

Introduction

The climate control system offers a fully automatic, temperature controlled heating and air conditioning system to maintain optimum comfort. Driver management of the system is by means of a control panel allowing full automatic control of selected temperature within the range 17°C (62.6°F) to 31°C (88°F) or by manual override control of temperature, blower speeds and air distribution.

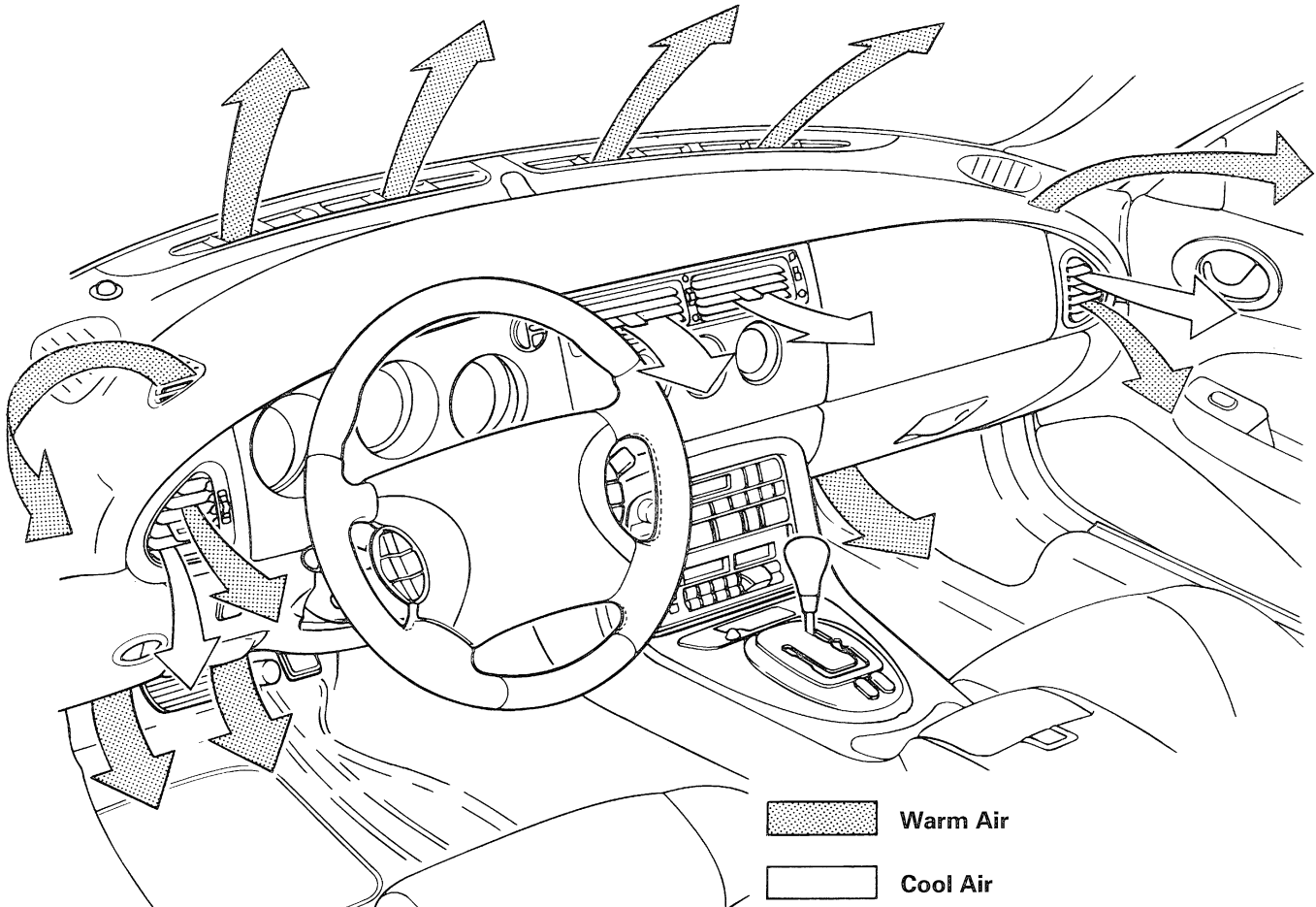
Many of the components are a carry-over from the 95MY XJ Series Sedan, as follows:-

- Control panel
- Center vent assembly, with thumbwheel control
- Solar sensor (moved to drivers side)
- Water valve
- Electric water pump (with new integral bracket)

Main Features of the climate control system are:

- LCD display for driver information
- Variable fan speed in automatic and manual modes
- Manual air flow distribution overrides
- Single control (thumb wheel) for differential airflow
- Serial link from panel to control module
- Self-diagnostic control system with displayed error codes

AIR DISTRIBUTION



412-048

Air Distribution

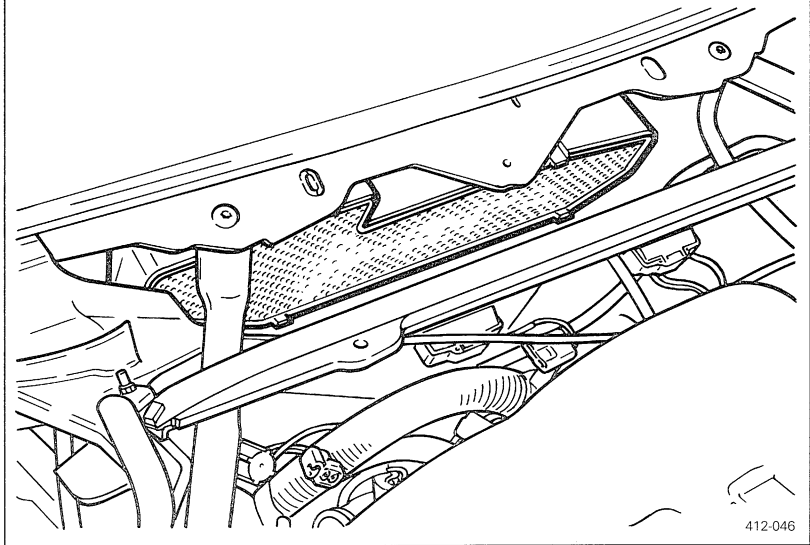
The airflow ducting/distribution system includes; connecting ducts between the blowers and A/C unit, front footwell ducts and end-of-dash ducts. Integral with the fascia trim is front and side glass demist/defrost ducting. The air conditioning and heater unit is located centrally behind the fascia. The air intake plenum houses an optional fit particle filter which is held in place by clips moulded on the filter housing. The filter is effective at removing particles above 3.5 microns.

Airflow is achieved by using two blower units, one either side of the air conditioning unit casing, which are ducted from a common fresh air intake. The two blower motors are controlled at variable speeds by the A/CCM. They are regulated by power transistor modules which provide linear variation of blower speed. The two blower motors are inhibited when the engine coolant temperature is below 30°C (86°F) and heating is requested. Air passes through the car to the trunk, venting under each rear wheel arch.

Air Conditioning Unit

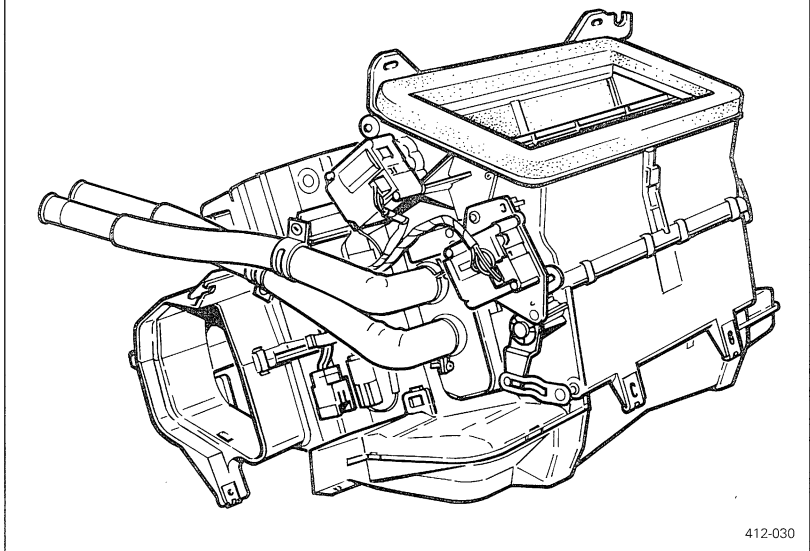
The A/C unit casing incorporates two servo motors which alter flaps to change air direction within the unit casing and/or cabin. The motors are driven by A/CCM signals both clockwise and anti-clockwise. As the 95MY sedan, the expansion valve is fitted into the A/C unit. Servo motor position is monitored by a feedback potentiometer in each motor housing. System servos are; right-hand and left-hand air intake (fresh/recirculated air) on blower units, center vent, defrost on the air distribution box and foot and cool air by-pass, part of the A/C unit.

PARTICLE FILTER



412-046

AIR CONDITIONING/HEATER UNIT



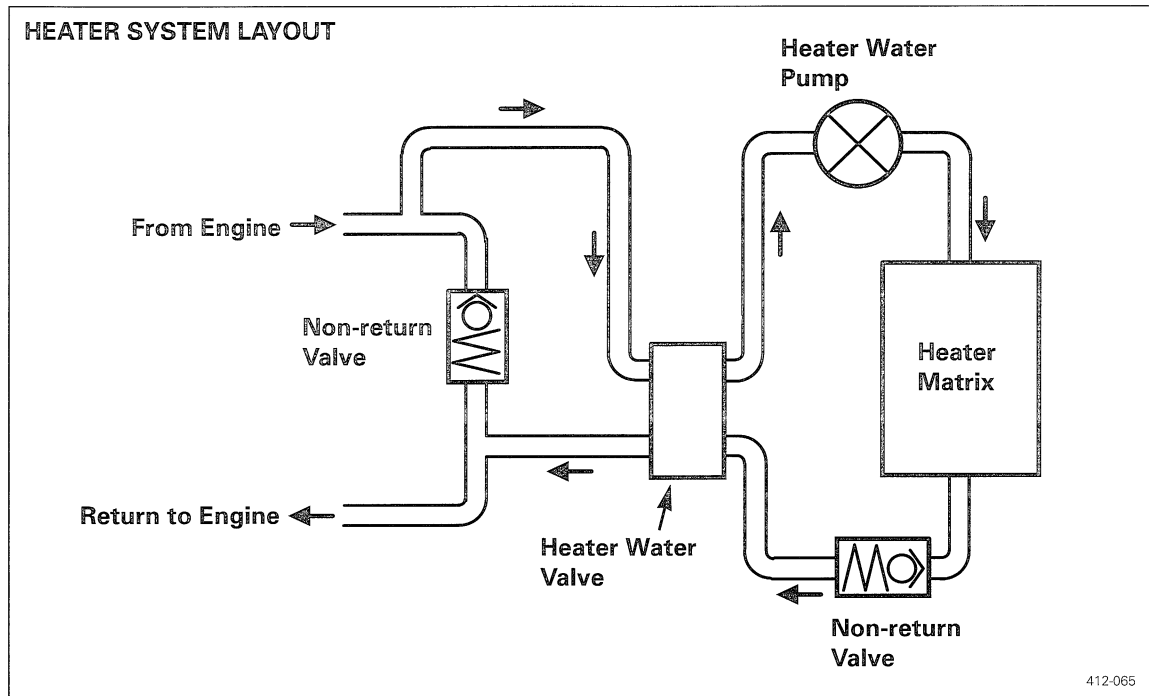
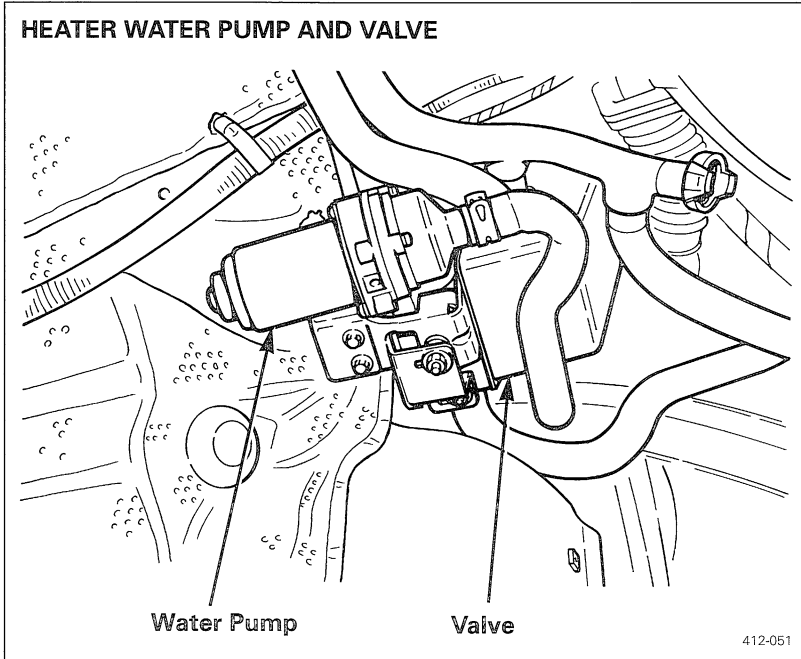
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Heating System

Hot water for heating the cabin air is supplied from the engine coolant system via a solenoid-operated control valve and circulated by an electric pump. The pump is energised in all engine running modes except low coolant temperature or in panel off mode. The pump is off with ignition on and engine not running. The water valve is used to regulate water flow to the

heater matrix and so regulate outlet air temperature. The valve is located centrally under the hood, adjacent to the heater water pump, against the bulkhead behind a heatshield. The valve is de-energised with the ignition on and engine not running.

Heater take-off and return water pipes are positioned along the center of the engine vee to the thermostat/coolant pump. At low engine speeds the water flow in the engine is lower than that produced by the electric water pump therefore a non-return valve is positioned in the engine cooling circuit. This is to prevent the electric water pump recirculating water to the inlet side of the heater, against normal engine coolant flow. A second non-return valve is positioned in the heater circuit to prevent hot coolant convection back into the heater after the engine has been switched off. All water hose joints are spring band clips except small bleed system joints.

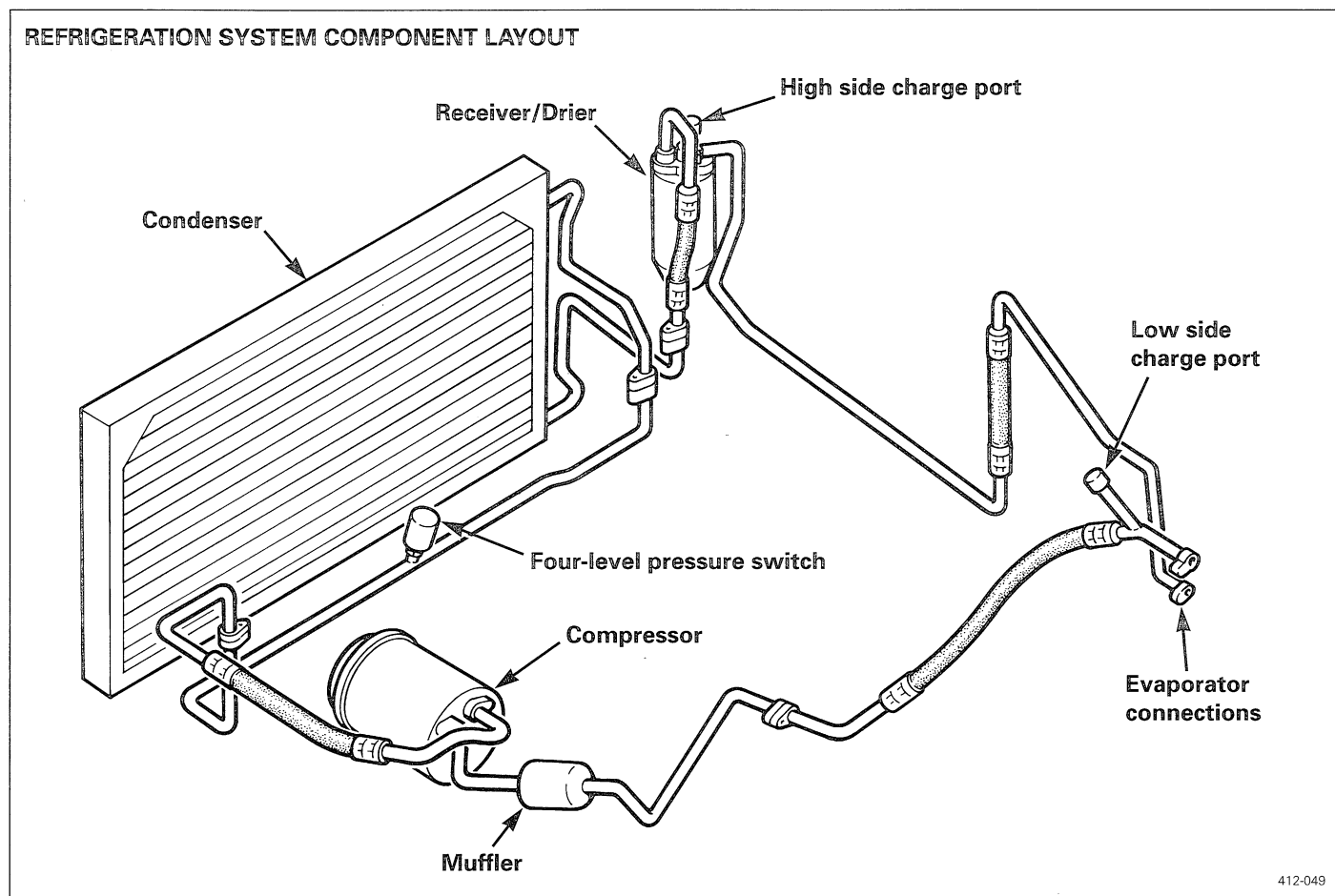


Refrigeration System

Air Conditioning Compressor

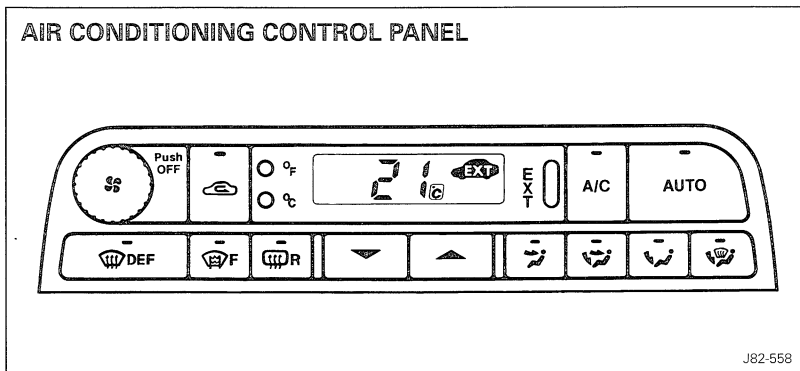
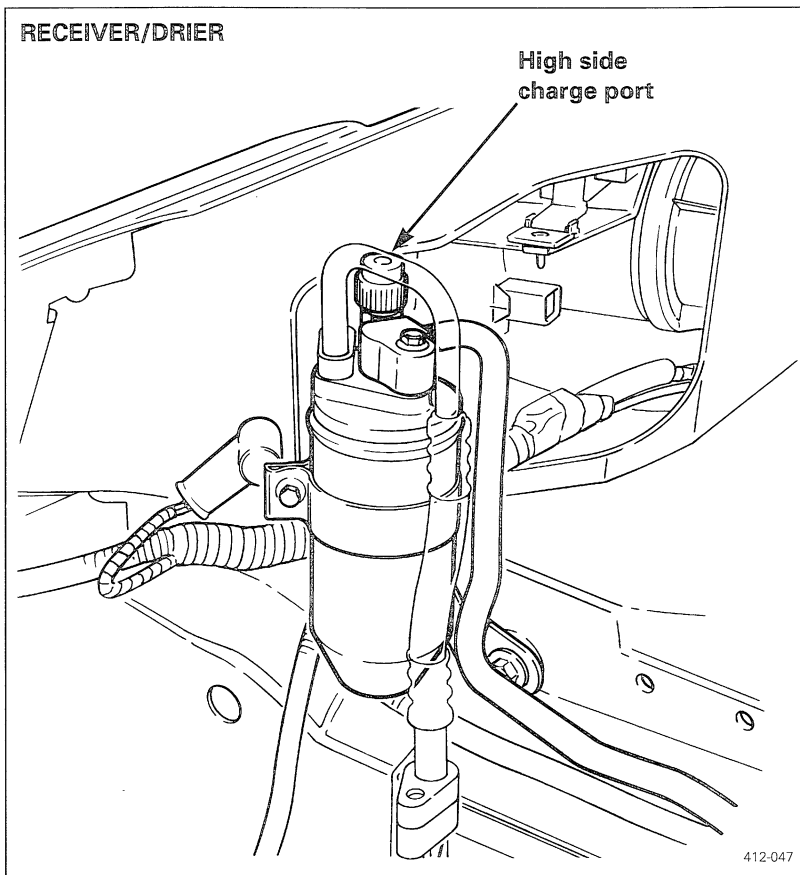
The air conditioning compressor is of fixed displacement and is engine mounted, driven by the common drive belt via a clutch. Operation of the compressor clutch is controlled, via a relay, by the ECM. A compressor on signal is monitored from the compressor relay to inform the A/CCM of the compressor status and to facilitate lock detection and error sensing. This compressor rotating signal is generated at the compressor and then compared with engine speed. If the speed ratio is excessive, the compressor clutch will disengage and the LED on the control panel will begin to flash. Refrigerant pressure is monitored by a four-level pressure switch located in the liquid coolant high pressure line. When abnormal pressures, below 2 bar (29 psi) or above 30 bar (435 psi), are sensed by the switch, it provides a signal via the A/CCM to the ECM to disengage the compressor clutch drive. The switch also provides a hard wired signal to the ECM to switch the radiator cooling fans to fast

mode (parallel) at 22 bar (319 psi) rising pressure and to slow speed at 17.5 bar (253.75 psi) falling pressure. Slow speed operation of the cooling fans is signalled by the four-level pressure switch to the ECM to operate in slow speed (series) from 12 bar (175 psi) rising pressure and to switch the fans off at 8 bar (116 psi) falling pressure.



Receiver/Drier

The receiver/drier is vertically mounted adjacent to the radiator on the right-hand side in the engine compartment and has a high side charge port. The low side charging port is in the suction hose adjacent to the bulkhead. A lightweight multi-pass fin over tube condenser is car mounted forward of the main cooling radiator.



Air Conditioning Control

In-car temperature is maintained at the level selected on the control panel by the action of the A/CCM. The A/CCM is mounted on the side of the air conditioning unit casing, as the 95MY sedan, and can be accessed/removed without removing the fascia.

The A/CCM receives and computes signals input from a number of switches and sensors and provides the required power outputs to drive the servos, blowers, valves and screen/mirror heaters. The ECM is interfaced with the A/CCM to control operation of the air conditioning compressor. The ECM will de-energise the compressor relay when high engine temperatures or high acceleration demand a reduction in engine load. An air conditioning request signal from the A/CCM to the ECM to ask for compressor action will be responded to unless the engine temperature is too hot or engine speed is too low.

Windshield, Backlight and Door Mirror Heating

Windshield and backlight heating is also controlled through the A/CCM. Selecting defrost will activate the heated front windshield, where fitted, which will remain active for 6 minutes unless deselected by the driver. The backlight heater will remain energised for 21 minutes unless deselected by the driver. Engine speed is signalled to the A/CCM by the ECM inhibiting windshield and rear backlight heating when the engine is not running. Under certain conditions the heated front windshield will be automatically switched on. These conditions, all of which must be met, are ambient temperature at or below 0°C (32°F), vehicle speed above 30 mph (50 kph), both for more than 5 minutes duration. The heated front windshield warning light will not illuminate when the heater is on under this condition.

Switching on backlight heating also switches on door mirror heating.

Sensors

Solar Sensor

A solar sensor for measuring direct sunlight is mounted on top of the fascia adjacent to the driver side fascia defrost vent. This provides a signal to the A/CCM ensuring in-car temperature stability with varying solar load heating

Ambient Temperature Sensor

An ambient temperature sensor is mounted on the right-hand horn bracket on the front bumper beam. This provides a temperature signal to the A/CCM which compensates for ambient conditions and also provides the signal for control panel ambient temperature display.

Evaporator Temperature Sensor

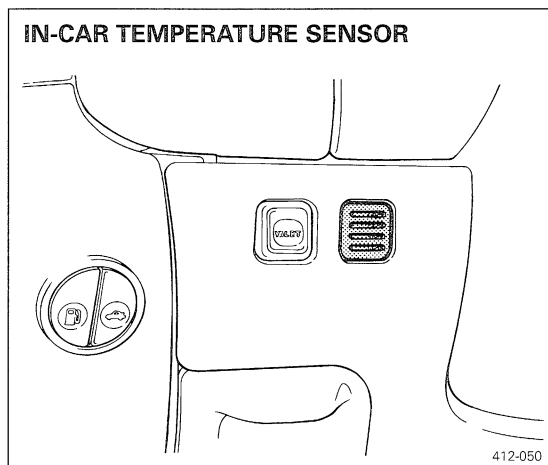
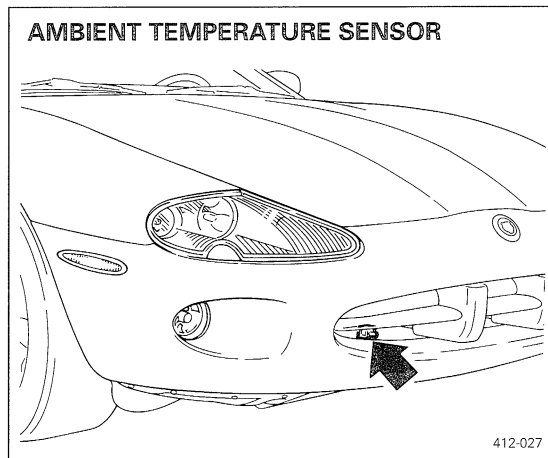
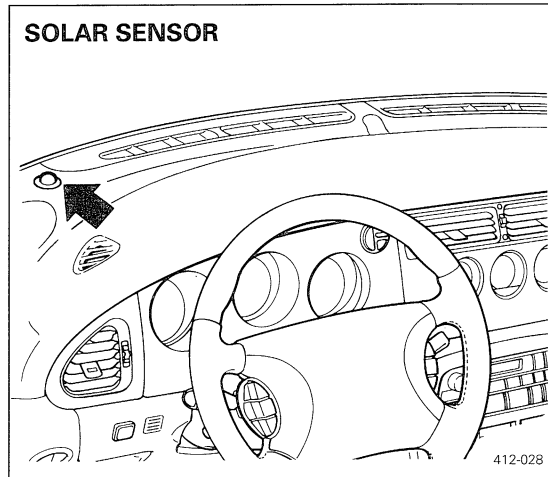
Located next to the evaporator fins is an air temperature sensor. This provides signals to the A/CCM which disengages the compressor when the outlet temperature is approaching 0°C (32°F) to prevent freezing conditions. When the evaporator air outlet temperature rises above 2.7°C (36.8°F) the A/CCM requests the ECM to re-engage compressor.

Heater Matrix Temperature Sensor

A temperature sensor is fitted inside the unit casing downstream of the heater matrix and measures post-heater air temperature.

In-car Temperature Sensor

Air temperature within the cabin is detected by an in-car temperature sensor which has the air drawn across it by a small motorised fan. The sensor is housed behind a small grill on the drivers knee bolster and is connected to the fan by a short length of rubber tube. The fan is also located on the driver's knee bolster assembly. The temperature signal is sent to the A/CCM.



Engine Control Module

The ECM provides a signal to the A/CCM to inhibit the blowers when the engine coolant temperature is below 30°C (86°F). This input also monitors the coolant temperature to the heater matrix to assist in heater outlet temperature control.

Air Conditioning Control Module

The A/CCM is capable of self-diagnosis and will store Diagnostic Trouble Codes for subsequent interpretation by the Jaguar Portable Diagnostic Unit or universal scan tool.

Electrical Distribution

Distribution cables supply battery power through a high power protection module to the starter motor and to five fuse boxes. Harnesses distribute battery, auxiliary and ignition power from the fuse boxes to all the user components.

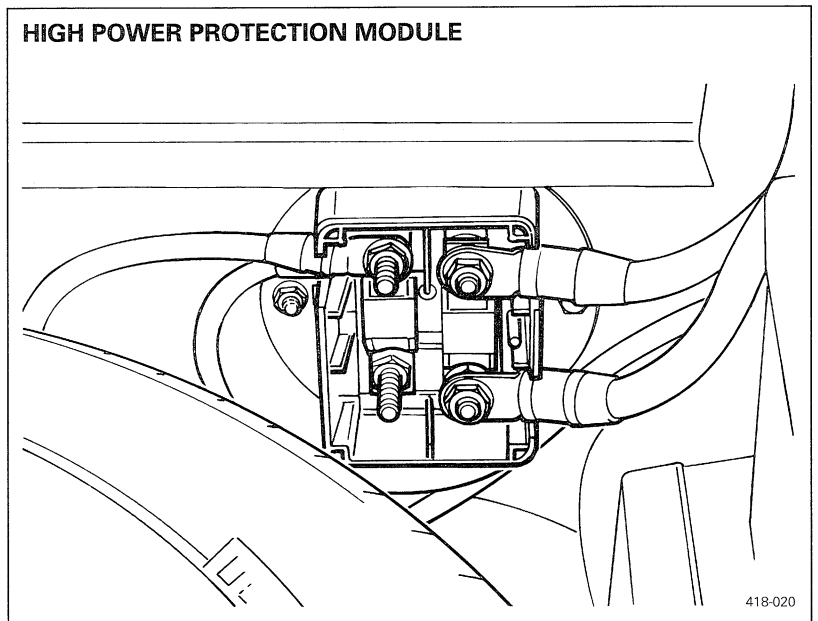
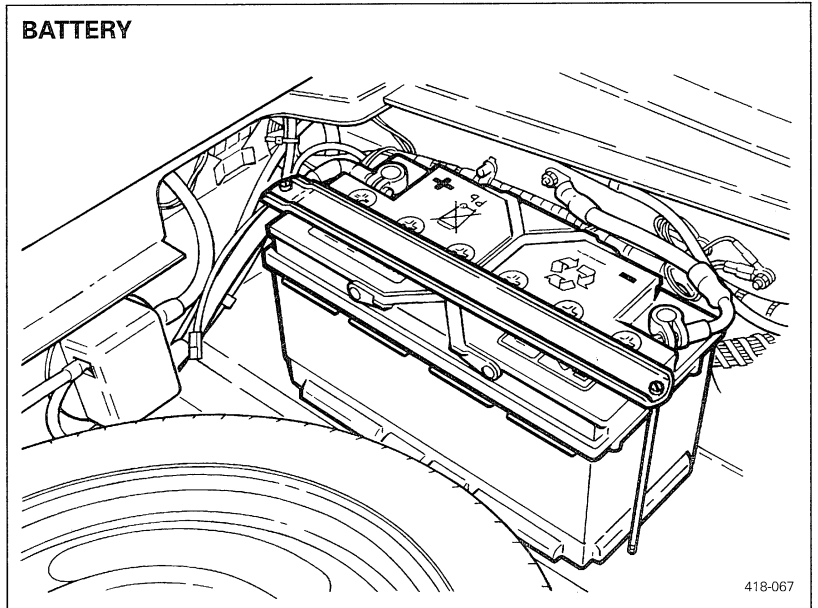
Battery

The DIN 88, 92 ampere hour battery is installed on the right side of the trunk floor below the trim.

CAUTION: Open both doors, or lower the windows of both doors, before disconnecting the battery. Disconnecting the battery disables the automatic window drop/raise function. Opening a door when the automatic window drop/raise function is disabled and the windows are closed could damage the door seals.

High Power Protection Module

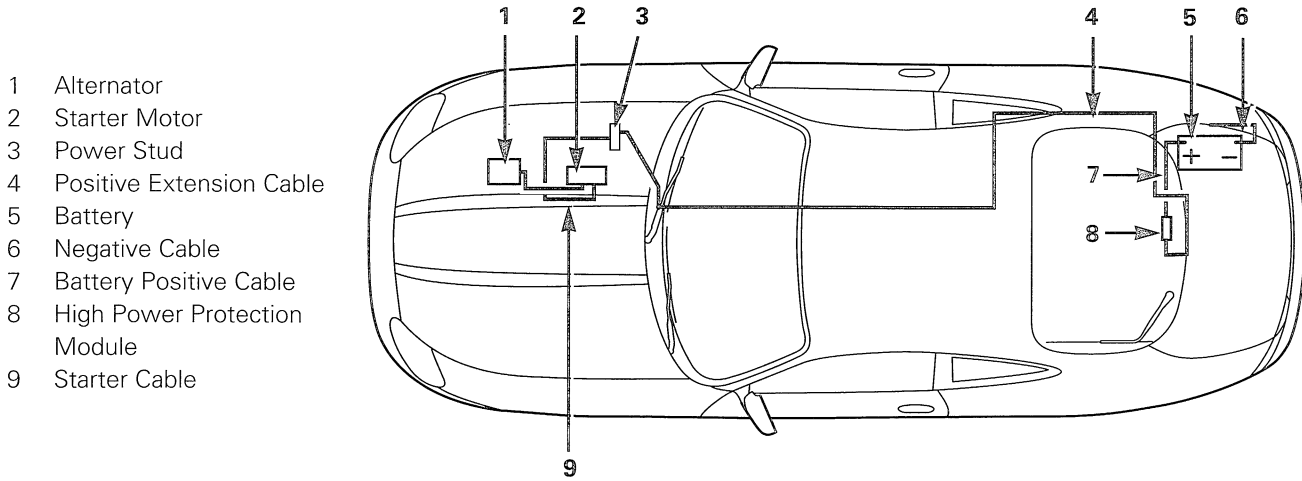
The high power protection module contains three 250 amperes fuses. Two fuses connected in parallel provide 500 amperes protection for the starter supply. The third fuse provides 250 amperes protection for the fuse box supplies.



Power Distribution Cables

Heavy duty power distribution cables connect the battery to the body and the high power protection module, and the high power protection module to the engine starter and the vehicle fuse boxes. The distribution cable from the high power protection module to the starter is routed outside the vehicle.

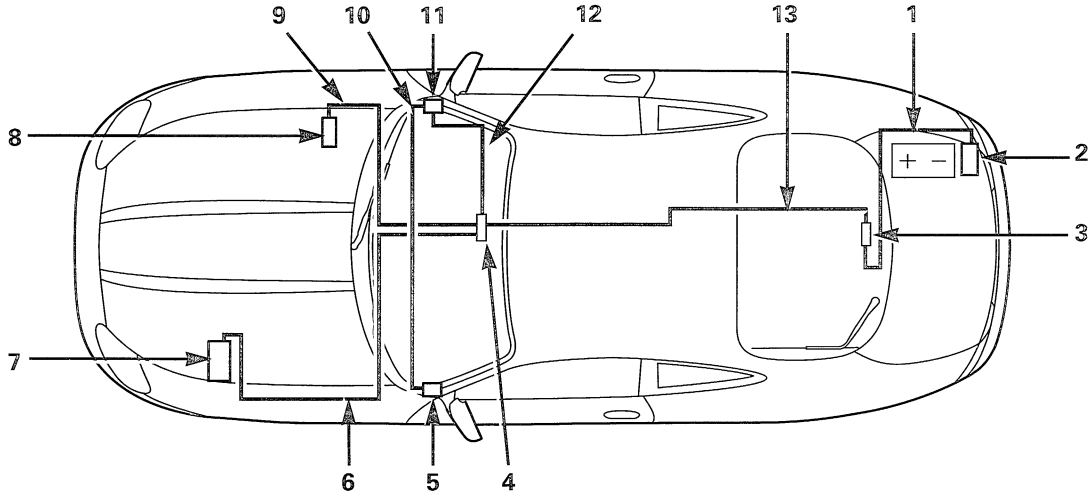
BATTERY POWER DISTRIBUTION



- 1 Alternator
- 2 Starter Motor
- 3 Power Stud
- 4 Positive Extension Cable
- 5 Battery
- 6 Negative Cable
- 7 Battery Positive Cable
- 8 High Power Protection Module
- 9 Starter Cable

418-075

FUSEBOX POWER DISTRIBUTION



- | | | |
|--------------------------------|-----------------------------|---------------------------------------|
| 1 Power Cable | 6 Power Cable | 10 Power Cable (Fascia Fuseboxes) |
| 2 Trunk Fusebox | 7 Left Front Fusebox | 11 Fascia Fusebox |
| 3 High Power Protection Module | 8 Engine Management Fusebox | 12 Power Cable (to RH Fascia Fusebox) |
| 4 Power Stud | 9 Power Cable | 13 Positive Extension Cable |
| 5 Fascia Fusebox | | |

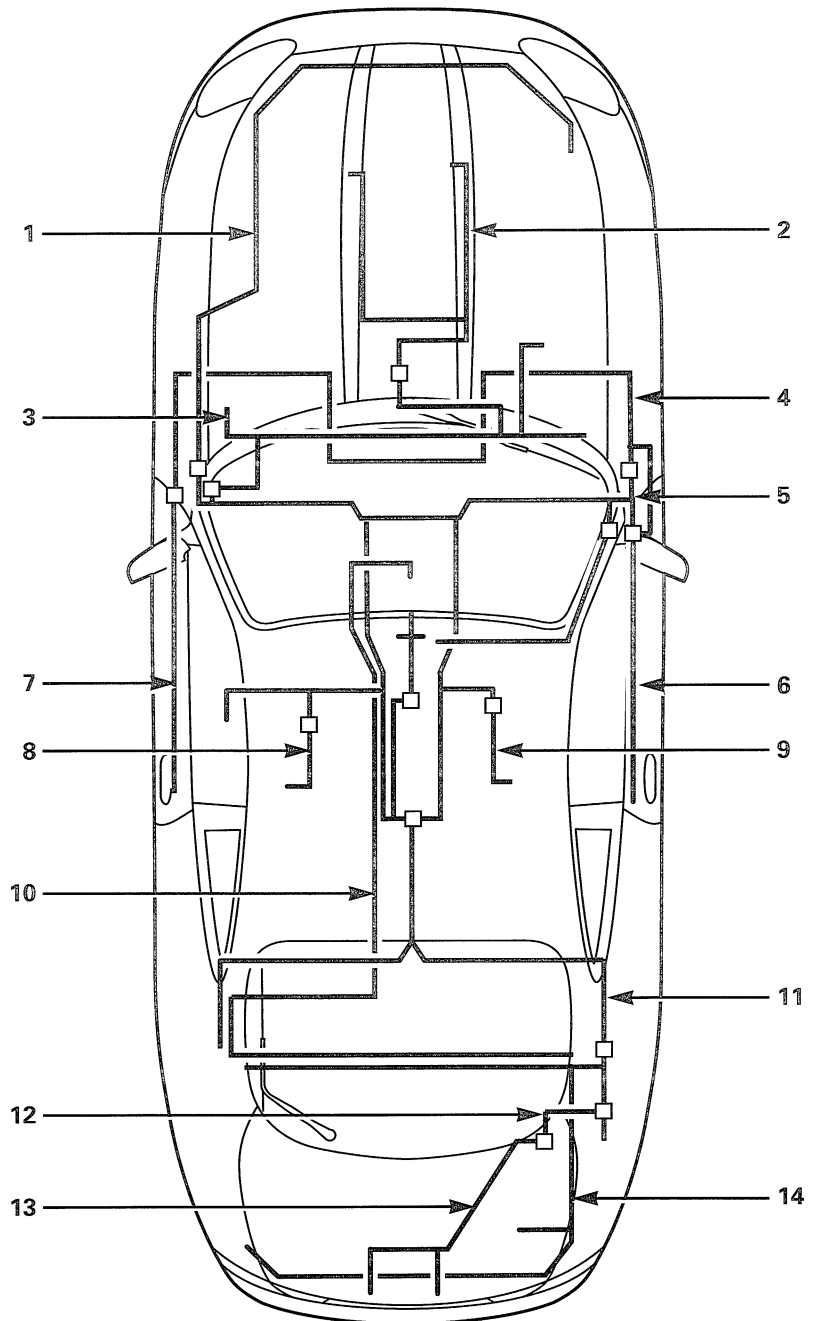
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Harnesses

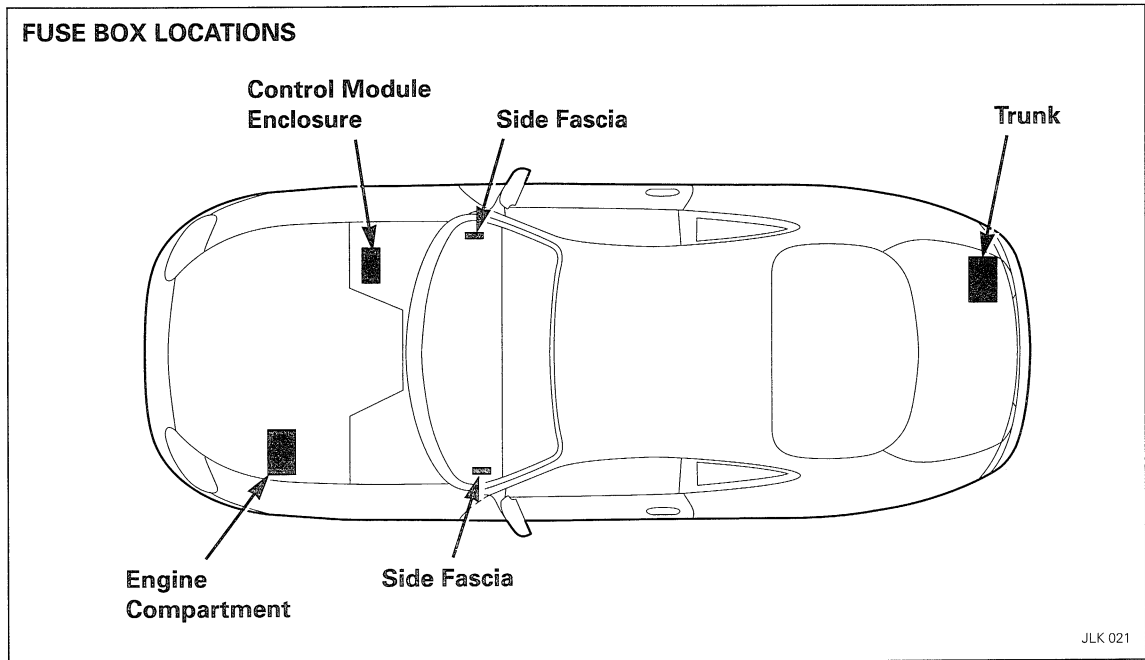
The vehicle harnesses plug directly onto components or component flying leads using locking connectors. Extensive use is made of harness securing clips, and the majority of the flying lead and interface connectors are secured to the adjacent structure or component.

HARNESSES

- 1 Left Forward
- 2 Engine
- 3 Engine Management
- 4 Air Conditioning
- 5 Fascia
- 6 Passenger Door
- 7 Drivers Door
- 8 Drivers Seat
- 9 Passenger Seat
- 10 I.C.E.
- 11 Rearward
- 12 Trunk to Trunklid
- 13 Trunklid
- 14 Trunk



418-074



Fuse Boxes

Five fuse boxes contain the protection fuses for all of the electrical circuits. A fuse map is located on the lid of the electrical carrier in the trunk. Spare fuses and a fuse extractor tool are installed on the underside of the lid.

Caution: Always replace blown fuses with the same rated fuse.

Relays

The majority of the relays are located in and around the fuse boxes. Those in the engine compartment enclosures are in groups of three, under protective covers.

Fuse Identification Table

Fuse Box/ Number	Color	Rating (Amperes)	Circuit
Engine Compartment			
1	Red	10	TCM
2	-	-	Not used
3	Tan	5	Active security sounder; ignition supply (to front fog lamps, A/C coolant pump relay coils) and center console switchpack
4	Tan	5	Brake control module
5	Red	10	ECM; fuel injection main relay coil; generator regulator; starter relay coil
6	Red	10	RH low beam headlamp
7	Green	30	Power wash pump (where fitted)
8	Red	10	LH low beam headlamp
9	Red	10	Active security sounder
10	-	-	Not used
11	Red	10	RH horn
12	Green	30	Radiator fans (series/parallel)
13	Red	10	LH horn
14	Green	30	Radiator fans (parallel)
15	Red	10	A/C coolant pump
16	Green	30	ABS control valves
17	Blue	15	Front fog lamps
18	Green	30	ABS pump motor
19	Red	10	RH high beam headlamp
20	-	-	Not used
21	Red	10	LH high beam headlamp
22	-	-	Not used
Control Module Enclosure			
1	-	-	Not used
2	-	-	Not used
3	Natural	25	Starter solenoid
4	Tan	5	ECM; TCM
5	Red	10	Fuel injectors
6	-	-	Not used
7	-	-	Not used
8	Red	10	A/C compressor clutch
9	Green	30	Throttle motor
10	Tan	5	Cruise control VSV; ECM; electronic throttle mechanical guard
11	-	-	Not used
12	Red	10	Air flowmeter; variable valve timing solenoids; radiator fans control module
13	-	-	Not used
14	Red	10	A/C compressor clutch relay coil; EGR valve; EVAP valve; HO2S heaters; ignition coils relay coil; throttle motor relay coil
15	Green	30	Windshield LH heater (where fitted)
16	Tan	5	Bulkhead extension cooling fan
17	Green	30	Windshield RH heater (where fitted)
18	Red	10	Ignition coils

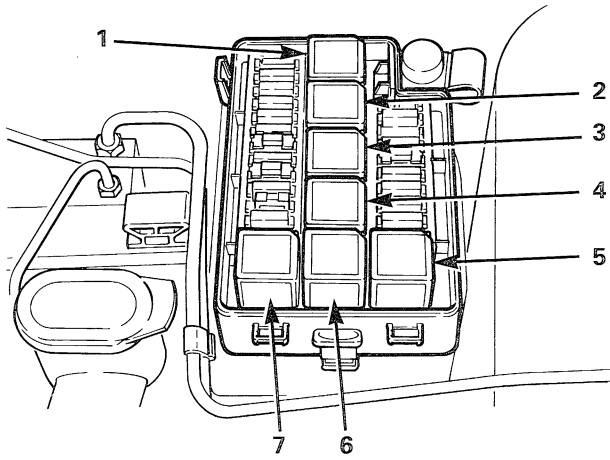
Fuse Identification Table (continued)

Fuse Box/ Number	Color	Rating (Amperes)	Circuit
Driver's Side Fascia			
1	Yellow	20	Driver's seat module
2	Red	10	Door mirror heaters
3	Green	30	Windshield wiper motor; windshield wiper motor fast/ slow relay coil; windshield wiper motor on/off relay coil
4	Red	10	Airbag/SRS control module
5	Blue	15	BPM (5V logic; lamps supply)
6	Tan	5	Center console switchpack battery supply; diagnostic connector (battery supply); garage door opener
7	Blue	15	BPM (battery supply for solenoids, lamps and motors)
8	Tan	5	Driver's seat switchpack; driver's seatbelt buckle switch; steering column adjustment switch
9	-	-	Not used
10	-	-	Not used
11	Yellow	20	A/C Driver's blower motor
12	Red	10	A/C blower motor relay coil; A/C compressor lock; A/CCM ignition supply; door mirror heaters relay coil
13	-	-	Not used
14	Red	10	cruise control on/off switch; major instrument cluster (ignition supply)
15	Natural	25	Driver's door module
16	Tan	5	Diagnostic connector (ignition supply); electrochromic interior mirror (where fitted); gear selector; transmission mode switch; windshield heater relay coils (where fitted)
17	Red	10	Accessory connectors (battery supply)
18	Tan	5	Major instrument cluster (battery supply)
Passenger's Side Fascia			
1	Yellow	20	Passenger seat module
2	Red	10	Door lock actuators; door lock relay coil
3	-	-	Not used
4	Tan	5	Door lock switches; door window switches; memory switches
5	Red	10	Telephone transceiver and RT connector (where fitted)
6	Red	10	A/C control module; A/C isolate relay
7	Yellow	20	BPM (steering column adjustment motor)
8	Tan	5	Passenger seat switches; passenger seatbelt buckle switch
9	Red	10	Radio cassette (battery supplies)
10	Tan	5	Telephone handset and transceiver (where fitted)
11	Yellow	20	A/C Passenger blower motor
12	Tan	5	Radio cassette (auxiliary supply)
13	-	-	Not used
14	Yellow	20	Cigar lighter
15	Natural	25	Passenger door module
16	Tan	5	Airbag/SRS control module
17	Blue	15	BPM (lamps battery supply)
18	Red	10	Dimmer control module

Fuse Identification Table (continued)

Fuse Box/ Number	Color	Rating (Amperes)	Circuit
Trunk			
1	Tan	5	Coupe : SLM (back-up lamps supply)
	Tan	5	Convertible : SLM (back-up lamps supply); quarter lights down and up relay coils
2	Yellow	20	Adaptive damping control module (where fitted)
3	Tan	5	Ignition supply (to fuel pump, backlight heater and rear fog lamps relay coils)
4	Tan	5	Adaptive damping control module (where fitted)
5	Tan	5	Lamp control module
6	Tan	5	Left and right stop lamps
7	Yellow	20	Fuel pump
8	Tan	5	HMSL
9	Red	10	Antenna motor; remote power amplifier (premium ICE only)
10	Yellow	20	SLM
11	Red	10	Accessory connectors (auxiliary supply)
12	Yellow	20	Coupe : Not applicable
	Yellow	20	Convertible : RH quarter light lift motor
13	-	-	Not used
14	Orange	40	Coupe : Not applicable
	Orange	40	Convertible : Convertible top hydraulic pump motor
15	Red	10	Rear fog lamps
16	-	-	Not used
17	Natural	25	Backlight heater
18	-	-	Not used
19	Tan	5	RH tail lamp; license plate lamps
20	Yellow	20	Coupe : Not applicable
	Yellow	20	Convertible : LH quarter light lift motor
21	Tan	5	LH tail lamp; LH and RH rear side marker lamps
22	-	-	Not used

ENGINE COMPARTMENT FUSE BOX RELAYS



418-014

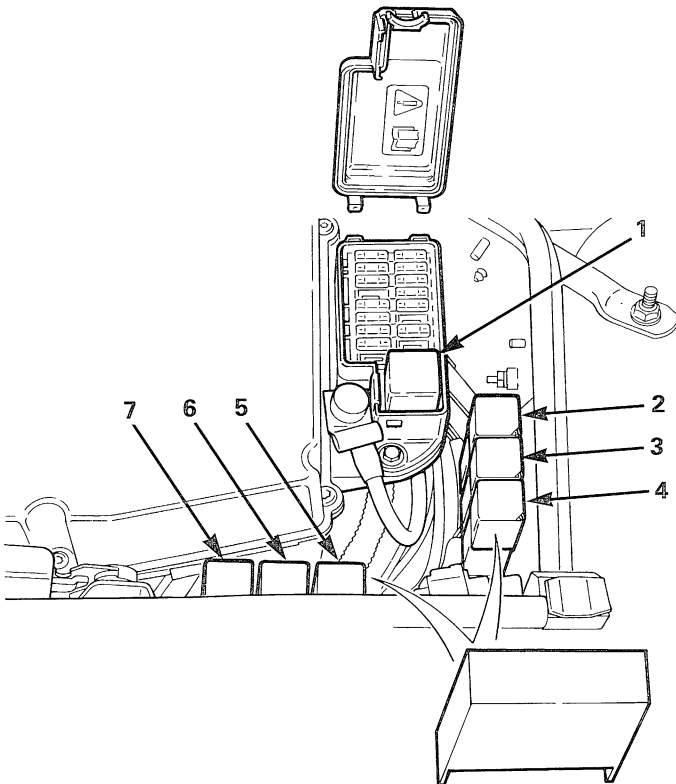
Relay Identification Tables

Location/ Number	Relay	Color
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Engine Compartment Fuse Box

1	Ignition	Brown
2	Horn	Brown
3	Headlamp low beam	Brown
4	Power wash	Brown
5	A/C coolant pump	Brown
6	Front fog lamps	Brown
7	Headlamp high beam	Brown

CONTROL MODULE ENCLOSURE RELAYS



418-015/019

Location/ Number	Relay	Color
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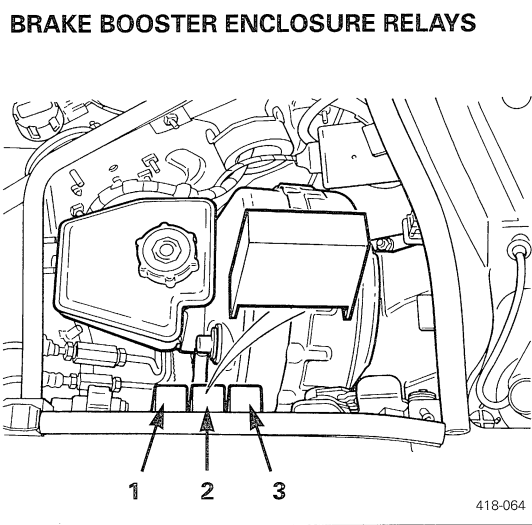
Control Module Enclosure

1	EMS control	Brown
2	Fuel injection main	Brown
3	Throttle motor power	Brown
4	Ignition coil	Brown
5	Starter	Brown
6	Windshield LH heater (where fitted)	Brown
7	Windshield RH heater (where fitted)	Brown

Location/ Number	Relay	Color
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Brake Booster Enclosure

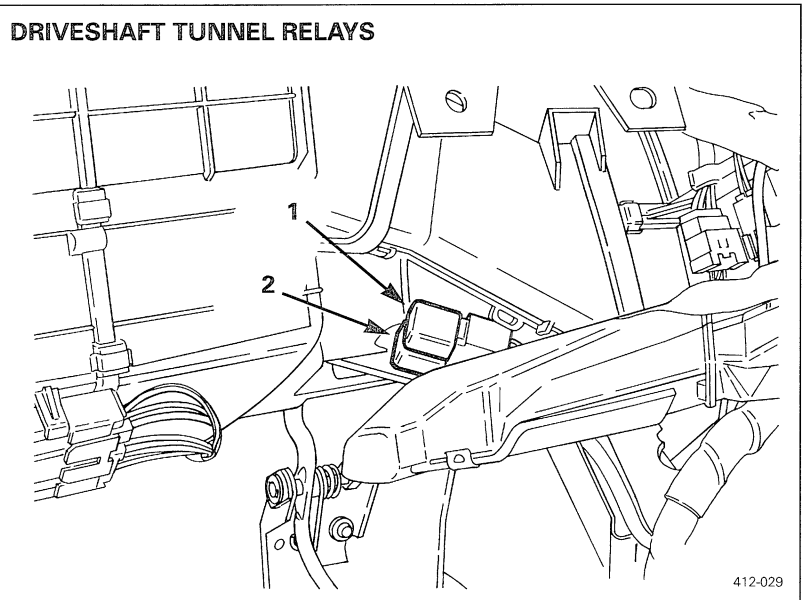
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|---|-----------------------|-------|
| 1 | A/C compressor clutch | Brown |
| 2 | Wiper on/off | Black |
| 3 | Wiper fast/slow | Black |

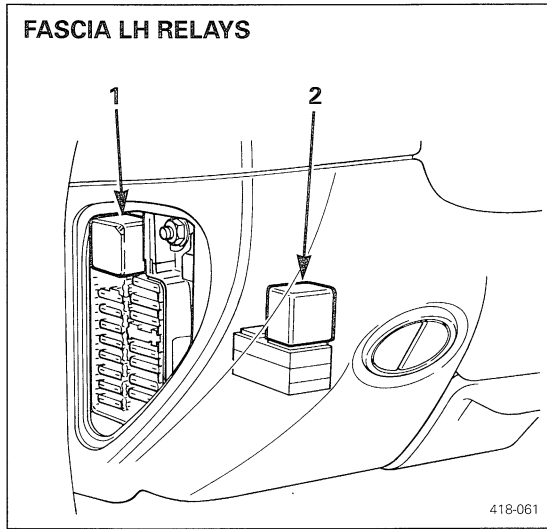


Location/ Number	Relay	Color
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Driveshaft Tunnel

- | | | |
|---|-----------|------|
| 1 | RH blower | Blue |
| 2 | LH blower | Blue |

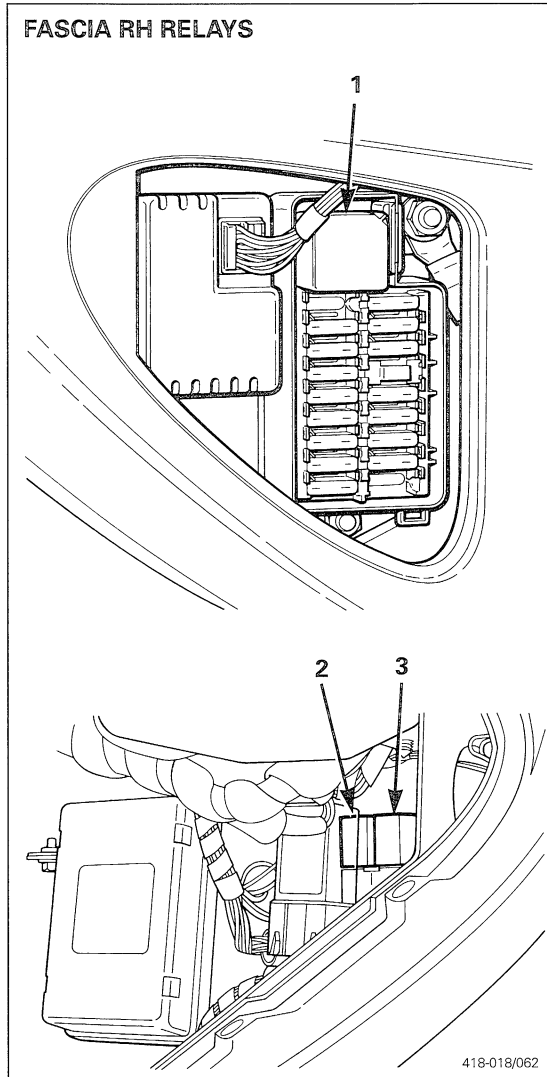




Location/ Number	Relay	Color
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Fascia LH Relays

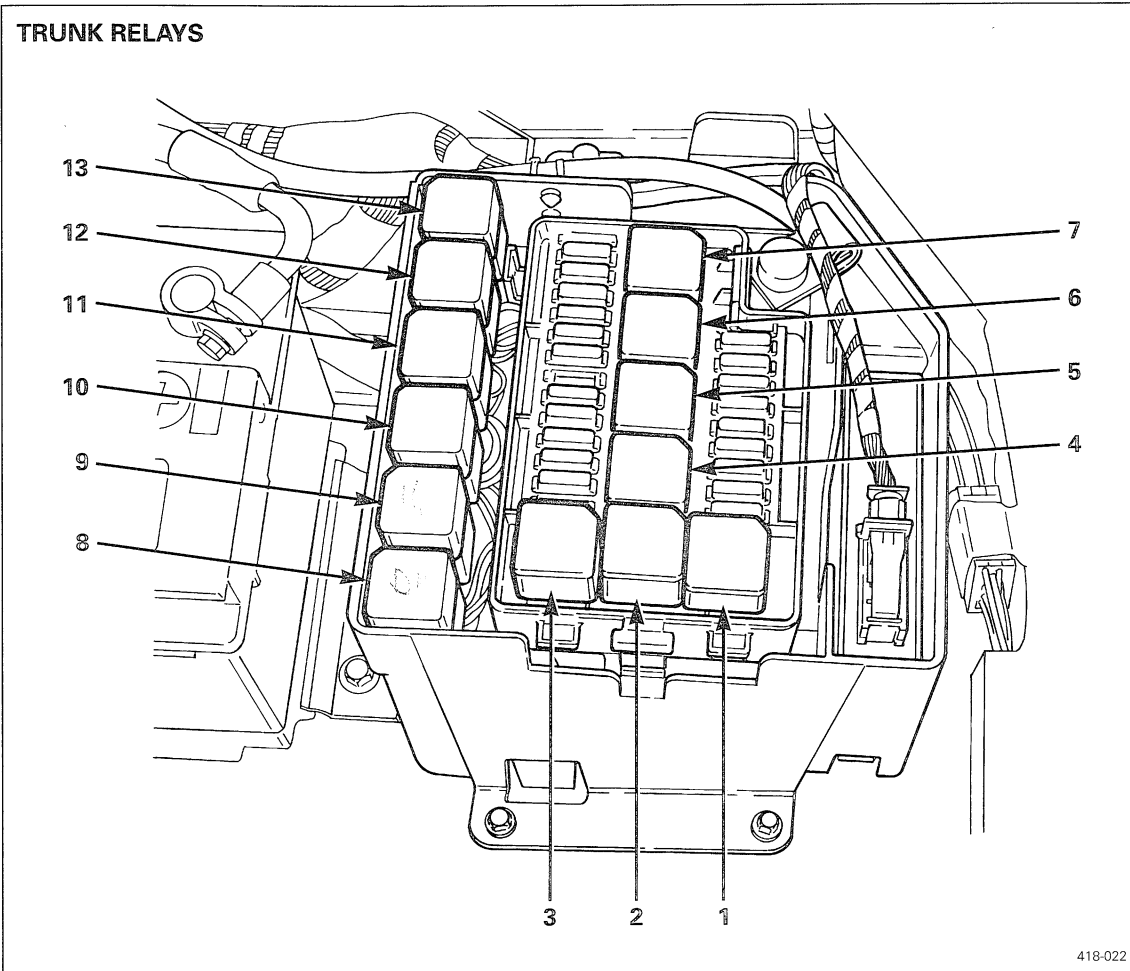
1	Ignition	Brown
2	Door mirror heater	Blue



Location/ Number	Relay	Color
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Fascia RH Relays

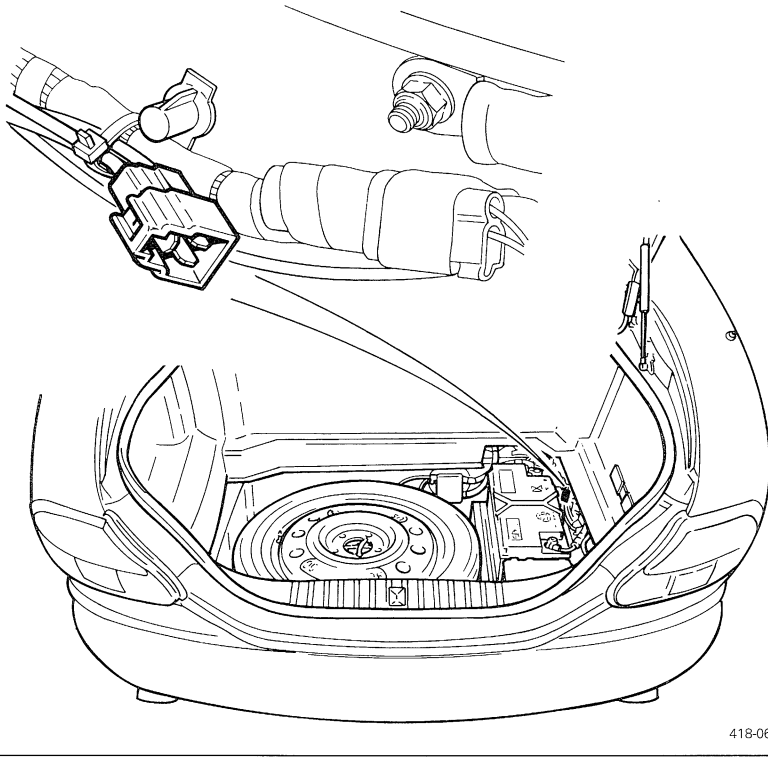
1	Auxiliary	Brown
2	Door lock	Violet
3	A/C isolate	Violet



Location/ Number	Relay	Color
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Trunk

1	Rear fog lamps	Brown
2	Backlight heater	Brown
3	Tail, license plate and rear side marker lamps	Brown
4	Fuel pump	Brown
5	Stop lamps	Brown
6	Accessory socket (option)	Brown
7	Ignition	Brown
8	Top down (convertible only)	Black
9	Top up (convertible only)	Black
10	LH quarter light up (convertible only)	Black
11	LH quarter light down (convertible only)	Black
12	RH quarter light up (convertible only)	Black
13	RH quarter light down (convertible only)	Black

REAR ACCESSORY CONNECTORS**Accessory Supplies**

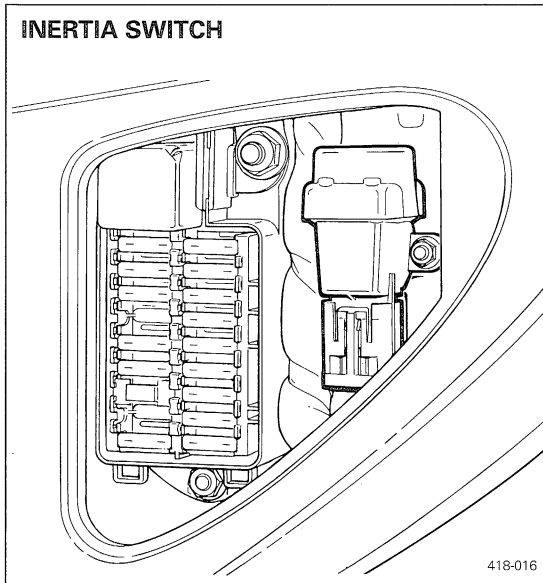
There are two accessory connectors, one in the fascia and one in the trunk. The wiring is the same for each 3-pin connector: The connector is designed to accept 6.35mm (.25 inch) female LUCAR type connectors

Pin 001 (Brown/Light green wire): +12 V Battery

Pin 002 (Black wire): Ground

Pin 003 (Purple/Brown wire): +12 V Auxiliary

The fascia connector cannot be used if a Jaguar rechargeable torch is fitted.

INERTIA SWITCH**Inertia Switch**

The inertia switch is installed next to the fuse box in the LH end of the fascia. When activated, it de-energizes the ignition relays in the engine compartment, driver's side fascia and trunk fuse boxes. It also removes ground inputs from the BPM and windshield wiper stalk switch. This stops the engine and fuel pump, unlocks any locked door, and de-energises unnecessary electrical systems. The switch is reset by pressing down on the rubber cap on the top of the switch.

Communication Networks

The vehicle contains 3 multiplex systems, CAN, SCP and ISO-9141/2. These are used for the exchange of communication and diagnostic information between control modules, the major instrument cluster and the diagnostics connector.

Major Instrument Cluster

The major instrument cluster is connected to the SCP and the CAN networks, and provides the gateway for the transfer of messages between the two networks.

CAN

A CAN communications network is used on this vehicle which links the following systems:

ECM, TCM, ABS, INSTRUMENTS and GEAR SELECTOR ILLUMINATION MODULE.

The network runs at 500Kbps over a twisted wire pair and allows the interchange of information between the modules on the network. This information comprises sensor data, switch data and real time control data. The object of the system is to allow the addition or omission of nodes in a modular open system fashion. The network is referred to as high speed to reflect the real-time nature of the information it carries and the bit rate required to meet the response times, such as traction control and gear shift management.

SCP

The SCP network links the control modules of the main body systems together. The network operates at 41.6 Kbauds over a separate twisted wire pair, giving a possible maximum of approximately 500 messages/second. It is an event driven system, where the control modules connected to the network only output messages when an event occurs (eg. a switch operates) or they receive an information request from another control module.

Zonal partitioning, instead of functional, means that individual control modules on the SCP network are not necessarily dedicated to one system, eg. the SLM operates the back-up lamps. Generally, the location of the control module dictates the functions it performs.

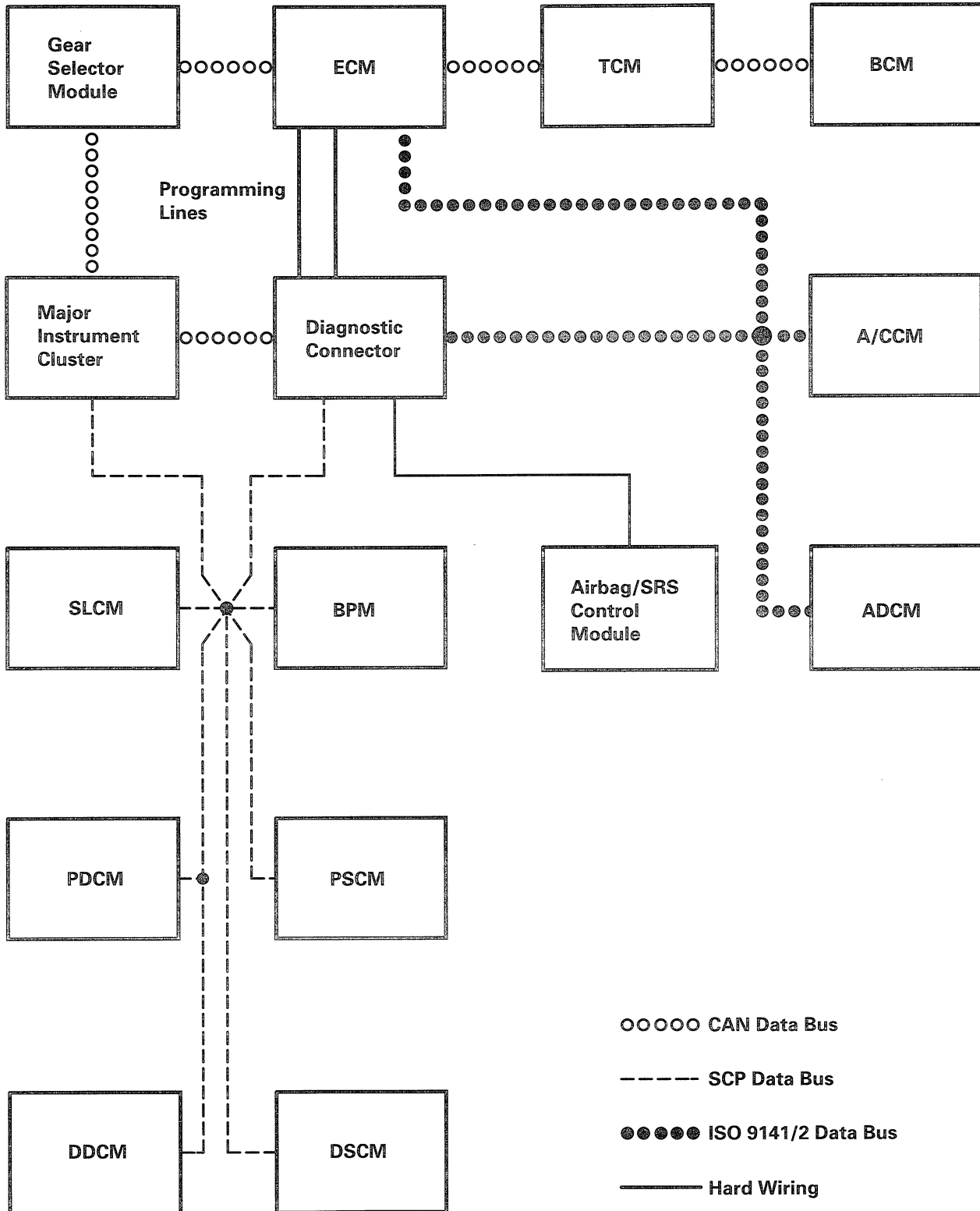
Control modules on the SCP network are "star" connected. If one of the wires in the twisted pair is broken or shorted, communication continues uninterrupted on the remaining wire using

chassis ground as the other conductor. If the continuity of both data buses is broken, only messages through the broken section are affected.

ISO 9141/2

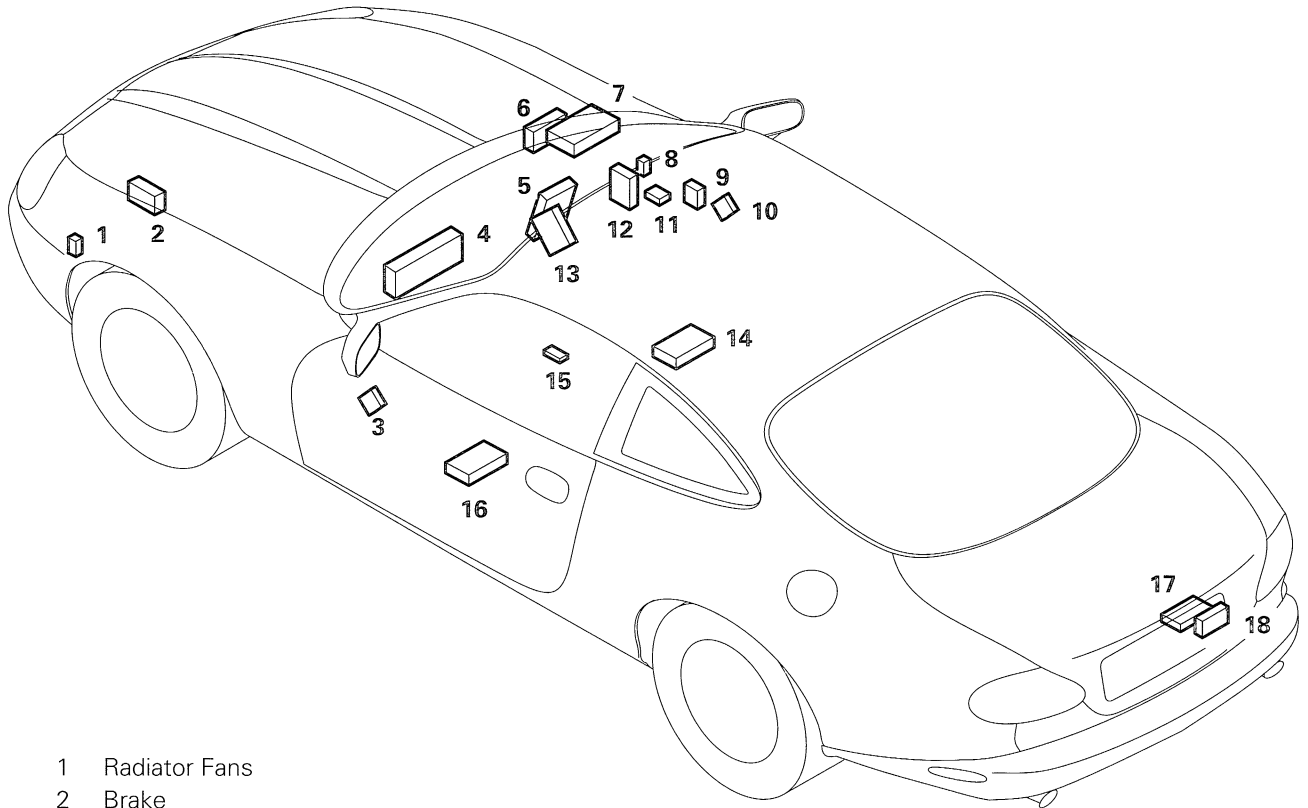
The ISO 9141/2 network links the diagnostic connector to the ECM, and to those control modules with a self-diagnostic capability that are not connected to the CAN or SCP network. The network operates at 10.4 Kbauds.

COMMUNICATION NETWORKS

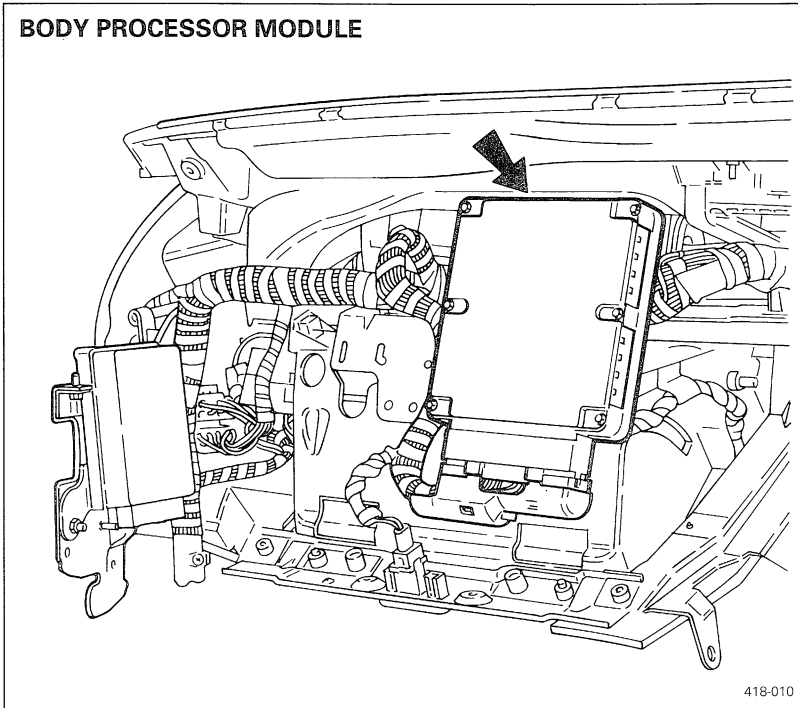


Control Modules

CONTROL MODULE LOCATIONS



- 1 Radiator Fans
- 2 Brake
- 3 Driver Door
- 4 Major Instrument Cluster
- 5 Body Processor
- 6 Transmission
- 7 Engine
- 8 Steering
- 9 Dimmer
- 10 Passenger Door
- 11 Garage Door Opener
- 12 Airbag/SRS
- 13 Air Conditioning
- 14 Passenger Seat
- 15 Gear Selector Illumination
- 16 Driver Seat
- 17 Security and Locking
- 18 Lamp

BODY PROCESSOR MODULE**Body Processor Module**

The Body Control System consists of six modules:

- Body Processor Module (BPM)
- Security and Locking Control Module (SLCM)
- Driver Door Control Module (DDCM)
- Passenger Door Control Module (PDCM)
- Driver Seat Control Module (DSCM)
- Passenger Seat Control Module (PSCM)

Except for the BPM, the modules are described within the relevant sections of this guide.

The BPM is located in the fascia, mounted on the passenger airbag/SRS bracket, behind and above the glovebox.

The BPM functions are (where fitted):

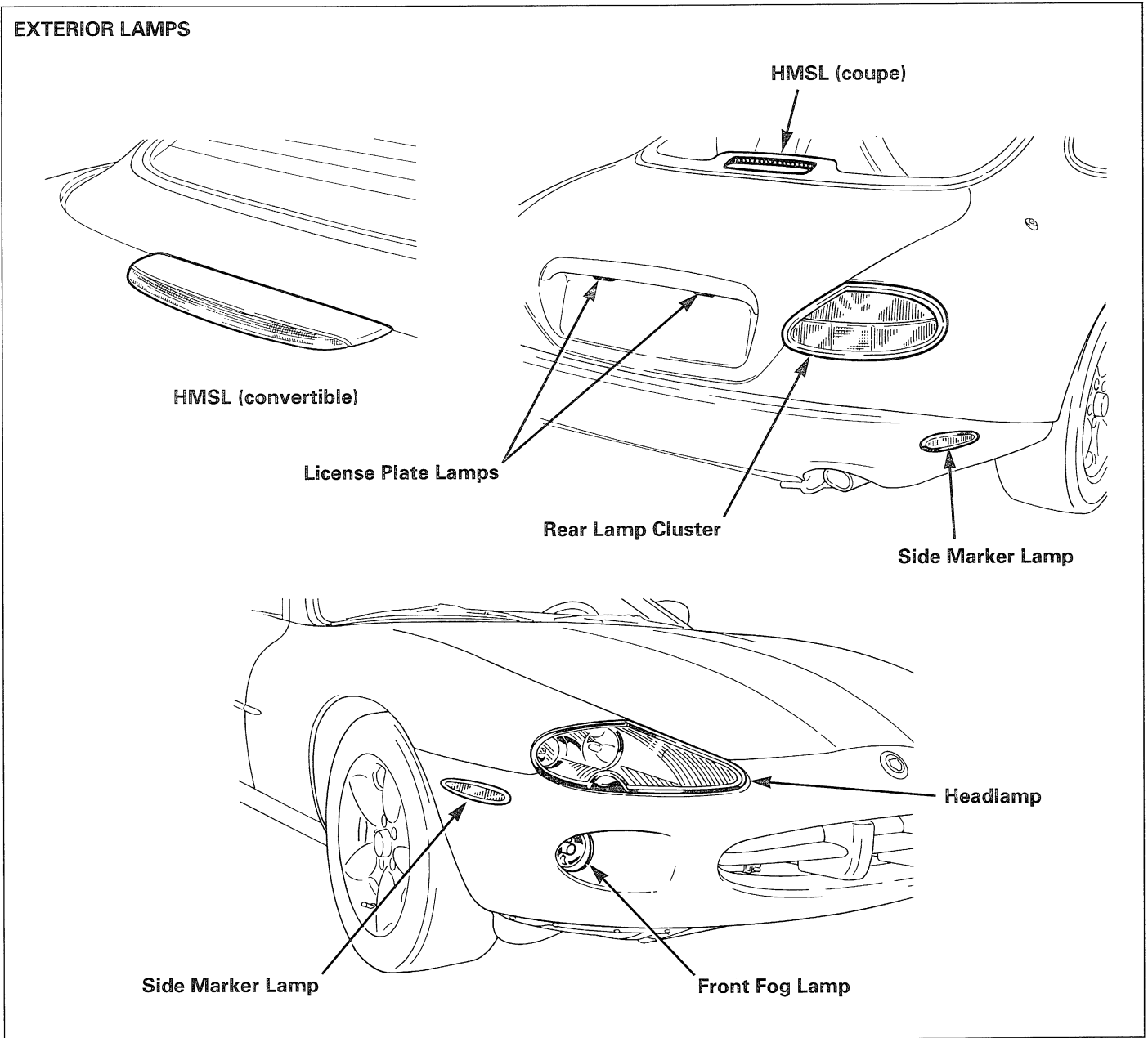
- Interior and exterior lighting, except for the door puddle lamps and the rear lamp bulb failure
- Windshield wash/wipe and headlamp power wash
- Steering column memory
- Action alarm lights and sounders and inhibits engine crank
- Gearshift and ignition key interlocks
- Various switches, for example: convertible top, trunk release, fuel filler flap release
- Various audible and visual alarms, for example: sidelight on warning, convertible top operating, seat belt status.

Exterior Lighting

Exterior lighting is provided by the headlamps, front fog lamps, rear lamp clusters and license plate lamps. Vehicles also have side marker lamps and an HMSL.

The BPM and SLCM operate the lamps in response to control inputs from various switches and the SCP - REVERSE GEAR SELECTED message from the major instrument cluster.

A lamp control module monitors the bulbs of the tail, stop (not HMSL) and rear side marker. The BPM monitors all the turn indicator bulbs.



Headlamps

The headlamps incorporate the high and low beam headlamps, the front turn indicator lamps and the side lamps.

Each headlamp is secured to the body by two screws and a nut. A rubber gasket around the periphery of the lens seals the headlamp with the body.

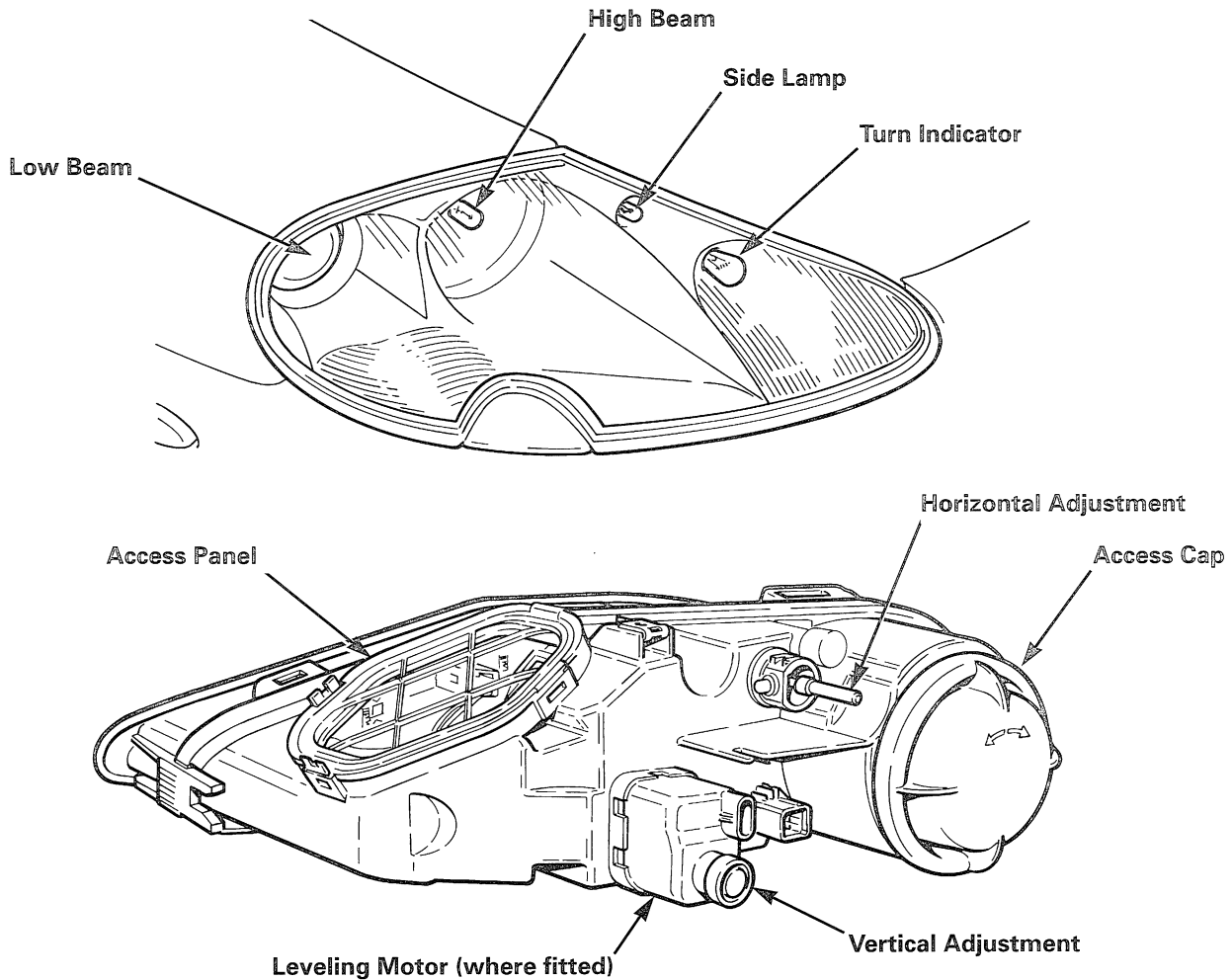
Clips secure the lens to the lamp housing and a rubber gasket seals the interface. The housing contains four separate bulbs:

- H1 55W low beam headlamp bulb, retained by a spring clip
- HB3 65W high beam headlamp bulb, retained by a spring clip
- W 5W side lamp bulb, in a bulb holder
- PY 21W front turn indicator lamp bulb, in a bulb holder.

Circuits integrated into the housing link all the bulbs and bulb holders to a single connector on the rear of the housing.

All bulbs, except high beam, are long life bulbs.

HEADLAMP



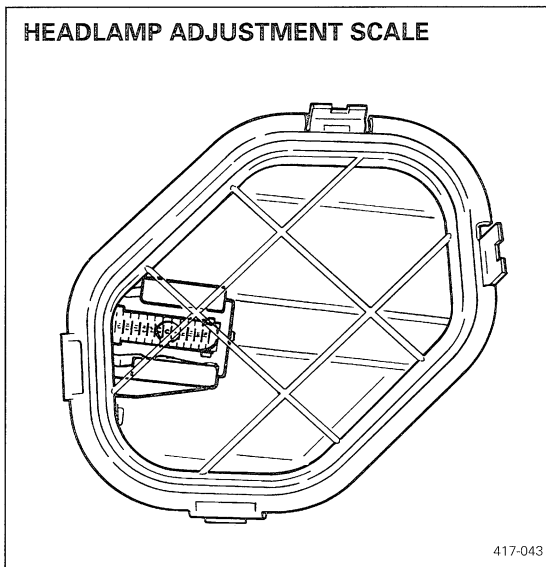
417-001/047

Headlamp Adjustment

Adjusters for horizontal and vertical alignment are also on the rear of the housing. To enable roadside alignment checks, headlamps contain an adjustment scale, visible through a clear plastic panel on the inboard side of the housing.

Removal of the clear plastic panel provides access for replacement of all the bulbs except for the low beam headlamp bulb. The cap on the rear of the housing, accessed through the panel in the wheel arch liner, provides the access for the low beam headlamp bulb.

HEADLAMP ADJUSTMENT SCALE



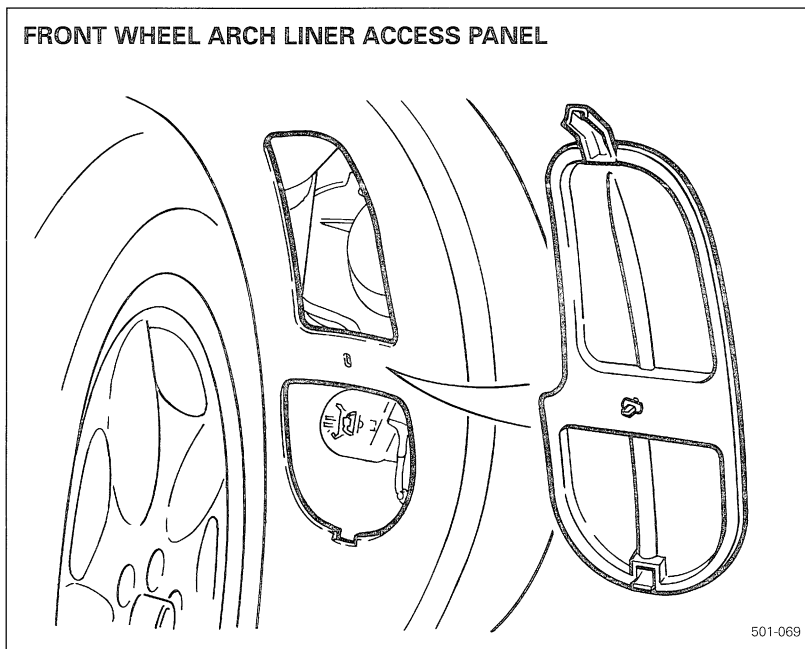
417-043

Front Fog Lamps

The front fog lamps are installed in recesses in the front bumper. Three screws secure each fog lamp. Due to the orientation of the securing holes, the lamps are not interchangeable.

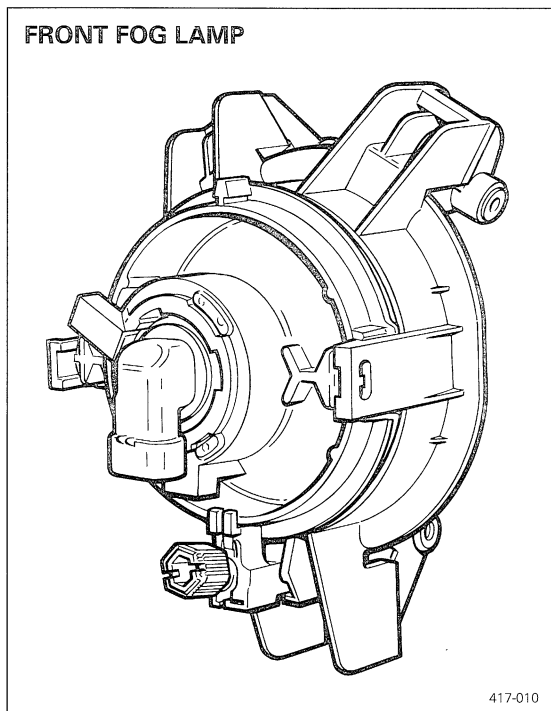
Each lamp has an adjuster for vertical alignment (only) and an H1 55W bulb installed in a bulb holder. Access for adjustment and bulb replacement is through the panel in the wheel arch liner.

FRONT WHEEL ARCH LINER ACCESS PANEL



501-069

FRONT FOG LAMP



417-010

Rear Lamp Clusters

The rear lamp clusters incorporate the back-up lamps, rear turn indicator lamps, rear fog lamps, tail lamps and stop lamps.

Each rear lamp cluster is secured to the body by three nuts. A rubber gasket around the periphery of the lens seals the lamp cluster with the body. Clips secure the lens to the lamp cluster housing and a rubber gasket seals the interface.

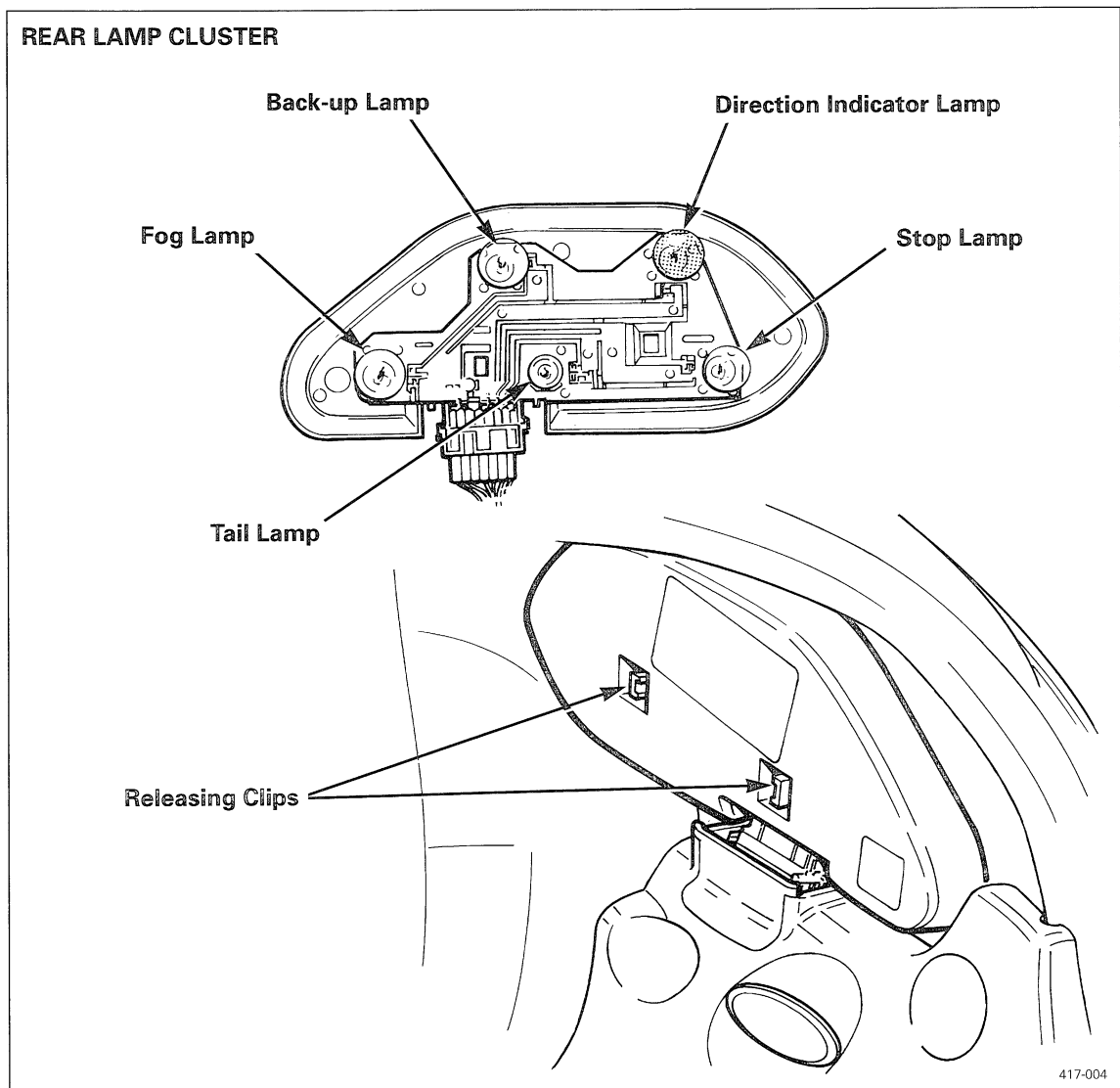
Note: To release the clips (eg. for lens replacement), the old lens has to be broken.

The upper part of the lens is clear and the lower part is red. The area of the lens over the tail lamp incorporates a reflector.

A bulb carrier, clipped on the housing, contains all the bulbs:

- P 21W back-up lamp bulb
- PY 21W turn indicator lamp bulb
- P 21W rear fog lamp bulb
- R 5W tail lamp bulb
- P 21W stop lamp bulb.

Access for bulb replacement is from within the trunk, by releasing a flap on the trunk seal retainer and removing the bulb carrier.



Side Marker Lamps

Side marker lamps, with reflective lenses, are installed in apertures in the outboard ends of the front and rear bumpers. Spring clips secure the lamps in the bumpers. Except for the color of the lens, all four lamps are identical. The lens of each front side marker lamp is amber and that of each rear side marker lamp is red.

Each lamp has a W 5W bulb installed in a bulb holder. Access for bulb replacement is through the panel in the wheel arch liner (front lamps) or from under the vehicle (rear lamps).

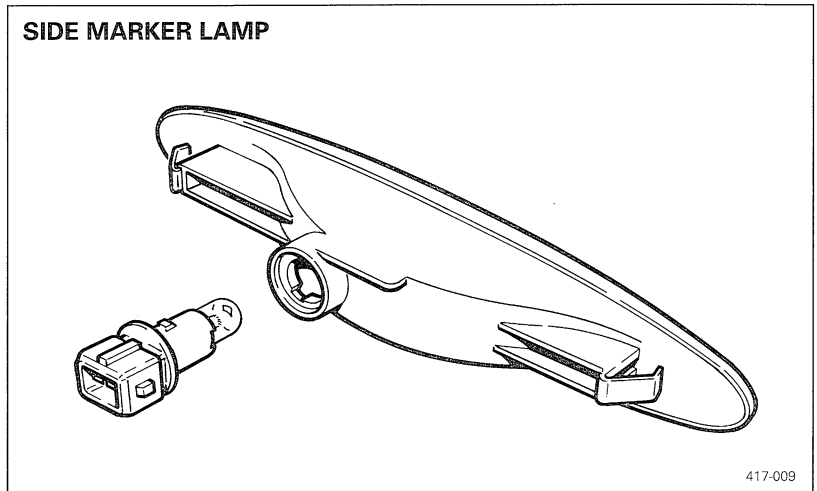
License Plate Lamps

Two W 5W bulb holders are integrated into the trim above the rear license plate. A clear lens covers each bulb holder. To access a bulb, remove the lens using a flat bladed tool inserted in the slot on the left side of the lens.

HMSL

The HMSL is installed on the backlight (coupes) or trunk lid (convertibles) and consists of a lamp unit and a cover. Clips secure the cover to the lamp unit. On coupes, clips secure the lamp unit to the backlight. On convertibles, three nuts secure the lamp unit to the trunk lid.

Each lamp unit contains 16 non-replaceable LED wired to a single connector. The lamp unit must be replaced after failure of 1 LED maximum.

SIDE MARKER LAMP

417-009

Switches

Column Switch Assembly

The controls for the side lamps, headlamps and turn indicator lamps are on the left stalk of the column switch assembly. When operated, the controls produce ground inputs in the BPM, which then connects battery power, either directly or via relays, to the appropriate lamps.

Note: This explanation assumes operation of the tail lamps, license plate lamps and side marker lamps (where fitted) in conjunction with the side lamps and headlamps.

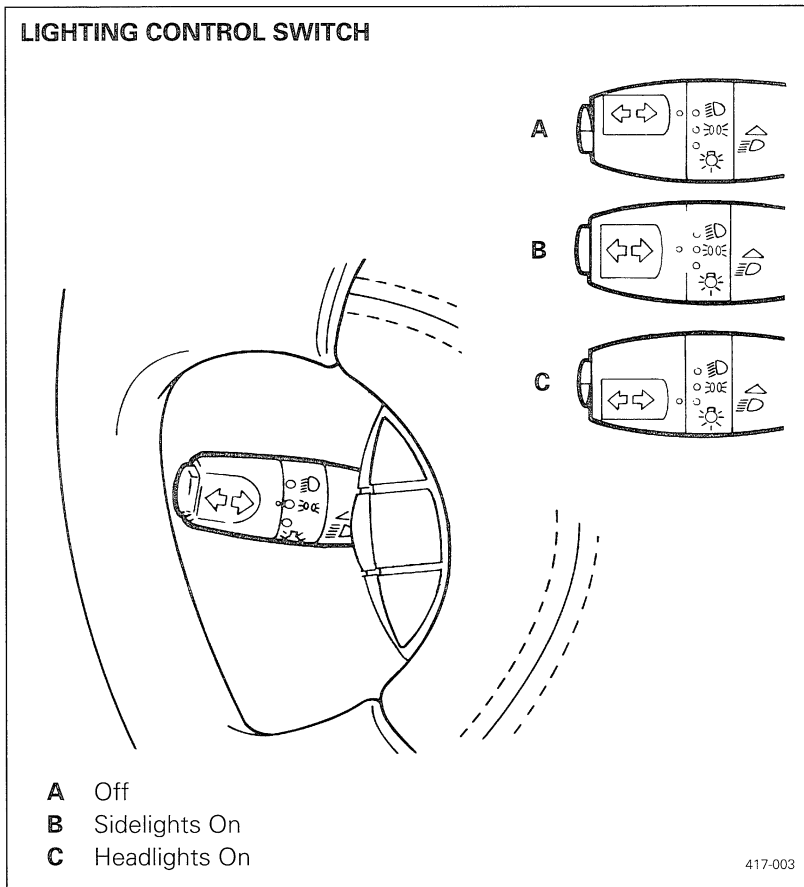
Selections on the side lamp and headlamp switches also cause the BPM to output the SCP - SIDE LAMP STATUS, SCP - LOW BEAM HEADLAMP STATUS and/or SCP - HIGH BEAM HEADLAMP STATUS messages to the major instrument cluster, to operate the 'exterior lights on' and the 'high beam' indicator lamps. The side lamps operate with the ignition on or off. The

headlamps operate only while the ignition is on; if the ignition is switched off with the headlamps selected on, the headlamps go off but the side lamps remain on. On Canadian vehicles, with the rotary switch set to OFF, the side lamps and headlamps automatically come on with the ignition.

When a turn indication is selected, the BPM also operates the audible warning speaker on the column switch assembly (to produce the ticking sound) and, by outputting the SCP - TURN INDICATOR STATUS message, the related turn indicator lamp on the major instrument cluster. The turn indicators operate at 72 ± 5 cycles/minute. If the BPM detects a bulb failure, it operates the turn indicator lamp of the affected side on the major instrument cluster of the at twice the normal rate. Exterior indicators continue to flash at the normal rate.

Brake Switch

The brake switch is installed on the pedal box as on the 96MY Sedan. When the foot brake is applied, the switch connects a ground to the stop lamp relay. The stop lamp relay then energizes and connects battery power to the stop lamps. The stop lamps operate with the ignition on or off.



Hazard Warning Switch

The hazard warning switch is a non-latching push switch installed on the center console switchpack. When selected, the switch connects a ground to the BPM, which then operates all the turn indicator lamps, the audible warning speaker. It also outputs the SCP - HAZARD STATUS message to operate the two turn indicator lamps on the major instrument cluster.

Fog Lamp Switches

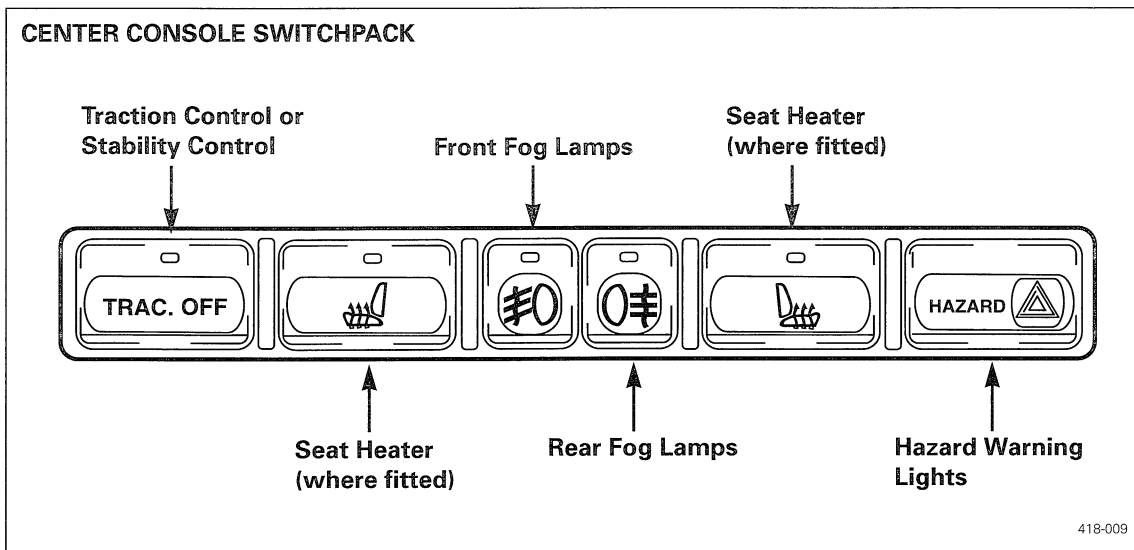
The front and rear fog lamp switches are non-latching push switches installed on the center console switchpack. When selected, each switch connects a ground to the BPM.

When the front fog lamps are selected, the BPM connects a ground to the switch and the front fog lamps relay, to energize the "lamps on" LED in the switch and supply battery power to the lamps.

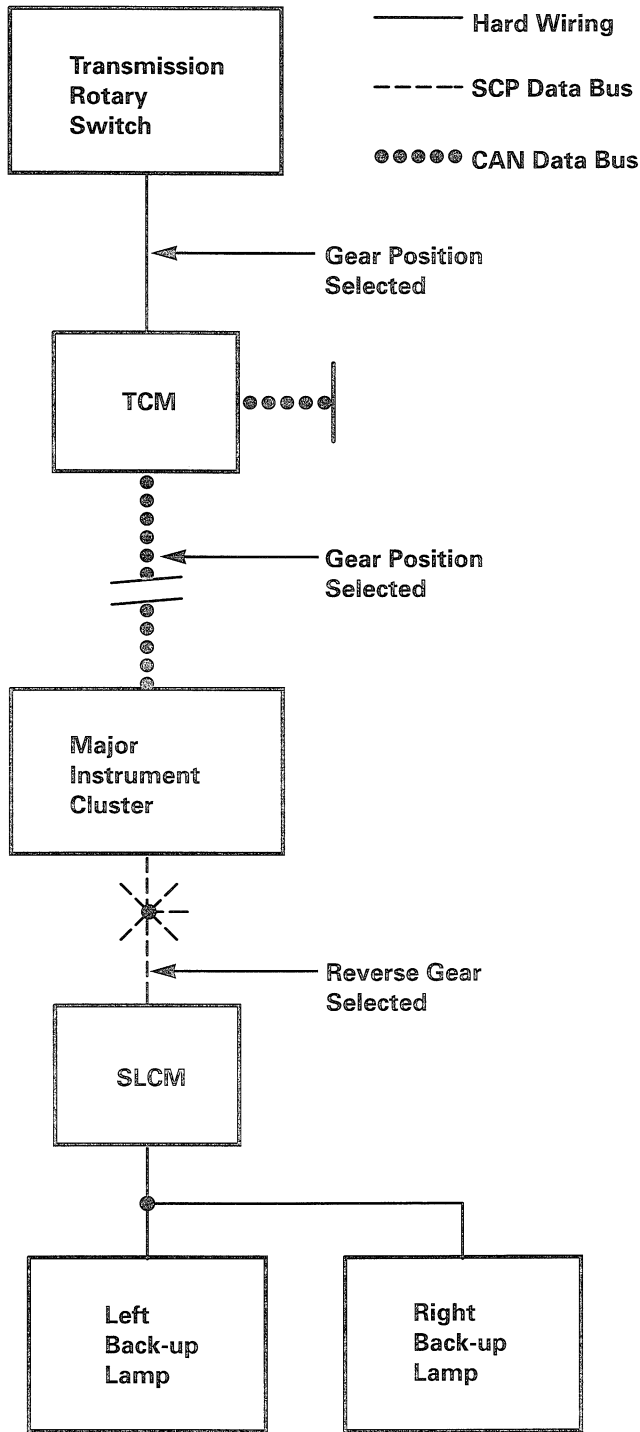
When the rear fog lamps are selected, the BPM connects a ground to the switch to energize the "lamps on" LED. It also outputs a SCP - REAR FOG LAMP ON message to the SLM, which energizes the rear fog lamps relay to supply battery power to the lamps.

The front fog lamps operate only when the side lamps or headlamps are selected on, they automatically go off when the headlamps are set to high beam.

The rear fog lamps operate only when the headlamps, or the side lamps and front fog lamps, are selected on.



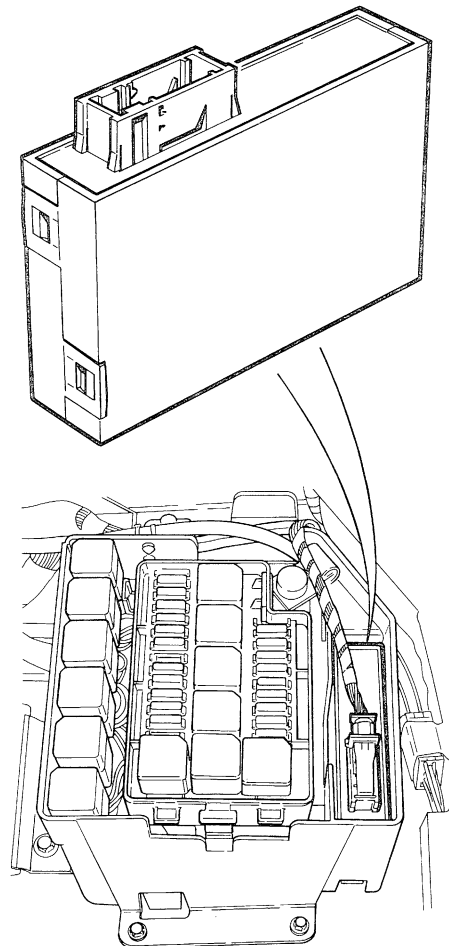
BACK-UP LAMPS CONTROL



Lamp Control Module

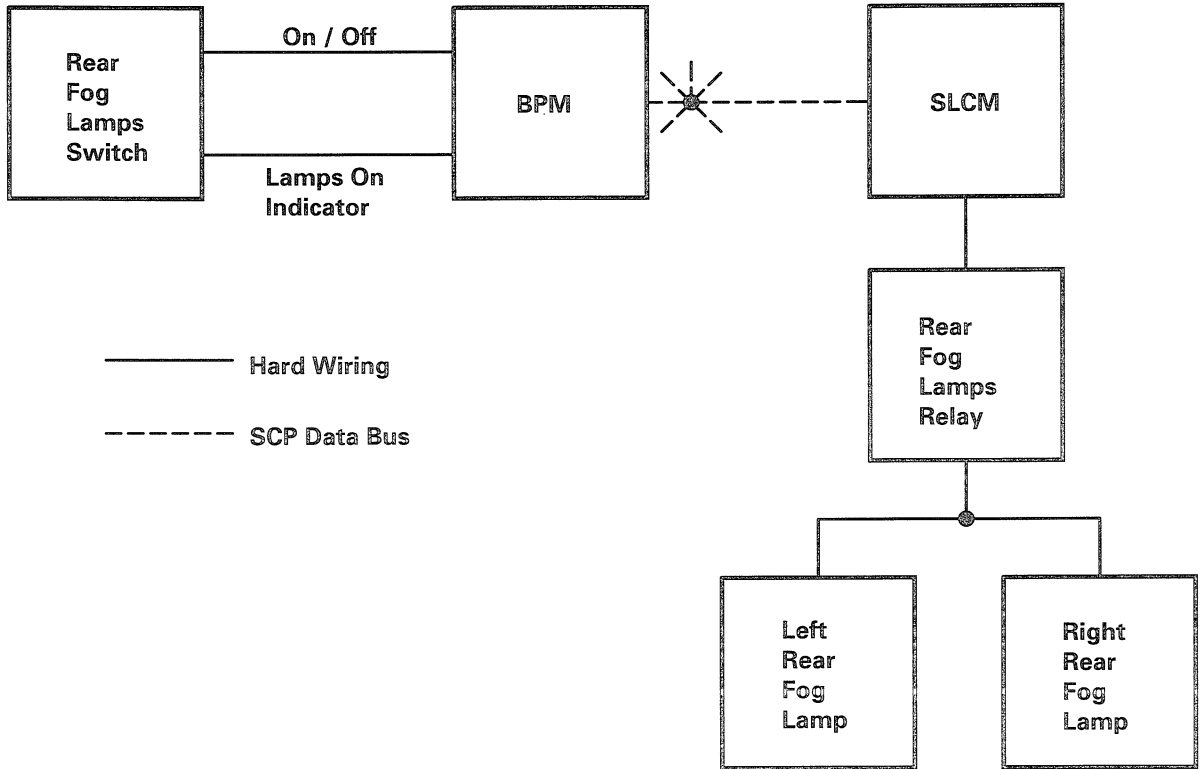
The lamp control module is installed in the electrical carrier in the trunk. The module monitors the supplies to the tail lamps, stop lamps (not HMSL), license plate lamps and rear side marker lamps. If it detects a bulb failure, the lamp control module outputs a signal to the SLM. On receipt of the bulb failure signal, the SLM outputs a SCP - REAR BULB FAIL message to the major instrument cluster. The major instrument cluster then switches on the amber general warning lamp and shows the BULB FAIL REAR message on the driver information display.

LAMP CONTROL MODULE

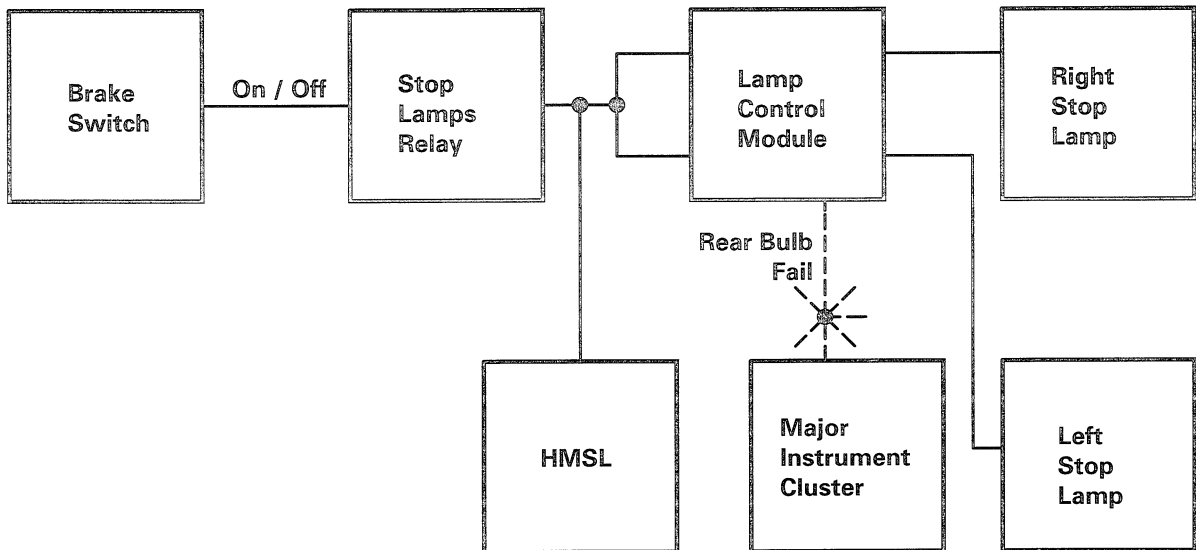


417-006

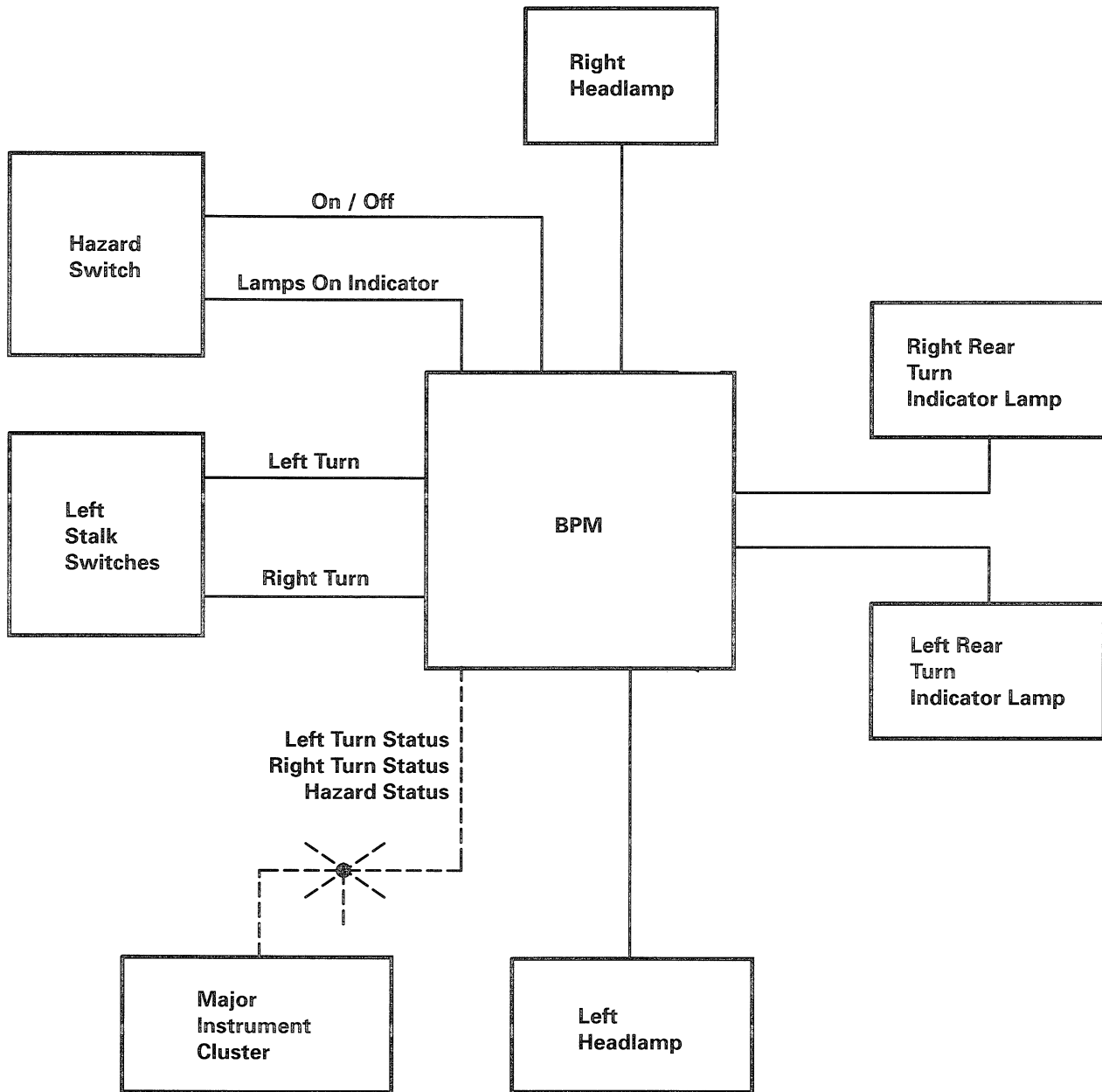
REAR FOG LAMPS CONTROL



STOP LAMPS CONTROL

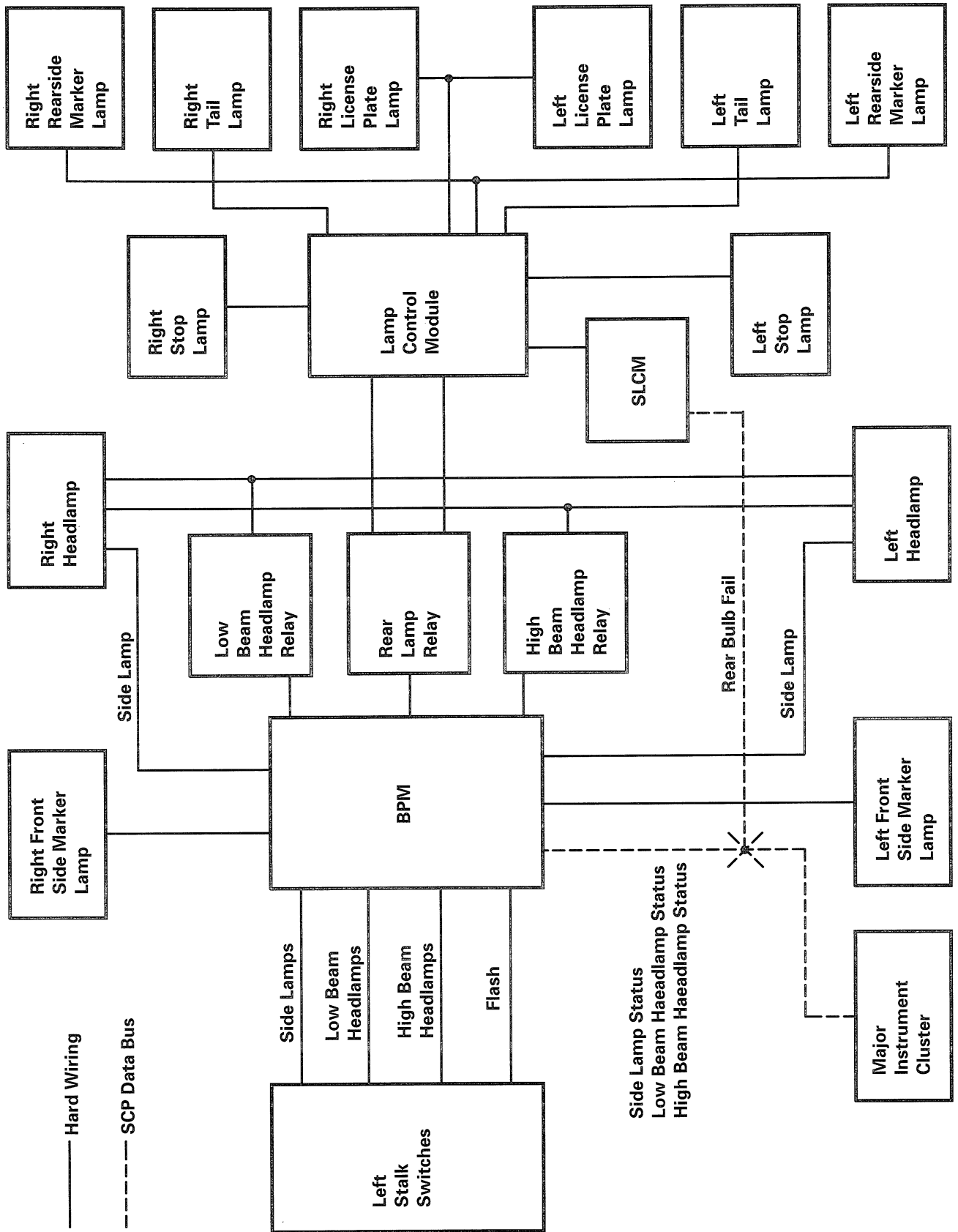


TURN INDICATOR LAMPS CONTROL



————— Hard Wiring - - - - - SCP Data Bus

SIDE/HEADLAMP CONTROL



Interior Lighting

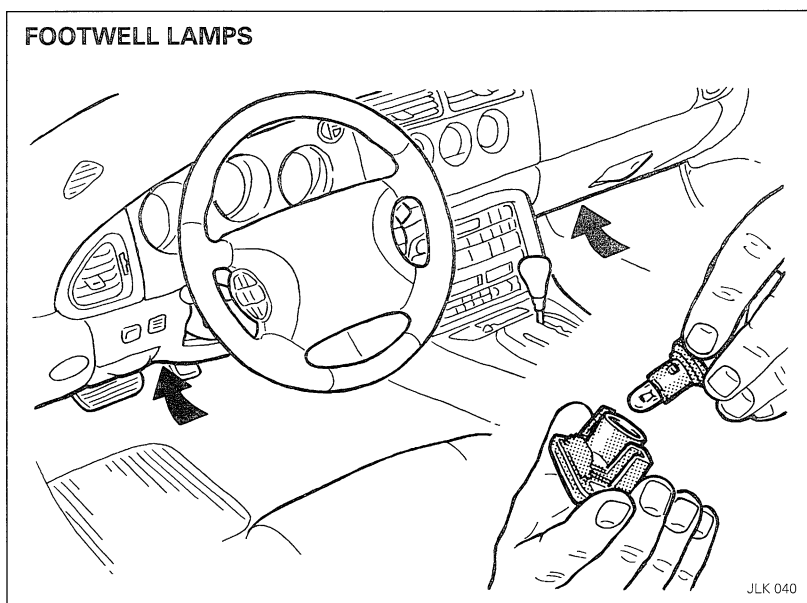
Interior lighting is provided by the door guard lamps, footwell lamps, roof lamp (on coupe models only), trunk lamps, glove box lamp, vanity mirror lamps and map lamps. The DDCM, PDCM and BPM operate the lamps in response to control inputs from related switches.

The door guard lamps, trunk lamps, glove box lamp and vanity mirror lamps operate automatically when their respective door/lid/cover opens or closes. To prevent battery drain from lamps being accidentally left on, when the ignition is off the door guard lamps go off after 5 ± 0.25 minutes if the door remains open; they remain on indefinitely when the ignition is at auxiliary or on. Similarly, after ignition off, the interior lighting supply to the trunk lamps, glove box lamp, vanity mirror lamps and map lamps is disabled approximately 15 minutes after the last detected SCP message (ie. approximately 17 minutes after ignition off); the supply is restored immediately the next SCP message is detected, eg. when a door unlocks.

The two map lamps have individual switches for manual control. They also operate automatically, in conjunction with the footwell lamps and the roof lamp, to provide the cabin courtesy lighting. All three types of courtesy lamp fade up when they come on and fade down when they go off. When the engine is running, the lamps come on when a door opens, then go off immediately the last door closes. When the key is removed from the ignition switch, the lamps come on for 15 ± 1 seconds. When the engine is not running, the lamps come on when a door opens, then go off:

- 15 ± 1 seconds after the last door closes
- after 2 ± 0.1 minutes, if the door remains open (when the door subsequently closes, they come on again for 15 ± 1 seconds)
- immediately, if the ignition switch is set to crank
- immediately the vehicle is locked, if the key is not in the ignition switch.

When the vehicle is unlocked the lamps come on at 75% brightness, then increase to maximum brightness when a door opens. If the doors remain closed after unlocking, the lamps go off after 2 ± 0.1 minutes.



Door Guard Lamps

The door guard lamps are the same as used on the 96MY Sedan. The door switches, integrated into the door latching mechanisms, operate the lamps.

Footwell Lamps

The two footwell lamps are installed on the underside of the facia. Each lamp contains a 5W bulb, accessed by removing the lamp.

Trunk Lamps

A lamp is installed in each end of the trunk seal retainer. Each lamp contains a 5W bulb, accessed by removing the lamp. The trunk switch, integrated into the trunk latching mechanism, operates the lamps.

Roof Lamp (Coupe Only)

The roof lamp is installed in the center rear of the roof lining. It is the same as the trunk lamps.

Glove Box Lamp

The glove box lamp consists of a lens, in the left side of the glove box liner, and a combined switch/bulb holder installed behind the lens. The 4W bulb is accessed by removing the switch/bulb holder.

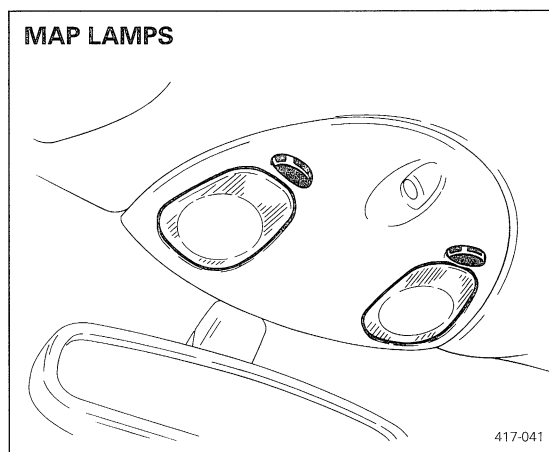
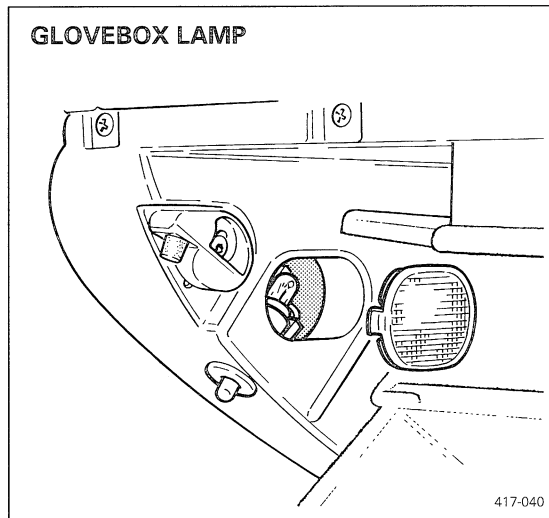
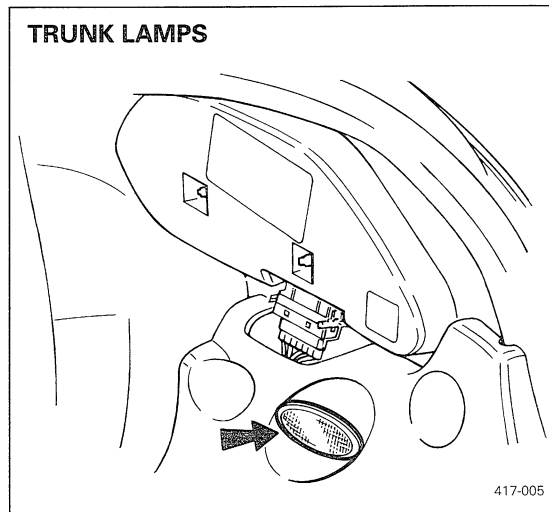
Vanity Mirror Lamps

The vanity mirror lamps on each sun visor are similar to that on the 96MY Sedan. However, the electrical supply for the two 3W bulbs is routed through the sun visor's stowage clip instead of the pivot of the support arm. For the lamps to operate the sun visor must be engaged in the stowage clip.

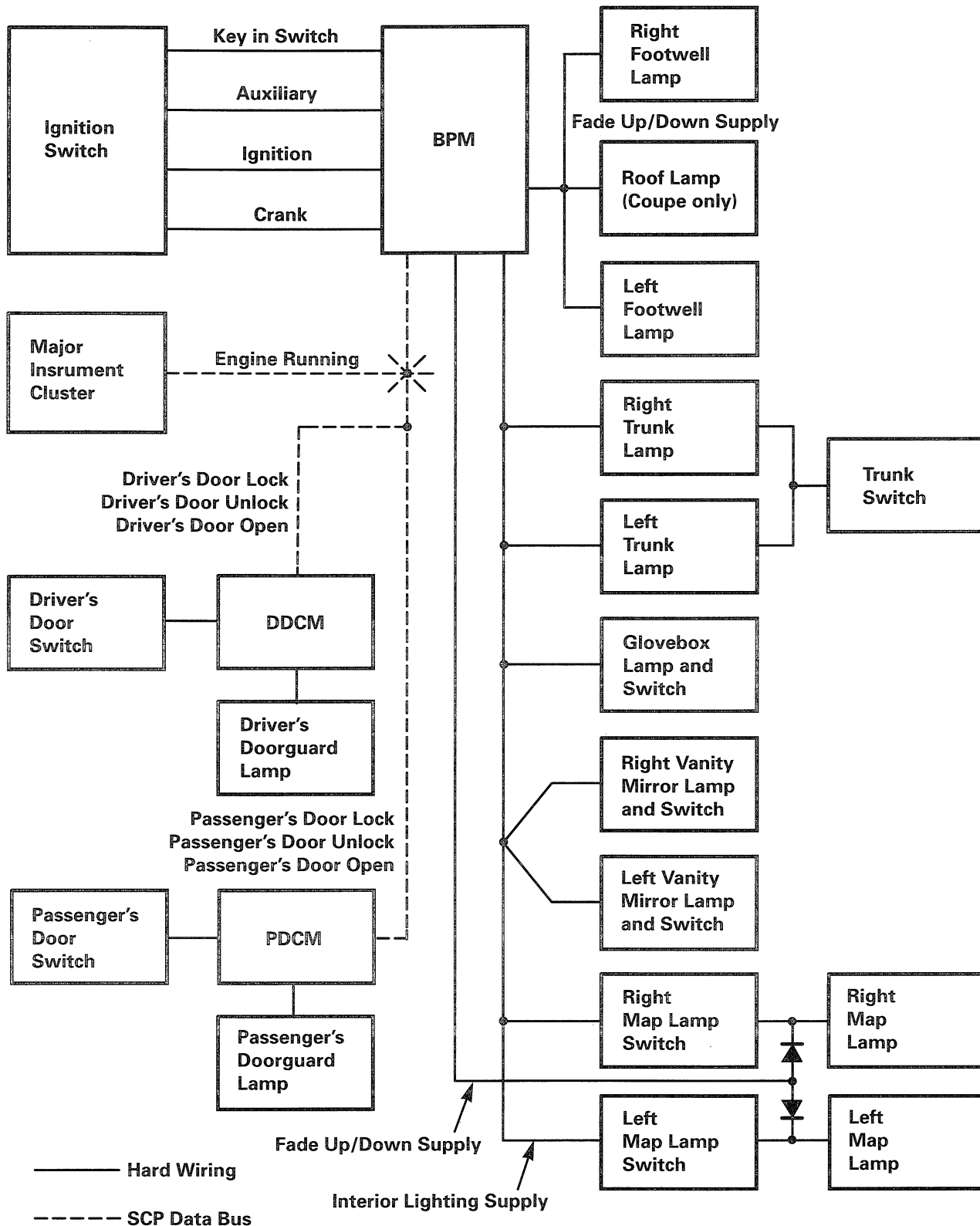
Map Lamps

The two map lamps are installed in the roof console. The lamps function as map reading lamps and as courtesy lamps. Individual push switches control the map lamp function. The door switches and the ignition switch control the courtesy lamp function.

Each lamp has a bulb holder with a 6W bulb. The bulbs are accessed by removing the console.

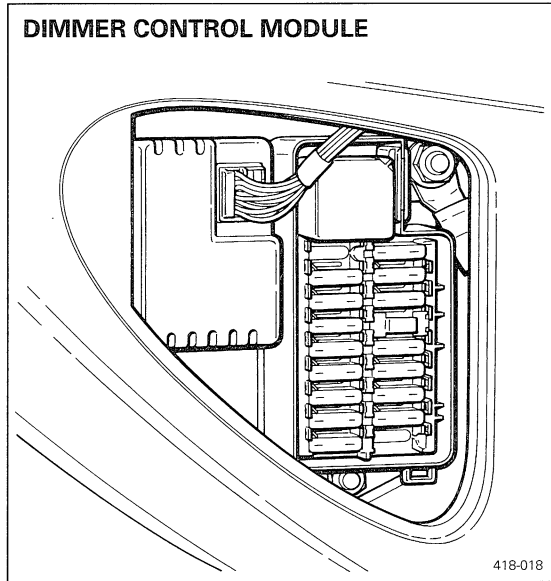


INTERIOR LIGHTING CONTROL



Instrument/Switch Lighting

The intensity of the background lighting in the instruments and switches is controlled by the rotary dimmer switch on the steering column, via the dimmer control module behind the right end panel of the fascia.



Instrumentation

Vehicle instrumentation is installed in the minor and major instrument clusters on the fascia. The calibration of the odometer and speedometer, the language of the message center and the composition of the indicator lamps are tailored to suit the destination market.

All of the inputs and outputs of the minor instrument cluster are routed through the major instrument cluster. The major instrument cluster provides the interface with the vehicle wiring.

The major instrument cluster is connected to both the CAN and the SCP network, and provides the interface for the transfer of messages between the two.

A microprocessor, in the major instrument cluster, controls the gauges and indicator lamps of both clusters, and the message center. To ensure correct operation of it's gauges, after disconnection the minor instrument cluster should always be connected to the major instrument cluster before the fascia harness is connected, or before the battery is connected.

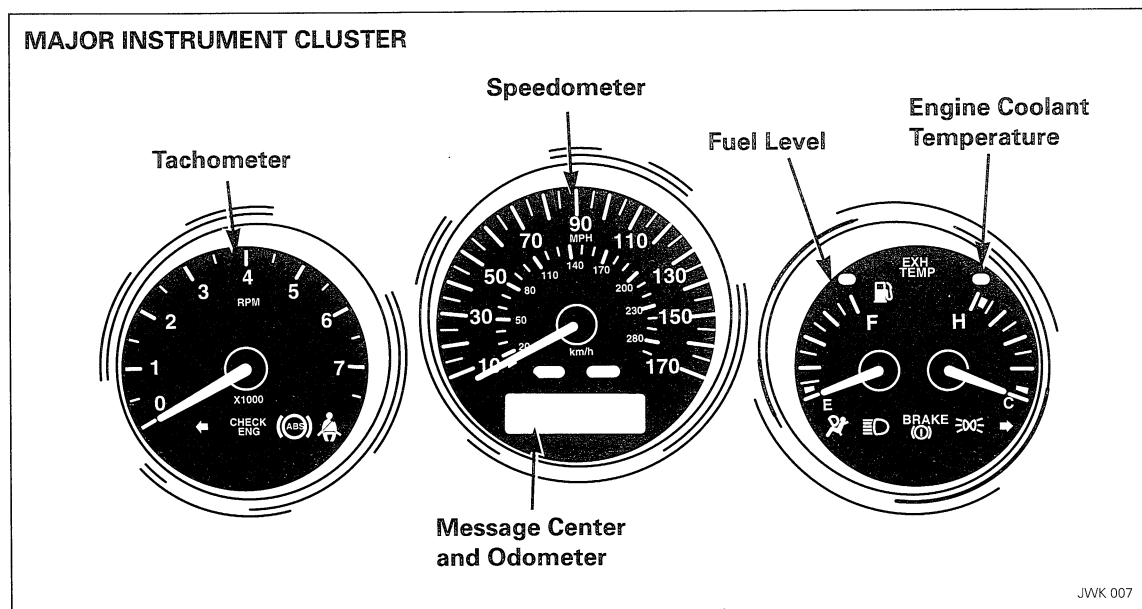
The microprocessor also incorporates two trip computers, designated A and B. Switches on the fascia, and the push-button switch on the end of the left stalk of the steering column switch assembly, control the operation of the trip computers.

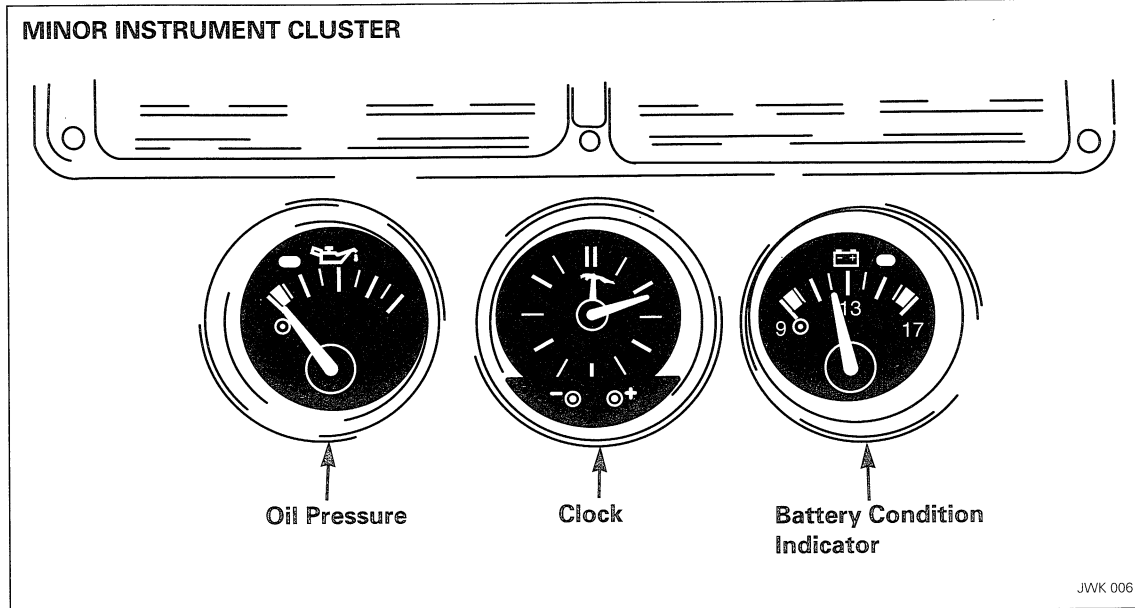
Indicator Lamps

The indicator lamps are color coded in the conventional manner: red for warning; amber for caution; blue and green for status. The majority of the lamps are arranged along the bottom of the tachometer and the fuel contents/engine coolant temperature gauges. Additional lamps are positioned in the fuel contents gauge (to draw attention to a low fuel state) and the engine coolant temperature, engine oil pressure and battery voltage gauges (to draw attention to an out of limit condition). Two general warning indicator lamps above the message center draw attention to some categories of driver information messages, and indicate their importance.

A lamp check is performed each time the ignition is switched on. All of the indicator lamps come on for 3 to 4 seconds and SYSTEM CHECK is shown on the message center.

Only background illumination bulbs, turn indicator lamp bulbs and the headlamp high beam indicator lamp bulb are replaceable (with the aid of a service tool). The side lamps/headlamps ON indicator lamp bulb is inaccessible. Each of the other indicator lamps is powered by a LED.





Message Center

The message center is a LCD of two rows of 12 characters. It displays the odometer reading, trip computer data and driver information messages. The language used on the message center can be changed using the trip computer switches on the fascia:

- pressing and holding the ml km switch while the ignition is switched on displays the current language selection on the message center
- further presses of the ml km switch cycle the languages available
- when the language required is displayed, a press of the A/B switch causes the displayed language to be adopted for the message center, after a delay of 2 seconds
- pressing the CLEAR switch, or starting the engine, returns the odometer reading to the message center.

Odometer Reading

The six digit odometer reading is automatically displayed at ignition on, after the lamp check, provided there are no driver information messages. It is also displayed when the ignition is off if the side lamps or interior courtesy lamps are on.

Trip Computers

Pressing the cycle switch on the left stalk of the steering column switch assembly activates the trip computers to display data on the message center. The first press of the switch replaces the odometer reading with the distance travelled output of the currently selected trip computer. Further presses of the switch cycle the trip computer outputs and the odometer reading in the sequence: distance travelled; range; fuel used; average fuel consumption; instantaneous fuel consumption; average speed; odometer reading. With the exception of range and instantaneous fuel consumption, the designation of the currently selected trip computer, A: or B:, prefixes each output.

The trip computer switches on the fascia are enabled only while a trip computer output is displayed on the message center:

- pressing and holding the 000 switch for 3 seconds resets the stored data of the active trip computer to zero
- the ml km switch toggles the trip computer outputs between metric and USA units of measure (at each ignition on, the trip computers default to the market setting)
- the A/B switch toggles between the two trip computers.

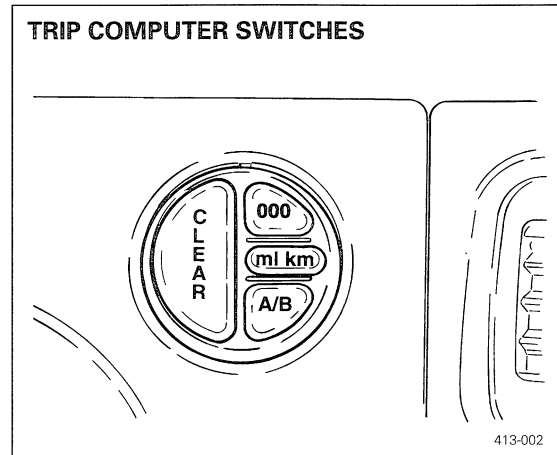
If a trip computer is activated while a driver information message is being displayed, the trip computer output is displayed for 10 seconds, then replaced by the driver information message. If a driver information message replaces a trip computer output on the message center, pressing the cycle switch restores the trip computer output to the message center for 10 seconds, before the message replaces it again.

Driver Information Messages

When a driver information message becomes active, it automatically replaces the odometer reading or trip computer output currently on the message center.

When more than one message is active at the same time, the messages are displayed in order of priority. The messages are cycled at a rate of one message every two seconds.

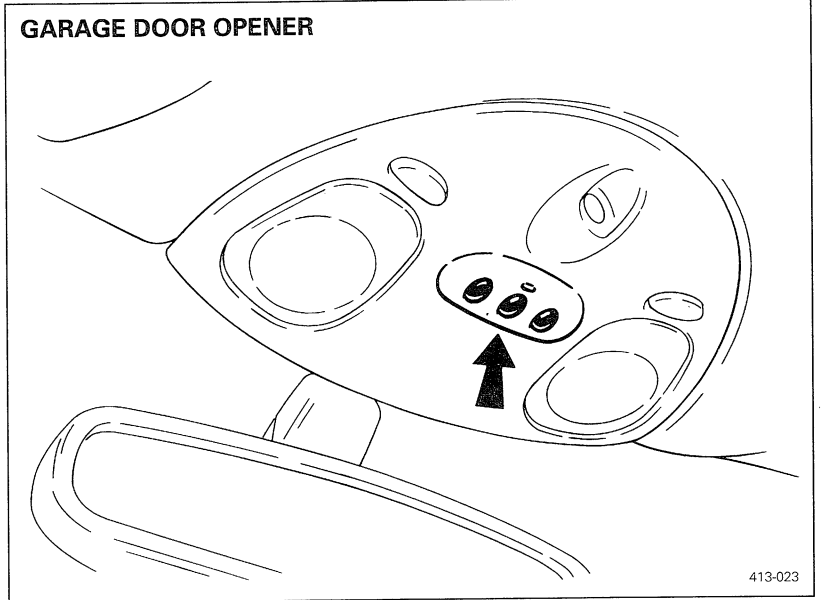
Pressing the CLEAR switch clears the message currently on the message center. When all of the messages are cleared, the message center reverts to the odometer reading/trip computer



output. A further press of the CLEAR switch reveals all of the active messages again, starting with the message with the highest priority. At each ignition on, the message center displays all remaining active messages, even if they were cleared at the time of the previous ignition off.

Garage Door Opener

The garage door opener activates up to three proprietary garage door opening transmitters from switches in the roof console. The control module, installed in the roof console, scans transmitted signals within the 286 to 400 Mhz range and stores them in a non volatile memory. Instructions on how to programme the garage door opener to emulate transmitter signals are given in the Owner's Handbook.



Security Systems

Introduction

The following security features are available but vary with markets/options:

- Perimeter sensing of doors, hood and trunk
- Inclination sensing (Dealer option)
- Panic alarm (Dealer option)
- Passive arming (Dealer option)
- Audible warnings
- Security LED in gear selector surround
- Drive away door locking
- Key and remote transmitter locking/unlocking
- Remote headlamp convenience
- Remote trunk open

Enhancements/Changes from X300 95MY:

- Security LED located in the gear selector surround
- Inclination sensing (dealer option)

Component/Module Locations

The security and locking systems involve the SLCM, BPM, DDCM and PDCM all connected via the SCP Network.

The SLCM is located in the electrical carrier below the fusebox, in the trunk. The BPM is mounted off the passenger airbag bracket, behind and above the glove box. DDCM and PDCM are located in the doors.

The security sounder, where fitted, is located in

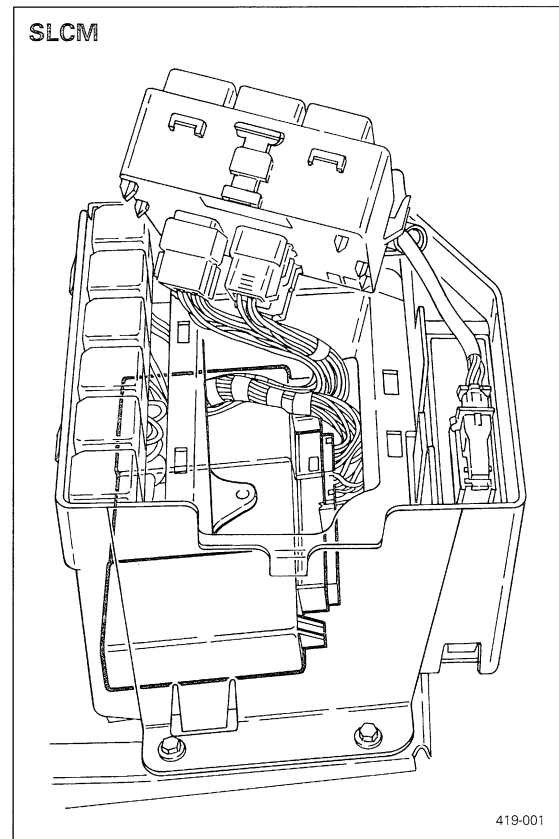
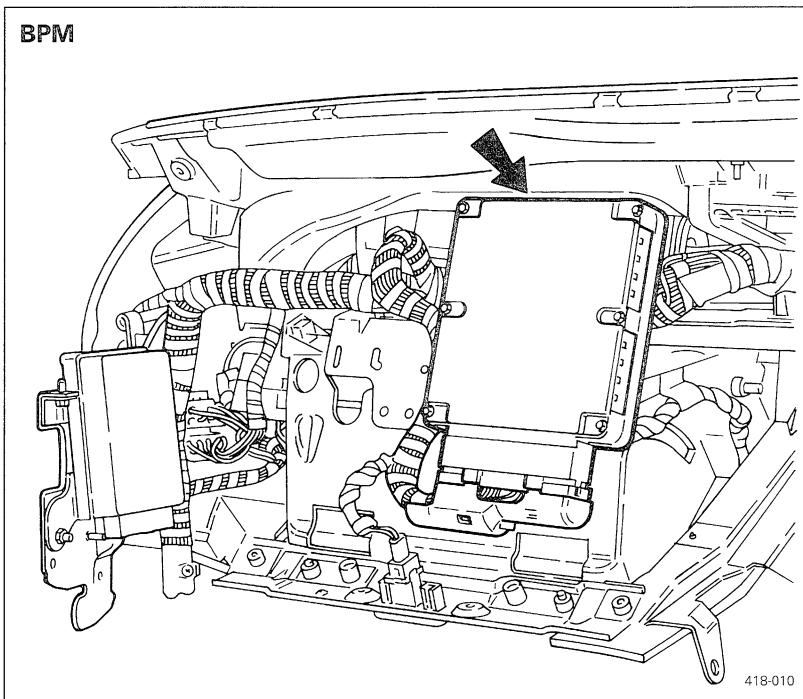
the right-hand fender, forward of the wheel arch. Optional equipment is an inclination sensor mounted in the trunk, off the right-hand wheel arch.

An inertia switch is located in the left-hand fascia fuse compartment and when activated unlocks the doors.

The in-car audible warning speaker is located in the column underscuttle.

All vehicle modules are pre-programmed during build.

With the transit relay fitted Security cannot be armed during transit and the car must be mechanically locked. The SLCM controls all convertible top movement operations.



Locking System

The Tibbe locksets and single key system are as fitted to the 95MY sedan. Only the drivers door has a key barrel, fitted in a carryover 95MY sedan driver's door handle. The key operates the driver's door, trunk lid and ignition. There is a second (green headed) key for valet parking/service for door and ignition only, not for unlocking the trunk or glove box. Locking functionality covers central locking of the doors, superlocking, remote/superlocking and valet mode. Door locking is a function of the DDCM and PDCM. The SLCM controls the fuel filler flap and trunk lid release actuators. It also monitors the remote key-ring transmitter trunk activity and requests a trunk release command from the BPM. The inertia switch will activate and unlock both doors in the event of a vehicle impact.

Key Operation

Note: The security system will not arm if the key is in the ignition switch or if either of the doors, hood or the trunk lid is open.

The driver's key or key-ring transmitter centrally locks/unlocks the doors and trunk. All vehicles have a two-stage unlock system from the remote transmitter. The first stage action unlocks only the driver's door and the second stage unlocks the passenger door.

When a key is held in the lock or unlock position for more than 1.5 seconds, the SLCM operates the global locking/unlocking function. This locks both doors, closes the windows and closes the convertible top if it is open. Ensure that the convertible top cover is removed prior to closing the top. It also sets the alarm. One signal will be heard and the direction indicators will flash once whilst locking and arming occur.

Unlocking of the car is achieved by turning the key towards the rear of the vehicle and releasing. This centrally unlocks the doors, trunk, fuel filler flap and disarms the alarm system and turns on the interior lights for 15 seconds. Two signals will be heard and the direction indicators will flash twice whilst unlocking and disarming takes place. Holding the key in the unlock position will open all windows and convertible top. The key must be held for the duration of the convertible top movement to its open or closed position.

Drive-away Door Locking

A drive-away door locking feature is fitted.

This facility locks both doors, if they are unlocked, when the gear selector is moved from the Park or Neutral positions with the key in the ignition switch at position II and both doors are closed. Operation of a door interior handle will unlock both doors.

Key-ring Transmitter

A four-button, rolling code, key-ring transmitter gives remote control of the system.

Two key-ring transmitters are supplied with each vehicle.

Button functions are as follows:

1 Locks and arms the vehicle.

One press will lock both doors and the trunk and will set the alarm system. One signal will be heard and the direction indicators will flash once. The LED in the gear selector surround will continually flash whilst the vehicle is armed.

2 Unlocks and disarms the vehicle.

If the car is in a locked state, at the first press of the button the driver's door only unlocks and the interior lights fade on. A second press unlocks the passenger door.

3 Switches on the headlamps and starts the panic alarm.

One press switches on the dipped headlamps which remain on for 25 seconds or until the button is pressed a second time or until the key is inserted in the ignition switch. Three presses within three seconds starts the panic alarm. The alarm will sound for the full period and can only be stopped by inserting the key into the ignition and turning to positions I or II.

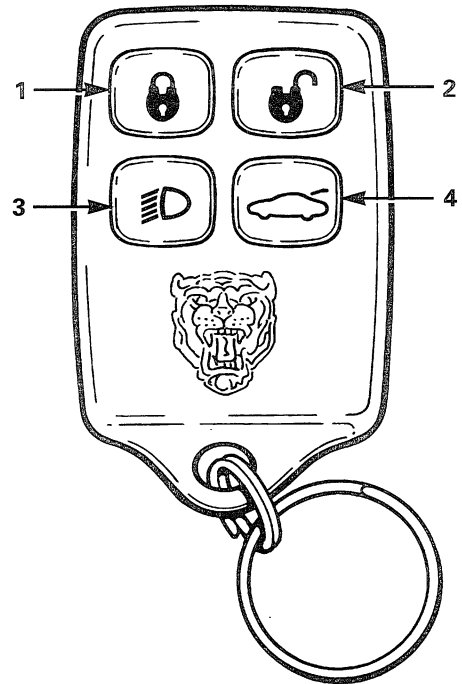
The transmitter cannot be used to cancel the panic alarm.

4 Releases the trunk lock.

One press releases the trunk lock, without disarming the system.

The key-ring transmitter will only work if the vehicle's doors, hood and trunk are closed and the key is not in the ignition. Dealers are required to obtain proof of ownership before issuing a replacement transmitter. Batteries for the transmitter are CR 2016.

KEY-RING TRANSMITTER



- 1 Locks and arms the vehicle
- 2 Unlocks and disarms the vehicle
- 3 Switches on the headlamps and starts the panic alarm
- 4 Release the trunk lock

419-002

Glovebox

A two-position, key operated lock is fitted to the glovebox.

Valet Switch

The switch is a carryover unit from the 95MY sedan car and is located in the driver's knee bolster, outboard side. This isolates the trunk lock from central locking. Unlocking the trunk with the driver's key or by key-ring transmitter overrides and clears the valet function.

The green valet key is used in the same manner as the 95MY sedan.

Trunk

The trunk lid lock can be opened by the interior switch if the valet mode is inactive, the security is disarmed, the vehicle is not moving and unlocked. The trunk lid lock can also be released by the drivers key but the alarm will sound if it is armed. Opening the trunk with the driver's key is by pushing the key into the orifice in the body at the XK8 badge.

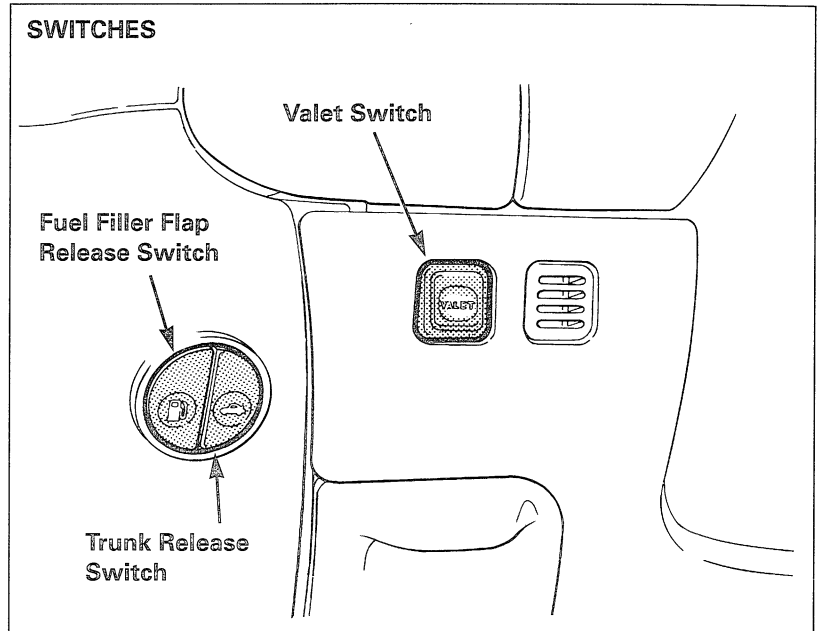
Using the key-ring transmitter to open the trunk will not activate the vehicle security alarm if the system is armed.

The trunk must be closed to activate the valet mode. When the valet switch is pressed and the trunk is closed an audible warning will sound.

When in valet mode and the interior trunk release is pressed the valet mode warning will sound and a visual warning will be displayed on the message center.

Fuel Filler Flap

The fuel filler flap can only be released if the engine is not running, the security is disarmed and the car is either unlocked or the key is in the ignition switch. The flap release is not part of the central locking system and can only be released by using the interior switch. In emergency, manual release of the flap is possible by removing the trunk trim and pulling the release handle.



Security System

Full Alarm

Once armed any of the following circumstances will create a full alarm state and the sounder will operate:

- Opening a door (after seven seconds)
- Opening the trunk with the key (after seven seconds)
- If the ignition key is turned to position I or II
- Lifting or tilting the vehicle (if an inclination sensor is fitted)
- Pressing the key-ring transmitter headlamp button three times - Panic Alarm
- Opening the hood

Error tone

The sounder gives a short, high-pitched warble whenever one of the following conditions is present:

- The trunk is not closed when an attempt is made to arm the security system
- The key is in the ignition switch when a transmitter button is pressed
- If there is a failure within the alarm system the error tone will sound when the vehicle is disarmed
- If any door is open when an attempt to arm the security system is made.

Audible Signals

An audible alarm will sound when:

- The Valet switch is pressed with the trunk closed, signifying that valet mode is active.
- In Valet mode and the interior trunk release switch is pressed.
- The key is in the ignition switch when a transmitter button is pressed
- Opening a door when security is armed (door unlock warning and audible ticking)

Active Arming of the Security System

Active arming, arm on central lock and key barrel arm are programmable features. If doors, hood, or trunk are closed, the key is not in the ignition and active arming is enabled, the security system can be armed by either the key barrel or remote transmitter. Arming will be prevented if door, hood or trunk lid are open and/or the key is in the ignition - an error tone will sound.

Arming When Centrally Locked

The vehicle will arm when it is centrally locked via the remote transmitter or from the key barrel. If a door, hood or the trunk lid is open an error tone is emitted.

On arming, the direction indicators give a short flash and a single audible chirp will be emitted. The status LED in the gear selector surround will illuminate and then flash to indicate perimeter sensing.

Active Disarming of the Security System

The security system will be disarmed and the alarm stopped if the remote transmitter is used or if the key is turned in the door lock.

Arming and Disarming from the Key Barrel

To arm, the key is turned to the unlocked position and then to the locked position within 3 seconds. To disarm, the key is turned to the unlock position.

Passive Arming/Disarming of the Security System

Passive arming will occur after 30 seconds has elapsed with all doors, hood and trunk closed and the key out of the ignition. To disarm, either the remote transmitter unlock button or the ignition key will be used.

Perimeter Sensing

If the system is armed, an alarm will be tripped when a door, the trunk lid or the hood becomes open or if the ignition key is turned to position I or II.

Battery Tampering Alarm and Restart Procedure

If the battery is disconnected when the security system is armed, disarmed or in the full alarm state, the security system will automatically resume the vehicle state before disconnection when the battery is reconnected.

Security Antenna

For the coupe model the security antenna is incorporated into the backlight. The convertible security antenna is located in the right-hand side quarter casing. Both are hardwired to the SLM.

Diagnostics

For the Multiplexed body system modules, the diagnostics is over the SCP network and requires new diagnostic tools. Extensive DTC logging has been included. Diagnostics can monitor the SCP bus and module input/output activity during normal operation.

In-car Entertainment

The vehicle contains either a base or premium entertainment system. The premium system uses the same radio and antenna as the base system, but includes a power amplifier and different speakers. The premium also includes the CD autochanger as standard (optional with the base system). Both systems have switches on the steering wheel for remote operation.

Radio

The radio is the same as that installed in the XJ Sedan, with audio equalisation revised to suit the XK8. The features and operation remain the same.

Antenna

The electric rod antenna is the same as installed in the XJ Sedan, but with a revised mounting bracket. The antenna is installed in the right rear fender.

Power Amplifier

The power amplifier is a 240 Watts, 8 channel unit installed above the CD autochanger in the trunk. Audio equalisation is unique to each model.

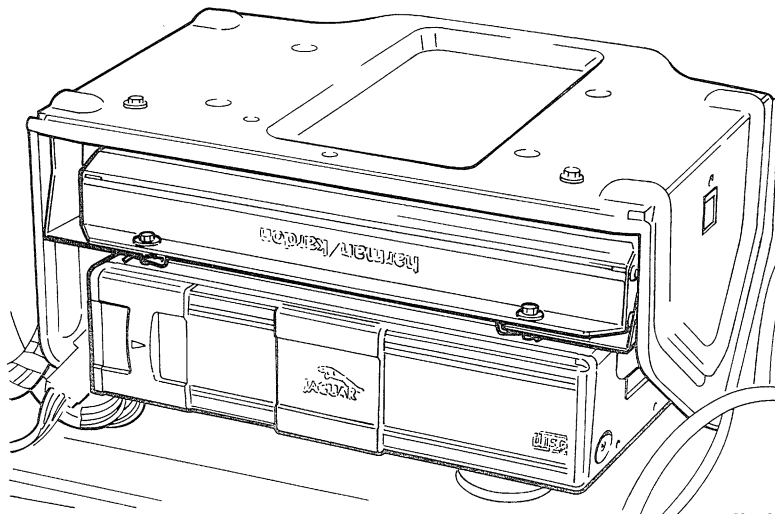
Speakers

With the base system, the same speaker configuration is used in both the coupe and the convertible. With the premium system, the speaker configuration is unique for each model.

Speaker configuration

Location	Qty	Base System	Premium System (Coupe)	Premium System (Convertible)
Fascia	2	-	65mm (2.5in) mid range	65mm (2.5in) mid range
Door mirror cheater	2	-	10mm (0.375in) tweeter	10mm (0.375in) tweeter
Door	2	160mm (6.25in) triple cone	160mm (6.25in) mid base	160mm (6.25in) mid base
Rear quarter	2	160mm (6.25in) triple cone	160mm (6.25in) mid base	160mm (6.25in) long throw sub-woofer
	2	-	-	65mm (2.5in) mid range
Parcel shelf	1	-	200mm (8in) long throw sub-woofer	-

POWER AMPLIFIER AND CD AUTOCHANGER

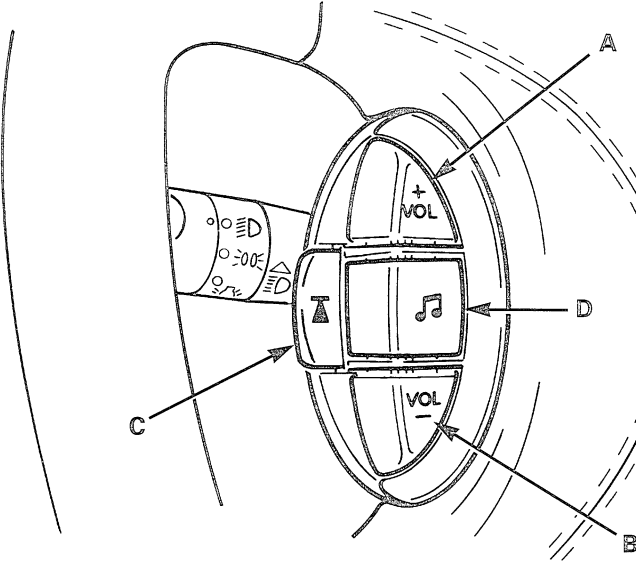


501-168

CD Autochanger

The CD autochanger is the same unit as used in the XJ Sedan and the XJS. It is installed on the right side of the trunk, behind the trim. An opening in the trim provides access for loading/unloading the CD cassette.

STEERING WHEEL SWITCHES



- A** Press to increase volume
- B** Press to decrease volume
- C** Press to cycle through the six Preset radio stations or CD's
- D** Press to cycle through Radio FM, AM, Cassette or CD's

211-044

Steering Wheel Switches

The VOL+ (A) and VOL- (B) switches control the volume. The switch (C) cycles the radio AM, radio FM, cassette player and CD player functions. The switch (D) cycles the preset radio stations, the tracks of the cassette tape, or the CD selection, as appropriate to the function selected on the switch (C).

Seat Belts

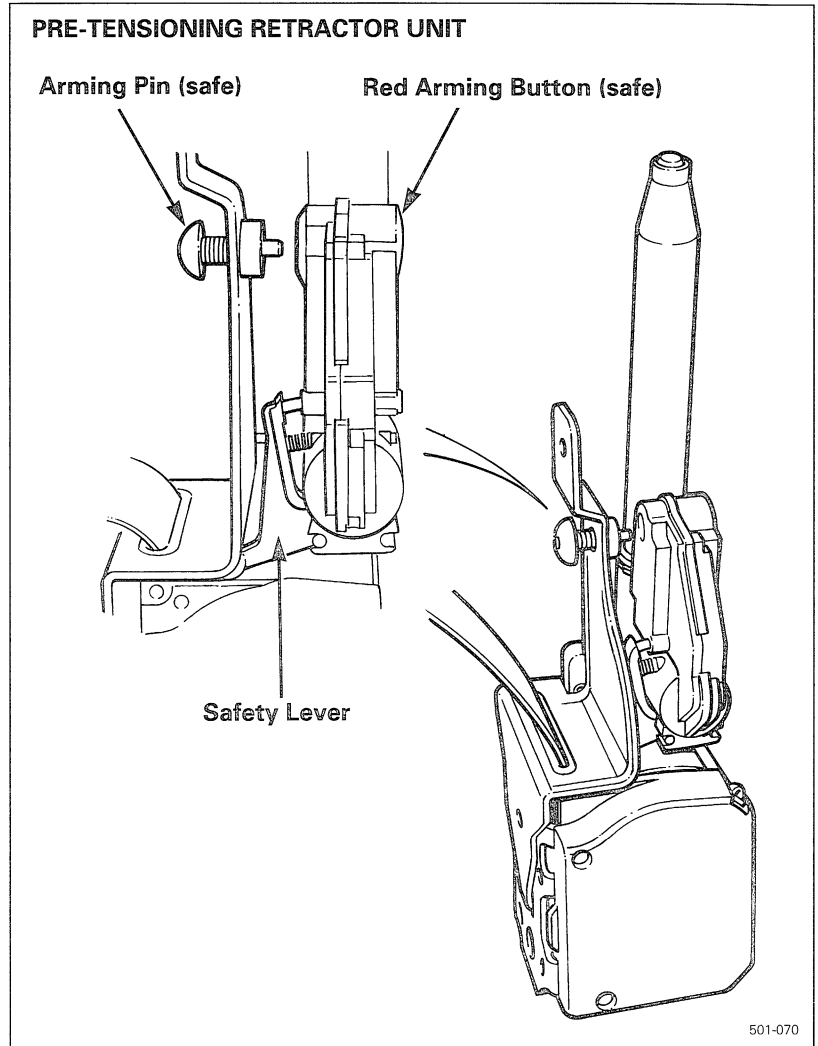
Front Seat Belts

WARNINGS:

1. If a pre-tensioning unit is ruptured without deployment and exposure to the propellant by ingestion or inhalation occurs, apply first aid and then seek medical advice.
2. Never attempt to dismantle an undeployed retractor unit, it has no serviceable parts.
3. Never point the piston housing towards yourself or other persons. Hold it with the piston pointing downwards. Keep fingers away from the take-up spool mechanism/webbing.
4. Any unit which has been dropped from a distance higher than 0.3 m (12 inches) must not be fitted to a vehicle.

Each of the front seat belts has a pyrotechnic, independently mechanically sensed, pre-tensioning retractor unit mounted in the BC post. Pyrotechnic seat belts are easily recognisable by the long piston tube attached to the unit. These offer occupant protection in the event of a severe frontal impact by removing excess slack from the seat belt system. Each front seat belt is handed. The coupe and convertible belts have different top fittings but the belts are common. Tear loops are no longer used. With 3-point mounting, the belt has color keyed webbing and plastic moulding on the running loop and tongue. The coupe has a manual, four position, seat belt shoulder height adjuster for both driver and front passenger, mounted in the B post. To aid rear passenger entry and exit a slider bar is fitted which forms the outboard lower belt mounting point. Each buckle, common to both coupe and convertible, is mounted by a strap attached to the moving inboard seat slide, enabling the seat to slide without inconvenience to the occupant. Visual and audible warnings are given to the driver if the seat belt is not being worn when the driver occupies the seat and the ignition is switched to position I or II.

Seat belt pre-tensioning is activated when a sufficient frontal impact force within 30 degrees of the center line of the car occurs. Mechanical sensors, which are part of the retractor unit, fire, igniting the pre-tensioner gas generator. The gas generator initiates a chemical reaction which creates gases under pressure. These gases drive



the piston/cable assembly which removes the excess slack from the belt by turning the retractor just prior to or during airbag/SRS deployment.

Note: If the seat belt pre-tensioner activates, a small quantity of gas (less than 1 litre (1 US quart)) is produced containing nitrogen, oxygen and water vapour.

The pre-tensioning components contain a solid, flammable material (nitrocellulose (NC)).

The mechanical sensor is live when the arming pin is screwed in, fully depressing the red arming button.

The extending of the belt from the reel, as when being worn by an occupant or is retaining a child seat, (see **WARNING**) allows the safety lever to move towards the center of the reel. This arms the unit. The unit will not be armed with the webbing fully retracted on the reel. Once the pretensioner has been activated in a collision the retractor unit will be locked and the webbing cannot be retracted or pulled from the reel.

Rear Seat Belts

Both rear seat belts have 3-point mountings with emergency and automatic locking retractors. The common belt buckles are twin cable, single point, center floor mounted and are integrated into the seat cushion pad. The retractors fitted to the coupe are mounted on the outboard sides of the vehicle on the parcel shelf, with the webbing exiting via colour keyed escutcheons in the quarter casing. Convertible retractors are mounted behind the rear seat squab with the webbing running up and inside the seat belt tower, exiting through a colour -keyed escutcheon on top of the rear seat squab. The lower outboard anchorages are common to both coupe and convertible on the outboard sides of the rear seat pan. Only complete seat belt assemblies are available as serviceable items.

Emergency/Automatic Locking Retractor (ELR/ALR)

All models have seat belt retractor units fitted with Emergency Locking Retractors (ELR) and Automatic Locking Retractors (ALR). In the event of emergency braking the rapid deceleration of the vehicle will cause the seat belt retractor to lock up. At all other times the wearer is free to move the upper torso. The Automatic Locking Retractor (ALR), enables the seat belts to be used to securely hold a child seat.

The belt, once adjusted and all the slack is removed, will automatically lock in this condition and further extraction of the belt is inhibited. Unclipping of the seat belt buckle to release the child seat will allow the belt to return to its normal stowed position and revert to ELR operation. The ALR feature is not fitted to the drivers seat belt retractor, only to the front passenger and rear seat retractor assemblies.

WARNING:

Rearward facing child seats must not be fitted to the front passenger seat. If a child seat is required, use only a forward facing child seat with the front seat set to its most rearward position.

Supplementary Restraint System (SRS)

WARNING:

At least one minute must elapse after disconnection of the cable at the battery positive terminal before any airbag/SRS component service is performed. This allows dissipation of the backup power supply energy.

Driver Airbag/SRS Unit

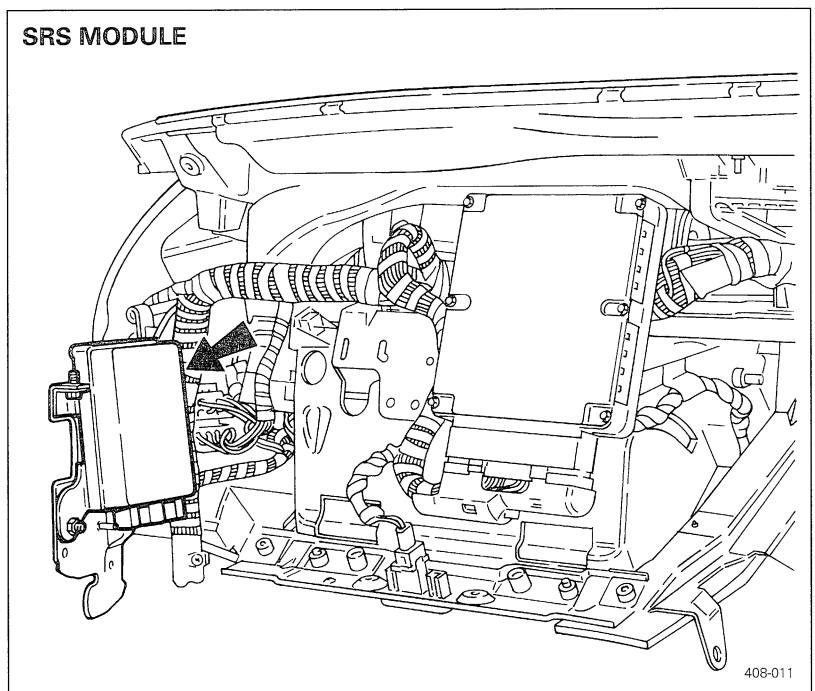
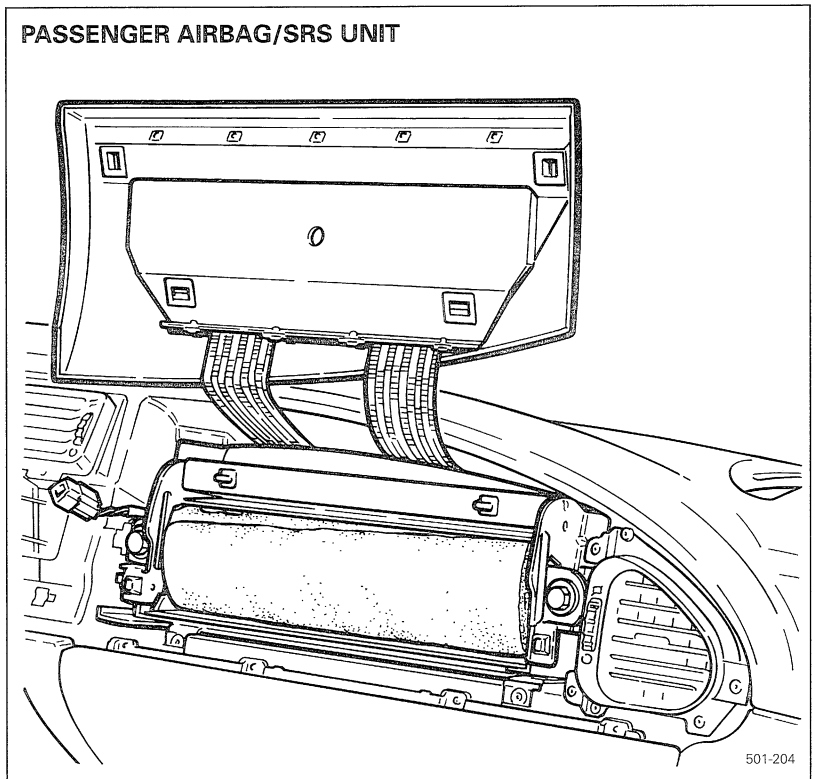
The driver airbag/SRS unit is incorporated in the center of the steering wheel and is a carryover part from the 95MY sedan.

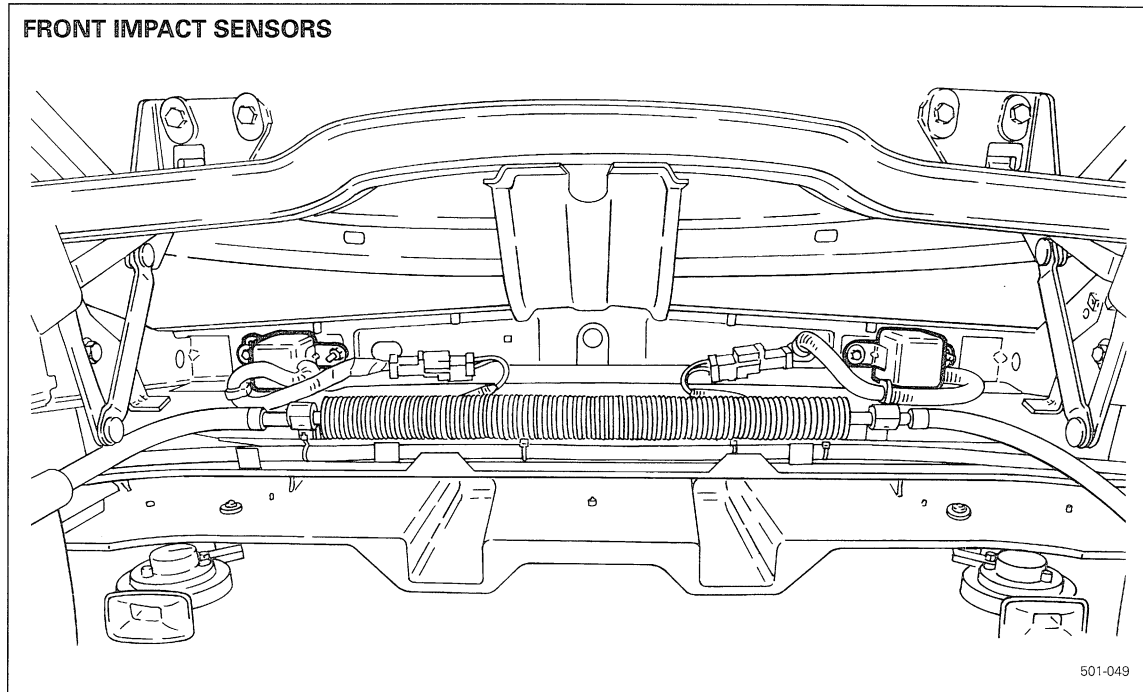
Passenger Airbag/SRS Unit

The passenger airbag/SRS unit is a carryover from the 95MY sedan. It is located in the fascia. The airbag is attached to a tethered door which has four snap-on fixings, no hinges or frangible being used. The tether straps must be fitted to the airbag module adapter bracket prior to fitting the airbag module to the fascia.

Control Module

The control module is fitted behind the fascia, by the A-post on the right side of the car. The module has diagnostic ability, with the safing sensor built into the module and not, as previously, a separately mounted unit. The control module includes an internal battery backup power supply enabling airbag deployment in a crash situation even if the main battery cable is disconnected/broken by the impact.





Impact Sensors

Two primary crash sensors are fitted on the vehicle front upper cross member, in front of the radiator, inboard of the headlamps. These crash sensors are hardwired to the airbags. At least one of the crash sensors must be made, along with the safing sensor, for airbags to deploy. A disarm feature is incorporated in the control module that removes all deployment power from the airbag/SRS without the closure of a primary sensor.

System Management

The SRS Module continuously monitors all airbag/SRS system components and wiring connections for faults. If a system fault occurs a fault code is written into the module's non-volatile memory and a warning is displayed on a continuous indicator LED. If the airbag/SRS readiness indicator line has a fault and another fault in the system is detected, an audible tone will be heard, five sets of five bleeps. The readiness indicator line fault must be corrected before fault codes can be determined.

Fault codes can still be read through the ISO connector, even if the readiness line is functional or not. If a fault exists that makes unwanted airbag/SRS deployment possible, the control unit will attempt to remove deployment power by

turning on a solid state switch to rupture the 10A battery fuse.

WARNING:

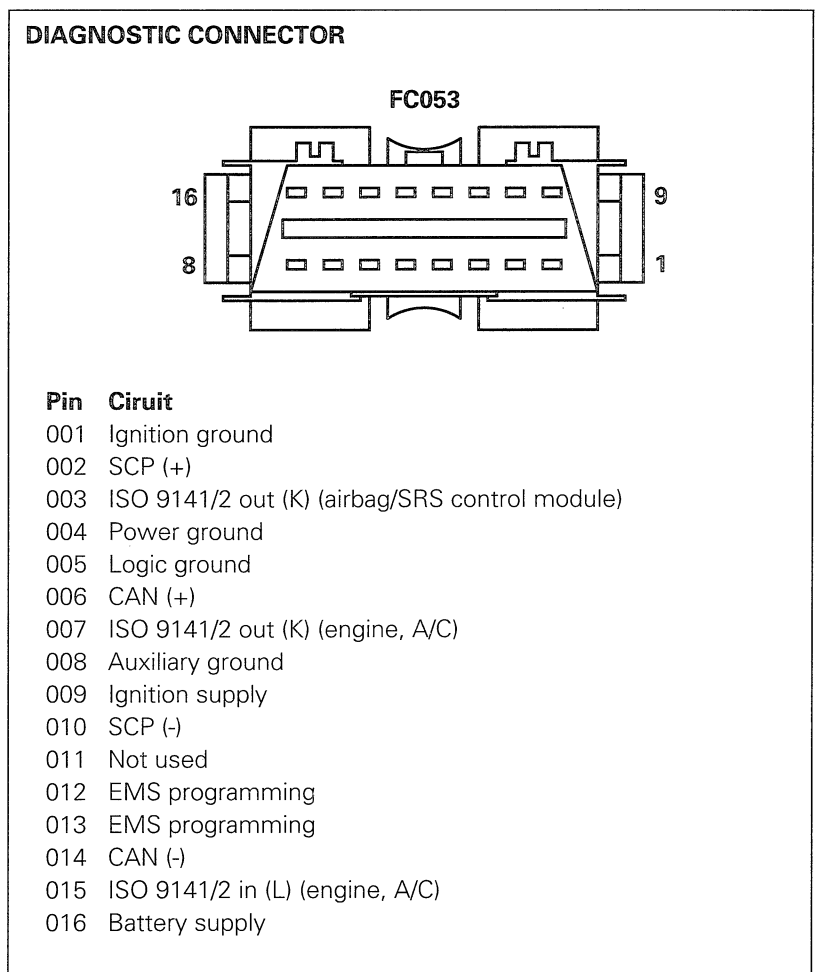
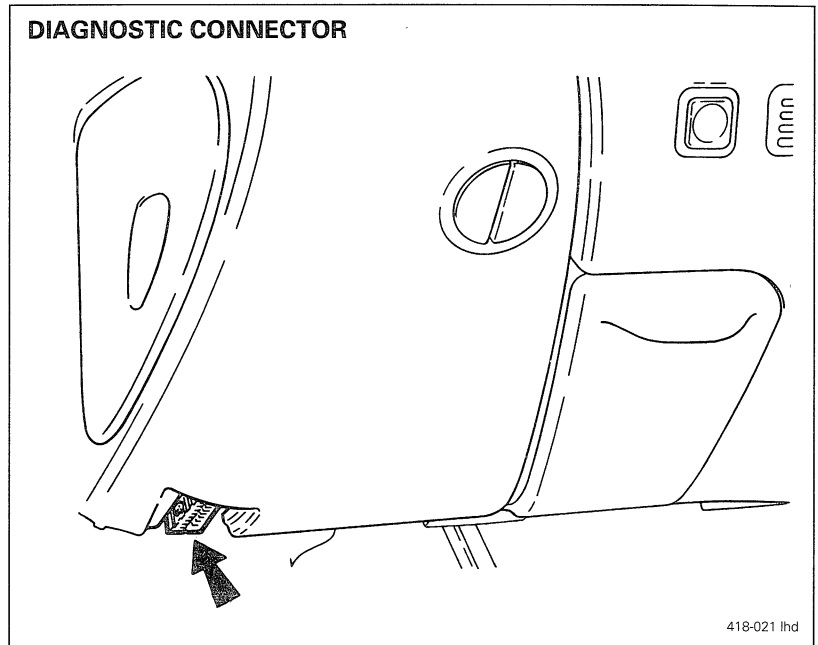
Do not substitute another fuse value for the 10A battery fuse. This may cause disarming failure. Do not attempt to replace the 10A battery fuse until the airbag/SRS system has first been deactivated. The fuse is located in the Driver Side Fascia Fusebox - Fuse F4

The module will not rupture the fuse a second time thus allowing the fault to be rectified and cleared.

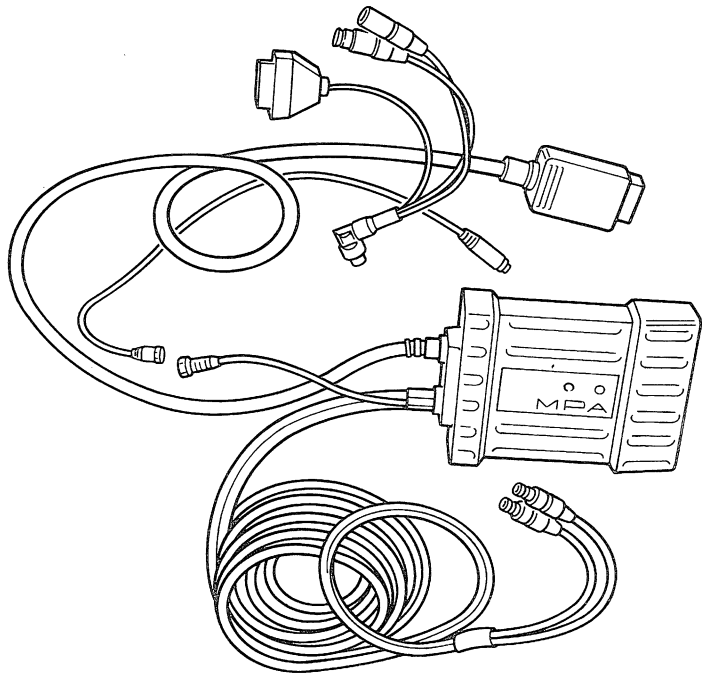
On-board Diagnostics

The diagnostic connector in the bottom edge of the driver's side fascia provides the interface between the vehicle and the Jaguar PDU or a universal scan tool. A scan tool communicates only with the control modules connected to the ISO 9141/2 network, for the retrieval of any DTC they contain. The PDU communicates with the control modules connected to the CAN, the SCP or the ISO 9141/2 network (only the CAN network is used to communicate with the ECM), for:

- the retrieval of DTC
- fault diagnosis
- control module programming
- the enabling/disabling of system feature options.



MPA AND CABLES



Multi Protocol Adapter

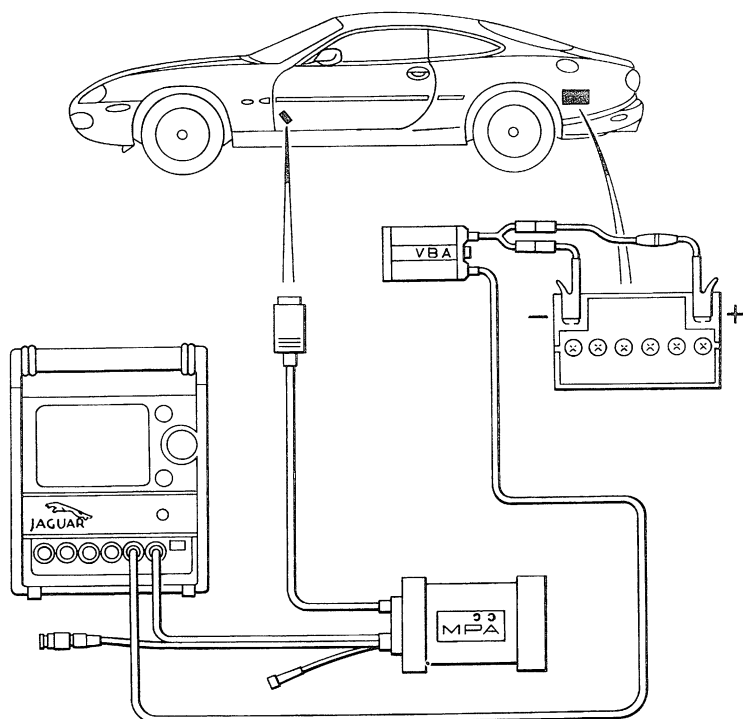
The MPA is introduced to allow existing PDU hardware to communicate with the CAN, SCP and ISO 9141/2 networks. The MPA also:

- increases the processing power and memory of the PDU (the MPA contains 7 times as much useable memory as the PDU)
- improves data logger performance
- can be used as a diagnostic trip recorder, without the PDU, to record data during a drive cycle
- retains stored data for up to 16 hours
- provides a "flash" programming facility to enable updates of control module software.

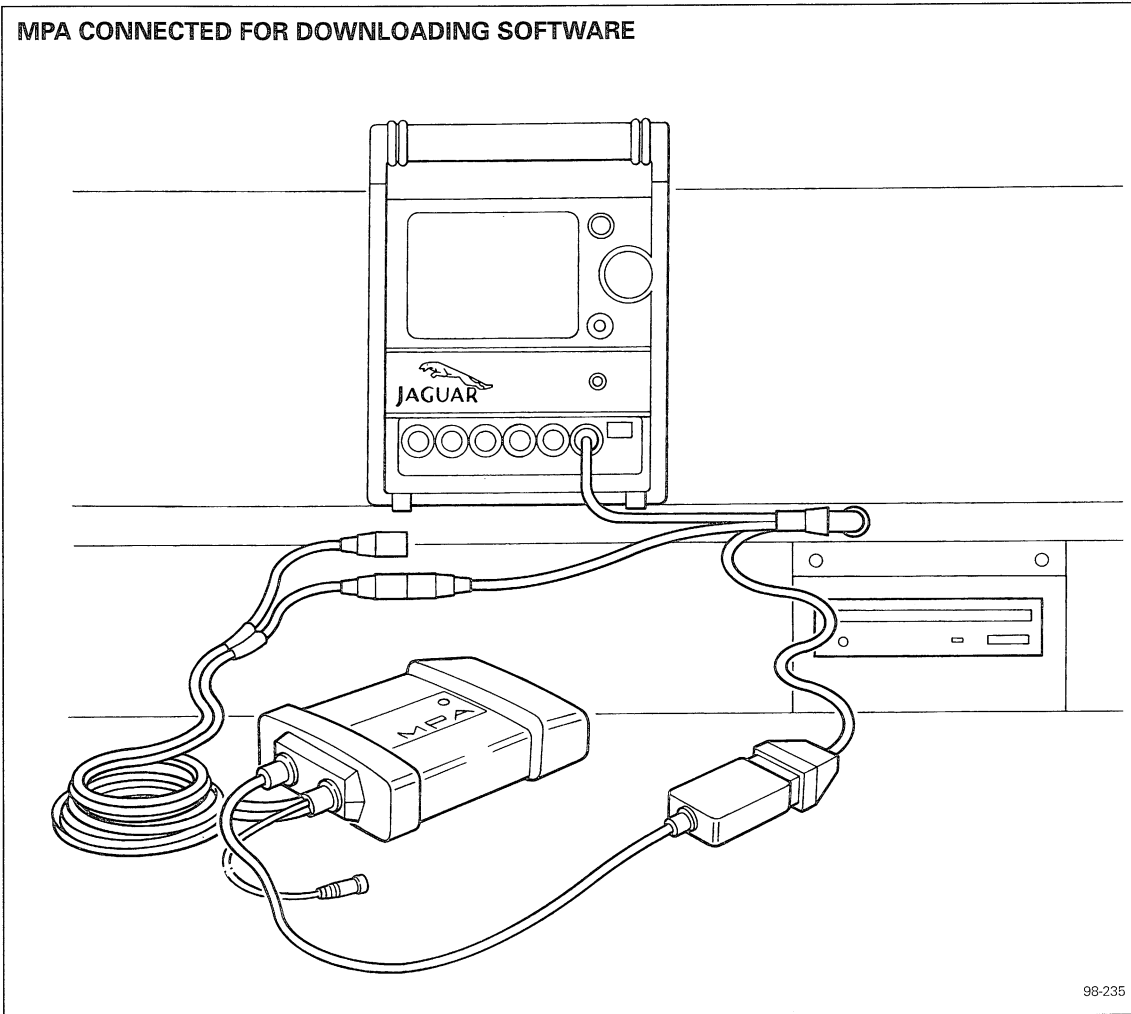
A LED on the MPA indicates when the MPA is receiving electrical power. An illuminated pushbutton, on a cable connected to the MPA, invokes data logging when the MPA is used as a diagnostic trip recorder. Additional cables are introduced to connect the MPA to the:

- PDU base station and the PDU, when loading the diagnostics software
- vehicle and the PDU, during diagnostic procedures.

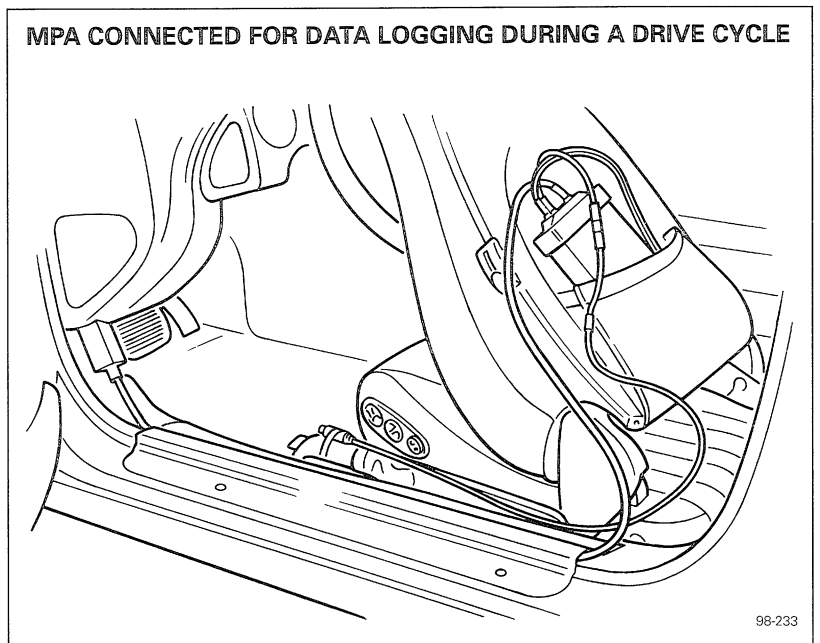
MPA CONNECTED FOR DTC RETRIEVAL AND DIAGNOSIS



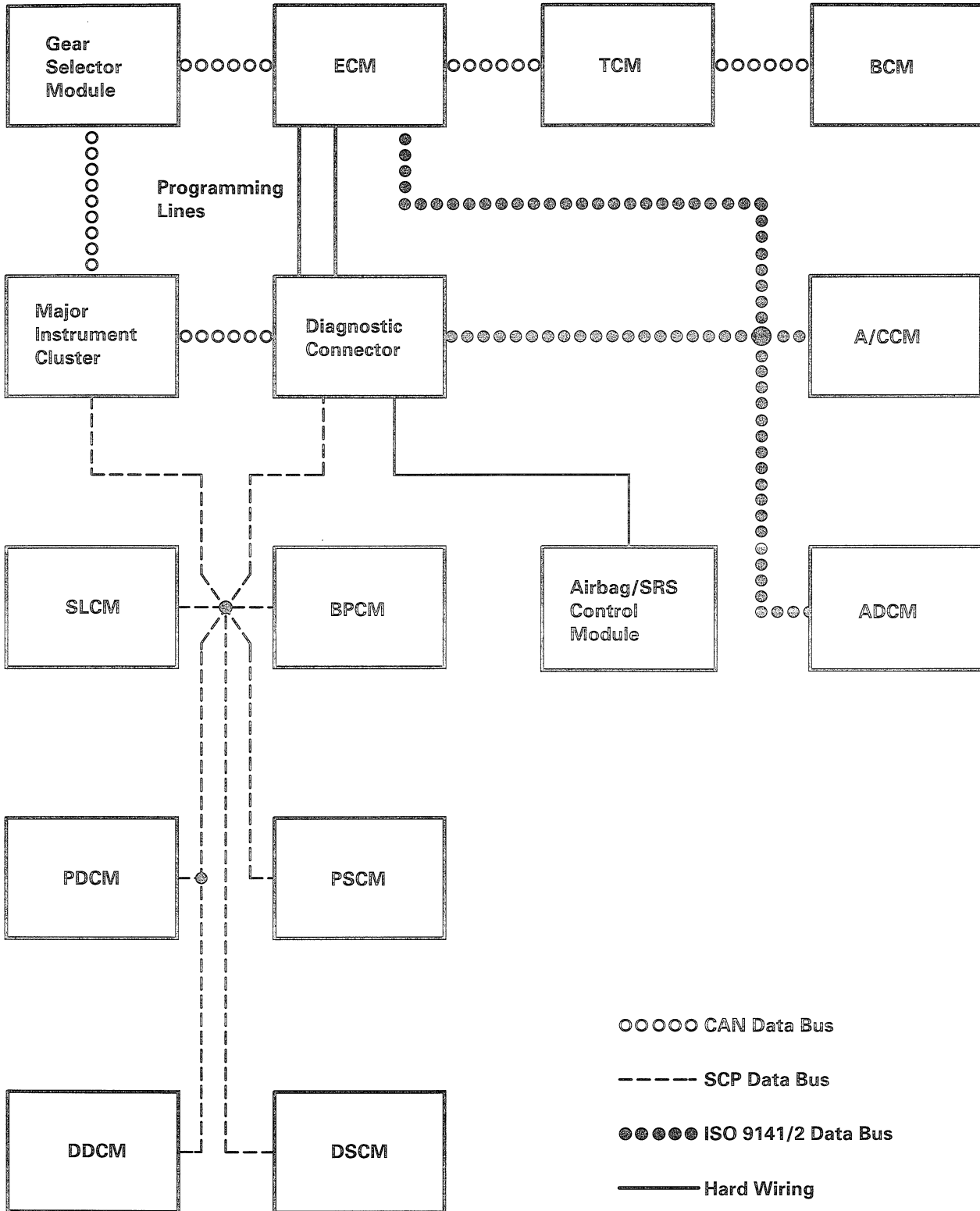
MPA CONNECTED FOR DOWNLOADING SOFTWARE



MPA CONNECTED FOR DATA LOGGING DURING A DRIVE CYCLE



COMMUNICATION NETWORKS



New Tools

The table below lists the new service tools required for the XK8.

Part Number	Description
JD 215	Camshaft setting/locking tool
JD 216	Crankshaft setting/locking peg
JD 217	Timing chain tensioner tool
JD 218	Timing chain wedges (2 each)
JD 219	Front suspension ball joint splitter - special
JD 220	Dummy main bearing caps (5 each)
JD 221	Bore protector - connecting rod installation (2 each)
JD 222	Engine rear lifting brackets (1 pair)
JD 223	Engine stand mounting brackets (1 pair)
JD 224	Front hub remover
JD 225	Front hub removal collets
JD 226	Adaptor - front road spring compression tool
JD 227	Hub holding tool
JD 228	ABS rotor nut socket
JD 229	Crankshaft rear oil seal remover/replacer
JD 230	Belt tensioner release tool
JD 231	Fuel injector remover
JD 232	Valve lifter hold-down tool
JD 233	Fan nozzle air gun
JD 234	Crankshaft front oil seal remover
JD 235	Crankshaft front oil seal replacer
JD 236	Front hub replacer
JD 237	Front hub bearing remover
JD 238	Front hub bearing replacer
JD 239	Upper wishbone ball joint installer (2 tools)
JD 240	Upper wishbone ball joint remover
JD 241	Mono strut bush replacer
JD 242	Front suspension beam bush replacer
JD 243	Front lower wishbone bush replacer
JD 244	Lower wishbone bush remover
MS 76-140-5	Valve seat 5 mm pilot (for use with existing MS 76 valve seat cutter tools)
18G 1437-2	Adapter (for use with existing front pulley lock tool 18G 1437)

