SECTION : 413-06 Horn

VEHICLE APPLICATION : 2008.0 Falcon

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SPECIFICATIONS

Torque Specifications

Description	Nm
Screw M6X55 Taptite	10

DESCRIPTION AND OPERATION

Horn

Low series vehicles are fitted with one low note horn, whilst turbo and high series vehicles are fitted with a pair of tuned horns. One has a high pitch tone and the other has a low pitched tone.

The horn mylar switch pad is incorporated in the steering wheel pad providing a large contact area. When pressed the horn switch pad completes the circuit to the horns.

The horn system consists of the following components:

- steering wheel pad horn switch
- horns
- horn relay

The steering wheel pad horn switch is part of the driver side air bag module. For additional information, refer to Section 501-20b.

DIAGNOSIS AND TESTING

Horn

Refer to Wiring Diagram Section 413-06 for schematic and connector information.

Special Tool(s)	
 SST105-R0057	73III Automotive Meter 105-R0057 or equivalent

Inspection and Verification

1. Verify the customer concern.
2. Visually inspect for the following obvious signs of mechanical and electrical damage:

Visual Inspection Chart

Mechanical	Electrical
• Horn(s) • Horn relay • Steering wheel pad horn switch	• Central junction box (CJB) fuse. • Circuitry

3. If the fault is not visually evident, verify the symptom and proceed to the Symptom Chart.

DIAGNOSIS AND TESTING (Continued)

Symptom Chart

Condition	Source	Action
• The horn does not sound	• Loose connections at horn button contact. • Open wire from horn to horn button. • Open wire from fuse box to horn button. • Horns defective or out of adjustment. • Fuse burned out.	• Go to PinPoint Test A.
• The horn sounds continuously	• Horn button defective.	• Go to PinPoint Test B.
• One horn fails to operate (if dual horn is fitted).	• Broken or loose wire to the horn. • Horn defective or out of adjustment	• Go to PinPoint Test C.

Pinpoint Tests

PINPOINT TEST A : THE HORN DOES NOT SOUND

Test Step		Result / Action to Take
A1	**CHECK POWER SUPPLY TO HORN RELAY**	
	• Disconnect Horn Relay. • Measure the voltage between horn relay [Circuit 1], harness side and ground; and between the horn relay [Circuit 385], harness side and ground. • **Are the voltages greater than 10 volts?**	**Yes** Go to **A2**. **No** REPAIR the circuit. TEST the system for normal operation.
A2	**CHECK HORN RELAY**	
	• Test the horn relay. • **Is the horn relay OK?**	**Yes** Go to **A3**. **No** INSTALL a new horn relay. TEST the system for normal operation.
A3	**CHECK STEERING WHEEL PAD HORN SWITCH SIGNAL TO HORN RELAY**	
	• Measure the resistance between the horn relay [Circuit 1], harness side and ground under the following conditions: • **Are the resistances correct?**	**Yes** Go to **A4**. **No** Go to **A5**.
A4	**CHECK CIRCUIT BETWEEN HORN RELAY AND HORN**	
	• Disconnect Horn(s). • Measure the resistance between the horn relay [Circuit 1A], harness side and the LH horn, circuit 1B, harness side or the RH horn , circuit 1C, harness side; and between the horn relay [Circuit 1A], harness side and ground. • **Is the resistance less than 5 ohms between the horn relay and the horns and greater than 10,000 ohms between the horn relay and ground?**	**Yes** INSTALL a new horn, REFER to Horn in this section. TEST the system for normal operation. **No** REPAIR the circuit. TEST the system for normal operation.

DIAGNOSIS AND TESTING (Continued)

Test Step		Result / Action to Take
A5	**CHECK CIRCUIT BETWEEN HORN RELAY AND AIR BAG SLIDING CONTACT**	
	• Remove Disconnect the clockspring. For removal instructions for clockspring, Refer to Section 211-04. • Measure the resistance between the clockspring, circuit 1B, harness side and the horn relay [Circuit 4], harness side. • **Is the resistance less than 5 ohms?**	**Yes** Go to **A6**. **No** REPAIR the circuit. TEST the system for normal operation.
A6	**CHECK THE STEERING WHEEL PAD HORN SWITCH**	
	• Deactivate the air bag system. Refer to Section 501-20b . • Disconnect Steering Wheel Pad Horn Switch Harness. • Measure the resistance between the steering wheel pad horn switch harness, circuit 57CH, harness side and ground under the following conditions: • **Are the resistances correct?**	**Yes** INSTALL a new air bag sliding contact, REFER to Section 501-20b. TEST the system for normal operation. **No** INSTALL a new driver side air bag module, REFER to Section 501-20b. TEST the system for normal operation.

PINPOINT TEST B : THE HORN SOUNDS CONTINUOUSLY

Test Step		Result / Action to Take
B1	**CHECK HORN CIRCUIT**	
	• Key in OFF position. • Disconnect Horn Relay. • **Does the horn continue to sound?**	**Yes** REPAIR circuit 1A. TEST the system for normal operation. **No** Go to **B2**.
B2	**CHECK HORN RELAY**	
	• Test the Horn Relay. • **Is the horn relay OK?**	**Yes** REINSTALL the horn relay. Go to **B3**. **No** INSTALL a new horn relay. TEST the system for normal operation.
B3	**CHECK CIRCUIT**	
	• Disconnect the clockspring. • **Does the horn continue to sound?**	**Yes** If equipped with anti-theft, Go to **B4**. Otherwise, REPAIR the circuit. TEST the system for normal operation. **No** Go to **B5**.
B4	**CHECK BEM INPUT**	
	• Disconnect BEM. • **Does the horn continue to sound?**	**Yes** REPAIR circuit 1A. TEST the system for normal operation. **No** REFER to Section 419-10. TEST the system for normal operation.

DIAGNOSIS AND TESTING (Continued)

Test Step		Result / Action to Take
B5	**CHECK STEERING WHEEL PAD HORN SWITCH**	
	• Deactivate the air bag system. Refer to Section 501-20b . • Disconnect Steering Wheel Pad Horn Switch Harness. • Measure the resistance between the steering wheel pad horn switch harness, circuit 57CH, harness side and ground under the following conditions: • **Are the resistances correct?**	**Yes** INSTALL a new air bag sliding contact, REFER to Section 501-20b . TEST the system for normal operation. **No** INSTALL a new driver side air bag module, REFER to Section 501-20b . TEST the system for normal operation.

PINPOINT TEST C : ONE HORN FAILS TO OPERATE

Test Step		Result / Action to Take
C1	**CHECK HORN 1 FOR OPERATION**	
	• Disconnect Horn 2 from wiring harness • Depress horn pad on sterring wheel • **Does horn 1 sound?**	**Yes** Go to **C4** **No** Go to **C2**
C2	**CHECK POWER WIRE ON HORN 1**	
	• Remove horn relay • Measure resistance of circuit 1A-1B • **Is resistance <5 ohms?**	**Yes** Go to **C3** **No** There is a break in the wire. Repair harness and retest for correct operation.
C3	**CHECK EARTH WIRE FROM HORN 1**	
	• Remove Horn 1 • Measure resistance of circuit 57AF to ground • **Is resistance <5 ohms?**	**Yes** Horn must be faulty. Replace horn and retest for correct operation. **No** There is a break in the wire. Repair harness and retest for correct operation.
C4	**CHECK HORN 2 FOR OPERATION**	
	• Disconnect Horn 1 from wiring harness • Reconnect Horn 2 to wiring harness • Depress horn pad on sterring wheel • **Does horn 2 sound**	**Yes** Horn is operating correctly. **No** Go to **C5**
C5	**CHECK POWER WIRE TO HORN 2**	
	• Remove horn relay • Measure resistance of circuit 1A-1C • **Is resistance <5 ohms?**	**Yes** Go to **C6** **No** There is a break in the wire. Repair harness and retest for correct operation.

DIAGNOSIS AND TESTING (Continued)

Test Step		Result / Action to Take
C6	**CHECK EARTH WIRE FROM HORN 2**	
	• Remove Horn 2 • Measure resistance of circuit 57AG to ground • **Is resistance <5 ohms?**	**Yes** Horn must be faulty. Replace horn and retest for correct operation. **No** There is a break in the wire. Repair harness and retest for correct operation.

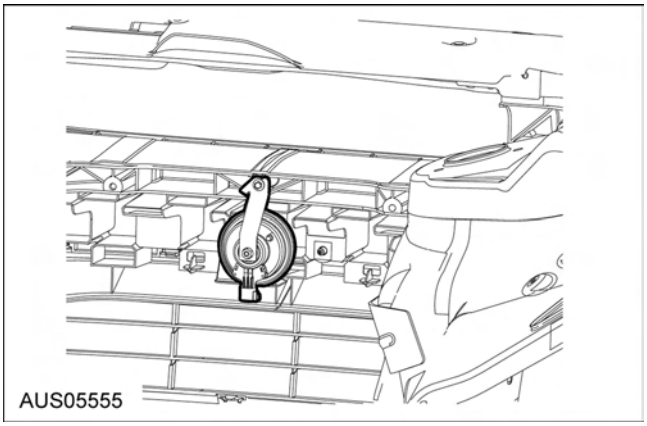
REMOVAL AND INSTALLATION

Single Horn

Located on the centre of the RGOR

Removal

1. Remove the grille from between the headlamps.



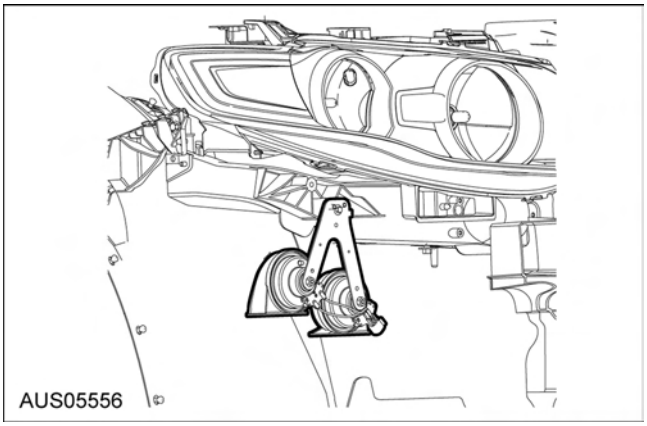
2. Disconnect the electrical connector.
3. Remove the horn and bracket assembly(s).
    1. Disconnect the electrical connector.
    2. Remove the nut.
    3. Remove the horn.
4. To install, reverse the removal procedure.

Dual Horns

Located on the driver's side of the RGOR

Removal

1. Remove the splash shield.



2. Disconnect both fog-lamp electrical connectors.
3. Remove front bumper.
4. Disconnect the horn electrical connector.
5. Remove the horn and bracket assembly(s).
    1. Disconnect the electrical connector.
    2. Remove the nut.
    3. Remove the horn.
6. To install, follow steps 1-4 but reverse the sub-steps of step 5.