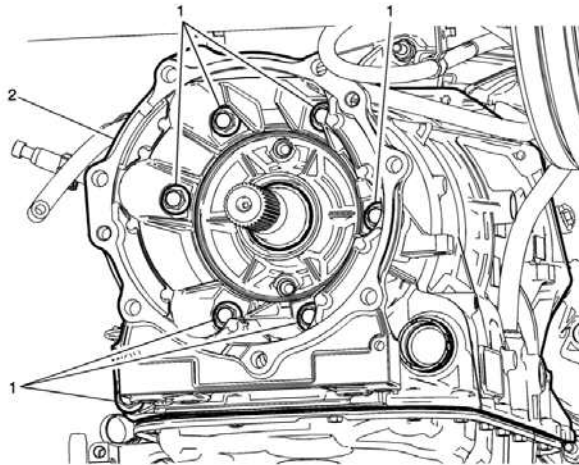


2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Case Extension and Gasket Replacement

Callout

Component Name

Preliminary Procedures

1. Remove the transfer case. Refer to Transfer Case Replacement.
2. Remove the transmission mount. Refer to Transmission Mount Replacement.
3. Disconnect the vent hose from the extension case.
4. Use a suitable transmission jack to support the transmission.
5. Use a flat adaptor on the transmission jack to support the transmission resting on the fluid pan.

Extension Case Fasteners (Qty: 7)

Caution: Refer to Fastener Caution.

1

Tighten

55 Y (41 lb ft)

2

Extension Case

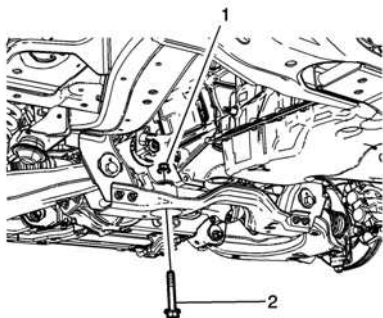
2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

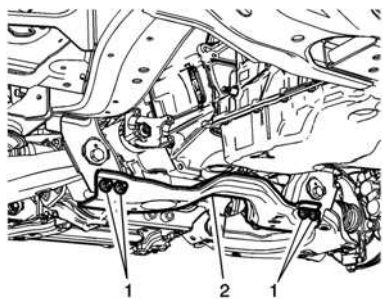
Fuel Delivery: | Fuel:

[Removal Procedure](#)

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the engine protection shield. Refer to Engine Protection Shield Replacement.
3. Support the front differential with a transmission jack stand.

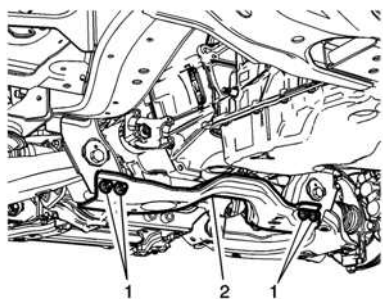


4. Remove the bolt (2) and nut (1) from the crossmember to the front differential.



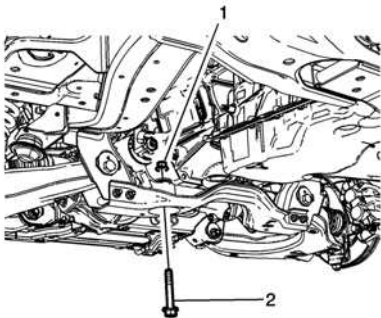
5. Remove the 4 bolts and nuts (1) from the frame.
6. Remove the front crossmember (2).

[Installation Procedure](#)



1. Install the front crossmember (2).
- Caution:** Refer to Fastener Caution.
2. Install 4 bolts and nuts (1) in the frame but do not tighten.

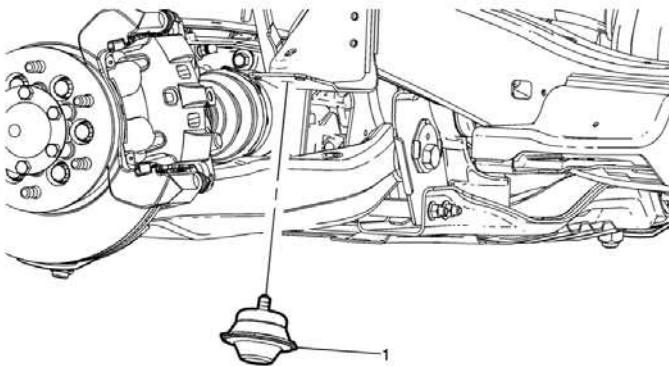
Drivetrain and Front Suspension Frame Front Crossmember Replacement (4WD Manual Transmission)



3. Install the bolt (2) and nut (1) in the crossmember to the front differential but do not tighten.
4. Tighten the 4 bolts to **56 Y (41 lb ft)** in the frame.
5. Remove the transmission jack stand from the front differential.
6. Tighten the bolt to **160 Y (118 lb ft)**.
7. Install the engine protection shield. Refer to Engine Protection Shield Replacement.
8. Remove the supports and lower the vehicle.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Front Shock Absorber Lower Bumper Replacement

Callout

Component Name

Preliminary Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.

Front Lower Control Arm Bumper

Caution: Refer to Fastener Caution.

Procedure

1

1. Using the *CH 50888* socket
, remove the bumper
2. Using the *CH 50888* socket and a torque wrench, tighten to
Tighten
106 Y (78 lb ft)

Special Tools

CH 50888 Socket

For regional equivalent tools, refer to Special Tools.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

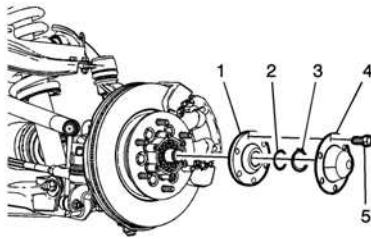
Special Tools

- CH-36827 Hub Socket
- CH-50786 Oil Seal Installer
- CH-50797 Inner Bearing cup Installer
- CH-50814 Outer Bearing Cup Installer
- GE-8092 Universal Drive Handle

For regional equivalent tools, refer to Special Tools.

Removal Procedure

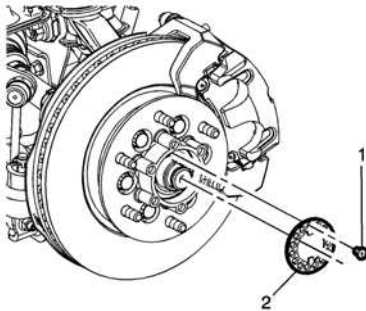
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.



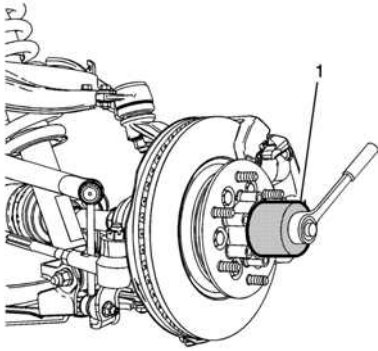
3. Remove the dust cover (4) and the dust cover bolts (5).

Note: DO NOT reuse the snap ring. Replace with NEW only.

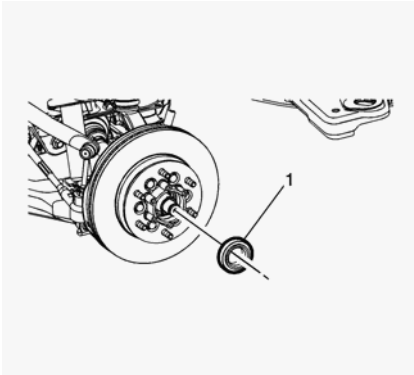
4. Remove and discard the snap ring (3).
5. Remove the shim (2) and the front wheel bearing adjust nut retainer (1).



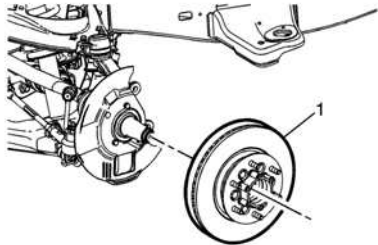
6. Remove the 3 screws (1) and the lock washer (2).



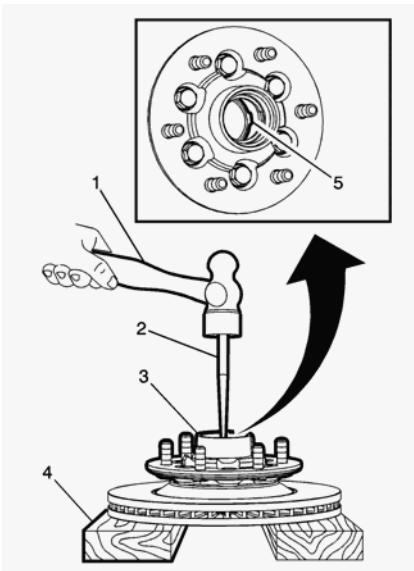
7. Using the CH-36827 socket (1) and a ratchet wrench, remove the lock nut.
8. Remove the front brake caliper mounting bracket. Refer to Front Brake Caliper Bracket Replacement.



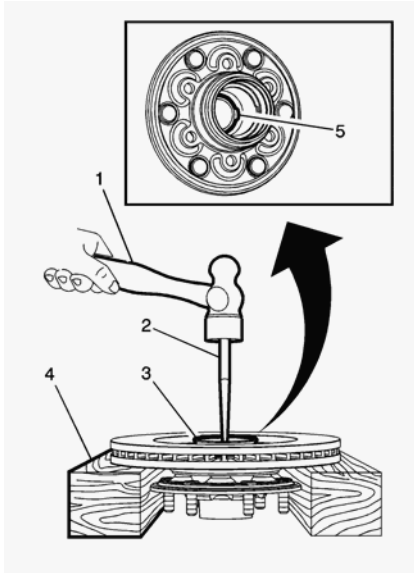
9. Remove the outer bearing race (1).



10. Remove the brake rotor/wheel bearing hub assembly (1).



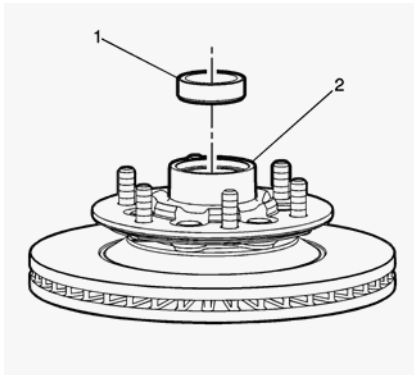
11. Position the brake rotor/wheel bearing hub assembly (3) on 2 blocks of wood (4).
12. Position a punch on the inner bearing cup (5).
13. Using a hammer (1) and punch (2), remove the inner bearing cup (5).



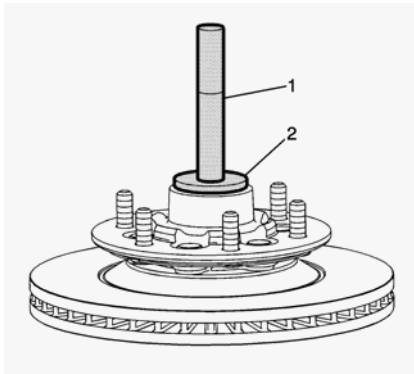
14. Position the brake rotor/wheel bearing hub assembly (3) on 2 blocks of wood (4).
15. Position a punch on the outer bearing cup (5).
16. Using a hammer (1) and punch (2), remove the outer bearing cup (5).
17. If replacing the wheel bearing hub, separate the brake rotor from the wheel bearing hub. Refer to Front Brake Rotor Replacement.

Installation Procedure

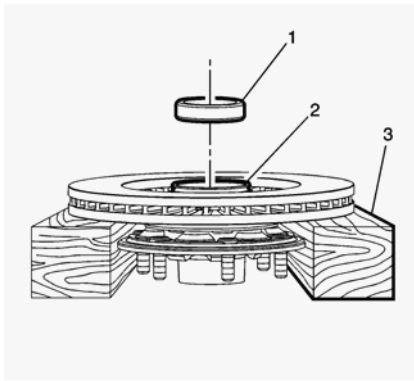
1. Install the wheel bearing hub to the brake rotor, if removed. Refer to Front Brake Rotor Replacement.



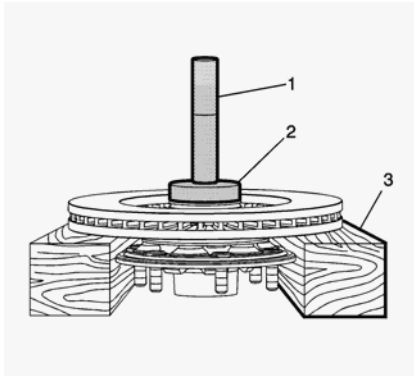
2. Position the outer wheel bearing cup (1) in the brake rotor/wheel bearing hub (2).



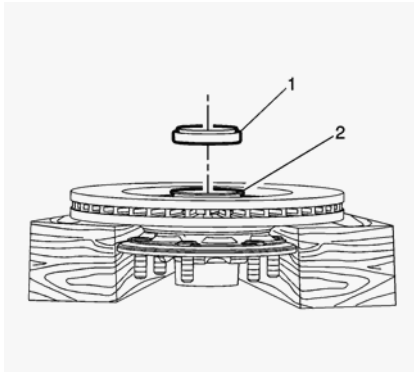
3. Using the GE-8092 handle (1) and the CH-50814 installer (2), install the outer bearing cup.



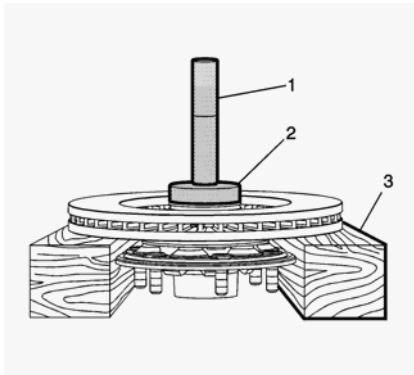
4. Position the inner wheel bearing cup (1) in the wheel bearing hub (2).



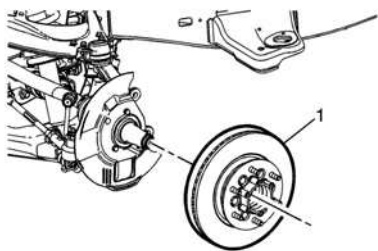
5. Using the *GE-8092* handle (1) and the *CH-50797* installer (2), install the inner wheel bearing cup.
6. Install the inner bearing race in the front brake rotor/wheel hub assembly.
7. Pack the inner wheel bearing race with the proper wheel bearing grease.



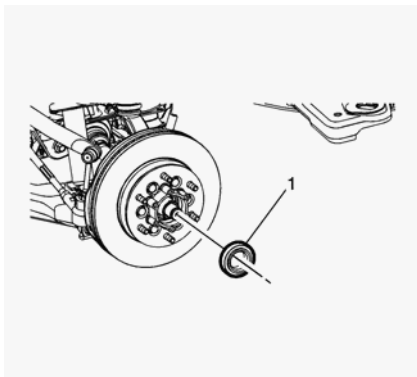
8. Position the wheel bearing seal (1) in the front brake rotor/wheel bearing hub (2).



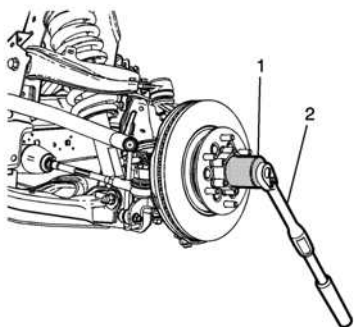
9. Using the *GE-8092* handle (1) and the *CH-50786* installer (2), install the wheel bearing seal.



10. Install the brake rotor/wheel bearing hub assembly (1) on the axle.
11. Pack the wheel bearing with the proper wheel bearing grease.

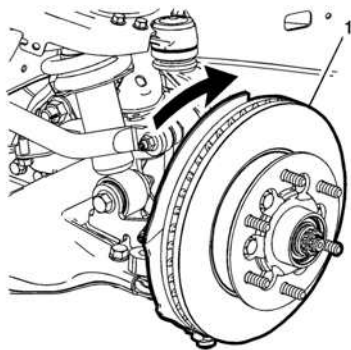


12. Install the outer wheel bearing race (1).

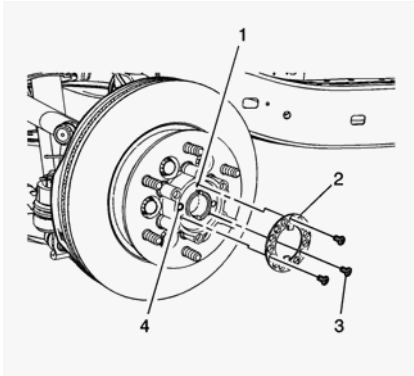


Caution: Refer to Fastener Caution.

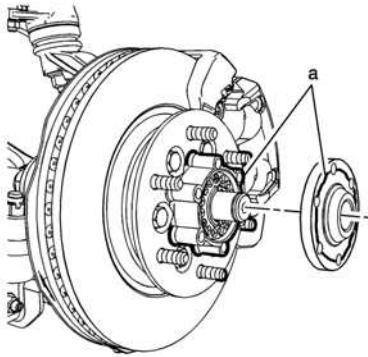
13. Using the CH-36827 socket (1) and the torque wrench (2), tighten the nut to **30 Y (22 lb ft)** for new bearings and seals.



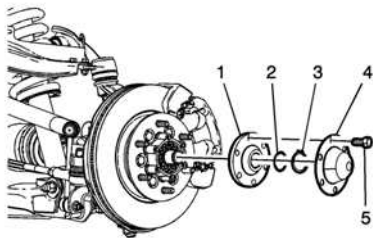
14. Freely turn the disc (1) 10 turns.
15. Loosen the nut half turn.
16. Repeat steps 13, 14 and 15 twice more for a total of three time.



17. Install lock plate (1) and the washer (2).
18. Align the 3 holes in the lock washer (2) with the matching holes in the lock plate (1).
19. If the 3 holes in the lock washer (2) and the lock plate (1) do not align, rotate the lock plate (1) just enough to align the holes.
20. Tighten the retaining screws (3) until the head of the screw is just below the lock washer (2).
21. Install the brake caliper mounting bracket. Refer to Front Brake Caliper Bracket Replacement.



22. Apply a small amount of sealant on the contact surfaces (a) of the wheel hub and the spacer.



23. Install the spacer (1), shim (2), the NEW snap ring (3).
24. Position the front wheel bearing the dust cover (4) on the wheel hub.
25. Install and tighten the bolts (5) to **6 Y (53 in lb)**.
26. Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.
27. Remove the support and lower the vehicle.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

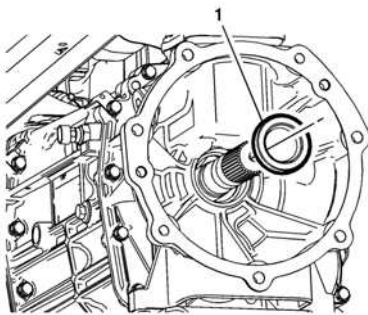
Special Tools

DT 50861 Bearing Cone Installer

For equivalent regional tools, refer to Special Tools.

[Removal Procedure](#)

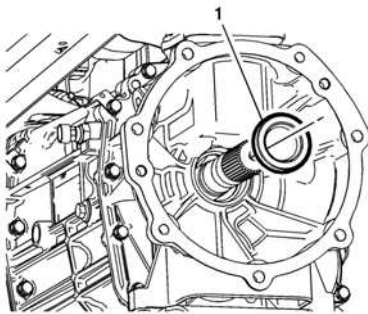
1. Remove the transfer case assembly. Refer to Transfer Case Replacement.



2. Install two self-tapping screws 180 degrees apart into the old seal, using pliers or an equivalent, remove the rear transmission housing oil seal (1) from the transmission housing.

[Installation Procedure](#)

1. Coat the NEW seal lip with the recommended fluid.

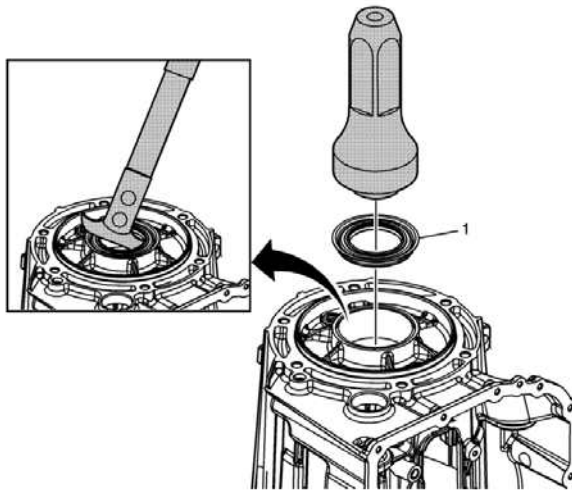


2. Using the DT 50861 installer and a hammer, install the NEW rear transmission housing oil seal (1).
3. Check the transmission fluid level. Add if necessary. Refer to Transmission Fluid Level Inspection.
4. Install the transfer case assembly. Refer to Transfer Case Replacement.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Output Shaft Seal Replacement

Callout

Output Shaft Seal Assembly

Caution: Refer to Seal Reuse Caution.

Special Tool

1

- EN 37212 Front Output Shaft Seal Installer (6L50)
- DT 38693 Seal Installer (6L80)
- EN 45000 Seal Remover

For equivalent regional tools, refer to Special Tools.

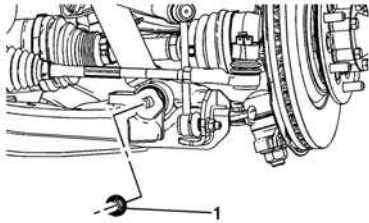
Component Name

2013 Chevrolet Colorado

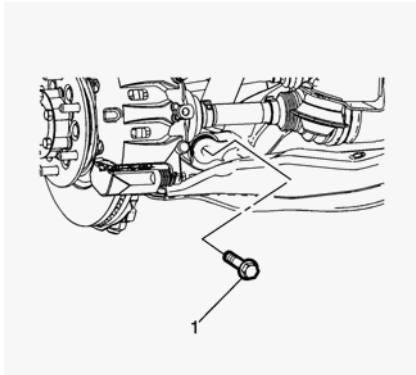
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

[Removal Procedure](#)

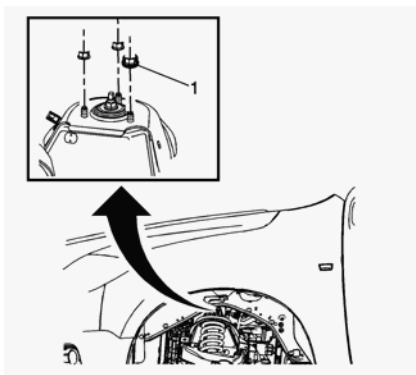
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.



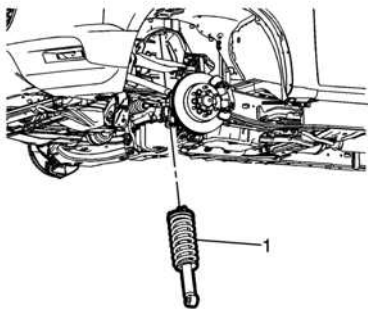
3. Remove the lower shock absorber nut (1).



4. Remove the lower shock absorber bolt (1).
5. Remove the lower control arm. Refer to Lower Control Arm Replacement.

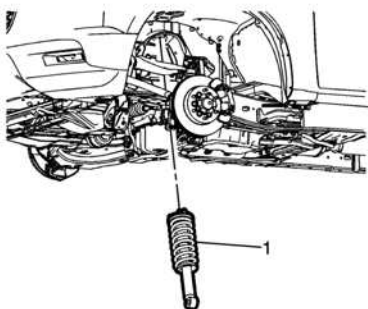


6. Remove the front shock absorber mounting nuts (1).

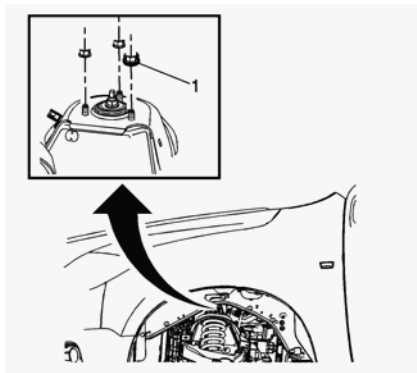


7. Remove the front shock absorber assembly (1) from the shock suspension bracket.

[Installation Procedure](#)

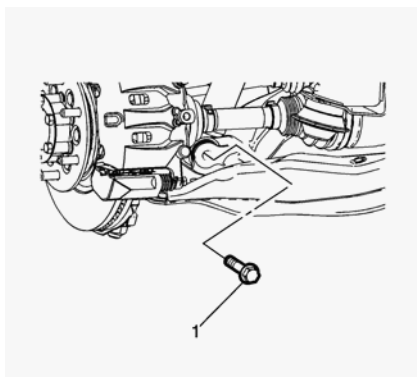


1. Position the front shock absorber (1) in the shock suspension bracket.



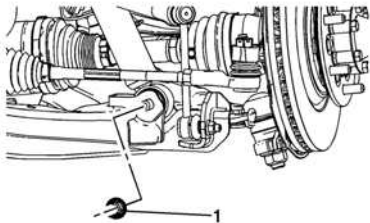
Caution: Refer to Fastener Caution.

2. Install and tighten the front shock absorber mounting nuts (1) to **55 Y (41 lb ft)**.
3. Install the lower control arm assembly. Refer to Lower Control Arm Replacement.



4. Install the lower shock absorber bolt (1).

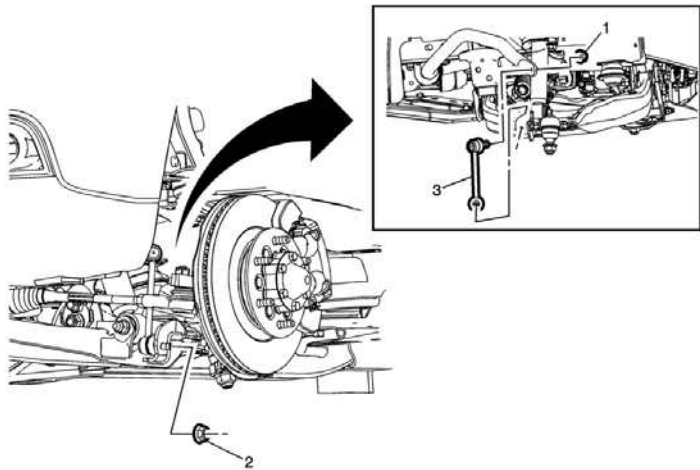
Shock Absorber and Spring Removal and Installation (4WD)



5. Install the lower shock absorber nut (1) and tighten the nut to **93 Y (69 lb ft)**.
6. Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.
7. Remove the support and lower the vehicle.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Stabilizer Shaft Link Replacement

Callout	Component Name
Preliminary Procedure	

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the tire and wheel assemblies. Refer to Tire and Wheel Removal and Installation.

Front Stabilizer Shaft Link Nut

Caution: Refer to Fastener Caution.

Procedure

1

Use the proper size Allen wrench to hold the stabilizer shaft link stud from rotating while loosening the stabilizer shaft link nut.

Tighten

50 Y (37 lb ft).

Front Stabilizer Shaft Nut

Procedure

2

Use the proper size Allen wrench to hold the stabilizer shaft link stud from rotating while loosening the stabilizer shaft link nut.

Tighten

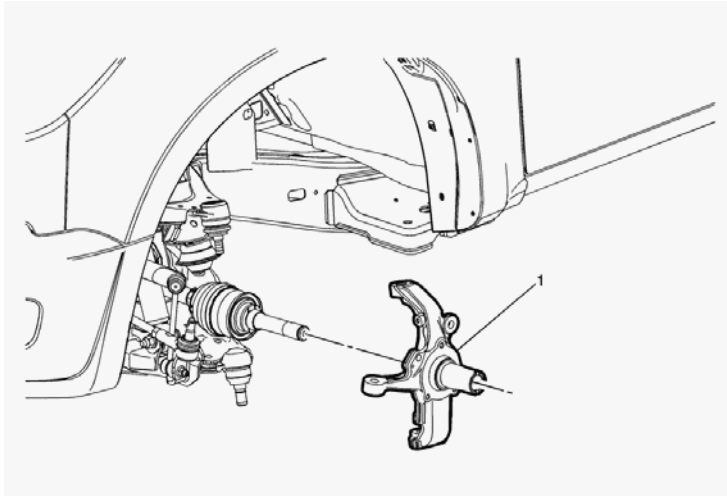
50 Y (37 lb ft).

3

Front Stabilizer Shaft Link

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Steering Knuckle Replacement

Callout

Component Name

Preliminary Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.
3. Remove the speed sensor from the steering knuckle. Refer to Front Wheel Speed Sensor Replacement.
4. Remove steering linkage outer tie rod from the steering knuckle. Refer to Steering Linkage Outer Tie Rod Replacement.
5. Remove the front brake shield. Refer to Front Brake Shield Replacement.

Steering Knuckle

Procedure

1

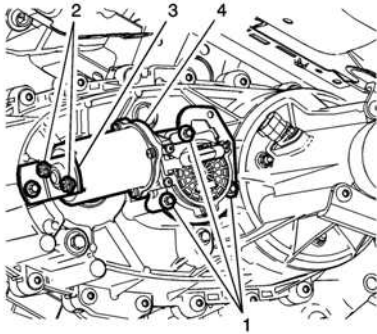
1. Separate the lower ball joint from the steering knuckle. Refer to Front Lower Control Arm Ball Stud Replacement.
2. Separate the upper ball joint from the steering knuckle. Refer to Front Upper Control Arm Ball Stud Replacement.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

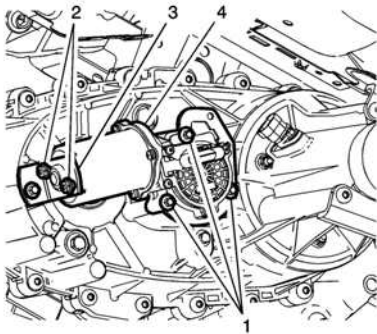
[Removal Procedure](#)

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Disconnect the electrical connector from the actuator motor.



3. Remove the four actuator motor fasteners (1).
4. Remove the actuator motor (4) from the transfer case.
5. Remove the actuator motor bracket fasteners (2).
6. Remove the bracket (3) from the actuator motor (4).

[Installation Procedure](#)



1. Position the bracket (3) on the actuator motor (4).

Caution: Refer to Fastener Caution.

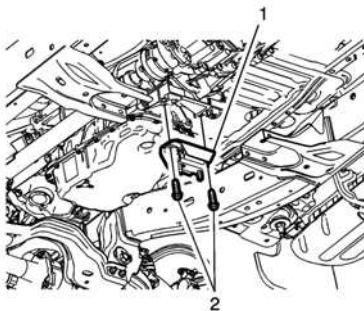
2. Install the bracket fasteners (2) and tighten to **8 Y (70 lb in)**.
3. Install the actuator motor (4) on the transfer case.
4. Install the actuator motor fasteners (1) and tighten to **12 Y (106 lb in)**.
5. Connect the electrical connector to the actuator motor.
6. Lower the vehicle.
7. Verify correct operation of the actuator motor.
8. Reprogram the transfer case control module. Refer to Control Module References.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

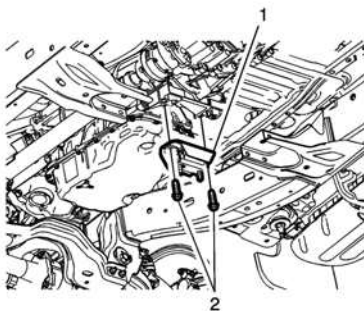
[Removal Procedure](#)

1. Remove the transmission support crossmember. Refer to Transmission Support Crossmember Replacement.



2. Remove the transmission mount bolts (2).
3. Remove the transmission mount (1) from the vehicle.

[Installation Procedure](#)



1. Install the transmission mount (1) to the vehicle.

Caution: Refer to Fastener Caution.

2. Install the bolts (2) and tighten to **55 Y (41 lb ft)**.
3. Install the transmission support crossmember. Refer to Transmission Support Crossmember Replacement.

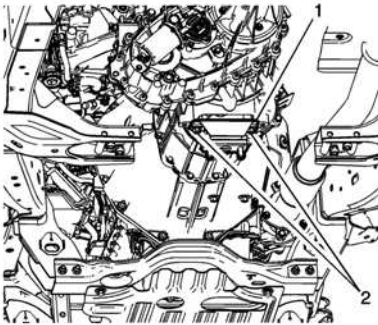
2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:

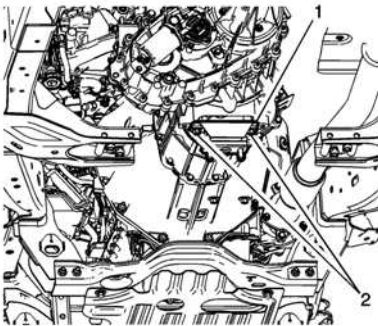
[Removal Procedure](#)

1. Remove the crossmember. Refer to Transmission Support Crossmember Replacement.



2. Remove the transmission mount bolts (2).
3. Remove the transmission mount (1) from the transmission.

[Installation Procedure](#)



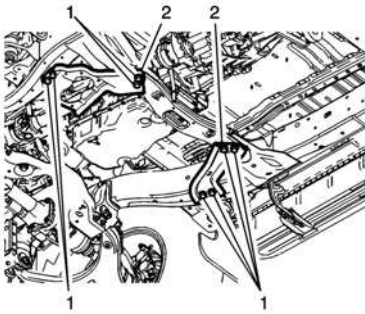
1. Install the transmission mount (1) to the transmission.
Caution: Refer to Fastener Caution.
2. Install the bolts (2) and tighten to **70 Y (52 lb ft)**.
3. Install the crossmember. Refer to Transmission Support Crossmember Replacement.

2013 Chevrolet Colorado

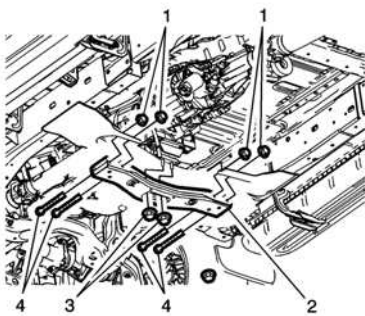
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

[Removal Procedure](#)

1. Raise the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Support the transmission assembly with a suitable jack.

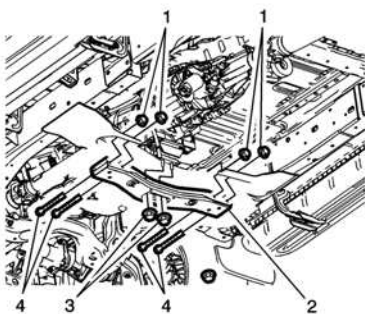


3. Remove the crossmember brace bolts (1).
4. Remove the crossmember braces (2) from the vehicle.



5. Remove the transmission mount fasteners (3).
6. Remove the crossmember mounting nuts (1) and bolts (4).
7. Remove the crossmember (2) from the vehicle.

[Installation Procedure](#)

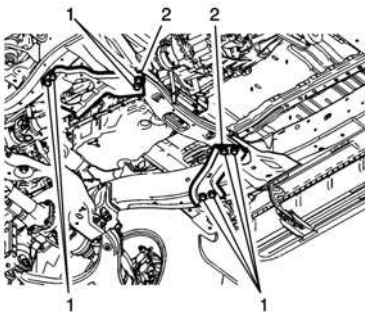


1. Install the crossmember (2) to the vehicle.
2. Perform the following procedure before installing the bolts (4).
 1. Remove all traces of the original adhesive patch.
 2. Clean the threads of the bolt with denatured alcohol or equivalent and allow to dry.
 3. Apply threadlocker. Refer to Adhesives, Fluids, Lubricants, and Sealers.

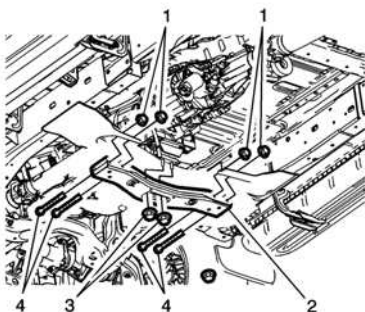
Transmission Support Crossmember Replacement (4WD Automatic Transmission)

Caution: Refer to Fastener Caution.

3. Install the bolts (4) and the nuts (1) and tighten to **60 Y (44 lb ft)**.



4. Install the crossmember braces (2) to the vehicle.
5. Install the crossmember brace bolts (1) and tighten to **106 Y (78 lb ft)**.



6. Install the transmission mount lower fasteners (3) and tighten to **50 Y (37 lb ft) + 90 degrees**.
7. Lower the vehicle.

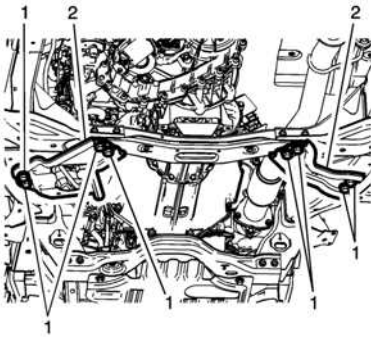
2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

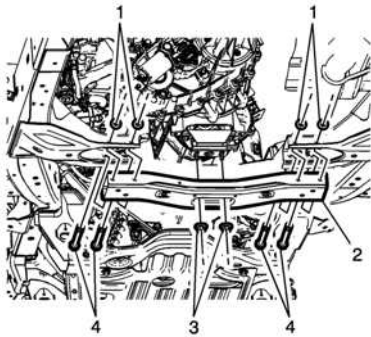
Fuel Delivery: | Fuel:

[Removal Procedure](#)

1. Raise the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Support the transmission assembly with a suitable jack.

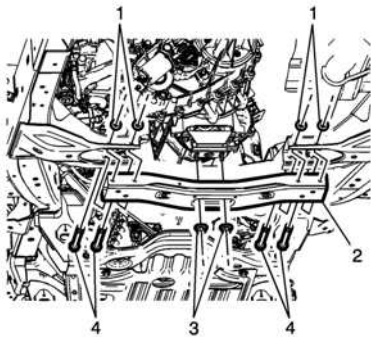


3. Loosen the crossmember brace bolts (1).



4. Remove the transmission mount fasteners (3).
5. Remove the crossmember mounting nuts (1) and bolts (4).
6. Remove the crossmember (2) from the vehicle.

[Installation Procedure](#)

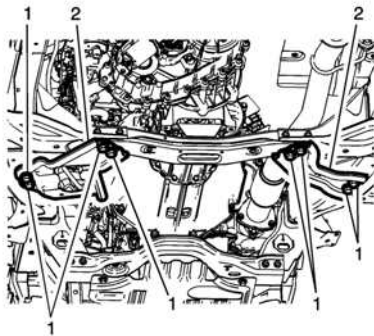


1. Install the crossmember (2) to the vehicle.
2. Perform the following procedure before installing the bolts (4).
 1. Remove all traces of the original adhesive patch.
 2. Clean the threads of the bolt with denatured alcohol or equivalent and allow to dry.
 3. Apply threadlocker. Refer to Adhesives, Fluids, Lubricants, and Sealers.

Caution: Refer to Fastener Caution.

Transmission Support Crossmember Replacement (4WD Manual Transmission)

3. Install the bolts (4) and the nuts (1) and tighten to **67 Y (49 lb ft)**.
4. Install the transmission mount lower fasteners (3) and tighten to **50 Y (37 lb ft) + 90 degrees**.



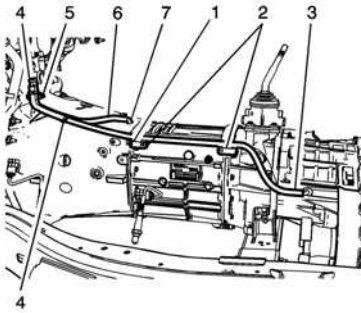
5. Tighten the crossmember brace bolts (1) to **106 Y (78 lb ft)**.
6. Install the transmission mount fasteners (3).
7. Lower the vehicle.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

[Removal Procedure](#)

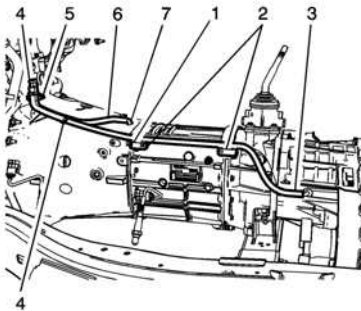
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.



2. Disconnect the transmission vent hose assembly (6) from the following:

- The engine compartment bracket (5)
- The transmission vent pipe (7)
- Cut the wire ties (4).
- Remove the transmission vent hose (6) from the vehicle.

[Installation Procedure](#)



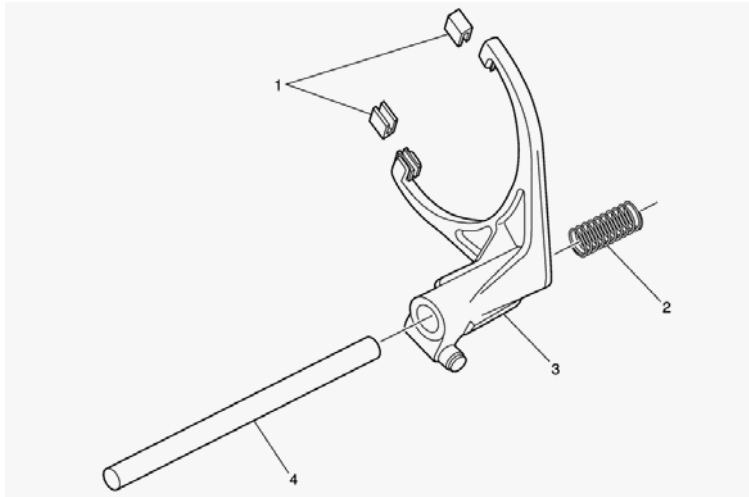
Important: Ensure the vent hoses are free of kinks and routed clear of sharp objects.

1. Install the wire ties (4) to attach the transmission case vent hose (1) to the transfer case vent hose (7).
2. Connect the transfer case vent hose assembly (1) to the following:

- The transmission vent pipe (7)
- The engine compartment bracket (5)
- Lower the vehicle.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Two/Four Wheel Drive Shift Components Cleaning and Inspection

Callout

Component Name

Preliminary Procedure

- Inspect all components or sub-components and perform any repair procedure necessary to fix the damage. If the damage cannot be repaired, replace the component or sub-component as indicated.
- Clean all components in cleaning solvent and air dry.

1 Transfer Case Two/Four Shift Fork Pad
Note: Inspect the pads for wear or cracking.

2 Shift Fork Spring

Transfer Case Two/Four Shift Fork
Note:

3

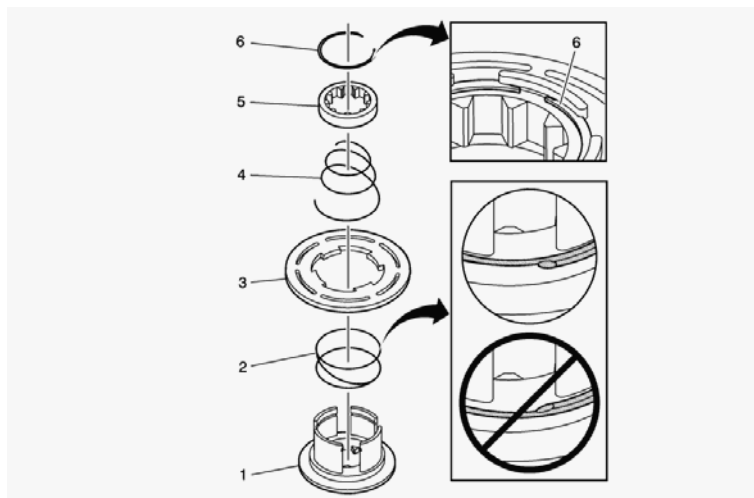
- Inspect for cracks, broken areas, or other damage. The component must be replaced if damage is found.
- Inspect the shift roller for binding or looseness.
- Inspect the fork bushing for wear
- Inspect for loose fit pin to the fork. The pin is press fit into the fork

4 Transfer Case Shift Rail

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Two/Four Wheel Drive Synchronizer Hub Assemble

Callout

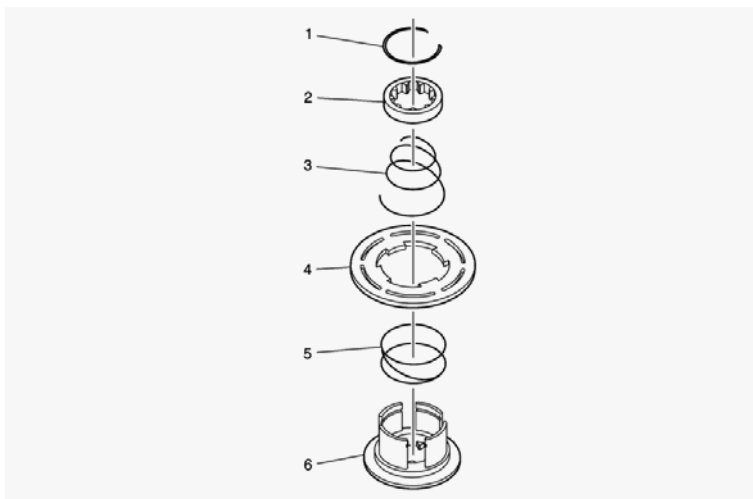
Component Name

- | | |
|---|--|
| 1 | Two/Four Wheel Drive Clutch Coil Housing |
| 2 | Two/Four Wheel Drive Synchronizer Hub Outer Spring |
| 3 | Four Wheel Drive Armature Plate |
| 4 | Two/Four Wheel Drive Synchronizer Hub Inner Spring |
| 5 | Synchronizer Collar |
| | Lockup Retaining Ring |

- 6 **Note:** Ensure the ends of the retaining ring are to be positioned as indicated (6). The ends of the ring should NOT be positioned into an open area of the housing.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Two/Four Wheel Drive Synchronizer Hub Disassemble

Callout

Component Name

- | | |
|---|--|
| 1 | Lockup Retaining Ring |
| 2 | Synchronizer Collar |
| 3 | Two/Four Wheel Drive Synchronizer Hub Inner Spring |
| 4 | Four Wheel Drive Armature Plate |
| 5 | Two/Four Wheel Drive Synchronizer Hub Outer Spring |
| 6 | Two/Four Wheel Drive Clutch Coil Housing |