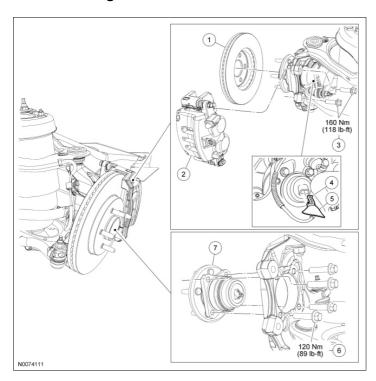
2011 Town Car Workshop Manual Procedure revision date: 07/19/2010

# Wheel Bearing and Wheel Hub



Item	Part Number	Description
1	1125	Brake disc
2	2B120 LH/ 2B121 RH	Brake caliper
3	W707589	Brake caliper anchor plate bolts (2 required)
4	-	Wheel speed sensor electrical connector (part of 2C204)
5	-	Wheel speed sensor electrical connector rubber splash shield (part of 2C204)
6	W709529	Wheel bearing and wheel hub bolt
7	1104	Wheel bearing and wheel hub

## **Removal and Installation**

*NOTICE:* Suspension fasteners are critical parts because they affect performance of vital components and systems and their failure may result in major service expense. New parts must be installed with the same part numbers or equivalent part, if replacement is necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during reassembly to make sure of correct retention of these parts.

- 1. Remove the wheel and tire. For additional information, refer to Section 204-04.
- 2. NOTICE: Do not allow the caliper and anchor plate to hang from the brake hose or damage to the hose may occur.

Remove the bolts and position the caliper and anchor plate assembly aside.

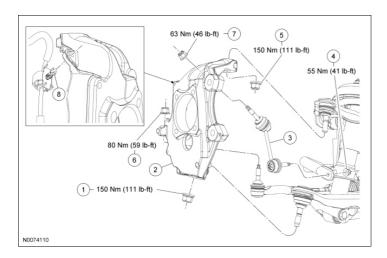
- Support the caliper and anchor plate assembly using mechanic's wire.
- To install, tighten to 160 Nm (118 lb-ft).
- 3. Remove the brake disc.
- 4. Peel back the rubber splash shield and disconnect the wheel speed sensor electrical connector.
- 5. Remove and discard the bolts and the wheel bearing and wheel hub.
  - To install, tighten the new bolts to 120 Nm (89 lb-ft).
- 6. NOTICE: To avoid sensor or wiring damage, be sure to correctly route the wheel speed sensor wiring in front of the stabilizer bar link.

**NOTE:** During reassembly, verify that the wheel speed sensor electrical connector is fully seated with an audible click, and that the rubber splash shield is positioned back into place.

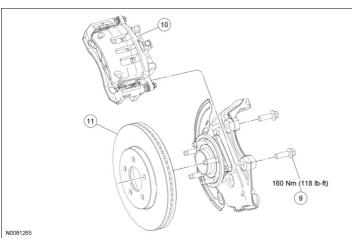
To install, reverse the removal procedure.

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# **Wheel Knuckle**



Item	Part Number	Description
1	W710298	Lower ball joint nut
2	3K170 RH/ 3K171 LH	Wheel knuckle
3	3B438	Stabilizer bar link
4	W520213	Stabilizer bar link lower nut
5	W710298	Upper ball joint nut
6	W520214	Outer tie-rod end nut
7	W520213	Stabilizer bar link upper nut
8	-	Wheel speed sensor wiring harness retainer (part of 2C204)



Item	Part Number	Description
9	W707589	Brake caliper anchor plate bolt (2 required)
10	-	Brake caliper and anchor plate assembly
11	1125	Brake disc

**Removal and Installation** 

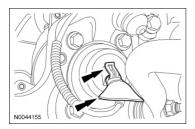
Wheel Knuckle 1540

*NOTICE:* Suspension fasteners are critical parts because they affect performance of vital components and systems and their failure may result in major service expense. New parts must be installed with the same part numbers or equivalent part, if replacement is necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during reassembly to make sure of correct retention of these parts.

- 1. Remove the wheel and tire. For additional information, refer to Section 204-04.
- 2. NOTICE: Do not allow the caliper and anchor plate to hang from the brake hose or damage to the hose may occur.

Remove the bolts and position the caliper and anchor plate assembly aside.

- Support the caliper and anchor plate assembly using mechanic's wire.
- To install, tighten to 160 Nm (118 lb-ft).
- 3. Remove the brake disc.
- 4. Pull back the rubber splash shield and disconnect the wheel speed sensor electrical connector.



5. **NOTE:** Use the hex-holding feature to prevent the stud from turning while removing the nut.

Remove the nut and detach the outer tie rod from the wheel knuckle.

- To install, tighten to 80 Nm (59 lb-ft).
- 6. **NOTE:** Use the hex-holding feature to prevent the stud from turning while removing the nut.

Remove and discard the stabilizer bar link upper nut.

- To install, tighten the new nut to 63 Nm (46 lb-ft).
- 7. **NOTE:** Use the hex-holding feature to prevent the stud from turning while removing the nut.

Remove the stabilizer link lower nut and the stabilizer bar link.

- Discard the nut.
- To install, tighten the new nut to 55 Nm (41 lb-ft).
- 8. Detach the wheel speed sensor wiring harness retainer from the steering knuckle.
- 9. **NOTE:** Use the hex-holding feature to prevent the stud from turning while removing the nut.

Remove and discard the upper ball joint nut.

• To install, tighten the new nut to 150 Nm (111 lb-ft).

Wheel Knuckle 1541

10. **NOTE:** Use the hex-holding feature to prevent the stud from turning while removing the nut.

Remove the lower ball joint nut and then remove the wheel knuckle.

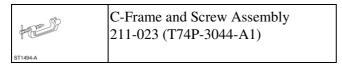
- Discard the nut.
- To install, tighten the new nut to 150 Nm (111 lb-ft).
- 11. If necessary, remove the 4 bolts and the wheel bearing and wheel hub.
  - Discard the bolts.
  - To install, tighten the new bolts to 120 Nm (89 lb-ft).
- 12. To install, reverse the removal procedure.
- 13. Check and, if necessary, align the front end. For additional information, refer to Section 204-00.

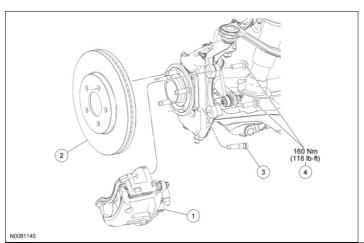
Wheel Knuckle 1542

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#### Wheel Studs

# Special Tool(s)





Item	Part Number	Description
1	1125	Brake disc
2	2B120 LH/ 2B121 RH	Disc brake caliper
3	W707287-S	Wheel stud
4	W707589	Brake caliper anchor plate bolts (2 required)

### Removal

*NOTICE:* Suspension fasteners are critical parts because they affect performance of vital components and systems and their failure may result in major service expense. New parts must be installed with the same part numbers or equivalent part, if replacement is necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during reassembly to make sure of correct retention of these parts.

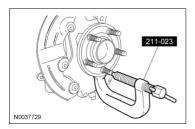
- 1. Remove the wheel and tire. For additional information, refer to Section 204-04.
- 2. NOTICE: Do not allow the caliper and anchor plate assembly to hang from the brake hose or damage to the hose may occur.

Remove the bolts and position the caliper and anchor plate assembly aside.

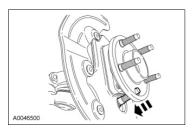
- Support the caliper and anchor plate assembly using mechanic's wire.
- 3. Remove the brake disc.
- 4. **NOTE:** Make sure that the wheel stud being removed is positioned near the access hole on the wheel knuckle prior to installing the C-Frame and Screw Assembly.

Wheel Studs 1543

Using the C-Frame and Screw Assembly, press the wheel stud out of the wheel hub flange.



5. Remove the wheel stud.

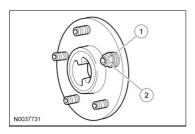


### Installation

1. **NOTE:** Make sure to use washers that have an ID that is larger than the OD of the wheel stud serrations. Use enough washers (approximately 4) to allow the wheel stud to fully seat against the hub flange.

Install the wheel stud.

- 1. Install 4 washers onto the wheel stud.
- 2. Install the wheel nut. Tighten the wheel nut until the wheel stud seats fully onto the wheel hub flange.



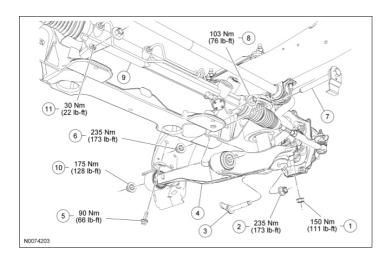
- 2. Remove the wheel nut and washers.
- 3. Install the brake disc.
- 4. Position the caliper and anchor plate assembly onto the steering knuckle, and install the bolts.
  - To install, tighten to 160 Nm (118 lb-ft).
- 5. Install the wheel and tire. For additional information, refer to Section 204-04.

Wheel Studs 1544

Wheel Studs 1545

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### **Lower Arm**



Item	Part Number	Description
1	W710298	Lower ball joint nut
2	W520216	Shock absorber lower nut
3	3C177	Shock absorber lower flag bolt
4	3042 RH/ 3051 LH	Lower arm
5	W708601	Lower arm bushing bracket bolt (3 required)
6	W708329	Lower arm cam bolt nut
7	3C289	Lower arm cam bolt
8	W707492	Steering gear nut (2 required)
9	3504	Steering gear
10	W710430	Lower arm bushing nut
11	W707972	Steering gear stud (2 required)

### Removal

*NOTICE:* Suspension fasteners are critical parts because they affect performance of vital components and systems and their failure may result in major service expense. New parts must be installed with the same part numbers or equivalent part, if replacement is necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during reassembly to make sure of correct retention of these parts.

- 1. Remove the wheel and tire. For additional information, refer to <u>Section 204-04</u>.
- 2. **NOTE:** Use the hex-holding feature to prevent the stud from turning while removing the nut.

Remove and discard the lower ball joint nut.

- 3. Remove and discard the shock absorber lower nut and the flag bolt.
- 4. NOTICE: Do not remove the cam bolt at this time or damage to the steering bellows boot will result.

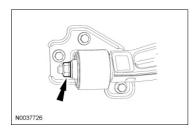
Remove and discard the lower arm cam bolt nut.

Lower Arm 1546

- 5. Remove and discard the 3 lower arm bushing bracket bolts.
- 6. Remove and discard the 2 steering gear-to-crossmember stud nuts.
- 7. Remove the steering gear crossmember studs and move the steering gear upward to access the cam bolt.
- 8. Remove the cam bolt and the lower arm.
  - Discard the cam bolt.

#### Installation

- 1. Position the lower arm and loosely install the new cam bolt and nut.
- 2. Position the steering gear and install the gear crossmember studs.
  - Tighten to 30 Nm (22 lb-ft).
- 3. Install the 2 new steering gear-to-crossmember nuts.
  - Tighten to 103 Nm (76 lb-ft).
- 4. Install the 3 new lower arm bushing bracket bolts.
  - Tighten to 90 Nm (66 lb-ft).
- 5. Loosely install the new lower arm cam nut.
- 6. Loosely install the new shock absorber lower nut and flag bolt.
- 7. Install the new lower ball joint nut.
  - Tighten to 150 Nm (111 lb-ft).
- 8. Install the wheel and tire. For additional information, refer to Section 204-04.
- 9. With the weight of the vehicle on the wheel and tire assemblies, tighten the lower arm cam bolt and nut to 235 Nm (173 lb-ft).
- 10. With the weight of the vehicle on the wheel and tire assemblies, tighten the shock absorber lower nut to 235 Nm (173 lb-ft).
- 11. If a new lower control arm is being installed, tighten the new bushing nut to 175 Nm (128 lb-ft).



12. Check and if necessary, align the front end. For additional information, refer to Section 204-04.

Lower Arm 1547

Lower Arm 1548