

**340R SUPPLEMENT**

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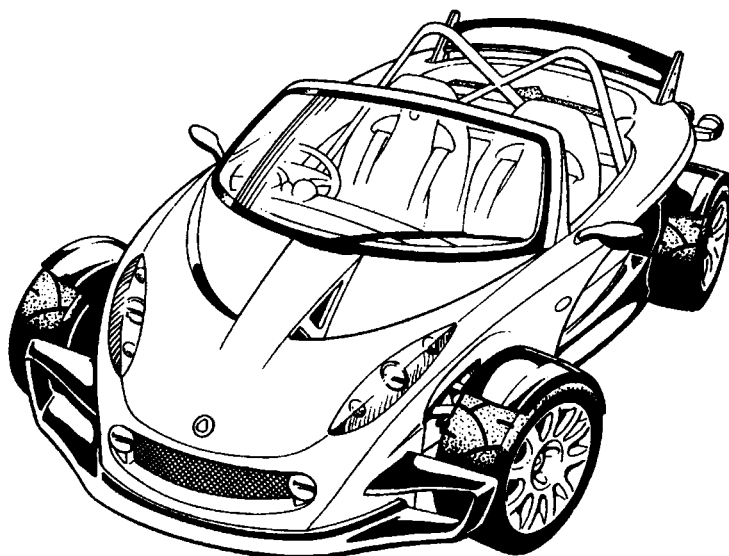


340R.# - INTRODUCTION

The Elise 340R made its debut at the 1998 Birmingham Motor Show as a radical lightweight sportscar concept, focused on pure driving pleasure. Minimal changes were required to meet European homologation regulations, and the car commenced production in January 2000.

The car is based on the standard Elise chassis, but uses completely different bodywork and interior, and a road going version of the Rover VHPD powertrain. The car embodies the original philosophy of the Elise, with performance achieved through light weight and efficiency, but is taken to a further extreme to focus on driving pleasure, and is aimed at the enthusiast driver and for occasional circuit use. Features include a non-structural, minimalist body without doors or roof structure, combined with separate close fitting carbon fibre mudguards, translucent body side panels, a carbon fibre rear aerofoil mounted on alloy side plates, and a special oval section steel roll over bar. Sport suspension is fitted, complete with the uprated and adjustable front anti-roll bar.

The vehicle has proven to be an extremely rare phenomenon within the motor industry, as it is virtually unknown for a concept vehicle to be productionised without drastic modification. The styling concepts first shown at the 1998 International Motor Show at the Birmingham N.E.C. have remained true to their ideals in production form. In fact, its uniqueness continues through to the rigourous acceptance criteria of the European Whole Vehicle type approval authorities, no mean feat for a vehicle with these features.



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340R.TD - TECHNICAL DATA

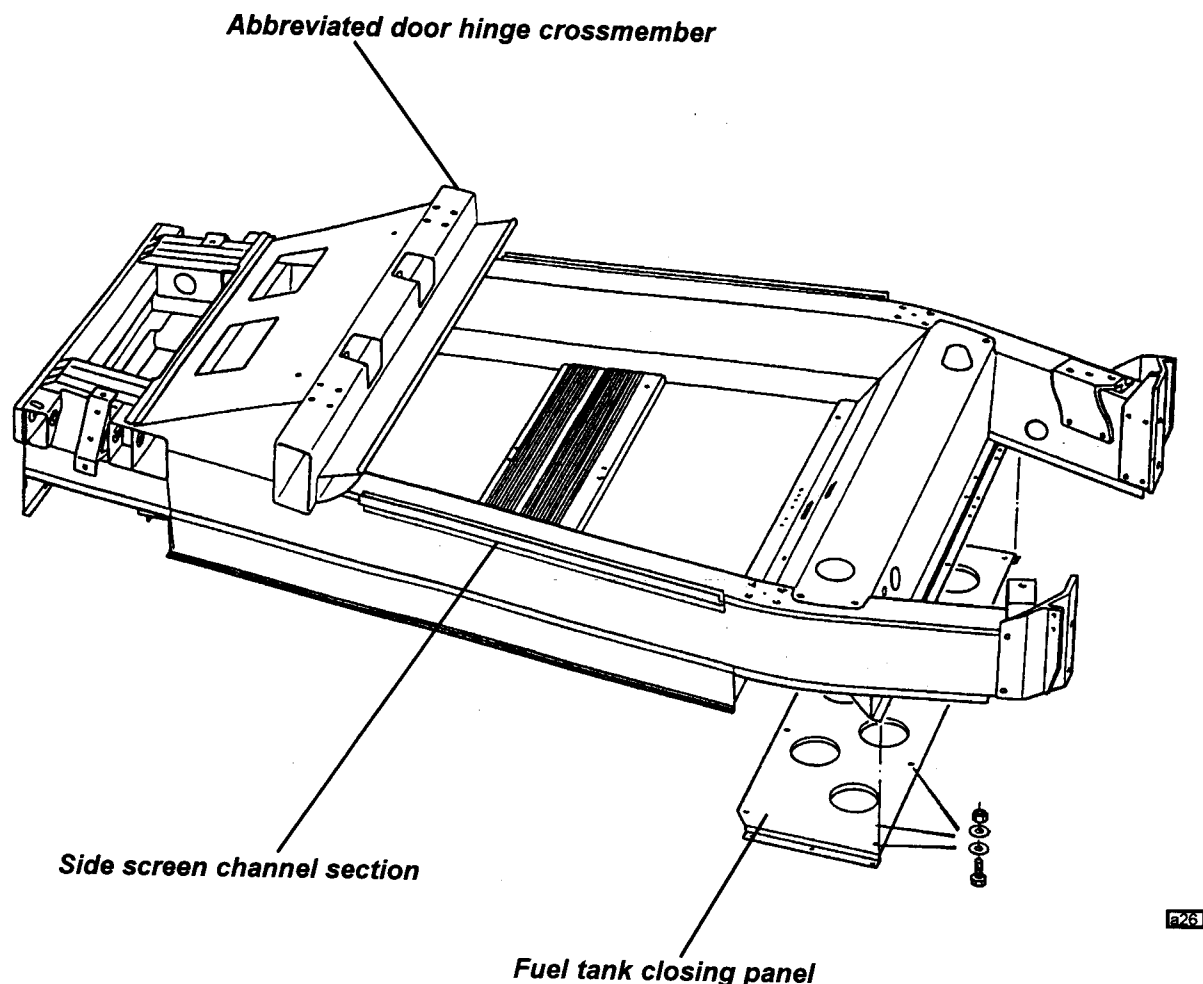
Dimensions			
Overall length	3620 mm		
Overall width	1702 mm		
Overall height (at kerb weight)	1080 mm		
Wheelbase	2300 mm		
Track - front	1432 mm		
Track - rear	1459 mm		
Ground clearance (at kerb weight)	110 mm		
Approach angle	12.4°		
Departure angle	28°		
Unladen weight - total	701 kg	>	inc. full
- front	278 kg	>	fuel tank
- rear	423 kg	>	
Maximum weight - total	928 kg	}	incl.
- front	387 kg	}	occupants
- rear	541 kg	}	& luggage
Trailer towing	Not permissible		



340R.A - CHASSIS

The bonded aluminium alloy chassis structure is derived from the standard Elise chassis, but has no door hinge mountings, and the sill top edge support flanges are replaced by channel strips to mount the cockpit side screens. The galvanised steel rear subframe is fitted with additional weldnuts, and has been commonised for the standard Elise. No chassis rear longerons are used, but a thick machined alloy plate is bolted to each rear corner of the subframe to support the carbon fibre rear aerofoil. The special roll over bar comprises individual hoops for driver and passenger, interlinked to form a crossbraced structure, fabricated from oval section steel tubing, with back stays anchoring to the rear aerofoil mounting plates. The composite front crash structure is revised to accommodate the new body, and is supplemented by a new aluminium front undertray which incorporates longitudinal rivetted box sections.

Note that, as on the standard Elise, the bolted on closing panel below the fuel tank bay, is a structural panel and contributes to the rigidity of the chassis. On no account should the car be driven with this panel removed.





340R.B - BODY

The non-structural composite body structure is minimalist and functional, with the exceptionally light weight contributed to by the exclusion of opening doors or a roof structure. The principal body mouldings are as follows:

Cockpit Tub: Single piece moulding includes the scuttle, cockpit coaming and rear bulkhead. Bonded to the chassis with elastomeric adhesive.

Side Closing Panels: Closing panel between outboard top edge of tub, and top of chassis side rail, extending rearwards to form the engine bay side walls and provide support for the topshell.

Cockpit Side Screens: The cockpit sides are made from translucent polycarbonate sheet, bonded to the chassis and upper side panels.

Topshell: Single piece moulding includes the whole nose section, cockpit surround and rear body deck. Secured with threaded fasteners. Incorporates two removeable access panels at the front, each of which is secured by four threaded fasteners. The engine lid at the rear is fixed by nine threaded fasteners.

Sill Panels: Run from behind each front wheel to sweep upwards ahead of the rear wheels. Bonded to the chassis with elastomeric adhesive.

Side Intake Ducts: Bolted to side closing panel to admit air into engine compartment.

Front Spoiler/Splitter: One piece moulding bolted to the topshell, includes splitter panel beneath nose and twin deck aerofoils ahead of each front wheel.

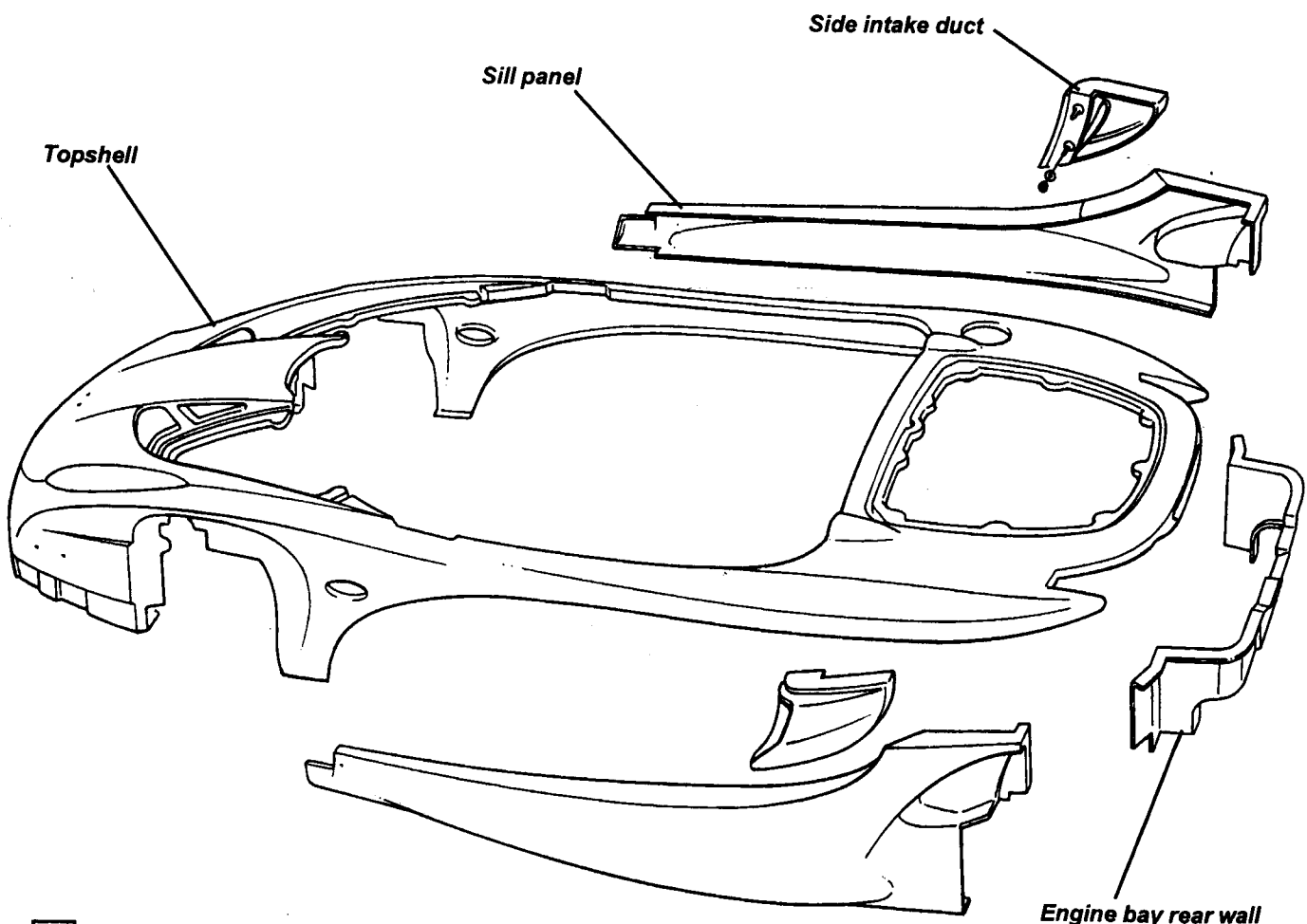
Windscreen Frame: One piece composite moulding similar in concept to standard Elise, but excludes fascia top, and accommodates shorter windscreen.

Engine Bay Rear Wall: Composite panel bolted to topshell. Removeable for competition use.

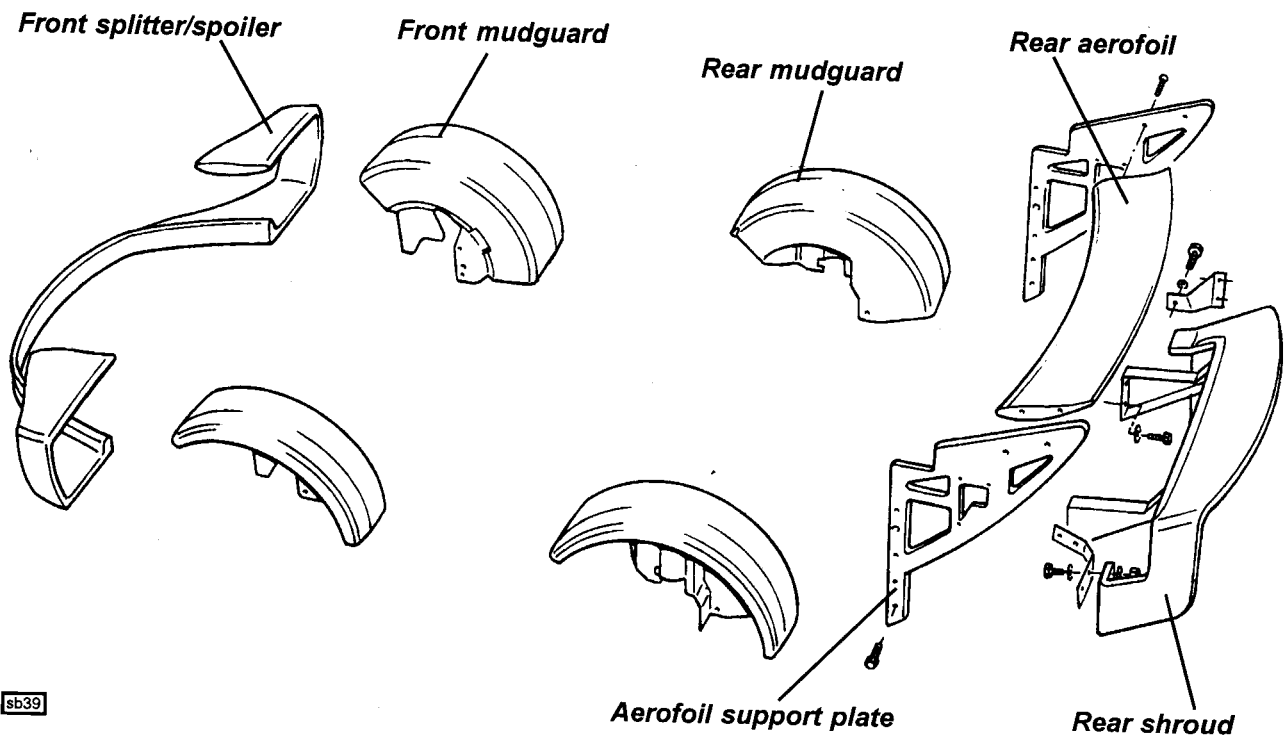
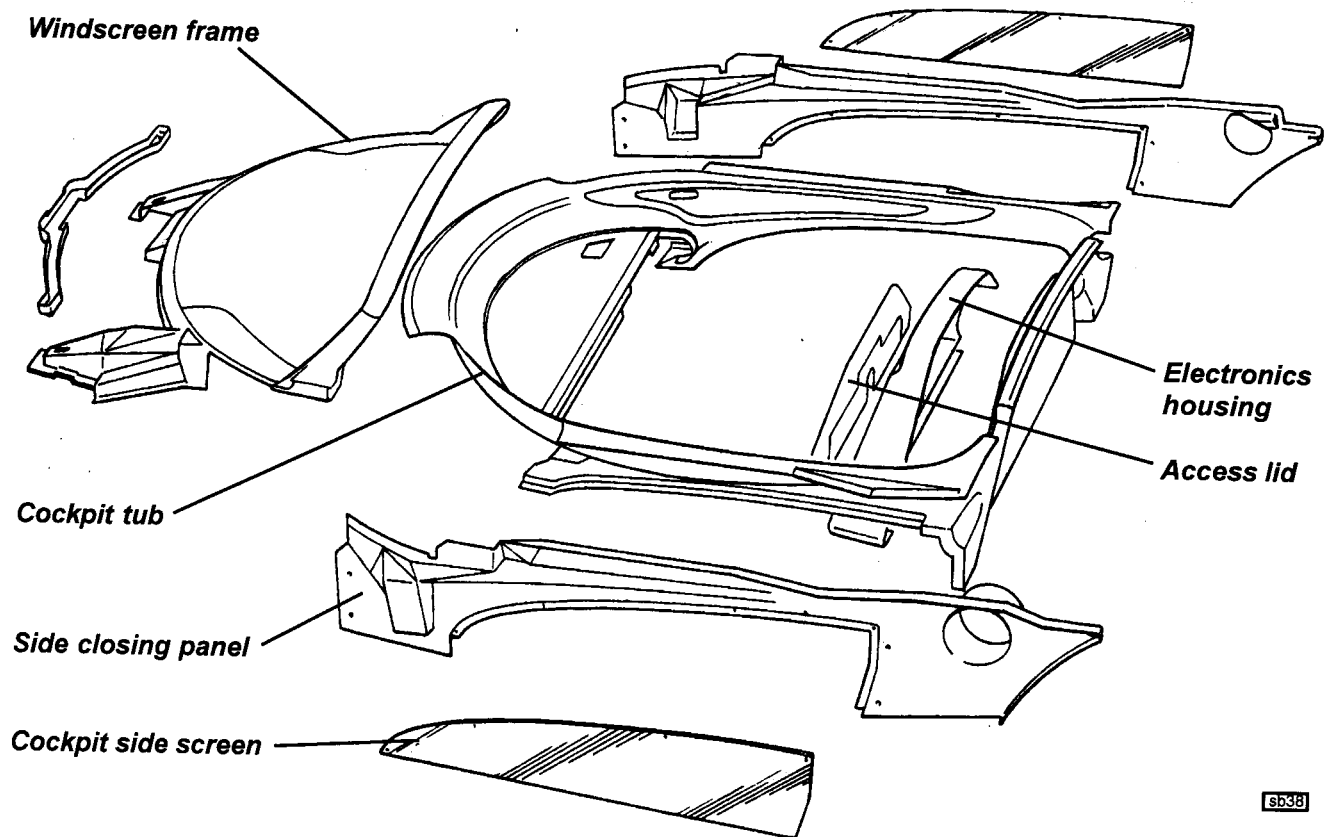
Rear Shroud: Composite panel protects silencer and supports rear diffuser. Bolted via brackets to the rear subframe.

Rear Aerofoil: Carbon fibre moulding bolted to alloy support plates.

Mudguards: Separate, close fitting carbon fibre mudguards are used on each wheel, mounted to the hub carrier.



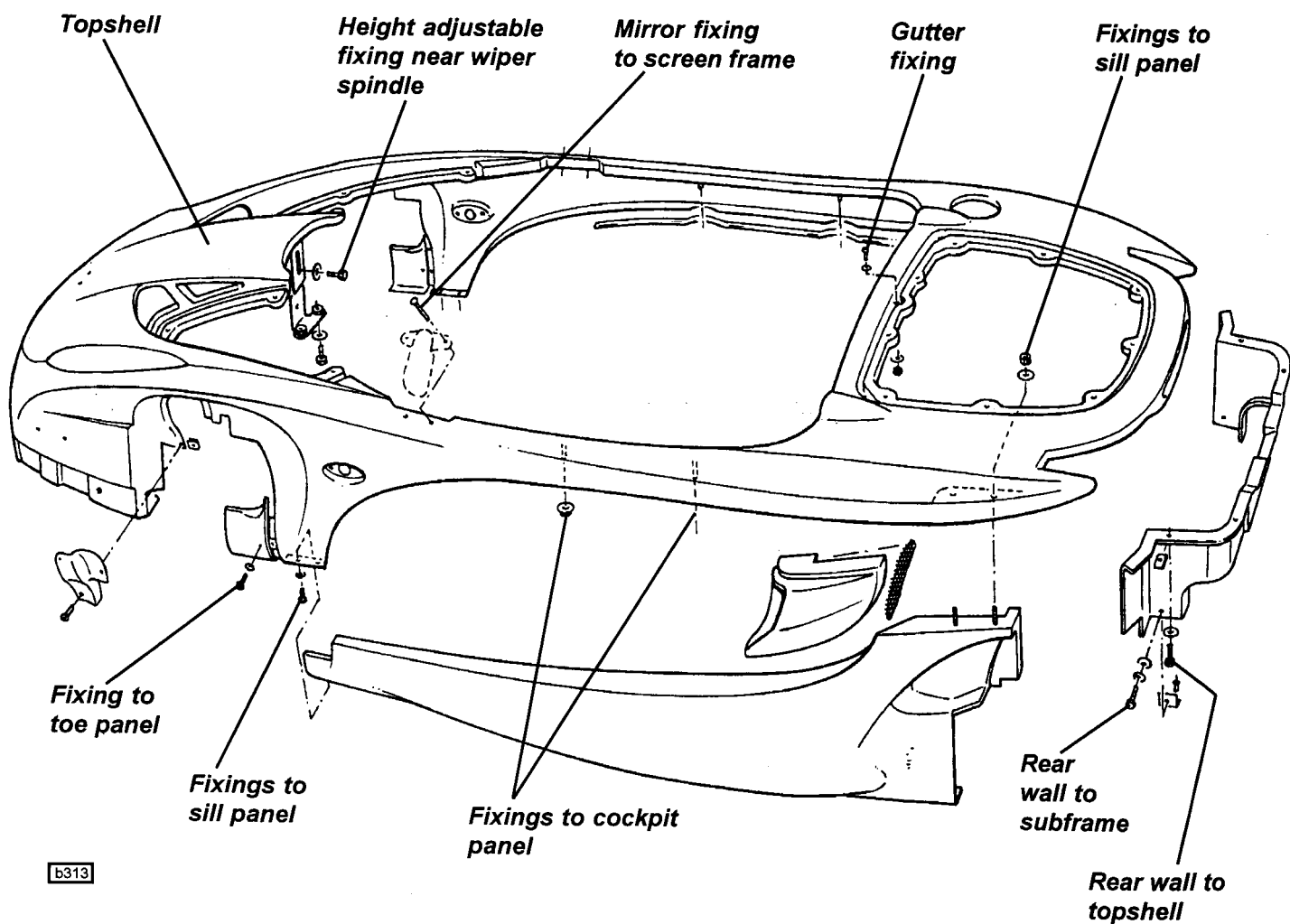
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Removal of Topshell

The body topshell is secured by threaded fasteners. Removal of the topshell requires also that the seats be removed and the roll over bar fixings released to allow the bar to be tilted forwards.

1. Remove the rear aerofoil from the mounting plates.
2. Remove both seats from the car by releasing the seat runners from the floor and unthreading the harness straps.
3. Release the spherical vacuum reservoir from the roll over bar left hand backstay, and cut any tie wraps around the backstays. Unplug the rear harness connector at the left hand lower corner of the engine bay.
4. Release the roll over bar from the top of both chassis side rails, and release both backstays from the aerofoil mounting plates. Lean the roll over bar forwards to allow sufficient clearance for topshell removal.
5. Remove both outside mirrors, and disconnect the side repeater lamps.
6. Remove the front body access covers and disconnect the front harnesses (2) at the outboard rear corner of the driver's side access hatch.



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7. Remove the single fixing securing the front body spine to the plinth below the wiper spindle.
8. Remove the front undertray.
9. Remove the two screws at each side securing the topshell to the underside of the side sill behind the front wheels, and the single adjacent screw securing the topshell leg to the toe panel.
10. Remove the two nuts each side securing the topshell to the cockpit coaming.
11. From the front edge of the engine lid gutter, remove the three socket head fasteners.
12. From inside the engine bay, remove the two nuts securing the topshell to each top rear end of the sill panel.
13. Release the fixing securing each side of the engine bay rear wall to the subframe.
14. Protect (or remove) the front mudguards, and the sides of the windscreen pillars from scrape damage before lifting the rear of the topshell, and manoeuvring over the windscreen and off the front crash structure.

Fitment of Bonded Body Panels

The cockpit tub, windscreen frame, side closing panels and cockpit side screens are bonded, in that assembly order, to the chassis and other panels using the polyurethane adhesives and techniques outlined in section BM. Windscreen fitment is as described in section BN.13.

Instrument Mounting Rail

The curved mounting rail for the instruments is a hollow composite moulding, secured to the cockpit tub with two screws at the passenger end, accessible from beneath the passenger side fascia, and a single screw at the driver's end. For access to the latter, it is necessary to remove the topshell to expose an access hole in the side closing panel.



340R.C - FRONT SUSPENSION

The 340R is fitted with the Elise Sport suspension package which includes adjustable spring platform Koni dampers with the shorter and stiffer springs, and the uprated front anti-roll bar in Nylon chassis mounting blocks. Standard Elise wishbones are used, but are powder coated silver, as are the steering arms and lower ball joint plinths.

Two variations of suspension geometry are specified; one for road use (with Yokohama or Pirelli tyres); and one optimised for track use with increased negative camber and toe settings. Ride height for both applications is common at 100mm front and 110mm rear, with sport kit steering rack positioning plates factory fitted. The standard setting for the front anti-roll bar is the central of 5 available holes.

Geometry

Ride height (for geometry check)	- front	100 mm below front end of chassis siderail
	- rear	110 mm below rear end of chassis siderail
Steering axis inclination		12° nominal
Castor		+ 3.8°; ± 0.2° max. side/side 0.2°

Road use (Yokohama A038-R or Pirelli P Zero tyres):

Camber	- 0.5°; + 0.1°, - 0.2° max. side/side 0.2°
Alignment	0.2 mm toe-out overall; + 0.2 mm, - 0

Dry track use (Yokohama A038-R tyres):

Camber	- 1.8°; + 0.1°, - 0.2° max. side/side 0.2°
Alignment	0.5 mm toe-out overall; + 0.2 mm, - 0



340R.D - REAR SUSPENSION

The 340R is fitted with the Elise Sport suspension package which includes adjustable spring platform Koni dampers with the shorter and stiffer springs. Standard Elise forged steel hub carriers and wishbones are used, with the wishbones, 'integral stud' type toe-links and upper ball joint plinths powder coated in silver.

Two variations of suspension geometry are specified; one for road use (with Yokohama or Pirelli tyres); and one optimised for track use with increased negative camber and toe settings. Ride height for both applications is common at 100mm front and 110mm rear, with sport kit steering rack positioning plates factory fitted. For optimum rear bump steer set up information, refer to sub-section XA.8.

Geometry

Ride height (for geometry check)	- front	100 mm below front end of chassis siderail
	- rear	110 mm below rear end of chassis siderail
<i>Road use (Yokohama A038-R or Pirelli P Zero tyres):</i>		
Camber		- 2.0°; + 0.2°, - 0
		max.side/side 0.2°
Alignment		1.5 mm toe-in each side; + 0.2 mm, - 0
		max.side/side 0.2 mm
<i>Dry track use (Yokohama A038-R tyres):</i>		
Camber		- 2.7°; ± 0.2°
		max.side/side 0.2°
Alignment		2.5 mm toe-in each side; + 0.2 mm, - 0
		max.side/side 0.2 mm

340R.E - ENGINE

The engine is based on the Rover 1.8 litre 'K' series unit, and is reworked in a similar way to the VHPD 190 race version, but tuned for road use. Output of the engine is as follows:

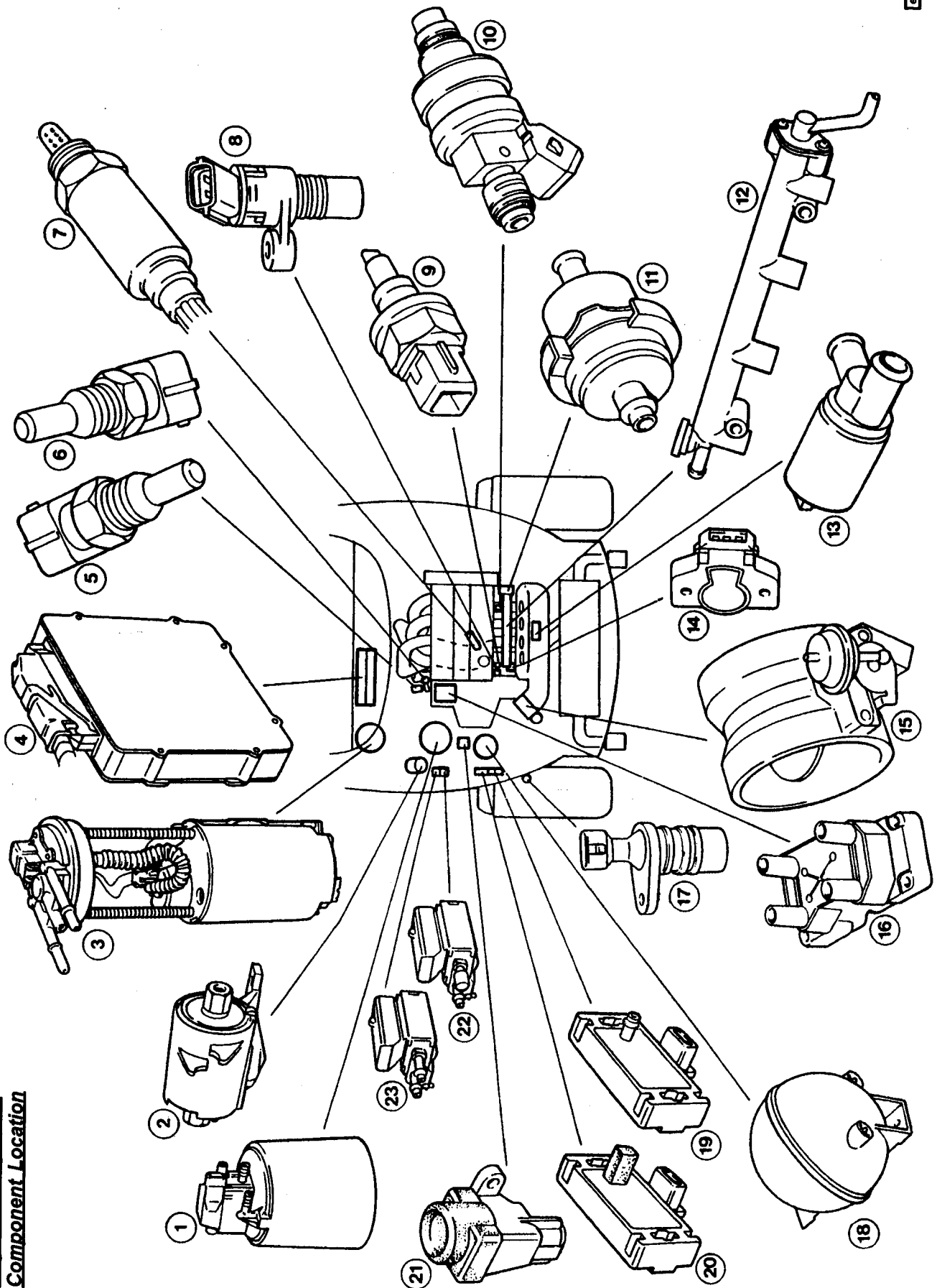
Max. power; 132.5 kW (177.7 bhp) @ 7,800 rpm

Max. torque; 172 Nm (127 lbf.ft) @ 6750 rpm

Performance measures include a big valve cylinder head, re-profiled inlet and exhaust camshafts, a new cast alloy 4-branch intake manifold with individual throttles, large intake airbox and performance air filters, large diameter 4-2-1 exhaust manifold and new muffler, lightweight flywheel, Lotus engine management system with maximum engine speed limited to 7,800 rpm. Engine durability modifications include a forged crankshaft, new forged connecting rods, forged pistons with revised rings, mechanical tappets.



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**Engine Management
Component Location**



Key to engine management component location diagram

- | | | | |
|-----|---|-----|------------------------------------|
| 1. | Evaporative emission (charcoal) canister | 13. | Idle Air Control (IAC) valve |
| 2. | Fuel filter | 14. | Throttle Position (TP) sensor |
| 3. | Fuel pump assembly | 15. | Intake resonator valve |
| 4. | Electronic Control Module (ECM) | 16. | Ignition coil pack |
| 5. | Engine Coolant Temperature (ECT) sensor (brown) | 17. | Vehicle speed sensor |
| 6. | Coolant temperature gauge sender (blue) | 18. | Vacuum reservoir |
| 7. | Oxygen sensor | 19. | Manifold Air Pressure (MAP) sensor |
| 8. | Crankshaft position sensor | 20. | Barometric pressure (BARO) sensor |
| 9. | Manifold Air Temperature (MAT) sensor | 21. | Inertia switch |
| 10. | Fuel injector | 22. | Resonator locking solenoid valve |
| 11. | Fuel pressure regulator valve | 23. | Resonator charging solenoid valve |
| 12. | Fuel rail | | |



Engine Management

The engine management electronic controller is common with the Esprit V8 and uses some of that model's components, including:

- Idle Air Control (IAC) valve; mounted on the rear of the engine and connected by hose between the intake airbox backplate and ports in the underside of each inlet manifold tract.
- Ignition Coil Pack; one of the two identical V8 coil packs, mounted on the rear of the cylinder head.
- Electronic Control Module (ECM); mounted on the cabin rear bulkhead - controls engine management systems including fully sequential injection and direct ignition.
- Manifold Air Pressure (MAP) and Barometric pressure (BARO) sensors; mounted on the engine bay LH wall.

Other engine management components are as standard Elise.

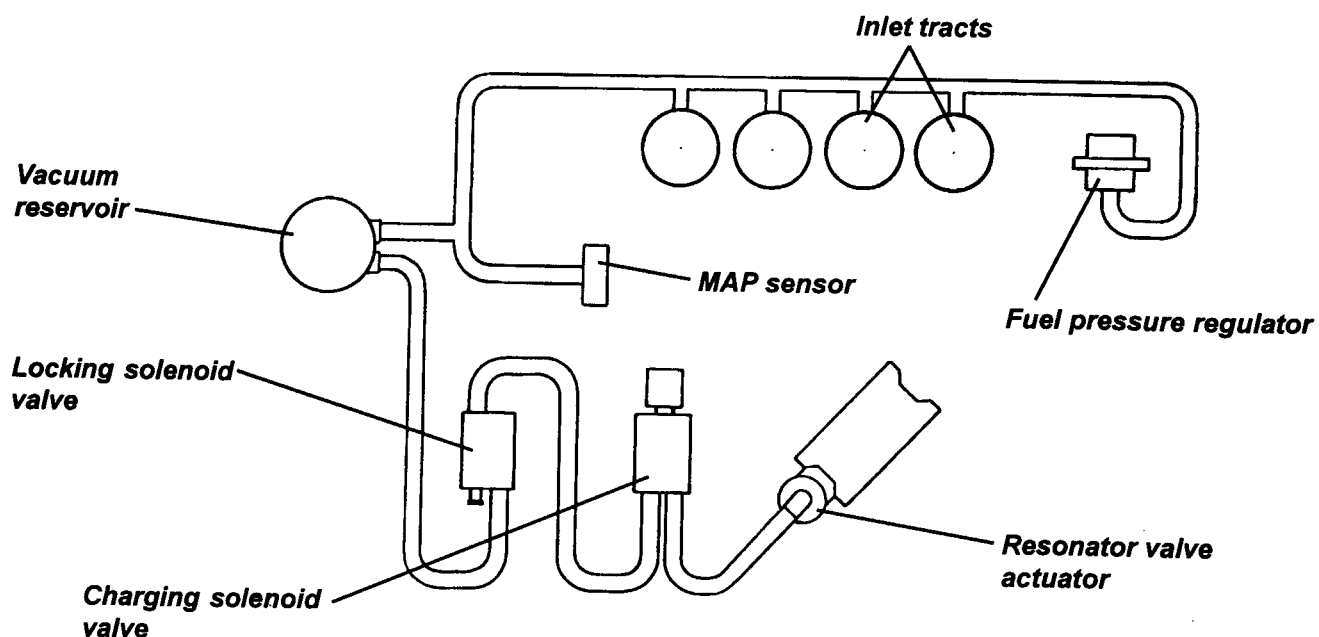
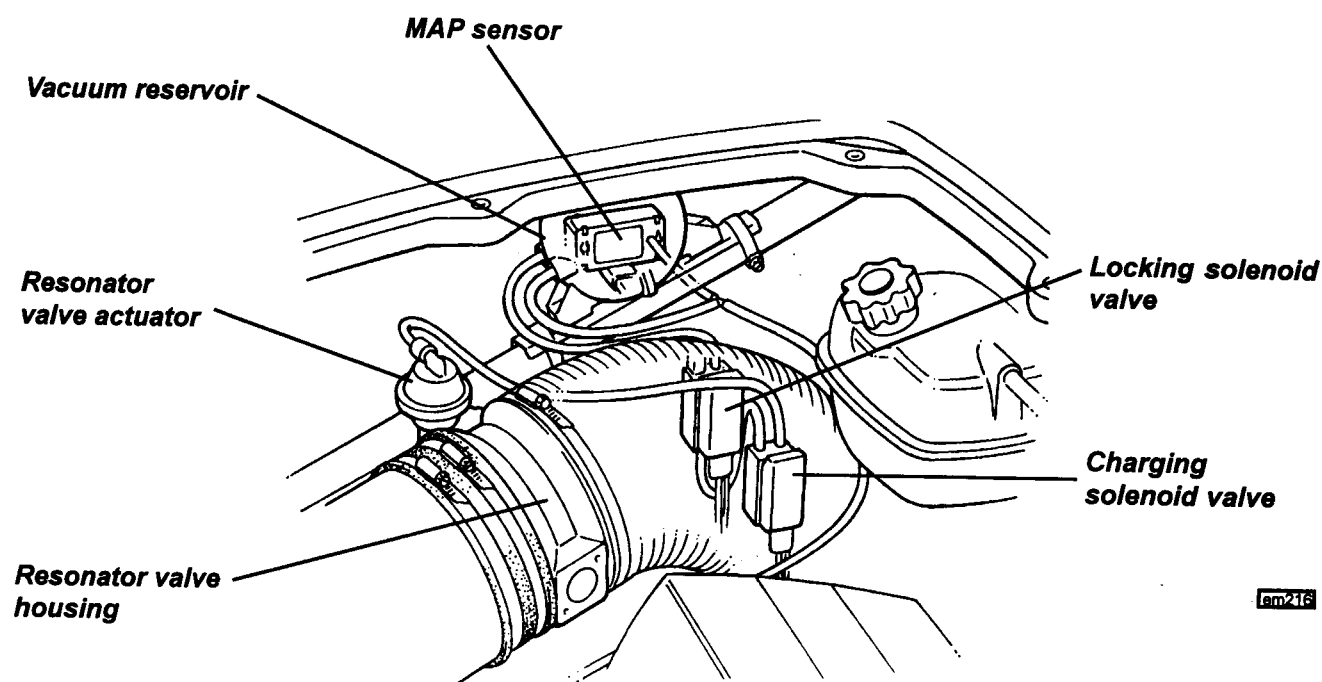
The OBD2 (On Board Diagnostics version 2) connector socket is located within the electronics box on the cabin rear bulkhead. For fault diagnosis, the 'Tech 1' tool, including the Esprit V8 cartridge, should be plugged into this socket, and any trouble codes read in conjunction with Service Notes manual 'Section EMM'. A limited range of trouble codes are available:

<i>Trouble Code</i>		<i>Description</i>
P0107	Manifold Absolute Pressure	Circuit low input
P0108	Manifold Absolute Pressure	Circuit high input
P0112	Intake Air Temperature	Circuit low input
P0113	Intake Air Temperature	Circuit high input
P0117	Engine Coolant Temperature	Circuit low input
P0118	Engine Coolant Temperature	Circuit high input
P0122	Throttle Position	Circuit low input
P0123	Throttle Position	Circuit high input
P0131	Oxygen Sensor	Circuit low voltage
P0132	Oxygen Sensor	Circuit high voltage
P0201	Injector Circuit Malfunction	Cylinder 1
P0203	Injector Circuit Malfunction	Cylinder 3
P0205	Injector Circuit Malfunction	Cylinder 4
P0207	Injector Circuit Malfunction	Cylinder 2
P0601	ECM Integrity	Watchdog
P0606	ECM Integrity	Checksum
P1100	Fuel Pump	Relay or circuit open
P1101	Fuel Pump	Relay or circuit shorted
P1106	Barometric Pressure	Circuit range/performance problem
P1107	Barometric Pressure	Circuit low input
P1108	Barometric Pressure	Circuit high input
P1420	Battery Voltage	Too high
P1421	Battery Voltage	Too low
P1501	Resonator Valve	Not closing
P1502	Resonator Valve	Not opening



Intake System & Resonator Valve: A new short intake manifold assembly incorporates individual inlet tract butterfly throttles operated via cable quadrant between cylinders 2 & 3. A carbon fibre airbox, bigger still than the Sport 190 version, is supplied with air via large diameter trunking terminating at the left hand lower corner of the engine bay. Incorporated in the intake trunking at the entrance to the airbox, is a butterfly valve which is controlled by the engine management system, and is designed to suppress resonant intake noise under certain engine operating conditions. The valve is sprung open and is closed by a vacuum actuator supplied via a pair of solenoid valves mounted on the LH side of the engine bay. The solenoid valves are controlled by the engine management ECM which is programmed to close the valve when accelerating with wide throttle through the lower gears at about 30 - 40mph.

The flap capsule is connected to a vacuum charging solenoid valve which either ventilates the the capsule, or connects it to a vacuum locking solenoid valve. The locking valve either seals the charging valve, or connects with the manifold vacuum supply via a reservoir mounted on the roll over bar back stay.



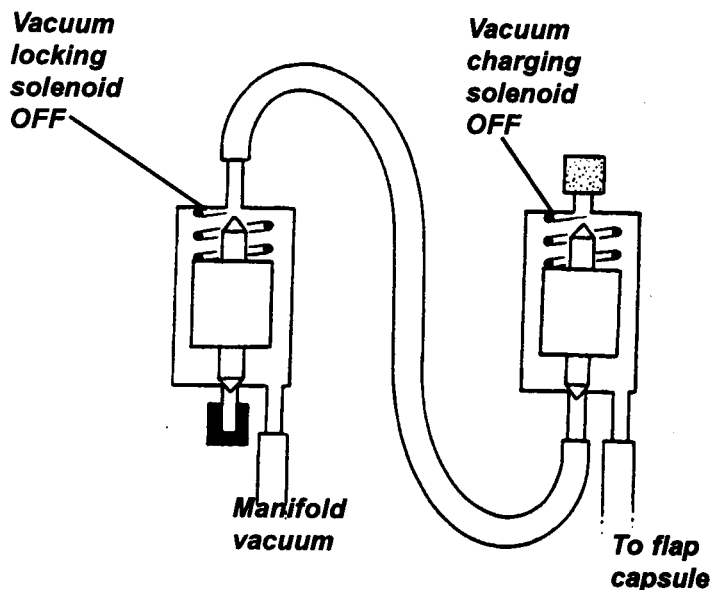


The sequence of operation is as follows:

a). Normal running - Both solenoid valves off - Flap valve open

The flap capsule is vented to atmosphere, and the flap valve is sprung open.

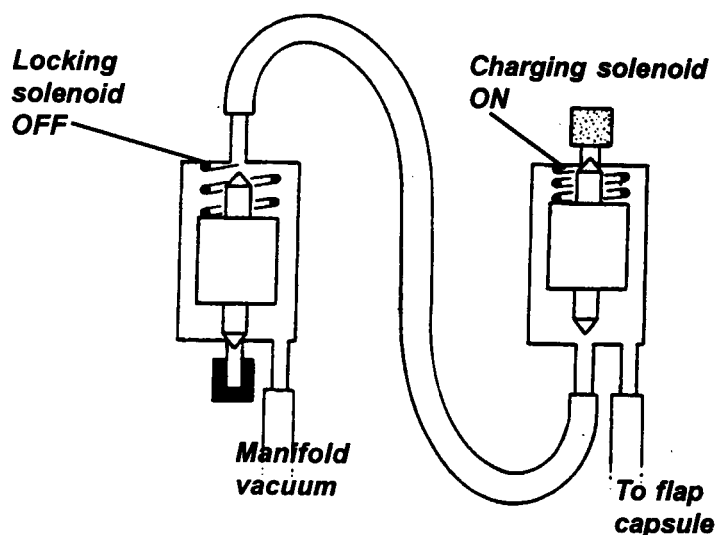
Inlet manifold sealed by the locking capsule.



b). Cruising at 30 mph in second or third gear - Charging solenoid on - Flap valve closed

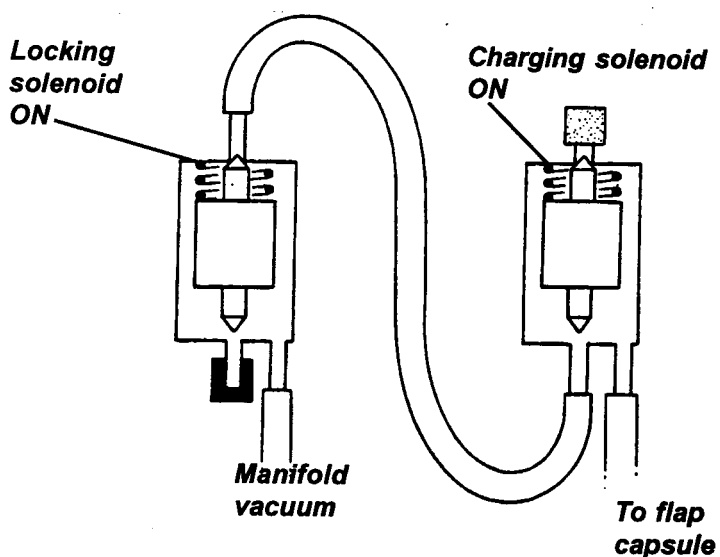
Charging solenoid is energised.

Flap capsule is connected to manifold vacuum - flap valve is closed.



c). Cruising or accelerating at 30 mph in second or third gear - Both solenoids on - Flap valve closed

Within two seconds of condition (b) occurring, the vacuum locking solenoid is also energised and seals the vacuum in the flap capsule. This is necessary in order to prevent loss of manifold vacuum during wide throttle acceleration resulting in insufficient vacuum at the flap capsule to maintain flap closure.



When the conditions required for intake resonance suppression no longer apply, both solenoid valves are de-energised and the flap valve is opened.

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Air Cleaner: The Elise 340R uses two identical Pipercross conical foam air cleaner elements contained within the air intake trunking; a primary filter mounted at the inlet end of the trunking, and a secondary filter mounted immediately after the resonator valve at entrance to the airbox. When the vehicle is operated in a relatively clean environment, the primary filter should be cleaned every 'A' service, and the secondary filter every 'B' service, but where a dusty or smog laden atmosphere prevails, more frequent servicing will be required dependent on the level of pollution. When removing either filter, take care not to contaminate the engine side of the duct or airbox with dirt. Follow the filter manufacturer's cleaning instructions:

1. Dislodge any large embedded dirt by tapping the filter gently. Brush with a soft bristle brush to remove other dirt.
2. Spray Pipercross foam air filter cleaner liberally onto the entire filter. Let soak for 10 minutes.
3. Never use other cleaning agents e.g. gasoline, caustic strong detergents or solvents. Never use steam cleaners or a high-pressure car wash. Doing so will invalidate the warranty.
4. Rinse off the filter with low-pressure tap water from the clean side to the dirty side. This will remove dirt and not drive it into the filter.
5. Always let excess water drain from the filter. Let the filter dry naturally. Never use compressed air; open flame or hot air dryers.
6. After cleaning the filter, Pipercross Dirt Retention Additive (DRA) must be re-applied. Pipercross DRA is a very efficient high tack polymer. Never use motor oil, diesel fuel, ATF or WD40.
7. Re-install the filters and intake ducting.

Exhaust System: The 340R engine uses a special exhaust manifold fabricated from 45mm steel tube, leading via a short flexible section to the standard catalytic converter, and then into a new transverse stainless steel muffler with twin high level outlets. The muffler is wrapped in carbon fibre faced insulation to provide heat protection.

Starting Procedure: The fuel injection and engine management system controls fuel delivery and engine settings under all normal operating conditions.

- i) If necessary, mobilise the engine by pressing the ignition key head transmitter button (see 'Vehicle Security Alarm').
- ii) Insert the ignition key into the switch/steering lock and turn to position 'II' to switch on the ignition (note that position III is not operative).
- iii) Press the accelerator pedal to one quarter travel (approx. 25mm) and press the starter button in the centre of the fascia. As soon as the engine starts, release the button and adjust the accelerator position to maintain 2,000 rpm for 10 seconds to minimise emissions. If the engine fails to start within 15 seconds, stop cranking and pause for 10 seconds before a second attempt.
- iv) If difficulties are encountered, press the accelerator half way down, and repeat (iii).
- v) If the engine still fails to start, it is likely that it will have become fuel flooded. Provision is made to cut off the fuel supply completely when cranking, by fully depressing the accelerator. Repeat the starting procedure holding the pedal fully down, and release immediately the engine starts.

Idle Speed: Engine idle speed is controlled electronically by the engine management computer, and is normally about 1250 rpm. An uprated idle speed is required under certain operating conditions including the engine warm up phase, during which time the raised idle helps to speed the time taken for the catalytic converter to reach operating temperature, as well as inhibiting engine stall. Idle speed will return to normal automatically when the engine has warmed sufficiently.

**340R.F - TRANSMISSION**

The 340R uses the same close ratio transmission as is fitted to the Elise 111S. Compared with the standard transmission, the final drive is lowered from 3.94:1 to 4.20:1, in conjunction with raised first and second ratios, and a lowered fifth. The mph/1000 rpm in fifth drops from 22.9 (std) to 19.4 (close ratio). The transmission may be identified by the serial number prefix on the bar coded label fixed to the top of the clutch housing:

Standard: C6BP

Close ratio: B4BP

The only lubricant recommended for the Elise transmission is Texaco MTF 94, available under Lotus part number A111F6017V.

Gear	Std. Ratio	Close Ratio	Std. Ratio		Close Ratio	
			mph/1000 rpm	km/h/1000rpm	mph/1000 rpm	km/h/1000rpm
First	3.17 : 1	2.92 : 1	5.5	8.9	5.6	9.0
Second	1.84 : 1	1.75 : 1	9.5	15.3	9.4	15.1
Third	1.31 : 1	1.31 : 1	13.4	21.5	12.6	20.3
Fourth	1.03 : 1	1.03 : 1	16.9	27.2	16.0	25.7
Fifth	0.77 : 1	0.85 : 1	22.9	36.8	19.4	31.2
Reverse	3.00 : 1	3.00 : 1				
Final Drive	3.94 : 1	4.20 : 1				

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340R.G - WHEELS & TYRES

The 340R uses, according to market, either special Lotus styled 10 spoke magnesium wheels, made by Tecnomagnesio, or 10 spoke alloy wheels made by Rimstock. Both types are mounted on standard Elise hubs using longer (42mm protrusion instead of 36mm) studs, but standard wheelnuts. The magnesium wheels are common in size and inset to the race wheel set (6J x 15 front, 8J x 16 rear, inset 10mm front and rear), with the alloy wheels differing only in the rear rim width (7.5J) and rear inset (4mm). All wheels should be carefully and regularly cleaned, especially if used on salted roads.

Before fitting magnesium wheels, a coating of Duralac anti-corrosive compound (A111C6017S) should be applied to the hub mating face to prevent electrolytic corrosion. Wheel nut torque for all wheels is unchanged from standard Elise at 80 - 85 Nm, but it is **most important** that following the first fitment of a NEW MAGNESIUM wheel, the wheel nuts are retorqued after 25 miles driving to allow for material settlement.

The Yokohama A038-R tyres fitted to the Elise 340R have been jointly developed by Lotus and Yokohama specifically for Elise models, and whilst the specification is optimised for track use, the tyre is road legal in the U.K. and some European markets. The tyre offers a high level of grip in both dry and wet track conditions combined with good braking performance. The water clearing ability of the tyre is limited in standing water, such that appropriate allowances should be made in these conditions. For competition use, the eligibility of the tyre should first be checked with the appropriate organising authority. Full tyre specification is detailed in subsection XA.15. Note that the tyre tread pattern is directional, with the correct rotation marked by an arrow on the sidewall.

For cars used predominately on public roads, it may be preferred to fit Elise 111S specification Pirelli P Zero tyres with appropriate suspension geometry (see front and rear suspension sections).



340R.H - STEERING

All the steering components used on the 340R are as standard Elise, except the steering wheel centre pad which is trimmed in blue Alcantara, and the rack positioning plates which are 'sport' specification to suit the lowered ride height. The Sport removeable wheel may be fitted for track use. For full details refer to section HE and XA.

340R.J - BRAKES

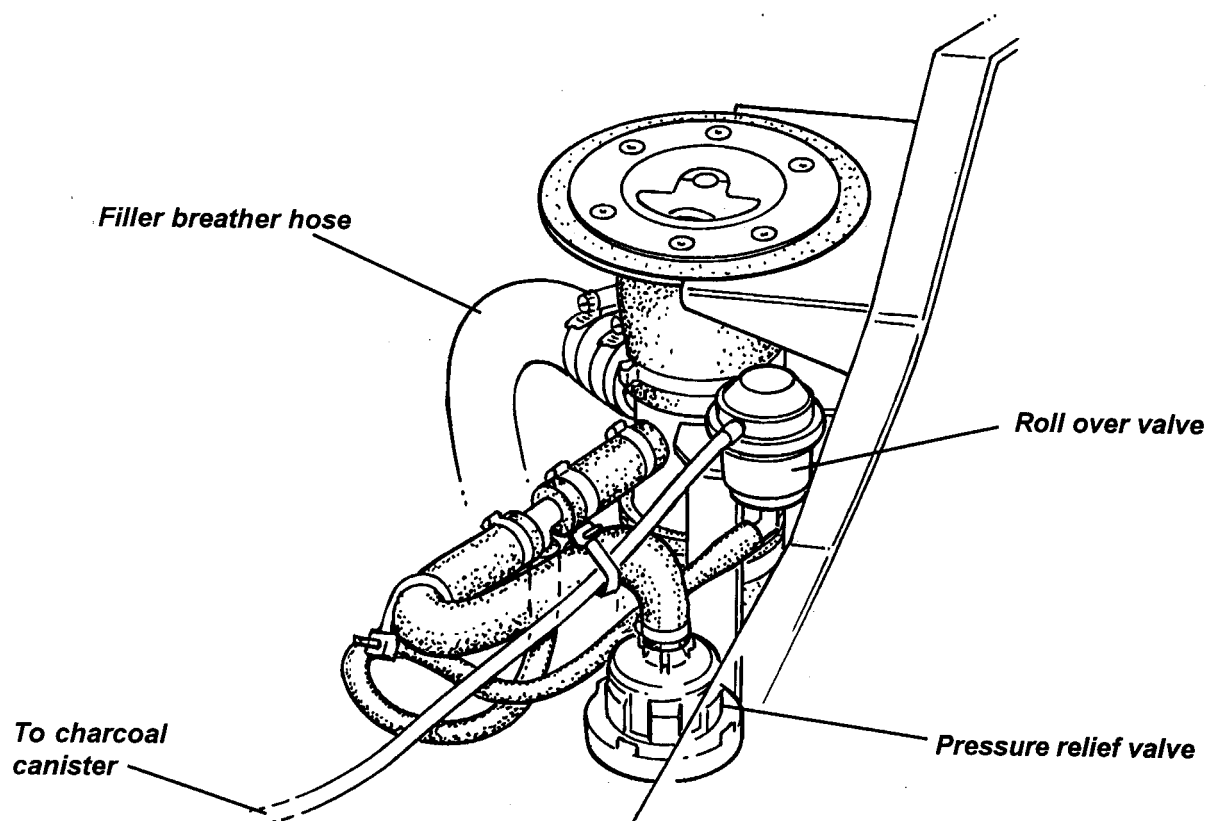
The 340R uses the drilled cast iron discs and brake pads as fitted to the Elise 111S. For full details refer to section JH.

340R.K - COOLING

The cooling system is unchanged from standard, with the exception of the radiator duct/crash structure which is similar in concept but reshaped. A front mounted oil cooler is an optional fit.

340.L - FUEL SYSTEM

The fuel system is based on that of the standard Elise, but the fuel tank filler spigot is angled more acutely to clear the cabin rear bulkhead. New hoses connect the tank to the filler neck, which uses a flush fitting lockable cap. As the cap does not incorporate the safety pressure relief function provided by the standard cap, an additional safety valve is fitted into the breather pipe connecting the filler neck to the roll over valve. This valve functions only in cases of extreme pressure change to prevent potential fuel tank damage.





340.M - ELECTRICAL

VEHICLE SECURITY

The 340R uses a Meta security system as either an M36 T2 electronic immobiliser meeting Thatcham category 2 requirements, or, as an optional upgrade, a full M99 T2 alarm system incorporating M23 cockpit intrusion sensing and a self powered siren, which meets Thatcham 1. The Lucas 5AS security module used on the standard Elise is not fitted. The Meta system operates as follows:

Keys & Vehicle Security Alarm

A single key operates the combined ignition switch/steering lock, with a second, smaller key type for the fuel filler cap. The head of each ignition key incorporates an electronic transmitter for operation of the engine immobiliser and security alarm system. Duplicates of both keys are supplied with the new vehicle. The key numbers are stamped on the keys themselves, and should be recorded by the owner and kept with the vehicle documents to enable the dealer to have replacements made if necessary.

Standard Immobiliser

In order to provide a measure of automatic vehicle security, independent of any driver initiative, the Meta M36 T2 immobiliser will 'passively' immobilise the engine's cranking and running circuits about 20 seconds after the ignition has been turned off. The immobilised state will be indicated by the immobiliser tell tale on the fascia top, ahead of the instruments, blinking once every two seconds.

To mobilise the engine, press once the button on the transmitter key head (with ignition either on or off). Mobilisation will be acknowledged by the tell tale being extinguished.

Upgraded Security System

For enhanced protection from theft and vandal damage, the Elise 340R may be specified factory built with a 'Meta' vehicle security system which incorporates the following features:

- Ingress protection using sensing switches on the front access panels and engine lid.
- Selectable cockpit intrusion sensing using a microwave sensor.
- Automatic (passive) engine immobilisation to prevent the engine from being started.
- Self powered siren to maintain protection if the vehicle battery is disconnected.
- 'Dynamic coding' of the transmitter keys; Each time the transmitters are used, the operating frequency is randomly changed to guard against the possibility of code copying.

Passive Immobilisation

In order to provide a measure of automatic vehicle security, independent of any driver initiative, the Meta M36 T2 immobiliser will 'passively' immobilise the engine's cranking and running circuits about 20 seconds after the ignition has been turned off. The immobilised state will be indicated by the alarm tell tale on the fascia top, ahead of the instruments, blinking once every two seconds.

To mobilise the engine, press once the button on the transmitter key head (with ignition either on or off). Mobilisation will be acknowledged by the tell tale being extinguished.

Arming the Alarm

Remove the ignition key and check that the engine lid and front access panels are closed. Press the transmitter button for about two seconds. This command will be acknowledged by:

- Two flashes of the hazard warning lamps;
- The tell tale on the fascia top lighting, and blinking off once a second. After a set-up period of 25 seconds has elapsed, the tell tale will go out, and blink on once a second.

Check that these indications occur. If not, press the button a second time, as the first press may have only switched off the passive immobilisation (see above). Note that if the system is armed when the engine lid or a front access panel is not fully closed, four beeps will be heard as warning. If still open after 25 seconds, the alarm will be armed with that switch excluded from the circuit.

After arming the system, a period of at least 25 seconds must elapse before all functions and sensors become fully active. After this time, the alarm will be triggered by any of the following actions:

- Opening the engine lid or front access panel;
- Movement detected within the cockpit;
- Energising the ignition circuit ('hot wiring');
- Interruption of the vehicle battery power supply.



When triggered, the electronic siren will sound and the hazard warning lamps will flash for a period of approximately 30 seconds before closing down and resetting, ready for any further triggering input. If a trigger is continuously present, the alarm will repeat after a short delay, and continue in this sequence for about ten cycles.

To silence the alarm when triggered, disarm as described below.

Disarming the Alarm

To disarm the alarm prior to entering the vehicle, or if the alarm has been triggered, press once the button on the transmitter key. This command will be acknowledged by:

- One flash of the hazard warning lamps;
- Extinguishing of the alarm tell tale on the fascia top.

If the alarm had been triggered during the last armed period, the alarm tell tale will light and 'off blink' a code(s) for about 30 seconds to indicate which of the triggers was responsible:

4 blink offs every 6 seconds - engine lid or front access panels;

8 blink offs every 6 seconds - ignition input;

1 blink off every 6 seconds - microwave sensor;

This coding will be repeated each time the alarm is disarmed until the memory is cleared by pressing the transmitter button with the ignition switched on.

Intrusion Sensing

A microwave sensor is mounted in the rear bulkhead electronics compartment, and is able to detect substantial physical movement within the cockpit, and trigger the alarm. The range and sensitivity of the intrusion sensor may be adjusted if necessary by turning an adjuster screw on the unit.

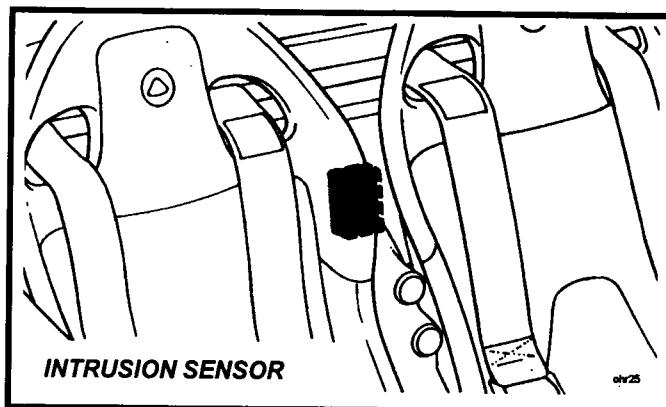
If desired, the alarm may be armed without the intrusion sensor or battery interruption circuits being active by:

- with the alarm disarmed, hold the transmitter button pressed for a 4 second period. This will be acknowledged by 3 flashes of the hazard lamps, and blinking of the alarm tell tale.

Note:

Intrusion sensing will automatically be reinstated the next time the alarm is armed.

Do not inhibit operation of the radar detector by placing bags or large objects against the cabin rear bulkhead.



Transmitter Key Battery Replacement

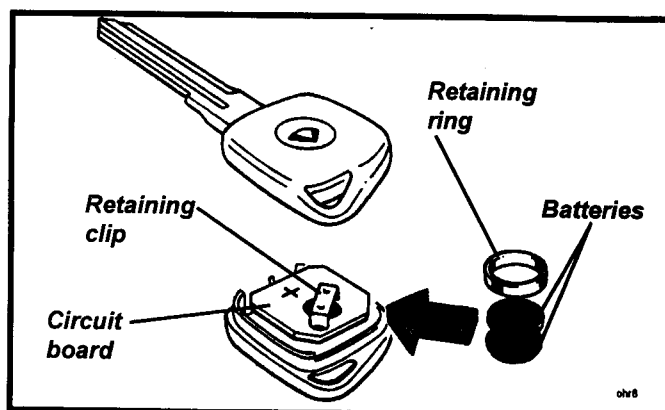
The batteries for the key head transmitters should be renewed at six monthly intervals to ensure continuity of operation.

To replace transmitter battery:

a). Use a thin blade to prise apart the two halves of the transmitter key head, and withdraw the battery.

b). The transmitters are powered by a 3v long life lithium battery type CR2032. With normal use, this should last between 3 and 5 years. After opening the new battery packaging, touch only the sides of the battery, and fit the battery into the key case with the positive side (+) upwards as shown.

c). Press the battery case together.





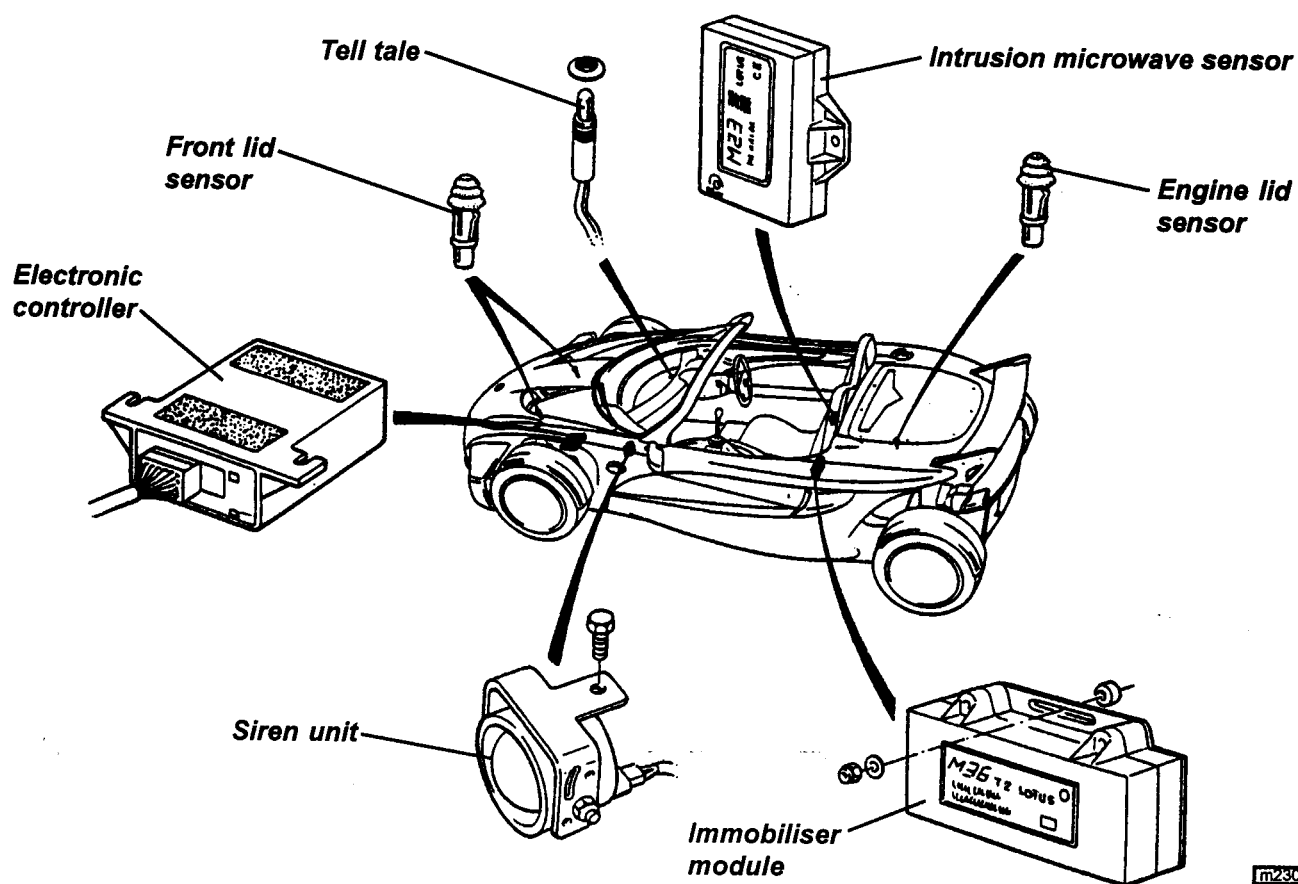
Disconnecting the Vehicle Battery

- Before disconnecting the battery, ensure that the alarm system is disarmed.
- On reconnection of the battery, the alarm will automatically be set. Have the transmitter ready to disarm.

Component Location

The alarm system components are located as follows:

- Electronic Controller: Mounted in the front services compartment chassis well, outboard of the battery.
- Siren Unit: Mounted on the passenger side of the scuttle beam.
- Immobiliser Module: Mounted in the electronics box on the cabin rear bulkhead.
- Intrusion Sensor: Stuck to engine ECM in bulkhead electronics box.
- The engine lid sensor switch is mounted at the rear of the lid aperture.
- The front access lid sensors are mounted at the front of the apertures.



Tell Tale Lamps

Bulb Check

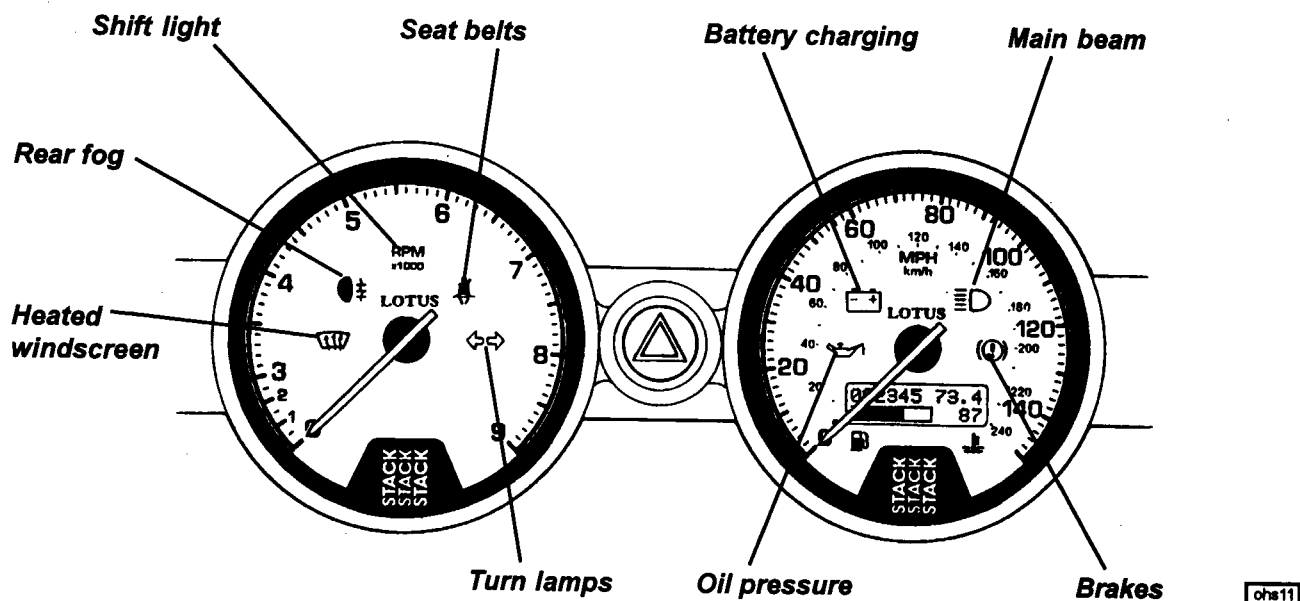
In order to check that the warning systems are operative, all the tell tale lamps should light for two seconds following ignition switch on. If any lamp should fail to light, there is likely to be a fault on that warning circuit.

Seat Belt Tell Tale (red)

As a reminder to fasten the seat belts, the seat belt icon in the tachometer will flash red for about eight seconds following ignition switch on, and will then be extinguished.

Oil Pressure Tell Tale (red)

This red tell tale warns of low engine oil pressure. The lamp will be lit whenever the ignition is on and the engine is stopped, but should extinguish as soon as the engine is started. If the lamp fails to go out after engine start up, or comes on when the engine is running, stop the engine immediately and do not restart until the cause has been investigated and rectified. Continuing to run the engine with little or no oil pressure could cause major internal damage, possibly resulting in seizure.



Battery Charging Tell Tale (red)

This red tell tale will light whenever the ignition is on and the engine is stopped. If it lights any time that the engine is running, the battery is not being charged, which may be due to a broken alternator drive belt, or an electrical fault. Urgent attention is required, but as the engine coolant pump is independently driven, the car need not be stranded, subject to battery condition and local circumstances.

Brakes Tell Tale (red)

This tell tale will glow red with the ignition switched on whenever the parking brake is applied, or if the level of brake fluid in the master cylinder reservoir has fallen to a dangerously low level.

Driving the car with the parking brake not fully released will cause overheat damage to the rear brakes. Each time the parking brake is released, check that the tell tale is extinguished. If the tell tale should remain lit after releasing the parking brake, or light any time whilst driving, stop the car immediately, as the level of brake fluid in the master cylinder reservoir may have fallen to a dangerously low level, possibly caused by a hydraulic leak in one of the separate front or rear brake circuits. There is a danger that air may enter the hydraulic system and cause spongy operation and extended pedal travel. The split brake circuit should ensure that emergency braking will remain, but the car should not be driven until the fault has been rectified.

Heated Windscreen Tell Tale (yellow)

This tell tale indicates when the windscreen heating element is energised. Refer to the text below describing the switch function for the operating conditions.

Rear Foglamp Tell Tale (amber)

This amber tell tale indicates when the rear fog lamp is active. The rear fog lamp operates only in conjunction with the ignition and headlamps, and defaults off if either of these circuits is interrupted.

Turn Tell Tale (green)

When the left hand or right hand turn indicators are operating, this green tell tale flashes in unison. The flasher relay may also be heard to operate. If the tell tale fails to light, or flashes at an unusual or irregular rate, check the operation of the turn indicator lamps immediately.

Main Beam Tell Tale (blue)

This lamp glows blue whenever the headlamp main beams are operating.

Shift Light (red)

The shift light provides a visual aid to identifying the optimum upward gearchange point for the exploitation of maximum vehicle performance. The red 'RPM' tell tale will light at engine speeds above 7,600 rpm.



Instruments

Speedometer

This instrument displays, in analogue form, vehicle road speed in either MPH (with a secondary scale in km/h), or km/h according to territory. Recalibration of the needle position will occur during a three second period following ignition switch on. The instrument face is illuminated when the marker lamps are switched on.

Tachometer

The tachometer indicates engine speed in revolutions per minute. A safeguard in the engine management system limits engine speed to 8,000 rpm. Do not run the engine continuously at its maximum speed, or allow overspeeding to occur on the overrun by changing down through the gears too early, as this imposes very high loads on engine components, leading to premature wear and possible failure.

Recalibration of the needle position will occur during a three second period following ignition switch on. The instrument face is illuminated when the marker lamps are switched on. The lenses of both speedo and tachometer are treated with an anti-reflective coating.

LCD DISPLAY PANEL

A liquid crystal display (LCD) panel is incorporated into the speedometer in order to display fuel level, coolant temperature, total distance and trip distance. The panel is blank until the ignition is switched on, with the illumination dimming when the marker lamps are switched on, to that level selected by the panel lights control (see below).

Fuel Contents Display

The bottom left corner of the LCD panel displays in the form of a bar graph, the approximate proportion of fuel remaining in the 36 litre tank. The bar graph displays in eight equal steps, and to highlight a low fuel condition, the display flashes when the level falls to the last eighth.

In order to ensure the vehicle is not stranded, and to protect against the potentially damaging effects of fuel starvation, it is strongly recommended to refuel at the first opportunity when the display flashes.

Coolant Temperature Display

The engine coolant temperature will be displayed at the bottom right hand corner of the panel as soon as the temperature reaches 40°C. The running temperature will fluctuate a certain amount as the operating conditions change, and during periods of idling or in heavy traffic, the temperature may rise to over 100°C, with the cooling fan switching on at approximately 104°C. The display will flash at temperatures over 110°C in order to prompt closer monitoring of high temperatures, but as the pressurised cooling system has a boiling point of over 120°C, only if the temperature approaches this level need there be any cause for concern. If this should occur, allow the engine to idle for a few minutes whilst monitoring the temperature, and if it continues to rise, switch off and seek qualified assistance.

After a heavy snowfall, ensure that the radiator cooling inlet and outlet grilles in the front body are cleared of snow before driving the car, or overheating may occur.

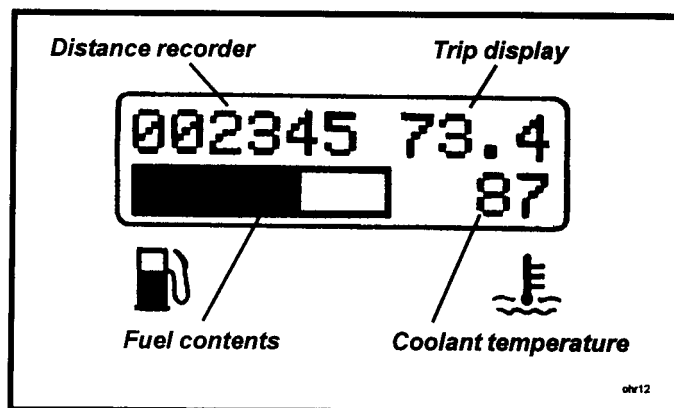
Odometer

A six digit odometer (total distance recorder) reading is displayed at the top left hand corner of the panel, and is calibrated in the same units (miles or kilometres) as is the speedometer.

Trip Recorder

A four digit trip recorder is provided at the top right hand corner of the panel, calibrated in the same units as the speedometer. Below 100, the display includes tenths (0.0 - 99.9), and over 100, whole units (100 - 9999).

In order to zero the trip display, switch on the ignition, and press for a moment (less than one second), the





uppermost switch on the cockpit divider. Note that this dual function button also controls the panel illumination - see 'Instrument & Switch Illumination'.

Fascia Switches

The cockpit central divide contains five push button switches, each of which is pressed once to switch on, and pressed a second time to switch off. A symbol is positioned above each switch to indicate its function, and is backlit blue when the ignition is switched on.

Panel Illumination & Trip Reset

The topmost switch in the cockpit divide controls both the brightness of the panel illumination, and also resets the trip distance recorder.

In order to zero the trip display, with the ignition switched on, press the reset button briefly (less than one second).

The brightness of the instrument illumination is also controlled by this switch. To cycle through the four levels of brightness, switch on the ignition, press and hold the button, and release at the desired setting. Note that with the lights switched on, panel illumination is automatically at the brightest.

Side Marker Lamps Switch

The second switch down in the cockpit central divide, functions only with ignition, and switches on the front and rear side lamps together with the instrument illumination. The sidelamps will default to the 'off' condition each time the ignition is switched off.

Headlamps Switch

The third switch down in the cockpit central divide, functions only with ignition, and when the side marker lamps have been requested by the sidelamps switch. Pressing the headlamps switch under these conditions, switches on the headlamps, in main beam or dip mode dependent on steering column lever switch position.

Note that dip beam is provided by the projector lamp mounted in each acrylic covered front lamp cluster. These lamps remain lit when main beam is selected, and the driving lamps mounted in the radiator air intake aperture are activated.

The headlamps will default to the 'off' condition whenever the ignition is switched off.

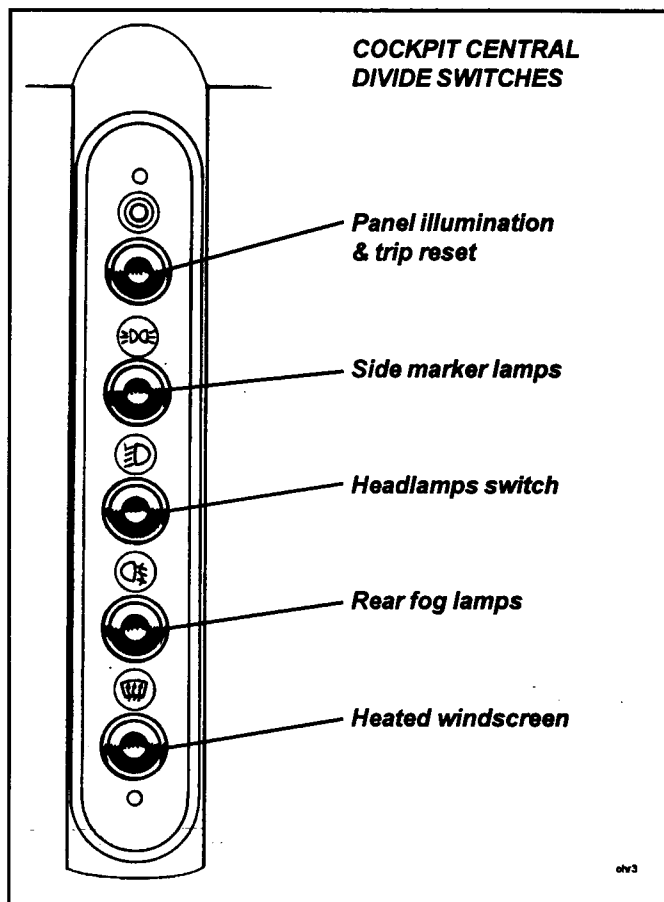
Rear Fog Lamp Switch

A single fog guard lamp is fitted centrally on the muffler shield, and is operative only in conjunction with the headlamps. The fourth switch down in the cockpit central divide operates the fog lamp, with an amber tell tale icon in the tachometer face indicating when the lamp is functioning.

In some territories, rear fog lamps may be used legally only in conditions of 'seriously reduced visibility'. Be aware that indiscriminate or forgetful use of the rear fog lamp can cause distraction and discomfort to following traffic. The rear fog lamp circuit is designed to switch off automatically whenever either the headlamps or the ignition is next turned off, requiring that the switch must be pressed again to re-activate the circuit.

Heated Windscreen Switch

The front windscreen is equipped with electrical heating elements in order to provide a defrosting facility for use in extreme conditions.





The heating of the front windscreen is selected by the lower-most switch in the cockpit central divide. The switch is operative only when the engine is running, with a yellow tell tale icon in the tachometer face indicating when the circuit is active. The heating elements place a high demand on the vehicle electrical system, such that circuit should be switched off as soon as the windscreen is cleared. A 15 minute timer automatically turns off the circuit after this period, and an 'off' default will apply when the ignition is switched off.

Hazard Warning Lamps Switch

A push button switch for the hazard warning lamps is located between the instruments, with the red tell tale in the switch button back lit when the sidelamps are switched on to help locate the switch. The switch is operative at all times, and when pressed, flashes all the turn indicator lamps, and the switch tell tale, in unison.

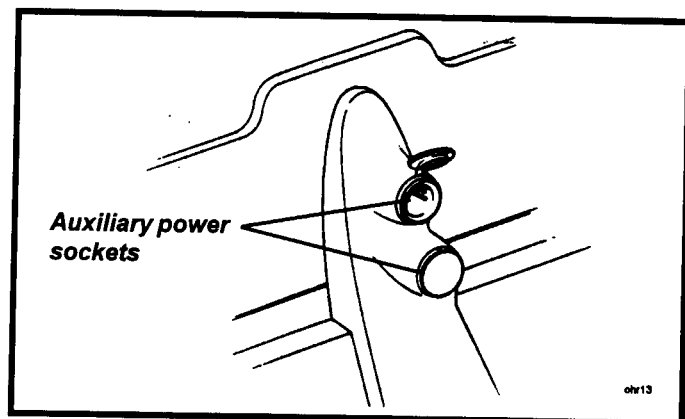
This facility should be used to warn other traffic of a road hazard, possibly including the presence of the vehicle itself. Use of the hazard warning lamps may be subject to local traffic laws, with which drivers should familiarise themselves.

Column Lever Switches

The steering column lever switches for the turn indicators, headlamp beam/dip/flash and windscreen wipe/wash, are as used on the standard Elise.

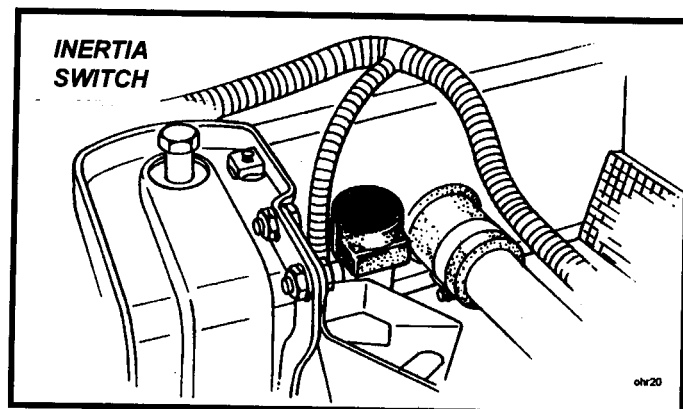
Auxiliary Power Sockets

Two auxiliary power sockets are provided at the rear of the cockpit centre divide, to accommodate heated (motorcycle type) clothing, or similar equipment. The sockets are fitted with protective blanking plugs, and are powered only when the engine is running at over 2,000 rpm, at which time a maximum current of 15 amps may be drawn from each socket.



Inertia Switch

The fuel pump cut off safety inertia switch is fixed to the chassis at the left hand side of the engine bay.

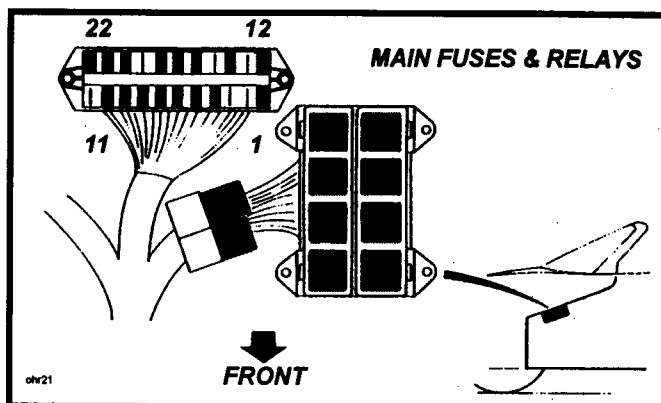




Fuses & Relays

The main fusebox is located in the passenger footwell, and is protected by a clear plastic cover. Twenty two slots are provided for 'Littel' type fuses, which are numbered and coloured according to their amperage rating, and may be pulled out from their slots using a fuse extractor tool.

A relay block adjacent to the fusebox houses eight relays, with a further two relays located nearby.



Fuses

Slot	Rating	Circuit	Slot	Rating	Circuit
1	3A	Rear fog lamp	12	25A	Cooling fan
2	3A	Alarm	13	-	
3	7.5A	Brake lights	14	30A	Aux. sockets
4	15A	Wiper motor	15	-	
5	3A	Reverse lamp	16	5A	Sidelamp LH
6	7.5A	Direction ind.	17	5A	Sidelamp RH
7	10A	Ignition services	18	25A	Heated screen
8	7.5A	Horn, alarm, instruments	19	-	
9	10A	Hazard lamps	20	7.5A	Dip LH
10	7.5A	Horn	21	7.5A	Dip RH
11	-		22	15A	Main beam

Relays

A	Main beam	E	Rad. fan	J	Wipe/wash
B	Sidelamps	F	Rear fog	K	Hazard flash
C	Dip beam	G	Horn		
D	Heated screen	H	Auxiliary		

Engine management fuses, relays and diagnostic connector plug, are mounted on the cabin rear bulkhead protected by an access panel retained by threaded fasteners.

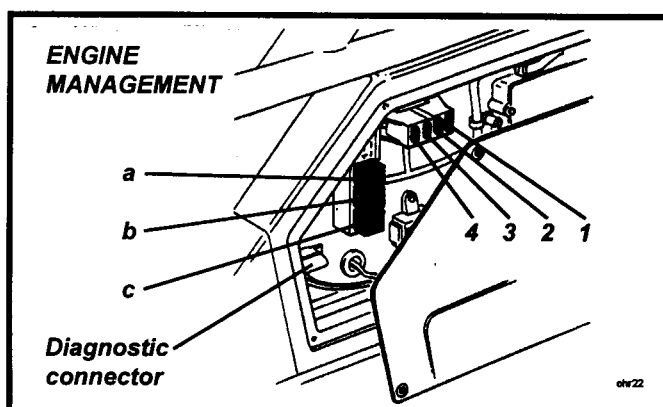
Fuses

Slot	Rating	Circuit
1	20A	Fuel pump, injectors
2	3A	Engine management, OBD2
3	7.5A	Engine management, canister purge, idle control
4	7.5A	Ignition coil

Relays

a	Engine management ignition supply
b	Starter solenoid
c	Fuel pump, injectors

The main alarm system fuse is located in an individual fuse holder near the battery.



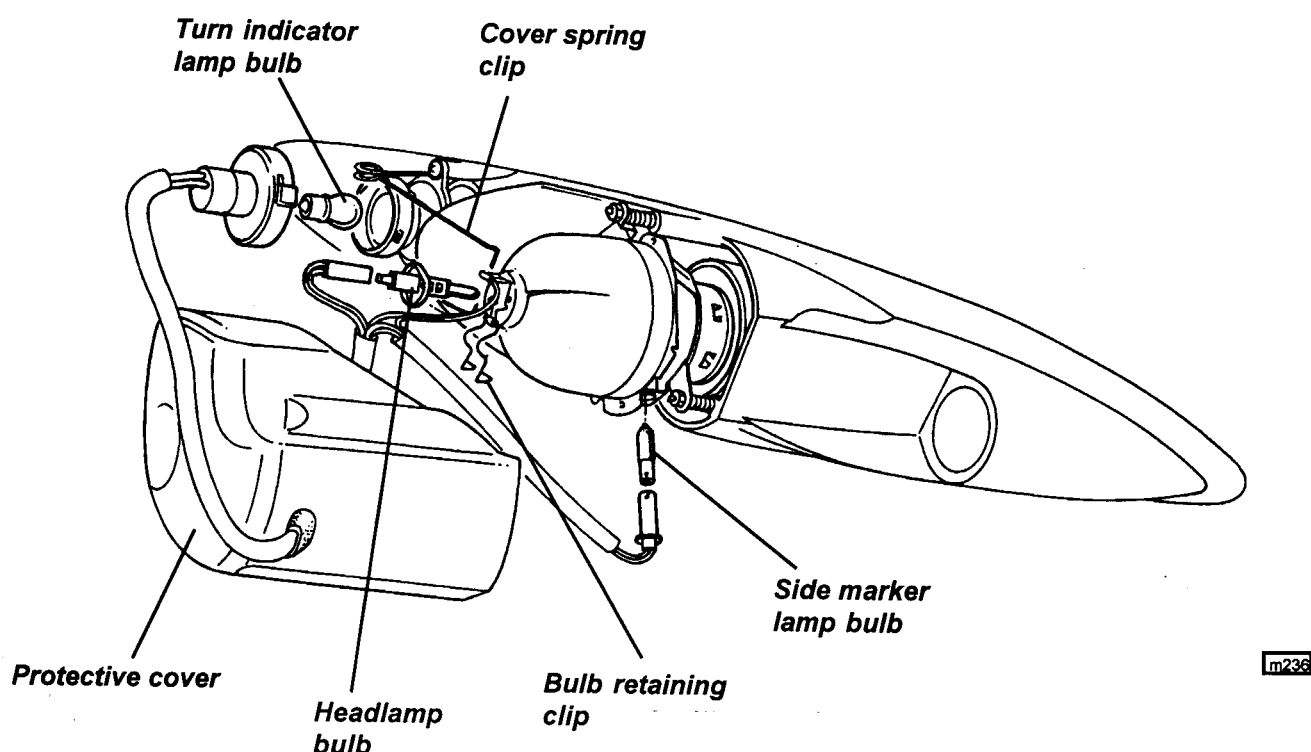


Headlamp Cluster Bulb Replacement

Each headlamp cluster contains a centrally mounted dip beam headlamp/side marker lamp unit, a top mounted turn indicator lamp, and an unlit lens at the bottom corner. For access to the headlamp cluster bulbs, an access panel is provided in the topshell above the front suspension, secured by three socket head fasteners.

Dip Beam Bulb: Remove the protective cover from the back of the lamp and pull off the spade connector from the bulb. Unhook the two arms of the spring clip and withdraw the bulb.

Note: Do not touch the halogen bulb glass envelope with the fingers, as the greasy deposit left behind will greatly reduce bulb life. Use a paper tissue to handle the bulb. Fit the new bulb into the lamp with the indexing feature defining the orientation, and retain with the spring clip. Connect the blue and yellow cable to the bulb terminal, refit the protective cover and retain the cover with the wire spring.



Note that the protective cover must also be removed for access to the headlamp alignment adjusters.

Side Marker Lamp Bulb: Remove the protective cover from the back of the headlamp, and pull the bulb holder downwards and out from its housing. Remove the bayonet bulb from its holder.

Turn Indicator: Twist the bulb holder counterclockwise and withdraw from the lamp body. Replace the bayonet fitting bulb in the holder, and twist the holder back into the lamp with the 'TOP' mark uppermost.

Battery Charger

For easy connection of a battery management charger (U.K. A340M6012F; Europe A340M6015F), a jack plug socket is provided ahead of the gear lever.

Battery Removal

Note that the body topshell must be removed to allow the battery to be withdrawn.

**340R CIRCUIT DIAGRAM INDEX**

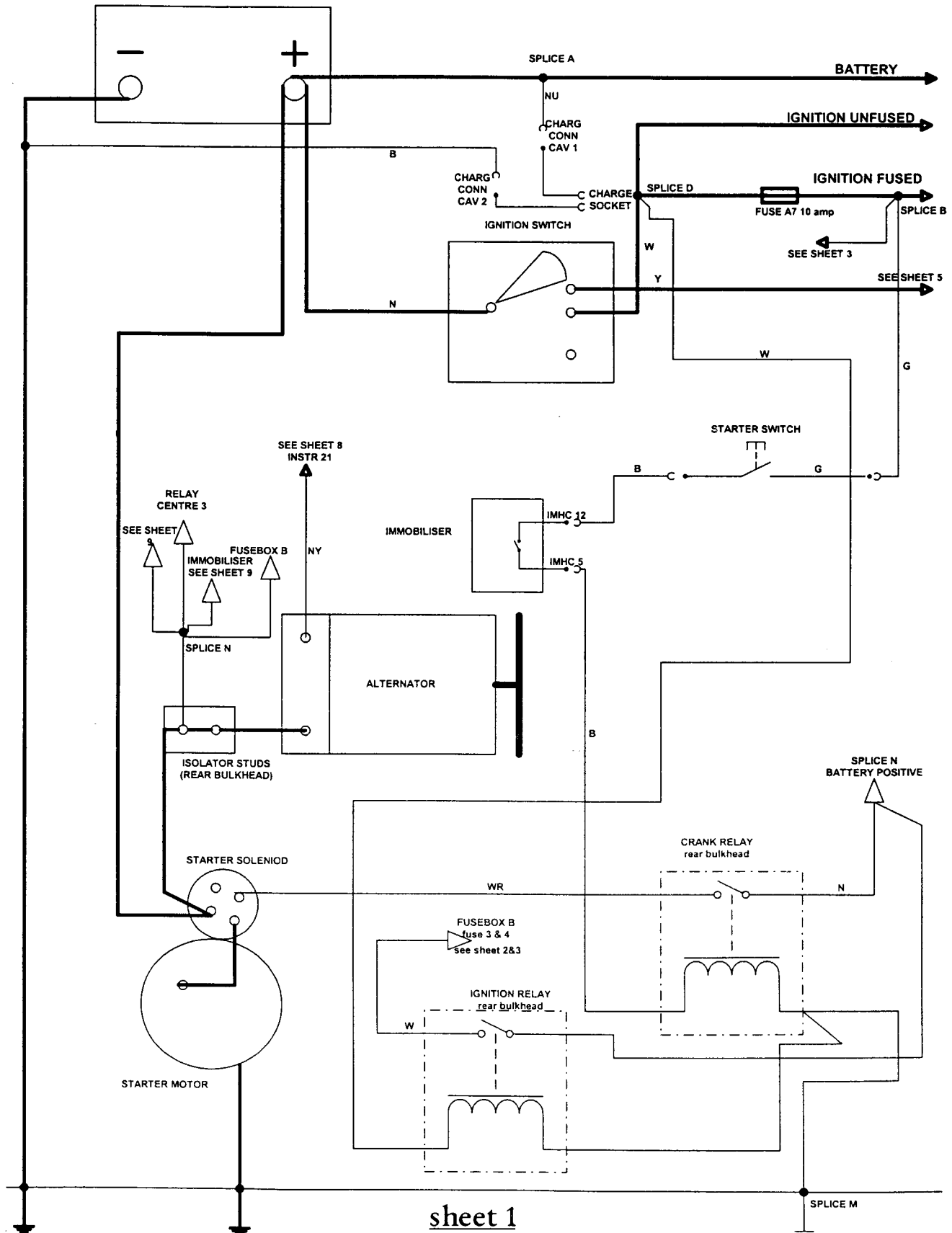
<u>Circuit</u>	<u>Sheet</u>
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Fuel Pump, Ignition Coil	2
Radiator Fan, ECM Control	3
ECM Power Supply, Sensors	4
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GLOSSARY OF TERMS

<u>Abbreviation</u>	<u>Expansion</u>	<u>Location</u>
IMHC	IMmobiliser Harness Connector	Rear electrical box
BULK	48-way circular connector	Rear electrical box
FTHC	Fuel Tank Harness Connector	Below auxiliary sockets
FTU	Fuel Tank Unit connector	Top of tank, left side
CCC	Centre Console Connector	Behind switch panel
AHC	Alarm Harness Connector	Behind battery
OP CONN	OPTION CONNector	Rear electrical box
FHC	Front Harness Connector 1 & 2	Front compartment, right side
CHMSL HC	Central High Mounted Stop Lamp Harn. Conn.	Engine bay, left side
INSTR CON	INSTRument CONTroller harness connector	Under dash, left side
FOG HC	FOG lamp Harness Connector	Inside lower spoiler
LHC	Lighting Harness Connector	Engine bay, right side
HDL HC	HeaDLamp Harness Connector	Behind light pod

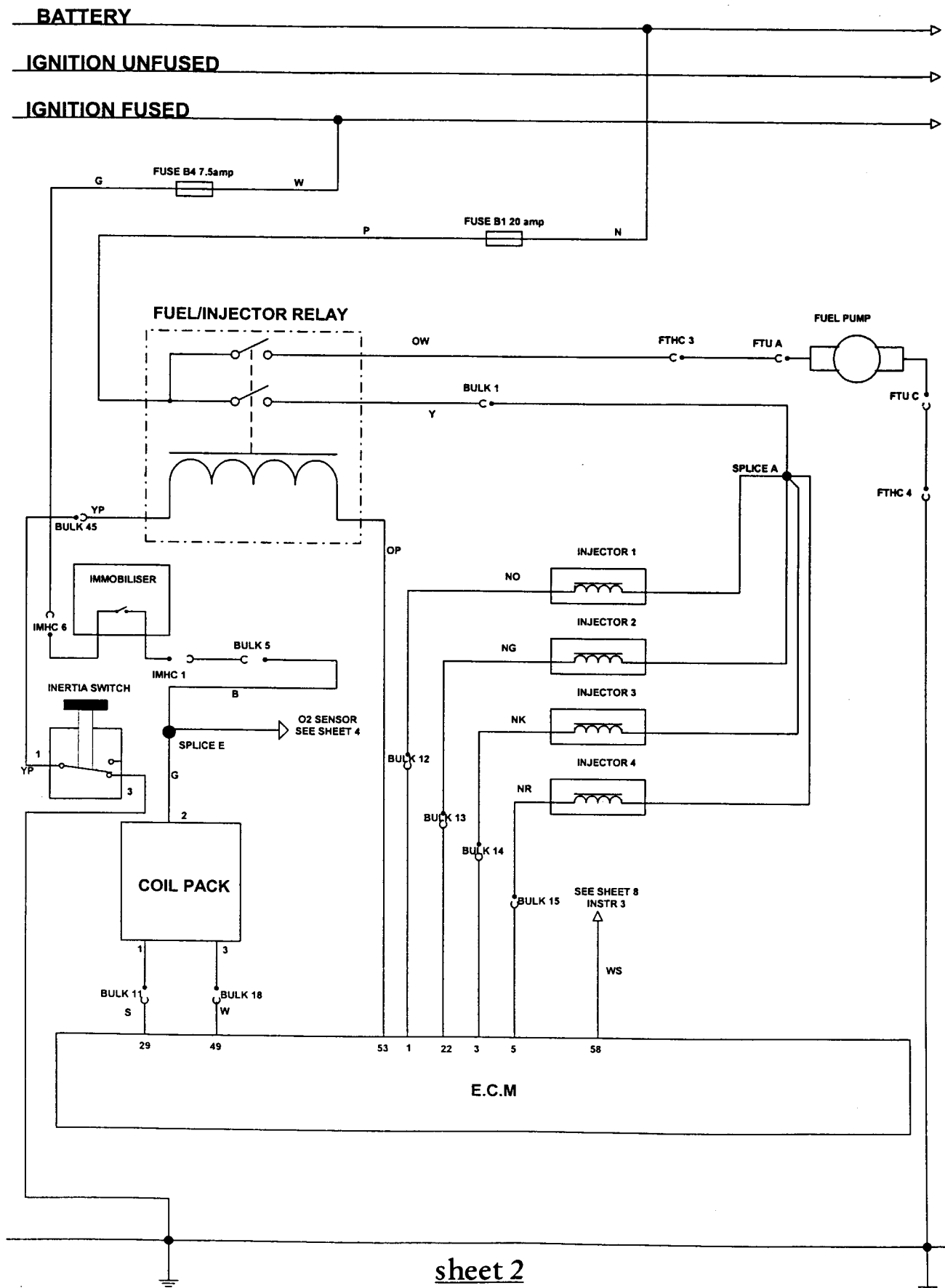


340R START/ALTERNATOR/IGNITION





FORUM PUMP AND CO.



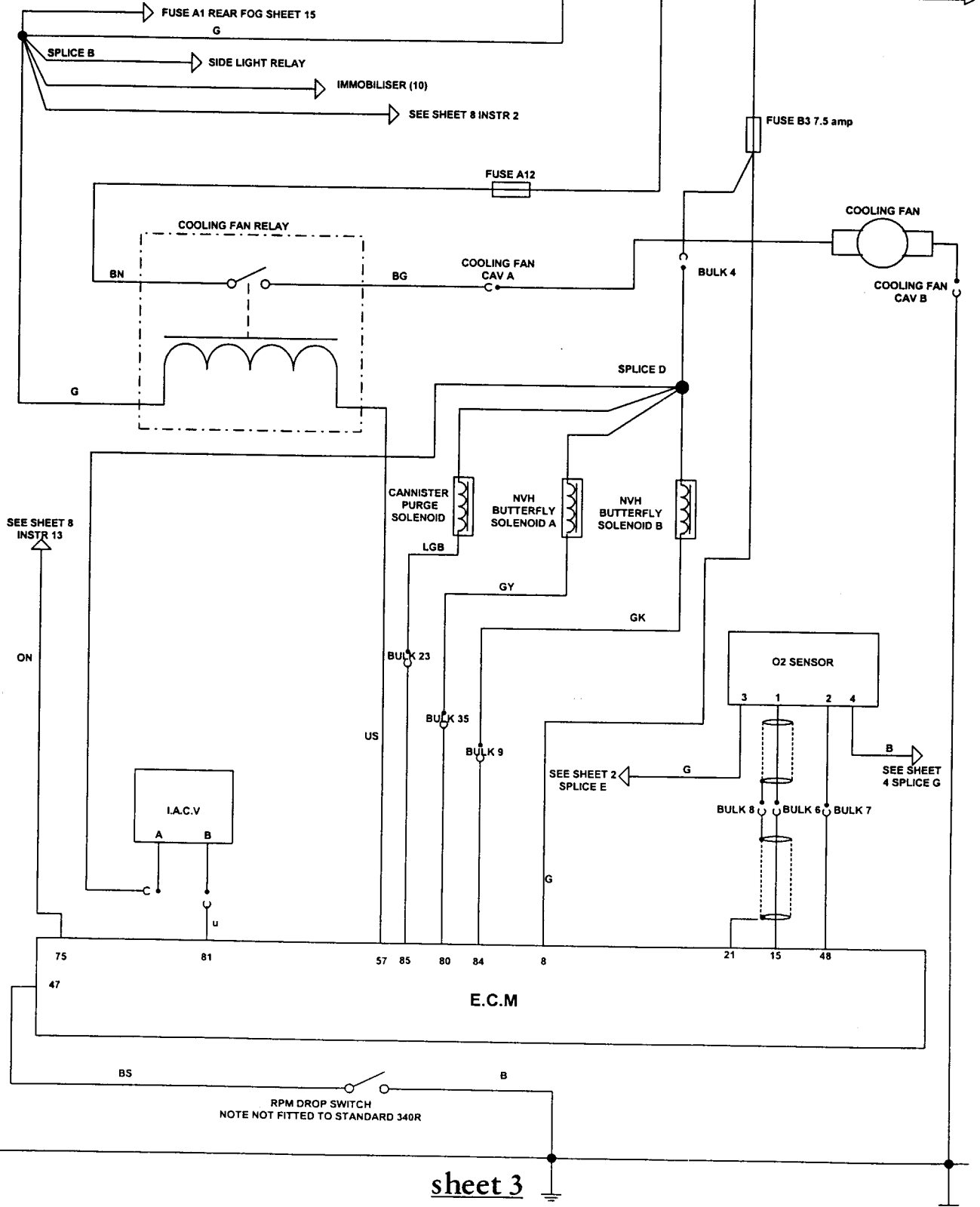


340R COOLING FAN & ECM CONTROL

BATTERY

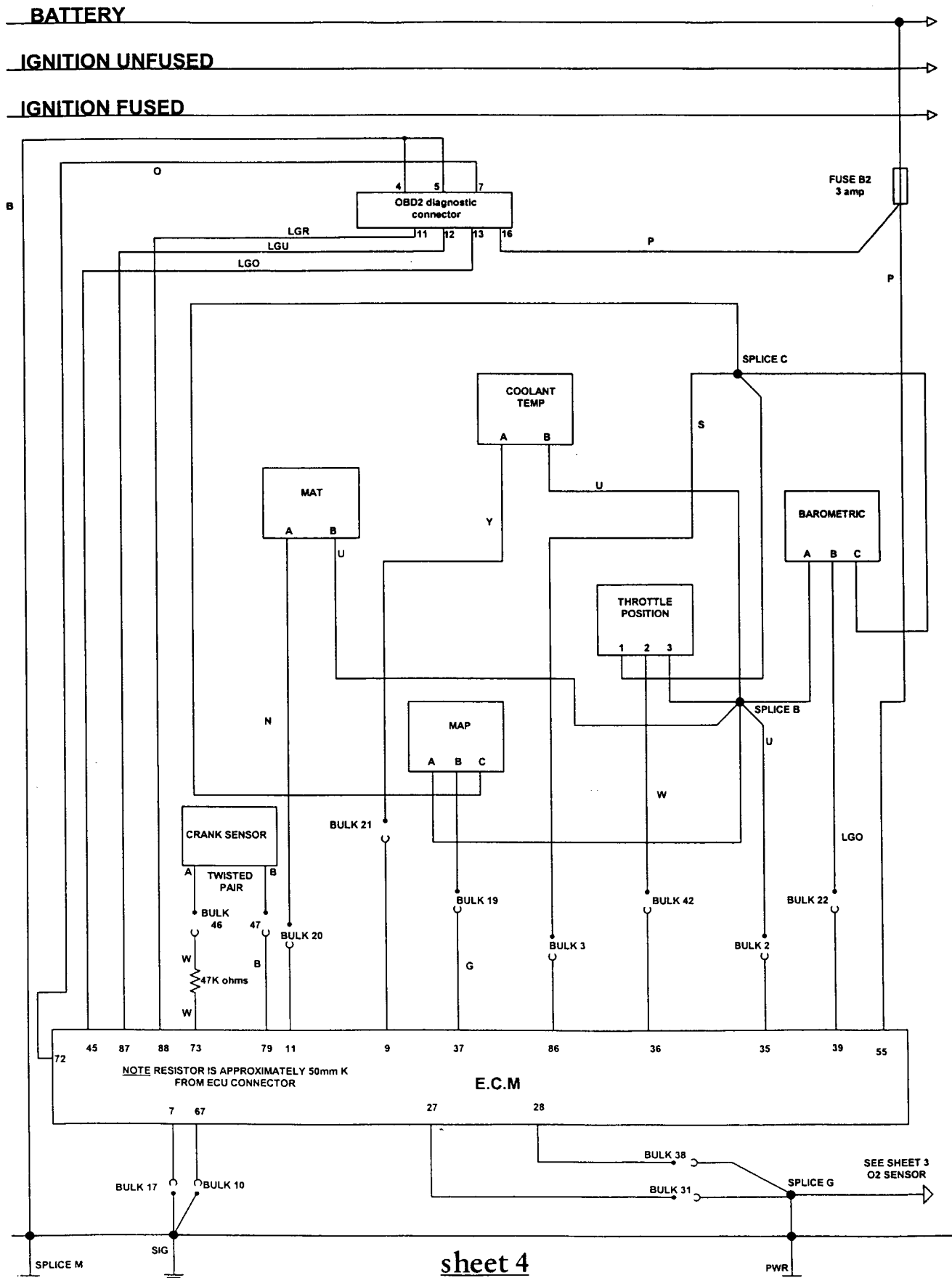
IGNITION UNFUSED

IGNITION FUSED





340R ECU SENSORS & POWER



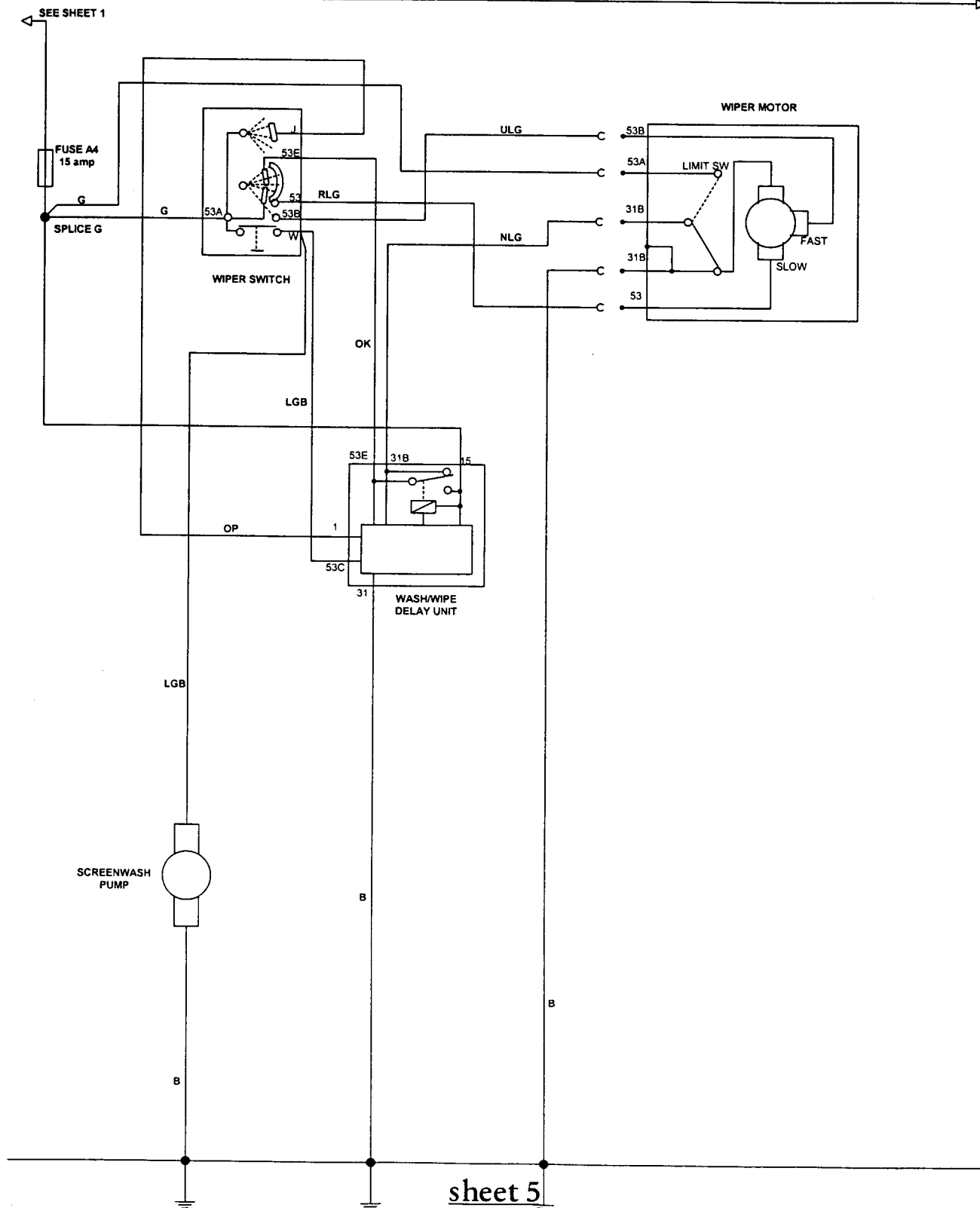


340R WIPER MOTOR

BATTERY

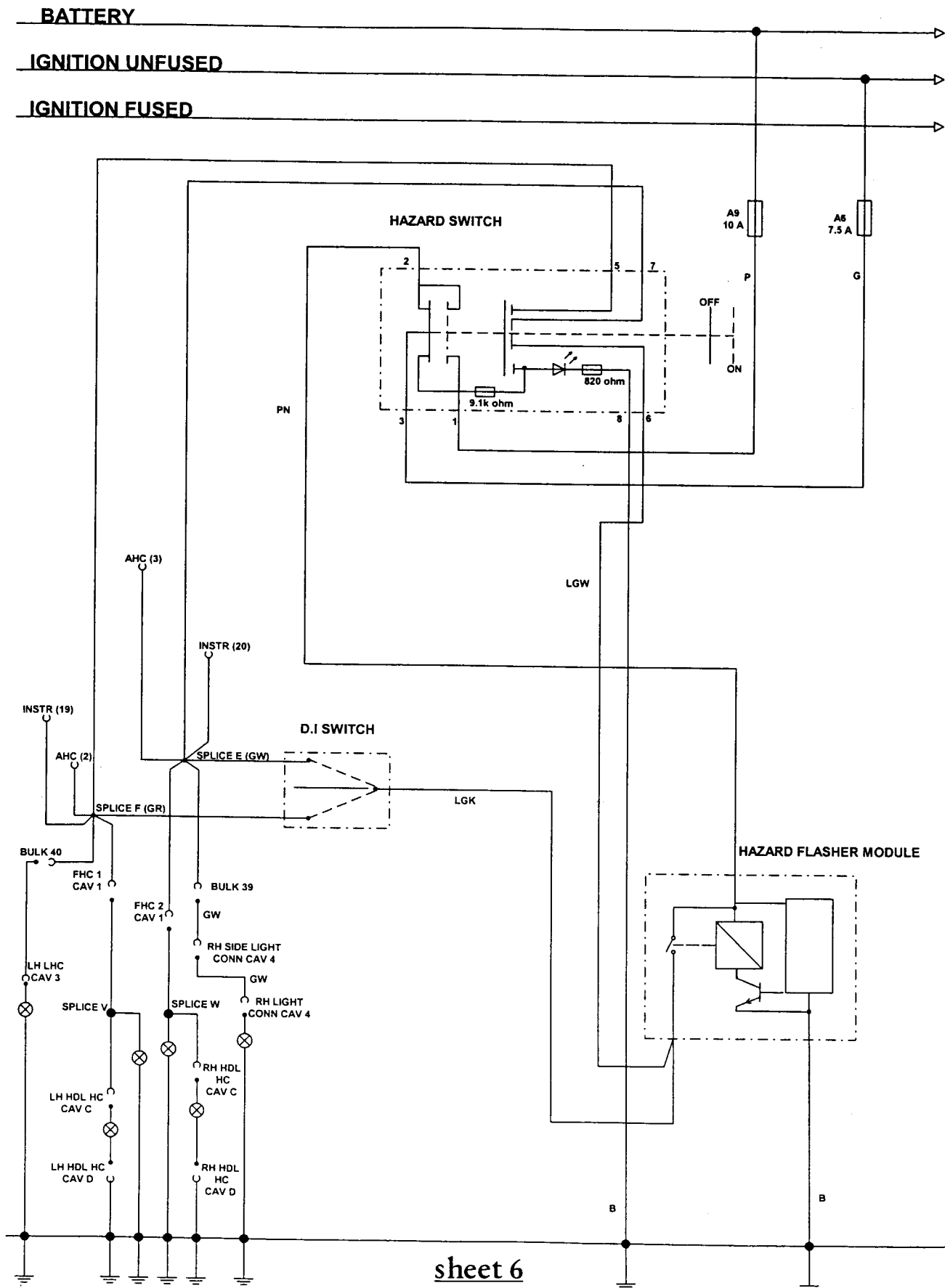
IGNITION UNFUSED

IGNITION FUSED



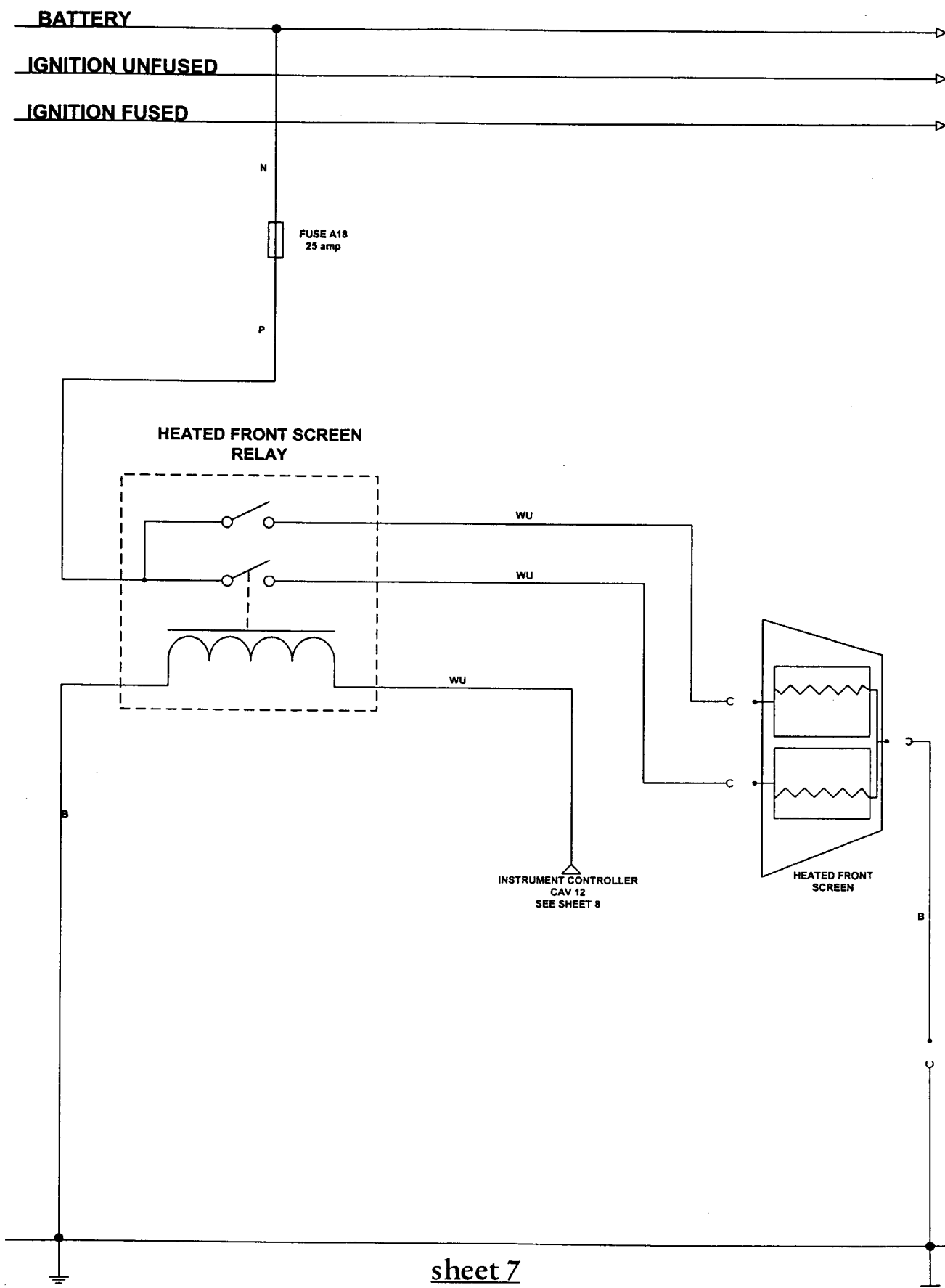


340R INDICATOR/HAZARD LAMPS



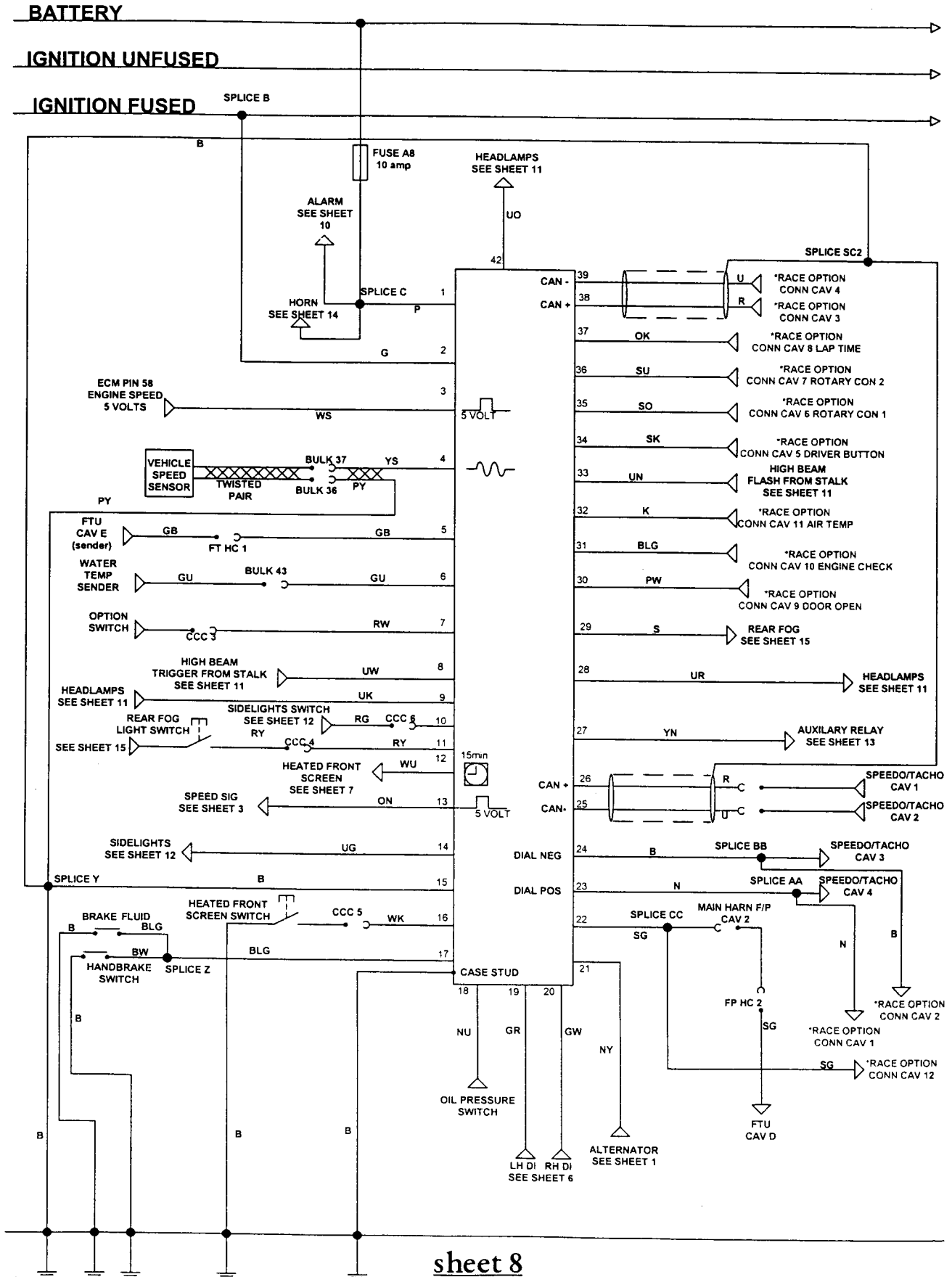


HEATED FRONT SCREEN



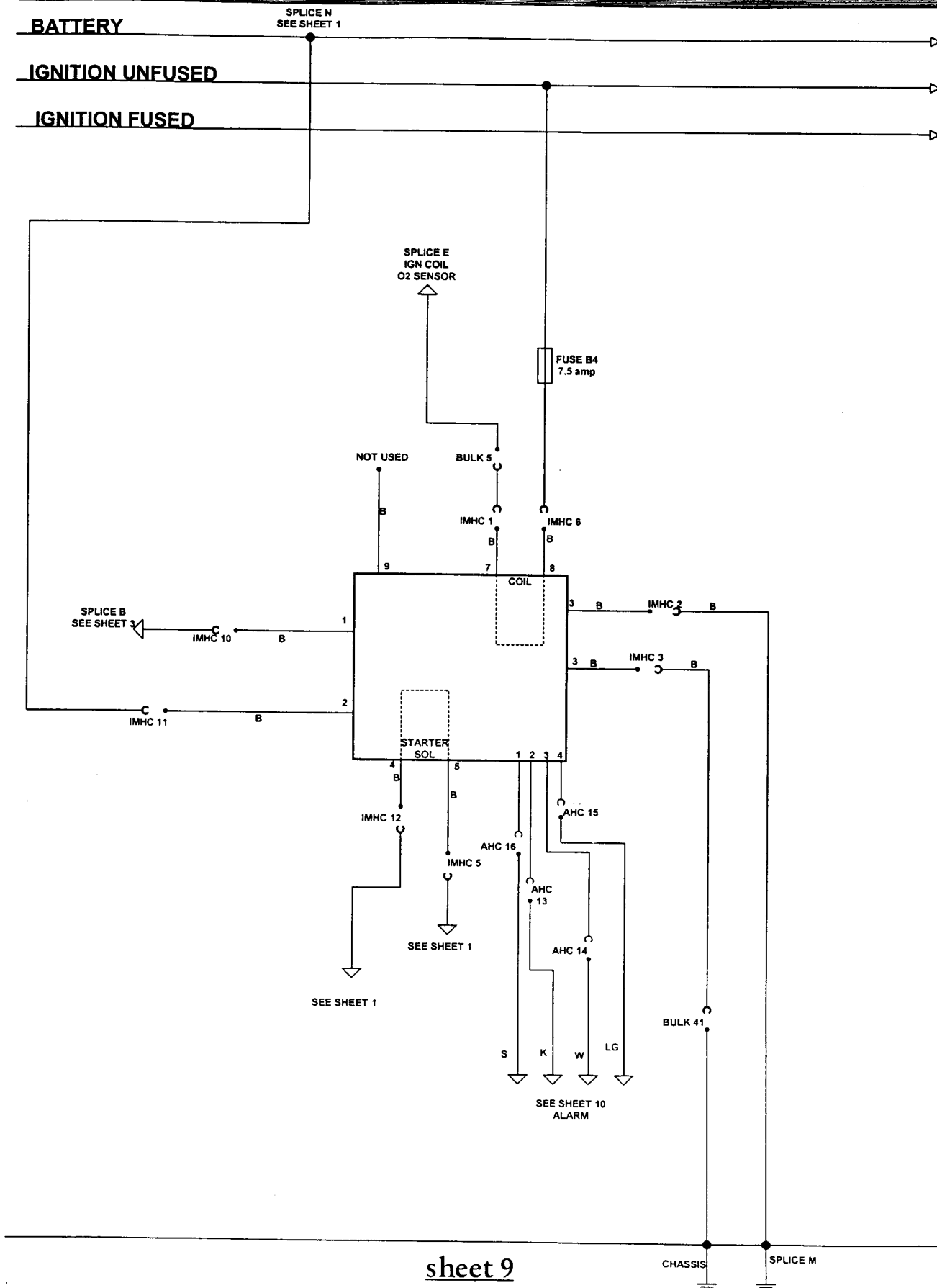


340R INSTRUMENT CONTROLLER



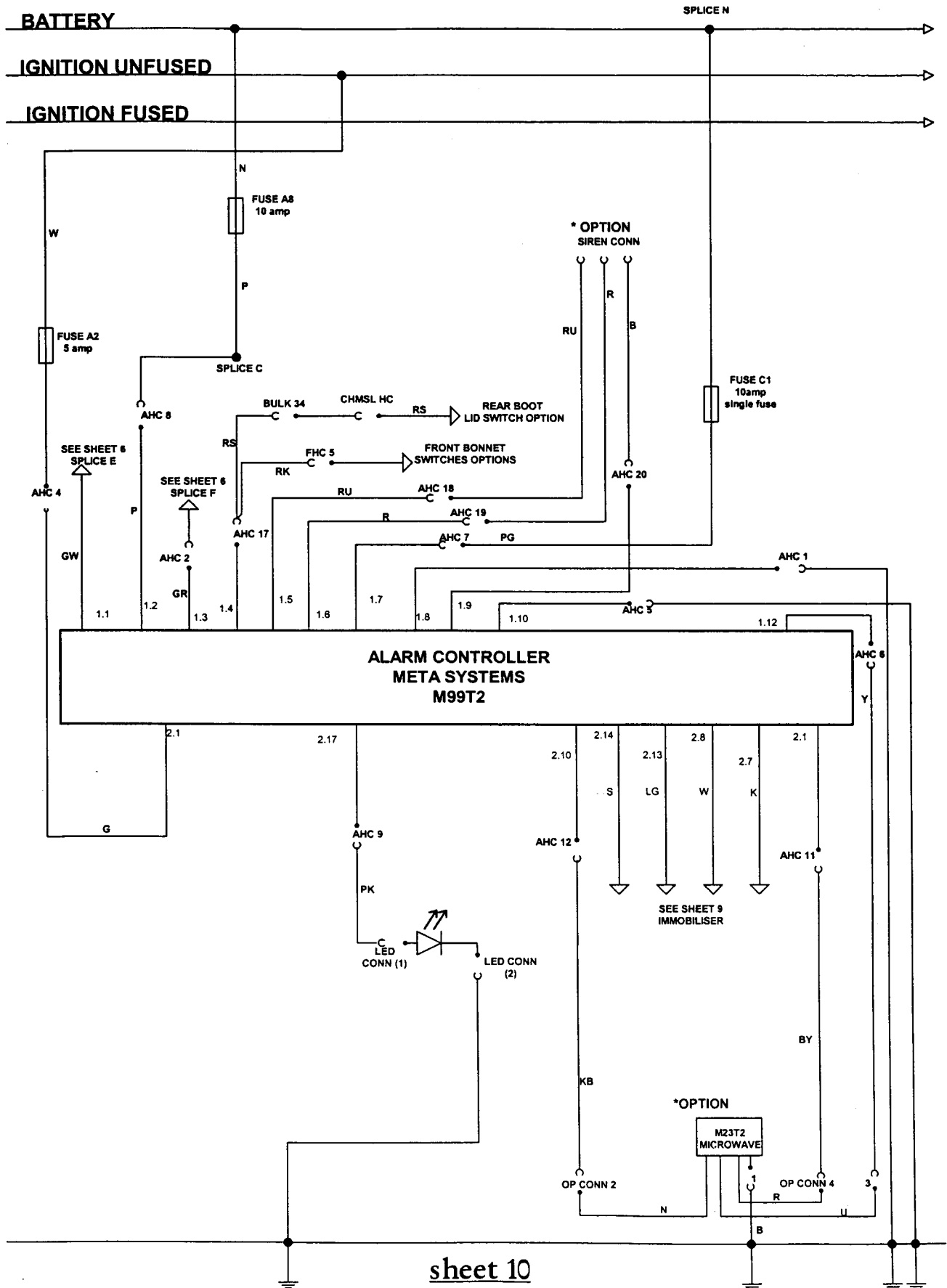


340R IMMOBILISER



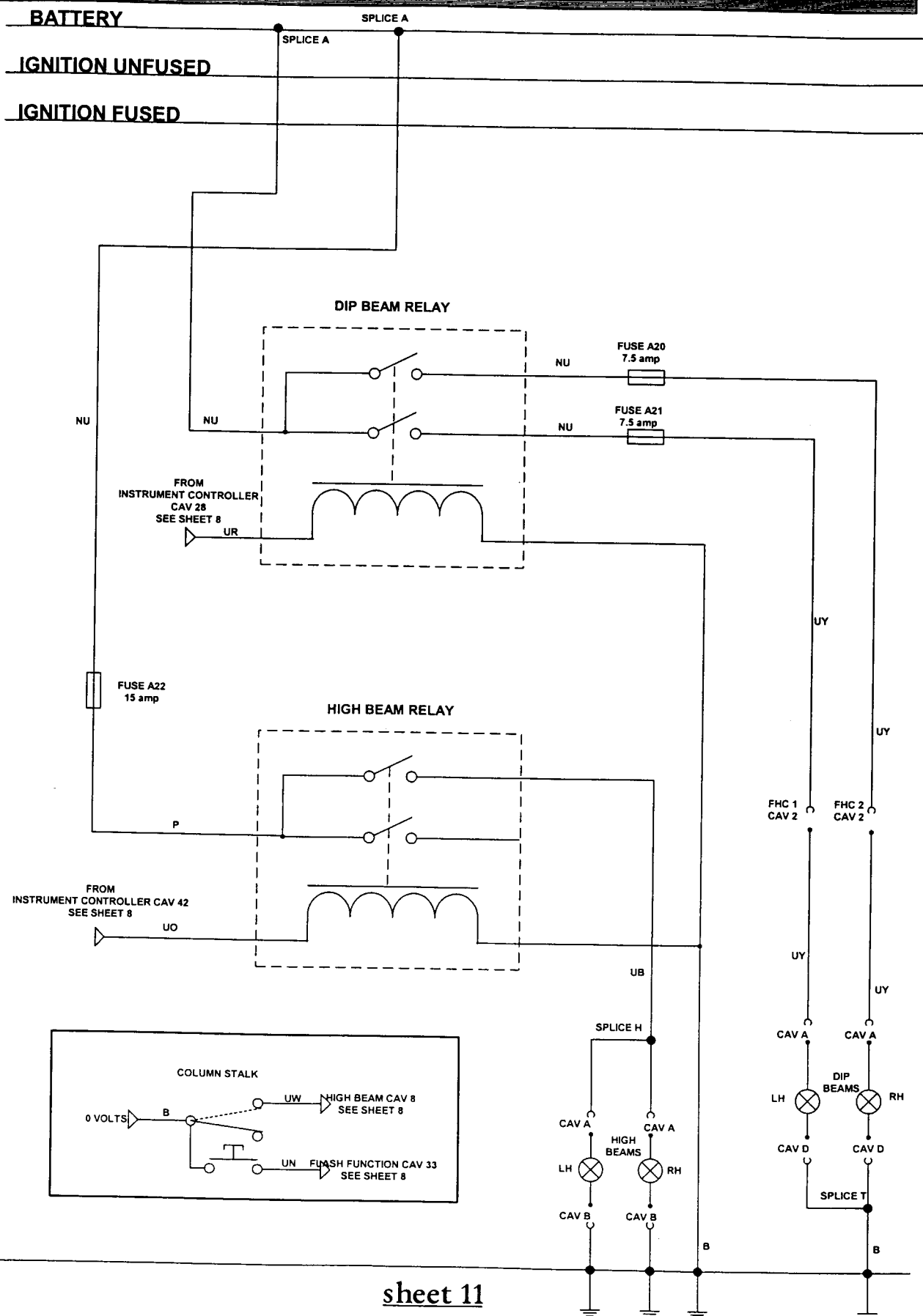


340R VTEC ALARM CIRCUIT



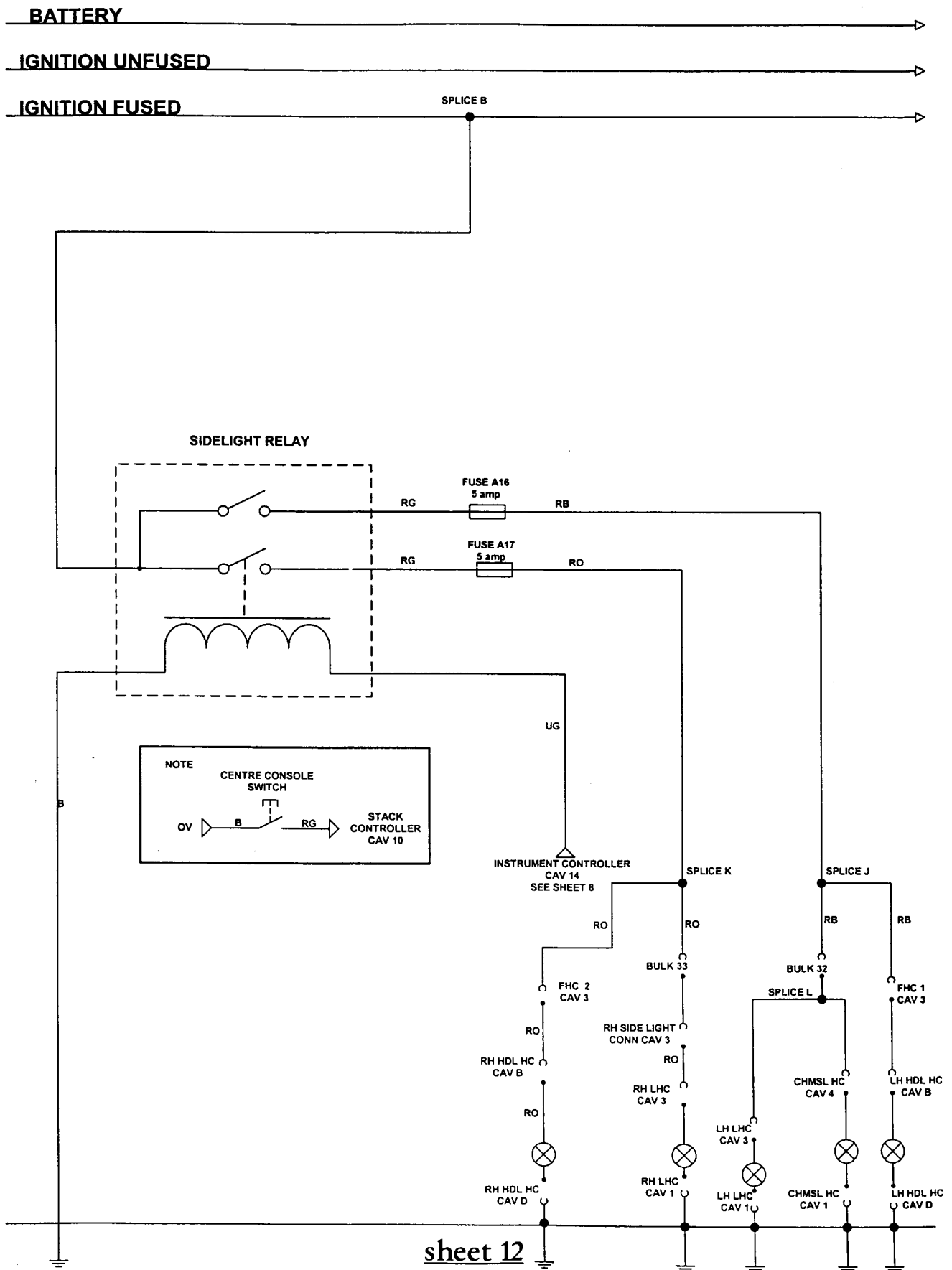


340R HEADLAMP CIRCUIT



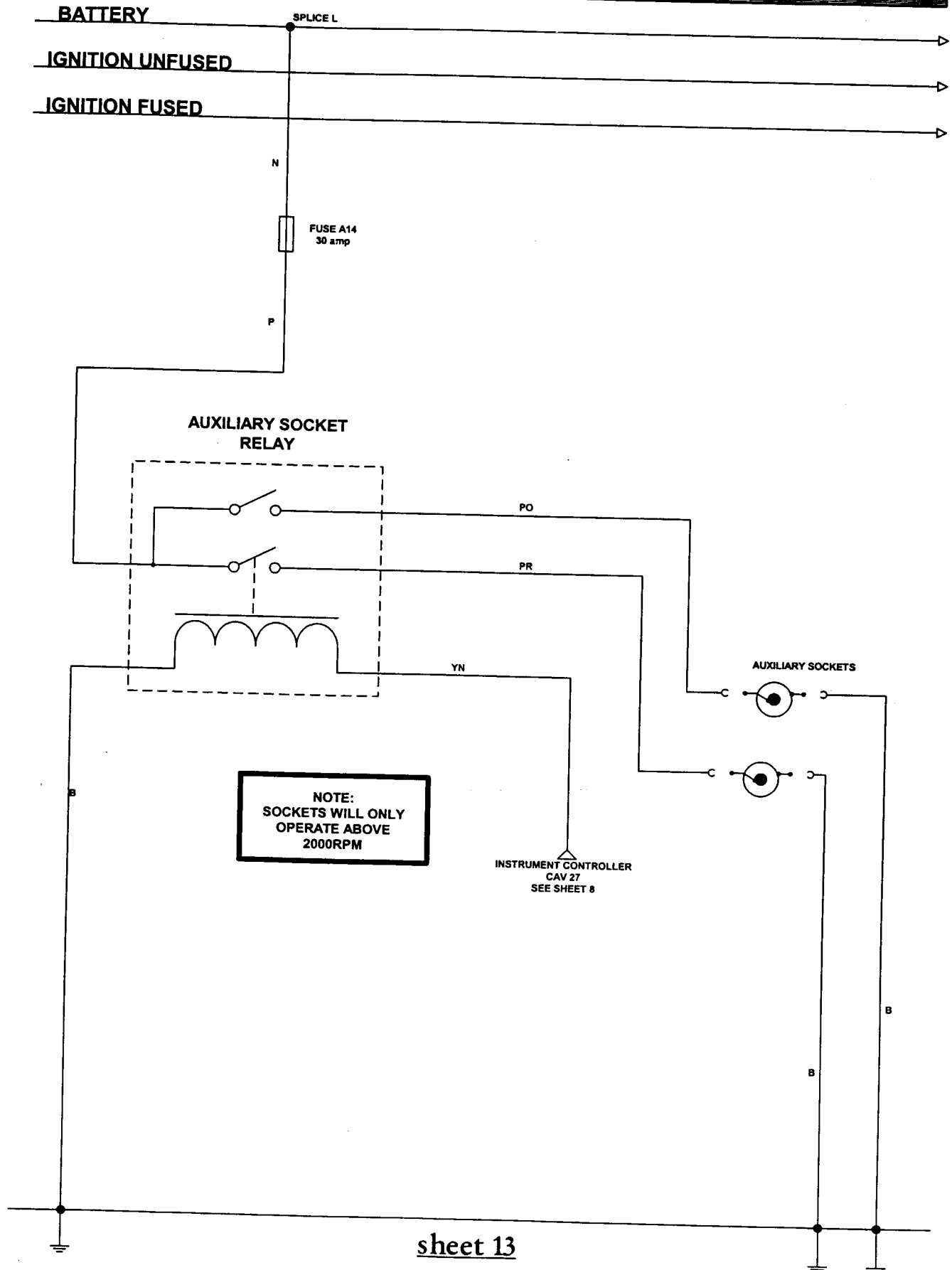


FOR SIDE LIGHTS



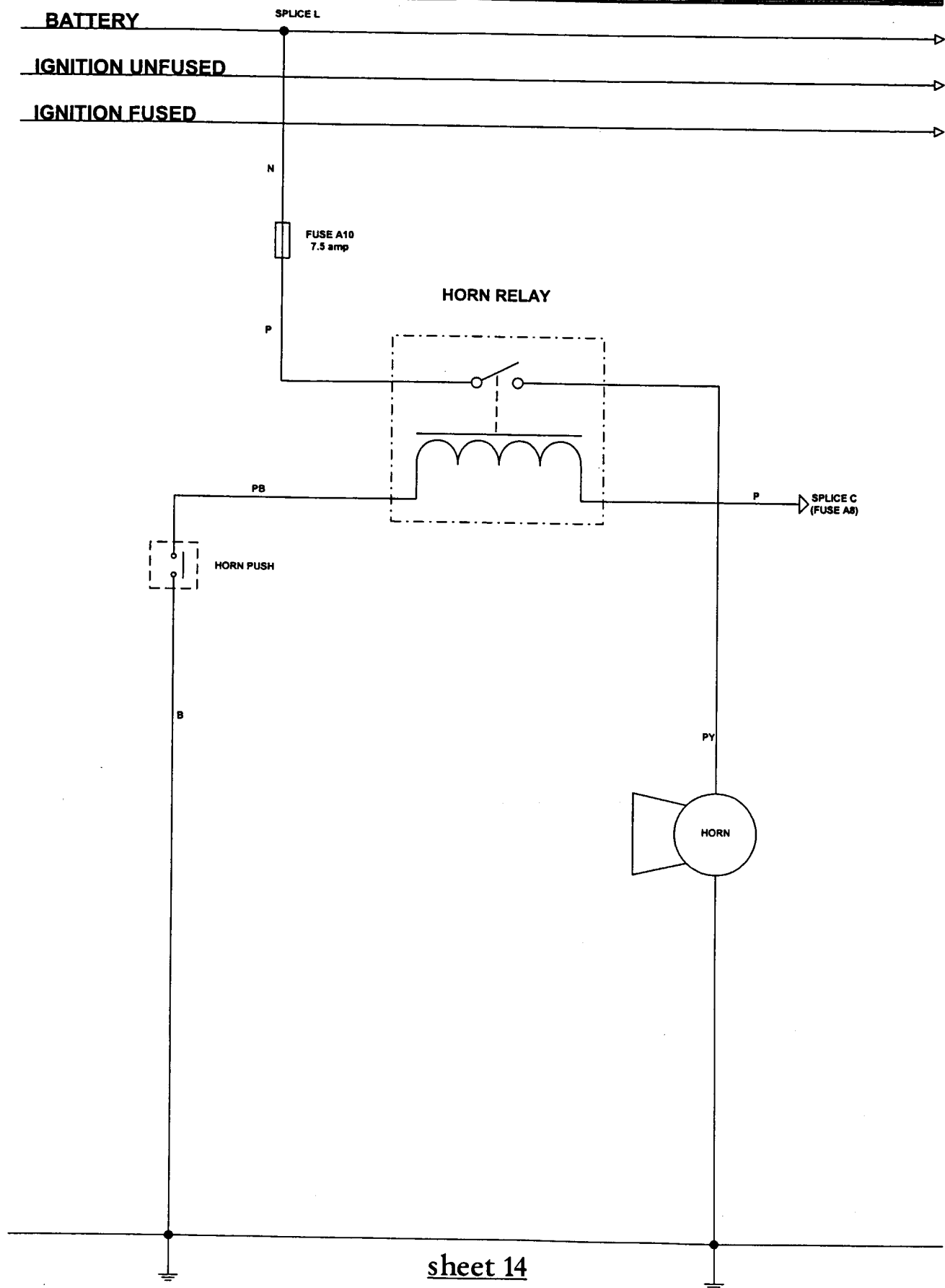


AUXILIARY SOCKETS



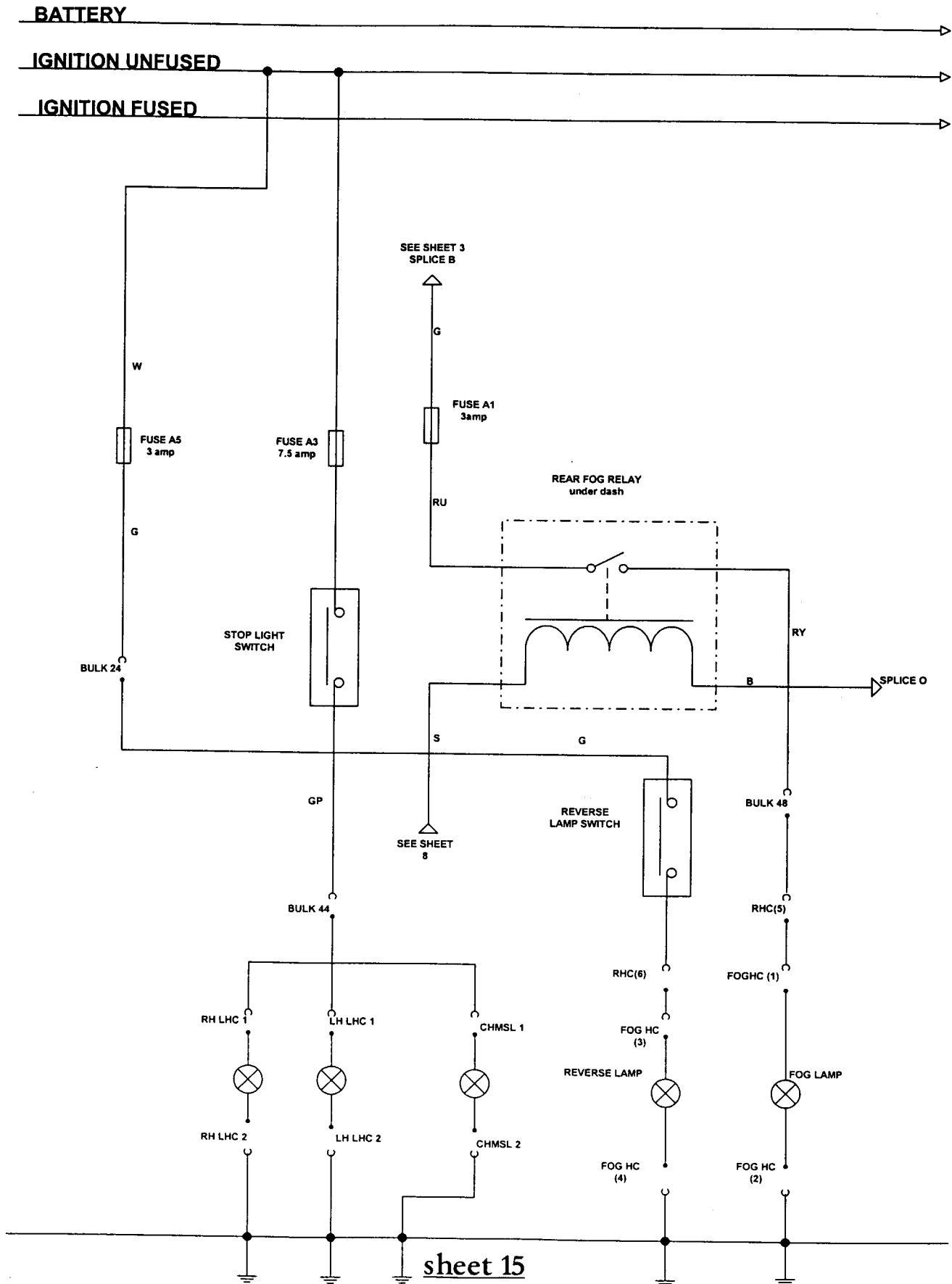


HORN CIRCUIT



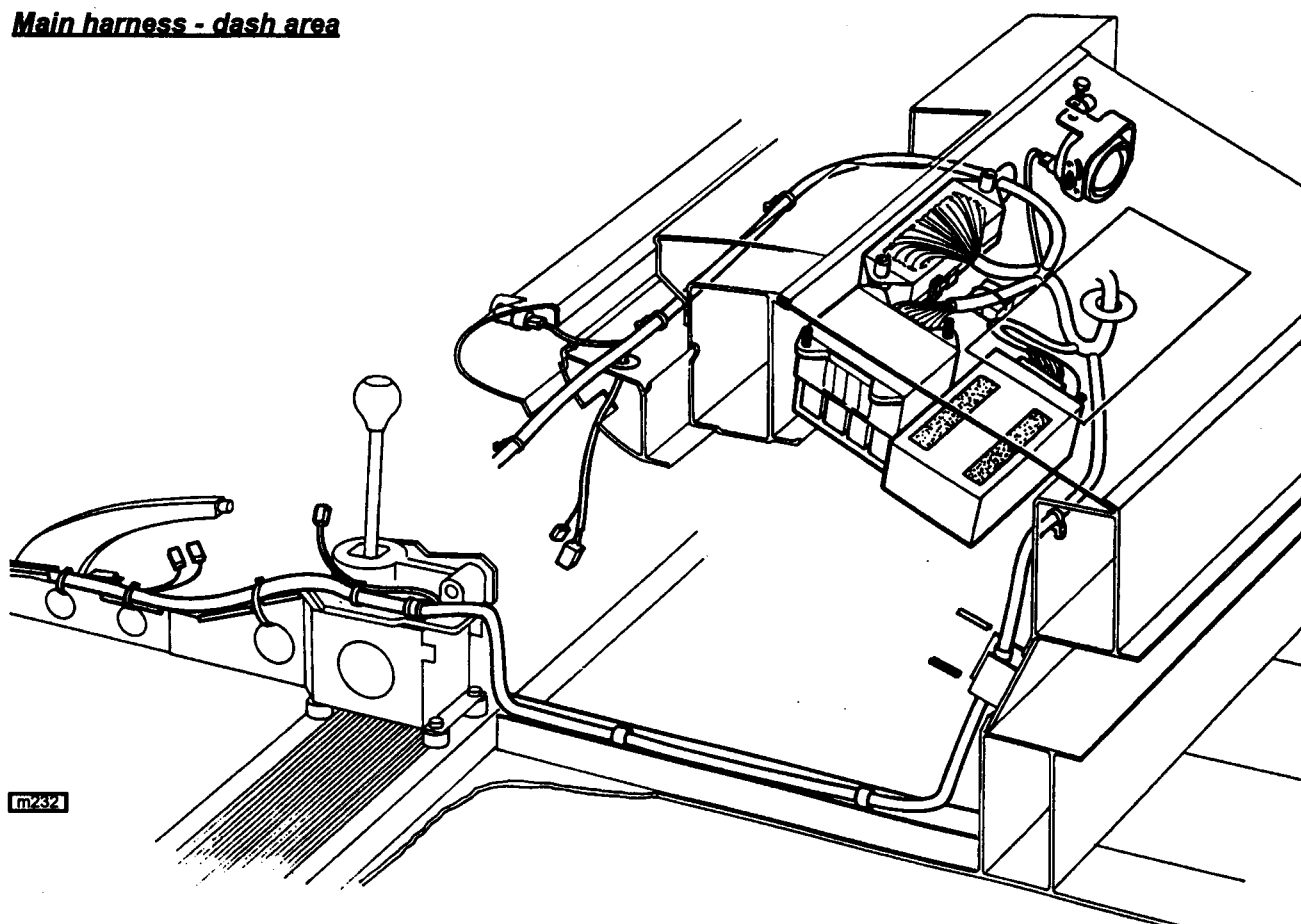


340R REAR FOG/REVERSE AND BRAKE LAMPS

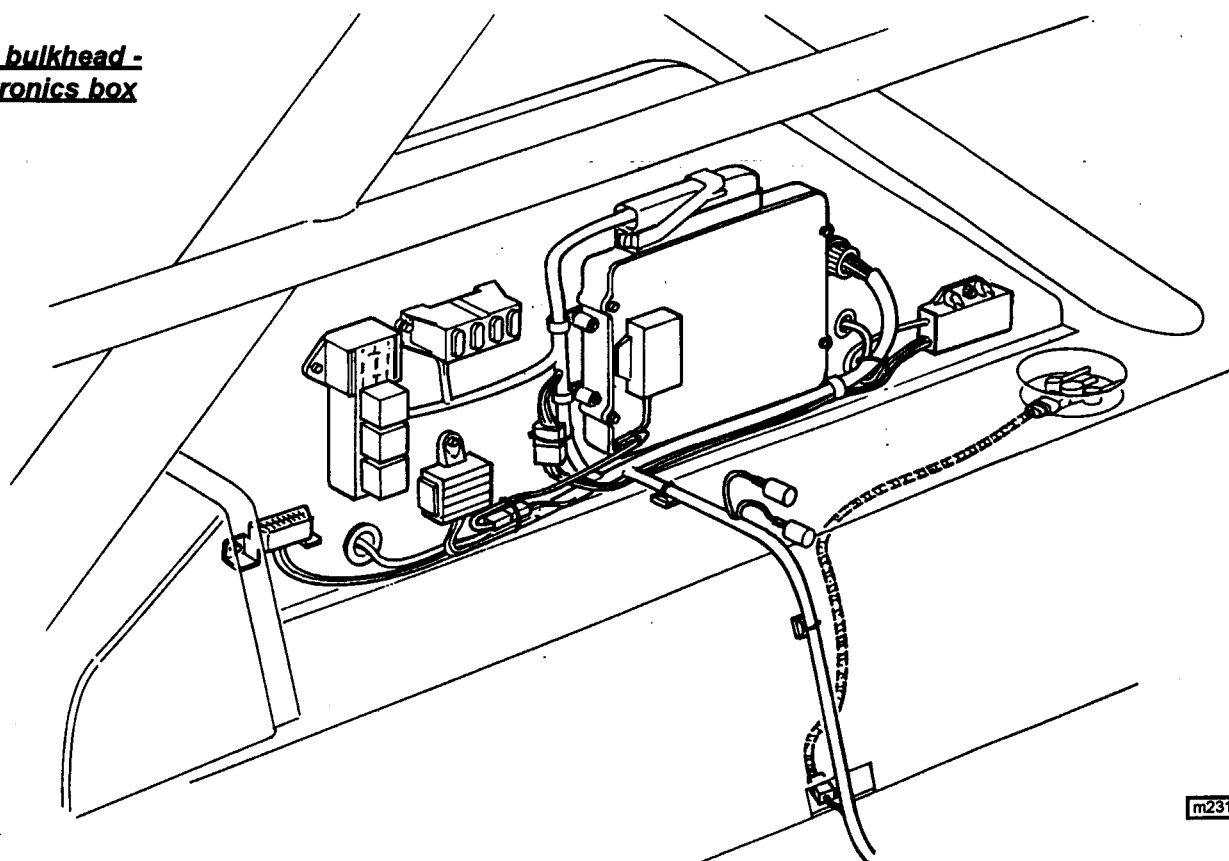




Main harness - dash area

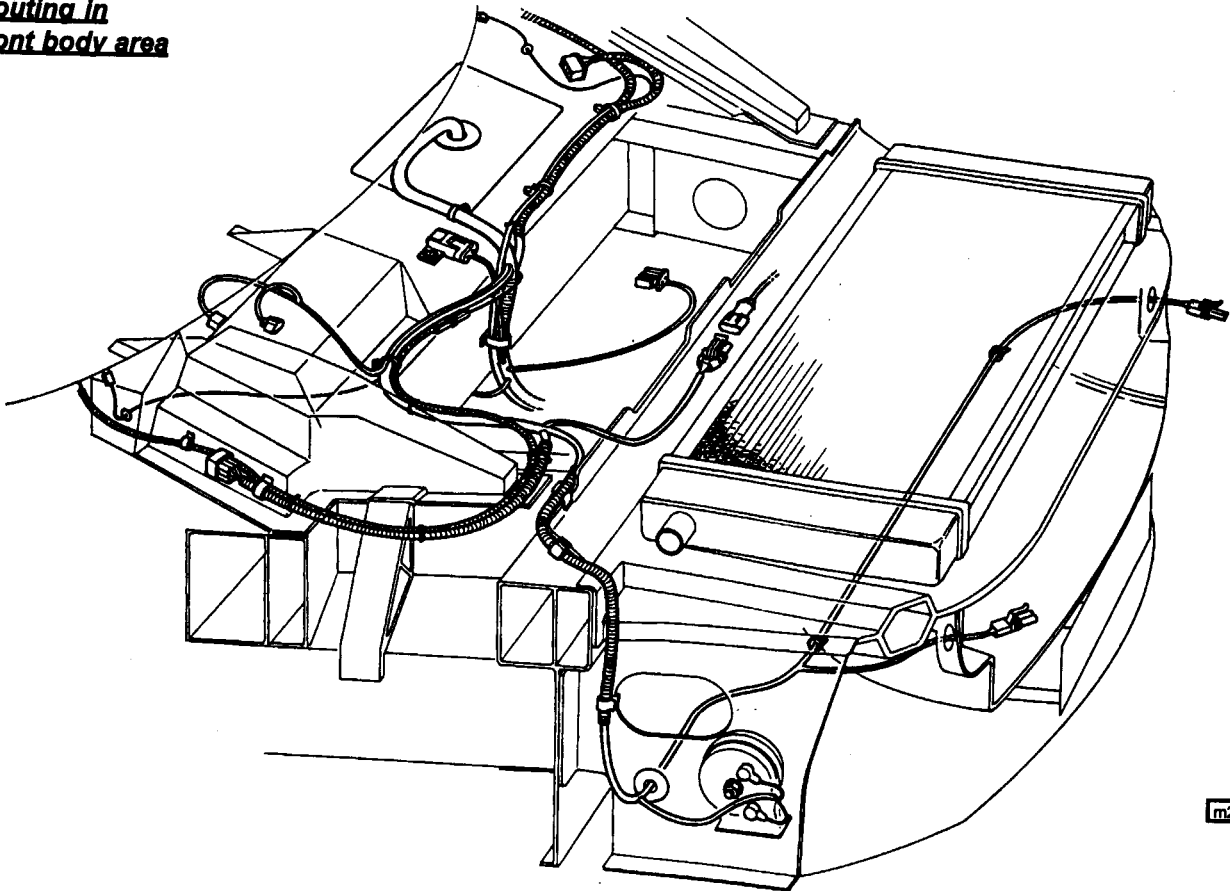


Rear bulkhead - electronics box



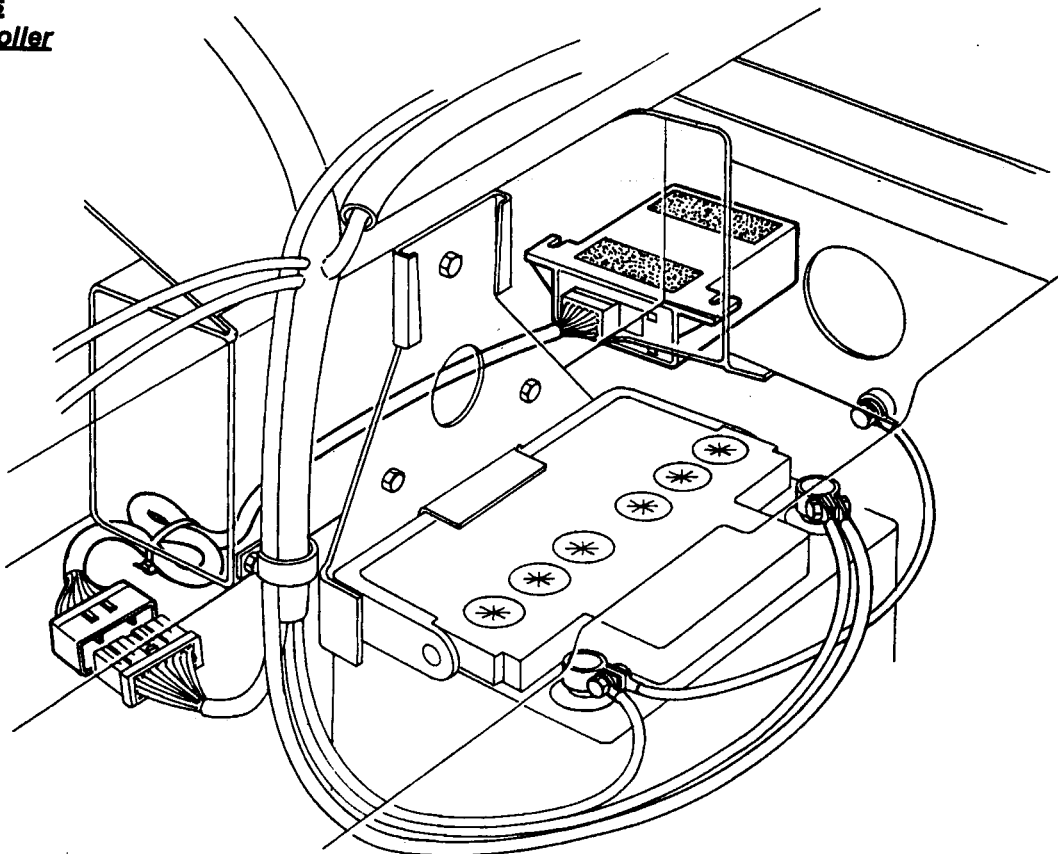


**Routing in
front body area**



m233

**Battery cables
& alarm controller**



m234



340R.O - MAINTENANCE & LUBRICATION

Lubricants are as for standard Elise. The maintenance schedule is basically the same except the distance interval is reduced from 9,000 miles (15,000 km), to 6,000 miles (10,000 km) to reflect the likely harder use of the vehicle. For normal road use, the engine oil and filter should be changed in accordance with this schedule, but for cars used on race circuits, oil and filter should be changed every 3,000 miles (5,000 km). For seriously raced cars, oil and filter should be changed every 2 meetings.

The engine is factory filled with Castrol GTX 15W/50 to be used for running-in until the After Sales Service. At this service, it is recommended to use a fully synthetic oil for optimum engine protection, with the following two products being specifically recommended; Mobil One 5W/50; Castrol Formula RS 10W/60.

A maintenance schedule for the 340R is available under part number LSL382.



MAINTENANCE SCHEDULE - ELISE 340R

Date: Owner's Name: Vehicle:

Vehicle Registration No.: V.I.N.:

Recorded Mileage: Months Since Last Service: Job No.:

EXPLANATORY NOTES:

Required Maintenance

In order to maintain warranty validation and help ensure proper safety, emissions performance and dependability of the vehicle, Lotus Cars Ltd. requires that the vehicle be serviced in accordance with this schedule. Each service should be performed either within 1,000 miles (1,600 km) of the distances stipulated, or within one month of the anniversary of the previous service, whichever first occurs. Any necessary repairs should be completed without delay. For vehicles frequently used on closed circuit tracks, or driven in competitive conditions, higher levels of servicing will be required.

A cross (X) in the following table indicates an operation to be performed. The corresponding box should be ticked (✓) when the operation has been satisfactorily performed, or the X circled if extra work and time is required. The approval of the customer should be obtained before any extra work is undertaken, details of which should be recorded in the space provided at the end of the schedule.

After Sales Service

There is no charge to the vehicle owner for the labour content of the After Sales Service. Only materials used will be charged.

'Inspect' means assess condition and test for correct operation. Extra time is required to adjust or repair - advise customer beforehand if necessary.

'Check' means test and adjust/fill or tighten as necessary. Labour time is included.

Odometer Reading	Time Period	Service Type
1,000 to 1,500 miles (1,500 to 2,500 km)	To be performed within 12 months of vehicle date of sale.	After Sales Service.
6,000 miles (10,000 km)	Or 12 months since last service.	A
12,000 miles (20,000 km)	" " " " " "	B
18,000 miles (30,000 km)	" " " " " "	A
24,000 miles (40,000 km)	" " " " " "	B
30,000 miles (50,000 km)	" " " " " "	A
36,000 miles (60,000 km)	" " " " " "	C
42,000 miles (70,000 km)	" " " " " "	A
48,000 miles (80,000 km)	" " " " " "	B
54,000 miles (90,000 km)	" " " " " "	A
60,000 miles (100,000 km)	" " " " " "	B
66,000 miles (110,000 km)	" " " " " "	A
72,000 miles (120,000 km)	" " " " " "	C



Op No.	OPERATION DESCRIPTION	SERVICE TYPE				
		After Sales	A	B	C	Other intervals
1	Fit protective covers to seats, footwells, steering wheel & rear body	X	X	X	X	
	Lubrication					
2	Renew engine oil & filter*	X	X	X	X	
3	Inspect engine & transmission for oil leaks	X	X	X	X	
4	Check transmission oil level		X	X	X	
	* In 'severe service' conditions (dusty areas, or cold, stop/start driving), change twice as frequently or as required.					
	Engine					
5	Wash or replace air cleaner elements* (refer above)		X	X	X	
6	Renew spark plugs			X	X	
7	Inspect auxiliary drive belt condition		X	X	X	
8	Renew cam belt				X	
9	Renew fuel filter				X	
10	Connect 'Tech 1/2' scanner tool and check for stored codes	X	X	X	X	
11	Inspect & record tailpipe CO		X	X	X	
	Cooling System					
12	Inspect radiator, hoses & pipework for damage or leaks. Clean radiator finning		X	X	X	
13	Check coolant level	X	X	X	X	
14	Renew coolant					12 months
	Braking System					
15	Inspect parking brake adjustment	X	X	X	X	
16	Inspect operation of brake tell tales	X	X	X	X	
17	Inspect brake pad thickness & disc condition ^		X	X	X	
	^ In conditions where the brakes are subject to heavy use, inspection may be required more frequently					
18	Inspect brake hoses, pipes & hydraulic units		X	X	X	
19	Check brake fluid level	X	X	X	X	
20	Renew brake/clutch fluid					12 months
	Steering & Suspension					
21	Check security and condition of front & rear suspension		X	X	X	
22	Inspect dampers for leaks & performance		X	X	X	
23	Inspect front & rear wheel bearings for play		X	X	X	
22	Inspect condition of driveshaft gaiters		X	X	X	
23	Inspect steering ball joints & gaiters		X	X	X	
25	Inspect free play at steering wheel		X	X	X	



Op No.	OPERATION DESCRIPTION	SERVICE TYPE				
		After Sales	A	B	C	Other Intervals
	Wheels & Tyres					
27	Inspect tyre condition & set pressures	X	X	X	X	
	Electrical					
28	Check battery terminals for security & condition		X	X	X	
29	Inspect operation of all lights		X	X	X	
30	Inspect operation of all electrical equipment		X	X	X	
	Body					
31	Inspect operation & condition of seat belt harnesses		X	X	X	
32	Top up screenwash reservoir	X	X	X	X	
33	Renew alarm transmitter batteries (check with customer)					12 months

Road Test Performance

Engine performance Tailpipe CO

Clutch operation Gearbox operation

Brake performance Steering performance

Driveline & suspension noise/vibration Wheel balance

General comments.....

Additional work required

Work completed by

Recommended Service Times

After Sales Service: 1.8 hr
 A Service: 2.8 hr
 B Service: 3.2 hr
 C Service: 6.7 hr
 (Add 0.5 hr to all if undershield fitted)

Dealer stamp:

Date:



340R.P - HEATING

A rudimentary heater is provided in the form a hot air duct linking a portion of the engine radiator outlet airflow to the vents at the front of the footwells. Note that the windscreen is electrically heated (see section M).

340R.Q - CLUTCH

The clutch used on the 340R is common with the Elise, but is mounted on a lightened flywheel, and is balanced in unit with it.