OWNER'S HANDBOOK SUPPLEMENT

COVERING:
Cobra 6422
Security Alarm
& Revised Fuses
Upgraded Vehicle Security Alarm (if fitted)

In order to provide an exceptional level of theft and vandal protection, the Lotus Elise may be factory fitted with a vehicle security alarm incorporating a Cobra 6422 system. Features include:

- Ingress protection using sensing switches on both doors, front bonnet and engine lid.
- Selectable cockpit intrusion sensing using a hyperfrequency radar sensor.
- Automatic (passive) engine immobilisation to prevent the engine from being started.
- Self powered siren to maintain protection if the vehicle power supply is interrupted.
- '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.

Transmitter Keys

Two transmitter keys are provided with the car, together with two electronic touch keys. The transmitter key is used to arm and disarm the alarm and to deselect the intrusion sensor. The touch key is provided as a safety back up in case of transmitter key failure (e.g. flat battery), and should be kept separate (i.e. not on the same keyring), but readily available. Note that misunderstood use of the touch key can result in the transmitter key codes being wiped (see later).

Arming the Alarm

Remove the ignition key, close and lock both doors, and check that the engine lid and front bonnet are shut. The roof may be either raised or stowed. Press once, the larger of the two buttons on the transmitter key. This command will be acknowledged by:

- Two flashes of the hazard warning lamps;
- Flashing of the alarm tell tale in the instrument pod.

Check that these indications occur. If not, press the button a second time, as the first press may have switched off the passive immobilisation (see later).

Note that if the system is armed when a door, engine lid or front bonnet is not fully closed, a buzzer will sound continuously until the opening is secured. If still open after 40 seconds, the siren will sound.

After arming the system, a period of at least 40 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, engine lid or front bonnet;
- Movement detected within the cockpit;
- Energising the ignition circuit (‘hot wiring’).

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 the engine lid or front bonnet are left open, the alarm will repeat after a short delay, and continue in this sequence for a total of ten cycles.

To silence the siren when the alarm has been triggered, press once the larger of the two buttons on the transmitter key. The siren will reset and the system will remain armed.

Disarming the Alarm

To disarm the alarm prior to entering the vehicle, press once the larger of the two buttons 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 centre console. (If the tell tale is flashing intermittently, the alarm has been triggered during the armed period - see 'Trouble Shooting')
Passive Immobilisation

In order to provide a measure of automatic vehicle security, independent of any driver initiative, the system will 'passively' immobilise the engine's cranking and running circuits either:

- four minutes after switching off the ignition;
- or one minute after switching off and opening and closing a door.

Immobilisation will be indicated by:

- the alarm tell tale flashing.
- and if initiated by the door being opened and closed: two flashes of the hazard warning lamps.

Note that these indications are the same as those for the arming of the alarm, but in this instance it is only engine immobilisation which is activated.

To start the car after immobilisation has been activated, it is necessary to switch OFF the ignition and press once the large button on the transmitter key. The alarm tell tale will be extinguished.

Intrusion Sensing

A hyperfrequency radar detector, mounted at the rear of the centre tunnel, is able to detect substantial movement within the cockpit and trigger the alarm in the event of unauthorised intrusion. The range and sensitivity of the intrusion sensor may be adjusted by your dealer if necessary.

If an animal is to be left in the vehicle when the alarm is armed, it is necessary temporarily to switch off the intrusion sensing by the following procedure:

- Arm the system in the usual way by pressing once the large button on the transmitter.
- Within 40 seconds, press once the smaller button on the transmitter. This action will be acknowledged by a single buzz of the buzzer.

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 sensor.

Summary of Alarm Normal Operation

In normal use, whenever leaving the car, close both lids, lock the doors using the key, and press once the transmitter large button to arm the alarm - acknowledged by two hazard lamp flashes, and the alarm tell tale flashing. Check that two hazard flashes occur and not one (see below).

On return to the car, whether or not the alarm is armed, again press once the transmitter large button. This will either disarm the alarm, or, if the alarm was not armed, the passive immobilisation will be switched off. In both cases, this will be acknowledged by one hazard lamps flash and the alarm tell tale going out.

Emergency Disarming

In the event of lost or failed transmitter keys, an electronic touch key may be used to mobilise the engine:

Enter the vehicle (causing the alarm to be triggered if it is armed), and with the ignition OFF, insert the touch key into the receptacle on the right hand side of the steering column shroud. This will disarm the alarm and mobilise the engine. Note that if this operation is performed with the ignition ON, the transmitter key codes will be wiped, and must be reprogrammed (see below).

Passive immobilisation will still function after the appropriate delay (see above), requiring another insertion of the touch key, with ignition OFF, to overcome.
New Transmitter Programming

If a transmitter key is lost or damaged, a new key may be purchased through your Lotus dealer, and then programmed to the alarm system in your own car using the following procedure:

1. With the alarm system disarmed and mobilised, switch on the ignition. Note that if the transmitter key codes have been wiped, the alarm must be disarmed using the touch key (see above).
2. Insert a touch key into the receptacle on the steering column shroud. The alarm tell tale will light steady.
3. Press, simultaneously, both buttons on the new transmitter key for about ten seconds, until the tell tale in the key stops flashing and goes out. When the buttons are released, the key tell tale will light steady.
4. Press either one of the transmitter key buttons; the transmitter key tell tale will blink, and the alarm tell tale in the instrument pod will go out for one second.
5. Repeat 3 and 4 for all other transmitter keys to be used, up to a maximum of four. When all keys have been programmed, switch off the ignition (alarm tell tale will go out). Note that this programming procedure erases all existing transmitter codes, so that all keys to be used must be reprogrammed at the same time.

Checking the Alarm System

To ensure that optimum vehicle protection is maintained, the alarm system function should be checked periodically:

1. Arm the alarm and wait for 40 seconds;
2. Open either door; The siren should sound and the hazard lamps flash for 30 seconds. To turn off the siren before the 30 seconds have elapsed, press the large button on the transmitter key - this will not disarm the alarm.
3. Repeat step (2) testing the opposite door, the engine lid and the front bonnet (Manually operate the sensor switches to test the engine lid and front bonnet).
4. If the engine lid or front bonnet are left open, the alarm will stop after approximately 30 seconds, and then repeat after a short delay, and continue in this sequence for ten cycles.
5. To test the intrusion sensing, arm the system and within the 30 sec. arming period, check that substantial body movement within the cockpit triggers the alarm, as indicated by the sounding of the buzzer. Disarm the alarm before the 30 seconds elapses, or the siren will be activated.

If the alarm system does not operate as described, refer to your Lotus dealer, or to the 'Trouble Shooting' guide below.

Alarm Trouble Shooting

In the unlikely event of any problem being experienced with the vehicle security system, your Lotus dealer should be consulted at the first opportunity. If this is not immediately possible, the following notes may be of some assistance:

Symptom: Vehicle was left for a few minutes without setting the alarm, and now the engine won't start.
Possible cause: Passive immobilisation has taken effect (indicated by the tell tale flashing), as designed - see above.

Symptom: The transmitter key will not arm or disarm system.
Possible cause: Transmitter key battery low. When the key battery becomes low, the transmitter key L.E.D. will blink in an irregular manner, or once only instead of remaining lit until the button is released.
To replace transmitter battery:

a). Open the transmitter key body by levering in the zone marked 'OPEN', and withdraw the battery.
b). The keys are powered by a 3v long life lithium battery type...
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2. Insert a touch key into the receptacle on the steering column shroud. The alarm tell tale will light steady.
3. Press, simultaneously, both buttons on the new transmitter key for about ten seconds, until the tell tale in the key stops flashing and goes out. When the buttons are released, the key tell tale will light steady.
4. Press either one of the transmitter key buttons; the transmitter key tell tale will blink, and the alarm tell tale in the instrument pod will go out for one second.
5. Repeat 3 and 4 for all other transmitter keys to be used, up to a maximum of four. When all keys have been programmed, switch off the ignition (alarm tell tale will go out). Note that this programming procedure erases all existing transmitter codes, so that all keys to be used must be reprogrammed at the same time.

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2. Open either door; The siren should sound and the hazard lamps flash for 30 seconds. To turn off the siren before the 30 seconds have elapsed, press the large button on the transmitter key - this will not disarm the alarm.
3. Repeat step (2) testing the opposite door, the engine lid and the front bonnet (Manually operate the sensor switches to test the engine lid and front bonnet).
4. If the engine lid or front bonnet are left open, the alarm will stop after approximately 30 seconds, and then repeat after a short delay, and continue in this sequence for ten cycles.
5. To test the intrusion sensing, arm the system and within the 30 sec arming period, check that substantial body movement within the cockpit triggers the alarm, as indicated by the sounding of the buzzer. Disarm the alarm before the 30 seconds elapses, or the siren will be activated.

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Symptom: The transmitter key will not arm or disarm system.
Possible cause: Transmitter key battery low. When the key battery becomes low, the transmitter key L.E.D. will blink in an irregular manner, or once only instead of remaining lit until the button is released.
To replace transmitter battery:

a). Open the transmitter key body by levering in the zone marked 'OPEN', and withdraw the battery.

b). The keys 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.

Symptom: Both transmitters fail to operate with good batteries. Possible cause: Transmitter programming has been inadvertent wiped during use of touch key - reprogramme keys (see above).

Symptom: The alarm triggers for no apparent reason. Possible cause: When the transmitter key is used to disarm the system, if the alarm had been triggered during the armed period, a 'diagnostic code' will be displayed by the alarm tell tale until the ignition is next switched on.

The flash codes are interpreted as follows:
Single flash followed by 2 second break: Caused by a door, engine lid or front bonnet sensor. A sensing switch may require attention.
Three flashes followed by 2 second break: Caused by the intrusion sensor. If there are no loose or moving objects or animals in the vehicle, the sensitivity of the sensor may need adjustment by your dealer.
Four flashes followed by a 2 second break: Caused by the ignition circuit being energised.

Technical Helpline
In case of a problem with the alarm system, contact your Lotus dealer, and have the vehicle particulars (recorded in the Maintenance Record booklet) to hand. Additionally, a Cobra Technical Helpline is available on 01923 479206.

Disconnecting the Vehicle Battery
If the battery is to be disconnected, refer to the 'Battery' section in the handbook, which includes the following precautions:
- Immediately before disconnection, mobilise the engine using the transmitter or touch key with ignition off, and disconnect the battery within one minute. If disconnected after this time, or when immobilisation is in effect, the siren will sound for 30 seconds.

![Diagram of relay block and fusebox]

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 'Littell' 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**

<table>
<thead>
<tr>
<th>Slot</th>
<th>Rating</th>
<th>Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3A</td>
<td>Rear fog lamp</td>
</tr>
<tr>
<td>2</td>
<td>2A</td>
<td>Alarm ignition</td>
</tr>
<tr>
<td>3</td>
<td>20A</td>
<td>Interior fan</td>
</tr>
<tr>
<td>4</td>
<td>15A</td>
<td>Wiper motor</td>
</tr>
<tr>
<td>5</td>
<td>3A</td>
<td>Reverse lamp</td>
</tr>
<tr>
<td>6</td>
<td>7.5A</td>
<td>Direction ind.</td>
</tr>
<tr>
<td>7</td>
<td>10A</td>
<td>Ignition services</td>
</tr>
<tr>
<td>8</td>
<td>7.5A</td>
<td>Stop lamps &amp; battery services</td>
</tr>
<tr>
<td>9</td>
<td>10A</td>
<td>Hazard lamps</td>
</tr>
<tr>
<td>10</td>
<td>7.5A</td>
<td>Horn</td>
</tr>
<tr>
<td>11</td>
<td>10A</td>
<td>Alarm &amp; Int. lamp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rating</th>
<th>Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.25A</td>
<td>Cooling fan</td>
</tr>
<tr>
<td>14</td>
<td>Audio</td>
</tr>
<tr>
<td>15.20A</td>
<td>Cigar lighter</td>
</tr>
<tr>
<td>16.5A</td>
<td>Sidelamp LH</td>
</tr>
<tr>
<td>17.5A</td>
<td>Sidelamp RH</td>
</tr>
<tr>
<td>20.20A</td>
<td>Fast fan speed relay</td>
</tr>
<tr>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>22</td>
<td>-</td>
</tr>
</tbody>
</table>

**Relays**
A Horn
B Cooling fan
C Dip beam
D Main beam
On right hand drive cars, three Maxi fuses are located beneath the wiper motor protective cover. On left hand drive cars, two fuses are beneath the cover, with the engine management fuse at the opposite side of the front compartment.

<table>
<thead>
<tr>
<th>Slot</th>
<th>Rating</th>
<th>Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>50A</td>
<td>Lighting</td>
</tr>
<tr>
<td>B</td>
<td>50A</td>
<td>Ign. switch</td>
</tr>
<tr>
<td>C</td>
<td>40A</td>
<td>Engine man.</td>
</tr>
</tbody>
</table>

The fuel pump fuse is located on the LH side panel in the rear luggage compartment.

If the engine management fuse, or any of the Maxi fuses are found to have blown, no repair should be attempted until your Lotus dealer or a competent auto electrician has been consulted. Similarly, any other electrical equipment not illustrated, should be accessed only by a Lotus dealer with the necessary expertise. Upgrading a fuse rating, or interchanging any of the relays or modules, could result in permanent damage to a circuit or electrical component.

**Fuse colours:**

- 2A - Black;
- 3A - Violet;
- 4A - Pink;
- 5A - Orange;
- 7.5A - Brown;
- 10A - Red;
- 15A - Light Blue;
- 20A - Yellow;
- 25A - Clear.