

## SECTION : 206-05 Parking Brake and Actuation

VEHICLE APPLICATION : 2008.0 Falcon

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## SPECIFICATIONS

### Torque Specifications

Description	Nm
Adjustment Nut	2-3
Parking Brake Screw-M6 (first 1000 vehicles only)	10.4-12.4
Parking Brake Screw-M8	20-30

The torque of the hardware is significant to the operation of the system.



## DESCRIPTION AND OPERATION

### Parking Brake - Console Mounted Auto-Adjuster

The parking brake is hand operated with an Auto-adjuster for cable relaxation.

The system is spring loaded and only locks fully at the first click. With the Banksia adjusted correctly the Cabin Lever should maintain the correct effort.

The equaliser in the cable system has a stud and nut. Adjusting this will have no effect on the lever travel. This is just an assembly method to ensure that with manufacturing variations in cable lengths, the full operating range of the self adjuster is maintained for relaxation adjustment.

If cables are changed, this setting should be checked and reset to ensure for full operating range of the self adjuster is re-established.

### Parking Brake - Sedan

The parking brake is hand operated.

The parking brake utilises a dedicated rear drum brake system. The service brake rotor also serves as the parking brake drum.

The operating cable is routed from the parking brake control assembly to the equalizer. The rear cables connect the equalizer assembly to the rear drum brakes.

**NOTE:** The following is to ensure correct cable/shoe settings, the five click position to check for locking wheels is not directly related to the effort/travel to hold the vehicle on a grade, which will vary dependent on a number of factors and could exceed five clicks.

### Parking Brake - Ute

Floor shift vehicles have a hand operated parking brake.

Column shift utility vehicles have a seat mounted, hand operated park brake with a return latch which allows the lever to return to the rest position after being engaged. The engagement status of the park brake is indicated by a warning lamp which is illuminated when the park brake is on. An audible warning chime is activated if the vehicle is driven away with the park brake engaged.

The parking brake utilises a dedicated rear drum brake system. The service brake rotor also serves as the parking brake drum.

The operating cable is routed from the parking brake control assembly to the equalizer. The rear cables connect the equalizer assembly to the rear drum brakes.

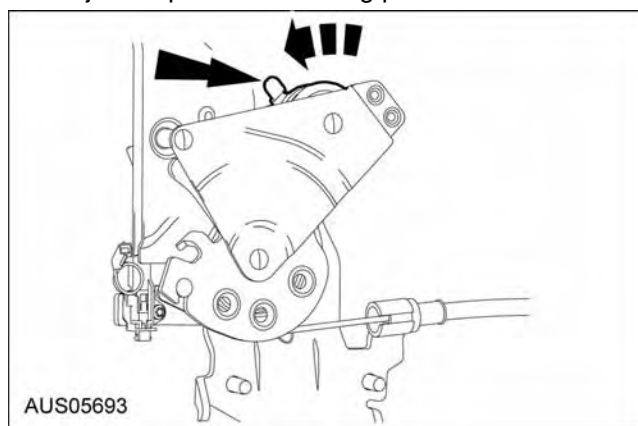
**NOTE:** The following is to ensure correct cable/shoe settings, the four click position to check for locking wheels is not directly related to the effort/travel to hold

the vehicle on a grade, which will vary dependent on a number of factors and could exceed 4 clicks.

### Parking Brake Auto-Adjuster Re-set

#### Hand-Operated (Floor Shift)

1. **IMPORTANT:** This is a 2 person job, one (a) in the vehicle cabin and one (b) under the vehicle.
2. (a) Fully release the park brake lever. Lift console boot.
3. (b) Pulls the equaliser to the rear of the vehicle. Force will have to be >150N.
4. (a) Pushes the switch lever forward behind the adjuster quadrant retaining pawl.



5. (a) then informs (b) to release the pressure on the equaliser allowing the adjuster quadrant to move back, max 5mm, with switch holding the quadrant in position.

### Parking Brake Auto-Adjuster Re-activation

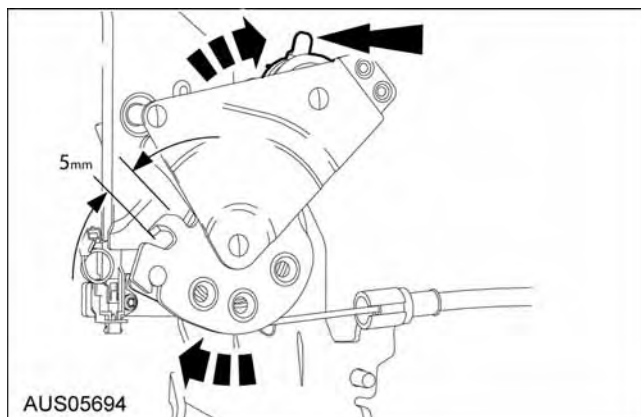
#### Hand-Operated (Floor Shift)

1. **IMPORTANT:** This is a 2 person job, one (a) in the vehicle cabin and one (b) under the vehicle.
2. (a) Fully release the park brake lever. Lift console boot.
3. (b) Pulls the equaliser to the rear of the vehicle. Force will have to be >150N.



**DESCRIPTION AND OPERATION (Continued)**

4. (a) Ensure that the pawl moves and that the switch is released backwards.



5. (a) then informs (b) to release the pressure on the equaliser allowing the adjuster quadrant to move to neutral position.

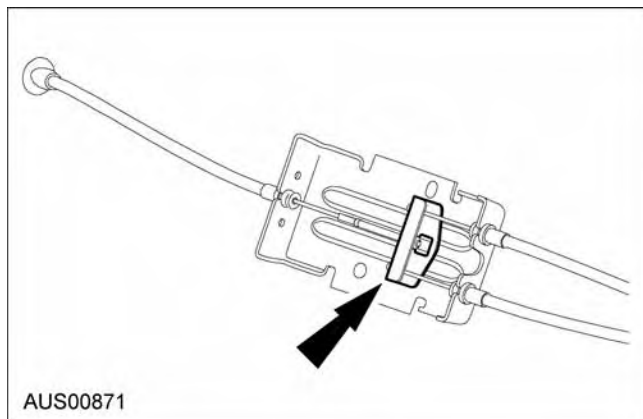
## GENERAL PROCEDURES

### Parking Brake Cable Operation

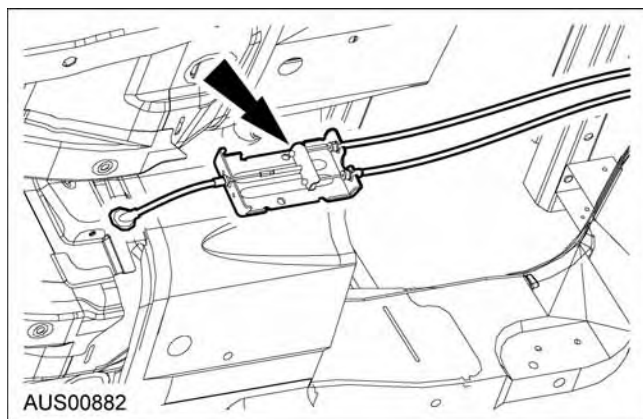
#### Hand-Operated (Floor Shift)

1. **IMPORTANT: Ensure rear shoes are correctly adjusted (as described later in this section). Failure to do so will result in reduced park brake effectiveness.**
2. Fully release the park brake lever. Re-apply lever one click only.
3. Wheel can turn and warning light extinguishes.
4. Apply the lever a further 3 clicks.
5. Check that the rear wheels cannot be rotated by hand.
6. Fully release the park brake lever and check rear wheels are free to turn by hand.
7. Check operating levers at park brake are in the 'OFF' position and that there is minimum clearance only between levers and cable eye.

#### Sedan



#### Ute



8. Check torque on p/clip tube mounting hardware.
9. Check P/B warning light operates by first click.
10. Check P/B returns to floor of it's own accord when in OFF position.

### Parking Brake Shoe Adjustment

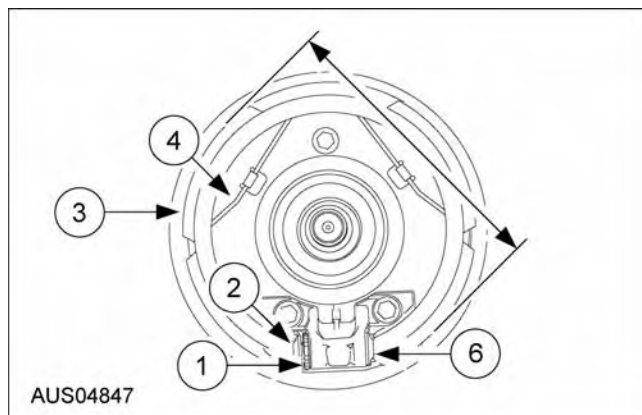
#### Adjustment

1. Raise the vehicle and suitably support.
2. Remove rear wheel.
3. Remove service disc brake caliper from the mounting plate. Refer to Section 206-04
4. Remove brake rotor by slowly turning and pulling outwards simultaneously keeping the brake rotor square with the axle. If the brake rotor jams whilst removing, do not force it off. Push the brake rotor back to its original position and attempt removal again.
5. Disconnect parking brake cable from the operating lever at the parking brake. Inspect any parts of doubtful strength or quality due to discolouration from heat or overstress, or are worn, they should be replaced.
6. Using a vernier caliper, measure shoe assembly diameter as close as practical to the centre of the lining material.

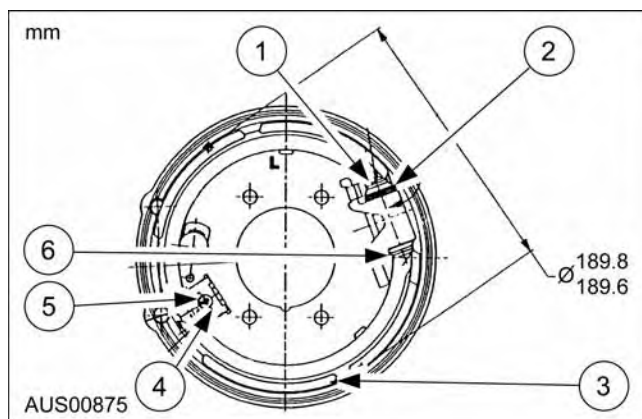


## GENERAL PROCEDURES (Continued)

### Sedan



### Ute

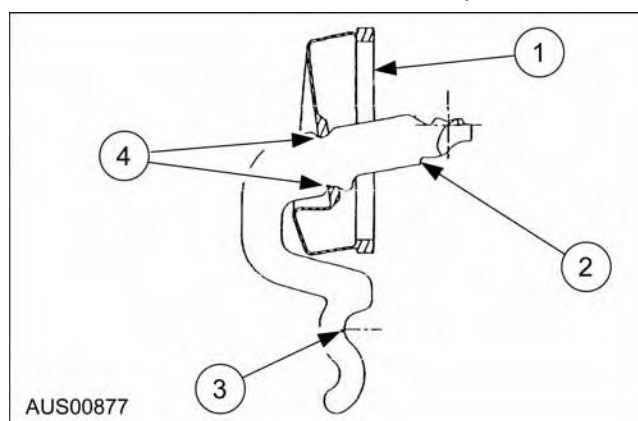


Item	Description
1	Adjusting Screen
2	Adjusting Nut
3	Shoe
4	Hold Down Spring
5	Screw
6	Tappet

7. Adjust shoe diameter to 189.6-189.8 mm by turning the adjuster nut clockwise to increase diameter.
8. Inspect brake rotor for wear and damage. Discard worn or damaged brake rotors.
9. Install brake rotor.
10. Install service disc brake caliper and torque mounting bolts to specification.
11. Install rear wheel.
12. Connect parking brake cable to the operating lever.
13. Repeat 2 to 12 for the opposite side parking brake.

## Major Parking Brake Service

1. Raise the vehicle.
2. Remove rear wheel, disc brake caliper and rotor.
3. Remove and discard:
  - Adjusting Nut
  - Adjusting Screw
  - Adjusting Pawl
  - Tappet
  - Pushrod
4. Remove and discard the operating lever and dust cover assembly.
5. Clean backing plate. The cleaning fluid must be a high flash point oil-free solvent such as trichloroethylene or acetane. These cleaning fluids are usually highly flammable and harmful if vapours are inhaled for prolonged periods. Manufacturer warnings and recommendations should be strictly adhered to. Ensure actuation cavity in backing plate is free from grease and any other contamination.
6. Install lever and dust cover assembly. Slide the lever onto the dust cover notches. Insert the lever and dust cover assembly into the backing plate with the lever cable retainer end positioned downward. Refit the dust cover by stretching it over the cast retainer on the back plate.



Item	Description
1	Dust Cover
2	Lever
3	Cable Retainer
4	Dust Cover Notches

7. Lubricate actuation cavity and tappet.



**CAUTION: Ensure cavity internal bore is fully covered with grease.**

8. Install adjustment pawl to the backing plate with pop rivet provided.
9. Adjustment pawls are left and right hand. Ensure correct fitment.



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**GENERAL PROCEDURES (Continued)**

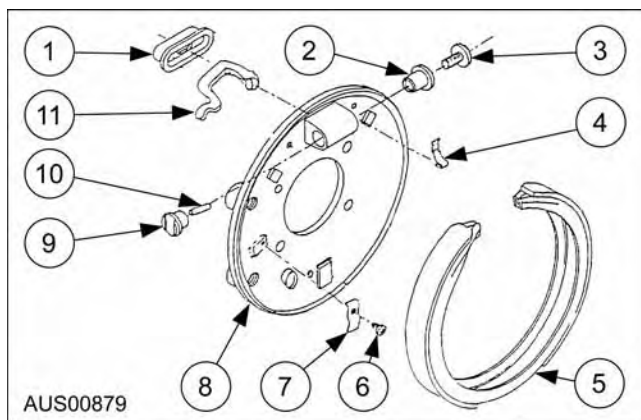
10. Install parking brake adjustment screw to fully home position in notched adjusting nut.
11. Back off 1/4 of a turn.
12. Install screw and nut assembly into the backing plate on the adjustment pawl side. Keep the shoe slot parallel with the backing plate face.
13. Install pushrod into tappet.
14. Install pushrod and tappet into backing plate. Ensure pushrod set correctly in lever socket by holding the lever into the backing plate whilst inserting pushrod and tappet.
15. Clean excess grease away using a clean rag.
16. Install shoe and lining assembly. Refer to Parking Brake Shoe Replacement in this section.
17. Repeat 2 to 14 for opposite side parking brake.



## REMOVAL AND INSTALLATION

### Parking Brake Shoes

Ute



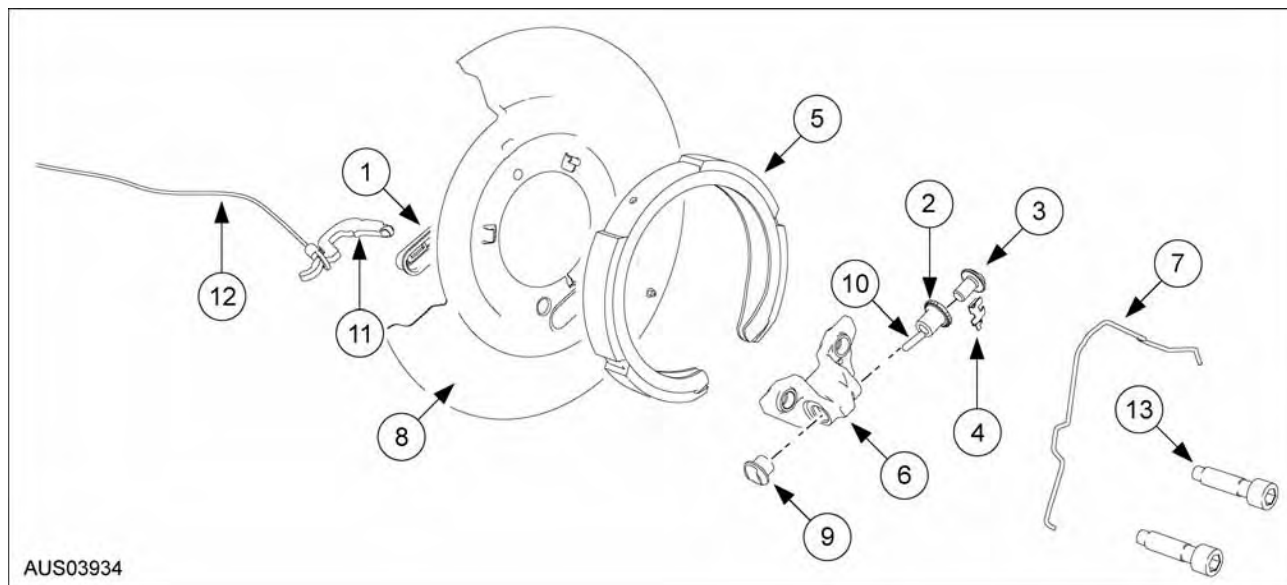
Item	Description
1	Boot
2	Adjuster Nut
3	Adjuster Screw
4	Adjuster Pawl
5	Shoe & Lining
6	Self tapping Screw
7	Hold Down Spring
8	Back Plate
9	Tappet
10	Pushrod
11	Lever





## REMOVAL AND INSTALLATION (Continued)

### Sedan



Item	Description
1	Boot
2	Adjuster Nut
3	Adjuster Screw
4	Adjuster Pawl
5	Shoe & Lining
6	Self tapping Screw
7	Hold Down Spring
8	Back Plate
9	Tappet
10	Pushrod
11	Lever
12	Handbrake cable
13	Adjuster Bracket Bolts

### Removal and Installation

1. Raise the vehicle.
2. Remove rear wheel, disc brake caliper, rotor and cable.
3. Remove or disconnect hold-down springs by undoing its attaching screw.
4. Remove the parking brake shoe by gently lifting the shoe over the axle flange, the shoe will pivot from the actuation mechanism. Once clear of the flange, disconnect from the actuation mechanism and discard.



**CAUTION: Ensure the actuation mechanism is not disturbed. An elastic band may be used to contain the mechanism.**

5. Clean debris and dust away from the backing plate using a clean rag.

6. Adjust parking brake adjustment screw to fully home position in the notched adjustment nut then back off 1/4 of a turn.
7. Align the shoe slots in both the adjusting screw and the tappet to be parallel with the backing plate face.
8. Install new shoe assembly.



**CAUTION: Ensure hands are clean. Position shoe assembly over the axle shaft. The shoe will be on the outboard side of the actuation mechanism. Slide the shoe towards the hold-down spring engaging the shoe tips in both the adjusting screw and the tappet slots. The shoe assembly must be resting against 3 pads on the backing plate with the branding facing outboard.**

9. Install new hold-down springs and their attaching screws. Tighten screw to 2-5 Nm.



**CAUTION: Ensure the spring and screw are fully seated. Inspect shoe assembly position. Shoe must be central on the backing plate and both tips located in the slots correctly. Check the actuation mechanism. Manually apply the parking brake operation lever. If the mechanism does not operate, the parking brake must be disassembled and reassembled.**

10. Adjust shoe diameter. Refer to parking brake shoe adjustment in this section.
11. Repeat procedure for the opposite side parking brake.

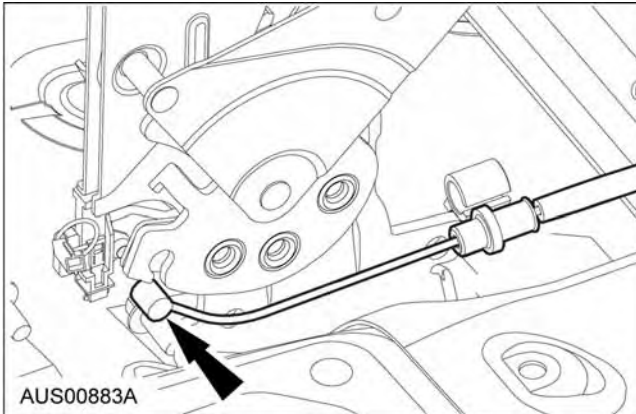


## REMOVAL AND INSTALLATION (Continued)

### Parking Brake Handle

#### Removal

1. Remove driver seat.
2. Remove 3 M8 Screws from handle.
3. Remove HEX Screw 32x14.
4. Release cable from park brake.



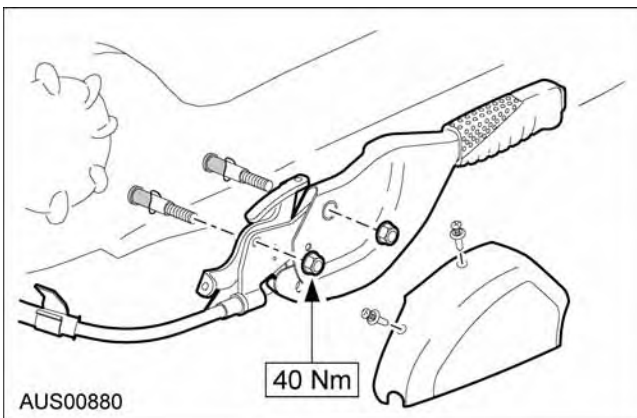
#### Installation

1. Reverse removal procedure.

### Parking Brake Lever - Column Shift (Ute)

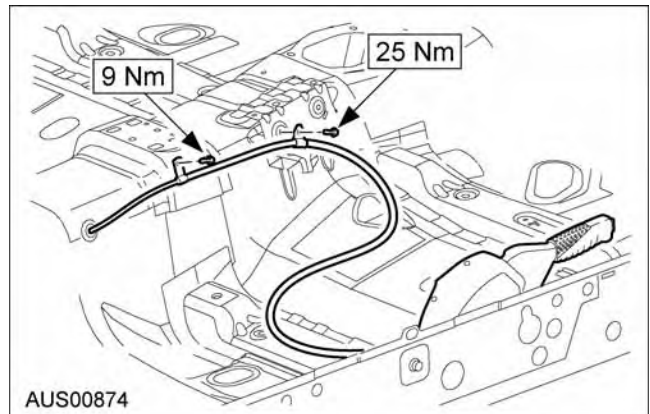
#### Removal

1. Remove 2 retaining bolts.



2. Remove bracket outboard of RH front seat assembly.
3. Remove 2 HEX Screws 32x14.
4. Rotate P-Clips.

5. Release cable from park brake.



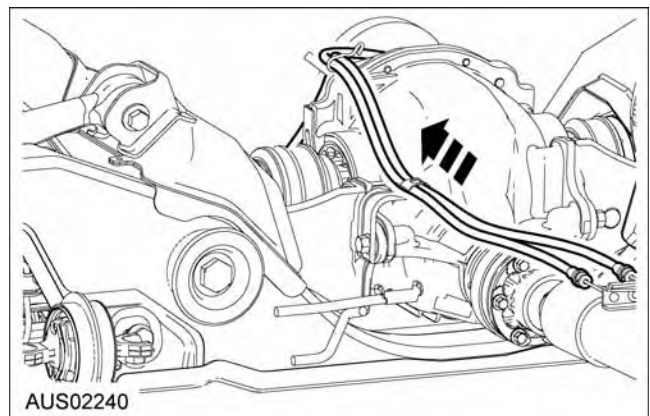
#### Installation

1. Reverse removal procedure.

### IRS Parking Brake Cable Routing

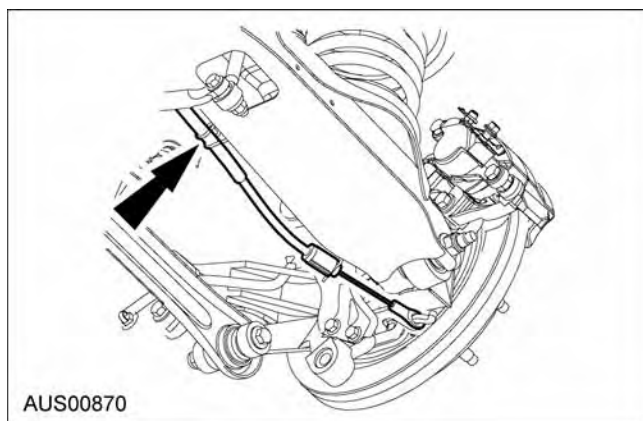
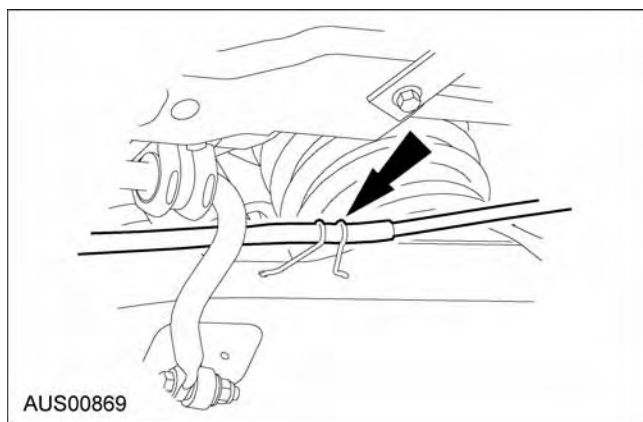
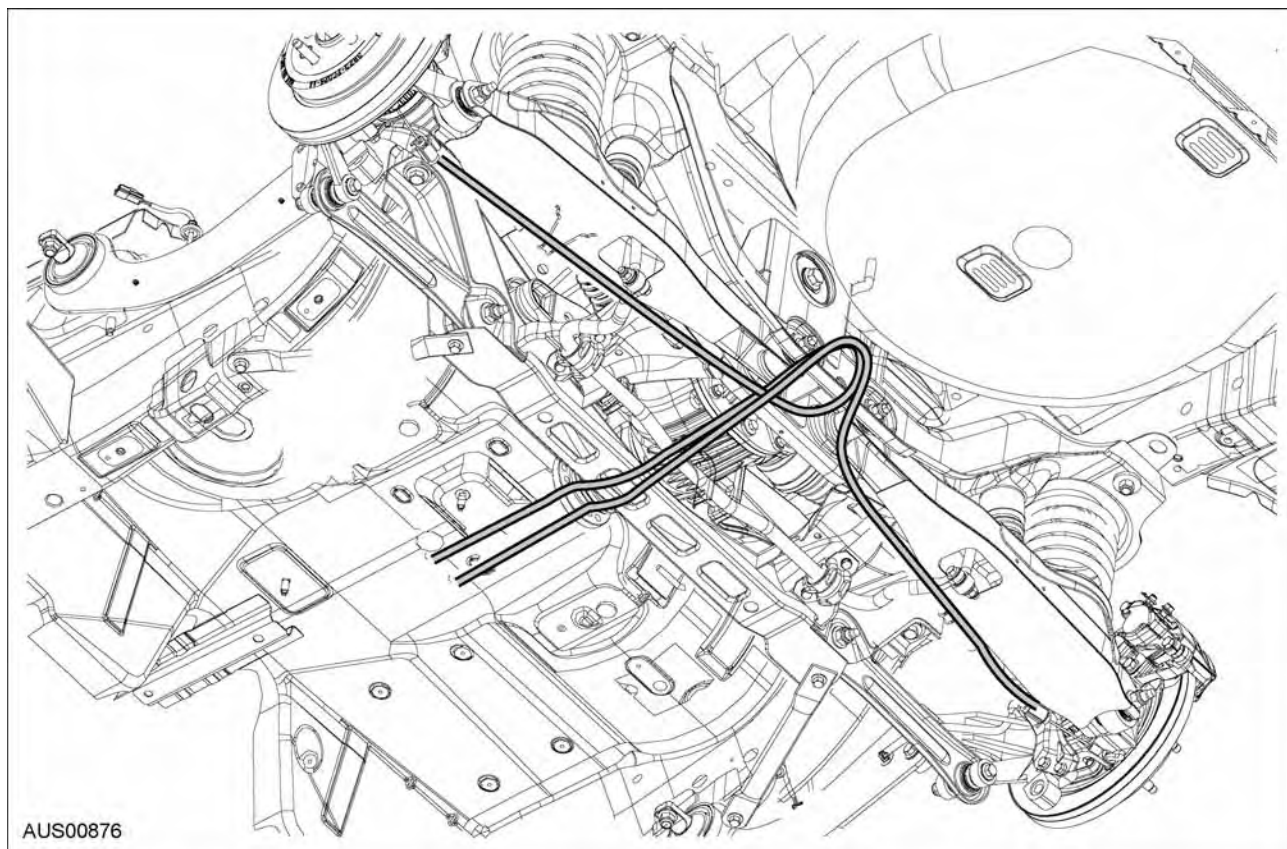
#### Removal

1. Remove parking brake handle as shown previously in this section.
2. Route Park Brake cable to rear of Differential.



3. Unclip cable as shown.

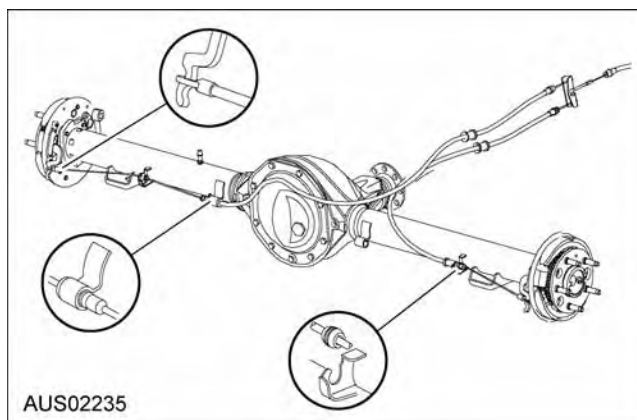


**REMOVAL AND INSTALLATION (Continued)****Installation**

1. Reverse removal procedure.

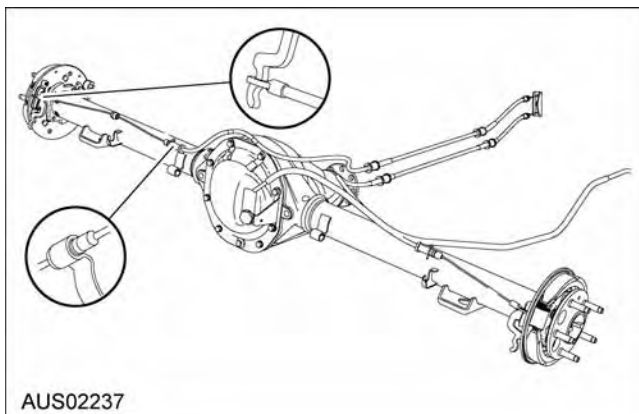
**Beam Axle Parking Brake Cable Routing****Removal**

1. Loosen and remove adjuster nut.
2. Disconnect cables from equaliser bracket, support brackets and from Banksia lever.

**Ute - Petrol**

## REMOVAL AND INSTALLATION (Continued)

### Ute - LPG



**NOTE:** Note on LPG Ute there are two sets of cotton reels to support cable over the length of the LPG tank.

### Installation

1. Route cables per diagrams above.
2. Ensure cable ferrules and white clips are seated into equaliser.
3. Fit adjuster nut and adjust system as per sedan.

