Wheel Hub

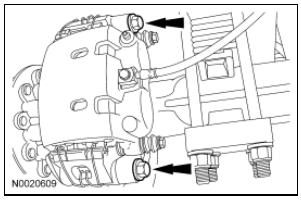
Material

Item	Specification
Premium Long-Life Grease XG-1-C or XG-1-K (US); CXG-1-C (Canada)	ESA-M1C75-B

Removal

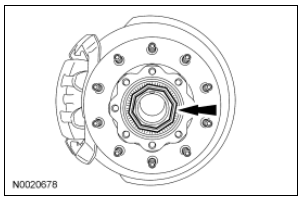
1. Remove the tire and wheel assembly. For additional information, refer to Section 204-04 .

2. Remove the 2 anchor plate bolts. Disconnect the disc brake caliper and the anchor as an assembly.
   - Using mechanic's wire, support the disc brake caliper and anchor assembly.

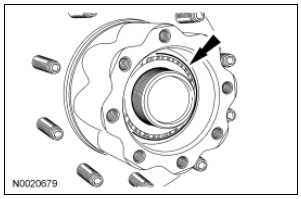


3. Remove the axle shaft. For additional information, refer to Axle Shaft in this section.

4. Using a suitable socket, remove the hub nut.

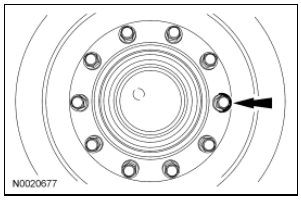


5. Remove the outer rear wheel bearing.



6. Remove the rear hub and brake disc assembly.

7. Remove the rear hub bolts and separate the rear hub from the rear brake disc.



8. Inspect the rear hub for the following:
    - Cracks and damage around the bolt holes
    - Oversized holes

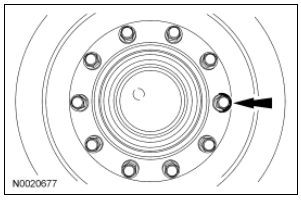
Installation

1. **⚠ WARNING: Install a new rear hub seal after removing the rear hub from the axle. A damaged or worn seal can permit bearing lubricant to reach the brake linings, resulting in ineffective brake operation. Failure to follow these instructions may result in personal injury.**

   ⚠ CAUTION: Clean and remove any dirt or foreign material in the rear hub bolt holes.

   Install a new rear hub seal. For additional information, refer to Wheel Bearings, Wheel Hub Seal and Wheel Bearing Cups in this section.

2. Position the rear brake disc on the rear hub and install the rear hub bolts.
    - Tighten to 104 Nm (77 lb-ft).



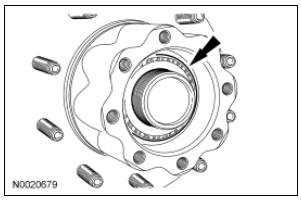
3. **⚠ CAUTION: Thoroughly clean the spindle. Wrap the spindle threads with electrician's tape to prevent damage while installing the rear hub and brake disc assembly.**

   ⚠ CAUTION: Lightly coat the spindle and pack each rear wheel bearing with long-life grease.

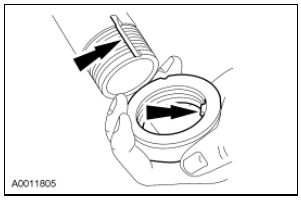
   Prepare the spindle for rear hub installation.

4. Slide the rear hub and brake disc assembly over the axle housing spindle.
    - Remove the electrician's tape.

5. Install the outer rear wheel bearing.



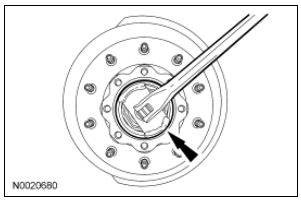
6. Start the hub nut making sure that the tab aligns correctly in the keyway prior to thread engagement.



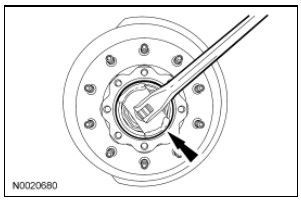
7. **NOTE:** The following hub nut tightening sequence will prevent side-to-side end play of the hub and brake disc assembly.

   NOTE: Apply inward pressure to the socket to separate the ratcheting components of the hub nut.

   To adjust the bearings, tighten the hub nut to 95 Nm (70 lb-ft) then back off the hub nut 90 degrees.

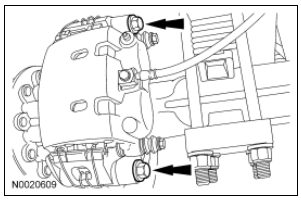


8. Retighten the hub nut to 24 Nm (18 lb-ft).
   - To verify that there is no side-to-side end play, attach a magnetically mounted dial indicator to the spindle end and place the dial indicator tip on the outboard surface of the hub. Check for side-to-side end play.
   - Final bearing adjustment has zero end play. The maximum torque to rotate the hub is 2.3 Nm (20 lb-in) when end play is zero.



9. Install the axle shaft. For additional information, refer to Axle Shaft in this section.

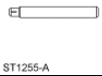
10. Position the disc brake caliper and anchor assembly on the mounting bracket. Install the 2 anchor plate bolts.
    - Tighten to 400 Nm (296 lb-ft).

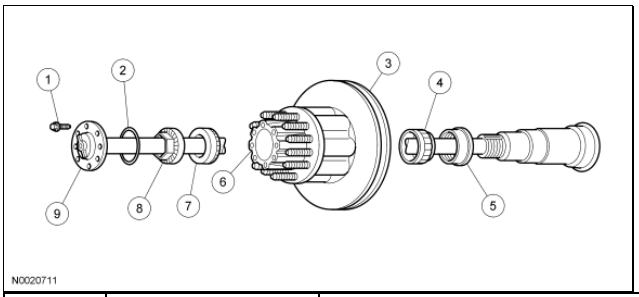


11. Install the tire and wheel assembly. For additional information, refer to Section 204-04 .

Wheel Bearings, Wheel Hub Seal and Wheel Bearing Cups

Special Tool(s)

 ST1255-A	Adapter for 303-224 (Handle) 205-153 (T80T-4000-W)
	Installer, Wheel Hub Inner Oil Seal (Dana S110 and S130) 205-445
	Remover, Wheel Hub Inner Bearing Cup 205-275 (T88T-1175-A) (Dana 80)
	Remover, Wheel Hub Outer Bearing Cup 205-277 (T88T-1175-B) (Dana 80)
 ST2508-A	Installer, Rear Wheel Hub Bearing Cup 205-100 (T75T-1225-B) (Dana 80)
 ST1870-A	Installer, Rear Wheel Hub Bearing Cup 205-278 (T88T-1175-C) (Dana 80)
 ST1869-A	Drawbar, Rear Axle 205-098 (T75T-1176-A) (Dana 80)



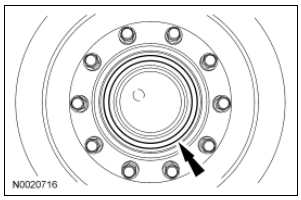
Item	Part Number	Description
1	4A140	Axle shaft bolt (16 required)
2	—	O-ring (part of 4234) (2 required)
3	2C026	Brake disc (2 required)
4	1244	Inner rear wheel bearing (2 required)
5	1175	Hub seal (2 required)
6	1113	Rear hub (includes bearing cups) (2 required)
7	1240	Outer rear wheel bearing (2 required)
8	1A124	Hub nut (2 required)

9	4234	Axle shaft (2 required)

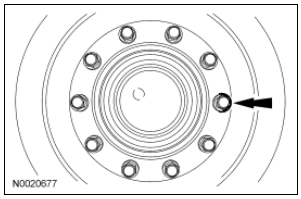
Removal

1. Remove the rear hub and brake disc assembly. For additional information, refer to Wheel Hub in this section.

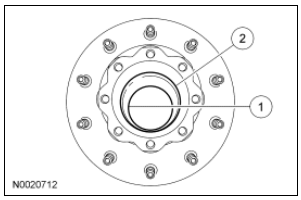
2. Remove the rear hub seal and the inner rear wheel bearing.
   - Discard the rear hub seal.



3. If not done previously, remove the bolts and separate the rear hub from the brake disc.

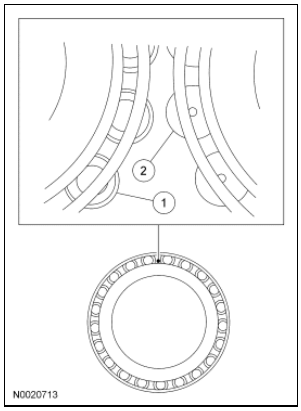


4. Remove the inner and outer bearing cups.
   1. For model 80, use special tools 205-275 and 205-153 to remove the inner bearing cup. For model S110 and S130, use a suitable brass drift.
   2. For model 80, use special tools 205-277 and 205-153 to remove the outer bearing cup. For model S110 and S130, use a suitable brass drift.



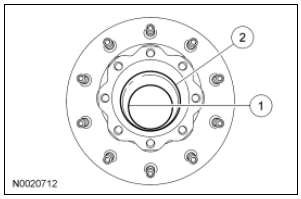
5. Clean the following components:
   - The rear axle housing spindle.
   - All the old grease and axle lubricant from the rear hub.
   - The rear wheel bearings and cups.

6. Inspect the bearing races and rollers for pitting, galling or erratic wear patterns. Check the rollers for end wear. Discard the bearings, if necessary.
   1. A typical new bearing roller.
   2. A worn bearing roller.



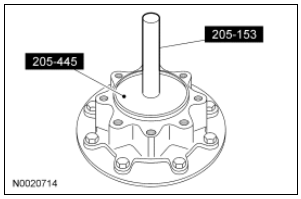
Installation

1. Install the inner and outer bearing cups.
    1. For model 80, use special tools 205-180 and 205-098 to install the inner bearing cups.
    2. For model 80, use special tools 205-102 and 205-098 to install the outer bearing cups.
    - For model S110 or S130, use a suitable driver.
    - Check to see if a 0.038 mm (0.0015 in) feeler gauge can be inserted between the cups and the rear hub at any point around each cup. Reseat the bearing cups, if necessary.

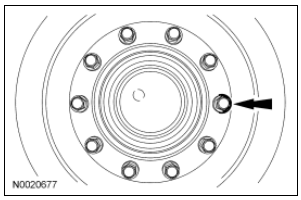


2. Install the inner rear wheel bearing in the rear hub.

3. For models S110 or S130, install a new rear hub seal using special tools 205-445 and 205-153. For model 80, use a suitable installer.



4. Position the rear brake disc on the rear hub and install the bolts.



5. Install the rear hub and brake disc assembly. For additional information, refer to Wheel Hub in this section.

General Specifications

Item	Specification
Brake Pads	
Brake pad minimum thickness	3.0 mm (0.118 in)
Brake pad maximum taper wear (in any direction)	3.0 mm (0.118 in)
Brake Disc	
Front brake disc minimum thickness	36.0 mm (1.417 in)
Rear brake disc minimum thickness	36.0 mm (1.417 in)
Lubricant	
High Performance DOT 3 Motor Vehicle Brake Fluid PM-1-C (US): CPM-1-C (Canada) [a]	WSS-M6C62-A
Super DOT 4 Motor Vehicle Brake Fluid YS4Z-19542-AA [b]	ESD-M6C57-A
High Temperature Nickel Anti-Seize Lubricant XL-2 (US); CXG-2-B (Canada)	ESE-M12A4-A
Silicone Brake Caliper Grease and Dielectric Compound XG-3-A	ESE-M1C171-A
Metal Brake Parts Cleaner PM-4-A or PM-4-B (US); CPM-4 (Canada)	—

[a] Hydro-Boost® 16K-18K GVWR
[b] Hydro-Max® 20.5K-22K GVWR

Torque Specifications

Description	Nm	lb-ft
Caliper bleeder screw	35	26
Master cylinder outlet tube fittings (Hydro-Boost®)	25	18
Master cylinder outlet tube fittings (Hydro-Max®)	17	13

Brake System

The brake system consists of the following:

- a power brake booster of either the Hydro-Boost® or the Hydro-Max® type. Refer to Section 206-07 .
- a front to rear split hydraulic system. Refer to Section 206-06 .
- front disc brakes with a dual piston brake caliper. Refer to Section 206-03 .
- rear disc brakes with a dual piston brake caliper. Refer to Section 206-04 .
- a mechanical parking brake system which activates a driveline parking brake. Refer to Section 206-05 .
- a 3 or 4 channel anti-lock brake system (ABS). Refer to Section 206-09 .