

# MAZDA RX-8

**FACTORY ALARM UPGRADE KIT**

## **FITTING INSTRUCTIONS**



**Part Number: FE12-AC-AL**

**Fitting Time: 60 Minutes**

Please read fitting instructions carefully before attempting to install this system. Refer to the Work Shop Manual for further information.

REV 1 09/2008

**Parts List:**

- 1 x Fitting Instructions
- 1 x Operating Instructions
- 1 x Control Module
- 1 x Control Module Bracket
- 1 x Keyless Battery Back-up Siren
- 1 x Siren Bracket
- 1 x Wiring Harness
- 1 x Boot Trigger Harness

**1 x Hardware Bag:**

- 1 x LED Bezel
- 1 x M6 Bolt
- 3 x Lock Nuts
- 2 x Siren Bolts
- 2 x Window Stickers
- 1 x Bonnet Pin Switch
- 1 x Bonnet Switch Bracket
- 1 x Bonnet Switch Patch Sticker
- 10 x Cable Ties 140mm
- 1 x Wiretap
- 1 x M6 Washer

**1 x Tilt Sensor Bag:**

- 1 x Tilt Sensor
- 1 x Double Side Tape
- 1 x Cable Tie 140mm

**Tools Required**

- Philips Screw Driver
- Side Cutters
- Socket set



**A. TRIM REMOVAL & VEHICLE PREPARATION**

1. Lower the driver's window to avoid locking keys in vehicle.
2. Remove RHS (driver side) lower dash panel.
4. Remove LHS front scuff plate & kick trim.
5. Remove Glove Box.

**B. TESTING VEHICLES RKE (Remote Keyless Entry)**

Ensure the vehicle's central locking is operational both manually and via remote, if not, the vehicle's ROOM or DOOR LOCK fuse may need to be installed. Check for correct operation and if satisfied proceed with installing this kit.

**Note: If the vehicles RKE system is not operational then do not install this kit.**

**C. ALARM HARNESS ROUTING**

1. Disconnect the negative terminal of the vehicle battery.
2. Locate the vehicle RKE unit (remote keyless entry).
3. Working in the passenger glove box, unplug the 6-pin and 24-pin connectors (refer to figure 1).
4. Connect the alarm inline patch harness in series with the vehicle connectors. Tuck the connectors above the vehicles RKE module (refer to figure 2).

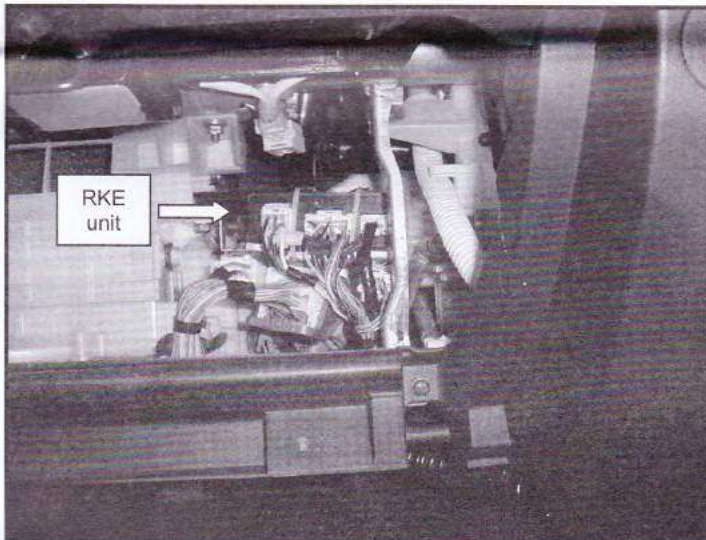


figure 1

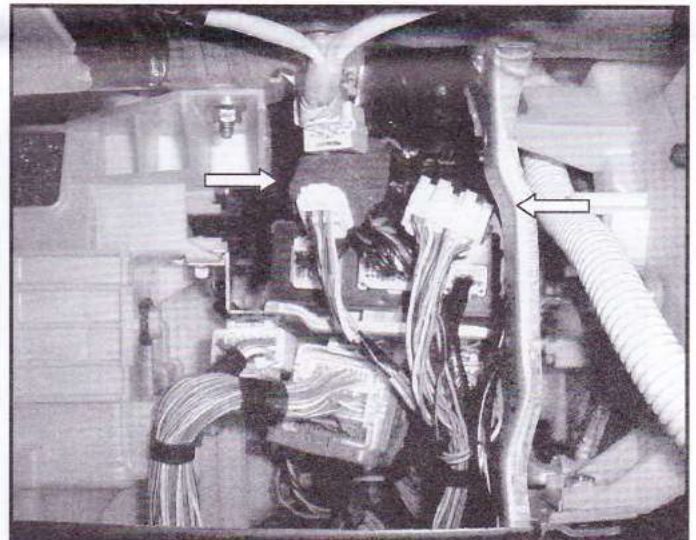
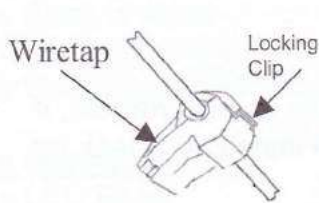


figure 2

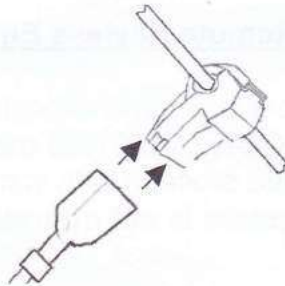


### INSTALLING A WIRETAP CONNECTION

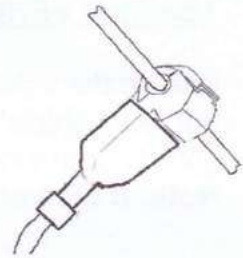
**Note:** In the next few sections you will be required to install wiretaps onto the vehicle wires. Ensure all instructions are read carefully before proceeding.



Attach the wiretap onto the wire using a pair of pliers. Squeeze both sides of the wiretap together until the front locking clip is locked in.



Take the terminal and insert into the center rear of the wiretap.



Ensure the terminal is pushed into the center hole of the wiretap and to its maximum travel.

5. Locate the Green/Orange wire from the large 54-pin white connector positioned directly under the vehicles RKE module. Attach the supplied purple wiretap as shown in figure 3.
6. Attach the loose Green/Orange wire (with red terminal) from the alarm harness to the installed purple wire-tap. Ensure the terminal is pushed into the centre of the wire tap (refer to figure 4).

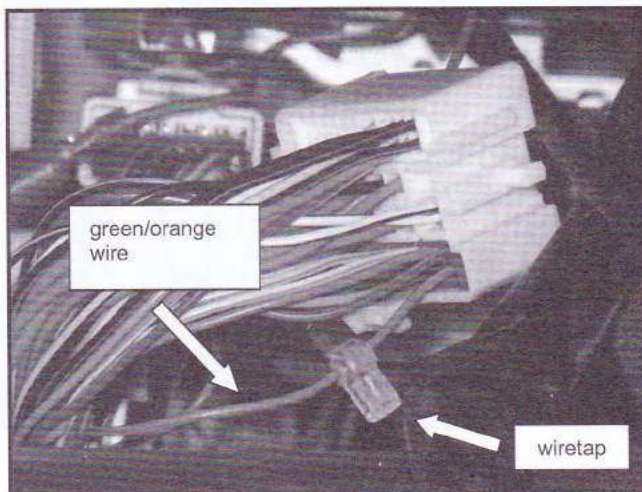


figure 3

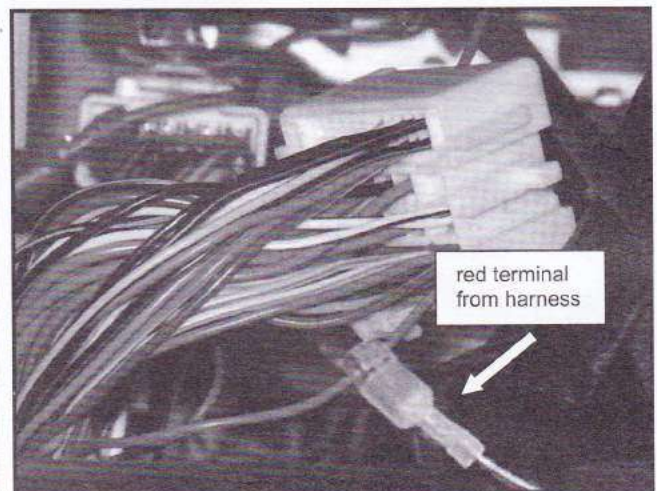


figure 4



7. Route the alarm harness within the dash to the RHS, as shown in figure 5.
8. Locate the unused hole on the support bracket on the LHS of the steering column shaft (refer to figure 6).

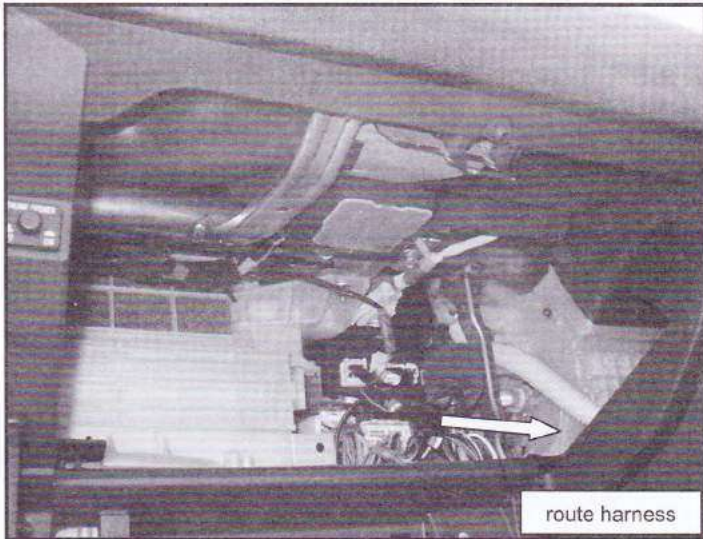


figure 5

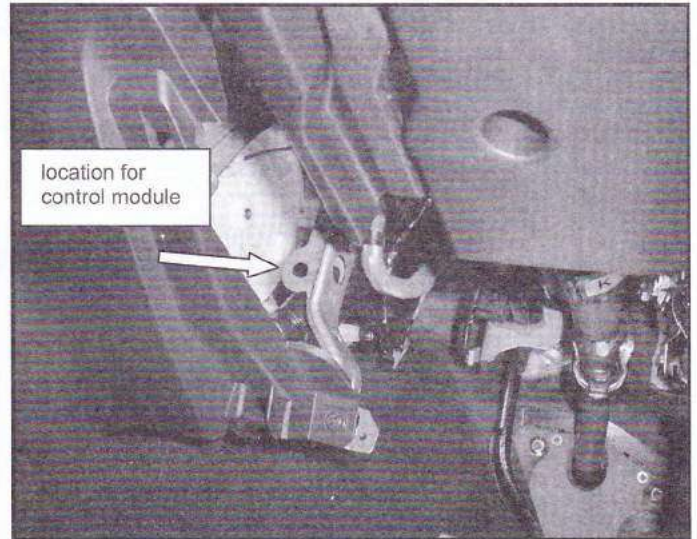


figure 6

9. Position the control module bracket above the hole and secure it using the supplied M6 bolt supplied as shown in figure 7. Note: To assist with installation, use a long screwdriver to screw the bolt in from the rear of the bracket.
10. Connect the 15-pin and 2-pin wiring harness connectors to the bottom of the alarm module. Slide the module onto the installed bracket (refer to figure 8).



figure 7



figure 8



11. Route the alarm siren branch (with green connector) above the steering column assembly bracket, following vehicles wiring to bonnet release cable in between the brake pedal and the accelerator pedal.
12. Locate the bonnet release grommet on the firewall (refer to figure 9).
13. Remove grommet from firewall and cut a slit through the side of grommet (refer to figure 10).
14. Feed the siren branch through the grommet slit and refit grommet to firewall.

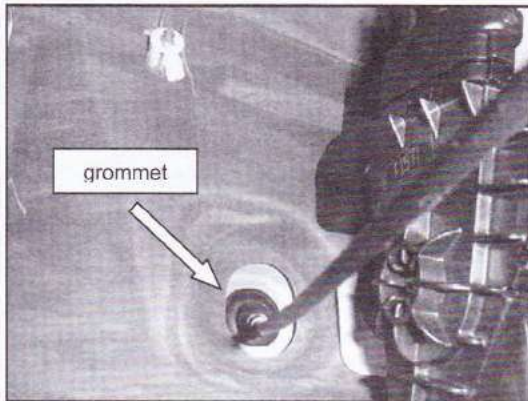


figure 9

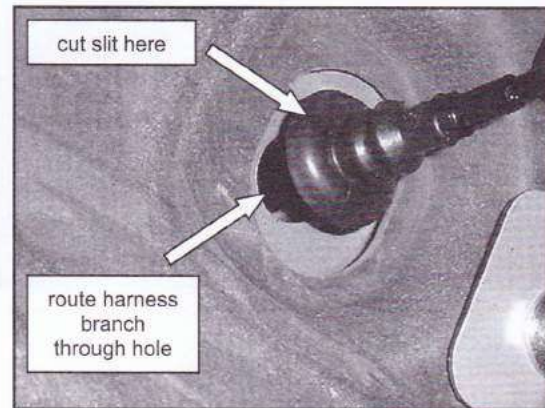


figure 10

15. Apply silicone sealant to the engine bay side of the grommet and ensure a water proof seal is obtained.

#### D. BONNET PIN SWITCH

1. Remove the M6 earth bolt located near to the RHS strut tower (refer to figure 11).
2. Secure the bonnet switch bracket to the RHS guard using the vehicles earth strap bolt in the following order: pin switch bracket, earth strap, then bolt. (refer to figure 12)
3. Attach the bonnet pin switch to the bracket ensuring that the distance between the bracket to the top of the switch measures 32mm. (refer to figure 12)

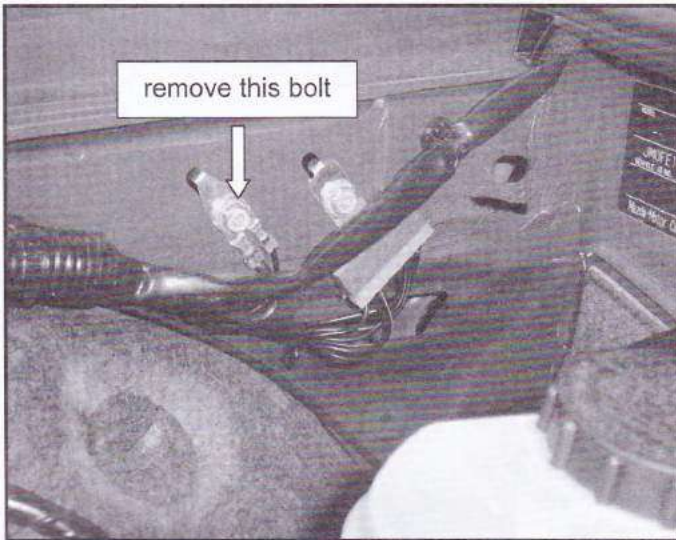


figure 11

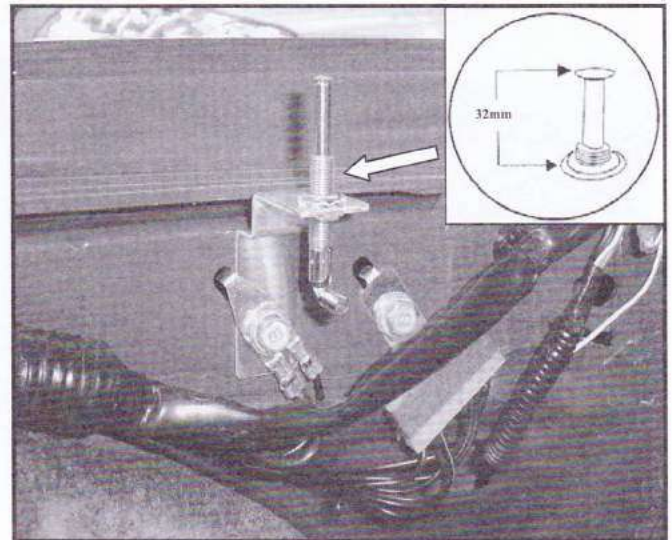


figure 12

4. Plug the **white/red** bonnet switch wire into the bonnet pin switch.
5. Apply the supplied protective patch onto the underside of the bonnet, where the switch makes contact. Using the Alcohol Wipe, clean the area before applying the patch.

#### E. SIREN INSTALLATION

1. Remove the cover trim from the top of the engine. Route the cable branch (with green connector) behind the brake booster, under the metal plate, then across to the LHS strut. Use cable ties, where shown in figure 13, to secure branch under the metal plate.

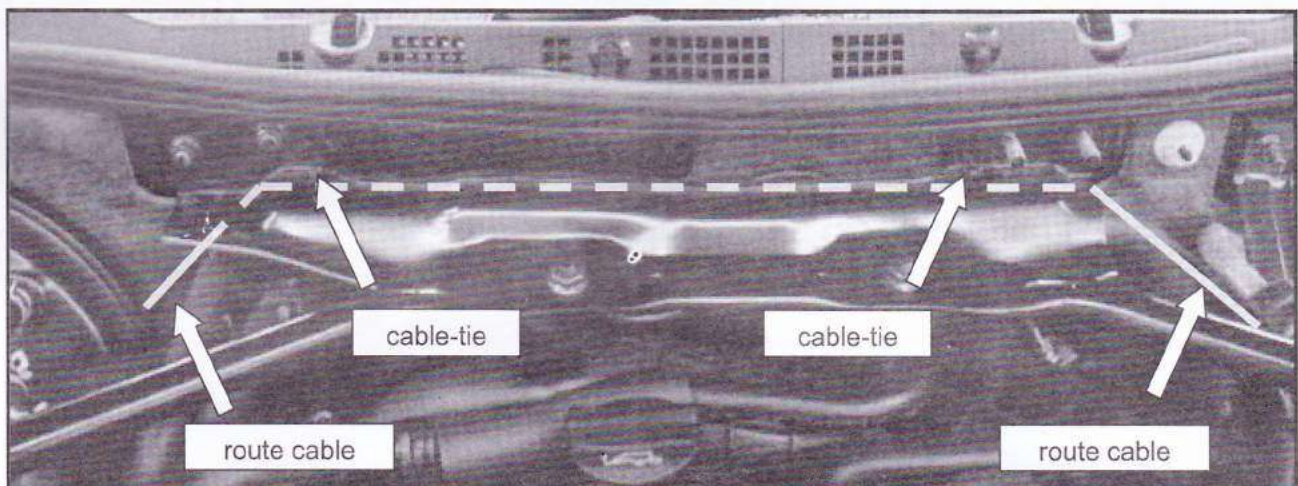


figure 13



2. Install the siren bracket on the LHS strut tower in the position shown in figure 14 and figure 15.
3. Secure the bracket to the mounting hole (on LHS strut) using the supplied M6 washer, then M6 lock nut.
4. Position and lightly screw the supplied siren mounting bolts onto the siren bracket. Position siren in bracket, then tighten lock nuts to secure siren in place.
5. Connect the green siren connector to the green connector on the harness branch. **Do not cable tie onto brake or fuel lines.**

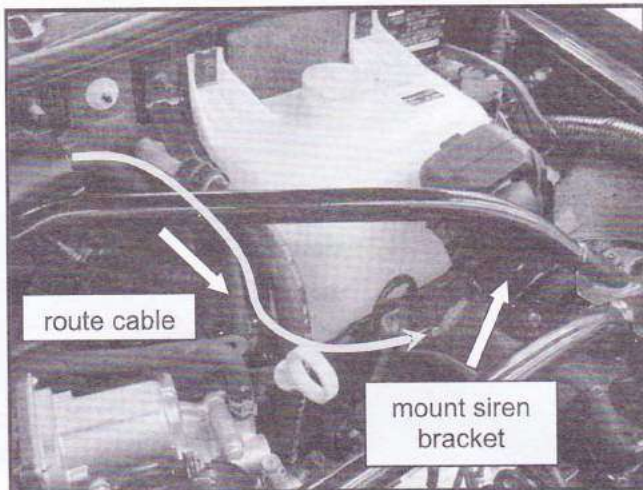


figure 14



figure 15

#### F. TILT SENSOR INSTALLATION

1. Using the supplied double-sided tape, attach the Tilt Sensor module to the position shown in figure 16, with the red LED facing upwards.
2. Attach the flat 5-pin connector from the alarm harness into the base of the Tilt Sensor.
3. Using the supplied 140mm cable tie, secure the tilt sensor in location to the vehicle.



figure 16



## G. BOOT WIRE INSTALLATION

1. Remove the inner boot lining from the LHS and REAR panels.
2. Locate and remove the 2-pin connector from the boot latch mechanism as shown in figure 17.
3. Connect the supplied black wire 2-pin male/female connectors in series with the vehicle connectors. Route the black wire following the vehicle wiring to the LHS of the vehicle (refer to figure 18). Secure using supplied cables ties.

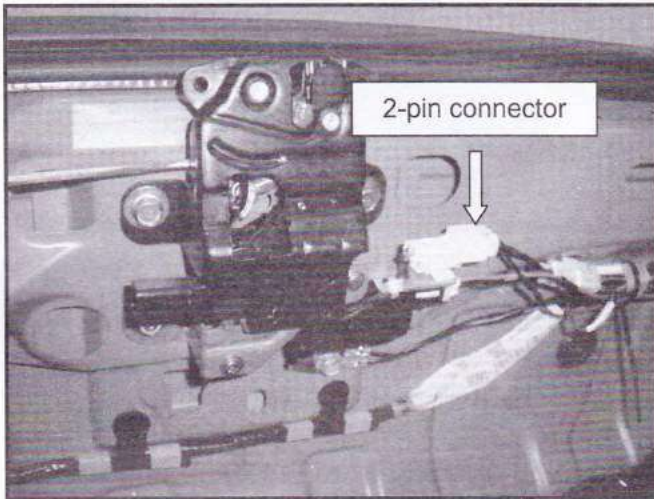


figure 17

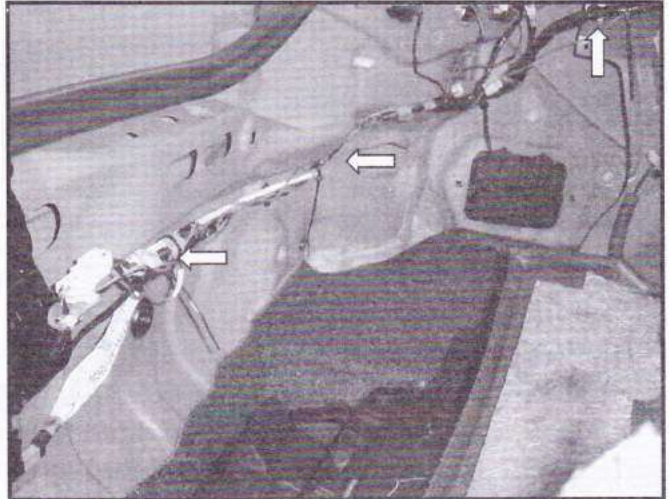


figure 18

4. Continue routing the black wire under the LHS scuff plate to the front of the vehicle (refer to figure 19 & 20). Note: You may need to remove the rear left bottom seat for easier access.



figure 19

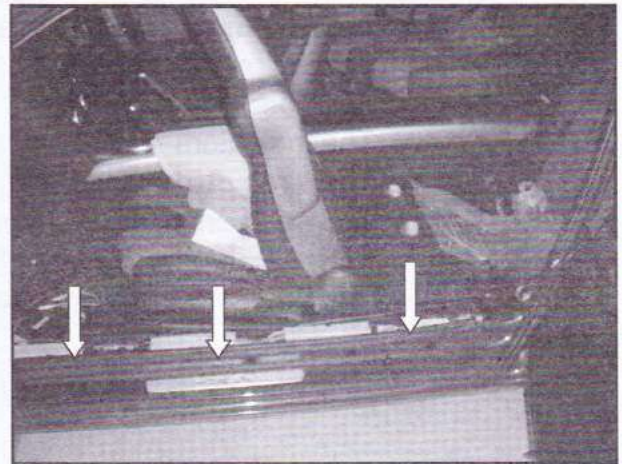


figure 20

5. Route the boot harness up the front LHS kick trim and behind the glove box to the vehicle RKE module.



6. Locate the terminal on the **brown** wire from the main alarm harness (refer to figure 21). Connect the boot harness to the terminal on the **brown** wire. Ensure the boot wire is secured using cable ties and clear from the glove box.



figure 21

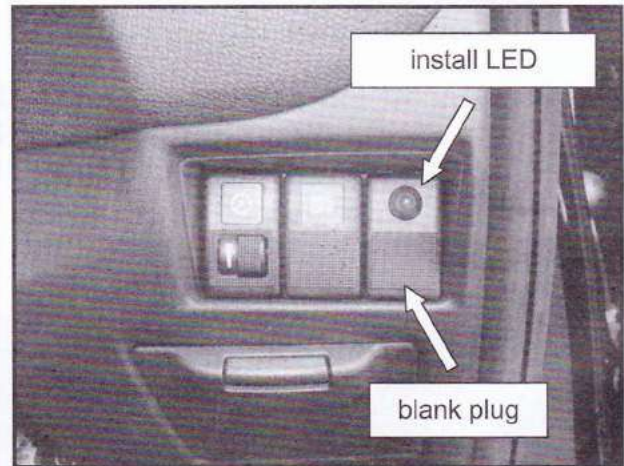


figure 22

#### H. LED INSTALLATION

1. Remove the blank plug from the RHS of the dash as shown in figure 22.
2. Drill a centrally located 8mm hole in the plug.
3. Route the LED harness through the blank plug opening from the dash and then through the drilled hole on the plug.
4. Fit the bezel onto the LED, then insert back into the drilled hole. Refit the plug back in it's original location.

#### I. FUNCTION TESTING

1. Ensure the driver's window is down and close all doors.
2. Arm the system by pressing the LOCK button on the transmitter and check that the following events happen:
  - All doors lock
  - The indicators flash once
  - The siren chirps once
  - The siren emits error chirps 3 seconds after arming the system (only if a door is opened after locking)
  - The dash mounted LED turns "ON" and begins to flash after 10 seconds



### **HOT-WIRE TRIGGER**

3. Wait for the LED to begin flashing. Through the open window, check that the system triggers as soon as the ignition is turned "ON".
4. Disarm the system by pressing the UNLOCK button on the transmitter and check that the following events happen:
  - All doors unlock
  - The indicators flash 2 times (indicators remain "ON" if exterior illumination feature is enabled)
  - The siren chirps 2 times
  - The LED turns "OFF", providing the system was not triggered, otherwise the LED will continue to flash until the ignition is switched "ON" (Refer to the diagnostics report feature)

### **AUTO REARM FUNCTION**

5. Ensure all entry points are closed, LOCK and UNLOCK the system without opening any doors and wait for 30 seconds. The system will arm by itself at the end of the 30 seconds, and lock all doors.
6. Ensure all entry points are closed, ARM and DISARM the system. After disarming open any door or rear tailgate and wait for 30 seconds. The system must not automatically re-arm by itself. If it does then the door wire or boot wire is not installed correctly.

### **DOOR TRIGGER**

7. Ensure all entry points are closed, ARM the alarm by pressing the LOCK button on the transmitter and wait for the LED to start flashing.
8. Open the driver's door using the inside door latch, check that the siren sounds and indicators flash, disarm the system.

### **PANIC FUNCTION**

9. Press the LOCK button 3 times within 4 seconds, the system will sound the siren and flash the indicators.
10. Press the UNLOCK button to disarm the alarm.

### **BOOT TRIGGER**

11. Ensure all entry points are closed, lock the doors by pressing the LOCK button on the transmitter and wait for the LED to start flashing.
12. Unlock the rear boot (not using remote) and open it, ensure the siren sounds and the indicators flash.
13. Close the boot and DISARM the system.

### **BONNET TRIGGER**

14. Ensure all entry points are closed, lock the doors by pressing the LOCK button on the transmitter and wait for the LED to start flashing.
15. Release the bonnet lever to unlock the bonnet, ensure the siren sounds and the indicators flash.
16. Close the bonnet and DISARM the system.

### **SHOCK TRIGGER**

17. Ensure all entry points are closed, lock the doors by pressing the LOCK button on the transmitter and wait for the LED to start flashing.
18. Lightly kick the front wheel, the alarm should not trigger.
19. Heavily kick the front wheel or slap windscreen, the alarm should trigger.
20. Disarm the system.

### **REMOTE BOOT RELEASE**

21. Ensure all entry points are closed, lock the doors by pressing the LOCK button on the transmitter and wait for the LED to start flashing.
22. Press the boot release button on the transmitter, the indicators should flash 5 times indicating that the alarm has isolated the boot and shock sectors.
23. Close the boot, all isolated sectors will be reactivated 10 seconds after the boot has been closed.
24. Disarm the system.

### **HORN ALERT**

The vehicles Horn will sound at a fast rate 3 seconds after the siren begins to trigger as an additional audible alert. **Note: The horn will not sound during Arm/Disarm or during Error chirps (refer Owners Manual).**

## **J. FINAL INSPECTION & QUICK TEST**

1. Check that all wiring connections made are correct and connectors are secured.
2. Check the operation of the installed system.
3. Neatly cable tie all loose wiring.
4. Place the Owners Manual in the glove box.
5. Refit all trims in reverse order of removal.
6. Place the window stickers onto the rear door quarter glass panel.

## **K. DIAGNOSTICS REPORT**

During the armed period if the system is triggered, the LED will continue to flash at a fast rate after disarming. This indicates that there was an alarm condition.

To ascertain which sector triggered the alarm you must turn the ignition key to the 'ON' position and monitor the LED (before the 30 second auto re-arm period). The LED will flash a certain number of times. Use the table below to identify the triggered sector.



LED FLASHES	TRIGGERED SECTOR
0	Panic
1	Doors
2	Boot
5	Ignition (Hot-wire)
6	Shock Sensor, Bonnet

## L. SIREN OPERATION

### 1. Siren servicing

Before disconnecting the siren connector or the vehicles battery ensure that the ignition switch is turned to the 'ON' position. Failing to do this will result in the siren sounding via it's internal power supply.

### 2. Impact sensor adjustment

The function of the inbuilt shock sensor is to detect impacts upon the vehicle's body. When an impact is detected the sensor will signal the alarm control module to activate the siren and flash the vehicle's indicators.

The sensitivity of the impact sensor has been factory preset to a level that is suited to this vehicle. It is recommended that the sensitivity is not altered from the factory setting as this may result in insufficient sensitivity or over sensitivity resulting in false alarms.

If the impact sensitivity requires altering this can be achieved by removing the round rubber grommet from the back of the siren and using a flat blade screw driver turn the adjust pot anti-clockwise to lower the sensitivity or clockwise to increase sensitivity.



Rear view of siren showing shock sensor adjustment

- a) The impact sensor should be set so it does not trigger the alarm from the following:
  - Light kick on the vehicle tyres, a light tap on the vehicles frame or rocking of the vehicle.
- b) The impact sensor should trigger the alarm from the following:
  - Hard kick on the vehicle's tyres or a slap on the windscreen.

Ensure the rubber grommet is always placed over the sensitivity adjustment hole.

**NOTE: THE SIREN IS NOT WATERPROOF THEREFORE NEVER SPRAY WATER DIRECTLY OVER THE SIREN DURING STEAM CLEANING ETC. WARRANTY WILL BE VOIDED IF CAUSE OF FAILURE IS A RESULT OF WATER DAMAGE.**

## **M. TROUBLE SHOOTING**

1. Vehicle does not respond to transmitters.
  - Ensure the vehicle's ROOM fuse is installed.
  - Ensure all unplugged connectors have been refitted.
2. Alarm gives 5 error chirps after arming.
  - Ensure all entry points are closed.
3. Vehicle can be started even when the alarm is armed.
  - This is not a fault, the vehicle is equipped with a factory transponder immobilisation system and will start as long as the correct ignition key is used.
4. The Horn does not sound 3 seconds after the siren trigger.
  - Check Wire-Tap installation on vehicle Green/Orange wire has been properly followed (refer to page 4).