

2008 Ford Mustang

2008 STEERING Power Steering - Mustang

2008 STEERING

Power Steering - Mustang

SPECIFICATIONS

Material

Item	Specification	Fill Capacity
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V	Keep fluid level between MIN and MAX on reservoir
Premium Long-Life Grease XG-1-C or XG-1-K (US); CXG-1-C (Canada)	ESA-M1C75-B	-

TORQUE SPECIFICATIONS

Description	Nm	lb-ft	lb-in
Inner tie rod	120	89	-
LH engine mount nut	63	46	-
Power steering fluid cooler nuts	8	-	71
Power steering fluid reservoir bolt	9	-	80
Power steering line clamp plate bolt	23	17	-
Power steering pump bolts	25	18	-
Power steering pump pulley bolts (4.0L)	25	18	-
Power steering pump supply hose bracket bolt (4.0L)	8	-	71
Pressure line bracket-to-alternator stud nut (5.4L)	7	-	62
Pressure line bracket-to-A/C compressor stud nut (4.0L)	7	-	62
Pressure line bracket-to-crossmember bolt	9	-	80
Pressure line bracket-to-engine bolt (5.4L)	7	-	62
Pressure line bracket-to-pump stud nut (4.6L)	7	-	62
Pressure line bracket-to-steering gear bolt (4.6L, 5.4L)	9	-	80
Pressure line-to-pump fitting	65	48	-
Pressure line union fitting	65	48	-
Steering column coupling-to-steering gear bolt	25	18	-
Steering gear bolts	115	85	-
Tie-rod end nuts	80	59	-
Tie-rod jam nuts	55	41	-

DESCRIPTION AND OPERATION

POWER STEERING

The power steering system consists of the following components:

- Power steering pump
- Power steering fluid reservoir
- Power steering pressure and return lines/hoses
- Power steering fluid cooler
- Power steering gear
- Inner tie rod

The power steering system uses a vane-type pump to move the fluid from the reservoir to the steering gear and through the rest of the steering hydraulic system. The power steering pump is mounted to the engine and driven by the engine accessory drive belt. Power steering fluid flows into the pump from the reservoir. The power steering fluid is then trapped between the pump vanes and moved to the high-pressure side of the pump creating a flow of fluid. The restriction of this flow by the steering gear creates the pressure that provides the steering assist. A combined pressure relief/flow valve is built into the pump to control the maximum pressure and flow provided to the steering system. This action prevents damage to the system and provides the correct level of assist during all engine speeds. While under pressure, the power steering fluid flows through the high-pressure power steering line to the steering gear. The fluid exits the gear and flows through the return line, cooler and finally to the reservoir. The reservoir slows the fluid, allows air to escape and filters the fluid before returning it to the pump.

DIAGNOSTIC TESTS

POWER STEERING

Refer to **STEERING SYSTEM - GENERAL INFORMATION** article.

REMOVAL AND INSTALLATION

POWER STEERING FLUID RESERVOIR

Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V

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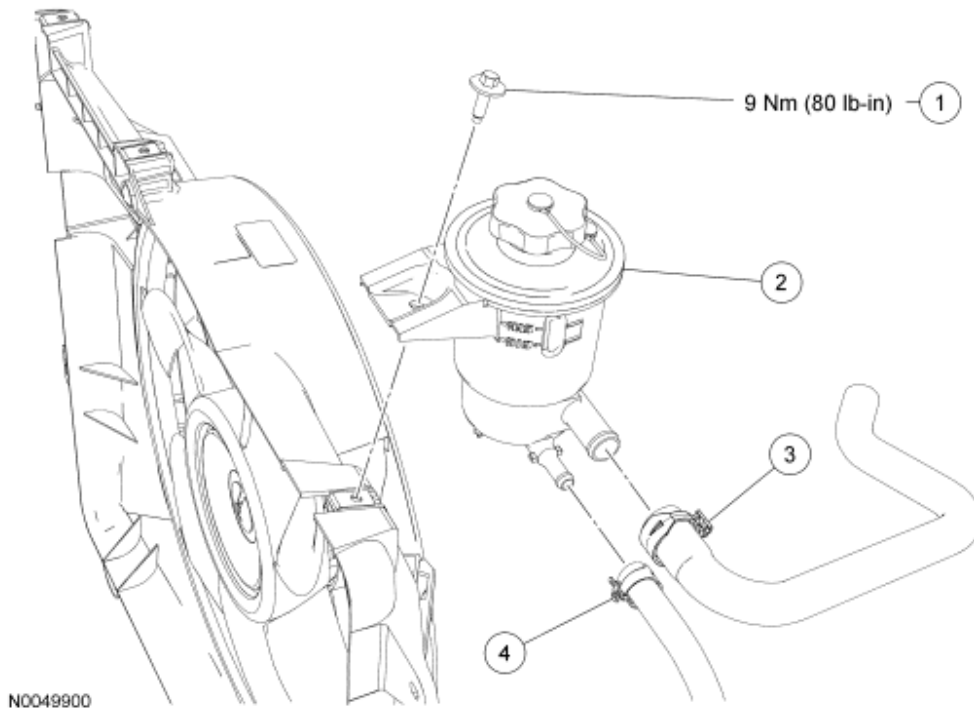


Fig. 1: Exploded View Of Power Steering Fluid Reservoir With Torque Specification - 4.0L & 4.6L Engine

Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W503924	Power steering fluid reservoir bolt
2	3A697	Power steering fluid reservoir
3	3691	Power steering pump supply hose
4	-	Power steering fluid return hose (part of 3D746)

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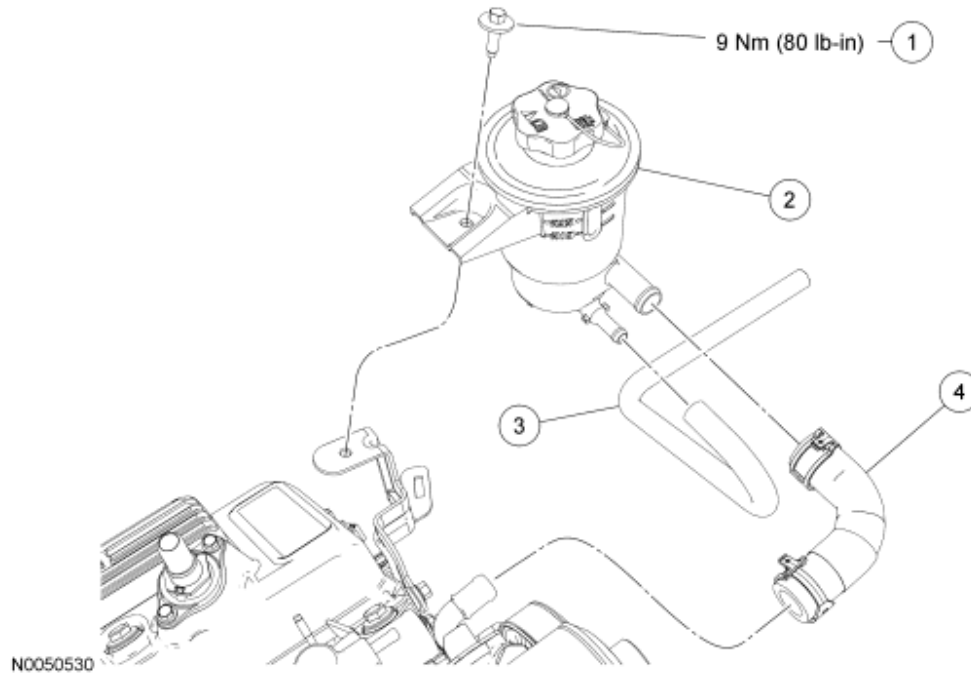


Fig. 2: Exploded View Of Power Steering Fluid Reservoir With Torque Specification - 5.4L Engine
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W503924	Power steering fluid reservoir bolt
2	3A697	Power steering fluid reservoir
3	-	Power steering fluid return hose (part of 3D746)
4	3691	Power steering pump supply hose

REMOVAL AND INSTALLATION

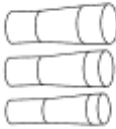
NOTE: When repairing the power steering system, care should be taken to prevent the entry of foreign material or failure of the power steering components may result.

1. Using a suitable suction device, remove the power steering fluid from the fluid reservoir.
2. Remove the power steering fluid reservoir bolt.
 - To install, tighten to 9 Nm (80 lb-in).
3. Release the clamp and disconnect the power steering pump supply hose from the power steering fluid reservoir.
4. Release the clamp, disconnect the fluid return hose and remove the power steering fluid reservoir.
5. To install, reverse the removal procedure.
 - Fill the power steering system. For additional information, refer to **STEERING SYSTEM -**

GENERAL INFORMATION article.

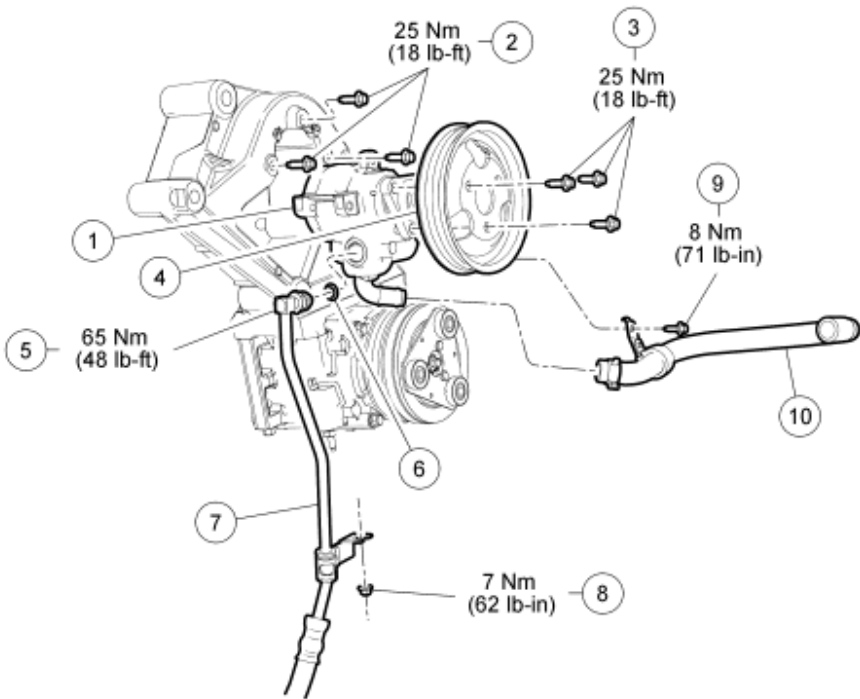
POWER STEERING PUMP - 4.0L

Special Tools

Illustration	Tool Name	Tool Number
 ST1444-A	Installer Set, Teflon® Seal	211-D027 (D90P-3517-A) or equivalent

Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V



N0072171

Fig. 3: Exploded View Of Power Steering Pump With Torque Specifications - 4.0L
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	3A674	Power steering pump
2	W700839	Power steering pump bolts (3 required)

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3	N605784	Power steering pump pulley bolts (3 required)
4	3A733	Power steering pump pulley
5	-	Pressure line-to-pump fitting (part of 3A719)
6	388898	Teflon® seal
7	3A719	Power steering pressure line
8	W503924	Pressure line bracket-to-A/C compressor stud nut
9	W503934	Power steering pump supply hose bracket bolt
10	3691	Power steering pump supply hose

REMOVAL AND INSTALLATION

NOTE: When repairing the power steering system, care should be taken to prevent the entry of foreign material or failure of the power steering components may result.

1. Remove the air cleaner outlet pipe. For additional information, refer to **INTAKE AIR DISTRIBUTION AND FILTERING** article.
2. Using a suitable suction device, remove the power steering fluid from the fluid reservoir.
3. Loosen the 3 power steering pump pulley bolts.
4. Rotate the tensioner and remove the accessory drive belt from the power steering pump pulley.
5. Remove the 3 bolts and the power steering pump pulley.
 - To install, tighten to 25 Nm (18 lb-ft).
6. Release the clamp and disconnect the power steering pump supply hose from the power steering pump.
7. Remove the pressure line bracket-to-A/C compressor stud nut.
 - To install, tighten to 7 Nm (62 lb-in).
8. Remove the power steering pump supply hose bracket bolt.
 - To install, tighten to 8 Nm (71 lb-in).

NOTE: A new Teflon® seal must be installed.

9. Disconnect the pressure line-to-pump fitting from the power steering pump.
 - Discard the Teflon® seal.
 - To install, tighten to 65 Nm (48 lb-ft).
10. Remove the 3 bolts and the power steering pump.
 - To install, tighten to 25 Nm (18 lb-ft).

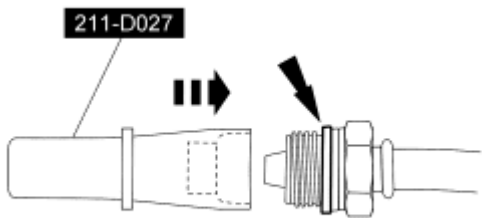
NOTE: For additional information on the accessory drive belt routing, refer to

ACCESSORY DRIVE article.

11. To install, reverse the removal procedure.

NOTE: **A new Teflon® seal must be installed.**

12. Using the Teflon® Seal Installer Set, install a new Teflon® seal to the pressure line-to-pump fitting.



N0032102

Fig. 4: Installing Teflon(R) Seal Using Special Tool 211-D027
Courtesy of FORD MOTOR CO.

13. Fill the power steering system. For additional information, refer to **STEERING SYSTEM - GENERAL INFORMATION** article.

POWER STEERING PUMP - 4.6L

Special Tools

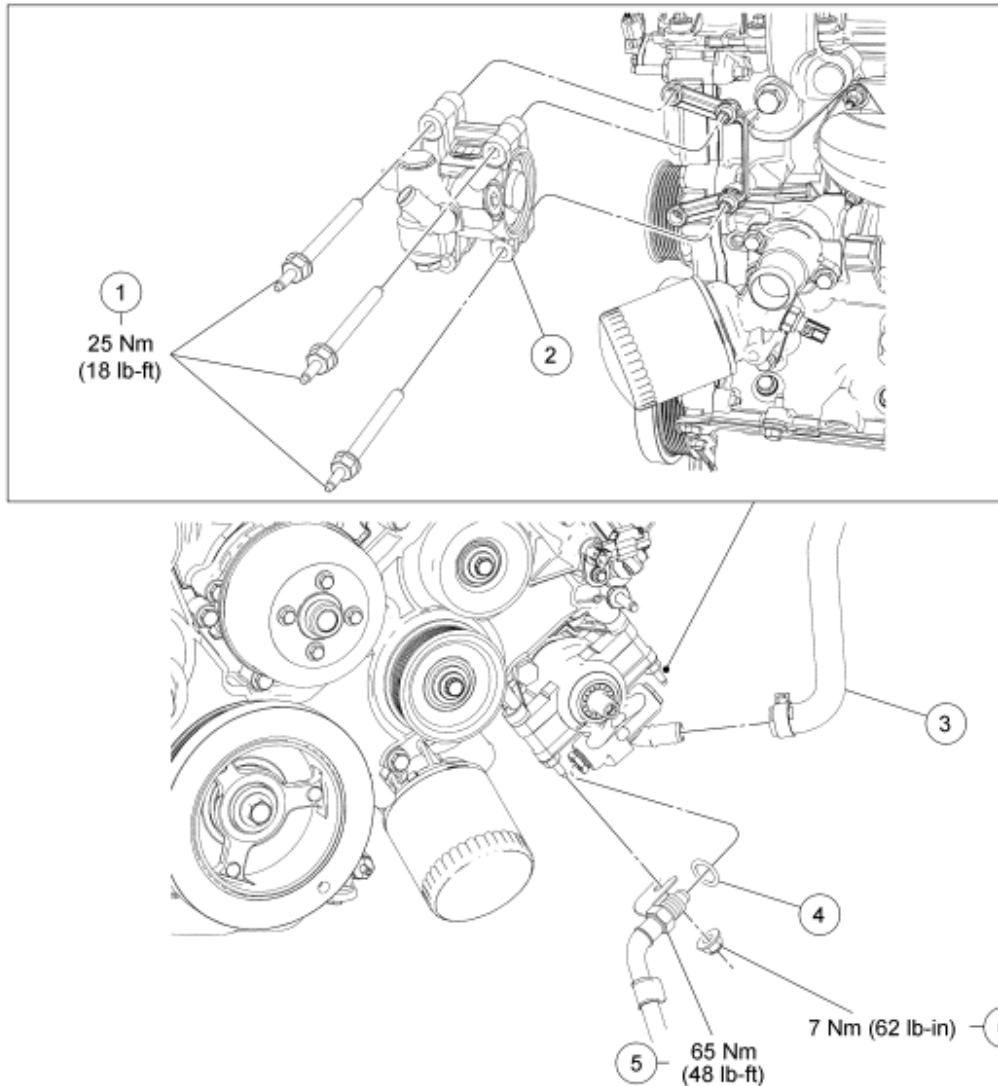
Illustration	Tool Name	Tool Number
 ST1444-A	Installer Set, Teflon® Seal	211-D027 (D90P-3517-A) or equivalent

Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V

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N0072153

Fig. 5: Exploded View Of Power Steering Pump With Torque Specifications - 4.6L
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W707225	Power steering pump bolts (3 required)
2	3A674	Power steering pump
3	3691	Power steering pump supply hose
4	388898	Teflon® seal
5	-	Pressure line-to-pump fitting (part of 3A719)
6	N805320	Pressure line bracket-to-pump stud nut

REMOVAL AND INSTALLATION

NOTE: When repairing the power steering system, care should be taken to prevent the entry of foreign material or failure of the power steering components may result.

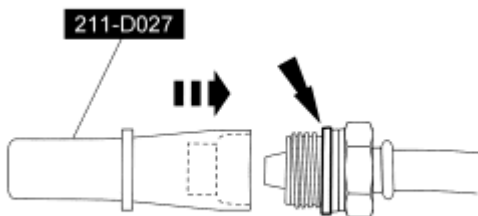
1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.
2. Using a suitable suction device, remove the power steering fluid from the fluid reservoir.
3. Remove the power steering pump pulley. For additional information, refer to **Power Steering Pump Pulley - 4.6L, 5.4L**.
4. Remove the pressure line bracket-to-pump stud nut.
 - To install, tighten to 7 Nm (62 lb-in).
5. Release the clamp and disconnect the power steering pump supply hose from the pump.

NOTE: A new Teflon® seal must be installed.

6. Disconnect the pressure line-to-pump fitting.
 - Discard the Teflon® seal.
 - To install, tighten to 65 Nm (48 lb-ft).
7. Remove the 3 bolts and the power steering pump.
 - To install, tighten to 25 Nm (18 lb-ft).

NOTE: A new Teflon® seal must be installed.

8. To install, reverse the removal procedure.
 - Using the Teflon® Seal Installer Set, install a new Teflon® seal to the pressure line-to-pump fitting.



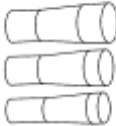
N0032102

Fig. 6: Installing Teflon(R) Seal Using Special Tool 211-D027
 Courtesy of FORD MOTOR CO.

9. Fill the power steering system. For additional information, refer to **STEERING SYSTEM - GENERAL INFORMATION** article.

POWER STEERING PUMP - 5.4L

Special Tools

Illustration	Tool Name	Tool Number
 ST1444-A	Installer Set, Teflon® Seal	211-D027 (D90P-3517-A) or equivalent

Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V

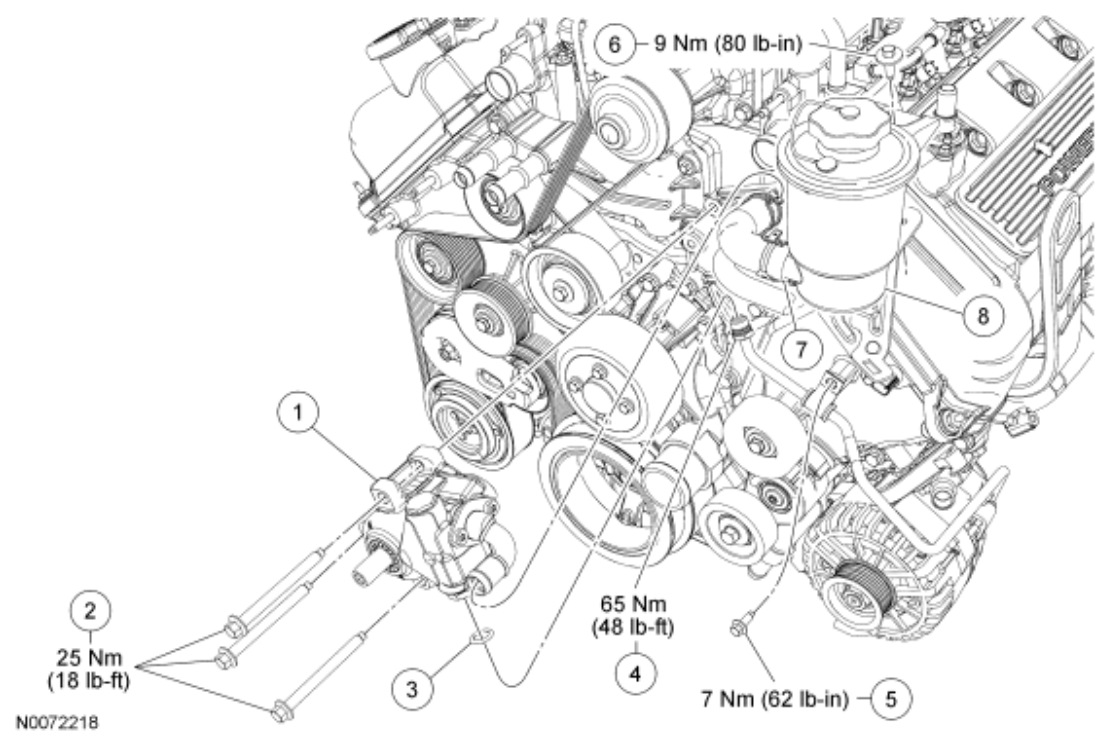


Fig. 7: Exploded View Of Power Steering Pump With Torque Specifications - 5.4L
 Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	3A674	Power steering pump
2	W700839	Power steering pump bolts (3 required)
3	388898	Teflon® seal
		Pressure line-to-pump fitting (part of

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4	-	3A719)
5	W505255	Pressure line bracket-to-engine bolt
6	W503924	Power steering fluid reservoir bolt
7	3691	Power steering pump supply hose
8	3A697	Power steering fluid reservoir

REMOVAL AND INSTALLATION

NOTE: When repairing the power steering system, care should be taken to prevent the entry of foreign material or failure of the power steering components may result.

1. Remove the power steering pump pulley. For additional information, refer to **Power Steering Pump Pulley - 4.6L, 5.4L**.
2. Using a suitable suction device, remove the power steering fluid from the fluid reservoir.

NOTE: Make sure to remove the power steering reservoir bolt and separate the reservoir from the bracket or damage to the power steering reservoir may occur.

3. Remove the power steering fluid reservoir bolt and separate the reservoir from the power steering reservoir bracket.
 - To install, tighten to 9 Nm (80 lb-in).
4. Release the clamp and disconnect the power steering pump supply hose from the power steering pump.
 - Position the power steering fluid reservoir aside.
5. Remove the pressure line bracket-to-engine bolt.
 - To install, tighten to 7 Nm (62 lb-in).

NOTE: A new Teflon® seal must be installed.

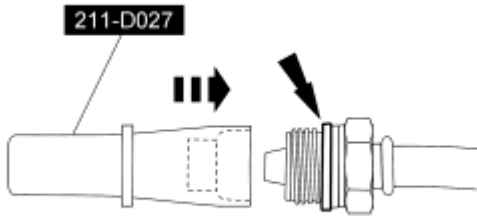
6. Disconnect the pressure line-to-pump fitting.
 - Discard the Teflon® seal.
 - To install, tighten to 65 Nm (48 lb-ft).
7. Remove the 3 bolts and the power steering pump.
 - To install, tighten to 25 Nm (18 lb-ft).
8. To install, reverse the removal procedure.

NOTE: A new Teflon® seal must be installed.

9. Using the Teflon® Seal Installer Set, install a new Teflon® seal to the pressure line-to-pump fitting.

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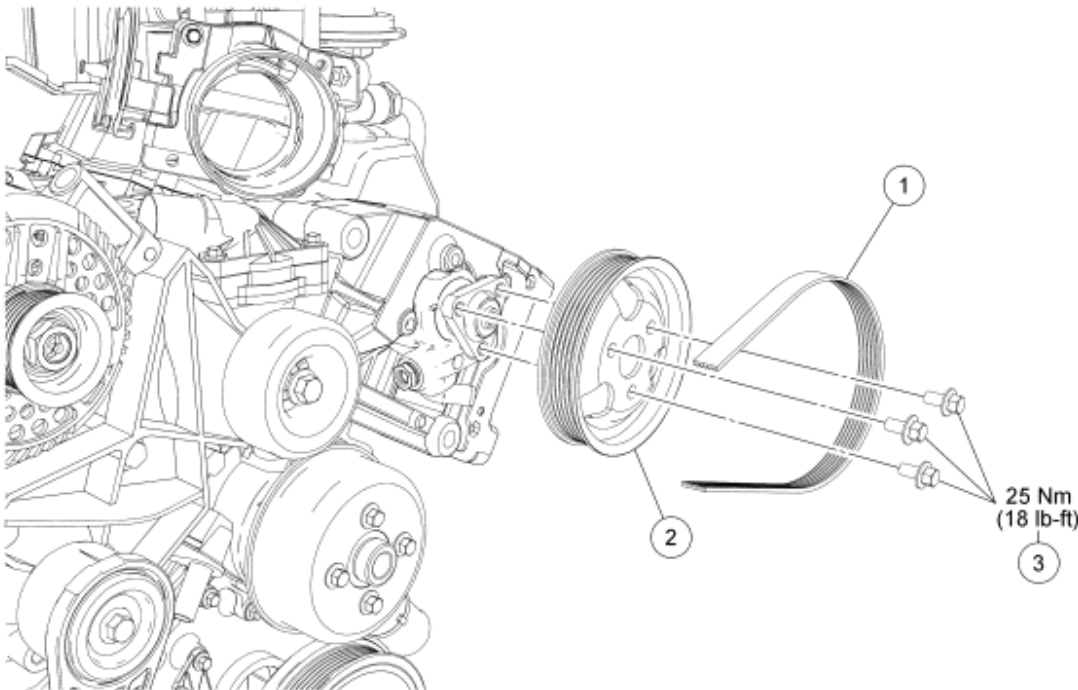


N0032102

Fig. 8: Installing Teflon(R) Seal Using Special Tool 211-D027
Courtesy of FORD MOTOR CO.

10. Fill the power steering system. For additional information, refer to **STEERING SYSTEM - GENERAL INFORMATION** article.

POWER STEERING PUMP PULLEY - 4.0L



N0072157

Fig. 9: Exploded View Of Power Steering Pump Pulley With Torque Specification - 4.0L
Courtesy of FORD MOTOR CO.

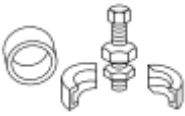
Item	Part Number	Description
1	8620	Accessory drive belt
2	N605784	Power steering pump pulley
3	3A733	Power steering pump pulley bolts (3 required)

REMOVAL AND INSTALLATION

- 1. Remove the air cleaner outlet pipe. For additional information, refer to **INTAKE AIR DISTRIBUTION AND FILTERING** article.
- 2. Loosen the 3 power steering pump pulley bolts.
- 3. Rotate the tensioner and remove the accessory drive belt from the power steering pump pulley.
- 4. Remove the 3 bolts and the power steering pump pulley.
 - To install, tighten to 25 Nm (18 lb-ft).
- 5. To install, reverse the removal procedure.
 - For additional information on accessory drive belt routing, refer to **ACCESSORY DRIVE** article.

POWER STEERING PUMP PULLEY - 4.6L, 5.4L

Special Tools

Illustration	Tool Name	Tool Number
 ST1586-A	Installer, Power Steering Pump Pulley	211-185 (T91P-3A733-A)
 ST1290-A	Remover, Power Steering Pump Pulley	211-016 (T69L-10300-B)

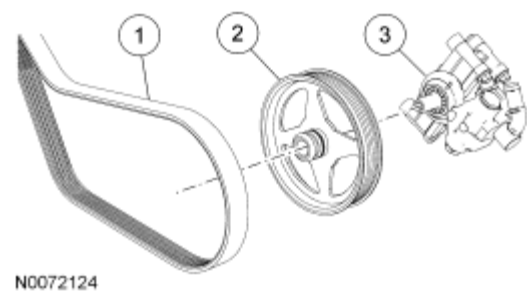
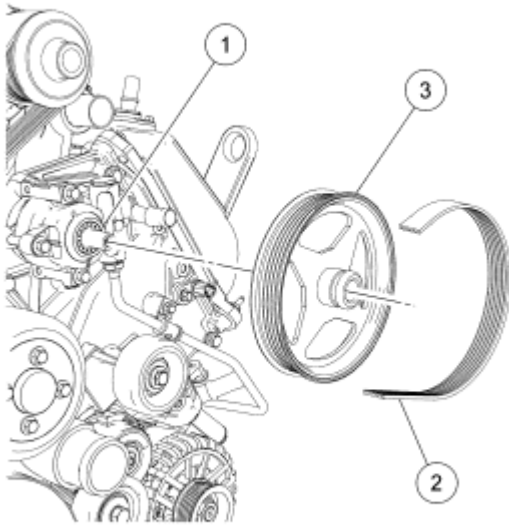


Fig. 10: Exploded View Of Power Steering Pump Pulley - 4.6L Engine
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	8620	Accessory drive belt
2	3A733	Power steering pump pulley
3	3A674	Power steering pump

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N0072158

Fig. 11: Exploded View Of Power Steering Pump Pulley - 5.4L Engine
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	3A674	Power steering pump
2	8620	Accessory drive belt
3	3A733	Power steering pump pulley

REMOVAL

4.6L engine

1. Remove the air cleaner outlet pipe. For additional information, refer to **INTAKE AIR DISTRIBUTION AND FILTERING** article.

4.6L and 5.4L engines

2. Rotate the tensioner and remove the accessory drive belt from the power steering pump pulley.
3. Using the Power Steering Pump Pulley Remover, remove the pulley.

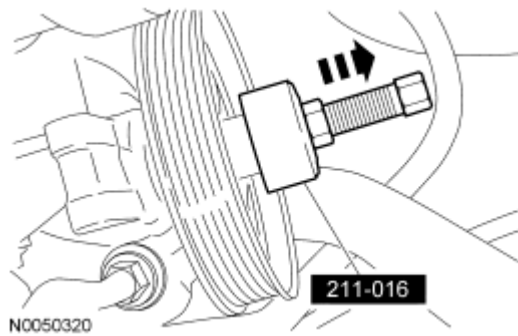


Fig. 12: Removing Pulley Using Special Tool 211-016
Courtesy of FORD MOTOR CO.

INSTALLATION

4.6L and 5.4L engines

NOTE: Installation of a new power steering pump pulley is necessary after being removed and installed 2 times or pulley and/or pump failure may occur.

1. Using the Power Steering Pump Pulley Installer, install the pulley.
 - Inspect the pulley for paint marks in the web area near the hub. If there are 2 paint marks, install a new pulley. If there is no paint or one paint mark, use a paint pencil to mark the web area of the pulley near the hub.

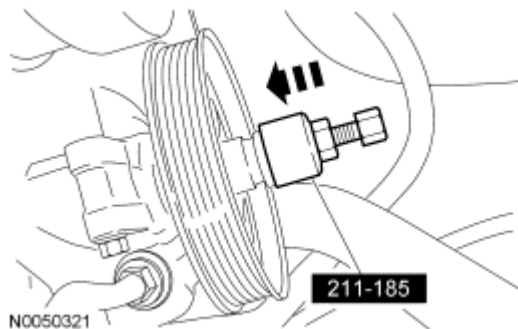


Fig. 13: Installing Pulley Using Special Tool 211-185
Courtesy of FORD MOTOR CO.

2. Rotate the tensioner and install the accessory drive belt to the power steering pump pulley. For additional information on the accessory drive belt routing, refer to **ACCESSORY DRIVE** article.

4.6L engine

3. Install the air cleaner outlet pipe. For additional information, refer to **INTAKE AIR DISTRIBUTION AND FILTERING** article.

POWER STEERING FLUID COOLER

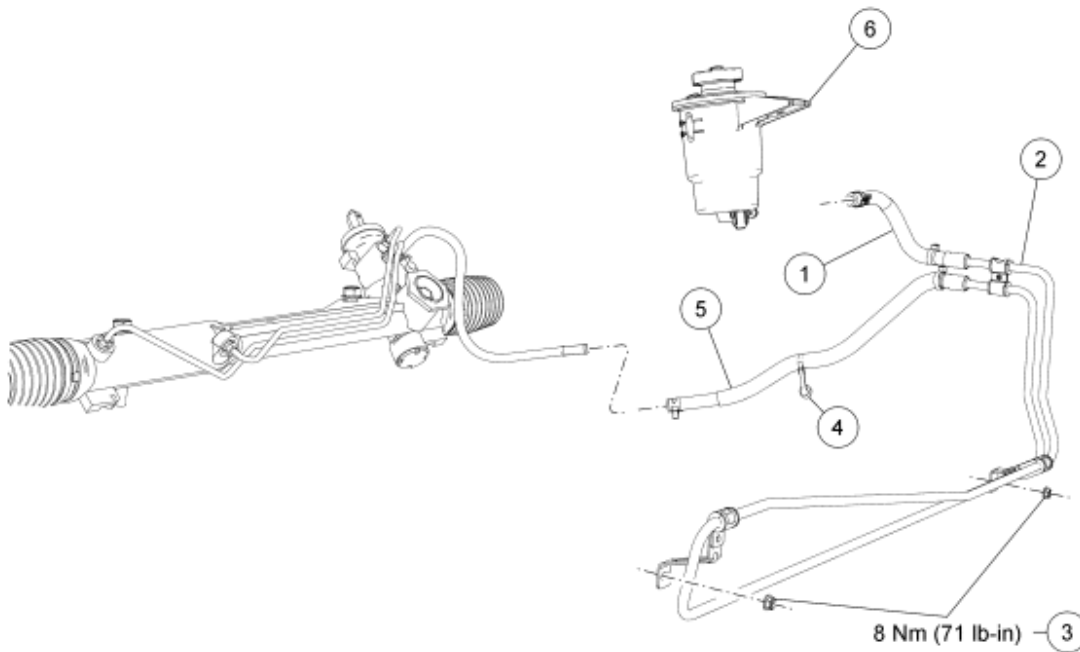
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Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V

NOTE: 4.6L shown, 5.4L similar.



N0072191

Fig. 14: Exploded View Of Power Steering Fluid Cooler With Torque Specification
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	Fluid cooler-to-reservoir hose (part of 3D746)
2	3D746	Power steering fluid cooler line
3	W520101	Power steering fluid cooler nuts (2 required)
4	-	Pin-type retainer (part of 3F780)
5	-	Return line-to-fluid cooler hose (part of 3D746)
6	3A697	Power steering fluid reservoir

REMOVAL AND INSTALLATION

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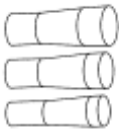
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NOTE: When repairing the power steering system, care should be taken to prevent the entry of foreign material or failure of the power steering components may result.

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.
2. Release the clamp and disconnect the fluid cooler-to-reservoir hose.
3. Release the clamp and disconnect the return line-to-fluid cooler hose.
4. Disconnect the return line-to-fluid cooler hose pin-type retainer from the stabilizer bar bracket.
5. Remove the 2 fluid cooler nuts and the fluid cooler tube.
 - To install, tighten to 8 Nm (71 lb-in).
6. To install, reverse the removal procedure.
 - Fill the power steering system. For additional information, refer to **STEERING SYSTEM - GENERAL INFORMATION** article.

POWER STEERING PUMP TO STEERING GEAR PRESSURE LINE - 4.0L, 4.6L

Special Tools

Illustration	Tool Name	Tool Number
 ST1444-A	Installer Set, Teflon® Seal	211-D027 (D90P-3517-A) or equivalent

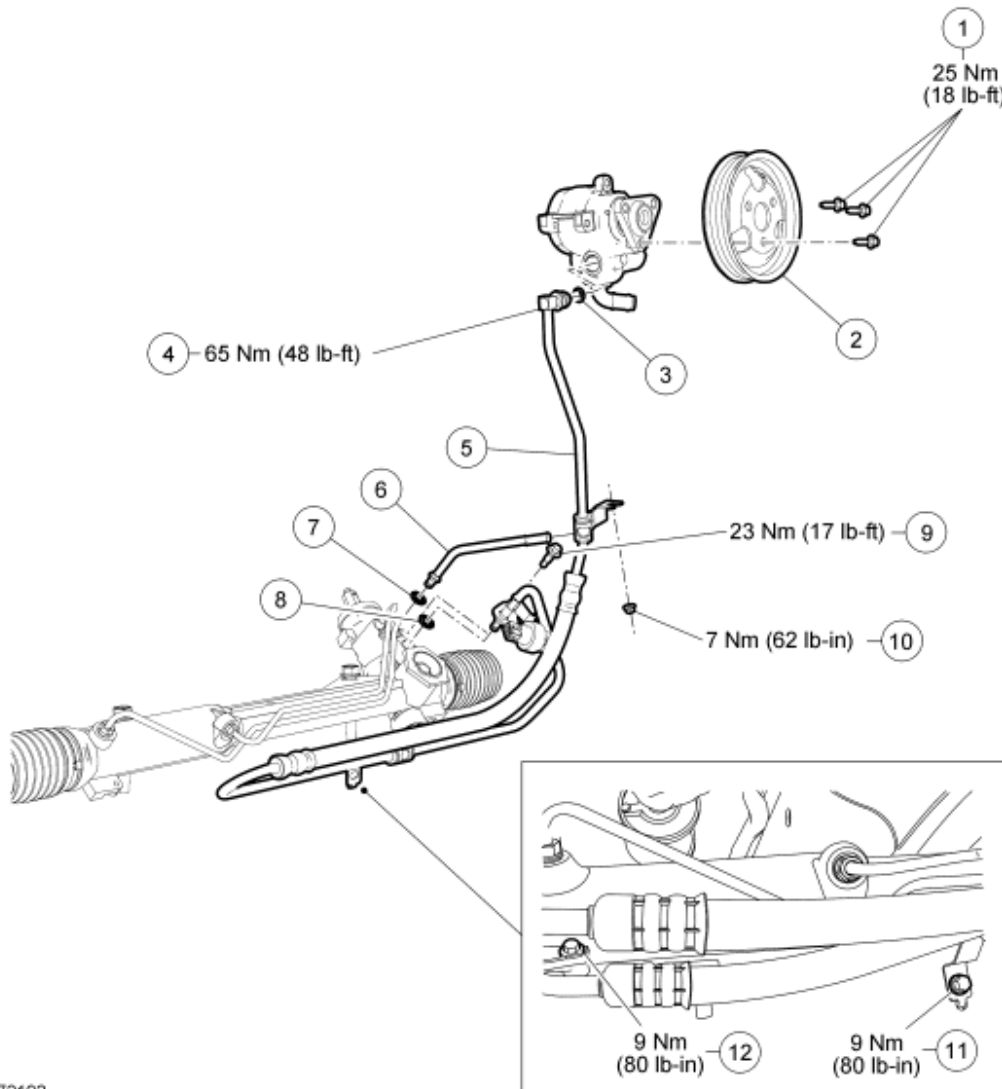
Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V

NOTE: 4.0L engine shown, 4.6L engine similar.

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N0072192

Fig. 15: Exploded View Of Power Steering Pump to Steering Gear Pressure Line With Torque Specifications - 4.0L, 4.6L

Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	N605784	Power steering pump pulley bolts
2	3A733	Power steering pump pulley
3	388898	Teflon® seal
4	-	Pressure line-to-pump fitting (part of 3A719)
5	3A719	Power steering pressure line
6	3A713	Power steering fluid cooler return line
7	3F886-BA	O-ring seal
8	3F886-AA	O-ring seal
9	W707622	Power steering line clamp plate bolt

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10	W520101	Pressure line bracket-to-A/C compressor stud nut
11	W505255	Pressure line bracket-to-crossmember bolt
12	W505255	Power steering pressure line bracket-to-steering gear bolt (4.6L)

REMOVAL AND INSTALLATION

NOTE: When repairing the power steering system, care should be taken to prevent the entry of foreign material or failure of the power steering components may result.

4.0L and 4.6L engines

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.
2. Remove the air cleaner outlet pipe. For additional information, refer to **INTAKE AIR DISTRIBUTION AND FILTERING** article.

4.0L engine

3. Loosen the 3 power steering pump pulley bolts.
4. Rotate the tensioner and remove the accessory drive belt from the power steering pump pulley.
5. Remove the 3 bolts and the power steering pump pulley.
 - To install, tighten to 25 Nm (18 lb-ft).
6. Remove the pressure line-to-A/C compressor stud nut.

4.6L engine

7. Remove the power steering pump pulley. For additional information, refer to **Power Steering Pump Pulley - 4.6L, 5.4L**.
8. Remove the pressure line bracket-to-pump stud nut.
 - To install, tighten to 7 Nm (62 lb-in).
9. Remove the pressure line bracket-to-steering gear bolt.
 - To install, tighten to 9 Nm (80 lb-in).

4.0L and 4.6L engines

10. Remove the pressure line bracket-to-crossmember bolt.
 - To install, tighten to 9 Nm (80 lb-in).

NOTE: A new Teflon® seal must be installed.

11. Disconnect the pressure line-to-pump fitting.

- Discard the Teflon® seal.
- To install, tighten to 65 Nm (48 lb-ft).

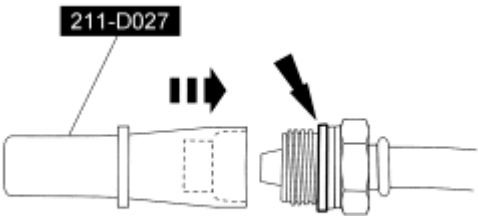
NOTE: When installing the pressure and return lines to the steering gear, make sure the lines are fully seated into the steering gear prior to installing the clamp plate. Additionally, make sure that the clamp plate surfaces are free of foreign material. **DO NOT** exceed the specified torque when tightening the clamp plate. Leakage and/or failure of the power steering components may occur.

NOTE: New O-ring seals must be installed any time the lines are disconnected from the steering gear.

12. Remove the power steering line clamp plate bolt, rotate the clamp plate and remove the power steering pressure line.
 - Discard the O-ring seal.
 - To install, tighten to 23 Nm (17 lb-ft).
13. To install, reverse the removal procedure.

NOTE: New Teflon® seals must be installed.

Using the Teflon® Seal Installer Set, install a new Teflon® seal to the pressure line fitting.



N0032102

Fig. 16: Installing Teflon(R) Seal Using Special Tool 211-D027
 Courtesy of FORD MOTOR CO.

14. For additional information on the accessory drive belt routing, refer to **ACCESSORY DRIVE** article.
 - Fill the power steering system. For additional information, refer to **STEERING SYSTEM - GENERAL INFORMATION** article.

POWER STEERING PUMP TO STEERING GEAR PRESSURE LINE - 5.4L

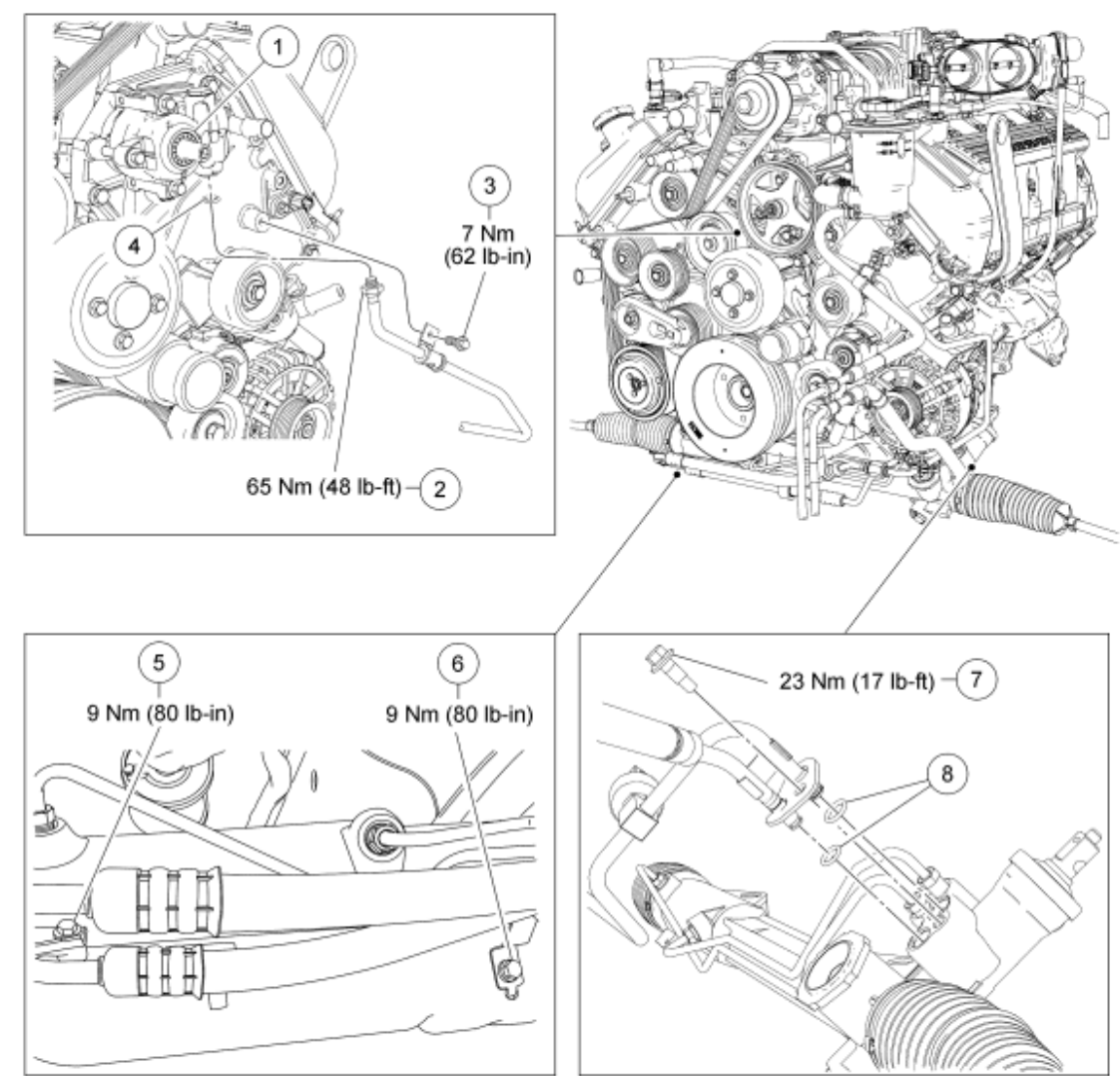
Special Tools

Illustration	Tool Name	Tool Number

 ST1444-A	Installer Set, Teflon® Seal	211-D027 (D90P-3517-A) or equivalent
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Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V



N0072428

Fig. 17: Exploded View Of Power Steering Pump to Steering Gear Pressure Line With Torque Specifications - 5.4L

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Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	3A674	Power steering pump
2	-	Pressure line-to-pump fitting (part of 3A719)
3	W505255	Pressure line bracket-to-engine bolt
4	388898	Teflon® seal
5	W505255	Pressure line bracket-to-steering gear bolt
6	W505255	Pressure line bracket-to-crossmember bolt
7	W707622	Power steering line clamp plate bolt
8	3F886-AA 3F886-BA	O-ring seals (2 required)

REMOVAL AND INSTALLATION

NOTE: When repairing the power steering system, care should be taken to prevent the entry of foreign material or failure of the power steering components may result.

1. With the vehicle in NEUTRAL position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.
2. Remove the power steering pump pulley. For additional information, refer to **Power Steering Pump Pulley - 4.6L, 5.4L**.

NOTE: A new Teflon® seal must be installed.

3. Disconnect the pressure line-to-pump fitting.
 - Discard the Teflon® seal.
 - To install, tighten to 65 Nm (48 lb-ft).
4. Remove the pressure line bracket-to-engine bolt.
 - To install, tighten to 7 Nm (62 lb-in).
5. Remove the pressure line bracket-to-alternator stud nut.
 - To install, tighten to 7 Nm (62 lb-in).

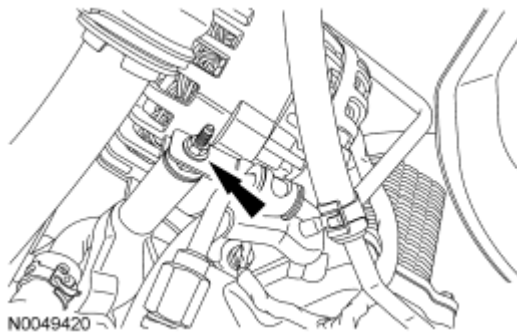


Fig. 18: Locating Pressure Line Bracket-To-Subframe Bolts
Courtesy of FORD MOTOR CO.

6. Remove the pressure line bracket-to-crossmember bolt.
 - To install, tighten to 9 Nm (80 lb-in).
7. Remove the pressure line bracket-to-steering gear bolt.
 - To install, tighten to 9 Nm (80 lb-in).

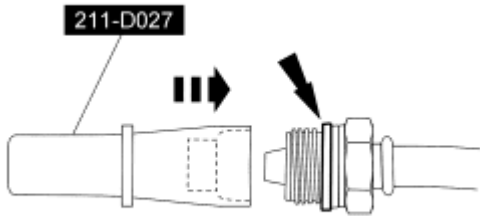
NOTE: When installing the pressure and return lines to the steering gear, make sure the lines are fully seated into the steering gear prior to installing the clamp plate. Additionally, make sure that the clamp plate surfaces are free of foreign material. **DO NOT** exceed the specified torque when tightening the clamp plate. Leakage and/or premature failure of the power steering components may occur.

NOTE: New O-ring seals must be installed any time the lines are disconnected from the steering gear.

8. Remove the power steering line clamp plate bolt, rotate the clamp plate and remove the power steering pressure line.
 - Discard the O-ring seal.
 - To install, tighten to 23 Nm (17 lb-ft).
9. To install, reverse the removal procedure.

NOTE: A new Teflon® seal must be installed.

10. Using the Teflon® Seal Installer Set, install a new Teflon® seal to the pressure line-to-pump fitting.



N0032102

Fig. 19: Installing Teflon(R) Seal Using Special Tool 211-D027
Courtesy of FORD MOTOR CO.

11. Fill the power steering system. For additional information, refer to **STEERING SYSTEM - GENERAL INFORMATION** article.

STEERING GEAR

Special Tools

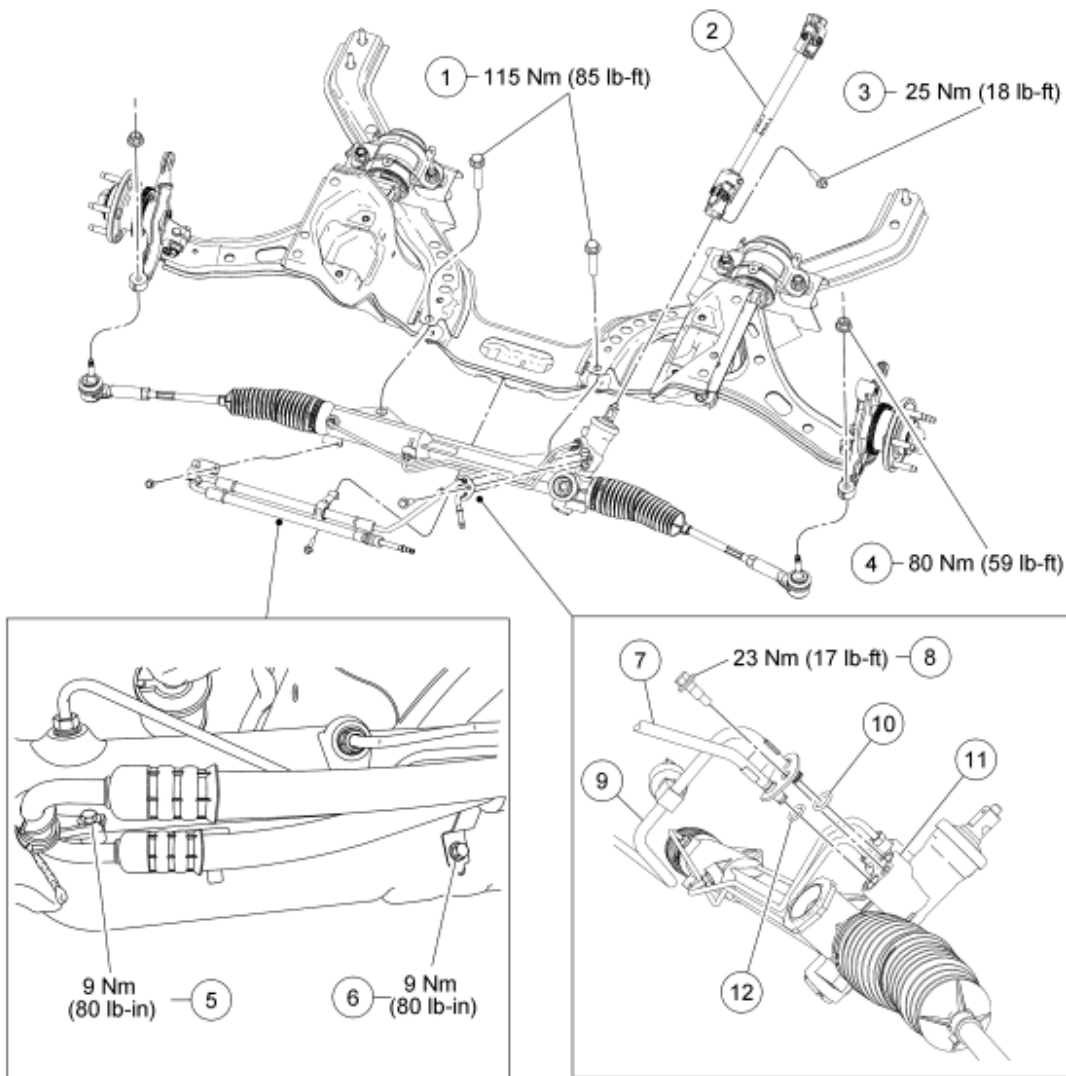
Illustration	Tool Name	Tool Number
 ST1603-A	Lifting Bracket, Engine	303-D087 (D93P-6001-A1)
 ST1185-A	Support Bar, Engine	303-F070
 ST1869-A	Tie-Rod End Remover	211-105 (T85M-3395-A)

Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V

2008 Ford Mustang

2008 STEERING Power Steering - Mustang



N0072233

Fig. 20: Exploded View Of Steering Gear With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W10909	Steering gear bolts (2 required)
2	3B676	Steering column lower shaft
3	W704980	Steering column coupling-to-steering gear bolt
4	W705606	Tie-rod end nut (2 required)
5	W505255	Pressure line bracket-to-steering gear bolt (4.6L and 5.4L)
6	W505255	Pressure line bracket-to-crossmember bolt
7	3A713	Power steering return line
8	W707622	Power steering line clamp plate bolt
9	3A719	Power steering pressure line

10	3F886-AA	O-ring seal
11	3504	Steering gear
12	3F886-BA	O-ring seal

REMOVAL AND INSTALLATION

- NOTE:** When repairing the power steering system, care should be taken to prevent the entry of foreign material or failure of the power steering components may result.
- NOTE:** Do not allow the intermediate shaft to rotate while it is disconnected from the steering gear or damage to the clockspring may result. If there is evidence that the intermediate shaft has rotated, the clockspring must be removed and recentered. For additional information, refer to SUPPLEMENTAL RESTRAINT SYSTEM article.

5.4L engine

1. Remove the 4 nuts and the strut tower cross brace.

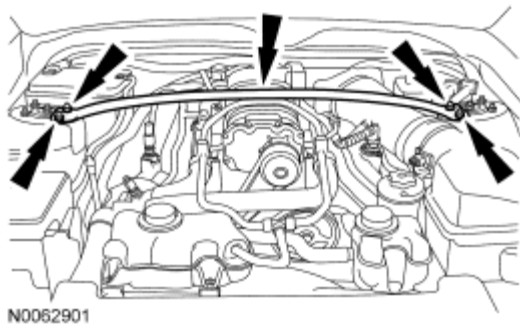


Fig. 21: Locating Strut Tower Cross Brace & Nuts
Courtesy of FORD MOTOR CO.

2. Remove the air cleaner outlet pipe. For additional information, refer to INTAKE AIR DISTRIBUTION AND FILTERING article.
3. Install the Engine Lifting Bracket.

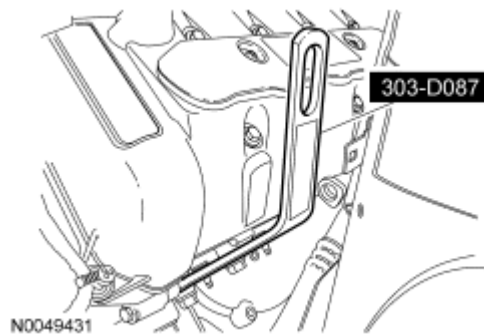


Fig. 22: Identifying Special Tool 303-D087
Courtesy of FORD MOTOR CO.

4. Remove the LH engine mount nut.
 - To install, tighten to 63 Nm (46 lb-ft).

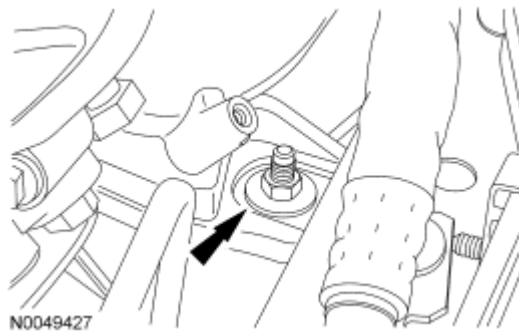


Fig. 23: Locating LH Engine Mount Nut
Courtesy of FORD MOTOR CO.

5. Install the Engine Support Bar.
 - Using the Engine Lifting Bracket and Engine Support Bar, raise the LH side of the engine to gain clearance for removal of the power steering pressure line clamp plate bolt and the steering gear mounting bolt.

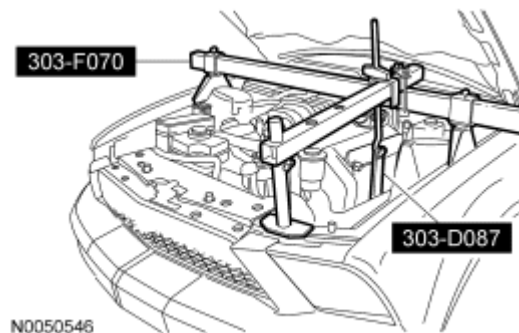


Fig. 24: Raising LH Side Of Engine Using Special Tools 303-F070 & 303-D087
Courtesy of FORD MOTOR CO.

All vehicles

6. Remove the front wheels and tires. For additional information, refer to **WHEELS AND TIRES** article.
7. Remove and discard the 2 tie-rod end nuts. Using the Tie-Rod End Remover, disconnect the tie-rod ends from the wheel knuckles.
 - To install, tighten the new nuts to 80 Nm (59 lb-ft).

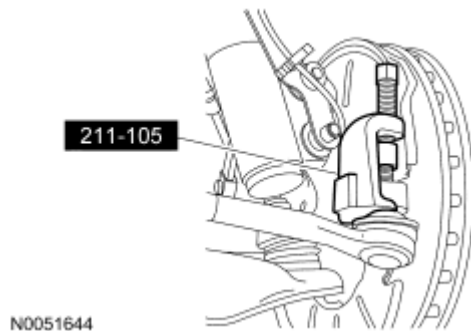


Fig. 25: Identifying Special Tool (211-105)
Courtesy of FORD MOTOR CO.

NOTE: Do not allow the intermediate shaft to rotate while it is disconnected from the steering gear or damage to the clockspring may result. If there is evidence that the intermediate shaft has rotated, the clockspring must be removed and recentered. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM** article.

8. Remove the steering column coupling-to-steering gear bolt and disconnect the coupling from the steering gear.
 - Discard the bolt.
 - To install, tighten the new bolt to 25 Nm (18 lb-ft).

NOTE: When installing the pressure and return lines to the steering gear, make sure the lines are fully seated into the steering gear prior to installing the clamp plate. Additionally, make sure that the clamp plate surfaces are free of foreign material. **DO NOT** exceed the specified torque when tightening the clamp plate. Leakage and/or premature failure of the power steering components may occur.

NOTE: New O-ring seals must be installed anytime the power steering lines are disconnected from the steering gear.

9. Remove the power steering line clamp plate bolt, rotate the clamp plate and disconnect the power steering pressure and return lines.
 - Discard the O-ring seals.

2008 Ford Mustang

2008 STEERING Power Steering - Mustang

- To install, tighten to 23 Nm (17 lb-ft).
- 10. Remove the pressure line bracket-to-steering gear bolt.
 - To install, tighten to 9 Nm (80 lb-in).
- 11. Remove the pressure line bracket-to-crossmember bolt.
 - Position the pressure line aside.
 - To install, tighten to 9 Nm (80 lb-in).
- 12. Remove the 2 bolts and the steering gear.
 - To install, tighten to 115 Nm (85 lb-ft).
- 13. To install, reverse the removal procedure.
- 14. Fill the power steering system. For additional information, refer to **STEERING SYSTEM - GENERAL INFORMATION** article.
- 15. Check and, if necessary, adjust the front toe. For additional information, refer **SUSPENSION SYSTEM - GENERAL INFORMATION** article.

INNER TIE ROD

Special Tools

Illustration	Tool Name	Tool Number
 ST1525-A	Boot Clamp Pliers	205-D067 (D87P-1098-A) or equivalent
 ST1869-A	Tie-Rod End Remover	211-105 (T85M-3395-A)

Material

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

2008 Ford Mustang

2008 STEERING Power Steering - Mustang

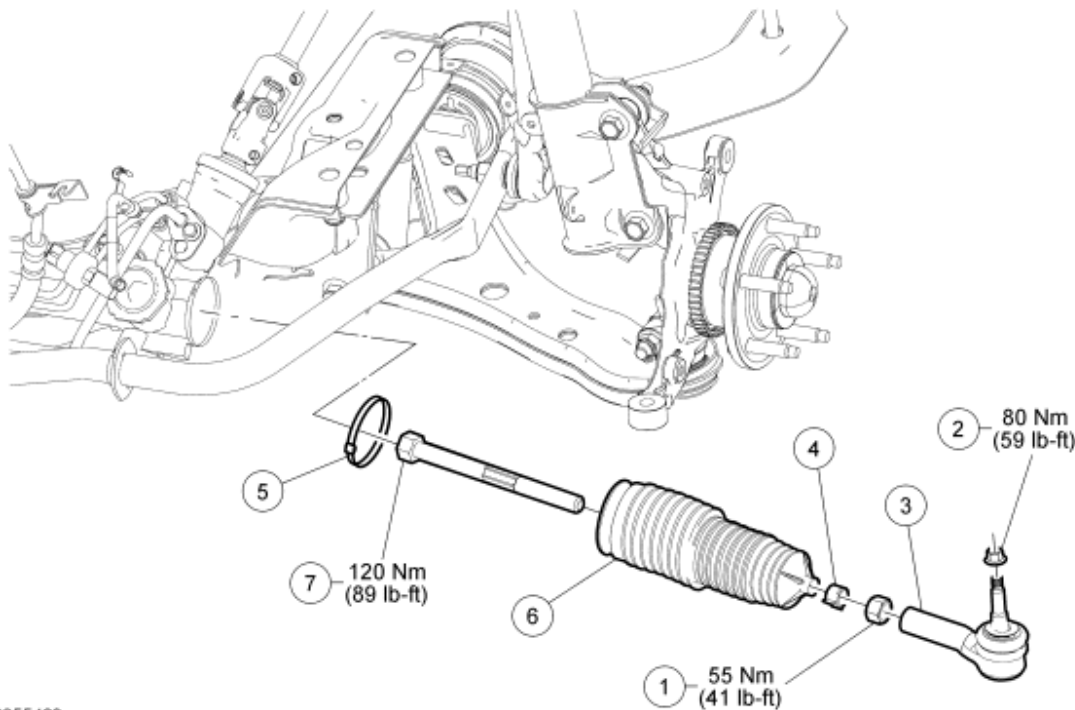


Fig. 26: Exploded View Of Inner Tie Rod With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	14094	Tie-rod jam nut (part of 3280)
2	W705606	Tie-rod end nut
3	3289	Tie-rod end
4	3C650A	Outer bellows boot clamp
5	3K745	Inner bellows boot clamp
6	3K661	Steering gear bellows boot
7	3280	Inner tie rod

REMOVAL

NOTE: The steering gear bellows boots and clamps are designed to provide an airtight seal and protect the internal components of the steering gear. If the seal is not airtight, the vacuum generated during turning will draw water and foreign material into the gear causing damage. Zip ties do not produce an airtight seal and must not be used.

NOTE: The inner tie-rod ball joint grease is not compatible with water. Water trapped in the grease may damage the joint.

NOTE: If present, the orientation of the vent tube must be noted so the boots and vent

tubes may be installed in the correct location. Incorrect venting may cause damage to internal components.

1. Remove the wheel and tire. For additional information, refer to **WHEELS AND TIRES** article.
2. Loosen the tie-rod end jam nut.
3. Remove and discard the tie-rod end nut.
4. Using the Tie-Rod End Remover, disconnect the tie-rod end from the wheel knuckle.



Fig. 27: Identifying Special Tool (211-105)

Courtesy of FORD MOTOR CO.

NOTE: Count the number of turns required to remove the tie-rod end for reference during installation.

5. Remove the tie-rod end.
6. Remove the tie-rod end jam nut.

NOTE: New bellows boot clamps must be installed.

7. Remove and discard the inner and outer bellows boot clamp.
8. Remove the steering gear bellows boot.

NOTE: Place the steering gear at the center position. Use an appropriate-sized wrench on the flat of the rack gear to resist rotation and to prevent damage during removal and installation of the inner tie rod.

NOTE: If repairing the RH side, it will be necessary to pull back the LH inner tie-rod boot to hold the steering gear.

NOTE: An assistant may be needed for removal of the RH inner tie rod.

9. While holding the steering gear rack, use a suitable crowfoot-style inner tie-rod tool or an appropriate-sized crowfoot wrench to remove the inner tie rod.

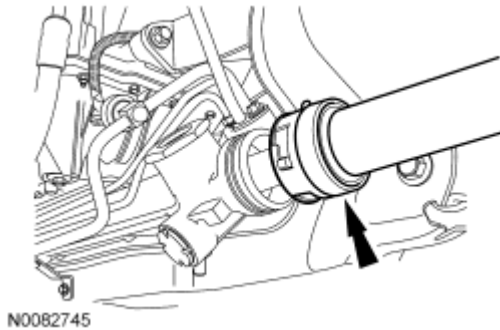


Fig. 28: Using Suitable Crowfoot-Style Inner Tie-Rod Tool To Remove Inner Tie Rod While Holding Steering Gear Rack
Courtesy of FORD MOTOR CO.

NOTE: Thoroughly remove any abrasive material. This material is extremely harmful and may damage the steering gear.

10. Thoroughly clean and inspect all the parts to be reused. Install new parts as necessary.

INSTALLATION

1. While holding the steering gear rack, use a suitable crowfoot-style inner tie-rod tool or an appropriate-sized crowfoot wrench to install the inner tie rod.
 - Tighten to 120 Nm (89 lb-ft).

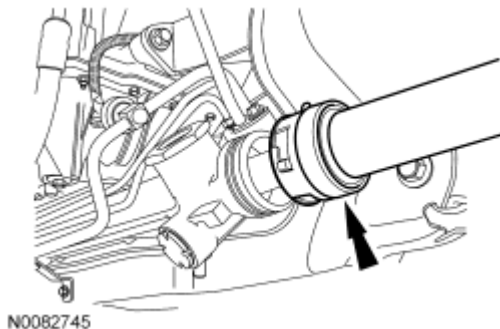


Fig. 29: Using Suitable Crowfoot-Style Inner Tie-Rod Tool To Install Inner Tie Rod While Holding Steering Gear Rack
Courtesy of FORD MOTOR CO.

NOTE: Apply steering gear grease to the steering gear bellows boot groove in the inner tie rod.

NOTE: Make sure the steering gear bellows boot is positioned correctly over the steering gear housing bead and the groove in the inner tie rod.

NOTE: Make sure the steering gear bellows boot is not twisted and the vent tube

is securely inserted into the vent nipple of the steering gear bellows boot.

2. Install the steering gear bellows boot.
3. Using the Boot Clamp Pliers, install a new inner bellows boot clamp.

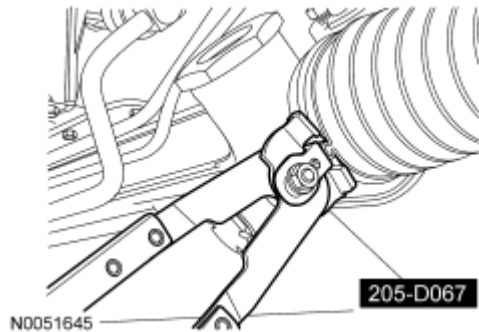


Fig. 30: Installing Inner Bellows Boot Clamp
Courtesy of FORD MOTOR CO.

NOTE: Make sure the end of the steering gear bellows is positioned between the 2 grooves on the inner tie rod or an internal leak can result.

4. Install a new outer bellows boot clamp.
5. Thread the tie-rod end jam nut onto the inner tie rod.

NOTE: Install the tie-rod end the same number of turns as recorded during the removal.

6. Install the tie-rod end to the inner tie rod.
7. Position the tie-rod end to the wheel knuckle and install a new tie-rod end nut.
 - Tighten to 80 Nm (59 lb-ft).
8. Tighten the tie-rod end jam nut.
 - Tighten to 55 Nm (41 lb-ft).
9. Check and, if necessary, adjust the front toe. For additional information, refer to **SUSPENSION SYSTEM - GENERAL INFORMATION** article.