



SERVICE BULLETIN

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Model: Elise 2002

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CLASS 3

Service Manager	Service Reception	Supervisor	Parts Manager

TITLE: Introduction of Cobra 8185/8186 vehicle security system.

REASON: To advise introduction, operation and features.
The Elise 2001 model was introduced in November 2000 with a Meta security system. This bulletin introduces a new Cobra 8185/8186 vehicle security system meeting the U.K. insurance standards of Thatcham category 2 (8185) or category 1 (8186). The system uses transmitter keys similar to those of the earlier Cobra 6422 system, which may be programmed by the owner using a Personal Identification Number (PIN).

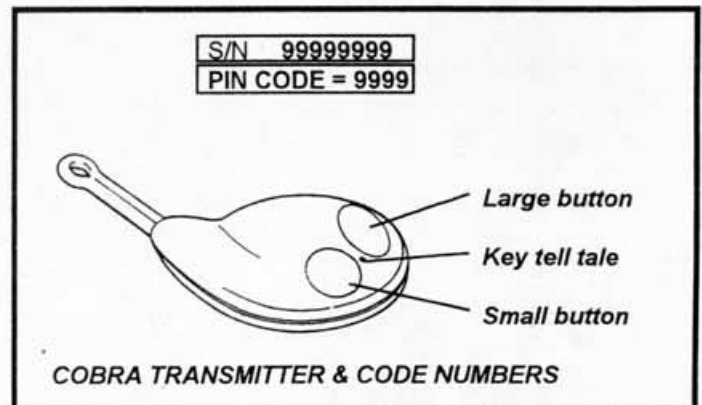
INTRODUCTION

All 2002 model year cars built with air conditioning (see S/B 2001/03) are fitted as standard with a Cobra 8185 engine electronic immobiliser, but for enhanced theft and vandal protection, the car may be specified with a Cobra 8186 upgraded security alarm which incorporates cockpit intrusion sensing and a self powered siren. Cars without a.c. will adopt the new Cobra system as a running change in early 2002.

TRANSMITTER KEYS

Two transmitter keys, similar to those used with the Cobra 6422 system ('98 - '00 Elise) are provided with the car to facilitate operation of the immobiliser/alarm system.

Each individual alarm system has a unique serial number and an owner's Personal Identification Number (PIN), both of which are printed on a code card supplied with the vehicle for safe keeping by the vehicle owner.



IMMOBILISER (8185 & 8186)

In order to provide a measure of automatic vehicle security, independent of any driver initiative, both 8185 and 8186 systems will 'passively' immobilise the engine's cranking and running circuits after the first occurring of the following approximate time delays:

- i) Four minutes after switching off the ignition.
- ii) One minute after switching off the ignition and opening either door.

The immobilised state is indicated by the security tell tale in the tachometer upper face flashing continuously.

To mobilise the engine, press once, and for a full second, the larger of the two buttons on the transmitter key. The security tell tale will be extinguished.

8186 ALARM SYSTEM

As an optional upgrade, the Elise may be specified factory built with a Cobra 8186 vehicle security system which incorporates the following features:

- Ingress protection using sensing switches on both doors, both front body access panels, and the engine cover.
- 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.
- Personal protection by remote activation of siren.

ARMING THE ALARM

Remove the ignition key, close (and lock) both doors, and check that the engine cover and front body access panels are secure. The roof may be either closed or open. Press once, and for a full second, the larger of the two buttons on the transmitter key. This command will be acknowledged by:

- Two flashes of the hazard warning lamps;
- Continuous flashing of the security tell tale.

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, engine cover or front access panel is not fully closed, a continuous buzz will be heard as warning. If still open after expiry of the arming period, (see below) the alarm will be armed with that switch group excluded from the circuit. For this purpose, the two doors constitute one switch group, and the engine cover with front access panels, another group.

After arming the system, the engine is immediately immobilised, but a period of approximately 45 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 access panel.
- Energising the ignition circuit ('hot wiring').
- Movement detected within the cabin.
- Interruption of the vehicle battery power supply.

When triggered, the electronic wailing siren will sound and the hazard warning lamps 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 siren when triggered, press once, and for a full second, the larger button on the transmitter key. This will not affect the status of the alarm which will remain armed.

DISARMING THE ALARM

To disarm the alarm, press once, and for a full second, the larger button on the transmitter key. This command will be acknowledged by:

- One flash of the hazard warning lamps;
- Extinguishing of the security tell tale.

If the alarm had been triggered during the last armed period, the disarm command will be acknowledged by the hazard lamps flashing 4 times, and the buzzer sounding 4 times. The security tell tale will then flash a code to indicate the triggering source:

- One pulse flashing; door, engine lid or body front access panel.
- Two pulse flashing; movement detected by microwave sensor.
- Four pulse flashing; tampering with ignition circuit.
- Six pulse flashing; interruption of battery supply.

The coding will be deleted when the ignition is next turned on.

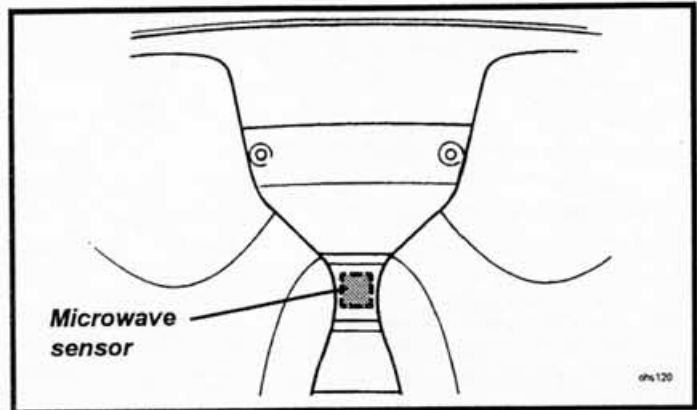
ILLUMINATED ENTRY

The disarm command will also switch on the interior lamp for a period of 30 seconds, or until the ignition is switched on. The central, 'courtesy', position of the interior lamp must be selected to facilitate this function. Note that on air conditioned cars, the interior lamp is mounted at the centre top of the rear bulkhead trim panel.

INTRUSION SENSING

A microwave sensor is mounted behind the cabin rear bulkhead trim panel, and is able to detect substantial physical movement within the cockpit, and trigger the alarm. Microwave transmissions are blocked by metal objects, so it is important that the signal is not corrupted by the placing of such items on the bulkhead ledge. A sensitivity adjustment screw on the microwave sensor is accessible after removal of the bulkhead trim panel. Turn clockwise to increase sensitivity; counterclockwise to decrease sensitivity.

If desired, the alarm may be armed without the intrusion sensor or battery interruption circuits being active by arming the system in the usual way with the transmitter larger button, and within 20 seconds, pressing the smaller button twice.



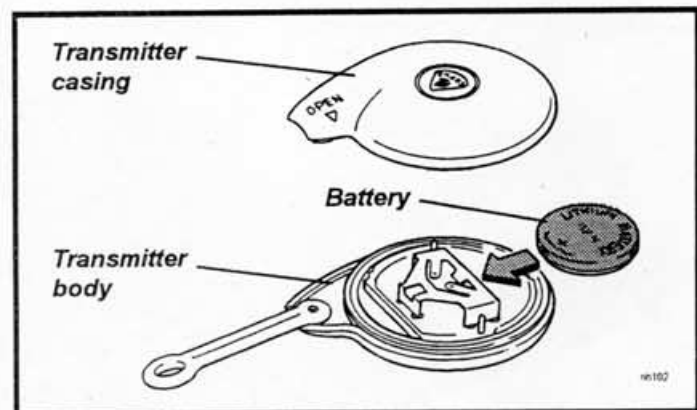
MANUAL ACTIVATION OF SIREN

To enhance personal security, with the system in an armed state, the siren may be manually triggered by pressing the transmitter smaller button. The siren will sound and the turn lamps flash for 15 seconds. To stop the alarm, press either of the two buttons.

TRANSMITTER KEY BATTERY REPLACEMENT

The transmitter keys will normally operate within a range of 5 metres from the car, but this may be reduced by the presence of other radio signals in the vicinity. A small LED tell tale on the transmitter key will flash whilst the button is held down to indicate correct operation, but if the lamp flashes irregularly or only once, transmitter battery replacement is required.

The transmitters are powered by a long life 3V Lithium battery, type CR2032, which with normal use should last for 3 years. To ensure continuity of operation, it is recommended to renew the batteries every 24 months:



- Using a small screwdriver, prise open the case in the areas marked 'open'.
- Remove the old battery and wait for 10 seconds before inserting the new battery with +ve sign upper most, and holding the battery only by the periphery.
- Align the locating studs, and firmly press the case together.
- The transmitter should now operate normally, but may require re-synchronisation with the control unit.

TRANSMITTER RE-SYNCHRONISATION

If at any time the transmitter does not function, and the battery is known to be good, carry out the following re-synchronisation procedure:

- Stand close to the car and hold down both buttons on the transmitter until the LED on the key is extinguished (approx. 10 seconds).
- Release both buttons; the key tell tale should come on constantly.
- Press the larger button for one second (the key tell tale will flash). Synchronisation is complete.

PROGRAMMING ADDITIONAL TRANSMITTER KEYS

Two transmitter keys are provided with the new vehicle. If one key is lost or damaged, a replacement should be obtained immediately and programmed to the vehicle alarm controller using the system owner's unique Personal Identification Number (PIN). Up to four transmitter keys can be matched with the alarm system, but all keys must collectively undergo the single programming operation:

1. Press, simultaneously, both buttons on a transmitter key until the key tell tale stops flashing (approx. 10 seconds). On release of the buttons, the key tell tale will light.
2. Repeat operation (1) for ALL the transmitter keys required to operate the system.
3. Enter the PIN: Turn the ignition on and off 3 times within 7 seconds; the security tell tale will light for 3 seconds.

4. Immediately the tell tale goes out, switch ON the ignition.
5. Count the number of security tell tale flashes until equal to the first number of the PIN, then turn the ignition OFF, then back ON again.
6. Repeat operation (5) for the remaining 3 digits of the PIN, remembering to turn the ignition OFF and back ON after each code number.
Note: If at any time a mistake is made when entering the PIN, turn the ignition OFF for 10 seconds and re-commence entering the PIN.
7. If the PIN is correct, the tell tale will be lit. Test operation of each transmitter key.

LOCATION OF COMPONENTS

The alarm system components are located as follows:

