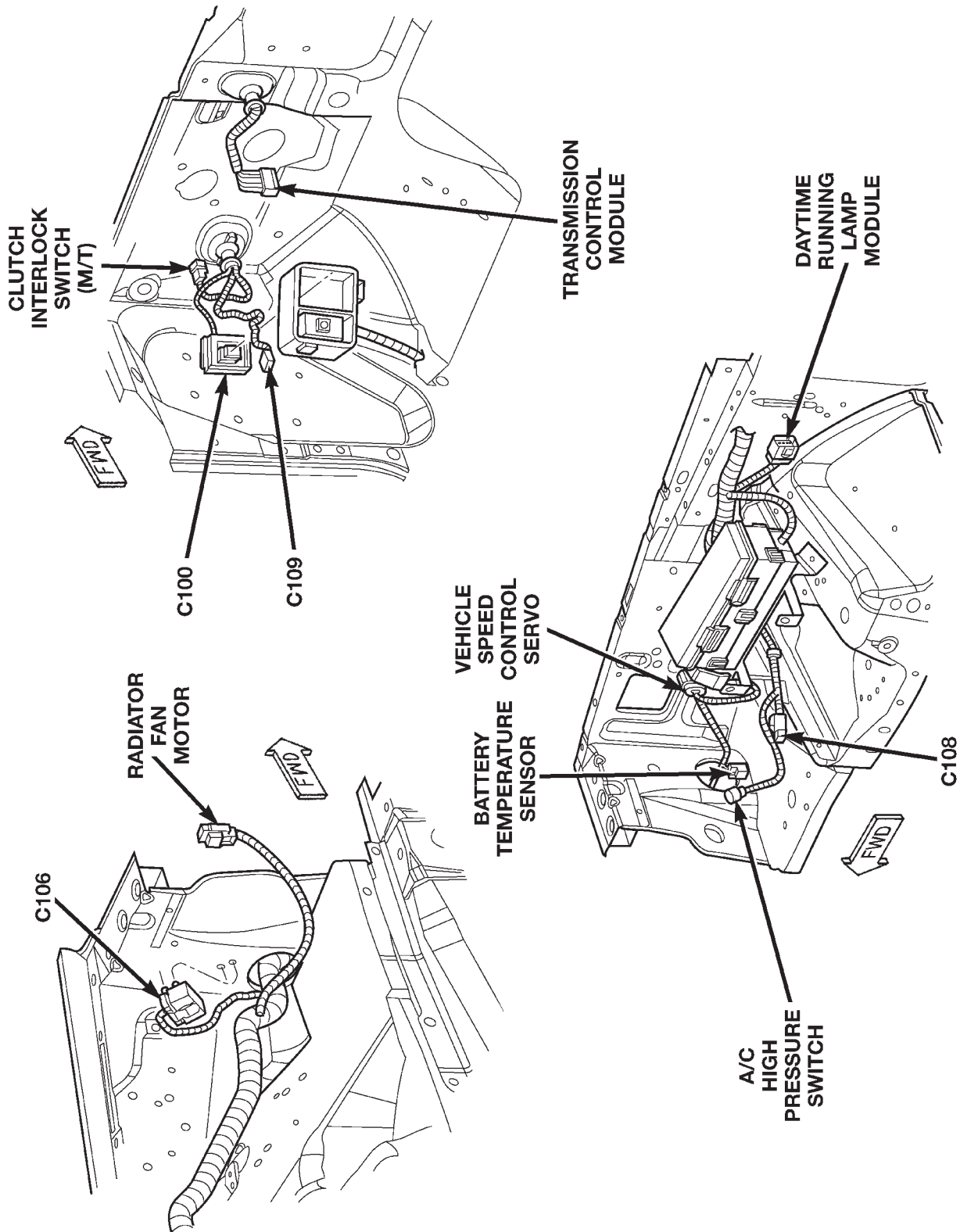


Fig. 7 ENGINE COMPARTMENT AUXILIARY VIEWS 4.0L ENGINE LHD

CONNECTOR/GROUND LOCATIONS (Continued)

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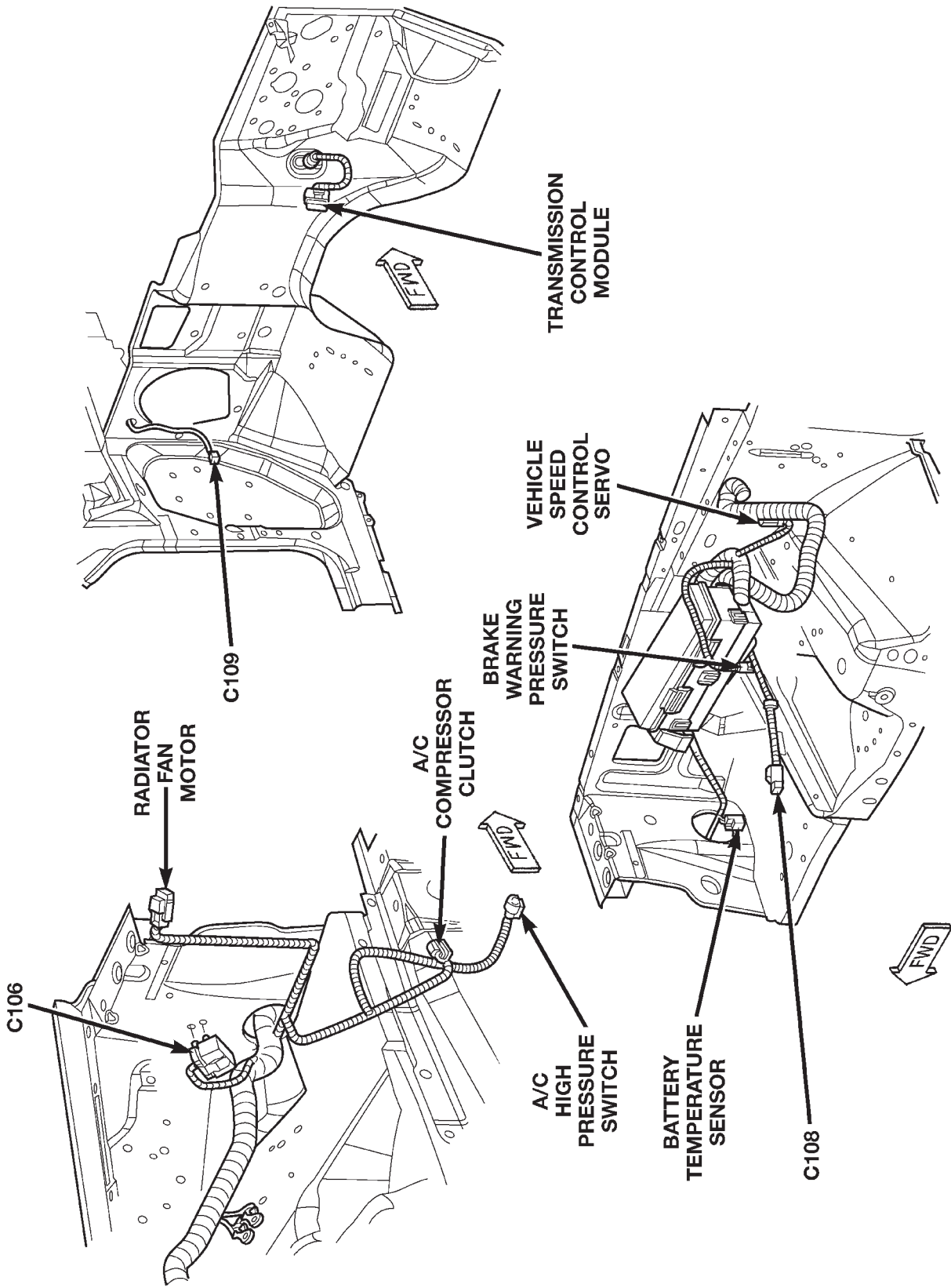
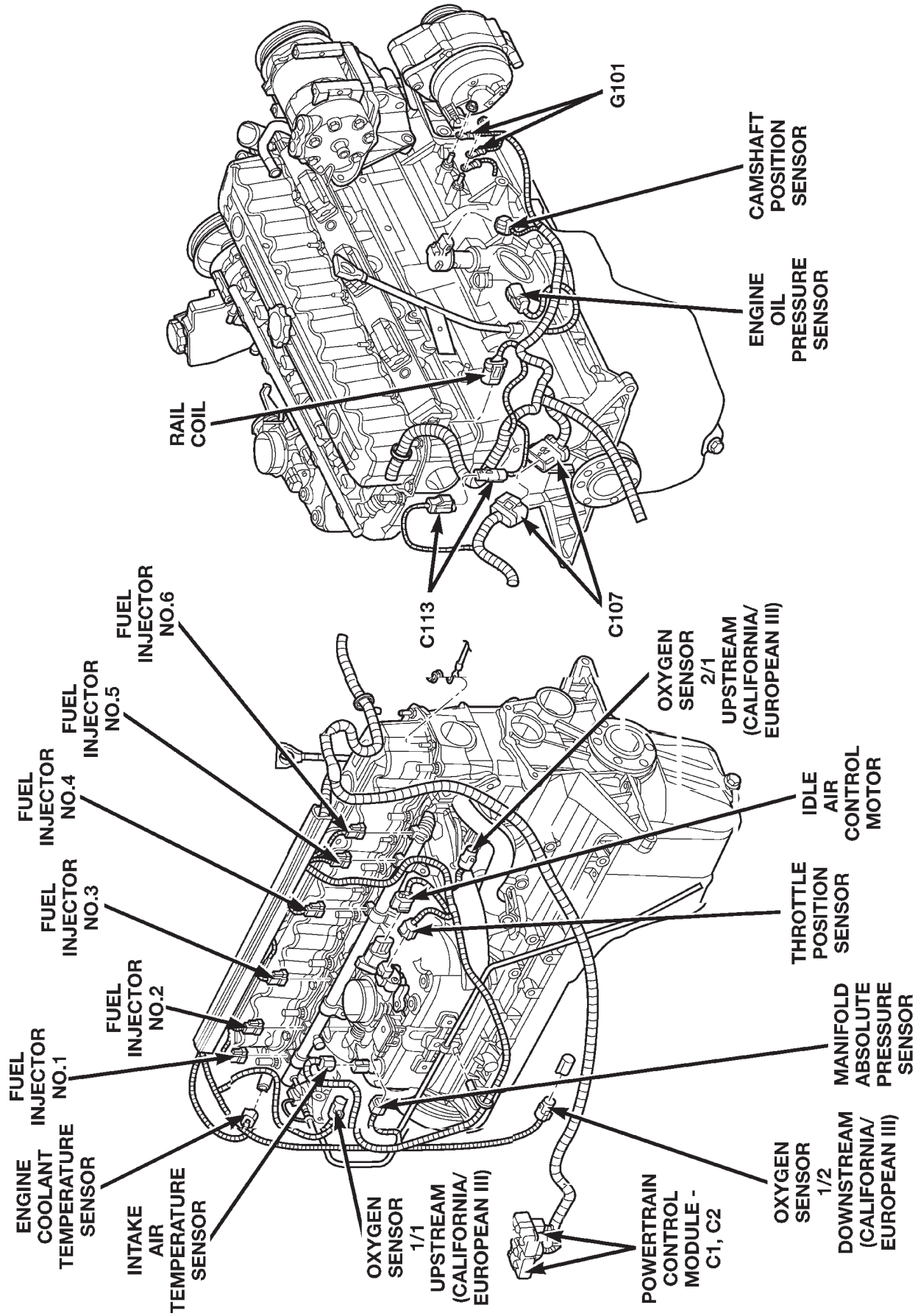


Fig. 8 ENGINE COMPARTMENT AUXILIARY VIEWS 4.0L ENGINE RHD

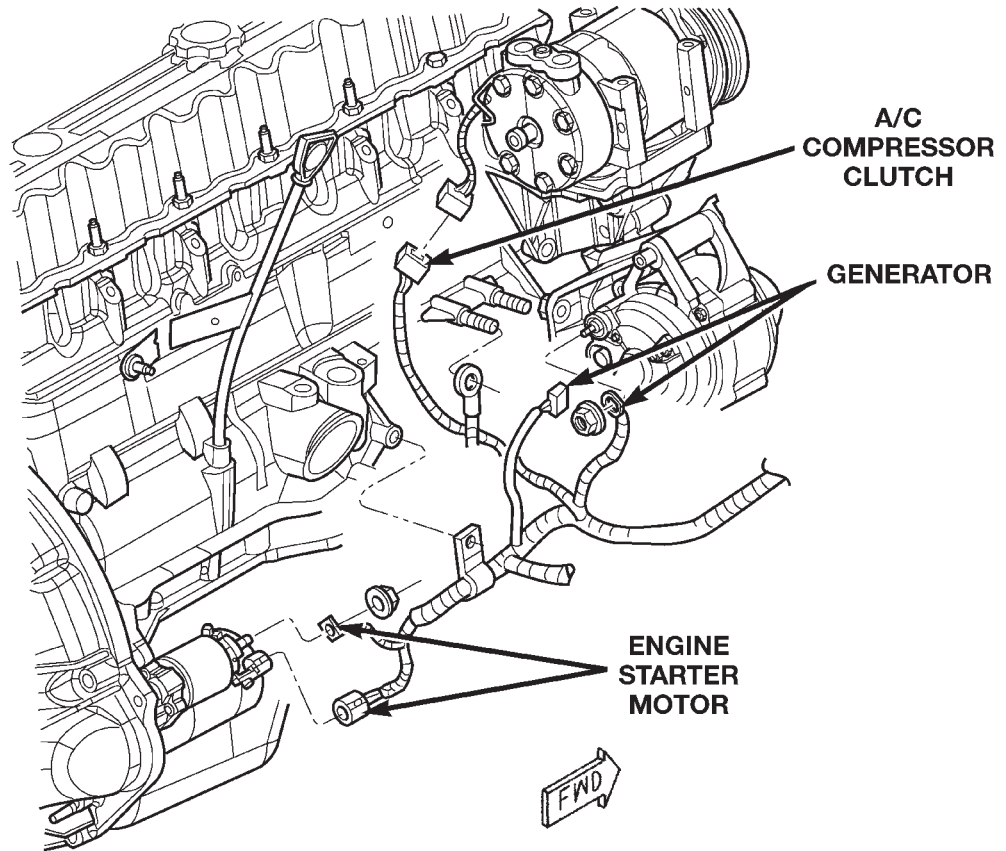
CONNECTOR/GROUND LOCATIONS (Continued)



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Fig. 9 4.0L ENGINE

CONNECTOR/GROUND LOCATIONS (Continued)



**Fig. 10 4.0L ENGINE**

CONNECTOR/GROUND LOCATIONS (Continued)

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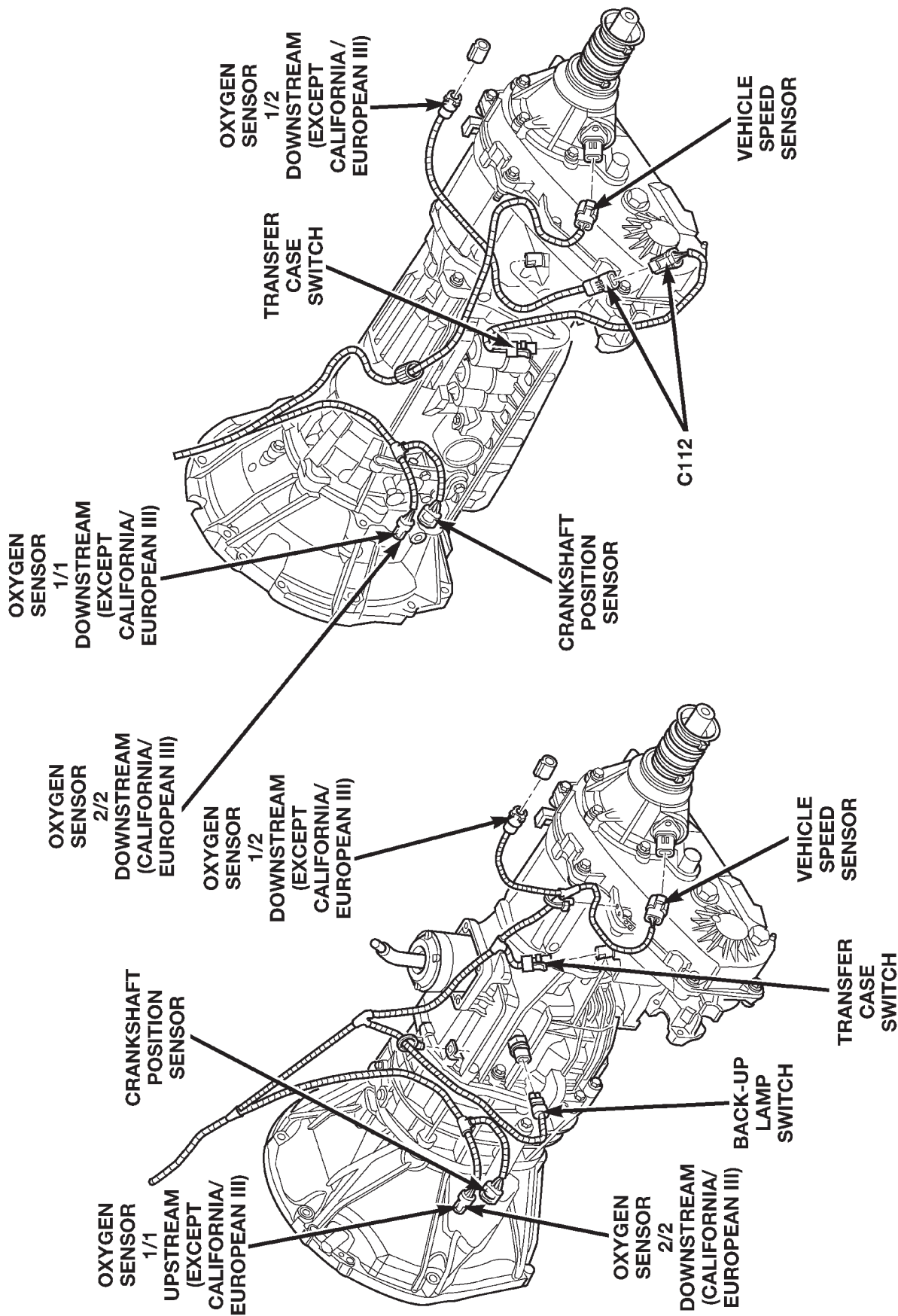


Fig. 11 TRANSMISSION CONNECTORS 4.0L ENG

CONNECTOR/GROUND LOCATIONS (Continued)

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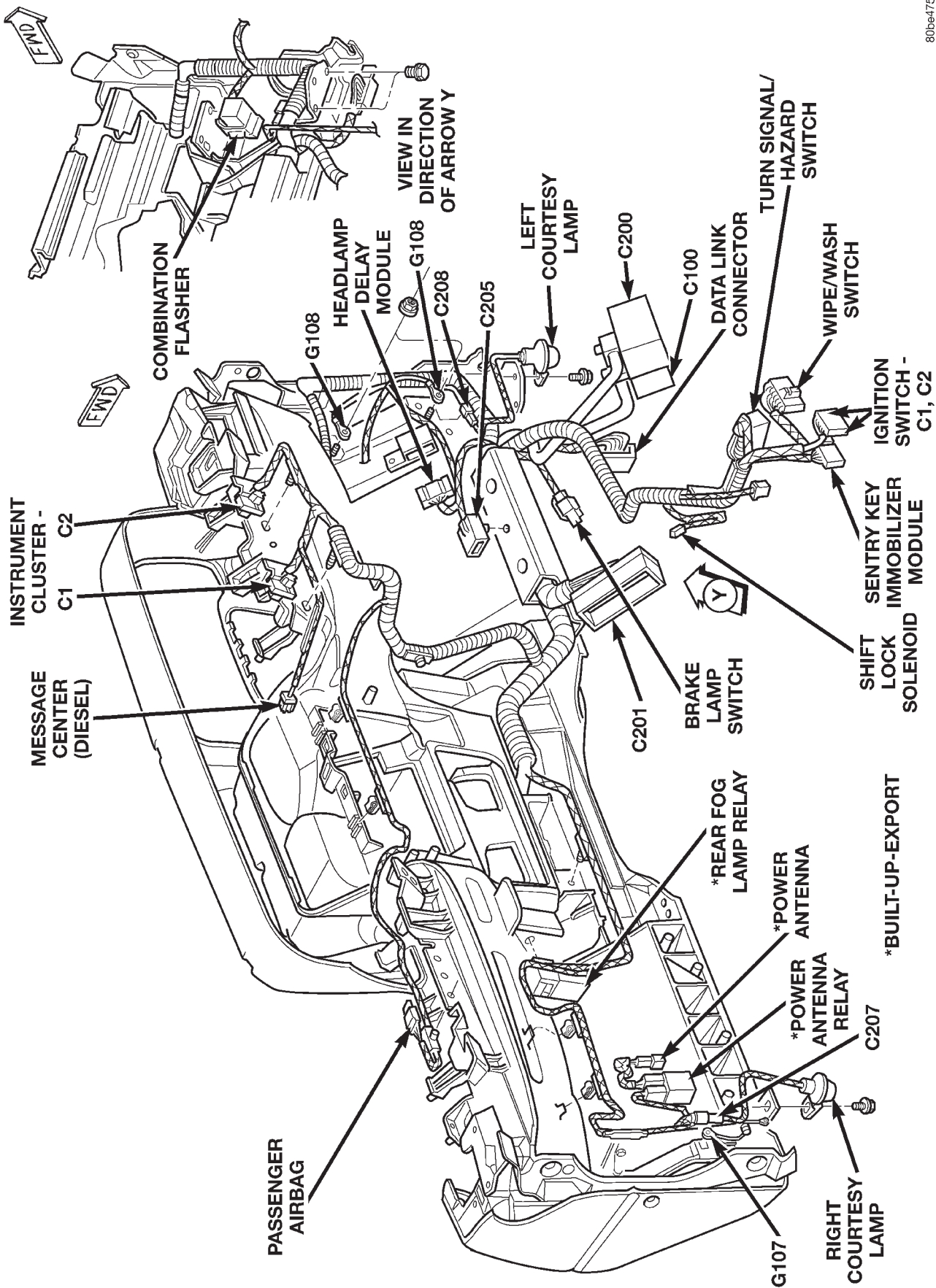


Fig. 12 INSTRUMENT PANEL LHD

CONNECTOR/GROUND LOCATIONS (Continued)

80be475c

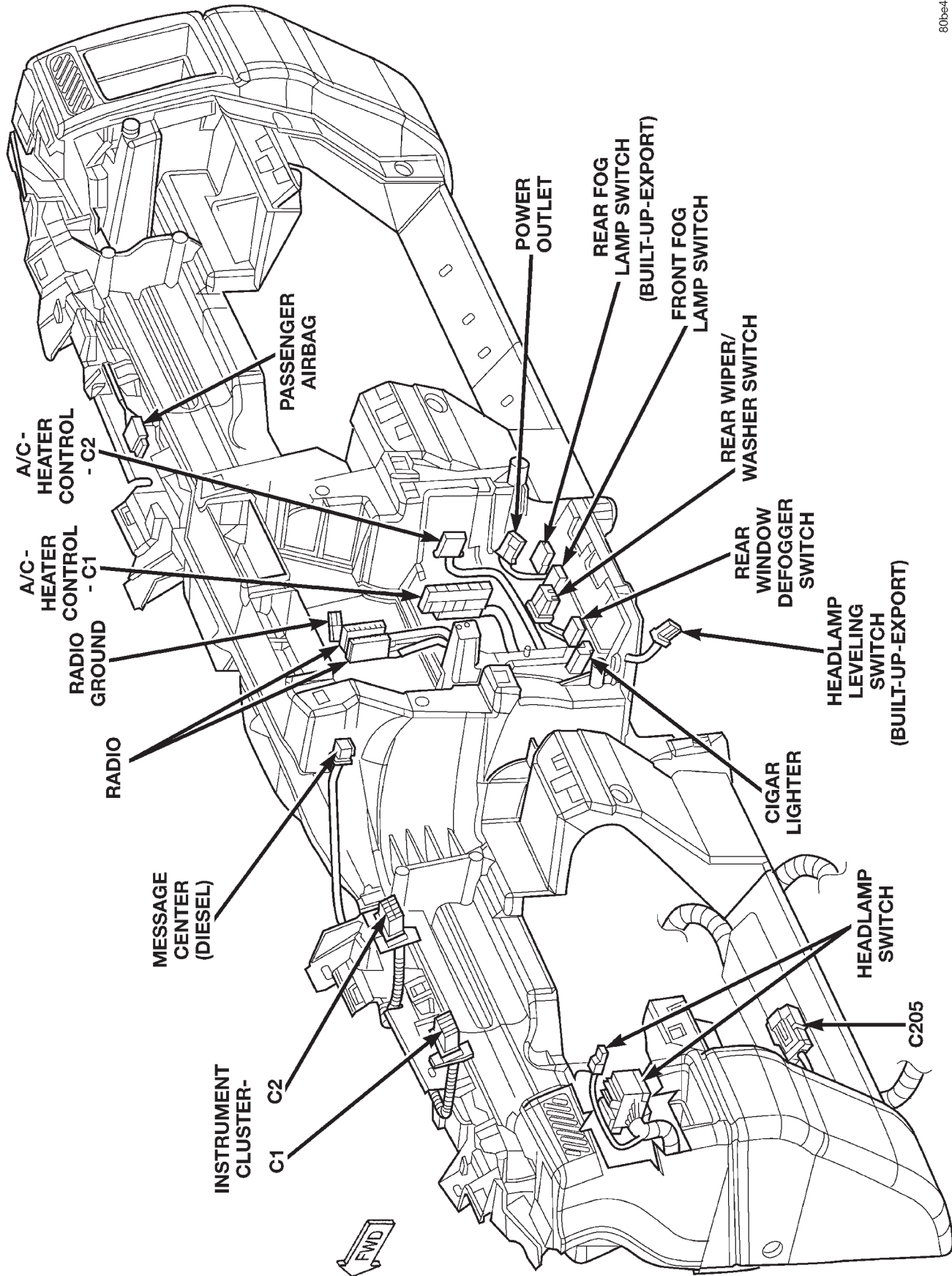


Fig. 13 CENTER INSTRUMENT PANEL LHD



CONNECTOR/GROUND LOCATIONS (Continued)

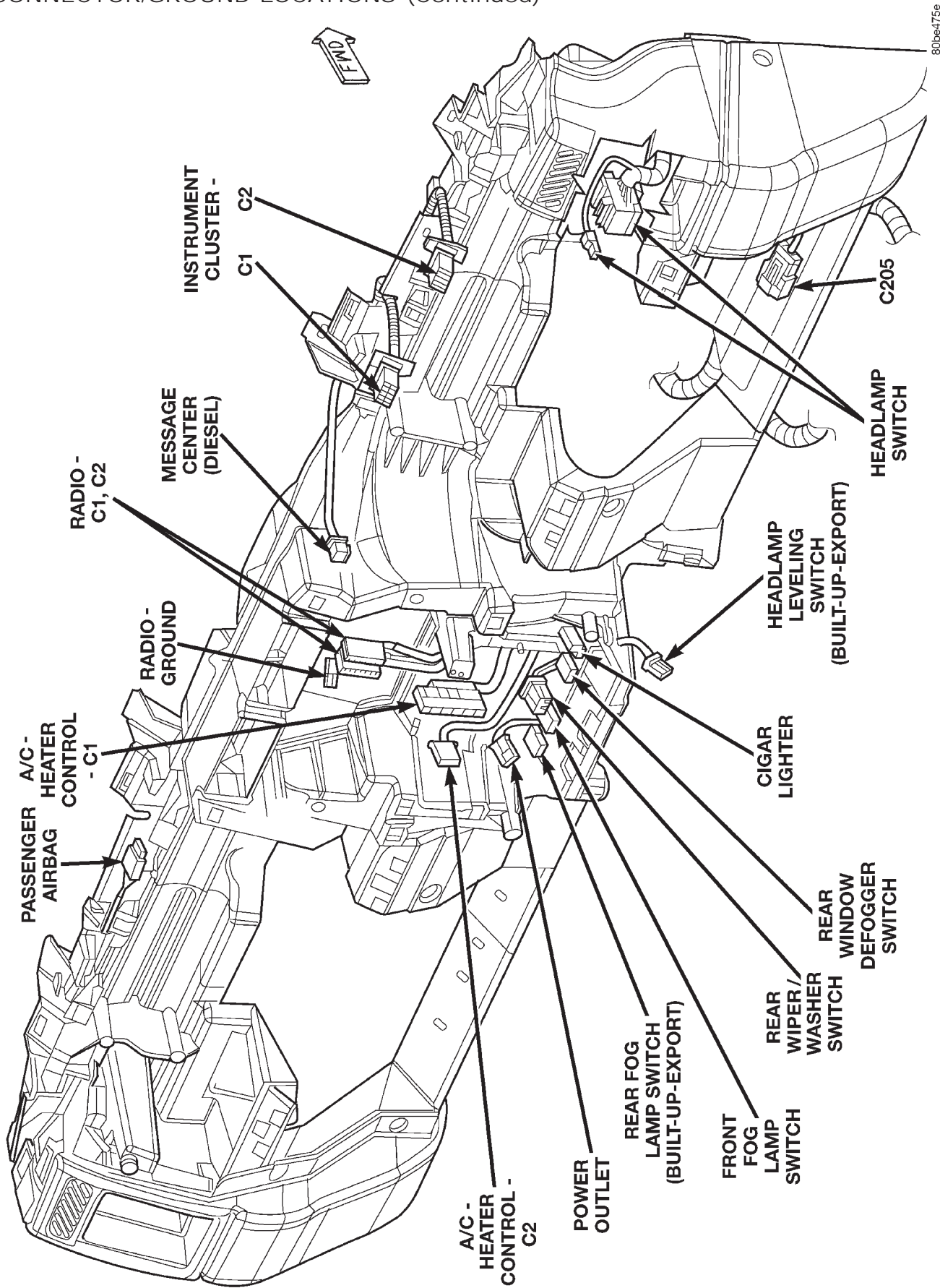


Fig. 14 CENTER INSTRUMENT PANEL RHD

CONNECTOR/GROUND LOCATIONS (Continued)

8096a79

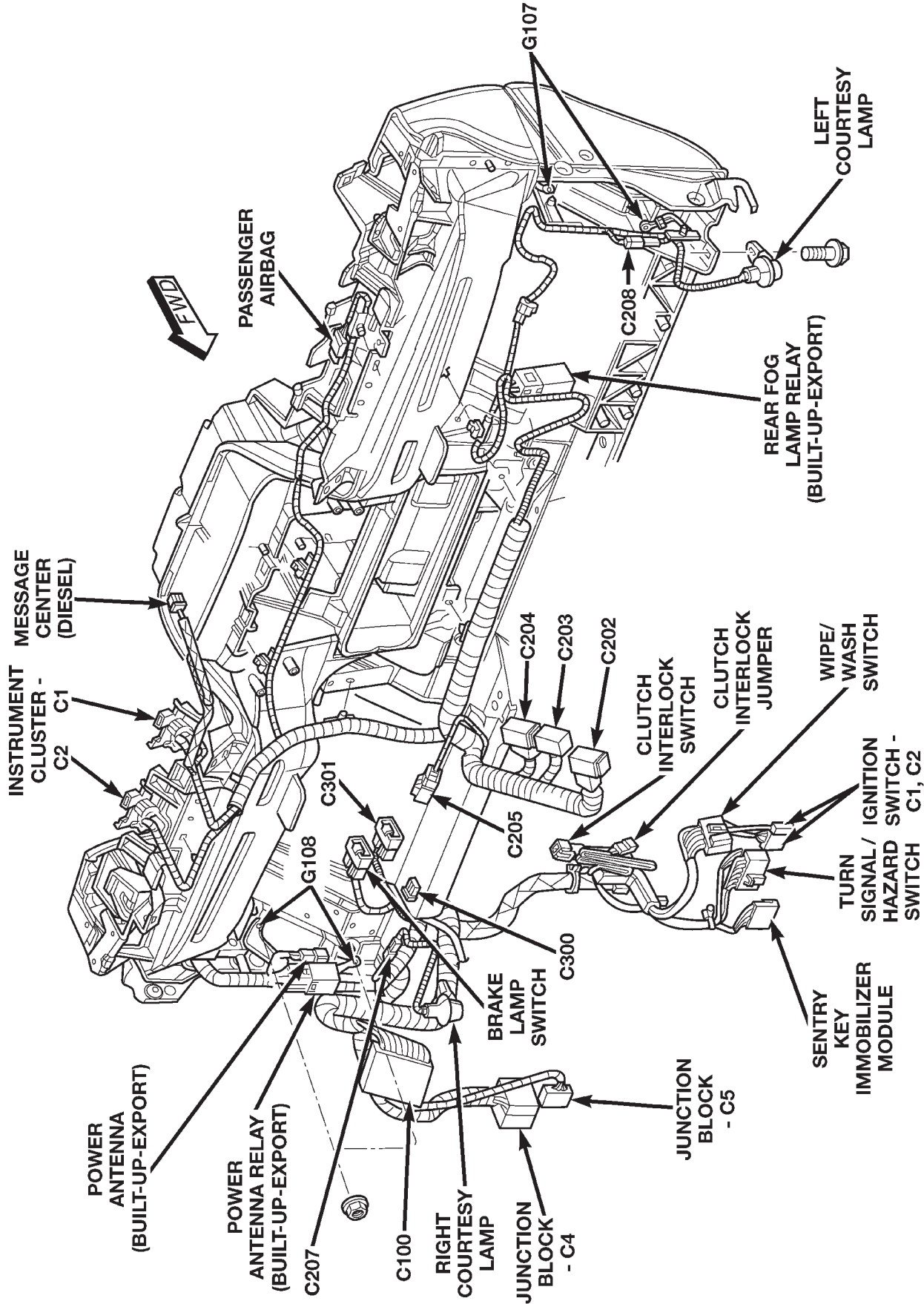
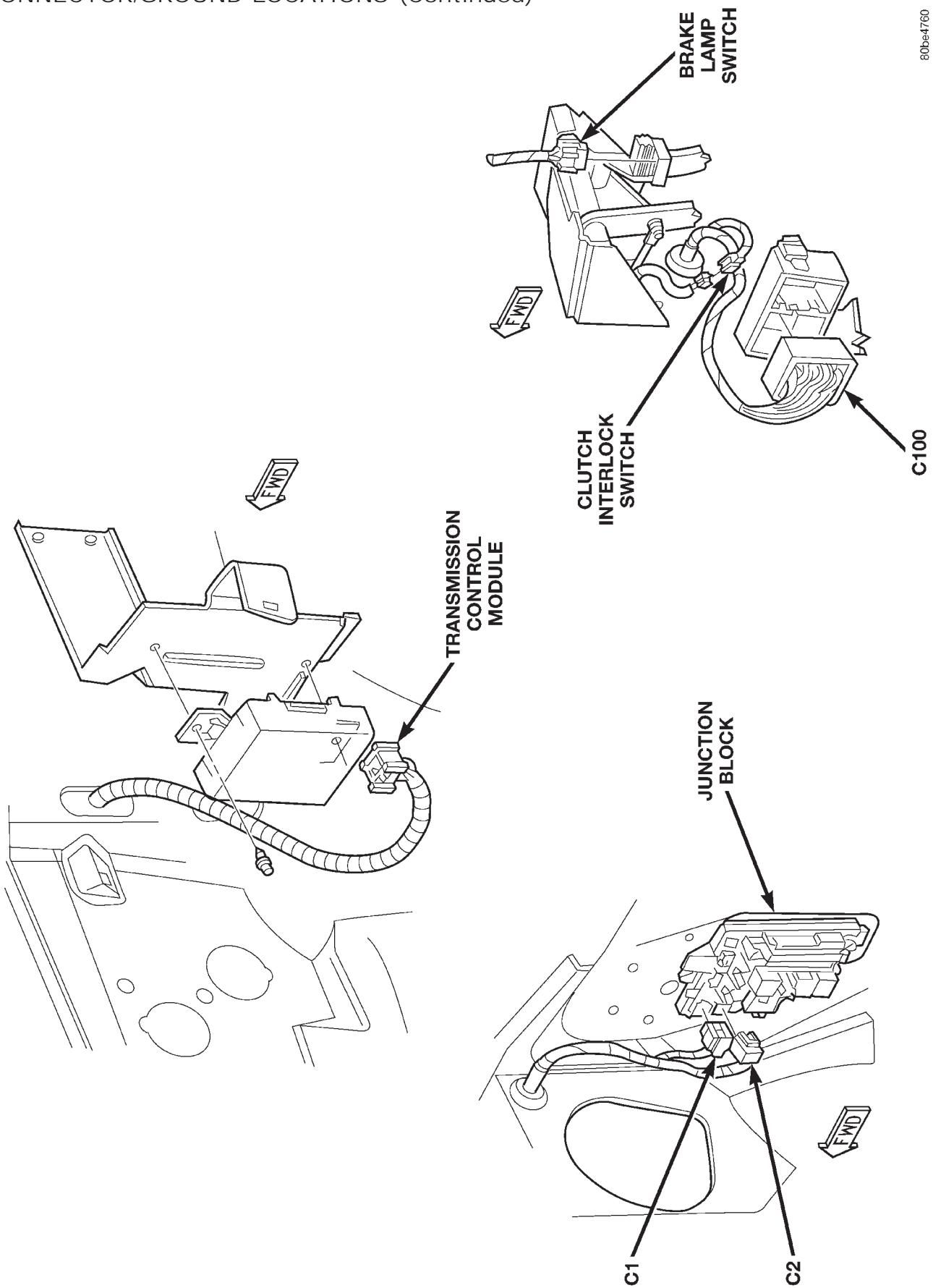


Fig. 15 INSTRUMENT PANEL RHD

CONNECTOR/GROUND LOCATIONS (Continued)



80be4760

Fig. 16 UNDER DASH COMPONENTS

CONNECTOR/GROUND LOCATIONS (Continued)

80be4761

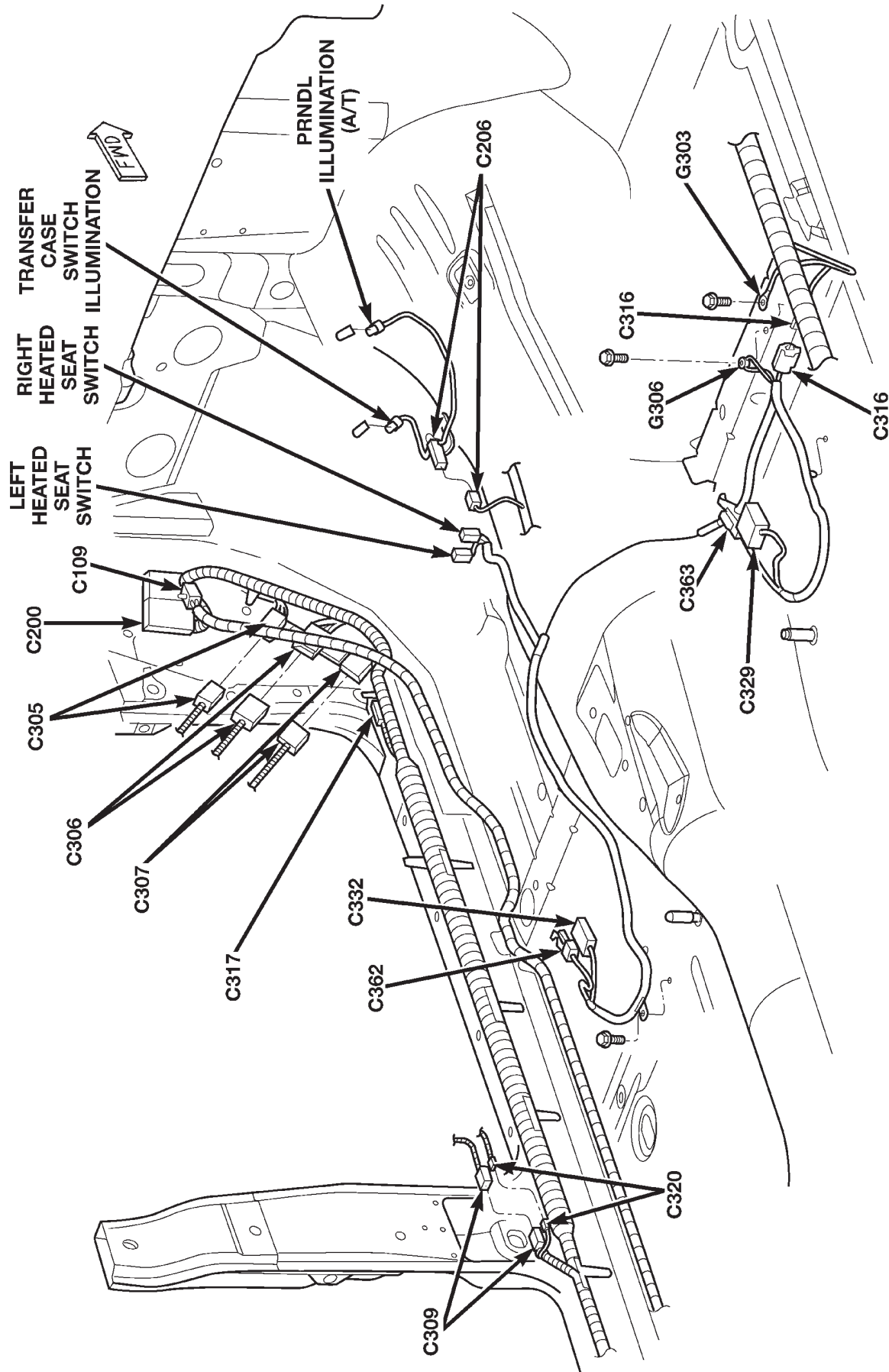


Fig. 17 LEFT SIDE BODY LHD

CONNECTOR/GROUND LOCATIONS (Continued)

80be4762

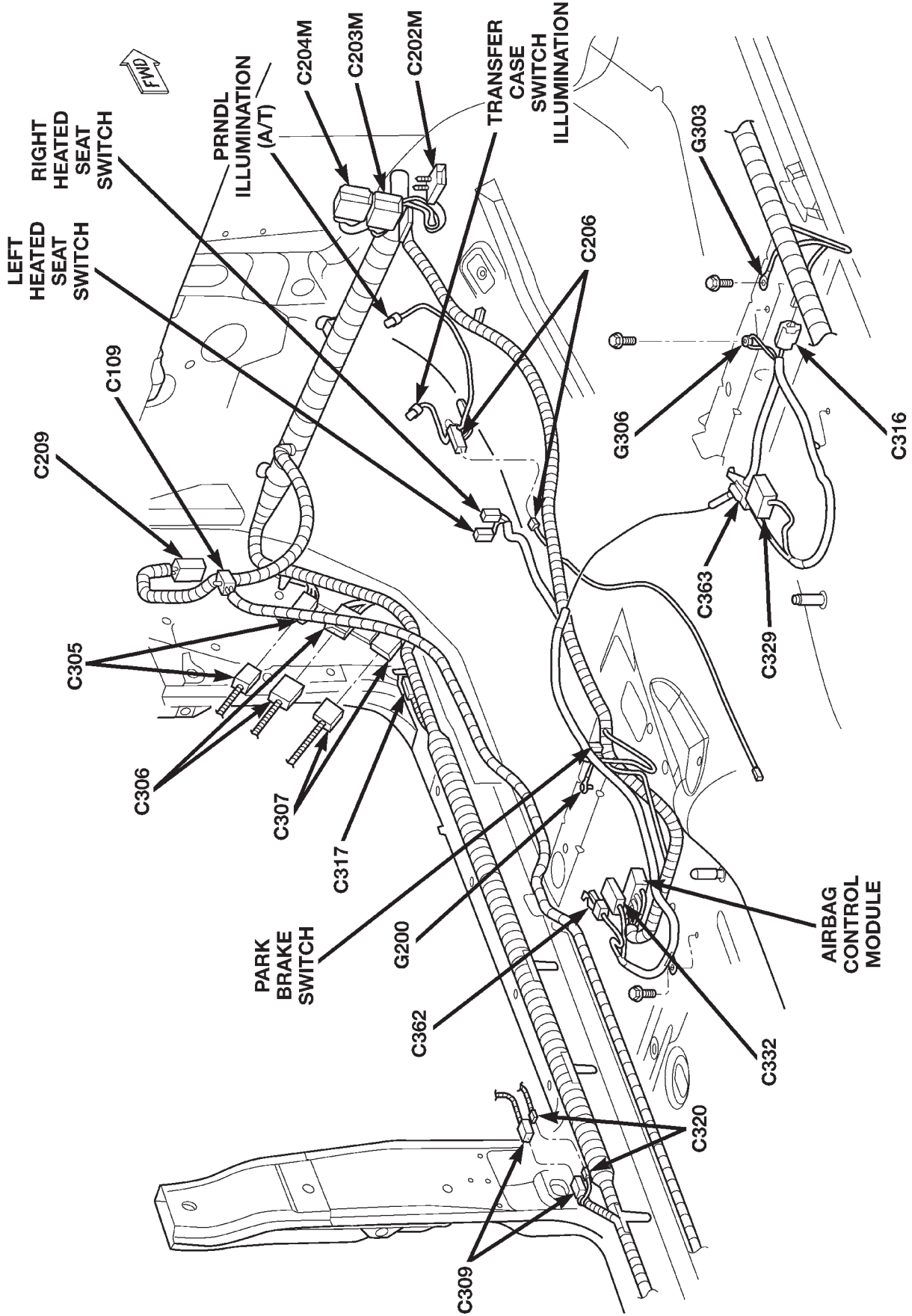


Fig. 18 LEFT SIDE BODY RHD

CONNECTOR/GROUND LOCATIONS (Continued)

80be4763

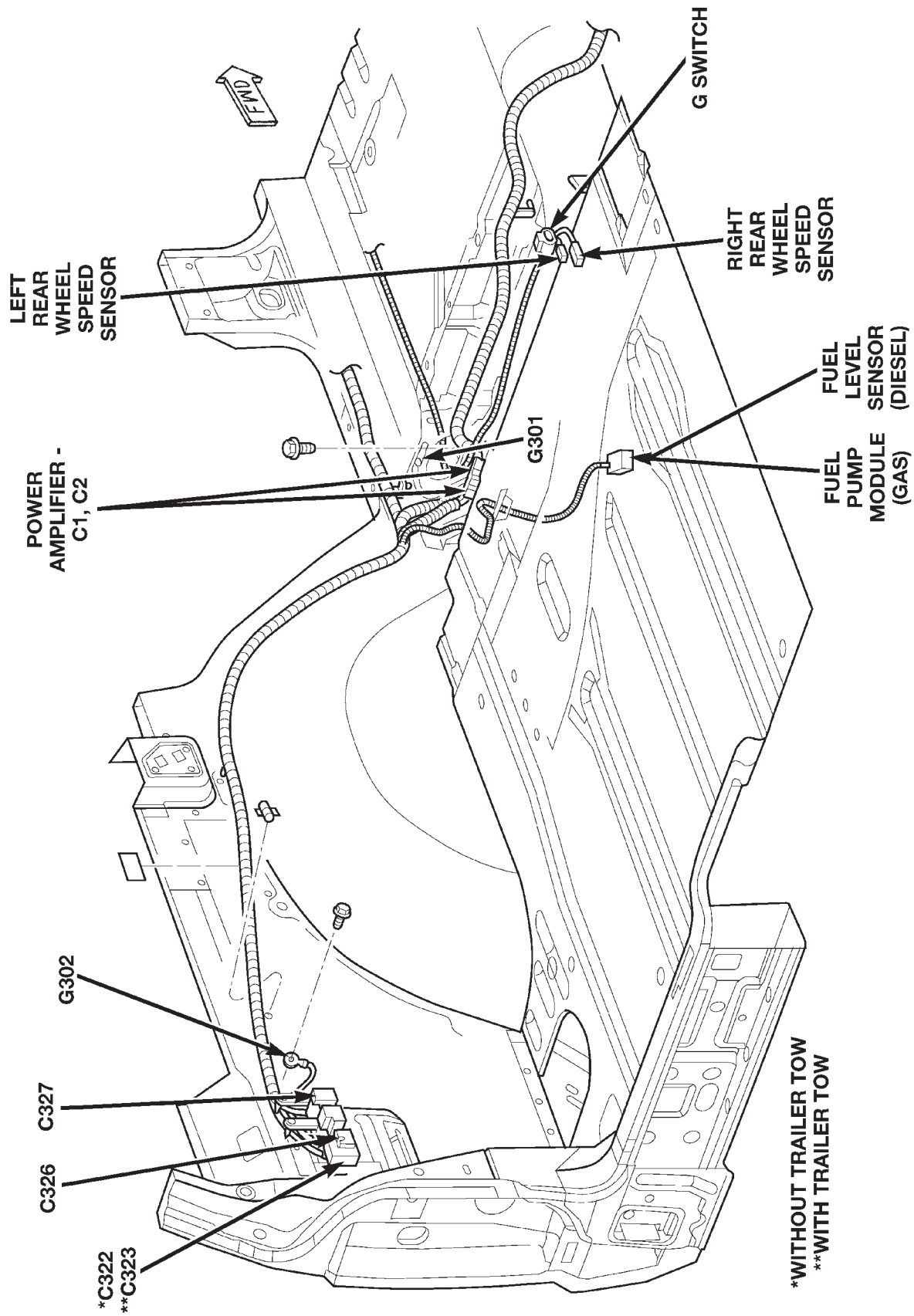


Fig. 19 LEFT REAR BODY

\*WITHOUT TRAILER TOW  
\*\*WITH TRAILER TOW

CONNECTOR/GROUND LOCATIONS (Continued)

8096126b

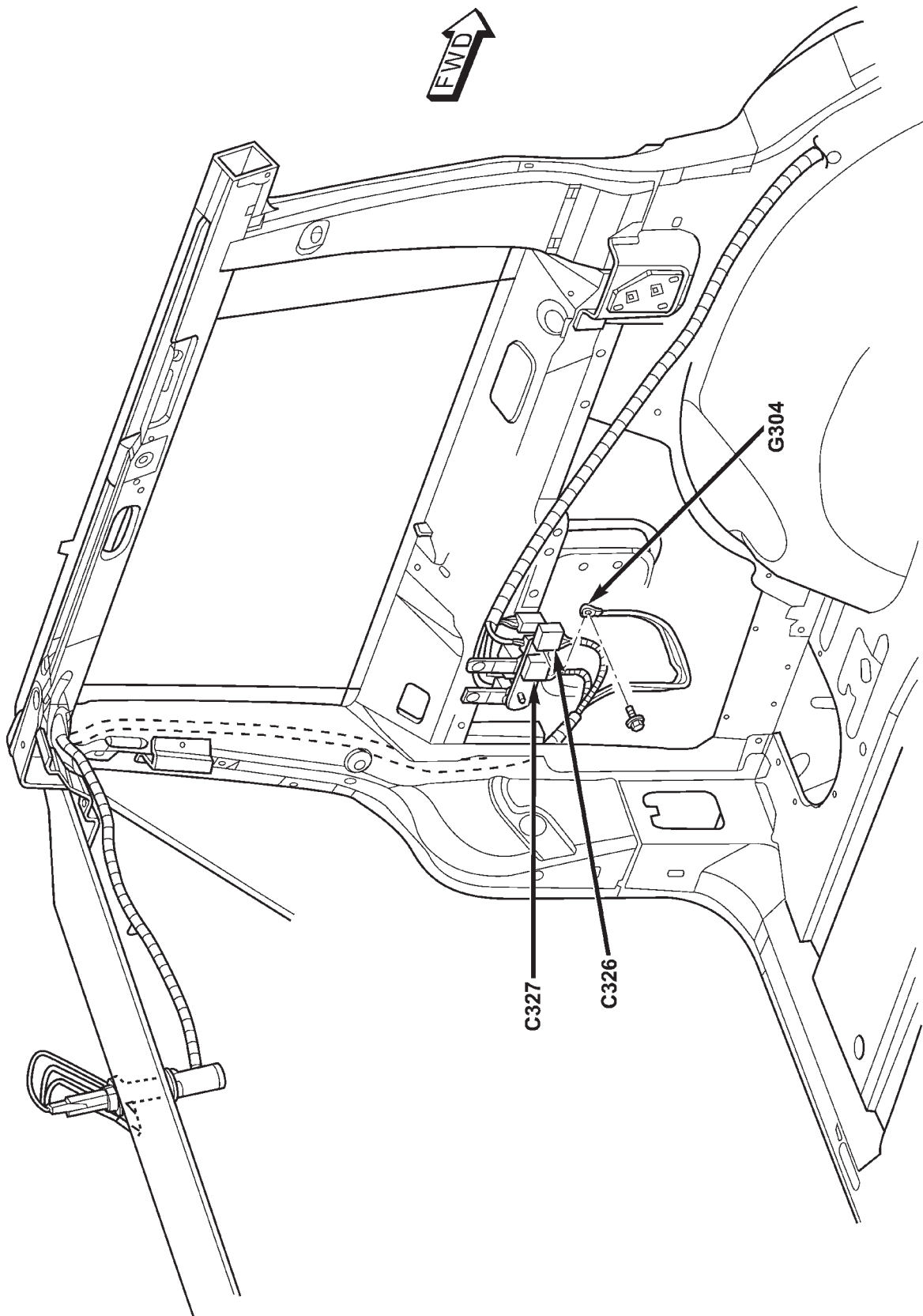


Fig. 20 LEFT QUARTER

CONNECTOR/GROUND LOCATIONS (Continued)

80961299

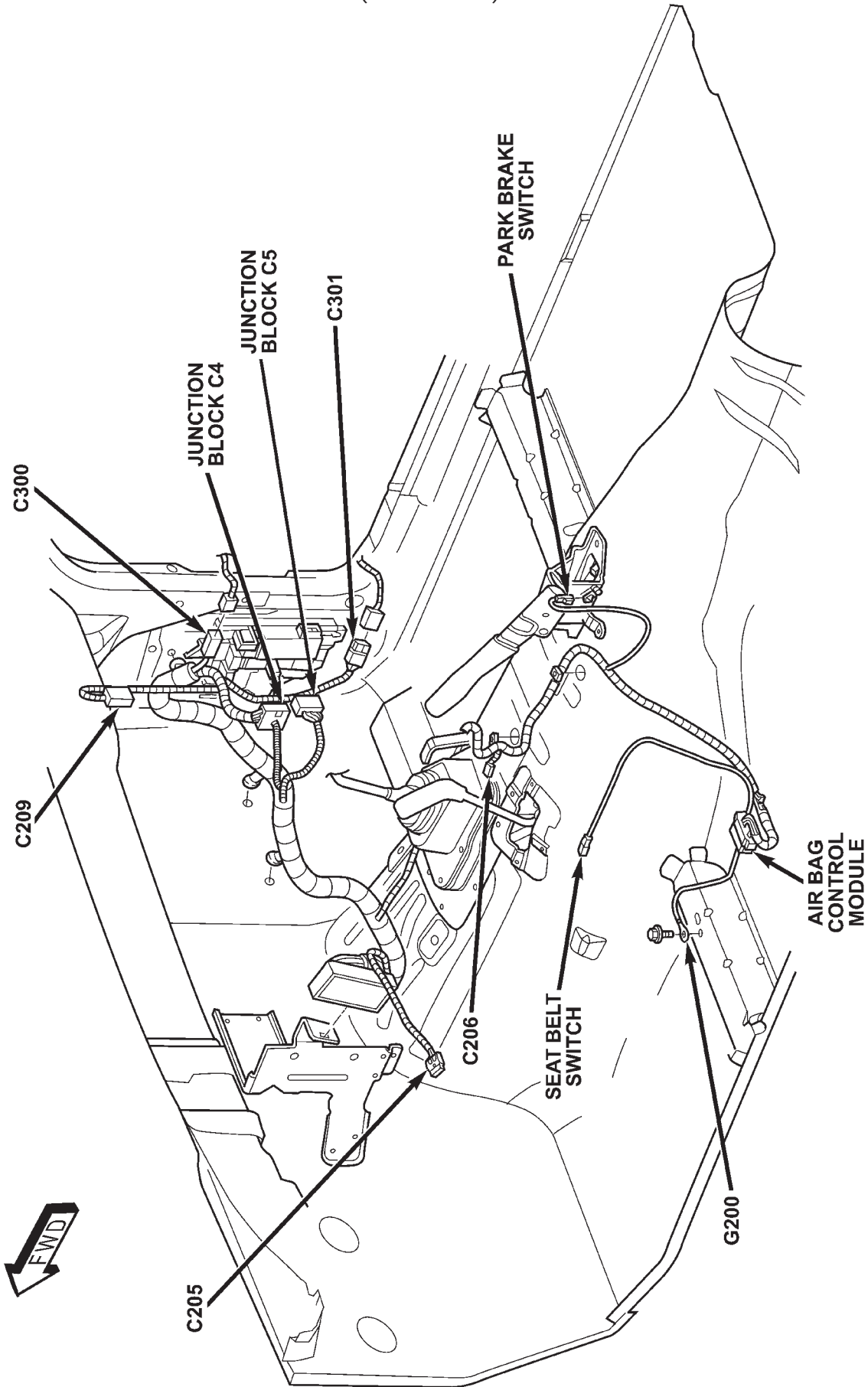


Fig. 21 RIGHT SIDE BODY LHD



CONNECTOR/GROUND LOCATIONS (Continued)

8092048f

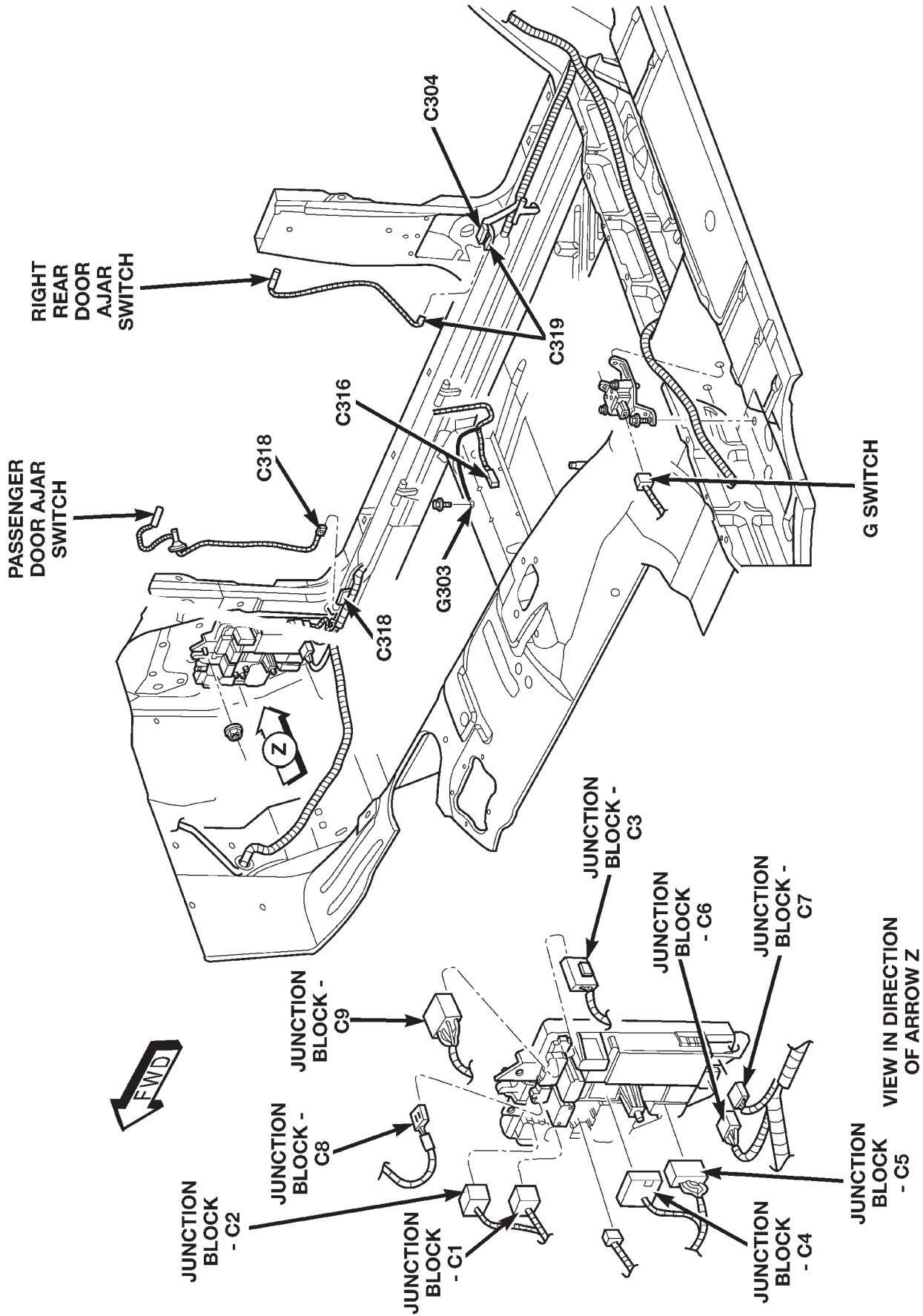
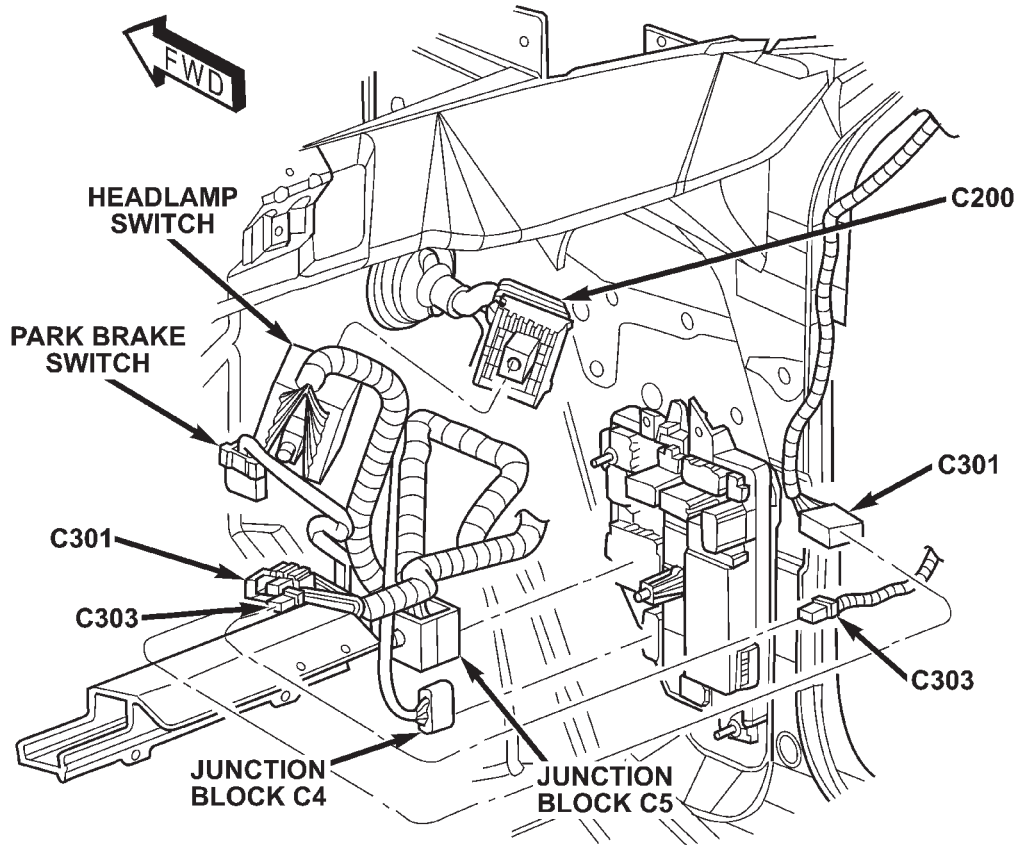


Fig. 22 RIGHT SIDE BODY AND JUNCTION BLOCK



809613b7

**Fig. 23 RIGHT SIDE KICK PANEL RHD**

CONNECTOR/GROUND LOCATIONS (Continued)

8001fe82

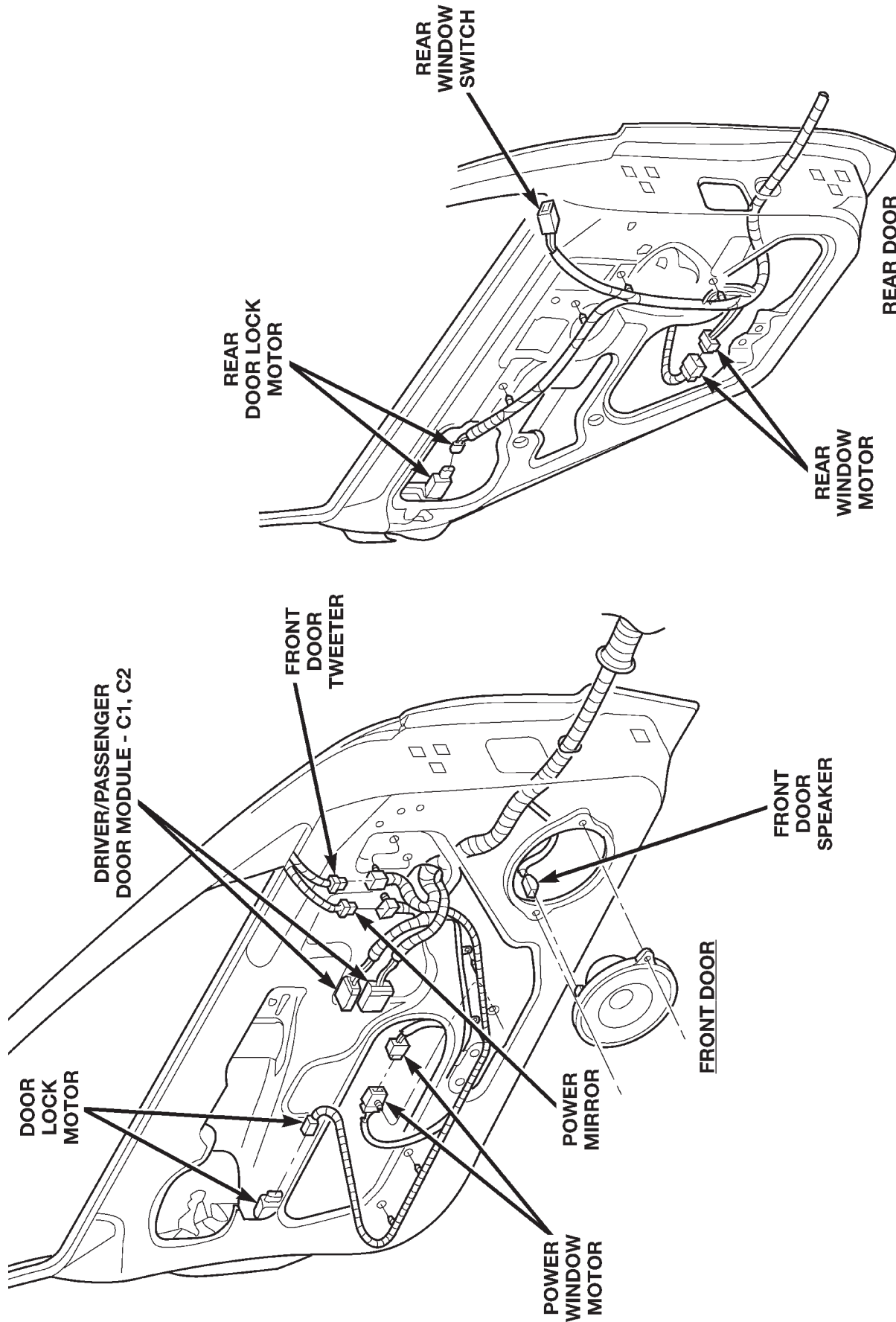
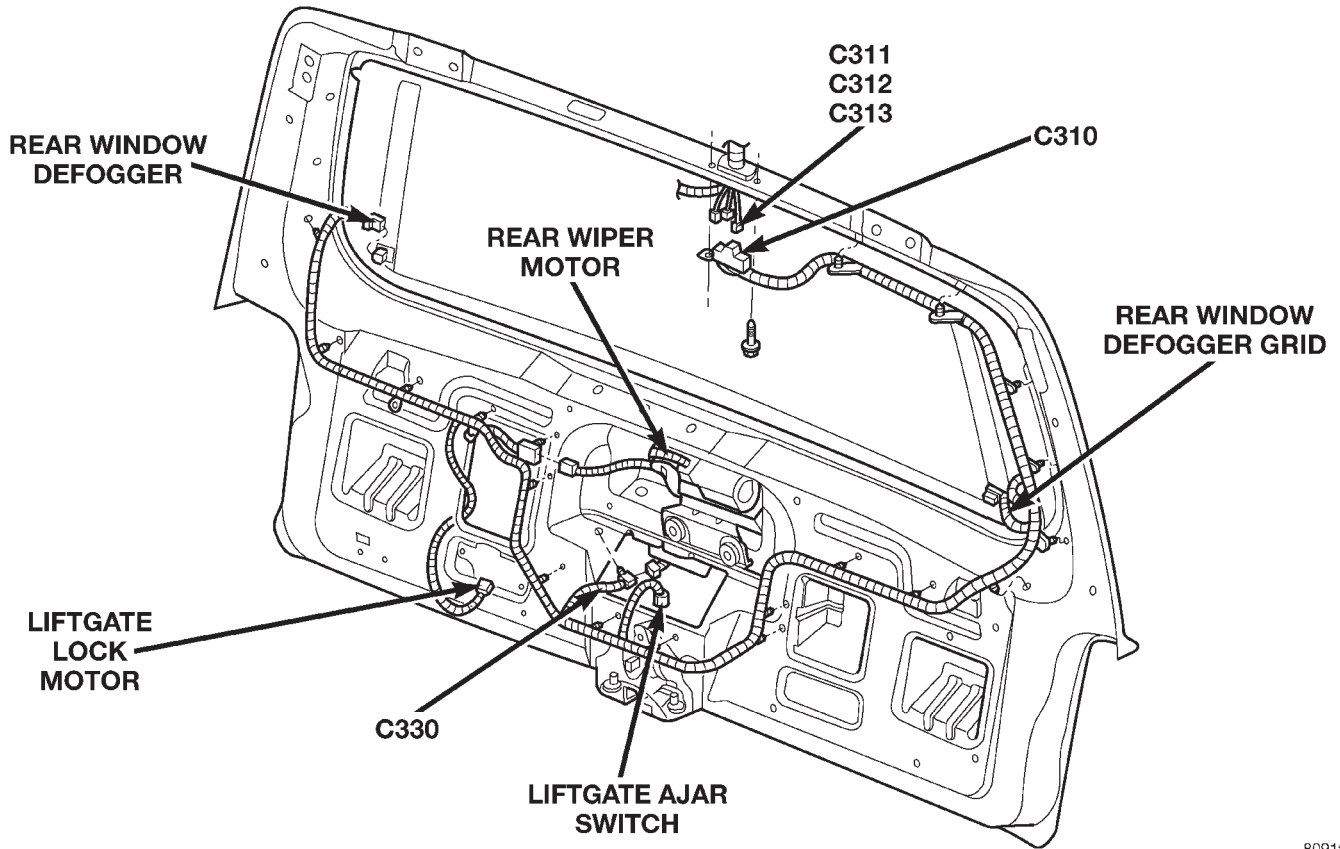


Fig. 24 FRONT AND REAR DOORS (LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)

CONNECTOR/GROUND LOCATIONS (Continued)



8091fe2d

**Fig. 25 LIFTGATE**

CONNECTOR/GROUND LOCATIONS (Continued)

80be4767

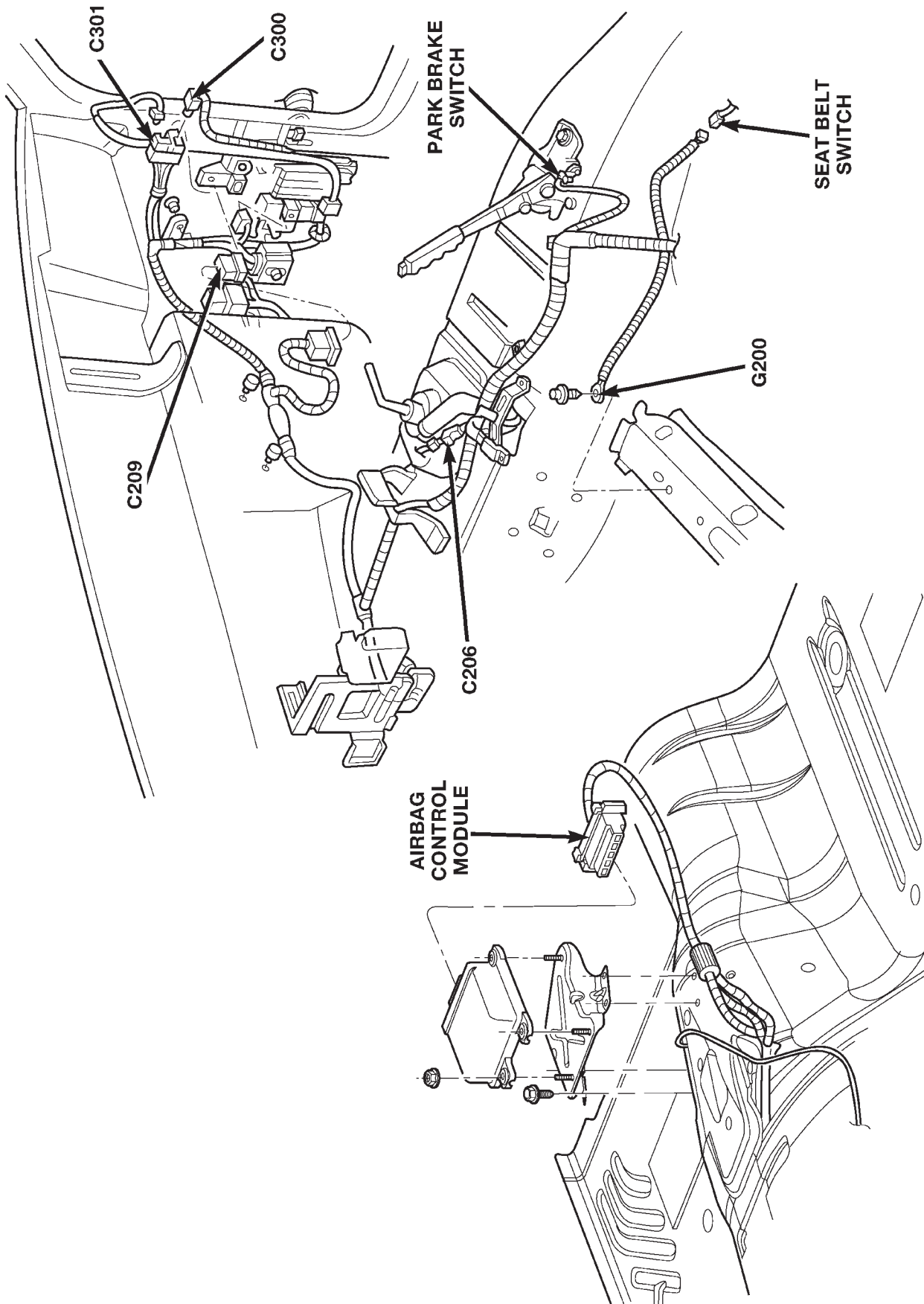


Fig. 26 CENTER CONSOLE LHD

CONNECTOR/GROUND LOCATIONS (Continued)

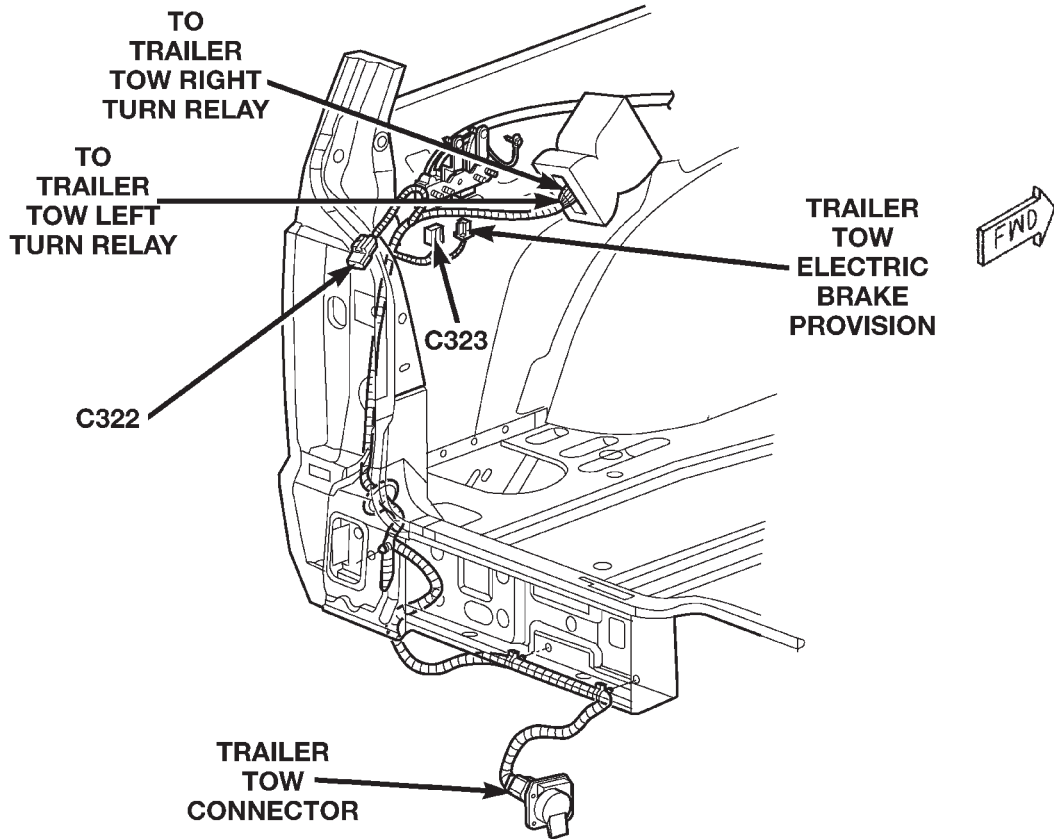


Fig. 27 TRAILER TOW

80be4768

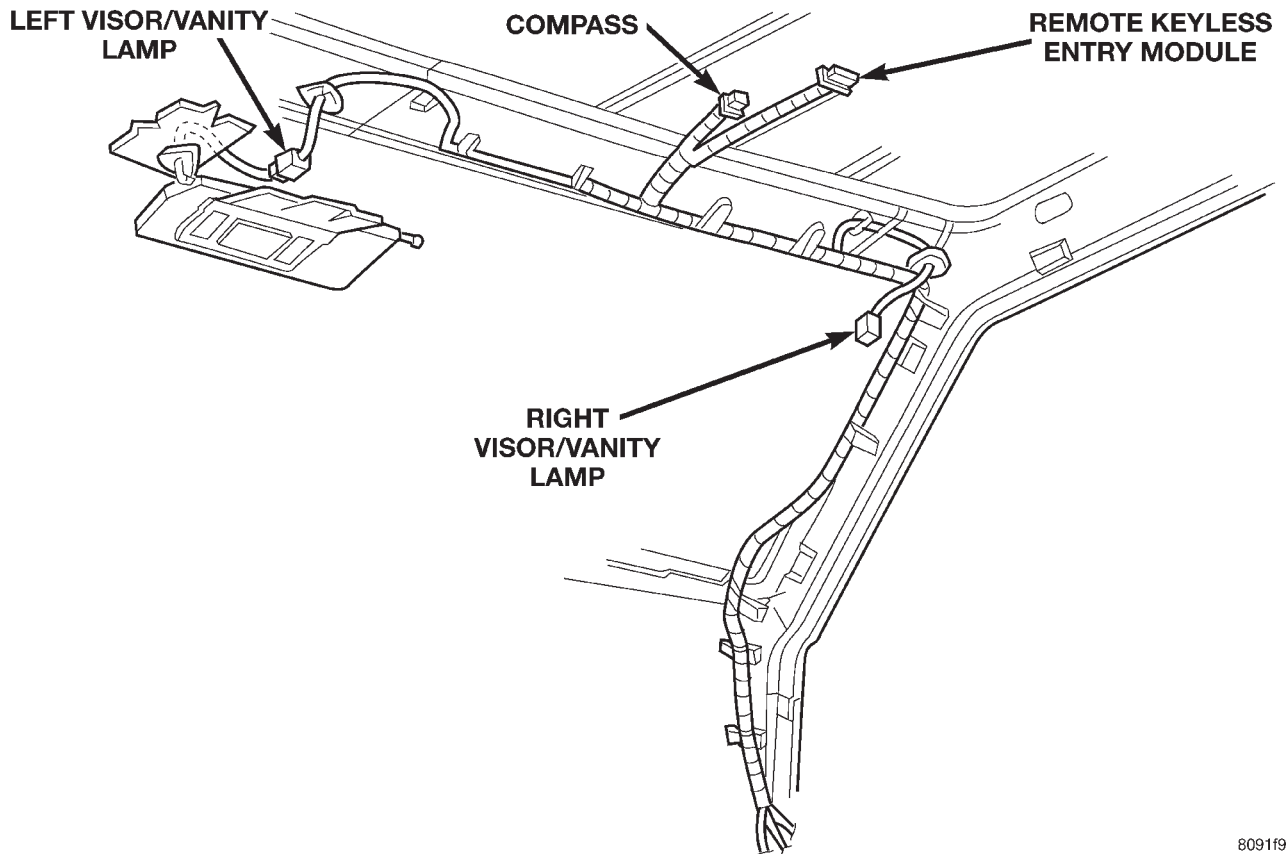


Fig. 28 HEADLINER

8091f9c5

CONNECTOR/GROUND LOCATIONS (Continued)

80be476a

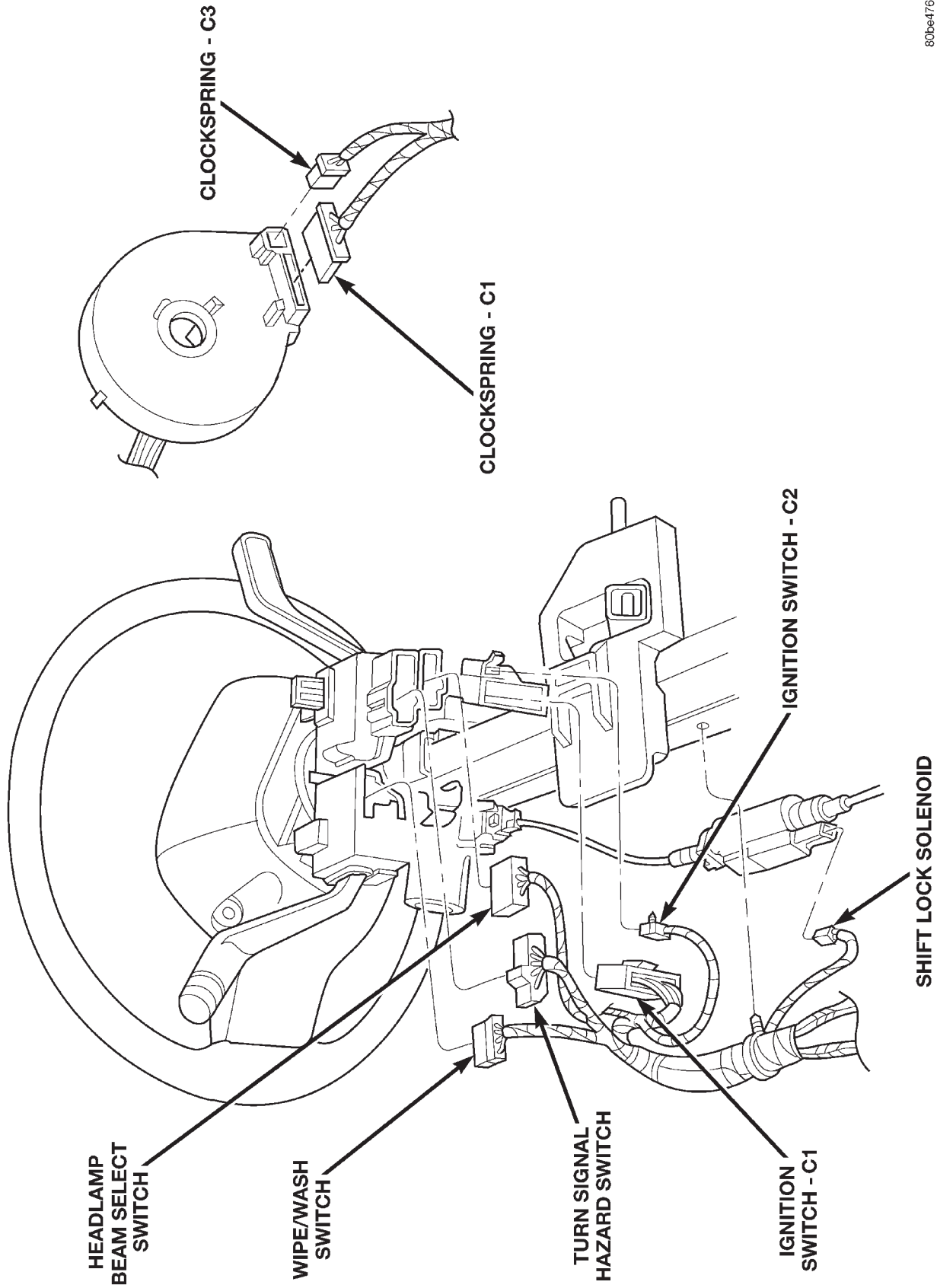
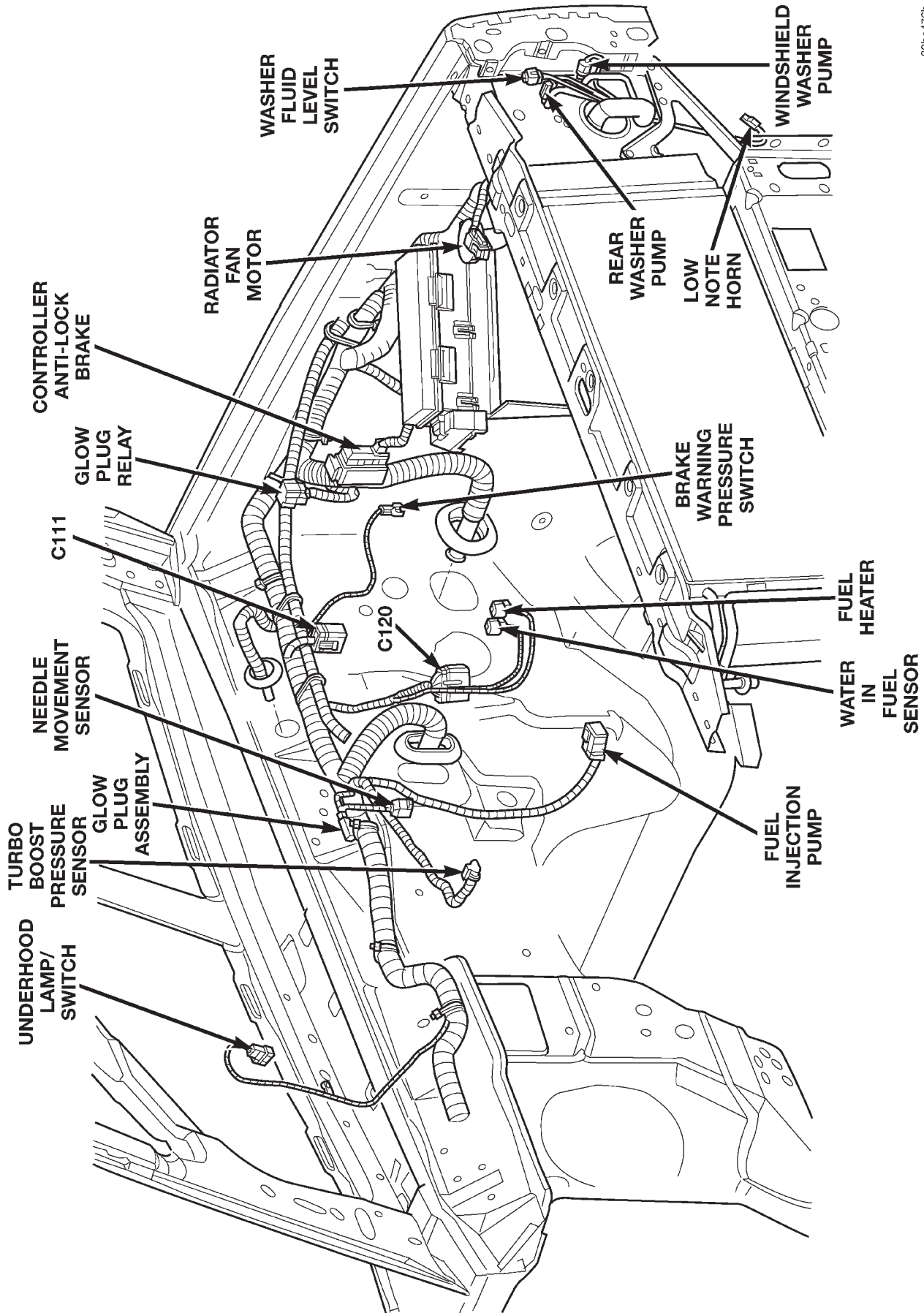


Fig. 29 STEERING COLUMN

CONNECTOR/GROUND LOCATIONS (Continued)

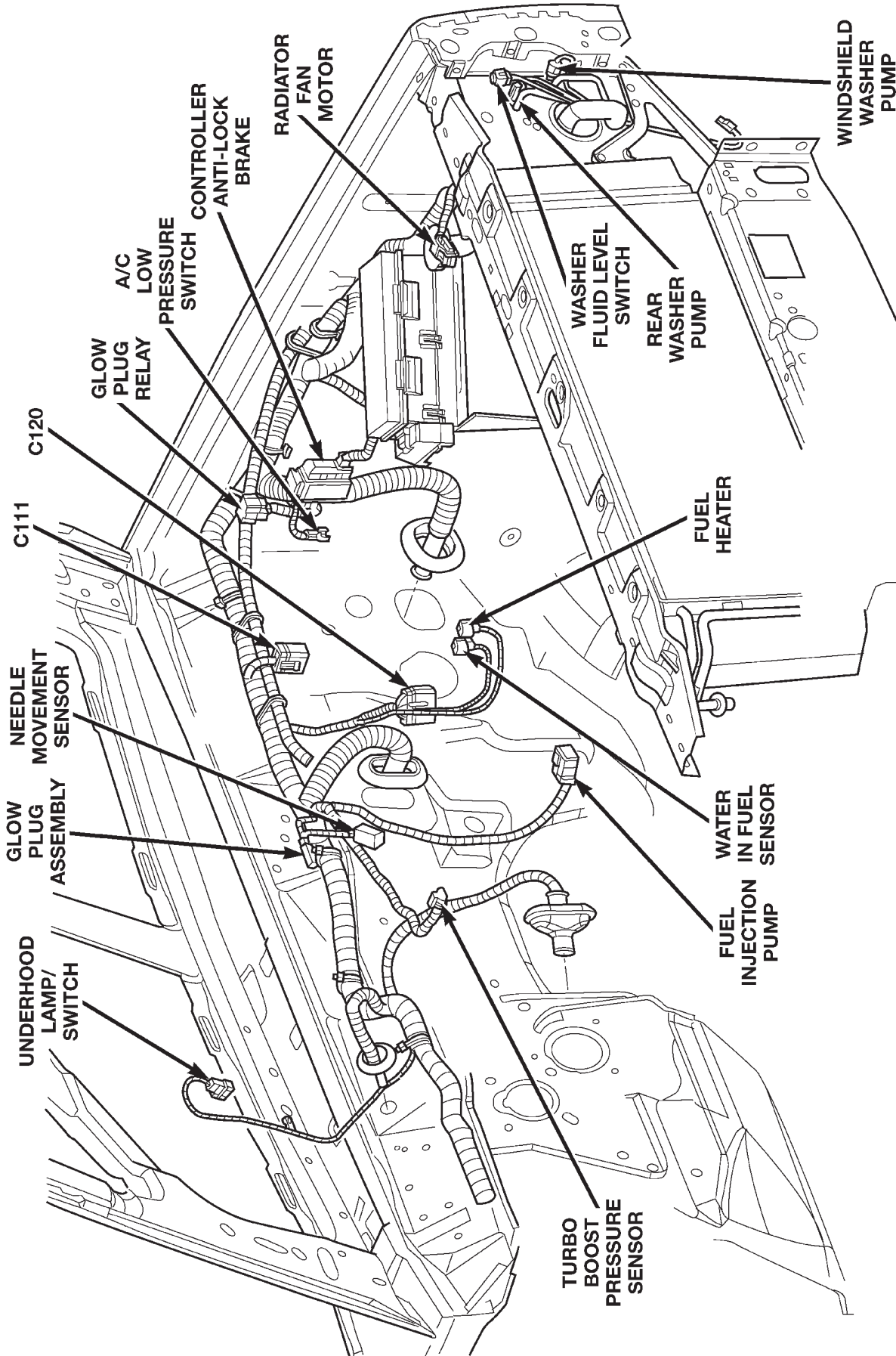


80be476b

Fig. 30 LEFT ENGINE COMPARTMENT DIESEL ENGINE LHD



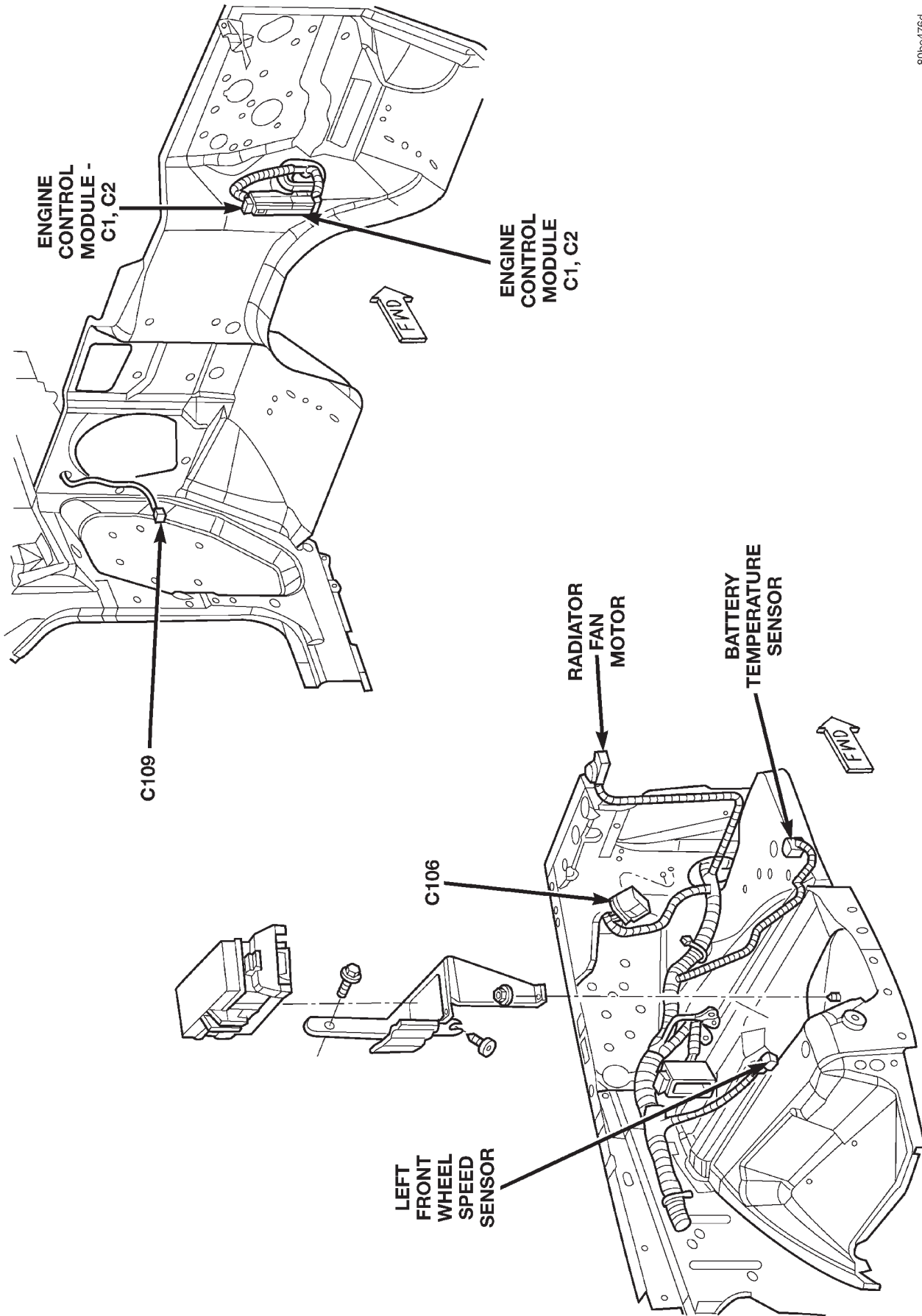
CONNECTOR/GROUND LOCATIONS (Continued)



80be476c

Fig. 31 LEFT ENGINE COMPARTMENT DIESEL ENGINE RHD

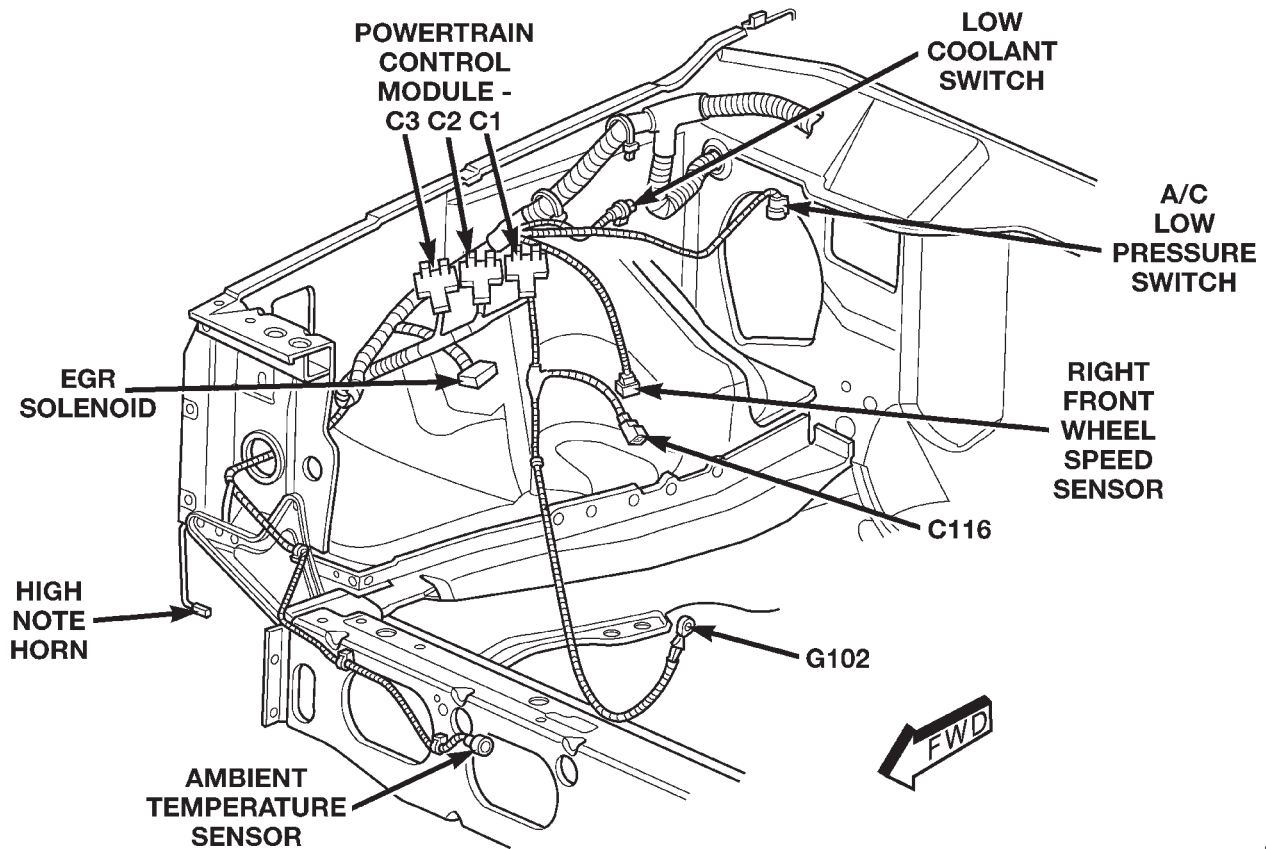
CONNECTOR/GROUND LOCATIONS (Continued)



80be476d

Fig. 32 ENGINE COMPARTMENT AUXILIARY VIEWS DIESEL ENGINE

CONNECTOR/GROUND LOCATIONS (Continued)



809608fd

Fig. 33 RIGHT ENGINE COMPARTMENT DIESEL ENGINE LHD

CONNECTOR/GROUND LOCATIONS (Continued)

80960905

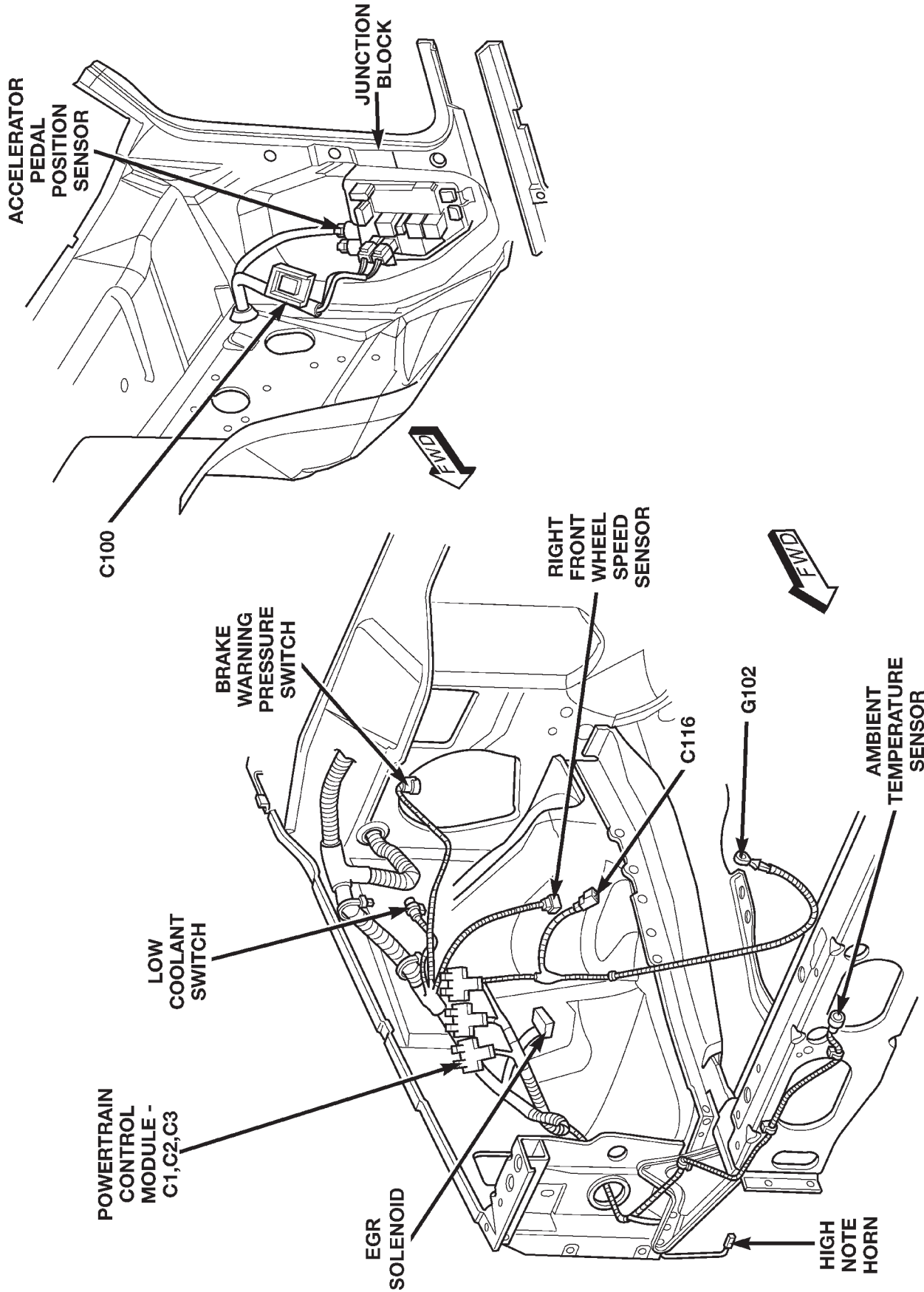


Fig. 34 RIGHT ENGINE COMPARTMENT DIESEL ENGINE RHD

CONNECTOR/GROUND LOCATIONS (Continued)

80be4770

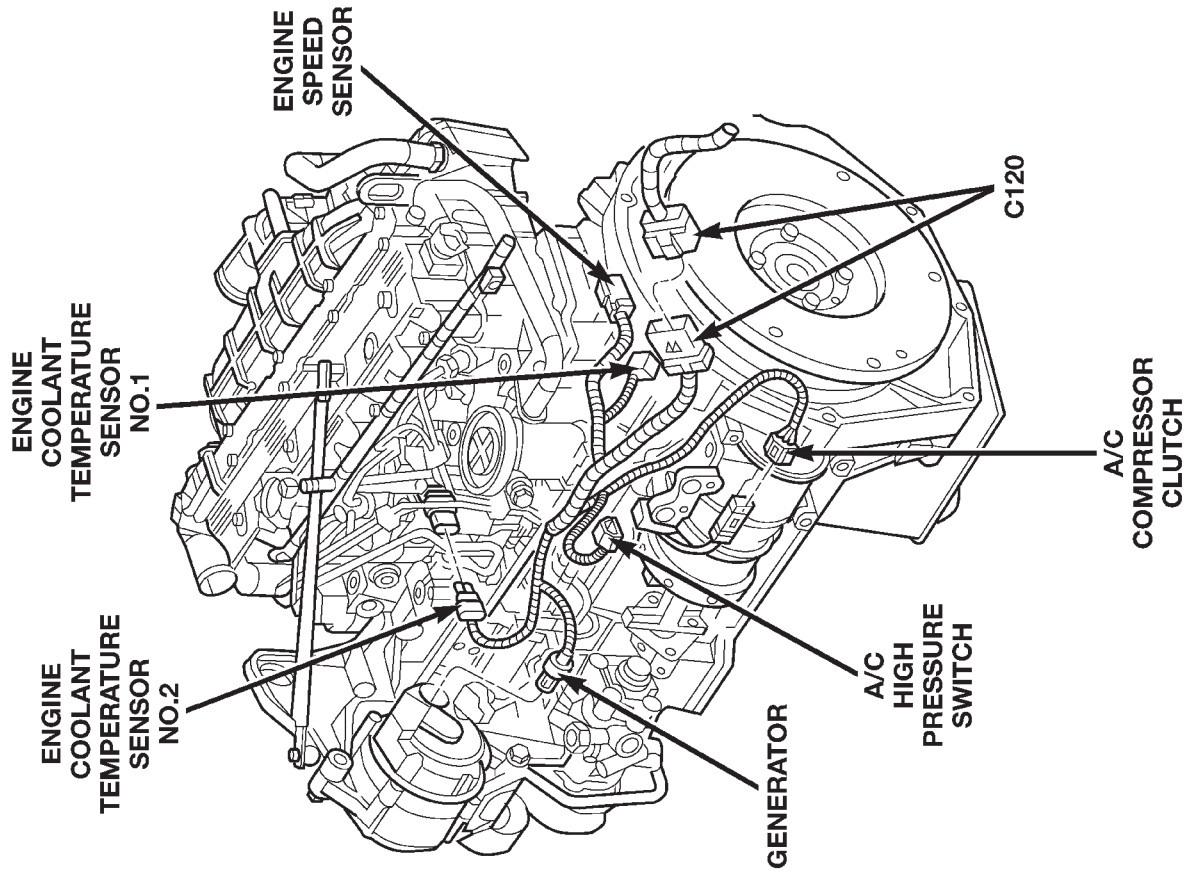
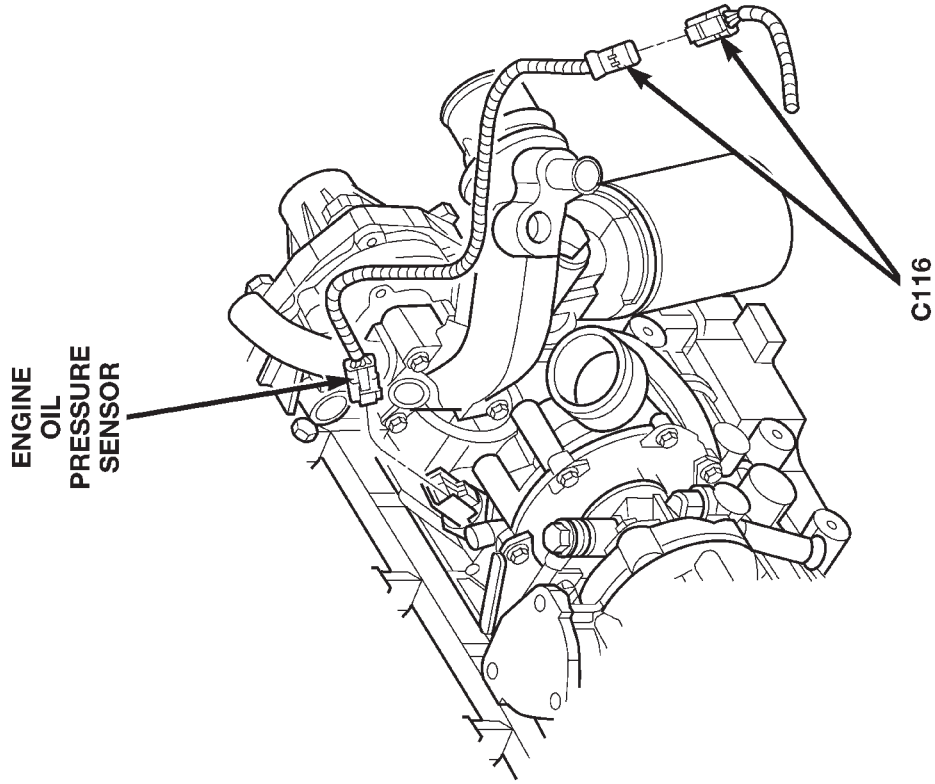


Fig. 35 DIESEL ENGINE

80be4771

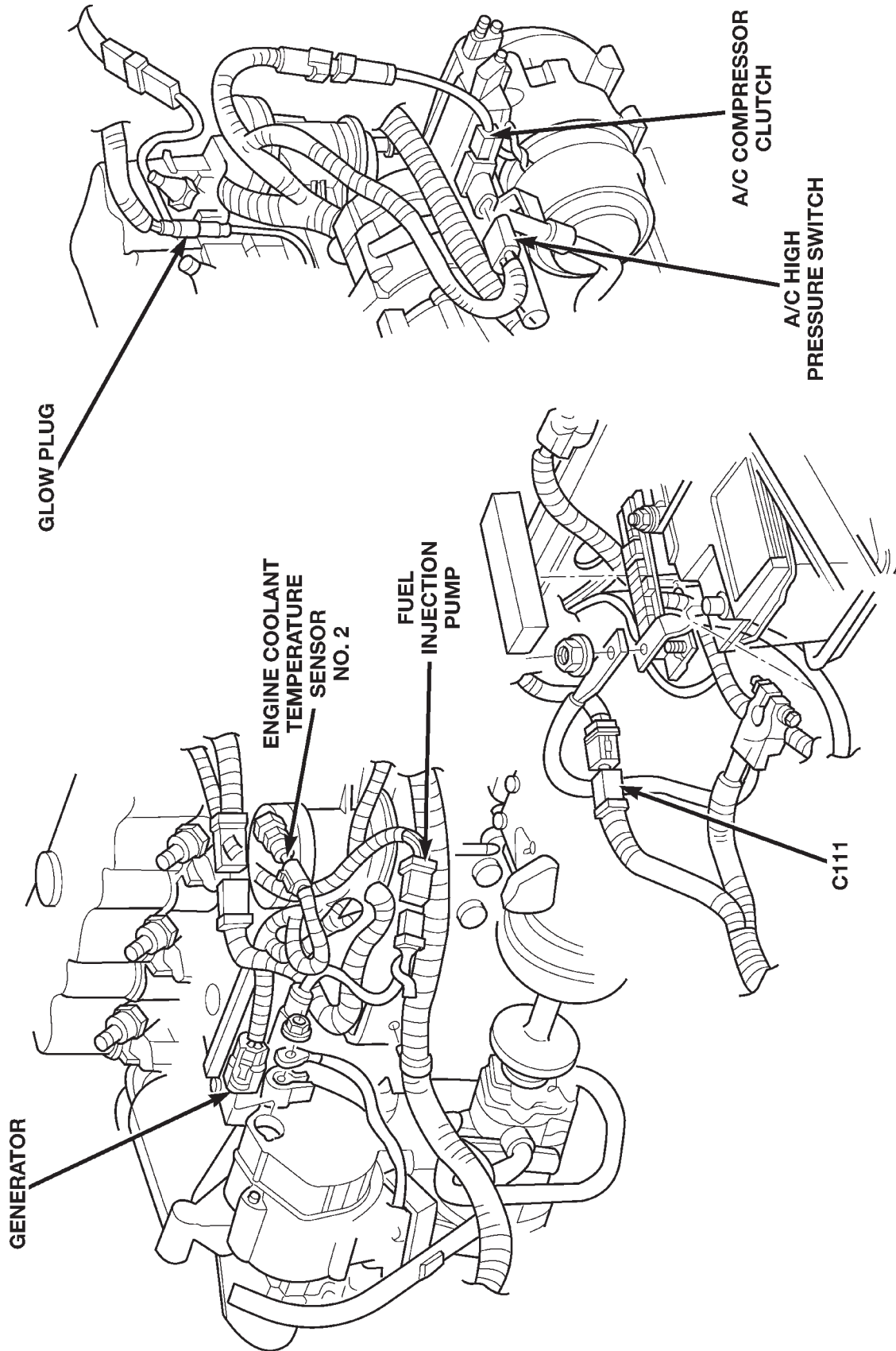
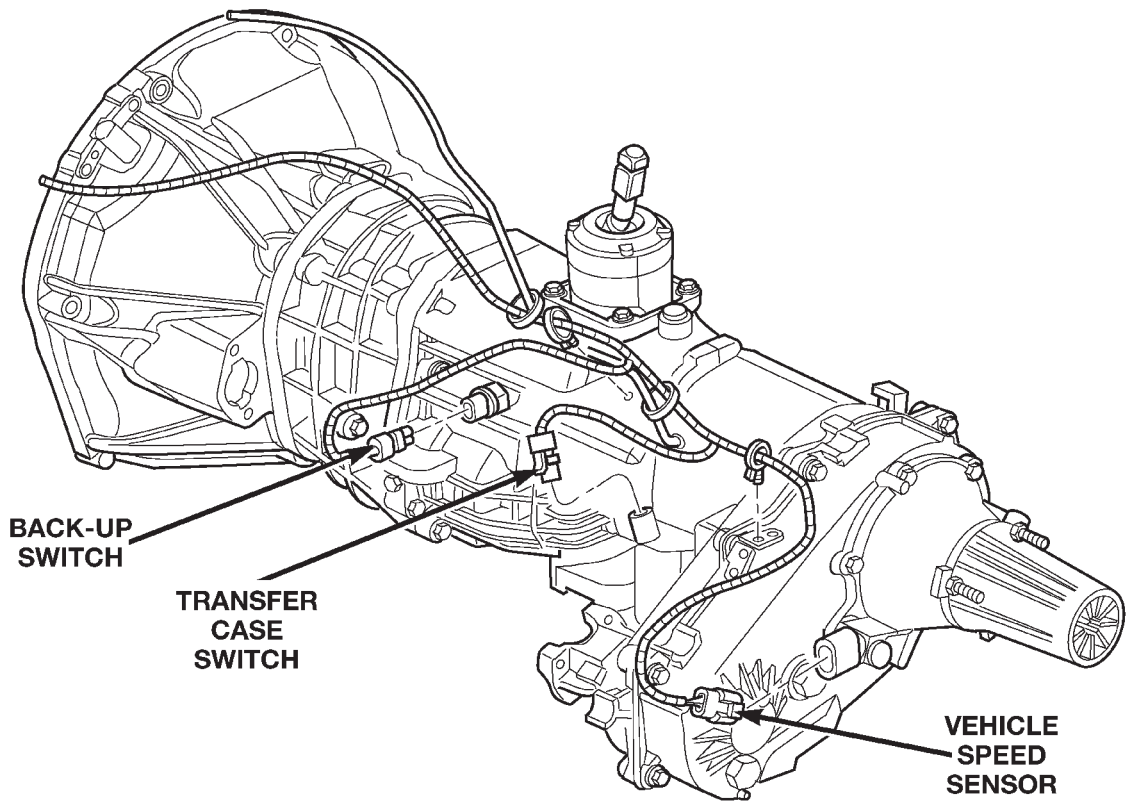


Fig. 36 ENGINE AND BATTERY DIESEL ENGINE

CONNECTOR/GROUND LOCATIONS (Continued)



80be4772

**Fig. 37 TRANSMISSION DIESEL ENGINE**

## 8Wa-95 SPLICE LOCATIONS

### TABLE OF CONTENTS

page

**SPLICE LOCATIONS**

DESCRIPTION..... 1

## SPLICE LOCATIONS

### DESCRIPTION

This section provides illustrations identifying the general location of the splices on this vehicle. A splice

index is provided. Use the wiring diagrams in each section for splice number identification. Refer to the index for proper splice number. For splices that are not shown in the figures in this section, a N/S is placed in the Fig. column.

Splice Number	Location	Fig.
S100	Near T/O for Right Headlamp	9
S101	Near T/O for Right Headlamp	9
S102	Near T/O for Right Headlamp	9
S103	Near T/O for Left Headlamp	9
S104	Near T/O for Left Headlamp	9
S105	Near T/O for Left Headlamp	9
S106	Near T/O for Left Headlamp	9
S107	Near T/O for Fuel Injector NO. 6	10
S108	Near T/O for Ignition Coil Pack	10
S108 (California)	Near Fuel Injector T/O's	10
S109	Near Fuel Injector T/O's	10
S111	Near Fuel Injector T/O's	10
S112	Near Fuel Injector T/O's	10
S113	Between Fuel Injector NO. 3 and Fuel Injector NO. 4 T/O's	10
S114	Between Fuel Injector NO. 2 and Fuel Injector NO. 3 T/O's	10
S115	Near T/O for Idle Air Control Motor	10
S118	In T/O for Generator Output Terminal	N/S
S119	Near Fuel Injector T/O's	10
S121	Near Fuel Injector T/O's	10
S122	Near T/O for Ignition Coil Pack	10
S123	Near T/O for Powertrain Control Module - C2	N/S
S130 (LHD) (Diesel)	Near T/O for Left Front Wheel Speed Sensor	5
S130 (RHD) (Diesel)	Near T/O for Glow Plug Relay	6
S130 (Gas)	Near T/O for junction Block - C2	3, 4
S131 (Gas)	Near Grommet T/O for Junction Block - C2	3, 4
S131 (Diesel)	Near T/O for Underhood Lamp	5
S132 (LHD)	Near T/O for A/C Low Pressure Switch	3



## SPLICE LOCATIONS (Continued)

<b>Splice Number</b>	<b>Location</b>	<b>Fig.</b>
S132 (LHD) (M/T ABS)	Near T/O for Underhood Lamp	3
S132 (RHD)	Near Grommet T/O for C100	4
S133	Near Grommet T/O for Junction Block - C2 or A/C Low Pressure Switch	3
S133 (LHD) (Gas)	Near Grommet T/O for Front Wiper Motor	1
S133 (LHD) (Diesel)	Near T/O for C111	5
S133 (RHD) (Gas)	Near T/O for A/C Low Pressure Switch	2
S133 (RHD) (Diesel)	Near T/O for Bulkhead Grommet	6
S134 (LHD)	Near T/O for Underhood Lamp or C107	3
S134 (RHD) (ABS)	Near T/O for Transmission Control Module	2
S135 (LHD)	Near T/O for C107	3
S135 (LHD) (M/T ABS)	Near T/O for Right Front Wheel Speed Sensor	3
S135 (RHD)	Near T/O for Underhood Lamp	4
S136	Near T/O for C107	3
S137 (LHD) (Diesel)	Near T/O for Glow Plug Relay	5
S137 (RHD) (Diesel)	Near T/O for Glow Plug Relay	6
S138 (Gas)	Near T/O for Transmission Control Module or C107	1, 2
S138 (LHD) (Diesel)	Near T/O for Underhood Lamp	5
S138 (RHD) (Diesel)	Near T/O for Glow Plug	6
S139 (LHD) (A/T)	Near T/O for Brake Warning Pressure Switch	1
S139 (LHD) (Diesel)	Near T/O for Glow Plug	5
S139 (LHD)(M/T ABS)	Near Grommet T/O for C100	1
S139 (RHD) (Diesel)	Near T/O for C111	6
S139 (RHD) (Gas)	Near T/O for A/C Low Pressure Switch	2
S140	Near T/O for Transmission Control Module	1, 2
S141 (LHD)	Near Grommet T/O for Front Wiper Motor	1
S141 (RHD)	Near T/O for C107	2
S142 (LHD)	Near Grommet T/O for Front Wiper Motor	1
S142 (RHD)	Near Grommet T/O for Transmission Control Module	4
S143 (LHD)	Near Grommet T/O for C100	1
S143 (RHD)	Near T/O for C107	4
S144 (LHD)	Near Grommet T/O for C100	1

## SPLICE LOCATIONS (Continued)

<b>Splice Number</b>	<b>Location</b>	<b>Fig.</b>
S144 (RHD)	Near T/O for G106	2
S144 (RHD) (ABS)	Near T/O for A/C Low Pressure Switch	2
S145 (LHD)	Near Grommet T/O for C100	1
S145 (RHD)	Near T/O for G106	2
S145 (RHD) (ABS)	Near T/O for A/C Low Pressure Switch	2
S147 (LHD) (Diesel)	Near T/O for C111	5
S147 (RHD) (Diesel)	Near T/O for Glow Plug Relay	6
S148 (LHD) (Diesel)	Near T/O for Glow Plug	5
S148 (RHD) (Diesel)	Near T/O for C111	6
S149 (LHD) (Diesel)	Near T/O for C120	5
S149 (RHD) (Diesel)	Near T/O for C111	6
S151 (LHD) (Diesel)	Near T/O for Left Front Wheel Speed Sensor	5
S151 (RHD) (Diesel)	Near T/O for PDC	6
S152 (LHD) (Diesel)	Near T/O for Glow Plug	5
S152 (RHD) (Diesel)	Near T/O for C111	6
S153 (LHD) (Diesel)	In T/O for PDC	5
S153 (RHD) (Diesel)	In T/O for PDC	6
S156 (LHD) (Diesel)	Near T/O for Underhood Lamp	5
S156 (RHD) (Diesel)	Near T/O for Glow Plug	6
S157 (LHD) (Diesel)	Near T/O for Glow Plug Relay	5
S157 (RHD) (Diesel)	Near T/O for Glow Plug Relay	6
S159	Near Grommet T/O for Junction Block - C2	3, 4
S162	Near T/O for Left Headlamp Leveling Motor	8
S163	Near T/O for Right Headlamp Leveling Motor	8
S166	Near T/O for Power Distribution Center	3
S169 (LHD) (Diesel)	Near T/O for C111	5
S170	Near T/O for C120	7

## SPLICE LOCATIONS (Continued)

Splice Number	Location	Fig.
S201 (LHD)	Near T/O for C200	12
S201 (RHD)	Near T/O for Data Link Connector	13
S203	In T/O for Brake Lamp Switch	13
S204 (LHD)	In T/O for Brake Lamp Switch	12
S204 (RHD)	Near T/O for Shift Lock Solenoid	13
S205 (LHD)	In T/O for C100	12
S205 (RHD)	Near T/O for C202, C203 and C204	13
S206	In Lower Instrument Panel Trough	12, 13
S207	In Lower Instrument Panel Trough	12, 13
S208 (LHD)	In Lower Instrument Panel Trough	12
S208 (RHD)	Near T/O for C202	13
S209	In Lower Instrument Panel Trough	12, 13
S210	In Lower Instrument Panel Trough	12, 13
S211	In Lower Instrument Panel Trough	12, 13
S212 (RHD)	In Lower Instrument Panel Trough	13
S213 (RHD)	Near T/O to Turn Signal/Hazard Switch	13
S214 (LHD)	Near T/O for Diode Module, Rear Fog Lamp Relay and G107	11
S214 (RHD)	Near T/O for Instrument Cluster - C1	13
S215 (LHD)	Near T/O for Cigar Lighter	12
S215 (RHD)	Near T/O for A/C-Heater Control - C2	13
S216 (LHD)	Near T/O for Instrument Cluster - C2	12
S216 (RHD)	Near T/O for Junction Block -C4 and C5	13
S217	In T/O for A/C Heater Control C2	N/S
S218 (LHD)	In T/O for Headlamp Switch	N/S
S218 (RHD)	In T/O for C100	13
S219 (LHD)	In T/O for C209	14
S219 (RHD)	Near T/O for Junction Block - C4 and C5	13
S220	Near T/O for Cigar Lighter	13
S221	Near T/O for Clockspring - C2	N/S
S222	Near T/O for Clockspring - C2	N/S
S225	In T/O for C301	14
S226 (LHD)	In T/O for Headlamp Switch	N/S
S226 (RHD)	In T/O for Headlamp Switch	13
S227	Near T/O for Headlamp Switch	12, 13
S228	Near T/O for Blower Motor Resistor Block	N/S
S229 (LHD)	Near T/O for Rear Fog Lamp Relay	11
S229 (RHD)	Near T/O for A/C Heater Control C2	13
S230	Near T/O for Cigar Lighter	13
S232	Near T/O for Junction Block - C4 and C5	13
S237	Near T/O for Rear Fog Lamp Relay	11
S238	In T/O for Combination Flasher	12, 13
S239	In T/O for Combination Flasher	12, 13

## SPLICE LOCATIONS (Continued)

<b>Splice Number</b>	<b>Location</b>	<b>Fig.</b>
S301	In T/O for Power Amplifier	15
S302	Near T/O for Fuel Pump Module	15
S303	Near T/O for C326 and C327	15
S304	Near T/O for G303	16
S305	Under Right Rear Seat	16
S306	Under Right Rear Seat	16
S307 (LHD)	Under Rear Seat	15, 16
S307 (RHD)	Under Rear Seat	16
S308	Near T/O for C327	15
S309	Near T/O for C326 and C327	17
S310 (LHD)	Near T/O for C304 and C319	16
S310 (RHD)	Near T/O for C314 and C321	16
S311	Near T/O for C326 and C327	17
S312 (LHD)	Under Left Rear Seat	15, 16
S312 (RHD)	Near T/O for C304 and C319	16
S313	Near T/O for C206 at Center Console	N/S
S314	Near T/O for C209	14
S315	Near T/O for C205	14
S316	Near T/O for Power Window Motor	20
S317	Near T/O for Power Window Motor	20
S318	Near T/O for Front Door Speaker	20
S319	Near T/O for Front Door Speaker	20
S320	Near T/O for Front Door Speaker	20
S321	Near T/O for Front Door Speaker	20
S322	Near T/O for Power Window Motor	21
S323	Near T/O for Power Window Motor	21
S324	Near T/O for C320	15
S326	Near T/O for Front Door Speaker	21
S327	Near T/O for Front Door Speaker	21
S328	Near T/O for Front Door Speaker	21
S329	Near T/O for Front Door Speaker	21
S332	Near T/O for Left License Lamp	N/S
S333	Near T/O for Right License Lamp	N/S
S334	Near T/O for Liftgate Switch	22
S335	Near T/O for Trailer Tow Right Turn Relay	18
S336	Near T/O for C322	18
S337	Near T/O for C322	18
S338	Near T/O for C323	18
S339	Near T/O for C323	18
S340	Near Grommet for Trailer Tow Connector	18
S341	In Left Tail Lamp Harness near C321	N/S
S342	In T/O for Remote Keyless Entry	23

## SPLICE LOCATIONS (Continued)

<b>Splice Number</b>	<b>Location</b>	<b>Fig.</b>
S344	In T/O for Remote Keyless Entry	23
S345	In T/O for Remote Keyless Entry	23
S346	In T/O for Remote Keyless Entry	23
S347	In T/O for Remote Keyless Entry	23
S348	In Right Tail Lamp Harness near C322	N/S
S349 (RHD)	In T/O for C209	N/S
S351	Near T/O for C305 and C306	15
S352	In T/O for C300	N/S
S353	Near T/O for C316	19
S354	In T/O for C329	N/S
S355	Near T/O for C329 and C363	19
S356	Near T/O for C316	19
S357	Near T/O for Heated Seat Relay	N/S
S359 (RHD)	Near T/O for C209	N/S
S361	Near T/O for Right Visor/Vanity Lamp	23

SPLICE LOCATIONS (Continued)

80be477f

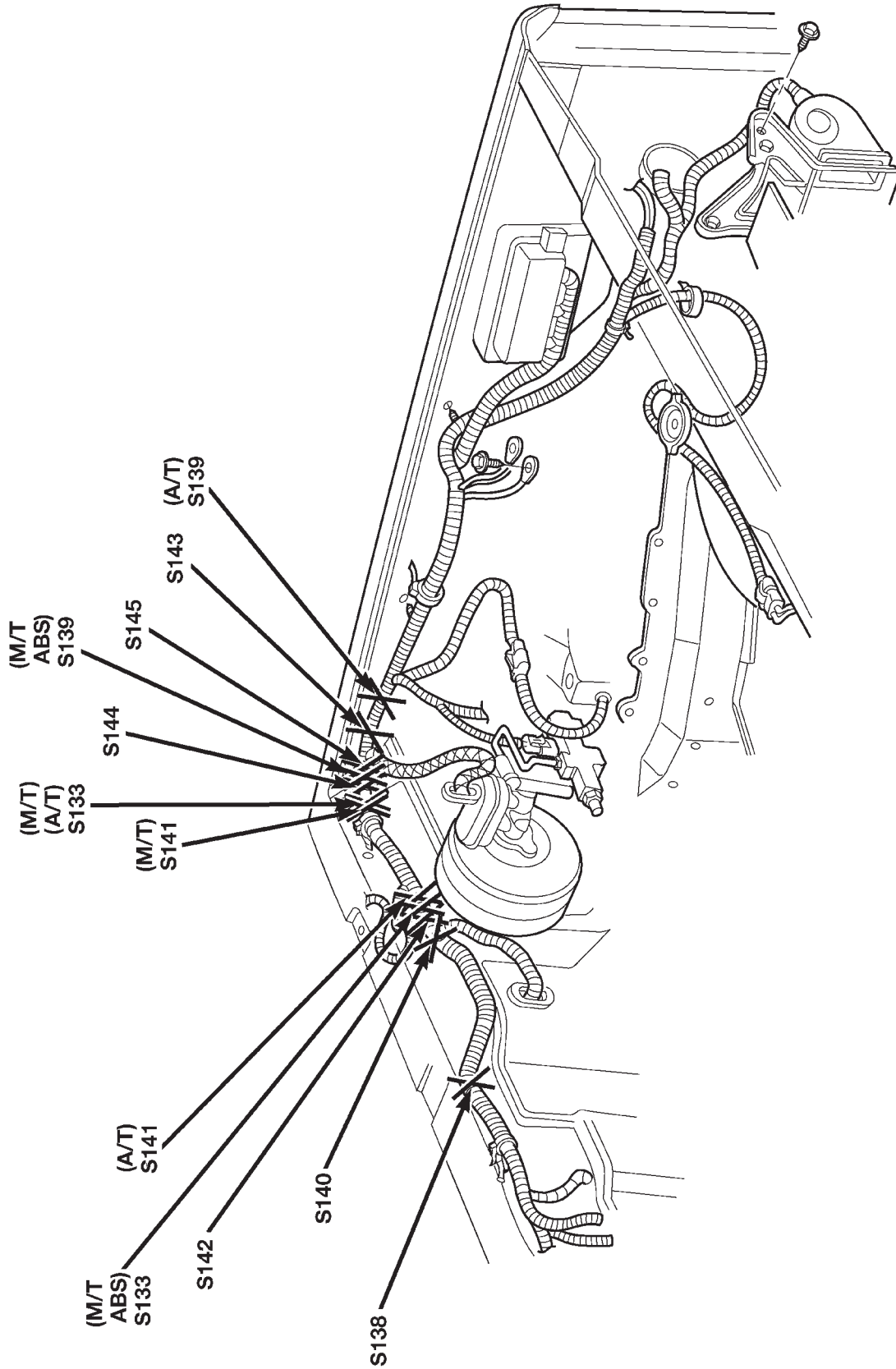


Fig. 1 LEFT ENGINE COMPARTMENT SPLICES, 4.0L LHD

SPLICE LOCATIONS (Continued)

80be4786

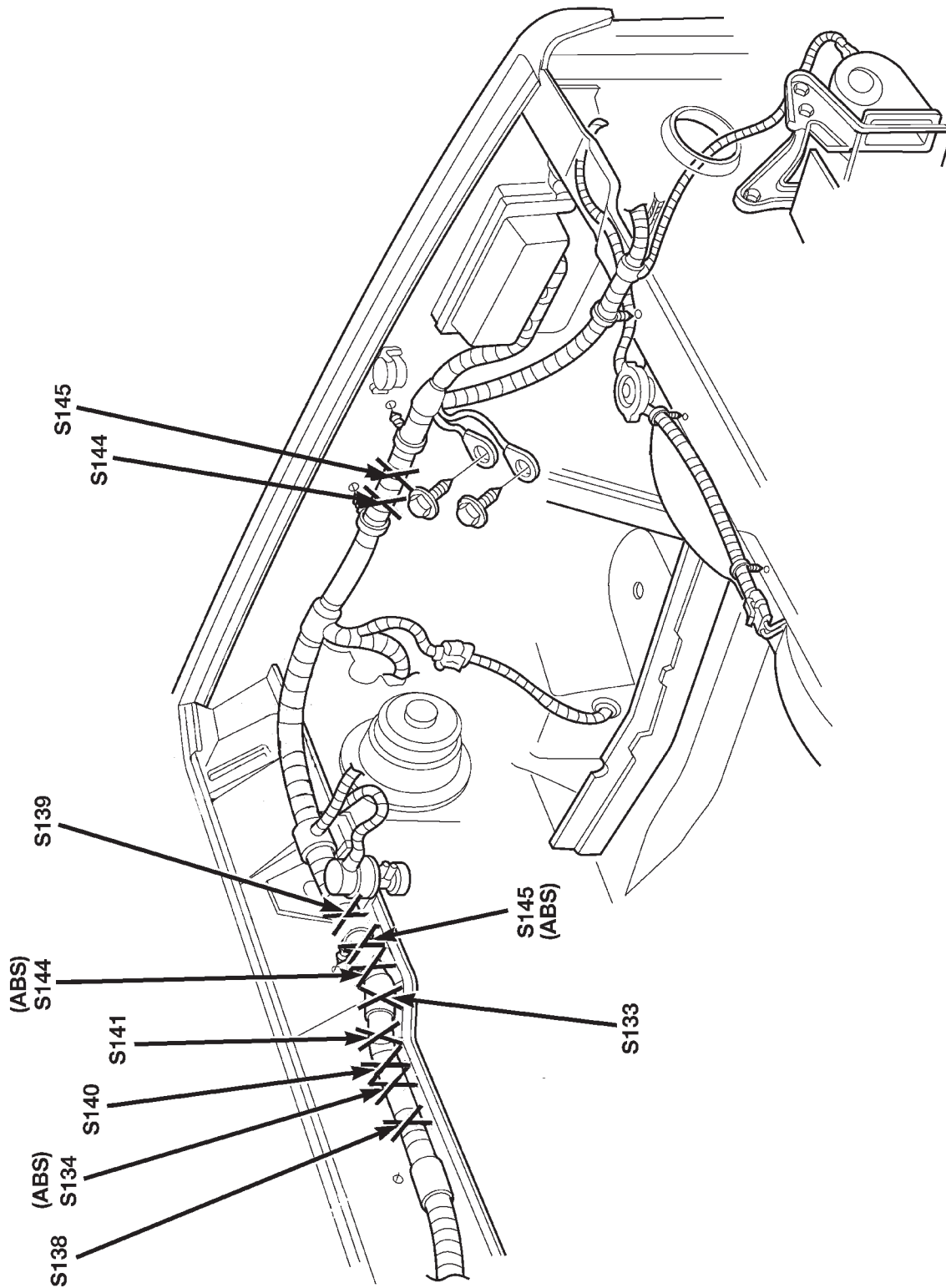


Fig. 2 LEFT ENGINE COMPARTMENT SPLICES, 4.0L RHD

SPLICE LOCATIONS (Continued)

80be4787

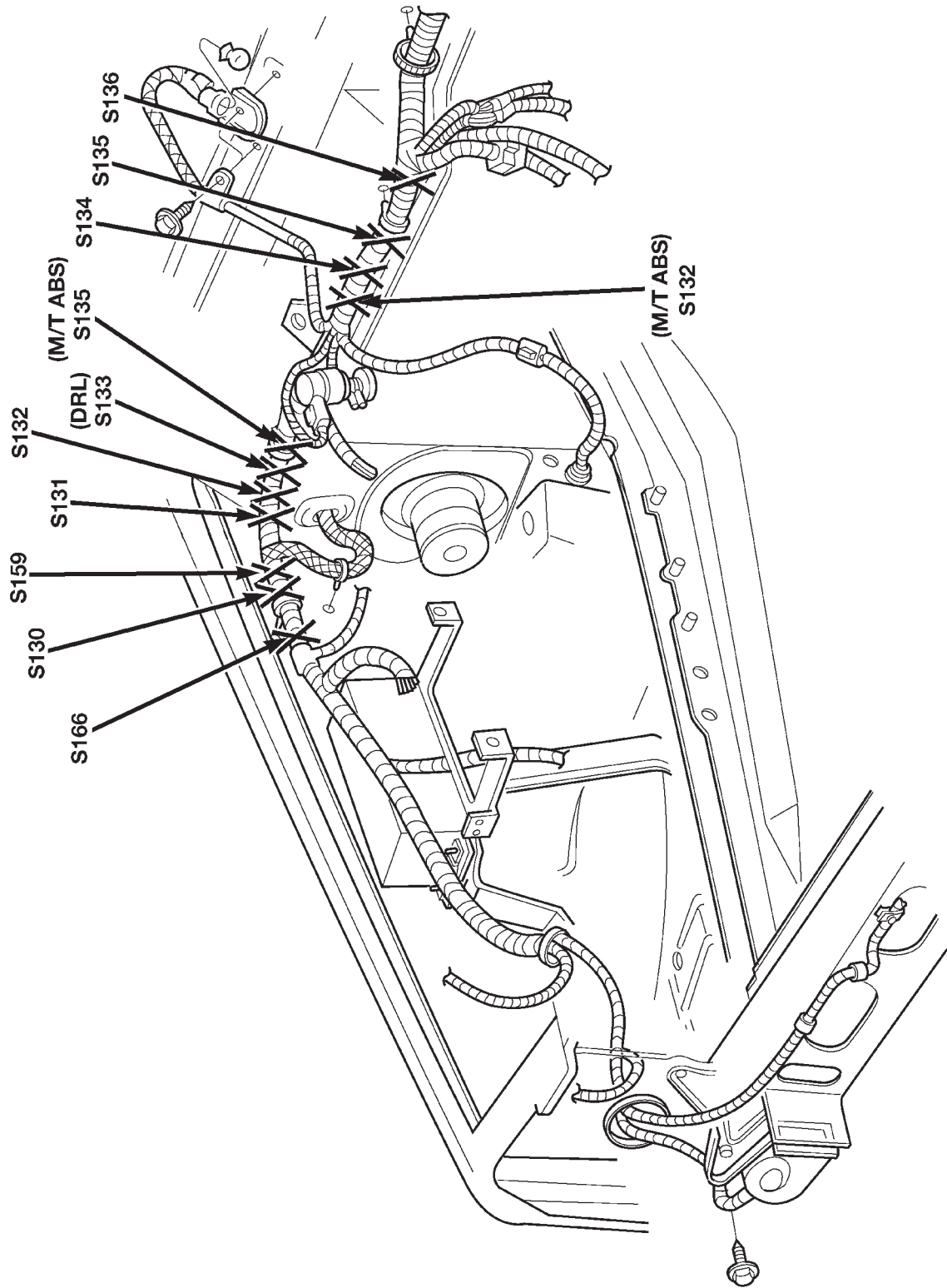


Fig. 3 RIGHT ENGINE COMPARTMENT SPLICES, 4.0L LHD



SPLICE LOCATIONS (Continued)

80bcc9e

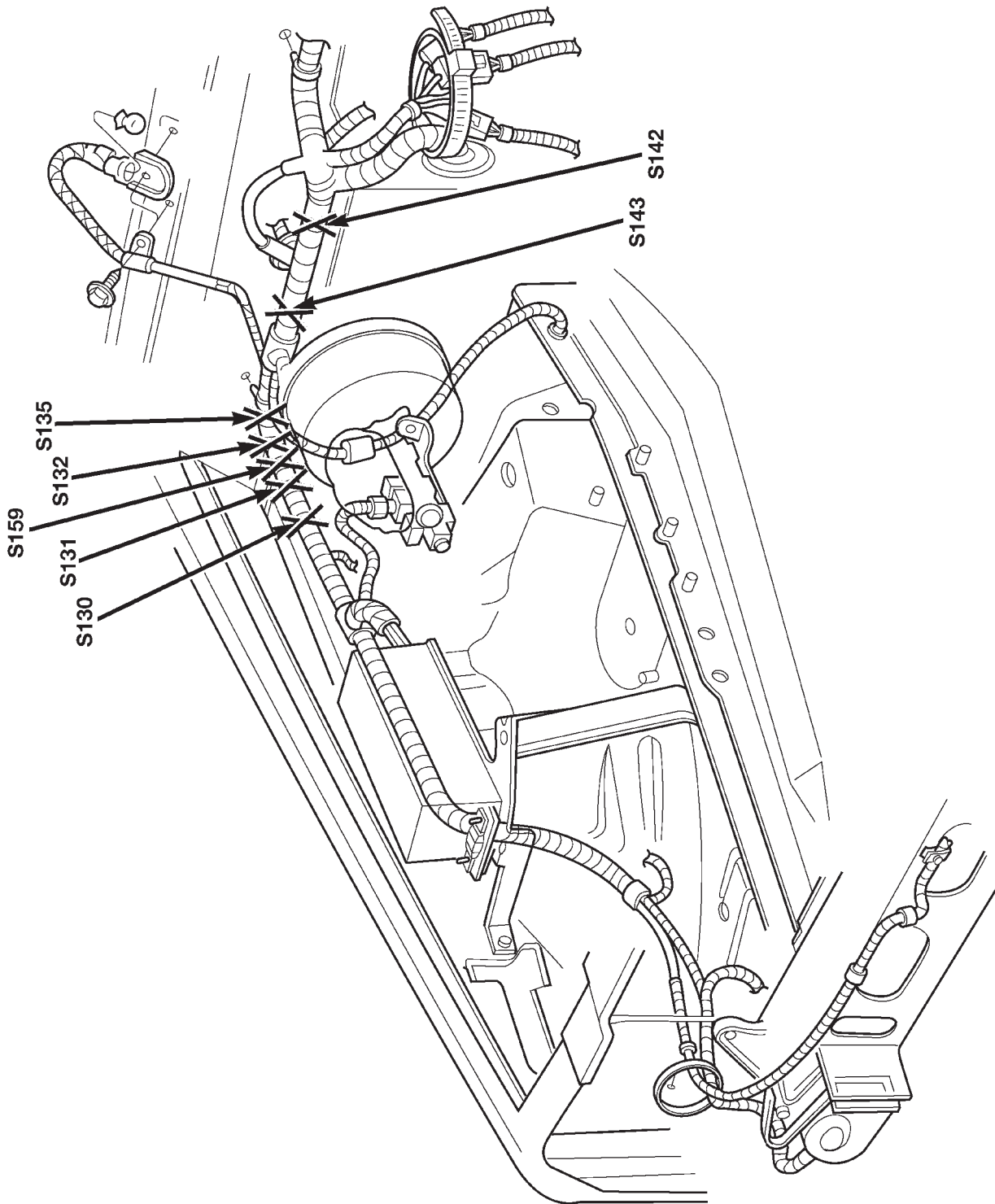


Fig. 4 RIGHT ENGINE COMPARTMENT SPLICES, 4.0L RHD

SPLICE LOCATIONS (Continued)

80957a7e

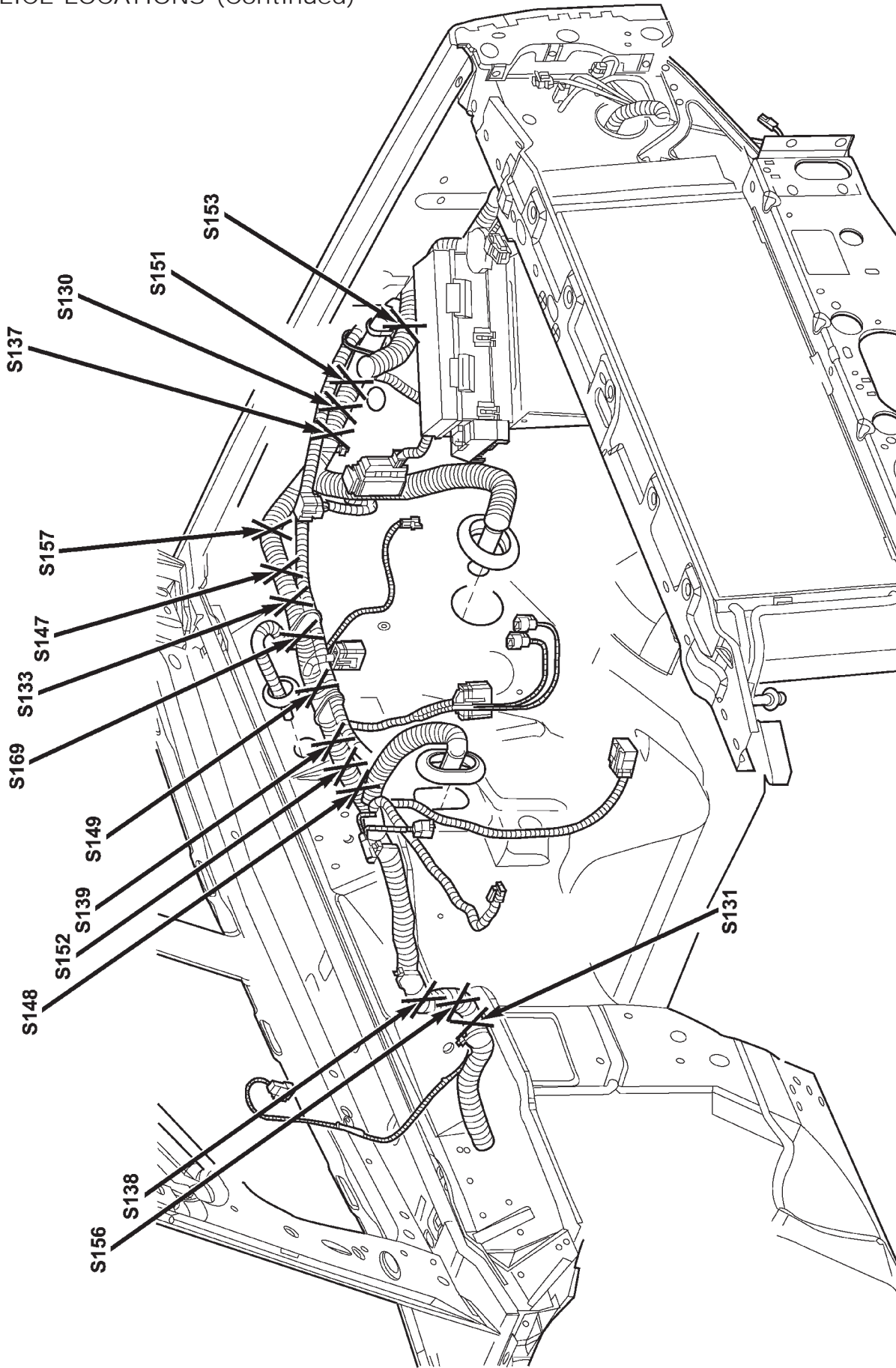
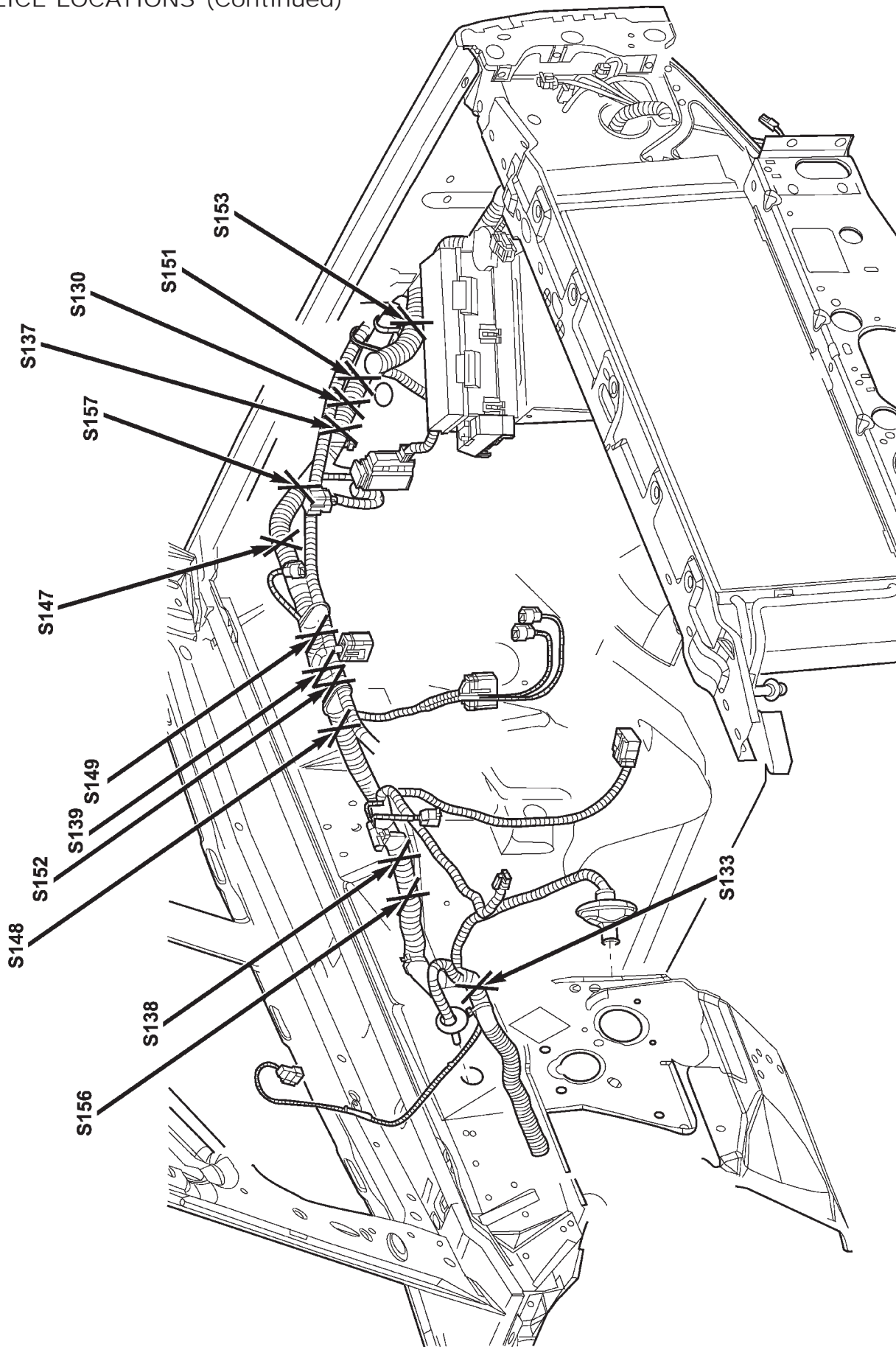


Fig. 5 ENGINE COMPARTMENT SPLICES, DIESEL LHD

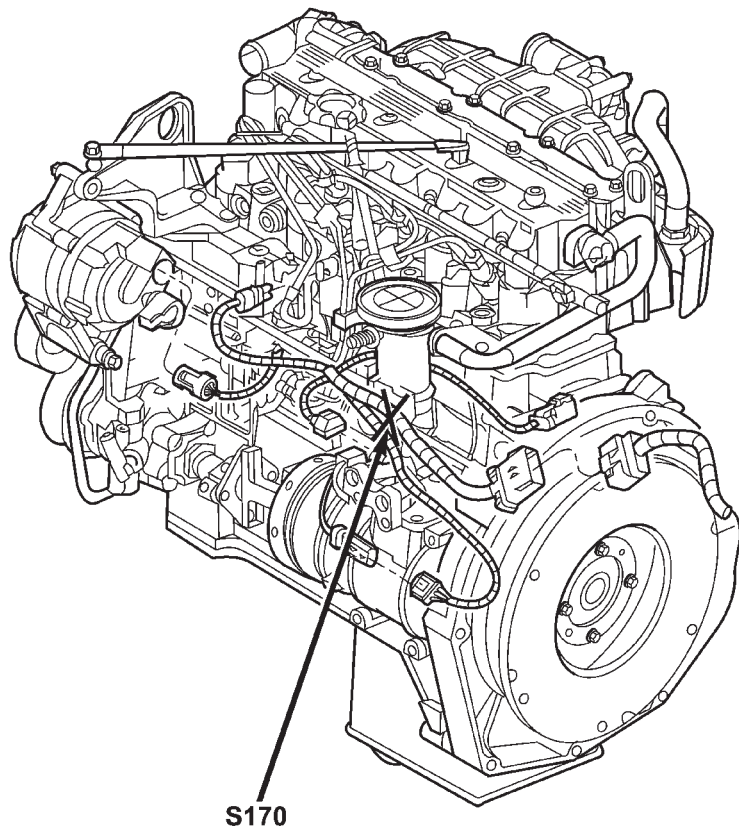
SPLICE LOCATIONS (Continued)



80957a7d

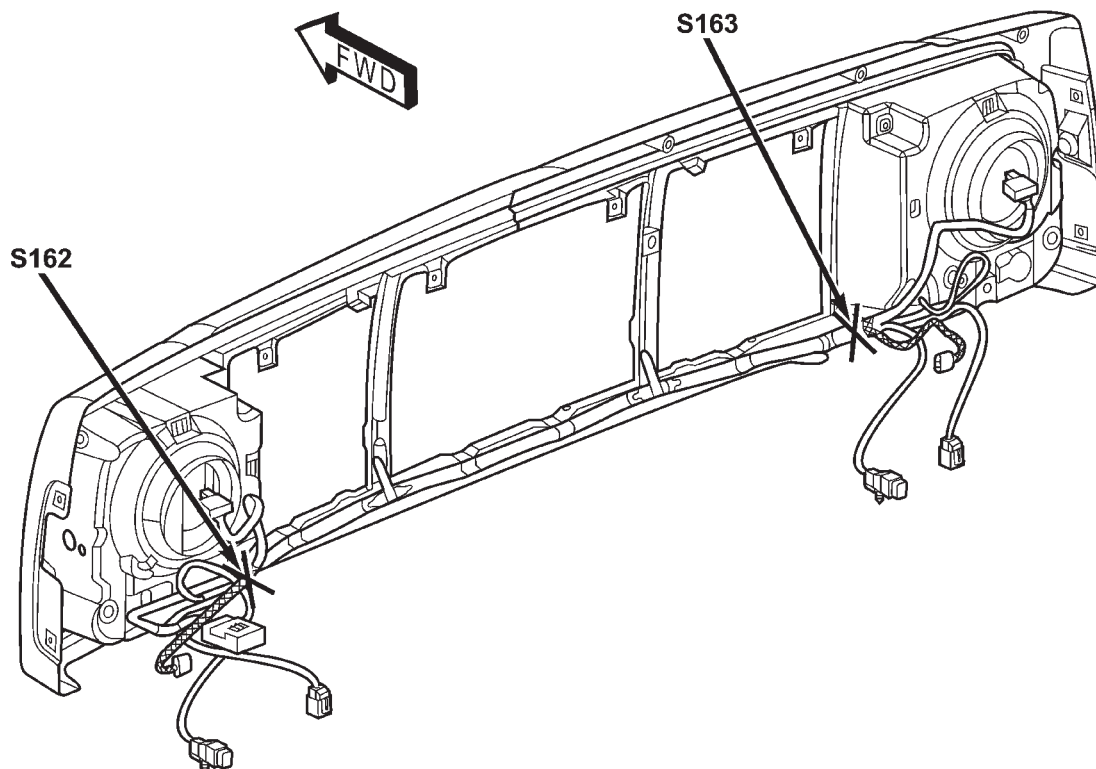
Fig. 6 ENGINE COMPARTMENT SPLICES, DIESEL RHD

SPLICE LOCATIONS (Continued)



80957a7c

**Fig. 7 ENGINE WIRING SPLICES, DIESEL**



80957a7b

**Fig. 8 FRONT END LIGHTING SPLICES, BUX**

SPLICE LOCATIONS (Continued)

80957a7a

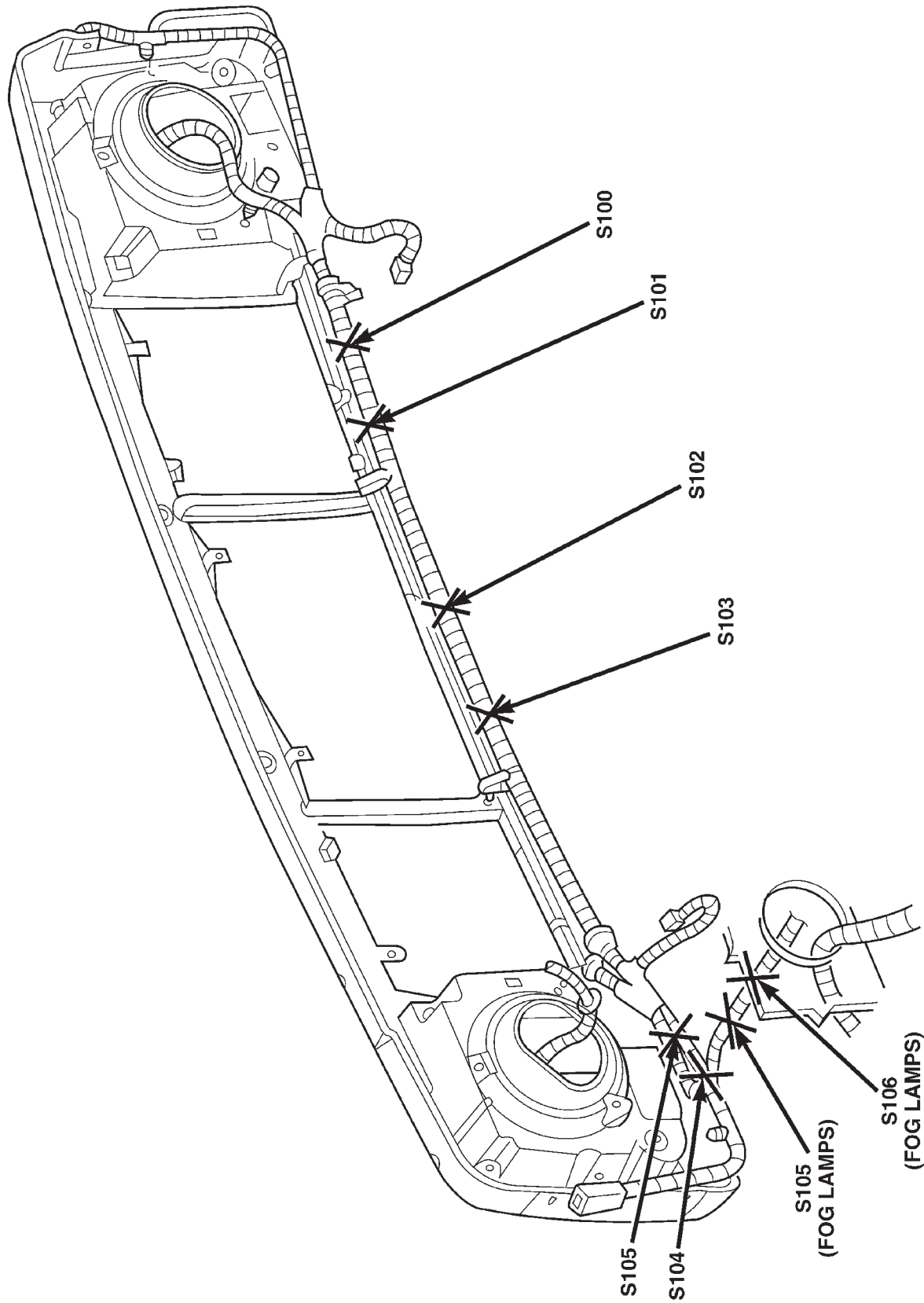


Fig. 9 FRONT END LIGHTING SPLICES

SPLICE LOCATIONS (Continued)

80c06cdf

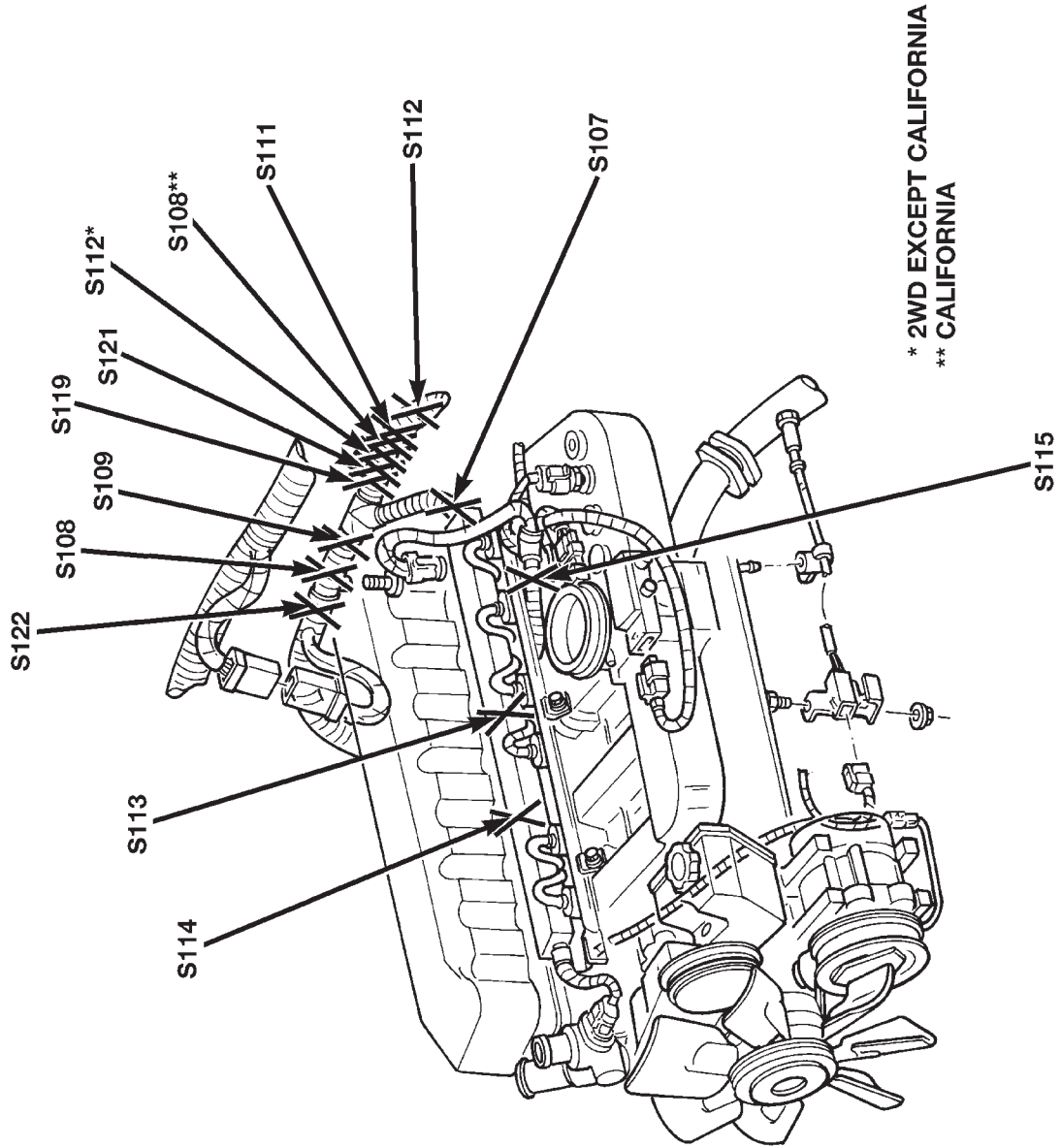


Fig. 10 ENGINE WIRING SPLICES, 4.0L

SPLICE LOCATIONS (Continued)

80957a79

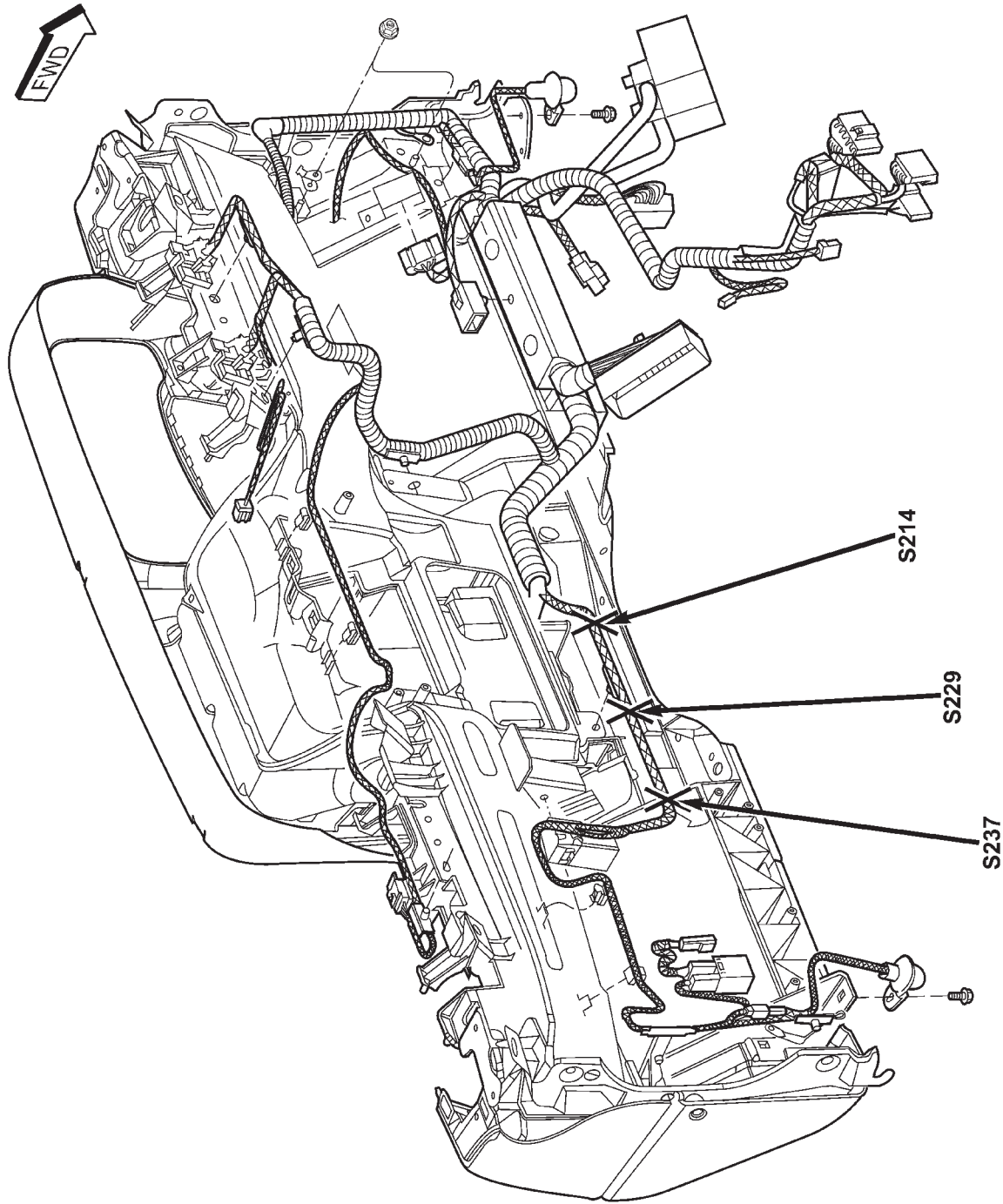


Fig. 11 INSTRUMENT PANEL SPLICES, LHD BUX

SPLICE LOCATIONS (Continued)

80957a78

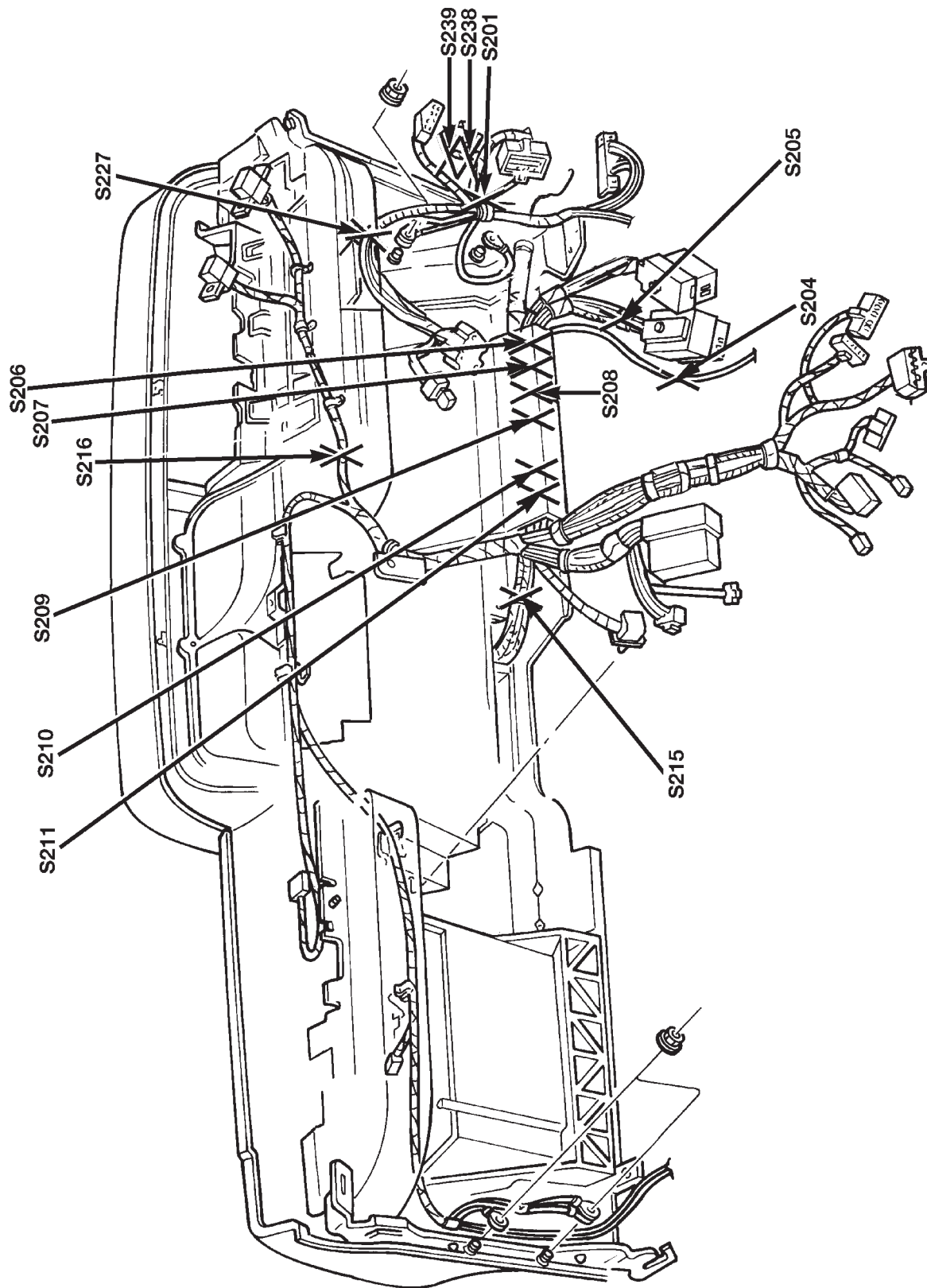


Fig. 12 INSTRUMENT PANEL WIRING SPLICES, LHD



SPLICE LOCATIONS (Continued)

80957a77

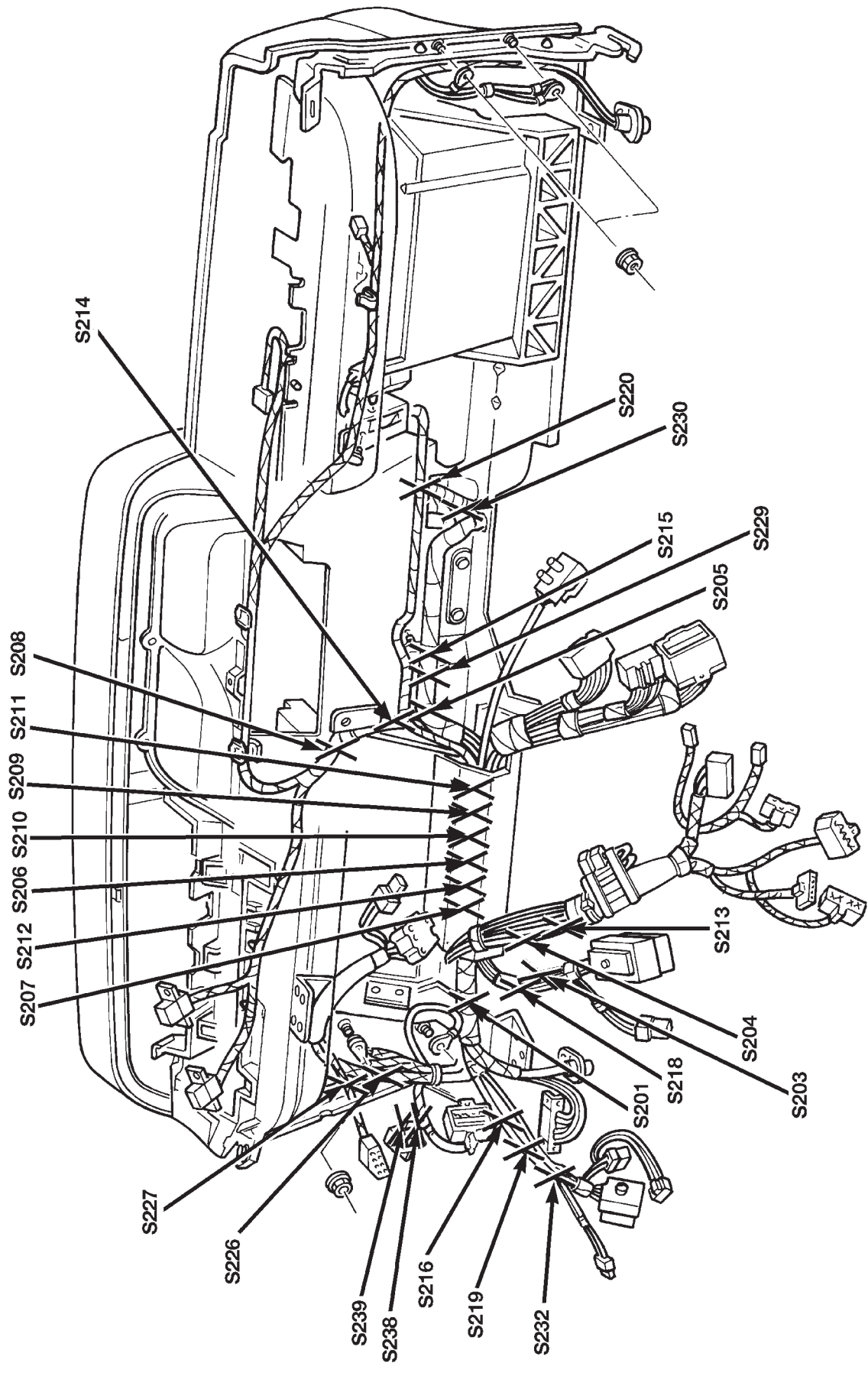


Fig. 13 INSTRUMENT PANEL WIRING SPLICES, RHD

80be4794

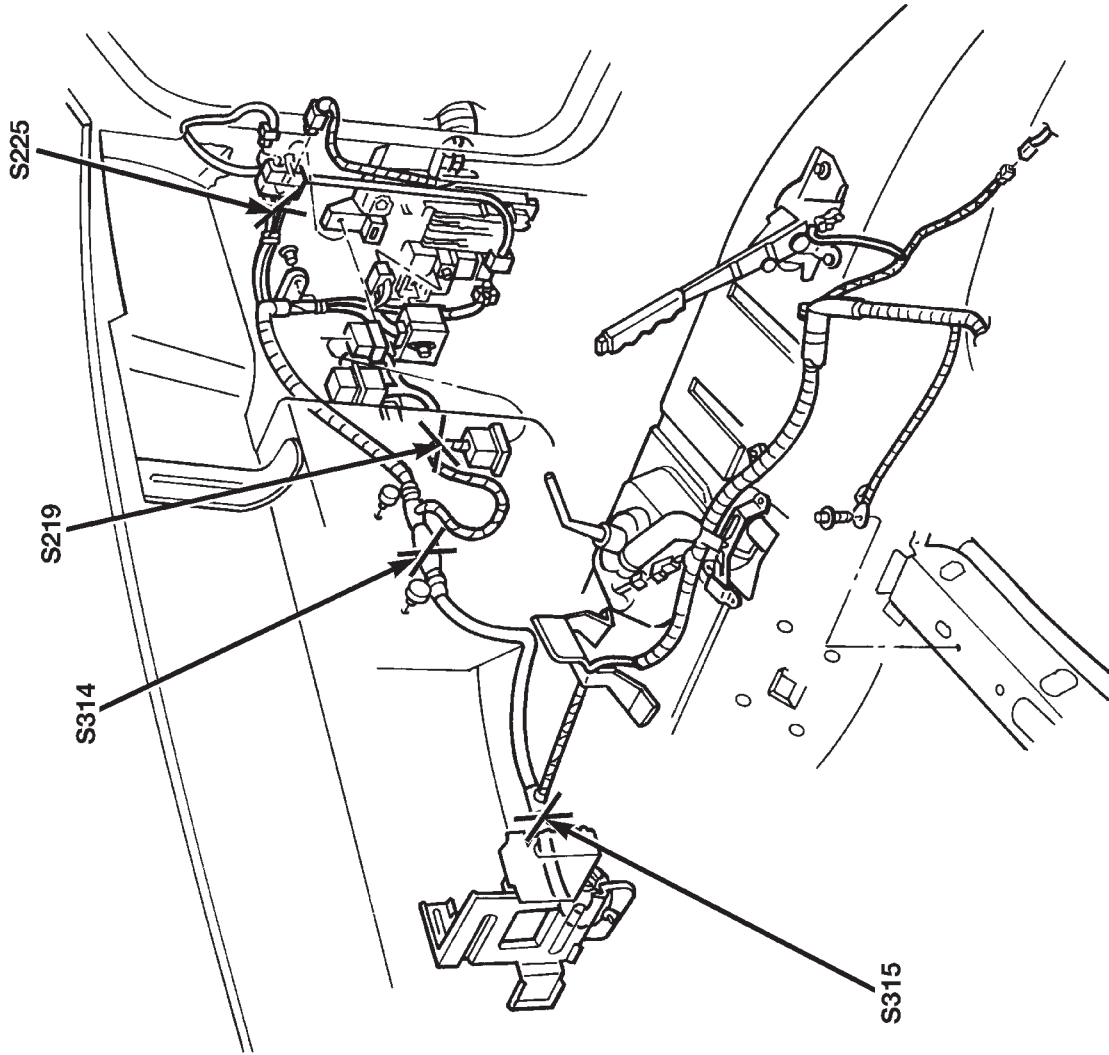


Fig. 14 INSTRUMENT PANEL TO BODY HARNESS SPLICES

SPLICE LOCATIONS (Continued)

80957a76

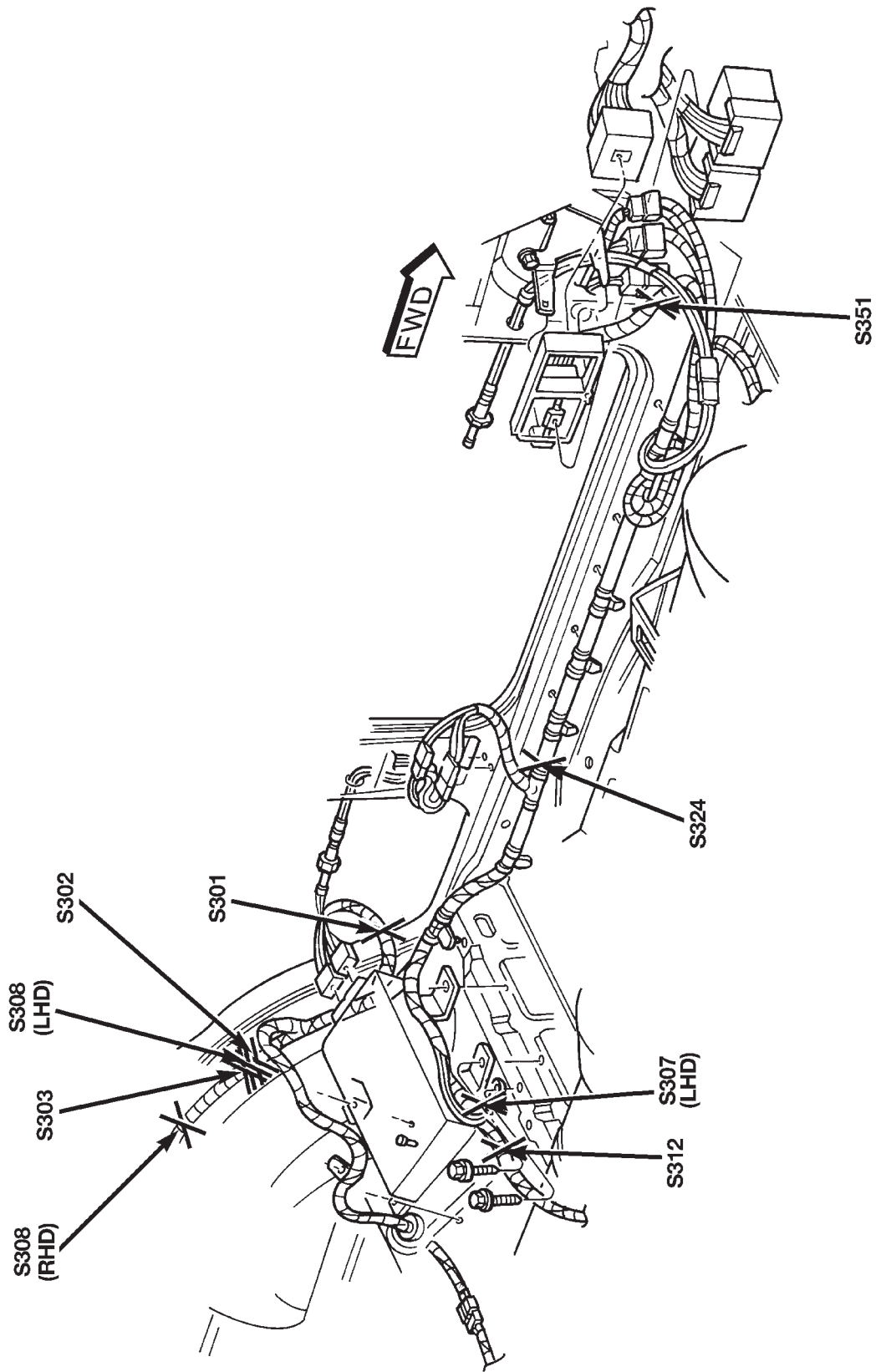


Fig. 15 LEFT SIDE BODY HARNESS SPLICES

SPLICE LOCATIONS (Continued)

80957a75

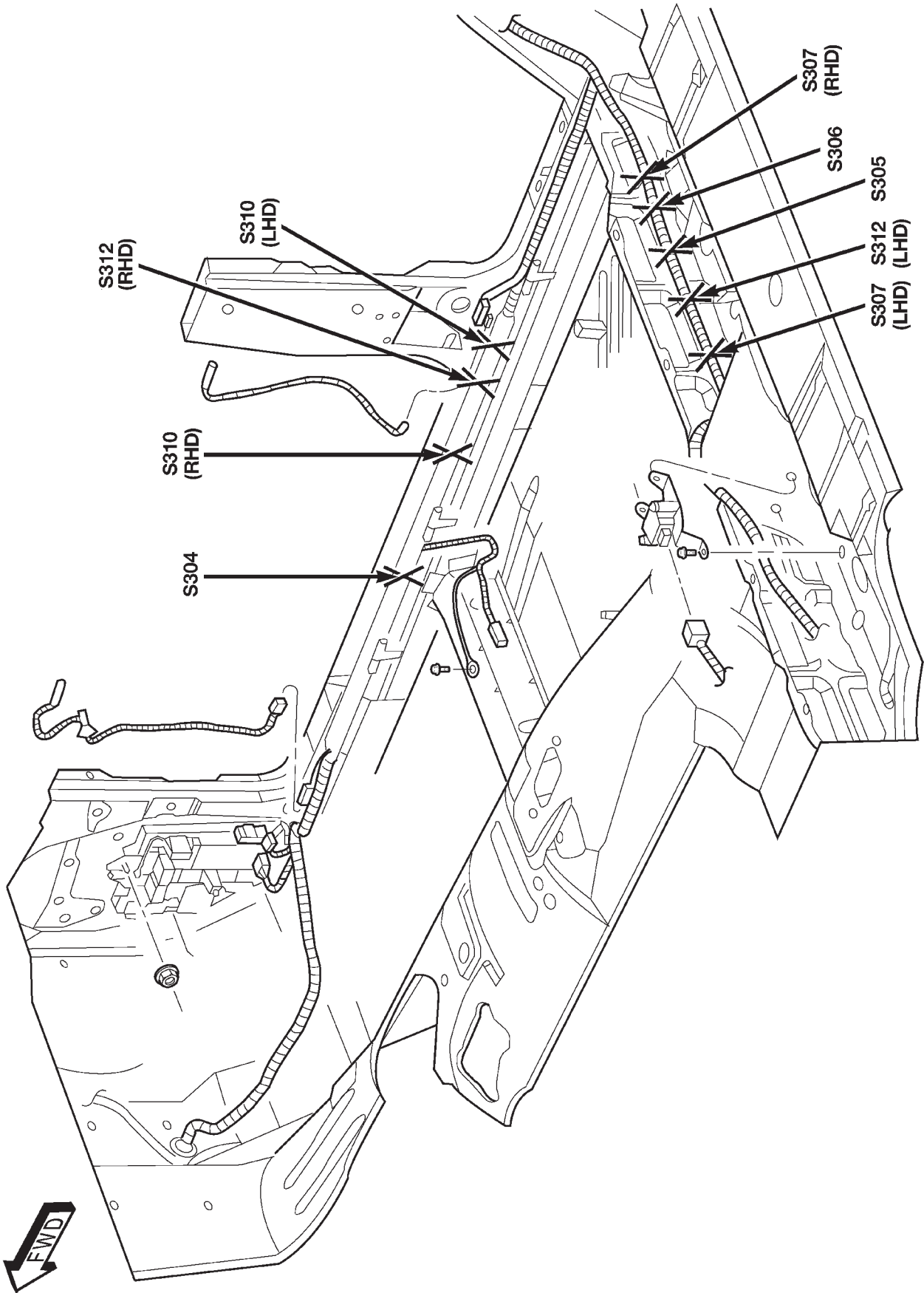
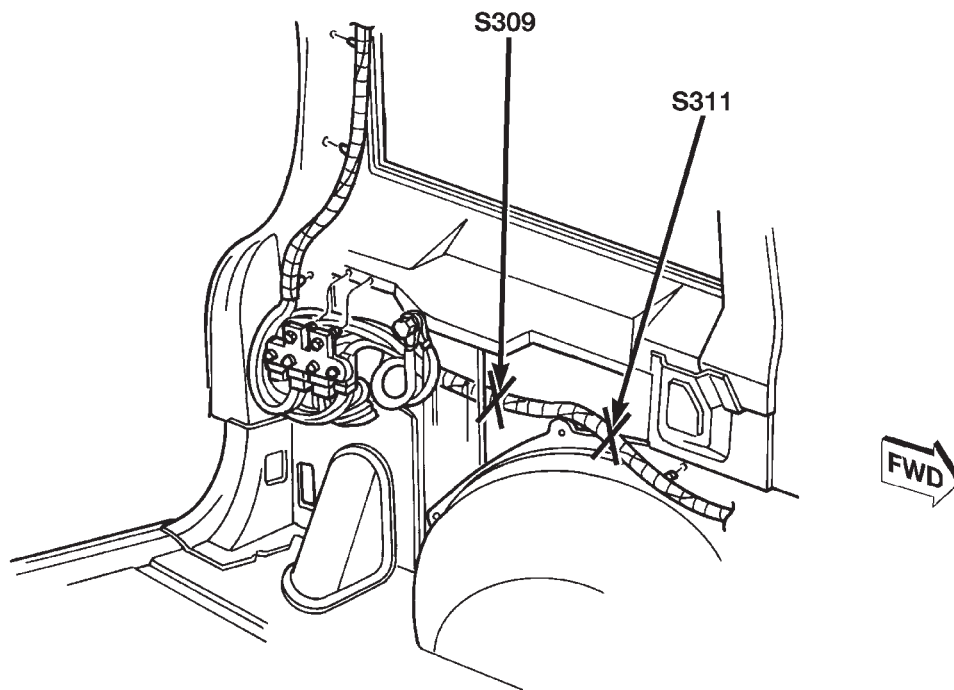


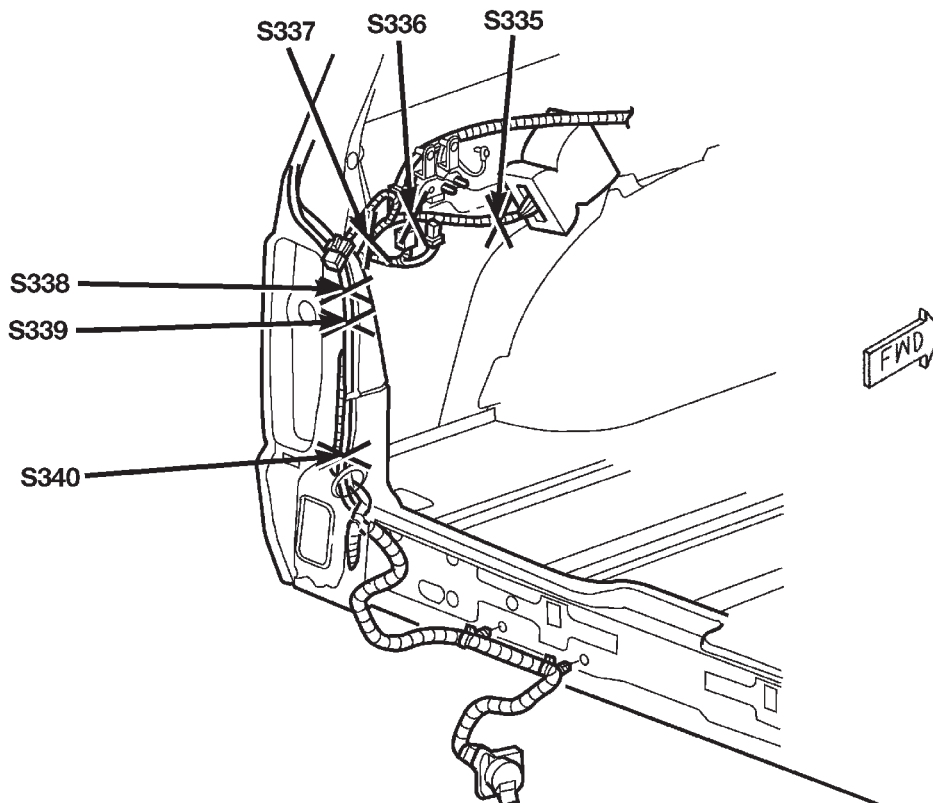
Fig. 16 RIGHT SIDE BODY HARNESS SPLICES

SPLICE LOCATIONS (Continued)



**Fig. 17 LEFT REAR BODY HARNESS SPLICES**

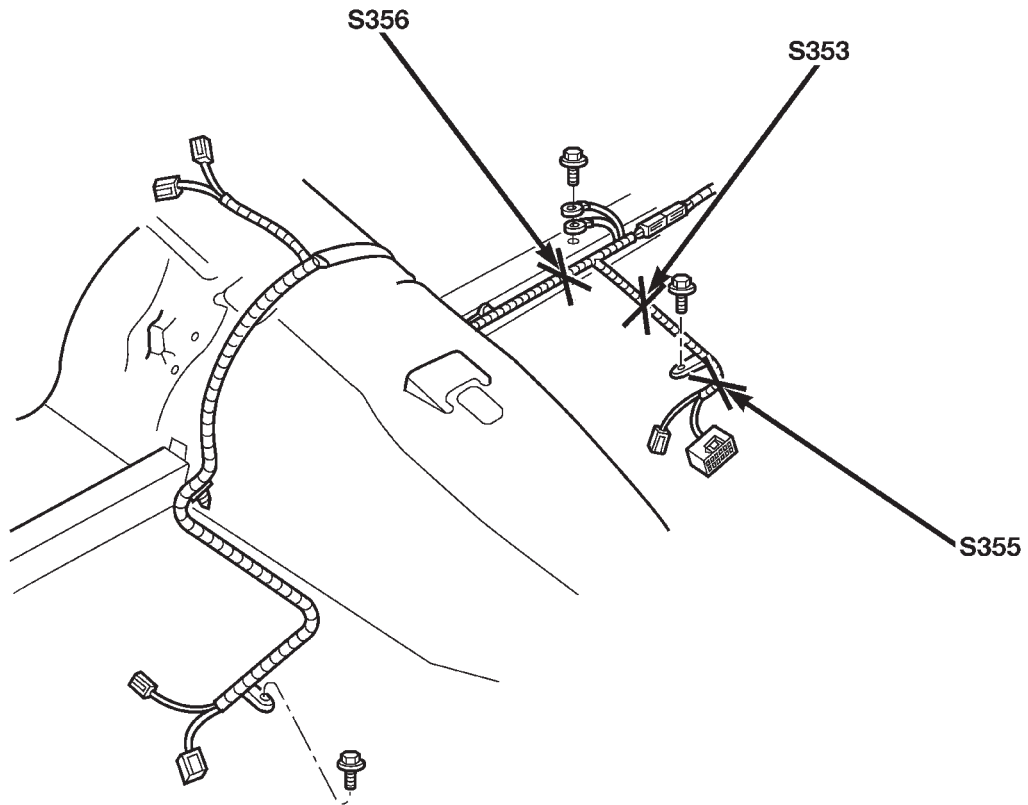
80c06ce3



**Fig. 18 TRAILER TOW SPLICES**

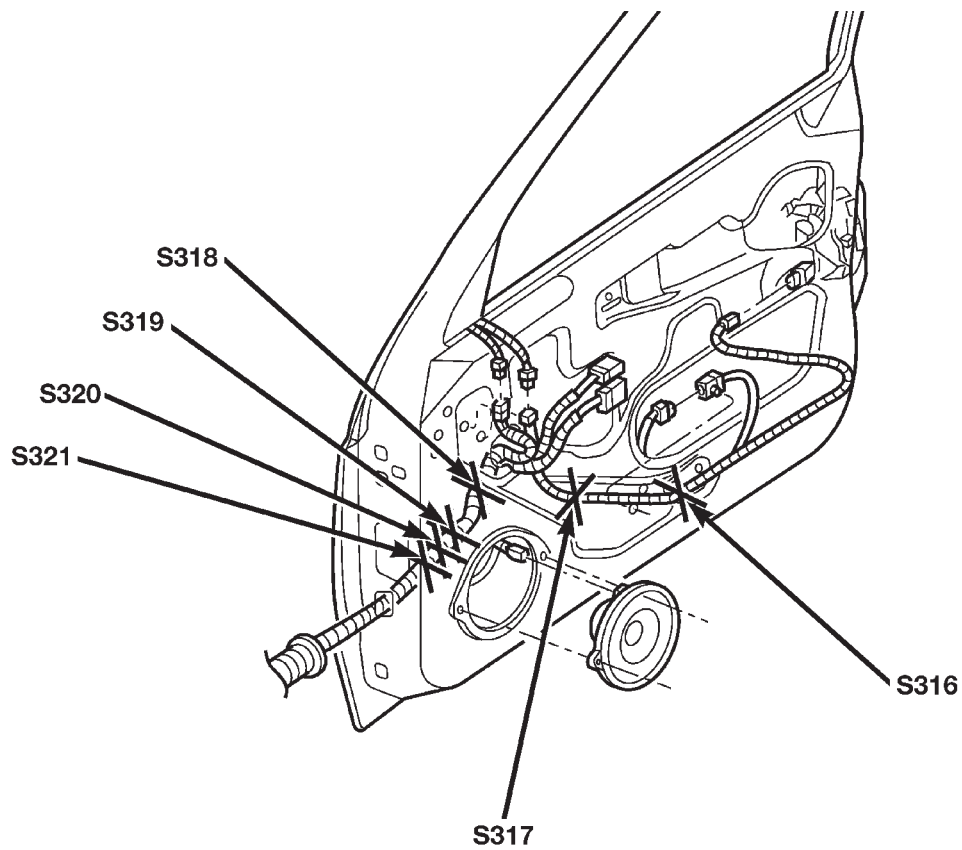
80be4799

SPLICE LOCATIONS (Continued)



**Fig. 19 POWER SEAT SPLICES**

80be479a



**Fig. 20 RIGHT FRONT DOOR SPLICES**

80be479b

SPLICE LOCATIONS (Continued)

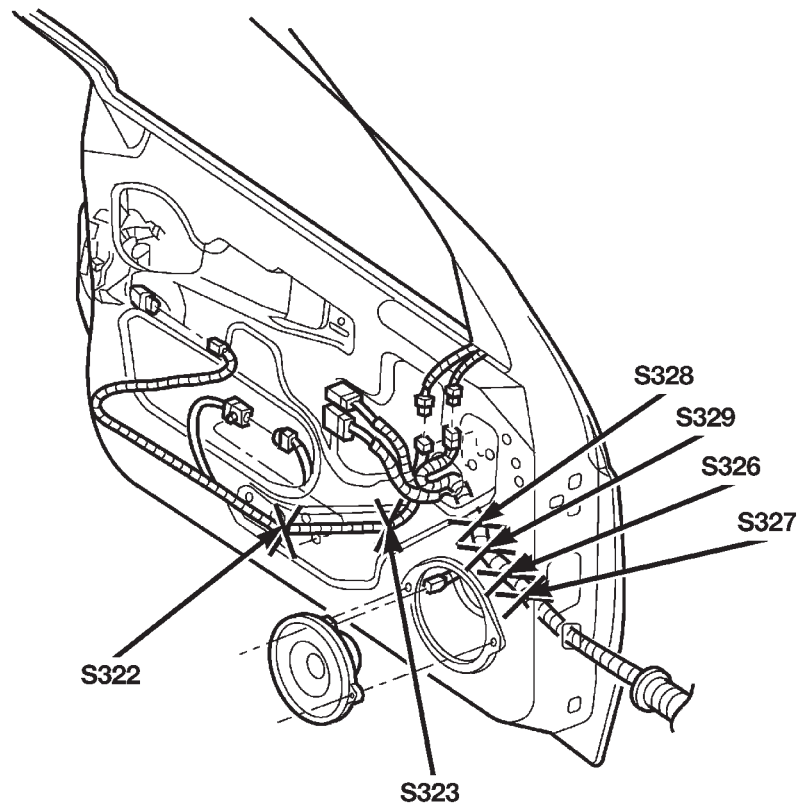


Fig. 21 LEFT FRONT DOOR SPLICES

80be479c

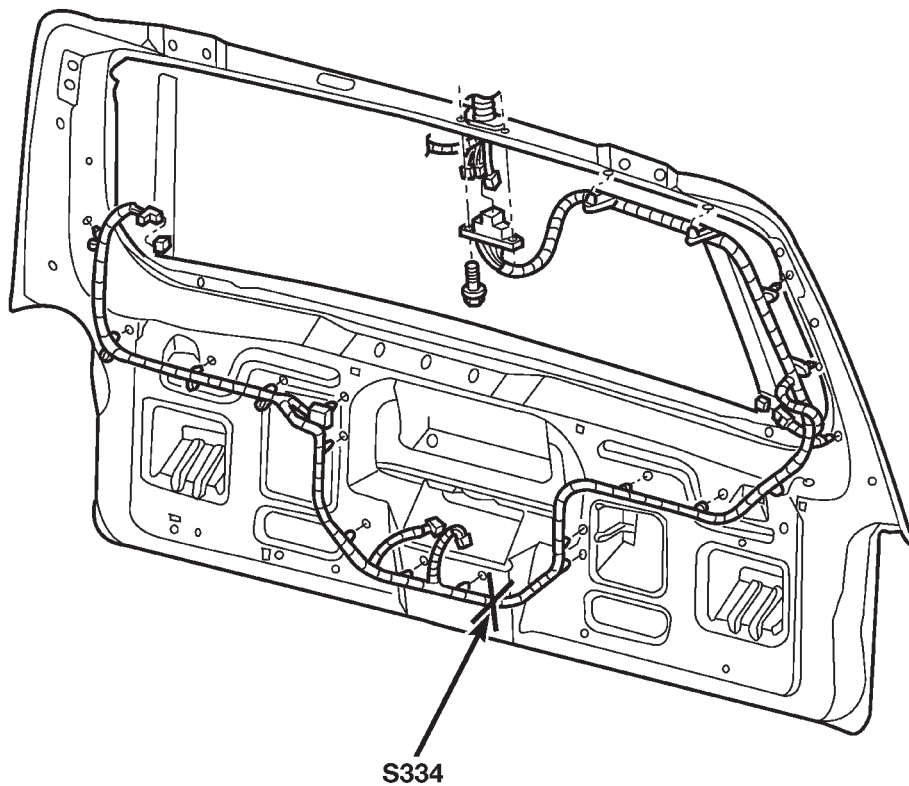
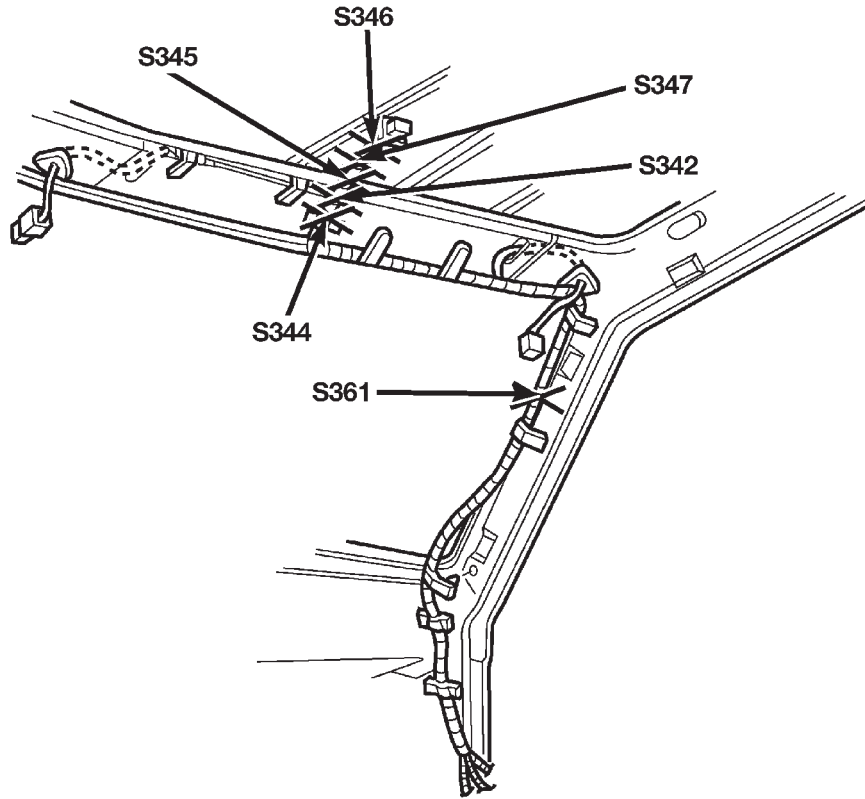


Fig. 22 LIFTGATE SPLICES

80be479e

SPLICE LOCATIONS (Continued)



80957a74

**Fig. 23 HEADLINER SPLICES**





# TRANSMISSION/TRANSAXLE

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## TRANSMISSION/TRANSAXLE

### DESCRIPTION

**This Service Manual Supplement includes ONLY the information that is new or updated for 2001 Model Year. All other Service Manual**

**information is in the 2000 Model Year Service Manual.**

**When you are using this information you may be referred to another section of the Service Manual. The refer to is written differently than in prior years.**

## MANUAL NV 3550

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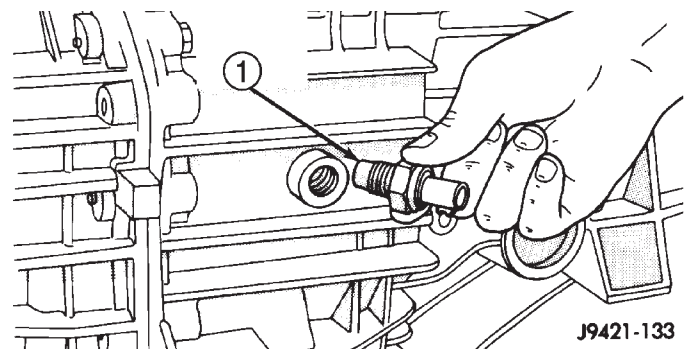
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## MANUAL NV 3550

### DISASSEMBLY

#### FRONT HOUSING

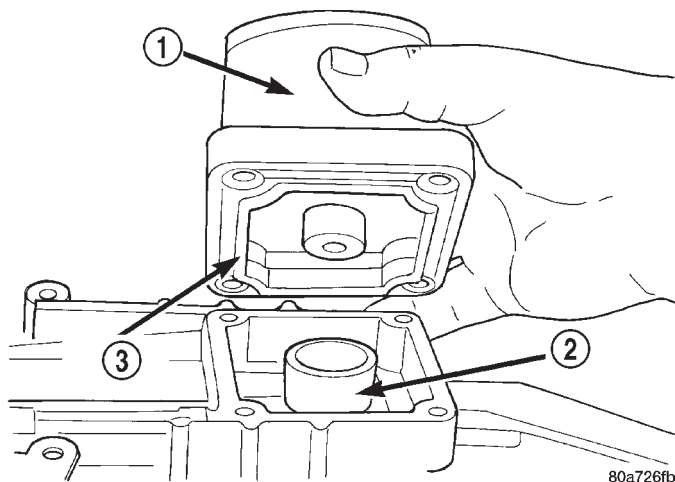
- (1) Shift transmission into Neutral.
- (2) Remove drain plug and drain lubricant.
- (3) Inspect drain plug magnet for debris.
- (4) Remove backup light switch. Switch is located on passenger side of rear housing (Fig. 1).
- (5) Remove shift tower bolts and remove tower and lever assembly (Fig. 2).
- (6) Remove shift shaft lock bolt (Fig. 3) located on top of the housing just forward of shift tower.



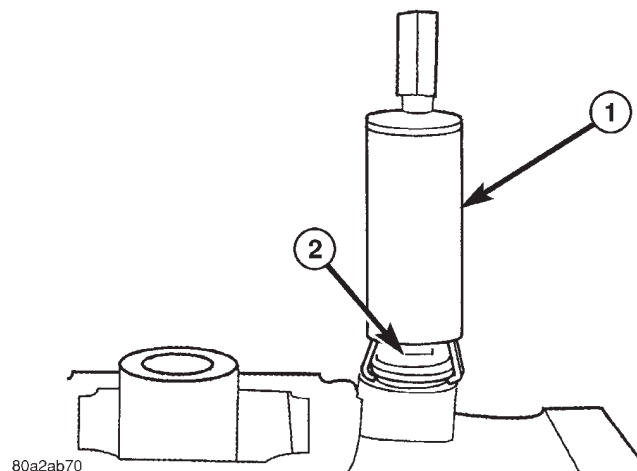
**Fig. 1 BACKUP LIGHT SWITCH**

1 - BACKUP LIGHT SWITCH

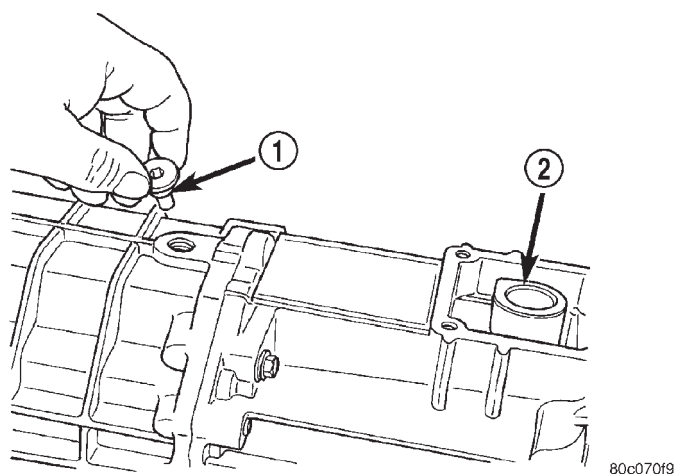
## MANUAL NV 3550 (Continued)

**Fig. 2 SHIFT TOWER**

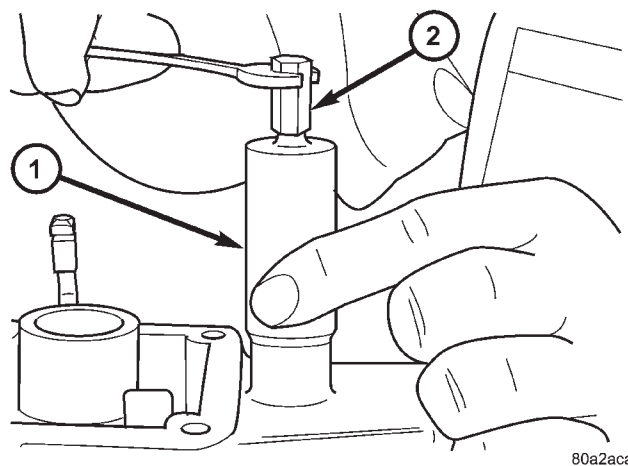
- 1 - SHIFT TOWER
- 2 - SHIFT SOCKET
- 3 - SEAL

**Fig. 4 DETENT PULLER**

- 1 - REMOVER 8117A
- 2 - DETENT PLUG

**Fig. 3 SHIFT SHAFT LOCK BOLT**

- 1 - SHIFT SHAFT LOCK BOLT
- 2 - SHAFT SOCKET

**Fig. 5 PULL DETENT PLUG**

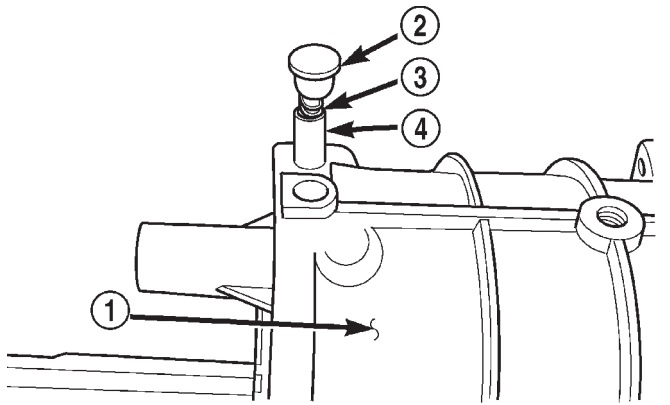
- 1 - NUT
- 2 - REMOVER

(7) Remove shift shaft detent plug with Remover 8117A. Attach the fingers of the remover to the detent plug (Fig. 4). Then push the cup down till it contacts the trans. Tighten the nut (Fig. 5) till it pulls the plug from the trans case.

(8) Remove shift shaft detent plunger and spring (Fig. 6). Remove spring and plunger with a pencil magnet.

(9) Remove bolts attaching input shaft bearing retainer to front housing and remove retainer.

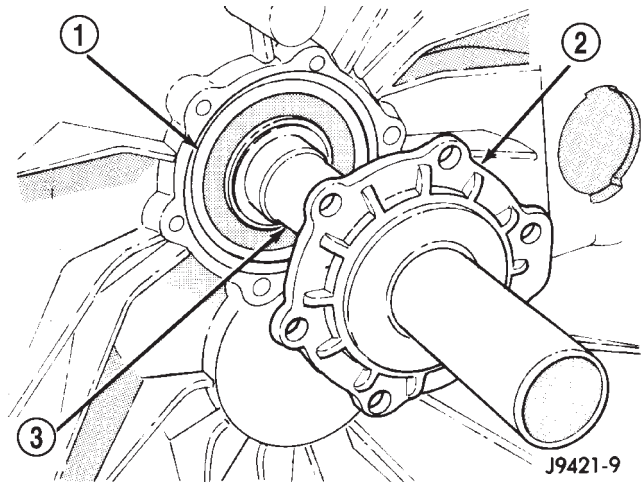
MANUAL NV 3550 (Continued)



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**Fig. 6 DETENT PLUNGER**

- 1 - FRONT HOUSING
- 2 - PLUG
- 3 - SPRING
- 4 - PLUNGER

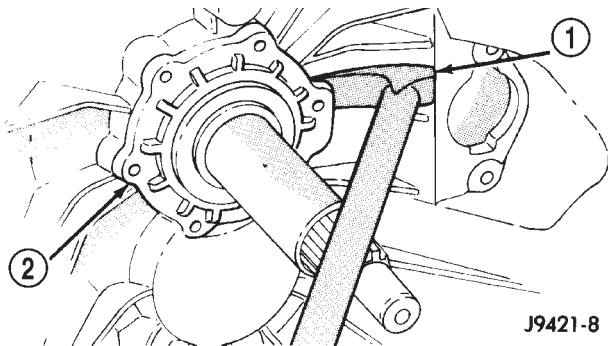


J9421-9

**Fig. 8 INPUT SHAFT BEARING RETAINER**

- 1 - SHAFT BEARING
- 2 - BEARING RETAINER
- 3 - INPUT SHAFT

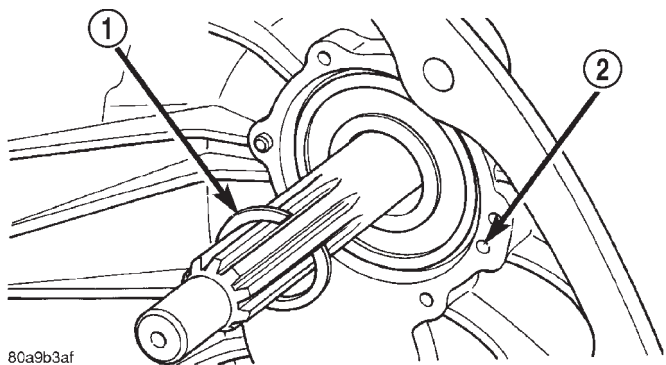
**NOTE:** Use pry tool to carefully lift retainer and break sealer bead (Fig. 7).



J9421-8

**Fig. 7 BEARING RETAINER SEAL**

- 1 - PRY TOOL
- 2 - INPUT SHAFT BEARING RETAINER



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**Fig. 9 INPUT SHAFT SNAP RING**

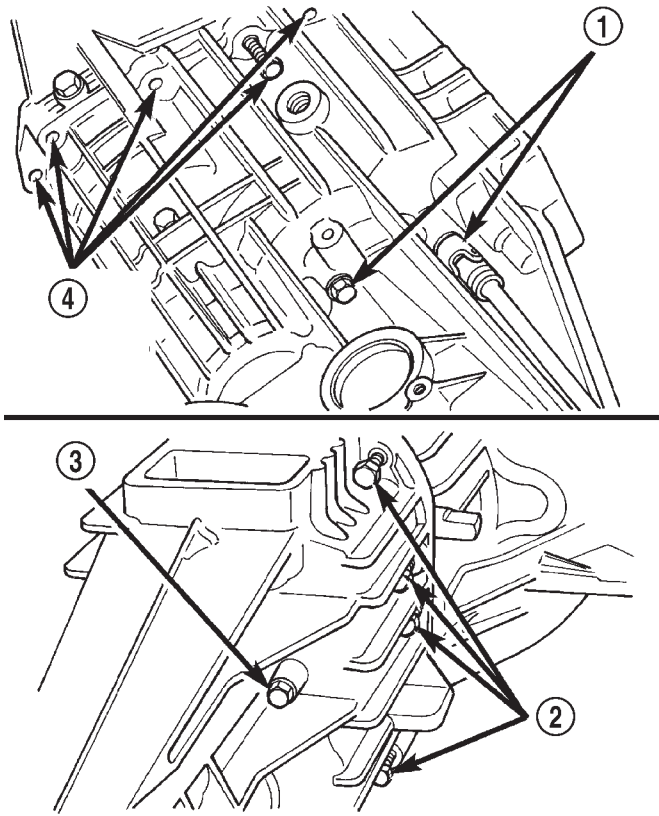
- 1 - INPUT SHAFT SNAP RING
- 2 - OIL FEED

(10) Remove bearing retainer from input shaft (Fig. 8).

(11) Remove snap ring that secures input shaft in front bearing (Fig. 9).

(12) Remove bolts that attach front housing to rear housing (Fig. 10). Three bolts at extreme rear of housing are actually for the output shaft bearing retainer. It is not necessary to remove all three bolts at this time. Leave at least one bolt in place until geartrain is ready to be removed from case.

MANUAL NV 3550 (Continued)



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**Fig. 10 HOUSING AND BEARING RETAINER BOLTS**

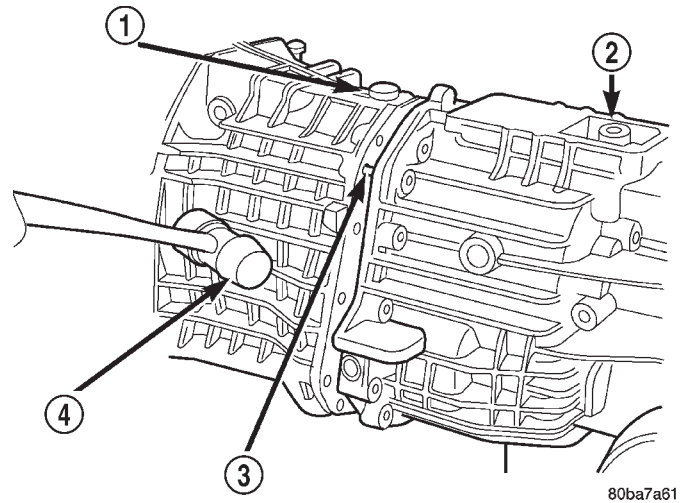
- 1 - RETAINER BOLTS
- 2 - HOUSING BOLTS
- 3 - RETAINER BOLT
- 4 - HOUSING BOLT LOCATIONS

(13) Separate front housing from rear housing (Fig. 11). With a plastic mallet tap the front housing off the alignment dowels.

(14) Remove and inspect input shaft bearing and countershaft front bearing race (Fig. 12).

(15) Remove screw from reverse blocker and remove blocker (Fig. 13) from case.

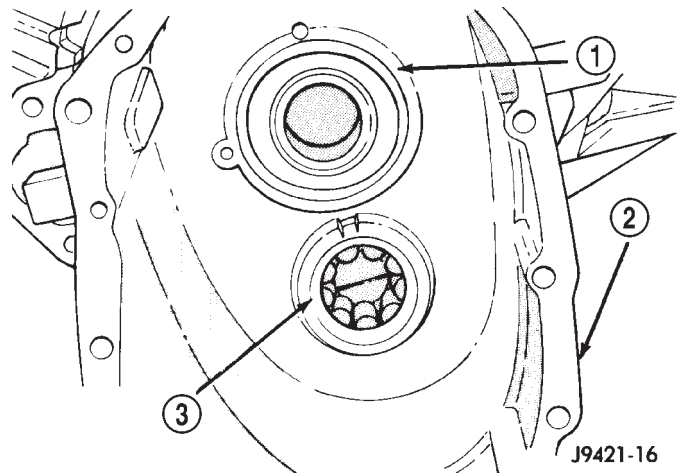
(16) Note position of input shaft, shift shaft and forks, and geartrain components in housing (Fig. 14).



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**Fig. 11 FRONT HOUSING**

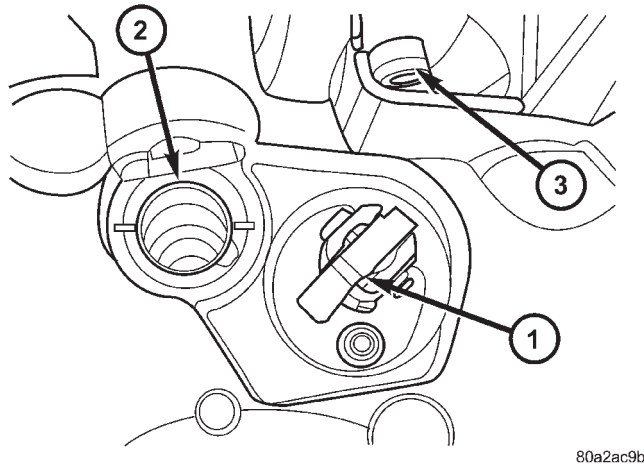
- 1 - FRONT HOUSING
- 2 - REAR HOUSING
- 3 - DOWELS (2)
- 4 - PLASTIC MALLET



J9421-16

**Fig. 12 INPUT SHAFT AND COUNTERSHAFT BEARING RACE**

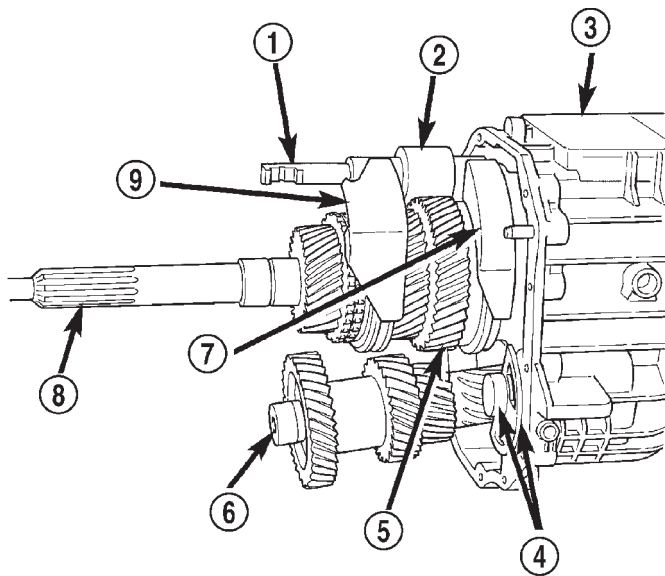
- 1 - INPUT SHAFT BEARING
- 2 - FRONT HOUSING
- 3 - COUNTERSHAFT FRONT BEARING



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**Fig. 13 REVERSE BLOCKER**

- 1 - REVERSE BLOCKER
- 2 - SHIFTER SHAFT BUSHING
- 3 - VENT



80a9b3b2

**Fig. 14 GEARTRAIN AND SHIFT COMPONENT**

- 1 - SHIFT SHAFT
- 2 - BUSHING
- 3 - REAR HOUSING
- 4 - REVERSE IDLER AND SUPPORT
- 5 - OUTPUT SHAFT AND GEARS
- 6 - COUNTERSHAFT
- 7 - 1-2 FORK
- 8 - INPUT SHAFT
- 9 - 3-4 FORK

**SHIFT/FORK SHAFTS AND REVERSE IDLER SEGMENT**

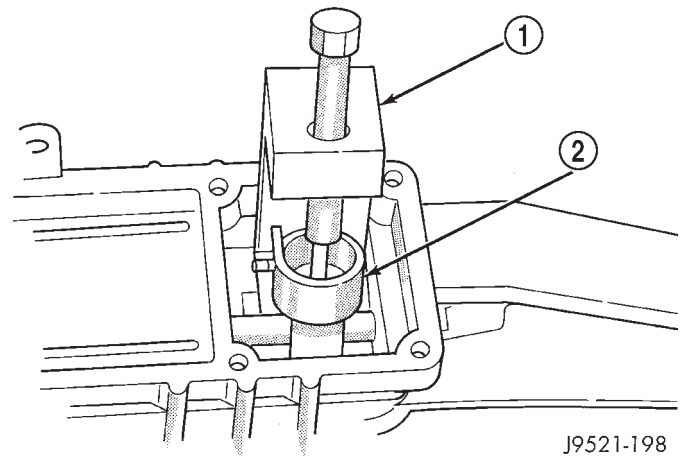
(1) Unseat the roll pin that secures the shift socket to the shift shaft with Remover 6858 as follows:

(a) Position remover on the shift shaft. Center the tool over the roll pin and verify that the tool legs are firmly seated on the shift socket (Fig. 15).

(b) Tilt the socket toward the side of the case. This positions the roll pin at a slight angle to avoid trapping the pin between the gear teeth.

(c) Tighten the tool to press the roll pin downward and out of the shift socket (Fig. 15).

**NOTE:** Press the roll pin just enough to clear the shift shaft. Be careful not to push the pin into the geartrain.



J9521-198

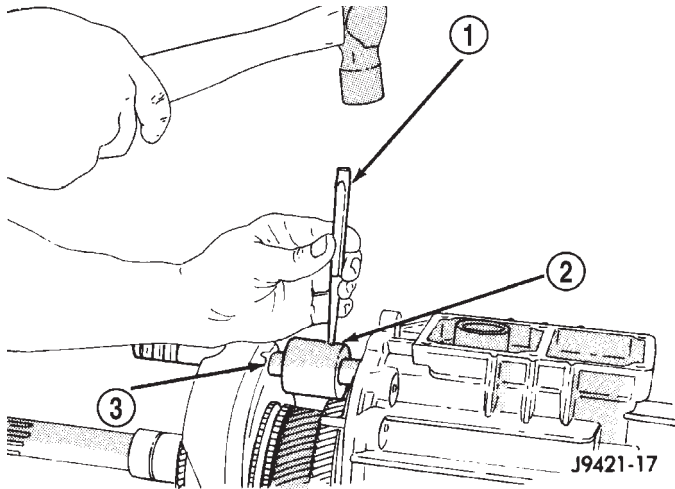
**Fig. 15 SHIFT SOCKET ROLL PIN**

- 1 - SPECIAL TOOL 6858
- 2 - SHIFT SOCKET

(2) With a hammer and punch drive out roll pin that secures shift bushing and lever to shift shaft (Fig. 16).

**NOTE:** Use proper size punch to avoid bending the shift shaft.

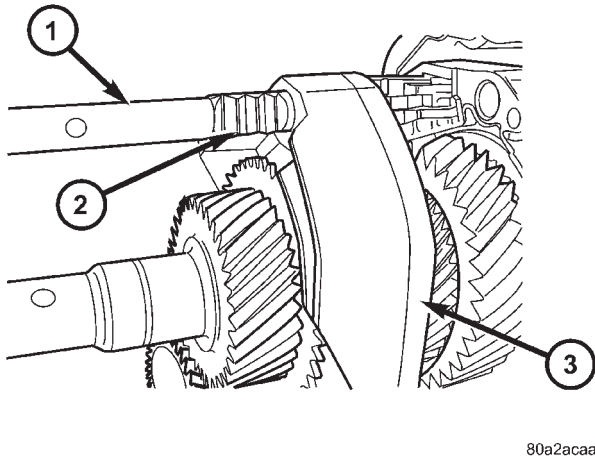
MANUAL NV 3550 (Continued)



**Fig. 16 SHIFT SHAFT LEVER AND BUSHING ROLL PIN**

- 1 - PIN PUNCH
- 2 - BUSHING AND LEVER
- 3 - SHIFT SHAFT

(3) Pull shift shaft straight (Fig. 17) out of rear housing.



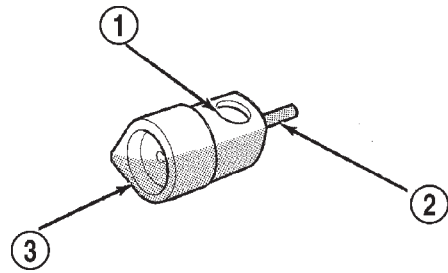
**Fig. 17 SHIFT SHAFT**

- 1 - SHIFTER SHAFT
- 2 - SHIFTER SHAFT DETENT
- 3 - 3-4 SHIFT FORK

(4) Remove shift socket from rear housing (Fig. 18).

(5) Remove lever and bushing (Fig. 19).

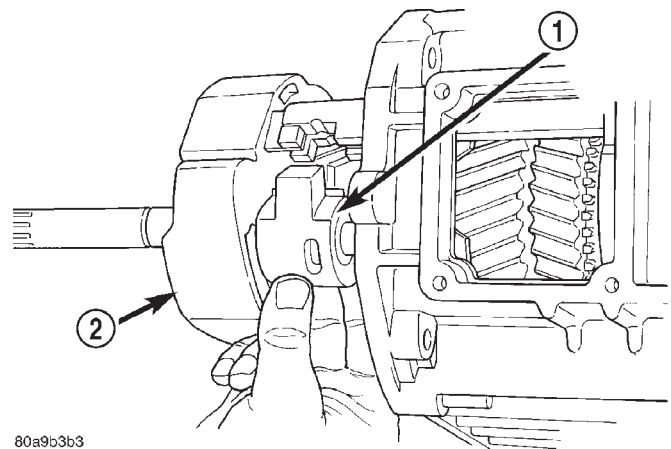
(6) Rotate 3-4 fork around synchro sleeve until fork clears shift arms on 1-2 and fifth-reverse forks, then remove 3-4 fork (Fig. 20).



J9521-151

**Fig. 18 SHIFT SOCKET AND ROLL PIN**

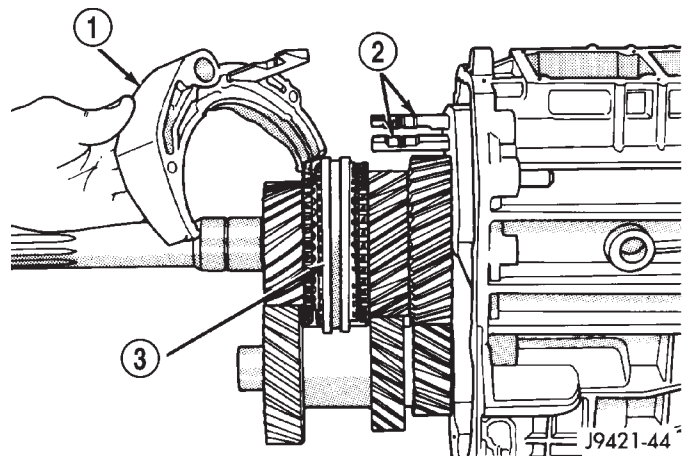
- 1 - SHAFT BORE
- 2 - ROLL PIN
- 3 - SHIFT SOCKET



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**Fig. 19 SHIFT SHAFT LEVER AND BUSHING**

- 1 - SHAFT LEVER AND BUSHING
- 2 - 3-4 FORK



J9421-44

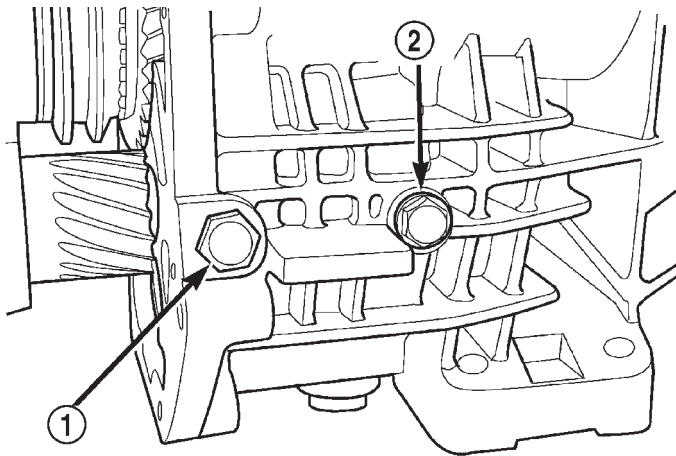
**Fig. 20 3-4 SHIFT FORK**

- 1 - 3-4 FORK
- 2 - 1-2 AND 5TH-REVERSE FORK ARMS
- 3 - 3-4 SYNCHRO SLEEVE

MANUAL NV 3550 (Continued)

(7) Remove the reverse idler shaft support bolt (front bolt) (Fig. 21).

(8) Loosen rear reverse idler shaft bolt (rear bolt) (Fig. 21).

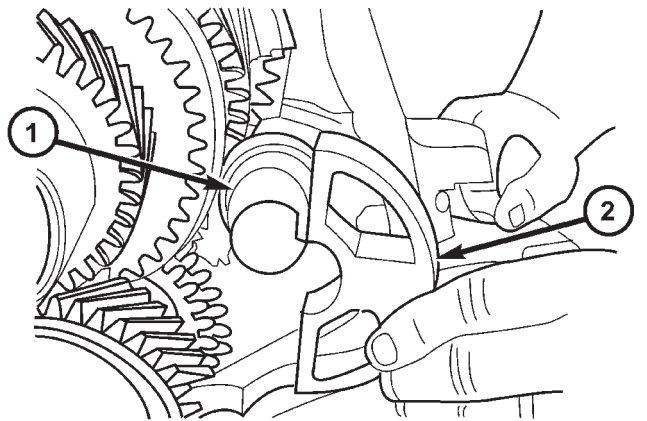


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**Fig. 21 REVERSE IDLER SHAFT/SUPPORT BOLT**

- 1 - SUPPORT BOLT
- 2 - SHAFT BOLT

(9) Remove reverse idler shaft support (Fig. 22) segment by sliding it straight out of housing.



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**Fig. 22 IDLER SHAFT SUPPORT**

- 1 - IDLER SHAFT
- 2 - IDLER SHAFT SUPPORT

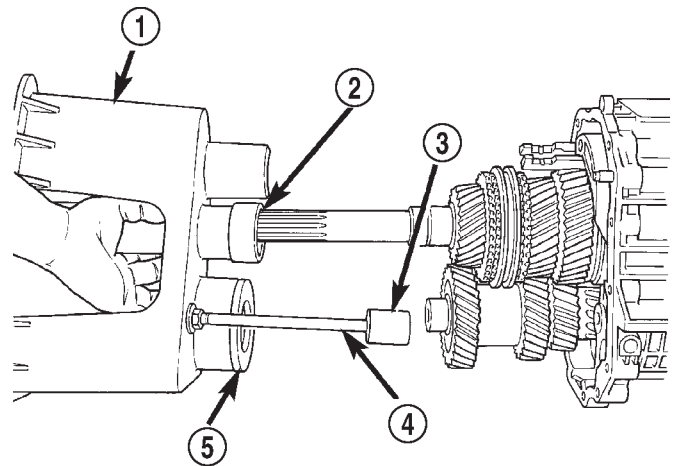
(10) Support geartrain and rear housing on Fixture 6747 as follows:

(a) Adjust height of reverse idler pedestal rod until the reverse idle shaft bottoms in Cup 8115.

(b) Position Adapters 6747-1A and 6747-2B on Fixture 6747.

(c) Slide fixture tool onto input shaft, countershaft and idler gear (Fig. 23).

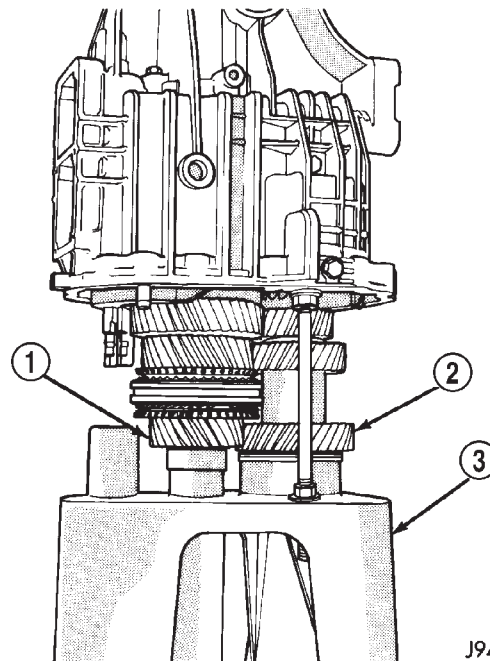
(d) Stand geartrain and rear housing upright on fixture (Fig. 24). Have helper hold fixture tool in place while housing and geartrain is being rotated into upright position.



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**Fig. 23 FIXTURE ASSEMBLY**

- 1 - FIXTURE
- 2 - ADAPTER 6747-1A
- 3 - CUP 8115
- 4 - REVERSE IDLER PEDESTAL
- 5 - ADAPTER 6747-2B



J9421-46

**Fig. 24 GEARTRAIN AND HOUSING ON FIXTURE**

- 1 - INPUT SHAFT
- 2 - COUNTERSHAFT
- 3 - FIXTURE

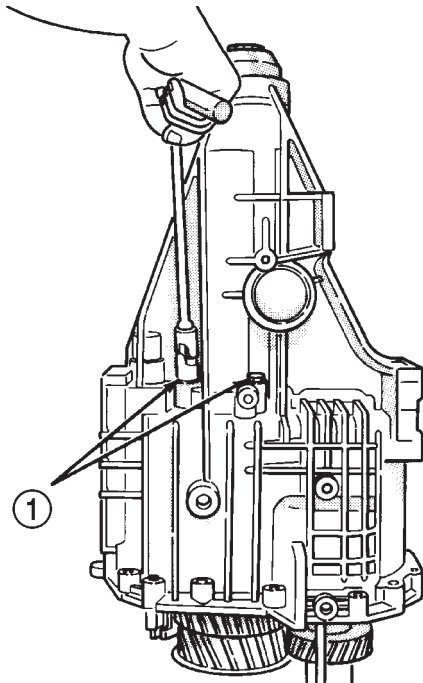


## MANUAL NV 3550 (Continued)

(11) Remove rear bolt holding reverse idler shaft in housing.

**REAR HOUSING - 2WD**

(1) On 2-wheel drive transmission, remove three bolts that attach output shaft bearing retainer to rear case (Fig. 25). Bolts are rear of shift tower opening.



J9421-50

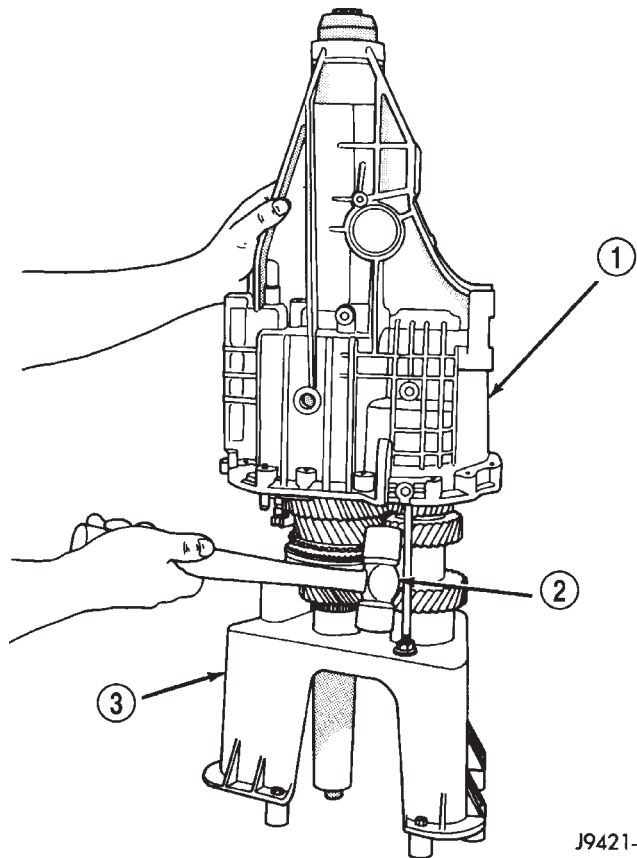
**Fig. 25 OUTPUT SHAFT**

1 - OUTPUT SHAFT BEARING RETAINER BOLTS (THIRD BOLT IS AT OPPOSITE SIDE OF CASE)

(2) Unseat output shaft bearing from bearing bore in rear housing. Use plastic/rawhide mallet to tap rear housing upward and off output shaft bearing as shown (Fig. 26).

(3) Lift rear housing up and off geartrain (Fig. 27).

(4) Remove countershaft rear bearing from countershaft (Fig. 28).



J9421-49

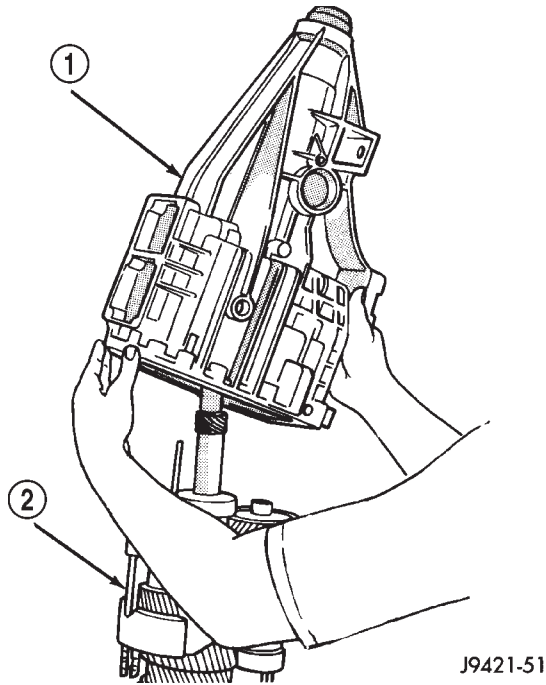
**Fig. 26 REAR HOUSING - 2WD**

1 - REAR HOUSING  
2 - PLASTIC/RAWHIDE MALLET  
3 - FIXTURE

(5) Examine condition of bearing bore and idler shaft notch in rear housing. Replace housing if any of these components are damaged.

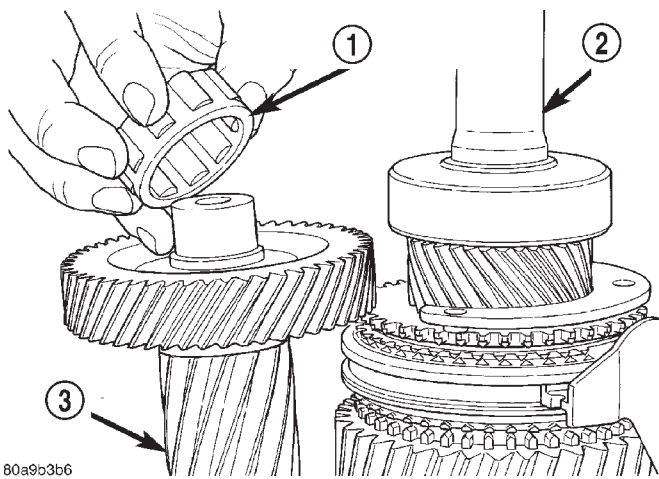
**REAR ADAPTER HOUSING - 4WD**

(1) Locate rear seal dimples (Fig. 29). With slide hammer mounted screw, remove rear seal by inserting screw into one of the seal dimples (Fig. 30).



**Fig. 27 REAR HOUSING**

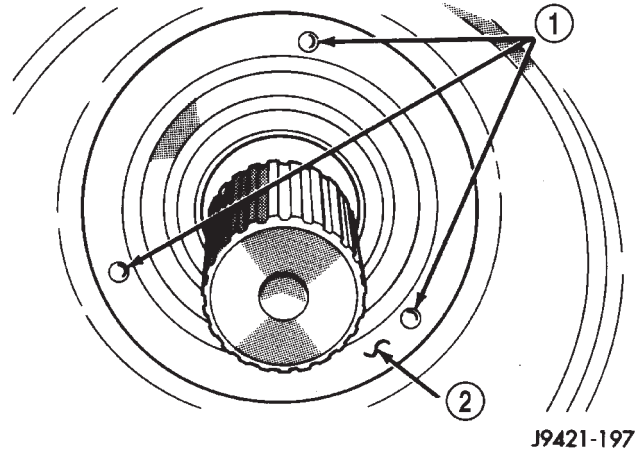
- 1 - REAR HOUSING
- 2 - SHIFT FORKS AND GEARTRAIN



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**Fig. 28 COUNTERSHAFT REAR BEARING**

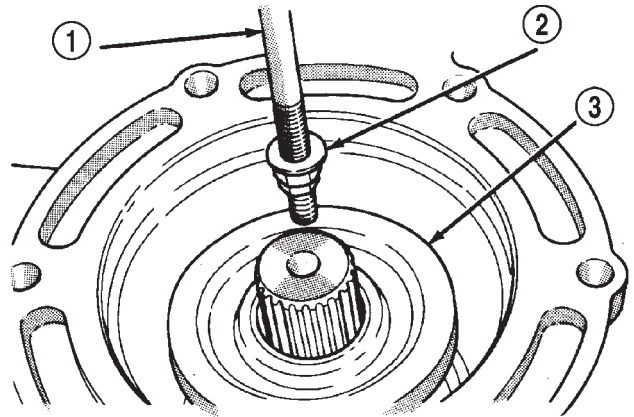
- 1 - COUNTERSHAFT REAR BEARING
- 2 - OUTPUT SHAFT
- 3 - COUNTER SHAFT



J9421-197

**Fig. 29 DIMPLES IN SEAL FACE - 4WD**

- 1 - LOCATION OF DIMPLES
- 2 - SEAL FACE



J9421-200

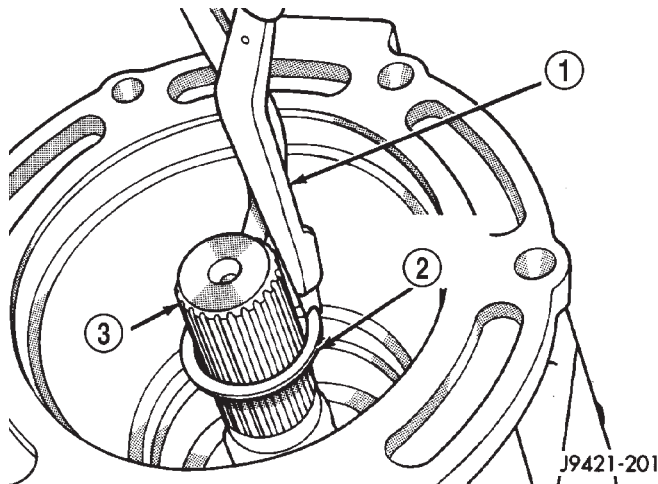
**Fig. 30 REAR SEAL - 4WD**

- 1 - SLIDE HAMMER
- 2 - REMOVER TOOL
- 3 - REAR SEAL

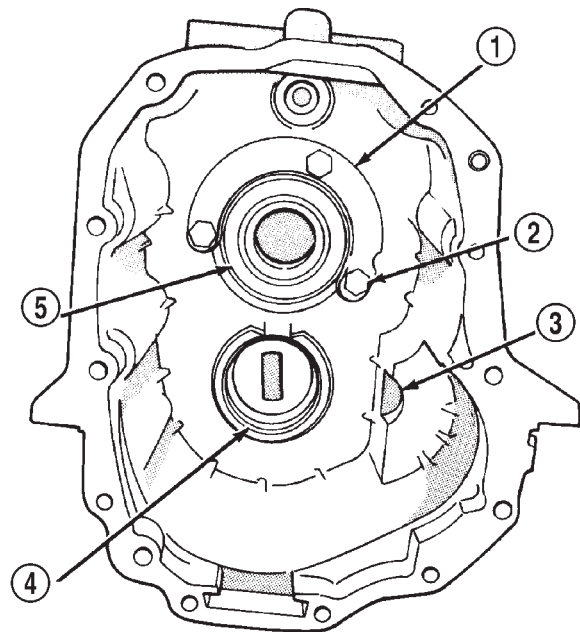
(2) Remove rear bearing snap ring from output shaft with snap ring pliers (Fig. 31).

(3) Lift rear adapter housing upward and off geartrain (Fig. 32).

MANUAL NV 3550 (Continued)

**Fig. 31 REAR BEARING SNAP RING - 4WD**

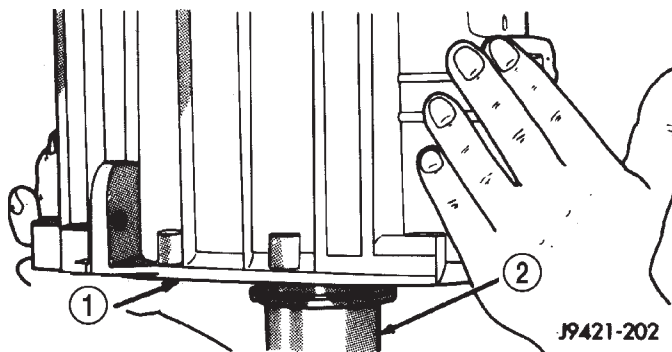
- 1 - HEAVY DUTY SNAP RING PLIERS
- 2 - REAR BEARING SNAP RING
- 3 - OUTPUT SHAFT



J9421-203

**Fig. 33 REAR ADAPTER HOUSING COMPONENTS**

- 1 - BEARING RETAINER
- 2 - RETAINER BOLTS (3)
- 3 - IDLER SHAFT NOTCH
- 4 - COUNTERSHAFT REAR BEARING RACE
- 5 - REAR BEARING



J9421-202

**Fig. 32 REAR ADAPTER HOUSING**

- 1 - REAR ADAPTER HOUSING
- 2 - OUTPUT SHAFT

(4) Remove bearing retainer bolts and remove rear bearing retainer and rear bearing (Fig. 33). If needed push or tap bearing out of the housing with a hammer.

(5) Examine condition of bearing bore, countershaft rear bearing race and idler shaft notch in rear housing. Replace housing if race, bore or notch are worn or damaged.

### GEARTRAIN FROM FIXTURE

(1) Remove reverse idler gear assembly from assembly fixture cup.

(2) Remove 1-2 and fifth-reverse forks from synchro sleeves.

(3) Slide countershaft out of fixture tool.

(4) Remove output shaft bearing retainer from rear surface of fifth gear (retainer will drop onto gear after bolts are removed).

(5) Lift and remove output shaft and gears off input shaft.

(6) Lift and remove input shaft, pilot bearing and fourth gear synchro ring from assembly fixture tool.

### OUTPUT SHAFT

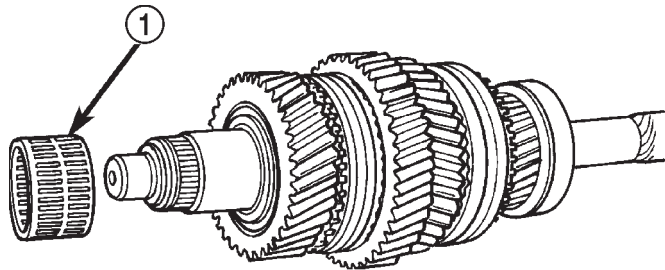
**NOTE:** The synchronizer hubs and sleeves are different and must not be intermixed. Remove each synchronizer unit as an assembly to avoid intermixing parts. Reference mark or tag each synchro hub and sleeve for correct assembly.

MANUAL NV 3550 (Continued)

(1) Remove snap ring that secures 3-4 synchro hub on output shaft.

(2) Remove 3-4 synchro assembly, third gear synchro ring and third gear with shop press and Bearing Splitter 1130. Position splitter between second and third gears.

(3) Remove third gear needle bearing (Fig. 34).

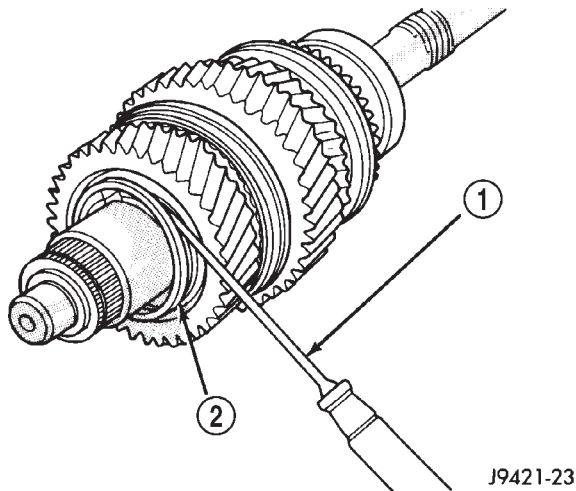


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**Fig. 34 THIRD GEAR NEEDLE BEARING**

1 - THIRD GEAR NEEDLE BEARING

(4) Remove retaining ring that secures two-piece thrust washer on shaft (Fig. 35). Use a small pry tool to remove retaining ring.

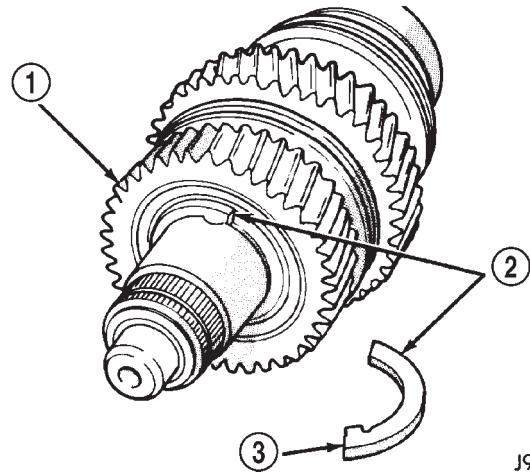


J9421-23

**Fig. 35 THRUST WASHER**

1 - PRY TOOL  
2 - THRUST WASHER RETAINING RING

(5) Remove two-piece thrust washer (Fig. 36). Note position of washer locating lugs in shaft notches for installation reference.

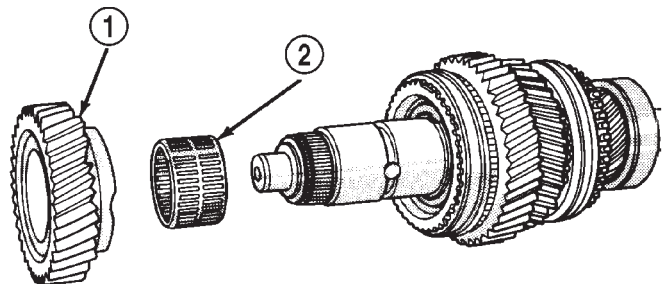


J9421-24

**Fig. 36 TWO-PIECE THRUST WASHER**

1 - SECOND GEAR  
2 - THRUST WASHER (2-PIECE)  
3 - WASHER LOCATING LUG

(6) Remove second gear and needle bearing (Fig. 37).



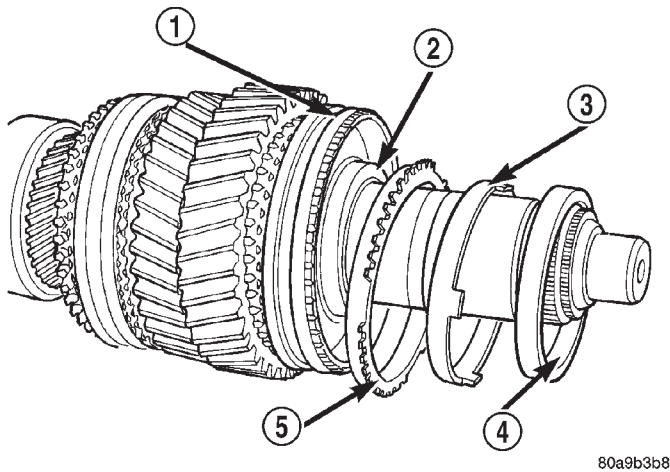
J9421-25

**Fig. 37 SECOND GEAR AND NEEDLE BEARING**

1 - SECOND GEAR  
2 - SECOND GEAR NEEDLE BEARING

MANUAL NV 3550 (Continued)

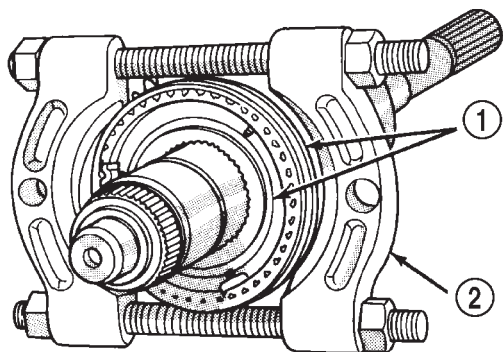
- (7) Remove second gear synchro ring, synchro friction cone and synchro cone (Fig. 38).
- (8) Remove interm ring.
- (9) Remove 1-2 synchro hub snap ring.



**Fig. 38 SECOND GEAR SYNCHRO RING AND CONES**

- 1 - 1-2 SYNCHRO HUB AND SLEEVE
- 2 - INTERM RING
- 3 - SYNCHRO FRICTION CONE
- 4 - SYNCHRO CONE
- 5 - SYNCHRO RING

- (10) Remove 1-2 synchro hub and sleeve and first gear from output shaft with press and Bearing Splitter 1130 (Fig. 39). Position splitter between first and reverse gears.

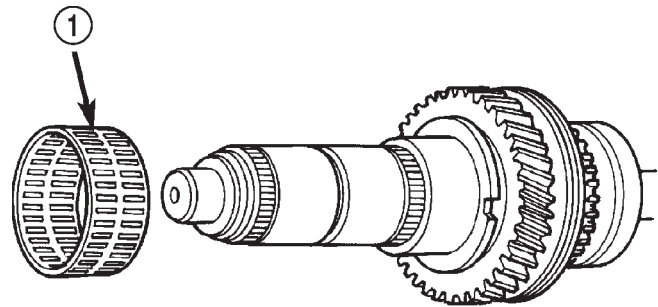


J9421-27

**Fig. 39 HUB SLEEVE AND 1-2 SYNCHRO**

- 1 - 1-2 SYNCHRO HUB AND SLEEVE
- 2 - BEARING SPITTER

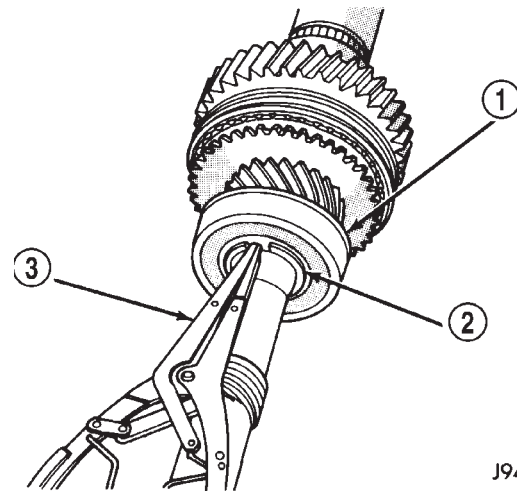
- (11) Remove first gear needle bearing (Fig. 40).
- (12) Remove output shaft bearing snap ring (Fig. 41).



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**Fig. 40 FIRST GEAR NEEDLE BEARING**

- 1 - FIRST GEAR NEEDLE BEARING



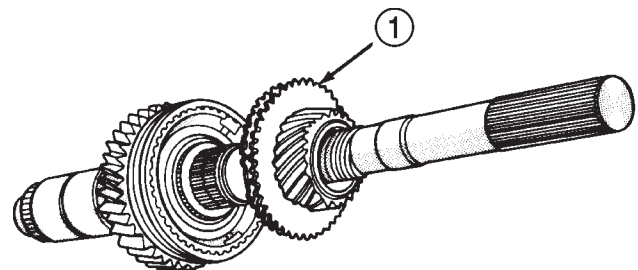
J9421-29

**Fig. 41 OUTPUT SHAFT BEARING SNAP RING**

- 1 - OUTPUT SHAFT BEARING
- 2 - BEARING SNAP RING
- 3 - SNAP RING PLIERS

- (13) On 2-wheel drive models, remove output shaft bearing.

- (14) Remove fifth gear (Fig. 42).



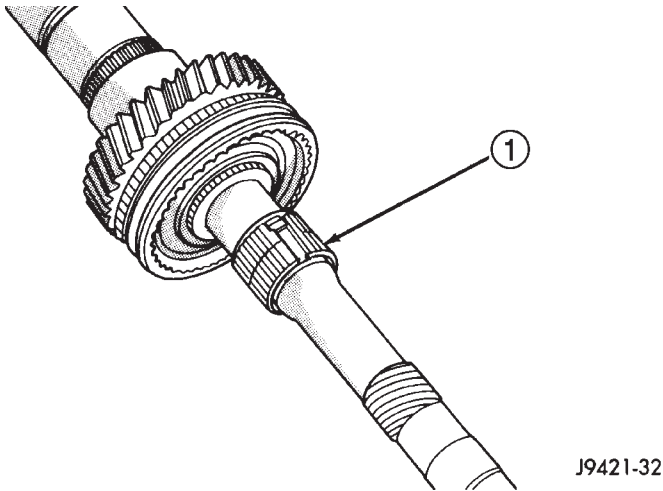
J9421-31

**Fig. 42 FIFTH GEAR**

- 1 - FIFTH GEAR AND SYNCHRO RING

MANUAL NV 3550 (Continued)

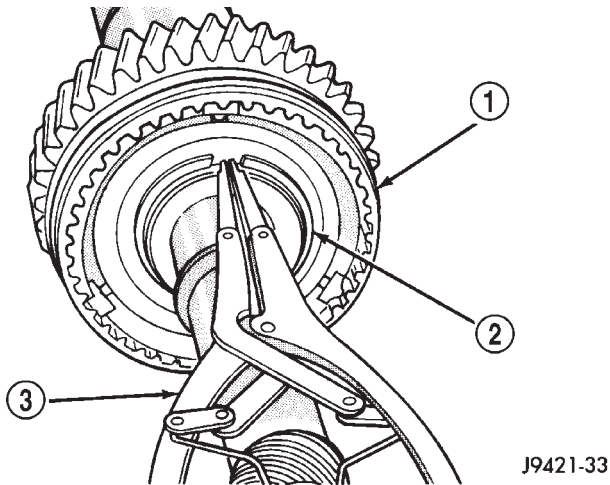
(15) Remove fifth gear needle bearing. Spread bearing apart just enough to clear shoulder on output shaft (Fig. 43).



**Fig. 43 FIFTH GEAR NEEDLE BEARING**

- 1 - FIFTH GEAR NEEDLE BEARING

(16) Remove fifth-reverse synchro hub snap ring (Fig. 44).

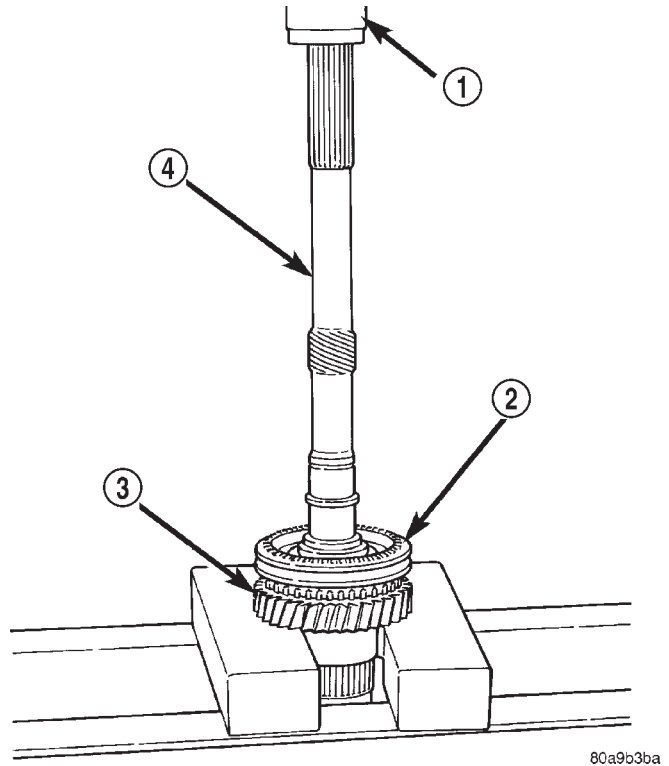


**Fig. 44 FIFTH-REVERSE SYNCHRO HUB SNAP RING**

- 1 - FIFTH-REVERSE SYNCHRO HUB AND SLEEVE  
 2 - SYNCHRO HUB SNAP RING  
 3 - SNAP RING PLIERS

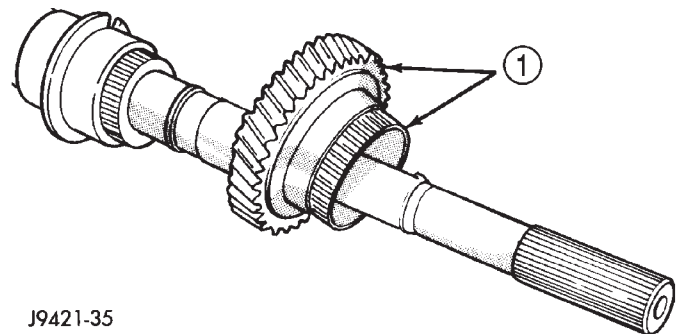
(17) Remove fifth-reverse synchro hub and sleeve with a press (Fig. 45).

(18) Remove reverse gear and needle bearing (Fig. 46).



**Fig. 45 FIFTH-REVERSE SYNCHRO HUB AND SLEEVE**

- 1 - PRESS  
 2 - FIFTH-REVERSE SYNCHRO HUB AND SLEEVE  
 3 - REVERSE GEAR  
 4 - OUTPUT SHAFT



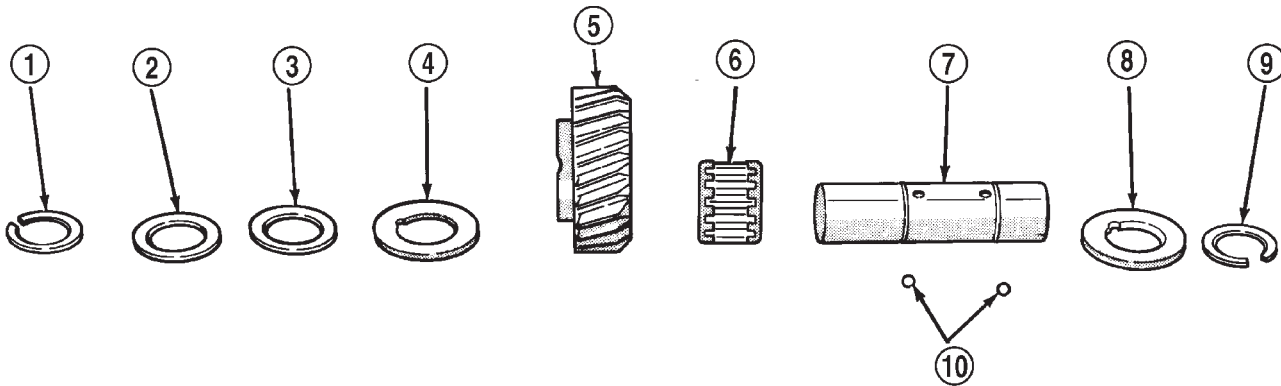
**Fig. 46 REVERSE GEAR AND NEEDLE BEARING**

- 1 - REVERSE GEAR AND NEEDLE BEARING

**REVERSE IDLER**

- (1) Remove idler gear snap rings (Fig. 47).  
 (2) Remove thrust washer, wave washer, thrust plate and idler gear from shaft.  
 (3) Remove idler gear needle bearing from shaft.

MANUAL NV 3550 (Continued)



J9421-53

**Fig. 47 REVERSE IDLER COMPONENTS**

- 1 - SNAP RING
- 2 - FLAT WASHER
- 3 - WAVE WASHER
- 4 - THRUST WASHER
- 5 - REVERSE IDLER GEAR
- 6 - IDLER GEAR BEARING

- 7 - IDLER SHAFT
- 8 - THRUST WASHER
- 9 - SNAP RING
- 10 - THRUST WASHER LOCKBALLS

**ASSEMBLY**

Sealers are used at all case joints. Use Mopar Gasket Maker for all case joints and Mopar silicone sealer or equivalent, for the input shaft bearing retainer. Apply these products as indicated in the assembly procedures.

**CAUTION:** The transmission shift components must be in the Neutral position during assembly. This prevents damage to the synchro and shift components when the housings are installed.

**SYNCHRONIZER**

To assemble each synchro install the springs, struts and detent balls one at a time as follows:

(1) Slide the sleeve part way onto the hub. Leave enough room to install the spring in the hub and the strut in the hub groove.

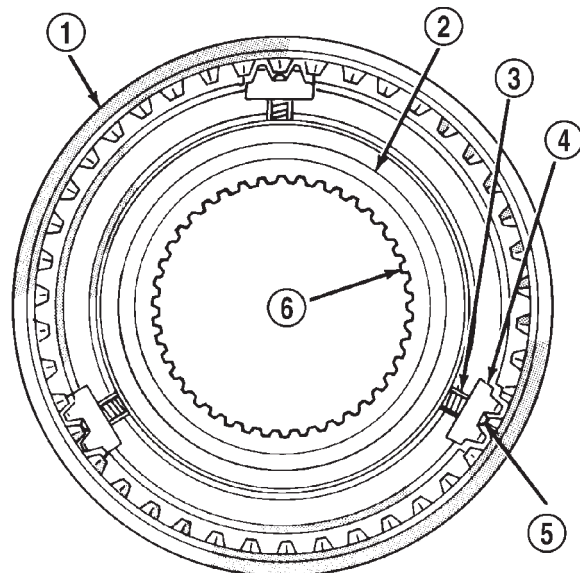
(2) Install the first spring in the hub. Then install a strut over the spring. Be sure the spring is seated in the spring bore in the strut.

(3) Slide the sleeve onto the hub just far enough to hold the first strut and spring in place.

(4) Place the detent ball in the top of the strut. Then carefully work the sleeve over the ball to hold it in place. Use a small flat blade screwdriver to press the ball into place while moving the sleeve over it.

(5) Repeat the procedure for the remaining springs, struts and balls. Tape or rubber band each strut and ball to temporarily secure as they are installed.

(6) Verify synchro springs, struts and detent balls are all in place (Fig. 48).



J9421-57

**Fig. 48 SYNCHRONIZER COMPONENTS**

- 1 - SLEEVE
- 2 - HUB SHOULDER
- 3 - SPRING (3)
- 4 - STRUT (3)
- 5 - DETENT BALL (3)
- 6 - HUB

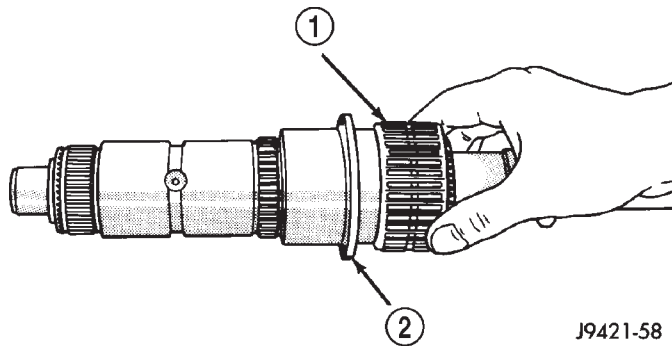
MANUAL NV 3550 (Continued)

**OUTPUT SHAFT**

Lubricate shaft, gears and bearings with recommended lubricant during assembly. Petroleum jelly can be used to hold parts in place. Check bearing surfaces of output shaft for nicks or scratches. Smooth surfaces with 320/400 grit emery cloth if necessary. Apply oil to emery cloth and shaft surface before polishing.

Inspect and replace any synchro ring if worn or damaged. Immerse each synchro ring in lubricant before installation.

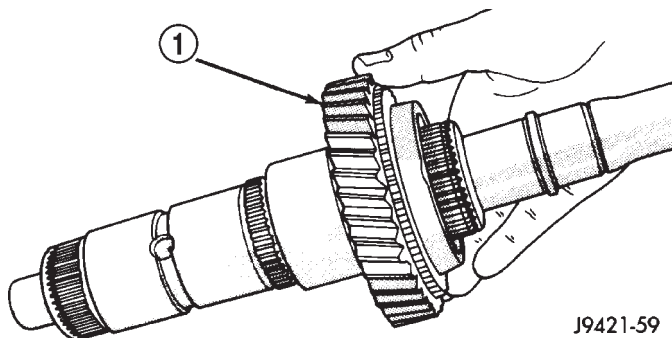
(1) Lubricate and install reverse gear needle bearing on shaft (Fig. 49). Slide bearing up against shoulder on output shaft.



**Fig. 49 REVERSE GEAR BEARING**

- 1 - REVERSE GEAR BEARING
- 2 - SHOULDER

(2) Install reverse gear over needle bearing (Fig. 50).

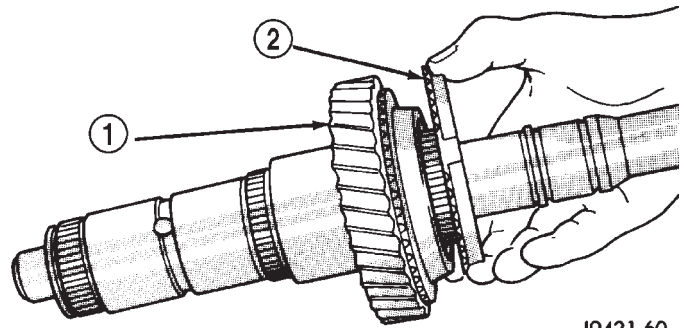


**Fig. 50 REVERSE GEAR**

- 1 - REVERSE GEAR

(3) Install brass synchro ring on reverse gear (Fig. 51).

(4) Assemble fifth-reverse synchro hub, sleeve, struts, springs and detent balls, if not previously done.

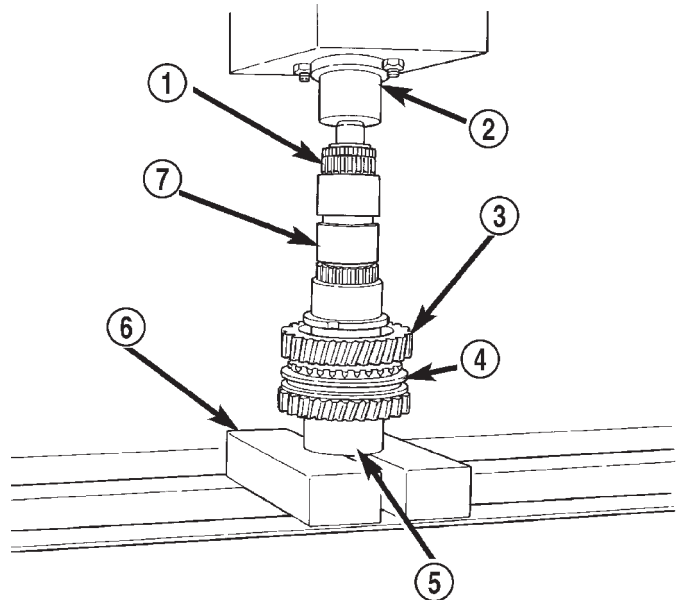


**Fig. 51 REVERSE SYNCHRO**

- 1 - REVERSE GEAR
- 2 - SYNCHRO RING

**CAUTION:** One side of the hub has shoulders around the hub bore, this side of the hub faces the front of the shaft. One side of the sleeve is tapered the tapered side faces the front of the shaft.

(5) Start fifth-reverse synchro assembly on output shaft splines by hand. Then seat synchro onto shaft with a press and Cup 6310-1 (Fig. 52).



**Fig. 52 FIFTH-REVERSE SYNCHRO ASSEMBLY**

- 1 - SPACER
- 2 - PRESS RAM
- 3 - REVERSE GEAR
- 4 - FIFTH-REVERSE SYNCHRO ASSEMBLY
- 5 - SPECIAL TOOL 6310-1
- 6 - PRESS BLOCKS
- 7 - OUTPUT SHAFT

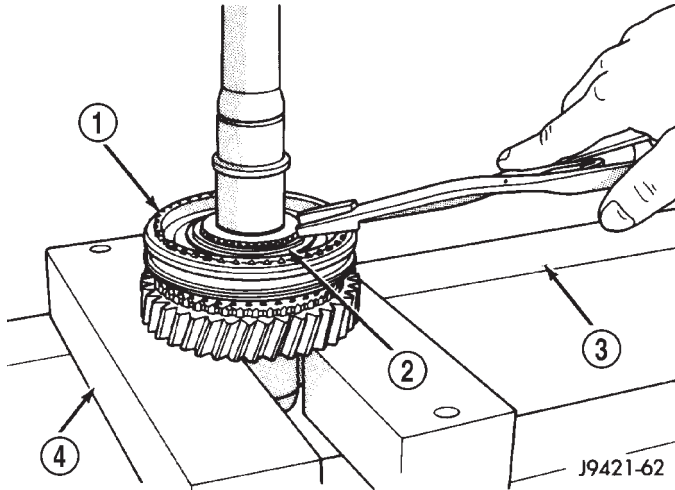
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MANUAL NV 3550 (Continued)

(6) Install new fifth-reverse hub snap ring (Fig. 53) and verify the snap ring is seated.

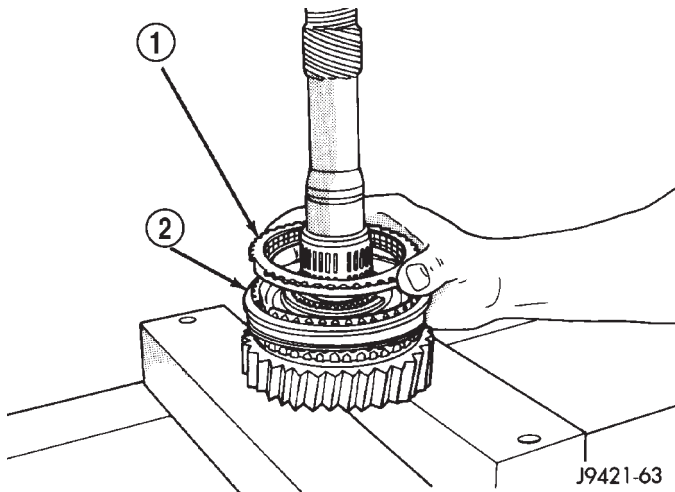
**NOTE:** Snap rings are available in thicknesses from 2.00 mm to 2.20 mm (0.078 to 0.086 in.). Install thickest snap ring that will fit in shaft groove.



**Fig. 53 FIFTH/REVERSE SYNCHRO HUB SNAP RING**

- 1 - FIFTH-REVERSE SYNCHRO ASSEMBLY
- 2 - SNAP RING
- 3 - PRESS BED
- 4 - PRESS BLOCKS

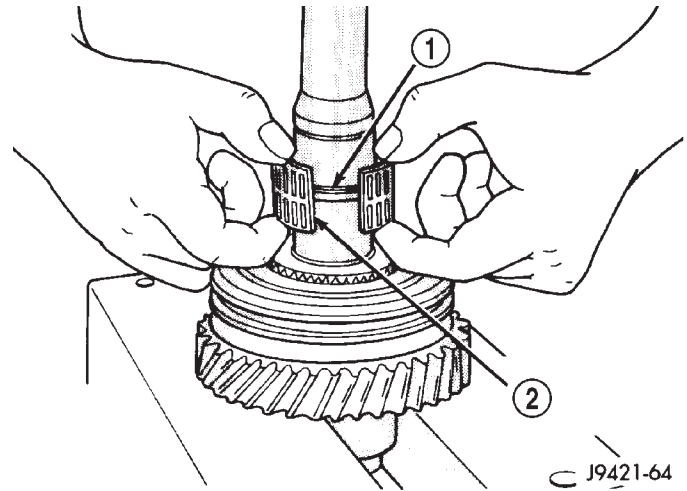
(7) Install fifth gear synchro ring in synchro hub and sleeve (Fig. 54).



**Fig. 54 FIFTH GEAR SYNCHRO RING**

- 1 - FIFTH-SPEED SYNCHRO RING
- 2 - FIFTH-REVERSE SYNCHRO ASSEMBLY

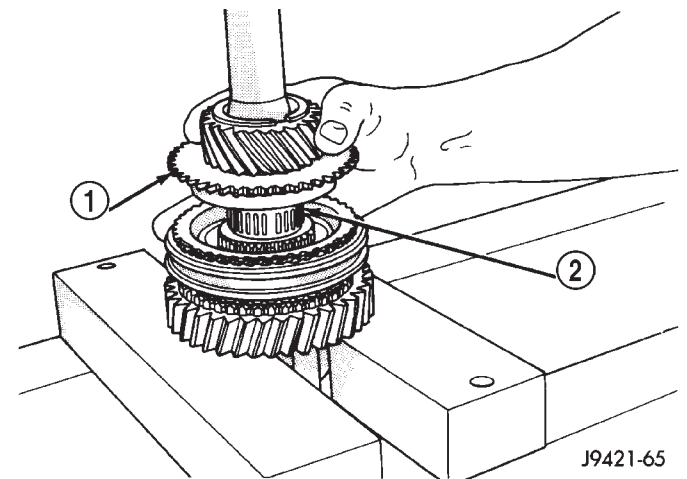
(8) Install fifth gear bearing, spreading bearing only enough to clear shoulder on output shaft (Fig. 55). Verify bearing is properly seated.



**Fig. 55 FIFTH GEAR BEARING**

- 1 - SHAFT SHOULDER
- 2 - FIFTH GEAR BEARING

(9) Install fifth gear on shaft and onto bearing (Fig. 56).



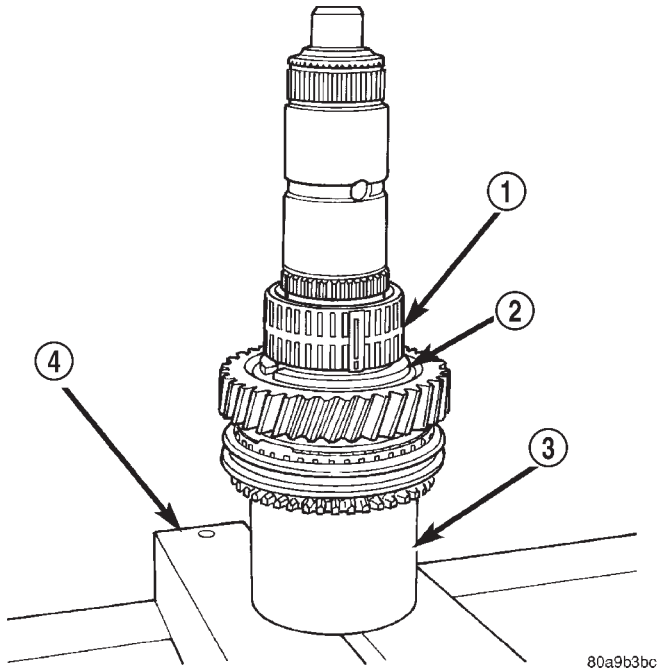
**Fig. 56 FIFTH GEAR**

- 1 - FIFTH GEAR
- 2 - BEARING

(10) Invert output shaft and set the shaft in Cup 6310-1 so that fifth gear is seated on the tool (Fig. 57).

MANUAL NV 3550 (Continued)

(11) Install first gear bearing on output shaft (Fig. 57). Verify bearing is seated on shaft shoulder and is properly joined.

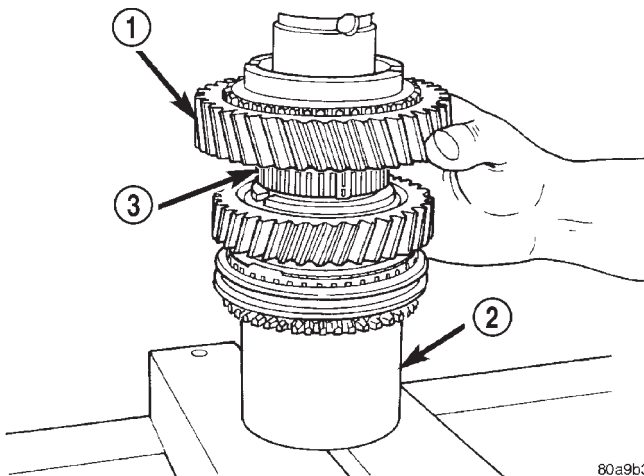


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**Fig. 57 FIRST GEAR BEARING**

- 1 - FIRST GEAR BEARING
- 2 - SHAFT SHOULDER
- 3 - SPECIAL TOOL
- 4 - PRESS BLOCKS

(12) Install first gear on shaft and over bearing with bearing synchro cone facing up (Fig. 58).

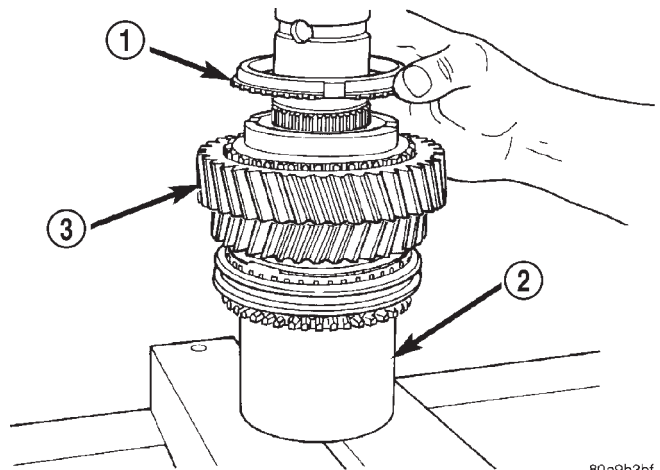


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**Fig. 58 FIRST GEAR**

- 1 - FIRST GEAR
- 2 - SPECIAL TOOL 6310-1
- 3 - BEARING

(13) Install first gear synchro ring (Fig. 59).



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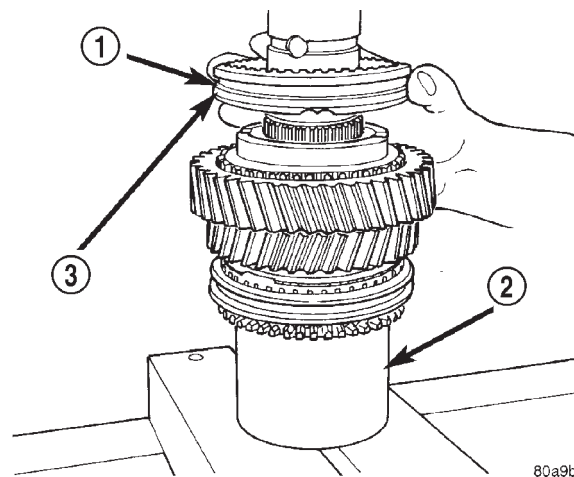
**Fig. 59 FIRST GEAR SYNCHRO RING**

- 1 - FIRST GEAR SYNCHRO RING
- 2 - CUP
- 3 - FIRST GEAR

(14) Assemble 1-2 synchro hub sleeve, springs, struts and detent balls.

**CAUTION:** The 1-2 synchro hub and sleeve can be installed backwards. One side of the synchro sleeve is marked First Gear Side. Verify this side of the sleeve is facing first gear.

(15) Start 1-2 synchro assembly on shaft by hand (Fig. 60). Verify synchro sleeve is properly positioned.



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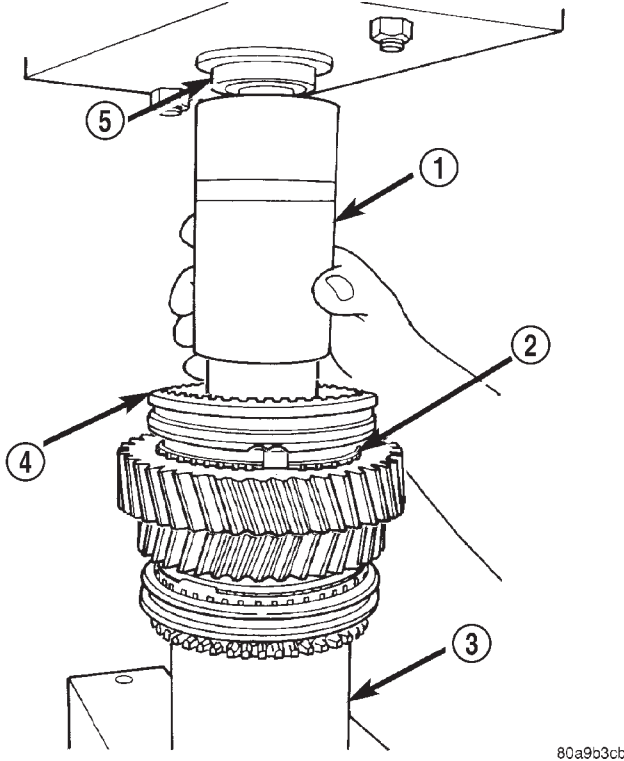
**Fig. 60 STARTING 1-2 SYNCHRO ON SHAFT**

- 1 - 1-2 SYNCHRO ASSEMBLY
- 2 - SPECIAL TOOL
- 3 - FIRST GEAR SIDE OF SYNCHRO SLEEVE

MANUAL NV 3550 (Continued)

(16) Press 1-2 synchro onto output shaft using suitable size pipe tool and shop press (Fig. 61).

**CAUTION:** Align the synchro ring and sleeve as hub the is being pressed onto the shaft. The synchro ring can crack if not aligned.



**Fig. 61 PRESS 1-2 SYNCHRO**

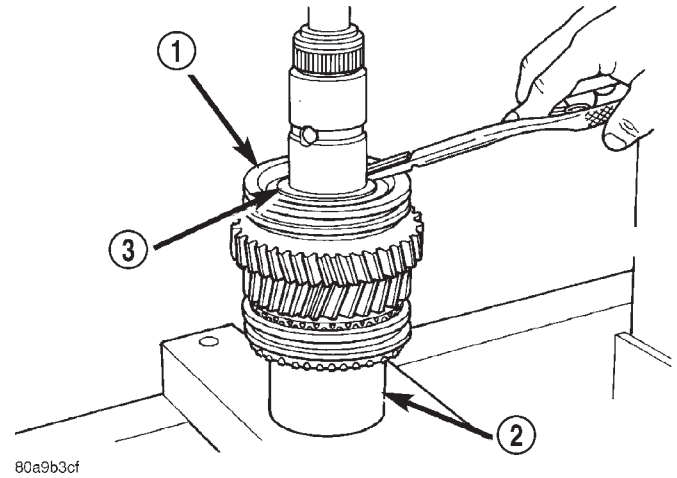
- 1 - SUITABLE SIZE PIPE
- 2 - SYNCHRO RING
- 3 - SPECIAL TOOL
- 4 - 1-2 SYNCHRO ASSEMBLY
- 5 - PRESS RAM

(17) Install interm ring.

(18) Install new 1-2 synchro hub snap ring (Fig. 62) and verify the snap ring is seated.

**NOTE:** Snap rings are available in thicknesses from 1.80 mm to 2.00 mm (0.070 to 0.078 in.). Install thickest snap ring that will fit in shaft groove.

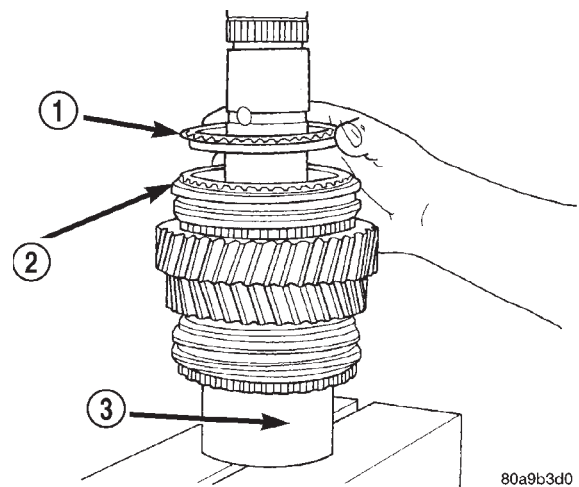
(19) Install second gear synchro ring in 1-2 synchro hub and sleeve (Fig. 63). Verify synchro ring is properly seated.



**Fig. 62 1-2 SYNCHRO HUB SNAP RING**

- 1 - 1-2 SYNCHRO
- 2 - CUP
- 3 - SYNCHRO SNAP RING

(20) Install synchro friction cone and synchro cone in synchro ring.

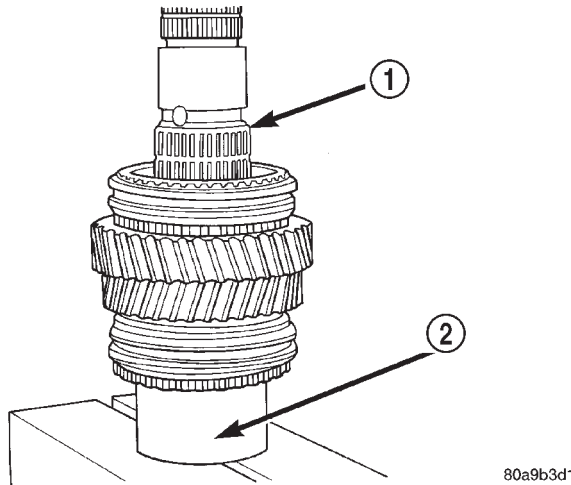


**Fig. 63 SECOND GEAR SYNCHRO RING**

- 1 - SECOND GEAR SYNCHRO RING
- 2 - 1-2 SYNCHRO
- 3 - SPECIAL TOOL 6310-1

MANUAL NV 3550 (Continued)

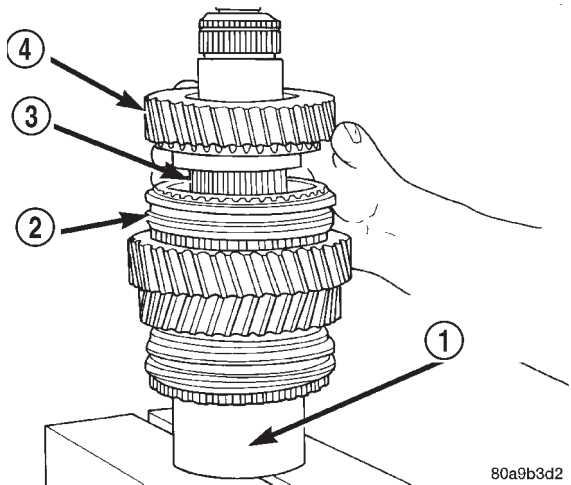
(21) Install second gear needle bearing on shaft (Fig. 64).



**Fig. 64 SECOND GEAR BEARING**

- 1 - SECOND GEAR BEARING
- 2 - SPECIAL TOOL

(22) Install second gear onto shaft and bearing (Fig. 65). Verify second gear is fully seated on synchro components.

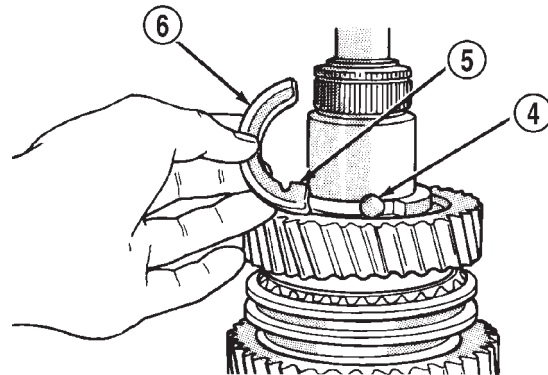
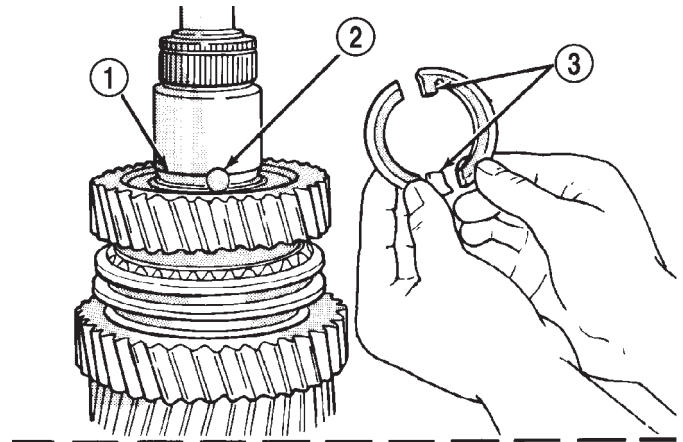


**Fig. 65 SECOND GEAR**

- 1 - SPECIAL TOOL 6310-1
- 2 - 1-2 SYNCHRO ASSEMBLY
- 3 - BEARING
- 4 - SECOND GEAR

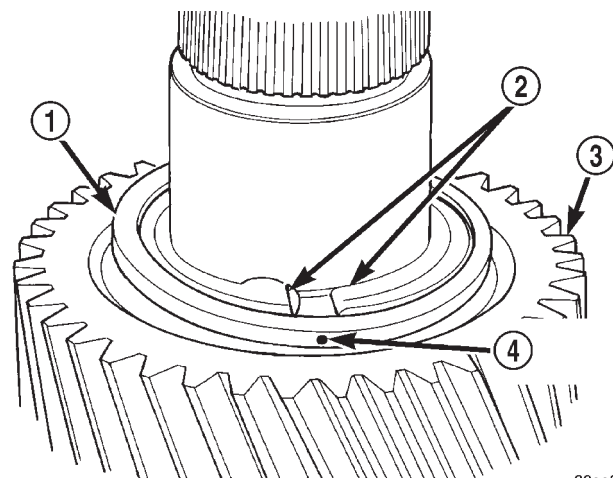
(23) Install two-piece thrust washer (Fig. 66). Ensure washer halves are seated in shaft groove and that washer lugs are seated in shaft lug bores. Verify i.d. grooves and markings noted during removal are facing the correct direction.

(24) Start retaining ring around two-piece thrust washer (Fig. 67). Ensure locating dimple is between the thrust washer halves.



**Fig. 66 TWO-PIECE THRUST WASH**

- 1 - WASHER GROOVE IN SHAFT
- 2 - LUG BORE
- 3 - THRUST WASHER LUGS
- 4 - LUG BORE
- 5 - LUG
- 6 - WASHER HALF

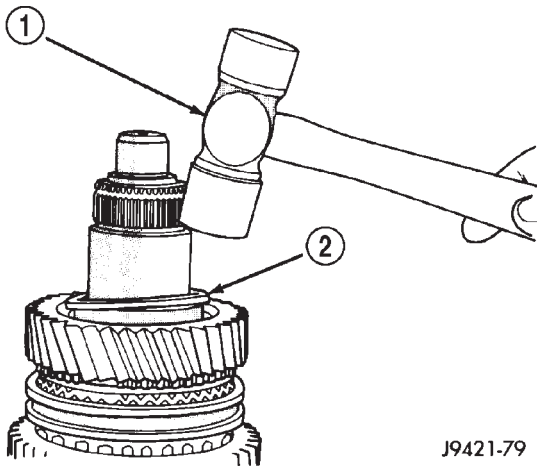


**Fig. 67 RETAINING RING**

- 1 - THRUST WASHER RETAINING RING
- 2 - THRUST WASHER HALVES
- 3 - SECOND GEAR
- 4 - LOCATING DIMPLE

MANUAL NV 3550 (Continued)

(25) Seat thrust washer retaining ring with plastic mallet (Fig. 68).

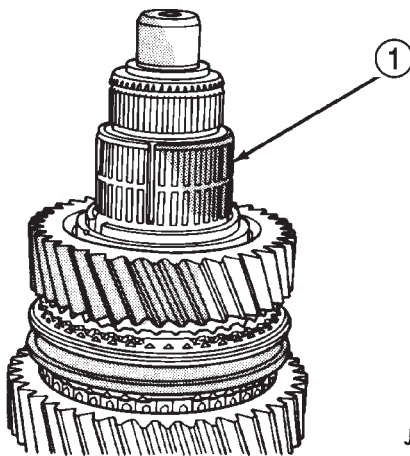


J9421-79

**Fig. 68 THRUST WASHER**

- 1 - PLASTIC MALLET
- 2 - THRUST WASHER RETAINING RING

(26) Install third gear needle bearing on shaft (Fig. 69).



J9421-80

**Fig. 69 THIRD GEAR BEARING**

- 1 - THIRD GEAR BEARING

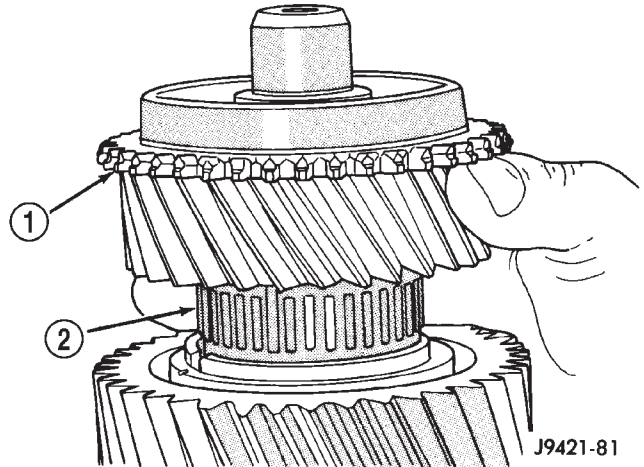
(27) Install third gear on shaft and bearing (Fig. 70).

(28) Install third speed synchro ring on third gear (Fig. 71).

(29) Assemble 3-4 synchro hub, sleeve, springs, struts and detent balls.

(30) Start 3-4 synchro hub on output shaft splines by hand (Fig. 72).

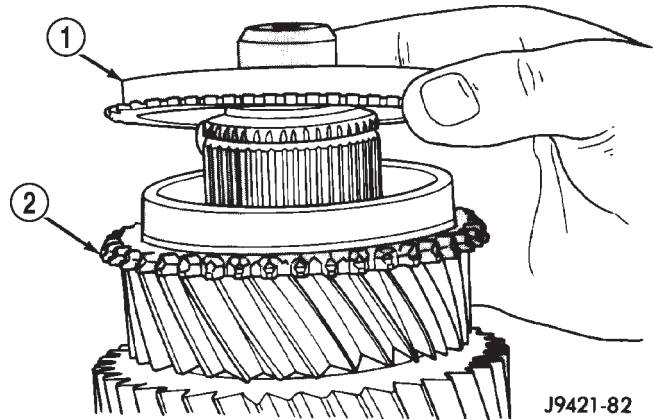
**CAUTION:** The 3-4 synchro hub and sleeve can be installed backwards. One side of the sleeve has grooves in it. This side of sleeve faces the front of the shaft.



J9421-81

**Fig. 70 THIRD GEAR**

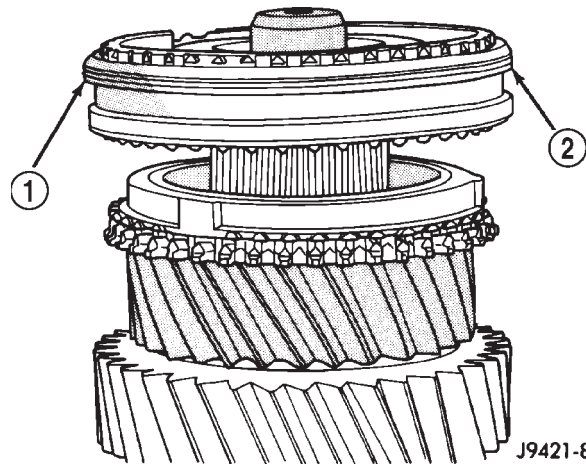
- 1 - THIRD GEAR
- 2 - BEARING



J9421-82

**Fig. 71 THIRD SPEED SYNCHRO RING**

- 1 - THIRD SPEED SYNCHRO RING
- 2 - THIRD GEAR



J9421-83

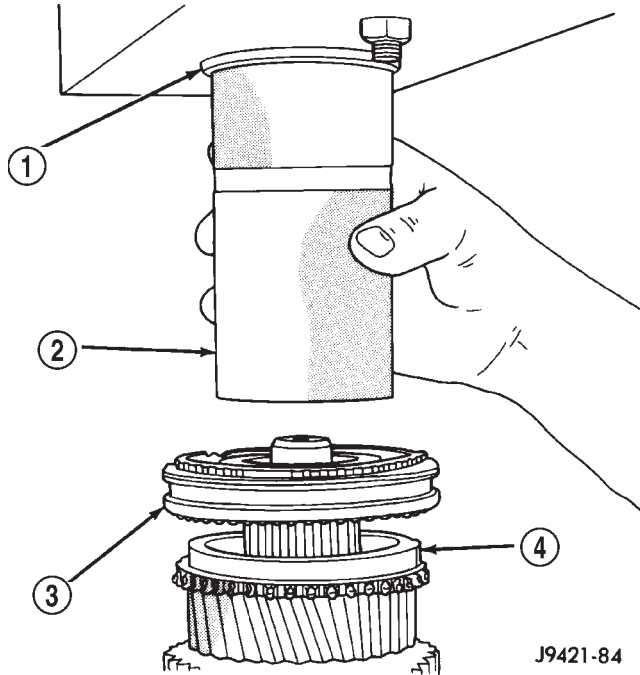
**Fig. 72 3-4 SYNCHRO HUB ON OUTPUT SHAFT**

- 1 - GROOVED SIDE OF SLEEVE
- 2 - 3-4 SYNCHRO ASSEMBLY

MANUAL NV 3550 (Continued)

(31) Press 3-4 synchro assembly onto output shaft with shop press and suitable size pipe tool (Fig. 73).

**NOTE:** Place the pipe on hub as close to output shaft as possible without contacting the shaft splines.



J9421-84

**Fig. 73 PRESS 3-4 SYNCHRO ON OUTPUT SHAF**

- 1 - PRESS RAM
- 2 - PIPE TOOL
- 3 - 3-4 SYNCHRO
- 4 - THIRD SPEED SYNCHRO RING

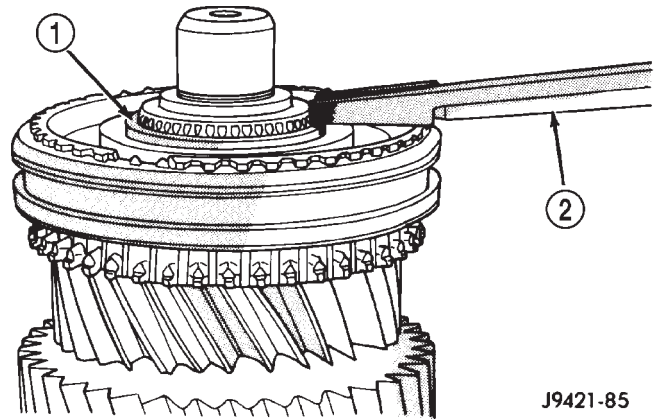
(32) Install 3-4 synchro hub snap ring (Fig. 74) and verify snap ring is seated.

**NOTE:** Snap rings are available in thicknesses from 2.00 mm to 2.30 mm (0.078 to 0.090 in.). Install thickest snap ring that will fit in shaft groove.

(33) Install output shaft bearing.

(34) Install output shaft bearing snap ring, spreading it just enough to install it (Fig. 75). Verify snap ring is seated in shaft groove.

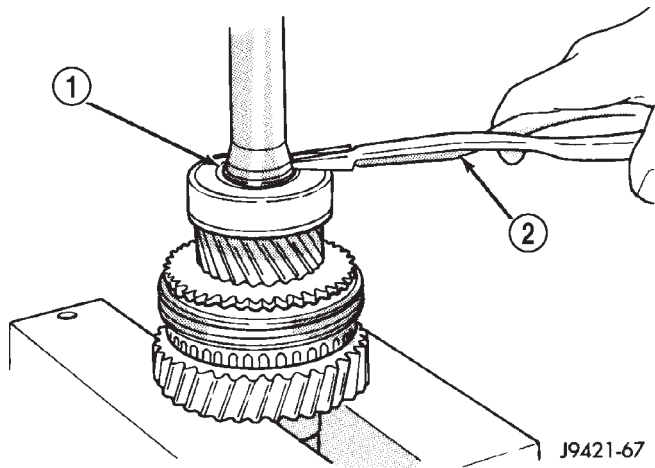
(35) Verify position of synchro sleeves before proceeding with assembly operations (Fig. 76). Grooved side of 3-4 sleeve should be facing forward. First gear side of 1-2 sleeve should be facing first gear. Tapered side of fifth-reverse sleeve should be facing forward.



J9421-85

**Fig. 74 3-4 SYNCHRO HUB SNAP RING**

- 1 - 3-4 SYNCHRO HUB SNAP RING
- 2 - HEAVY DUTY SNAP RING PLIERS



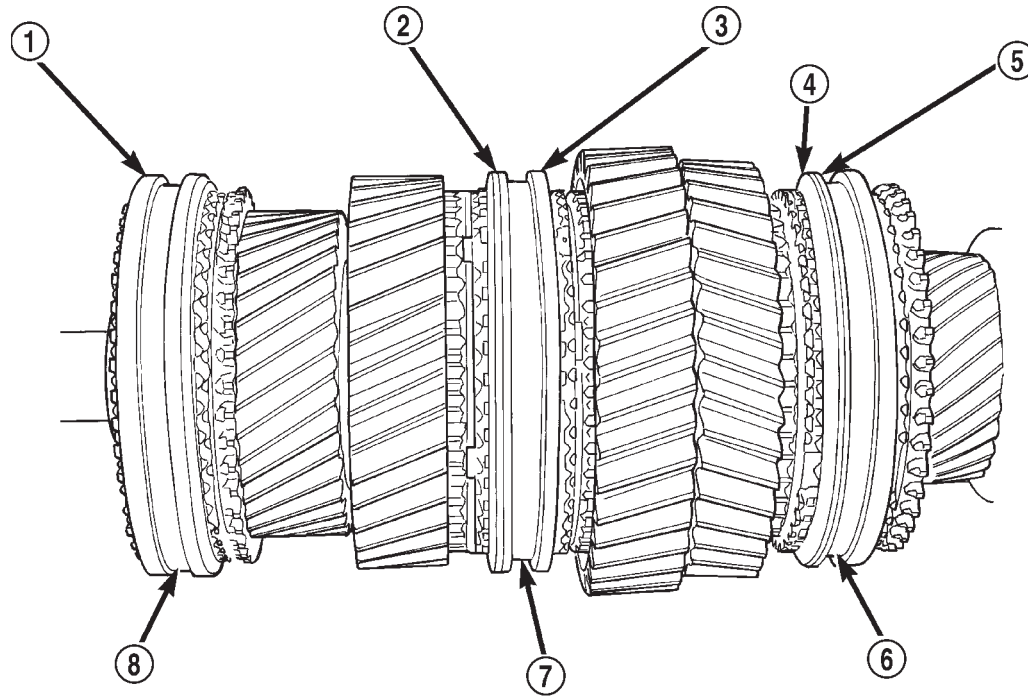
J9421-67

**Fig. 75 OUTPUT SHAFT BEARING**

- 1 - BEARING SNAP RING
- 2 - SNAP RING PLIERS

**REVERSE IDLER ASSEMBLY**

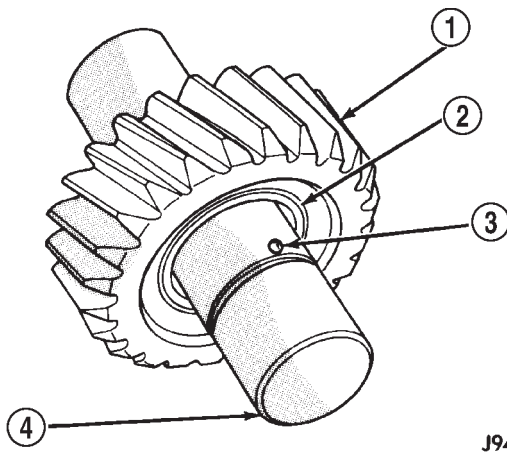
- (1) Lubricate idler components with gear lube.
- (2) Slide idler gear bearing on shaft (Fig. 77). Bearing fits either way on shaft.
- (3) Slide gear onto shaft. Side of gear with recess goes to rear (Fig. 77).
- (4) Place first lock ball in dimple at rear end of idler shaft (Fig. 77). Hold ball in place with petroleum jelly.
- (5) Slide thrust rear thrust washer onto shaft and over lock ball (Fig. 78).
- (6) Install snap ring in groove at rear of shaft (Fig. 78).



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**Fig. 76 SYNCHRO SLEEVE LOCATIONS**

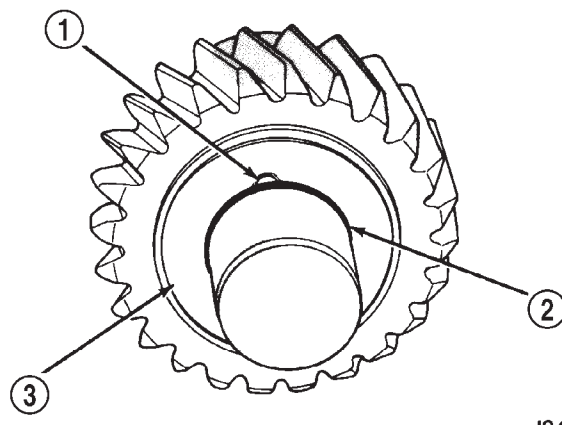
- |   |                            |
|---|----------------------------|
| 1 - DOUBLE GROOVE FORWARD                     | 6 - 5TH-REV SYNCHRO SLEEVE |
| 2 - GROOVE FORWARD                            | 7 - 1-2 SYNCHRO SLEEVE     |
| 3 - FIRST GEAR SIDE MARKING TOWARD FIRST GEAR | 8 - 3-4 SYNCHRO SLEEVE     |
| 4 - TAPER FORWARD                             |                            |
| 5 - GROOVE FORWARD                            |                            |



J9421-87

**Fig. 77 IDLER GEAR AND BEARING**

- 1 - IDLER GEAR
- 2 - BEARING
- 3 - LOCK BALL
- 4 - REAR OF SHAFT



J9421-89

**Fig. 78 IDLER GEAR REAR THRUST WASHER**

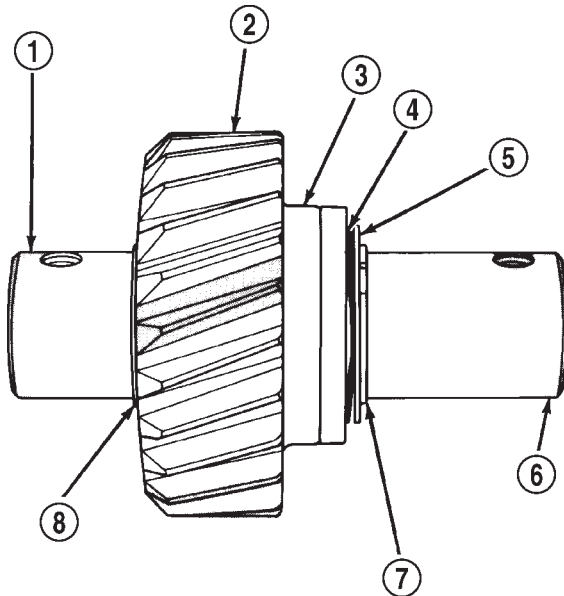
- 1 - LOCK BALL
- 2 - SNAP RING GROOVE
- 3 - THRUST WASHER

## MANUAL NV 3550 (Continued)

(7) Install lock ball in dimple at front of shaft. Hold ball in place with petroleum jelly.

(8) Install front thrust washer on shaft and slide washer up against gear and over lock ball (Fig. 79).

(9) Install wave washer, flat washer and remaining snap ring on idler shaft (Fig. 79). Verify snap ring is seated.



J9421-90

**Fig. 79 IDLER GEAR AND SHAFT ASSEMBLY**

- 1 - REAR OF SHAFT
- 2 - GEAR
- 3 - THRUST WASHER AND BALL
- 4 - WAVE WASHER
- 5 - FLAT WASHER
- 6 - FRONT OF SHAFT
- 7 - SNAP RING
- 8 - SNAP RING

### SHIFT SHAFT AND BUSHINGS/BEARINGS

Inspect shift shaft bushing and bearing for damage and replace if necessary.

(1) Locate a bolt that will thread into the bushing without great effort.

(2) Thread the bolt into the bushing, allowing the bolt to make its own threads in the bushing.

(3) Attach a slide hammer or suitable puller to the bolt and remove bushing.

(4) Use the short end of Installer 8119 to install the new bushing.

(5) The bushing is correctly installed if the bushing is flush with the transmission case.

(6) To replace the bearing locate a bolt that will thread into the bearing without great effort.

(7) Thread the bolt into the bearing as much as possible.

(8) Attach a slide hammer or suitable puller to the bolt and remove the bearing.

(9) Use the short end of Installer 8119 to install the new bearing.

(10) The bearing is correctly installed if the bearing is flush with the transmission case.

### DETENT PLUNGER BUSHING

Inspect detent plunger bushings for damage and replace if necessary.

**NOTE:** The detent plunger bushings are installed to a specific depth. The space between the two bushings when correctly installed contain an oil feed hole. Do not attempt to install the bushings with anything other than the specified tool or this oil hole may become restricted.

(1) Using the long end of Installer 8119, drive the detent bushings through the outer case and into the shift shaft bore.

(2) Remove the bushings from the shift shaft bore.

(3) Install a new detent plunger bushing on the long end of Installer 8118.

(4) Start the bushing in the detent plunger bore in the case.

(5) Drive the bushing into the bore until the tool contacts the transmission case.

(6) Install a new detent plunger bushing on the short end of Installer 8118.

(7) Start the bushing in the detent plunger bore in the case.

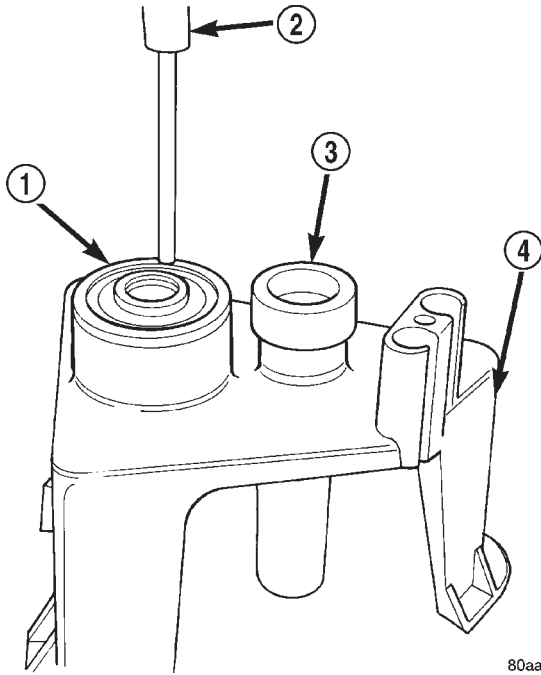
(8) Drive the bushing into the bore until the tool contacts the transmission case.



MANUAL NV 3550 (Continued)

**GEARTRAIN ASSEMBLY**

(1) Install Adapter 6747-1A on input shaft hub of Fixture 6747 (Fig. 80).



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**Fig. 80 ASSEMBLY FIXTURE FOR GEARTRAIN**

- 1 - SPECIAL TOOL 6747-2A
- 2 - SPECIAL TOOL 8115
- 3 - SPECIAL TOOL 6747-1A
- 4 - SPECIAL TOOL 6747

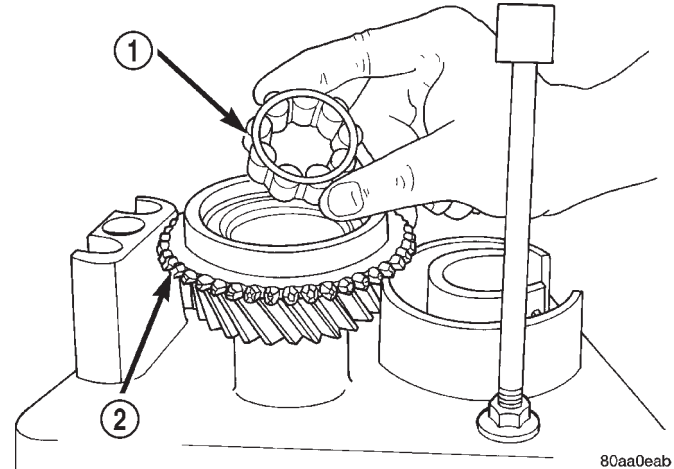
(2) Install input shaft in fixture tool. Make sure Adapter 6747-1A is positioned under shaft as shown (Fig. 81).

(3) Install pilot bearing in input shaft (Fig. 81).

**NOTE:** The side of the pilot bearing with the small diameter goes toward the input shaft.

(4) Install fourth gear synchro ring on input shaft (Fig. 82).

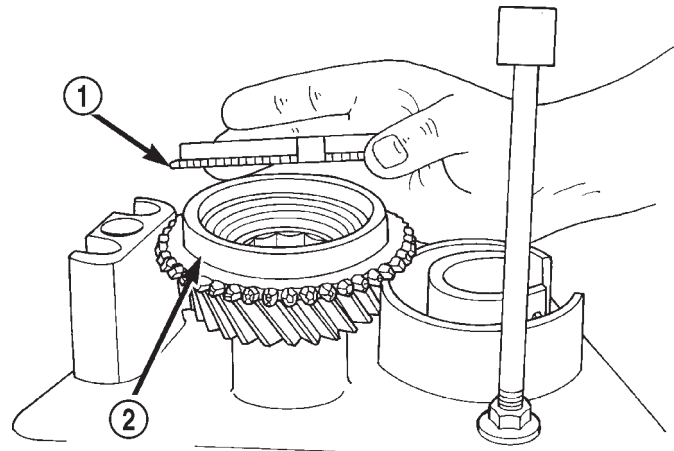
(5) Adjust height of idler gear pedestal on assembly fixture (Fig. 83). Start with a basic height of 18.4 cm (7-1/4 in.). Final adjustment can be made after gear is positioned on pedestal.



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**Fig. 81 PILOT BEARING AND INPUT SHAFT**

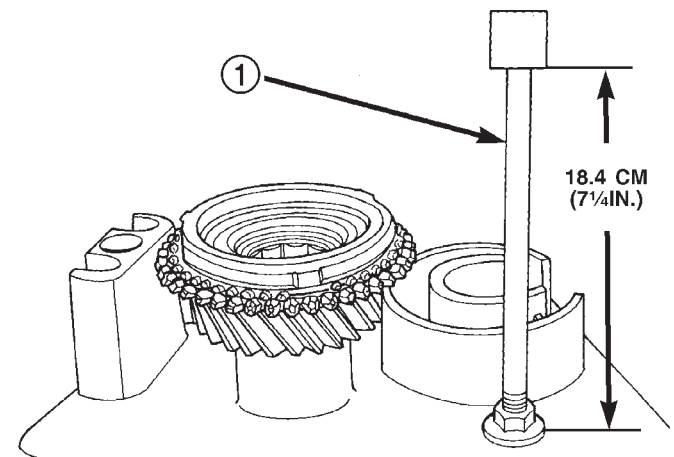
- 1 - PILOT BEARING
- 2 - INPUT SHAFT



80aa0eac

**Fig. 82 FOURTH GEAR SYNCHRO**

- 1 - FOURTH GEAR SYNCHRO RING
- 2 - INPUT SHAFT



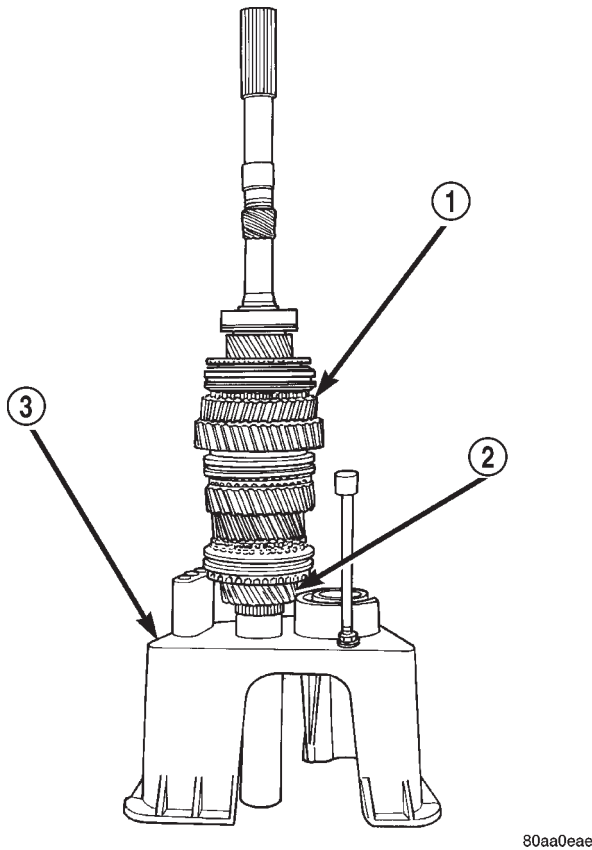
80aa0ead

**Fig. 83 IDLER PEDESTAL BASIC HEIGHT**

- 1 - REVERSE IDLER PEDESTAL

MANUAL NV 3550 (Continued)

(6) Install assembled output shaft and geartrain in input shaft (Fig. 84). Carefully rotate output shaft until the 3-4 synchro ring seats in synchro hub and sleeve.



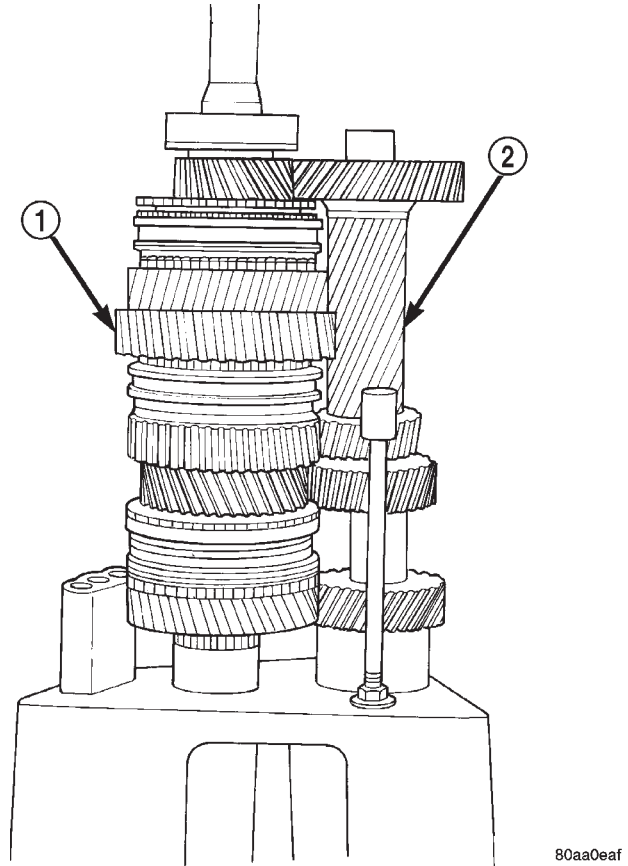
**Fig. 84 OUTPUT SHAFT AND GEARTRAIN**

- 1 - OUTPUT SHAFT AND GEARTRAIN
- 2 - INPUT SHAFT
- 3 - FIXTURE

(7) Install Adapter 6747-2B on front bearing hub of countershaft. The adapter has a shoulder on one side that goes towards the countershaft.

(8) Slide countershaft (and adapter) into fixture slot. Verify countershaft and output shaft gears are fully meshed with the mainshaft gears (Fig. 85).

(9) Check alignment of countershaft and output shaft gear teeth. Note that gears may not align perfectly. A difference in height of 1.57 to 3.18 mm (1/16 to 1/8 in.) will probably exist. This difference will not interfere with assembly.

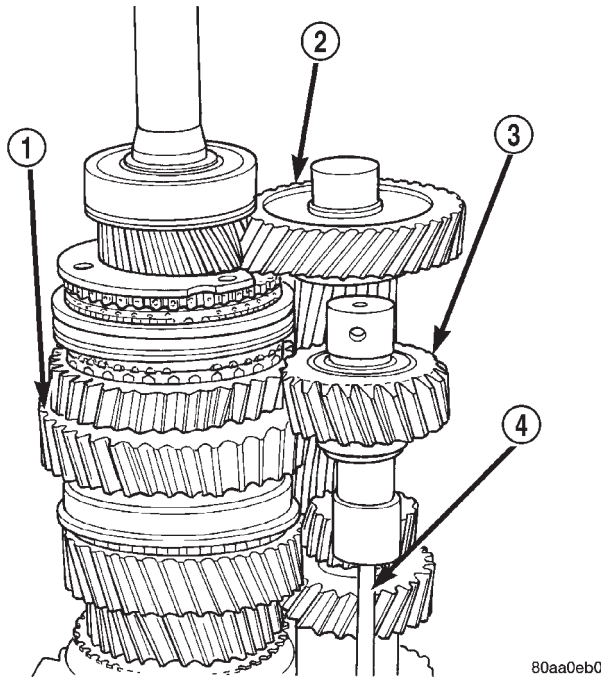


**Fig. 85 COUNTERSHAFT ON FIXTURE**

- 1 - OUTPUT SHAFT AND GEARTRAIN
- 2 - COUNTERSHAFT (SLIDE INTO PLACE ON FIXTURE TOOL)

(10) Position reverse idler in support cup of assembly fixture (Fig. 86). Ensure idler gear is properly meshed and aligned with shaft gear teeth and that bolt holes are facing out and not toward geartrain. Adjust pedestal up or down if necessary. Also be sure that short end of idler shaft is facing up as shown.

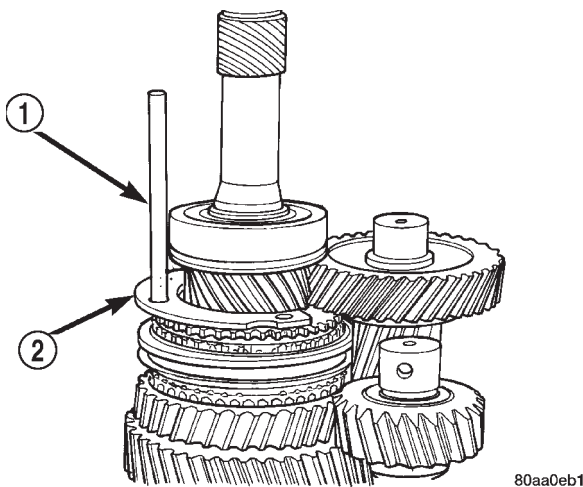
MANUAL NV 3550 (Continued)



**Fig. 86 REVERSE IDLER ASSEMBLY POSITION**

- 1 - OUTPUT SHAFT AND GEARTRAIN
- 2 - COUNTERSHAFT
- 3 - REVERSE IDLER ASSEMBLY
- 4 - TOOL PEDESTAL

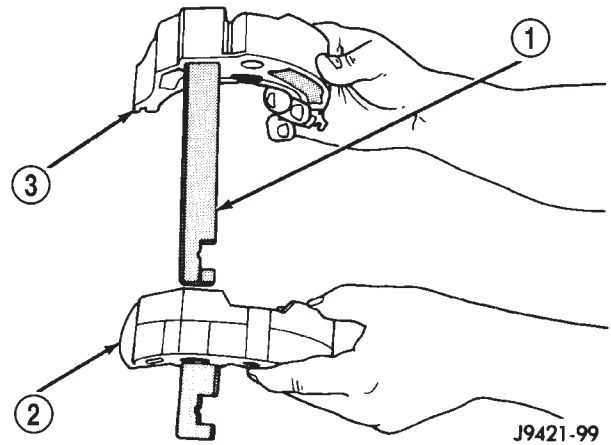
(11) On 2-wheel drive transmission, thread one Alignment Pin 8120 in center or passenger side hole of output shaft bearing retainer. Then position retainer on fifth gear as shown (Fig. 87).



**Fig. 87 POSITIONING OUTPUT SHAFT BEARING**

- 1 - SPECIAL TOOL 8120
- 2 - OUTPUT SHAFT BEARING RETAINER

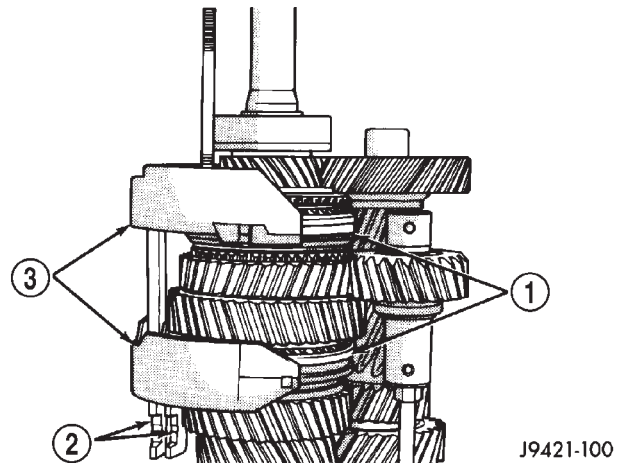
(12) Assemble 1-2 and fifth reverse-shift forks (Fig. 88). Arm of fifth-reverse fork goes through slot in 1-2 fork.



**Fig. 88 1-2 AND FIFTH-REVERSE**

- 1 - INSERT ARM THROUGH 1-2 FORK
- 2 - 1-2 FORK
- 3 - FIFTH-REVERSE FORK

(13) Install assembled shift forks in synchro sleeves (Fig. 89). Verify forks are properly seated in sleeves.



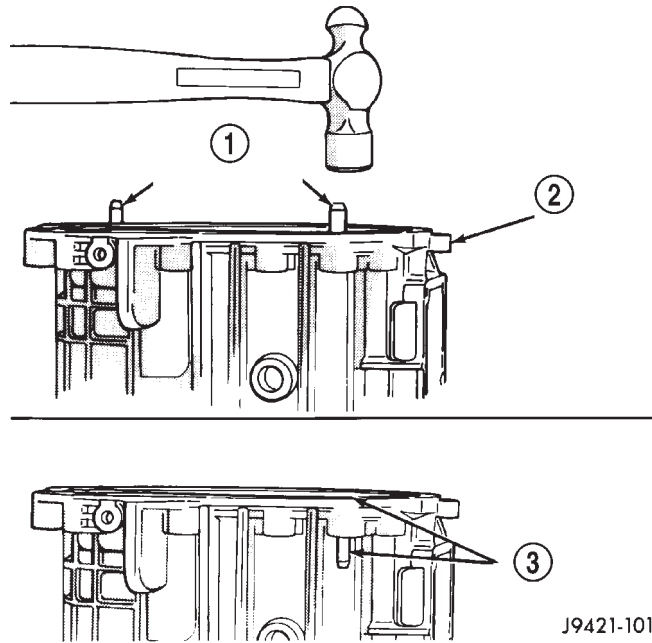
**Fig. 89 SHIFT FORKS IN SYNCHRO**

- 1 - SYNCHRO SLEEVES
- 2 - FORK ARMS
- 3 - SHIFT FORKS

**REAR HOUSING - 2WD**

(1) Drive adapter housing alignment dowels back into housing until dowels are flush with mounting surface (Fig. 90).

MANUAL NV 3550 (Continued)

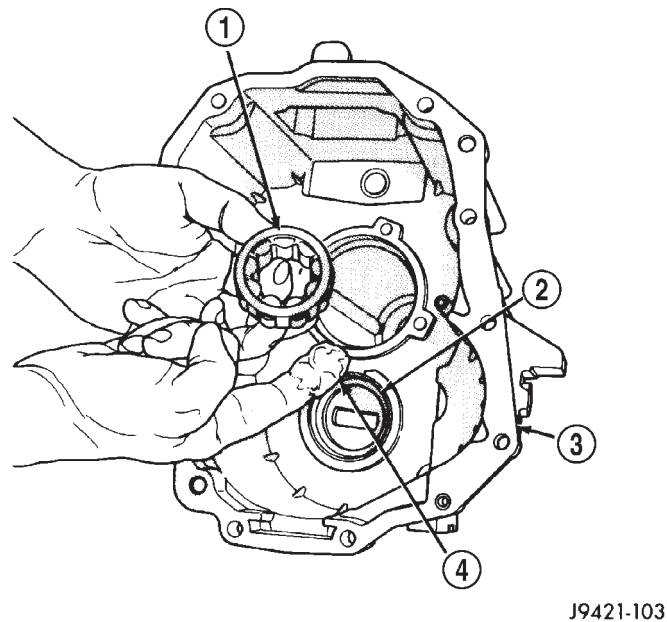


**Fig. 90 REAR HOUSING DOWELS**

- 1 - HOUSING ALIGNMENT DOWELS
- 2 - REAR HOUSING
- 3 - DOWEL FLUSH WITH SURFACE

(2) Apply liberal quantity of petroleum jelly to countershaft rear bearing and bearing race.

(3) Install countershaft rear bearing in bearing race (Fig. 91).



**Fig. 91 COUNTERSHAFT REAR BEARING**

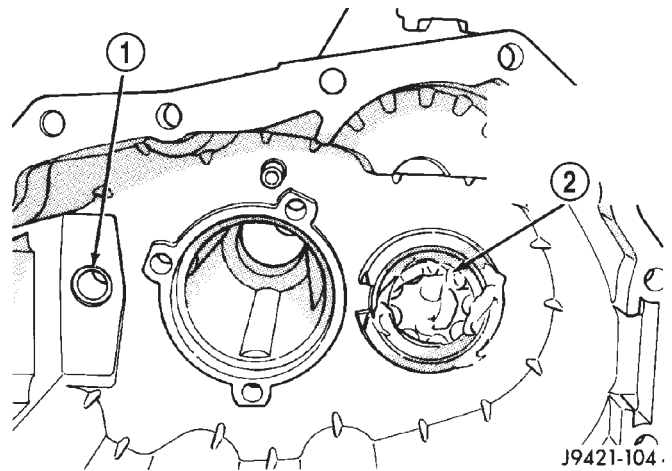
- 1 - COUNTERSHAFT REAR BEARING
- 2 - REAR BEARING RACE
- 3 - REAR HOUSING
- 4 - PETROLEUM JELLY

**CAUTION:** Be sure the large diameter side of the roller retainer faces the countershaft and the small diameter side faces the race and housing (Fig. 92).

(4) Apply extra petroleum jelly to hold countershaft rear bearing in place when housing is installed.

(5) Apply light coat of petroleum jelly to shift shaft bushing/bearing in rear housing (Fig. 92).

(6) Reach into countershaft rear bearing with finger and push each bearing roller outward against race. Then apply extra petroleum jelly to hold rollers in place. This avoids having rollers becoming displaced during housing installation.



**Fig. 92 COUNTERSHAFT REAR BEARING SEATED**

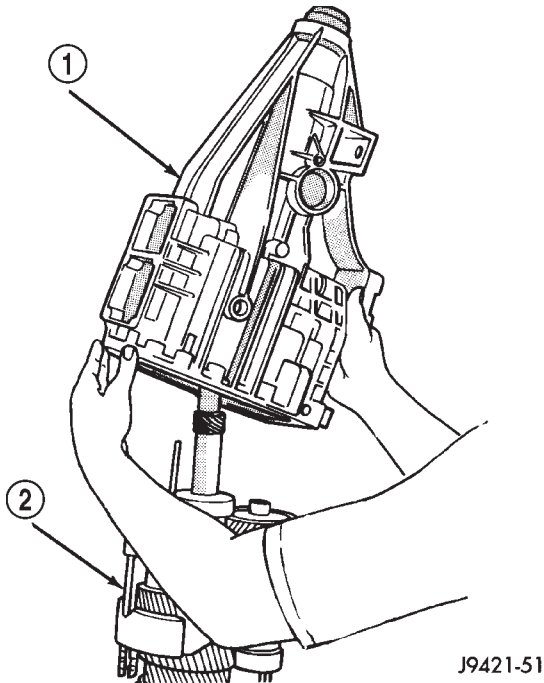
- 1 - SHIFT SHAFT BUSHING/BEARING
- 2 - COUNTERSHAFT REAR BEARING

(7) Install rear housing onto geartrain (Fig. 93). Verify bearing retainer pilot stud is in correct bolt hole in housing. Also be sure countershaft and output shaft bearings are aligned in housing and on countershaft. It may be necessary to lift upward on countershaft slightly to ensure that the countershaft rear bearing engages to the countershaft before the rear output shaft bearing engages the housing.

(8) Seat rear housing on output shaft rear bearing and countershaft. Use plastic or rawhide mallet to tap housing into place.

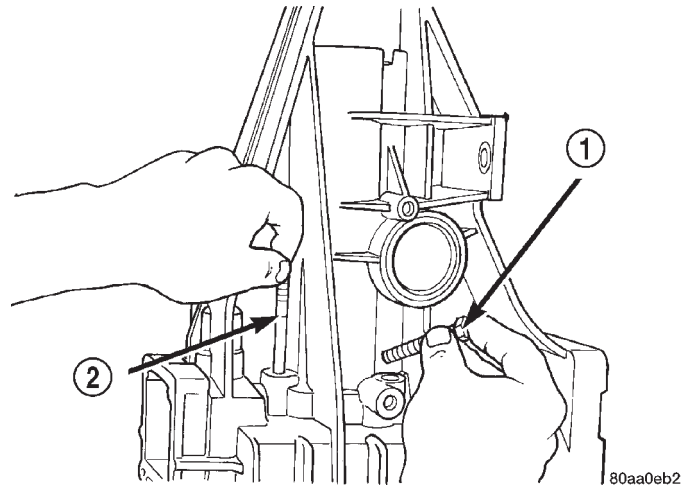
(9) Apply Mopar Gasket Maker or equivalent, to housing bolt threads, bolt shanks and under bolt heads (Fig. 94).

(10) Start first two bolts in retainer (Fig. 95). It may be necessary to move retainer rearward (with pilot stud) in order to start bolts in retainer.



**Fig. 93 REAR HOUSING - 2WD**

- 1 - REAR HOUSING
- 2 - SHIFT FORKS AND GEARTRAIN



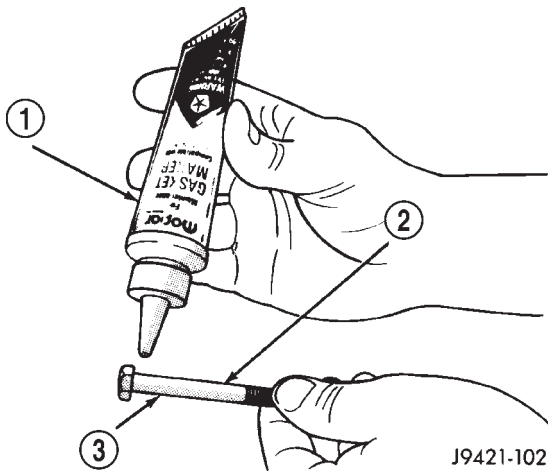
**Fig. 95 PILOT STUD AND RETAINER BOLTS - 2WD**

- 1 - BEARING RETAINER BOLT
- 2 - SPECIAL TOOL 8120

**ADAPTER HOUSING - 4WD**

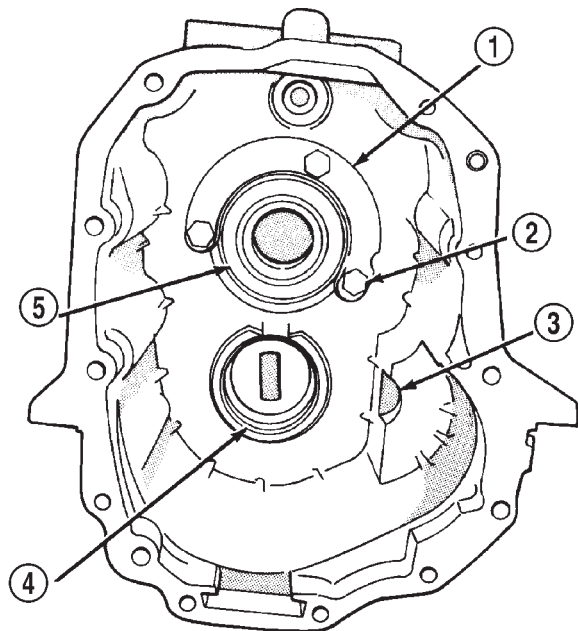
(1) Install rear bearing in adapter housing. Use wood hammer handle or wood dowel to tap bearing into place.

(2) Position rear bearing retainer in adapter housing (Fig. 96).



**Fig. 94 SEAL RETAINING BOLTS**

- 1 - MOPAR GASKET MAKER (OR LOCTITE 518)
- 2 - RETAINER AND HOUSING BOLTS
- 3 - APPLY SEALER TO UNDERSIDE OF BOLT HEAD, SHANK AND THREADS



**Fig. 96 ADAPTER HOUSING - 4WD**

- 1 - BEARING RETAINER
- 2 - RETAINER BOLT
- 3 - IDLER SHAFT NOTCH
- 4 - COUNTERSHAFT BEARING RACE
- 5 - REAR BEARING

(11) Remove Alignment Pin 8120 and install last retainer bolt (Fig. 95).

(12) Tighten all three retainer bolts to 30-35 N·m (22-26 ft. lbs.).

MANUAL NV 3550 (Continued)

(3) Apply Mopar Gasket Maker or equivalent, to threads, bolt shanks and under hex heads of bearing retainer bolts (Fig. 94).

(4) Apply liberal quantity of petroleum jelly to countershaft rear bearing and bearing race.

(5) Install countershaft rear bearing in bearing race (Fig. 92).

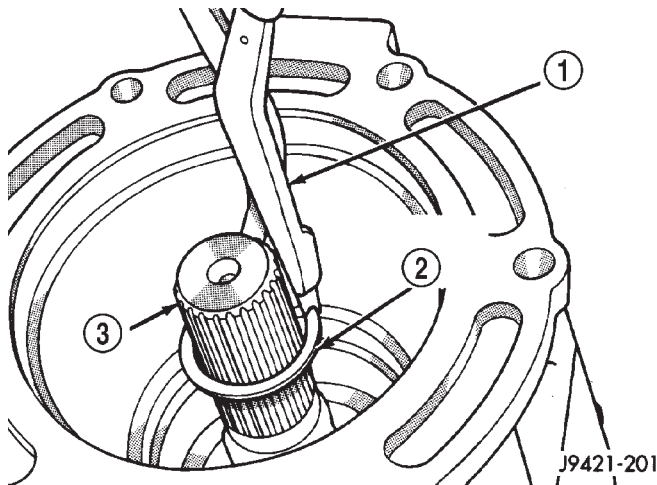
**CAUTION:** Be sure the large diameter side of the roller retainer faces the countershaft and the small diameter side faces the race and housing (Fig. 92).

(6) Apply extra petroleum jelly to hold countershaft rear bearing in place when housing is installed.

(7) Apply light coat of petroleum jelly to shift shaft bushing/bearing in adapter housing (Fig. 92).

(8) Install adapter housing on geartrain.

(9) Install rear bearing snap ring on output shaft (Fig. 97).



**Fig. 97 REAR BEARING SNAP RING - 4WD**

- 1 - SNAP RING PLIERS
- 2 - SNAP RING
- 3 - OUTPUT SHAFT

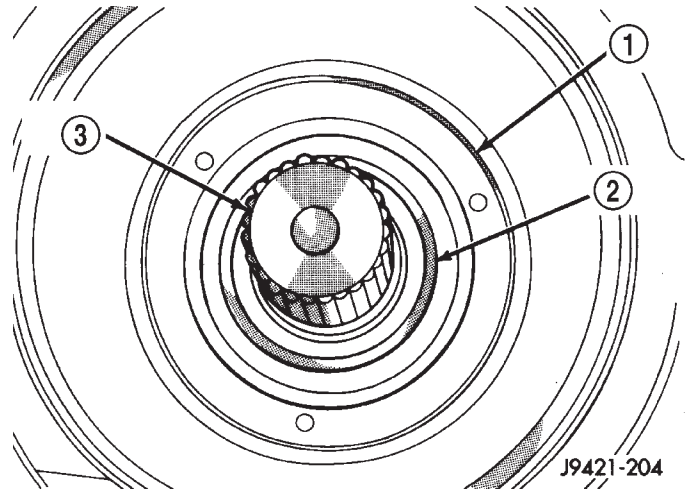
(10) Lubricate lip of new rear seal (Fig. 98) with Mopar Door Ease or transmission fluid.

(11) Install new rear seal in adapter housing bore with Installer C-3860-A. Verify seal is seated in housing bore (Fig. 98).

**SHIFT SHAFT, SHAFT LEVER AND BUSHING AND SHIFT SOCKET**

(1) Verify that all synchro sleeves are in Neutral position (centered on hub).

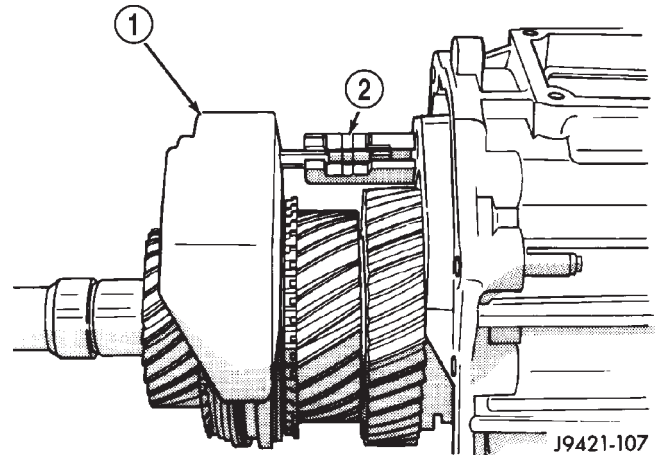
**CAUTION:** The transmission synchros must all be in Neutral position for assembly. Otherwise the housings, shift forks and gears can be damaged during installation of the two housings.



**Fig. 98 REAR SEAL**

- 1 - REAR SEAL
- 2 - SEAL LIP
- 3 - OUTPUT SHAFT

(2) Install 3-4 shift fork in synchro sleeve (Fig. 99). Verify that groove in fork arm is aligned with grooves in 1-2 and fifth-reverse fork arms as shown.



**Fig. 99 3-4 SHIFT FORK**

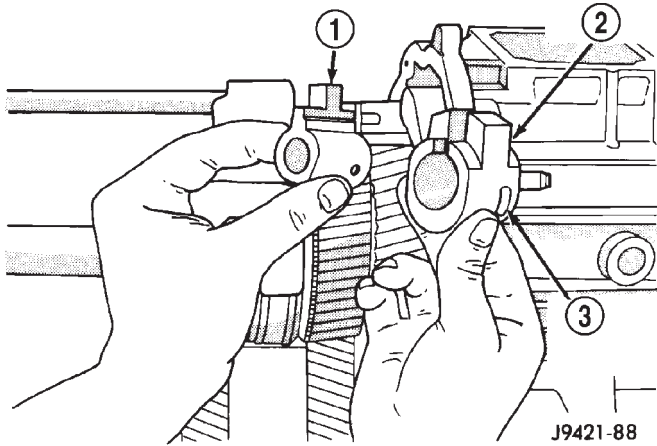
- 1 - 3-4 FORK
- 2 - ALIGN GROOVES IN FORK ARMS

(3) Slide the end of shift shaft with shaft detent notches through 3-4 shift fork.

(4) Assemble shift shaft shift lever and bushing (Fig. 100). Be sure slot in bushing is facing up and roll pin hole for lever is aligned with hole in shaft.

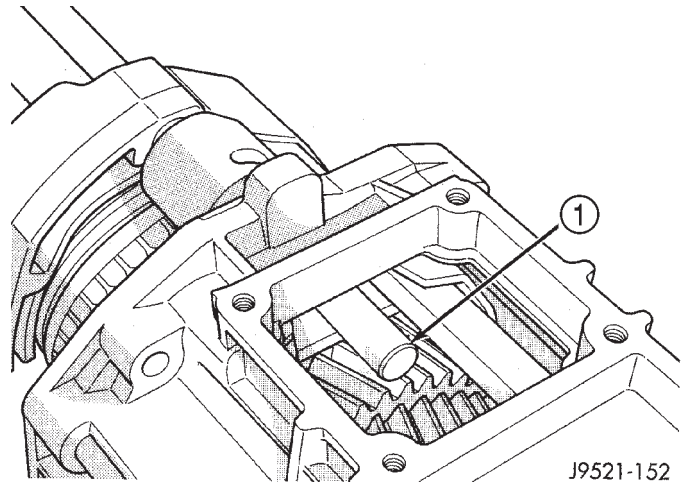
(5) Install assembled lever and bushing on shift shaft (Fig. 101).

(6) Slide shift shaft through 1-2 and fifth-reverse fork and into shift lever opening in rear housing (Fig. 102).



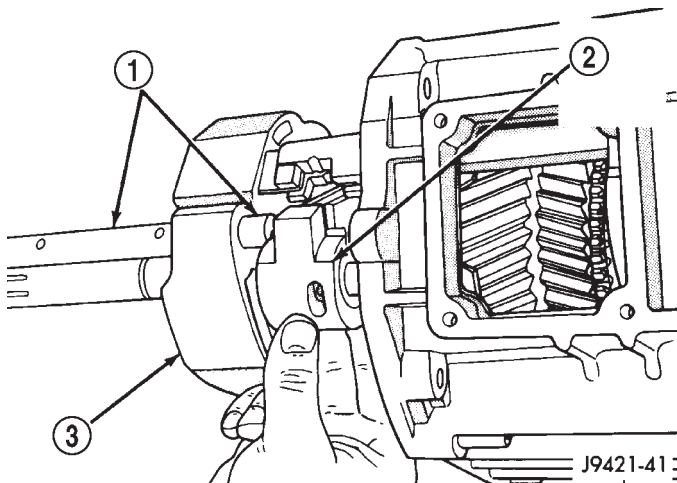
**Fig. 100 LEVER AND BUSHING**

- 1 - SHAFT LEVER
- 2 - LEVER BUSHING
- 3 - BUSHING LOCK PIN SLOT



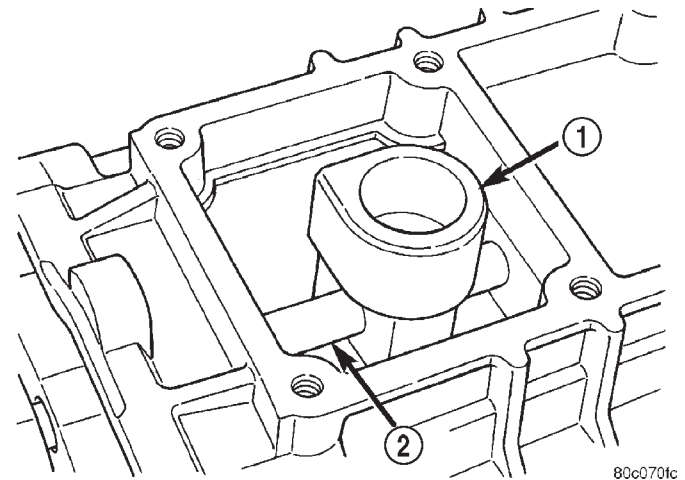
**Fig. 102 SHAFT IN LEVER OPENING**

- 1 - SHIFT SHAFT



**Fig. 101 LEVER AND BUSHING ASSEMBLY**

- 1 - SHIFT SHAFT
- 2 - SHAFT LEVER AND BUSHING
- 3 - 3-4 FORK



**Fig. 103 SHIFT SOCKET**

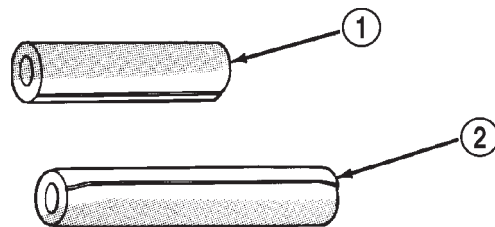
- 1 - SHIFT SOCKET
- 2 - SHIFT SHAFT

(7) Align shift socket with shaft and slide shaft through socket and into shift shaft bearing in rear housing (Fig. 103).

(8) Rotate shift shaft so detent notches in shaft are facing the TOP of the transmission housing.

**CAUTION:** Positioning of the shift shaft detent notch is important. Both of the shaft roll pins can be installed even when the shaft is 180° off. If this occurs, the transmission will have to be disassembled again to correct shaft alignment.

(9) Select correct new roll pin for shift shaft lever (Fig. 104). Shaft lever roll pin is approximately 22 mm (7/8 in.) long. Shift socket roll pin is approximately 33 mm (1-1/4 in.) long.



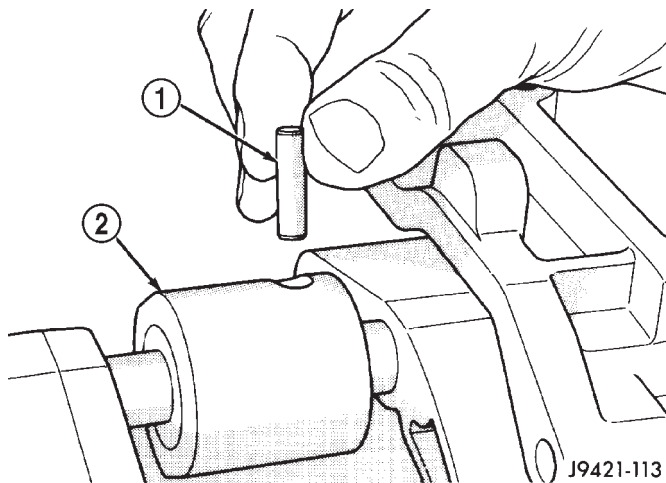
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**Fig. 104 ROLL PIN IDENTIFICATION**

- 1 - SHAFT LEVER ROLL PIN
- 2 - SHIFT SOCKET ROLL PIN

## MANUAL NV 3550 (Continued)

(10) Align roll pin holes in shift shaft, lever and bushing. Then start roll pin into shaft lever by hand (Fig. 105).



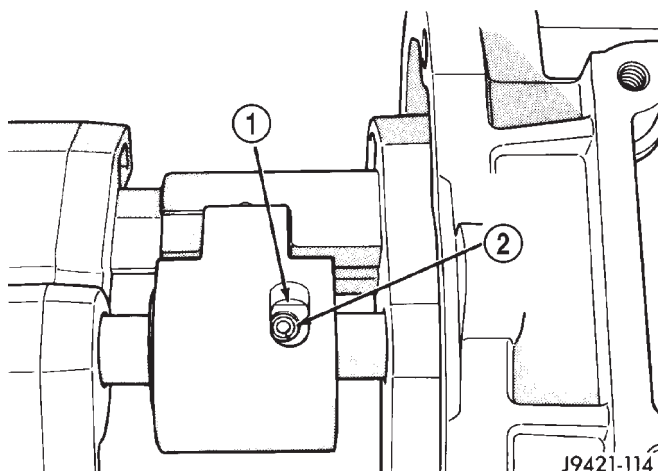
**Fig. 105 ROLL PIN IN SHIFT SHAFT**

- 1 - SHAFT LEVER ROLL PIN (1" LONG)
- 2 - LEVER AND BUSHING

(11) Seat shaft lever roll pin with pin punch (Fig. 106).

**CAUTION:** The shaft lever roll pin must be flush with the surface of the lever. The lever bushing will bind on the roll pin if the pin is not seated flush.

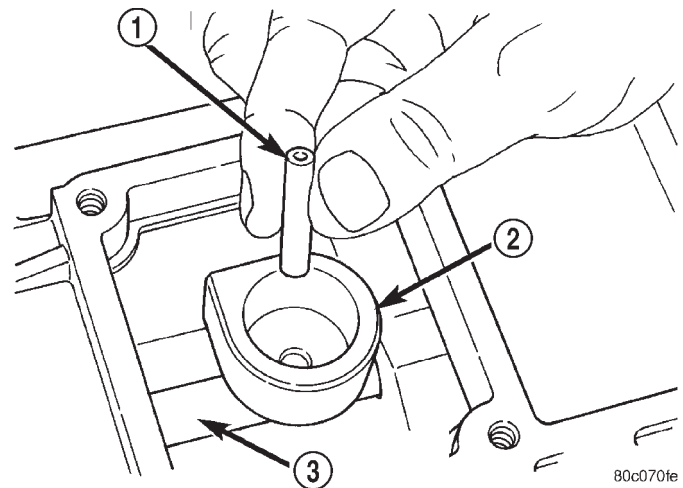
(12) Verify that lock pin slot in lever bushing is positioned as shown (Fig. 106).



**Fig. 106 SHIFT SHAFT LEVER ROLL**

- 1 - BUSHING LOCK PIN SLOT
- 2 - SEAT ROLL PIN FLUSH WITH LEVER

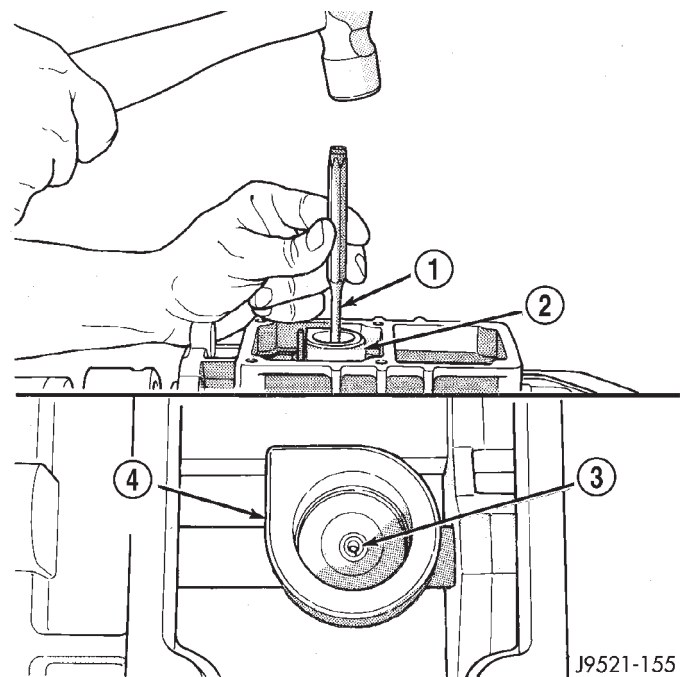
(13) Align roll pin holes in shift socket and shift shaft. Then start roll pin into shift shaft by hand (Fig. 107).



**Fig. 107 ROLL PIN IN SHIFT SOCKET**

- 1 - ROLL PIN
- 2 - SHIFT SOCKET
- 3 - SHIFT SHAFT

(14) Seat roll pin in shift socket with pin punch. Roll pin must be flush with socket (Fig. 108).



**Fig. 108 SEATING SHIFT SOCKET ROLL PIN**

- 1 - PIN PUNCH
- 2 - SHIFT SOCKET
- 3 - SEAT ROLL PIN FLUSH
- 4 - SHIFT SOCKET

(15) Verify that notches in shift fork arms are aligned. Realign arms if necessary.

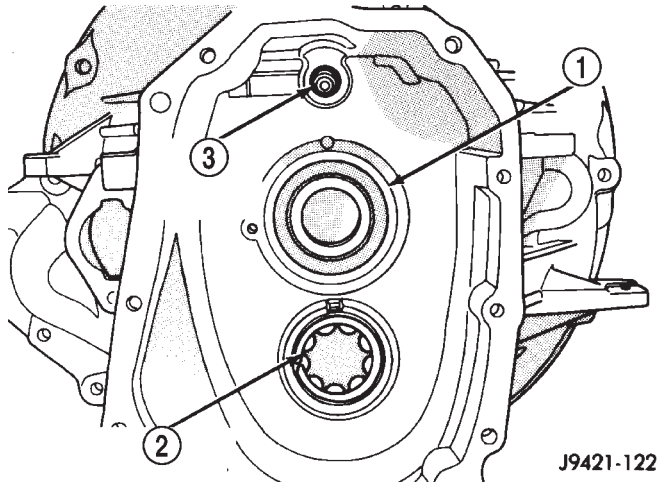


MANUAL NV 3550 (Continued)

## FRONT HOUSING AND INPUT SHAFT BEARING RETAINER

(1) Install reverse blocker, retainer and retainer bolt in front housing.

(2) If previously removed, input shaft bearing in front housing (Fig. 109). Install snap ring and use plastic mallet to seat bearing. Bearing goes in from front side of housing only.



**Fig. 109 INPUT SHAFT AND COUNTERSHAFT FRONT BEARING**

- 1 - INPUT SHAFT BEARING
- 2 - COUNTERSHAFT FRONT BEARING
- 3 - SHIFT SHAFT BUSHING

(3) Apply liberal quantity of petroleum jelly to countershaft front bearing. Then insert bearing in front housing race (Fig. 109). Large diameter side of bearing cage goes toward countershaft (Fig. 110). Small diameter side goes toward bearing race in housing.

(4) Reach into countershaft front bearing with finger, and push each bearing roller outward against race. Then apply extra petroleum jelly to hold rollers in place. This avoids having rollers becoming displaced during housing installation.

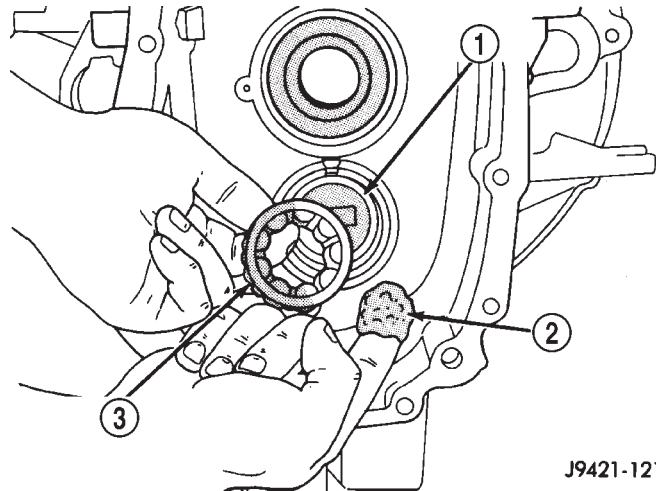
(5) Apply small amount of petroleum jelly to shift shaft bushing in front housing.

(6) Apply 1/8 in. wide bead of Mopar Gasket Maker or equivalent, to mating surfaces of front and rear housings (Fig. 111).

(7) Have helper hold rear housing and geartrain in upright position. Then install front housing on rear housing and geartrain.

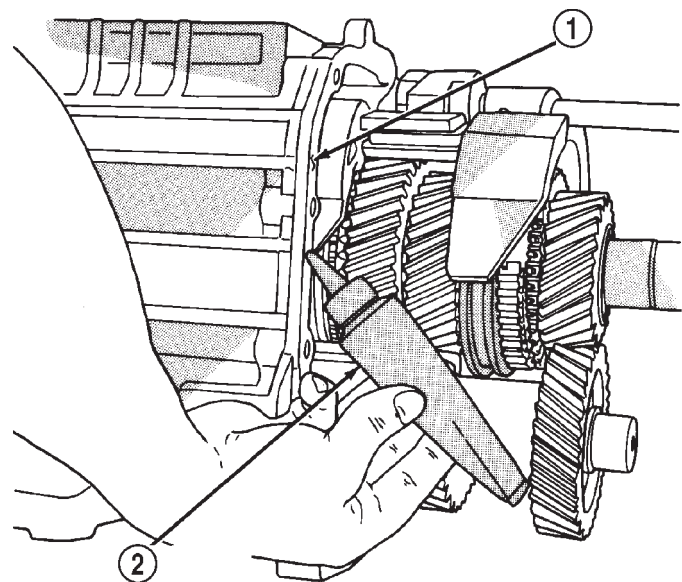
(8) Work front housing downward onto geartrain until seated on rear housing.

**CAUTION:** If the front housing will not seat on the rear housing, either the shift components are not in Neutral, or one or more components are mis-



**Fig. 110 COUNTERSHAFT FRONT BEARING**

- 1 - BEARING RACE
- 2 - PETROLEUM JELLY
- 3 - COUNTERSHAFT FRONT BEARING



**Fig. 111 SEAL FRONT/REAR HOUSINGS**

- 1 - HOUSING FLANGE SURFACE
- 2 - MOPAR GASKET MAKER (OR LOCTITE 518)

**aligned. Do not force the front housing into place. This will only result in damaged components.**

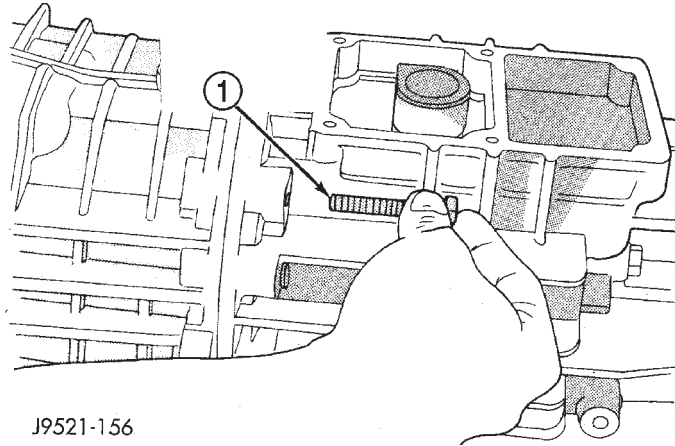
(9) Tap rear housing alignment dowels back into place with hammer and pin punch. Both dowels should be flush fit in each housing. Have helper hold transmission upright while dowels are tapped back into place.

(10) Place transmission in horizontal position.

MANUAL NV 3550 (Continued)

(11) Apply Mopar Gasket Maker or equivalent to housing attaching bolts. Apply sealer material sealer to underside of bolt heads and to bolt shanks and threads (Fig. 112).

(12) Install and start housing attaching bolts by hand (Fig. 112). Then tighten bolts to 34 N·m (25 ft. lbs.).



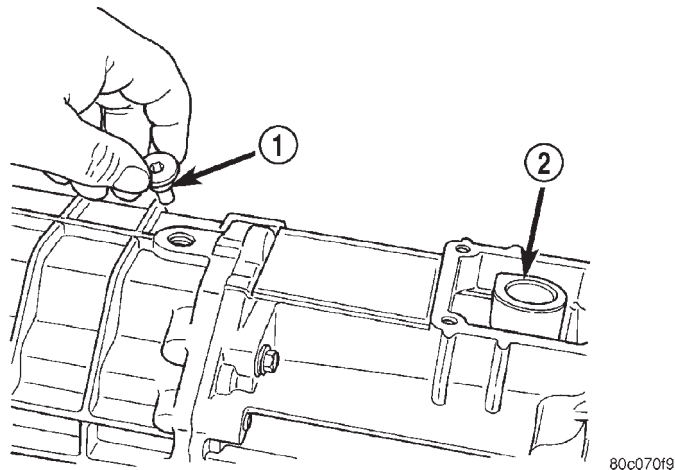
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**Fig. 112 HOUSING BOLTS**

- 1 - HOUSING ATTACHING BOLTS

(13) Install shift shaft bushing lock bolt (Fig. 113). Apply Mopar Gasket Maker or equivalent, to bolt threads, shank and underside of bolt head before installation.

**CAUTION:** If the lock bolt cannot be fully installed, do not try to force it into place. Either the shift shaft is not in Neutral or the shaft bushing (or lever) is misaligned.

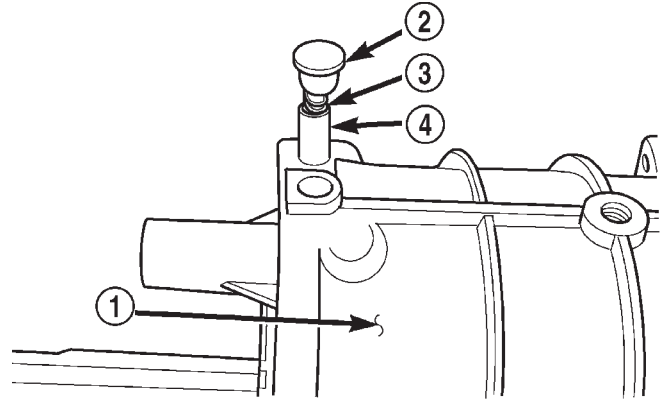


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**Fig. 113 SHIFT SHAFT BUSHING LOCK BOLT**

- 1 - SHIFT SHAFT LOCK BOLT
- 2 - SHAFT SOCKET

(14) Lubricate then install shift shaft detent plunger in housing bore (Fig. 114). Lubricate plunger with petroleum jelly or gear lubricant. **Verify plunger is fully seated in detent notch in shift shaft.**



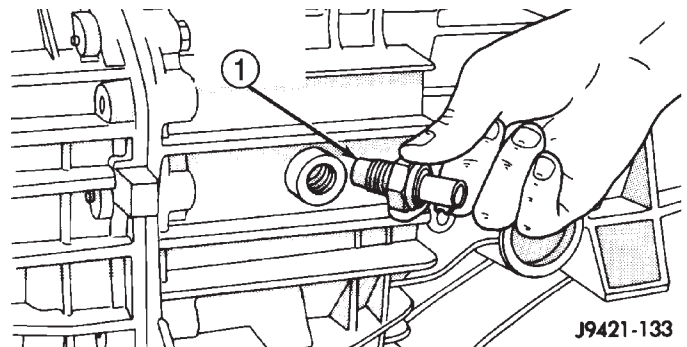
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**Fig. 114 SHIFT SHAFT DETENT PLUNGER**

- 1 - FRONT HOUSING
- 2 - PLUG
- 3 - SPRING
- 4 - PLUNGER

(15) Install detent spring inside plunger (Fig. 114).  
 (16) Install plug on detent spring and compress spring. Then drive detent plug into transmission case until plug seats.

(17) Install backup light switch (Fig. 115).



J9421-133

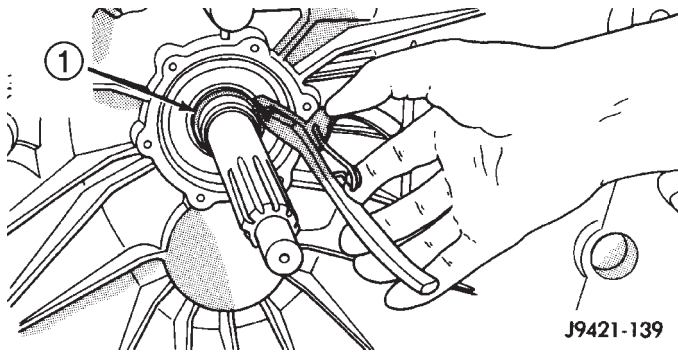
**Fig. 115 BACKUP LIGHT SWITCH**

- 1 - BACKUP LIGHT SWITCH

(18) Install input shaft snap ring (Fig. 116).  
 (19) Install new oil seal in front bearing retainer with Installer 6448 (Fig. 117).

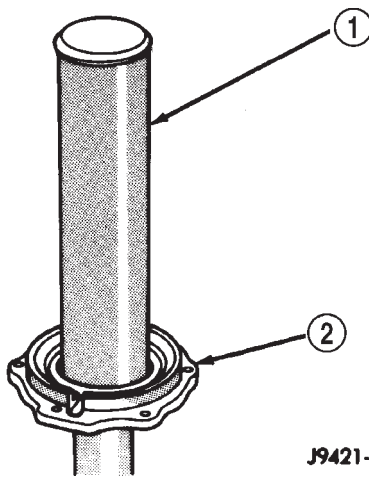
(20) Apply bead of Mopar silicone sealer or equivalent to flange surface of front bearing retainer (Fig. 118).

MANUAL NV 3550 (Continued)



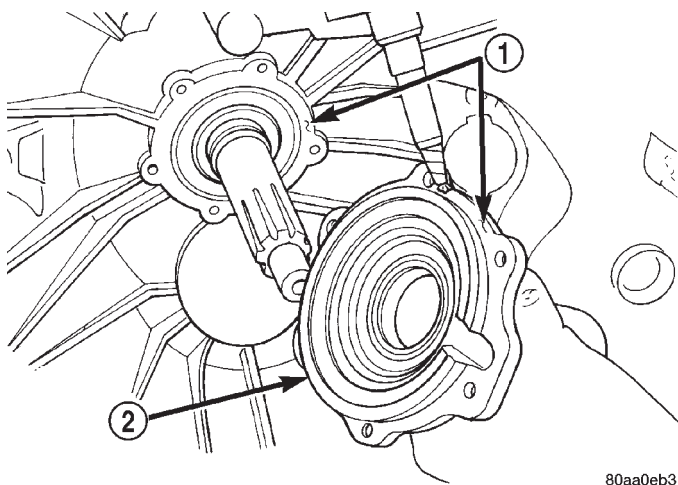
**Fig. 116 SHAFT SNAP RING - TYPICAL**

- 1 - INPUT SHAFT SNAP RING



**Fig. 117 OIL SEAL IN FRONT BEARING RETAINER**

- 1 - SPECIAL TOOL 6448
- 2 - FRONT BEARING RETAINER

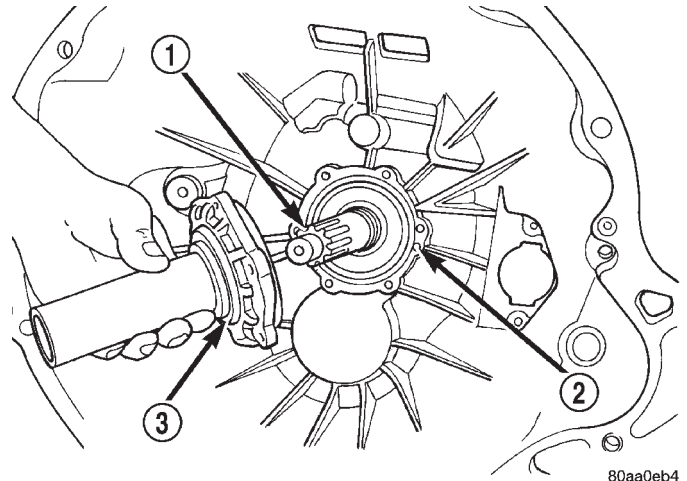


**Fig. 118 SEAL BEARING RETAINER AND HOUSING**

- 1 - APPLY SEALER BEAD
- 2 - INPUT SHAFT BEARING RETAINER

(21) Align and install front bearing retainer over input shaft and onto housing mounting surface (Fig. 119). Although retainer is one-way fit on housing, be sure bolt holes are aligned before seating retainer.

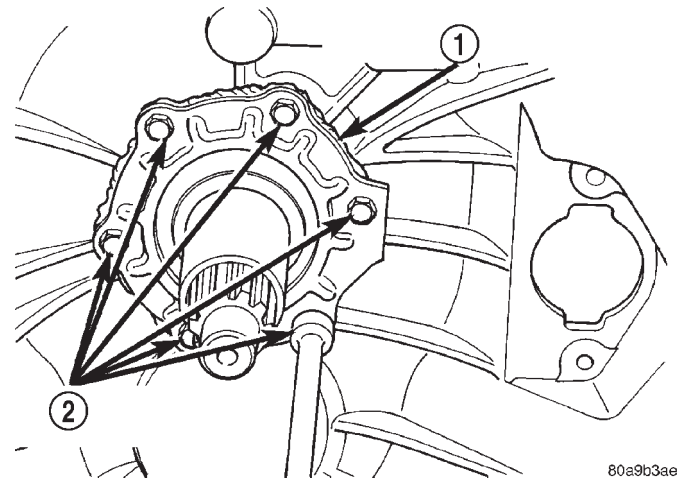
**NOTE:** Ensure no sealer gets into the oil feed hole in the transmission case or bearing retainer.



**Fig. 119 INPUT SHAFT BEARING RETAINER**

- 1 - INPUT SHAFT
- 2 - OIL FEED
- 3 - BEARING RETAINER

(22) Install and tighten bearing retainer bolts to 7-10 N·m (5-7 ft. lbs.) (Fig. 120).



**Fig. 120 BEARING RETAINER BOLTS**

- 1 - RETAINER
- 2 - RETAINER BOLTS

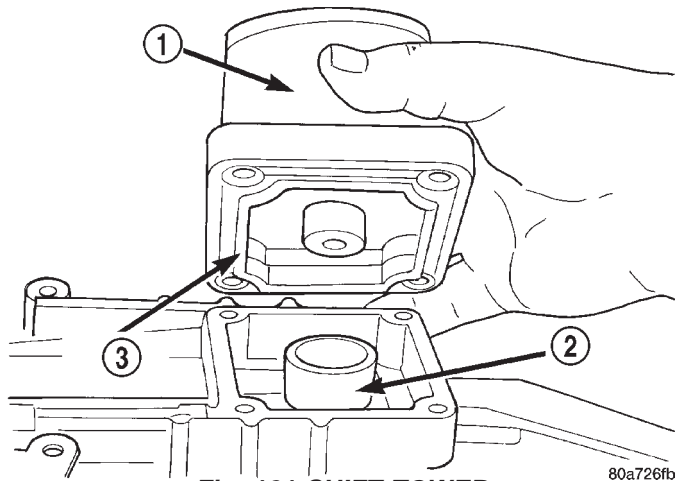
**SHIFT TOWER AND LEVER**

- (1) Apply petroleum jelly to ball end of shift lever and interior of shift socket.
- (2) Shift the transmission into third gear.
- (3) Align and install shift tower and lever assembly (Fig. 121). Be sure shift ball is seated in socket

MANUAL NV 3550 (Continued)

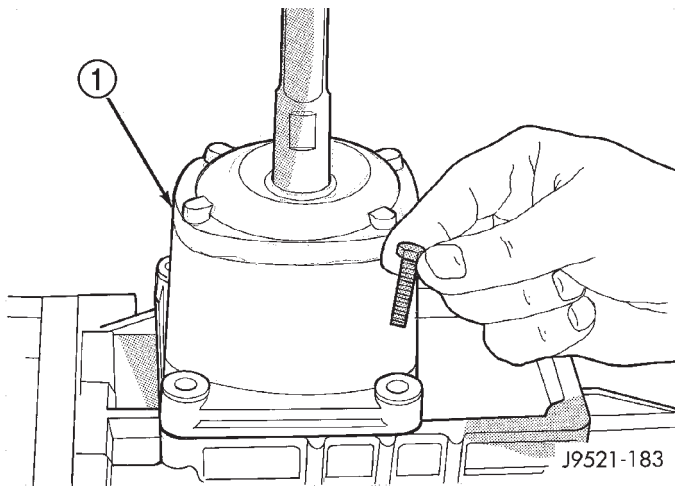
and the offset in the tower is toward the passenger side of the vehicle before installing tower bolts.

(4) Install shift tower bolts (Fig. 122). Tighten bolts to 8.5 N·m (75.2 in. lbs.).



**Fig. 121 SHIFT TOWER**

- 1 - SHIFT TOWER
- 2 - SHIFT SOCKET
- 3 - SEAL



**Fig. 122 SHIFT TOWER BOLTS**

- 1 - SHIFT TOWER AND LEVER ASSEMBLY

(5) Fill transmission to bottom edge of fill plug hole with Mopar Transmission Lubricant.

(6) Install and tighten fill plug to 34 N·m (25 ft. lbs.).

(7) Check transmission vent. Be sure vent is open and not restricted.

**EXTENSION HOUSING BUSHING**

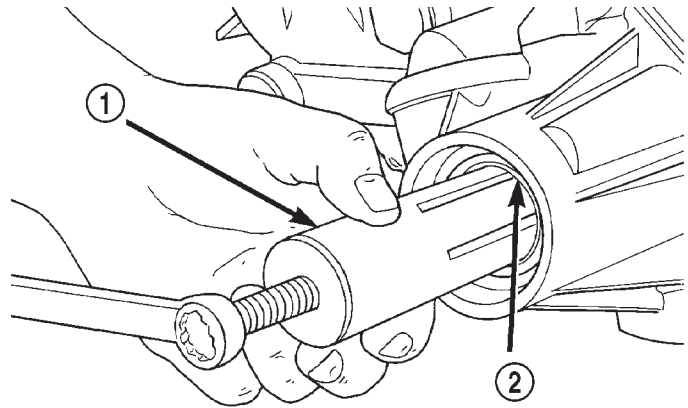
**REMOVAL - YOKE BUSHING**

(1) Raise and support vehicle.

(2) Mark reference lines on the propeller shaft and remove shaft.

(3) Remove housing yoke seal.

(4) Insert Remover 6957 into rear housing and tighten tool to bushing and remove bushing (Fig. 123).



**Fig. 123 Bushing Removal - Typical**

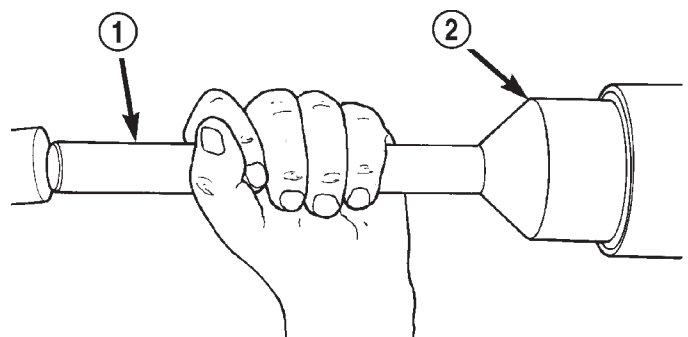
- 1 - REMOVER
- 2 - EXTENSION HOUSING BUSHING

**INSTALLATION - YOKE BUSHING**

(1) Align bushing oil hole with oil slot in rear housing.

(2) Tap bushing into place with Installer 6951 and Handle C-4171.

(3) Install new oil seal in housing using Installer C-3972-A (Fig. 124).



**Fig. 124 Rear Housing Seal**

- 1 - HANDLE
- 2 - INSTALLER

(4) Install propeller shaft with reference marks aligned.

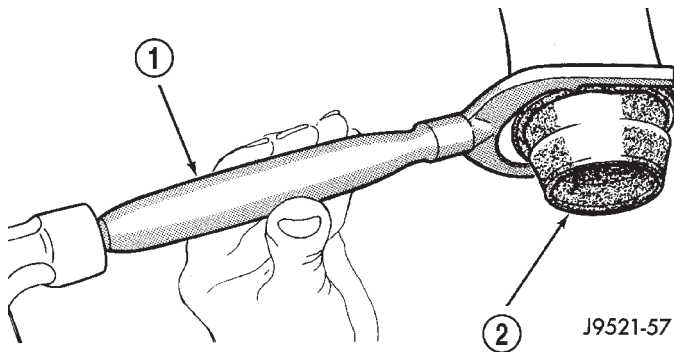
(5) Remove support and lower vehicle.

(6) Check transmission fluid level.

## EXTENSION HOUSING SEAL 2WD

### REMOVAL - YOKE SEAL 2WD

- (1) Raise and support vehicle.
- (2) Mark propeller shaft and axle yoke for alignment reference.
- (3) Disconnect and remove propeller shaft.
- (4) Remove old seal with Remover C-3985-B (Fig. 125) from transmission housing.

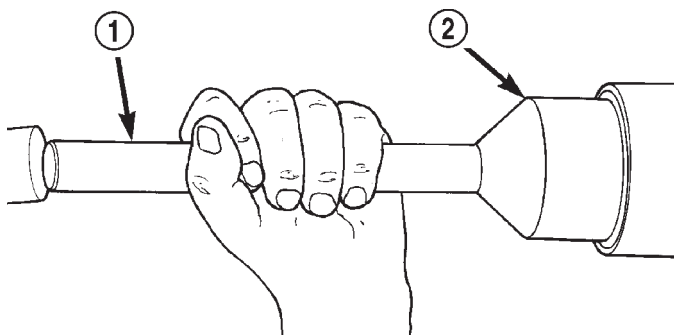


**Fig. 125 TRANSMISSION YOKE SEAL**

- 1 - REMOVER  
2 - SEAL

### INSTALLATION - YOKE SEAL 2WD

- (1) Place seal in position on transmission housing.
- (2) Drive new seal into transmission housing with Installer C-3972-A and Handle C-4171 (Fig. 126).
- (3) Carefully guide propeller shaft slip yoke into housing and onto output shaft splines.
- (4) Install propeller shaft with reference marks aligned.



**Fig. 126 Transmission Housing Yoke Seal**

- 1 - HANDLE  
2 - INSTALLER

- (5) Remove support and lower vehicle.
- (6) Check transmission fluid level.

## VEHICLE SPEED SENSOR

### DESCRIPTION

The 3-wire Vehicle Speed Sensor (VSS) is located on the speedometer pinion gear adapter. If equipped with 4WD, this adapter is located on the extension housing of the transfer case (drivers side). If equipped with 2WD, this adapter is located on the left side of the transmission extension housing.

### OPERATION

The VSS is a 3-circuit (3-wire), magnetic, hall-effect sensor.

The 3 circuits are:

- A 5-volt power supply from the Powertrain Control Module (PCM).
- A ground is provided for the sensor through a low-noise sensor return circuit in the PCM.
- An input to the PCM is used to determine vehicle speed and distance traveled.

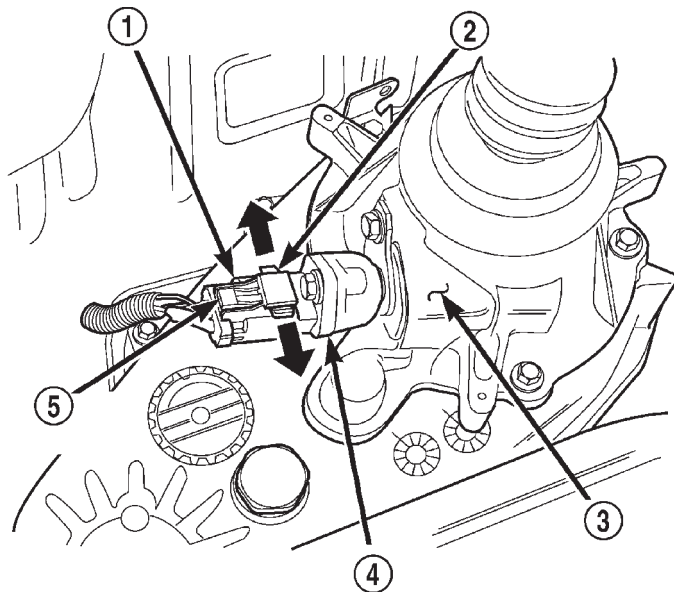
The speed sensor generates 8 pulses per sensor revolution. These signals, in conjunction with a closed throttle signal from the throttle position sensor, indicate a closed throttle deceleration to the PCM. When the vehicle is stopped at idle, a closed throttle signal is received by the PCM (but a speed sensor signal is not received).

Under deceleration conditions, the PCM adjusts the Idle Air Control (IAC) motor to maintain a desired MAP value. Under idle conditions, the PCM adjusts the IAC motor to maintain a desired engine speed.

## VEHICLE SPEED SENSOR (Continued)

## REMOVAL

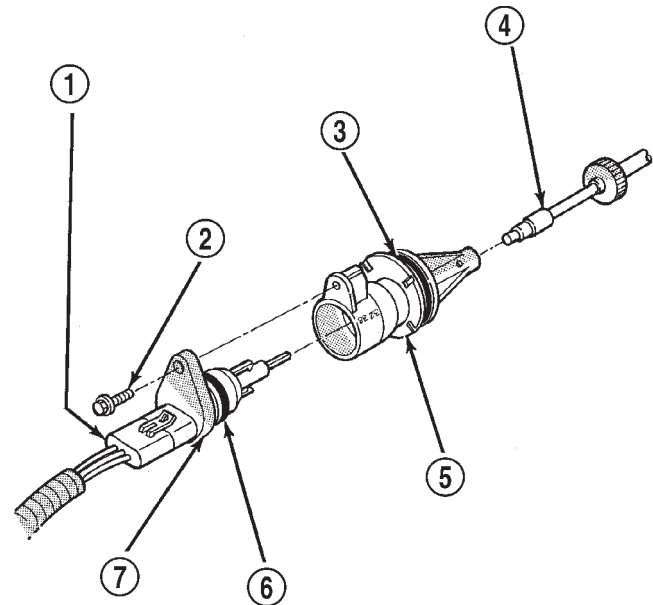
The Vehicle Speed Sensor (VSS) is located on the speedometer pinion gear adapter. If equipped with 4WD, this adapter is located on the transfer case extension (left side) (Fig. 127). If equipped with 2WD, this adapter is located on the extension housing of the transmission (left side).



**Fig. 127 VSS Location**

- 1 - SENSOR ELECTRICAL CONNECTOR
- 2 - SLIDE TAB
- 3 - 4WD TRANSFER CASE EXTENSION
- 4 - VEHICLE SPEED SENSOR
- 5 - RELEASE LOCK

- (1) Raise and support vehicle.
- (2) Disconnect electrical connector from sensor by pushing slide tab (Fig. 127). After slide tab has been positioned, push in on secondary release lock (Fig. 127) on side of connector and pull connector from sensor.



J9314-188

**Fig. 128 VSS Removal/Installation**

- 1 - ELECTRICAL CONNECTOR
- 2 - SENSOR MOUNTING BOLT
- 3 - O-RING
- 4 - SPEEDOMETER PINION GEAR
- 5 - SPEEDOMETER PINION GEAR ADAPTER
- 6 - O-RING
- 7 - VEHICLE SPEED SENSOR

- (3) Remove sensor mounting bolt (Fig. 128).
- (4) Remove sensor (pull straight out) from speedometer pinion gear adapter (Fig. 128). Do not remove gear adapter from transmission.

## INSTALLATION

- (1) Clean inside of speedometer pinion gear adapter before installing speed sensor.
- (2) Install sensor into speedometer gear adapter and install mounting bolt. Before tightening bolt, verify speed sensor is fully seated (mounted flush) to speedometer pinion gear adapter.
- (3) Tighten sensor mounting bolt to 2.2 N·m (20 in. lbs.) torque.
- (4) Connect electrical connector to sensor.

## AUTOMATIC - AW4

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## AUTOMATIC - AW4

## DIAGNOSIS AND TESTING - AUTOMATIC TRANSMISSION

CONDITION	POSSIBLE CAUSE	CORRECTION
VEHICLE WILL NOT BACK UP OR MOVE FORWARD	1) Shift cable out of adjustment or damaged. 2) Valve body or primary regulator faulty. 3) Park lock pawl faulty. 4) Torque converter faulty. 5) Converter drive plate broken. 6) Oil pump intake screen blocked. 7) Transmission faulty.	1) Adjust cable or replace cable. 2) Inspect or repair the valve body. 3) Repair park pawl. 4) Replace torque converter. 5) Replace drive plate. 6) Clean oil pump intake screen. 7) Disassemble and repair transmission.
SHIFT LEVER POSITION INCORRECT	1) Shift cable out of adjustment. 2) Manual valve and lever faulty.	1) Adjust shifter cable. 2) Repair valve body.
HARSH ENGAGEMENT	1) Throttle valve cable out of adjustment. 2) Valve body or primary regulator valve faulty. 3) Accumulator pistons faulty. 4) Transmission faulty.	1) Adjust the throttle valve cable. 2) Repair valve body. 3) Repair pistons. 4) Disassemble and repair transmission.
DELAYED 1-2, 2-3, OR 3-4 UPSHIFTS, OR DOWNSHIFTS FROM 4-3 OR 3-2 AND SHIFTS BACK TO 4 OR 3	1) Solenoid faulty. 2) Valve body faulty. 3) Electronic control problem.	1) Repair or replace solenoid. 2) Repair valve body. 3) Use appropriate diagnostics to isolate malfunction.

AUTOMATIC - AW4 (Continued)

CONDITION	POSSIBLE CAUSE	CORRECTION
SLIPS ON 1-2, 2-3, OR 3-4 UPSHIFTS, OR SLIPS OR SHUDDERS DURING ACCELERATION	1) Shift cable out of adjustment. 2) Throttle valve cable out of adjustment. 3) Solenoid faulty. 4) Valve body faulty. 5) Transmission faulty.	1) Adjust the shift cable. 2) Adjust throttle valve cable. 3) Repair or replace solenoid. 4) Repair valve body. 5) Disassemble and repair transmission.
DRAG OR BIND ON 1-2, OR 2-3 OR 3-4 UPSHIFT	1) Shift cable out of adjustment. 2) Valve body faulty. 3) Transmission faulty.	1) Adjust the shift cable. 2) Repair valve body. 3) Disassemble and repair transmission.
CONVERTER CLUTCH DOES NOT ENGAGE IN 2ND, 3RD, OR 4TH GEARS	1) Electronic control problem. 2) Solenoid faulty. 3) Valve body faulty. 4) Transmission faulty.	1) Use appropriate diagnostics to isolate malfunction. 2) Repair or replace the solenoid. 3) Repair valve body. 4) Disassemble and repair transmission.
HARSH DOWNSHIFTS	1) Throttle valve cable out of adjustment. 2) Throttle cable and cam faulty. 3) Accumulator pistons faulty. 4) Valve body faulty. 5) Transmission faulty.	1) Adjust the throttle valve cable. 2) Replace the throttle cable and cam. 3) Repair the accumulator pistons. 4) Repair valve body. 5) Disassemble and repair transmission.
NO DOWNSHIFT WHEN COASTING	1) Solenoid faulty. 2) Electronic control problem. 3) Valve body faulty.	1) Repair or replace the solenoid. 2) Use appropriate diagnostics to isolate malfunction. 3) Repair valve body.
DOWNSHIFT LATE OR EARLY DURING COAST	1) Throttle cable faulty. 2) Solenoid faulty. 3) Electronic control problem. 4) Valve body faulty. 5) Transmission faulty.	1) Replace cable. 2) Repair or replace the solenoid. 3) Use appropriate diagnostics to isolate malfunction. 4) Repair valve body. 5) Disassemble and repair transmission.
NO 4-3, 3-2, OR 2-1 KICKDOWN	1) Solenoid faulty. 2) Electronic control problem. 3) Valve body faulty.	1) Repair or replace the solenoid. 2) Use appropriate diagnostics to isolate malfunction. 3) Repair valve body.



## AUTOMATIC - AW4 (Continued)

CONDITION	POSSIBLE CAUSE	CORRECTION
NO ENGINE BRAKING IN 1-2 POSITION	<ol style="list-style-type: none"> <li>1) Solenoid faulty.</li> <li>2) Electronic control problem.</li> <li>3) Valve body faulty.</li> <li>4) Transmission faulty.</li> </ol>	<ol style="list-style-type: none"> <li>1) Repair or replace the solenoid.</li> <li>2) Use appropriate diagnostics to isolate malfunction.</li> <li>3) Repair valve body.</li> <li>4) Disassemble and repair transmission.</li> </ol>
VEHICLE DOES NOT HOLD IN PARK	<ol style="list-style-type: none"> <li>1) Shift cable out of adjustment.</li> <li>2) Parking pawl cam and spring faulty.</li> </ol>	<ol style="list-style-type: none"> <li>1) Adjust the shifter cable.</li> <li>2) Replace the parking pawl and cam.</li> </ol>
OVERHEAT DURING NORMAL OPERATION ( FLUID DISCOLORED, SMELLS BURNED)	<ol style="list-style-type: none"> <li>1) Low fluid level.</li> <li>2) Fluid cooler or lines blocked or cooler cracked.</li> </ol>	<ol style="list-style-type: none"> <li>1) Add fluid and check for leaks.</li> <li>2) Flush cooler and lines and replace radiator if there is transmission fluid mixed with coolant.</li> </ol>
OVERHEAT DURING COMMERCIAL OPERATION OR WHILE TRAILER TOWING ( FLUID DARK AND BURNED WITH SOME SLUDGE FORMATION)	<ol style="list-style-type: none"> <li>1) Vehicle not properly equipped for trailer towing or commercial use.</li> <li>2) Vehicle not equipped with auxiliary cooler.</li> <li>3) Tow vehicle overloaded vehicle tow capacity exceeded).</li> <li>4) Air flow to auxiliary cooler blocked or restricted.</li> </ol>	<ol style="list-style-type: none"> <li>1) Be sure that the vehicle is equipped with all recommended optional components.</li> <li>2) Drain fluid, change filter and install an auxiliary cooler.</li> <li>3) Be sure the vehicle is properly equipped to handle load.</li> <li>4) Remove or reposition the blockage or obstruction.</li> </ol>
OIL COMES OUT THE FILLER TUBE	<ol style="list-style-type: none"> <li>1) Transmission overfilled.</li> <li>2) Breather vent in oil pump blocked.</li> <li>3) Fluid cooler or cooler lines plugged.</li> </ol>	<ol style="list-style-type: none"> <li>1) Drain fluid to correct level.</li> <li>2) Inspect and clear blockage.</li> <li>3) Flush cooler and lines.</li> </ol>

## INPUT SHAFT SPEED SENSOR

### DESCRIPTION

The Input and Output Speed Sensors are two-wire magnetic pickup devices that generate AC signals as rotation occurs. They are mounted in the left side of the transmission case and are considered primary inputs to the Transmission Control Module (TCM).

### OPERATION

The Input Speed Sensor provides information on how fast the input shaft is rotating. As the teeth of the input clutch hub pass by the sensor coil, an AC voltage is generated and sent to the TCM. The TCM interprets this information as input shaft rpm.

The Output Speed Sensor generates an AC signal in a similar fashion, though its coil is excited by rotation of the output shaft speed sensor rotor. The TCM interprets this information as output shaft rpm.

The TCM compares the input and output speed signals to determine the transmission gear ratio.

The TCM also compares the input speed signal and the engine speed signal to determine the following:

- Torque converter clutch slippage.
- Torque converter element speed ratio.

## VALVE BODY SOLENOIDS

### DESCRIPTION

The typical electrical solenoid used in automotive applications is a linear actuator. It is a device that produces motion in a straight line. This straight line motion can be either forward or backward in direction, and short or long distance.

A solenoid is an electromechanical device that uses a magnetic force to perform work. It consists of a coil of wire, wrapped around a magnetic core made from steel or iron, and a spring loaded, movable plunger, which performs the work, or straight line motion.

The solenoids used in transmission applications are attached to valves which can be classified as **normally open** or **normally closed**. The **normally open** solenoid valve is defined as a valve which allows hydraulic flow when no current or voltage is applied to the solenoid. The **normally closed** solenoid valve is defined as a valve which does not allow hydraulic flow when no current or voltage is applied to the solenoid. These valves perform hydraulic control functions for the transmission and must therefore be durable and tolerant of dirt particles. For these reasons, the valves have hardened steel poppets and ball valves. The solenoids operate the valves directly, which means that the solenoids must have very high outputs to close the valves against the sizable flow areas and line pressures found in current transmissions. Fast response time is also necessary to ensure accurate control of the transmission.

The strength of the magnetic field is the primary force that determines the speed of operation in a particular solenoid design. A stronger magnetic field will cause the plunger to move at a greater speed than a weaker one. There are basically two ways to increase the force of the magnetic field:

- Increase the amount of current applied to the coil or

- Increase the number of turns of wire in the coil.

The most common practice is to increase the number of turns by using thin wire that can completely fill the available space within the solenoid housing. The strength of the spring and the length of the plunger also contribute to the response speed possible by a particular solenoid design.

A solenoid can also be described by the method by which it is controlled. Some of the possibilities include variable force, pulse-width modulated, constant ON, or duty cycle. The variable force and pulse-width modulated versions utilize similar methods to control the current flow through the solenoid to position the solenoid plunger at a desired position somewhere between full ON and full OFF. The constant ON and duty cycled versions control the voltage across the solenoid to allow either full flow or no flow through the solenoid's valve.

### OPERATION

When an electrical current is applied to the solenoid coil, a magnetic field is created which produces an attraction to the plunger, causing the plunger to move and work against the spring pressure and the load applied by the fluid the valve is controlling. The plunger is normally directly attached to the valve which it is to operate. When the current is removed from the coil, the attraction is removed and the plunger will return to its original position due to spring pressure.

The plunger is made of a conductive material and accomplishes this movement by providing a path for the magnetic field to flow. By keeping the air gap between the plunger and the coil to the minimum necessary to allow free movement of the plunger, the magnetic field is maximized.

# TRANSFER CASE NV-231

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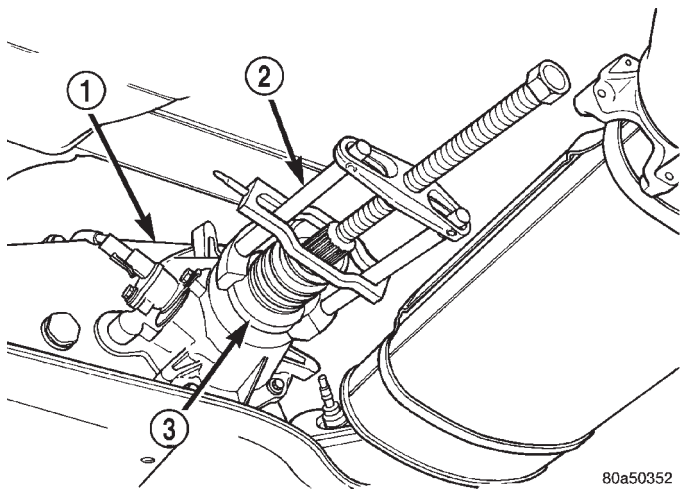
## TRANSFER CASE NV-231

### DISASSEMBLY

Position transfer case on shallow drain pan. Remove drain plug and drain lubricant remaining in case.

### REAR RETAINER AND OIL PUMP

- (1) Remove the speedometer adapter.
- (2) Spread band clamp which holds output shaft boot to the output shaft slinger, or output shaft damper, with a suitable awl, or equivalent.
- (3) Remove output shaft boot from slinger, or output shaft damper, and output shaft.
- (4) If the vehicle is equipped with an automatic transmission, remove the output shaft rear slinger using Puller MD-998056-A (Fig. 1).

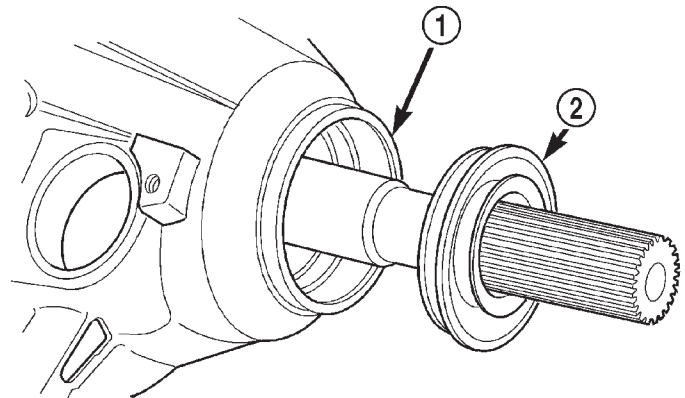


**Fig. 1 Rear Slinger Removal**

- 1 - TRANSFER CASE
- 2 - SPECIAL TOOL MD-998056-A
- 3 - SLINGER

(5) If the vehicle is equipped with a manual transmission, use Screws 8421 and the puller yoke and forcing screw from a bolt-grip puller set, such as those used to remove steering wheels and harmonic balancers, to remove the transfer case output shaft damper.

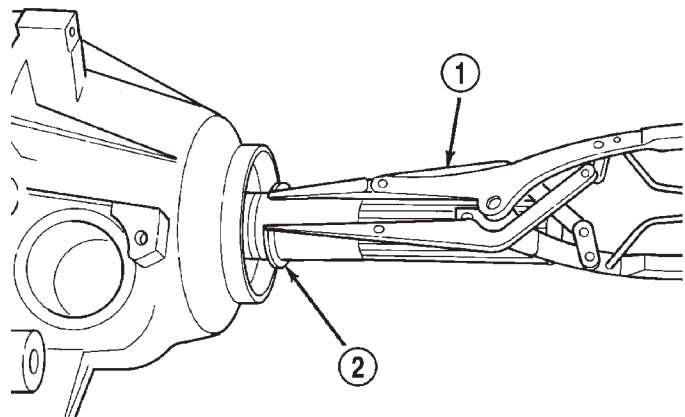
- (6) Use a suitable pry tool, or a slide hammer mounted screw, to remove the seal from the rear retainer (Fig. 2).
- (7) Remove the rear output bearing I.D. retaining ring (Fig. 3).
- (8) Remove the bolts holding the rear retainer to the rear case half.



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**Fig. 2 Rear Retainer Seal**

- 1 - REAR RETAINER
- 2 - OUTPUT SHAFT SEAL



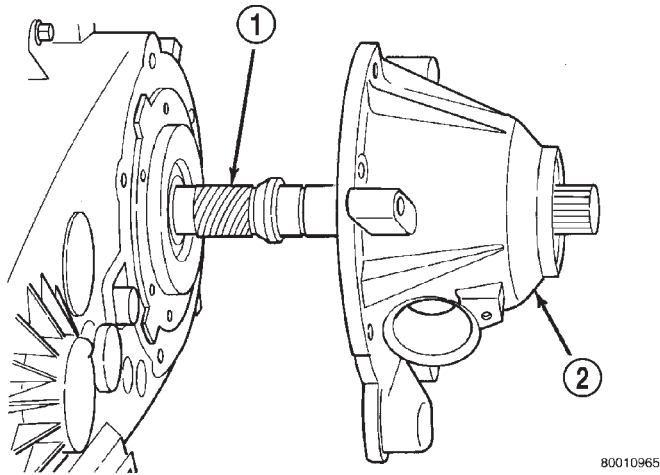
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**Fig. 3 Output Shaft Rear Bearing Retaining Ring**

- 1 - SNAP-RING PLIERS
- 2 - REAR BEARING I.D. RETAINING RING

TRANSFER CASE NV-231 (Continued)

- (9) Tap rear retainer with rawhide or rubber mallet to loosen sealer bead.
- (10) Remove rear retainer from rear case half (Fig. 4).

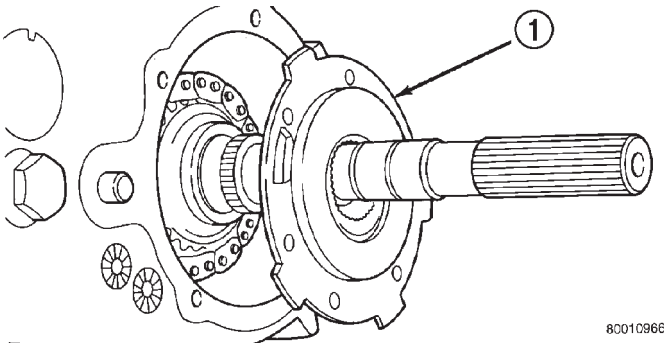


**Fig. 4 Rear Retainer Removal**

- 1 - MAINSHAFT
- 2 - REAR RETAINER

- (11) Remove snap-ring holding oil pump in position on output shaft.

- (12) Disengage oil pickup tube from oil pump and remove oil pump assembly. Remove oil pump by tilting the edge of the oil pump from under the edge of the rear case half and sliding the pump (Fig. 5).



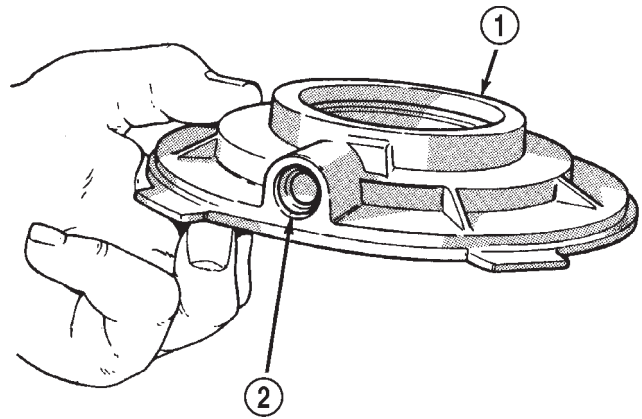
**Fig. 5 Oil Pump Removal**

- 1 - OIL PUMP

- (13) Remove pick-up tube o-ring from oil pump (Fig. 6), if necessary. Do not disassemble the oil pump, it is not serviceable.

**YOKE AND RANGE LEVER**

- (1) Remove transfer case indicator switch.
- (2) Remove front yoke nut as follows:
  - (a) Move range lever to 4L position.
  - (b) Then remove nut with socket and impact wrench (Fig. 7).

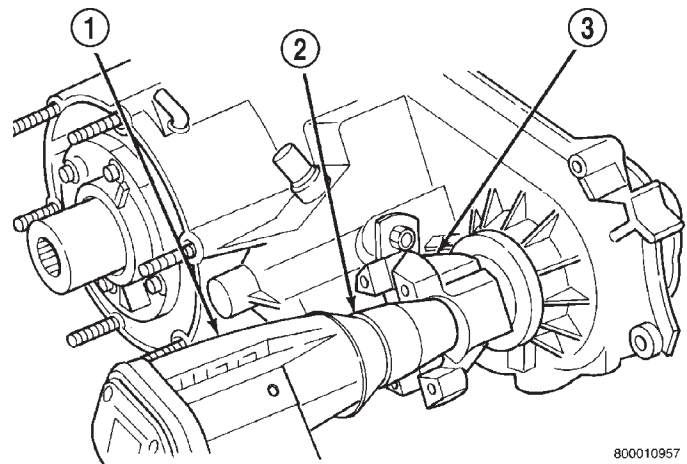


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**Fig. 6 Pick-up Tube O-ring Location**

- 1 - OIL PUMP
- 2 - O-RING

- (3) Remove yoke. If yoke is difficult to remove by hand, remove it with bearing splitter, or with standard two jaw puller (Fig. 8). Be sure puller tool is positioned on yoke and not on slinger as slinger will be damaged.



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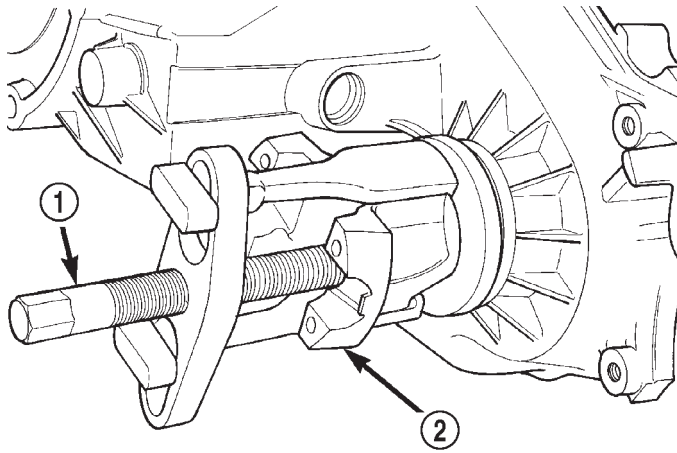
**Fig. 7 Yoke Nut Removal**

- 1 - IMPACT WRENCH
- 2 - SOCKET
- 3 - YOKE

- (4) Remove seal washer from front output shaft. Discard washer as it should not be reused.

- (5) Remove nut and washer that attach range lever to sector shaft. Then move sector to neutral position and remove range lever from shaft (Fig. 9).

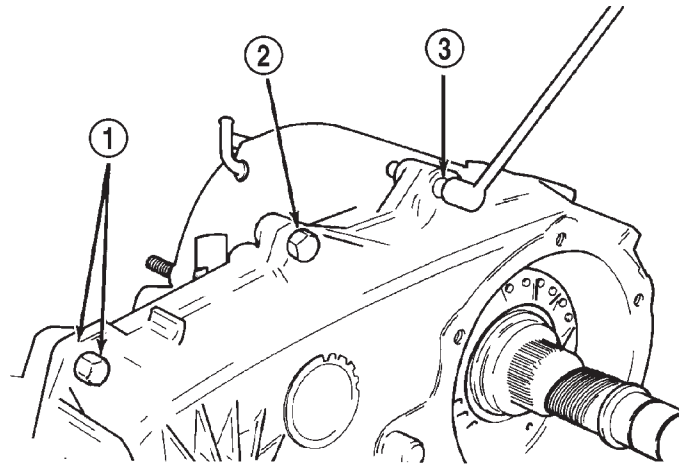
TRANSFER CASE NV-231 (Continued)



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**Fig. 8 Yoke Removal**

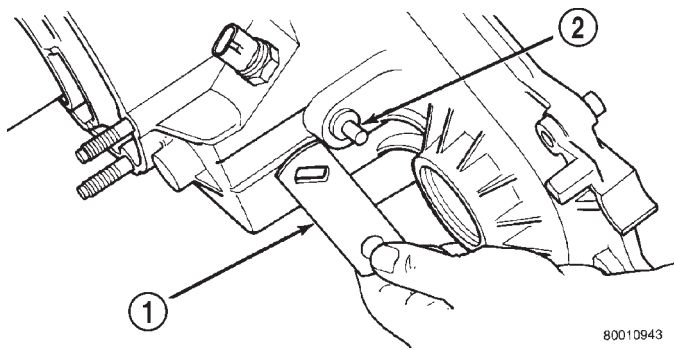
- 1 - PULLER TOOL
- 2 - YOKE



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**Fig. 10 Rear Case Alignment Bolt Locations**

- 1 - DOWEL BOLT AND WASHER (2)
- 2 - CASE BOLT (5)
- 3 - SPLINE HEAD BOLT (1)



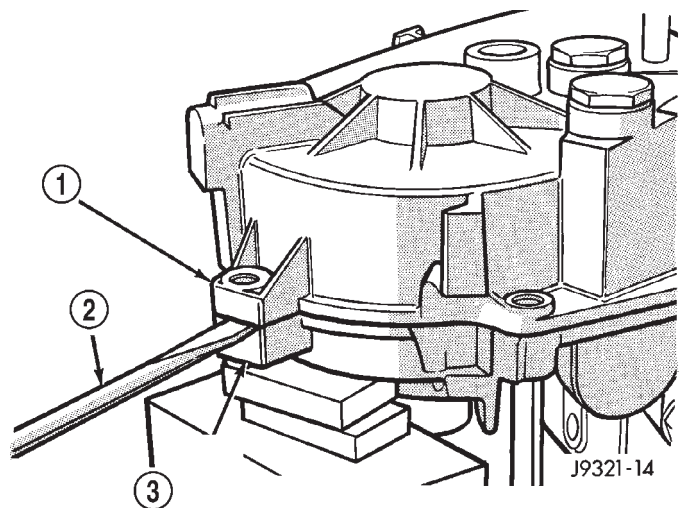
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**Fig. 9 Range Lever Removal**

- 1 - RANGE LEVER
- 2 - SECTOR SHAFT

**FRONT OUTPUT SHAFT AND DRIVE CHAIN**

- (1) Support transfer case so rear case is facing upward.
- (2) Remove bolts holding front case to rear case. The case alignment bolts require flat washers (Fig. 10).
- (3) Loosen rear case with flat blade screwdriver to break sealer bead. Insert pry tool blade only into notches provided at each end of case (Fig. 11).
- (4) Remove rear case from front case.



J9321-14

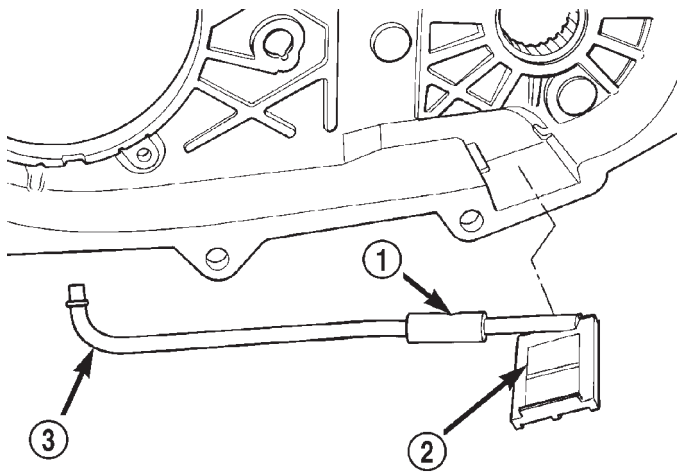
**Fig. 11 Loosening Rear Case**

- 1 - REAR CASE
- 2 - PRY TOOL (IN CASE SLOT)
- 3 - FRONT CASE

- (5) Remove oil pickup tube from rear case (Fig. 12).
- (6) Remove mode fork spring (Fig. 13).

TRANSFER CASE NV-231 (Continued)

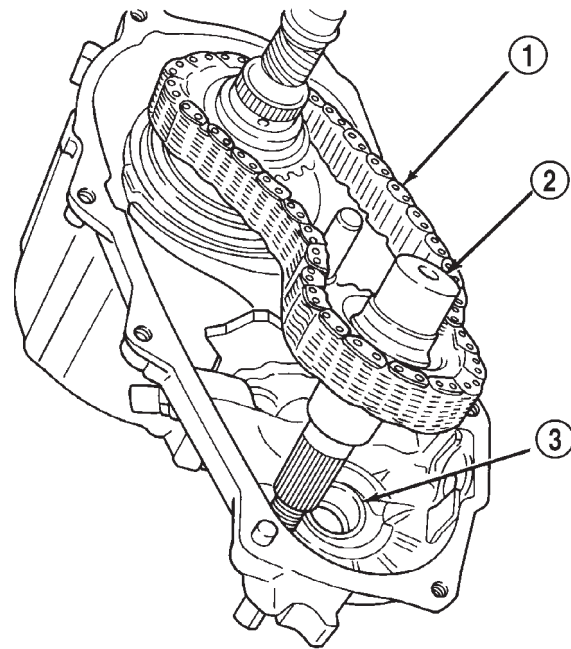
- (7) Pull front output shaft upward and out of front output shaft bearing (Fig. 14).
- (8) Remove front output shaft and chain.



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**Fig. 12 Oil Pickup Tube Removal**

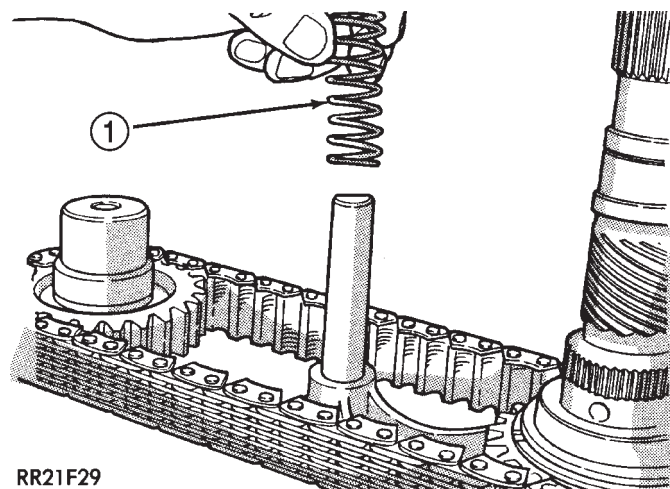
- 1 - CONNECTING HOSE
- 2 - PICKUP SCREEN
- 3 - PICKUP TUBE



8001096b

**Fig. 14 Remove Front Output Shaft And Chain**

- 1 - DRIVE CHAIN
- 2 - FRONT OUTPUT SHAFT
- 3 - SHAFT FRONT BEARING



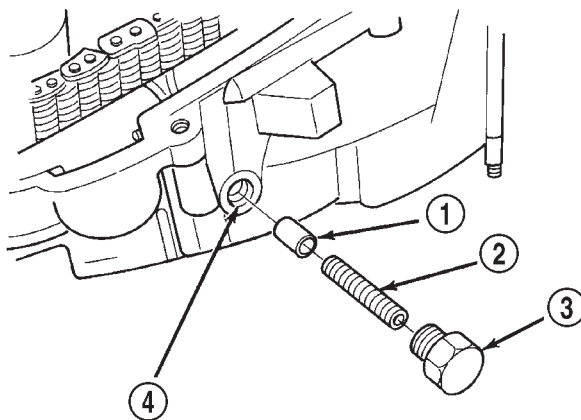
RR21F29

**Fig. 13 Mode Fork Spring Removal**

- 1 - MODE SPRING

**SHIFT FORKS AND MAINSHAFT**

- (1) Remove detent plug, O-ring, detent spring and detent plunger (Fig. 15).
- (2) Remove mainshaft from mode sleeve and input gear pilot bearing.



8001096a

**Fig. 15 Detent Plug, Spring And Plunger Removal**

- 1 - POPPET
- 2 - SPRING
- 3 - SCREW
- 4 - POPPET BORE (IN CASE)

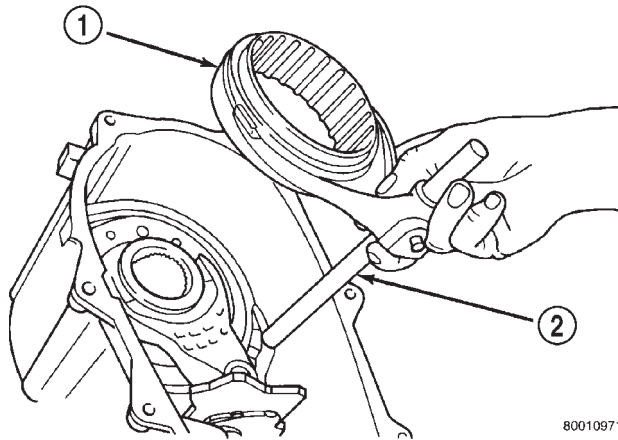
TRANSFER CASE NV-231 (Continued)

(3) Remove mode fork and sleeve as an assembly (Fig. 16). Note position of sleeve for assembly reference. The short side of the sleeve faces upward.

(4) Remove range fork and hub as an assembly (Fig. 17). Note fork position for installation reference.

(5) Remove shift sector from front case (Fig. 18).

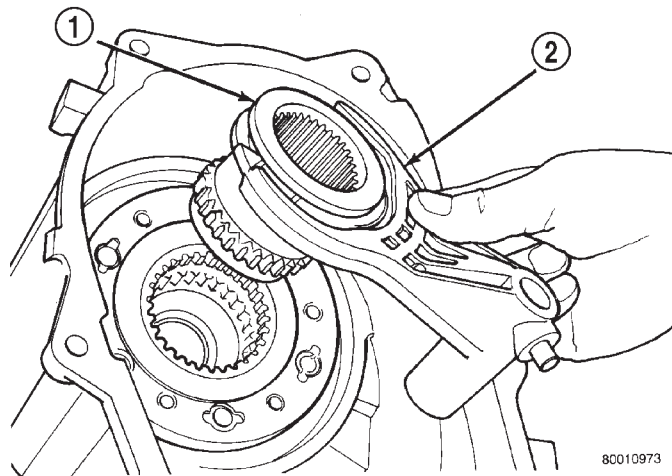
(6) Remove shift sector bushing and O-ring (Fig. 19).



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**Fig. 16 Mode Fork And Sleeve Removal**

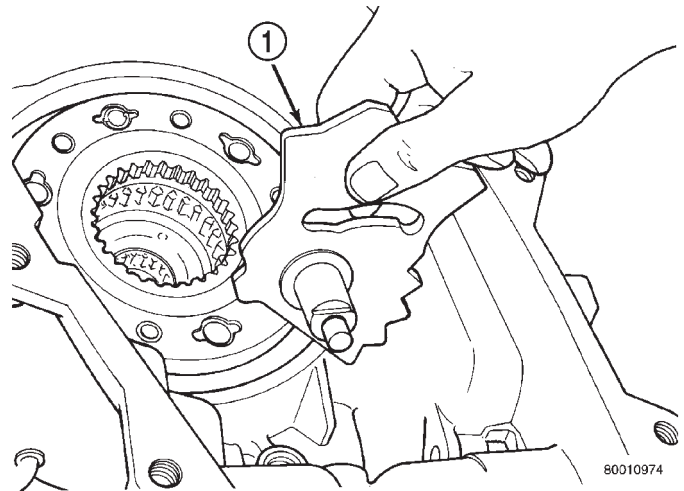
- 1 - MODE SLEEVE
- 2 - MODE FORK AND RAIL



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**Fig. 17 Range Fork And Hub Removal**

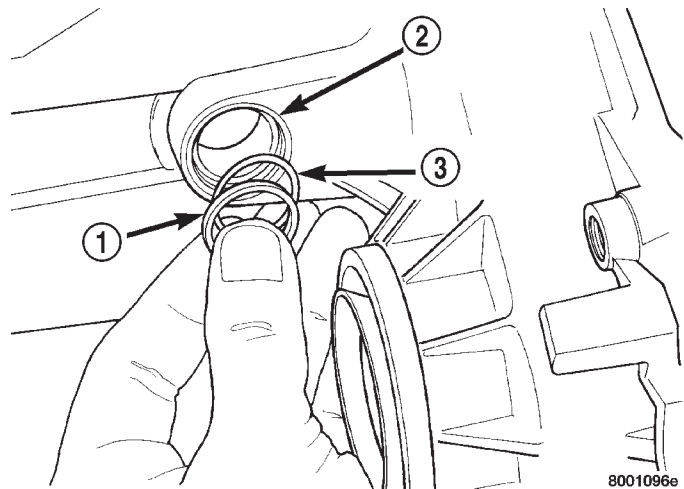
- 1 - RANGE HUB
- 2 - RANGE FORK



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**Fig. 18 Shift Sector Removal**

- 1 - SHIFT SECTOR



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**Fig. 19 Sector Bushing And O-Ring Removal**

- 1 - SEAL RETAINER
- 2 - SECTOR SHAFT BORE
- 3 - O-RING SEAL

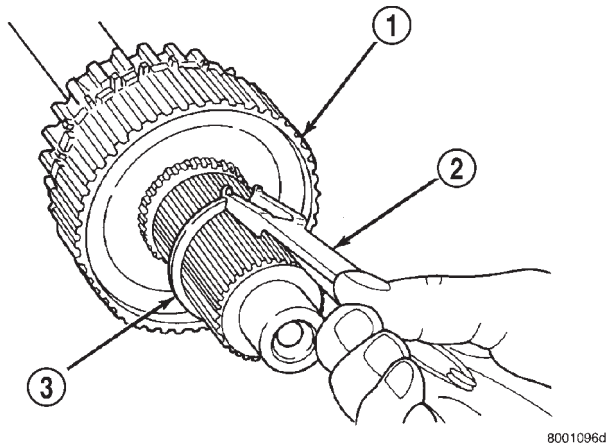
**MAINSHAFT**

(1) Remove mode hub retaining ring with heavy duty snap-ring pliers (Fig. 20).

(2) Slide mode hub off mainshaft (Fig. 21).

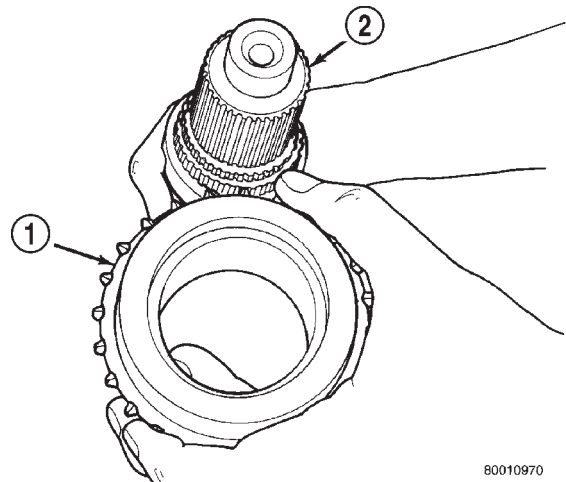
(3) Slide drive sprocket off mainshaft (Fig. 22).

TRANSFER CASE NV-231 (Continued)



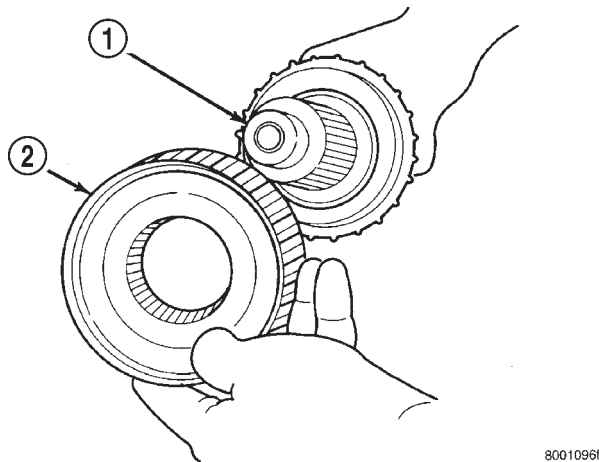
**Fig. 20 Mode Hub Retaining Ring Removal**

- 1 - MODE HUB
- 2 - SNAP-RING PLIERS (HEAVY DUTY)
- 3 - MODE HUB RETAINING RING



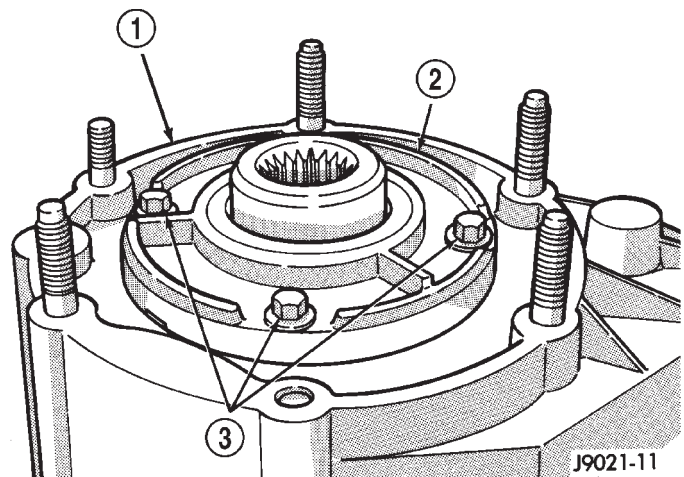
**Fig. 22 Drive Sprocket Removal**

- 1 - DRIVE SPROCKET
- 2 - MAINSHAFT



**Fig. 21 Mode Hub Removal**

- 1 - MAINSHAFT
- 2 - MODE HUB



**Fig. 23 Front Bearing Retainer Bolts**

- 1 - FRONT CASE
- 2 - FRONT BEARING RETAINER
- 3 - RETAINER BOLTS

**INPUT GEAR AND LOW RANGE GEAR**

(1) Remove front bearing retainer attaching bolts (Fig. 23).

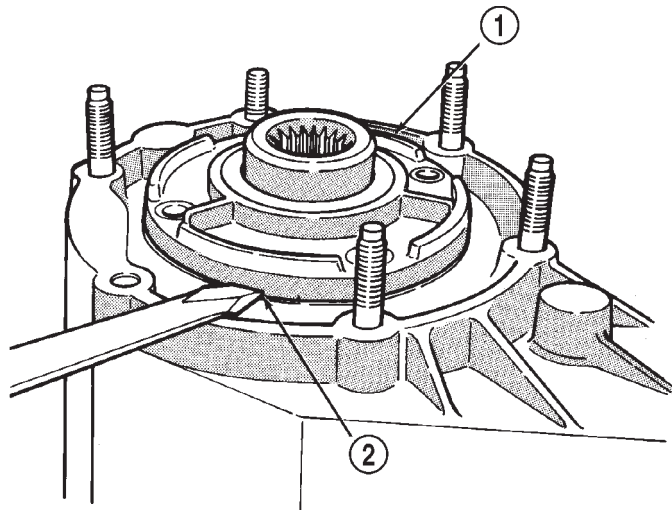
(2) Remove front bearing retainer. Pry retainer loose with pry tool positioned in slots at each end of retainer (Fig. 24).

(3) Remove front bearing retainer seal. Tap seal out with drift and hammer.

(4) Remove input gear retaining ring with heavy duty snap-ring pliers (Fig. 25)



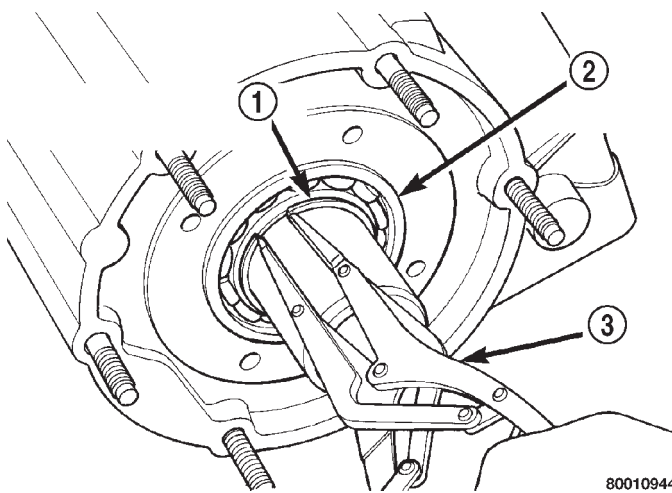
TRANSFER CASE NV-231 (Continued)



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**Fig. 24 Front Bearing Retainer Removal**

- 1 - FRONT BEARING RETAINER
- 2 - RETAINER SLOT

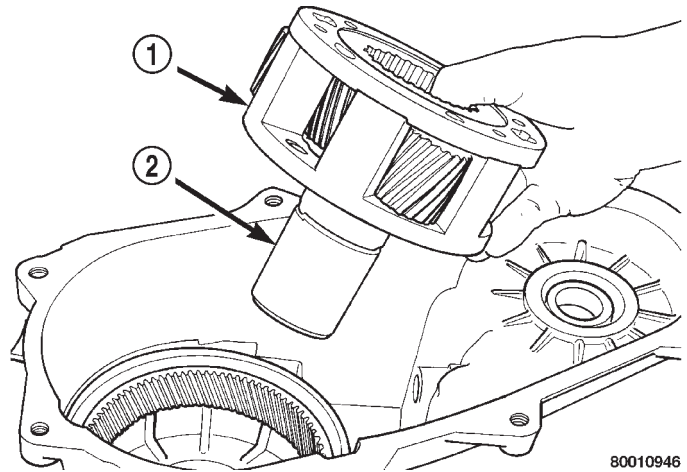


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**Fig. 25 Removing Input Gear Retaining Ring**

- 1 - INPUT GEAR BEARING RETAINING RING
- 2 - INPUT GEAR BEARING
- 3 - SNAP-RING PLIERS

(5) Place front case in horizontal position. Then remove input gear and low range gear as an assembly (Fig. 26). Tap gear out of bearing with plastic mallet if necessary.



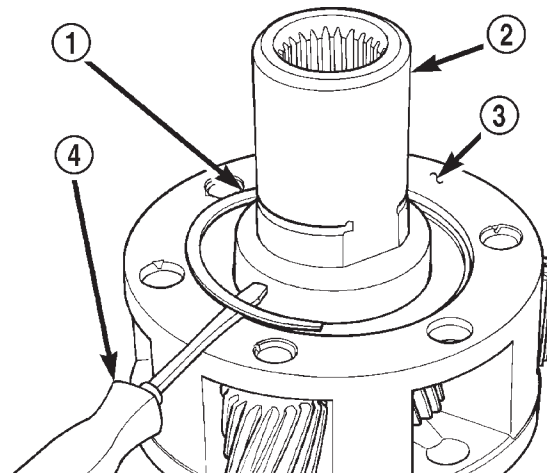
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**Fig. 26 Input Gear And Planetary Carrier Removal**

- 1 - PLANETARY ASSEMBLY
- 2 - INPUT GEAR

**INPUT AND LOW RANGE GEAR**

- (1) Remove snap-ring that retains input gear in low range gear (Fig. 27).
- (2) Remove retainer (Fig. 28).
- (3) Remove front tabbed thrust washer (Fig. 29).
- (4) Remove input gear (Fig. 30).
- (5) Remove rear tabbed thrust washer from low range gear (Fig. 31).

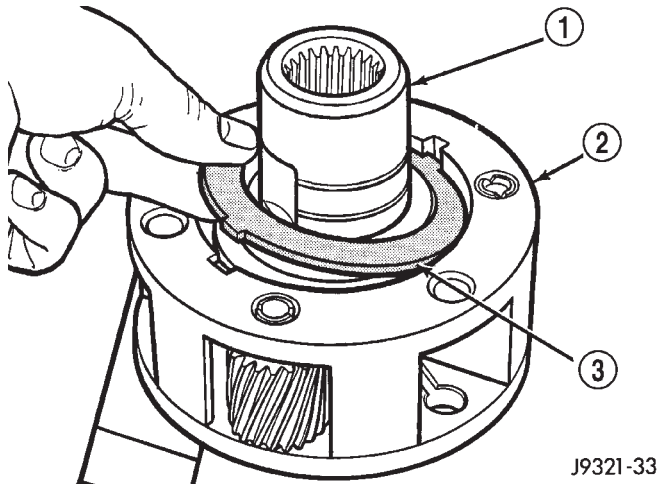


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**Fig. 27 Input Gear Snap-Ring Removal**

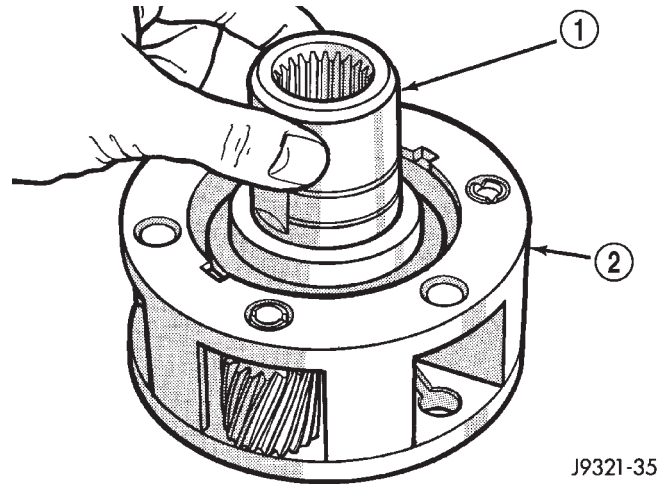
- 1 - CARRIER LOCK RETAINING RING
- 2 - INPUT GEAR
- 3 - PLANETARY CARRIER
- 4 - SCREWDRIVER

TRANSFER CASE NV-231 (Continued)



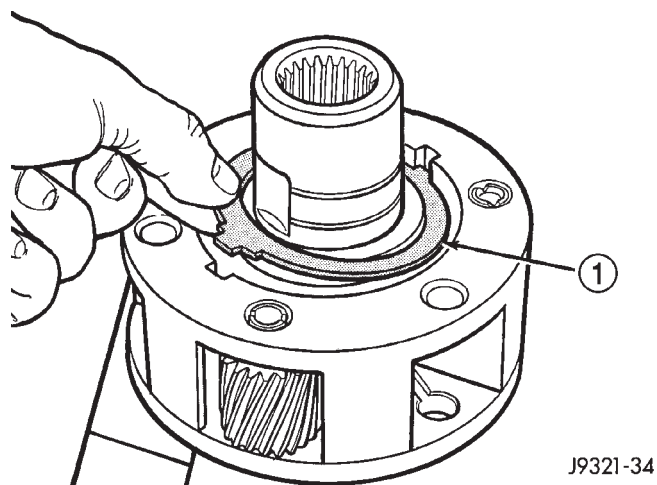
**Fig. 28 Input Gear Retainer Removal**

- 1 - INPUT GEAR
- 2 - LOW RANGE GEAR
- 3 - RETAINER



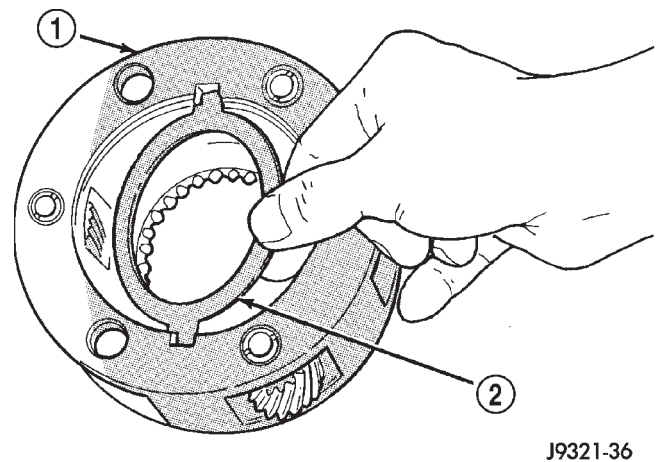
**Fig. 30 Input Gear Removal**

- 1 - INPUT GEAR
- 2 - LOW RANGE GEAR



**Fig. 29 Front Tabbed Thrust Washer Removal**

- 1 - FRONT TABBED THRUST WASHER



**Fig. 31 Rear Tabbed Thrust Washer Removal**

- 1 - LOW RANGE GEAR
- 2 - REAR TABBED THRUST WASHER

**ASSEMBLY**

Lubricate transfer case components with Mopar® ATF +4, type 9602, Automatic Transmission Fluid or petroleum jelly (where indicated) during assembly.

**BEARINGS AND SEALS**

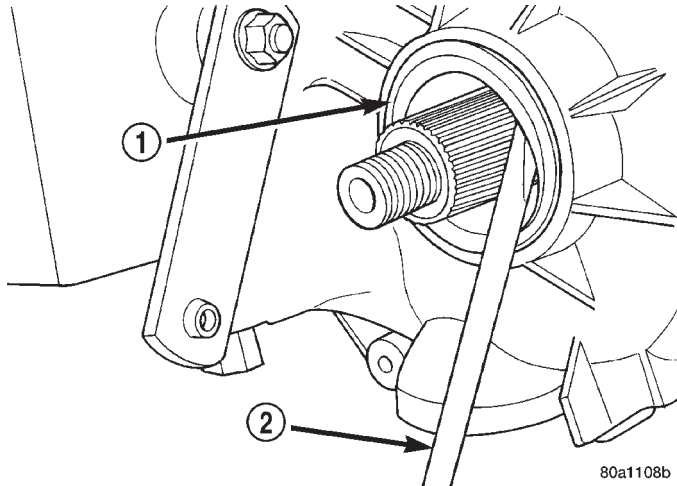
**CAUTION:** The bearing bores in various transfer case components contain oil feed holes. Make sure replacement bearings do not block the holes.

TRANSFER CASE NV-231 (Continued)

(1) Remove the front output shaft seal from case with pry tool (Fig. 32).

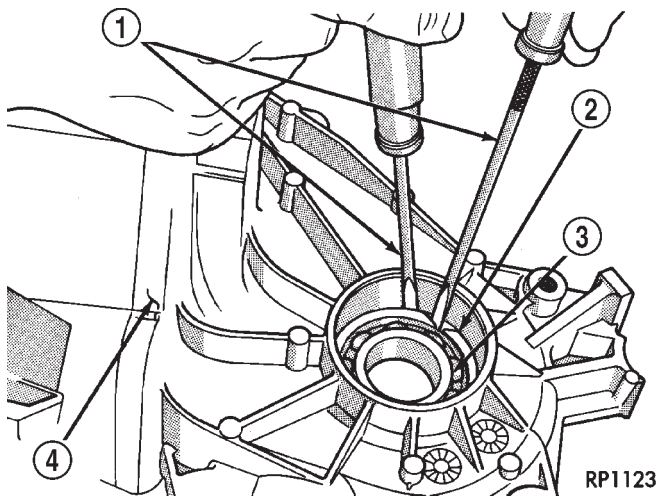
(2) Remove the front output shaft bearing retaining ring with screwdriver (Fig. 33).

(3) Remove bearing with Tool Handle C-4171 and Tool 5065 (Fig. 34).



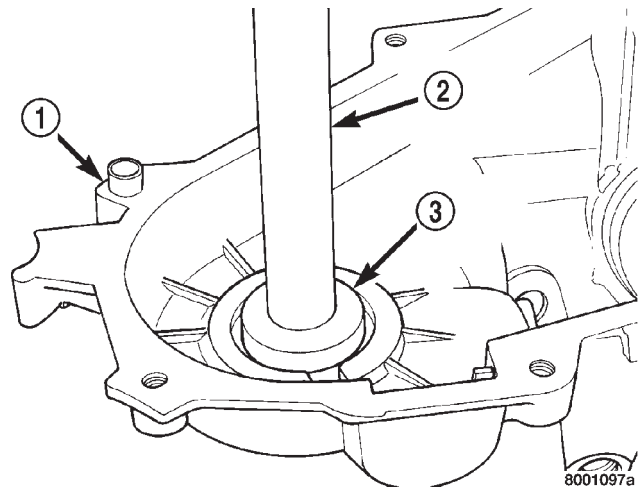
**Fig. 32 Front Output Seal Removal**

- 1 - OUTPUT SHAFT SEAL
- 2 - PRYBAR



**Fig. 33 Front Output Shaft Bearing Retaining Ring Removal**

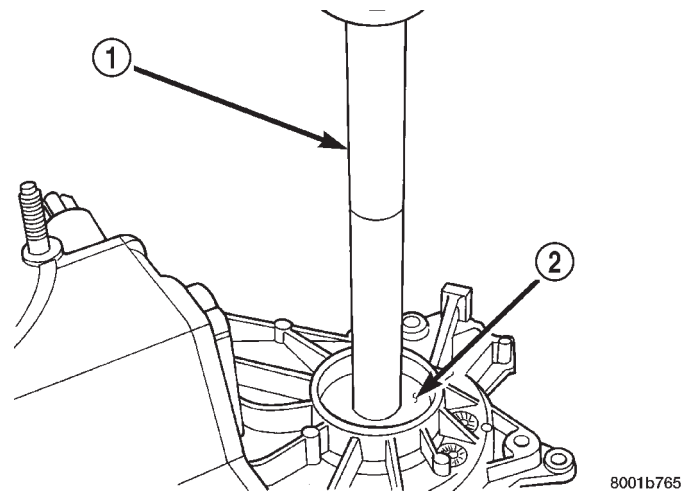
- 1 - SCREWDRIVERS
- 2 - SNAP-RING
- 3 - FRONT OUTPUT SHAFT BEARING
- 4 - FRONT CASE



**Fig. 34 Front Output Shaft Bearing Removal**

- 1 - FRONT CASE
- 2 - SPECIAL TOOL C-4171
- 3 - SPECIAL TOOL 5065

(4) Install front output shaft front bearing in case with Tool Handle C-4171 and Installer 5064 (Fig. 35).

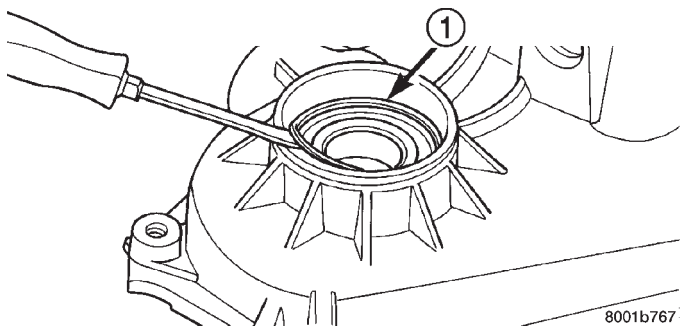


**Fig. 35 Front Output Shaft Bearing Installation**

- 1 - SPECIAL TOOL C-4171
- 2 - SPECIAL TOOL 5064

(5) Install output shaft front bearing retaining ring (Fig. 36). Start ring into place by hand. Then use small screwdriver to work ring into case groove. Be sure ring is fully seated before proceeding.

TRANSFER CASE NV-231 (Continued)

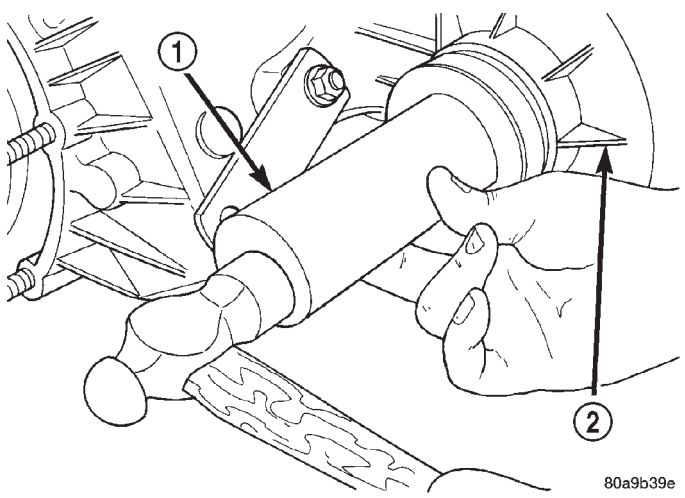


**Fig. 36 Installing Output Shaft Front Bearing Retaining Ring**

- 1 - WORK RETAINING RING INTO BORE GROOVE WITH SMALL SCREWDRIVER

(6) Install new front output seal in front case with Installer Tool 8143-A as follows:

- (a) Place new seal on tool. **Garter spring on seal goes toward interior of case.**
- (b) Start seal in bore with light taps from hammer (Fig. 37). Once seal is started, continue tapping seal into bore until installer tool bottoms against case.

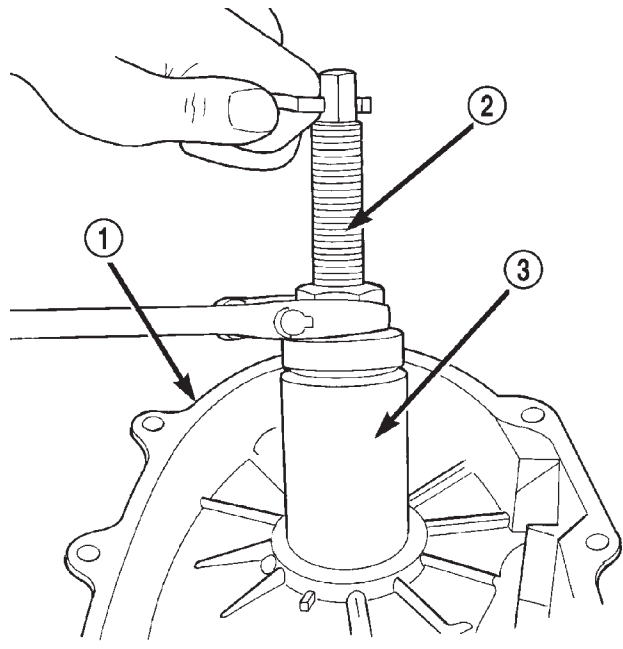


**Fig. 37 Front Output Seal Installation**

- 1 - INSTALLER 8143-A
- 2 - TRANSFER CASE

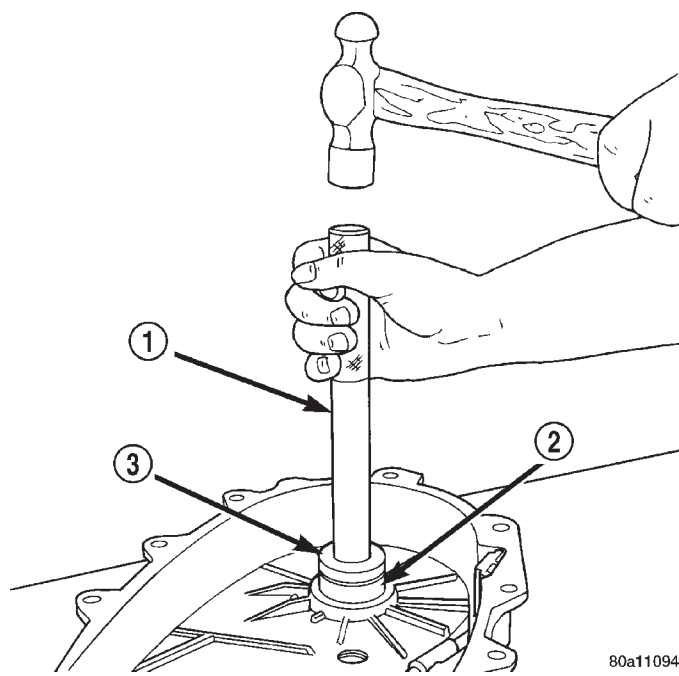
(7) Remove the output shaft rear bearing with the screw and jaws from Remover L-4454 and Cup 8148 (Fig. 38).

(8) Install new bearing with Tool Handle C-4171 and Installer 5066 (Fig. 39). The bearing bore is chamfered at the top. Install the bearing so it is flush with the lower edge of this chamfer (Fig. 40).



**Fig. 38 Output Shaft Rear Bearing Removal**

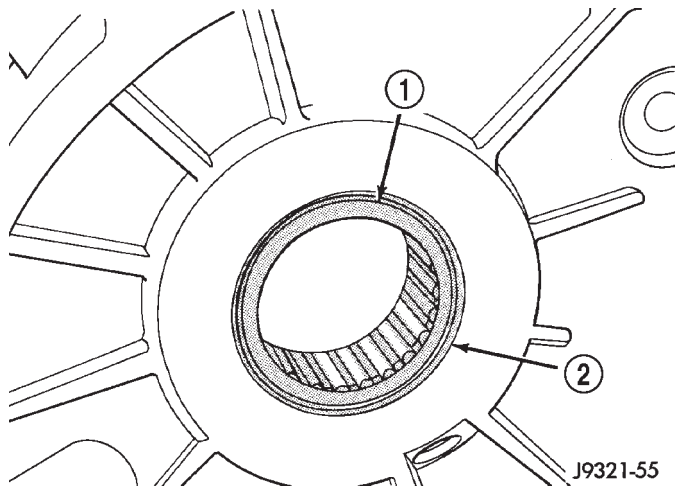
- 1 - REAR CASE
- 2 - SPECIAL TOOL L-4454-1 AND L-4454-3
- 3 - SPECIAL TOOL 8148



**Fig. 39 Output Shaft Rear Bearing Installation**

- 1 - HANDLE C-4171
- 2 - OUTPUT SHAFT INNER BEARING
- 3 - INSTALLER 5066

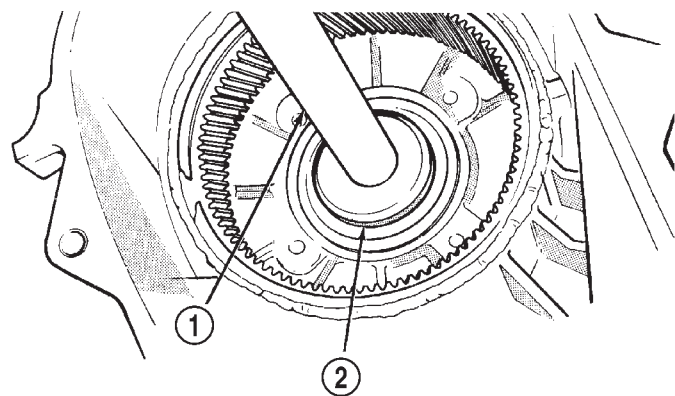
TRANSFER CASE NV-231 (Continued)



**Fig. 40 Output Shaft Rear Bearing Installation Depth**

- 1 - BEARING (SEATED) AT LOWER EDGE OF CHAMFER
- 2 - CHAMFER

(9) Using Remover C-4210 and Handle C-4171, drive input shaft bearing from inside the annulus gear opening in the case (Fig. 41).



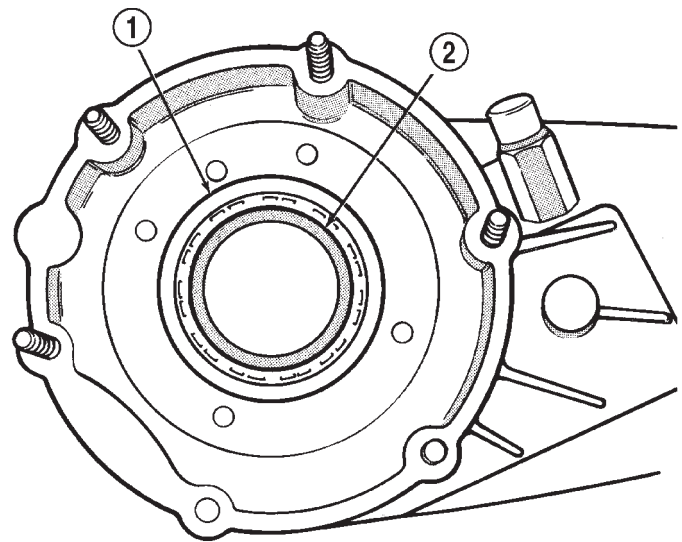
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**Fig. 41 Input Shaft Bearing Removal**

- 1 - SPECIAL TOOL C-4171
- 2 - SPECIAL TOOL C-4210

(10) Install locating ring on new bearing.  
 (11) Position case so forward end is facing upward.  
 (12) Using Remover C-4210 and Handle C-4171, drive input shaft bearing into case. The bearing locating ring must be fully seated against case surface (Fig. 42).

(13) Remove input gear pilot bearing by inserting a suitably sized drift into the splined end of the input gear and driving the bearing out with the drift and a hammer (Fig. 43).

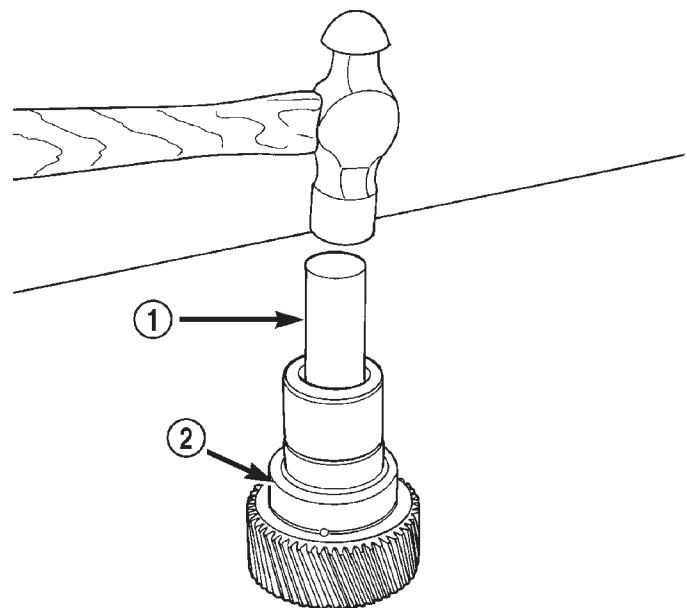


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**Fig. 42 Seating Input Shaft Bearing**

- 1 - SNAP-RING
- 2 - INPUT SHAFT BEARING

(14) Install new pilot bearing with Installer 5065 and Handle C-4171 (Fig. 44).

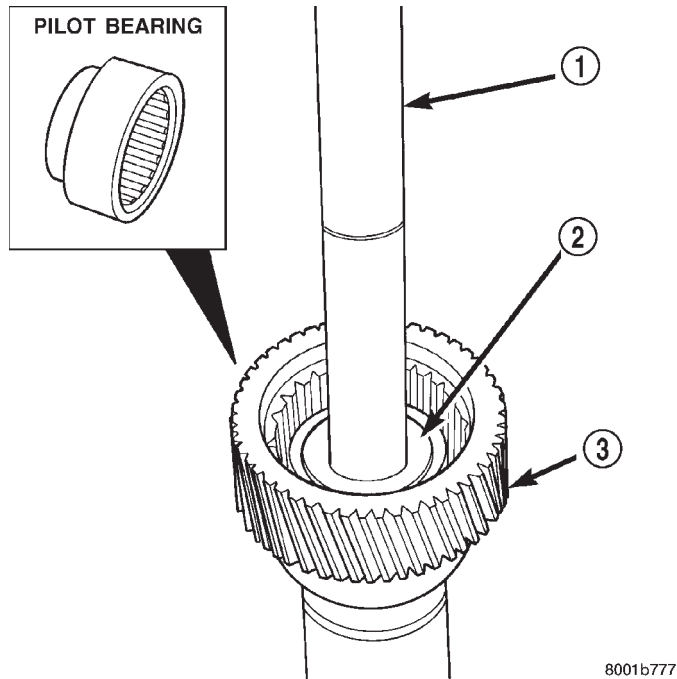


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**Fig. 43 Remove Input Gear Pilot Bearing**

- 1 - DRIFT
- 2 - INPUT GEAR

TRANSFER CASE NV-231 (Continued)



**Fig. 44 Install Input Gear Pilot Bearing**

- 1 - SPECIAL TOOL C-4171
- 2 - SPECIAL TOOL 5065
- 3 - INPUT GEAR

(15) Remove front bearing retainer seal with suitable pry tool.

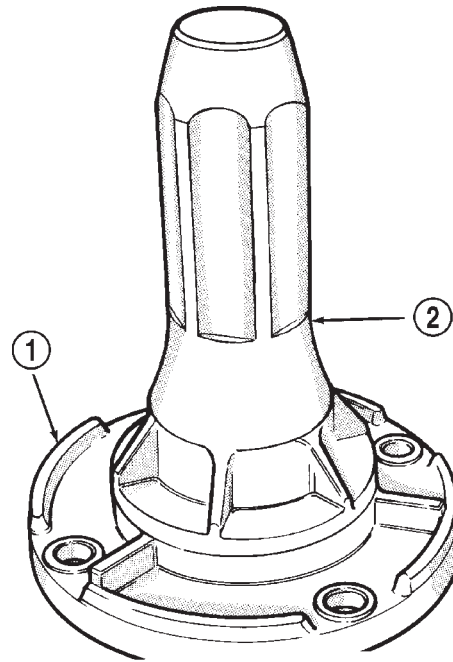
(16) Install new front bearing retainer seal with Installer 7884 (Fig. 45).

(17) Remove seal from oil pump housing with a suitable pry tool

(18) Install new seal in oil pump housing with Installer 7888 (Fig. 46).

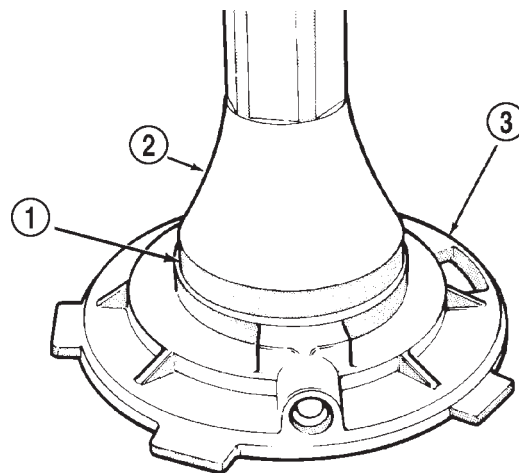
(19) Remove rear retainer bearing with Installer 8128 and Handle C-4171.

(20) Install rear bearing in retainer with Handle C-4171 and Installer 5064 (Fig. 47).



**Fig. 45 Install Front Bearing Retainer Seal**

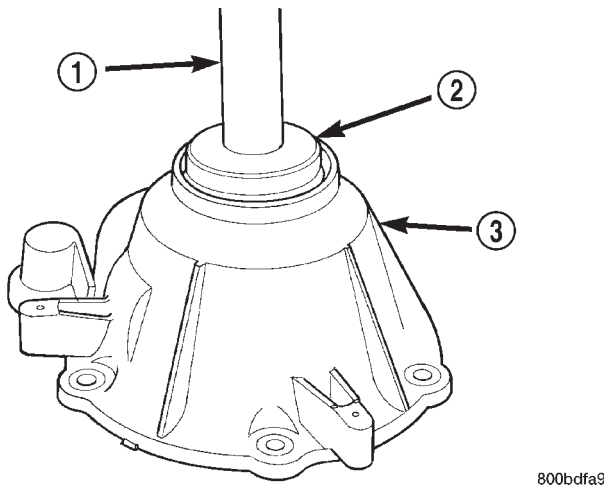
- 1 - FRONT BEARING RETAINER
- 2 - SPECIAL TOOL 7884



**Fig. 46 Oil Pump Seal Installation**

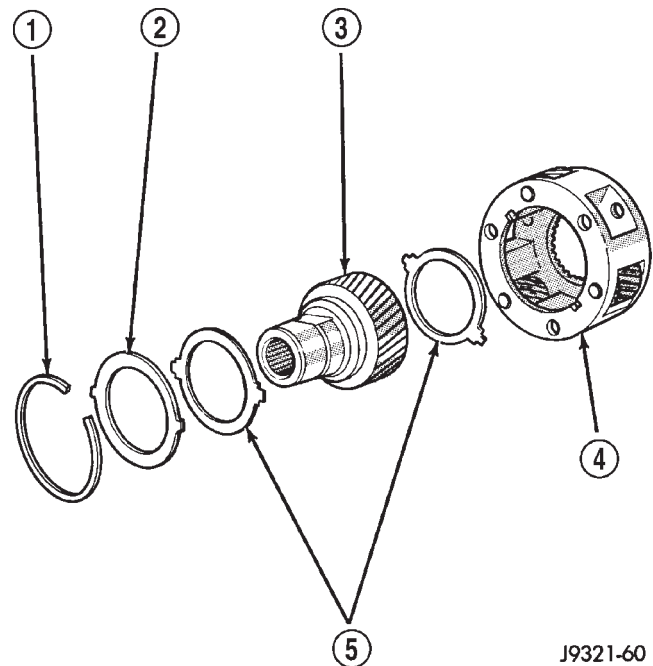
- 1 - HOUSING SEAL
- 2 - SPECIAL TOOL 7888
- 3 - OIL PUMP FEED HOUSING

## TRANSFER CASE NV-231 (Continued)



**Fig. 47 Installing Rear Bearing In Retainer**

- 1 - SPECIAL TOOL C-4171  
 2 - SPECIAL TOOL 5064  
 3 - REAR RETAINER



**Fig. 48 Input/Low Range Gear Components**

- 1 - SNAP-RING  
 2 - RETAINER PLATE  
 3 - INPUT GEAR  
 4 - LOW RANGE GEAR  
 5 - THRUST WASHERS

### INPUT AND LOW RANGE GEAR

(1) Install first thrust washer in low range gear (Fig. 48). Be sure washer tabs are properly aligned in gear notches.

(2) Install input gear in low range gear. Be sure input gear is fully seated.

(3) Install remaining thrust washer in low range gear and on top of input gear. Be sure washer tabs are properly aligned in gear notches.

(4) Install retainer on input gear and install snap-ring.

### INPUT GEAR AND LOW RANGE GEAR

(1) Align and install low range/input gear assembly in front case (Fig. 49). Be sure low range gear pinions are engaged in annulus gear and that input gear shaft is fully seated in front bearing.

(2) Install snap-ring to hold input/low range gear into front bearing (Fig. 50).

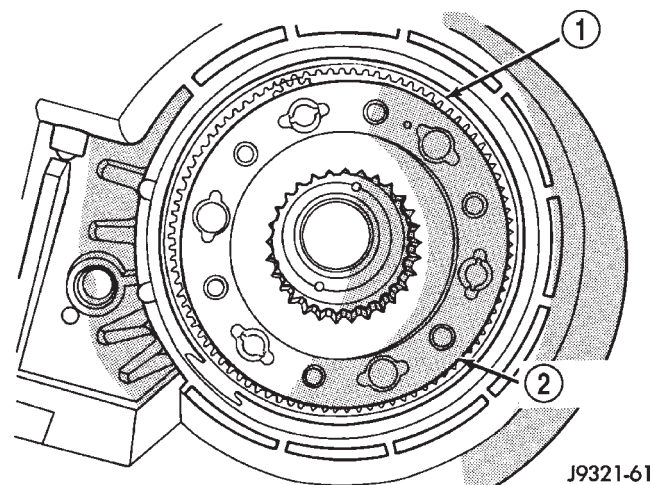
(3) Clean gasket sealer residue from retainer and inspect retainer for cracks or other damage.

(4) Apply a 3 mm (1/8 in.) bead of Mopar® gasket maker or silicone adhesive to sealing surface of retainer.

(5) Align cavity in seal retainer with fluid return hole in front of case.

**CAUTION: Do not block fluid return cavity on sealing surface of retainer when applying Mopar® gasket maker or silicone adhesive sealer. Seal failure and fluid leak can result.**

(6) Install bolts to hold retainer to transfer case (Fig. 51). Tighten to 21 N·m (16 ft. lbs.) of torque.



**Fig. 49 Input/Low Range Gear Installation**

- 1 - ANNULUS GEAR  
 2 - INPUT/LOW RANGE GEAR

### MAINSHAFT

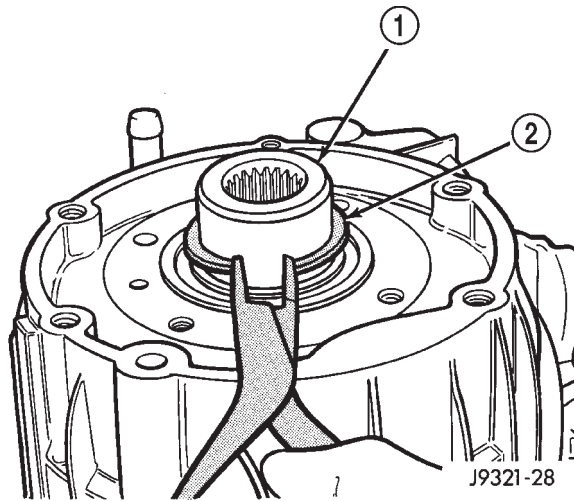
(1) Lubricate mainshaft splines with recommended transmission fluid.

(2) Slide drive sprocket onto mainshaft.

(3) Slide mode hub onto mainshaft.

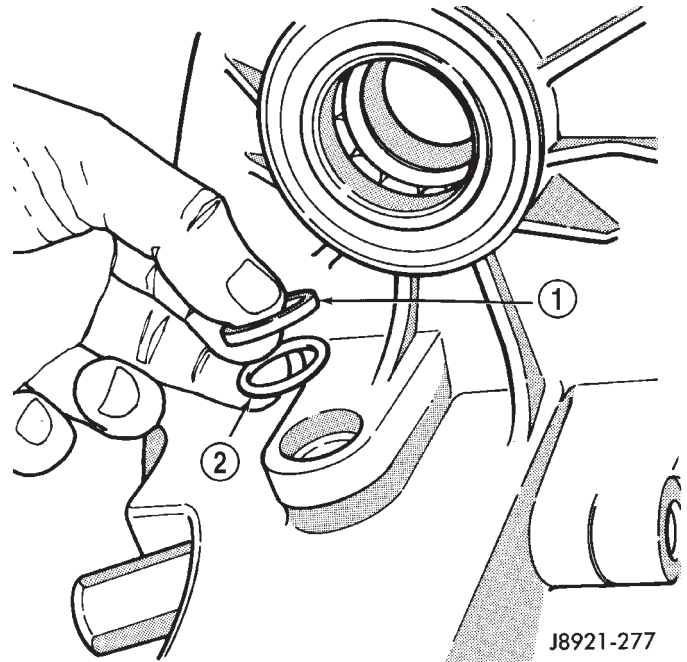
(4) Install mode hub retaining ring. Verify that the retaining ring is fully seated in mainshaft groove.

TRANSFER CASE NV-231 (Continued)



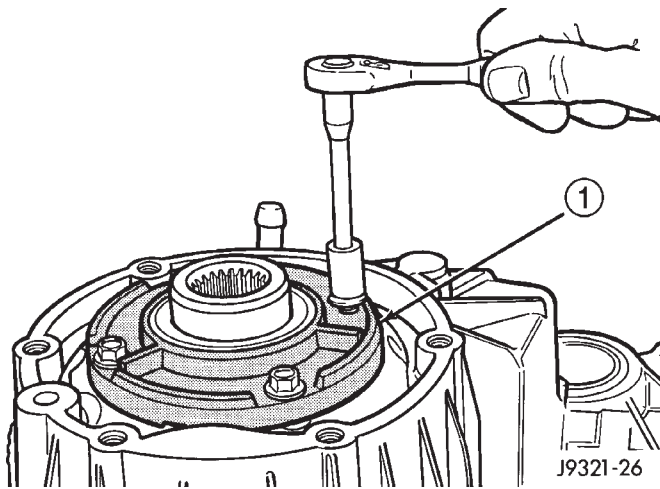
**Fig. 50 Install Snap-Ring**

- 1 - INPUT GEAR
- 2 - SNAP-RING



**Fig. 52 Sector O-Ring And Bushing Installation**

- 1 - SECTOR BUSHING
- 2 - O-RING



**Fig. 51 Install Front Bearing Retainer**

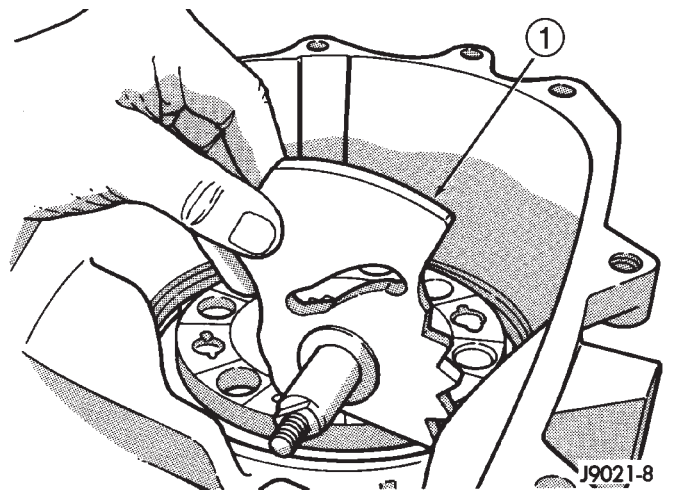
- 1 - FRONT BEARING RETAINER

**SHIFT FORKS AND MAINSHAFT**

(1) Install new sector shaft O-ring and bushing (Fig. 52).

(2) Install shift sector in case (Fig. 53). Lubricate sector shaft with transmission fluid before installation.

(3) Install range lever, washer, and nut on sector shaft (Fig. 54). Tighten range lever nut to 27-34 N-m (20-25 ft. lbs.) torque.



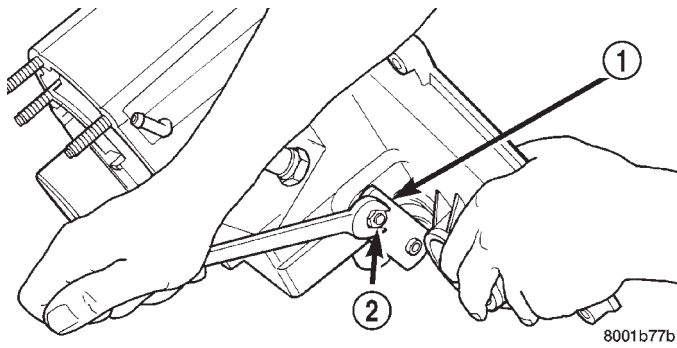
**Fig. 53 Shift Sector Installation**

- 1 - SHIFT SECTOR

(4) Assemble and install range fork and hub (Fig. 55). Be sure hub is properly seated in low range gear and engaged to the input gear.



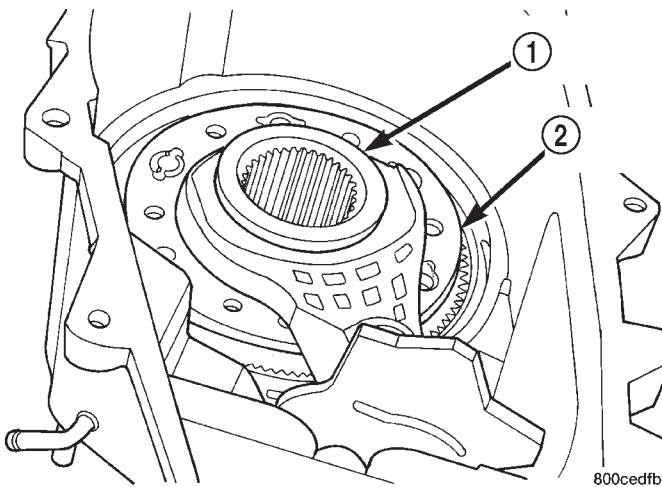
TRANSFER CASE NV-231 (Continued)



**Fig. 54 Range Lever Installation**

- 1 - RANGE LEVER
- 2 - LEVER NUT

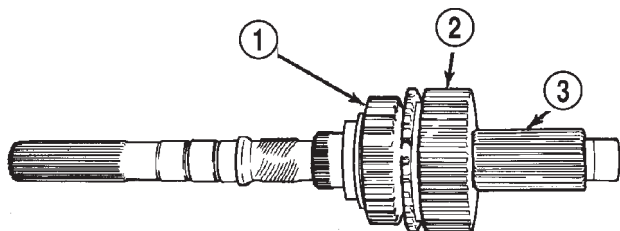
(5) Align and insert range fork pin in shift sector slot.



**Fig. 55 Install Range Fork And Hub Assembly**

- 1 - RANGE HUB
- 2 - RANGE FORK

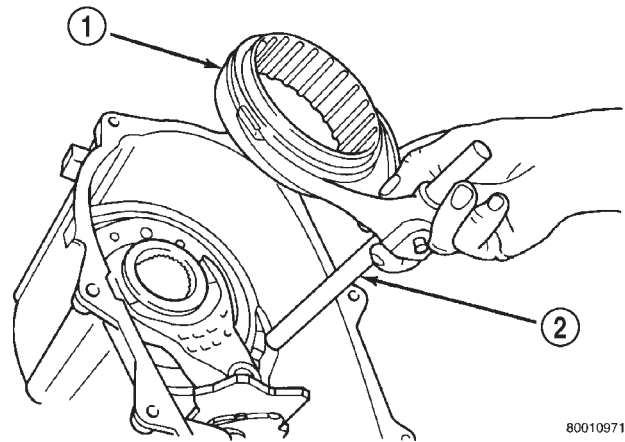
(6) Install assembled mainshaft (Fig. 56). Be sure shaft is seated in pilot bearing and input gear.



**Fig. 56 Mainshaft Assembly Installation**

- 1 - DRIVE SPROCKET
- 2 - MODE HUB
- 3 - MAINSHAFT

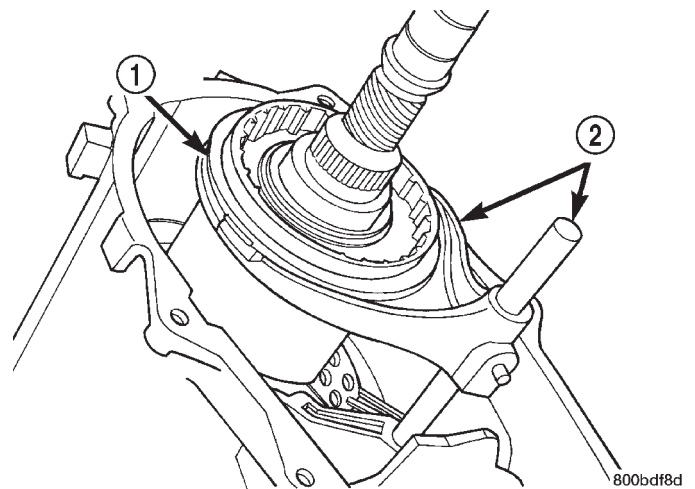
(7) Install new pads on mode fork if necessary.  
 (8) Insert mode sleeve in mode fork mode fork. Be sure long side of sleeve is toward long end of shift rail (Fig. 57).



**Fig. 57 Assembling Mode Fork And Sleeve**

- 1 - MODE SLEEVE
- 2 - MODE FORK AND RAIL

(9) Install assembled mode fork and sleeve (Fig. 58). Be sure fork rail goes through range fork and into case bore. Also be sure sleeve is aligned and seated on mainshaft hub.

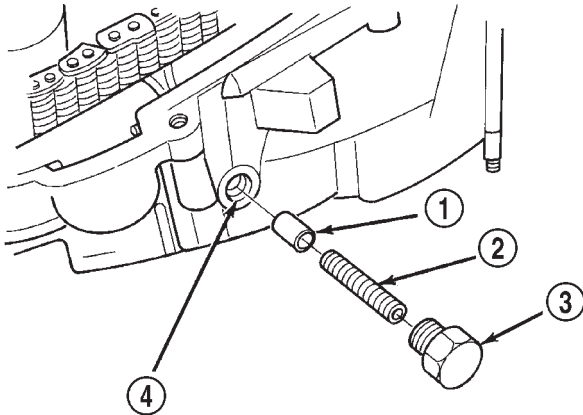


**Fig. 58 Mode Fork And Sleeve Installation**

- 1 - MODE SLEEVE
- 2 - MODE FORK AND RAIL

TRANSFER CASE NV-231 (Continued)

- (10) Rotate sector to NEUTRAL position.
- (11) Install new O-ring on detent plug (Fig. 59).
- (12) Lubricate detent plunger with transmission fluid or light coat of petroleum jelly.
- (13) Install detent plunger, spring and plug (Fig. 59).
- (14) Verify that plunger is properly engaged in sector.



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**Fig. 59 Shift Detent Components**

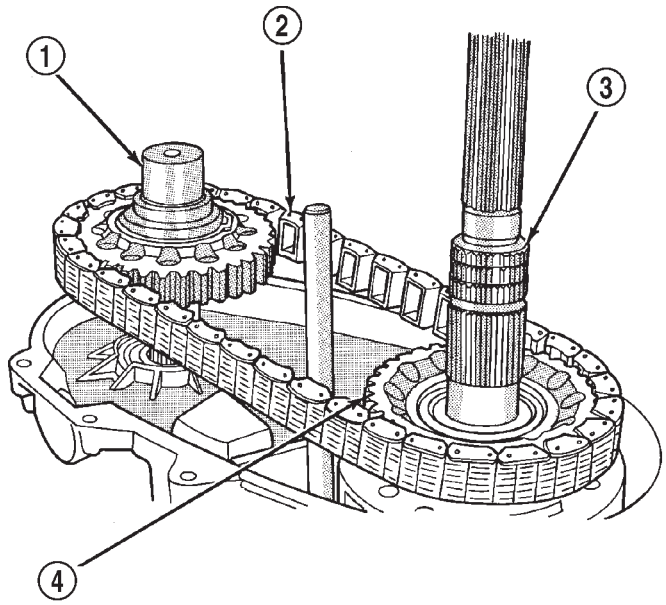
- 1 - POPPET
- 2 - SPRING
- 3 - SCREW
- 4 - POPPET BORE (IN CASE)

**FRONT OUTPUT SHAFT AND DRIVE CHAIN**

- (1) Lubricate front output shaft-sprocket assembly, drive chain, and drive sprocket with transmission fluid.
- (2) Assemble drive chain and front output shaft (Fig. 60).
- (3) Start chain on mainshaft drive sprocket.
- (4) Guide front shaft into bearing and drive sprocket onto mainshaft drive gear (Fig. 60).
- (5) Install mode spring on upper end of mode fork shift rail (Fig. 61).

**OIL PUMP AND REAR CASE**

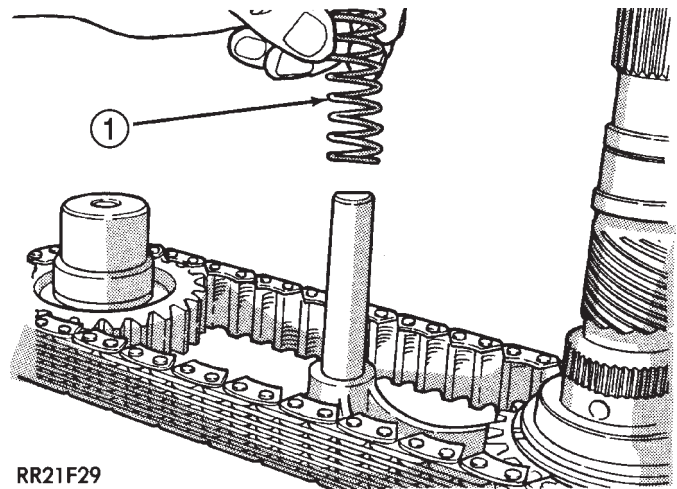
- (1) Install magnet in front case pocket (Fig. 62).
- (2) Assemble oil pickup screen, connecting hose, and tube.



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**Fig. 60 Installing Drive Chain And Front Output Shaft**

- 1 - FRONT OUTPUT SHAFT
- 2 - DRIVE CHAIN
- 3 - MAINSHAFT
- 4 - DRIVE SPROCKET



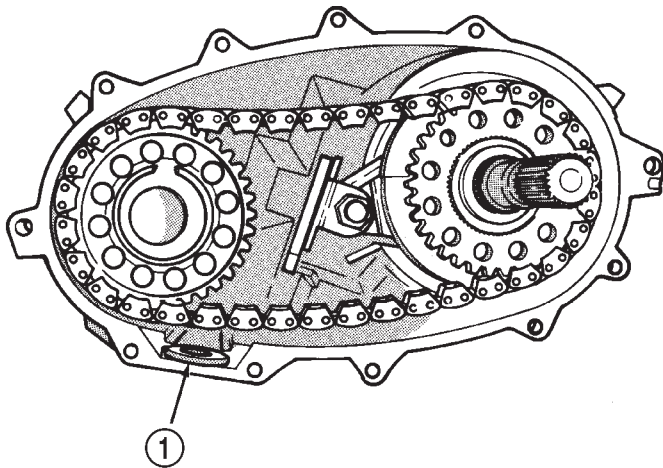
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**Fig. 61 Install Mode Fork Spring**

- 1 - MODE SPRING

## TRANSFER CASE NV-231 (Continued)

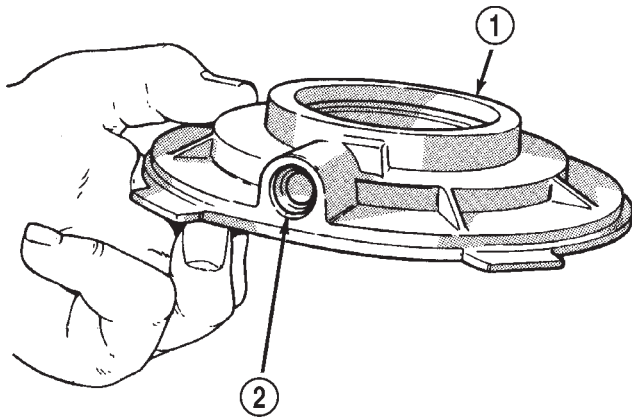
(3) Install new pickup tube O-ring in oil pump (Fig. 63).



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**Fig. 62 Installing Case Magnet**

1 - MAGNET



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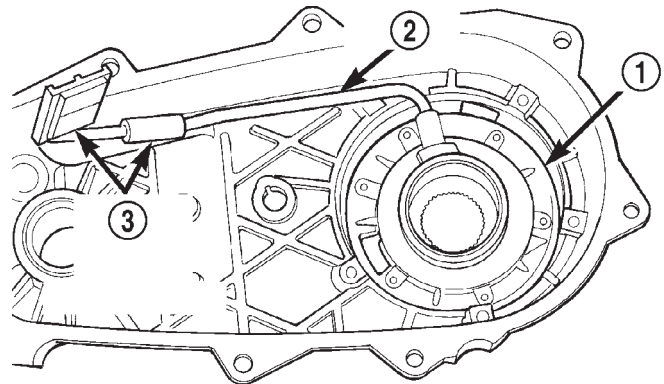
**Fig. 63 Pickup Tube O-Ring Position**

1 - OIL PUMP  
2 - O-RING

(4) Insert oil pickup tube in oil pump inlet.  
(5) Position assembled oil pump and pickup tube in rear case. Be sure pickup screen is securely seated in case slot. Also be sure oil pump locating tabs are outside rear case (Fig. 64).

(6) Apply 3 mm (1/8 in.) wide bead of Mopar® gasket maker or silicone adhesive sealer to mounting flange of front case. Work sealer bead around bolt holes.

(7) Lift rear case and oil pump and carefully position assembly on front case. Be sure case dowels are aligned and that mode fork rail extends through rear case before seating rear case on front case.



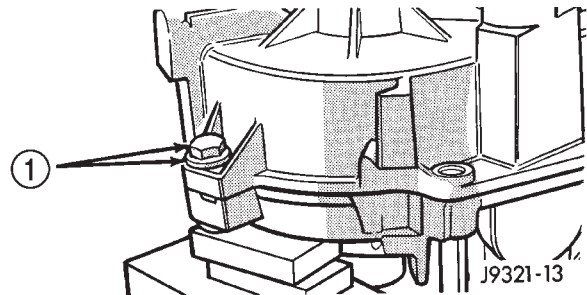
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**Fig. 64 Oil Pump And Pickup Tube Installation**

1 - OIL PUMP  
2 - PICKUP TUBE  
3 - PICKUP SCREEN AND CONNECTOR

(8) Install case attaching bolts. Alignment bolts at each end of case are only ones requiring washers (Fig. 65).

(9) Tighten case bolts to 27-34 N·m (20-25 ft. lbs.) torque.



J9321-13

**Fig. 65 Alignment Bolt Location**

1 - ALIGNMENT BOLT AND WASHER (AT EACH END OF CASE)

## YOKE AND RANGE LEVER

(1) Install indicator switch in front case. Tighten switch to 20-34 N·m (15-25 ft. lbs.) torque.

(2) Install range lever, washer and locknut on sector shaft (Fig. 66). Tighten locknut to 27-34 N·m (20-25 ft. lbs.) torque.

(3) Install new seal washer on front output shaft (Fig. 68).

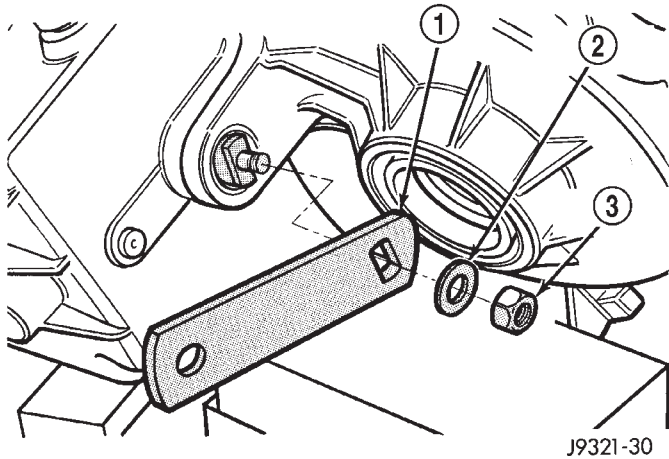
(4) Lubricate yoke hub with transmission fluid and install yoke on front shaft.

(5) Install new seal washer on front shaft.

(6) Install yoke and new yoke nut on front output shaft (Fig. 67).

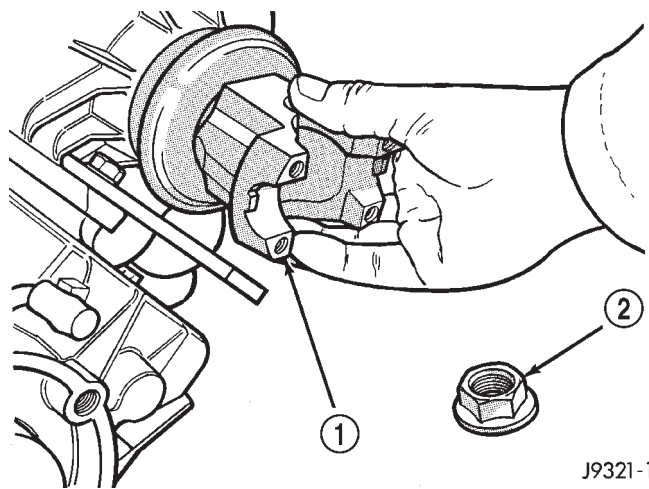
(7) Tighten yoke nut to 122-176 N·m (90-130 ft. lbs.) torque. Use Tool C-3281, or similar tool to hold yoke while tightening yoke nut.

TRANSFER CASE NV-231 (Continued)



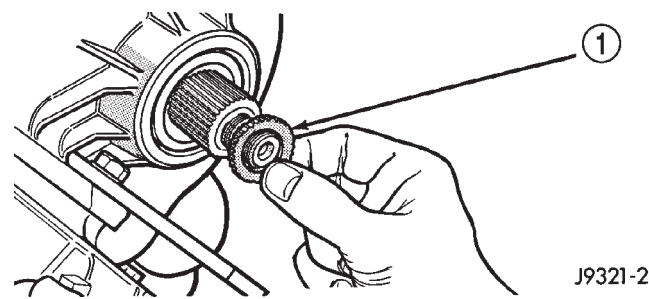
**Fig. 66 Range Lever Installation**

- 1 - RANGE LEVER
- 2 - WASHER
- 3 - LOCKNUT



**Fig. 67 Output Shaft Yoke Installation**

- 1 - OUTPUT SHAFT YOKE
- 2 - YOKE NUT



**Fig. 68 Yoke Seal Washer Installation**

- 1 - YOKE SEAL WASHER

**REAR RETAINER**

(1) Apply bead of Mopar® Sealer P/N 82300234, or Loctite™ Ultra Gray, to mating surface of rear retainer. Sealer bead should be a maximum of 3/16 inch.

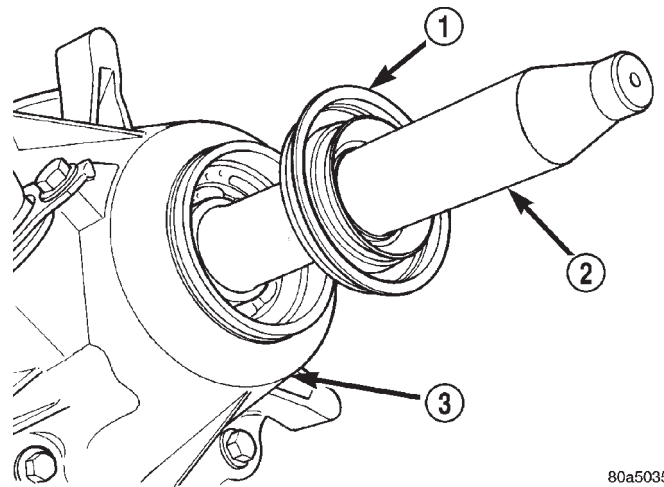
(2) Install rear retainer on rear case. Tighten retainer bolts to 20-27 N-m (15-20 ft. lbs.) torque.

(3) Install rear bearing I.D. retaining ring and spacer on output shaft.

(4) Apply liberal quantity of petroleum jelly to new rear seal and to output shaft. Petroleum jelly is needed to protect seal lips during installation.

(5) Slide seal onto Seal Protector 6992 (Fig. 69). Slide seal protector and seal onto output shaft.

(6) Slide Installer C-4076-B onto seal protector with the recessed side of the tool toward the seal. Drive seal into rear bearing retainer with Installer C-4076-B and Handle MD-998323 (Fig. 70).



**Fig. 69 Output Shaft Seal and Protector**

- 1 - OUTPUT SHAFT SEAL
- 2 - SPECIAL TOOL 6992
- 3 - TRANSFER CASE

(7) Install a new output shaft rear slinger with Installer 8408, if the vehicle is equipped with an automatic transmission.

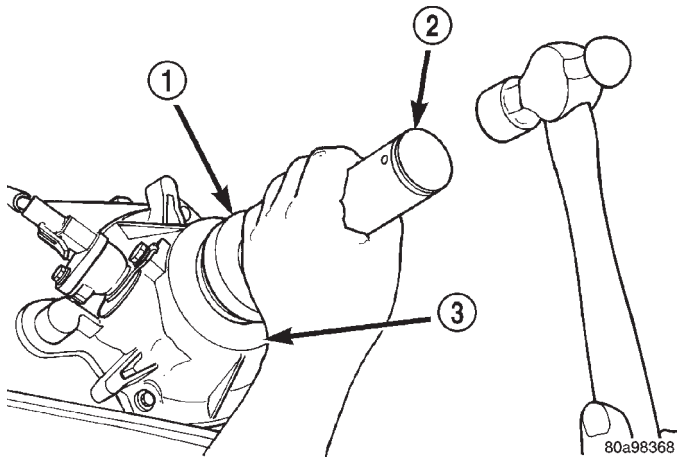
(8) If the vehicle is equipped with a manual transmission, install the output shaft damper as follows:

(a) Position the damper weight on the output shaft. Start the damper onto the output shaft chamfer, being careful to keep the weight square to the output shaft. (Fig. 71)

(b) Position the driver portion of Installer 8422 (Fig. 72) onto the damper, making sure the legs of the damper are positioned through the slots of the damper.

(c) Thread the puller screw of Installer 8422 into the output shaft by hand only. Make sure the screw is fully threaded into the output shaft.

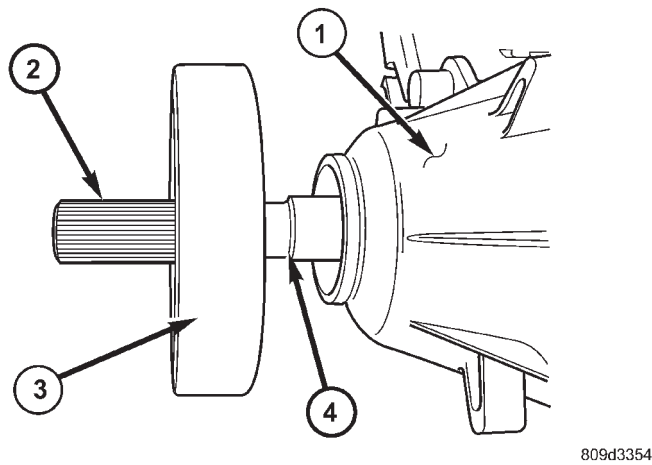
TRANSFER CASE NV-231 (Continued)



**Fig. 70 Rear Seal Installation**

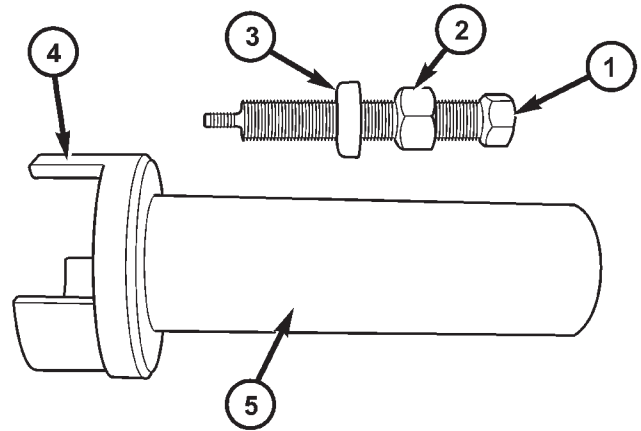
- 1 - SPECIAL TOOL C-4076-B
- 2 - SPECIAL TOOL MD-998323
- 3 - TRANSFER CASE

(d) Using a wrench to hold the pulling screw stationary (Fig. 73), turn the pulling screw nut until the driver legs contact the rear face of the transfer case rear retainer. When the legs contact the retainer, the damper is properly positioned on the output shaft.



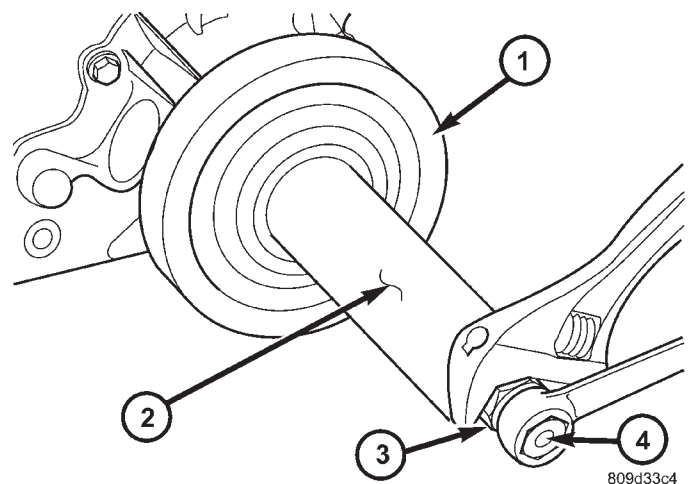
**Fig. 71 Position Damper on Output Shaft**

- 1 - TRANSFER CASE
- 2 - OUTPUT SHAFT
- 3 - DAMPER WEIGHT
- 4 - CHAMFER



**Fig. 72 Installer 8422**

- 1 - PULLING SCREW
- 2 - PULLING SCREW NUT
- 3 - BEARING
- 4 - DRIVER LEGS
- 5 - INSTALLER DRIVER

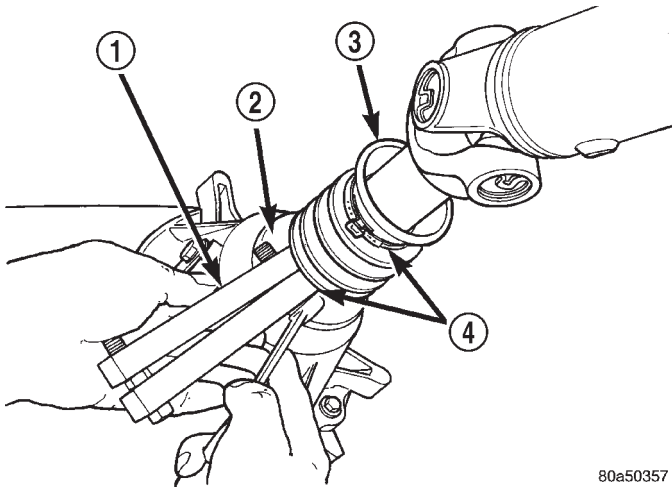


**Fig. 73 Install Damper**

- 1 - DAMPER
- 2 - INSTALLER DRIVER
- 3 - PULLING SCREW NUT
- 4 - PULLING SCREW

(9) Install boot on output shaft slinger, or output shaft damper, and crimp retaining clamp with tool C-4975-A (Fig. 74).

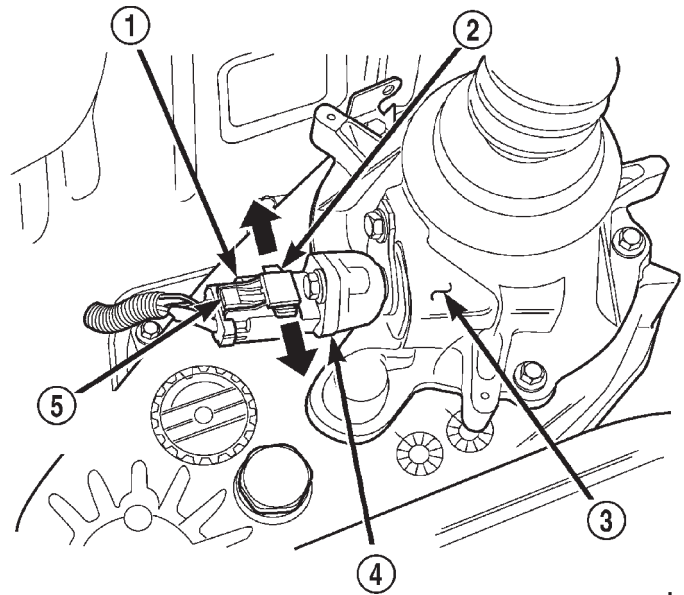
TRANSFER CASE NV-231 (Continued)



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**Fig. 74 Slinger Boot Installation - Typical**

- 1 - SPECIAL TOOL C-4975-A
- 2 - SLINGER
- 3 - BOOT
- 4 - CLAMP



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**Fig. 75 VSS Location**

- 1 - SENSOR ELECTRICAL CONNECTOR
- 2 - SLIDE TAB
- 3 - 4WD TRANSFER CASE EXTENSION
- 4 - VEHICLE SPEED SENSOR
- 5 - RELEASE LOCK

## VEHICLE SPEED SENSOR

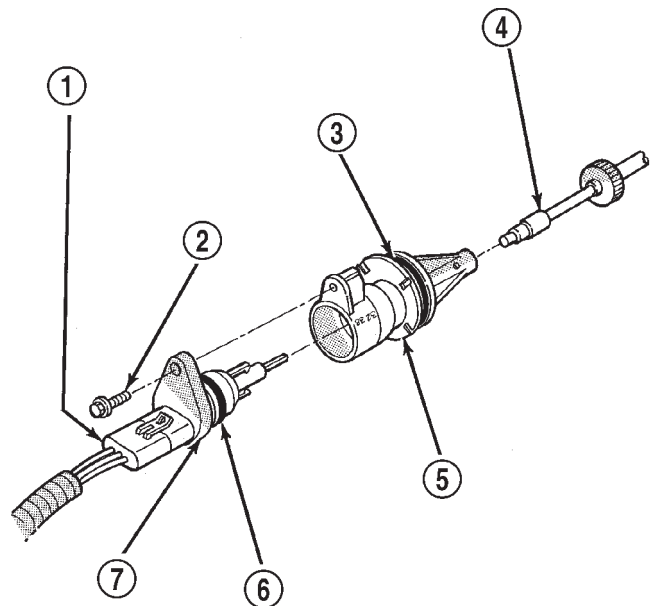
### REMOVAL

The Vehicle Speed Sensor (VSS) is located on the speedometer pinion gear adapter. If equipped with 4WD, this adapter is located on the transfer case extension (left side) (Fig. 75). If equipped with 2WD, this adapter is located on the extension housing of the transmission (left side).

- (1) Raise and support vehicle.
- (2) Disconnect electrical connector from sensor by pushing slide tab (Fig. 75). After slide tab has been positioned, push in on secondary release lock (Fig. 75) on side of connector and pull connector from sensor.
- (3) Remove sensor mounting bolt (Fig. 76).
- (4) Remove sensor (pull straight out) from speedometer pinion gear adapter (Fig. 76). Do not remove gear adapter from transmission.

### INSTALLATION

- (1) Clean inside of speedometer pinion gear adapter before installing speed sensor.
- (2) Install sensor into speedometer gear adapter and install mounting bolt. Before tightening bolt, verify speed sensor is fully seated (mounted flush) to speedometer pinion gear adapter.
- (3) Tighten sensor mounting bolt to 2.2 N·m (20 in. lbs.) torque.
- (4) Connect electrical connector to sensor.



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**Fig. 76 VSS Removal/Installation**

- 1 - ELECTRICAL CONNECTOR
- 2 - SENSOR MOUNTING BOLT
- 3 - O-RING
- 4 - SPEEDOMETER PINION GEAR
- 5 - SPEEDOMETER PINION GEAR ADAPTER
- 6 - O-RING
- 7 - VEHICLE SPEED SENSOR



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