

SECTION : 307-05 Automatic Transmission External Controls

VEHICLE APPLICATION : 2008.0 Falcon

CONTENTS

PAGE

DESCRIPTION AND OPERATION

Automatic Transmission External Controls	307-05-1
Sequential Sport Shift Selector	307-05-1

DIAGNOSIS AND TESTING

Automatic Transmission External Controls New 8 Pin connector	307-05-2
Connector Circuit Reference	307-05-2

GENERAL PROCEDURES

Handle Assembly (4 speed transmission)	307-05-5
Handle Assembly (5 speed transmission)	307-05-5
Handle Assembly(6 speed transmission)	307-05-5

REMOVAL AND INSTALLATION

Handle Assembly Removal	307-05-4
Handle Assembly	307-05-4
Torsion Spring	307-05-4
Housing Sub Assembly	307-05-4
Loom PCB (Printed Circuit Board)	307-05-5
Shifter bump stops (6 Speed)	307-05-6
Gearshift Assembly	307-05-6
Bucket (Metal Pressing)	307-05-8
Base and Lever Assembly	307-05-9
Spring Leaf Detent	307-05-9
Selector Lever Cable	307-05-10



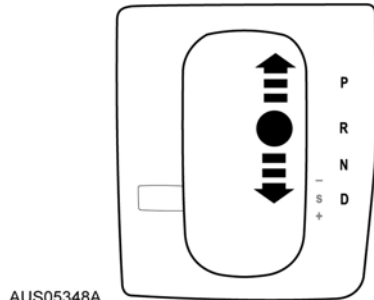
DESCRIPTION AND OPERATION

Automatic Transmission External Controls

Speed Sequential Sport Shift Selector

The sequential sport shift (SSS) selector system is a cable operated mechanical and electronic selector system. Mechanically it works similarly to previous model T/Bars when moving from the park to drive position.

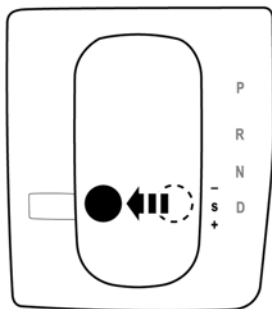
4, 5 and 6 Speed



AUS05348A

However when the lever is in 'D' position it can be moved into performance/sport position by pushing the lever to the left. It now electronically controls the transmission.

4, 5 and 6 Speed



AUS05349A

NOTE: This is the recommended 'towing' position for the selector as well the sequential sport or performance position for manual operation of the sequential sports shift.

The transmission will shift 'automatically' when the selector is in D or 'performance/sport' until the selector lever is moved either forward or rearward to the +/- position. The sequential sport shifter is now in manual mode and sequential manual shifting is now required.

If the selector is pulled rearward (+) the 'SSS' will be activated and the transmission will upshift to a higher gear, if the selector is pushed forward (-) the transmission will shift down to a lower gear provided the vehicle speed is within the safe operating speed for the transmission.

The selector can be shifted from drive(D) to neutral (N) without depressing the button on the handle. The

button must be depressed to shift from (N) to (R) and from (R) to (P) as well as (P) to (R).

The button does not need to be depressed when shifting from (R) to (D) or when using sequential sport shift.

Remove center console gear shift surround and center console wing trims (refer Section 501-12).



DIAGNOSIS AND TESTING

Automatic Transmission External Controls New 8 Pin connector

Connector Circuit Reference

Loom PCB for 4 and 5 speed Auto

Pin Number(s)	Circuit Designation/Description	Normal Condition/Measurement
2 & 3	5V Power Supply through 4.7kOhm resistor	5V
1 & 3	Voltage Measure	Position 'D' - 3.96V Position 'DPEPF' - 2.88V Position '+' - 1.83V Position '-' - 0.78V

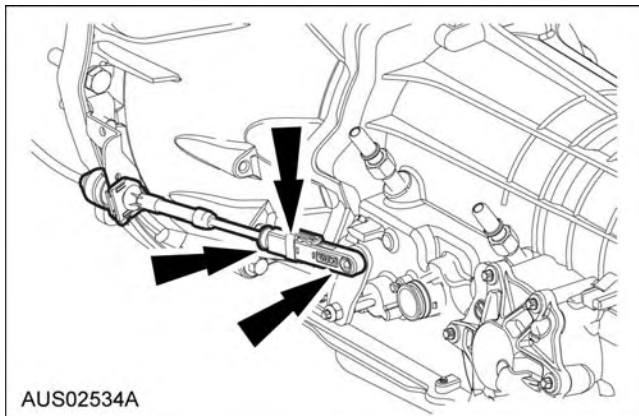
T-Bar Position	Transmission Input Voltage		
	M-GATE	TIP +	TIP -
Drive	> 4.1V	> 4.1V	> 4.1V
Sport	< 2.9V	> 4.1V	> 4.1V
+	< 2.9V	< 2.9V	> 4.1V
-	< 2.9V	> 4.1V	< 2.9V



GENERAL PROCEDURES

Selector Cable Adjustment (4 speed transmission)

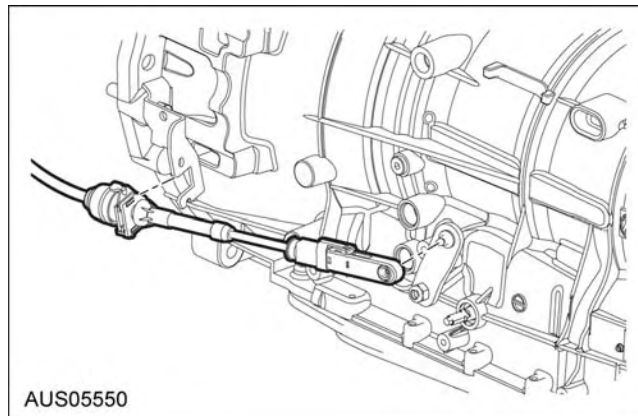
1. Move Selector to "P" position.
2. Raise the vehicle and ensure the transmission operating lever is also in "P" (this is the most rearward position).
3. Connect the cable to the transmission cable mount by pushing rearwards until the side tabs of the cable click into the lock position.



NOTE: The cable push rod is snapped onto the pin. Finally the adjuster clip is pushed closed on the cable auto adjuster.

Selector Cable Adjustment (6 speed transmission)

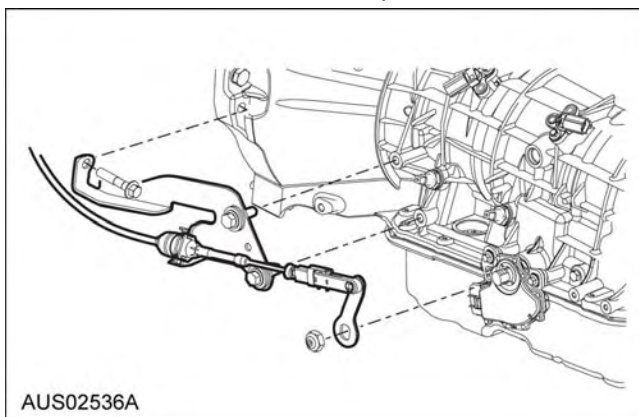
1. Move Selector to "P" position.
2. Raise the vehicle and ensure the transmission operating lever is also in "P" (this is the most rearward position).
3. Connect the cable to the transmission cable mount by pushing rearwards until the side tabs of the cable click into the lock position.



NOTE: The cable push rod is snapped onto the pin. Finally the adjuster clip is pushed closed on the cable auto adjuster.

Selector Cable Adjustment (5 speed transmission)

1. Move Selector to "D" position.
2. Raise the vehicle and ensure the transmission operating lever is also in "D".
3. Connect the cable to the transmission cable Mount by pushing rearwards until the side tabs of the cable click into the lock position.



NOTE: The cable push rod is snapped onto the pin. Finally the adjuster clip is pushed closed on the cable auto adjuster.

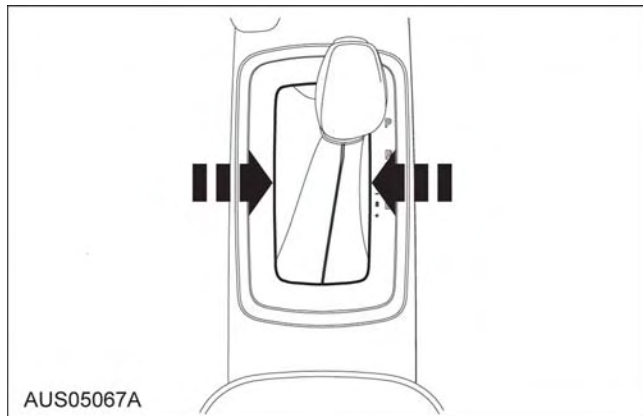


REMOVAL AND INSTALLATION

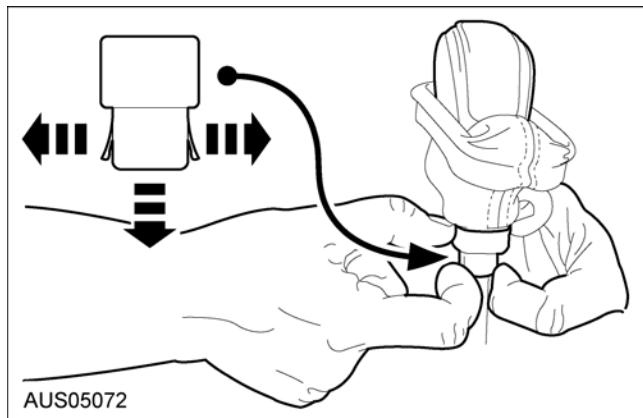
Handle Assembly Removal

Removal and Installation

1. The shifter assembly does not have to be removed from the vehicle for this procedure.
2. Ensure the park brake is applied and position the shifter lever to the N position
3. To release the selector boot press either side base of the boot and lift up.

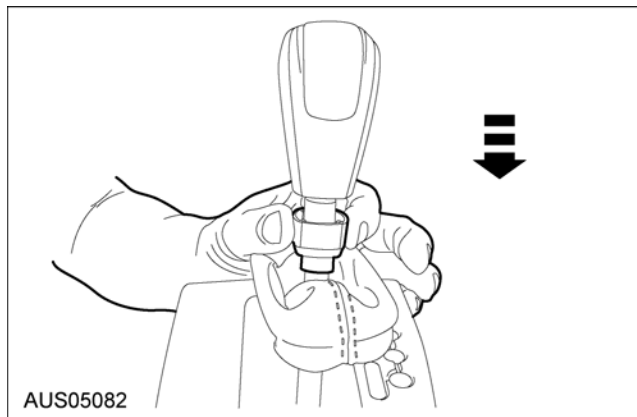


4. Lift the boot upwards to expose the boot retaining clip.
5. Gently pull the two locating tags outwards and pull the clip downwards

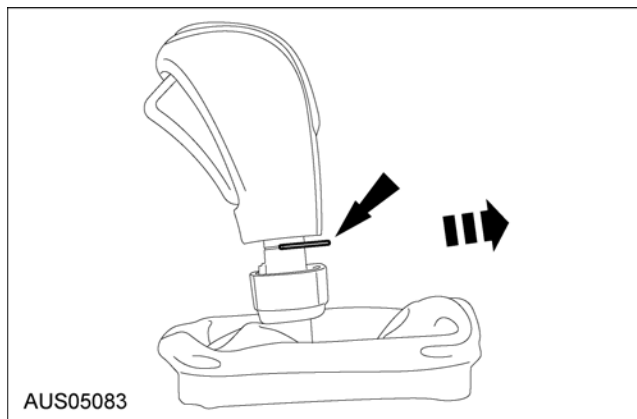


6. Pull the boot downwards to clear the selector handle

7. Pull the selector handle lower trim downwards to expose the handle retaining spring



8. Remove the spring and the handle can be pulled upwards to release.



Handle Assembly

Removal and Installation

1. To install, reverse the removal procedure

Torsion Spring

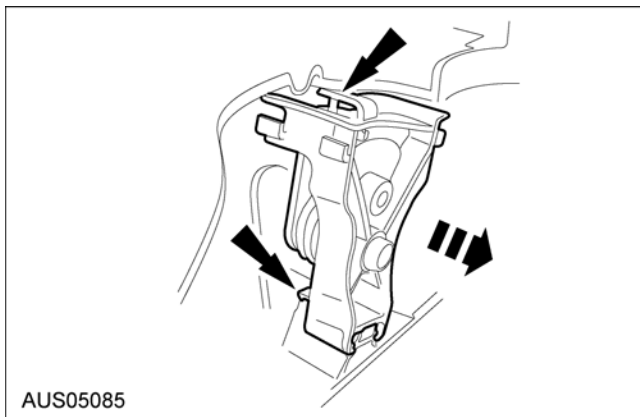
Removal

1. Remove centre console and other associated components. For additional information, refer to Section 501-12.
NOTE: Do not remove gearshift assembly from the vehicle.
2. Move the handle to the "S" position; this will help with alignment during re-assembly

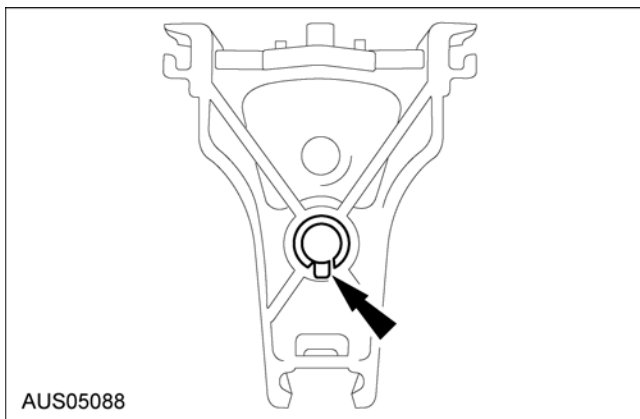


REMOVAL AND INSTALLATION (Continued)

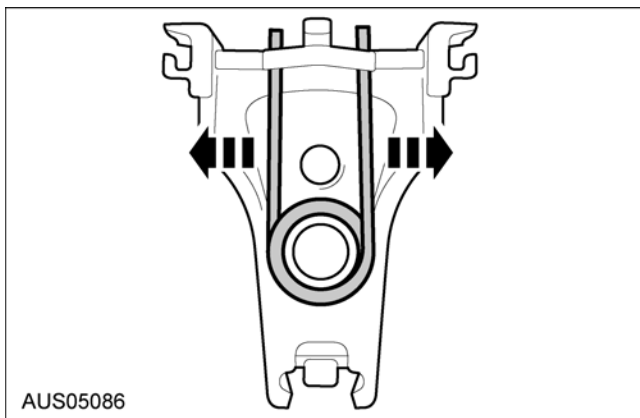
3. Release the two clips on the spring assembly as shown and slide outwards



4. Press the plastic clip upwards and slide spring guide out.



5. Remove the flat sprung plate
6. Using a pair of pliers gently open the spring and remove from the carrier.



Installation

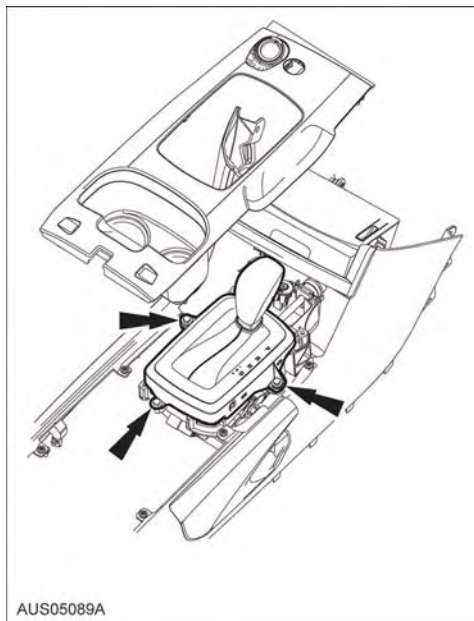
1. Re-assembly is the reverse of the removal procedure. During reassembly ensure the spring guide locates correctly on the selector lever.

Housing Sub Assembly

Removal

1. Remove centre console and other associated components. For additional information, refer to Section 501-12.

NOTE: Do not remove gearshift assembly from the vehicle.



2. Disconnect main loom from plug then plug from base (squeeze clips).
3. Repeat process for the top LH corner of the shifter.
4. Lift corner labelled "A" first using narrow nose pliers placing them between the housing assembly and base.
5. Squeeze flexible legs with pliers and lift until disengaging the base.
6. Lift housing assembly until disconnected from lever.
7. Turn globe holder with pliers until holder can be pulled out of lower housing.
8. Remove housing assembly.

Loom PCB (Printed Circuit Board)

Installation

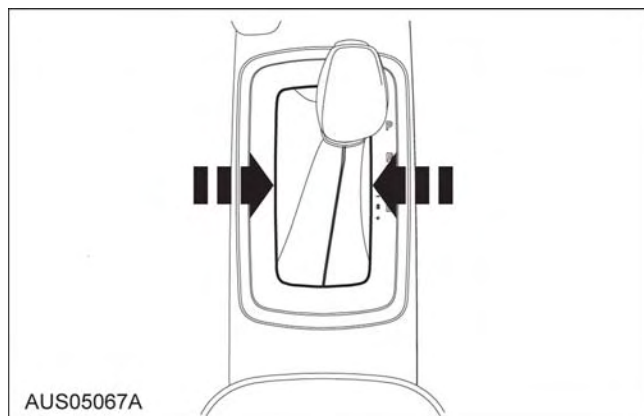
1. Remove centre console and other associated components. For additional information, refer to Section 501-12.

NOTE: Do not remove gearshift assembly from the vehicle.

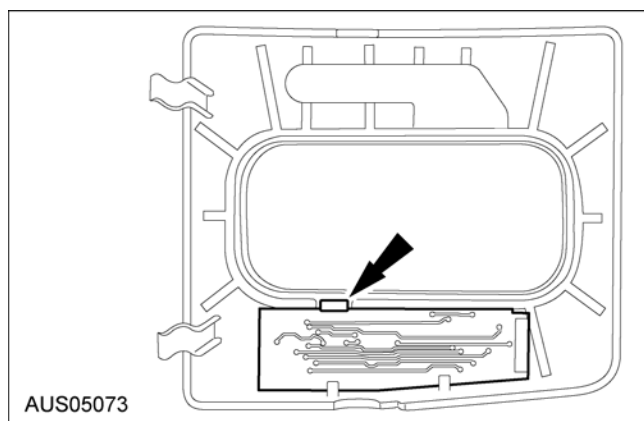


REMOVAL AND INSTALLATION (Continued)

2. Release the shifter lever boot by gently pressing on both sides



3. To remove the shifter housing top cover use two thin screwdrivers between the centre console and the shifter top cover.
4. The screwdrivers need to be inserted approximately 45mm to release the clips
5. Gently lift the top cover. The boot can be then passed through the cover.
6. Do not try to pull the cover over the shifter handle as this can damage the PCB connection and loom
7. Release the PCB connector by pressing the release tags inwards and gently pulling the connector. Do not pull the wires to the connector.
8. The cover can then be passed over the shifter handle
9. Turn the top cover over and gently press the plastic clip away from the PCB to release



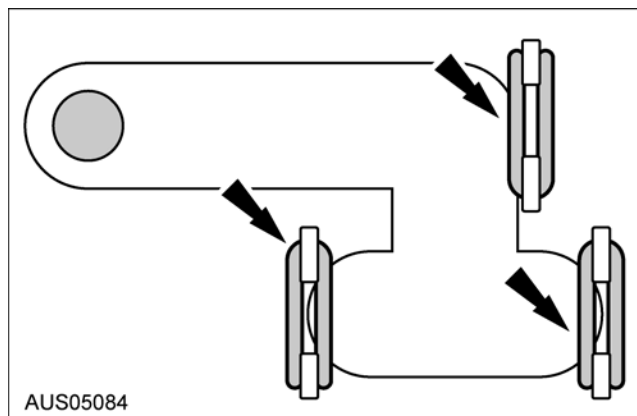
Installation

1. Fit the replacement PCB. It is important the PCB is correctly aligned to ensure the LED's align correctly with the position indicators in the top cover.
2. Reassembly is the reverse of the removal procedure.

Shifter bump stops (6 speed)

Removal

1. Remove the selector housing top cover. For additional information refer to printed circuit board replacement section.
2. Unhook the bump stop rubbers and replace as required.



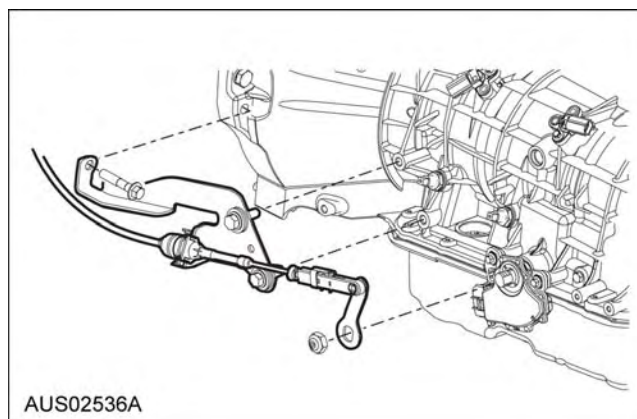
3. Refit the selector housing top cover.

Gearshift Assembly

Removal

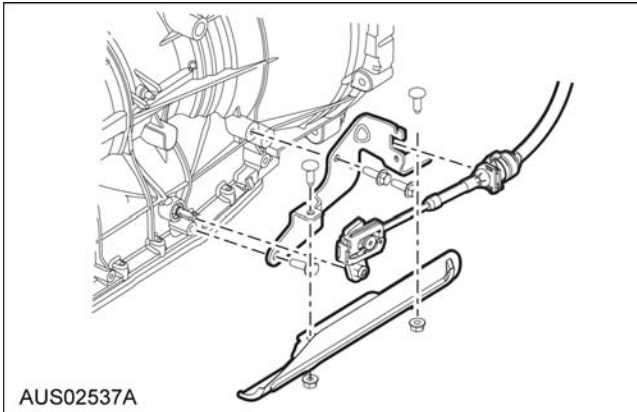
1. Raise the vehicle and disconnect the transmission shift cable from the lower selector lever.

I6

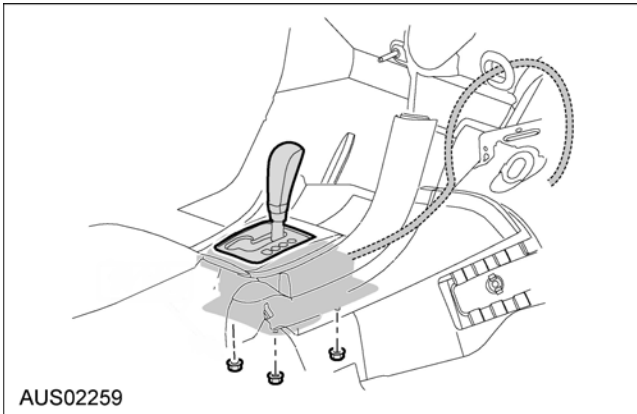


REMOVAL AND INSTALLATION (Continued)

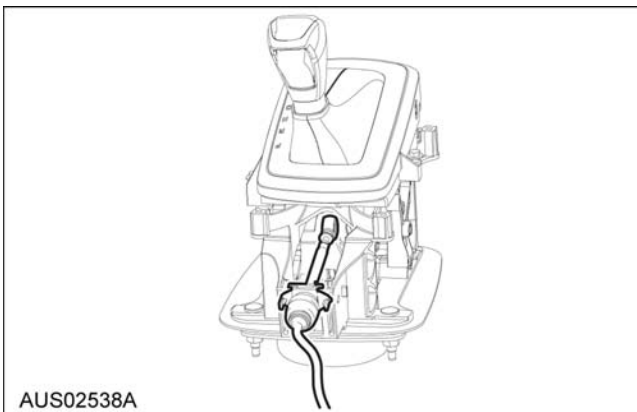
V8



2. Disconnect the four nuts that attach the housing to the floorpan.



3. Lower the vehicle.
4. Remove the centre console and other associated components. For addition information, refer to section 501-12.
5. Detach the back light bulb/wiring and selector cable.

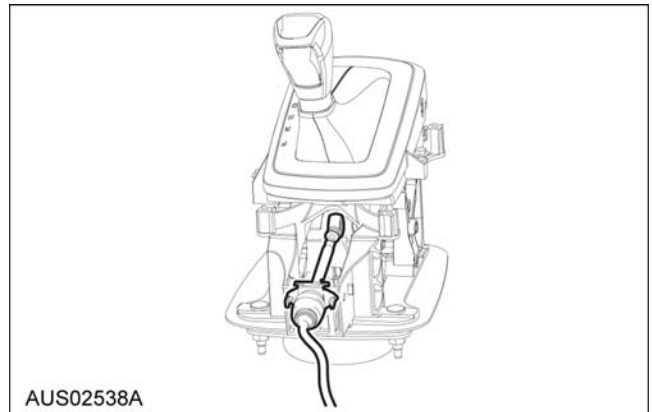


6. Remove the whole floor shift housing by lifting vertically.

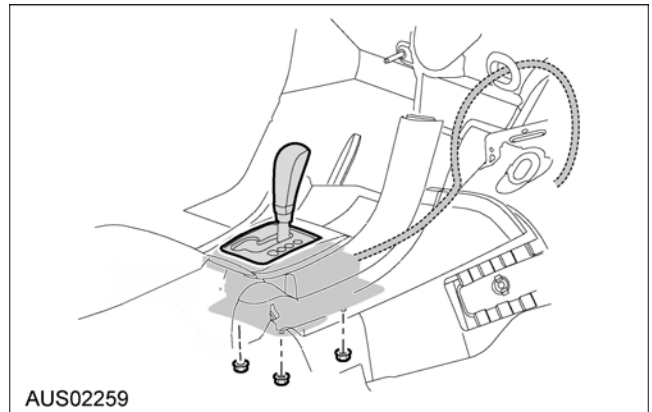
Installation

1. Install the whole floor shift housing by lifting vertically.

2. Attach the back light bulb/wiring and selector cable.

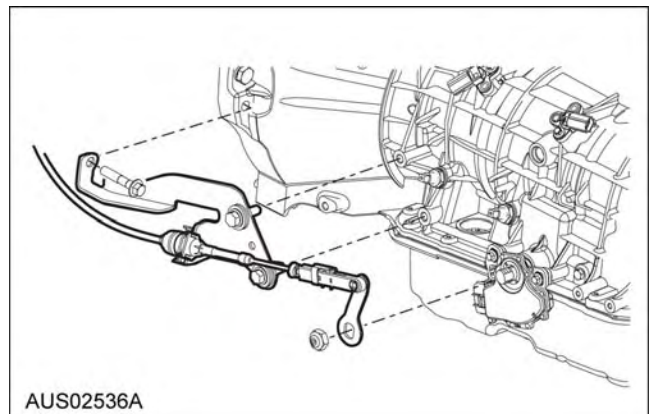


3. Remove the centre console and other associated components. For addition information, refer to section 501-12.
4. Place the selector lever in the 'P' position.
5. Raise the vehicle.
6. Reconnect the four nuts that attach the housing to the floorpan.



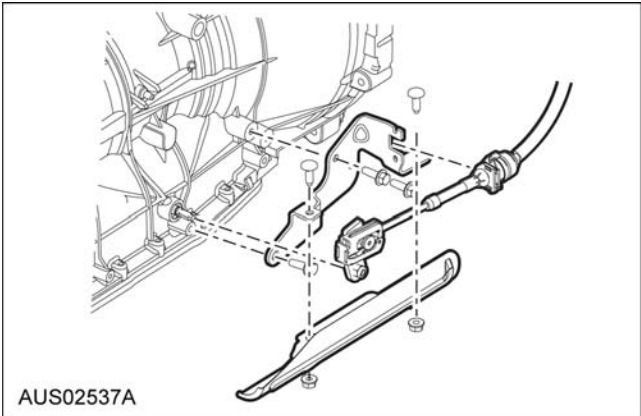
7. Hold the transmission shift rod and engage park on the transmission by pushing the shift rod as far forward as possible.
8. Install the shift rod on the lower selector lever.

I6



REMOVAL AND INSTALLATION (Continued)

V8

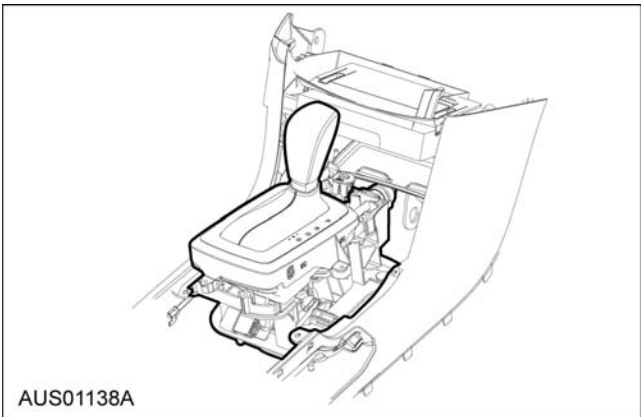


- 9. Tighten the lock nut to the required torque to 28 Nm.
- 10. Lower the vehicle and check transmission operation in each selector lever detent position.
- 11. Check that the mode light functions correctly.

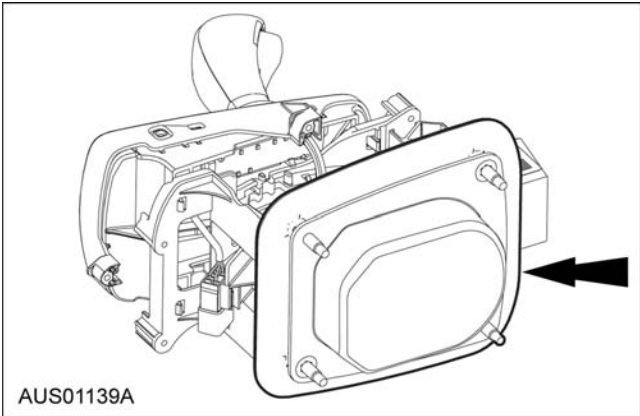
Bucket - Metal Pressing

Removal

- 1. Remove centre console and other associated components. For additional information, refer to Section 501-12.
- 2. Remove shifter assembly from vehicle. For additional information, refer to gearshift assembly in this section.



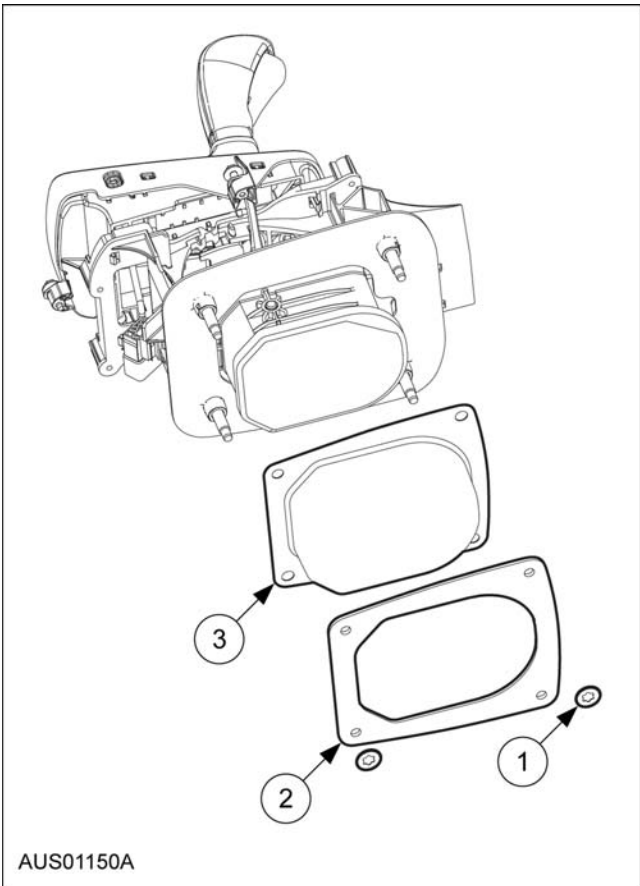
- 3. View before and after replacement of damaged bucket.



- 4. Remove metal Bucket
 - Remove two washers.
 - Remove gasket (new gasket to be used when assembling to original condition).
 - Remove metal bucket (pressing).
 - Replace with new.

Installation

- 1. To install, reverse the removal procedure.



Item	Description
1	Star washer
2	Gasket
3	Metal bucket

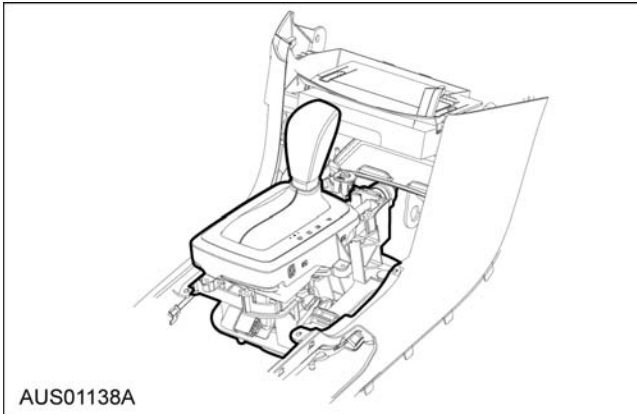


REMOVAL AND INSTALLATION (Continued)

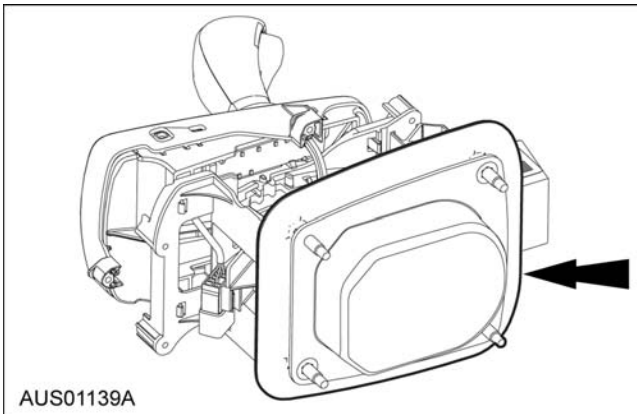
Base and Lever Assembly

Removal and Installation

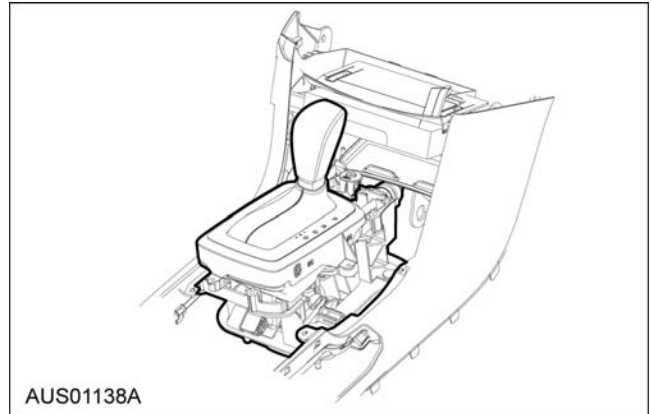
1. Remove centre console and other associated components. For additional information, refer to Section 501-12.
2. Remove shifter assembly from vehicle. For additional information, refer to gearshift assembly in this section.



3. View before and after replacement.



3. View before and after replacement of damaged spring.



4. Remove damaged spring.
 - Remove two washers.
 - Remove gasket (new gasket to be used when assembling to original condition).
 - Remove metal pressing.
 - Undo and remove screw.
 - Remove damaged spring. Place new spring on the base and secure with the screw. Reverse disassembly process when rebuilding to original condition.

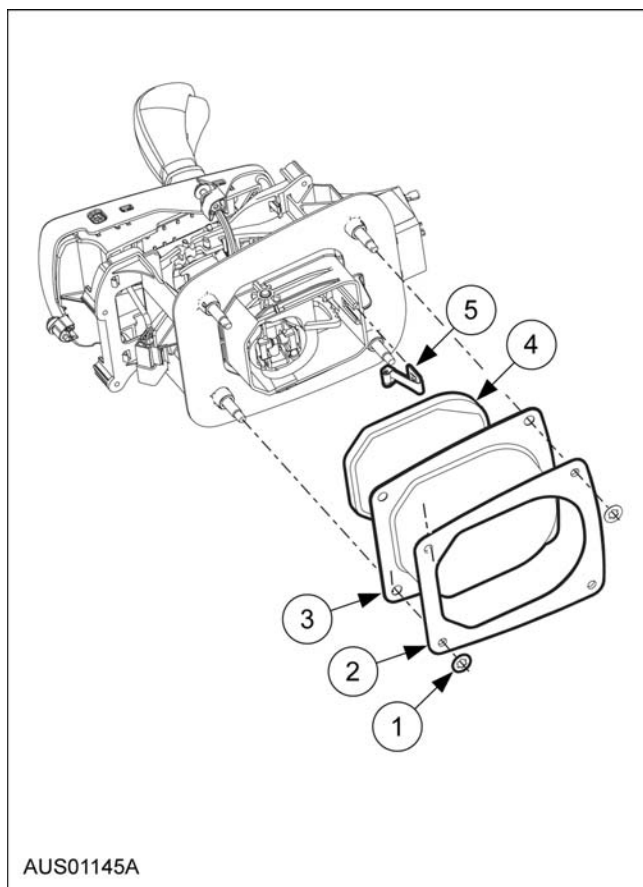
4. Disassemble and rebuild the top part of the assembly. Refer to housing sub assembly replacement in this section.
5. Replace faulty sub assembly.
6. Disassemble and rebuild the bottom part of the assembly. Refer to bucket replacement in this section.

Spring Leaf Detent

Removal and Installation

1. Remove centre console and other associated components. For additional information, refer to Section 501-12.
2. Remove shifter assembly from vehicle. For additional information, refer to gearshift assembly in this section.



REMOVAL AND INSTALLATION (Continued)

Item	Description
1	Star Washer
2	Gasket
3	Metal Bucket
4	Screw
5	Spring Leaf Detent

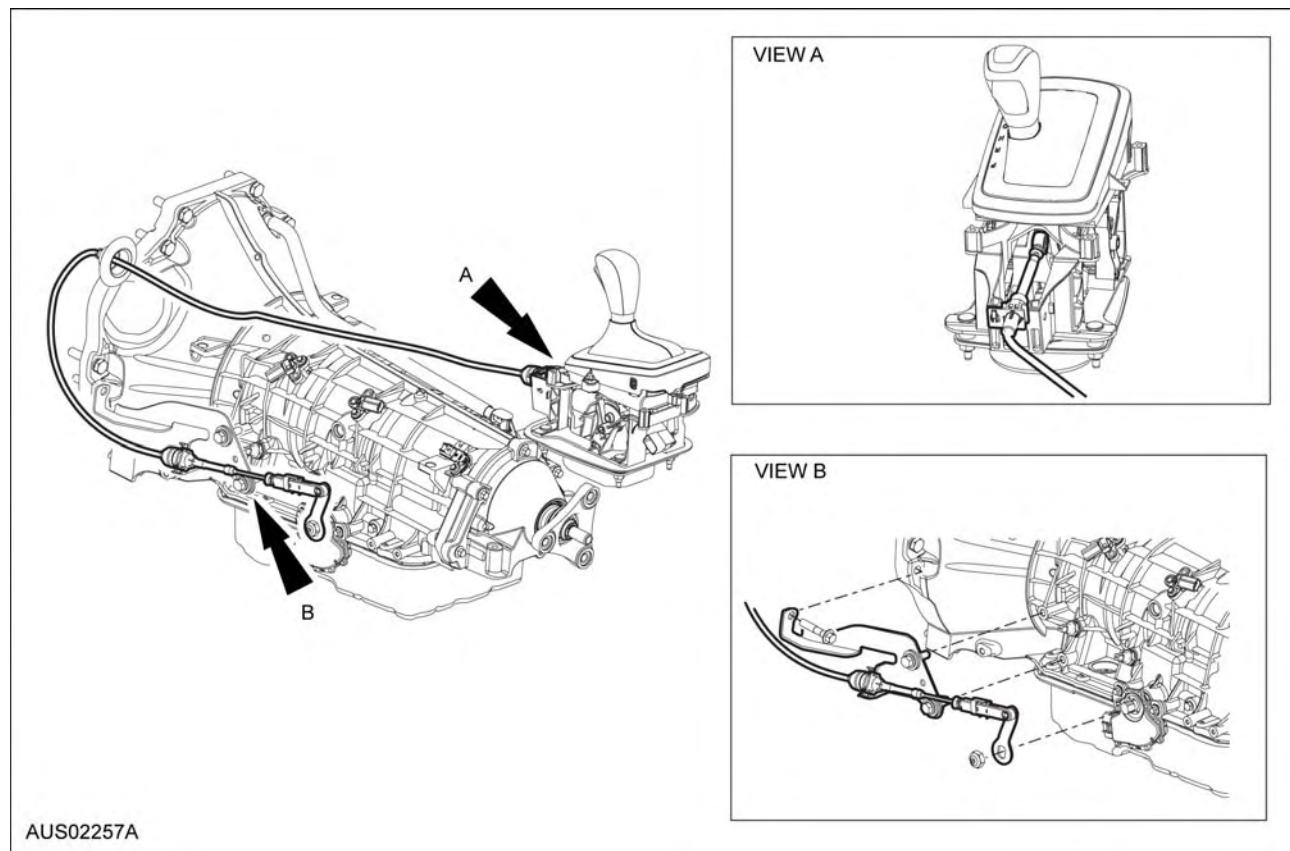
Selector Lever Cable**Removal**

1. Release locking tab from the transmission cable mount.
2. Disconnect the cable from the housing.
3. Use a screwdriver to release the cable push rod from the cable arm.

Installation

1. To reassemble simply push the cable end fitting back into the pin.



REMOVAL AND INSTALLATION (Continued)**I6 Selector Cable**

REMOVAL AND INSTALLATION (Continued)**V8 Selector Cable**