

2008 SUSPENSION

Front Suspension - Mustang

SPECIFICATIONS

Material

Item	Specification	Fill Capacity
Silicone Spray Lubricant XL-6	ESR-M13P4-A	-

TORQUE SPECIFICATIONS

Description	Nm	lb-ft
Brake caliper anchor plate bolts	115	85
Brake disc shield bolts	20	15
Brake hose bracket bolt	20	15
Lower arm forward bolt	175	129
Lower arm rearward nuts	185	136
Lower ball joint nut	103	76
Stabilizer bar bracket nuts	70	52
Stabilizer bar link nuts	115	85
Steering gear bolts	115	85
Strut rod nut	80	59
Strut-to-spindle bolts	200	148
Strut upper mount nuts	35	26
Tie-rod end nuts	80	59
Wheel hub nut	300	221
Wheel speed sensor bolt	15	11

DESCRIPTION AND OPERATION

FRONT SUSPENSION

The front suspension consists of the following components:

- Strut and spring assembly
- Wheel spindle
- Lower arm
- Wheel bearing and wheel hub
- Stabilizer bar and links

The front suspension system incorporates a strut assembly that takes the place of the upper arm and ball joint.

The strut carries out the function of a shock absorber and is encompassed by a coil spring. The strut and spring assembly supports the weight of the vehicle and is also the pivot point for the steering spindle. This system uses a lower control arm and ball joint for the lower (unloaded) pivot point of the steering spindle.

DIAGNOSTIC TESTS

FRONT SUSPENSION

Refer to SUSPENSION SYSTEM - GENERAL INFORMATION article.

REMOVAL AND INSTALLATION

WHEEL STUDS

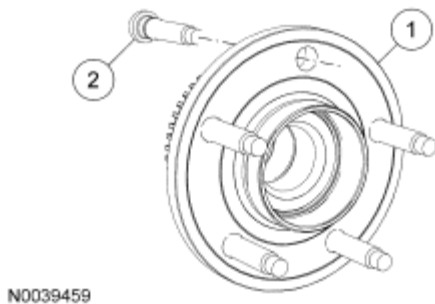


Fig. 1: Exploded View Of Wheel Studs
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	2B663/2C300	Wheel hub assembly (ABS/non-ABS)
2	1107	Wheel stud

REMOVAL

1. Remove the wheel bearing and hub assembly. For additional information, refer to Wheel Bearing and Wheel Hub..
2. Using a press, remove the wheel stud from the wheel bearing and hub assembly.

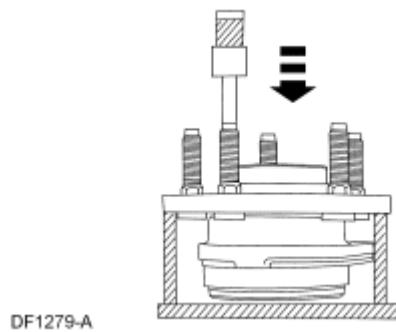


Fig. 2: Identifying Wheel Stud From Wheel Bearing & Hub Assembly
Courtesy of FORD MOTOR CO.

INSTALLATION

1. Using a press, install a new wheel stud.

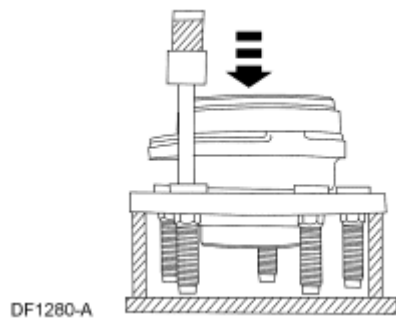


Fig. 3: Installing New Wheel Stud Using A Press
Courtesy of FORD MOTOR CO.

2. Install the wheel bearing and hub assembly. For additional information, refer to **Wheel Bearing and Wheel Hub..**

WHEEL BEARING AND WHEEL HUB

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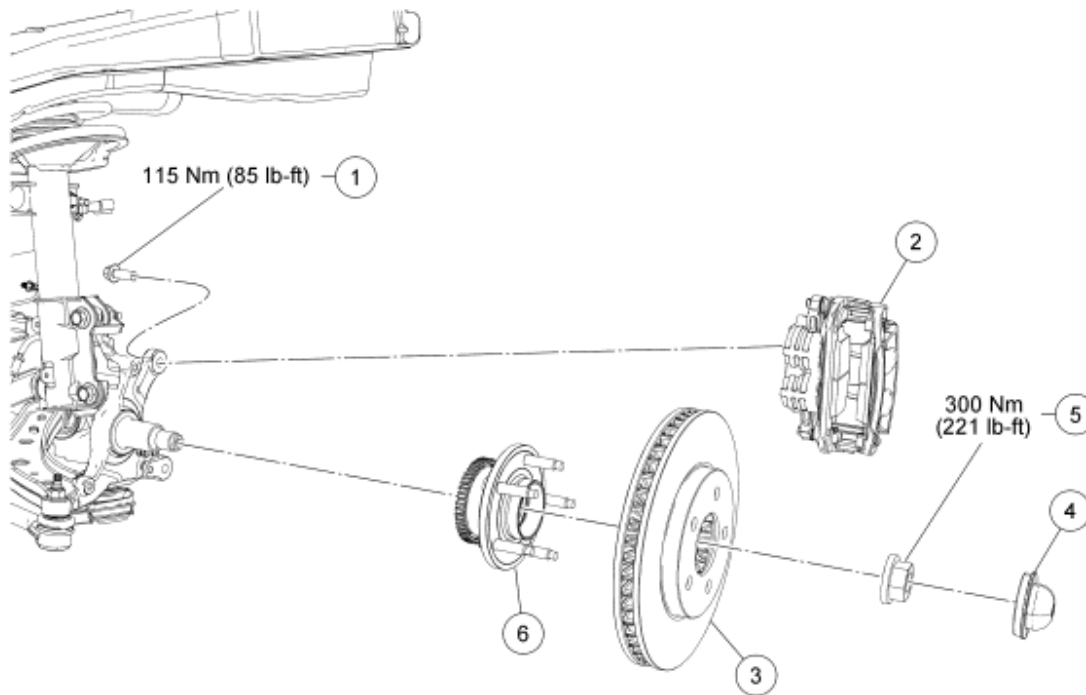


Fig. 4: Exploded View Of Wheel Bearing & Wheel Hub With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W710233	Brake caliper anchor plate bolt (2 required)
2	-	Brake caliper, pads and anchor plate assembly
3	1125	Brake disc
4	1N135	Wheel hub grease cap
5	3B477	Wheel hub nut
6	2B663/2C300	Wheel hub assembly (ABS/non-ABS)

REMOVAL AND INSTALLATION

CAUTION: 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 number 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 **WHEELS AND TIRES** article.

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CAUTION: Do not allow the caliper and anchor plate assembly to hang from the brake hose or damage to the hose can occur.

2. Remove the brake anchor plate bolts and position the brake caliper and anchor plate assembly aside.
 - Support the caliper and anchor plate assembly using mechanic's wire.
 - To install, tighten to 115 Nm (85 lb-ft).
3. Remove the brake disc.
4. Remove and discard the wheel hub grease cap.

WARNING: The wheel hub nut is a one-time use item and a new wheel hub nut must be installed. Failure to do so may result in hub separation from the vehicle and loss of vehicle control. Failure to follow this instruction may result in serious injury to vehicle occupant(s).

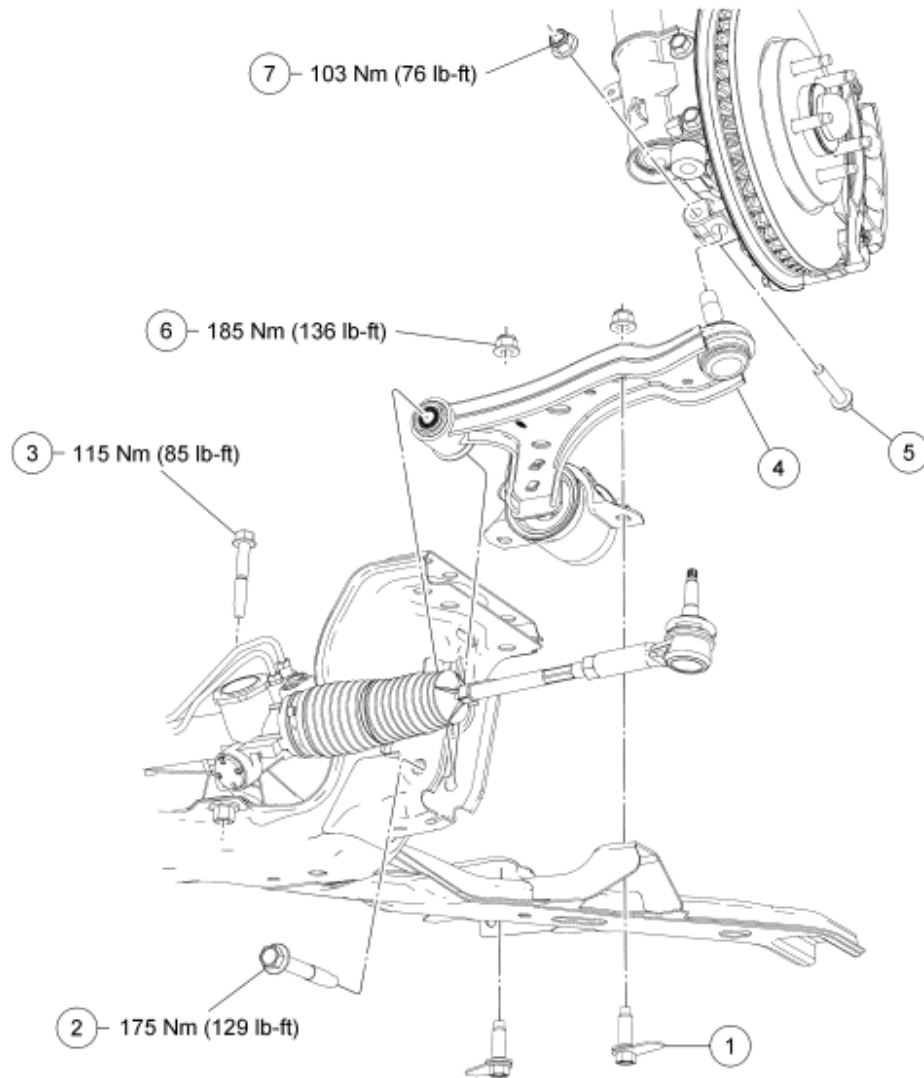
5. Remove and discard the wheel hub nut.
 - To install, tighten the new nut to 300 Nm (221 lb-ft).
6. Remove the front wheel bearing and wheel hub.
7. To install, reverse the removal procedure.

LOWER ARM

NOTE: 4.0L and 4.6L shown, 5.4L similar.

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N0070062

Fig. 5: Exploded View Of Lower Arm With Torque Specifications - 4.0L & 4.6L Shown, 5.4L Similar
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W710141	Lower arm rearward flag bolt (2 required)
2	W709865	Lower arm forward bolt
3	W710909	Steering gear bolt (2 required)
4	3079 LH/ 3078 RH	Lower arm
5	W711123	Lower ball joint bolt
6	W520215	Lower arm rearward nut (2 required)
7	W520214	Lower ball joint nut

REMOVAL

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NOTE: 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 number 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 WHEELS AND TIRES article.

NOTE: Note the orientation of the lower ball joint nut and bolt. They must be installed using the same orientation or damage to the steering gear bellows boot may occur.

2. Remove and discard the lower ball joint nut and bolt.
3. Separate the lower arm and the wheel spindle.
4. Remove the steering gear bolts. Position the steering gear to gain access to the lower control arm forward bolt.

NOTE: Use care not to damage the steering gear bellows boot while removing the lower arm forward bolt.

5. Remove and discard the lower arm forward bolt.
6. Remove and discard the lower control arm rearward nuts and flag bolts.
7. Remove the lower control arm and bracket assembly.

INSTALLATION

NOTE: To ease installation, the position of the lower control arm nut and flag bolt may be reversed to allow installation of the nut from underneath the vehicle.

1. Install the lower arm and bracket assembly and the lower arm rearward nuts and flag bolts.
 - Tighten the new nuts to 185 Nm (136 lb-ft).

NOTE: Use care not to damage the steering gear bellows boot while installing the lower arm forward bolt.

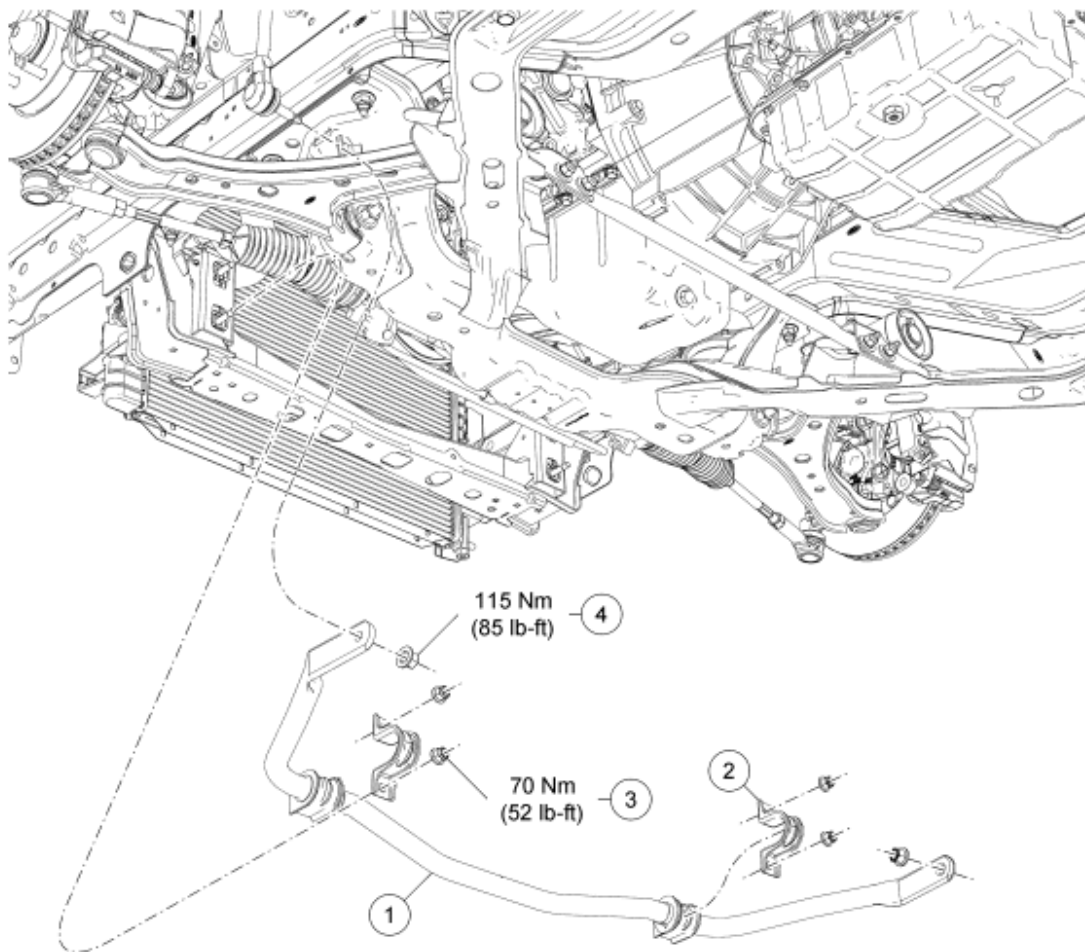
NOTE: Do not tighten the lower arm forward bolt at this time.

2. Loosely install the lower arm forward bolt.
3. Position the steering gear and install the steering gear bolts.
 - Tighten to 115 Nm (85 lb-ft).

NOTE: The lower ball joint seal must be fully seated against the wheel spindle or damage to the ball joint may occur.

4. Position the lower ball joint into the wheel spindle and install the lower ball joint nut and bolt.
 - Tighten the new nut to 103 Nm (76 lb-ft).
5. Install the wheel and tire. For additional information, refer to **WHEELS AND TIRES** article.
6. Lower the vehicle so the weight of the vehicle is resting on the wheel and tires.
7. Tighten the new lower arm forward bolt to 175 Nm (129 lb-ft).

STABILIZER BAR



N0039460

Fig. 6: Exploded View Of Stabilizer Bar With Torque Specifications
Courtesy of FORD MOTOR CO.

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Item	Part Number	Description
1	5482	Stabilizer bar
2	5486	Stabilizer bar bracket (2 required)
3	W520213	Bracket nut (4 required)
4	W520214	Stabilizer bar link lower nut (2 required)

REMOVAL AND INSTALLATION

CAUTION: 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 number 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. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.

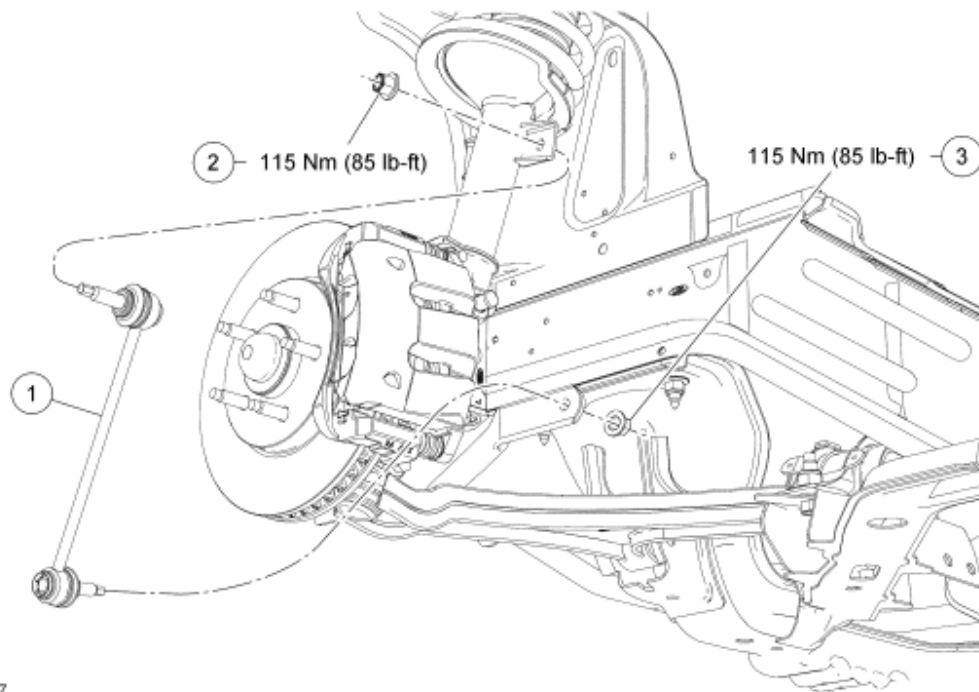
CAUTION: Use the holding feature to prevent the studs from turning while removing or installing the stabilizer bar link nuts. The boot seal must not be allowed to twist at all while tightening the nut or damage to the boot seal may occur.

2. Remove and discard both stabilizer bar link lower nuts.
 - To install, tighten the new nuts to 115 Nm (85 lb-ft).
3. Disconnect both links from the stabilizer bar.
4. Remove and discard the 4 stabilizer bracket nuts, then remove the stabilizer bar brackets and the stabilizer bar.
 - To install, tighten the new nuts to 70 Nm (52 lb-ft).
5. If necessary, remove the stabilizer bar bushings. For additional information, refer to **Stabilizer Bar Bushing**..
6. To install, reverse the removal procedure.

STABILIZER BAR LINK

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N0075337

Fig. 7: Exploded View Of Stabilizer Bar Link With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	5K483	Stabilizer bar link
2	W712836	Stabilizer bar link upper nut
3	W807144	Stabilizer bar link lower nut

REMOVAL AND INSTALLATION

CAUTION: 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 number 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. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.

CAUTION: Use the holding feature to prevent the studs from turning while removing or installing the stabilizer bar link nuts. The boot seal must not be allowed to twist at all while tightening the nuts or damage to the boot seal may occur.

- 2. Remove and discard the stabilizer bar link lower nut.
 - To install, tighten the new nut to 115 Nm (85 lb-ft).
- 3. Disconnect the link from the stabilizer bar.

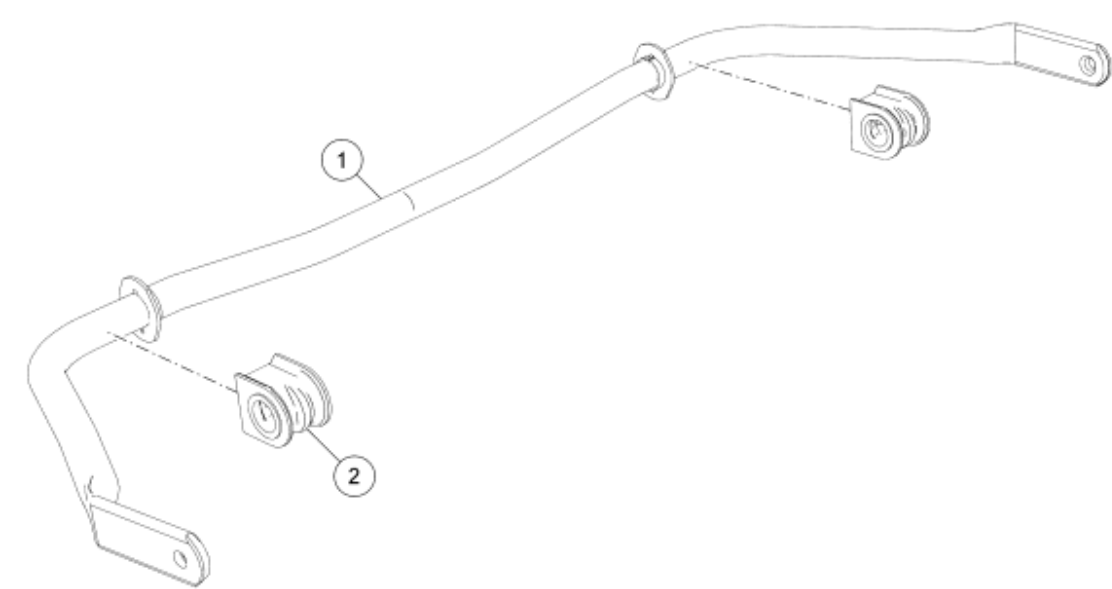
CAUTION: Use the holding feature to prevent the studs from turning while removing or installing the stabilizer bar link nuts. The boot seal must not be allowed to twist at all while tightening the nuts or damage to the boot seal may occur.

- 4. Remove and discard the stabilizer bar link upper nut.
 - To install, tighten the new nut to 115 Nm (85 lb-ft).
- 5. Disconnect the link from the strut.
- 6. To install, reverse the removal procedure.

STABILIZER BAR BUSHING

Material

Item	Specification
Silicone Spray Lubricant XL-6	ESR-M13P4-A



N0039461

Fig. 8: Exploded View Of Stabilizer Bar Bushing
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	5482	Stabilizer bar
2	5484	Stabilizer bar bushing

REMOVAL AND INSTALLATION

1. Remove the stabilizer bar. For additional information, refer to Stabilizer Bar..

NOTE: To aid removal, apply a light coat of lubricant to the necessary parts of the front stabilizer bar.

2. Remove the stabilizer bar bushing by sliding it off the stabilizer bar.

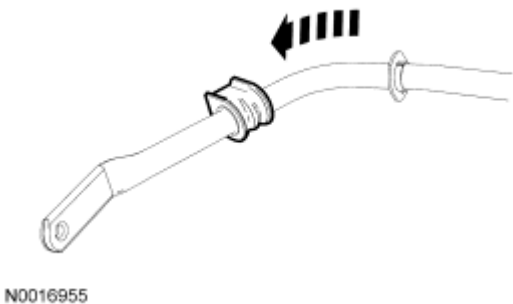


Fig. 9: Removing Stabilizer Bar Bushing
Courtesy of FORD MOTOR CO.

NOTE: To aid installation, apply a light coat of lubricant to the necessary parts of the front stabilizer bar and the inside diameter of the stabilizer bar bushing.

3. To install, reverse the removal procedure.

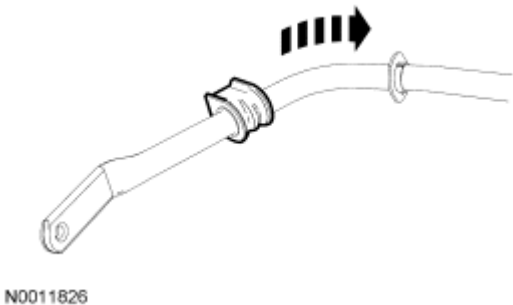


Fig. 10: Installing Stabilizer Bar Bushing
Courtesy of FORD MOTOR CO.

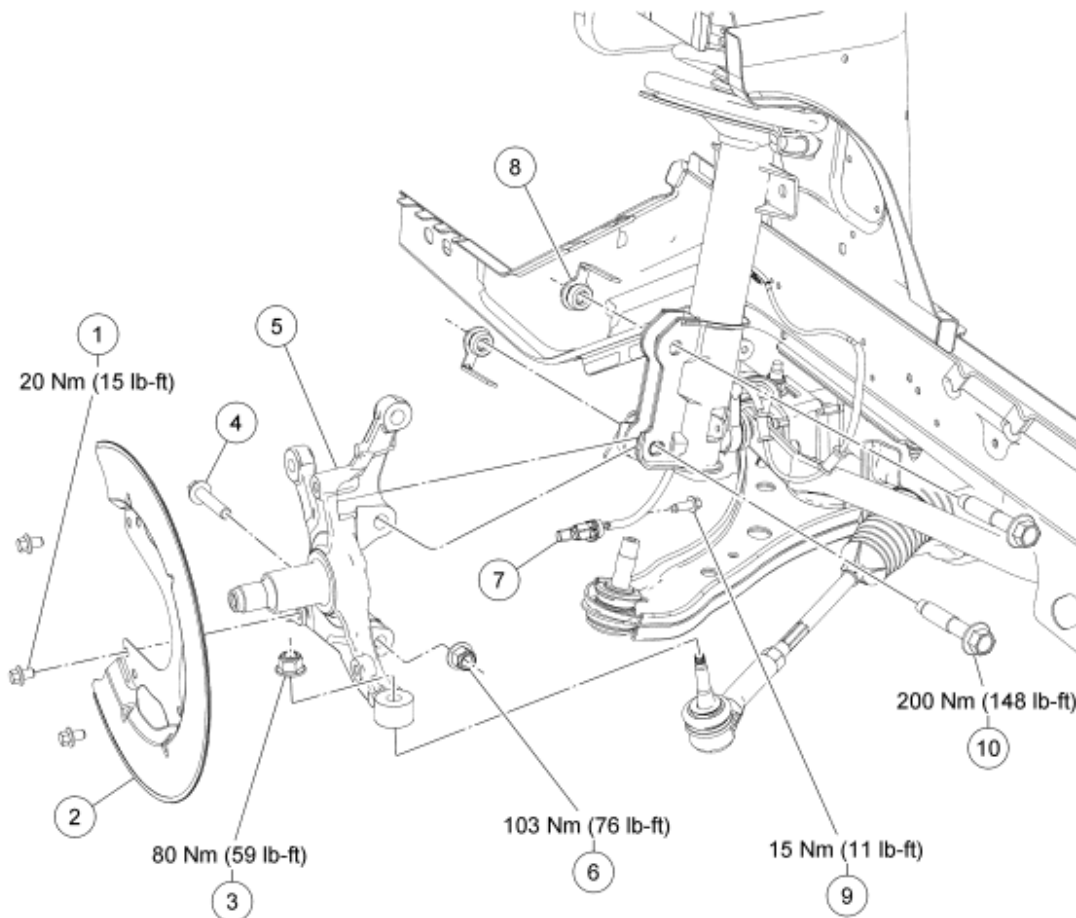
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Special Tools

Illustration	Tool Name	Tool Number
 ST1106-A	Tie-Rod End Remover	211-001 (TOOL-3290-D) or equivalent

NOTE: 4.0L and 4.6L shown, 5.4L similar.



N0052185

Fig. 11: Exploded View Of Wheel Spindle With Torque Specifications - 4.0L & 4.6L Shown, 5.4L Similar
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
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1	W500020	Brake disc shield bolt (3 required)
2	2K004	Brake disc shield
3	W705606	Tie-rod end nut
4	W711123	Lower ball joint bolt
5	3107 LH/3108 RH	Wheel spindle
6	W520214	Lower ball joint nut
7	2C204	Wheel speed sensor
8	W711091	Strut-to-wheel spindle flag nut (2 required)
9	7960825	Wheel speed sensor bolt
10	W709870	Strut-to-wheel spindle bolt (2 required)

REMOVAL AND INSTALLATION

CAUTION: 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 number 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 bearing and hub assembly. For additional information, refer to **Wheel Bearing and Wheel Hub..**
2. Remove the 3 bolts and the brake disc shield.
 - To install, tighten to 20 Nm (15 lb-ft).
3. Remove the wheel speed sensor bolt and position the sensor aside.
 - To install, tighten to 15 Nm (11 lb-ft).
4. Remove and discard the tie-rod end nut.
 - To install, tighten the new nut to 80 Nm (59 lb-ft).

CAUTION: Use care not to damage the tie-rod end dust boot when using the special tool.

5. Using the special tool, disconnect the tie-rod end from the front wheel spindle.

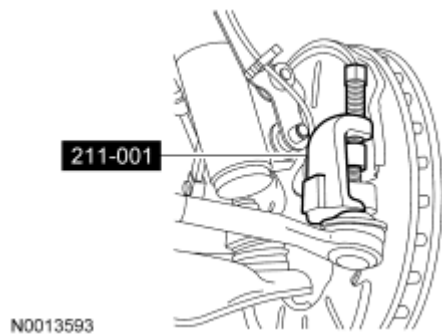


Fig. 12: Disconnecting Tie Rod End From Front Wheel Spindle Using Special Tool 211-001
Courtesy of FORD MOTOR CO.

6. Support the front suspension lower arm with a jack stand.
7. Remove and discard the lower ball joint nut and bolt.
 - To install, tighten the new nut to 103 Nm (76 lb-ft).

CAUTION: Use care not to damage the lower ball joint boot while separating the lower control arm and the wheel spindle.

8. Separate the lower control arm and the wheel spindle.
9. If equipped, index-mark the 2 strut-to-spindle cam bolts.

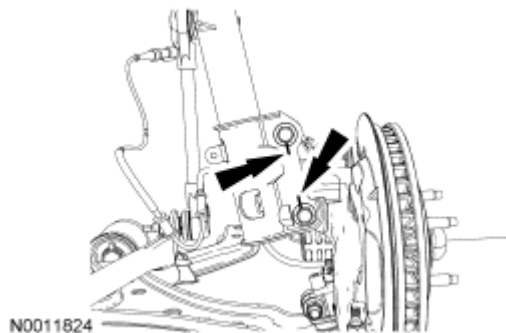


Fig. 13: Locating Bolts And Nuts
Courtesy of FORD MOTOR CO.

WARNING: Do not apply heat or flame to the shock absorber or strut tube. The shock absorber and strut tube are gas pressurized and could explode if heated. Failure to follow this instruction may result in serious personal injury.

WARNING: Keep all body parts clear of shock absorbers or strut rods. Shock absorbers or struts can extend unassisted. Failure to follow this instruction may result in serious personal injury.

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NOTE: If equipped, do not discard the strut-to-spindle cam nuts and bolts.

10. Remove and discard the strut-to-spindle bolts and flag nuts.
 - To install, tighten the new bolts to 200 Nm (148 lb-ft).
11. Remove the wheel spindle.
12. To install, reverse the removal procedure.
13. Check and, if necessary, align the front end. For additional information, refer to **SUSPENSION SYSTEM - GENERAL INFORMATION** article.

STRUT AND SPRING ASSEMBLY

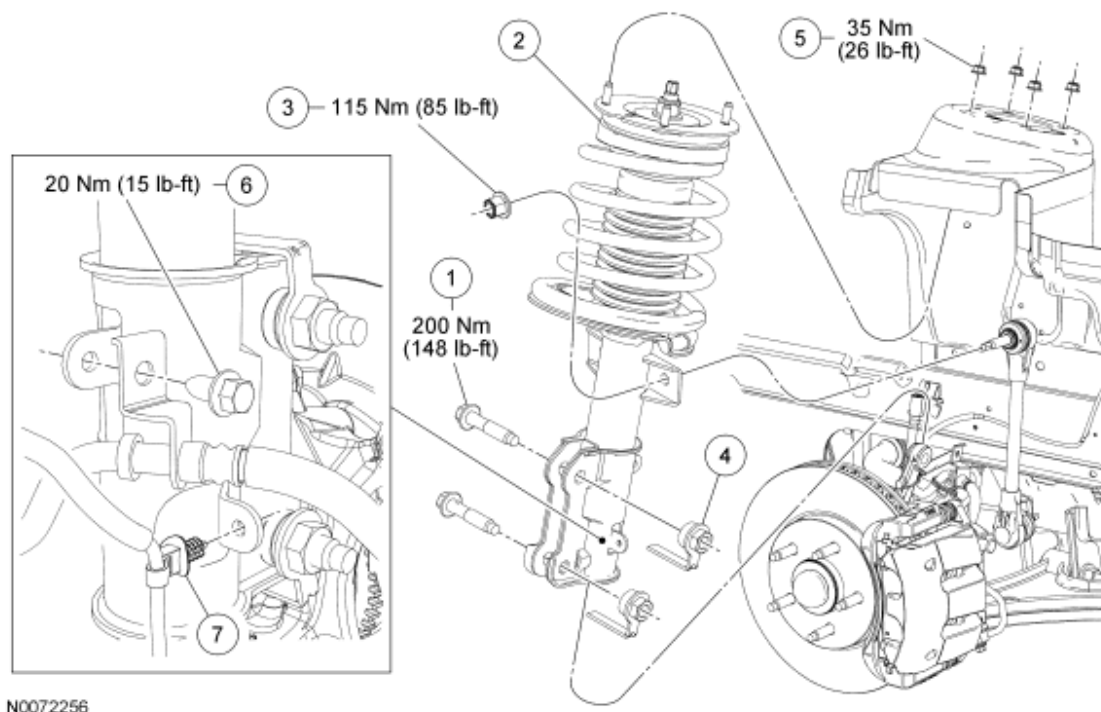


Fig. 14: Exploded View Of Strut and Spring Assembly With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W709870	Strut-to-wheel spindle bolt (2 required)
2	-	Strut and spring assembly
3	W712836	Stabilizer bar link upper nut
4	W711091	Strut-to-wheel spindle flag nut (2 required)
5	W520112	Strut upper mount nut (4 required)
6	N802191	Brake hose bracket bolt
7	-	Wheel speed sensor harness retainer (part of 2C204)

REMOVAL AND INSTALLATION

WARNING: Do not apply heat or flame to the shock absorber or strut tube. The shock absorber and strut tube are gas pressurized and could explode if heated. Failure to follow this instruction may result in serious personal injury.

WARNING: Keep all body parts clear of shock absorbers or strut rods. Shock absorbers or struts can extend unassisted. Failure to follow this instruction may result in serious personal injury.

CAUTION: 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 number 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 and discard the 4 strut upper mount nuts.
 - To install, tighten to 35 Nm (26 lb-ft).
2. Remove the wheel and tire. For additional information, refer to **WHEELS AND TIRES** article.
3. Remove the wheel speed sensor bolt and position the sensor aside.
 - To install, tighten to 15 Nm (11 lb-ft).
4. Remove the brake hose bracket bolt and disconnect the wheel speed sensor wire from the bracket.
 - To install, tighten to 20 Nm (15 lb-ft).

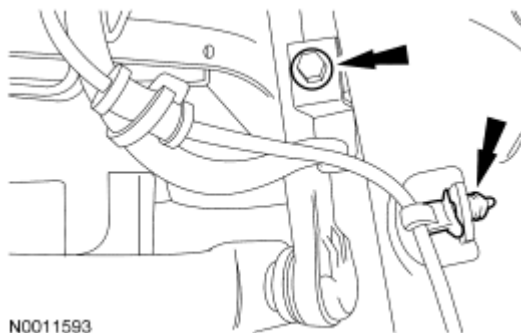


Fig. 15: Locating Brake Line Bracket Bolt
Courtesy of FORD MOTOR CO.

CAUTION: Use the holding feature to prevent the studs from turning while removing or installing the stabilizer bar link nuts. The boot seal must not be allowed to twist at all while tightening the nuts or damage to the boot seal may occur.

5. Remove and discard the stabilizer bar link upper nut and disconnect the link from the strut.
 - To install, tighten the new nut to 115 Nm (85 lb-ft).

6. Using a suitable jack stand, support the lower control arm.
7. If equipped, index-mark the 2 strut-to-spindle cam bolts.

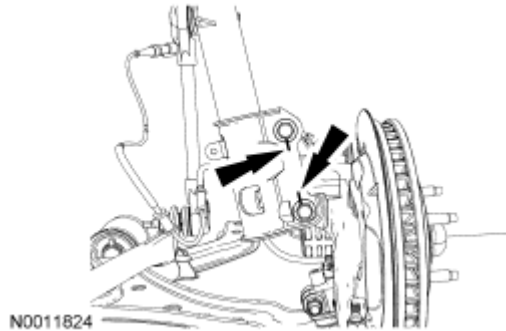


Fig. 16: Locating Bolts And Nuts
Courtesy of FORD MOTOR CO.

WARNING: Do not apply heat or flame to the shock absorber or strut tube. The shock absorber and strut tube are gas pressurized and could explode if heated. Failure to follow this instruction may result in serious personal injury.

WARNING: Keep all body parts clear of shock absorbers or strut rods. Shock absorbers or struts can extend unassisted. Failure to follow this instruction may result in serious personal injury.

NOTE: If equipped, do not discard the strut-to-spindle cam nuts and bolts.

8. Remove and discard the strut-to-spindle bolts and flag nuts.
 - To install, tighten to 200 Nm (148 lb-ft).

CAUTION: Damage to the lower control arm bushings may occur if the lower control arm is not supported.

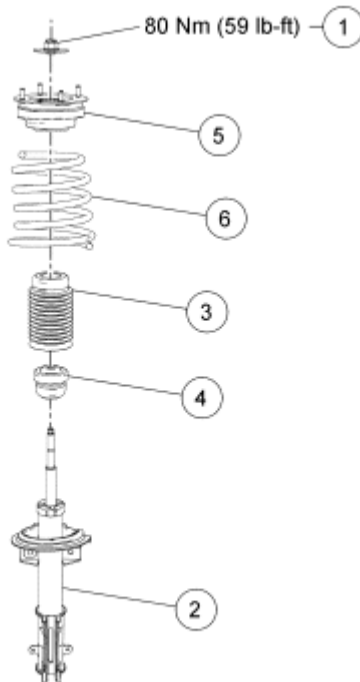
9. Carefully lower the lower control arm and remove the strut and spring assembly.
 - To install, the notch and the arrow etched into the upper bearing assembly must face the outboard side of the vehicle.
10. If necessary, disassemble the strut and spring assembly. For additional information, refer to **Strut and Spring Assembly**.
11. To install, reverse the removal procedure.
12. Check and, if necessary, adjust the front end alignment. For additional information, refer to **SUSPENSION SYSTEM - GENERAL INFORMATION** article.

DISASSEMBLY AND ASSEMBLY

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STRUT AND SPRING ASSEMBLY



N0066602

Fig. 17: Exploded View Of Strut & Spring Assembly With Torque Specification
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W520215	Strut rod nut and washer
2	18045	Strut
3	-	Dust boot (part of 18045)
4	-	Jounce bumper (part of 18045)
5	18183	Upper mount assembly
6	5310	Spring

DISASSEMBLY AND ASSEMBLY

WARNING: Do not apply heat or flame to the shock absorber or strut tube. The shock absorber and strut tube are gas pressurized and could explode if heated. Failure to follow this instruction may result in serious personal injury.

WARNING: Keep all body parts clear of shock absorbers or strut rods. Shock absorbers or struts can extend unassisted. Failure to follow this instruction may result in serious personal injury.

WARNING: Do not attempt to disassemble the shock absorber and spring assembly

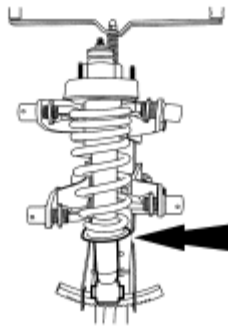
without using a spring compressor. Assemblies are under extreme load. Failure to follow this instruction may result in serious personal injury.

CAUTION: 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 number 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 strut and spring assembly. For additional information, refer to Strut and Spring Assembly..

NOTE: If installing a new spring, make sure the part number is correct. Refer to the vehicle certification (VC) label for the correct spring code. Refer to IDENTIFICATION CODES article to convert the spring code to a part number.

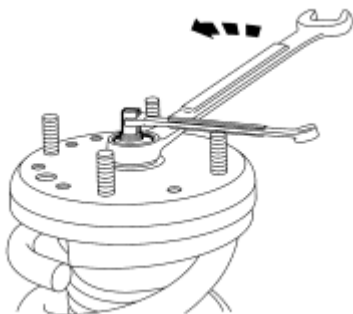
2. Using a suitable spring compressor, compress the spring until the tension is released from the strut.



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Fig. 18: Locating Spring Compressor
Courtesy of FORD MOTOR CO.

3. While holding the strut rod, remove and discard the strut rod nut and washer and remove the strut.
 - To install, tighten the new nut to 80 Nm (59 lb-ft).



A0000352

Fig. 19: Removing Shock Absorber Rod Nut
Courtesy of FORD MOTOR CO.

4. If necessary, remove the dust boot and jounce bumper.
5. Remove the upper mount assembly.
6. Carefully release the tension on the spring compressor and remove the spring.
7. When installing the spring onto the strut, make sure the spring end is positioned against the seat stop and is resting in the spring seat pocket.

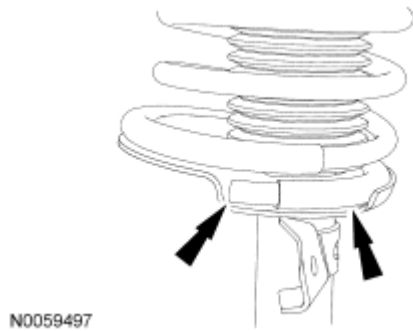


Fig. 20: Locating Seat Stop
Courtesy of FORD MOTOR CO.

8. To assemble, reverse the disassembly procedure.
 - Align the notch on the upper bearing assembly with the clevis at the bottom of the strut.