

SECTION : 415-01 Audio Unit

VEHICLE APPLICATION : 2008.0 Falcon

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SPECIFICATIONS

Torque Specifications

Description	Nm
Intake manifold suppressor bolt	17 - 24
Steering wheel switch screws	1.8 - 2.2
Ground strap belt – engine block (I6 and V8)	19.1 - 25.9
Ground strap belt – chassis/side rail (I6 and V8)	10.2 - 13.8
Interference suppressor to bracket bolt (N605904)	17 - 24
Amplifier bracket to body screw	2.0 - 2.5



DESCRIPTION AND OPERATION

Audio System

The audio system consists of the following components:

- Audio unit
- Amplifier (where fitted)
- Steering wheel controls
- Antenna

The audio controls on the steering wheel allows the driver to control various aspects of the audio, these are summarised in the following table.

Mode Button Operations		
Current Mode	Press	New Mode
CD/MP3	< 1s	FM1
FM1	< 1s	FM2
FM2	< 1s	AM
AM	< 1s	AUX1 (If enabled)
AUX1	< 1s	CD/MP3 (If CD loaded)

1. Seek Button		
Mode	Press	Function
CD/MP3	>=0.5s	Next disc (High)
CD/MP3	>=0.5s	Fast Forward (Low)
CD/MP3	< 0.5s	Seek next track
AM/FM1/FM2	>=0.5s	Seek next station
AM/FM1/FM2	< 0.5s	Increment to next preset

2. Volume +		
Mode	Press	Function
All	< 0.5s	Increase volume by 1 step
All	>= 0.5s	Increase at 10 steps/s until released
3. Volume -		
4. Mode	Press	Function
All	< 0.5s	Decrease volume by 1 step
All	>= 0.5s	Decrease at 10 steps/s until released

5. Mute (applicable to vehicles not fitted with Bluetooth)

Mode	Press	Function
All (Unmuted)	< 0.5s	Mute audio (soft mute)
All (Muted)	< 0.5s	Unmute audio (soft unmute)

5. Phone (applicable to vehicles fitted only with Bluetooth)

Mode	Press	Function
All	N/A	Transmit button state on CAN

There are 3 audio units available with features as indicated in the following table.



ACM feature / function	Model		
	Low	Mid	High
Output power	4x28W	4x28W	4x28W
AM / FM tuner			
AM/FM	X	X	X
6 AM and 12 FM (1 and 2) presets	X	X	X
6 AM and 6 FM Auto Store (AS) presets	X	X	X
Tune Up/Down	X	X	X
Seek Up/Down	X	X	X
Manual Tune Up/Down	X	X	X
Eight (8) second Scan and preset store function on tuner SCAN	X	X	X
AMFM Hi-cut	X	X	X
Radio Data Service (RDS)			
Program Service Name (PS)	X	X	X
Alternative Frequencies (AF)	X	X	X
Regional Links (Reg on/off)	X	X	X
Travel Announcements (TA)	X	X	X
Traffic Program (TP)	X	X	X
TP Seek	X	X	X
Enhanced Other Networks (EON)	X	X	X
Program Type (PTY)	X	X	X
PTY Seek	X	X	X
Radio Text (RT)	X	X	X
Single CD / MP3 player	X		
6 CD / MP3 player		X	X
Load	X	X	X
Eject	X	X	X
All Load		X	X
All Eject		X	X
Track Up/Down	X	X	X
Replay Current Track	X	X	X
Repeat on Track	X	X	X
Repeat on Disc	X	X	X
Repeat on Folder	X	X	X
FF/REW	X	X	X
Scan Play Tracks on CD-DA	X	X	X
Scan Play All Tracks on MP3 Disc	X	X	X

ACM feature / function	Model		
	Low	Mid	High
Random Play Tracks on CD-DA	X	X	X
Random Play All Tracks on MP3	X	X	X
Random Play All Tracks in MP3 Folder	X	X	X
Pause	X	X	X
Song title, artist, album transfer	X	X	X
File name, Folder name transfer	X	X	X
Auxiliary input 1 for external music source	X	X	X
Telephone interface			
Aftermarket Phone	X	X	X
Bluetooth Phone	X	X	X
Dial/Ring tone input	X	X	X
Rear Sonar interface	X	X	X
Navigation interface	X	X	X
Audio Sound/DSP			
Volume Control	X	X	X
Speed dependant volume (AVC)	X	X	X
Output power limiting	X	X	X
Speed dependant bass	X	X	X
Turn on volume minimum / maximum default	X	X	X
Automatic Loudness Volume	X	X	X
Soft mute / Start up at 200ms	X	X	X
Bass, Treble, Midrange control	X	X	X
Speaker position modes (BF)	X	X	X
Audio Mixing	X	X	X
Beep (Audible Feedback)	X	X	X
CD compression	X	X	X
Subwoofer amplifier output			X
DSP equalization modes			X
DSP user equalization			X
Steering wheel audio control interface (5 buttons)	X	X	X
Radio Security Code (RSC)	X	X	X
1 hour keyless play	X	X	X

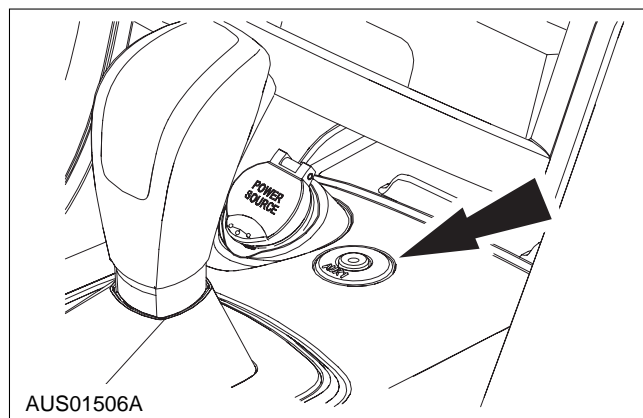


ACM feature / function	Model		
	Low	Mid	High
Radio off with driver door open	X	X	X
Hardwired Acc Ign Input	X	X	X
Priority key	X	X	X
Preset 6AM, 12FM, 6AMAS, 6FMAS	X	X	X
Last AM, FM1 and FM2 frequency	X	X	X
Volume settings	X	X	X
Bass, Treble, Balance, and Fade settings	X	X	X
Last audio mode,	X	X	X
Last CD disc and track.	X	X	X
CAN interface (125 kB)	X	X	X
Display and switch data	X	X	X
Diagnostics			
On Demand Self Test	X	X	X
Security Bypass	X	X	X
Audio Speaker Walk Around	X	X	X
Antenna Connected Test	X	X	X

Refer to the owners manual for complete operating guidelines.

All audio systems include an Auxiliary audio input function, where an external device can be connected to provide audio functionality via the vehicle audio controls. Suitable audio units are portable cassette players, CD players, DVD or MP3 players.

The Auxiliary input is located adjacent to the 12V power supply beneath the tissue box.

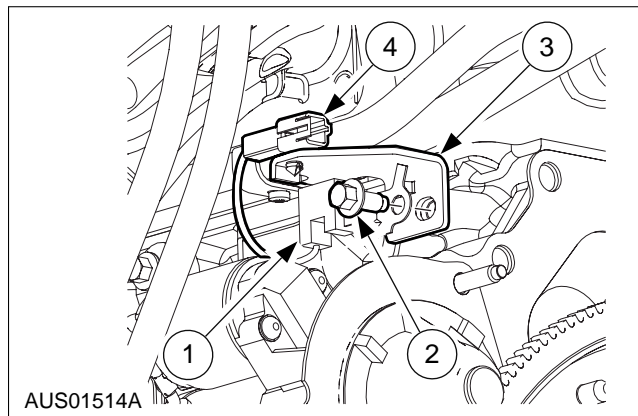


Vehicles are equipped with speakers depending on the equipment level. Refer to Section 415-03.

The subwoofer amplifier incorporates "thermo protection" which shuts down the output when the luggage compartment temperature exceeds 90°C. This automatically protects the unit from internal damage during times of extreme heat. Should this situation occur, allow the unit to cool down or open the deck lid for a short period. The unit will return to normal operation after the temperature drops to an acceptable level.

Radio Frequency Interference Suppression

The radio ignition interference capacitor reduces interference transmitted through the radio speakers by the engine ignition and electrical system.



Item	Description
1	Interference Suppressor Capacitor
2	M8 Earthing Bolt (N605904)
3	Heater Pipe Bracket (Petrol Engine)
4	Connector



DIAGNOSIS AND TESTING


Audio System

Refer to Section 415-00.



REMOVAL AND INSTALLATION

Audio System Security

WARNING:  All audio systems fitted are protected by an electronic security system, which renders it inoperative if removed from its originally fitted vehicle. Owner provided security cards are not required as the audio system links to other electronics in that vehicle. All audio units will be coded when they leave the factory and re-configuring can only be carried out by using the IDS diagnostic tool.

Audio Unit

Removal and Installation

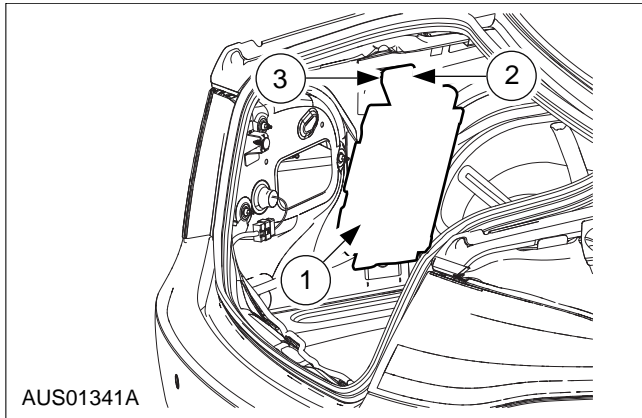
See information in Section 413-08 for Audio Unit removal and installation.

The Audio module must not be removed from the ICC. Service is to be carried out by returning the complete ICC to the appropriate service centre.

Amplifier

Removal

1. Remove left hand side interior quarter trim.
2. Remove M5 screw.
3. Disconnect wiring and pivot the assembly about the lower mounting legs to disengage and remove. **Note:** Spring clip will remain attached to sheet metal hole on vehicle.



Item	Description
1	Amplifier and bracket assembly
2	Snap in fastener and M5 x 10mm screw
3	Foam pad

Installation

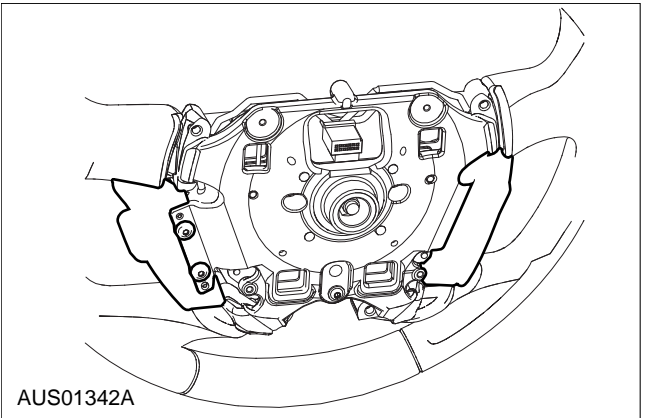
1. Connect wiring to amplifier.
2. Locate lower tabs of bracket assembly into slots in sheet metal. Pivot assembly about lower edge until bracket hole comes into alignment with Snap in fastener hole.
3. Replace M5 x 10mm screw
4. Refit interior quarter trim.

Steering Wheel Audio Controls

Removal

1. Disconnect the battery ground cable. For additional information, refer to Section 414-01.
2. Remove the steering wheel air bag. For additional information, refer to Section 501-20B.
3. Remove the steering wheel audio control screws.

NOTE: Some steering wheels are leather wrapped and should be protected when removing the steering wheel controls.



4. Remove the steering wheel audio control.
5. Disconnect the electrical connectors.

Installation

1. Reverse the removal procedure.

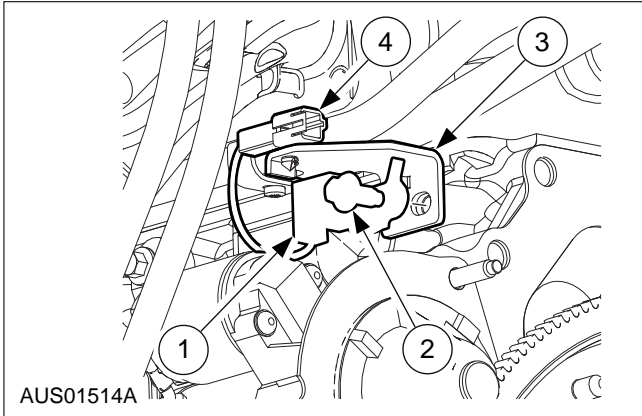
NOTE: When reinstalling screws set gap between switch buttons and horn pad to 0.7mm.



Capacitor

Removal

- 1. Follow removal procedure shown in figure.
- 2. Remove M8 suppressor bolt N605904, ensuring that suppressor doesn't rotate causing damage to the connector wire.
- 3. Pull connector off heater pipe bracket
- 4. Discard interference suppressor capacitor as fir tree clip may be damaged.



Item	Description
1	Interference Suppressor Capacitor
2	M8 Earthing Bolt (N605904)
3	Heater Pipe Bracket (Petrol Engines)
4	Connector

Installation

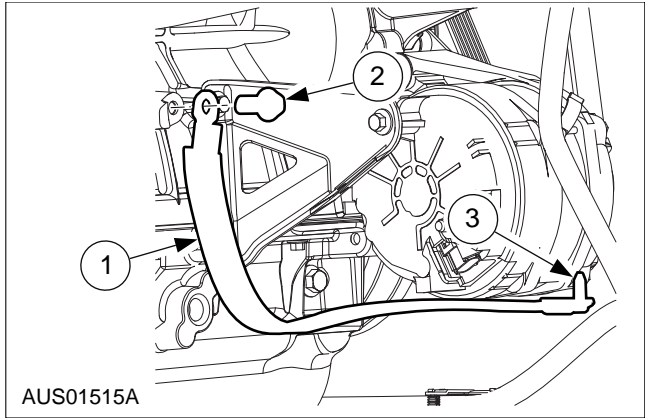
- 1. Reverse the removal procedure.
- 2. Install M8 suppressor bolt and torque to specifications
- 3. Ensure that N605904 is refitted as it is a special earthing bolt.

Ground Strap

Removal

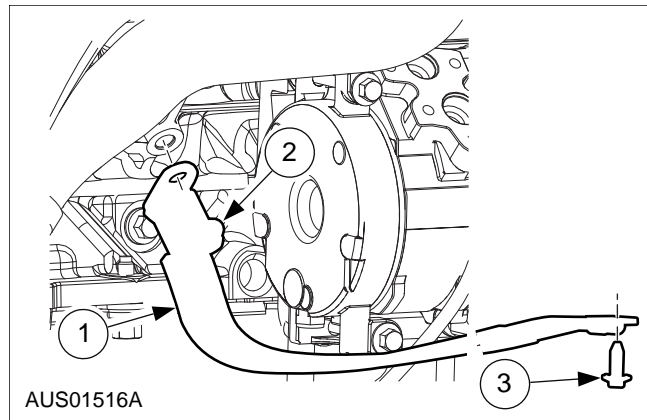
- 1. Disconnect the battery cables. For additional information, refer to Section 414-01.
- 2. Remove bolts.

I6



	Description
1	Ground Strap
2	Earth Bolt - Engine
3	Earth Bolt - Chassis

V8



	Description
1	Ground Strap
2	Earth Bolt - Engine
3	Earth Bolt - Chassis

Installation

- 1. Reverse the removal procedure, torque to specifications.
- 2. Ensure ground strap is vertical and free of twists when secured, and does not contact power steering pipes on sub frame.

