

**EXIGE SUPPLEMENT**

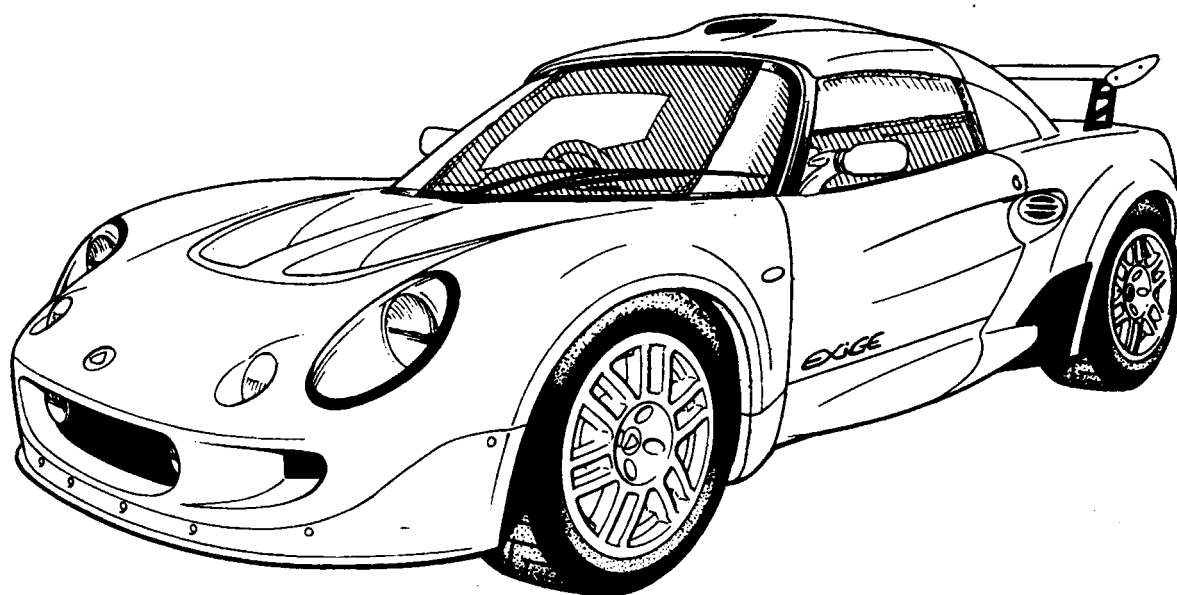
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### EXIGE.# - INTRODUCTION

The Lotus Exige made its public debut at Brands Hatch in April 2000, as a fully road going version of the car used in the Lotus Motorsport Elise race series. The car is based on the standard Elise chassis and core body structure, but using the 178 bhp powertrain from the 340R, a sport suspension package, a modified race replica body, and race car alloy road wheels.

The specification has been optimised for drivers who require an uncompromising machine with responsive handling, higher engine output, and an elevated level of driver satisfaction, with a projected use to include track days. The car is fully type approved for European markets, with various changes from the race cars made to improve practicality, legality or user friendliness. These changes include the fitment of a clear polycarbonate vented tailgate for rear vision, a front apron/splitter set at road height, and a revised rear aerofoil to provide the required aerodynamic balance. Elise sport suspension uses model specific calibration, in combination with specially developed Yokohama A039 tyres.



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## EXIGE.TD - TECHNICAL DATA

### Tyres

- Type		Yokohama A039
- Size	- front	195/50 R16 84V LTS
	- rear	225/45 R17 90W LTS
- pressure (cold)	- front	1.6 bar (23 lb/in <sup>2</sup> )
	- rear	1.8 bar (26 lb/in <sup>2</sup> )

### Wheels

Type	Light alloy, 12 spoke
Size - front	7J x 16 ET7
- rear	8.5J x 17 ET5
Wheel nut torque	80 - 85 Nm (59 - 63 lbf.ft)

### Dimensions

Overall length	3761 mm
Overall width	1730 mm
Overall height (at kerb weight)	1201 mm (excl. aerial)
Wheelbase	2300 mm
Track - front	1457 mm
- rear	1476 mm
Ground clearance (at kerb weight)	155 mm
Front overhang	774 mm
Rear overhang	687 mm
Unladen weight - total	785 kg > inc. full
- front	319 kg > fuel tank
- rear	466 kg >
Maximum weight - total	1012 kg } incl.
- front	427 kg } occupants
- rear	585 kg } & luggage
Trailer towing	Not permissible

### Capacities

Engine oil (refill inc. filter)	4.5 litre (7.9 imp. pt)
High/low dipstick mark difference	1.0 litre (1.8 imp. pt)
Transmission oil	2.1 litre (3.7 imp. pt)
Fuel tank	36.4 litre (8.0 imp.gall)
Cooling system	8.0 litre (1.8 imp.gall)

### Front Suspension

Type	Independent. Upper and lower wishbone; co-axial coil spring/telescopic damper unit; anti-roll bar
Ride height (for geometry check) - front	112 mm below front end of chassis siderail
- rear	122 mm below rear end of chassis siderail
Steering axis inclination	12 ° nominal
Castor	+ 3.8°; ± 0.2°; max. side/side 0.2°
Camber	- 0.5°; + 0.1°, - 0.2°; max. side/side 0.2°
Alignment	0.1 mm toe-out overall; + 0.1 mm, - 0



**Ride height (for geometry check)**

- front
- rear

## Alignment

**Independent. Upper and lower wishbone; co-axial coil spring/telescopic damper.**

112 mm below front end of chassis siderail

122 mm below rear end of chassis siderail

- 2.4°; ± 0.2°; max.side/side 0.2°

1.2 mm toe-in each side; + 0.2 mm, - 0

max.side/side 0.2 mm

### Type designation

### Cylinder configuration

## Capacity

### Bore

## Stroke

### Compression ratio

### Firing order

### Spark plugs

### Spark plug gap

**Maximum engine speed**

### Fuel requirement

### Fuel system

Valve clearances (cold) - inlet  
- exhaust

**Max power**

### Max torque

K16

in-line 4

**1796 cm<sup>3</sup> (70.71 in<sup>3</sup>)**

80.00 mm (3.150 in)

89.30 mm (3.516 in)

11.0:1

### 1.3.4.2

**Champion RC6 6YCC**

**0.85 ± 0.1 mm (0.033 in)**

7800 rpm

Unleaded 95 RON min.

**Multi-point fully sequential fuel injection with Lotus controller.**

0.25 mm (0.010 in)

0.30 mm (0.012 in)

**132.5 kW (178 bhp) @ 7,800 rpm**

172 Nm (127 lbf.ft) @ 6,750 rpm



### EXIGE.A - CHASSIS

The Exige alloy chassis tub, composite front crash structure, steel roll over bar and steel rear subframe are all unchanged from standard Elise, but the earlier type of boot floor arrangement is used with an alloy floor panel rivetted between the rear longerons.

### EXIGE.B - BODY

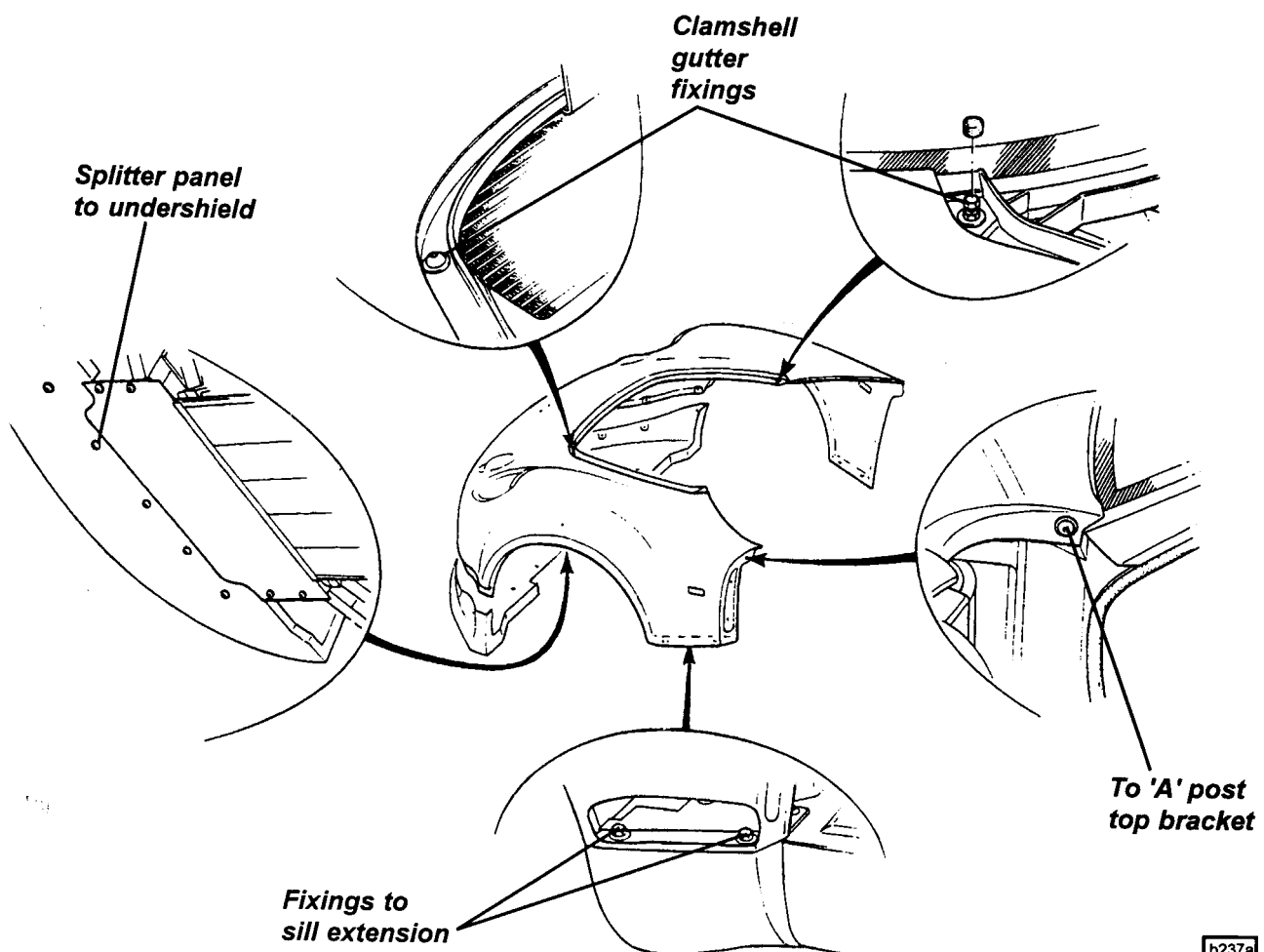
The Exige uses standard Elise body side sills, windscreen frame and door shells, and a rear bulkhead different only in captive fixings. The front services compartment lid is also common with Elise.

The 'bolt-on' front and rear clamshells are specific to Exige and are similar in styling to the motorsport series cars. The rear tailgate is a clear polycarbonate moulding bonded to a composite reinforcing frame, with intake and outlet air ducts incorporated into a 'spine' feature. A single top mounted hinge is used, together with a new cable operated latch mechanism. The roof panel incorporates an air intake duct for the engine bay, and although retained by the same fixings as are used on the Elise hardtop, the car should not be driven with the roof panel (and tailgate) removed.

Mounted on the rear body deck by two moulded plinths, is a new motorsport style aerofoil with integral endplates, which transfers loads into the chassis via rear clamshell support plates. The rear aerofoil and front splitter panel combine to provide balanced aerodynamic forces for optimum high speed handling.

#### Front Clamshell

The front clamshell is secured by threaded fasteners in a similar manner to the Elise, but uses sill extensions behind the front wheelarches to which the clamshell rear ends are attached, and a separate, screwed on splitter panel around the clamshell front lower edge.





To remove:

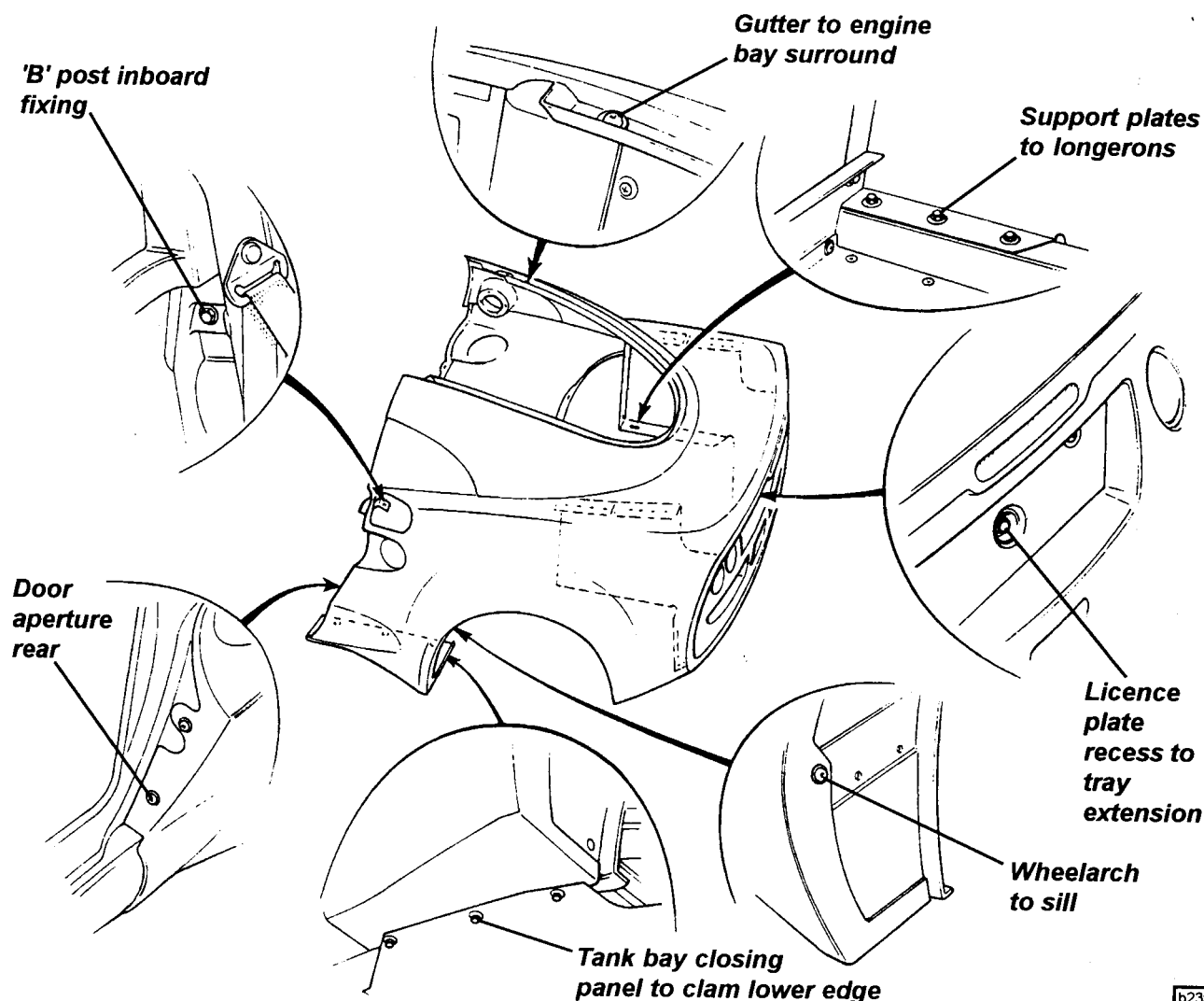
1. Remove both front road wheels and wheelarch liners.
2. At each side, remove the M8 fixing securing the clamshell to the sill front extension panel.
3. Remove the single M8 screw securing each top rear corner of the clamshell to a bracket at the top of the 'A' post.
4. Remove the four fixings in the bonnet gutter, one at each rear end, and one in each front corner. The rear pair are also used as adjustable mounts for the bonnet closing buffers, and use M8 captive fixings in the screen frame buttresses. The front pair use M8 captive fixings in the radiator mounting panel. Take note of the shim stacks fitted at each of the fixing points.
5. From beneath the nose, remove the five screws securing the rear edge of the splitter panel to the alloy undershield.
6. Disconnect the clamshell wiring harness at the driver's side of the front compartment, and lift the clamshell from the car. Note any spacing washers or shims fitted at any fixing point.
7. Refit the clamshell in reverse order to removal, taking care to retain any spacer washers in their original positions.

### Rear Clamshell

The rear clamshell fixings differ from the standard Elise in using vertical alloy panels bonded to the shell either side of the luggage space, and secured to the top surface of the rear longerons. The front upper edge of the shell is secured to the rear edge of the roof panel, and the bottom front edges of the clamshell wrap beneath the rear end of the sills. The early type boot floor is used, incorporating a rearward extension to pick up the clamshell behind the rear licence plate.

To remove:

1. Remove both rear road wheels and wheelarch liners.
2. Mark its position before releasing the tailgate panel from the hinge blade, noting any shim plates. Disconnect the release cable from the tailgate latch, and release any cable fixings.
3. Remove the trim panel from each side of the engine bay after releasing the fixings to the clamshell gutter and engine bay front surround.
4. Remove the fuel filler cap and release the four screws securing the fuel filler neck to the clamshell. Remove the washer ring, and withdraw the neck from the clamshell aperture.
5. Release the single screw each side securing the front of the clamshell gutter to the engine bay front surround.
6. Release the three screws each side securing the clamshell support plates to the top of the longerons.
7. Remove the rear number plate and release the single fixing securing the clamshell to the boot tray.
3. Disconnect the rear harness at the LH rear of the luggage compartment, and the harness connectors to the rear fog and reverse lamps.
9. Release the fixings securing the bottom edge of the clamshell to the tank bay closing panel, and that securing the front of each wheelarch to the body sill.
10. From inside the cockpit, release the clamshell front fixing from inside each 'B' post.
11. From the door aperture, remove the two fixings securing the front edge of the clamshell.



12. Carefully ease apart the two front sections of the clamshell as the shell is manouvered rearwards off the car.
13. Refit the clamshell in reverse order to removal.

### Rear Aerofoil

The rear aerofoil is a hollow glassfibre composite moulding, with integral endplates. The aerofoil is secured to two moulded polyurethane plinths, via M5 bolts through the plinth top flange into captive nuts in the aerofoil, whereas the plinths are fixed to the body by two M6 studs moulded into the bottom of each plinth, with nuts fitted inside the clamshell. Loads from the aerofoil plinths are transferred into the clamshell support plates via alloy angle brackets.

### Roof Section

The roof panel incorporates an air intake duct feeding into a corresponding duct in the tailgate. The single hinge for the tailgate is mounted in the rear end of the roof duct, and the standard Elise aerial is mounted on the top of the duct. The roof panel is retained in a similar manner to that used on standard car hard tops, but has an extended rear flange which underlaps the forward edge of the rear clamshell.

The roof may be removed with the clamshell 'in-situ', but requires that the rear clamshell front fixings be released.

To remove the roof panel:

- remove the tailgate from the hinge, or the hinge from the roof;
- disconnect the aerial lead;



- release the fixings securing the top front corners of the rear clamshell to rear bulkhead;
- remove the header rail clamp from inside the front of the roof;
- release the over-centre latches clamping the rear of the roof to the upper rear bulkhead, and lift off the roof panel.

## Tailgate

The tailgate panel comprises a clear polycarbonate moulding, bonded to a composite reinforcing surround, and with an air intake/exit duct incorporated into a spinal feature. A single hinge is mounted inside the roof air duct, and a new latch mechanism is mounted on a plinth at the rear of the clamshell aperture, with a loop type striker fixed to the tailgate. The existing cable release mechanism (with stainless cable) is utilised.

The polycarbonate screen is hard coated on both inside and outside surfaces, and should be cleaned using normal car wash preparations. Aerosol type glass cleaners may be used if required, but liquid or paste type abrasive polishes should NOT be used.

## Stone Chip Protection

A stone chip protective film set tailored specifically for the Exige is available under part number A111V0627S.

## Seats & Seat Belts

Standard equipment consists of 111S cloth (leather option) trimmed seats and inertia reel seat belts. Cars may be specified with a factory fit option of sports style seats trimmed in Alcantara suede, using 340R seat runner sliders on the driver's side, and the 340R fixed seat frame for the passenger. Packaged with this seat option are 340R 4-point harnesses, using a shoulder harness anchorage bar bolted across the roll over hoop. For competition use, the roll over bar reinforcement kit with removeable forward strut may be dealer fitted.

## Interior

A trim pack option comprises Alcantara suede in either blue, red, silver or black, applied to the door inserts, sill trims, steering wheel centre pad and dash inserts.



**EXIGE.C - FRONT SUSPENSION**

The Exige is fitted with the Elise Sport suspension package which includes adjustable spring platform Koni dampers with Exige specific springs, and the uprated front anti-roll bar in Nylon chassis mounting blocks. The standard setting for the front anti-roll bar is the central of 5 available holes. Steering rack positioning plates from the Sport kit are used to suit the specified mid-laden ride height of 112/122 mm, which differs from other sport variants due to the increased wheel diameter. Standard Elise suspension links and hub carriers are used.

**Geometry**

Mid-laden ride height (for geometry check)	- front	112 mm below front end of chassis siderail
	- rear	122 mm below rear end of chassis siderail
Steering axis inclination		12° nominal
Castor		+ 3.8°; ± 0.2°
		max. side/side 0.2°
Camber		- 0.5°; + 0.1°, - 0.2°
		max. side/side 0.2°
Alignment		0.2 mm toe-out overall; + 0.2 mm, - 0

**EXIGE.D - REAR SUSPENSION**

The Exige is fitted with the Elise Sport suspension package which includes adjustable spring platform Koni dampers with Exige specific springs. Standard Elise wishbones and 'integral stud' type toe-links are used in conjunction with standard Elise forged steel hub carriers. The specified mid-laden ride height of 112/122 mm differs from other sport variants due to the increased wheel diameter. For optimum rear bump steer set up information, refer to sub-section XA.8.

**Geometry**

Mid-laden ride height (for geometry check)	- front	112 mm below front end of chassis siderail
	- rear	122 mm below rear end of chassis siderail
Camber		- 2.4°; ± 0.2°
		max.side/side 0.2°
Alignment		1.2 mm toe-in each side; + 0.2 mm, - 0
		max.side/side 0.2 mm

**EXIGE.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:

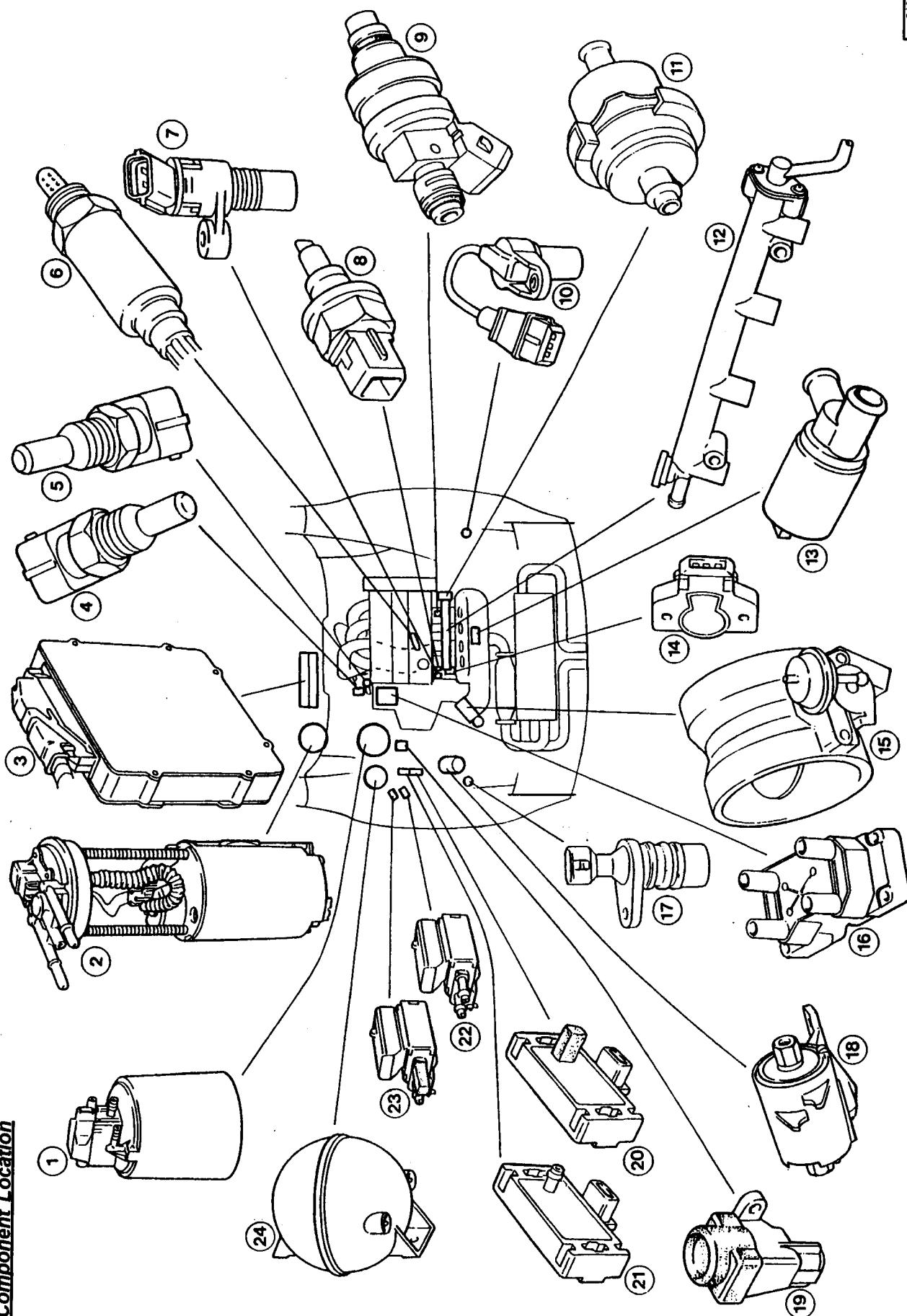
Max. power; 132.5 kW (177.7 bhp) @ 7,800 rpm

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 pump assembly                              | 14. | Throttle Position (TP) sensor      |
| 3.  | Electronic Control Module (ECM)                 | 15. | Intake resonator valve             |
| 4.  | Engine Coolant Temperature (ECT) sensor (brown) | 16. | Ignition coil pack                 |
| 5.  | Coolant temperature gauge sender (blue)         | 17. | Speedometer sensor                 |
| 6.  | Oxygen sensor                                   | 18. | Fuel filter                        |
| 7.  | Crankshaft position sensor                      | 19. | Inertia switch                     |
| 8.  | Manifold Air Temperature (MAT) sensor           | 20. | Barometric pressure (BARO) sensor  |
| 9.  | Fuel injector                                   | 21. | Manifold Air Pressure (MAP) sensor |
| 10. | Engine management vehicle speed sensor          | 22. | Resonator charging solenoid valve  |
| 11. | Fuel pressure regulator valve                   | 23. | Resonator locking solenoid valve   |
| 12. | Fuel rail                                       | 24. | Vacuum reservoir                   |

**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.
- A vehicle speed signal is provided for the ECM from a new wheel speed sensor mounted on the RH rear hub carrier. The LH hub carrier sensor is retained for speedometer data. Note for reference, that the 340R uses only the LH sensor, but splits the signal to speedo and engine ECM in the instrument controller.

Other engine management components are as standard Elise.

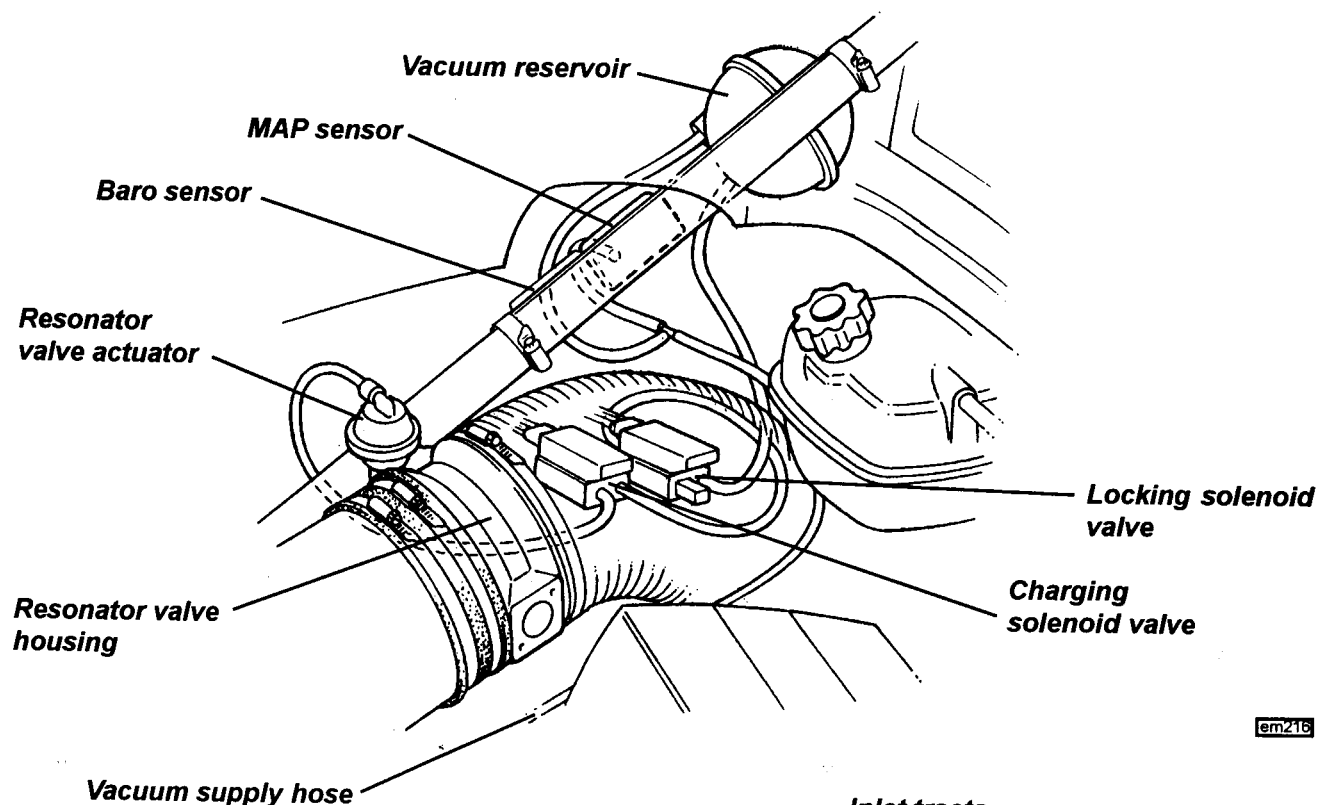
The OBD2 (On Board Diagnostics version 2) connector socket is located within the electronics box on the cabin rear bulkhead. For fault diagnosis, the 'Tech 1' tool, including the Esprit V8 cartridge, should be plugged into this socket, and any trouble codes read in conjunction with Service Notes manual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

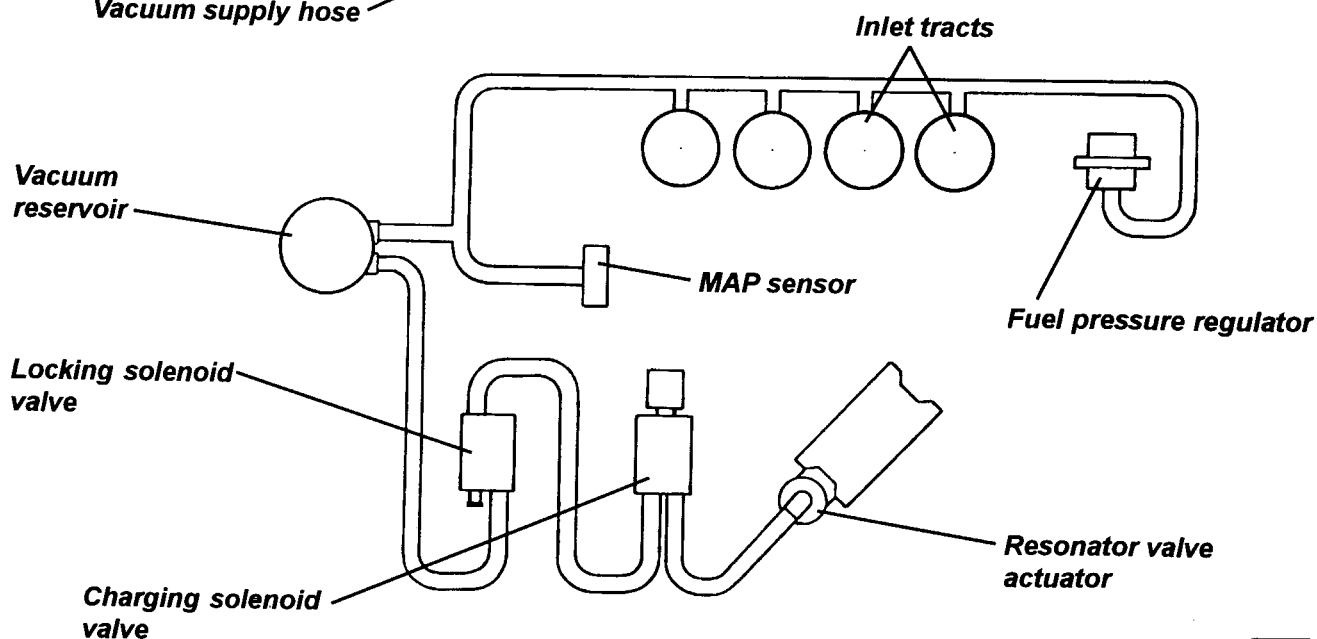


**Intake System & Resonator Valve:** A short intake manifold assembly incorporates individual inlet tract butterfly throttles operated via cable quadrant between cylinders 2 & 3. A glassfibre composite airbox, bigger still than the Sport 190 version, is supplied with air via large diameter trunking drawing ambient air from the intake duct in the left hand body ahead of the rear wheelarch. 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 at the LH side of the engine bay. The solenoid valves are controlled by the engine management ECM which is programmed to close the butterfly 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.



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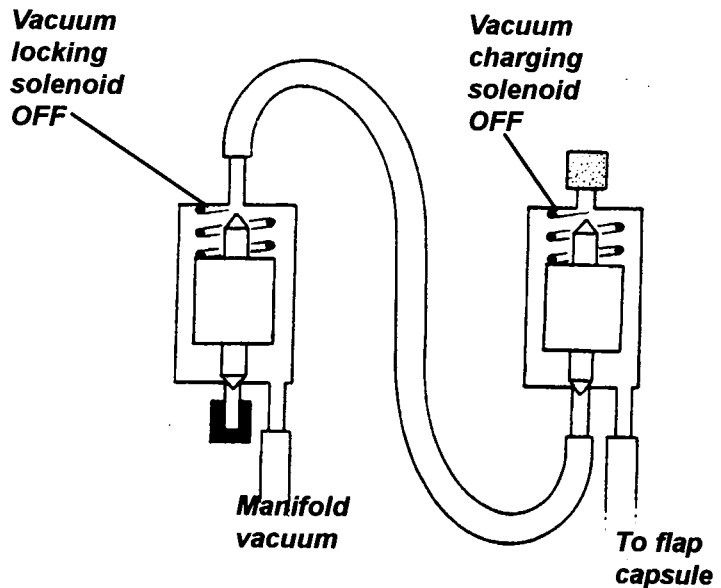


The sequence of operation is as follows:

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

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

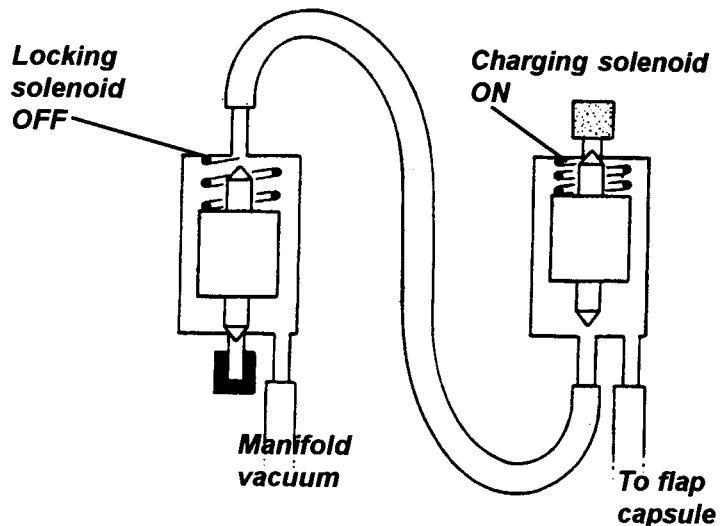
Inlet manifold sealed by the locking capsule.



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

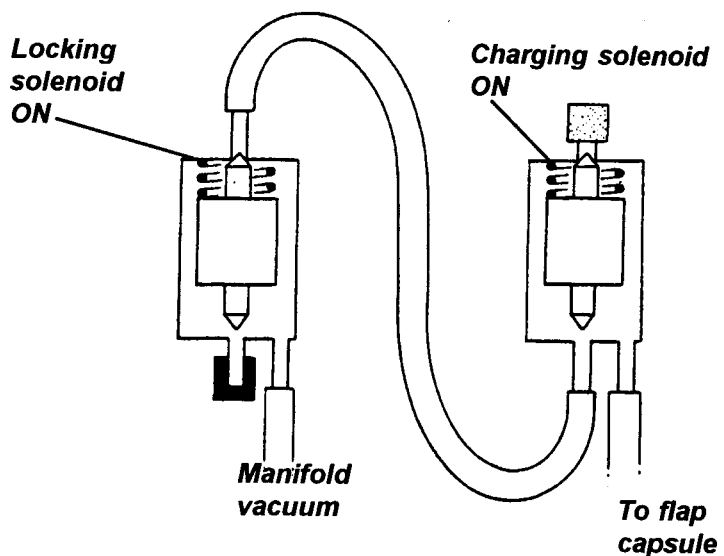
Charging solenoid is energised.

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.

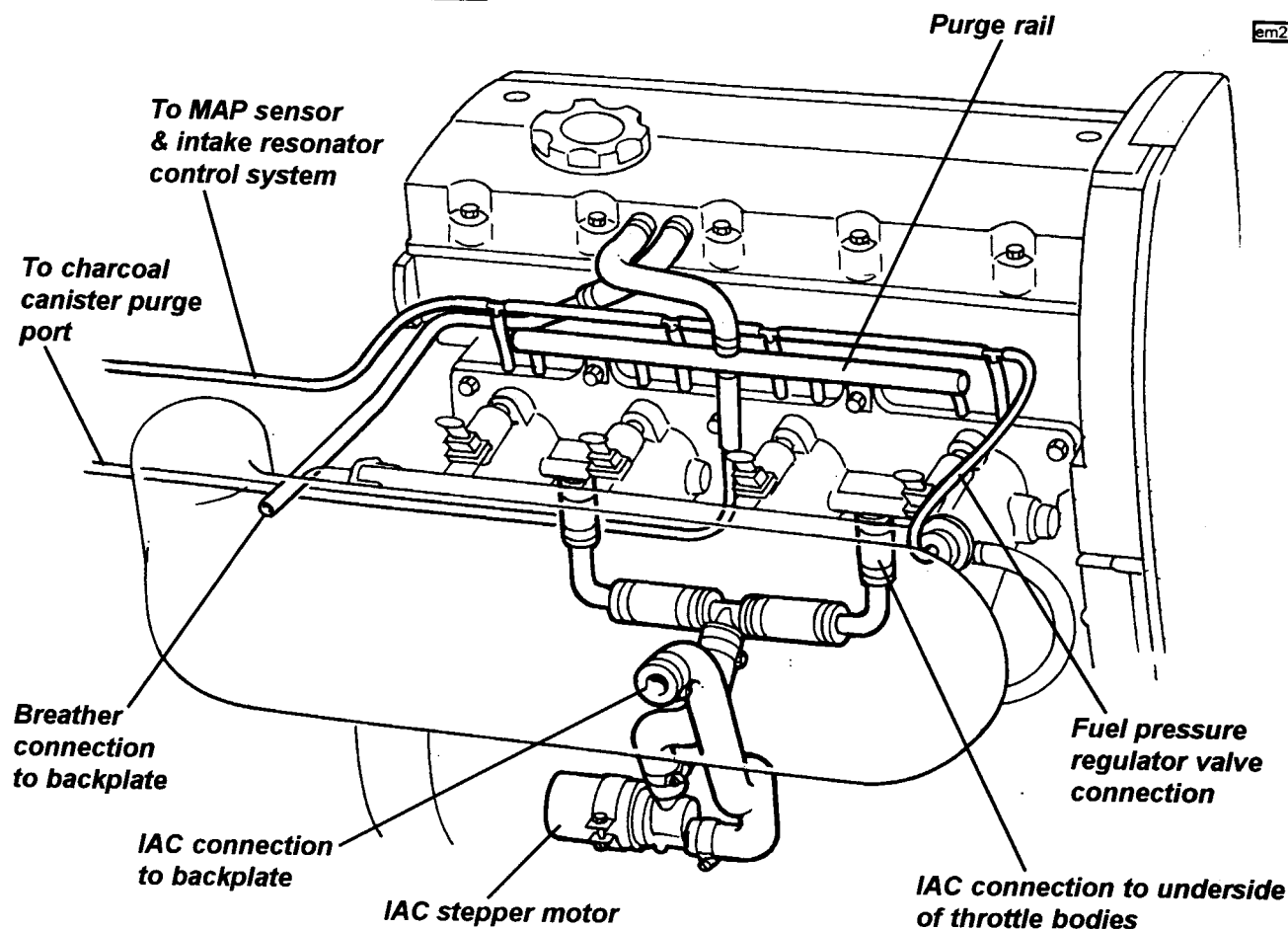


When the conditions required for intake resonance suppression no longer apply, both solenoid valves are de-energised and the flap valve is opened.

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### Breather hoses, vacuum pipes & IAC



**Air Cleaner:** The Exige 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.

Note that the intake trunking is marked with an arrow indicating the direction of airflow for optimum performance.



**Exhaust System:** The Exige and 340R use a special exhaust manifold fabricated from 45mm steel tube, leading via a short flexible section to the standard catalytic converter, and then into the transverse muffler. The Exige muffler is based on that of the 340R, the body of which is more voluminous than the standard Elise muffler, but in this application, no external wrap is used, and the bigger bore tailpipes are 50mm diameter with correspondingly larger trims.

**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 turn the key against spring pressure to position 'III' to engage the starter motor. As soon as the engine starts, release key pressure, and adjust the accelerator position to maintain 2,000 rpm for 10 seconds to minimise emissions.
- iv) If the engine fails to start within 15 seconds, stop cranking and pause for 10 seconds before a second attempt. If further efforts are unsuccessful, increase throttle opening to half way, and repeat.
- 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.





### EXIGE.F - TRANSMISSION

The Exige uses the same close ratio transmission as is fitted to the Elise 111S. Compared with the standard Elise transmission, the final drive is lowered from 3.94:1 to 4.20:1, first and second gear ratios are raised, and fifth is lowered. Compared with the 111S, the overall ratios are raised slightly due to the larger diameter wheels used on the Exige.

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

<i>Gear</i>	<i>Ratio</i>	<i>Final Drive</i>	<i>mph (km/h) /1000 rpm</i>
First	2.92 : 1	)	5.8 (9.3)
Second	1.75 : 1	)	9.9 (15.9)
Third	1.31 : 1	) 4.20 : 1	13.1 (21.1)
Fourth	1.03 : 1	)	16.7 (26.9)
Fifth	0.85 : 1	)	20.2 (32.5)
Reverse	3.00 : 1	)	



### EXIGE.G - WHEELS & TYRES

The Exige uses alloy road wheels made by Rimstock and featuring the 12 - spoke, black finish, design used on the race series cars. Wheel diameters, at 16 and 17 inches front and rear, are increased by one inch over standard Elise, with rim widths of 7 and 8.5 inches.

Lotus engineers have worked with the tyre manufacturer Yokohama, to produce an A039 tyre specification for the Lotus Exige to optimise performance on both road and track. When replacing tyres, ensure that the correct Lotus specification of the tyre is fitted, identified by 'LTS' following the size designation on the tyre sidewall. The tread pattern is directional, so that the tyre must be fitted onto the wheel with regard to which side of the car the wheel is to be fitted. A direction of rotation arrow is included in the tyre sidewall markings.

Note that the Exige wheel/tyre assemblies are not approved for fitment on other Elise variants.

#### Wheelnuts

Note that the wheelnuts and roadwheels on the Exige, use a 60° taper, and not the spherical seating used by other Elise variants. It is most important that in order to maintain the highest level of safety, only the approved roadwheels and nuts are used.

#### Tyres

Type	Yokohama A039
Size - front	195/50 R16 84V LTS
- rear	225/45 R17 90W LTS
- pressure (cold) - front	1.6 bar (23 lb/in <sup>2</sup> )
- rear	1.8 bar (26 lb/in <sup>2</sup> )

#### Wheels

Type	Light alloy, 12 spoke
Size - front	7J x 16 ET7
- rear	8.5J x 17 ET5
Wheel nut torque	80 - 85 Nm (59 - 63 lbf.ft)



### EXIGE.H - STEERING

All the steering components used on the Exige are as standard Elise, except for the rack positioning plates which are 'sport' specification to suit the lowered ride height. The Sport removeable steering wheel may be fitted for track use. For further information refer to section HE and XA.

### EXIGE.J - BRAKES

The Exige uses the drilled cast iron discs and brake pads as fitted to the Elise 111S. For track use, the motorsport brake pads (front; A111J0150S, rear; A111J0151S) are recommended. For further information refer to section JH.

### EXIGE.K - COOLING

The engine cooling system is unchanged from standard, but all Exige models are factory fitted with oil coolers.

### EXIGE.L - FUEL SYSTEM

The fuel system is unchanged from standard Elise. Unleaded fuel with a minimum octane rating of 95 RON should be used.



### EXIGE.M - ELECTRICAL

#### **VEHICLE SECURITY**

The Exige uses the same vehicle Meta security system as is used on 340R, being 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 doors and 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 mounted ahead of the gear lever, 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**

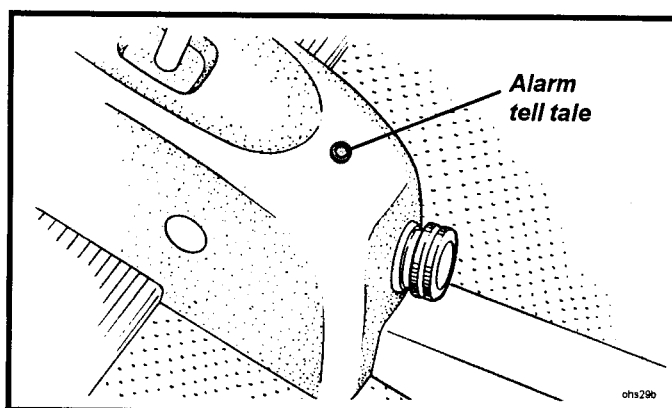
For enhanced protection from theft and vandal damage, the EXIGE may be specified factory built with a 'Meta' vehicle security system which incorporates the following features:

- 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 mounted ahead of the gear lever, 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 doors, tailgate and front bonnet 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 ahead of the gear lever 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 a door, tailgate or front bonnet 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 a door, tailgate or front bonnet;
- 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 ahead of the gear lever.

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.

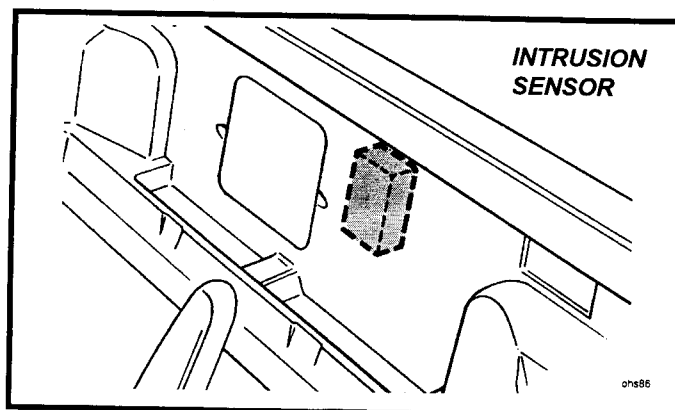
If desired, the alarm may be armed without the intrusion sensor or battery interruption circuits being active by:

- 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.



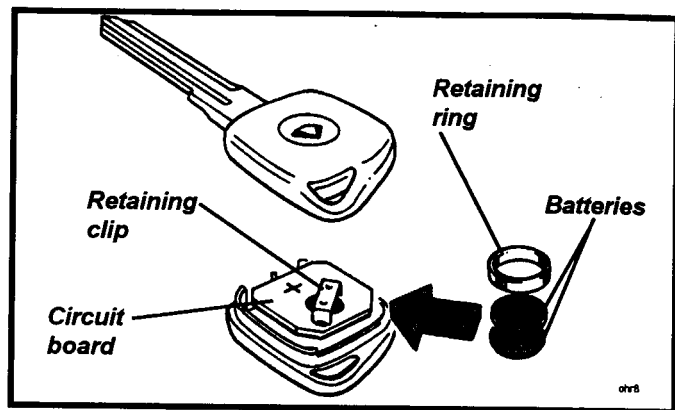


### Transmitter Key Battery Replacement

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

To replace transmitter battery:

- Use a thin blade to prise apart the two halves of the transmitter key head, and withdraw the battery.
- 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.
- Press the battery case together.



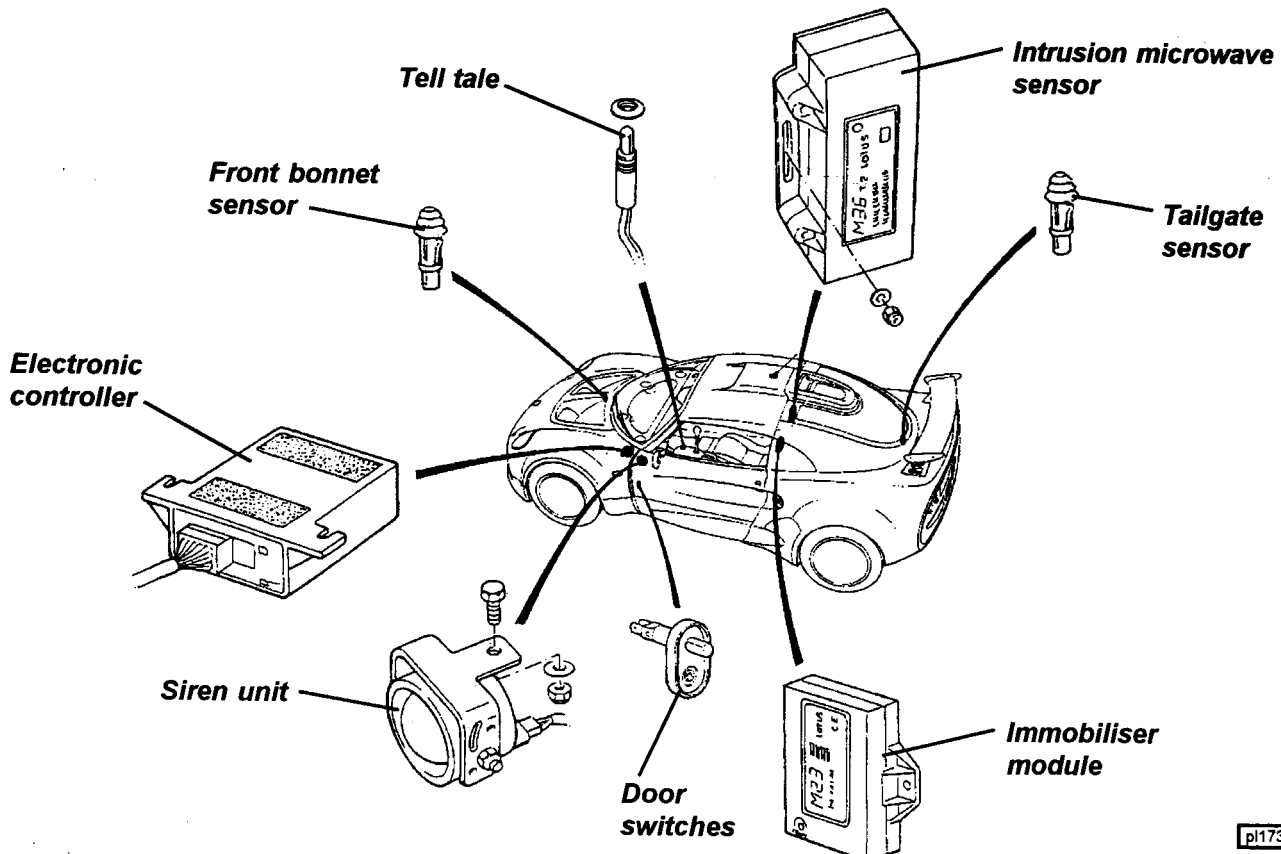
### Disconnecting the Vehicle Battery

- 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 on the top of the scuttle beam above the passenger footwell. Some accessibility is available via the audio set aperture.
- 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 tailgate sensor switch is mounted at the rear of the lid aperture, alongside the latch.
- The front bonnet sensor is mounted at the rear of the aperture alongside the latch.



pl1733x



### AUDIO EQUIPMENT

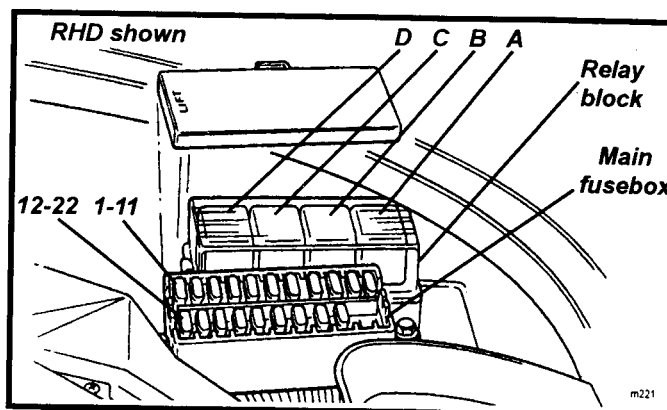
All cars are fitted with a standard Elise amplifier type aerial mounted on the roof air duct, and wired to a connector plug behind the fascia. The factory option of an audio fitting kit comprises a pair of speakers mounted in the rear bulkhead, and wired to a 16 pin ISO connector behind the fascia. Cars built without this option, retain the speaker wiring, but have blanking panels in place of speakers. Due to packaging restraints, Exige speakers are smaller than those in the Elise, and are common with Esprit fascia speakers, with 100mm diameter, 50W peak, 15W RMS.



### Fuses & Relays

The main fusebox is located in the front services compartment, on the passenger side, 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 the fuse extractor tool provided on the fusebox lid.

A relay block adjacent to the fusebox houses four relays, protected by a clip-on cover.



### Fuses

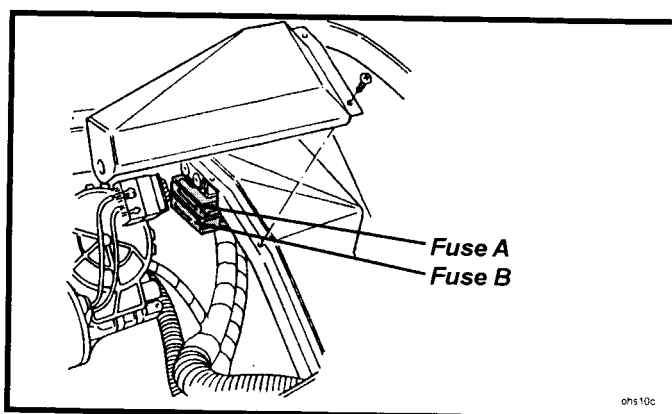
Slot	Rating	Circuit	Slot	Rating	Circuit
1	3A	Rear fog lamp	12	25A	Cooling fan
2	2A	Alarm ignition	13	-	-
3	20A	Interior fan	14	20A	Audio
4	15A	Wiper motor	15	20A	Cigar lighter
5	3A	Reverse lamp	16	5A	Sidelamp LH
6	7.5A	Direction ind.	17	5A	Sidelamp RH
7	10A	Ignition services	18	-	-
8	7.5A	Stop lamps & battery services	19	-	-
9	10A	Hazard lamps	20	20A	Fast fan speed relay
10	7.5A	Horn	21	-	-
11	10A	Alarm & Int. lamp	22	-	-

### Relays

A	Horn	C	Dip beam
B	Cooling fan	D	Main beam

Two Maxi fuses are located in the front services compartment, beneath the wiper motor protective cover.

Slot	Rating	Circuit
A	50A	Lighting
B	50A	Ign. switch

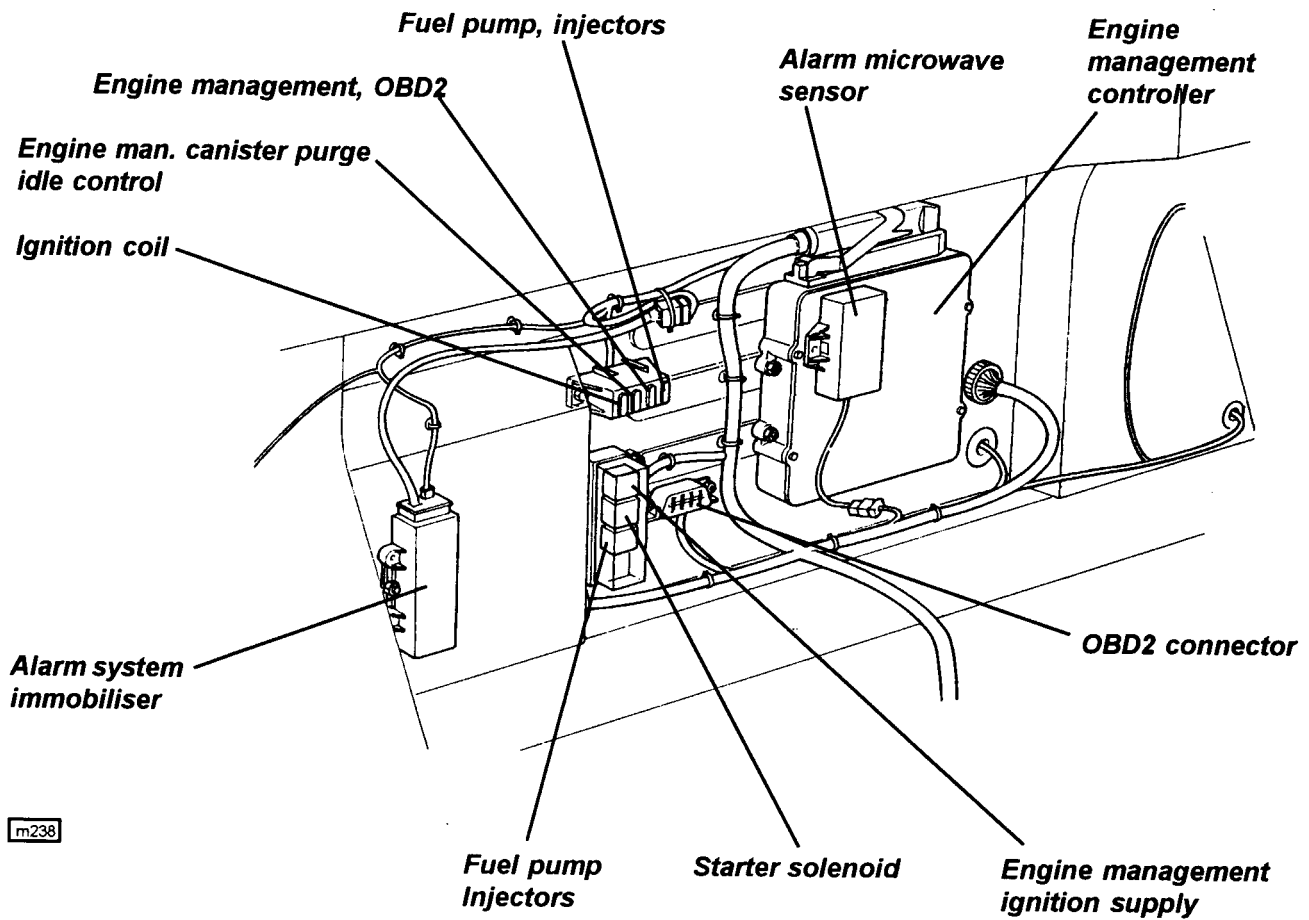


Engine management and security system related fuses, relays and modules are contained within the electronics box on the cabin rear bulkhead. A pull off panel is provided for ready access.

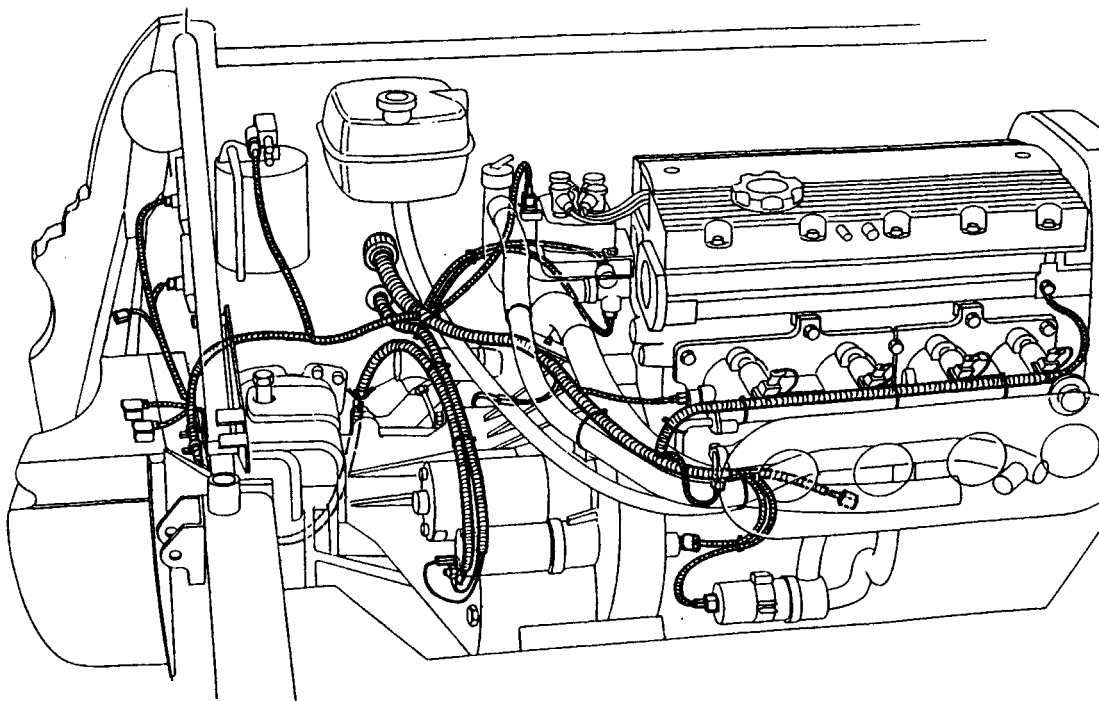




**Bulkhead Electronics Box**



**Engine bay harness routing**



**EXIGE CIRCUIT DIAGRAM INDEX**

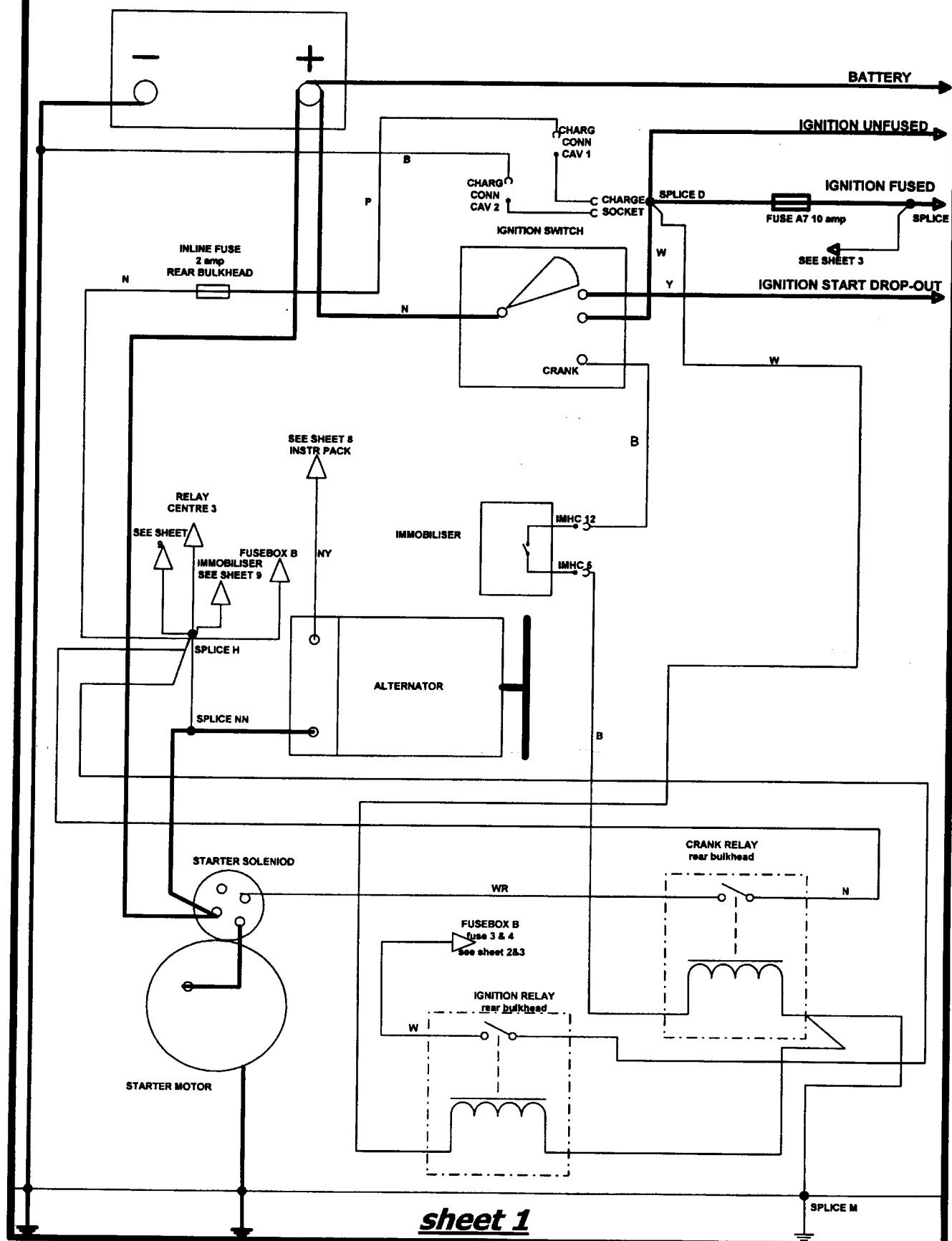
<b><u>Circuit</u></b>	<b><u>Sheet</u></b>
Starter, Alternator, Ignition	1
Fuel Pump, Ignition Coil	2
Radiator Fan, ECM Control	3
ECM Power Supply, Sensors	4
Wiper Motor	5
Turn Indicators, Hazard Lamps	6
Radio & Cigar Lighter	7
Instrument Pack	8
Meta Immobiliser	9
Meta Alarm	10
Headlamps	11
Sidelights	12
Horn	13
Rear Fog, Reverse, Brake Lamps	14
Interior Fan	15

**GLOSSARY OF TERMS**

<b><u>Abbreviation</u></b>	<b><u>Expansion</u></b>	<b><u>Location</u></b>
IMHC	IMmobiliser Harness Connector	Rear electrical box
BULK	BULKhead 48-way circular connector	Rear electrical box
FTHC	Fuel Tank Harness Connector	Rear electrical box
FTU	Fuel Tank Unit connector	Top of tank, left side
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
FOG HC	FOG lamp Harness Connector	Rear clamshell
HDL HC	HeadLamp Harness Connector	Behind light pod
RHC	Rear Harness Connector	Rear compartment, left side

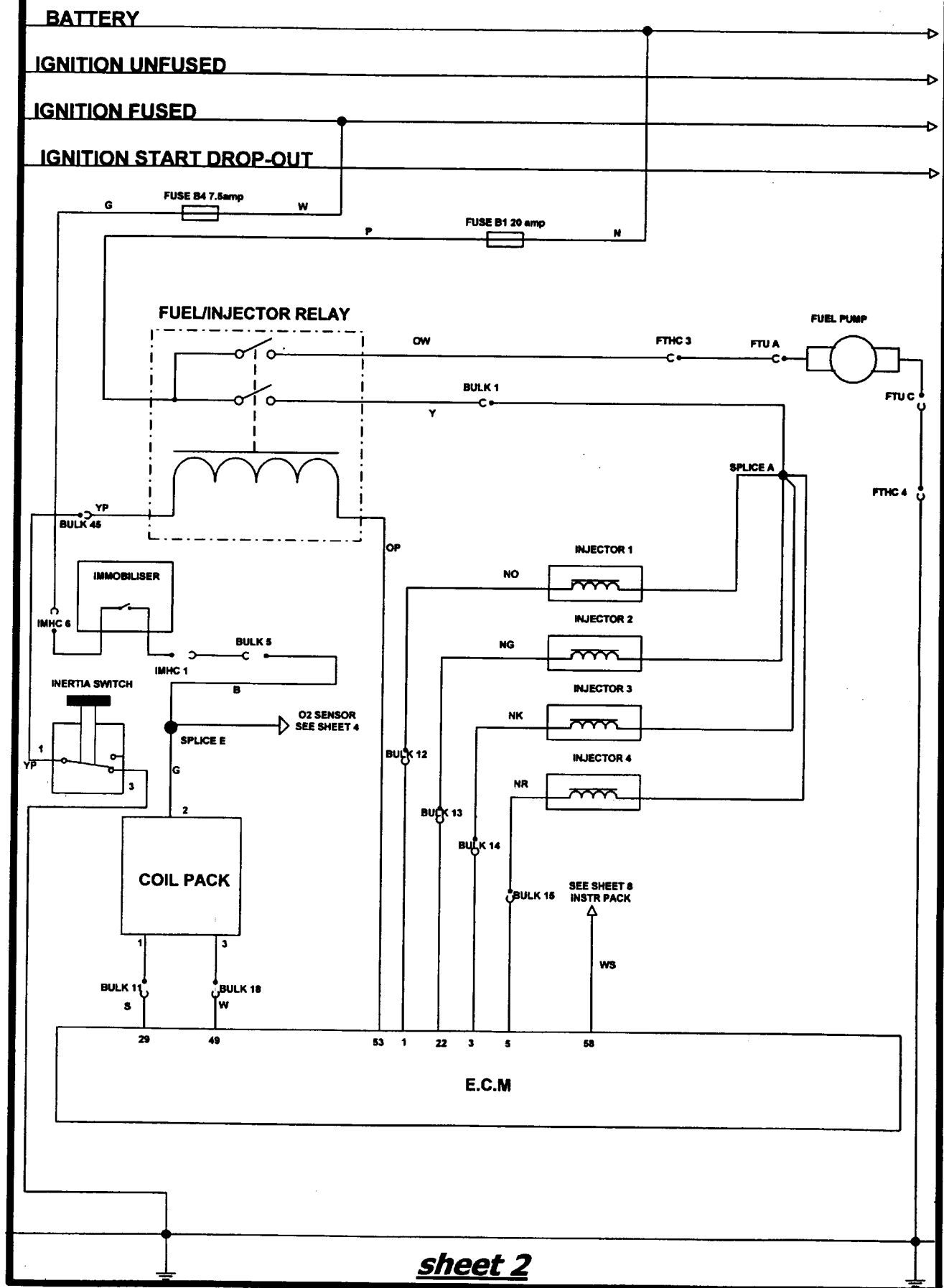


# **EXIGE START/ALTERNATOR/IGNITION**





## EXIGE FUEL PUMP AND COIL



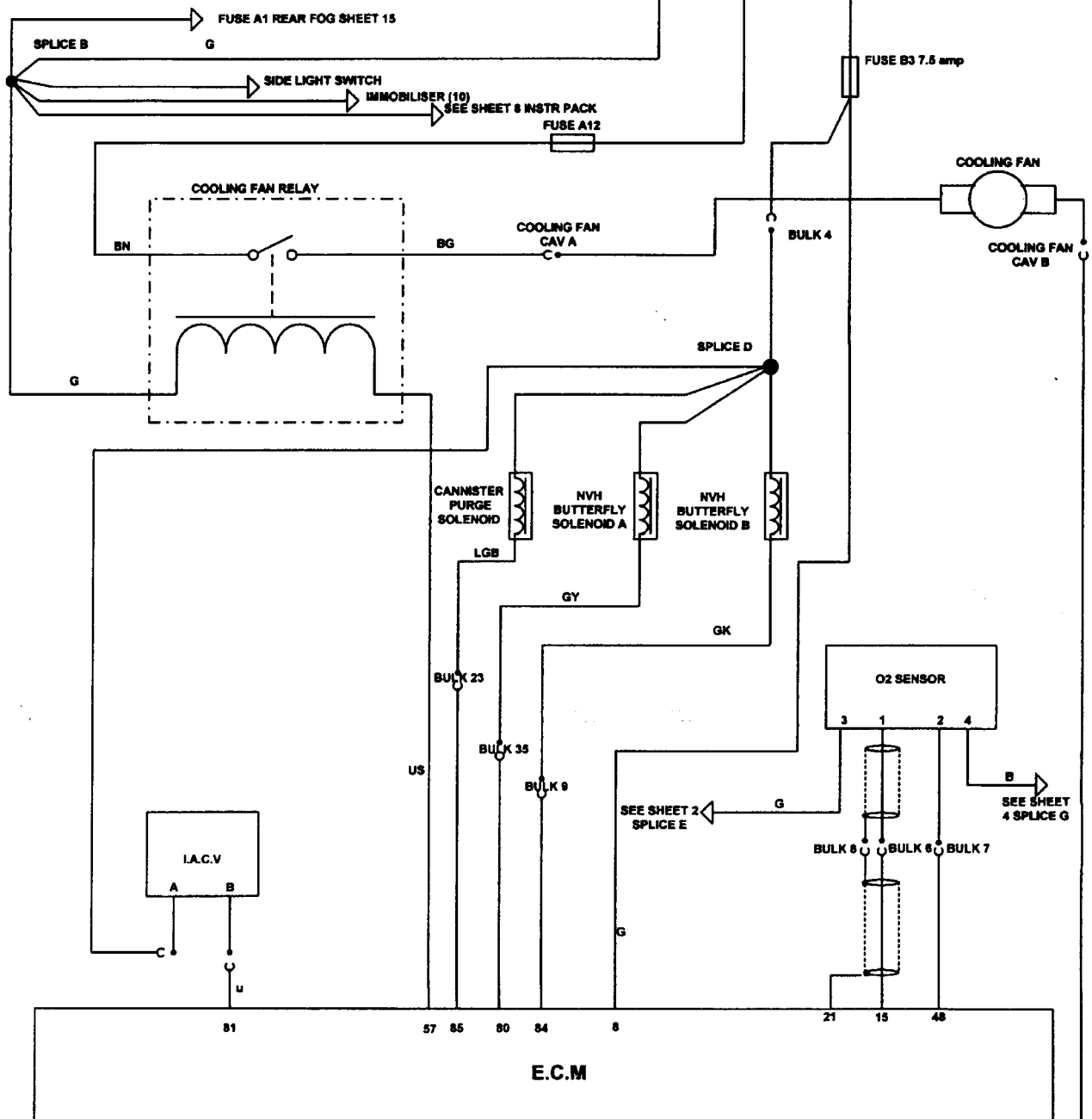
**EXIGE COOLING FAN + ECM CONTROL**

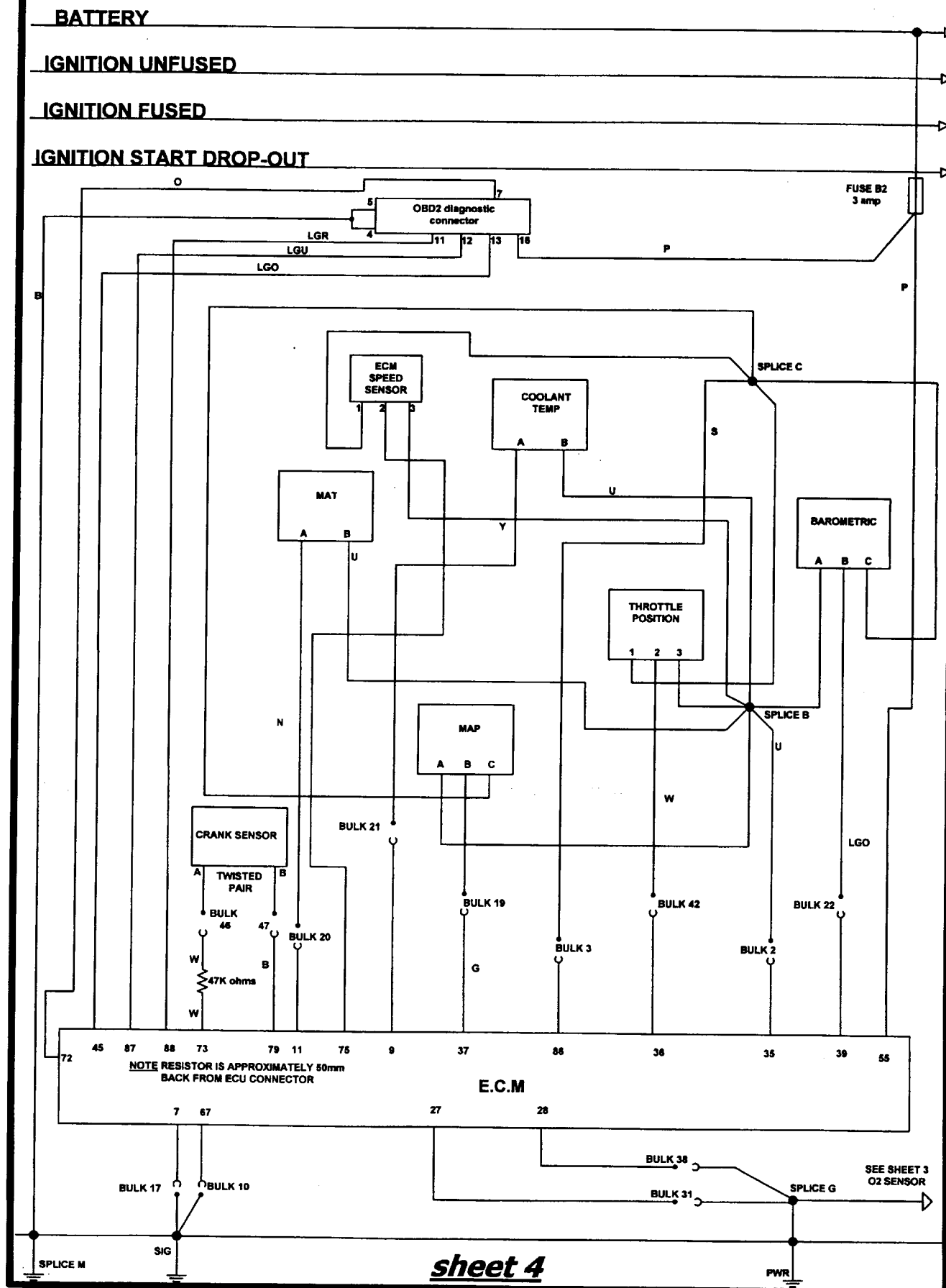
BATTERY

IGNITION UNFUSED

IGNITION FUSED

IGNITION START DROP-OUT

**sheet 3**

**EXIGE ECM SENSORS + POWER**



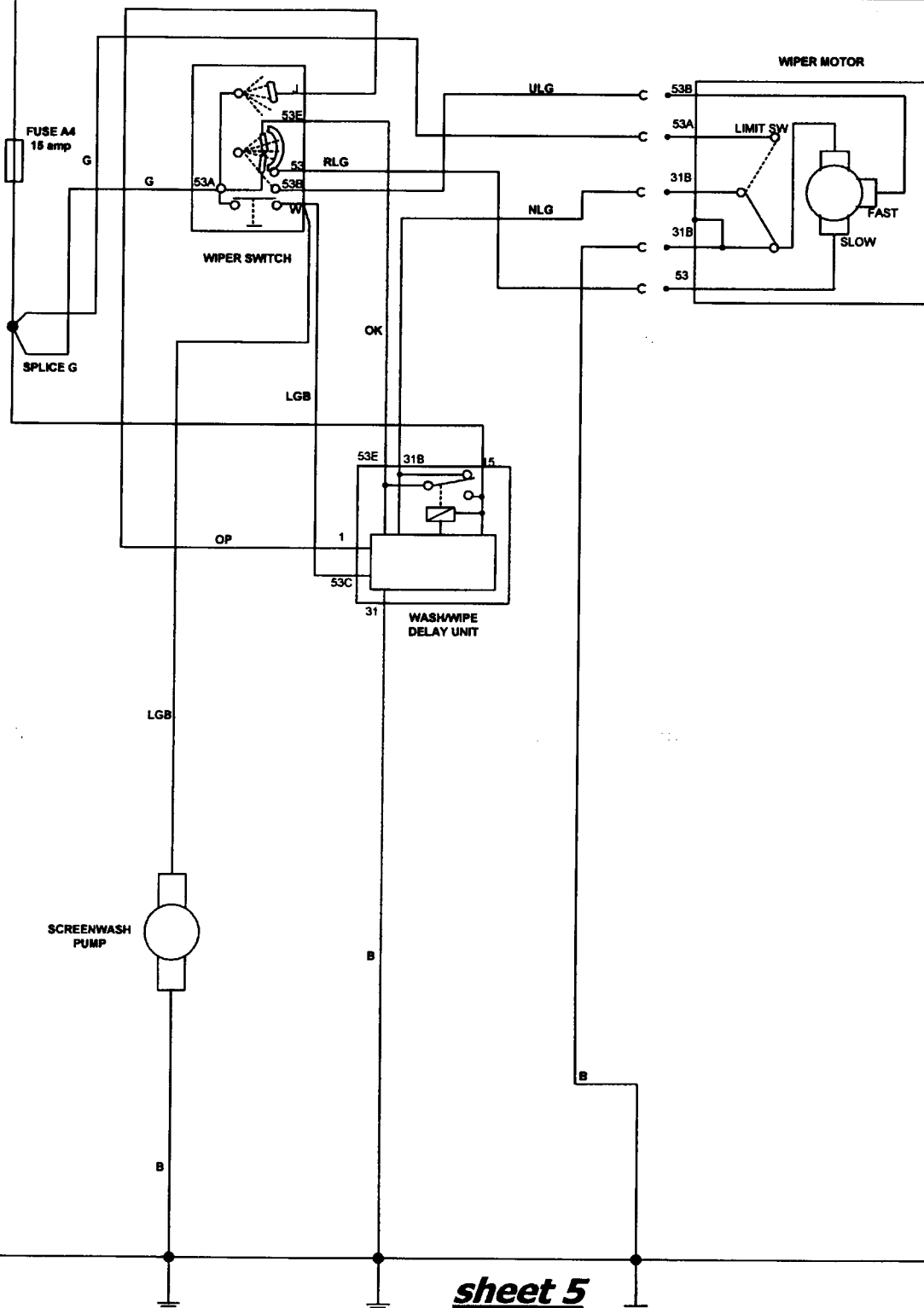
## EXIGE WIPER MOTOR

BATTERY

IGNITION UNFUSED

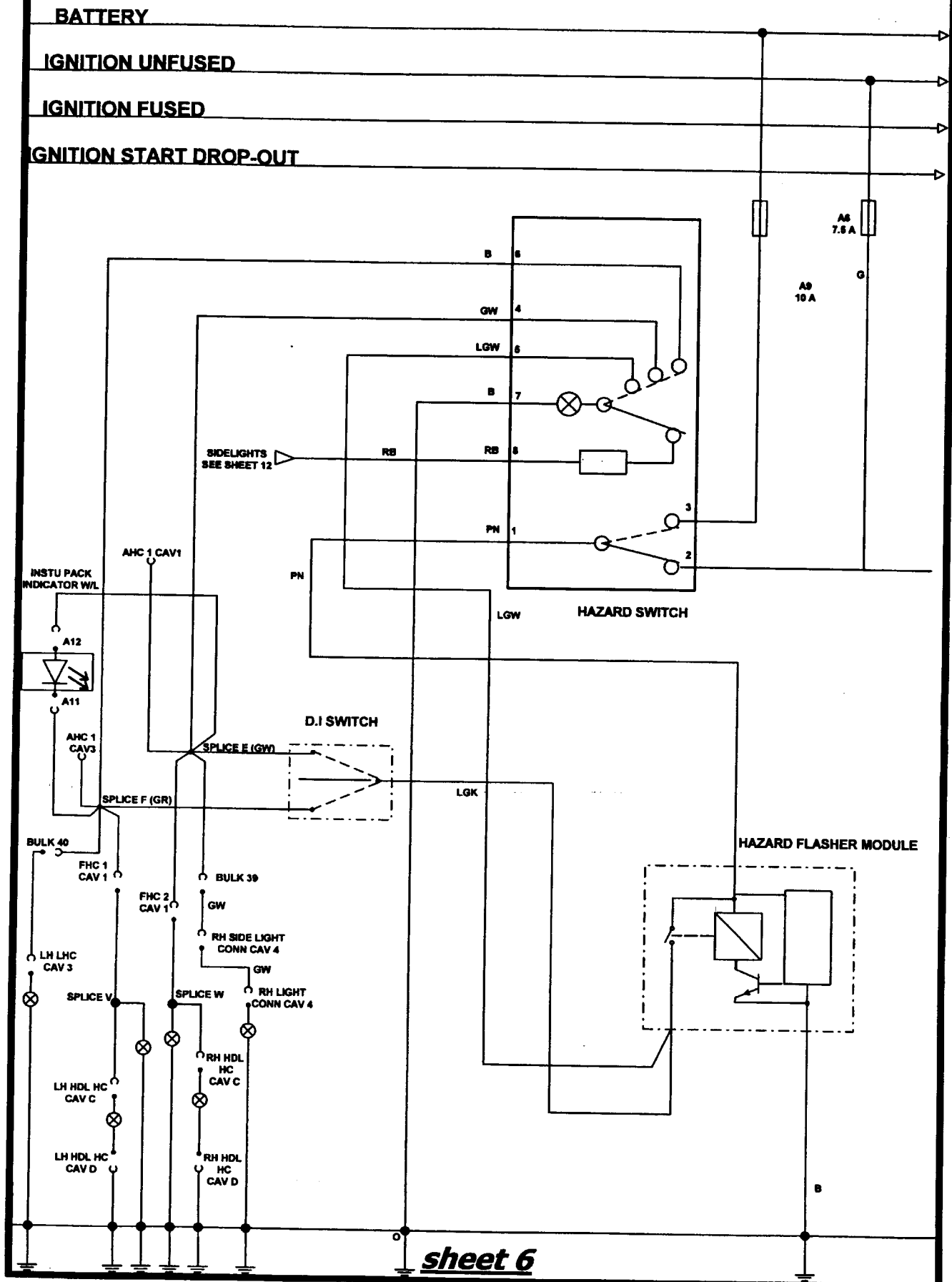
IGNITION FUSED

IGNITION START DROP-OUT



*sheet 5*

**EXIGE INDICATOR/HAZARD LAMPS**



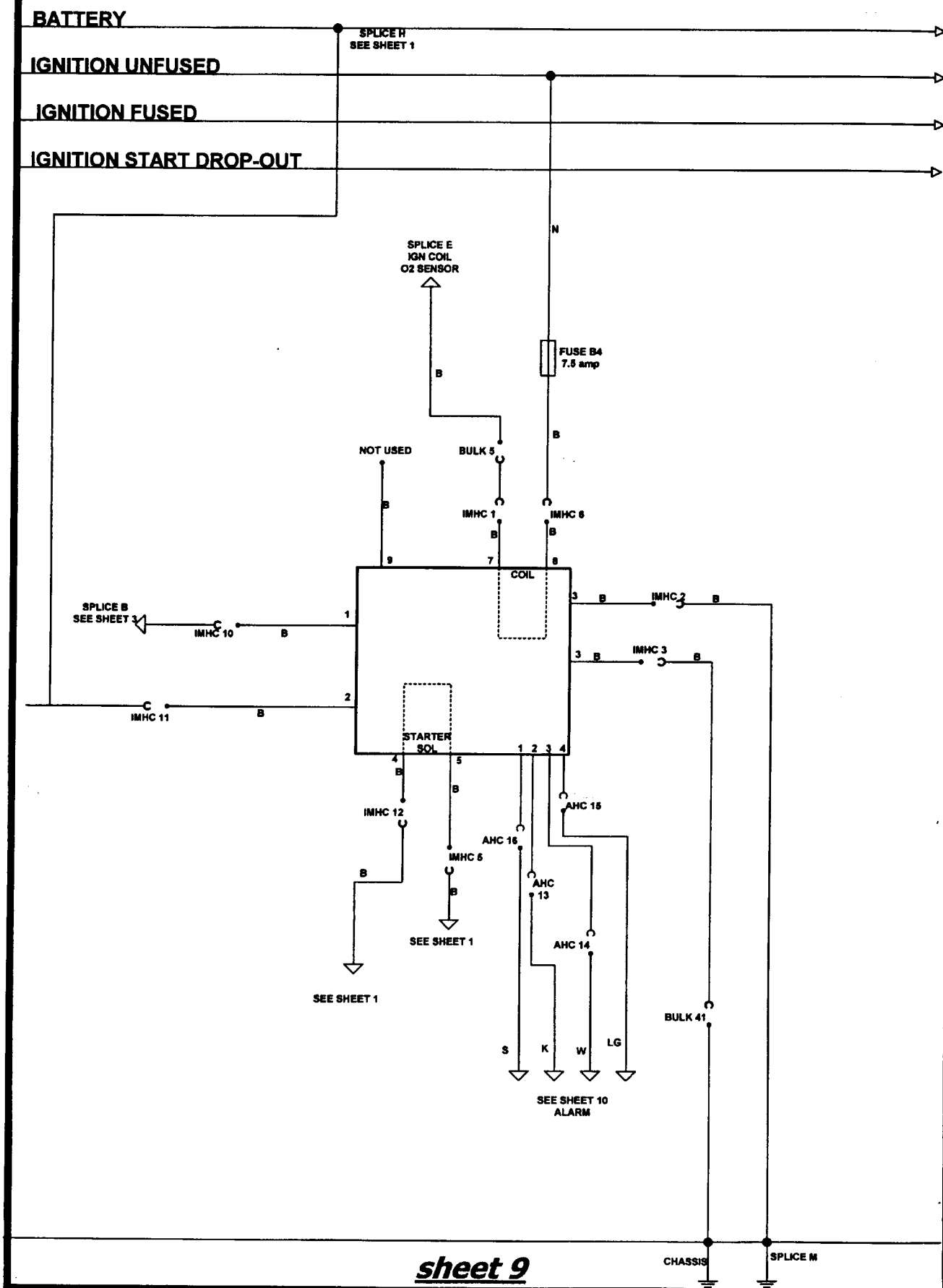








## EXIGE IMMOBILISER





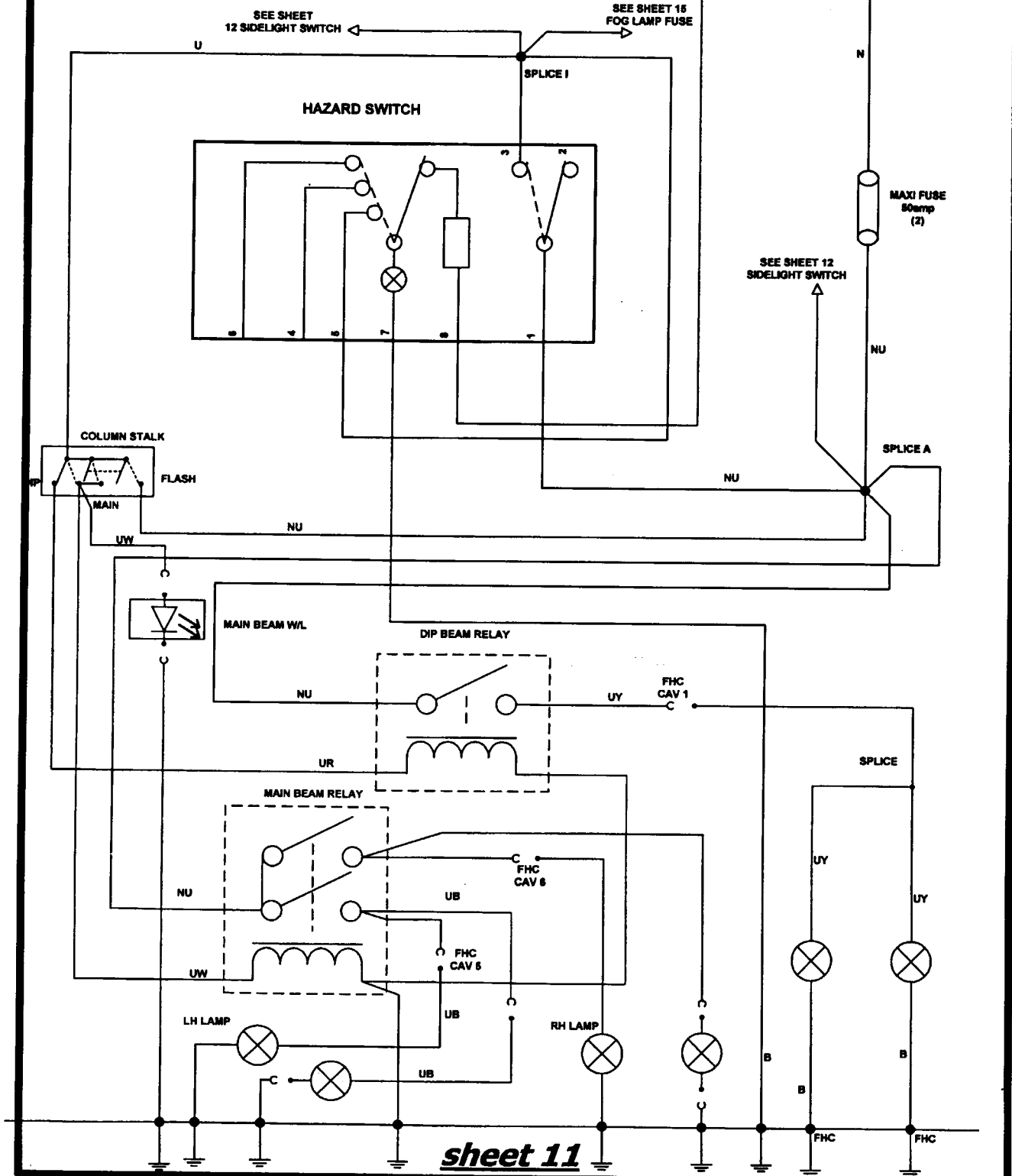
## EXIGE HEADLAMP CIRCUIT

BATTERY

IGNITION UNFUSED

IGNITION FUSED

IGNITION START DROP-OUT

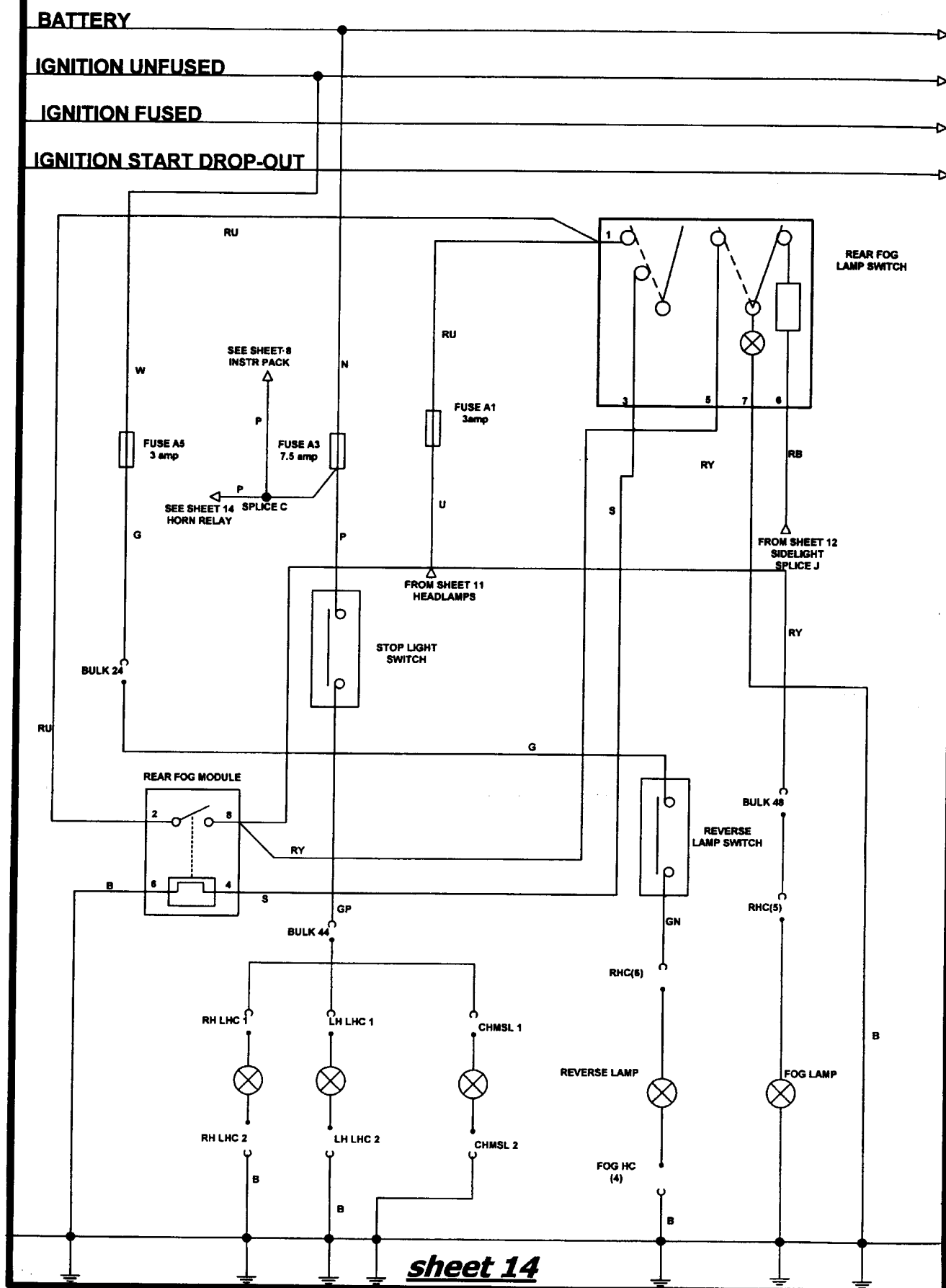








## **EXIGE REAR FOG/REVERSE AND BRAKE LAMPS**





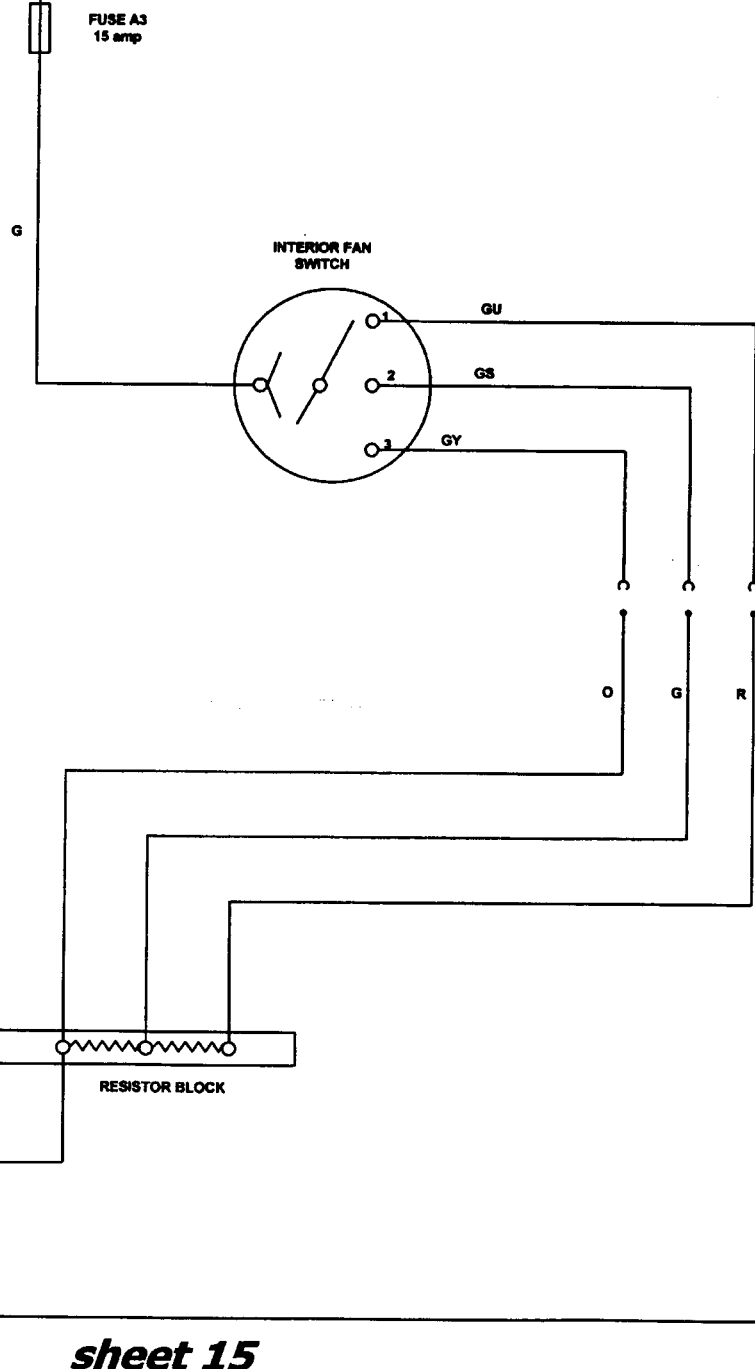
## EXIGE INTERIOR FAN CIRCUIT

BATTERY

IGNITION UNFUSED

IGNITION FUSED

IGNITION START DROP-OUT







### EXIGE.O - MAINTENANCE & LUBRICATION

The service interval for standard Elise and Elise 111S models is 9,000 miles (15,000 km). For 340R, Sport 160 and Exige models, the interval is 6,000 miles (10,000 km). Maintenance Schedule LSL348 has been updated to 'D' level to include the Exige.

### EXIGE.P - HEATING & VENTILATION

As standard Elise.

### EXIGE.Q - CLUTCH

As standard Elise.