

# LOCKING HUBS

## 1991 Mitsubishi Montero

1991 DRIVE AXLES  
Locking Hubs

Mitsubishi: Montero, Pickup

### DESCRIPTION

Automatic hubs are engaged by rotational force of axle shaft when 4WD is selected at transfer case. Automatic hubs disengage when 2WD is selected or vehicle is driven in Reverse. Cams, brakes and springs are used to lock or unlock automatic hubs.

Engagement is accomplished through gears and spring actions within hub. When hub is locked, hub brake engages inner hub, which is connected to axle shaft by inner splines of hub. Hub brake is connected to hub body by outer splines.

### REMOVAL

1) Hub must be unlocked. To unlock hub, place transfer case lever in 2H position and move vehicle in Reverse approximately 4-6 feet.

2) Remove cover from locking hub. If hub cover cannot be loosened by hand, wrap shop towel around cover and use an oil filter wrench to loosen cover.

3) Raise and support vehicle. Remove wheel assembly. Using snap ring pliers, remove snap ring and shim from end of axle. Remove locking hub retaining bolts. Remove locking hub.

### INSTALLATION

1) To install, reverse removal procedure. Apply sealant to contact areas between locking hub assembly and hub/rotor assembly. Ensure sealant is NOT applied on outer areas of hub/rotor assembly toward brake contact areas.

2) Align locking hub assembly key area with steering knuckle key way area. Loosely install locking hub assembly on hub/rotor assembly. Ensure locking hub assembly fully contacts hub/rotor assembly.

3) Install locking hub retaining bolts. Tighten bolts to 36-43 ft. lbs. (49-58 N.m). Using spring scale attached to wheel stud, measure turning resistance required to rotate hub/rotor assembly.

4) Turning resistance should NOT exceed 3.1 lbs. (1.4 kg). If turning resistance exceeds specification, check for incorrect installation of locking hub assembly or components.

5) Install shim and snap ring on drive axle. Rotate drive axle until maximum end play is obtained. Using a dial indicator, check drive axle end play.

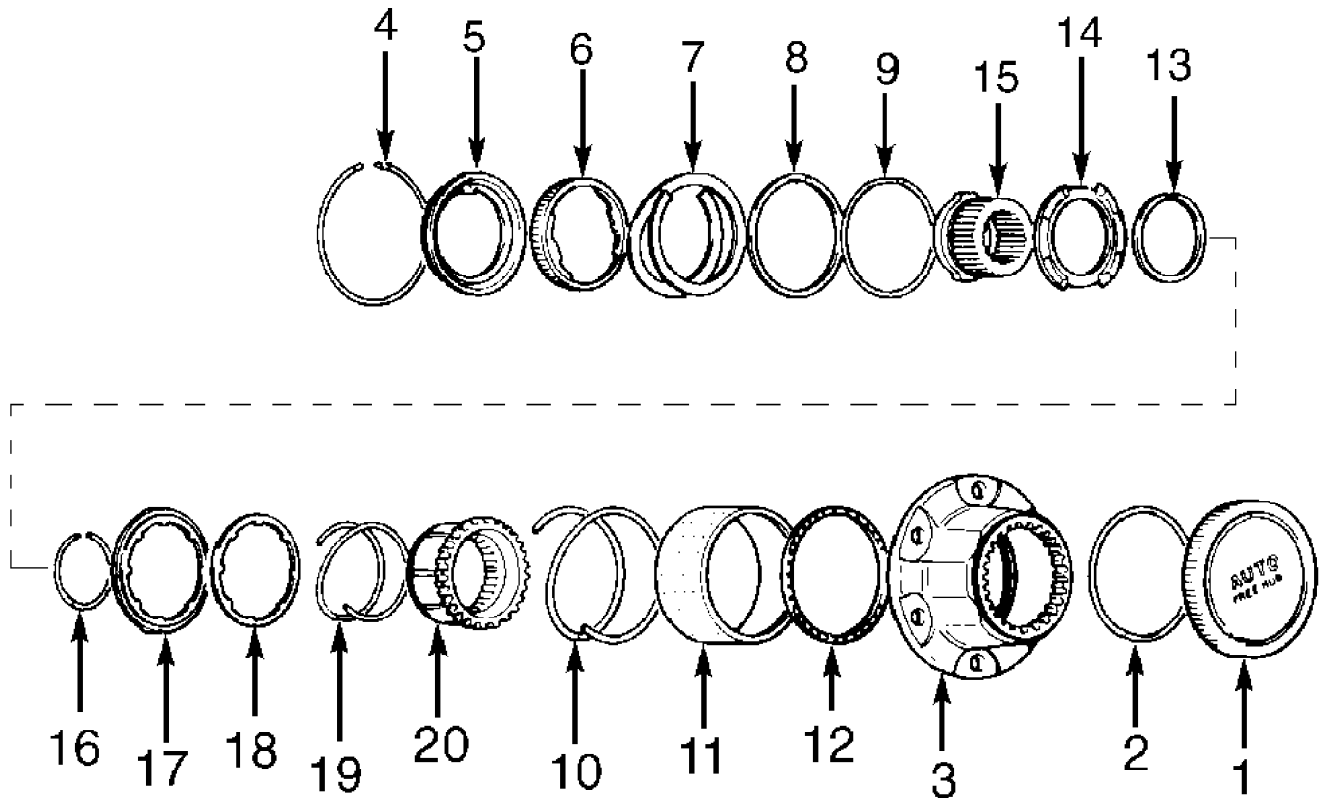
6) Drive axle end play should be .008-.020" (.20-.51 mm). If axle end play is NOT within specification, adjust end play by changing axle shaft shim. Install hub cover. Tighten hub cover 13-25 ft. lbs. (18-34 N.m).

### OVERHAUL

### DISASSEMBLY

1) Remove locking hub. See REMOVAL & INSTALLATION. Push brake "B" in hub housing and remove housing "C" ring. See Fig. 1. Using Adapter (MB990811-01), lightly press drive gear assembly and remove "C" ring from retainer "B". Slowly release drive gear assembly.

2) Remove drive gear assembly, slide gear assembly and return spring. Remove slide gear "C" ring. Remove shift spring.



- |                              |                          |
|------------------------------|--------------------------|
| 1. Hub Cover                 | 11. Retainer "B"         |
| 2. "O" Ring                  | 12. Retainer Bearing     |
| 3. Housing                   | 13. Drive Gear Snap Ring |
| 4. Housing "C" Ring          | 14. Retainer "A"         |
| 5. Brake "B"                 | 15. Drive Gear           |
| 6. Brake "A"                 | 16. Slide Gear "C" Ring  |
| 7. Brake Spring              | 17. Cam                  |
| 8. Housing Snap Ring         | 18. Spring Holder        |
| 9. "C" Ring For Retainer "B" | 19. Shift Spring         |
| 10. Return Spring            | 20. Slide Gear           |

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Fig. 1: Exploded View of Locking Hub  
 Courtesy of Chrysler Motors.

INSPECTION

1) Check drive gear and slide gear splines for damage. Check cam portion of retainer "A" for wear or damage. Check cam for wear and damage. Check slide gear and housing tooth surfaces for damage. Check retainer "B" and housing contact surfaces for wear and damage.

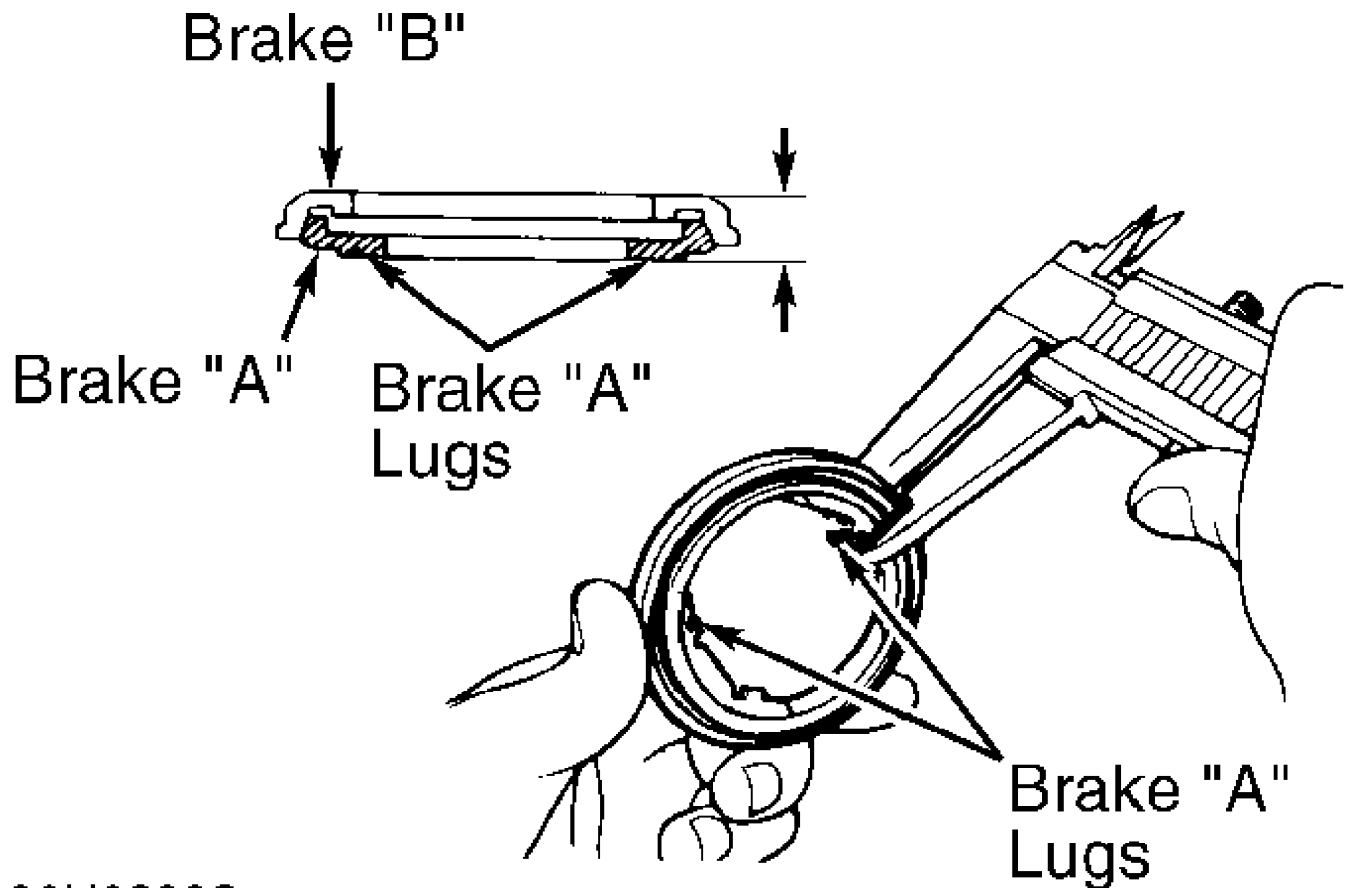
2) Check brake assembly thickness. See Fig. 2. Assemble brake "A" and brake "B". Using slide calipers, measure thickness of assembled brake at both brake "A" lugs.

3) Standard thickness is .413" (10.49 mm). Minimum thickness is .378" (9.60 mm). If measured thickness is less than minimum thickness, replace brake "A" and brake "B".

4) Check length of return spring. Measure length "A" of spring. Ensure length "A" is 1.38" (35.1 mm). See Fig. 3. If length "A" is NOT as specified, replace return spring.

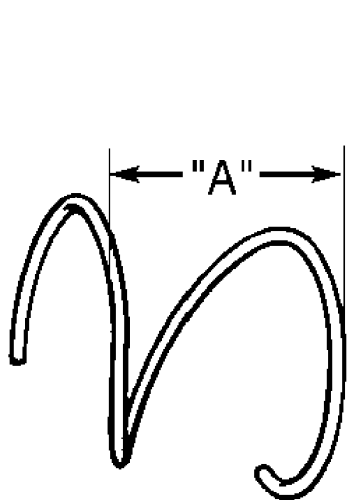
5) Check length of shift spring. Measure length "B" of spring. Ensure length "B" is 1.18" (30.0 mm). See Fig. 3. If length "B" is NOT as specified, replace shift spring.

Reassembly Pack grooves of retainer "B" with multipurpose grease and apply grease to attaching surfaces of all components. To complete assembly, reverse disassembly procedure.

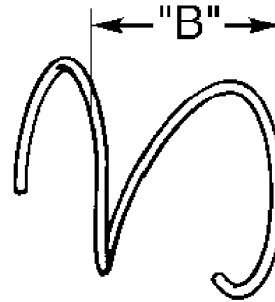
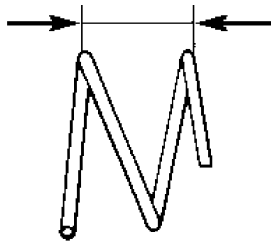


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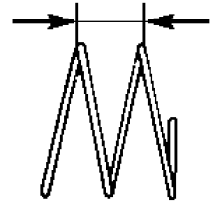
Fig. 2: Measuring Brake Assembly Thickness  
Courtesy of Chrysler Motors.



**RETURN SPRING**



**SHIFT SPRING**



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Fig. 3: Measuring Lengths of Return Spring & Shift Spring  
 Courtesy of Chrysler Motors.

**TORQUE SPECIFICATIONS**

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Application	Ft. Lbs. (N.m)
Hub Cover .....	13-25 (18-34)
Locking Hub Bolts .....	36-43 (49-58)