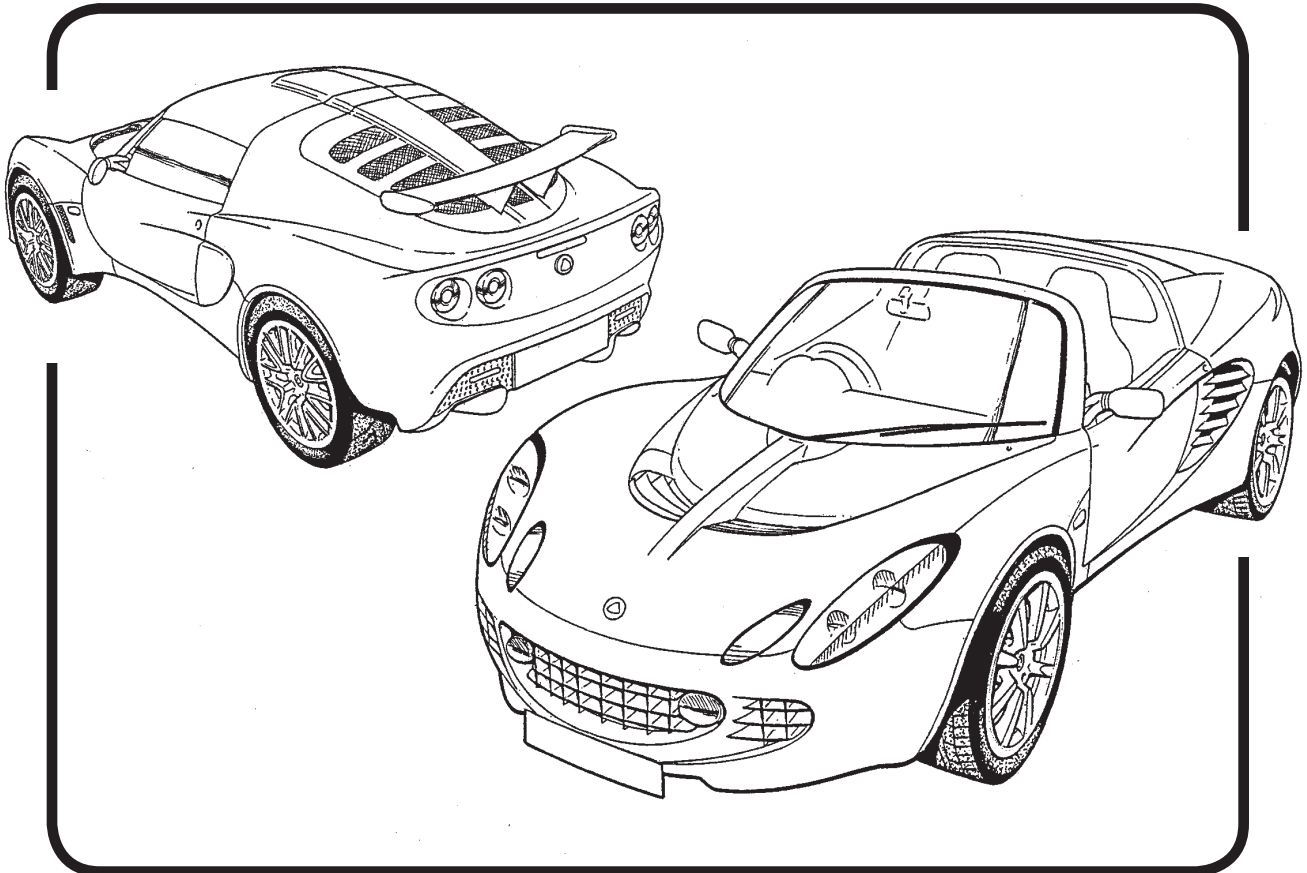


# SERVICE NOTES

## ELISE EXIGE

### Section AA

**Introduction**  
**2004 Model Year Onwards**  
**with 1ZZ/2ZZ/1ZR/2ZR Engine**



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INTRODUCTION

SECTION AA

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**PLEASE READ THESE TERMS CAREFULLY BEFORE USING THIS PUBLICATION**

This publication has been designed for use by Lotus Dealers familiar with general workshop safety procedures and practices. Take all appropriate action to guard against injury to persons or damage to property.

It is also assumed that any other persons using this publication has the relevant technical experience to utilize a workshop manual, as well as the use of adequate technical facilities and the necessary personal protective equipment and tools needed to carry out diagnostic procedures, tear downs and rebuild procedures in a safe and competent manner.

The information enclosed in this publication are provided "as is." There is no warranty either expressed or implied, provided by Lotus cars regarding any of the information provided within these service notes, including the implied warranties of merchantability and fitness for a particular purpose.

Lotus policy is one of continuous product improvement, and the right is reserved to alter specifications at anytime without notice. Whilst every care has been taken to ensure correctness of information, it is impossible to guarantee complete freedom from errors or omissions, or to accept liability arising from such errors or omissions, but nothing herein contained shall affect your statutory rights.

**How to use this manual**

To rationalise the information contained within the service notes, the removal, refitment and/or replacement information contained within each section has been divided into specific assembly areas or 'function groups of the vehicle.

Example:

<u>Description area of the vehicle</u>	<u>Service notes section</u>
Front suspension	CI
Rear suspension	DH
Fuel system	LJ

Each section is then divided into further sub-sections displaying information on specific components relevant to that sub assembly i.e., CI.7 – spring/damper assembly.

When applicable 'General Description' information is displayed at the beginning of each section listing any relevant features or functions of the complete assembly or sub assembly components.

Step by step component removal information is first displayed, with refitment information being described as 'Reversal of removal' unless additional procedures are necessary.

Specific torque tightening figures shown in Nm are displayed next to any relevant fixings noted.

Where applicable fixings are described by size and description i.e., M10 x 85 bolt or M10 nyloc nut.

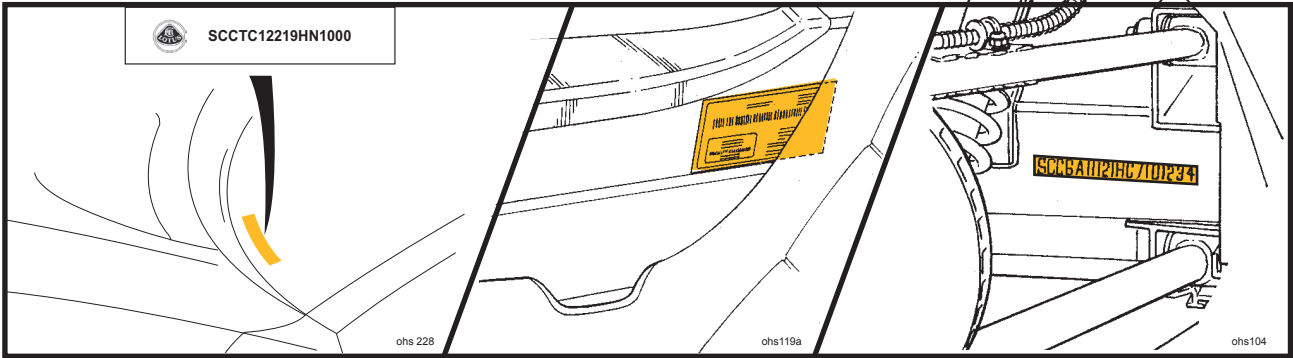
Many removal/refitment procedures for individual specific components within an assembly may incur repeat operations that have already been described within another sub-section of the service notes.

Therefore when this occurs, to avoid duplication of information and to limit the size of the service notes; a procedural step may contain the phrase 'See section XX.X'.

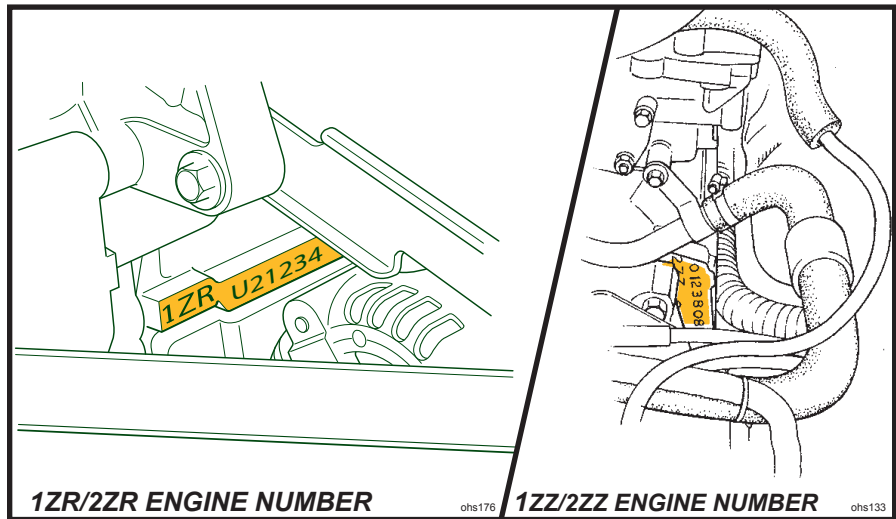
Referring to that section will display additional relevant strip down information applicable to the repair being carried out.



**VEHICLE IDENTIFICATION NUMBER & ENGINE NUMBER**



The Vehicle Identification Number (V.I.N.) is viewable from the outside of the vehicle, located on a plate positioned between the left hand front edge of the dashboard and inside of the windscreen. It is also displayed on a printed on a label stuck to the inside of the chassis sideframe alongside the driver's seat. This label also displays the Lotus paint code for the vehicle which can be identified as a 3 or 4 digit code prefixed with either the letter 'B' or 'C'. It is also stamped on the chassis in the right hand front wheelarch area, and can be viewed with the front wheels turned to a right full lock.



1ZZ and 2ZZ engine numbers are marked on a vertical patch at the right hand side of the rear face of the cylinder block, adjacent to the clutch housing.

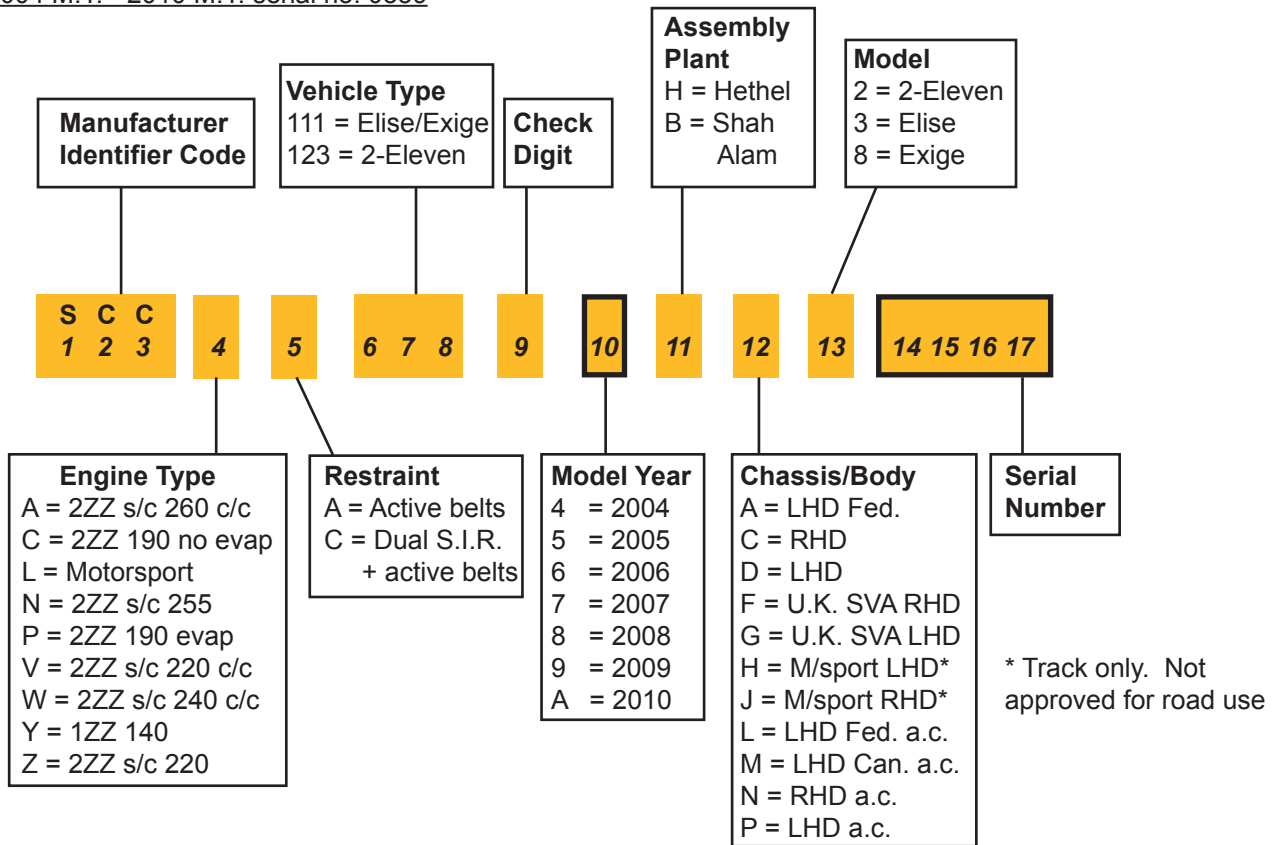
On the 1ZR or 2ZR engine, the number is stamped on the left hand front of the cylinder block, alongside the alternator, and is prefaced by '1ZR' or '2ZR'.

Both V.I.N. and engine numbers should always be quoted with any vehicle enquiries, as Factory records are filed against V.I.N., and specification change points are identified by V.I.N. or engine number. The vehicle licence plate should be disregarded in this context as it may not accurately reflect vehicle age, and may also be changed during the car's life.

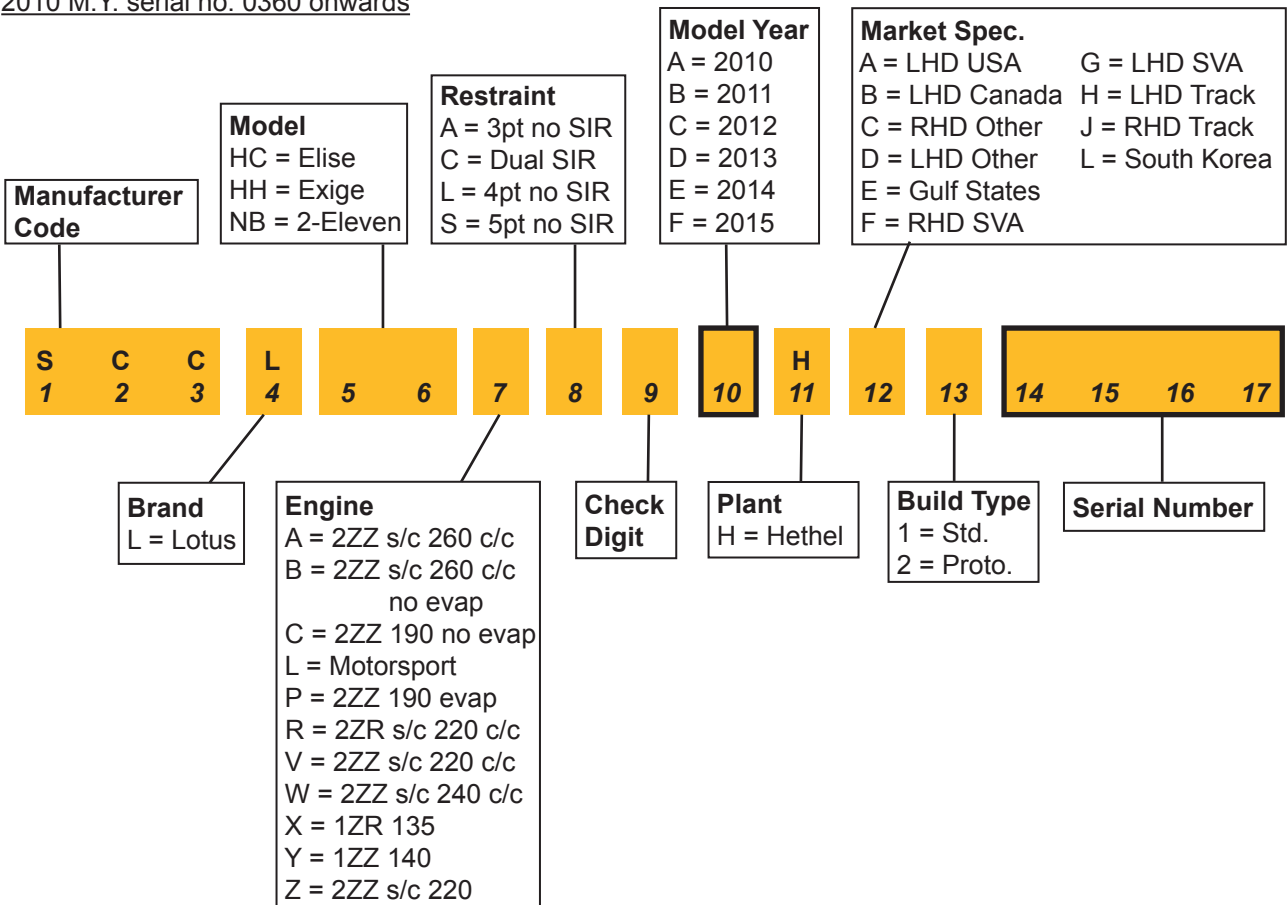
The V.I.N. comprises 17 characters, coded in accordance with European Economic Community (EEC) and National Highway Traffic Safety Association (NHTSA) directives. For change point identification in Service Notes, Service Bulletins and Service Parts Lists, typically, only characters 10 (model year), and 14 to 17 (serial number) will be quoted.



2004 M.Y. - 2010 M.Y. serial no. 0359



2010 M.Y. serial no. 0360 onwards



**MODEL HISTORY MILESTONES** (does not include all special editions)**Elise 111R Introduction: January 2004**

VIN character 4 = P; Character 13 = 3; Serial number from 0970

Note that the serial number sequence is shared with other Elise variants.

Changes from previous model include: Toyota powertrain with 1.8 litre VVTL-i engine and 6-speed transmission. Twin exhaust tailpipes exiting through centre of diffuser. Larger fuel tank with new pump. Revised chassis rail rear ends, new rear subframe, revised seat belt mounting frame backstays. Revised rear suspension wishbones, springs and dampers. ABS brake control with vacuum servo. Revised front bonnet grilles and access covers.

**2004 Exige Introduction: March 2004**

VIN character 4 = P; Character 13 = 8; Serial number from 1092

Note that the serial number sequence is shared with other Elise variants.

Differences compared with Elise 111R include: Restyled front and rear clamshells with roof scoop, new tailgate panel and strut mounted rear aerofoil. Front body splitter panel. Re-styled road wheels, wider on the front, and Yokohama A048 tyres.

**2005 M.Y. Elise for North America: May 2004**

VIN character 10 = 5; Character 12 = L; Serial number from 0001

Note that the serial number sequence is shared with other Elise variants when '05 M.Y. is adopted for those models later in the year.

Differences compared with Elise 111R include: Driver and passenger airbags, pyrotechnic seat belt pretensioners; Re-styled fascia and dashboard structure; Front speakers moved onto top surface of fascia, stowage pockets incorporated into dashboard end panels, fixed windscreen demist vents. Engine start button in driver's side switch panel. Revised springs and dampers, Yokohama AD07 tyres. Side marker lamps on front and rear wheelarch lips. Revised fuel system with fuel filler flap.

**Lotus Sport Exige 240R: March 2005**

Limited edition of 50 units produced as post registration official factory conversions of '05 Exige by the Lotus Sport workshops at Hethel, for U.K. and certain overseas territories. The car is not identifiable from the VIN coding.

Differences compared to standard Exige include: 243 bhp engine upgrade using Eaton M62 supercharger with integral by-pass valve, air/air chargecooler and 5th fuel injector. Re-programmed ECU. Accusump. Stiffened springs & Ohlins adjustable dampers. Adjustable front anti-roll bar. Chassis rear brace kit. Forged 5-spoke widened roadwheels & Yokohama A048 tyres. Motorsport brake pads, braided hoses, yellow callipers, Castrol SRF brake fluid. Sport Yellow body colour with black wheels, or Sport Black body with silver wheels. Black interior with yellow inserts. 4-point harnesses, T45 roof hoop and backstays.

**2006 M.Y. Introduction: September 2005**

VIN character 10 = 6; Serial number restarts at 0001, common to all variants.

Introduction of USA Exige and Canadian Elise.

5-speed Elise remains unchanged.

Differences between 6-speed '06 Elise and '05 include; Electronic throttle control (using no mechanical cable). Optional Lotus Traction Control (LTC) or Limited Slip Differential (LSD) with LTC. Standard fit Yokohama AD07 tyres on non-USA cars. Optional forged wheels with new 6.0 in front size. LED rear lamp clusters incorporating reflectors (formerly separate), and commonised USA type CHMSL. ProBox seat foams. New body colours. USA & Canadian Elise; revised fuel tank and evap. loss system. Canadian Elise uses daytime running lights and clutch down start allow switch. USA Exige similar to non-USA, but with USA airbag interior.

**Sports Racer: October 2005**

Special paint versions of '06 M.Y. 111R in either Ardent Red with triple Monaco White stripes, or Nightfall Blue with twin Monaco White stripes. Combined total of 199 units with unique build plate on sill. Forged wheels (6J on front), AD07 tyres, sport suspension, twin front oil coolers, LTC. Black leather interior with red or blue stitching, and red or blue 'Elise' embroidered into head restraints. Sports Racer decals.



**Exige Cup 190 & 240: January 2006**

Limited number of competition oriented naturally aspirated (190) or supercharged (240) models produced as post registration official factory conversions of '06 Exige by the Lotus Sport workshops at Hethel for U.K. and certain overseas territories. Not identifiable from VIN coding.

Differences compared to 240R (see above) include: Electronic throttle, high flow port injectors (no 5th). Cup 240 fitted with torque sensing LSD with LTC. Cup 190 uses friction plate LSD. Standard Exige wheels in 'Hi-power' silver. Race cars fitted with FIA 6-point roll cage, remote kill switch, extinguisher system. Standard body colours.

**Exige S: February 2006**

VIN character 4 = V

Factory built type approved supercharged Exige. Not USA.

Differences to standard Exige include: 221 PS supercharged engine similar to 240R but using electronic throttle, smooth flow inlet adaptor, standard injectors without 5th injector, modified downpipe, optimised muffler with single oval tailpipe. Enlarged roof duct inlet for chargecooler. Body colour splitter, scoops and aerofoil. 'Exige S' decal on rear transom, 'S' on front quarter panels.

**USA Lotus Sport Elise: March 2006**

Limited edition of 50. Saffron Yellow with twin Storm Titanium stripes. Saffron Yellow centre console. Yellow highlighted sports seats, 'carbon' door trim inserts. Harness bar, T45 seat belt mounting frame. Motorsport mats, stalks, winders and parking brake sleeve. Traction control, supersport suspension, black forged wheels, Yokohama A048s, braided brake hoses, silicone fluid, motorsport clutch. Lotus Sport decals and Union flags. Lotus Sport chassis plate.

**2007 M.Y. & Elise S Introduction: June 2006**

VIN character 10 = 7; Serial number restarts at 0001, common to all variants.

VIN character 4 identifies engine type. Elise S = Y

Differences between '07 Elise/Exige and '06 include: Elise 111R renamed Elise R; New sealed headlamp units; raised LOTUS lettering on rear transom; additional screen pillar seal; Alpine audio; improved HVAC ducting. New model Elise S uses 1ZZ-FE engine producing 100 kW, with variable inlet timing but fixed valve lift, plastic inlet manifold, revised intake snorkel, revised exhaust manifold and downpipe, smaller tailpipes within standard trims. Elise S also uses new C56 5-speed transmission and 6-spoke roadwheels sharing styling of standard '01 model wheels.

**USA Exige S: October 2006**

The specification of the USA Exige S is that of the standard USA Exige and option packs, apart from the engine, which is as non-USA Exige S with the following exceptions: High flow port injectors, specific engine programming, 223 PS, 223 Nm. Carry-over features from the non-USA Exige S include exhaust downpipe and optimised muffler with single oval tailpipe, roof air intake funnel mouth.

**Exige S British GT Special Edition: November 2006**

Celebrating Lotus Sport Cadena's 2006 British GT3 Team Championship victory.

Differences to standard Exige S include: Torsen LSD & Lotus Traction Control. Chassis rear brace kit. T45 roof hoop & stays. Braided brake hoses. Level 1 sports exhaust. Forged 7-bifurcated spoke silver wheels. Lotus Sport black metallic body colour with Sport yellow & Arctic silver quad stripes, supplier decals on sills, Lotus Sport visor strip, Cadena decals on front wings, GT3 decal on rear clam, GT3 winners decal with unique build number on rear quarter panel, Lotus Sport build plate with build number. 4-point harnesses, black/yellow door trims and unique black/yellow trimmed seats. Optional a.c. Optional GT pack available as post registration official factory conversion by Lotus Sport workshops at Hethel for U.K. and certain overseas territories, includes: High flow injectors, different ECU & unique calibration for 243 bhp, Accusump, 2-way adjustable Ohlins dampers with uprated springs, 308mm front discs & 4-piston A.P. callipers, Pagid pads, Castrol SRF brake fluid.

**USA Low Speed Damage Mitigation: January 2007**

From '07 USA VIN serial no. 1579.

To meet USA safety legislation, modifications made to Elise/Exige: Front; armatures and foam inserts added between crash structure and clamshell. Rear; bumper panel housing foam pads either side of licence plate, narrower rear grilles, reinforced boot floor and diffuser support panel, stiffened diffuser. Some elements commonised for all markets.

**Lotus Sport Exige Cup 255: January 2007**

Produced as post registration official factory conversions of '07 Exige S by the Lotus Sport workshops at Hethel for certain territories, excluding U.K. and USA. Not identifiable from VIN coding.

Based on Exige Cup 240 (see above) with following differences: Power increase to 255 PS by; unique ECU calibration, enlarged chargecooler, extended roof duct, larger air cleaner and intake spout, uprated fuel pump. A.P. Racing 4 piston alloy front callipers, 308mm front discs.

**2-Eleven Introduction: May 2007**

VIN character 6/7/8 = 123; Character 13 = 2

Extreme, minimalist, track focussed Elise variant based on Exige Cup 255 powertrain componentry, but using new chargecooler arrangement. Produced in small numbers for U.K. and certain overseas territories. In U.K. only, SVA road going version available. All other territories only for track use, in LHD or RHD.

New body with no doors or roof. Aeroscreen. Rear aerofoil in two versions. FIA compliant roll over bar. Chassis rear brace, unique front top wishbones and steering arms, optional Ohlins suspension. Accusump, twin front oil coolers. Standard LTC, optional variable LTC & Launch Control. Uprated clutch. Odyssey battery. Limited warranty for SVA cars. Extensive options list.

**USA Elise Limited Edition 'Type 72D'**

Limited edition of 50 cars to commemorate the 35th anniversary of Lotus' F1 1972 World Championship victory with the type 72D.

Phantom black body colour with hand painted gold pinstriping. Rear body spoiler, black diffuser. Gold laurel leaf decal on front quarters, gold 'Elise' and 'Type 72D' decals, gold raised LOTUS lettering, gold/black nosebadge, gold fuel filler cap. Gold Exige 8 split-spoke wheels with Yokohama A048 tyres and sports suspension. Black & gold seats and interior trim details with Limited Edition plaque. Scale model crash helmet.

**Club Racer: September 2007**

Limited edition of 25 for U.K. Unlimited for Europe.

For U.K., spec. based on '07 Exige S with Sport, Touring & Super Touring packs and a.c.. Sports exhaust supplied for dealer fitment.

For Europe, spec. based on '08 Exige S (see below) with Sport and Performance packs. Forged wheels.

All cars: Hethel track decal on rear transom, Le Mans blue body with Phantom black triple stripe. Black leather and carbon effect trim with colour coded stitching.

**Introduction of 2008 Model Year Elise/Exige: October 2007**

VIN character 10 = 8. VIN serial number restarts at 0001. Exige N.A. built only to special order.

All cars now with dual airbags and start button in matt charcoal finish fascia. PFK 457 security system with Lotus design transmitter key. Tyre pressure monitoring for USA only. High rpm sequential tell tales. CAN bus diagnostics using laptop Lotus Techcentre. New paint colours. Performance Pack option (VIN character 4 = W) with 240 hp calibration, high flow injectors, big roof scoop, uprated clutch, 4-piston front brake callipers and enlarged front discs, variable traction and launch control (excludes warranty).

**Elise S Hethel 40th Limited Edition: October 2007**

Commemorating 40 years of production at Hethel. All LHD.

'08 M.Y. Elise S in Burnt Orange with hardtop. Orange body grilles and centre console. Black diffuser and wheels. Black leather seats and door trim with orange stitching. Build plaque. Country decals below side repeater lamps. 7 Union Flag, 6 Swiss, 2 Belgium, 4 French, 10 German, 6 Italian.

**Elise 'California' Limited Edition: October 2007**

USA only. 25 off Ardent Red with cream/red leather and champagne trim; 25 off Saffron Yellow with black leather and champagne trim.

Based on USA Elise with touring pack. Rear body spoiler. Silver front intake grilles, other grilles in body colour. 16-spoke cast wheels in Hi-power silver, AD07 tyres. Lotus roundel and California decals on front wings. Sports seats in cream & red or black leather. Other trim in cream & red or black leather. Hardtop lining in Beige cloth. RHD footwell divider.

**Exige Sprint: November 2007**

Limited edition of 40 cars for U.K. market, one for each year from 1967 to 2006. +20 E.U. +2 Japan.

'08 M.Y. Exige S with Sport, Touring and Performance Pack, a.c., black forged wheels, 2-tone paint in Aspen White and either Persian Blue or Saffron Yellow, with gold decal strip and 'Exige Sprint' logo. Union flag on rear body, laurel decal on LHR quarter, colour coded leather seats and trim, embroidered footwell carpet mats. Build plaque on chassis sill.

**Introduction of Elise SC: February 2008 (final '07 M.Y. serial no. 3579)**

Supercharged Elise without chargecooler.

VIN character 4 = Z

Based on Elise R, but using new Eaton M45 supercharger rotor pack integrated into inlet manifold, high flow fuel injectors and unique calibration to produce 220 PS. Rear body spoiler, Lotus styled 12-spoke road wheels in 6.0 and 8.0 front/rear widths, standard AD07 tyres. Wheelarch lips on non-USA cars. 'Elise Supercharged' decals on rear transom and front wings.

**Lotus Sport Exige Cup 260: February 2008**

Fully Type Approved version of Exige Cup 255 (see above).

VIN character 4 = A

Based on Exige S with: Big roof scoop, high output fuel pump, unique calibration to produce 260 PS. Accusump, lightweight flywheel, uprated clutch, Torsen LSD, Variable Traction and Launch control (excludes warranty). 4-piston front brake callipers and enlarged front discs, braided hoses, Bilstein or Ohlins adjustable spring/dampers, stiff adjustable ARB in hard mounts, hi-power silver 16-spoke cast wheels, A048 tyres. FIA compliant battery isolator and plumbed-in fire extinguisher. T45 seat belt anchorage frame. FIA compliant cage and 4-point harnesses supplied separately. **NO** airbags and **none** pre-tensioner 3-point belts. No CDL. Black Alcantara/carbon effect seats and door trim. Build plaque on dash, 'Lotus Sport' decal on front quarter panels, 'Cup 260' decal on rear transom, black diffuser. Restricted warranty.

**USA Elise SC '60th Anniversary': May 2008**

Limited edition of 60 USA cars to commemorate 60th anniversary of Lotus Cars.

Based on Elise SC with hard and soft tops, Touring and Sport Packs, supersport suspension, forged wheels, A048 tyres, T45 seat belt frame & harness bar. Body and double stripe paint in BRG/Saffron, Saffron/Black, Black/Arctic, Storm Titanium/Canyon Red. Complimentary trim inserts and 60th Anniversary embroidery. Anniversary decal on rear transom.

**Clark Type 25 Elise SC: June 2008**

Limited edition of 25 U.K./25 E.U./25 USA cars to commemorate 40th anniversary of Jim Clark's death. Donation to the Jim Clark memorial fund.

Based on Elise SC with hard top and Sport Pack. BRG (B04) with Saffron single centre stripe, Lotus Sport wheels with black spokes and silver rims, A048 tyres. Black & red leather themed interior, with sports seats, wood gearknob and build plaque. Type 25 decal on rear transom, Jim Clark signature on LH buttress and inner door panels, race roundels on doors with Type 25 decals. USA cars used 7-splitspoke black forged wheels, alloy gear knob, black diffuser.

**2009 M.Y. Introduction: September 2008 (final '08 cars: Elise 2308; Exige 2304; 2-Eleven 2292)**

VIN character 10 = 9. VIN serial number restarts at 0001.

No changes apart from Cup 260.

**2009 M.Y. Lotus Sport Exige Cup 260: October 2008**

Lightweight body panels using carbon fibre, rear window deleted from rear bulkhead. Lightweight components incl. battery, c/c U-bends, billet flywheel, new forged 12-spoke roadwheels in 7 & 8 inch widths, rear subframe with DeltaProtekt coating, deletion of footwell pads, interior mirror, sunvisors, tailgate strut. HANS approved seats. Body coloured SBAF 'A' frame. Chassis drilled for front cage. New body graphics.

**2010 M.Y. Introduction: May 2009 (final '09 cars: Elise 375; Exige; 202; 2-Eleven 57; USA Elise 140 USA Exige 46)**

VIN character 10 = A. VIN serial number restarts at 0001.

Elise range unchanged. Exige S (on USA & Gulf only from 0360): Front clamshell with restyled lower section including larger air intake ducts with a horizontal vane in each oil cooler duct. New full width body colour front splitter. Wider, body mounted rear aerofoil, supported by end plates. All models: reduced emissions and improved economy figures.

**2010 M.Y. Lotus Sport Exige Cup 260: August 2009**

Adoption of Exige S front clam and rear aerofoil (see above) using some carbon elements. Strengthened engine bay undertray with new fixings to provide 'shear panel' stiffening of subframe suspension mounts. Ohlins 2-way adjustable dampers. Lightened Lotus Sport 5-spoke wheels. Carbon centre console.

**Exige S Type 72: December 2009**

Celebrates Type 72 F1 twenty GP victories. Limited edition of 20 for U.K., 20 for Europe, plus selected RoW territories. Phantom Black with gold pin-striping, gold Exige S on rear, Type 72 on passenger 'B' panel. Sport and Touring Packs. Machined forged 5-spoke wheels in black and gold. Black microfibre trim with gold stitching. Build plaque with GP win.

**Exige Scura/Stealth: January 2010**

Limited edition of 35 cars for Europe and some RoW territories. Badged as 'Stealth' for Japan. Based on Exige S with Cup 260 features including powertrain, suspension and body. Soft feel matt black paint finish with gloss Phantom Black triple stripes. Forged 10-splitspoke wheels in matt black. Laquered carbon fibre seat shells and centre tunnel. Anthracite gear knob and parking brake sleeve.

**2011 M.Y. Introduction: March 2010 (final '10 cars: Elise 567; Exige 333; 2-Eleven 35; USA Elise 35; Exige 60)**

VIN character 10 = B. VIN serial number restarts at 0001.

Exige range unchanged. Changes to Elise range include: Revised front body with enlarged oil cooler intake ducts and chin spoilers, restyled radiator outlet ducts, one-piece lift out access cover, aluminium mesh grilles. Revised rear body with restyled bumper incorporating licence plate plinth, new engine/boot lid, aluminium mesh grilles, separate rear transom panel without *faux* end grilles, new diffuser. New headlamp units incorporating LED turn lamps and LED daytime running lamps. New 12-spoke cast roadwheels, or new 5-'Y'spoke forged wheels. Elise S model replaced by base Elise with 1.6 ltr. IZR FAE engine, featuring inlet and exhaust cam VVT-i, and VALVEMATIC inlet valve lift control, Lotus T6 controller; new 6-speed type EC60 transmission; revised rear subframe; optional cruise control.

**Elise SC and Exige S RGB Special Editions: September 2010**

Limited edition of cars to celebrate the career of Roger Becker (RGB) the former Director of Vehicle Engineering who retired in January 2010 following 44 years of service. Based on the Elise SC and the Exige S with Sports and Touring packs, rear subframe shear panel (Exige S only), Lotus ultra lightweight forged alloy wheels and air conditioning as standard. Produced in four colours, Aspen White, Starlight Black, Solar Yellow & Carbon Grey. RGB special editions are identified by a numbered interior plaque, Roger Becker's signature decals on the side of the bodywork and special monochrome Lotus nose badge.

**Introduction of Lotus Dynamic Performance Management (Lotus DPM)**

Introduced at VIN BH\_10391 in September 2011 for Elise with 1ZR powertrain only.

Kelsey Hayes ABS system replaced with Bosch ABS modulator incorporating electronic stability control referred as Lotus Dynamic Performance Management and HBA (Hydraulic Brake Assist). Revisions to tell tale lamps include addition of side light tell-tale, cruise control tell-tale (previously located on centre console) Lotus DPM tell-tales and revised functionality of coolant temperature tell-tale and LCD display.

**Elise CR (Club Racer): February 2011**

Based on 1ZR powertrain for Europe and some ROW territories. Introduced as the entry level variant to the Elise range. Increased power to weight ratio over standard 1.6 Elise by deletion of certain standard factory fitted components such as carpets, radio and speakers, passenger footrest, central locking, mudflaps, NVH material and soft top roof (shower cover supplied). Lightweight battery fitment with isolator switch available to replace standard battery. Additional customer optional delete of airbag and pyrotechnic seat belt system as well as Dealer option fit of lighter weight forged wheels and 'power pack' consisting of TRD airbox, high flow filter and level 1 sports exhaust. A 'Sport' mode button is fitted as standard and located in the centre console opposite Lotus DPM switch. Sports suspension fitted as standard with adjustable yellow Anti-Roll bar. Available in Saffron Yellow B106, Ardent Red C94, Sky Blue C124, Aspen White C113, Carbon Grey B137 & Matt Black B141. The CR is fitted with a 'Black Style Pack' as standard, which includes a matt black finish to the roll hoop cover, the rear transom panel and door mirror covers. Elise CR logos R/H rear clamshell & LH/RH front clamshell above the side repeaters, top of roll hoop cover & door interior. A rear 'LOTUS' decal replaces the rear 3D 'LOTUS' badge but still uses the standard Lotus logo nose badge. Body coloured seats, with SuedeTex pads, body coloured painted centre console with the Elise CR decal. Matt black radio blanking panel with CR decal. SuedeTex trim to door inserts, handbrake/gearlever gaiter and elements of the steering wheel (including steering wheel centre if airbag delete option selected). See Technical Service Bulletin 2011/09 for full details

**Elise S: June 2012**

Introduced at VIN CH\_10205 VIN character 7 engine type = R (2ZRFE engine, supercharged with I.C. - 162.5Kw). **ENGINE:** Fitted with type 2ZR-FE 4 cylinder engine 1.8 litre features dual Variable Valve Timing - intelligent (VVT-i) The engine is uprated by the fitment of a Magnuson R900 supercharger (utilising Eaton TVS Technology TM) with an integral air to water charge cooler and inlet manifold. **COOLING:** The charge cooler system utilises its own dedicated coolant circuit with a coolant reservoir mounted on the left hand side of the engines cylinder head. Charge cooler coolant is circulated to a single front mounted coolant/air cooler radiator positioned ahead of the left hand front road wheel. Additional engine oil cooling is provided with the fitment of a single front mounted oil/air cooler radiator positioned ahead of the right hand front road wheel. **TRANSMISSION:** The Elise S utilises the same Toyota sourced EC60 transmission assembly as used on the Elise 1.6, but is fitted with a higher rated clutch centre plate to accommodate the increased torque. **SUSPENSION:** is unchanged from the Elise 1.6 litre, with uprated springs and dampers available with the selection of the 'Sports' pack option. Also included within the 'Sports' pack option are the latest forged, 7 'Y' spoke 6.0J x 16 front and 8.0J x 17 rear wheels available in either silver or black specifically developed for the introduction of the Elise S. **ELECTRICAL:** An additional USB 5 volt DC charging port (if fitted) is located in the passenger storage pocket. **FUEL:** An uprated 4 bar fuel pump is fitted to ensure that an adequate delivery of fuel to the injectors is available under high engine torque/demand scenarios. See Technical Service Bulletin 2012/07 for full details.

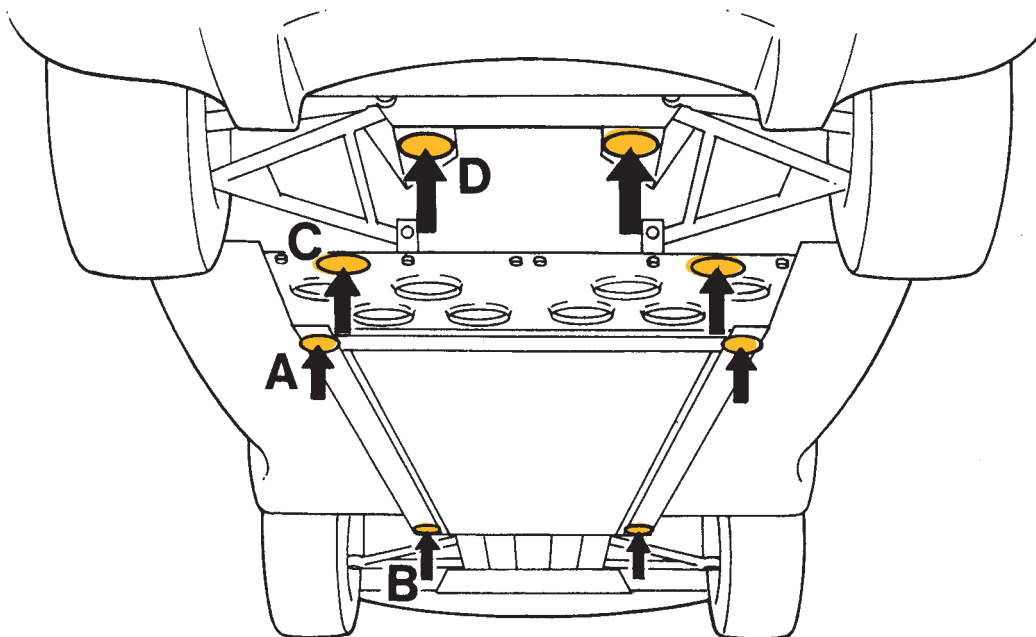


**JACKING & LIFTING POINTS AA.1**

Care must be taken when using a lifting jack or hoist to position the device only in one of the the areas shown in the illustration, with a suitable rubber or timber pad protecting the chassis from surface damage. If a 4-point lift is to be used, the engine bay undertray/diffuser panel (if fitted) must first be removed. When using a 4-point lift, it is strongly recommended that for optimum stability and safety, positions B and D are used.

- A; Identified by a blue sticker. Beneath crossmember ahead of fuel tank bay. To be used one side at a time for wheel changing - lifts both wheels on one side. *Do not use with a four point garage lift.*
- B; Beneath the front end of the right or left hand main chassis rail, behind the front wheelarch. Garage use with 4-point lift in conjunction with (C).
- C; *The engine undertray/diffuser panel must first be removed.* Beneath the outboard end of the chassis crossmember ahead of the rear wheelarches. Take care to position the jack between the fixing screws for the fuel tank bay perforated undershield. Garage use with 4-point lift in conjunction with (B).
- D; *The engine undertray/diffuser panel must first be removed.* Beneath the rear subframe, close to the lower wishbone rearmost mountings.

**Jacking at any other point may damage the chassis or body structure and/or jeopardise safety.**



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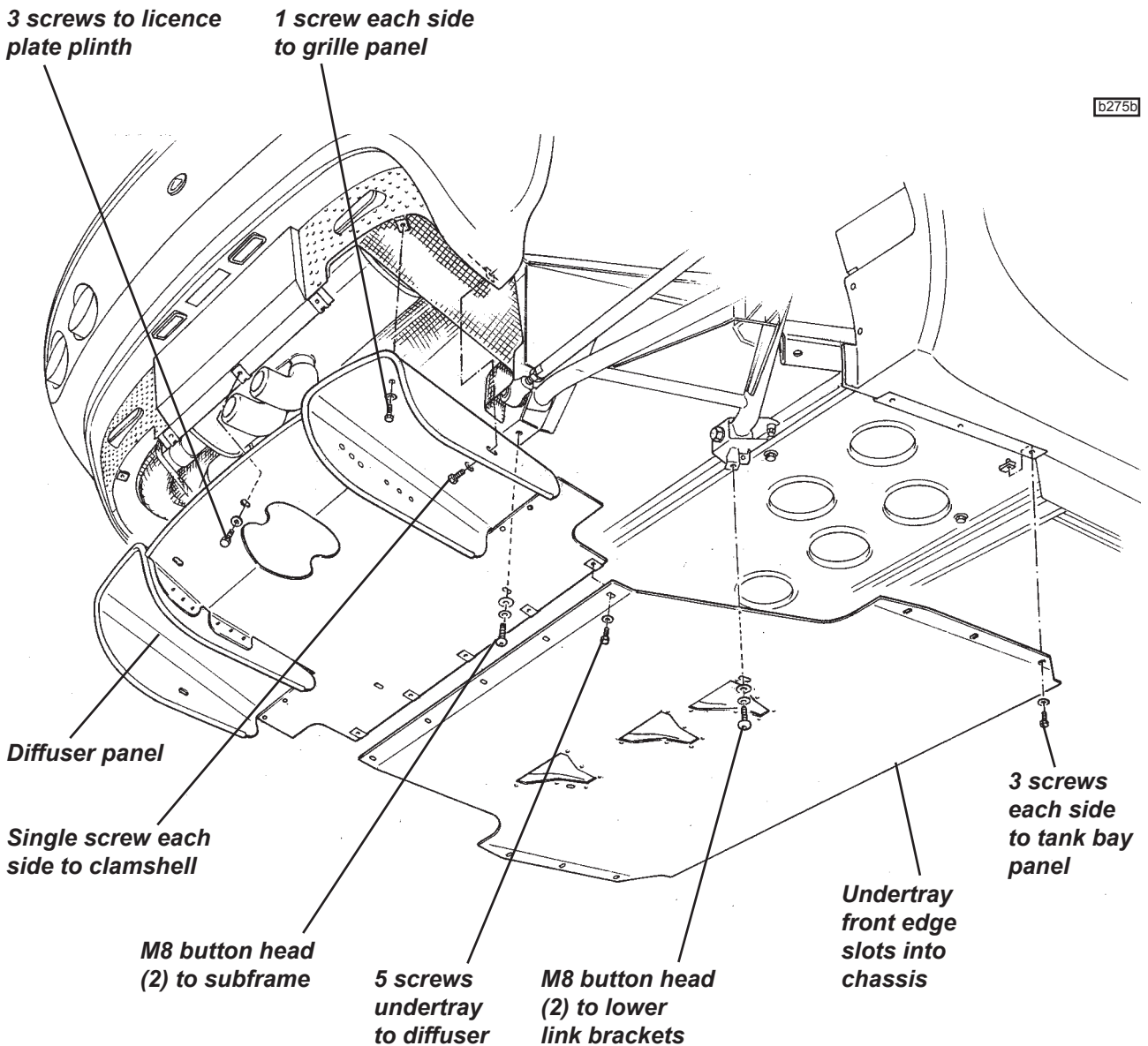
**ENGINE BAY UNDERTRAY/DIFFUSER AA.2**

For certain service operations, it may be necessary to remove the engine bay undertray and/or diffuser panel. The panels contribute to the aerodynamic performance of the car, and also help to keep the engine bay clean. Do not run the car without the panels fitted.

Note: To ensure its security, any speed fixings used to retain the undertray screws must be renewed before refitting the undertray/ diffuser assembly onto the vehicle.

- All M5 screws tightened to a torque of 5 Nm
- All M6 screws tightened to a torque of 8 Nm
- All M8 screws tightened to a torque of 20 Nm.

**Typical model shown - others similar**





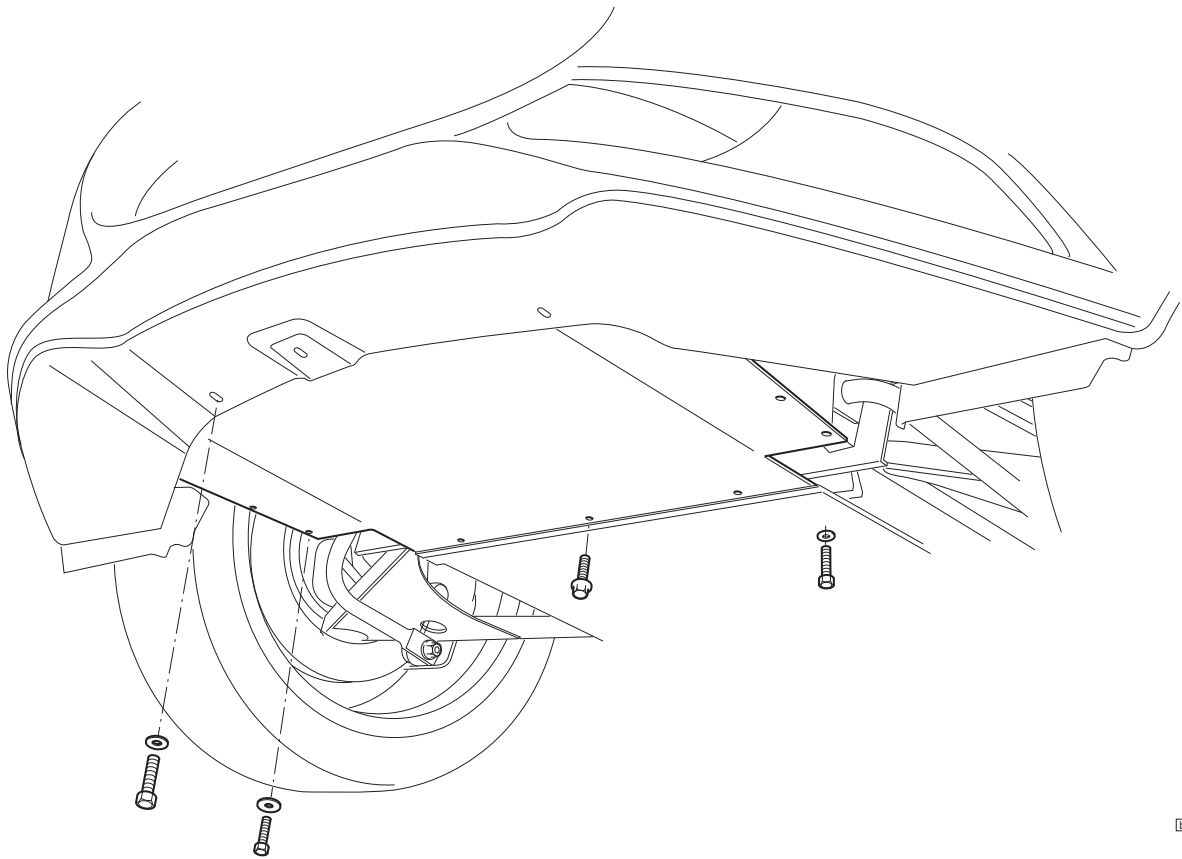
**ENGINE BAY UNDERTRAY/DIFFUSER AA.3**

For certain service operations, it may be necessary to remove the front undershield. The panel contributes to the aerodynamic performance of the car, aids the rigidity of the front clamshell panel and retains the auxiliary radiator brackets in situ. Do not run the car without the panels fitted.

The undershield panel is fixed to the vehicle using M5 and M6 sized fixing screws, which are either bolted directly into the vehicle's chassis and crash structure or retained by the use of single use speed fixings also referred to as 'spire nuts'.

Note: To ensure its security, any speed fixings used to retain the undershield screws must be renewed before refitting the assembly back onto the vehicle.

All M5 screws tightened to a torque of 5 Nm  
All M6 screws tightened to a torque of 8 Nm



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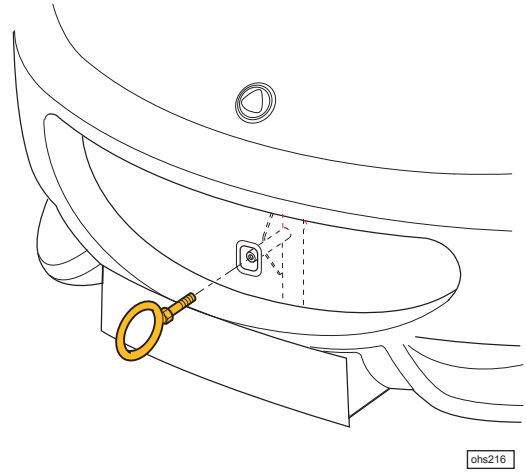
**VEHICLE RECOVERY AA.4**

**Recovery Anchorage Mounting Point**

A recovery anchorage mounting point is fitted behind the centre front radiator air intake grille. The mounting point is provided to aid vehicle recovery, such as winching onto a flatbed car transporter, but only when the car is able to roll freely.

**Recovery Eye**

A recovery eye is provided with the vehicle tool kit, and stowed in the rear luggage compartment. When required, fit the eye to its anchorage point having first removed the protective bung (if fitted), and screw fully into the tapped boss.



Only in an emergency should the car be towed using this anchorage mounting, and then only for the shortest distance necessary, during which time the following precautions must be taken:

**WARNING:** Use only towing equipment designed specifically for this purpose, or damage to the car may be caused, or you could be killed or seriously injured. Ensure that the key is used to unlock the steering column, and is then left in the lock. Never withdraw the key until the car is stationary. The steering column will lock when the key is withdrawn.

**NOTICE:** Before being towed:

- Release the parking brake and ensure that the transmission is in neutral.
- Comply with all local legislation applicable to cars being towed.
- Do not use the recovery eye to secure the car on a transporter. (see 'Car Tie- Down' below).

**Car Tie-Down**

When moving a car by transporter or trailer, the car should be secured only by chocking and strapping around the road wheels.

NOTICE: Attaching restraints around suspension linkages or chassis or body components may cause damage.

**Vehicle Recovery**

The recommended method of recovery for any model is the use of a flat bed transporter as shown in illustration B.

Never use the recovery eye to tow the vehicle. To prevent causing serious damage to the transmission; always tow the vehicle with the free wheels (non driving wheels) rotating on the ground, see illustration A.

