



Technical Guide



X-TYPE Estate Introduction Plus X-TYPE, S-TYPE, XK 2005 Model Year Updates



BY APPOINTMENT TO
HER MAJESTY QUEEN ELIZABETH II
MANUFACTURERS OF DAIMLER AND JAGUAR CARS
JAGUAR CARS LIMITED COVENTRY



BY APPOINTMENT TO
HER MAJESTY QUEEN ELIZABETH
THE QUEEN MOTHER
MANUFACTURERS OF DAIMLER AND JAGUAR CARS
JAGUAR CARS LIMITED COVENTRY



BY APPOINTMENT TO
HIS ROYAL HIGHNESS THE PRINCE OF WALES
MANUFACTURERS OF DAIMLER AND JAGUAR CARS
JAGUAR CARS LIMITED COVENTRY



Technical Guide

X-TYPE Estate Introduction Plus X-TYPE, S-TYPE, XK 2005 Model Year Updates

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Preface

The Jaguar Technical Guide is intended to provide an overview only and must not be used as a reference source for servicing procedures. All servicing must be carried out in accordance with 'JTIS / GTR'.

While every effort is made to ensure accuracy, design changes to the vehicle may be made in the period between the completion of this publication and the introduction of vehicles. Details of changes can be obtained from Service Bulletins and revisions on 'JTIS / GTR'.

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Glossary

The following abbreviations and acronyms are used in this publication:

| Abbreviation / Acronym | Description |
|------------------------|--------------------------------------|
| ac | alternating current |
| ACC | adaptive cruise control |
| ACCM | adaptive cruise control module |
| AM | amplitude modulation |
| AMS | automatic music search |
| ASL | automatic speed limiter |
| BIW | body-in-white |
| BTS | belt tension sensor |
| CD | compact disc |
| CHMSL | centre high mounted stop lamp |
| cm | centimeter |
| D2B | digital data bus |
| dc | direct current |
| DTC | diagnostic trouble code |
| DVD | digital versatile disc |
| FM | frequency modulation |
| GECM | General Electronic Control Module |
| GPS | global positioning system |
| GTR | Global Technical Reference |
| GVW | gross vehicle weight |
| in | inch |
| ISO | International Standards Organization |
| JTIS | Jaguar Technical Information System |
| kbps | kilobits per second |
| km/h | kilometers per hour |
| kV | kilovolt |
| LED | light emitting diode |
| LH | left-hand |
| LHD | left-hand drive |
| MHz | megahertz |
| MIL | malfunction indicator lamp |
| mile/h | miles per hour |
| mm | millimeter |
| ms | millisecond |
| MY | model year |
| N | newton |
| NAS | North American specification |
| OBD | on-board diagnostics |
| PCM | powertrain control module |
| RCM | restraints control module |
| RF | radio frequency |
| RH | right-hand |
| RHD | right-hand drive |
| RKE | remote keyless entry |
| ROW | Rest of World |
| SRS | supplementary restraints system |
| TG | technical guide |

| | |
|------|---|
| VEMS | vehicle emergency messaging system |
| VICS | vehicle information communications system |
| VIN | vehicle identification number |
| W | watt |
| WDS | worldwide diagnostic system |

Publication Layout

This publication is split into three sections one for each vehicle model; refer to the contents pages and page heading for the required model.

X-TYPE Estate Introduction and Sedan Model Year Update

The introduction of Jaguar's first estate model coincides with the sedan model year update. The estate is a new body style based on the X-TYPE sedan. Key points are:

- Unique body shell from the 'B' pillar rearwards.
- Standard fitment roof bars.
- Unique tailgate with independent opening backlight.
- Rear wash/wipe system.
- Unique exterior trim, including rear roof spoiler with center high-mounted stop lamp and washer nozzle.
- Unique interior trim with new rear seats, luggage cover with load net and underfloor storage compartment.

Model year updates for the sedan include the following but note that some features are vehicle or market specific:

- Memory feature for the driver's seat and rear view door mirrors.
- Driver's lower air bag.
- New steering wheel with entertainment and speed control switchpacks and driver air bag module.
- Revised restraints control module.
- Floor mounted organ throttle pedal.

S-TYPE Model Year Update

The update of this model incorporates changes to the following systems:

- Power assisted steering.
- Electronic park brake.
- Fuel system.
- Instrument cluster.
- Starter motor cable route.
- Telephone (NAS).
- Adaptive cruise control.
- Parking aid.
- Body panels and engine undertray.
- Exterior lighting.
- Exterior trim.
- Windscreen wipers and washer.

These changes are to update the vehicle's appearance, to incorporate both, technical advancements and feedback from Jaguar dealers and owners.

Introduction

XK Model Year Update

Minor freshening actions are applied to the XK8 range to enhance the external appearance and introduce cruise (speed) control modifications. Note that some features are vehicle or market specific.

Changes to the Body area include:

- New front and rear bumper covers.
- New sill appliqué.
- New rear spoiler for XKR and fitment of former XKR spoiler to XK8.
- New exhaust tailpipe finishers for XKR and fitment of former XKR finishers to XK8.

Changes to the cruise (speed) control include:

- Update of adaptive cruise control from version ACC-2 to version ACC-3.
- Introduction of automatic speed limiter feature.

Dimensions (X-TYPE Estate)

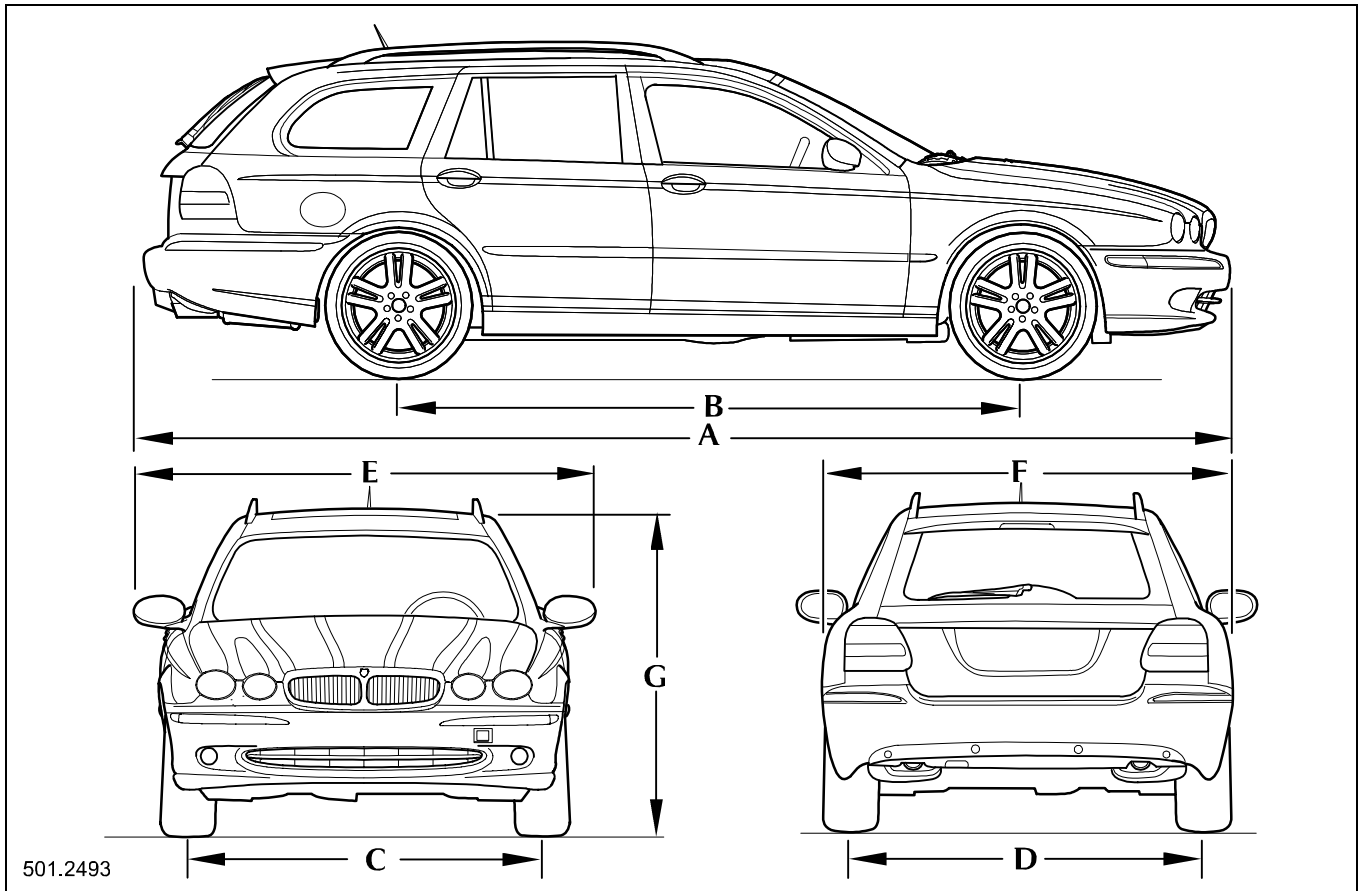


Fig. 1 External dimensions

| Dimension | inches | millimeters |
|-----------|-------------|-------------|
| A | 185.7 | 4716 |
| B | 106.7 | 2710 |
| C | 59.9 | 1522 |
| D | 60.5 | 1537 |
| E | 78.8 | 2003 |
| F | 70.4 | 1789 |
| G | 55.5 (57.2) | 1409 (1451) |

Measurement 'G' is at design weight condition, which refers to a vehicle kerb weight including 33% optional equipment, plus occupant load. Dimension to the roof bars shown in brackets.

NOTE: Measurement 'G' for kerb weight condition (complete vehicle with all fluids filled to capacity without occupants, optional equipment or luggage) = 56.7 in (1441 mm). To the roof bars = 58.4 in (1483 mm).

Minimum ground clearance (fuel tank undertray to ground) measured at gross vehicle weight (GVW) = 4.4 in (112.90 mm).

Table 1 External dimensions (refer to Fig. 1)

Brake System

Rear Caliper (Estate and Sedan)

A new 'Ball-in-Ramp 3' rear caliper will be introduced as a running change to reduce weight, improve cabin lever loads and reduce rear brake noise.

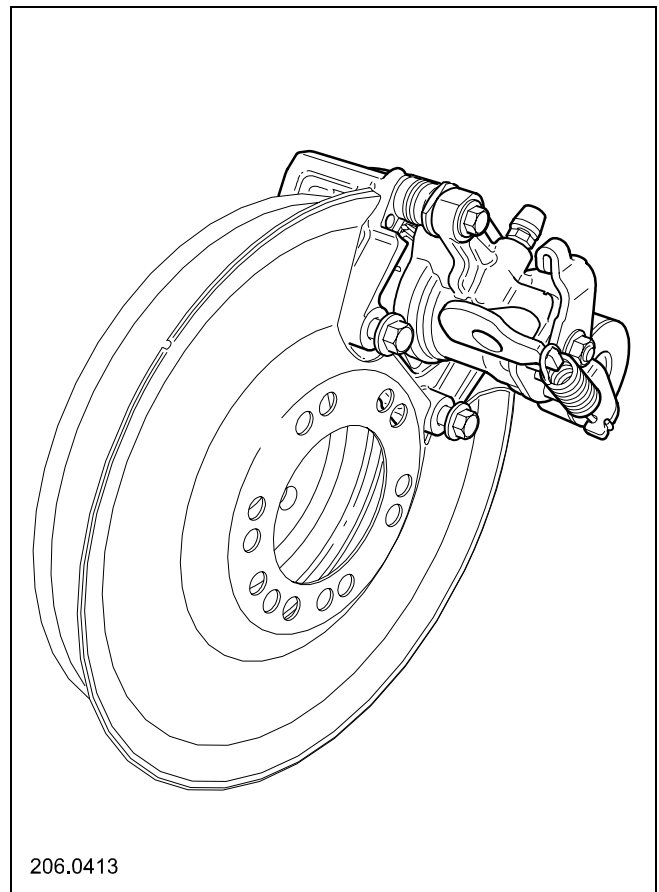


Fig. 2 Rear caliper

Steering System

Steering Wheel (Estate and Sedan)

The steering wheel is a hybrid armature comprising:

- Magnesium hub and upper spokes;
- Steel rim and lower spokes.

The steering wheel is available in many different styles to suit the model and chosen features.

The driver's air bag is a new design to suit the steering wheel and is removed using a different method to previous air bags; refer to 'JTIS / GTR'.

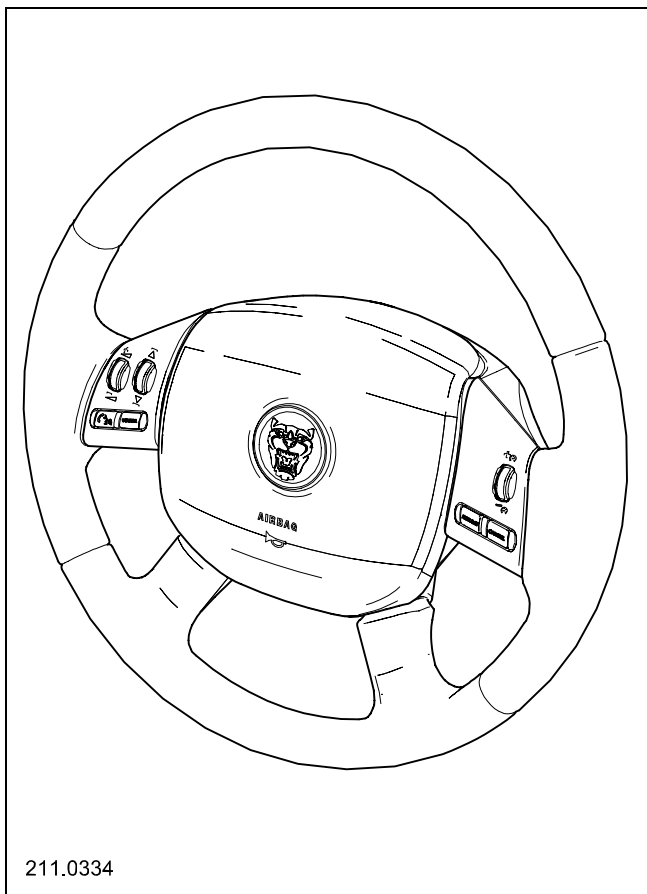


Fig. 3 Steering wheel

Steering Wheel Switches (Estate and Sedan)

The wheel has all-new steering wheel mounted switches, serviceable in the normal manner.

Entertainment Switchpack

The switchpack comprises:

- Two buttons for mode selection and mute/phone;
- Two rotary thumb wheels (which have a 30° angle of rotation) for the volume and seek functions.

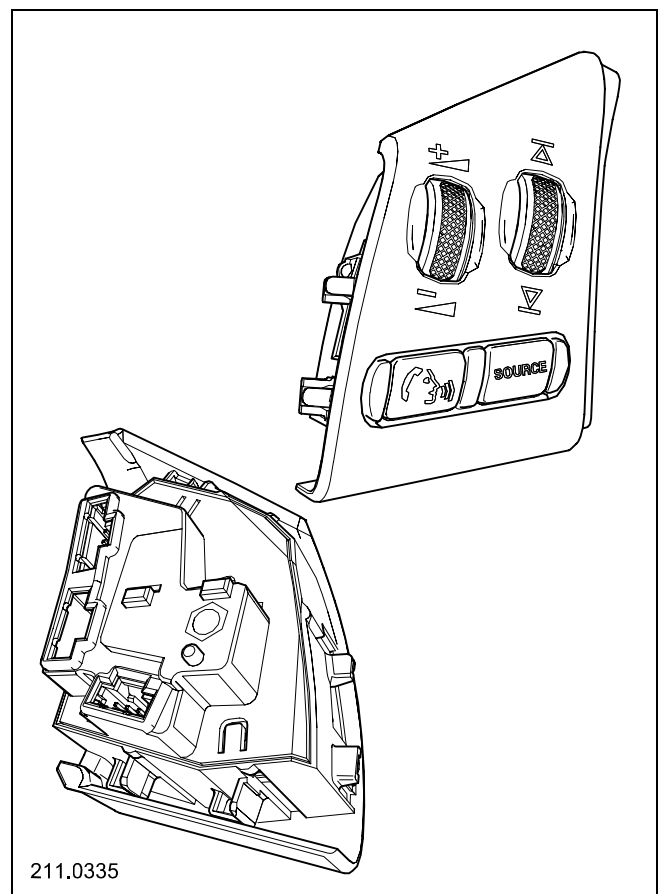


Fig. 4 Entertainment switchpack

Chassis (X-TYPE)

Speed Control Switchpack

The switchpack comprises:

- Two buttons for resume and cancel features;
- A rotary thumb wheel used for speed increase and decrease.

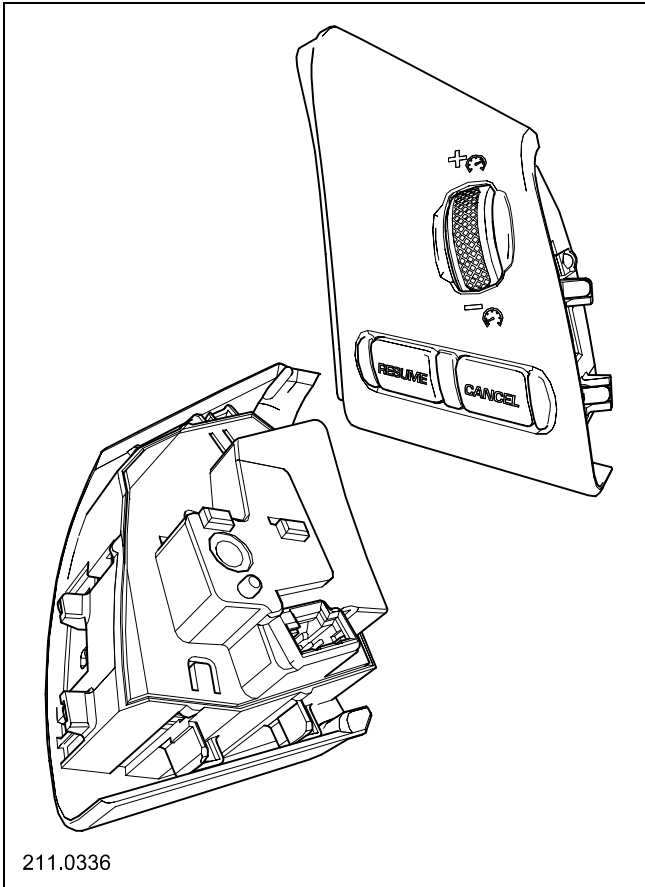


Fig. 5 Speed control switchpack

Rear Wash/Wipe Column Switch (Estate)

Estate models are fitted with a rear screen wash/wipe, which is operated by the right-hand column stalk and only operates with the ignition in position 'II'. If the windscreen wipers are switched on and reverse gear is selected, the rear wiper will wipe intermittently. If the rear wiper is set to intermittent when reverse gear is selected, the rear wiper will wipe continuously.

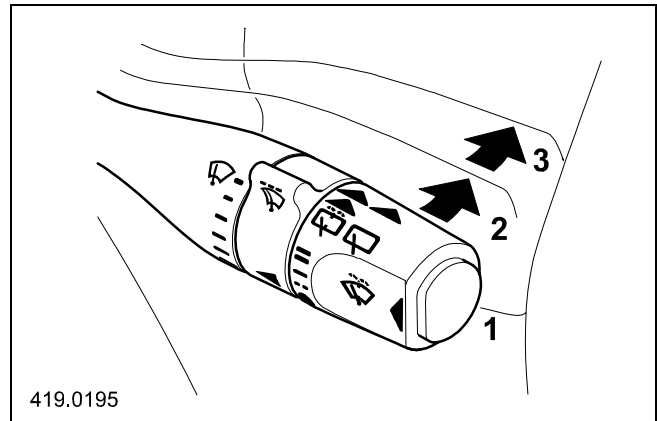


Fig. 6 Wash/wipe column switch

1. Rear wiper off and parked
2. Intermittent wipe
3. Continuous wash and wipe

Fuel Charging and Controls

Organ Throttle Pedal (Estate and Sedan)

The organ throttle pedal supplements the driver lower air bag module. It helps control the driver's heel point and offers a more refined pedal feel over the former pendulum pedal. The organ throttle pedal comprises:

- throttle sensor mounting bracket with pedal stop;
- throttle sensor;
- organ pad;
- organ pedal mounting bracket.

The throttle sensor's control arm engages with the organ pad and slides freely over its rear bearing when the organ pad articulates from its 'live' hinge.

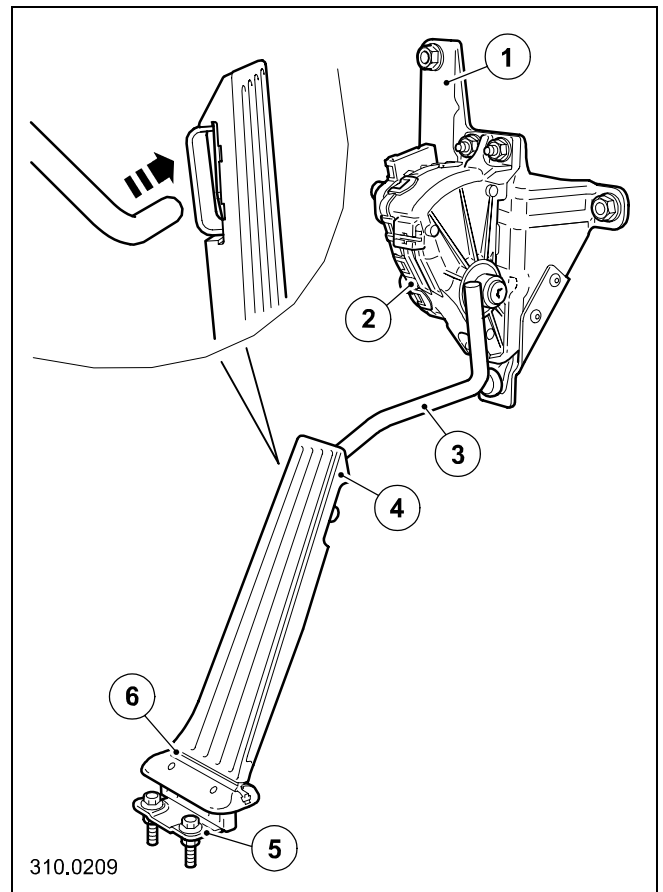


Fig. 7 - Organ throttle pedal

1. Throttle sensor mounting bracket with pedal stop
2. Throttle sensors
3. Sensor control arm
4. Organ pad
5. Organ pedal mounting bracket
6. Live hinge

In-vehicle Entertainment Systems

Audio System (Estate and Sedan)

Minor refinements are made to the In-vehicle entertainment system including:

- Subwoofer adjustment on premium audio sound system vehicles.
- Digital signal processing capability on premium audio sound system vehicles. This facilitates adjustment for optimization of sound for specific seating positions, using slight time delays between speaker image zones.
- New equalization in the amplifier for premium audio sound system vehicles.
- Auto-loudness (to compensate for vehicle speed noise) enhancements with the latest head unit software.
- New steering wheel telematics controls.

On premium audio sound system vehicles, a branded audio system is introduced. A remote D2B digital amplifier (320W) is used which replaces the former audio unit integral amplifier. It is located in the luggage compartment, above the stack bracket.

Speakers

The standard audio system is revised from four full range door speakers to a six-speaker arrangement. Each front door contains a mid/bass driver and a tweeter. Each rear door contains a full range door speaker. The number of speakers for the premium audio sound system remains at nine: four (upgraded to 2 ohm) mid-bass door speakers, four door mounted tweeters and a new subwoofer speaker. For the estate, the new subwoofer speaker is located in an enclosure on the luggage compartment right-hand side.

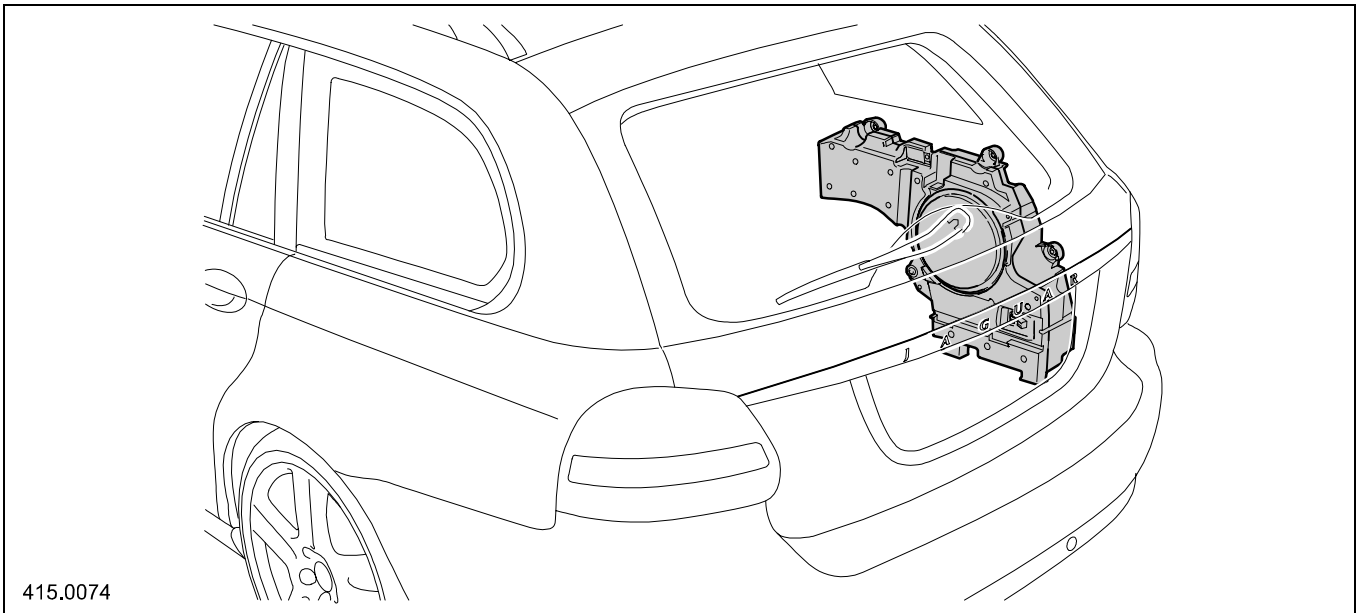


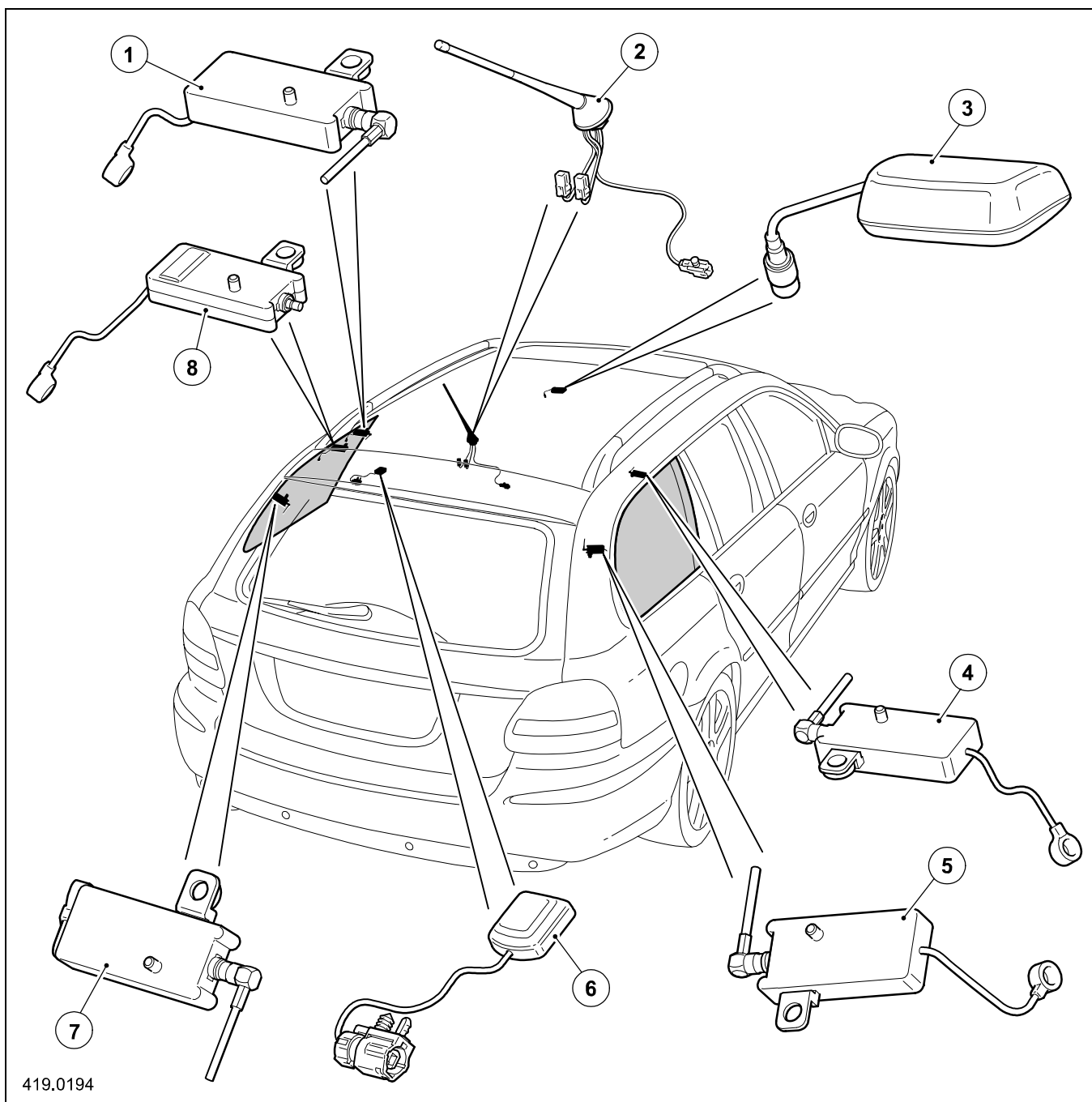
Fig. 8 Estate Premium Audio Sound sub-woofer enclosure

Antennas (Estate)

The global positioning system (GPS) antenna is located under the rear spoiler and is magnetically mounted. The vehicle information communications system (VICS) (Japanese market) antenna module is located on the RH side 'E' pillar upper area with the print on the sixth light. The AM/FM and phone rod antenna is fitted on the center line at the rear of the roof.

The TV antenna screen print are located on the LH and RH sixth light. Two modules are located above the LH sixth light and another two are located above the RH sixth light. The fixings are one bolt per amplifier.

Electrical (X-TYPE)



419.0194

Fig. 9 Antennas location — estate

- | | |
|----------------------------|-------------------------|
| 1. TV antenna amplifier | 5. TV antenna amplifier |
| 2. Phone and AM/FM antenna | 6. GPS antenna |
| 3. VICS beacon sensor | 7. TV antenna amplifier |
| 4. TV antenna amplifier | 8. VICS antenna |

Electrical Distribution

Multimedia Modules (Estate)

Stack-Brackets and Components

The estate stack-bracket is similar to the sedan but modifications are made to accommodate the packaging requirements of the estate.

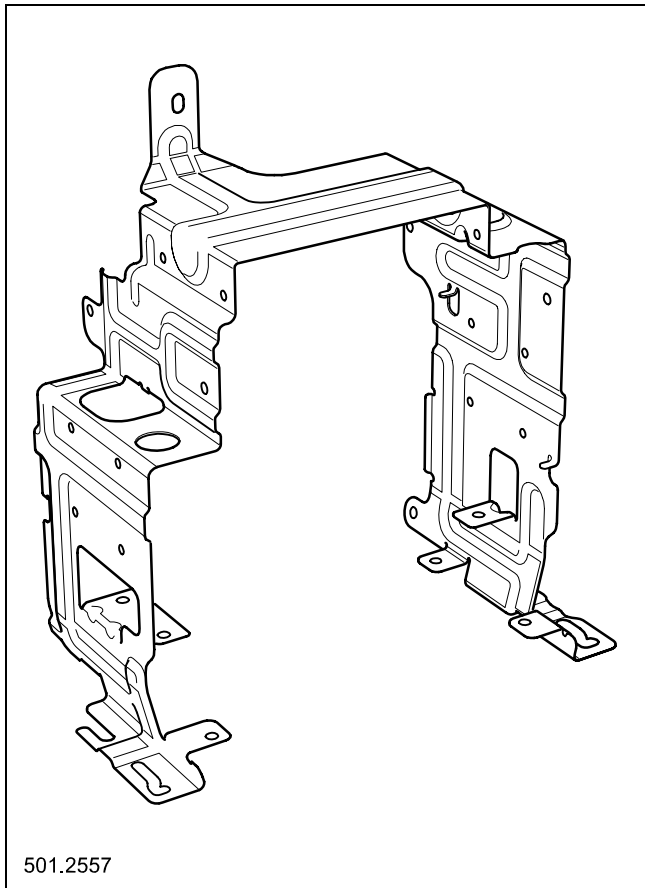


Fig. 10 - Stack-bracket

Located on the left-hand side of the luggage compartment, the stack-bracket, houses the following:

- Voice module
- Navigation ECU
- VICS module (Japan only)
- Phone module
- CD autochanger

The inclination sensor is mounted on two weld studs located to the left of the stack-bracket. The Premium audio sound system amplifier is mounted to a unique bracket above the stack-bracket. It is capable of delivering 8 x 40W output and is part of the D2B network.

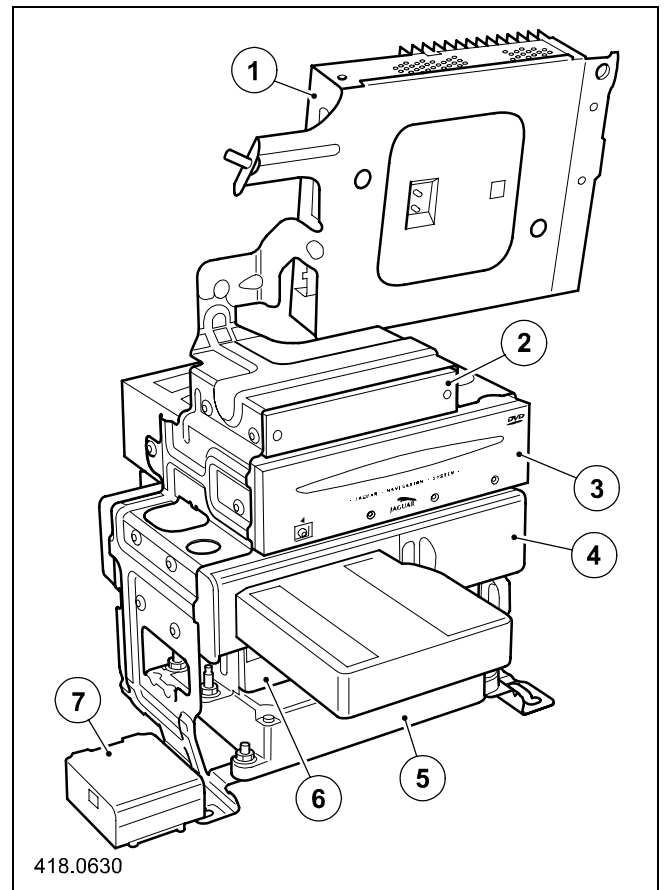


Fig. 11 Stack bracket and module location

1. Voice module
2. Navigation ECU
3. VICS module (Japan only)
4. Phone module
5. CD autochanger
6. Premium audio sound system amplifier
7. Inclination sensor

Electrical (X-TYPE)

Electronic Feature Group

Anti-Theft (Estate)

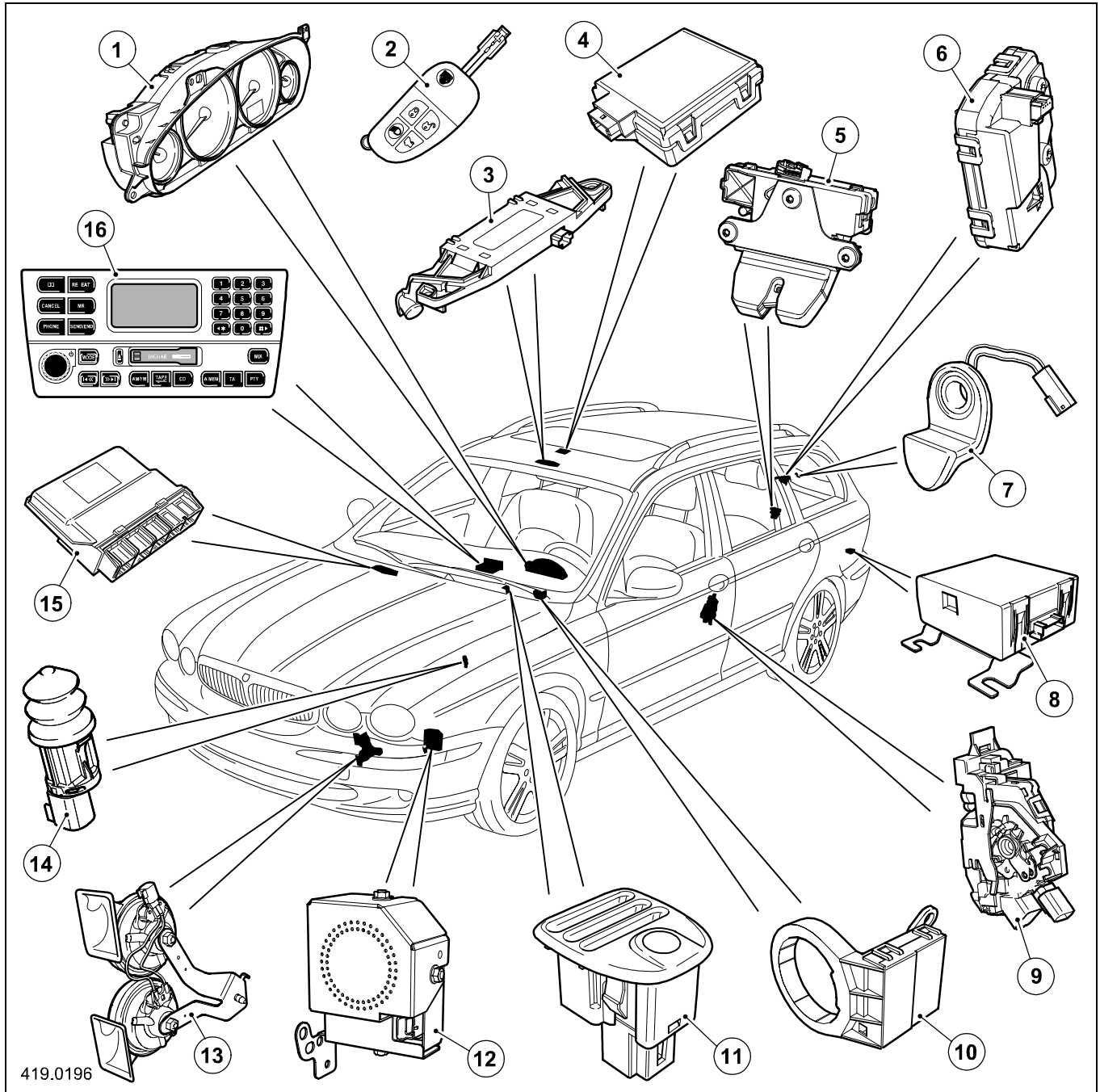


Fig. 12 - Anti-theft component locations

Key to Fig. 12

1. Instrument cluster
2. Remote keyless entry RF transmitter
3. Intrusion sensors (modified)
4. Stand alone remote keyless entry RF receiver - new
5. Tailgate latch/ajar switch (new)
6. Opening backlight latch/ajar switch (new)
7. Opening backlight handle with release button (new)
8. Inclination sensor (modified)
9. Door ajar switch
10. Transceiver coil
11. Security system indicator LED (modified)
12. Battery-backed sounder (modified)
13. Horns (modified)
14. Hood ajar switch
15. GECM (modified) - adjacent to ECU
16. Audio unit (non-telematics version)

The estate security system is carry-over sedan with the following changes:

- The perimeter alarm system replaces the trunk latch ajar switch with individual tailgate door and opening backlight latch ajar switches. They are under the control of the General Electronic Control Module (GECM).
- The intrusion sensor is modified to provide coverage to the rear luggage area of the estate. One part now covers both sedan and estate with two settings.
- The battery-backed sounder is modified for the estate and sedan.
- The inclination sensor is attached with a bracket to allow a common estate/sedan solution.

Electrical (X-TYPE)

Telematics (Estate and Sedan)

Steering Wheel Telematics Controls

To ensure minimum disruption to concentration when driving, limited control of audio, telephone and voice activation systems is possible using the steering wheel telematics controls.

The controls provide the following functionality:

- Answer phone call, mute, or select voice activation.
- Increase or decrease volume.
- Selection of radio FM, AM, tape cassette, CD, and phone ready mode.
- Cycle through preset radio stations, the next CD track or tape, automatic music search (AMS).

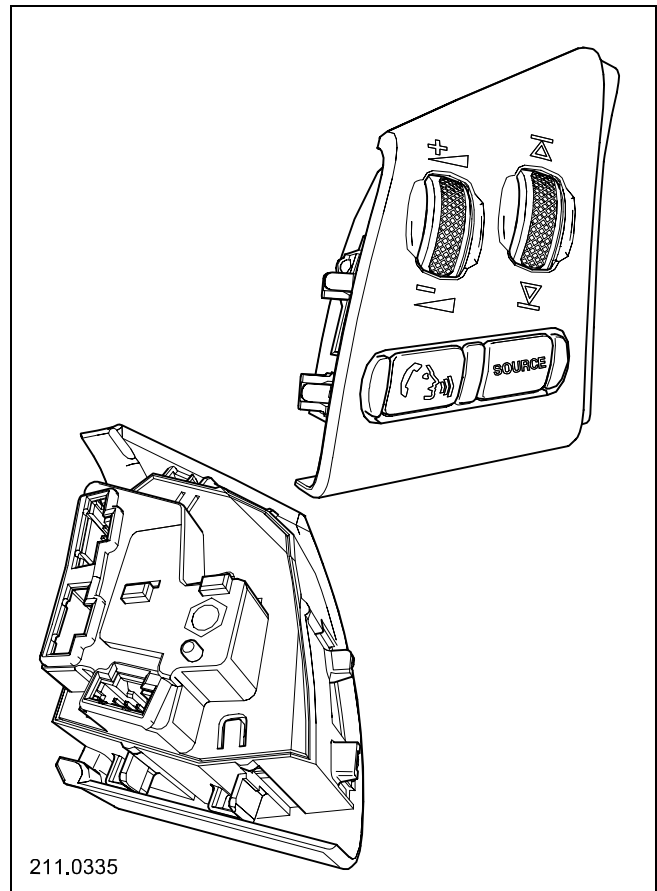


Fig. 13 Steering wheel telematics controls

Multifunction Electronic Control Modules (Estate)

GECM and Remote Keyless Entry Receiver

The general electronic control module (GECM) for the estate is a revised sedan version. It is located in the same place as the sedan, on the right-hand side of the passenger compartment, beneath the instrument panel, close to the 'A' pillar.

The additional features on the estate that the GECM controls are:

- Rear wash/wipe system
- Twin tailgate system and security

Because of the control functions for the above extra features, there is no room left for the remote keyless entry (RKE) previous receiver. Therefore, the receiver is made external to GECM. The receiver is located under the front end of the headlining. There are two derivatives: 433.92Mhz without helix antenna; 315Mhz with helix antenna. Refer to **Fig. 12** 'Anti-theft component locations'.

Rear wash/wipe system functions are:

- Intermittent wiper function
- Intermittent wiper function with reverse gear
- Continuous wiper function with reverse gear
- Rear wash function
- Wiper interruption function
- Wiper park control

Twin tailgate system and security functions are:

- External button tailgate door
- External button tailgate opening backlight
- RF function of either tailgate door or opening backlight
- External button function after RF operation
- Courtesy lamp activation from tailgate door or opening backlight
- Security ajar switches on both tailgate door and opening backlight.

Body (X-TYPE)

Body System Exterior

General (Estate)

The X-TYPE estate, when compared to the sedan, has a unique body from the 'B' pillar rearwards, with additional rear quarter windows and tailgate. They are derivatized between all-wheel drive and two-wheel drive versions. The roof is unique and has two versions: with or without a sliding sunroof. Roof bars are standard fitment. There is a new roof ditch moulding, black on all vehicles. The rear floor assembly

is modified to accommodate the open luggage compartment design of an estate. It is therefore without the panel for the rear seat squab support, rear parcel shelf and rear parcel shelf side structure. Rear floor additions include wheel housing quarter strengtheners (turrets), plus two torsional stiffness members and two trim brackets to achieve torsional stiffness requirements.

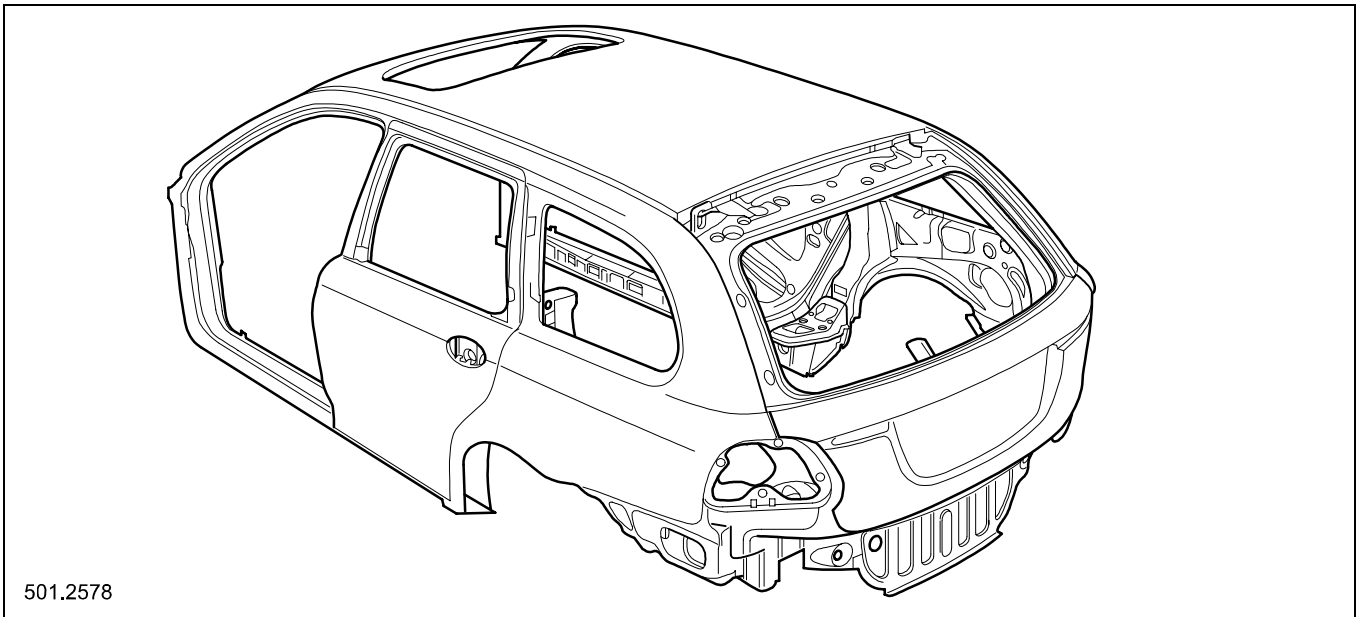


Fig. 14 Estate body-in-white (BIW)

Filler Flap, Hinge and Bowl (Estate)

The fuel filler flap and hinge is unique to support the body side surface design of the estate. The bowl is a carry-over sedan design, except for the addition of two pins. Although the release system (cables, handles and clips) are carry over items, the cable routing is changed slightly, near the filler flap, due to the difference between the sedan and estate BIW shape.

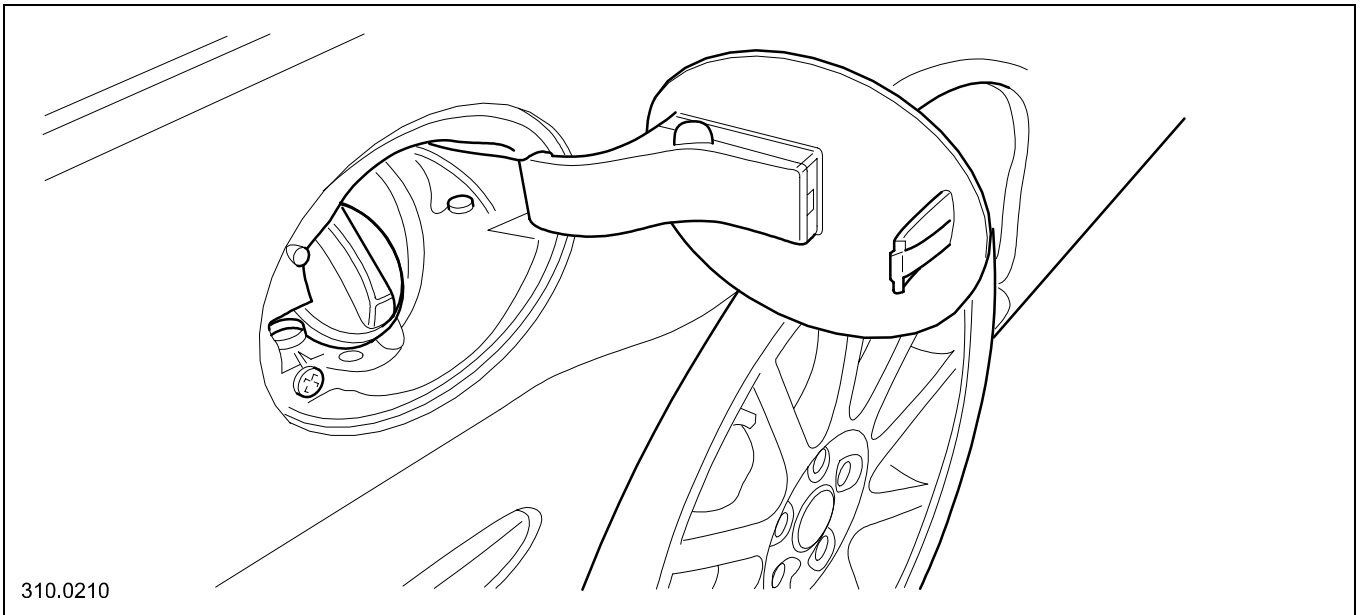


Fig. 15 Filler flap, hinge and bowl

Body (X-TYPE)

Body Closures and Tailgate (Estate)

Tailgate and Opening Backlight

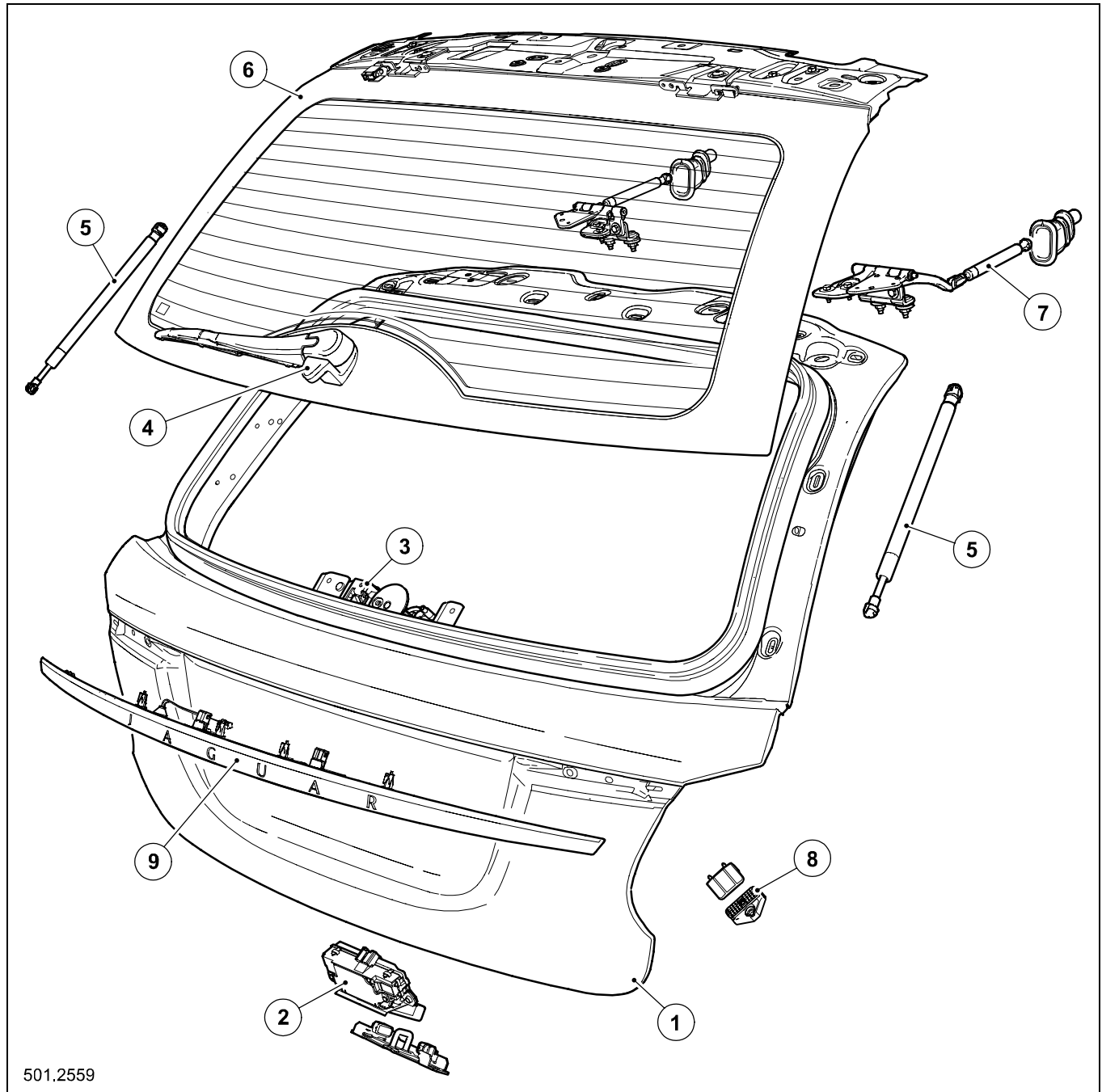


Fig. 16 Tailgate exploded view

Key to Fig. 16

1. Tailgate
2. Tailgate latch and striker
3. Wiper motor
4. Opening backlight handle with switch
5. Tailgate struts
6. Opening backlight
7. Opening backlight strut and hinge
8. Tailgate bump stops
9. Tailgate finisher

The tailgate has a compact hinge design, with an independent opening backlight glass, to ease loading of lightweight goods. Two gas struts, fixed to the body rear end drain trough panel, assist tailgate lift. Two bump stops are positioned on the drain trough panel waistline.

The glass on the opening backlight is glued to a metal carrier. Two gas struts positioned on the roof rear upper header,

assist the opening backlight lift. The underside of the opening backlight handle, houses a switch to release the lock. The underside of the tailgate finisher, houses the tailgate release button and the number plate lamps, as on the sedan.

The hinge bolts for the opening backlight, are accessed by removing the interior trim and the spoiler.

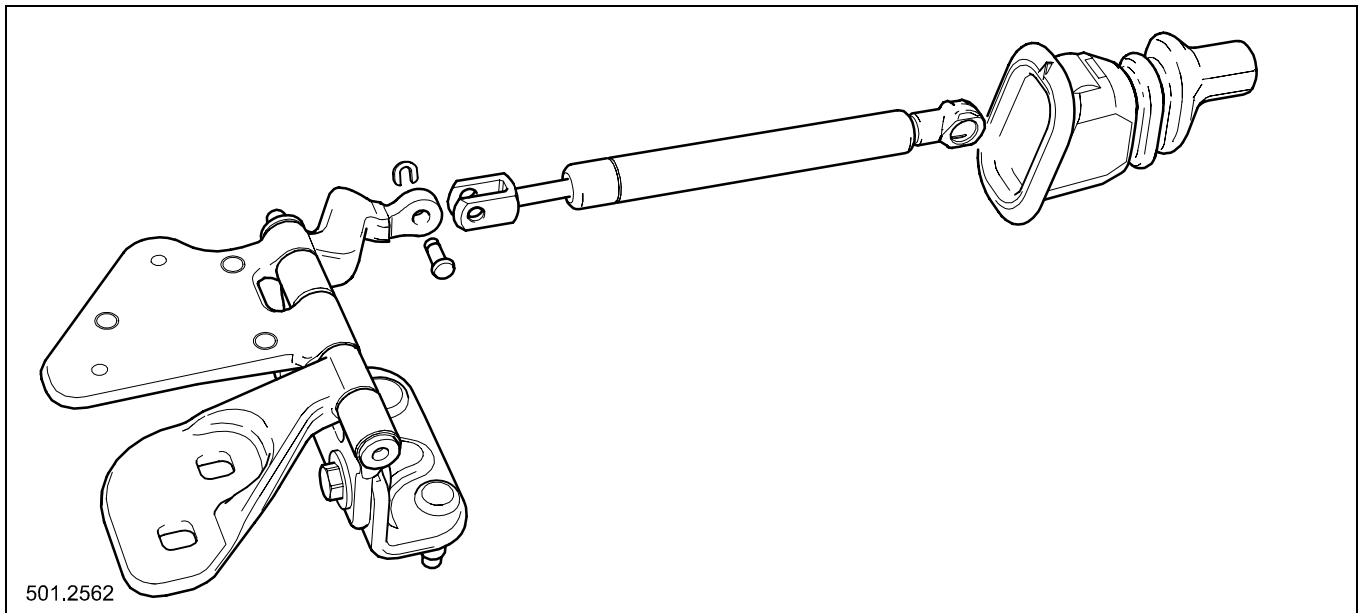


Fig. 17 Opening backlight strut and hinge

Body (X-TYPE)

The latch on the tailgate is fixed with three M8 screws and striker is fixed with two M8 screws. The striker has two lateral buffers.

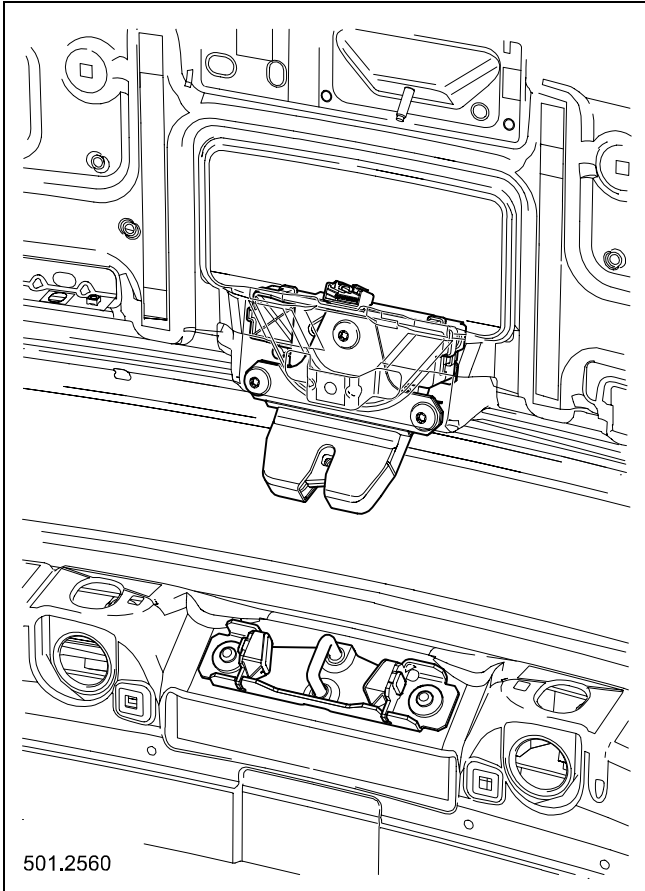


Fig. 18 Tailgate latch and striker

Seals

The opening backlight seal and tailgate seal are conventional flange-mounted single bulb sections with a cosmetic interior trim flip and moulded joint at the end. The lower side of the opening backlight seal has an exterior cosmetic lip.

The rear side door panels are modified on the upper part to suit the new roof-line. There are therefore, unique seals for the rear doors but the primary seal on the door and the inner waist seal, remain the same as the sedan.

Glass and Frames (Estate)

Rear Door Glass, Quarter Glass and Sixth Light

The new glass for the rear doors, have a unique obscuration band to hide the carried-over door trim.

The fixings for the quarter glass are similar to the sedan, using two M5 screws in the top and in the centre. The bottom area is fixed using a carry-over sedan bracket.

The sixth light is new, supplied with a metal finisher and waist moulding and is a glue fitment. On the right-hand side glass, there is the antennas print for AM/FM radio and Television. On the left-hand side glass, there is the vehicle information communications system (VICS) for the Japanese market and another television antenna.

Rear Wiper System (Estate)

The wiper in the rear wiper system is mounted on the opening backlight and the motor is mounted in the lower tailgate. When the backlight is closed, a pin in the wiper arm engages in a slot in the motor's rotating disc.

A slot on the backlight latch, gives access to a mechanical release in the event of electrical failure.

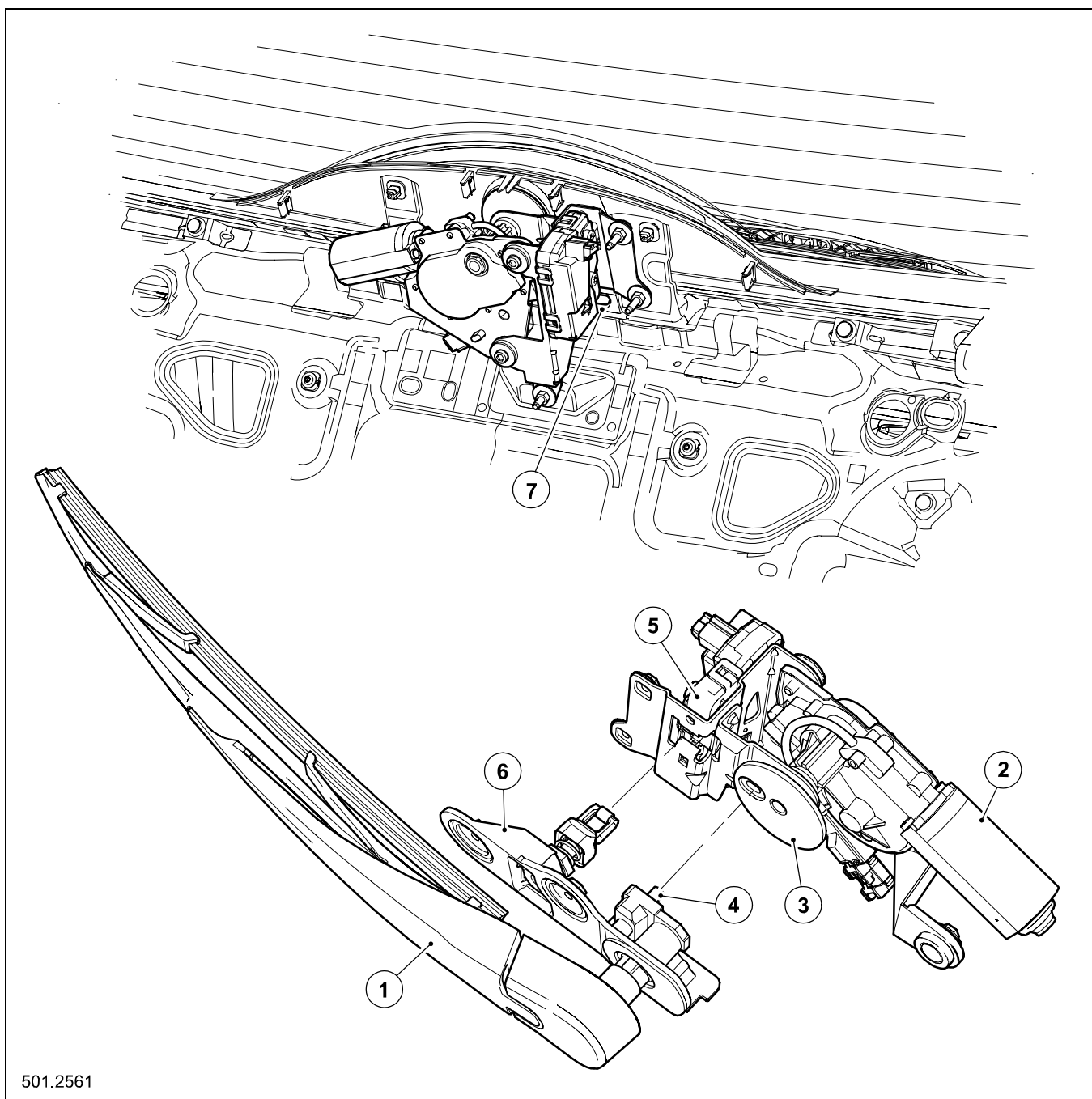


Fig. 19 - Wiper motor system

- | | |
|------------------|-----------------------------------|
| 1. Wiper | 5. Opening backlight latch |
| 2. Wiper motor | 6. Pivot striker |
| 3. Rotating disc | 7. Mechanical release access slot |
| 4. Pivot pin | |

Body (X-TYPE)

The wiper reservoir on the estate has a twin pump to feed the front and rear wash/wipe. To supply the rear wash/wipe, the washer tube is routed to the rear to emerge at the nozzle, located on the rear spoiler.

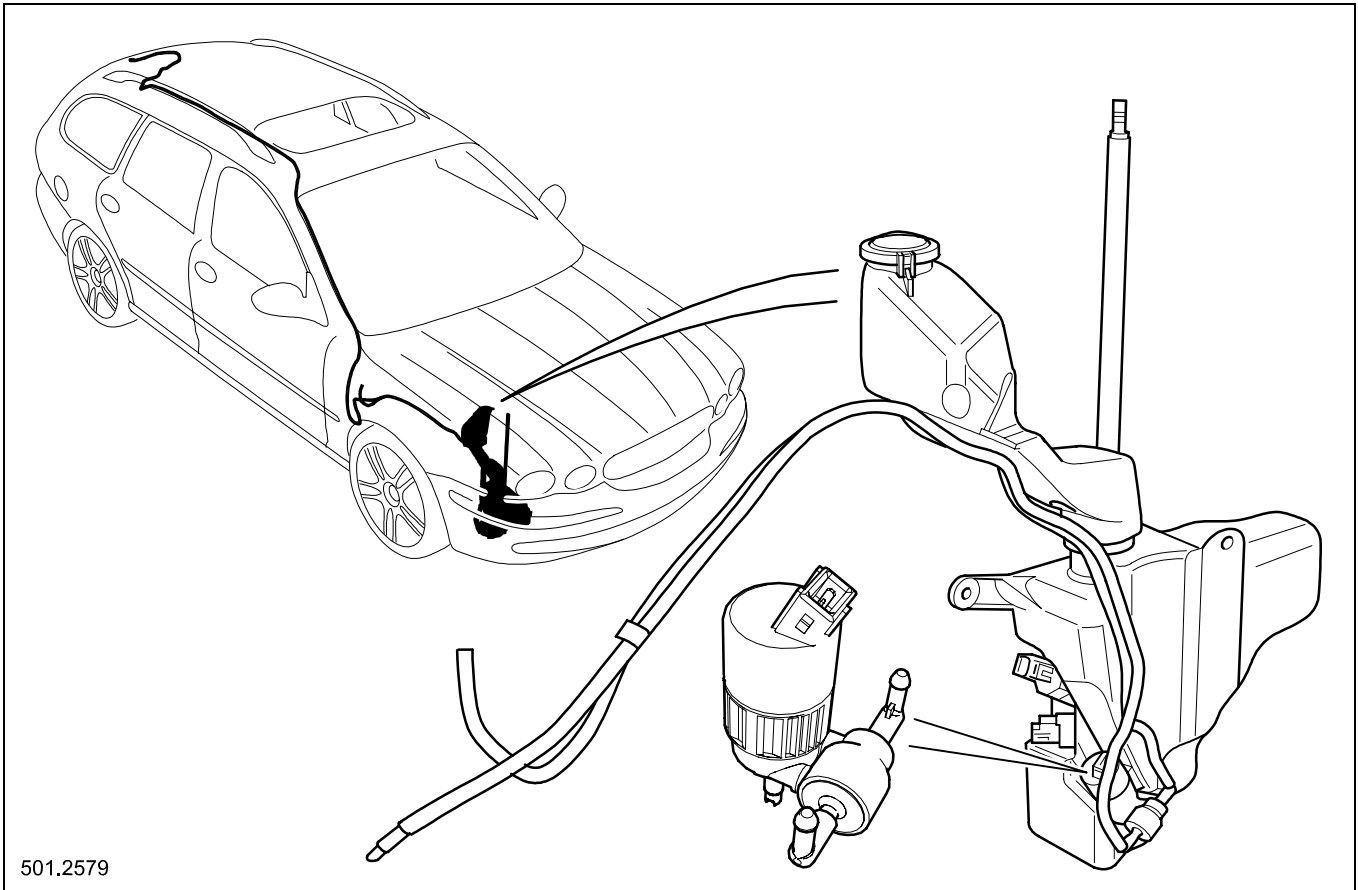


Fig. 20 Washer reservoir and washer tube routing to rear

Exterior Trim Components (Estate)

There are several components unique to the estate shown in the illustration below.

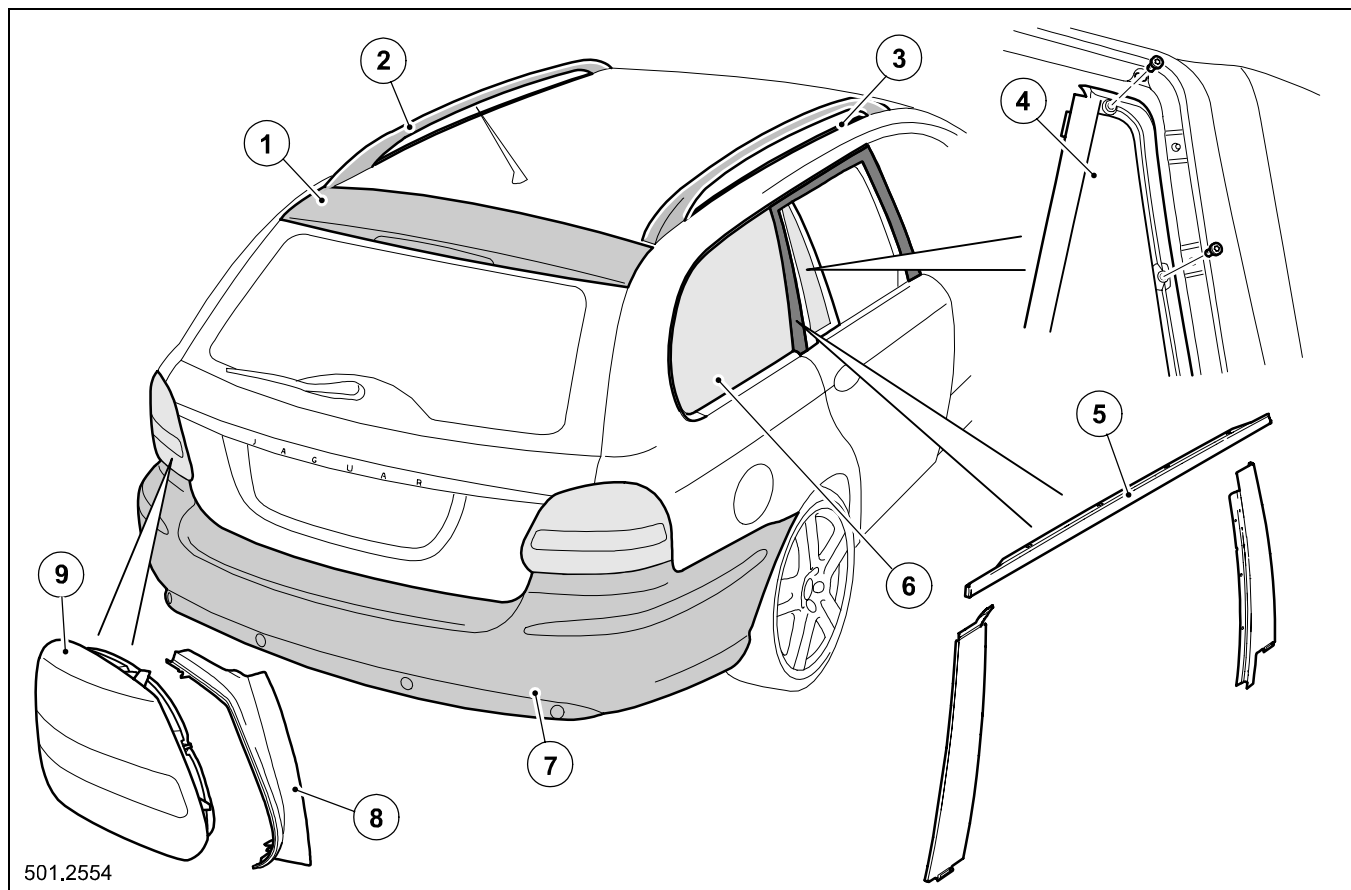


Fig. 21 Exterior trim components

- | | |
|---|--------------------|
| 1. Roof rear spoiler | 6. Sixth light |
| 2. Roof rails | 7. Rear bumper |
| 3. Roof moulding | 8. Rear lamp cover |
| 4. Quarter glass and fixings | 9. Rear lamp |
| 5. 'C' and 'D' pillar cappings and rear door upper moulding | |

Body (X-TYPE)

Roof Rear Spoiler

The roof rear spoiler is a painted plastic component fitted to the metal structure of the opening backlight by five M6 nuts. The centre high mounted stop lamp (CHMSL) and washer nozzle are incorporated into the roof rear spoiler. To gain access to the CHMSL, interior trim and the spoiler need to be removed.

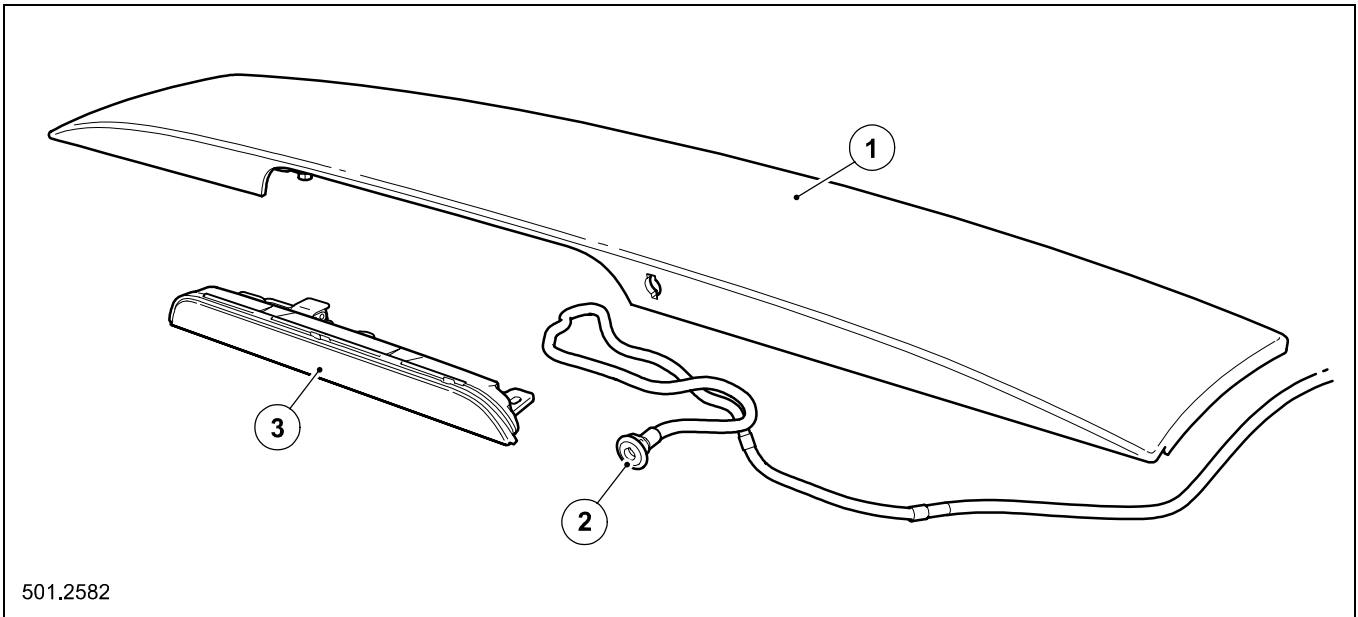


Fig. 22 Roof rear spoiler, CHMSL and washer

1. Roof rear spoiler
2. Rear washer nozzle
3. CHMSL

Roof Moulding and Roof Rails

The roof ditch mouldings have the same sections as the sedan but with a clipping feature. All moulding are low gloss black and are divided into two parts: front and rear. The roof rails must be removed before the mouldings can be removed.

The roof rails are a standard fit on all estate vehicles. Black roof bars are standard fitment (silver painted bars are optional). They are fitted to the outside of the vehicle with two M8 screws on each of the four feet. A plastic cover that requires a special tool for removal, surrounds each foot.

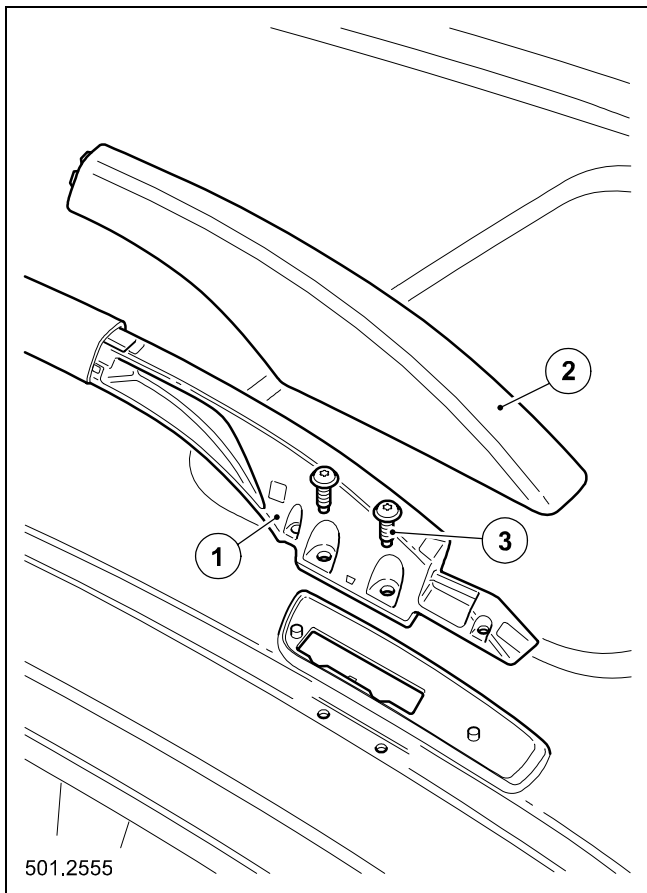


Fig. 23 Roof rail detail

1. Roof rail foot
2. Roof rail foot cover
3. M8 bolt

'D' and 'C' Pillar Cappings and Rear Door Upper Moulding

The components are fixed with rivets, similar to the sedan. The 'C' pillar capping is 2mm longer than the sedan version. The 'D' capping is new and unique to the estate. The rear door upper moulding is a straight profile to suit the line of the estate but the moulding's section is the same as the sedan.

Rear Lamp Shield

The rear lamps are new and fixed with four M6 nuts (the same type as on the sedan). The tail lamps have a plastic shield located directly to the side of the lamp with plastic clips; the shield profile covers and matches the body-in-white (BIW) profile.

Rear Bumper and Beam (Estate)

The rear bumper and beam are new to suit the new body style and crash requirements. The rear beam fixings are carry-over from the sedan version but the beam is a different shape due to a cut-out in the corner.

The rear bumper fixings are the same as the sedan with the following exceptions:

- To improve the match with the tail lamp, two more fixings are added in the center bracket.
- On the right-hand side, two fixings instead of one are fitted through the wheel arch area.

Body System Interior

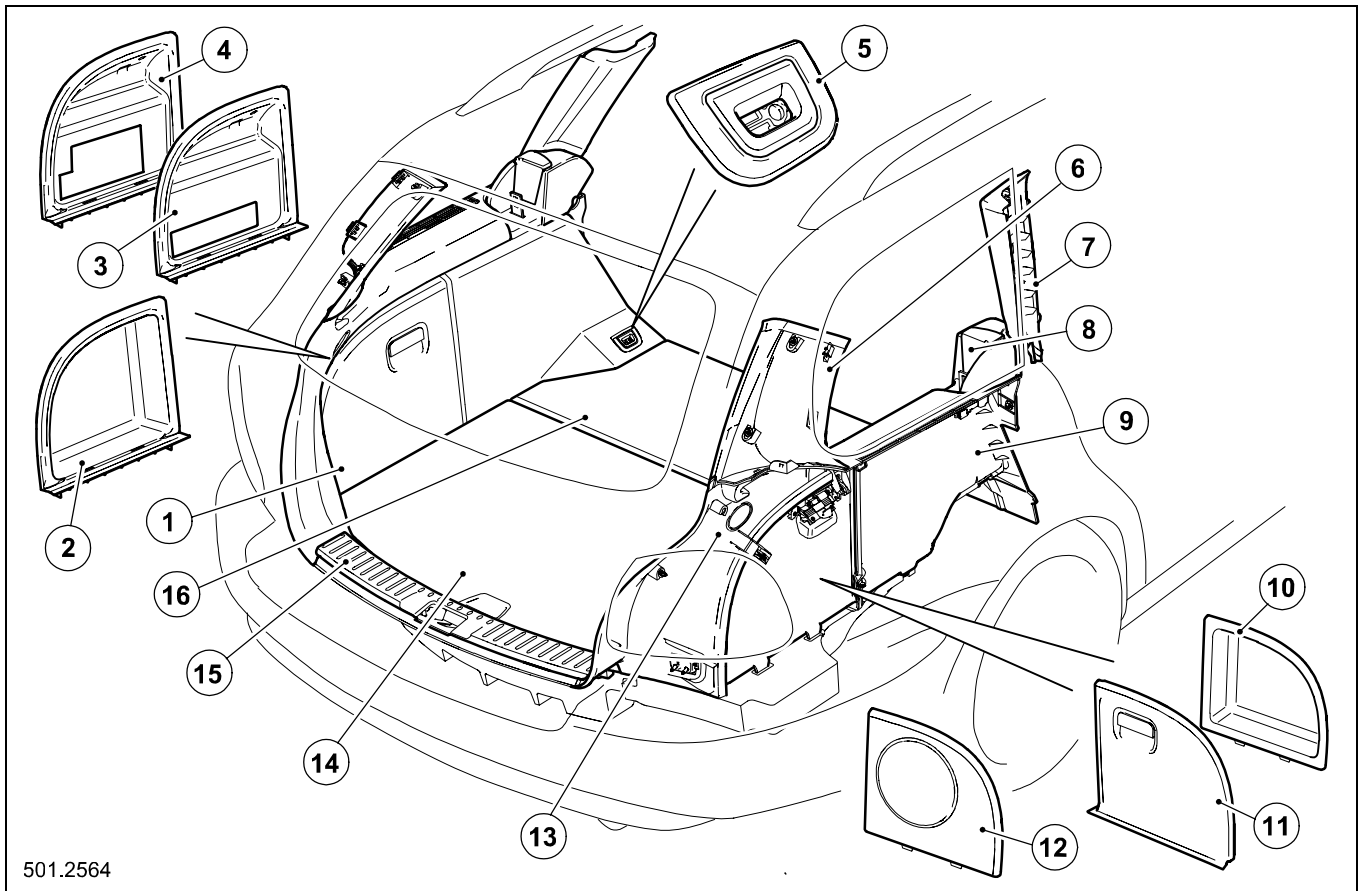
Luggage Compartment Trim (Estate)

The headlining is new to fit the extended roof-line of the estate. The new luggage compartment floor trim and side mouldings are shown on the illustration. Behind the left-hand stowage door are three trim panel versions:

- Standard version for stowage space
- CD version with a slot for the CD autochanger
- CD and navigation version with a slot for the CD autochanger and the navigation unit.

The right-hand stowage door is fitted to non-premium audio sound system versions. Premium audio sound system models have the stowage door substituted by a cover holding a bass sub-woofer speaker.

Four tie-down metal loops are positioned in the luggage compartment. The loops are hinged and fold flat when not required.



501.2564

Fig. 24 Interior trim mouldings and carpet

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. LH storage door 2. LH storage trim (standard version) 3. LH storage trim (CD autochanger version) 4. LH storage trim (CD autochanger and navigation version) 5. Luggage tie-down loop 6. 'E' pillar trim 7. 'D' pillar trim 8. Seat belt tower cover 9. Quarter trim | <ol style="list-style-type: none"> 10. LH storage trim: non-premium audio sound system 11. RH storage door: non-premium audio sound system 12. RH side cover with bass sub-woofer speaker: premium audio sound system 13. Waist moulding and lamp 14. Hinged carpeted floor panel 15. Scuff plate 16. Fixed carpeted floor panel |
|---|---|

Body (X-TYPE)

Tailgate Trim (Estate)

The tailgate interior trim comprises: upper interior moulding; lower moulding; side interior moulding; carpet insert; glass moulding and glass wiper motor cover. On the exterior side

of the tailgate, but interior to the opening backlight, there are three trim items: upper exterior moulding; side interior moulding; wiper motor cover.

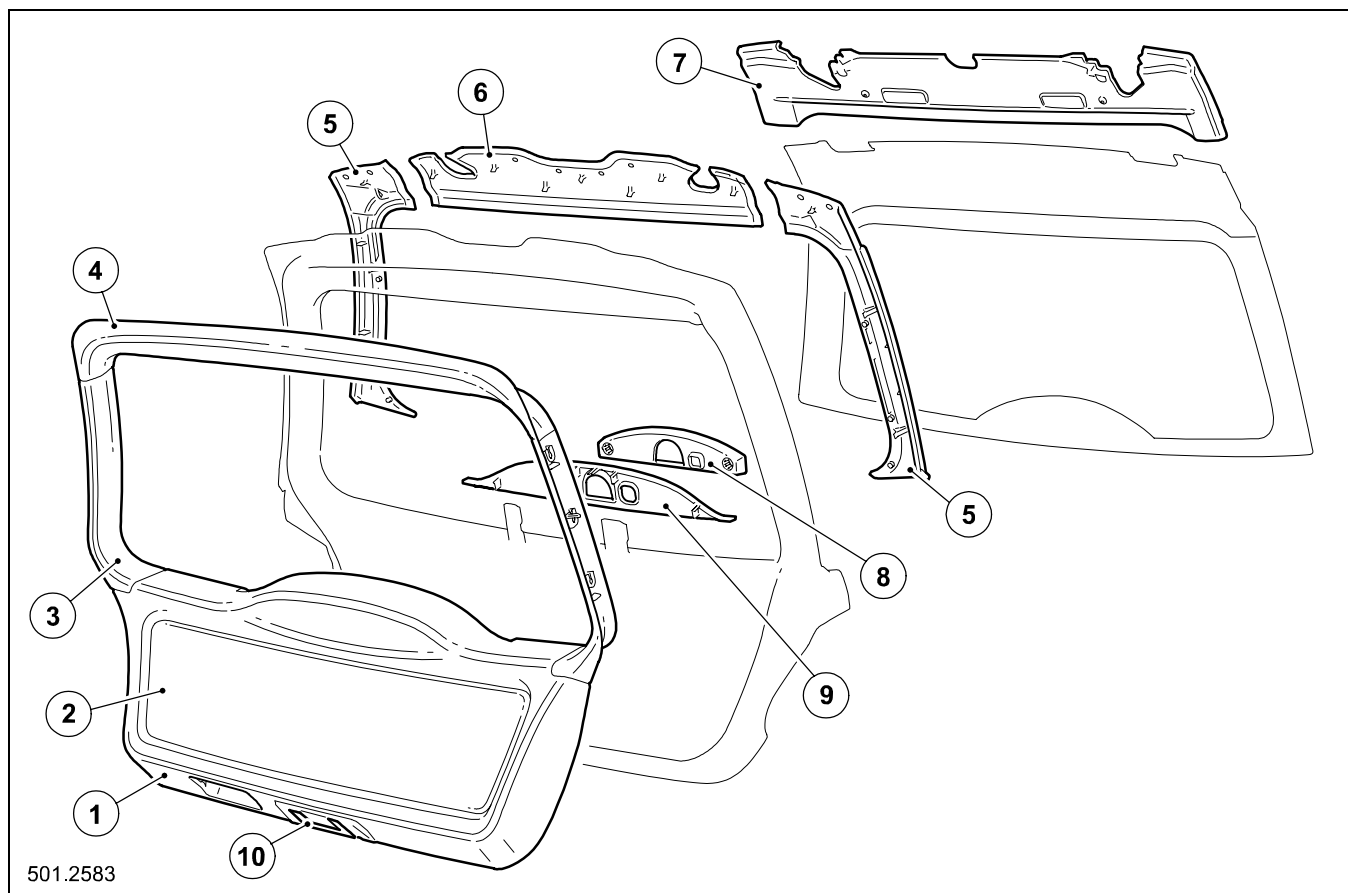


Fig. 25 Tailgate trim

- | | |
|----------------------------|--|
| 1. Lower interior moulding | 6. Upper exterior moulding |
| 2. Carpet insert | 7. Opening backlight moulding |
| 3. Side interior moulding | 8. Opening backlight wiper motor cover |
| 4. Upper interior moulding | 9. Tailgate wiper motor cover |
| 5. Side exterior moulding | 10. Latch bezel |

Luggage Cover and Load Net (Estate)

The luggage cover can be extended from the housing to hide the contents of the luggage compartment. The lugs on either side of the cover fit into the slots on the rear of the luggage compartment. The luggage load net, where fitted, can be extended and the catches on either end, hook into the fittings in the roof.

The housing for the luggage cover and load net is locked in place by a catch and striker plate behind the rear seats. Releasing the two buttons, one on either side of the housing, and lifting it clear of the trim allows the complete housing to be removed.

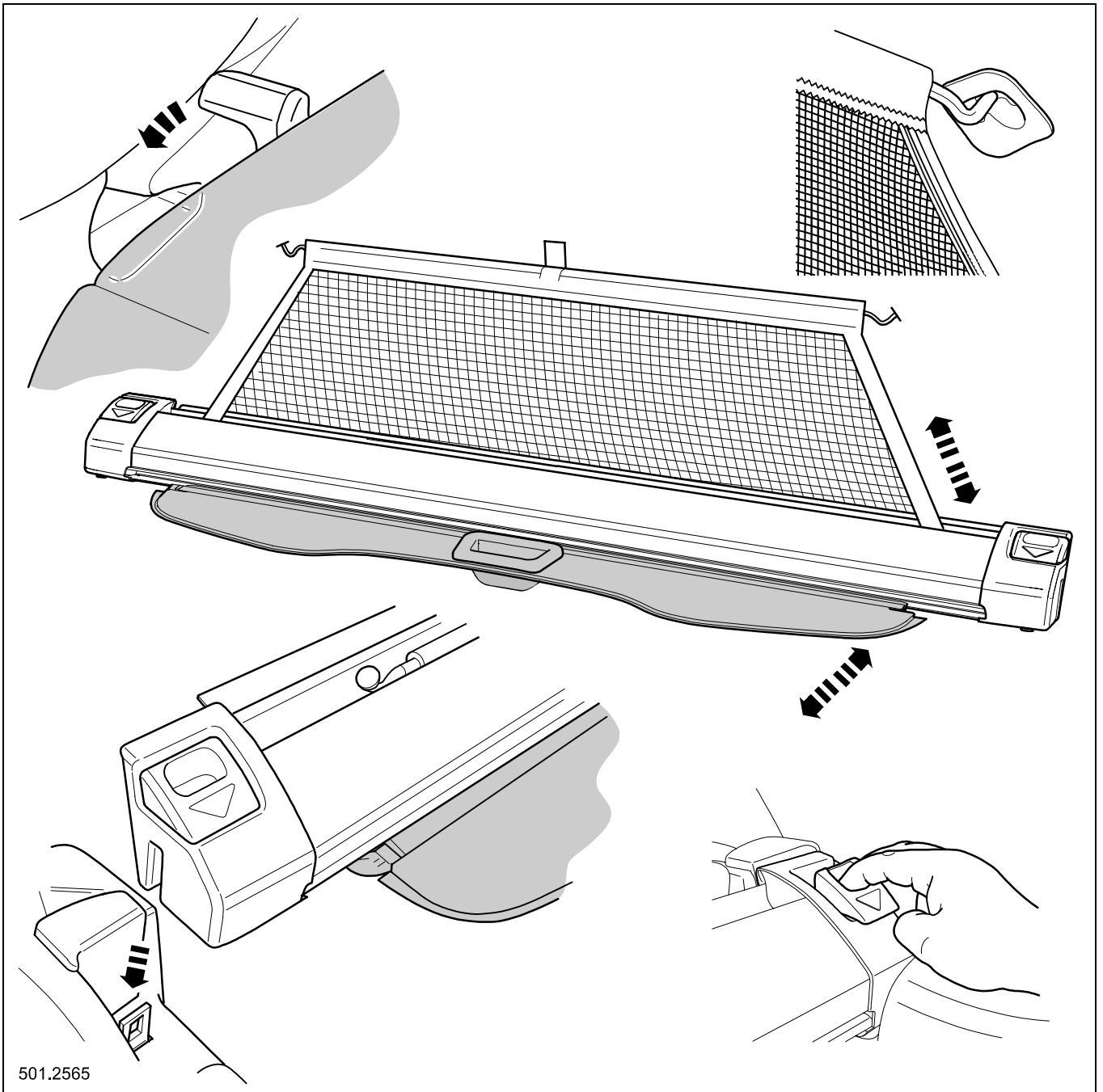


Fig. 26 Luggage Cover and Load Net

Body (X-TYPE)

Underfloor Storage

The underfloor storage tray is located below the luggage compartment floor panel. To access the storage tray, lift the handle on the rear edge of the floor panel. A retaining strap is fitted to the floor panel, which can be hooked over the top lip of the luggage compartment opening, to hold the floor panel up when accessing the storage tray.

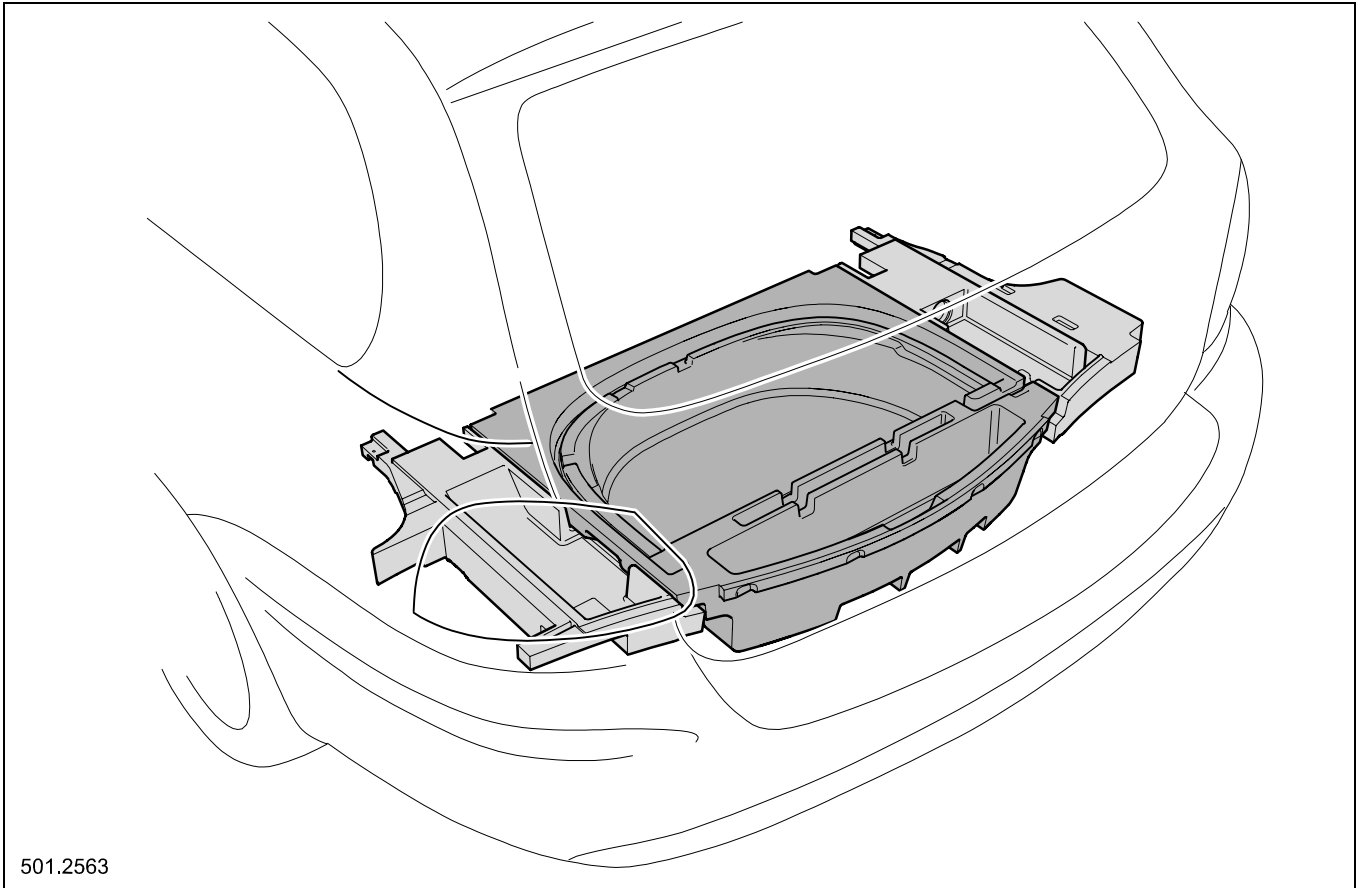


Fig. 27 - Underfloor storage tray

Underfloor Accessory Socket

A 12-volt accessory socket is provided in the underfloor storage tray. The tray is designed to allow a cable to run to the tray's main storage area so that, for example, a laptop computer can be charged whilst hidden from view.

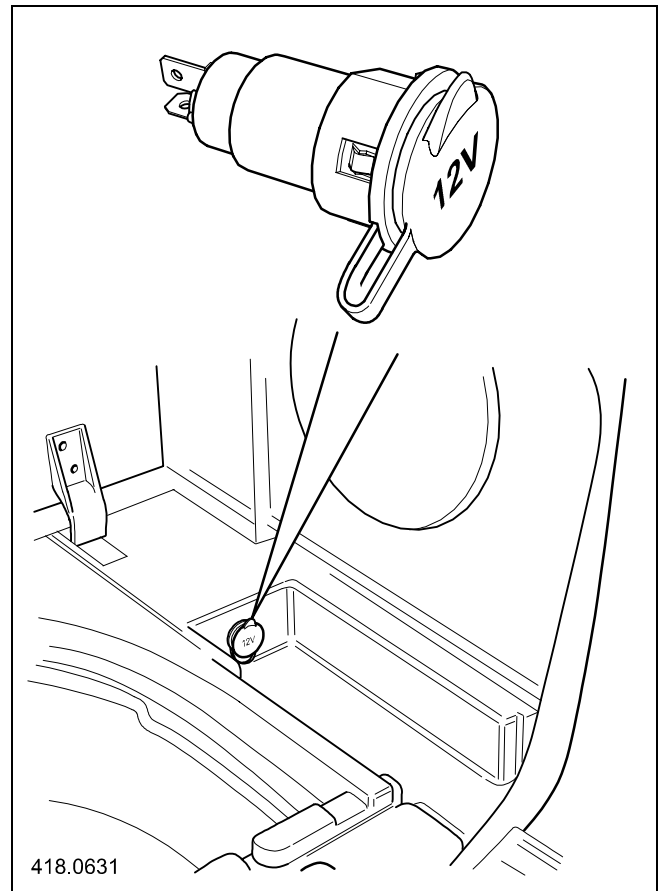


Fig. 28 Accessory socket

Seating

Front Seats (Estate and Sedan)

The front seats have a new two-piece valance with an access panel to the seat belt anchorage and belt tension sensor, when fitted. The valance provides attachment for the integrated seat control module and switchpack. The electrically adjustable driver's seat now has a memory option. This facility allows the driver's seat and door rear view mirrors positions to be memorized and recalled for different occupants. Up to three

settings can be stored. Button 'M' is concave and there is a raised point on button '2'. This allows the buttons to be identified by touch.

Non-memory switchpacks retain their switch design but memory switchpacks are restyled. Instead of having a separate switch for lumbar support, memory switchpacks have this function is combined with the squab angle switch.

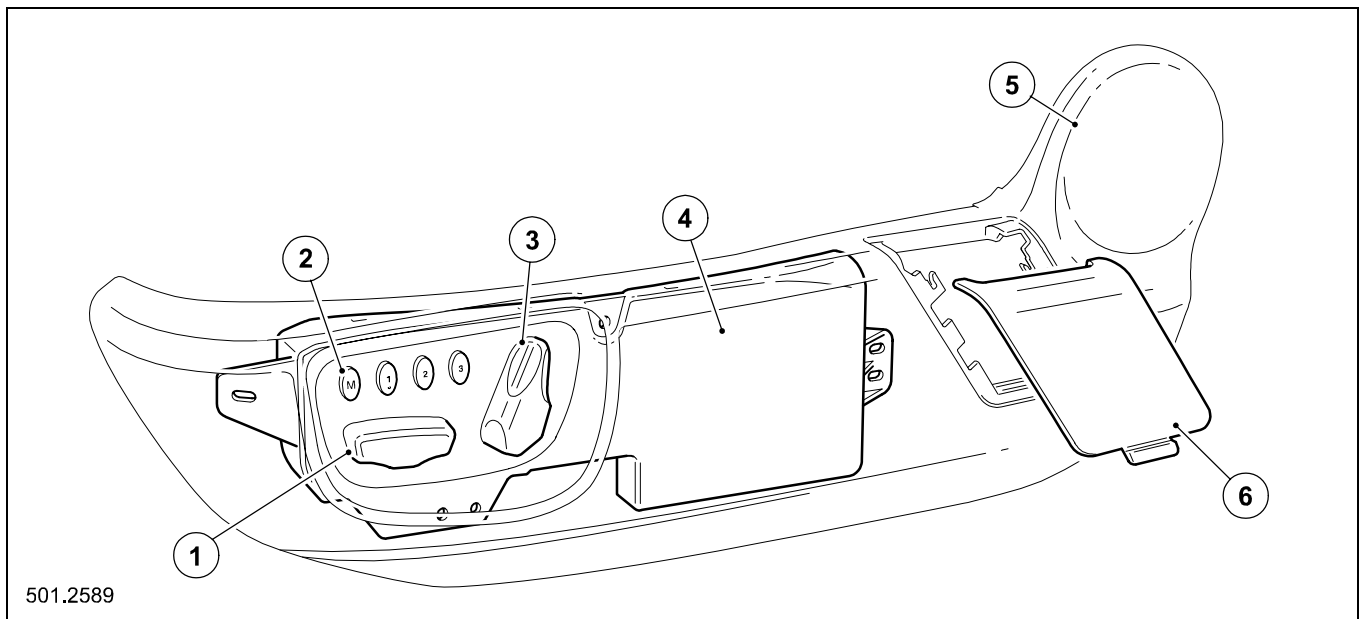


Fig. 29 Front seat valance and switchpack

1. Fore/aft movement switch
2. Seat position memory buttons
3. Squab angle and lumbar support switch
4. Integrated control module and switchpack
5. Two-piece valance
6. Access panel

The new four-way movement front head restraint replaces the two-way version and has a larger revised foam shape. Four-way movement is achieved by the addition of a tilt feature to the existing raise and lower movement.

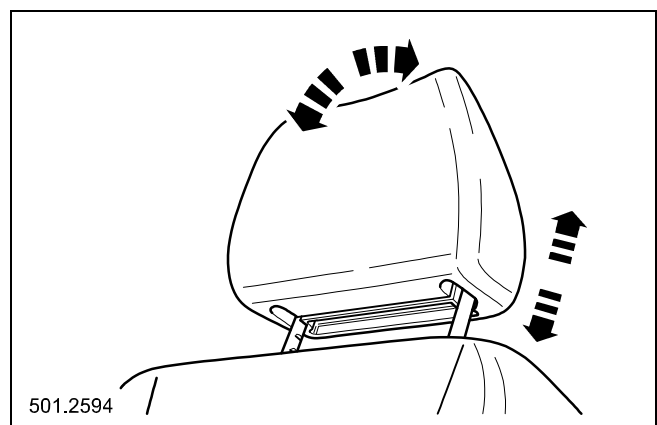


Fig. 30 Four-way movement head restraint

Rear Seats (Estate)

The new 30/70 split rear seats provide a perceived flat load floor when folded, without needing to remove the headrests, except when a front seat is in its rearmost position. The

outboard headrests and the seat cushion are carry-over from the sedan but the center headrest is new. The squab release catches, located on the top of each seat back, and squab latching mechanism, are unique to the estate.

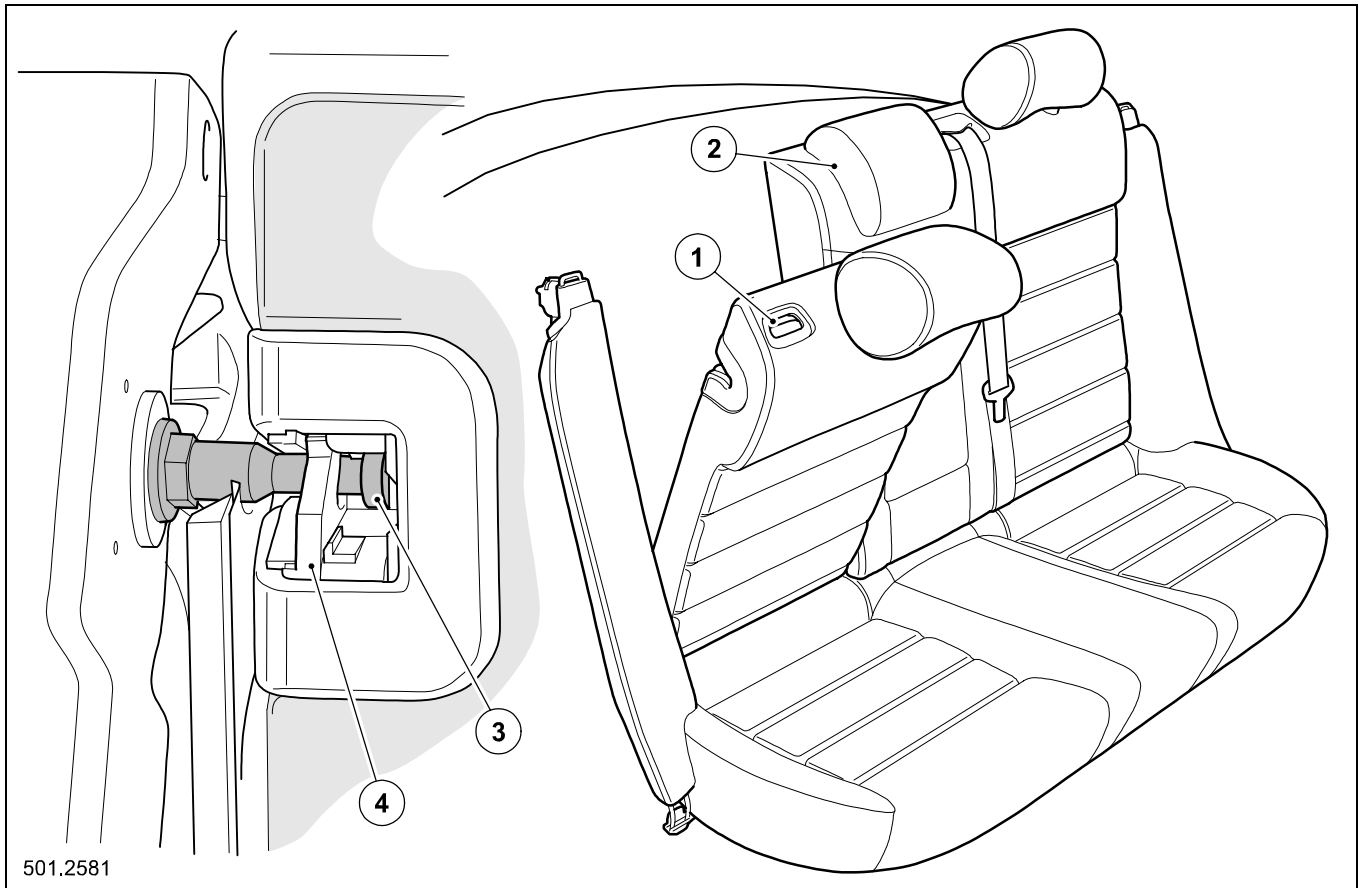


Fig. 31 - Rear seat

- 1. Release catch
- 2. New center headrest

- 3. Squab striker
- 4. Squab latch

Occupant Safety (X-TYPE)

Advanced Restraints System

Restraints Control Module (Estate and Sedan)

With certain modifications made to the advanced restraints system, the systems diagram below, provides an indication of how the electrical component parts interact with each other.

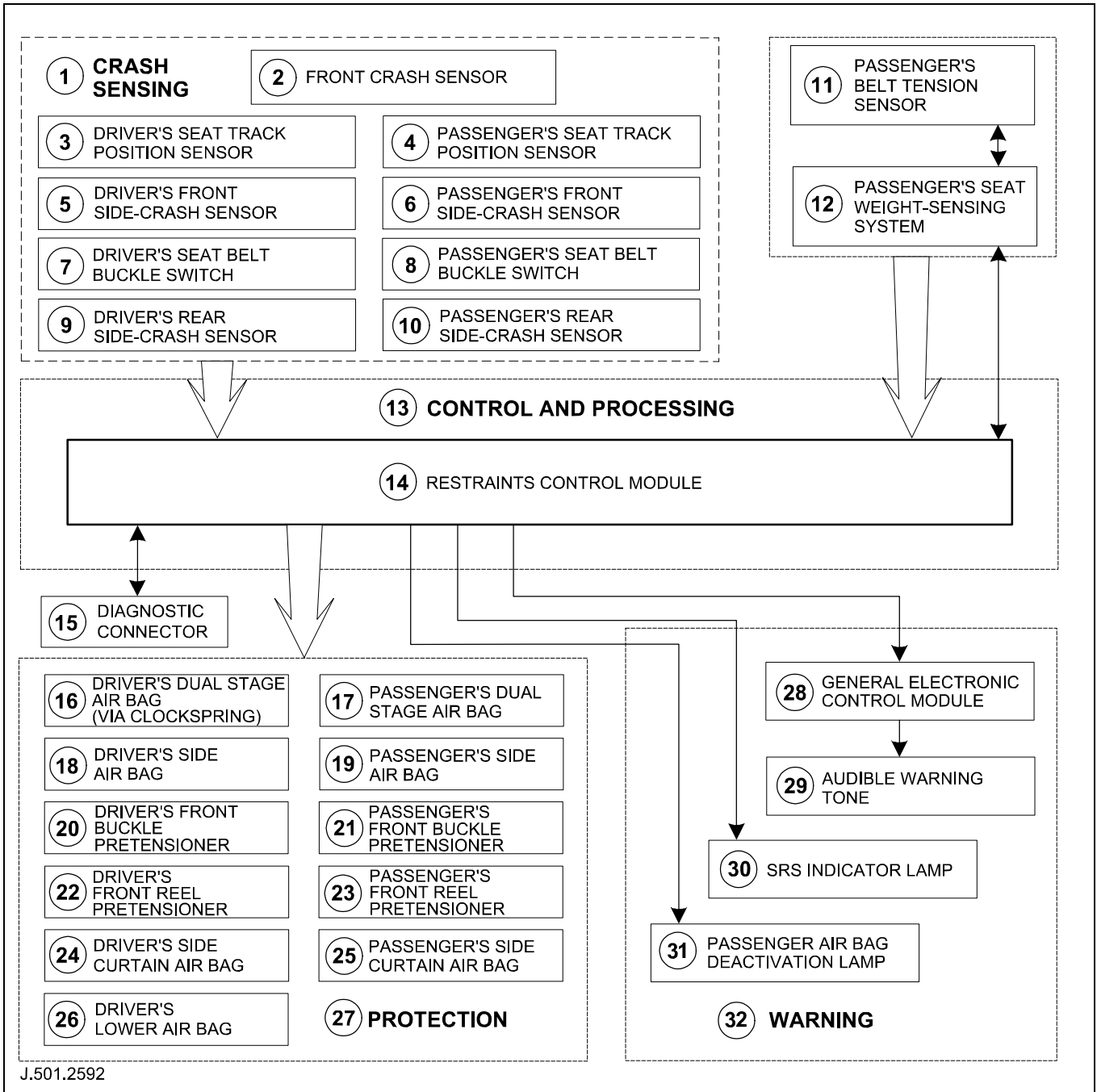


Fig. 32 Restraints control system block diagram

Key to Fig. 32

1. Crash sensing
2. Front crash sensor
3. Driver's seat track position sensor
4. Passenger's seat track position sensor
5. Driver's front side-crash sensor
6. Passenger's front side-crash sensor
7. Driver's seat belt buckle switch
8. Passenger's seat belt buckle switch
9. Driver's rear side-crash sensor
10. Passenger's rear side-crash sensor
11. Passenger's belt tension sensor
12. Passenger's seat weight-sensing system
13. Control and processing
14. Restraints control module
15. Diagnostic connector
16. Driver's dual stage air bag (via clockspring)
17. Passenger's dual stage air bag
18. Driver's side air bag
19. Passenger's side air bag
20. Driver's front buckle pre-tensioner
21. Passenger's front buckle pre-tensioner
22. Driver's front reel pre-tensioner
23. Passenger's front reel pre-tensioner
24. Driver's side curtain air bag
25. Passenger's side curtain air bag
26. Driver's lower air bag
27. Protection
28. General electronic control module
29. Audible warning tone speaker (buckle status and secondary warning indicator)
30. Supplementary restraints system (SRS) indicator lamp
31. Passenger's air bag deactivation lamp
32. Warning

NOTE: Driver's lower air bag is on all wheel drive vehicles. Belt tension sensor and driver's and passenger's reel pre-tensioner are on NAS vehicles.

Sensors (Estate and Sedan)

Belt Tension Sensor

A seat belt tension sensor (BTS) will be introduced in NAS markets as a running change. It is stitched into the end of the passenger seat belt and attached to the seat belt anchor; incorporated is a harness connector.

The belt tension sensor is a strain-gauge type. The sensor converts the force applied to the belt into an electrical signal. In the event that a child-seat is installed onto the front

passenger seat (not recommended), the force applied to the passenger safety belt is reflected by the output signal from the sensor, which provides data to supplement that received from the silicon bladder. The passenger seat weight-sensing module, processes the input data and makes it available to the restraints control module (RCM), which then makes the necessary adjustments in respect of passenger air bag deployment.

Retractor Pre-tensioner

For vehicles in certain markets, pyrotechnic pre-tensioners are located at the retractor, as well as the buckle. Pre-tensioners are designed to remove excess webbing in the event of a crash. They deploy very quickly and early on in the crash before the occupant starts loading the safety belt.

Occupant Safety (X-TYPE)

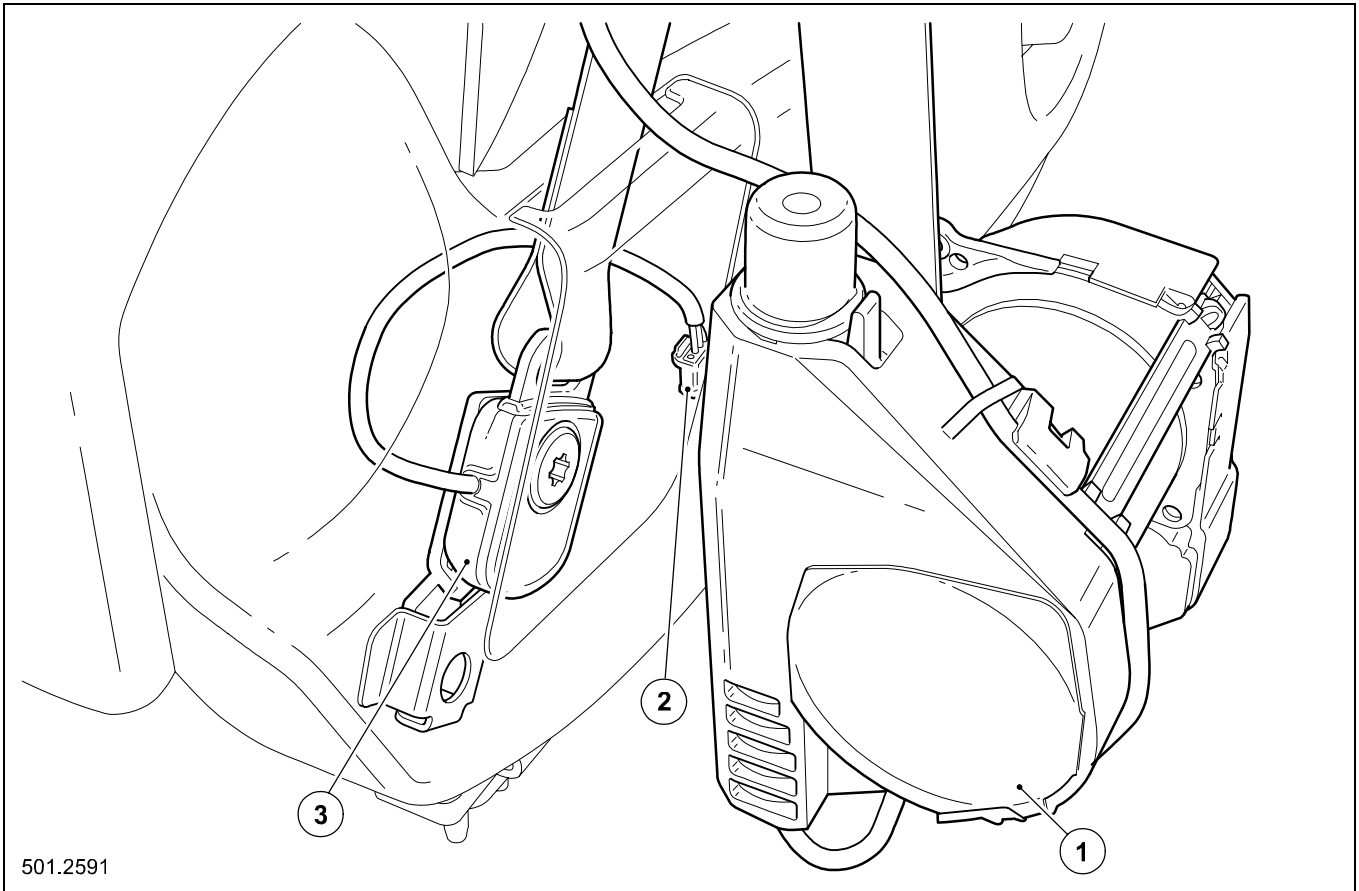


Fig. 33 Front seat belt with pre-tensioner and belt tensioner sensor

1. Retractor with pyrotechnic pre-tensioner
2. Belt tension sensor connector
3. Passenger belt anchorage with belt tension sensor

Seat Track Position Sensor

A front passenger's seat-track position sensor is introduced which is similar to the existing driver's side and is located on the seat track. There are two versions: one for 8-way movement seats and one for the 10-way movement seats.

The sensor is actuated by the magnet that is attached to the seat slide. The magnetic field disturbance caused when the

magnet passes the sensor, creates an output signal for the RCM. On receipt of this signal, which indicates when the seat is forward of a defined point in its travel, the RCM disables the second stage output of the driver air bag. Malfunction of the sensor or associated circuits will cause the SRS indicator lamp to illuminate. Diagnosis must be undertaken using WDS.

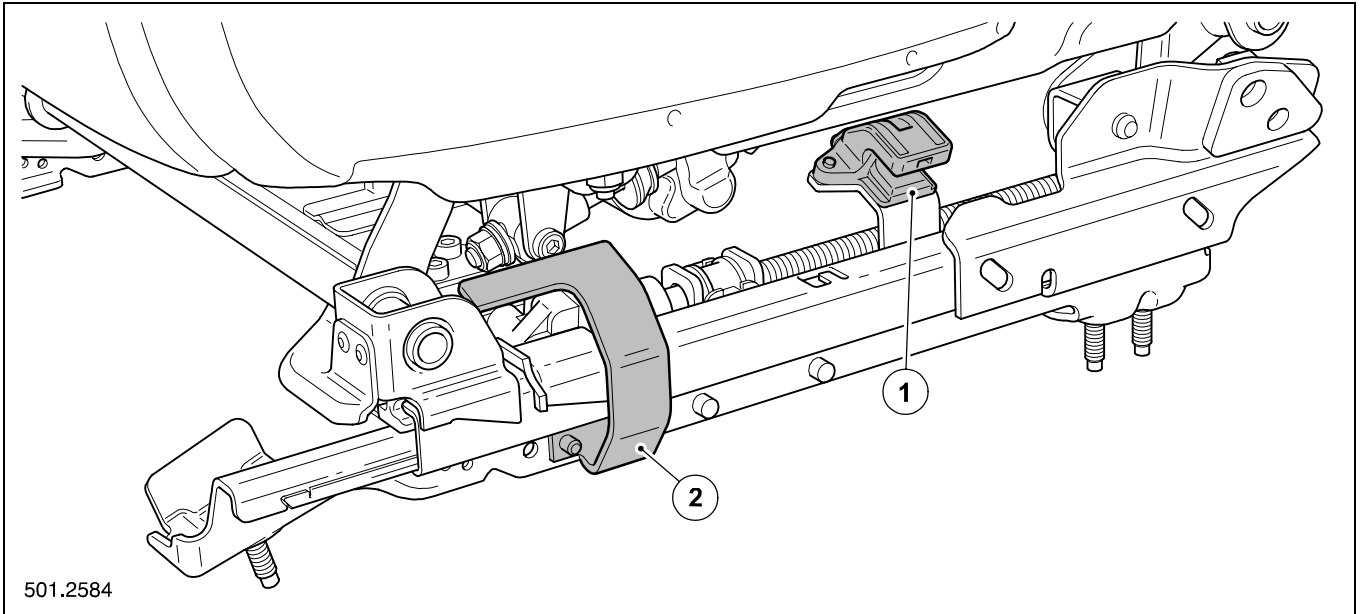


Fig. 34 Front passenger seat track position sensor

1. Hall effect sensor

2. Steel bracket

Occupant Safety (X-TYPE)

Seat Weight Sensor

The seat weight sensor, part of the passenger seat weight sensing system, is replaced with a new GEN2 weight sensor.

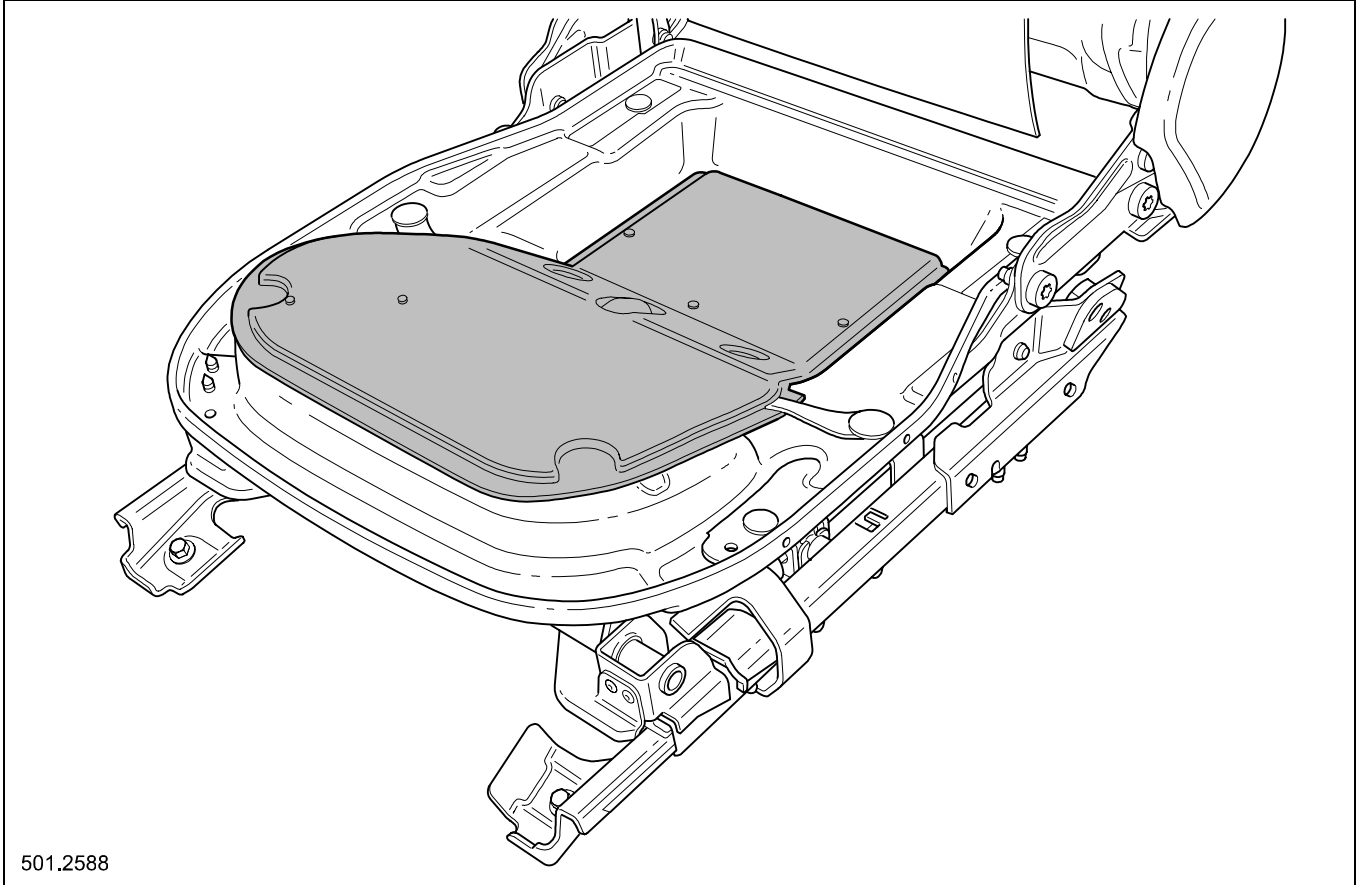


Fig. 35 Seat weight sensor

Rear Safety Belts (Estate)

Due to the absence of a rear parcel shelf on the estate, the rear outer seat belt retractors are mounted to the wheel housing quarter strengtheners (turrets). The center belt retractor is mounted inside the seat squab.

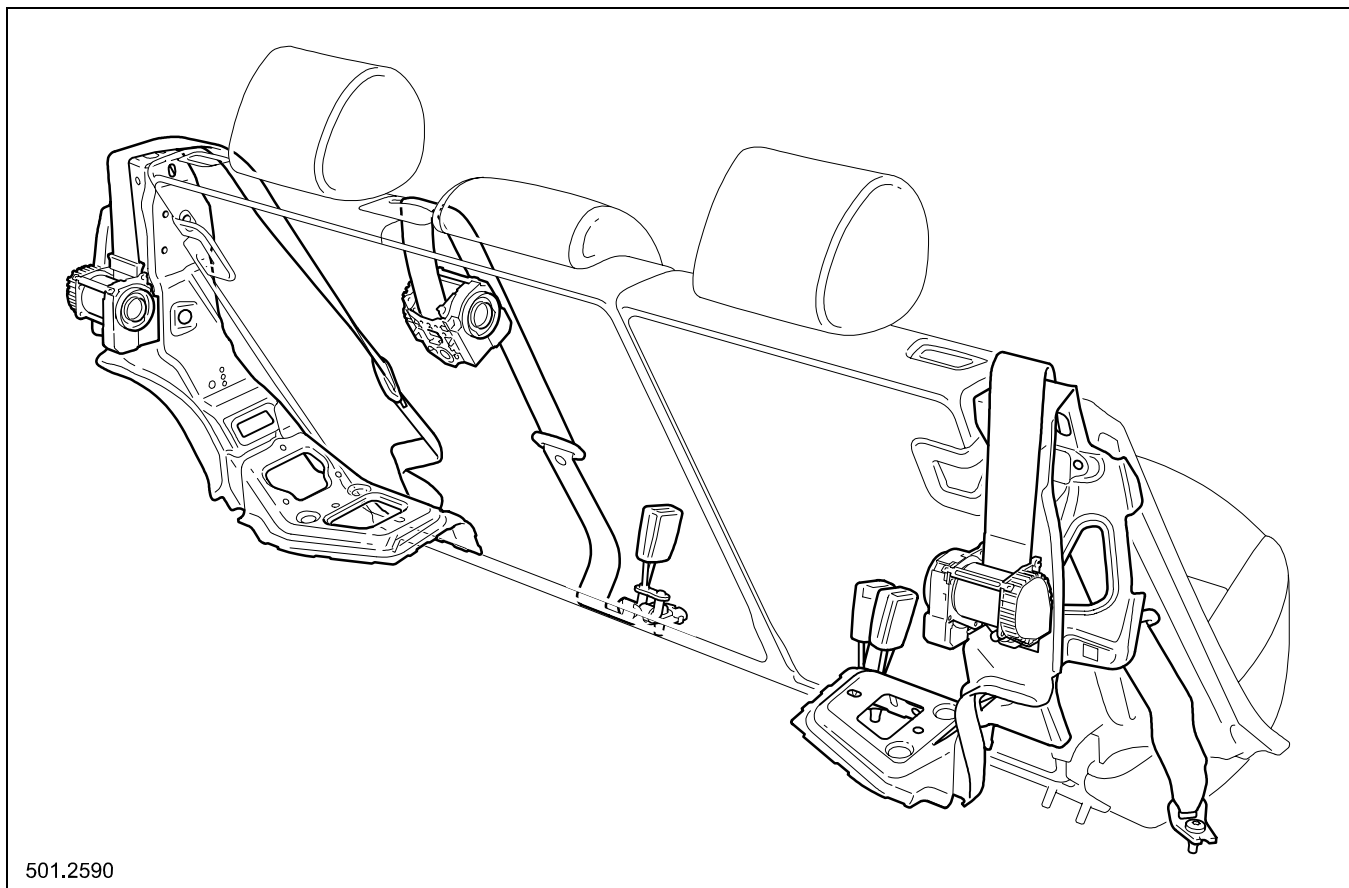


Fig. 36 Rear safety belts

Occupant Safety (X-TYPE)

Child Restraint Top Tether Anchorages (Canadian Market)

Rear seats for the Canadian market have top tether anchorages fitted to the rear of the squab, one for each seat position. Should a child seat with a top tether be fitted into the vehicle, the top tether must not be routed over the luggage cover. It must pass between the luggage cover and the seat back.

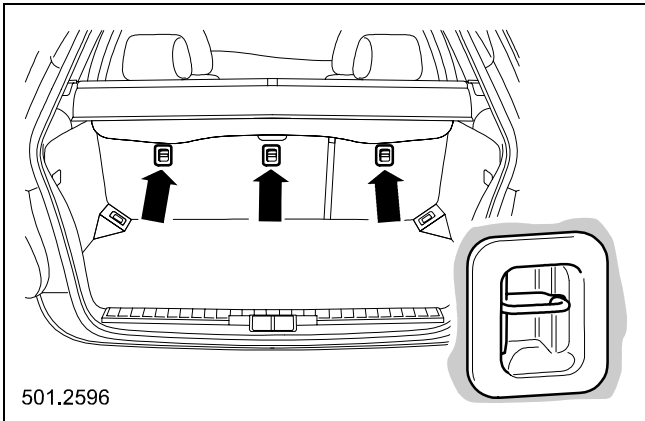


Fig. 37 Child restraint top tether anchorage

Driver Air Bag Module (Estate and Sedan)

WARNING: Before commencing work on any part of the restraint system, the vehicle battery should be disconnected and a period of at least one minute allowed to elapse.

NOTE: The driver air bag module is a snap-fit design. Access to release the snap-wire is through the service apertures; refer to 'JTIS / GTR'.

The module is a unique style designed to suit the new steering wheel; refer to 'JTIS / GTR'.

The driver air bag module is controlled by the restraints control module (RCM), which chooses between first or second stage deployment, depending on driver seat buckle usage, the seat position and crash severity.

Variation in driver air bag deployment is determined by the timing of the first and second stage ignition signals. This facilitates adaptation of the stiffness and timing of the air bag to optimize occupant protection.

The module comprises:

- A twin stage inflator.
- Separate chambers for the two inflation stages, each independently activated by the RCM.
- Two air bag connectors that have fool-proof mechanical keying and are color-coded to the respective plug on the inflator.
- A non-azide propellant that reduces particulates and effluents.

The air bag deploys radially, to reduce the risk of air bag induced injury to a driver that is positioned close to the steering wheel.

Disposal of twin stage air bags is different to single stage air bags; refer to 'JTIS / GTR'.

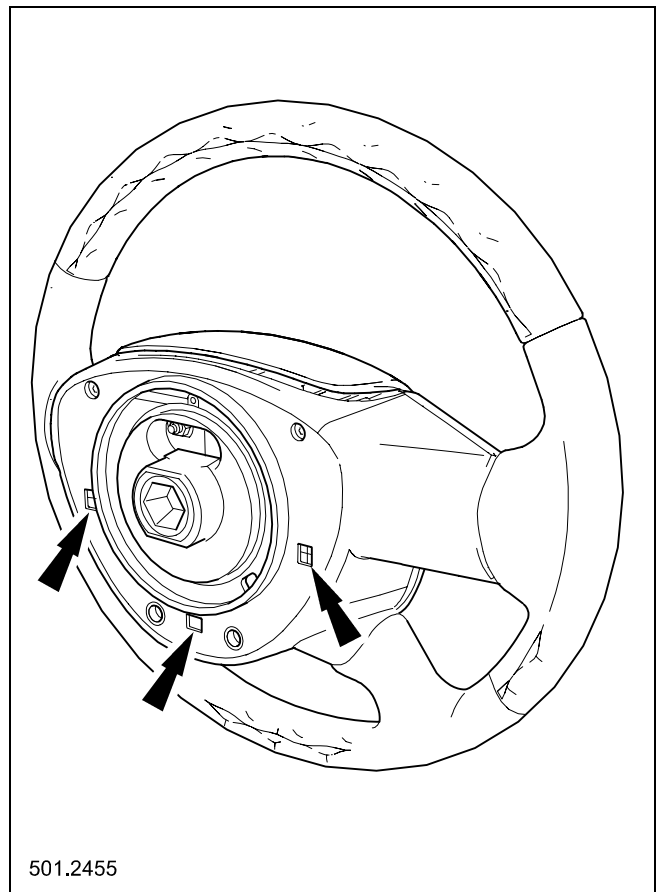


Fig. 38 Driver air bag service apertures

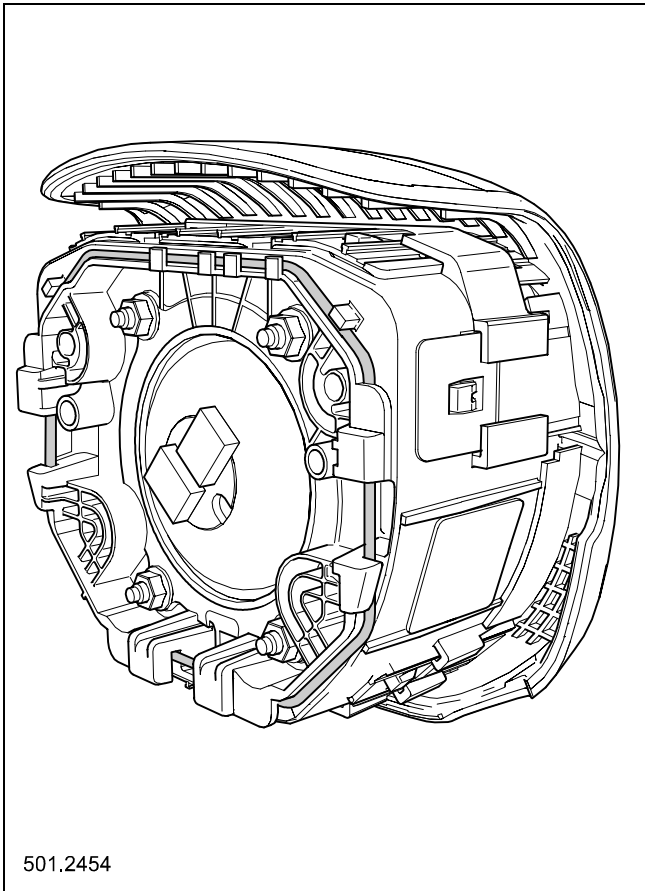


Fig. 39 Snap-wire - driver air bag module

Passenger Air Bag Deployment Door — NAS only (Estate and Sedan)

In addition to the lens that displays the air bag deactivated symbol, the deployment door now carries the wording 'PASS AIR BAG OFF'.

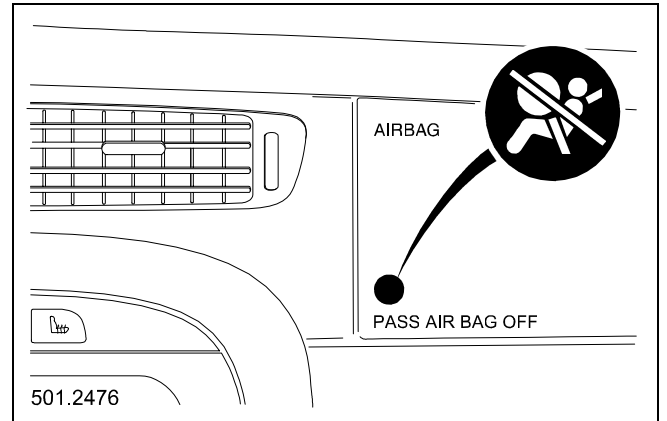


Fig. 40 Passenger air bag deployment door

Occupant Safety (X-TYPE)

Side Curtain Air Bag (Estate)

Whereas the side curtain inflator in the sedan is routed from the roof-line down the 'D' pillar, for the estate the route for the inflator remains at roof level.

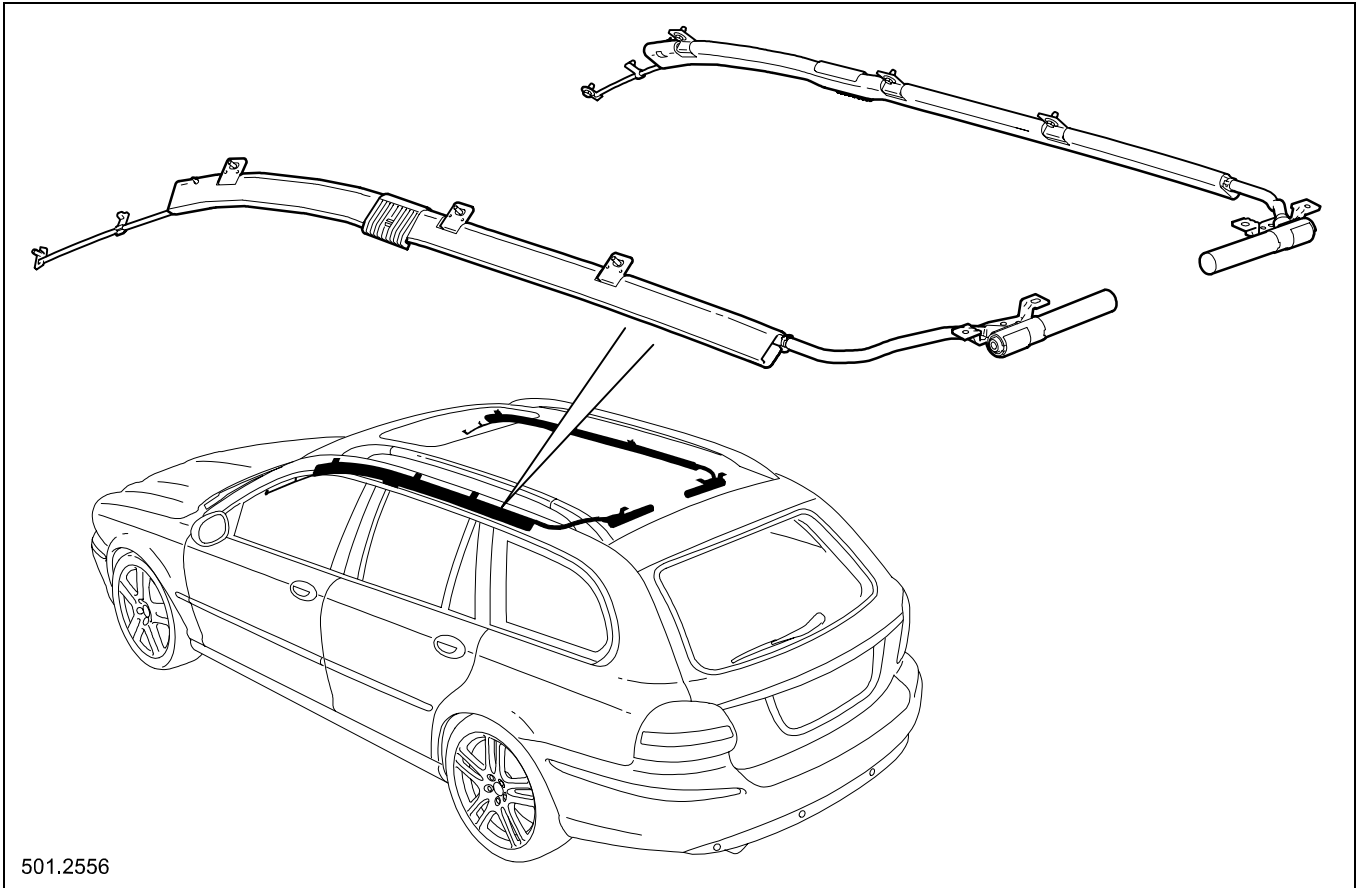


Fig. 41 Side curtain air bag routing - estate

Driver Lower Air Bag Module (Estate and Sedan)

On all-wheel-drive vehicles (2.5 and 3.0L), an inflatable lower air bag module replaces the driver's side bolster panel. This has necessitated deletion of the stowage box. The instrument panel is derivatized to accommodate the driver lower air bag module with an adapter plate in lieu of a bolster plate.

The inflatable lower air bag module has one electrical connector and has single stage inflation.

The same safe working procedures apply to this air bag as to any other air bag fitted to the vehicle. Refer to 'JTIS / GTR'.

WARNING: Before commencing work on any part of the restraint system, the vehicle battery should be disconnected and a period of at least one minute allowed to elapse.

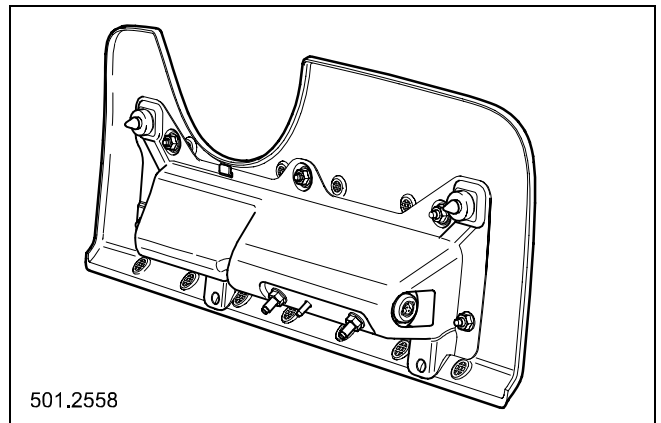


Fig. 42 Driver lower air bag module

Brake System

Electric Park Brake

The park brake switch has three positions, Apply, Release and Idle, and is hard wired to a new control module. The switch is fitted with double contacts for increased robustness.

The Electronic Control Module is mounted in the luggage compartment, using a new mounting bracket. This module now connects directly to the CAN network, which has eliminated the gateway delay between the CAN and SCP networks.

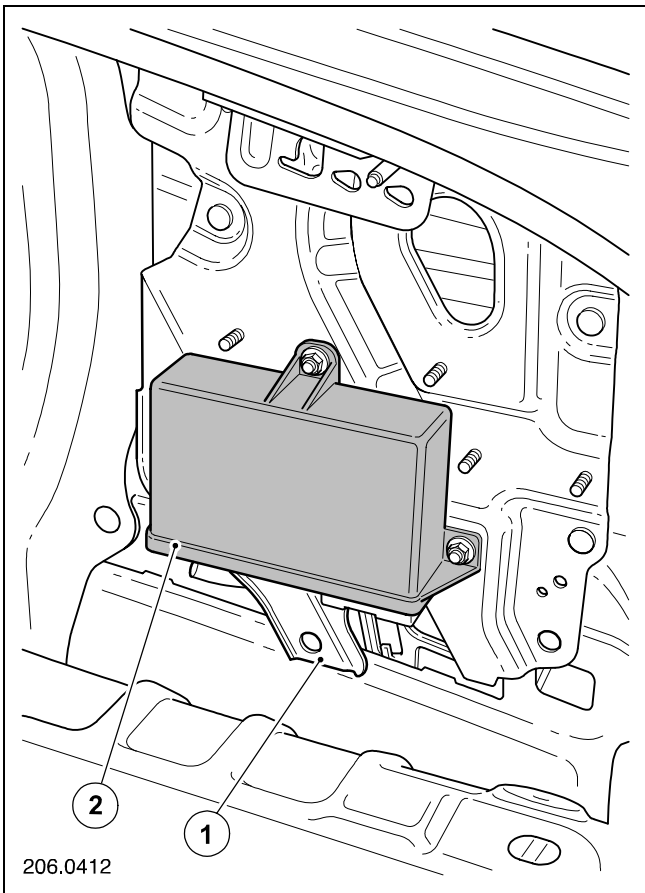


Fig. 43 Electronic park brake module

1. Mounting bracket
2. Electronic control module

The park brake is applied using a cable mechanism, which is operated by an actuator fitted to the rear sub-frame.

- Naturally aspirated variants use the existing rear brake calipers.
- Supercharged variants use dedicated park brake calipers.

A new In-Gear Switch is fitted to the manual transmission to provide the Drive Away Release feature.

The system provides enhanced diagnostic trouble code (DTC) coverage and diagnostics.

Function

Manual Apply:

The park brake is applied manually by lifting the console switch. Manual application can be effected either when the vehicle is stationary or when in motion.

The application process of the park brake varies, controlled by the Park Brake Module, depending on whether the vehicle is stationary or in motion.

Static Apply (speed less than 3 km/h):

- The park brake is applied to full force within one second of activating the switch.

Dynamic Apply - Low Speed (speed less than 32 km/h):

- Momentary switch activation - the park brake is applied for 1/4 second.
- Continuous switch activation - the park brake is applied until the switch is released or until completion of the apply cycle.

Dynamic Apply - High Speed (speed greater than 32 km/h):

A series of pre-determined on-off pulses is provided, approaching full braking force over a period of approximately two seconds.

Audio and visual warnings are provided if the park brake is applied whilst the vehicle is in motion.

Manual Release:

The park brake is released manually by pushing down the console switch.

Automatic Apply:

Key Out Apply - the park brake is applied automatically when the ignition key is removed.

Automatic Release:

Drive Away Release:

- The park brake is released automatically on interpretation of the movement of the accelerator pedal, combined with information from the inclination sensor (vehicles with automatic transmission).
- The release action has been calibrated to allow driving away, without rolling back, on an incline of up to 1:3.

Shift From Park Release:

- The park brake is released automatically when a gear is selected, without the engine running.

Service Mode

The Service Mode must be activated (using WDS) to service the rear calipers, cables and actuator. This allows decoupling of the components and prevention of accidental damage to the actuator.

The park brake switch functions will be inhibited.

Service Bay Diagnostics

The following service bay diagnostics are available:

- Data Logger - Time base graphical representation of PID values
- DTC Monitor - DTC retrieval and pinpoint test
- Guided - Diagnosis of individual component
- System / Sub-System test selection menu
- New symptom based test selection menu
- Configuration - Dealer configuration for replacement modules.

On Board Diagnostics

Diagnostic trouble codes (DTC) are provided as follows:

- DTC - Fault code coverage for module inputs/outputs.
- DTC Snapshot - Status capture of relevant parameters when fault code logs.
- Self Test - On Demand Self Test for system functional check.

Service Parts

The following parts will be available to service the parking brake system:

- Actuator assembly - serviced as complete unit.
- Two rear cables - a dedicated service tool is required to release the cable tension.
- Electronic control module.
- Switch assembly and harness link to module.
- Separate park brake calipers on supercharged vehicles.

Chassis (S-TYPE)

Steering System

Power Assisted Steering System

The system used is the same as that used on previous models, but with the following change.

LHD vehicles:

- Electrical transducer rotated by 180°.

The fixings and torque figures are all carry-over.

Evaporative Emissions

Features of the NAS Carbon Can

- New brackets front and rear to suit the Level II mounting system.
- New bleed can.
- No items are serviceable separately.

Features of the ROW Carbon Can

- New brackets front and rear to suit the Level II mounting system.
- No items serviceable separately.

For fuel delivery information; refer to **Fuel Tank and Lines**.

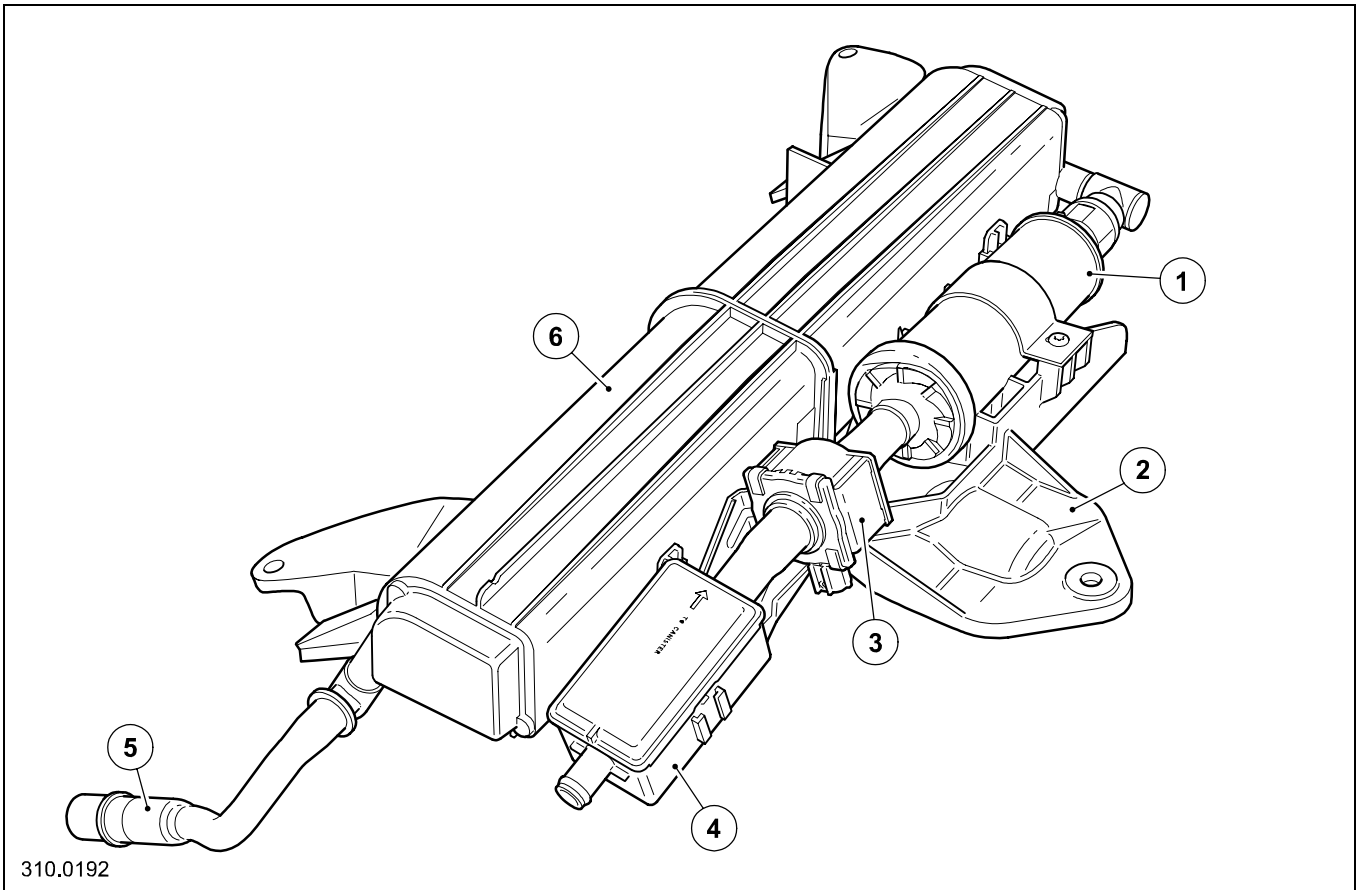


Fig. 44 NAS carbon can

- | | |
|-------------------------|----------------------|
| 1. Filter | 4. Dust box |
| 2. Mounting bracket | 5. Pipe to fuel tank |
| 3. Canister close valve | 6. Carbon can |

Fuel Tank and Lines

Modifications and improvements to the fuel system have been incorporated, mainly, but not only, to conform to the latest NAS requirements.

It is a NAS requirement that vehicles must comply to the improved Level II evaporative emissions requirements by 2005 MY.

Introduction by Jaguar is required by January 2004.

Requirements are that the system should have reduced emissions (Jaguar target 330 mg) and 15 years/150,000 mile durability.

Changes to the fuel system, based on the information given above, are as follows:

- New NAS fuel tank with improved sealing systems.
- New carbon can assembly with bleed trap. The ROW carbon can has changed to suit the new mounting system. Refer to **Evaporative Emissions**.
- New stainless steel filler neck to satisfy 15 year durability requirement. (NAS and ROW).
- New fuel lines with reduced number of joints. (NAS and ROW).

Features of the Fuel Tank

New valve cluster with improved sealing system.

New fuel delivery modules with improved sealing system and tank drain ports.

Serviceable parts:

- Fuel delivery modules.
- Tank assembly.

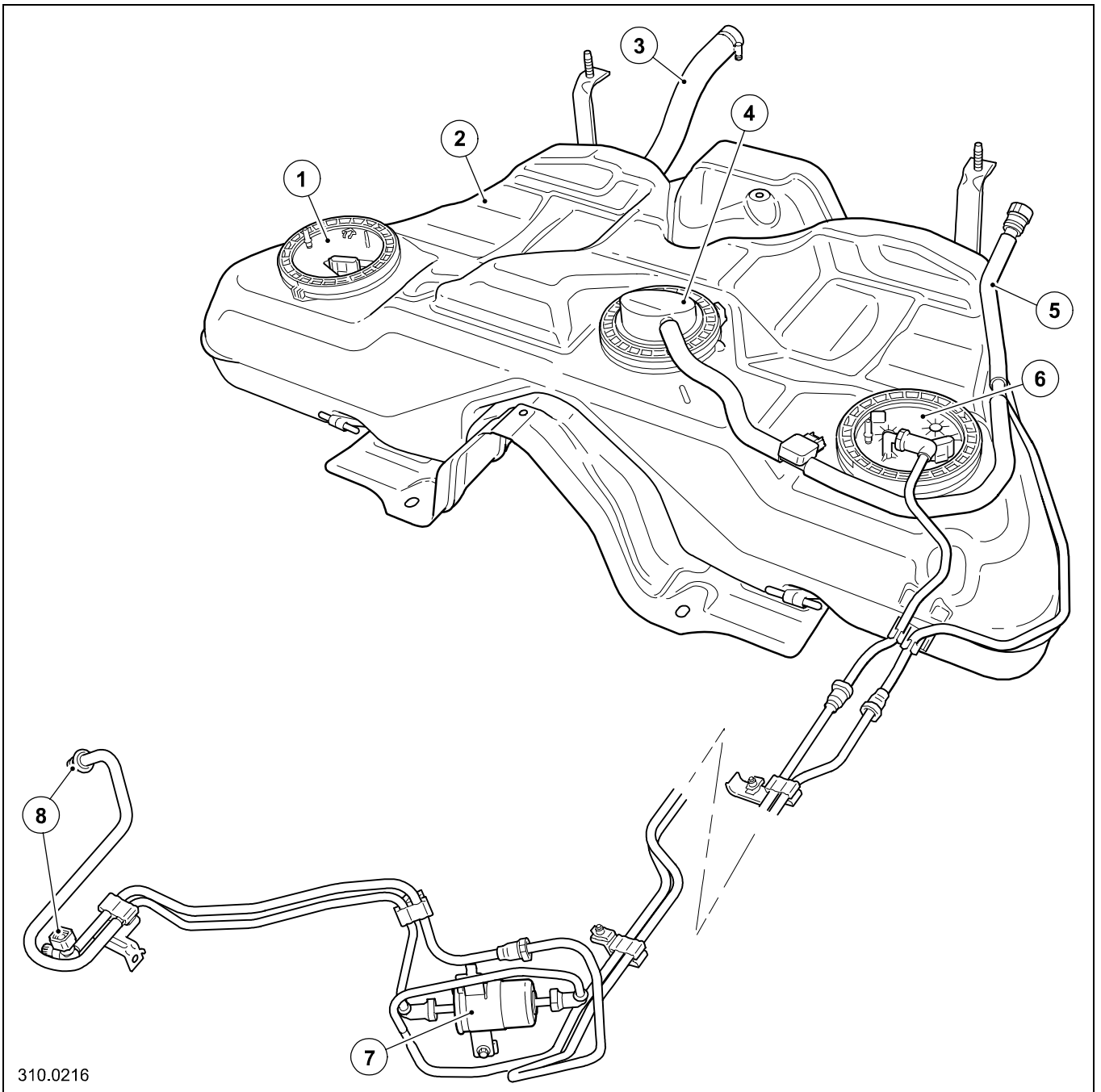


Fig. 45 Fuel system (supercharged)

- | | |
|------------------------------|------------------------------|
| 1. Fuel pump and sender unit | 5. Pipe to carbon can |
| 2. Fuel tank | 6. Fuel pump and sender unit |
| 3. Hose to filler neck | 7. Fuel filter |
| 4. Pressure control valve | 8. Fuel pipes to engine |

Powertrain (S-TYPE)

Features of the Fuel Filler Neck

- Stainless steel construction.
- New fixing arrangement to accommodate the new filler bowl.
- New low permeation hose, filler neck to tank.
- New filler cap (as X-TYPE Level II).
- New vapor line to eliminate joints in the wheel arch area.

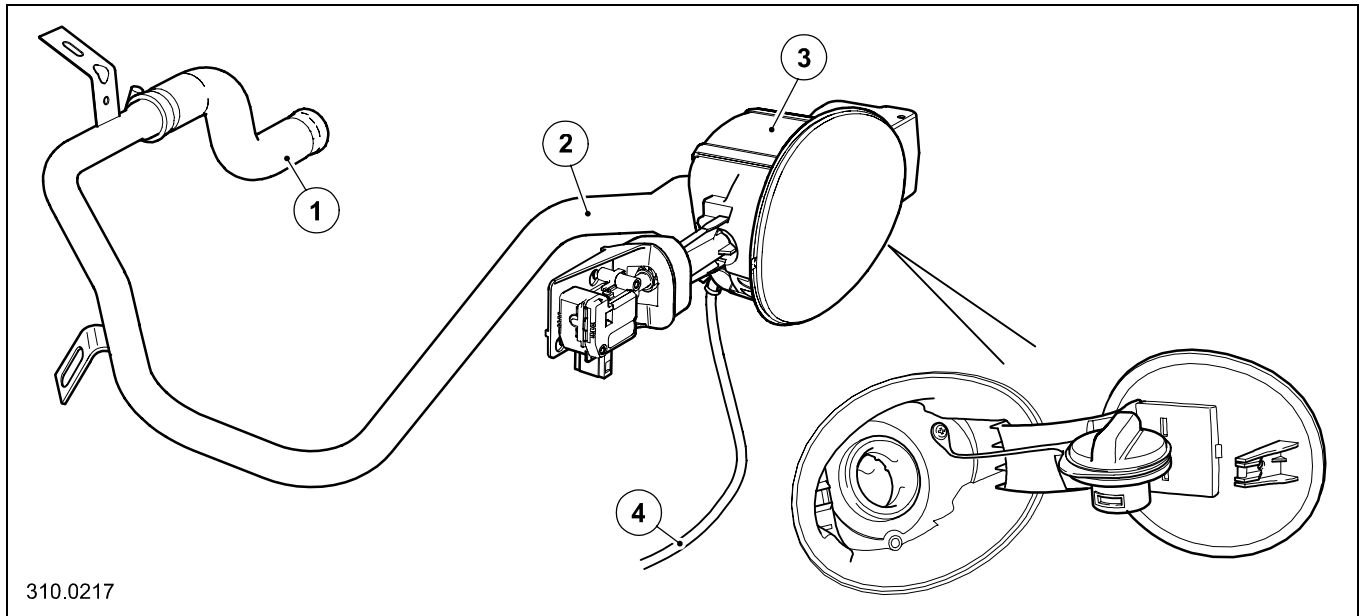


Fig. 46 Fuel filler neck

- | | |
|--------------------------------|---------------------|
| 1. Hose to fuel tank | 3. Filler neck bowl |
| 2. Stainless steel filler neck | 4. Vapor pipe |

Vehicle Speed Control

Adaptive Cruise Control

The adaptive cruise control (ACC) is an enhancement of conventional cruise control, which helps the driver to maintain a constant headway from the vehicle in front.

The driver inputs a desired cruising speed and engages the system, in the same way as he would for conventional cruise control.

The system will then cruise at this set speed until another slower moving vehicle is detected in front. In this situation the system will operate the throttle and brakes to maintain a constant time based gap (headway) to the vehicle in front.

When using ACC, a chime will sound during circumstances when the driver is required to intervene. These circumstances may require the driver to apply more braking effort than the ACC is capable of applying. The ACC sounds the chime to warn the driver, based on the range of the followed vehicle and the rate at which the host vehicle is approaching that vehicle.

The new system is designated as ACC-3 whereas the previous system was ACC-2.

Functionality is the same as for ACC-2.

Forward Alert

Forward alert is a feature that allows the ACC module, independently of the ACC being set, to continue to monitor the traffic and invoke the 'driver intervene' chime and warning message.

The driver can select the sensitivity of when the chime sounds. The chime will sound when the threshold selected by the driver is exceeded.

The 'Forward Alert' switch enables the user to have this feature switched ON or OFF.

Forward alert will not respond to stationary targets.

Differences Between ACC-2 and ACC-3

The new system (ACC-3) has a separate Forward Looking Sensor and a separate controller: adaptive cruise control module (ACCM), as opposed to the previous system (ACC-2) which combined the radar and controller in a single package.

The Forward Looking Sensor is located at the front of vehicle in the same location as the ACC-2 radar.

The ACCM is now located behind the fascia panel.

The instrument cluster now shows:

- 'Cruise On' icon display.
- ACC-3 dedicated message centre in the speedometer.
- Chime module incorporated in the cluster.

Changes have been made to the messaging strategy.

Improvements to the performance and sensitivity of the system have been incorporated.

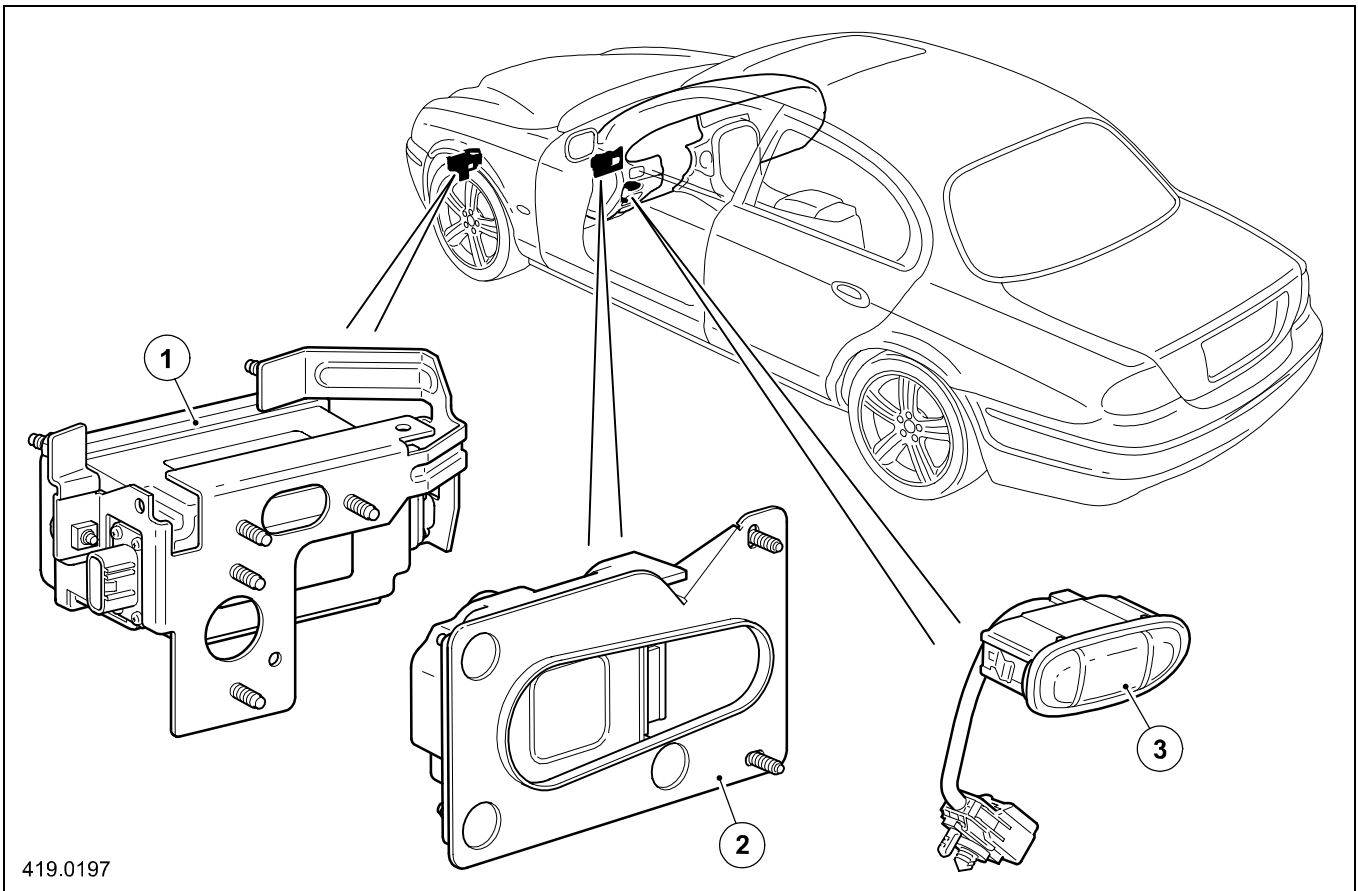


Fig. 47 Adaptive cruise control - main components

- 1. Sensor
- 2. Adaptive Cruise Control Module
- 3. Forward Alert On/Off switch

Instrumentation and Warning Systems

Instrument Cluster

A new instrument cluster has been designed having the following redesigned features - two message centres, all illumination of the instruments and warning lamps is now by light emitting diodes (LED), new chime unit and new autolamp calibration procedure (automatic). The slimmer cluster package facilitates removal of the cluster in service. Each of these new features is described as follows:

New Features

Two message centres:

- Allows full time display of the clock and the odometer with the ignition on. The clock is displayed in the speedometer message centre and the odometer is displayed in the tachometer message centre.
- Allows concurrent display of the trip or warning information (tachometer display) at the same time as ACC/cruise information (speedometer display).
- Used to indicate electric park brake status with ignition off.

All illumination now by LED:

- Greater reliability.
- No bulbs, therefore no serviceable lighting within the cluster.

Chime unit:

- Improvement to volume capability.
- Improvement to sound quality.
- Used to generate warning tones for the adaptive cruise control (ACC).
- Used to generate warning tones for the Front Parking Aid.

Autolamp Calibration:

- Addresses the problem of some vehicles having oscillating output around dawn/dusk.
- Addresses the problem of some vehicles having early turn on/late turn off.

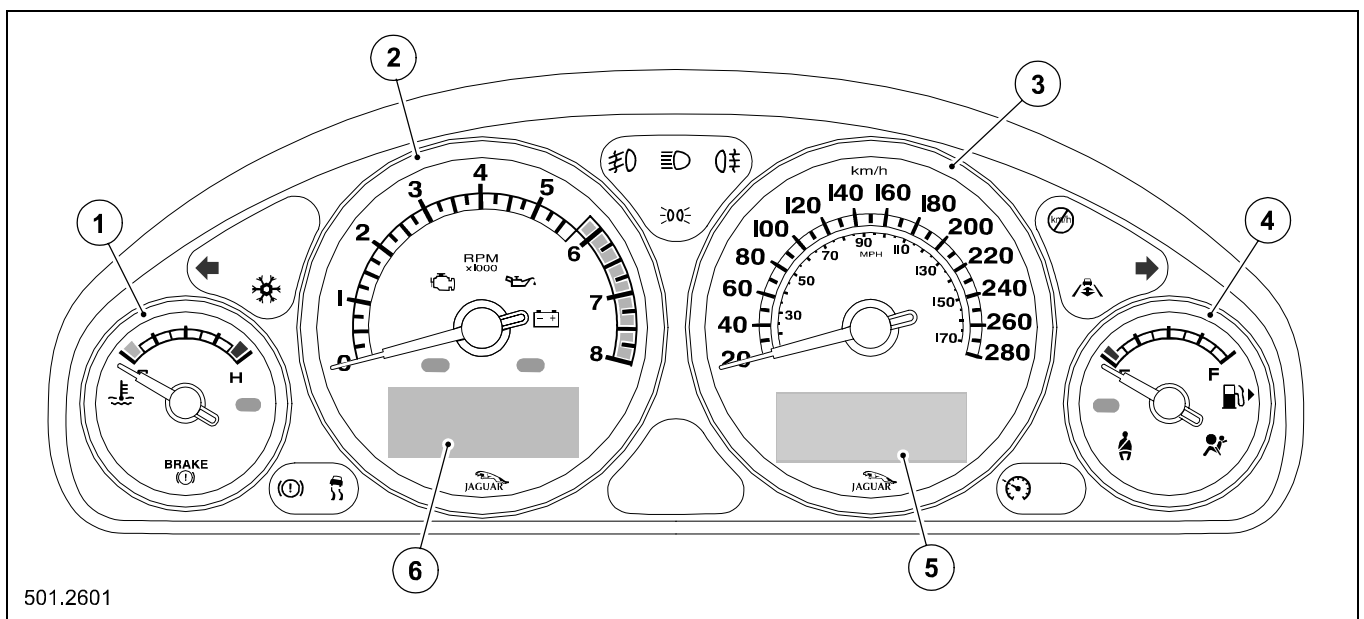


Fig. 48 Instrument cluster

- | | |
|-------------------------------|---|
| 1. Engine coolant temperature | 4. Fuel level |
| 2. Tachometer | 5. Message centre, clock and ACC/Cruise information |
| 3. Speedometer | 6. Message centre, odometer, and trip computer |

Electrical (S-TYPE)

Parking Aid

The parking aid is an optional convenience feature. It is available in two options:

- Reverse Parking Aid (Rear Only).
- Parking Aid (Front and Rear).

The system performs the same function as on the previous models, with following modifications:

- Improved visual integration of the distance sensors into the bumper.
- A new, configurable Park Aid Module.
- A new switch and warning LED in the overhead console, to control the front parking aid. The rear parking aid operates when Reverse gear is selected.

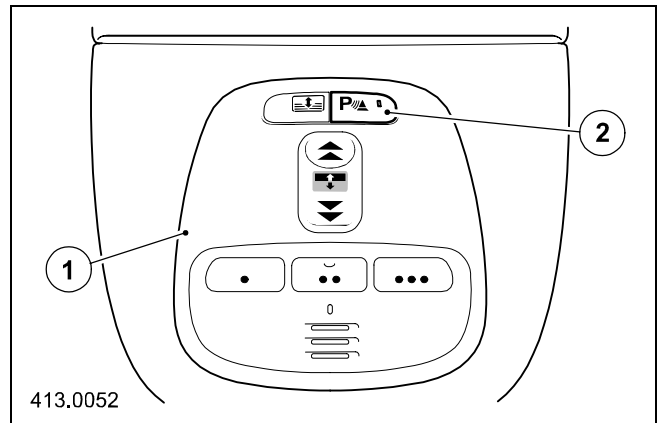


Fig. 49 Overhead console

1. Overhead console
2. Front parking aid switch

Lighting

Exterior Lighting

A new side marker / reflex and new front fog lamps are fitted to accommodate the change in profile of the bumpers.

A new rear lamp assembly is fitted to accommodate the change in profile of the rear body panels.

Battery and Charging Systems

Battery Cable

The battery cable performs the normal two functions, namely to provide power from the battery to the starter motor and to provide power from the alternator to charge the battery.

At the front bulkhead, it connects to an in-line junction box, located under a gusset panel.

The cable is covered by the undertray and by the wheel arch liners. A protective cover is fitted over the cable, adjacent to the rear jacking point.

Battery Cable Fitting Points

The vehicle must be raised.

All clips must be fitted to secure the cable to the under side of the vehicle.

The grommets in the wheel arches and panels must be fitted.

No special tools are required.

Significant Care Points

Extra care should be taken when routing the cable next to the jacking point on the front and rear of the RHS sill.

The harness must be hidden behind the undertray.

The jacking shield, adjacent to the rear jacking point, **MUST** be fitted to protect the cable.

Routing

The cable route is under the floor on the RHS of vehicle, from the megafuse in the luggage compartment, around the rear wheel arch, to under the front bulkhead.

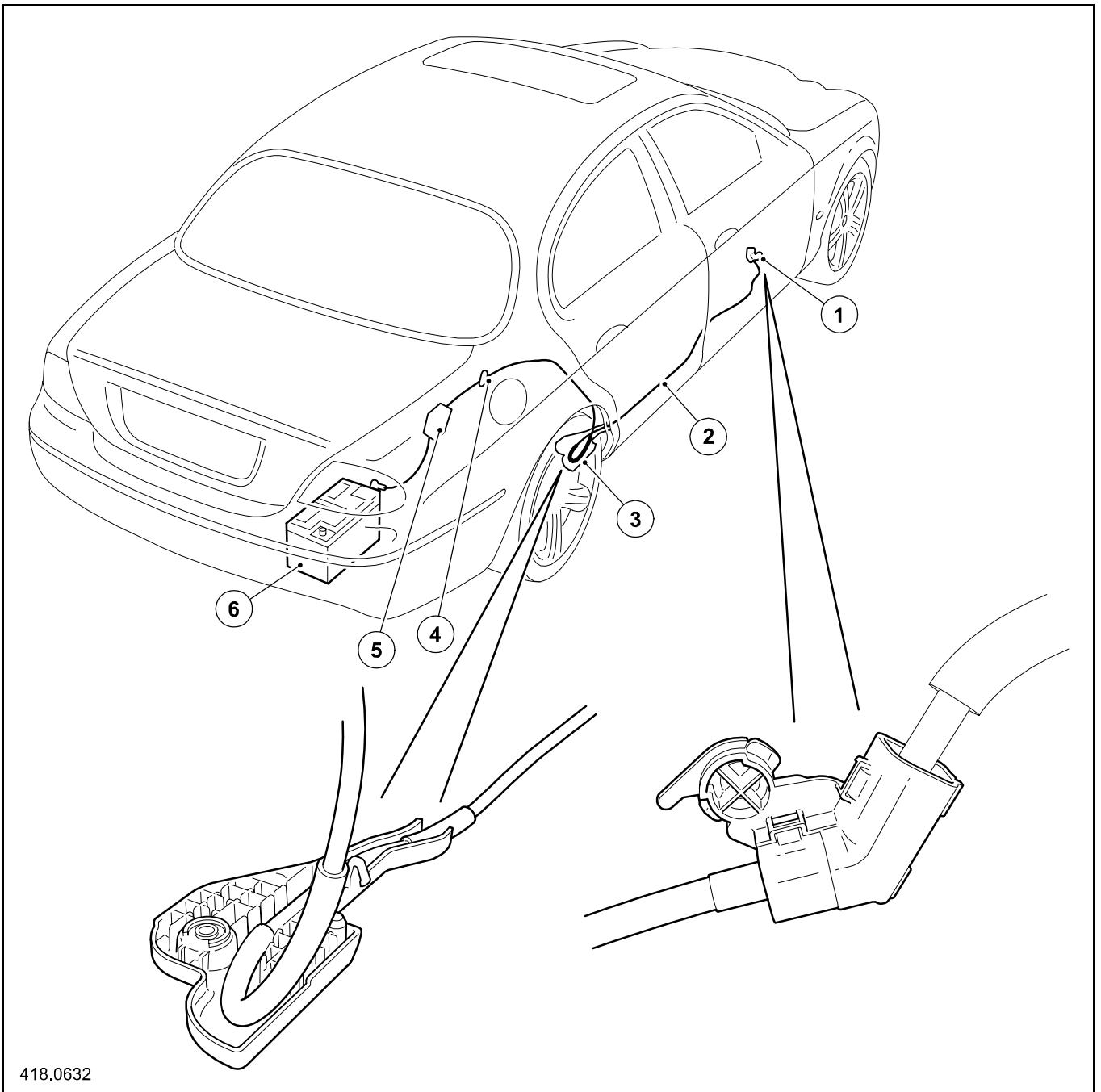


Fig. 50 Battery cable route

- | | |
|-------------------------|--------------------------|
| 1. In-line junction box | 4. Grommet in wheel arch |
| 2. Battery cable | 5. Megafuse |
| 3. Jacking shield | 6. Battery |

Electronic Feature Group

V60 Telephone - NAS

The V60 portable replaces the previous Timeport phone. It is stored in a new hang up cup in the centre console.

It is based on current Motorola aftermarket products, but with unique Jaguar software.

Two derivatives of dual mode mobile phone (digital & analogue) are available, CDMA and TDMA.

There is a new communications bus between the handset and the control module.

The in-vehicle functions and the diagnostics are all carry over.

Phone System

Only a Jaguar Retailer can install the phone system. However, every vehicle is pre-wired to accommodate the fitting of the system.

Operation of the telephone is by use of any of the following:

- The phone handset.
- Audio panel.
- Steering wheel switches.
- Touch screen (where fitted).
- Voice activation (US English) (where fitted).

Comprehensive onboard diagnostics are provided to self-test for possible faults in the circuits.

Control Module

The control module is located in the left hand side of the luggage compartment. It has one electrical connector and one D2B optical connector.

The control module is unique to Jaguar, but utilizes carry over hardware.

Microphone

The microphone is integrated into the roof console.

Antenna

The antenna (patch) is mounted on the rear bumper.

Body System Exterior

The body side panels and the lower back are the main modifications to the vehicle body shell to suit the new style.

The main changes are listed below and shown on the illustration Fig. 51.

- Body side panel.
- Rear lamp mounting panels (part of the body side panel).
- Lower back panel.
- Dash panel.
- Radiator support assembly.
- Bracket - rear floor panel to quarter panel.

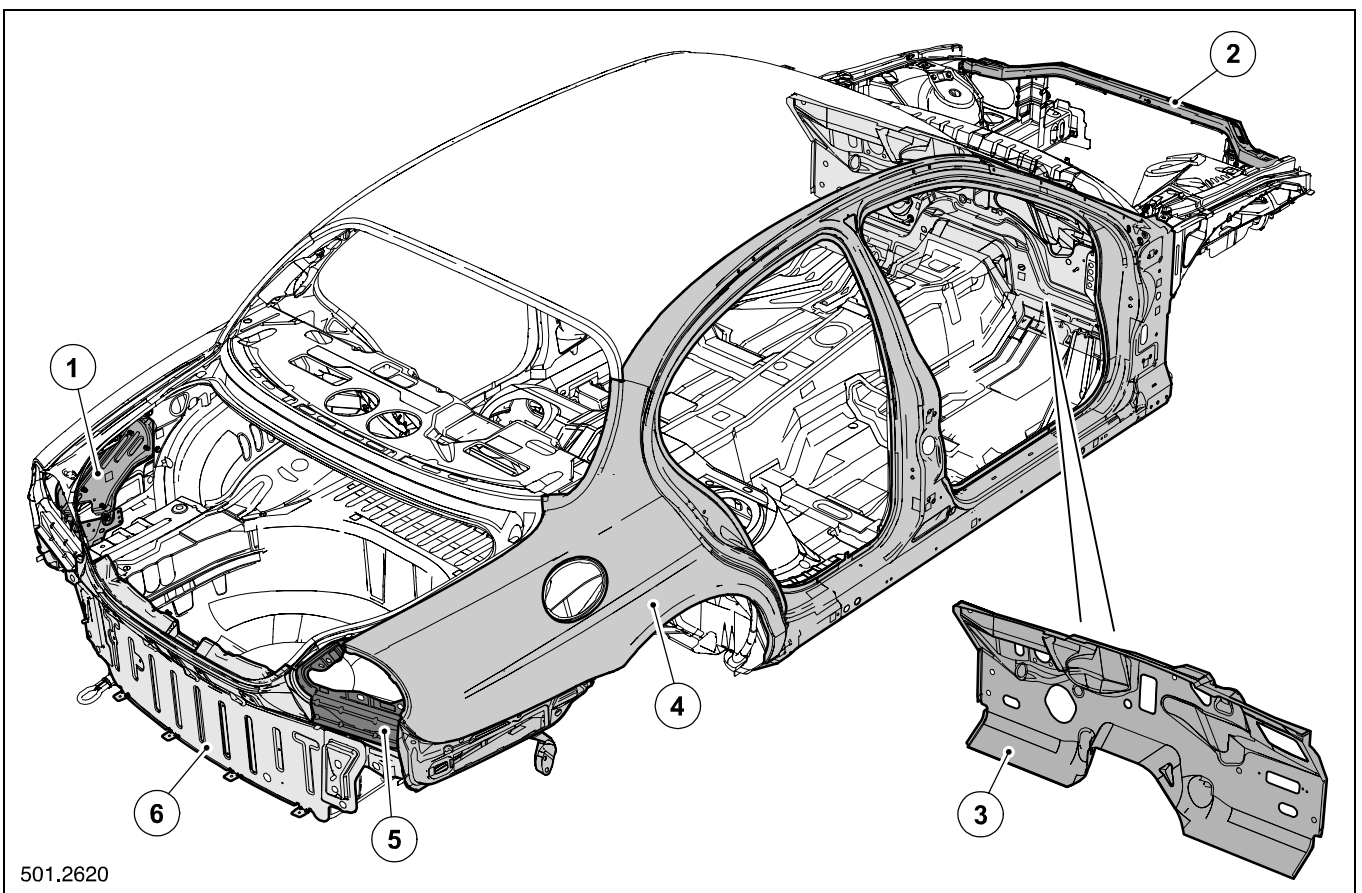
Panels not illustrated:

- Floor centre panel.

New bumper mounting brackets have been designed to match the profile of the restyled bumpers.

The crash sensor has been repositioned to mount directly on to the rear face of the beam.

Changes to other panels are described in the following sub sections.



501.2620

Fig. 51 New body panels

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Bracket - rear floor panel to quarter panel 2. Radiator support assembly 3. Dash panel | <ol style="list-style-type: none"> 4. Body side panel 5. Rear lamp mounting panel (part of side panel) 6. Lower back panel |
|---|---|

Body (S-TYPE)

Hood and Mounting

A new, aluminium hood is fitted that does not use any carry over components.

The individual components are assembled using self pierce rivet technology and adhesive.

The hood assembly is a 'Non-Repairable' replacement item.

The new hinge assembly has the same geometry and a single pivot, the same as the previous hinge. The profile of the hinge has been modified to suit the inner profile of the aluminium hood.

Hood lift is assisted by gas struts.

Opening angle is 54 degrees as on previous vehicles.

No special tools are required for removal and replacement.

A new rear seal is fitted, this is described in the **Hood and Luggage Compartment Lid Seals**, section.

Luggage Compartment Lid and Hinges

A new steel luggage-compartment lid is fitted that uses no carry over components. Assembly of the individual components is by spot welding and adhesive (clinch and anti-flutter).

Two variants of luggage compartment lid are used between models, one fitted with a spoiler and one without a spoiler.

The luggage compartment lid assembly is a 'Non-Repairable' replacement item.

The hinge assemblies are carry over swan neck type, providing an opening angle of 68 degrees, which is similar to the previous vehicles.

Gas struts and spring assistance are provided for lifting the luggage compartment lid.

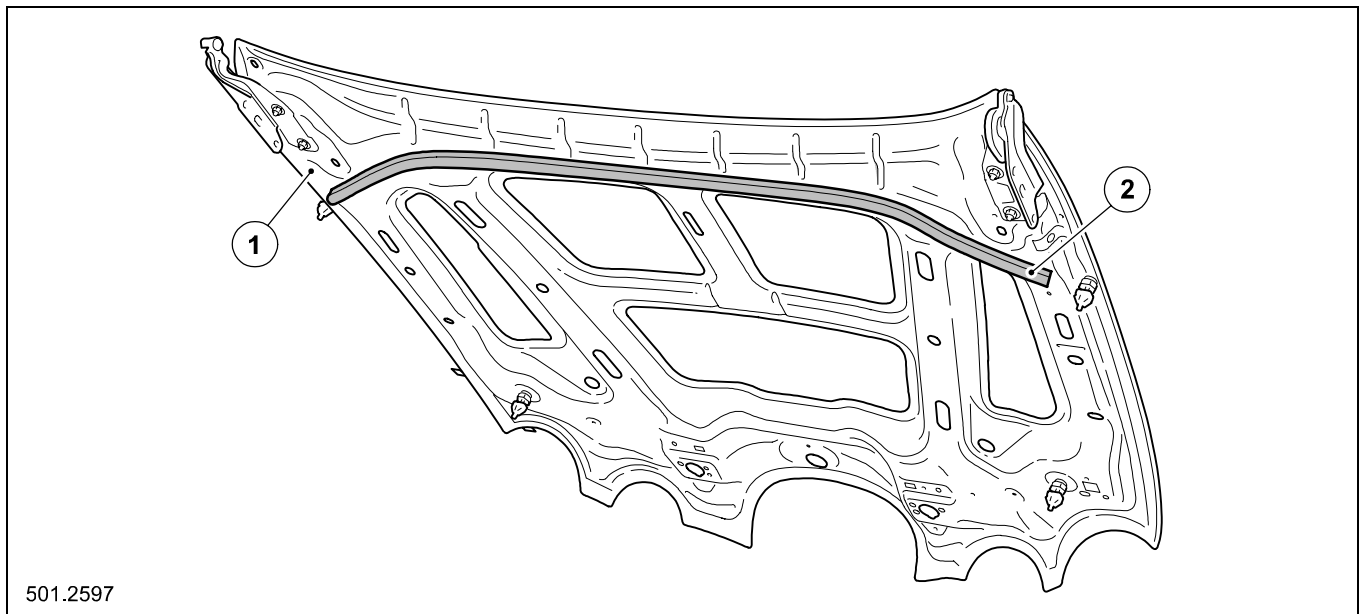
No special tools are required for removal and replacement.

Hood and Luggage Compartment Lid Seals

The new sealing content for this vehicle comprises a modified rear seal for the hood and a new seal for the luggage compartment lid. Sealing of all other closures is carry-over from the previous S-TYPE.

The hood rear seal has the same profile, but incorporates new retaining clips, and is not interchangeable with the previous S-TYPE seal.

The new hood rear seal is required to accommodate the modified inner panel thickness.



501.2597

Fig. 52 New aluminium hood and seal arrangement

1. Aluminium hood

2. Rear seal

The new luggage compartment lid seal is required to:

- Accommodate the new body side and luggage compartment lid profiles.
- Provide a trim flap to cover the edge of the new scuff plate and luggage compartment carpet.

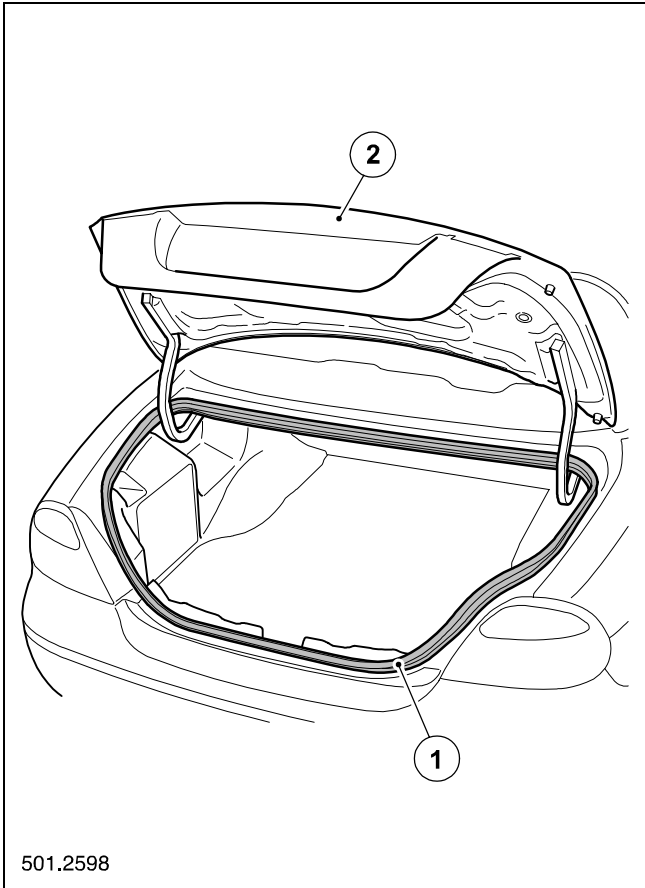


Fig. 53 New steel luggage compartment lid and seal

1. New seal
2. New steel luggage-compartment lid

Luggage compartment lid seal specification:

- EPDM and sponge extrusion.
- Wire carrier in place of lanced steel (increased flexibility).
- Mastic in the root of the seal, for sealing against water leaks.
- More flexible than the previous seal, to aid refitting.
- Visual aid (paint dot) to help in the correct alignment when refitting.
- A built-in flap to cover the fixed trim panel.

The new luggage-compartment lid seal is not interchangeable with the previous S-TYPE seal.

No special tools are required for removal and replacement of either seal.

Underbody Systems

Engine Undertray

There is a new undertray, manufactured using new blow-moulding technology.

It now includes side walls to reduce the effects of noise and vibration.

The fixing arrangement is the same as the previous S-TYPE.

Body (S-TYPE)

Front and Rear Bumper Systems

The three versions of the bumper have been restyled and have an improved fixing strategy. The three versions are:

- Front bumper.
- Rear bumper.
- 'R' version bumper.

The front bumpers now include the incorporation of the front parking aid (option) sensors, adaptive cruise control (ACC) sensor and 'common fit' energy absorbers.

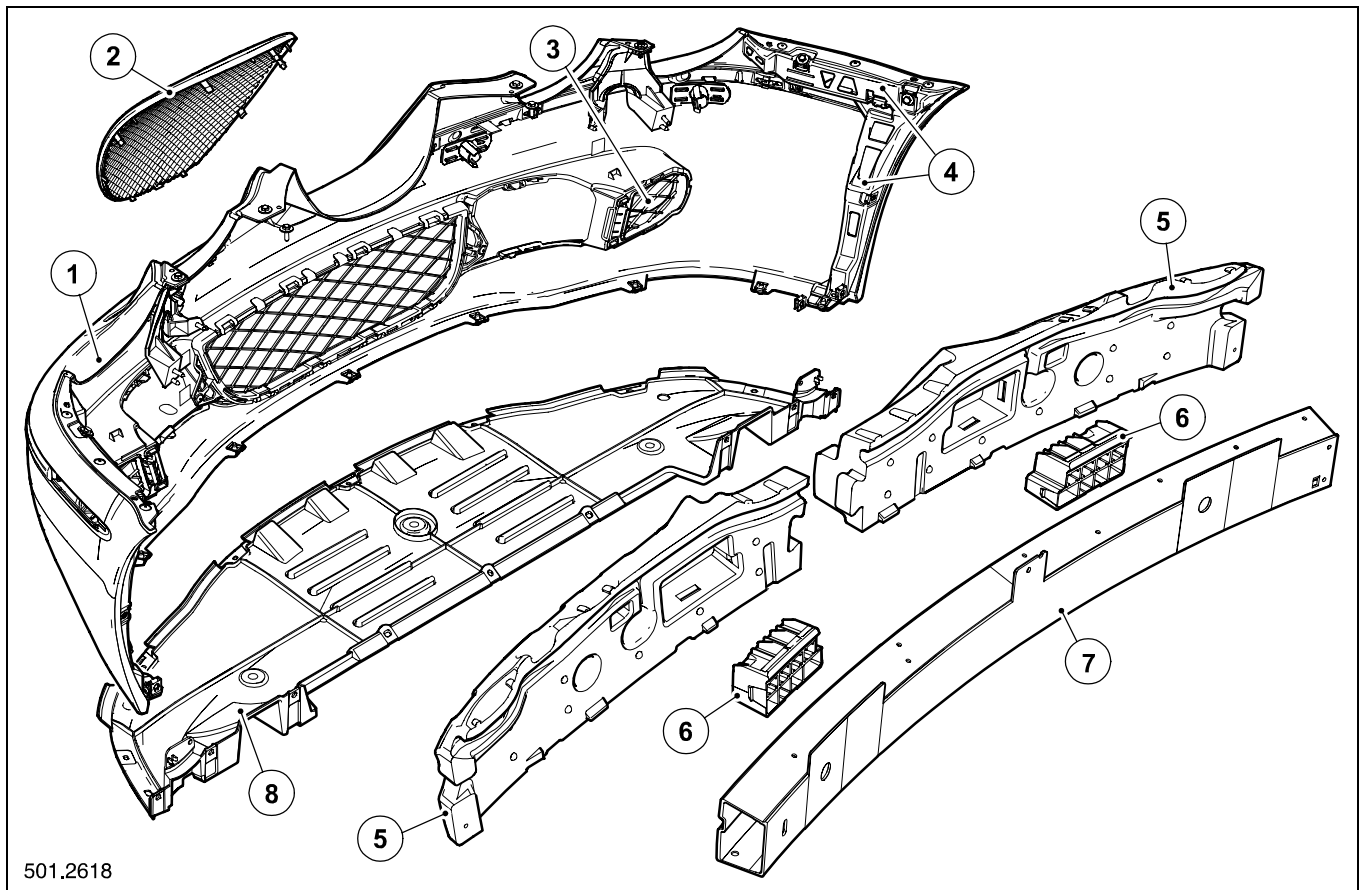


Fig. 54 Front bumper system - supercharged shown

- | | |
|---|-------------------------------|
| 1. Front bumper cover | 5. Isolating foam - LH and RH |
| 2. Grille | 6. Inserts to isolating foam |
| 3. Oil cooler mesh | 7. Bumper system main beam |
| 4. New arrangement of mounting brackets | 8. Valance panel |

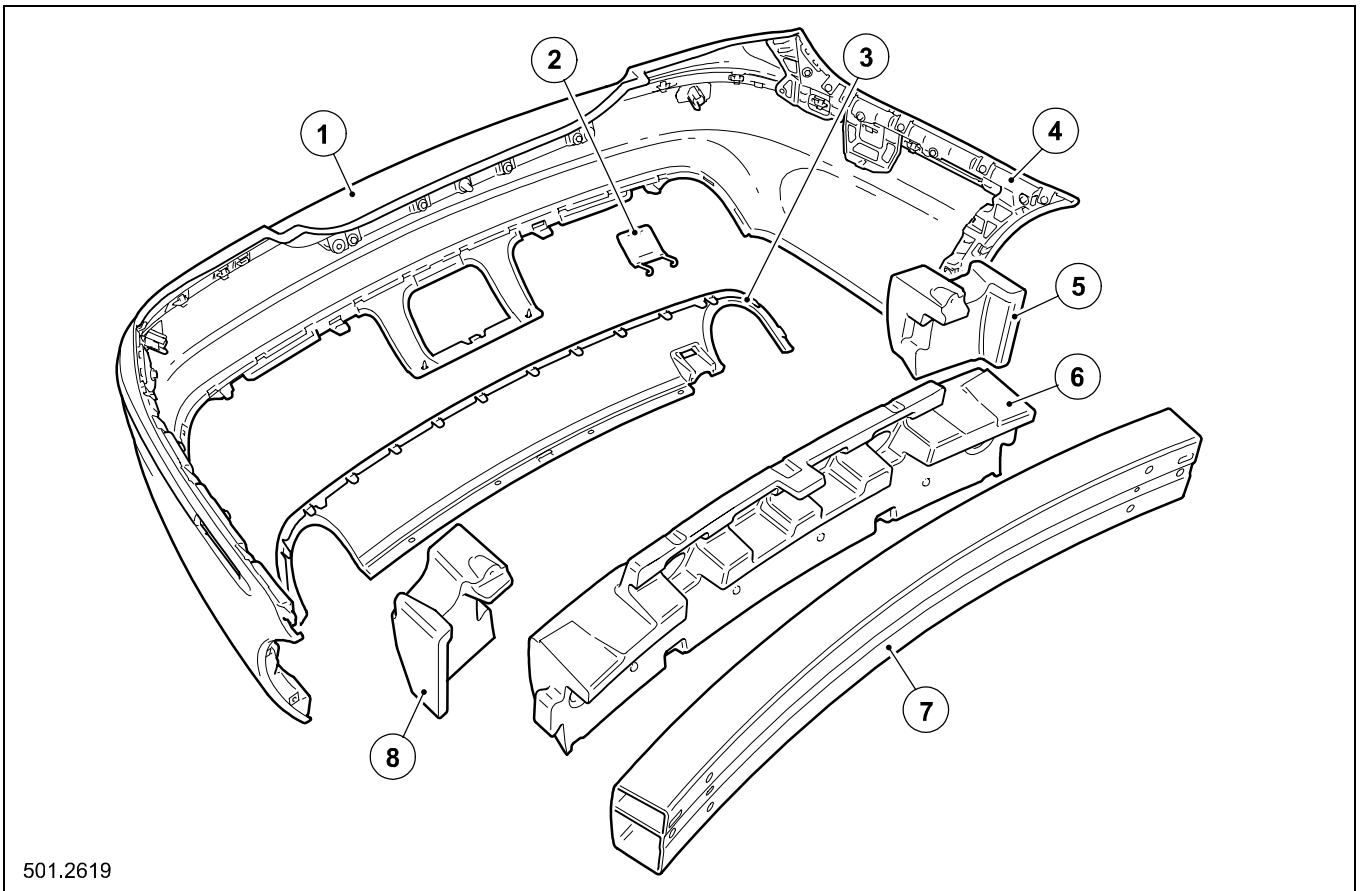


Fig. 55 Rear bumper system

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. Rear bumper cover 2. Towing eye cover 3. Bumper extension panel 4. Rear bumper mounting brackets | <ul style="list-style-type: none"> 5. LH end beam isolator 6. Isolator foam 7. Bumper system main beam (carry over S-TYPE) 8. RH end beam isolator |
|--|--|

NOTE: Items 5 to 8 are to NAS Specification.

One variant only, fitted to all vehicle derivatives.

Exterior Trim

Various items of exterior trim have been changed, both as design improvements and to accommodate the new body styling.

Wheel Arch Liners

The manufacturing process is by injection moulding.

They are a similar shape and size to the previous S-TYPE liners, but with reduced material thickness for weight optimization.

Radiator Sight Shield

Injection moulded, natural black grained plastic component. Nominally 2mm thick.

Similar shape to the previous S-TYPE, fitting across the car, above the headlamps.

It is retained by four push-in/screw-out (not $\frac{1}{4}$ turn) fir tree scrivenets as the previous S-TYPE. No special tools are required.

One variant only, fitted to all new S-TYPE derivatives.

Body (S-TYPE)

Corner Modules

Corner modules have similar geometry to the previous S-TYPE with the main difference being the removal of the center section.

Corner modules are situated between the front bumper beam and the cooling pack, and are used to set the alignment of the front wings, lamps, grille and bumper.

Modules should only require replacement due to crash damage.

One variant (per corner) for all new S-TYPE derivatives.

Front Grille

New style front grille in four variants:

- Classic grille - Dorchester grey vane pack with chromed bezel.
- Sport grille - Dorchester grey vane pack with painted bezel.
- 'R' grille - Stainless steel mesh with painted bezel.
- Highline grille - Dorchester grey vane pack with chrome front face with chromed bezel.

Fixings and torque figures are as previous S-TYPE grille assembly.

Front Grille Badge

New style corporate front grille badge.

Removal as previous badges - heat and apply wire/line to break seal.

New corporate growler to be mounted on revised radiator grille, not hood.

Hood Leaper

Although using a new hood, which is less convex, a carry-over leaper is used.

Secured with M16 plastic nut.

Sill Appliqué

Injection moulded plastic-color keyed. Using carry-over upper fixings and new longer, lower fixings.

Luggage Compartment Lid Finisher

The finisher is now full length and is manufactured using injection moulded plastic.

Options of chrome plated and painted are available.

The fixings are external, using four screws and two clips. A small Die-Cut piece of 3M tape is fitted to secure the last 70 mm of each end of the finisher to the luggage compartment lid.

There is a depression for emergency key access.

The release button is now on the underside.

Luggage Compartment Lid Spoiler

The new spoiler is a flexible single component part, not a rigid injection moulded two piece assembly, as previously.

The new features are as follows:

- Flexible moulding.
- Fits within the confine of the luggage compartment lid.
- No interior fixing.
- Painted body color.
- Adhesive tape fix to body.

Windscreen Wiper System

The wiper/washer system now incorporates the washer jets on the wiper arm, similar to the current XJ vehicles. This provides significantly better high speed washer performance.

The deletion of the hood mounted washer jets has provided an improved appearance to the hood and there is now no requirement to match the jets to the body color.

There has been no change to the wiper linkage and motor.

The arms and blades retain the same geometry, but:

- The blade clip has changed to a combined clip/jet, as XJ, and is pre-assembled to the blade.
- Jet clips are common to driver and passenger sides, but are different LHD to RHD.
- The hose run is now along the arm assembly and a new hose retention clip, as XJ, is used.
- A hole in the head of the wiper arms allows passage of the hose and is of the same principle as the XJ.

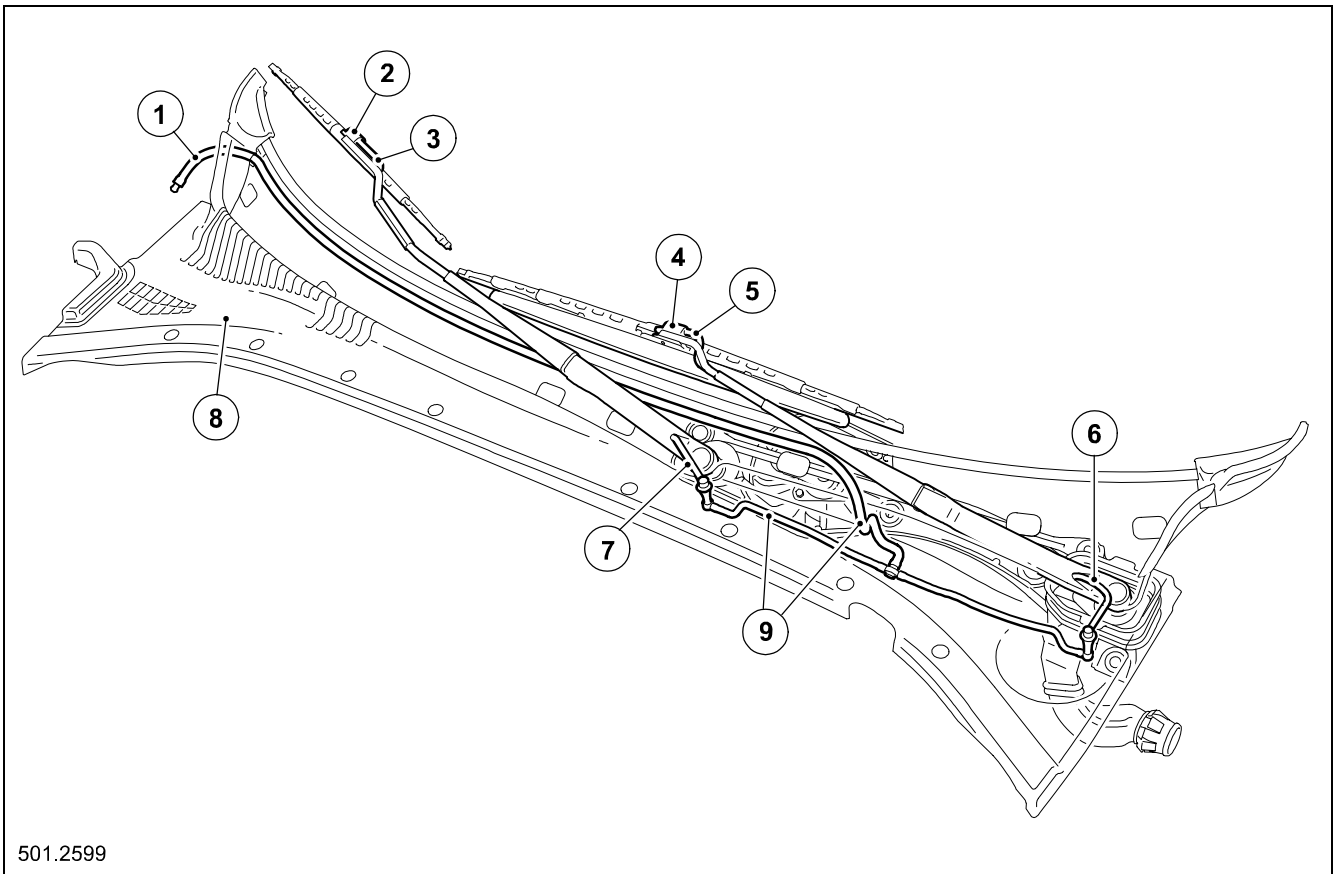


Fig. 56 Windscreen wipers and washers (LHD shown. RHD symmetrically opposite)

- | | |
|---|---|
| 1. Washer hose connects to hose feed from reservoir | 6. Hose - through wiper arm assembly (Driver side) |
| 2. Washer jet and blade retaining clip (Passenger side) | 7. Hose - through wiper arm assembly (Passenger side) |
| 3. Washer hose | 8. Leaf shield |
| 4. Washer jet and blade retaining clip (Driver side) | 9. Hose assembly integral to leaf screen |
| 5. Washer hose | |

Exhaust System

Exhaust Tailpipes

The previous XKR tailpipe finisher now becomes standard on the XK8.

A twin pipe finisher is introduced on the XKR, formed as a 'Y' piece, and fitted over the end of each carry-over tailpipe. This gives the appearance of four tailpipes from the rear view.

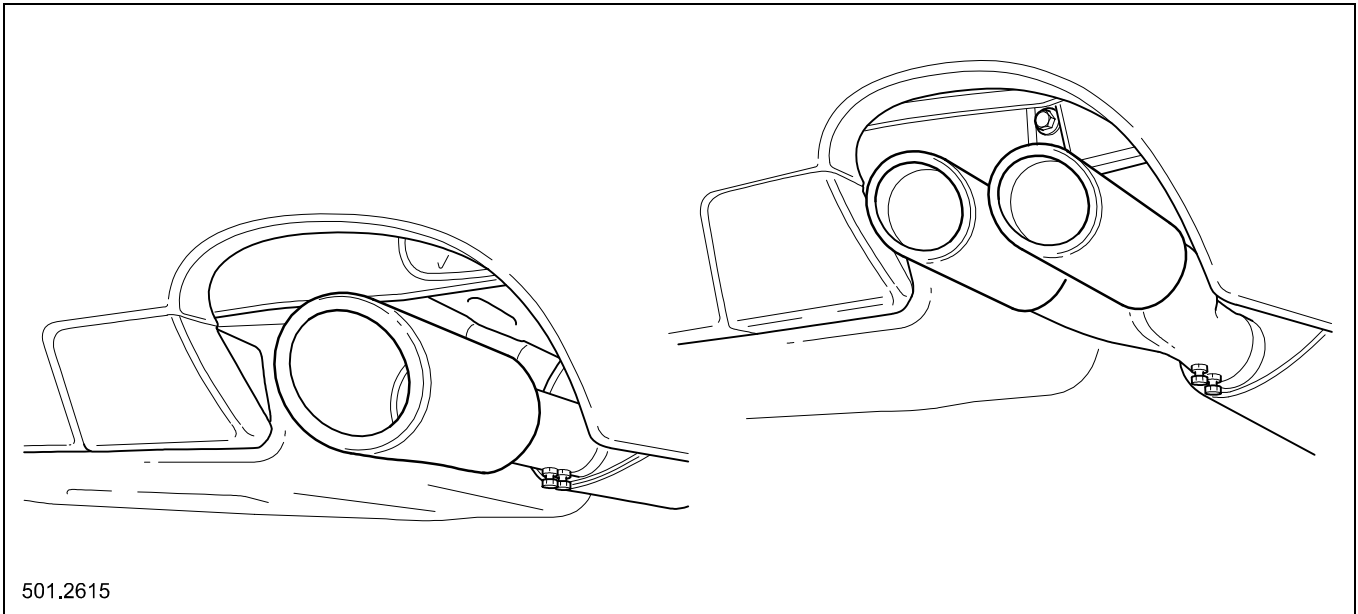


Fig. 57 XK8 and XKR tailpipe finishers

For centralizing the tailpipe in the bumper aperture on XK8 and XKR, an adjustable exhaust mounting system is provided.

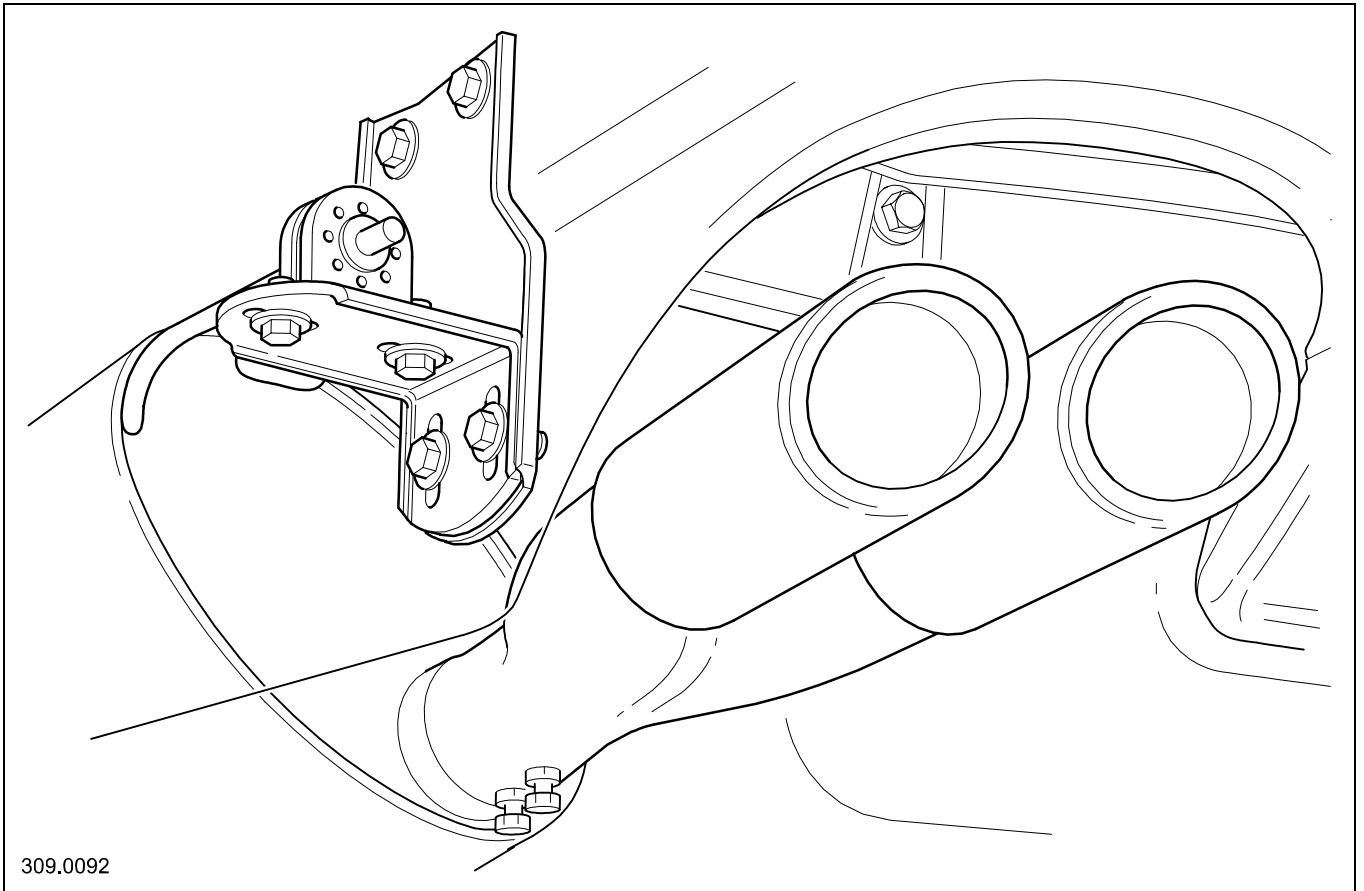


Fig. 58 Adjustable exhaust mounting system

Vehicle Speed Control

Adaptive Cruise Control

The adaptive cruise control (ACC) is updated from version ACC-2 to version ACC-3 but functions in the same way. The ACC-2 version had the radar sensor and the control module as a single package mounted behind the bumper cover cooling aperture to provide a clear view forward for

the radar beam. The ACC-3 version retains the location for the radar sensor but has a separate control module, located underhood in the powertrain control module (PCM) cool box, next to the bulkhead. The ACC control module is secured with self-adhesive Velcro.

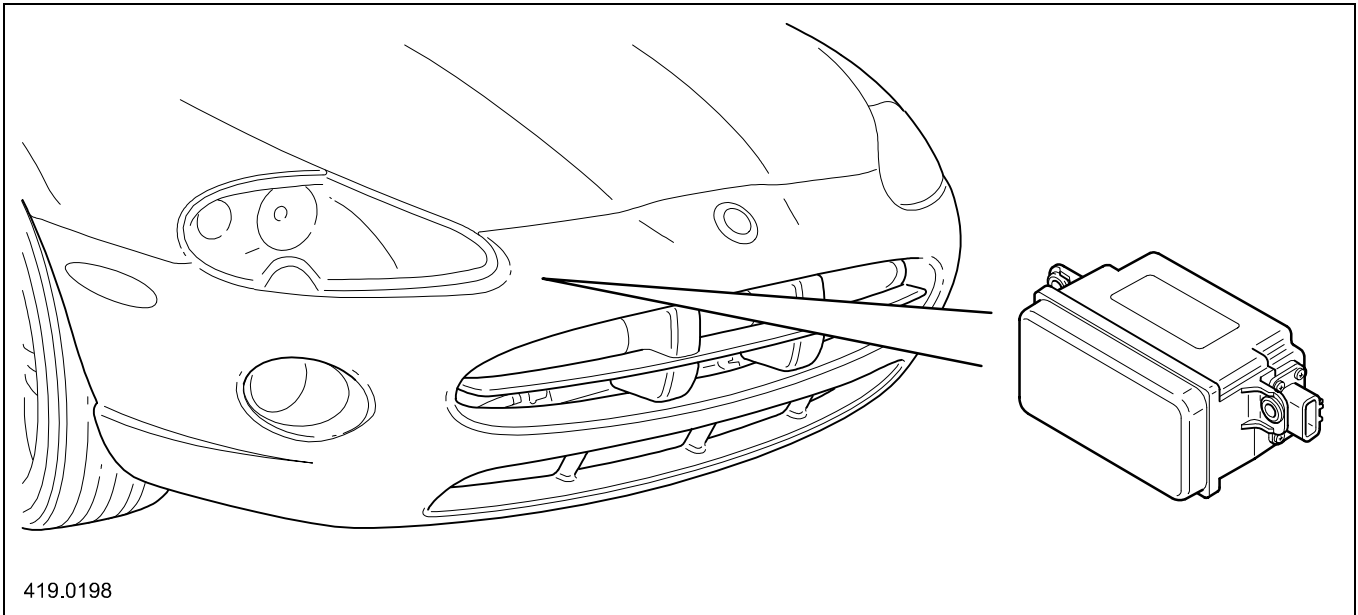


Fig. 59 Radar sensor location

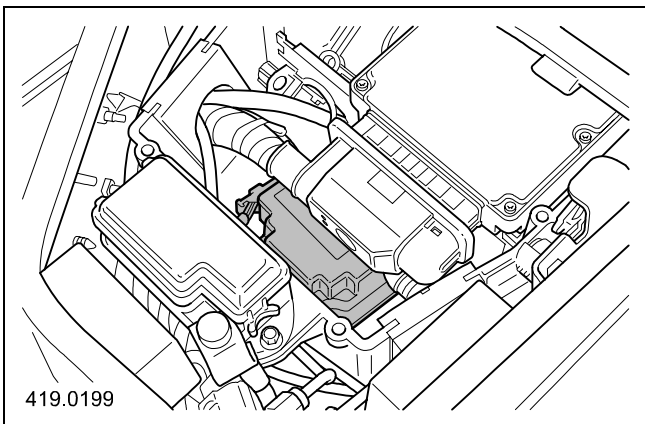


Fig. 60 Adaptive cruise control module location

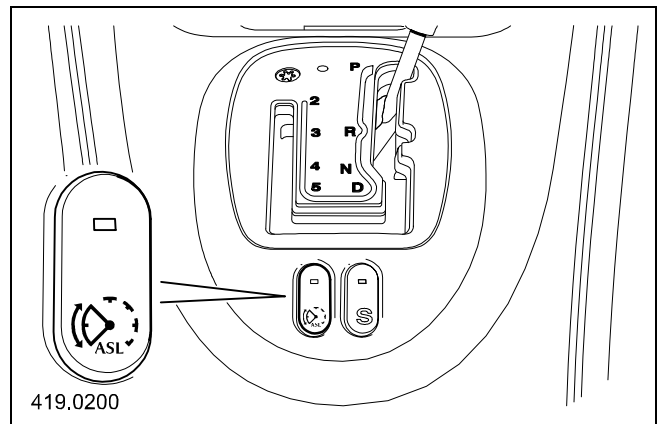


Fig. 61 Automatic speed limiter button

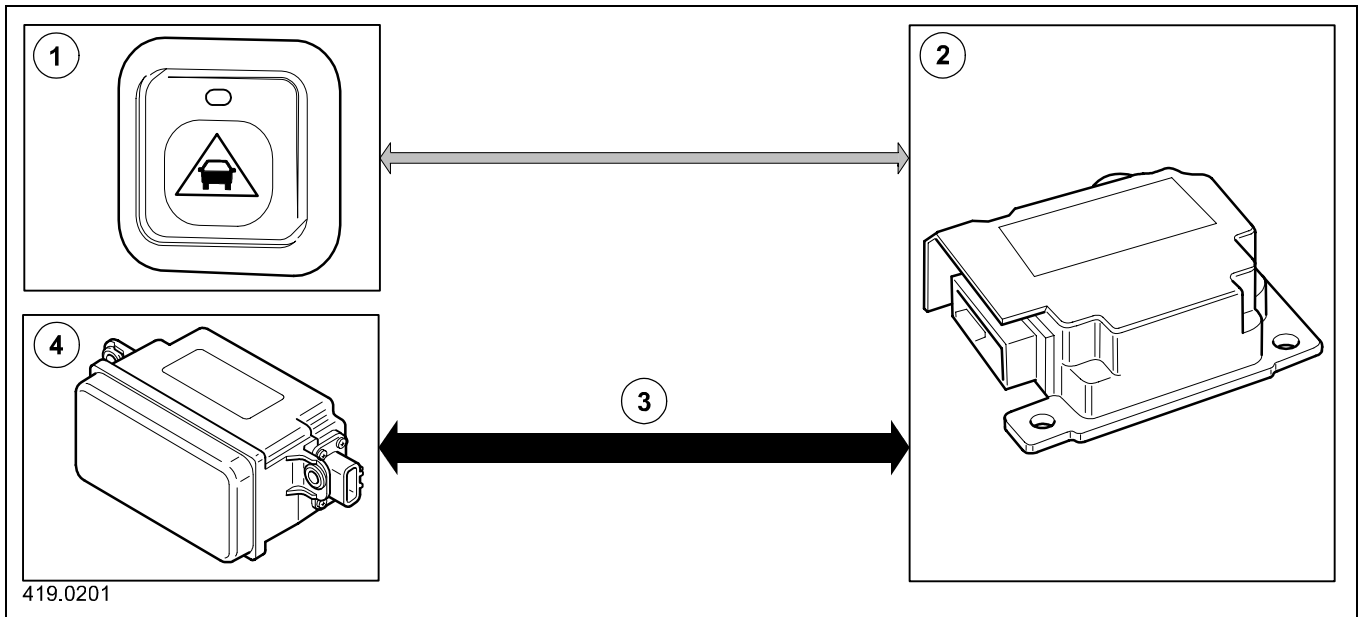


Fig. 62 Adaptive cruise control system interface schematic diagram

1. Forward alert switch
2. Adaptive cruise control module
3. Local controller area network (CAN)
4. Forward location sensor

Automatic Speed Limiter

The automatic speed limiter (ASL) can be used by the driver to select a maximum vehicle speed limit between the range of 30 km/h (18 mile/h) to 240 km/h (150 mile/h) that is not to be exceeded. This is an additional feature that is interlocked with the cruise (speed) control system. The switch on the 'J' gate surround allows the driver to switch between the cruise (speed) control (or adaptive cruise control, where fitted) system and the automatic speed limiter system.

It is advisable to set the speed limit while the vehicle is stationary but with the engine running. When the ASL system is switched on, the tell-tail status light will illuminate and the ASL function will be selected. In the alternative switch position, the light will be extinguished and the cruise (speed) control system will be selected.

When the ASL has been set, the engine will respond to the driver's accelerator pedal demand until the set limit is reached. At this point, provided that the accelerator pedal position is sustained, the vehicle will maintain the limit speed.

The ASL system controls the vehicle speed through engine throttle control to match the limit speed.

If the accelerator pedal is depressed further, the vehicle will not increase speed but the automatic speed limiter will hold the vehicle to the limit speed. The ASL system can be cancelled either by switching to cruise (speed) control or applying kickdown on the accelerator pedal or by pressing the CANCEL button on the steering wheel.

The application by the driver of the brakes will not deactivate the ASL system. The system is deactivated and the limit speed memory deleted, each time the ignition is switched off.

When ASL is selected, the message center will display one of the following:

- Limiter set.
- Limiter cancelled.
- Limiter not available.
- Too fast to resume limit.
- Over limit.

Body System Exterior

Bumpers

Front Bumper Cover

The front bumper is deeper and includes the addition of a lower 'mouth'. To compliment this, it has a feature crease line on each side. The splitter vane on the normally aspirated derivative now sits in line with and goes through the overriders instead of sitting behind them. On the XKR, the mesh grille sits in line with the front of the overriders, as opposed to having the overriders protrude through.

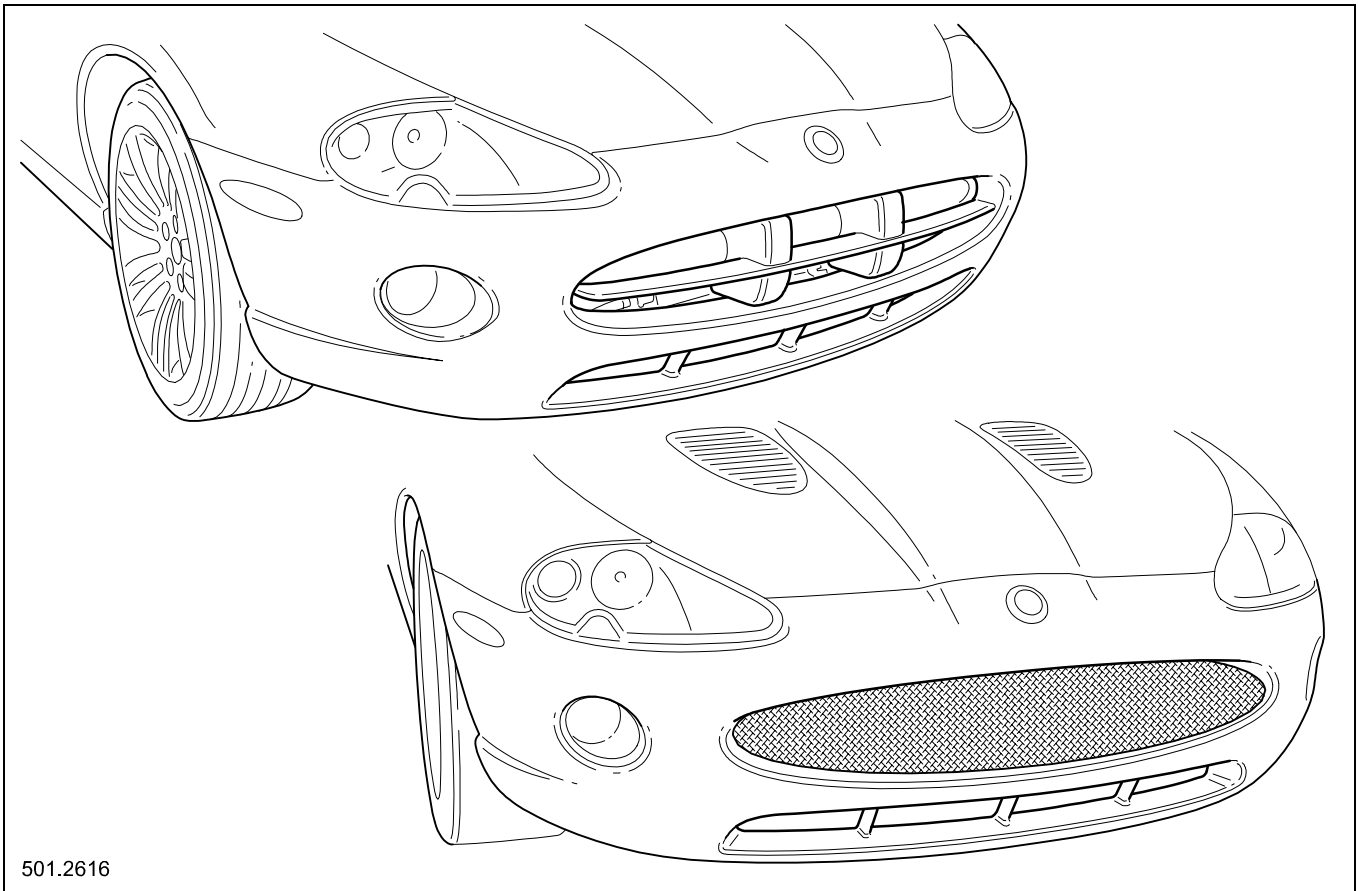


Fig. 63 New front bumper cover: XK8 and XKR

Rear Bumper Cover

The rear bumper cover is also deeper and has larger cut-outs to accommodate the larger twin exhaust pipe finishers on the XKR. There is a new tow eye cover and on the opposite side of the bumper cover, groove lines take the shape of a false cover to give the bumper cover a symmetrical appearance. The sides of the rear cover as they reach the wheelarches, are now flush to the rear fender panels (as opposed to the previous condition where the rear cover sat inboard / underflush).

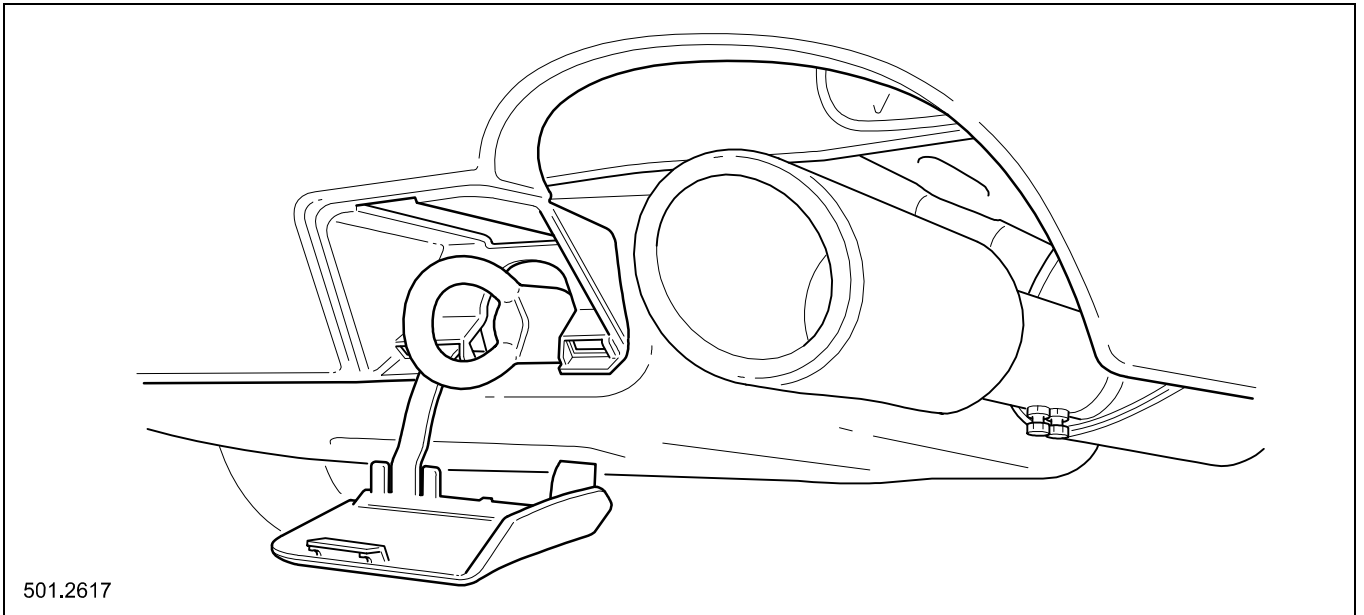


Fig. 64 New rear bumper cover and tow eye cover

Body (XK)

Sill Appliqué

The new sill appliqué adds depth to the side profile to give a more muscular impression. The sill appliqué is in two parts, with the longer part being able to slide over the shorter, to allow for expansion. The body side rubbing strips were deleted at 2004 model year which adds further depth to the side profile appearance.

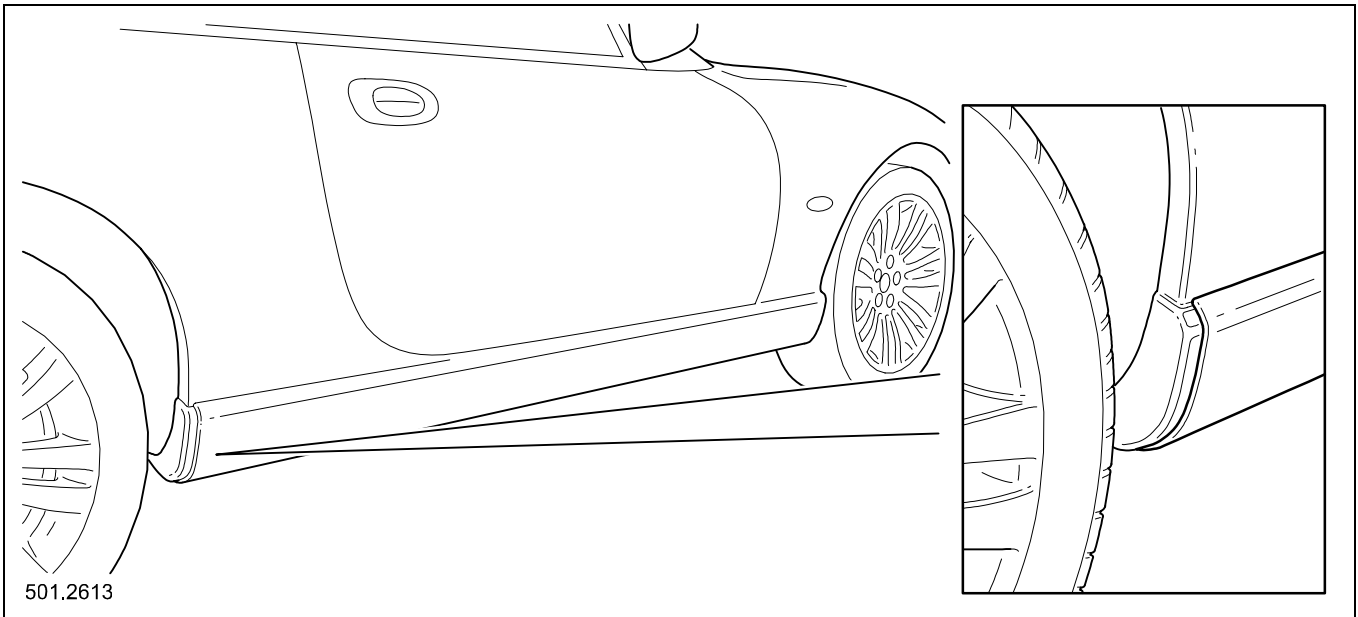


Fig. 65 Sill appliqué

Rear Spoilers

The rear spoiler, previously fitted to the XKR, is now a standard fit to the XK8. A new spoiler is introduced for the XKR using the same locating holes and pegs as the previous spoiler.

Exterior Trim Finishers

The front and rear screen Dorchester finishers and other Dorchester trim, including the door mirrors, are now finished in premium black (low gloss), in-lieu of Dorchester grey.

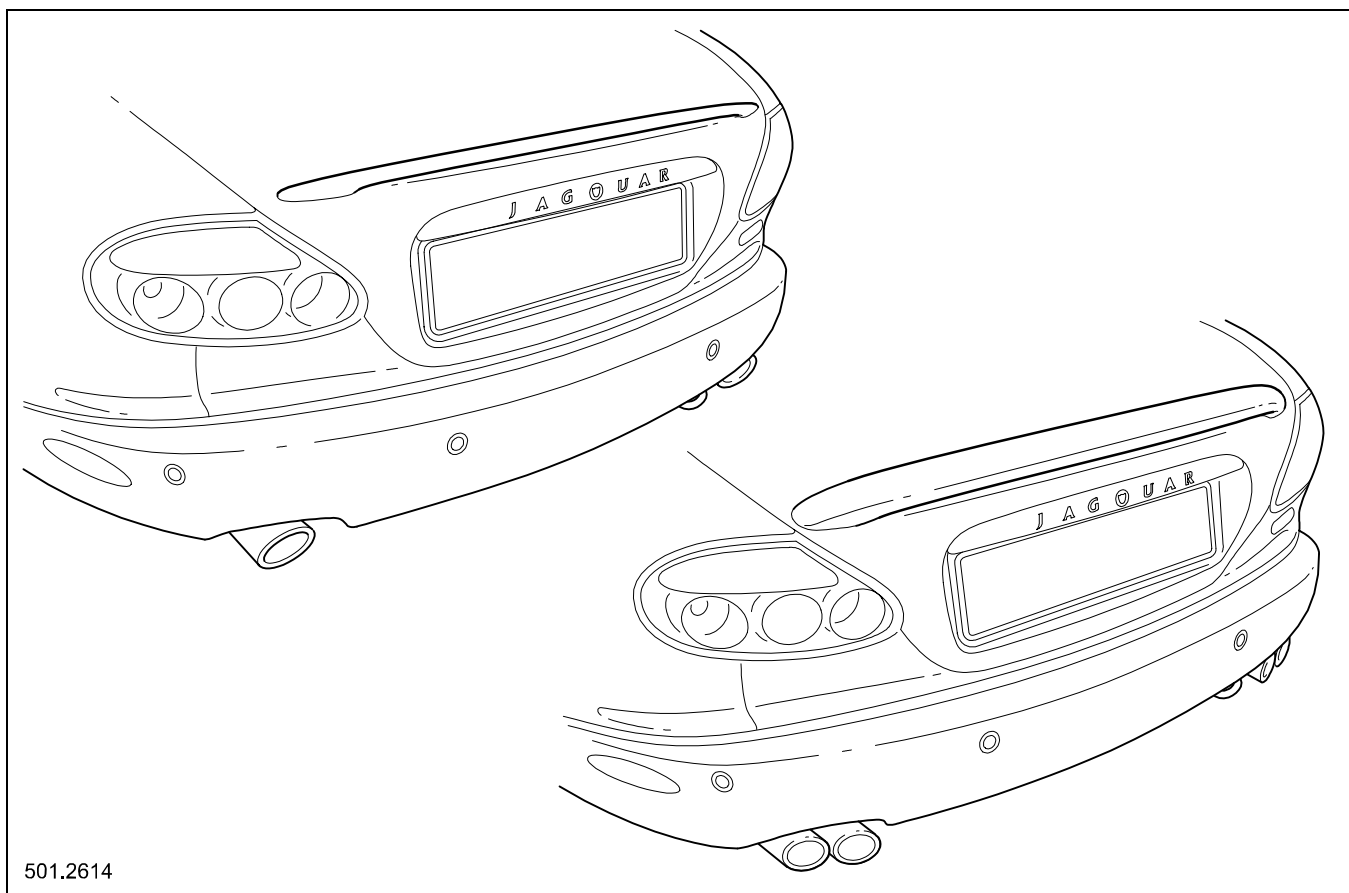


Fig. 66 XK8 spoiler and XKR spoiler

