






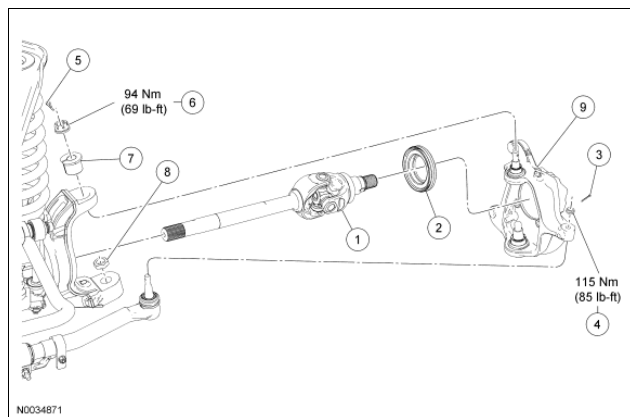
Wheel Knuckle  [Printable View \(346 KB\)](#)

Special Tool(s)

 ST1293-A	Steering Arm Remover 211-003 (T64P-3590-F)
 ST1494-A	C-Frame and Screw 211-023 (T74P-3044-A1)
 ST2371-A	Installer/Remover, Drive Pinion Oil Seal 205-440
 ST2927-A	Installer, Wheel Knuckle Seal (F250/350) 205-830
 ST2928-A	Installer, Wheel Knuckle Seal (F450/550) 205-831

Material

Item	Specification
Threadlock and Sealer TA-25	WSK-M2G351-A5

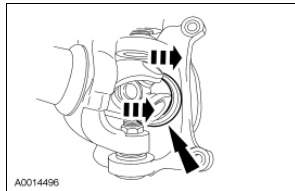


Item	Part Number	Description
1	3219 LH/ 3220 RH	Axle shaft
2	3254	Axle shaft main seal
3	W525287	Cotter pin
4	W711373	Tie-rod end nut
5	W525287	Cotter pin
6	3A049	Upper ball joint nut

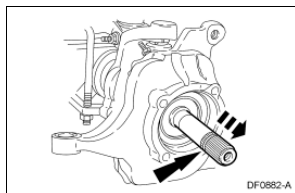
7	3B404	Camber adjuster
8	3A050	Lower ball joint nut
9	3131 LH/ 3130 RH	Wheel spindle

Removal

1. Remove the wheel hub and bearing. For additional information, refer to Wheel Bearing and Wheel Hub in this section.
2. Using a drift, drive the axle shaft main seal out of the wheel knuckle.



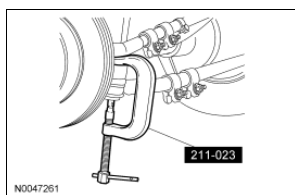
3. If equipped, disconnect the pulse vacuum hub (PVH) hose.
4. Remove the axle shaft and main seal.



5. Remove the cotter pin and the tie-rod end nut.
 - Discard the cotter pin.

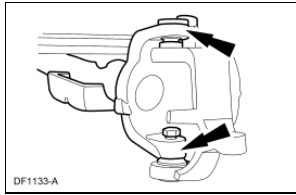
6. **NOTE:** RH shown, LH similar.

Using the special tool, disconnect the tie-rod end from the wheel knuckle.

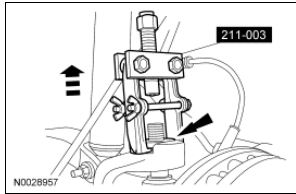


7. Remove the upper ball joint cotter pin and nut.
 - Discard the cotter pin.
8. Loosen, but do not remove, the lower ball joint nut.
9. **⚠ CAUTION:** To prevent damage to the ball joint seal and the ball joint socket, do not use a pickle fork-type remover to loosen the ball joints.

Strike the lower and upper end of the axle to loosen the ball joints and the camber adjuster.



10. Using the special tool, remove the camber adjuster.



11. Remove the lower ball joint nut and the wheel knuckle.

12. Clean and inspect the wheel knuckle bore. If the wheel knuckle is cracked, a new one must be installed.

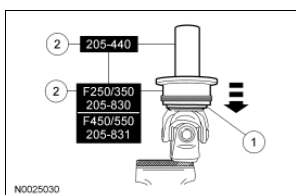
Installation

1. Install the camber adjuster sleeve.
2. Position the wheel knuckle onto the axle and install the nut onto the upper ball joint. Do not tighten the nut at this time.
3. Apply threadlock and sealer to the threads of the lower ball joint and install the nut onto the lower ball joint. Do not tighten the nut at this time.
4. Tighten the lower ball joint nut to 59 Nm (44 lb-ft).
5. **NOTE:** Do not loosen the nut to install the cotter pin.

Tighten the upper ball joint nut to 94 Nm (69 lb-ft) and install the cotter pin.

- If necessary, tighten the nut until the cotter pin can be installed.

6. Tighten the lower ball joint nut to 204 Nm (150 lb-ft).
7. Connect the tie-rod end to the wheel knuckle and install the nut and a new cotter pin.
 - Tighten to 115 Nm (85 lb-ft). If necessary, tighten the nut until the cotter pin can be installed.
8. Install the new main seal onto the axle shaft.
 1. Position the main seal onto the axle shaft.
 2. Using the special tools, seat the main seal onto the axle shaft.



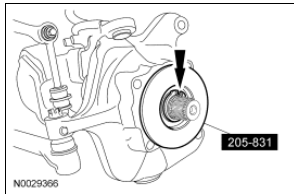
9. **⚠ CAUTION:** The knuckle bore must be clean enough to allow the special tool to seat completely by hand. Do not press or draw the wheel knuckle seal and axle shaft into place.

⚠ CAUTION: Do not apply any lubricant to the surface of the wheel knuckle bore.

Position the axle shaft and main seal in to the wheel knuckle and axle housing.

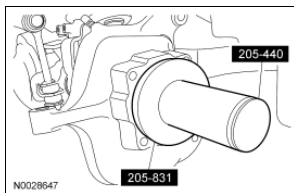
10. **NOTE:** F-450/F-550 shown, F-250/F-350 similar.

Position the special tool onto the axle shaft and install the snap ring.



11. **NOTE:** F-450/F-550 shown, F-250/F-350 similar.

Using the special tools, install the wheel knuckle seal and axle shaft.



12. Install the wheel hub and bearing. For additional information, refer to [Wheel Bearing and Wheel Hub](#) in this section.

13. If equipped, connect the pulse vacuum hub (PVH) hose.
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Ball Joint  [Printable View \(62 KB\)](#)

1. For additional information, refer to [Section 204-01A](#)
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Shock Absorber  [Printable View \(63 KB\)](#)

Removal and Installation

For additional information, refer to [Section 204-01A](#) .

Spring  [Printable View \(63 KB\)](#)

Removal and Installation

For additional information, refer to [Section 204-01A](#) .

Radius Arm  [Printable View \(63 KB\)](#)

Removal and Installation

For additional information, refer to [Section 204-01A](#) .

Radius Arm Bushing  [Printable View \(63 KB\)](#)

Removal and Installation

For additional information, refer to [Section 204-01A](#) .

 [Printable View \(82 KB\)](#)

Torque Specifications

Description	Nm	lb-ft
Super Duty F-250, F-350 Wide Frame		
U-bolt nut ^a	—	—
Spring-to-front bracket nut	375	277
Spring-to-shackle nut	225	166
Shackle-to-bracket nut	225	166
Shock absorber upper nut and washer	62	46
Shock absorber lower nut	90	66
Shock absorber bracket-to-axle U-bolt and nut (Ford axle) (RH)	40	30
Shock absorber bracket-to-axle U-bolt and nut (Ford axle) (LH)	40	30
Stabilizer bar bracket bolt (Dana axle)	40	30
Stabilizer bar bracket nut (Ford axle)	40	30
Stabilizer bar link upper nut	62	46
Stabilizer bar link lower nut	103	76
Super Duty F-350 Narrow Frame		
U-bolt nut ^a	—	—
Spring-to-front bracket nut	375	277
Spring-to-shackle nut	225	166
Shackle-to-bracket nut	225	166
Shock absorber upper nut and washer	62	46
Shock absorber lower nut	90	66
Shock absorber bracket-to-axle U-bolt and nut (Ford axle)	40	30
Stabilizer bar bracket bolt (Dana axle)	40	30
Stabilizer bar bracket nut (Ford axle)	40	30
Stabilizer bar link upper nut	62	46
Stabilizer bar link lower nut	103	76
Super Duty F-450, F-550		
U-bolt nut ^a	—	—
Spring-to-front bracket nut	625	444
Spring-to-shackle nut	225	166
Shackle-to-bracket nut	225	166
Shock absorber upper nut	62	46
Shock absorber lower nut	90	66
Stabilizer bar bracket bolt	80	59
Stabilizer bar link upper nut	63	46
Stabilizer bar link lower nut	103	76
Auxiliary spring nut	80	59

^a Refer to the spring procedure in this section.
