

**Scope:**

This service bulletin provides instructions for replacing the lowered rear axle Liberty Motor Company 2008-2010 Accessible Dodge Caravan.

**Effectivity:**

This service bulletin is applicable to 2008 through 2010 Dodge Caravan, Chrysler Town & Country and Volkswagen Routans which were converted to wheelchair accessible vehicles by The Liberty Motor Company. It is only applicable to those Caravans and Routans with fibreglass lowered floors and lowered rear suspension. This is not applicable to Liberty “Caravan Advantage” conversions which used modified stock vehicle axles with modified track bar attachments.

**Time to Complete:**

2 hour to replace the rear axle

**Parts List:**

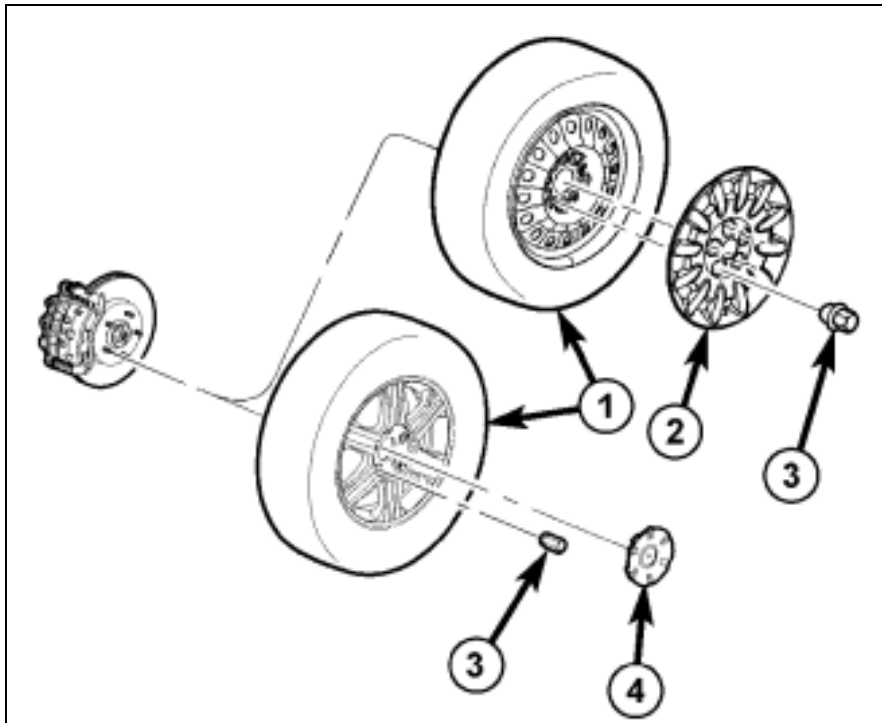
ITEM	QTY	UNITS	PART NUMBER	DESCRIPTION
1	1	Each	10543-40	Axle, Caravan 2008-10
2	15	Each	90074-02	Cable Tie, 3/16 x 7 ½
3	2	Each	90716-01	Bushing, Trailing Arm, Rear Axle, Caravan, Chrysler p/n 04721356AA  ***INSTALLED ON AXLE PRIOR TO DELIVERY***
4	NA	Each	NPN	Shim Kit, Axle specific

**Tools:**

Standard Mechanics Wrenches and pliers  
Transmission jack.

**Procedure:**

- 1. Read the complete procedure before starting to work on the vehicle.**
- The rear axle is replaced according to standard Chrysler procedures with some small modifications to accommodate differences with the trailing arm position and parking brake conduit routing.
- Remove the rear axle as follows.
- On Each side of the vehicle, remove the rear wheel mounting nuts (3), and then rear tire and wheel assembly (1), as shown in Figure 1.



**Figure 1: Remove rear wheels**

5. Remove the screws securing the rear parking brake cables from the axle trailing arms shown in Figure 2.

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Paul Collett

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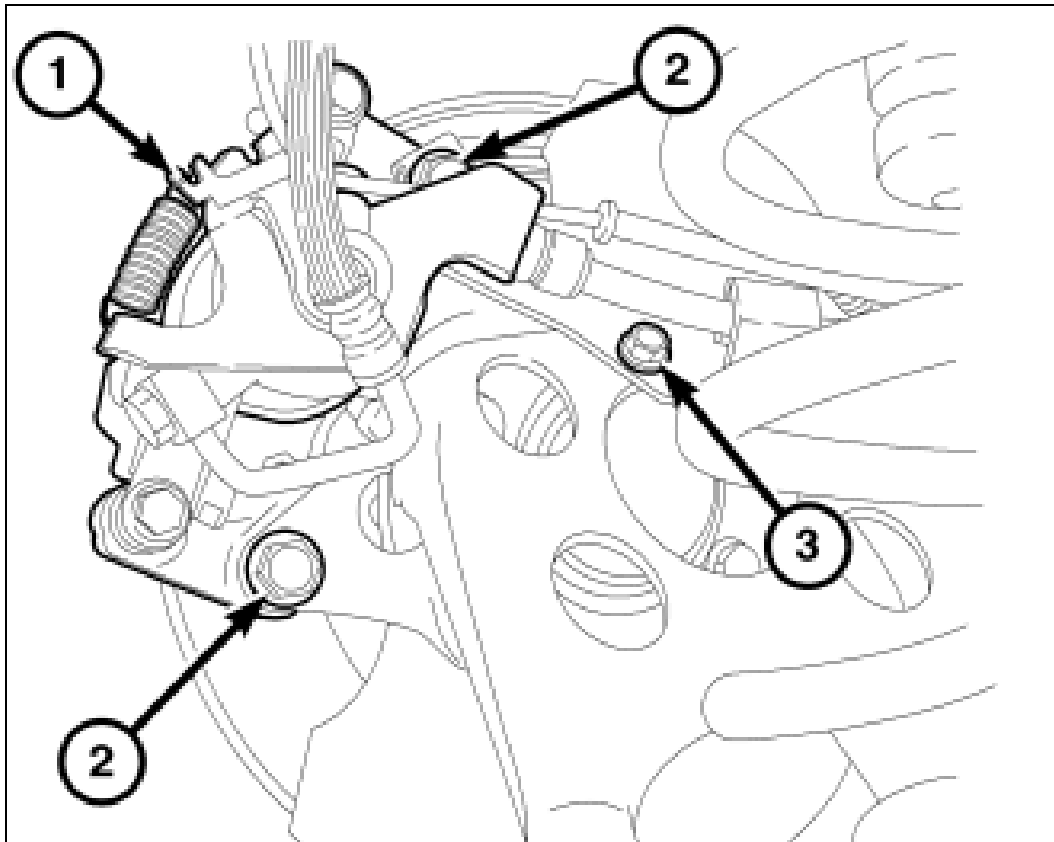
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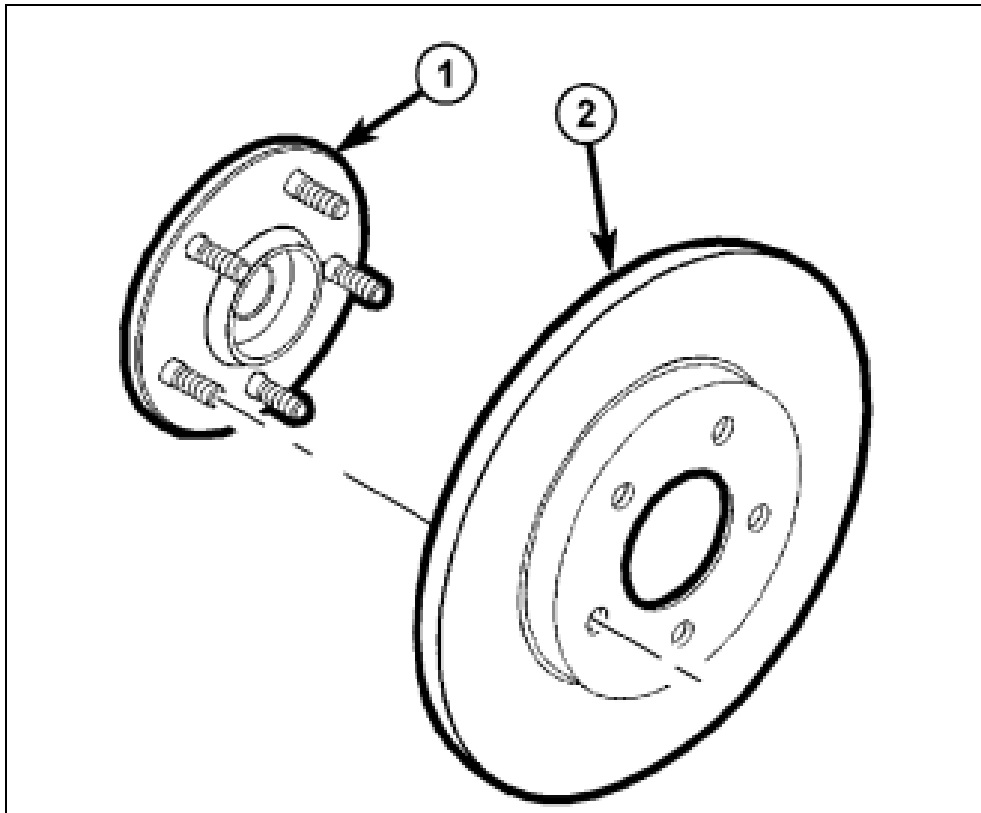
**Figure 2: Unscrew parking brake cable bracket from trailing arms**

6. Remove the two nuts and bolts (2) holding each rear brake caliper onto the rear axle, as shown in Figure 3. Hang the caliper close by so that you do not damage any wires, hoses or cables.



**Figure 3: Remove parking brake cable and brake caliper**

7. Remove any retaining clips, then slide the brake rotor (2) off the hub and bearing (1) as shown in Figure 4.



**Figure 4: Remove brake disk from hub**

8. Locate the rear wheel speed sensor connector, located approximately 2 feet of wire away from the sensor. Prepare for re-assembly by making note of the routing of the wire and the method of holding the wire in place using cable ties. Disconnect the speed sensor in-line electrical connector and remove tie-wraps located along the line between the sensor and connector so that the wheel hub can be removed with the speed sensor still assembled to it.
9. Remove the 4 bolts (2) securing the hub and bearing (1) to axle (3). Remove the hub and bearing and brake shield as shown in Figure 5.

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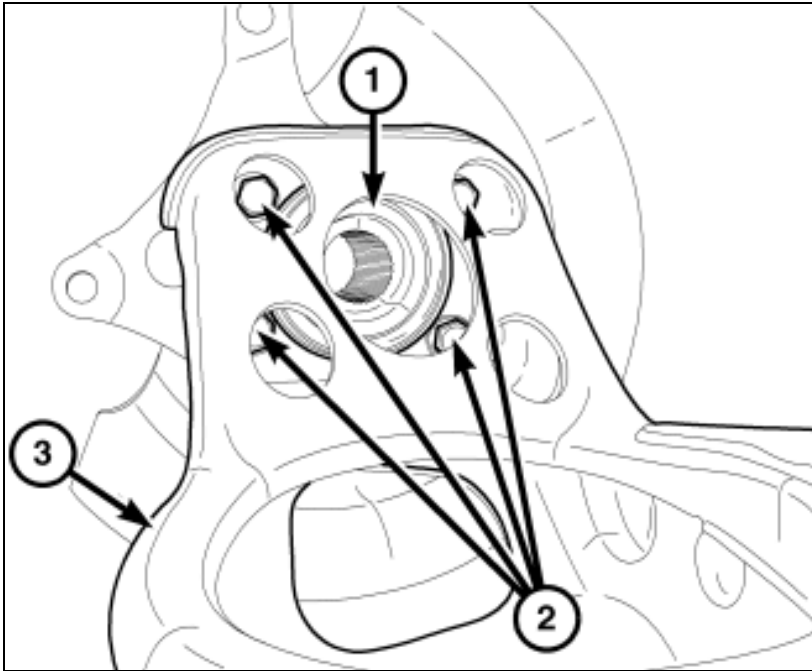
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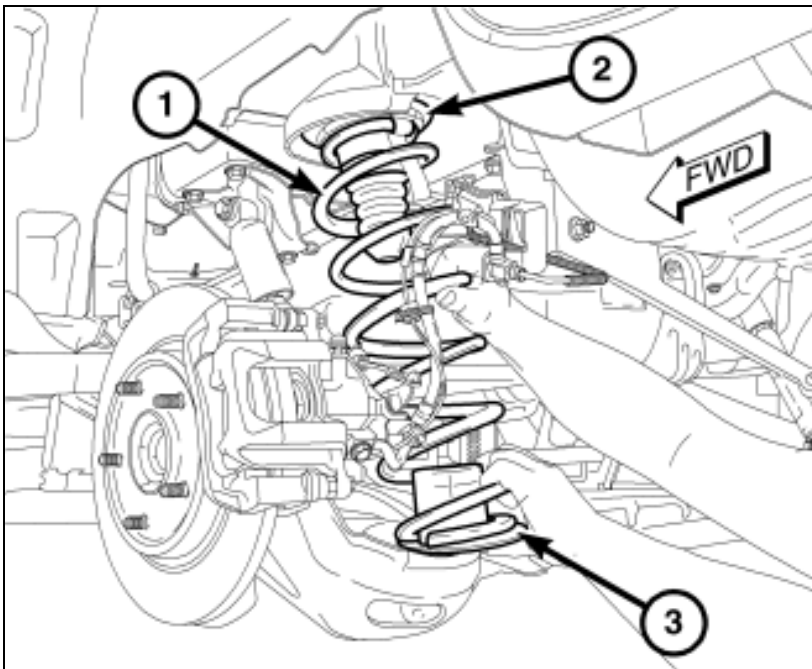
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**Figure 5: Bearing hub mounting bolts**

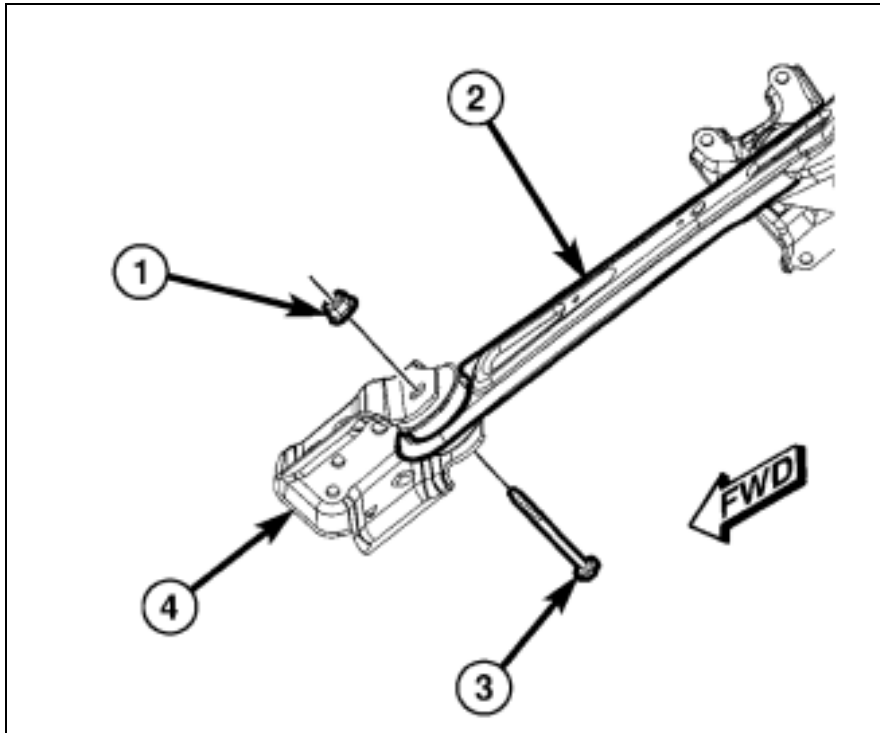
10. Use a transmission jack to support the center of the axle. Unbolt the track bar from the axle and then the lower shock bolts from the axle. Lower the transmission jack slightly and then remove the two coil springs (1), including the jounce bumper (2) and lower isolator (3) as shown in Figure 6.



**Figure 6: Rear suspension springs, jounce bumpers, and spring isolators.**

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11. On each side of the vehicle, remove nut (1) and thru-bolt (3) fastening the axle trailing arm (2) to the forward mounting bracket (4) on the body, as shown in Figure 7.



**Figure 7: Trailing arm bolts and nuts**

12. Lower the jack and remove the axle from the vehicle.
13. Install the replacement axle according to the following steps.
14. Holding the axle beam on a transmission stand, swing the trailing arm bushings into the mounting brackets and fasten using the bolts and nuts removed in paragraph 11. Do not tighten the nuts at this time as they will be tightened when the assembly is complete.
15. Hold the two coil springs with isolator and jounce bumper installed, between the receptacles in the axle and vehicle body and then raise the transmission stand until the springs stay in place. Assemble the lower shock bolts to fasten the axle to the lower shock fittings. Do not tighten at this time.
16. Fasten the track bar to the axle, reusing the bolt and nut which was removed during the disassembly. Do not tighten the nut at this time.
17. Install the hub and bearing and brake shield onto the end of the axle as follows:
- First clean all rust and debris from the hub to axle mounting surfaces including the flat bolt flange and the pilot diameter. Test fit the hub onto the axle to ensure there are no obstructions, especially on the pilot

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diameter, that could prevent a good fit. Any obstruction would result in a poor alignment result.

- b. Review the axle alignment report provided with the new axle which may include arbor shims to be installed between the axle and hub, at the indicated bolt holes, to trim the alignment on the new axle.
  - c. Install bolts in the axle hub mounting holes and place shims on the bolt shanks as dictated by the alignment report. Place the brake shield over the bolts and then the hub bearing last. Tighten the hub bearing bolts to 55 N-m (41 ft-lbs).
18. Connect the wheel speed sensor connectors and tie the cable in place using cable ties.
  19. Install the brake rotor onto the hub and bearing.
  20. Install the disc brake caliper and adapter bracket over the axle and rotor as an assembly. Install two bolts securing the disk brake caliper and adapter bracket to the axle. Tighten the mounting bolts to 100 N-m (74 ft-lbs) torque.
  21. Fasten the parking brake cable to the axle trailing arm in the same manner as the cable was routed prior to disassembly.
  22. Re-install tire and wheel assemblies on each of the two rear wheels and tighten wheel mounting nuts to 135 N-m (100 ft-lbs) torque.
  23. Lower the vehicle to the ground. Pump the brakes to ensure the vehicle has a firm brake pedal prior to moving the vehicle.
  24. Position the vehicle on drive-on lift and raise as necessary to get access to all of the axle fasteners;
    - a. Tighten the trailing arm mounting bracket pivot thru-bolts to 175 N-m (129 ft-lbs) torque.
    - b. Tighten the shock absorber lower mounting bolt to 75 N-m (55 ft-lbs).
    - c. Tighten the track bar lower mounting bolt nut to 81 N-m (60 ft-lbs) torque.

### REVISION LOG

ISSUE NO.	ISSUE DATE	DESCRIPTION OF CHANGE
/	30-Jan-14	First Release