

Description and Operation

The anti-theft alarm system fitted to Scorpio is a vehicle protection device which sounds an alarm when someone intrudes into the vehicle by opening a door or the engine hood or the tailgate/luggage compartment lid.

The alarm will also be activated if the ignition is switched on, the rear window is broken, or the radio removed while the system is armed.

The alarm system is automatically activated or deactivated when either of the front doors are locked or unlocked by the mechanical key or remote control.

The luggage compartment lid anti-theft alarm inhibit switch prevents the alarm from sounding when an entry is made using the vehicle key during the armed state; the system is not disarmed.

The alarm system can be armed only if:

- The ignition is off
- All the doors are closed
- The engine hood is closed
- The tailgate/luggage compartment is closed
- The central locking motors are locked

The red LED indicator is on for five seconds when the double locking is initiated then the armed status by flashing at a low frequency (0,5 Hz).

An activated alarm responds in the following manner:

- The horn will be activated for 30 seconds or less in accordance with the territorial legislation
- The flasher relay will give an intermittent flashing signal of (1 Hz) for five minutes or less, depending on territorial legislation

The system is then prepared for a further repeat alarm, should a further activation take place.

The indicator LED is on continuously for five minutes during the activated period.

If the battery is disconnected while the system is armed or in a state of alarm, it will remain in the same condition when the battery is reconnected.

Interior Scanning

An option for Scorpio is the fitment of interior scanners which are located at the top of the B-pillars behind the trim. The scanners transmit an ultrasonic pulse into the interior of the vehicle. The ultrasonic echo is measured and compared to previous transmissions. If there is a substantial difference between the echos received, the scanner will interpret this as an intrusion and activate the alarm.

The interior scanning system operates only when the alarm system is in the armed state and double locking has been activated.

After a warm up time of 15 seconds, if three separate ultrasonic scanner detections are made during the same armed period, no further detections will be possible until the vehicle's alarm system is disarmed and then reactivated.

Diagnostics

The system incorporates the following diagnostic functions:

- Continuous module self test including fault store in a non-volatile memory
- Interactive service mode with FDS2000 diagnostic interface
- Fault memory transmit via the Standard Company Protocol (SCP) or ISO 9141.

Passive Anti-Theft System (PATS)

The PATS is fully passive in operation and requires no special procedures by the driver to arm or disarm the system. It is invisible to normal scrutiny, and is operated by a miniature transponder within the key body, which communicates with the module via a transceiver mounted around the ignition switch lock barrel.

The PATS may be identified by the ignition key which has an imprint on the casing (usually red in colour) showing the presence of the transponder.

The ignition key codes are stored in a non volatile memory within the PATS control module.

The code reading is carried out when the key, having been entered into the ignition lock barrel, is turned from position '0' to position 'I'. If the control module receives the correct coded signal the engine will start. Should the code received not be recognised the engine will not crank as the PATS is still armed and the engine is still immobilised.

Keys

Up to 98¼ MY, three keys are allocated to every new vehicle and all three must be coded to the PATS in order for it to function correctly. The first key to be inserted into the ignition lock barrel is identified to the system as the 'master' key (red in colour).

NOTE: The master key must be the first key used when starting the engine for the first time following the installation of a new PATS module. This will ensure the owner/operator is able to programme additional 'slave' keys (black in colour) if required.

The master key provided with every new vehicle should be kept in a safe place and not be used as the daily key. This is because it is the only key which will allow the owner/operator to programme additional slave keys.

Up to a maximum of sixteen keys may be programmed to any one system (red master key system).

From 98¼ MY onwards, only two keys are allocated to every new vehicle. Both keys are required to programme additional keys by the owner/operator. Up to a maximum of eight keys may be programmed to the system (two key system).

Key Programming

Up to 98¼ MY

Master Key

The master key can only be programmed with the aid of FDS 2000. It can however be used without such equipment to programme new slave keys as described within this section.

Slave Keys

- Insert the master key into the ignition lock barrel and turn from position '0' to position 'II' (indicator LED illuminates).
- Turn ignition from position 'II' and '0' and remove the master key (indicator LED illuminates for two seconds and the system remains in the programming mode for 10 seconds).
- Insert the slave key into the ignition lock barrel and turn from position '0' to 'II' (must be carried out within 10 seconds of step two, the indicator LED flashes once and the new slave key is now programmed).
- Repeat step three for each slave key to be programmed.

From 98¼ MY onwards

NOTE: Additional keys can only be programmed with the two known PATS keys (A and B) or with FDS 2000.

NOTE: This procedure can be repeated after 20 seconds. If programming is unsuccessful, the anti-theft indicator LED will flash when the ignition is switched on with the key that was being programmed.

- Insert key A into the ignition switch and turn to position II.
- Turn the key to position 0 and remove key A from the ignition switch.
- Insert key B into the ignition switch and turn to position II.
- Turn the key to position 0 and remove key B from the ignition switch.
- Insert the new key to be programmed into the ignition switch and turn to position II.
- Remove the key from the ignition switch. The key is now programmed

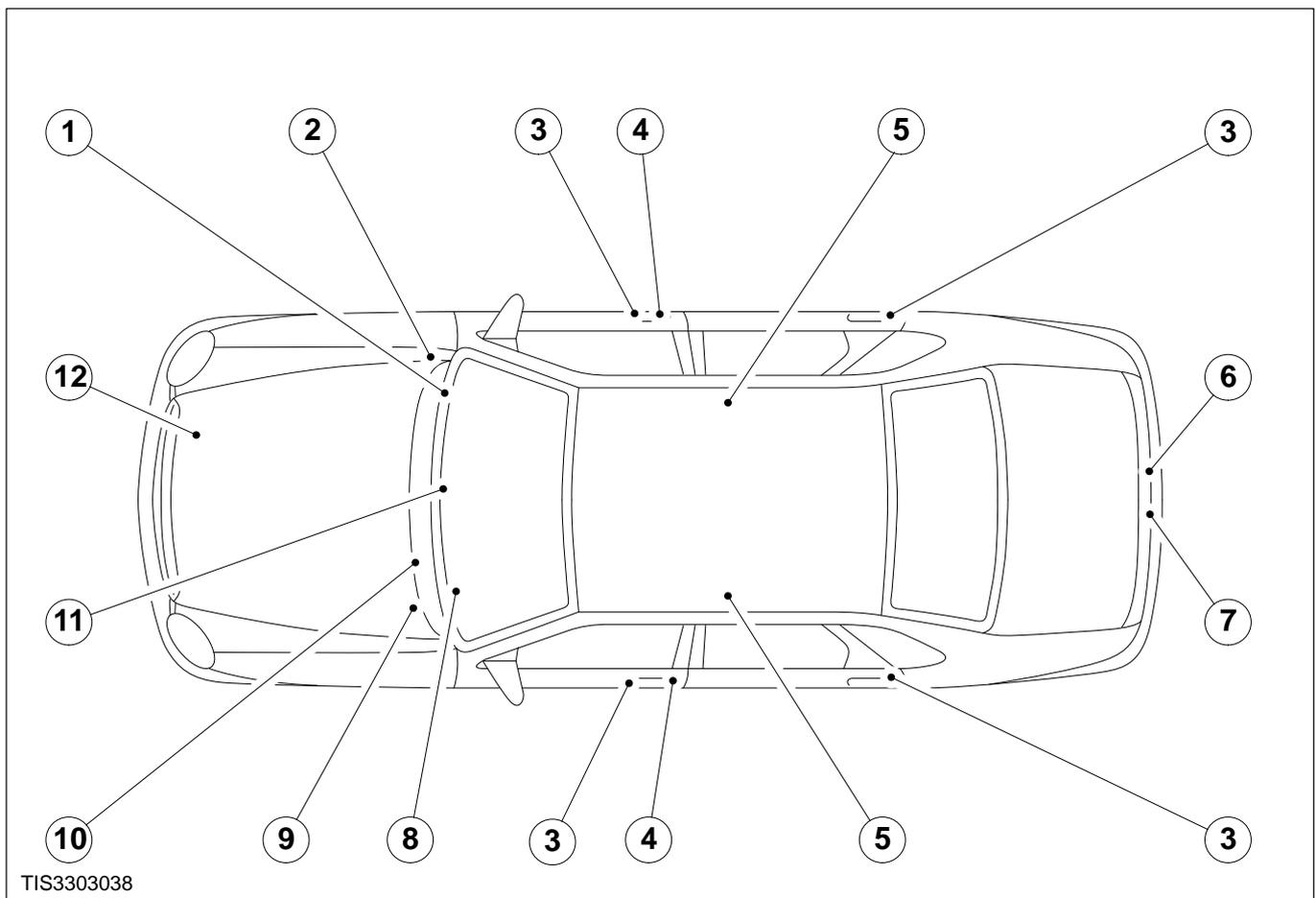
Anti-Theft Indicator LED

The PATS shares the same LED indicator as the anti-theft alarm system although PATS is totally independent and has priority LED operation.

The LED will flash rapidly to indicate the PATS has immobilised the vehicle.

Whenever the ignition is switched on the LED will remain on for three seconds (whilst the system carries out a self-test) and then extinguish.

A fault on the PATS which enables the engine to start will be indicated by illuminating the LED continuously for one minute, and then flash the PATS fault code ten times. If the engine can not be started (disabled by the PATS) the LED will flash fast for one minute followed by the PATS fault code ten times.



The anti-theft alarm system components

Item	Description
1	Alarm control module, (left-hand drive shown)
2	Alarm horn
3	Door ajar switch
4	Key-activated door lock switch
5	Interior scanner (when fitted)
6	Luggage compartment lock isolator motor
7	Luggage compartment lid ajar switch

8	Passive Anti-Theft System (PATS) transceiver (left-hand drive shown)
9	Passive Anti-Theft System (PATS) control module
10	Central timer module
11	Indicator LED
12	Hood alarm switch