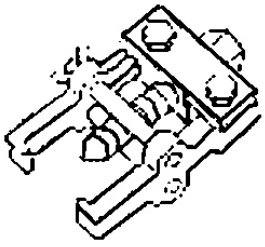
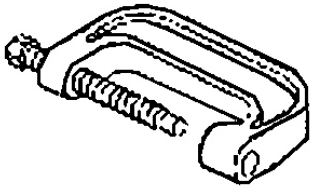
REMOVAL AND INSTALLATION

BALL JOINT - LOWER, 2WD

Special Tool(s)

	Installer/Remover C-Frame and Screw 211-023 (T74P-3044-A1)
	Remover, Steering Arm 211-003 (T64P-3590-F)
	Installer/Remover, C-Frame and Screw 205-086 (T74P-4635-C)

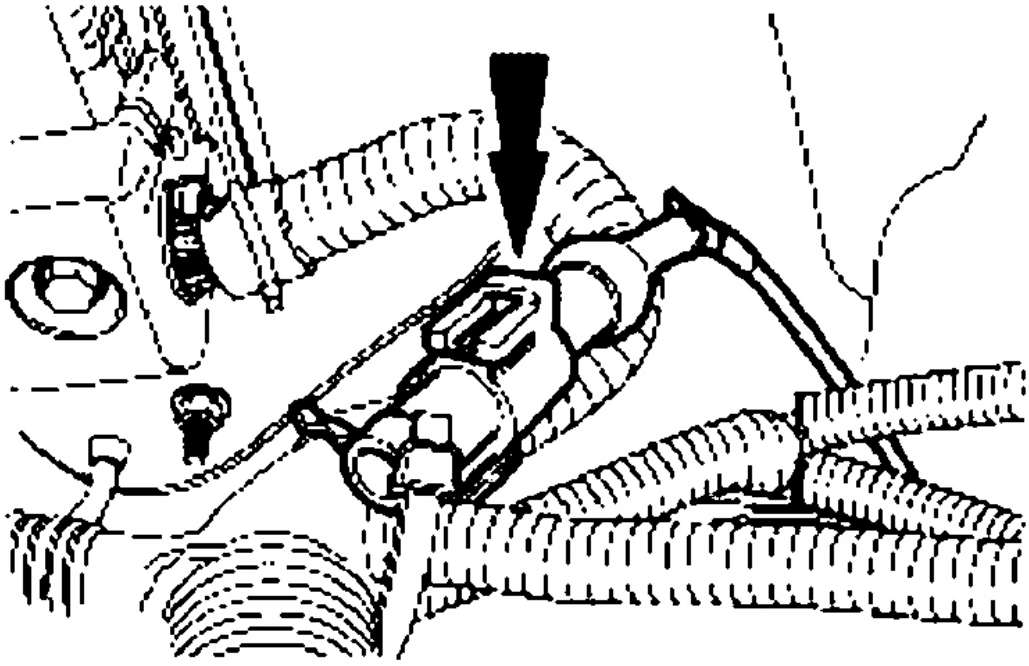
G03180158

Fig. 32: Identifying Special Tool
Courtesy of FORD MOTOR CO.

Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING & LIFTING**

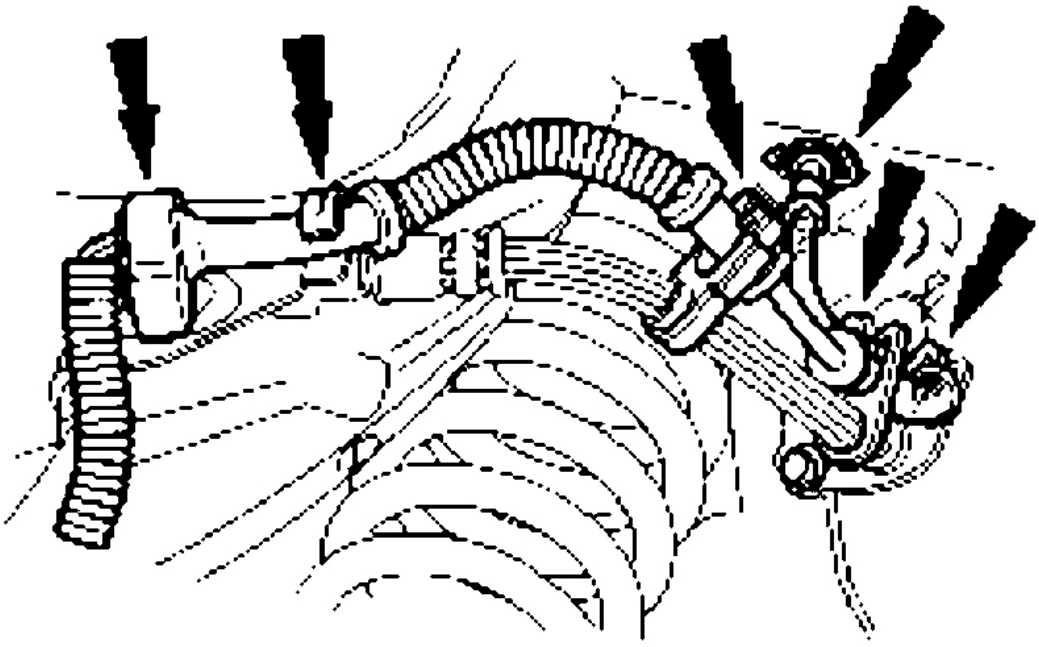
NOTE: **The wheel speed sensor connectors are located in the engine compartment and are secured to the fender aprons.**



G03180159

Fig. 33: Disconnecting Wheel Speed Sensor Connector
Courtesy of FORD MOTOR CO.

2. Disconnect the wheel speed sensor connector.
3. Remove the wheel and tire assembly. For additional information, refer to **WHEEL AND TIRE - FRONT**.
4. Detach the harness from the retainers.



G03180160

Fig. 34: Detaching Harness From Retainers
Courtesy of FORD MOTOR CO.

CAUTION: Do not allow the disc brake caliper to hang suspended from the brake hose. Provide suitable support.

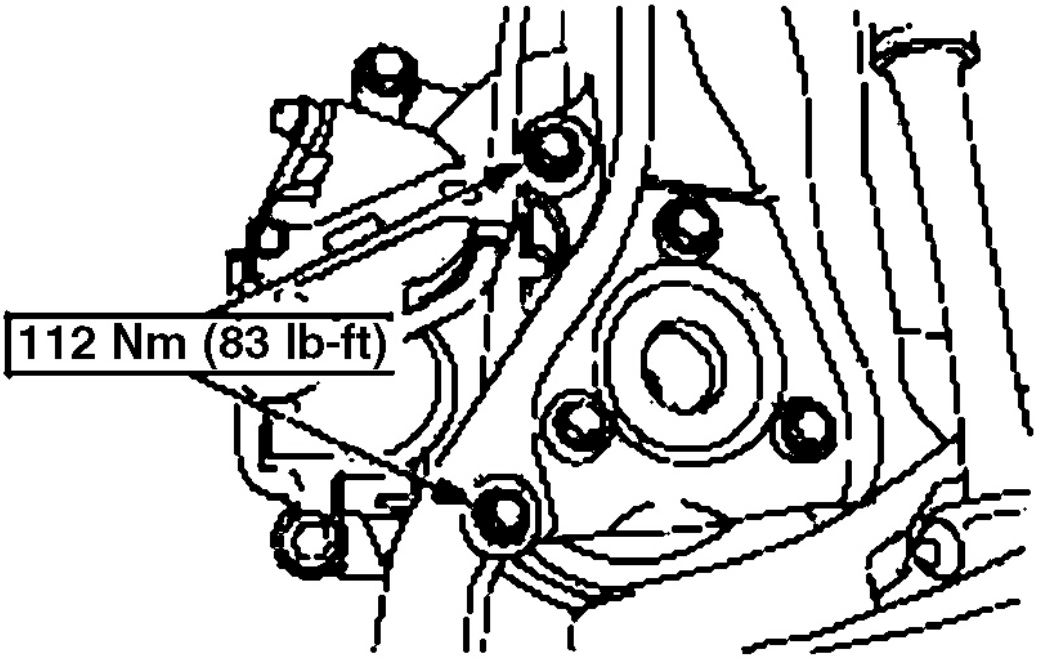


Fig. 35: Removing Bolts And Position Brake Caliper And Support Bracket Aside
Courtesy of FORD MOTOR CO.

5. Remove the bolts and position the brake caliper and support bracket aside.
6. Remove the brake disc.

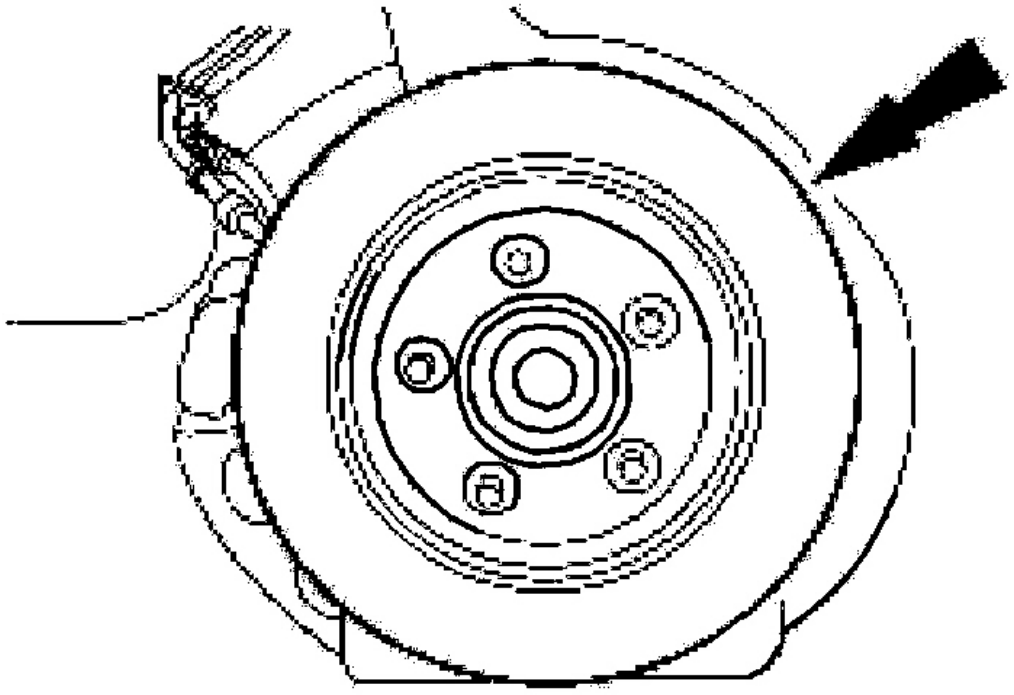


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Fig. 36: Removing Brake Disc
Courtesy of FORD MOTOR CO.

7. Remove and discard the cotter pin and the castellated nut.

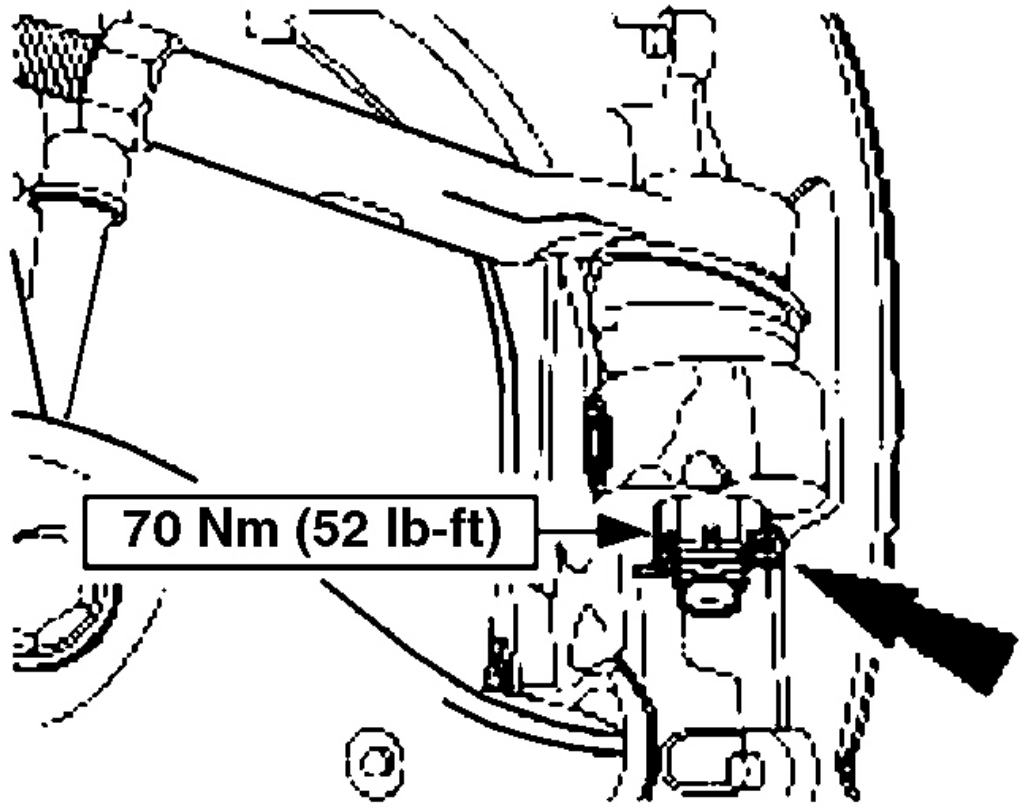


Fig. 37: Removing Cotter Pin And Castellated Nut
Courtesy of FORD MOTOR CO.

CAUTION: Do not use a hammer to separate the tie-rod from the wheel knuckle or damage to the wheel knuckle will result.

CAUTION: Do not damage the tie-rod boot when installing the special tool.

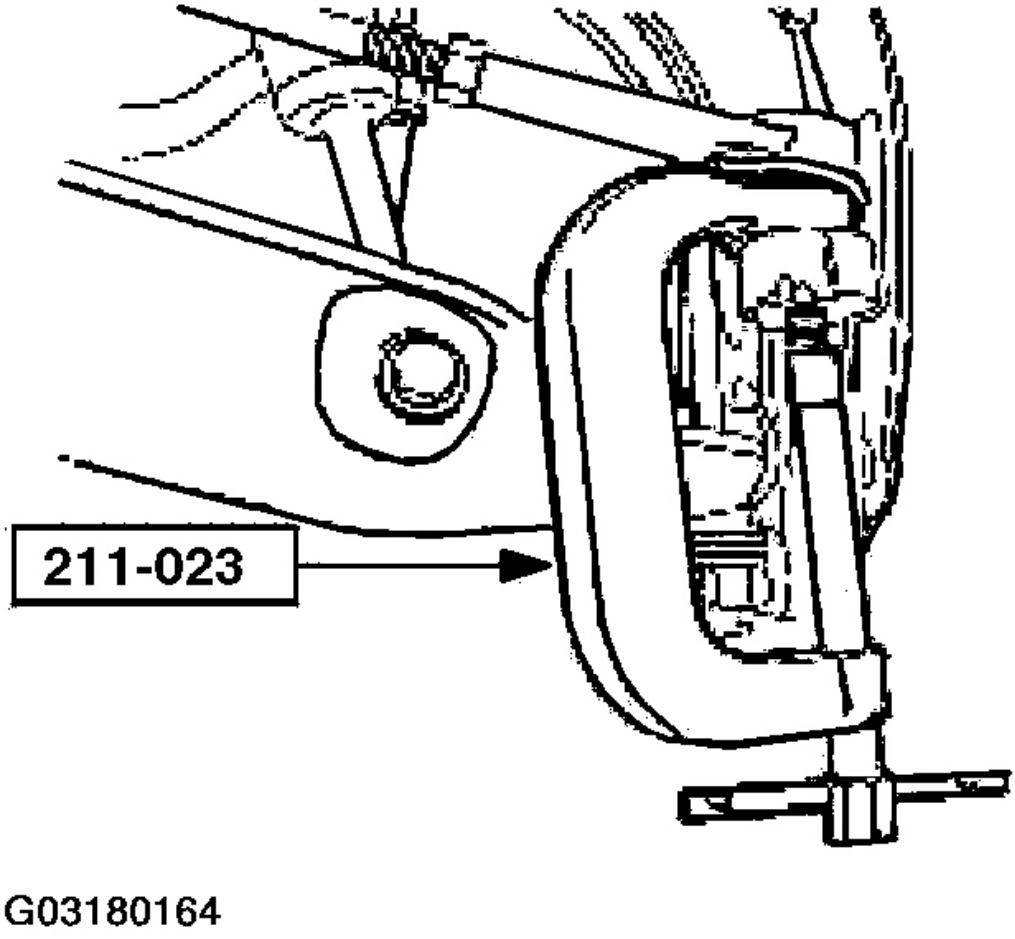
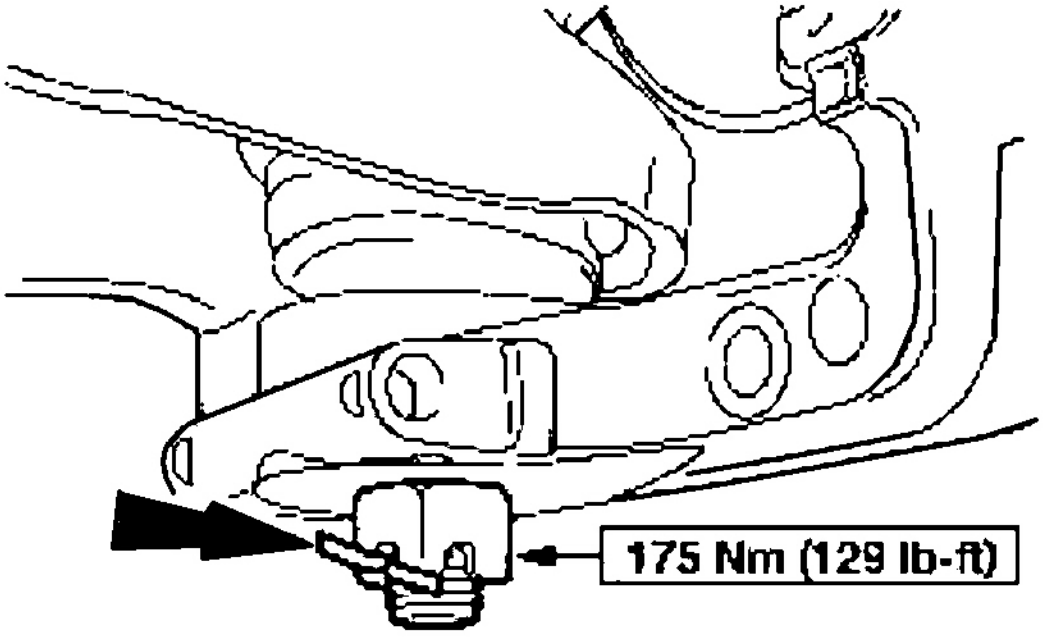


Fig. 38: Separating Tie-Rod From Wheel Knuckle Using Special Tool
Courtesy of FORD MOTOR CO.

8. Using the special tool, separate the tie-rod from the wheel knuckle.
9. Remove and discard the cotter pin and the castellated nut.



G03180165

Fig. 39: Removing Cotter Pin And Castellated Nut
Courtesy of FORD MOTOR CO.

CAUTION: Do not use a hammer to separate the ball joint from the wheel knuckle or damage to the wheel knuckle will result.

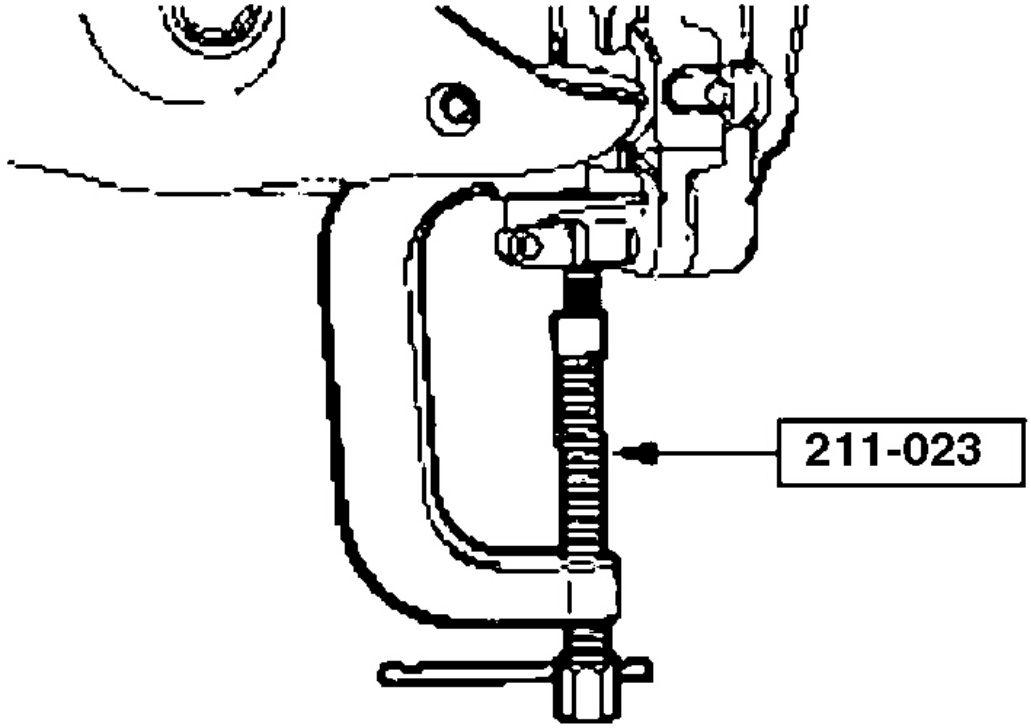


Fig. 40: Separating Lower Ball Joint From Wheel Knuckle Using Special Tool
Courtesy of FORD MOTOR CO.

10. Using the special tool, separate the lower ball joint from the wheel knuckle. Reinstall and hand-tighten the lower ball joint castellated nut.
11. Remove and discard the upper ball joint nut.

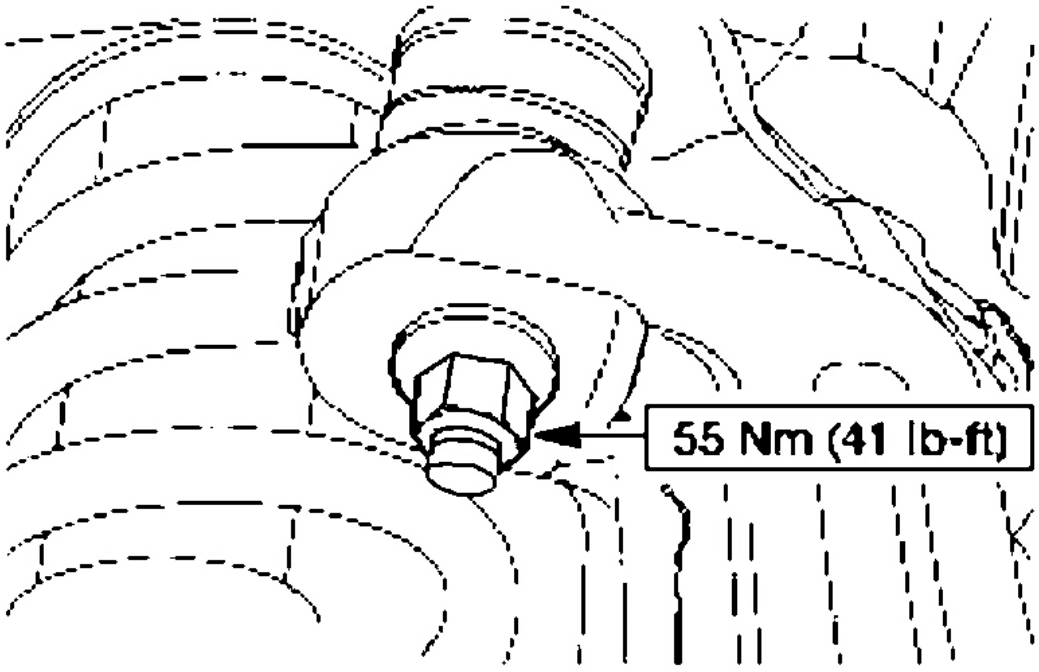


Fig. 41: Removing Upper Ball Joint Nut
Courtesy of FORD MOTOR CO.

CAUTION: Do not use a hammer to separate the ball joint from the wheel knuckle or damage to the wheel knuckle will result.

CAUTION: Do not damage the ball joint boot when installing the special tool.

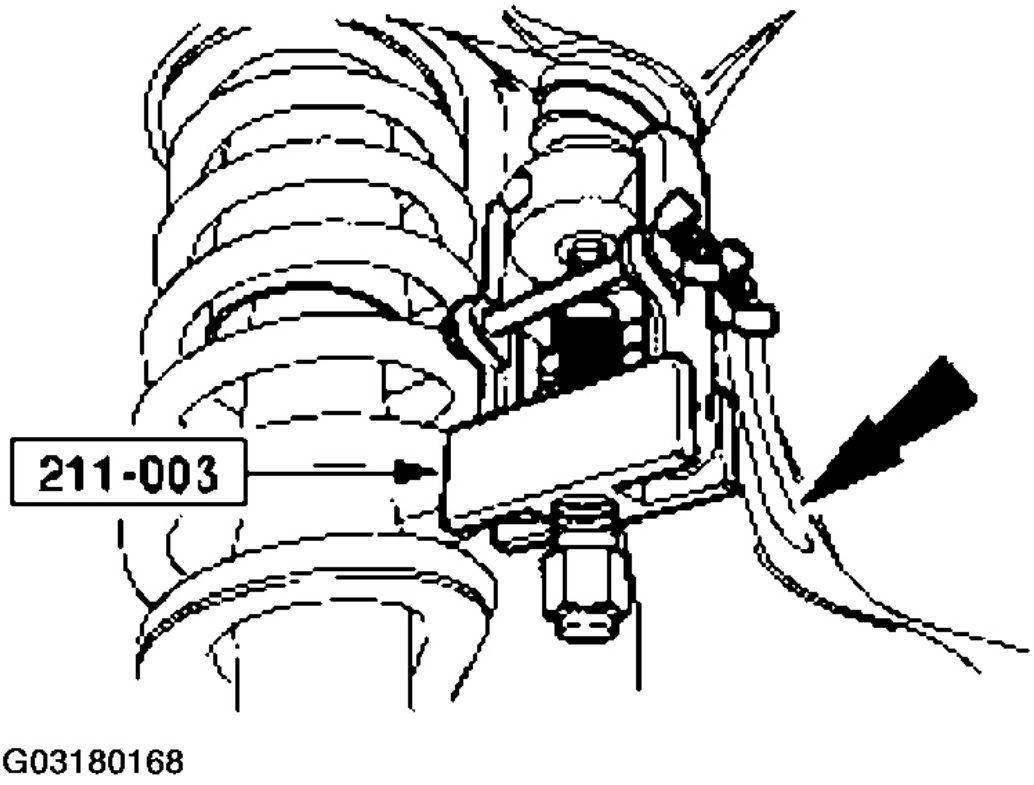


Fig. 42: Separating Upper Ball Joint From Wheel Knuckle Using Special Tool
Courtesy of FORD MOTOR CO.

12. Using the special tool, separate the upper ball joint from the wheel knuckle.
13. Remove the hand-tightened lower ball joint castellated nut and remove the wheel knuckle.
14. Remove the snap ring from the ball joint. Discard the snap ring.

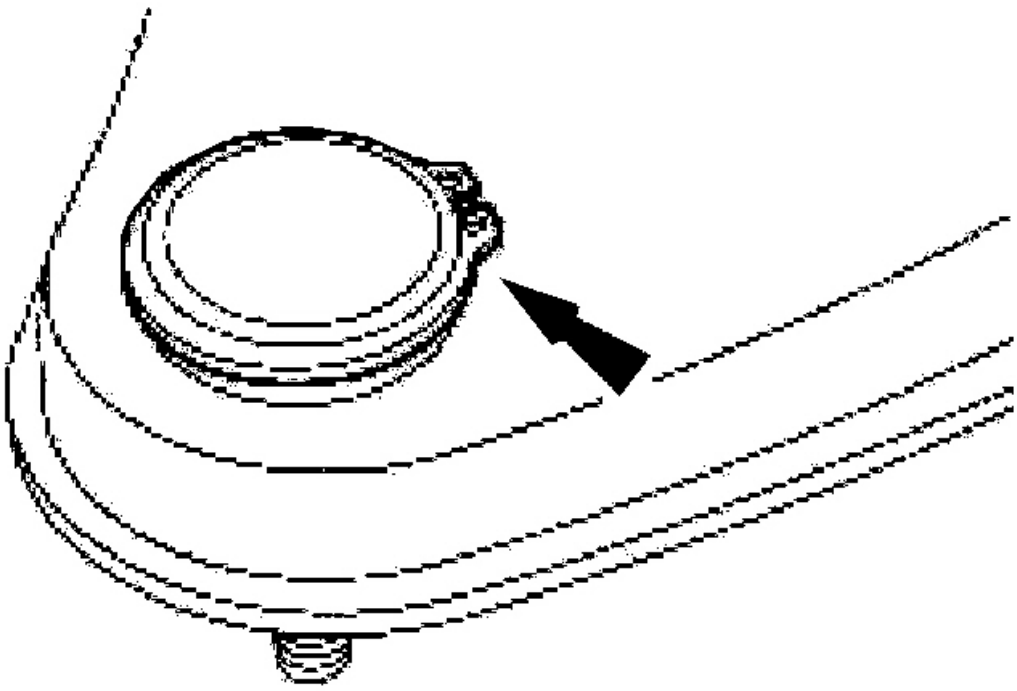


Fig. 43: Removing Snap Ring From Ball Joint
Courtesy of FORD MOTOR CO.

15. Using a suitable ball joint remover tool, remove the ball joint.

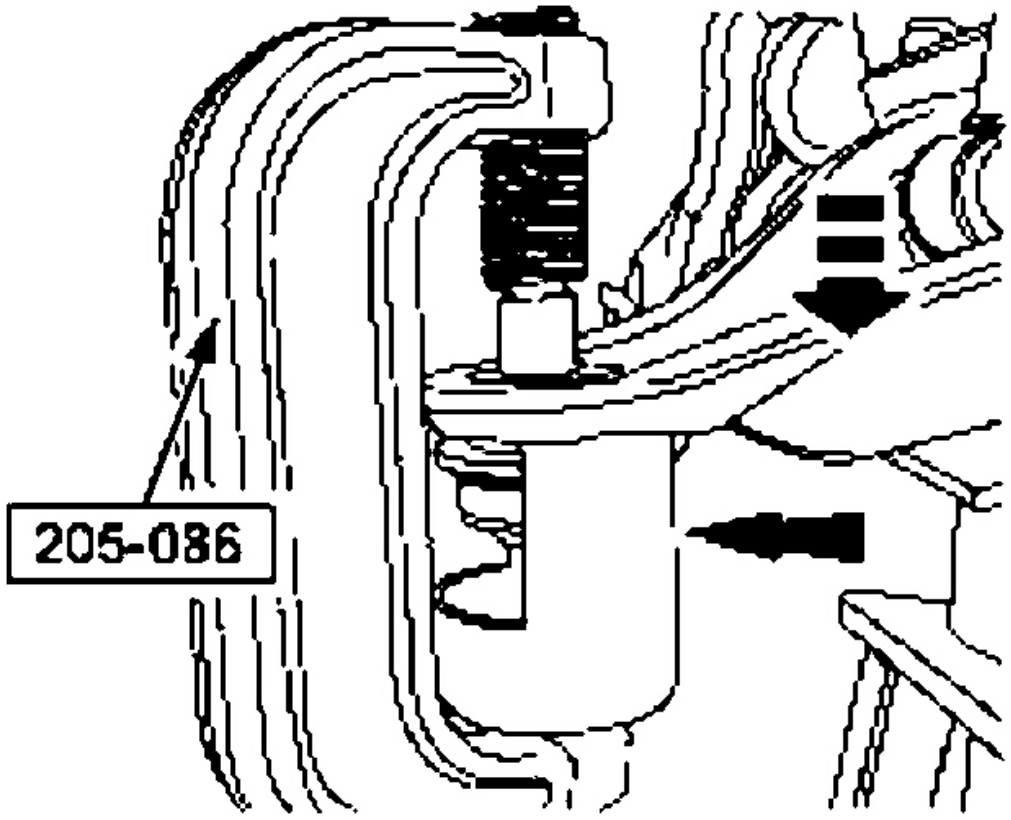


Fig. 44: Removing Ball Joint
Courtesy of FORD MOTOR CO.

CAUTION: Do not damage the ball joint boot when installing the special tool.

NOTE: Clean and inspect the control arm ball joint bore for damage before installing a new ball joint.

NOTE: Make sure the new ball joint snap ring is fully seated.

16. To install, reverse the removal procedure.
    - Always install new castellated nuts and cotter pins.

BALL JOINT - LOWER, 4WD

Special Tool(s)

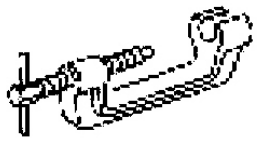
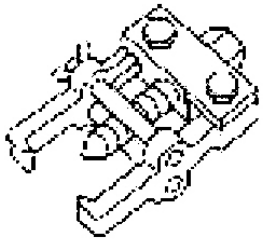
	Installer/Remover C-Frame and Screw 211-023 (T74P-3044-A1)
	Remover, Front Wheel Hub 205-D070 (D93P-1175-B) or equivalent
	Remover, Steering Arm 211-003 (T64P-3590-F)

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Fig. 45: Identifying Special Tool
Courtesy of FORD MOTOR CO.

Material

MATERIALS

Item	Specification
Silicone Gasket and Sealant F7AZ-19554-EA	WSE-M4G323-A4

Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING & LIFTING** .
2. Remove and discard the nut.

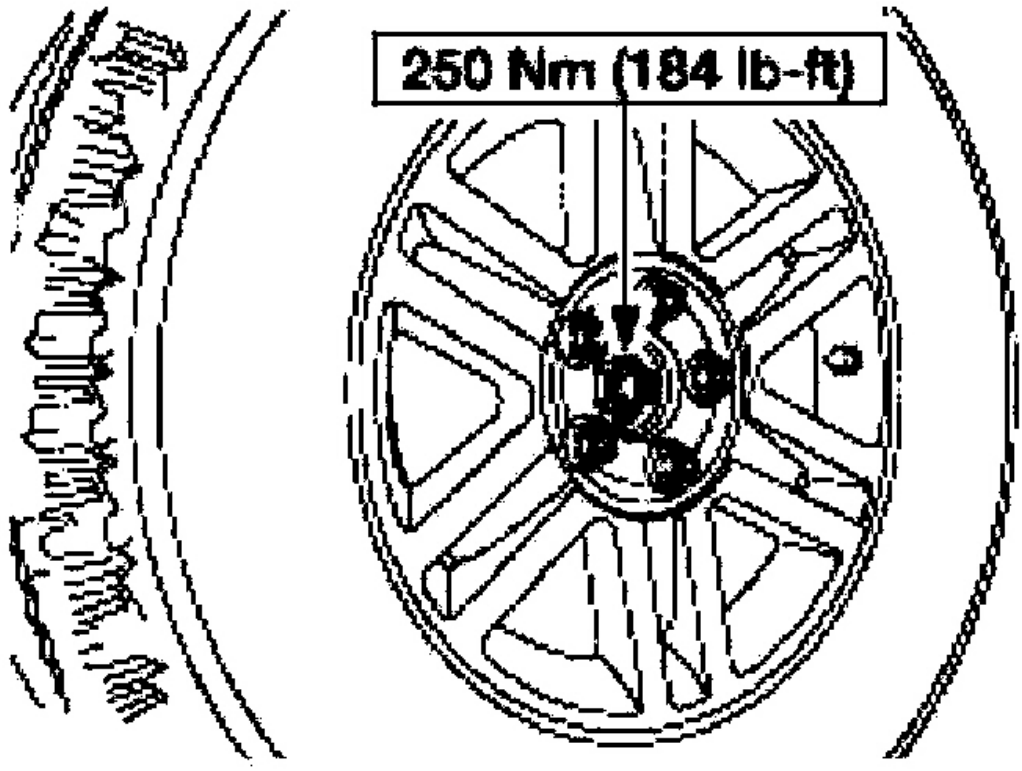
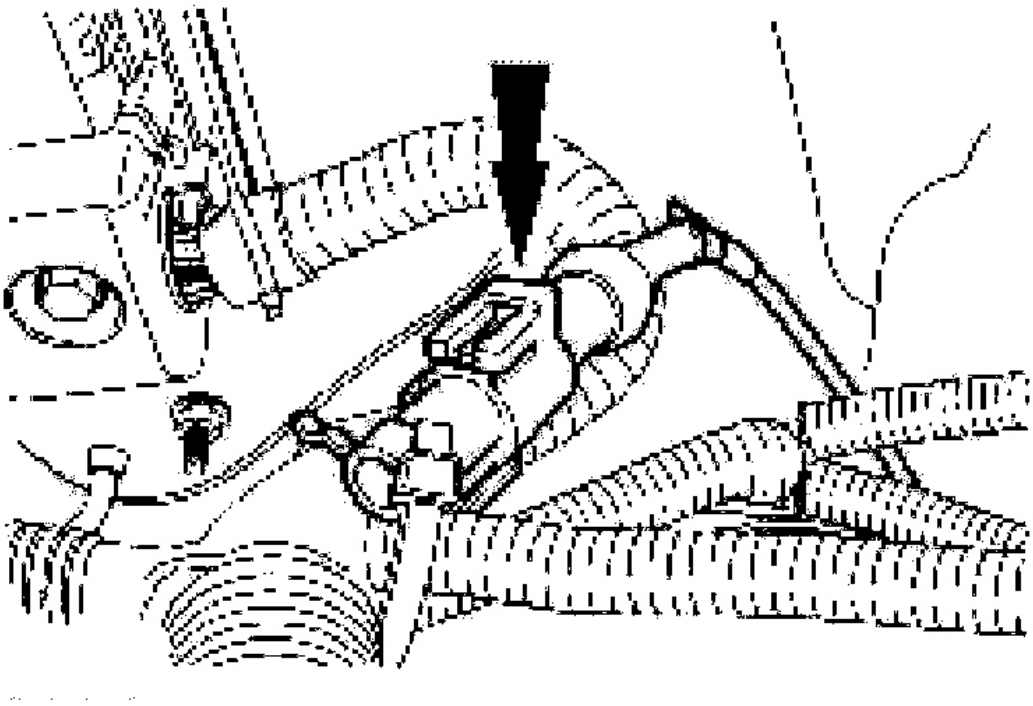


Fig. 46: Removing Axle-To-Hub Nut
Courtesy of FORD MOTOR CO.

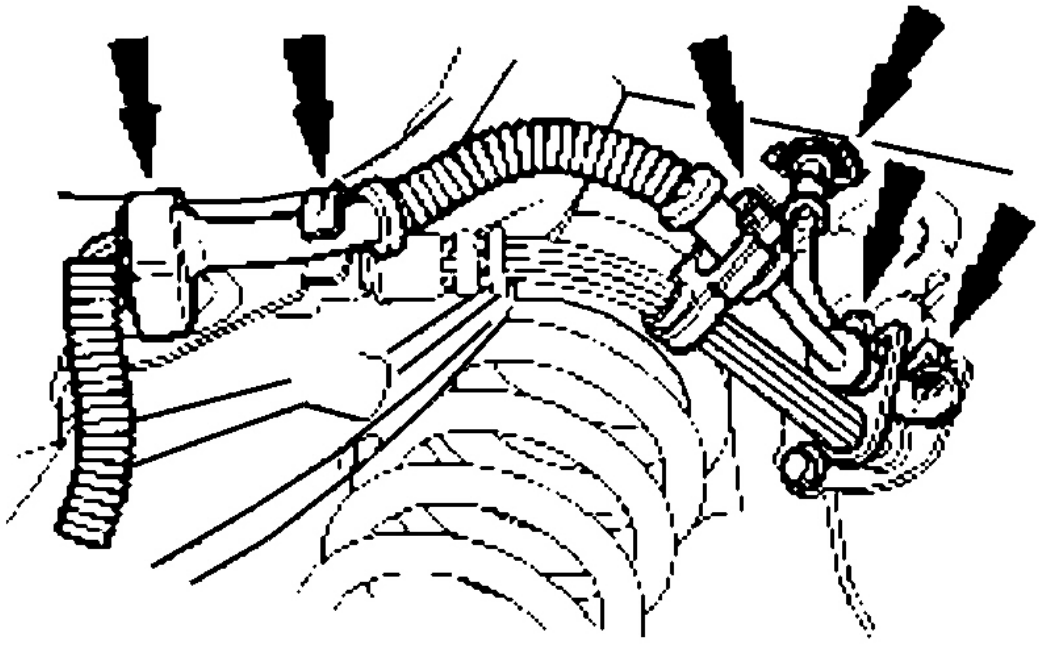
NOTE: **The wheel speed sensor connectors are located in the engine compartment and are secured to the fender aprons.**



G03180173

Fig. 47: Disconnecting Wheel Speed Sensor Connector
Courtesy of FORD MOTOR CO.

3. Disconnect the wheel speed sensor connector.
4. Remove the wheel and tire assembly. For additional information, refer to **WHEEL AND TIRE - FRONT**.
5. Detach the harness from the retainers.



G03180174

Fig. 48: Detaching Harness From Retainers
Courtesy of FORD MOTOR CO.

CAUTION: Do not allow the disc brake caliper to hang suspended from the brake hose. Provide a suitable support.

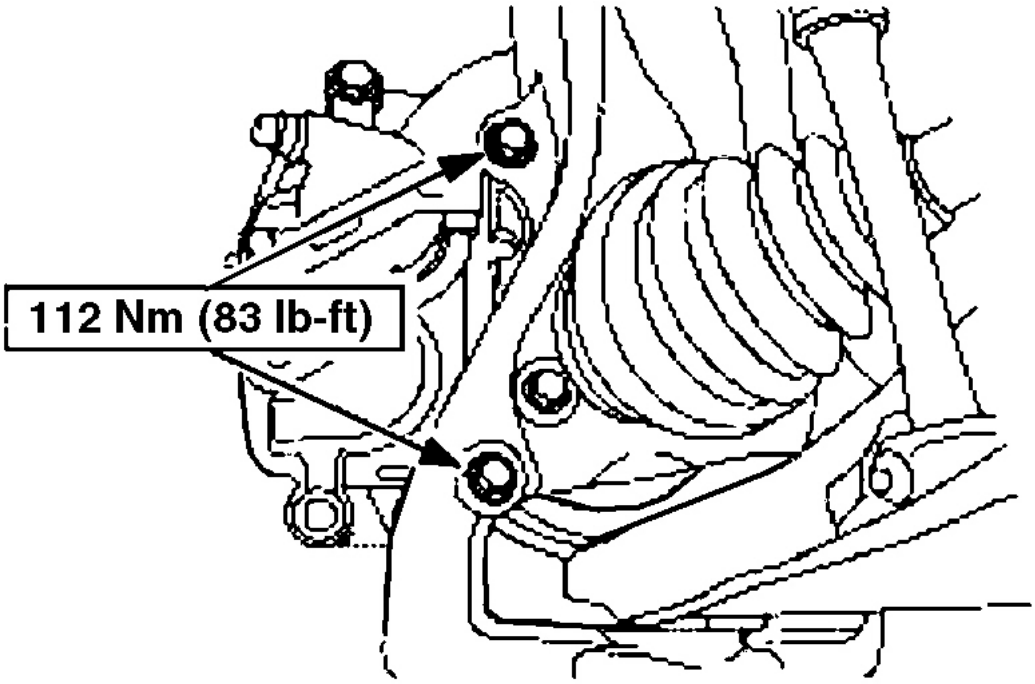
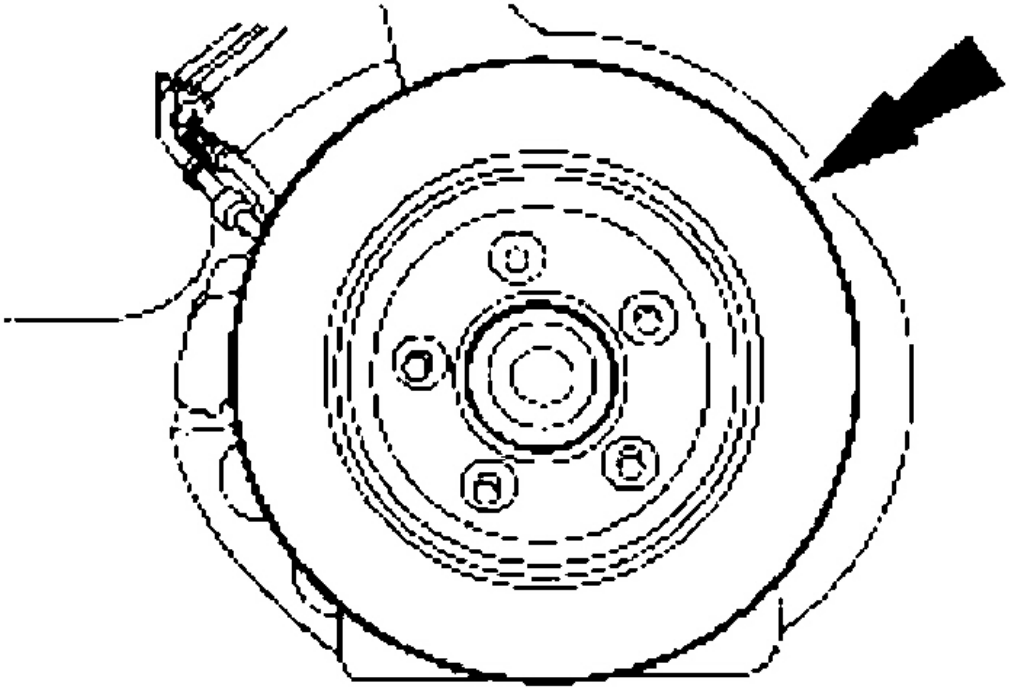


Fig. 49: Positioning Brake Caliper And Support Bracket Aside
Courtesy of FORD MOTOR CO.

6. Remove the bolts and position the brake caliper and support bracket aside.
7. Remove the brake disc.



G03180176

Fig. 50: Removing Brake Disc
Courtesy of FORD MOTOR CO.

CAUTION: Do not use a hammer to separate the outboard CV joint from the hub. Damage to the threads and internal CV joint components can result.

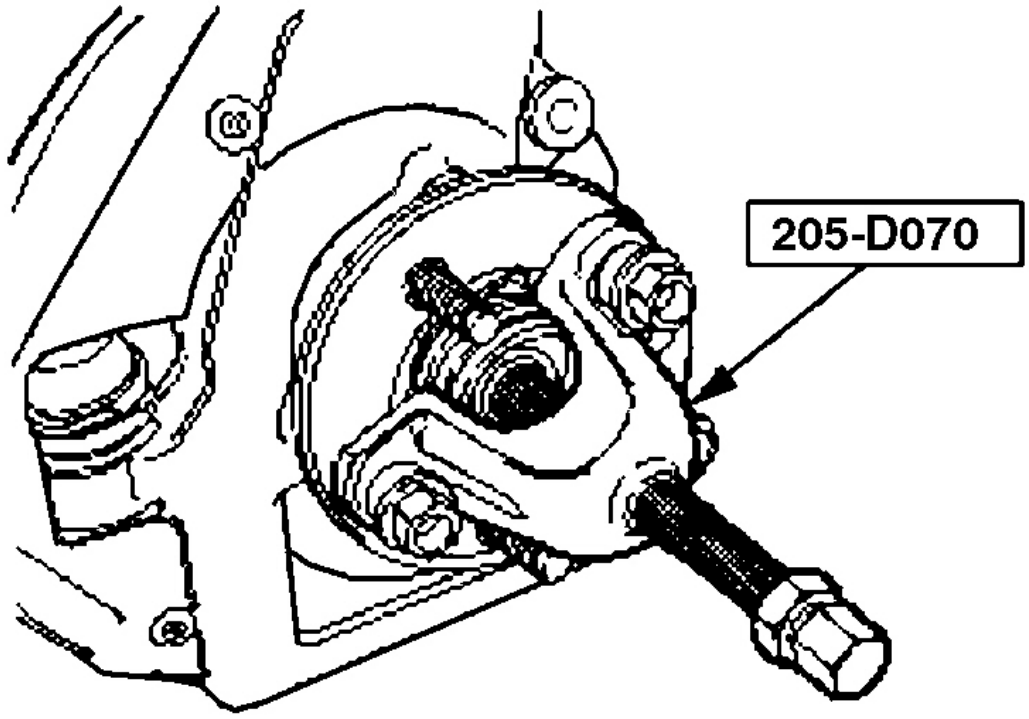


Fig. 51: Pressing Outboard CV Joint Using Special Tool
Courtesy of FORD MOTOR CO.

8. Using the special tool, press the outboard CV joint until it is loose in the hub.
9. Remove and discard the cotter pin and the castellated nut.

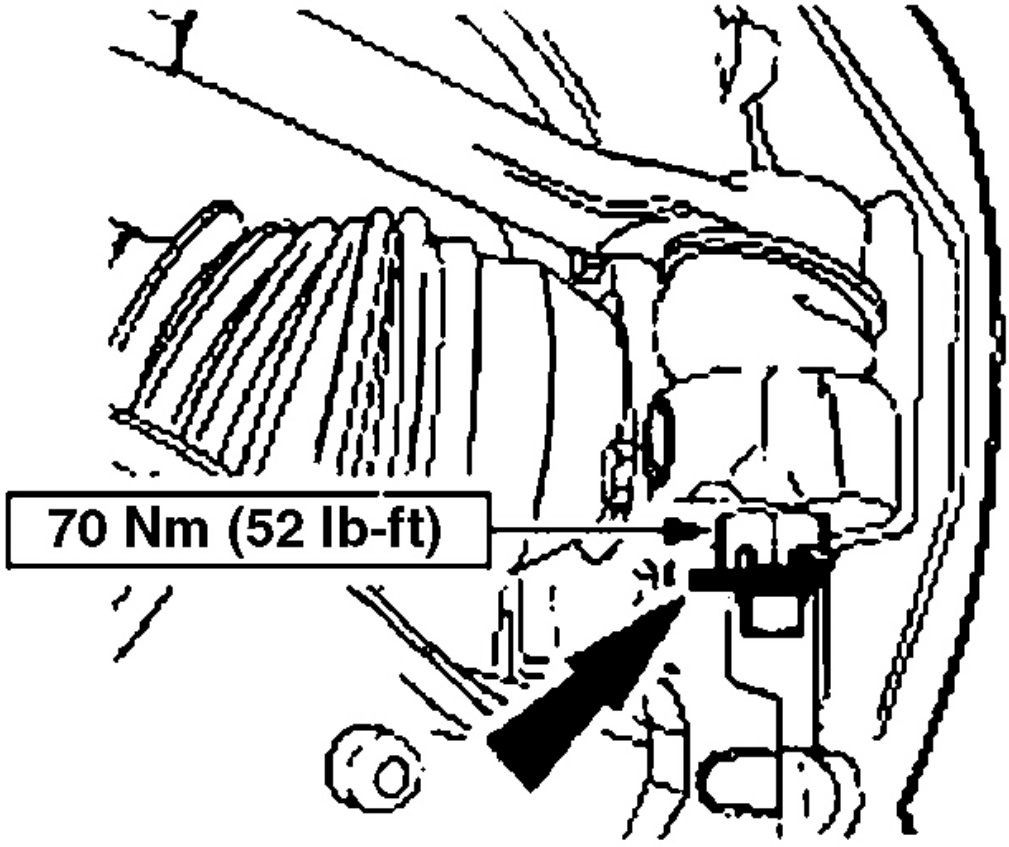


Fig. 52: Removing Cotter Pin And Castellated Nut
Courtesy of FORD MOTOR CO.

CAUTION: Do not use a hammer to separate the tie-rod from the wheel knuckle or damage to the wheel knuckle will result.

CAUTION: Do not damage the tie-rod boot when installing the special tool.

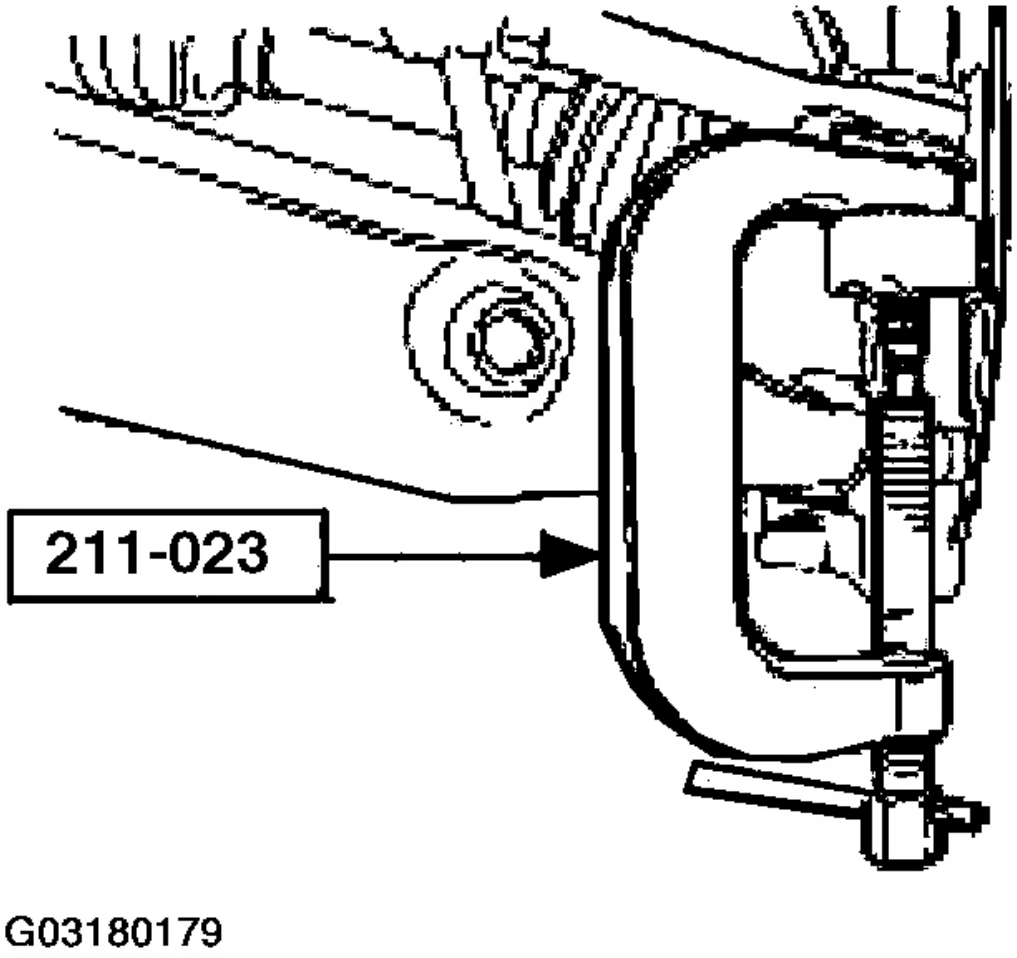


Fig. 53: Separating Tie-Rod From Wheel Knuckle Using Special Tool
Courtesy of FORD MOTOR CO.

10. Using the special tool, separate the tie-rod from the wheel knuckle.
11. Remove and discard the cotter pin and the castellated nut.

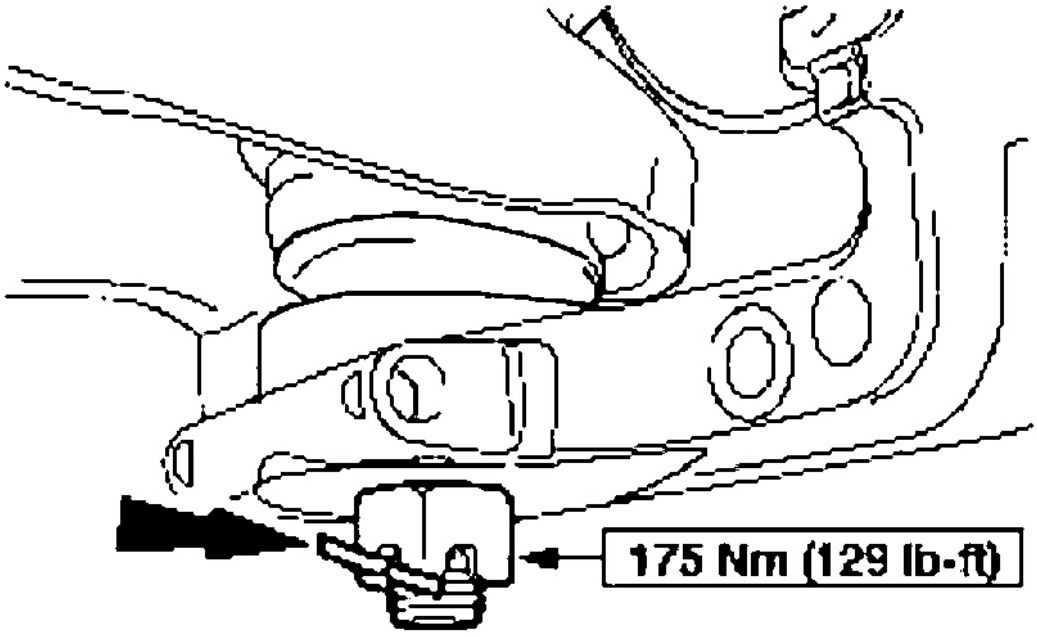


Fig. 54: Removing Cotter Pin And Castellated Nut
Courtesy of FORD MOTOR CO.

CAUTION: Do not use a hammer to separate the ball joint from the wheel knuckle or damage to the wheel knuckle will result.

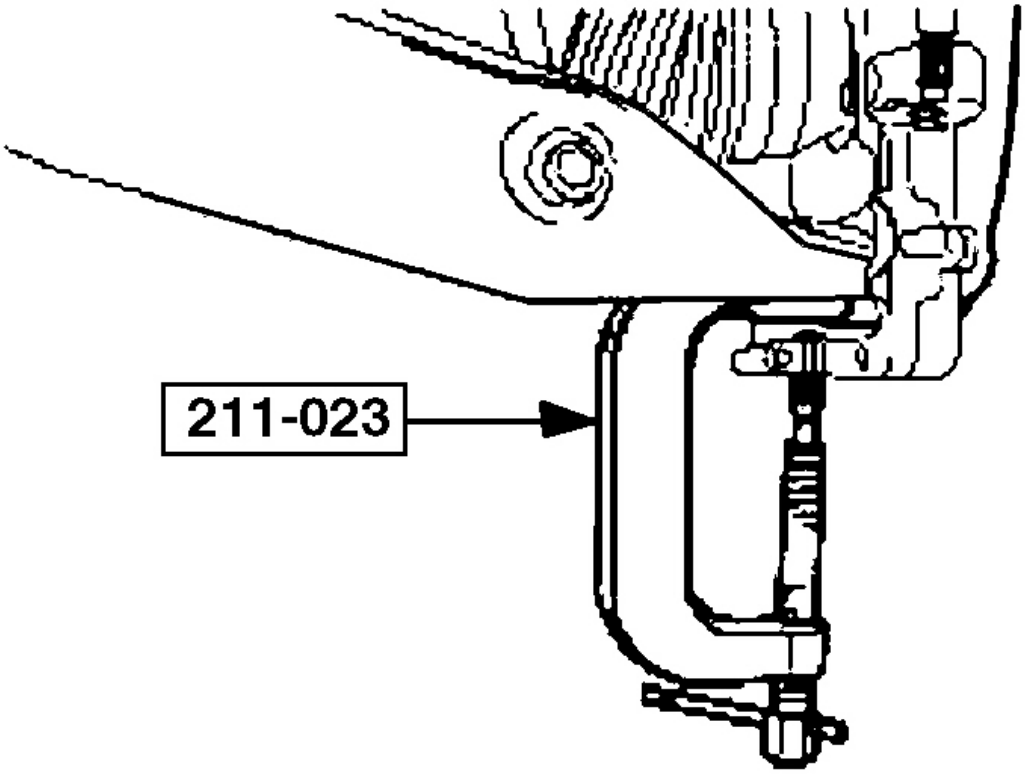


Fig. 55: Separating Lower Ball Joint From Wheel Knuckle Using Special Tool
Courtesy of FORD MOTOR CO.

12. Using the special tool, separate the lower ball joint from the wheel knuckle. Reinstall and hand-tighten the lower ball joint castellated nut.
13. Remove and discard the upper ball joint nut.

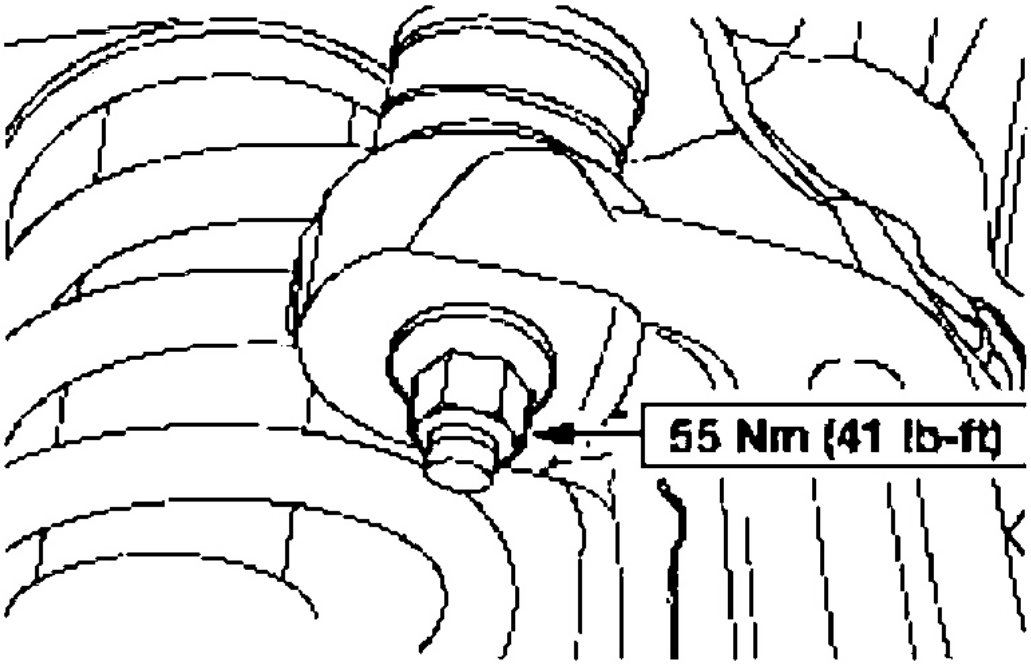


Fig. 56: Removing Upper Ball Joint Nut
Courtesy of FORD MOTOR CO.

CAUTION: Secure the front axle shaft to prevent the CV joint and boots from overextending. Failure to do so can cause damage to the CV joint and boots.

CAUTION: Do not use a hammer to separate the ball joint from the wheel knuckle or damage to the wheel knuckle will result.

CAUTION: Do not damage the ball joint when installing the special tool.

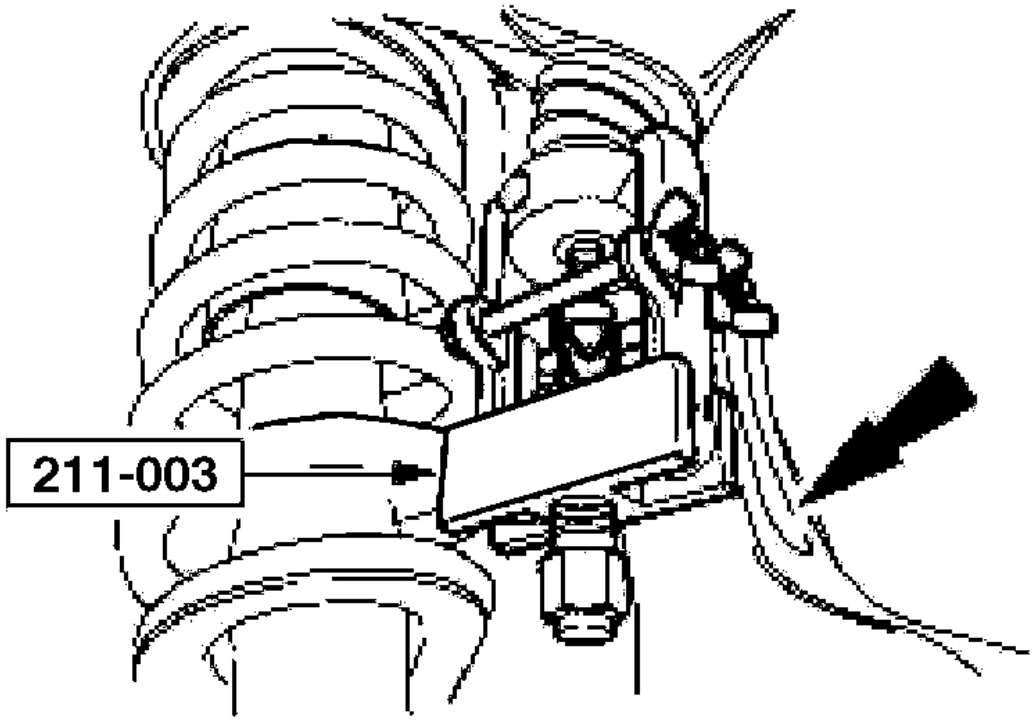


Fig. 57: Separating Upper Ball Joint From Wheel Knuckle
Courtesy of FORD MOTOR CO.

14. Using the special tool, separate the upper ball joint from the wheel knuckle.
15. Remove the hand-tightened lower ball joint castellated nut and remove the wheel knuckle.
16. Remove the snap ring from the ball joint. Discard the snap ring.

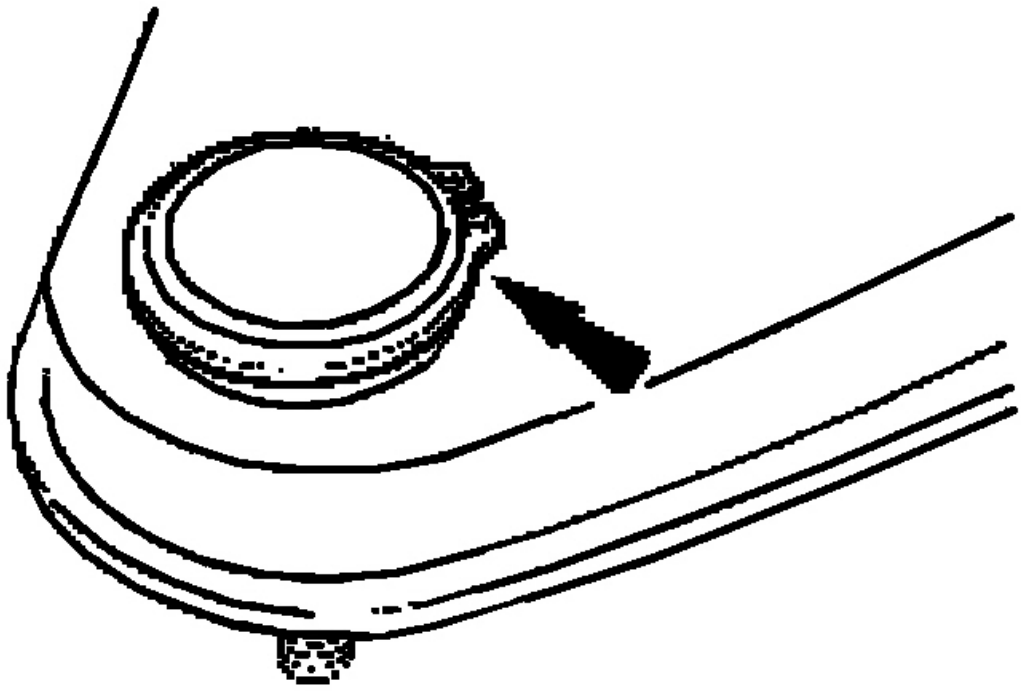


Fig. 58: Removing Snap Ring From Ball Joint
Courtesy of FORD MOTOR CO.

17. Using a suitable ball joint remover tool, remove the ball joint.

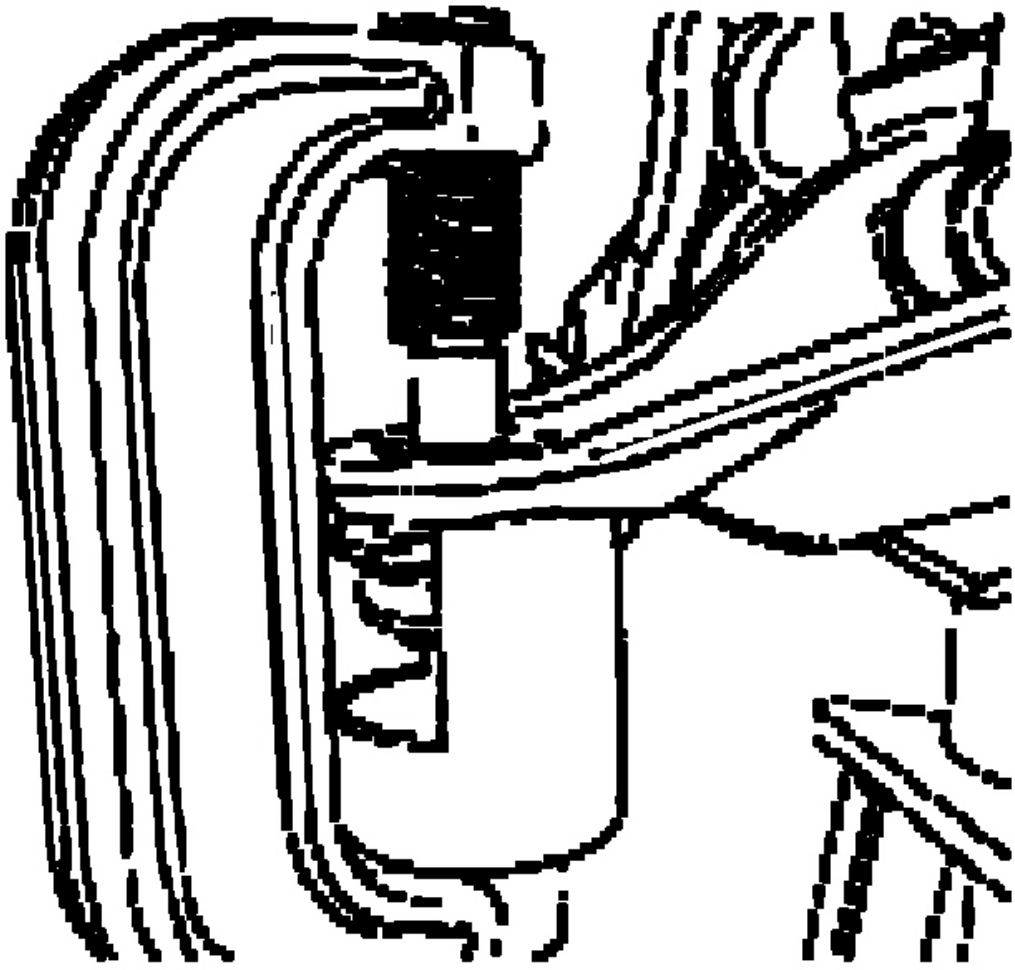


Fig. 59: Removing Ball Joint
Courtesy of FORD MOTOR CO.

CAUTION: Do not damage the ball joint boot when installing the special tool.

NOTE: **Apply a thin coat of silicone sealant to the wheel hub mounting surfaces before installation.**

NOTE: **Clean and inspect the control arm ball joint bore for damage before installing a new ball joint.**

NOTE: **Make sure the new ball joint snap ring is fully seated.**

18. To install, reverse the removal procedure.
    - Always install new castellated nuts and cotter pins.

WHEEL AND TIRE - FRONT

Special Tool(s)

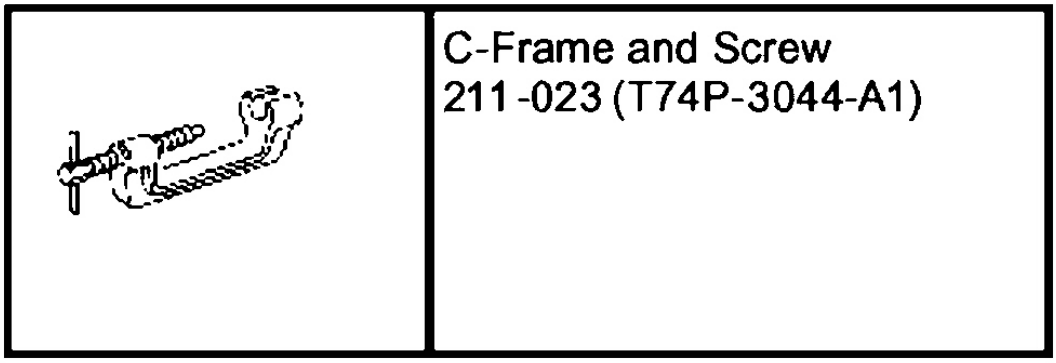


Fig. 60: Identifying Special Tool
Courtesy of FORD MOTOR CO.

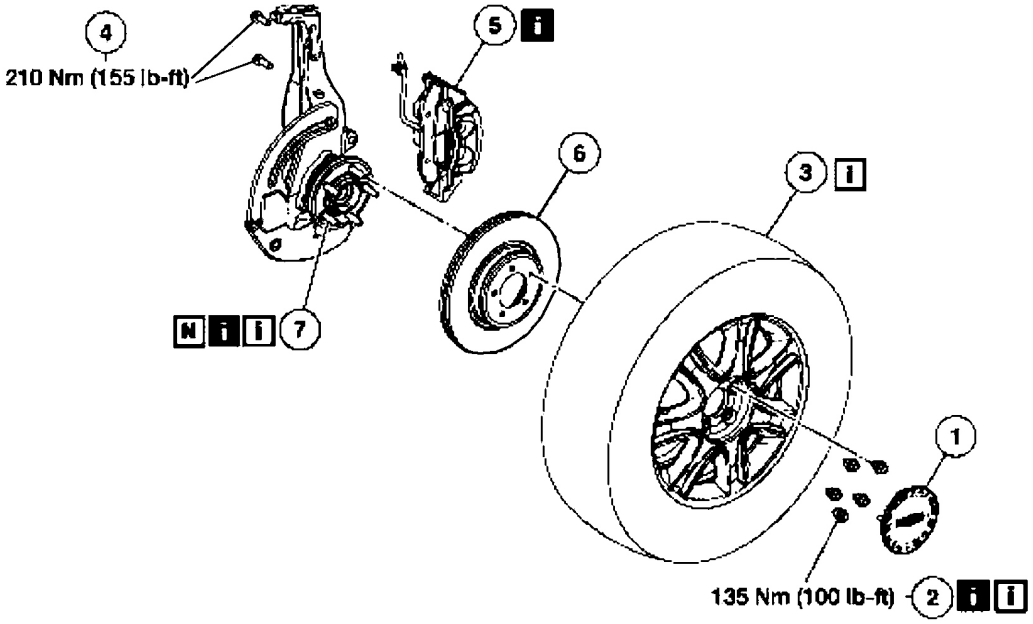
Removal and Installation

1. Remove the parts in the order indicated in the following illustration and table.

   To remove individual parts, only carry out the listed steps:

COMPONENT REMOVAL STEPS

Component	Steps
Wheel and tire assembly	1-3
Wheel stud	1-7



Item	Part Number	Description
1	1130	Wheel cap
2	1012	Wheel nuts Removal Note Installation Note
3	1007	Wheel and tire assembly Installation Note
4	2027	Brake caliper anchor plate bolts
5	—	Brake caliper, pads and anchor plate Removal Note
6	1125	Brake disc
7	1107	Wheel stud Removal Note Installation Note

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Fig. 61: Exploded View Of Wheel And Tire (Front)
Courtesy of FORD MOTOR CO.

2. To install, reverse the removal procedure.

Item 2: Wheel Nuts Removal Note

CAUTION: Do not use heat to loosen a seized wheel nut or damage to the wheel and wheel bearing can occur.

1. With the weight of the vehicle on the wheels, loosen the wheel nuts.
2. With the vehicle in NEUTRAL, position on a hoist. For additional information, refer to **JACKING & LIFTING** .

Item 5: Brake Caliper, Pads and Anchor Plate Removal Note

CAUTION: Do not allow the brake caliper to hang from the hose or damage to the hose may result.

1. Position the caliper, pads and anchor plate aside.

Item 7: Wheel Stud Removal Note

1. Using the special tool, remove the wheel stud.

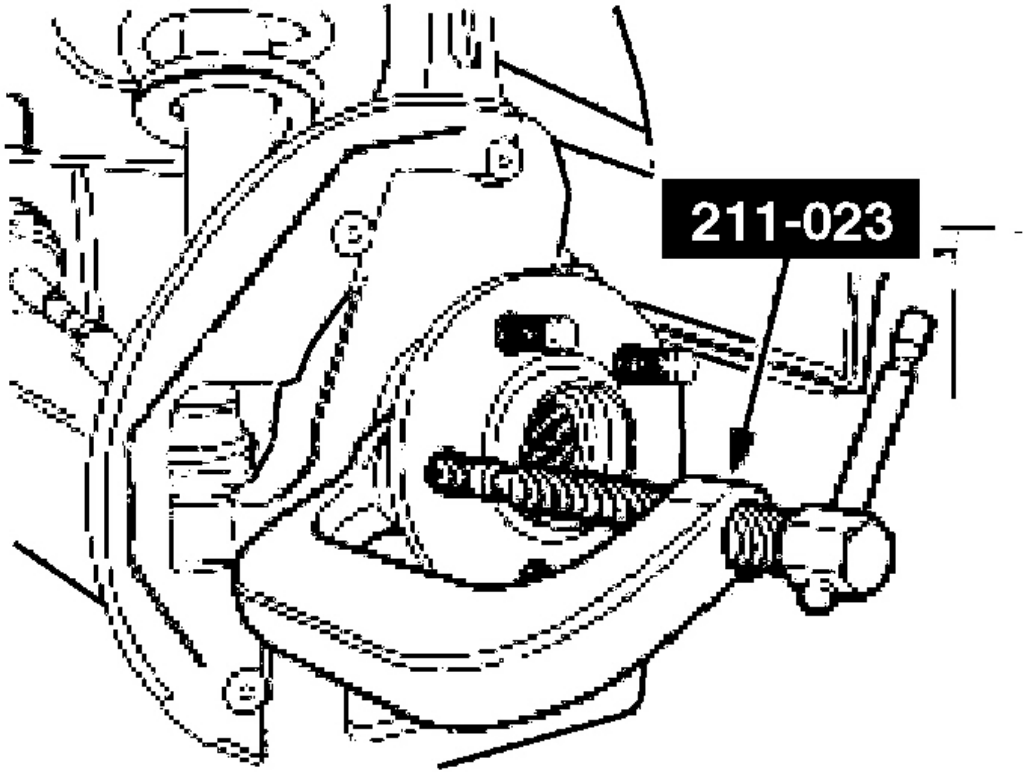

Fig. 62: Removing Wheel Stud Using Special Tool
Courtesy of FORD MOTOR CO.

Item 7: Wheel Stud Installation Note

CAUTION: Do not use power tools to install the wheel stud. The serrations on the stud can be stripped.

NOTE: Do not use the wheel nut that came with the vehicle.

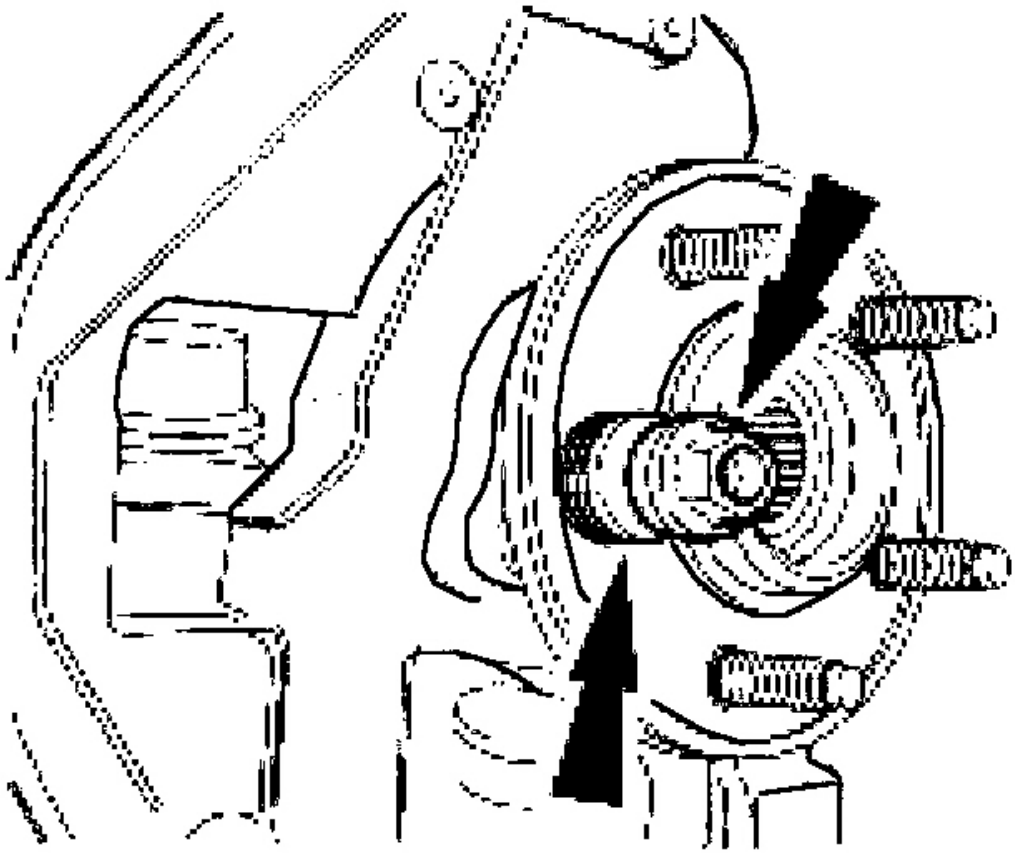

Fig. 63: Seating New Wheel Stud
Courtesy of FORD MOTOR CO.

1. Install washers and a new wheel nut on the wheel stud and tighten the nut until the stud seats against the flange.
    - Discard the wheel nut and washers.

Item 3: Wheel and Tire Installation Note

WARNING: When installing a wheel and tire, make sure to remove any corrosion, dirt or foreign material present on the mounting surfaces of the wheel and brake disc. Installing a wheel without correct metal-to-metal contact at the mounting surfaces can cause the wheel nuts to loosen and the wheel to come off while the vehicle is in motion, causing loss of control.

1. Clean the wheel mounting surfaces.

Item 2: Wheel Nuts Installation Note

WARNING: Retighten at 800 km (500 miles) after any wheel change or any time the wheel nuts are loosened. Failure to retighten the wheel nuts at the mileage specified could allow the wheels to come off while the vehicle is in motion, possibly causing loss of control.

CAUTION: Failure to tighten the wheel nuts in a star pattern can result in high brake disc runout, which will speed up the development of brake roughness, shudder and vibration.

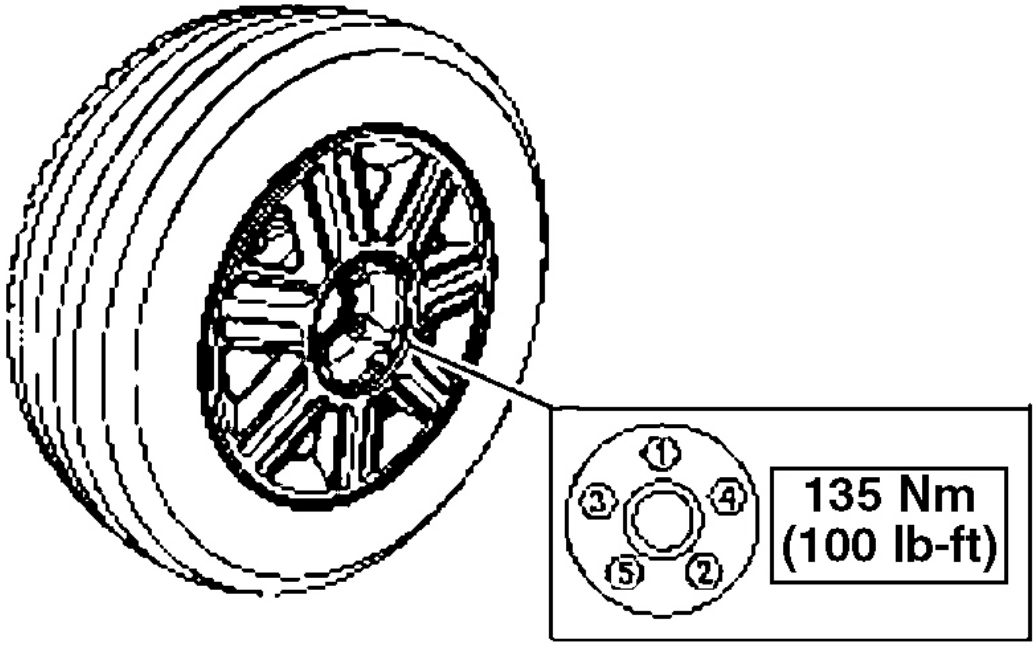

Fig. 64: Tightening Wheel Nuts
Courtesy of FORD MOTOR CO.

1. Tighten the wheel nuts.

WHEEL BEARING, HUB, KNUCKLE, UPPER ARM AND LOWER ARM - FRONT

Special Tool(s)

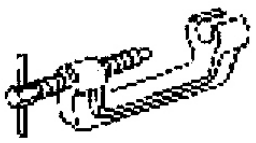	C-Frame and Screw 211-023 (T74P-3044-A1)
	Remover, Front Wheel Hub 205-D070 (D93P-1175-B) or equivalent

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Fig. 65: Identifying Special Tool
Courtesy of FORD MOTOR CO.

Removal and Installation

1. On 4x4 vehicles, loosen the axle retainer nut.

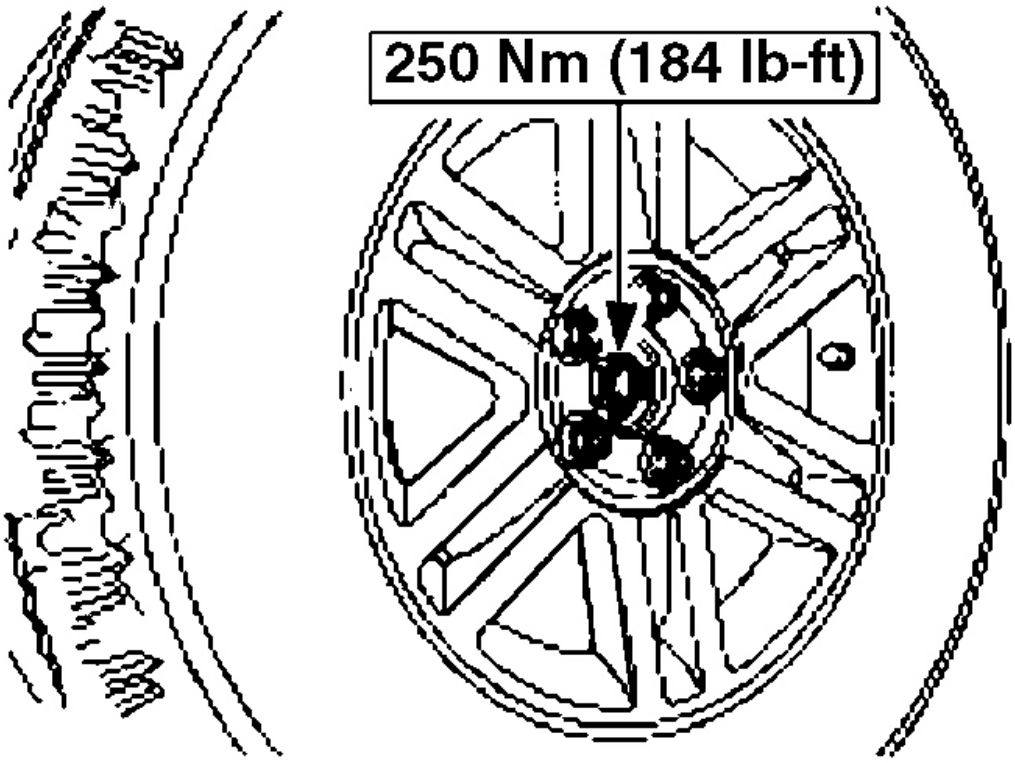

Fig. 66: Loosening Axle Retainer Nut (4x4 Vehicles)
Courtesy of FORD MOTOR CO.

NOTE: **The wheel speed sensor electrical connectors are located in the engine compartment secured to the fender aprons.**

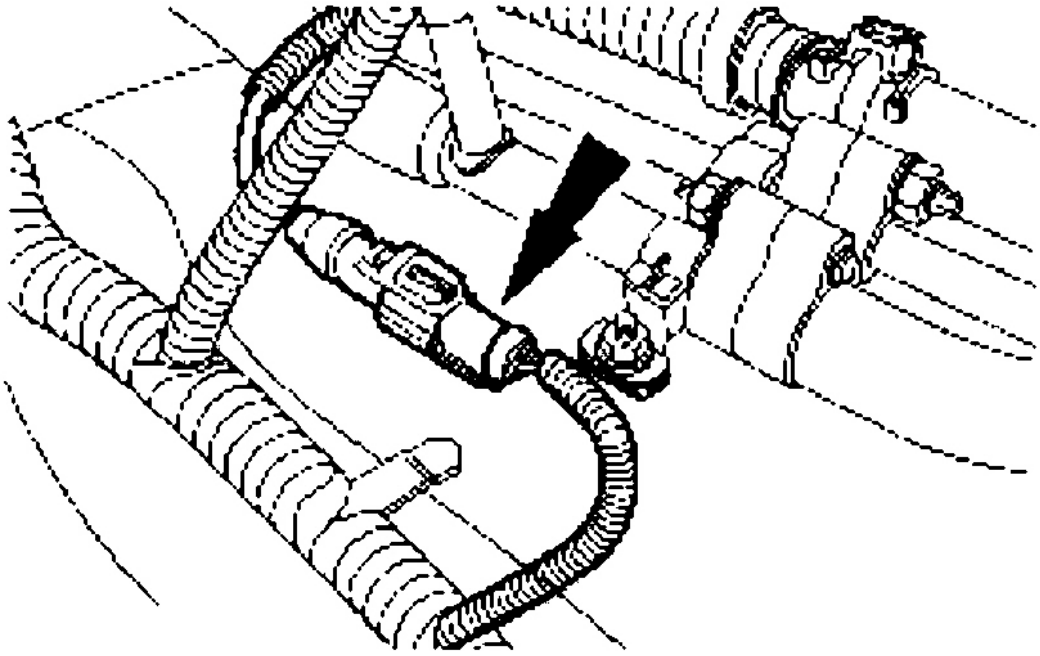

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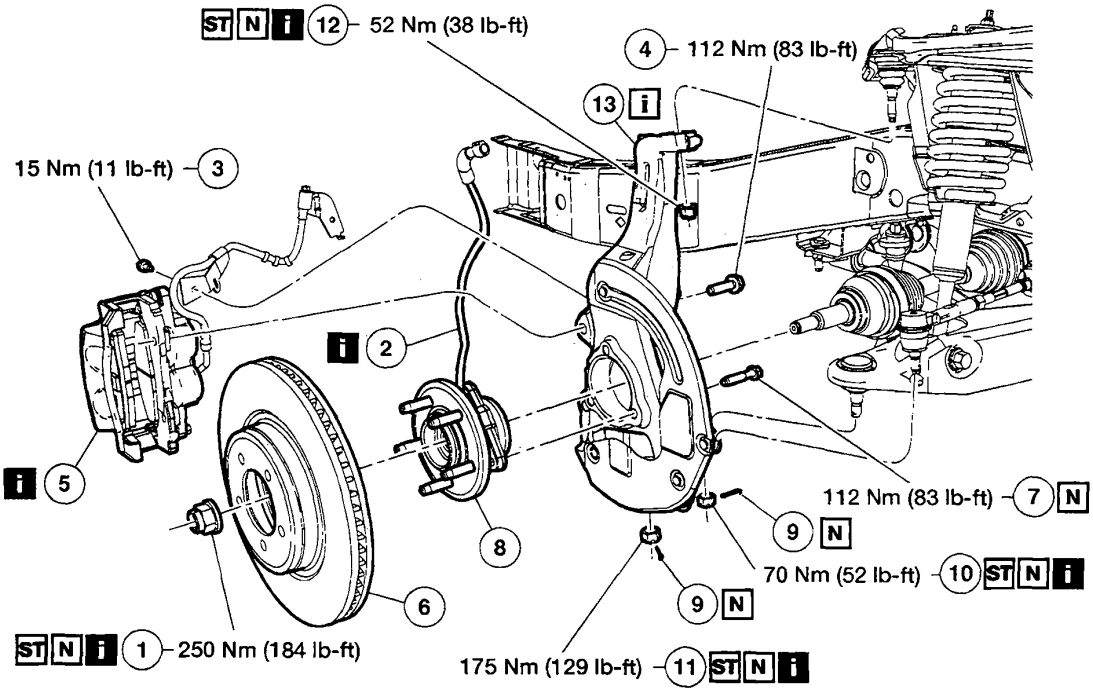
Fig. 67: Disconnecting Wheel Speed Sensor
Courtesy of FORD MOTOR CO.

2. Disconnect the wheel speed sensor.
3. Remove the wheel and tire assembly. For additional information, refer to **WHEEL AND TIRE - FRONT**.
4. To remove individual suspension parts, only carry out the listed steps.

COMPONENT REMOVAL STEPS

Component	Steps
Wheel bearing and hub assembly	1-8
Wheel knuckle	1-13
Upper Arm	12, 14-16
Lower arm	11, 17-27

5. Illustration 1 of 2. Remove the components in the order indicated in the following illustration and table.

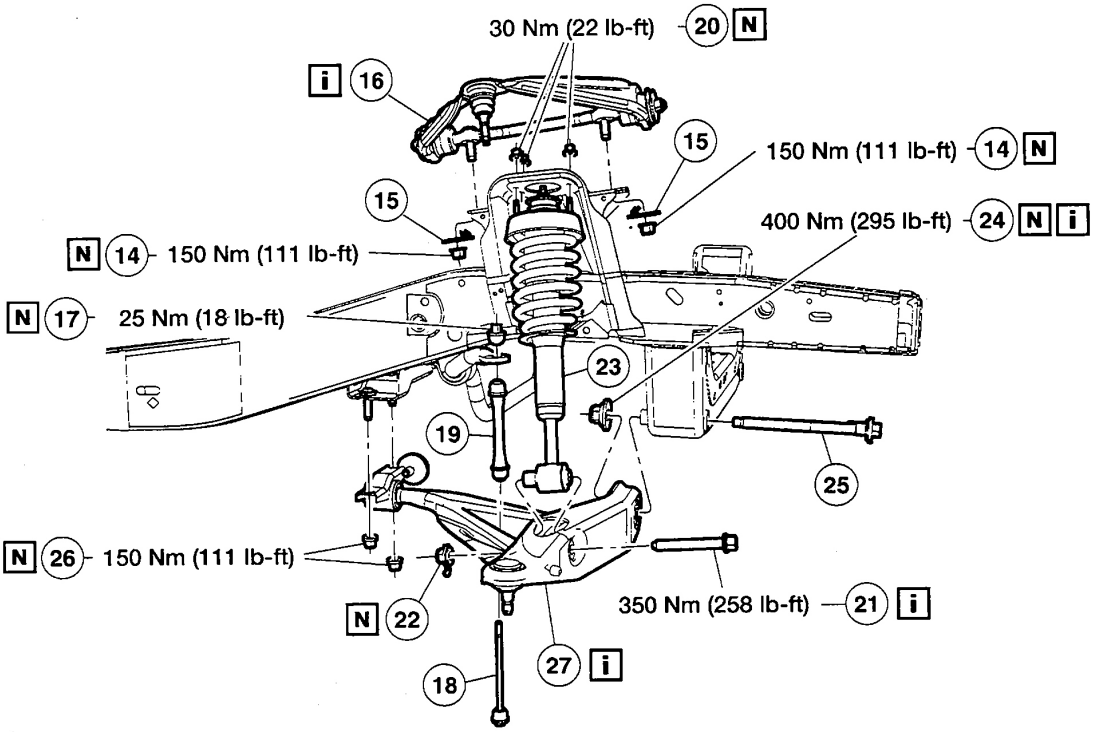


Item	Part Number	Description
1	W706540-S900	Axle-to-wheel hub nut (4x4 only) Removal Note
2	—	Speed sensor harness (part of 2C204) Removal Note
3	W505223-S436	Brake hose-to-wheel knuckle bolt
4	2027	Anchor plate bolt (2 required)
5	—	Brake caliper, pads and anchor plate Removal Note
6	1125	Brake disc
7	1107	Wheel hub-to-wheel knuckle bolt (3 required)
8	1104	Wheel bearing and hub assembly
9	N642567-S36	Cotter pins
10	N642567-S36	Tie-rod end-to-wheel knuckle nut Removal Note
11	N808039-S427	Lower ball joint-to-wheel knuckle nut Removal Note
12	W520214-S436	Upper ball joint-to-wheel knuckle nut Removal Note
13	3K185	Wheel knuckle Installation Note

G03180194

Fig. 68: Identifying Wheel Bearing, Hub, Knuckle, Upper Arm And Lower Arm Components
Courtesy of FORD MOTOR CO.

6. Illustration 2 of 2. Remove the components in the order indicated in the following illustration and table.



Item	Part Number	Description
14	W520215-S436	Upper arm-to-frame nuts
15	3C203	Set shims
16	3084/3085	Upper arm RH/LH Installation Note
17	5C491	Nut and grommet
18	5495	Stud
19	5K484	Stabilizer bar link
20	W704790-S426	Shock absorber upper mount-to-frame nuts
21	W707900-S426	Shock absorber-to-lower arm bolt Installation Note
22	W707633-S436	Shock absorber-to-lower arm flag nut
23	—	Shock absorber and spring assembly
24	W707084-S436	Lower arm-to-frame nut (forward mounting) Installation Note
25	W707923-S436	Lower arm-to-frame flag bolt (forward mounting)
26	W520215-S427	Lower arm-to-frame nuts (rearward mounting)
27	3078	Lower Arm Installation Note

G03180195

Fig. 69: Identifying Wheel Bearing, Hub, Knuckle, Upper Arm And Lower Arm Components
Courtesy of FORD MOTOR CO.

7. To install, reverse the removal procedure.

Item 1: Axle-to-Wheel Hub Nut Removal Note

1. Remove the nut and, using the special tool, separate the outboard CV joint from the wheel hub.

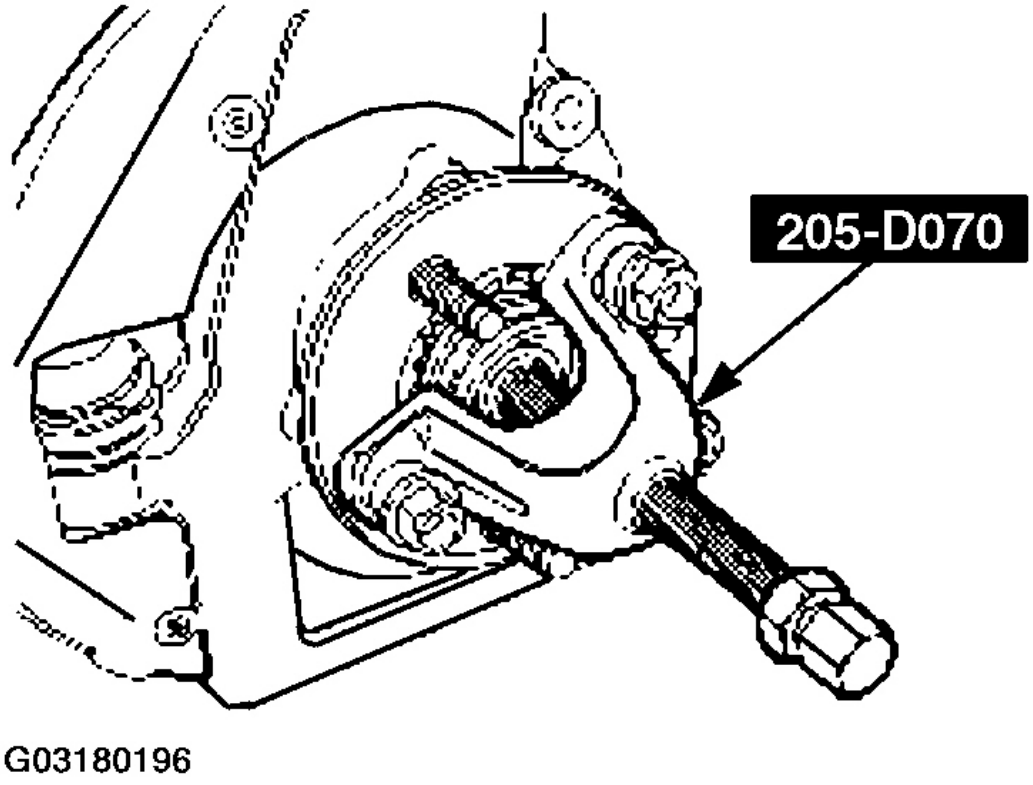
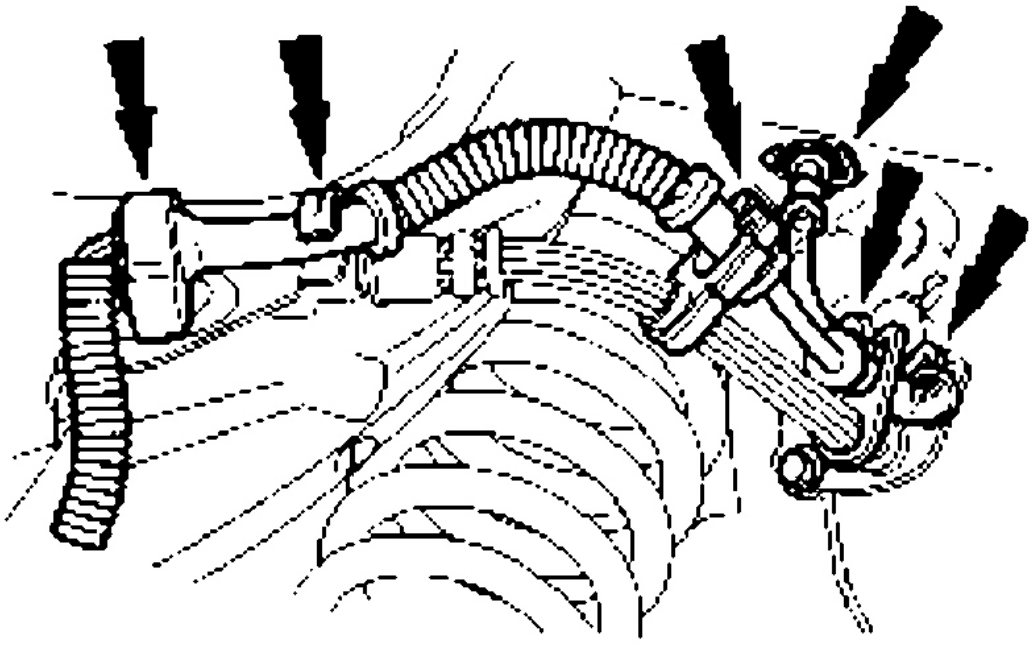


Fig. 70: Separating Outboard CV Joint From Wheel Hub Using Special Tool
Courtesy of FORD MOTOR CO.

Item 2: Speed Sensor Harness Removal Note

1. Detach the wheel speed sensor harness from the brake hose.



G03180197

Fig. 71: Detaching Wheel Speed Sensor Harness From Brake Hose
Courtesy of FORD MOTOR CO.

Item 5: Brake Caliper, Pads and Anchor Plate Removal Note

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

1. Position the caliper, pads and anchor plate aside.

Item 10: Tie-Rod End-to-Wheel Knuckle Nut Removal Note

CAUTION: Do not use a hammer to separate the tie-rod from the wheel knuckle or damage to the wheel knuckle can result.

CAUTION: Do not damage the tie-rod boot while installing the special tool.

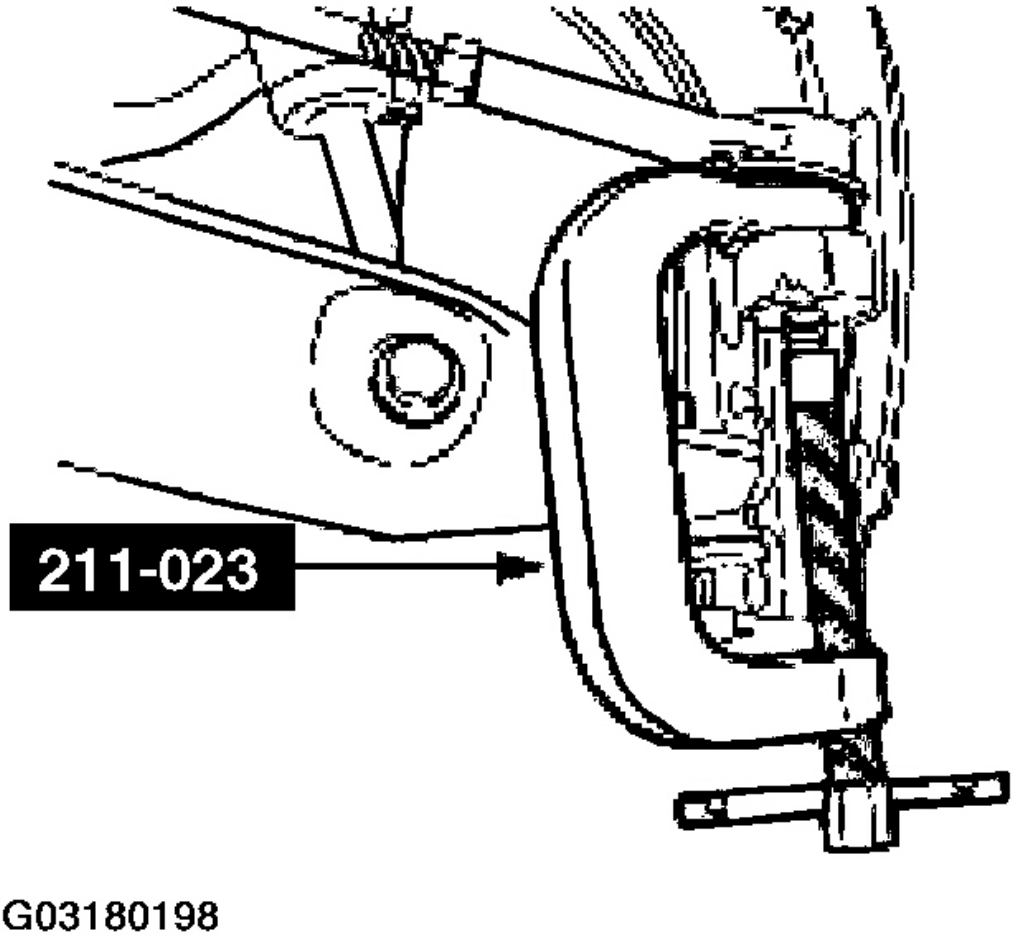


Fig. 72: Separating Tie-Rod From Wheel Knuckle Using Special Tool
Courtesy of FORD MOTOR CO.

1. Using the special tool, separate the tie-rod from the wheel knuckle.

Item 11: Lower Ball Joint-to-Wheel knuckle Nut Removal Note

CAUTION: Do not use a hammer to separate the ball joint from the wheel knuckle or damage to the wheel knuckle can result.

CAUTION: Do not damage the ball joint boot while installing the special tool.

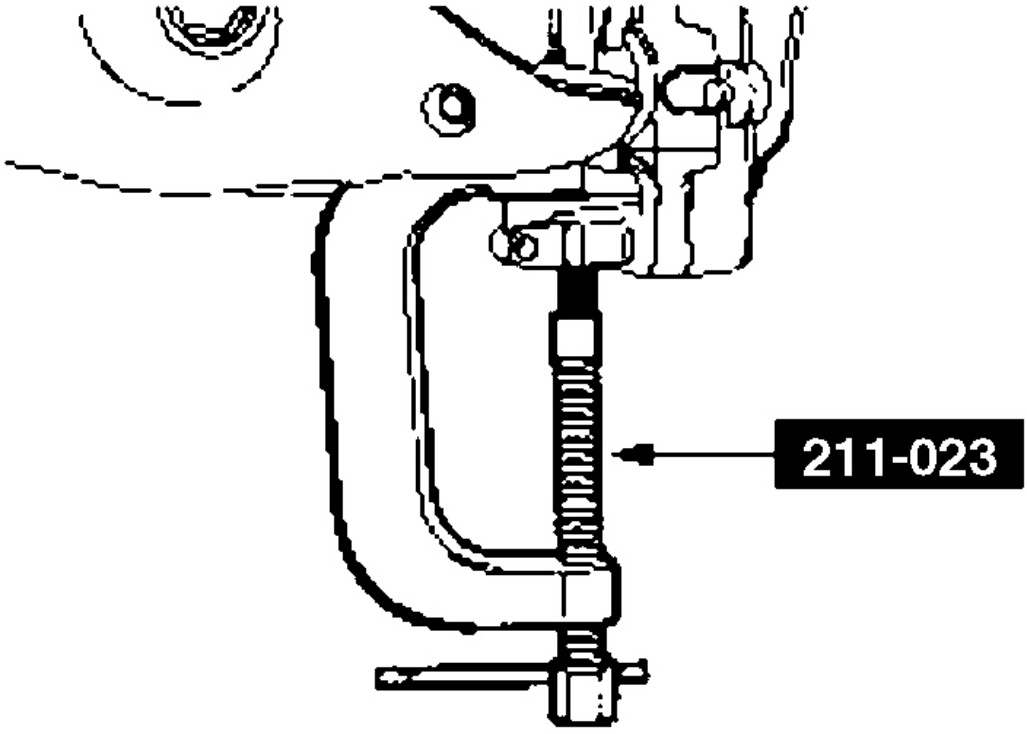


Fig. 73: Separating Lower Ball Joint From Wheel Knuckle Using Special Tool
Courtesy of FORD MOTOR CO.

1. Using the special tool, separate the lower ball joint from the wheel knuckle.

Item 12: Upper Ball Joint-to-Wheel Knuckle Nut Removal Note

CAUTION: Do not use a hammer to separate the ball joint from the wheel knuckle or damage to the wheel knuckle can result.

CAUTION: Do not damage the ball joint boot while installing the special tool.

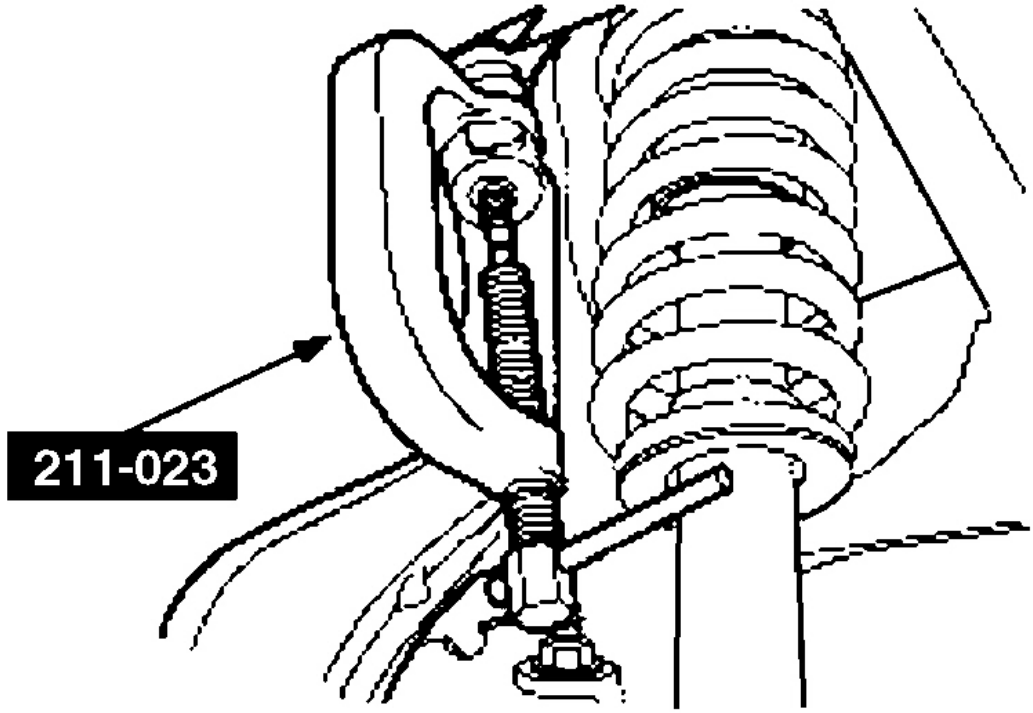


Fig. 74: Separating Upper Ball Joint From Wheel Knuckle Using Special Tool
Courtesy of FORD MOTOR CO.

1. Using the special tool, separate the upper ball joint from the wheel knuckle.

Item 27: Lower Arm Installation Note

1. Check and, if necessary, align the front end. For additional information, refer to **WHEEL ALIGNMENT**.

Item 24: Lower Arm-to-Frame Nut (forward mounting) Installation Note

1. Do not tighten until the installation procedure is complete and the weight of the vehicle is resting on the wheel and tire assemblies.

Item 21: Shock Absorber-to-Lower Arm Bolt Installation Note

1. Do not tighten until the installation procedure is complete and the weight of the vehicle is resting on the wheel and tire assemblies.

Item 16: Upper Arm Installation Note

1. Check and, if necessary, align the front end. For additional information, refer to **WHEEL ALIGNMENT**.

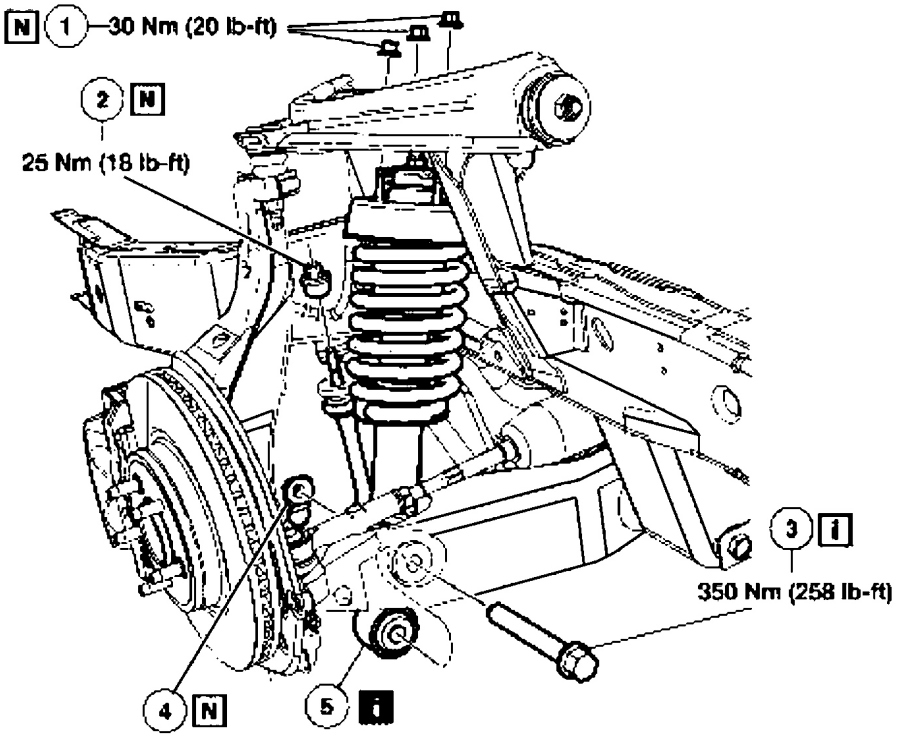
Item 13: Wheel Knuckle Installation Note

1. Check and, if necessary, align the front end. For additional information, refer to **WHEEL ALIGNMENT**.

SHOCK ABSORBER AND SPRING ASSEMBLY - FRONT

Removal and Installation

1. Remove the wheel and tire assembly. For additional information, refer to **WHEEL AND TIRE - FRONT**.
2. Remove the components in the order indicated in the following illustration and table.
3. To install, reverse the removal procedure.



Item	Part Number	Description
1	W704790-S426	Shock absorber upper mount-to frame nuts
2	5C491	Nut and grommet
3	W707900-S426	Shock absorber-to-lower arm bolt Installation Note
4	W707633-S436	Shock absorber-to-lower arm flag nut
5	—	Shock absorber and spring assembly Removal Note

G03180201

Fig. 75: Identifying Shock Absorber And Spring Assembly Components (Front)
Courtesy of FORD MOTOR CO.

Item 5: Shock Absorber and Spring Assembly Removal Note

1. For additional information on the disassembly and assembly of the shock absorber and spring assembly, refer to **SHOCK ABSORBER AND SPRING ASSEMBLY**.

Item 3: Shock Absorber-to-Lower Arm Bolt Installation Note

1. Do not tighten until the installation procedure is complete and the weight of the vehicle is resting on the wheel and tire assemblies.

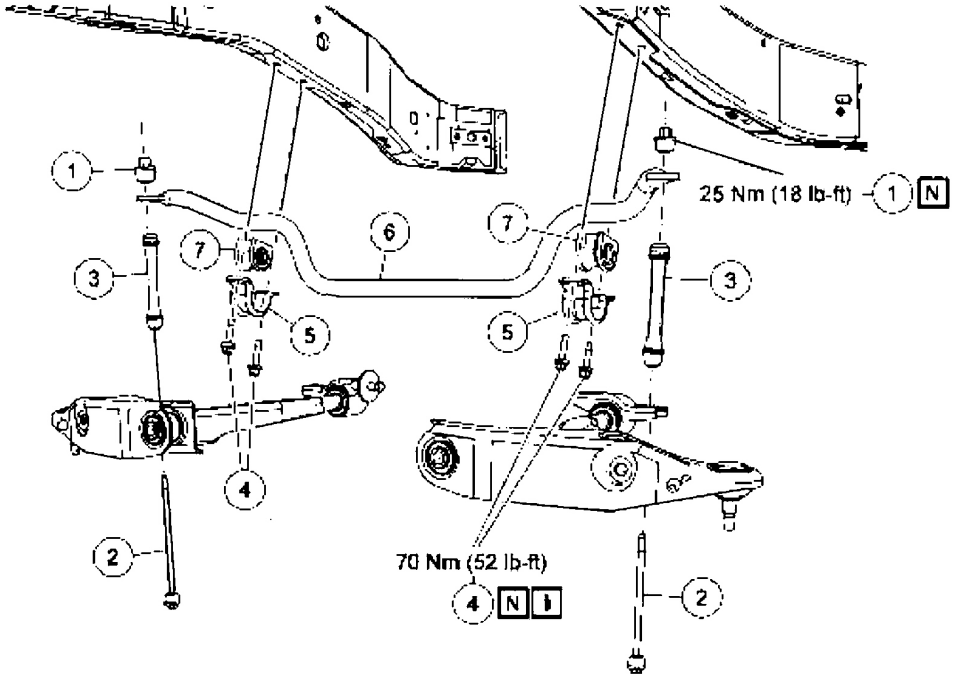
STABILIZER BAR AND LINK - FRONT

Removal and Installation

1. Remove the components in the order indicated in the following illustration and table.

NOTE: **Inspect the bushings for wear or damage. Install new bushings as necessary.**

NOTE: **Install new stabilizer link nuts and stabilizer bar bolts.**



Item	Part Number	Description
1	5C491	Nut and grommet
2	5495	Stud
3	5K484	Stabilizer bar link
4	W707472-S426	Stabilizer bar-to-frame bolts Installation Note
5	5486	Bracket
6	5482	Stabilizer bar
7	5493	Bushing

G03180202

Fig. 76: Identifying Stabilizer Bar And Link (Front)
Courtesy of FORD MOTOR CO.

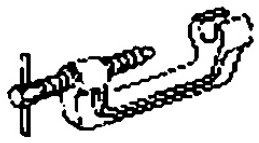
2. To install, reverse the removal procedure.

Item 4: Stabilizer Bar-to-Frame Bolts Installation Note

1. Inspect and clean the mating surfaces and the internal threads. Make sure all mating surfaces are free of foreign material and remove any Locktite from the internal threads. Install new stabilizer bar bolts.

WHEEL AND TIRE - REAR

Special Tool(s)

	C-Frame and Screw 211-023 (T74P-3044-A1)

G03180203

Fig. 77: Identifying Special Tool
Courtesy of FORD MOTOR CO.

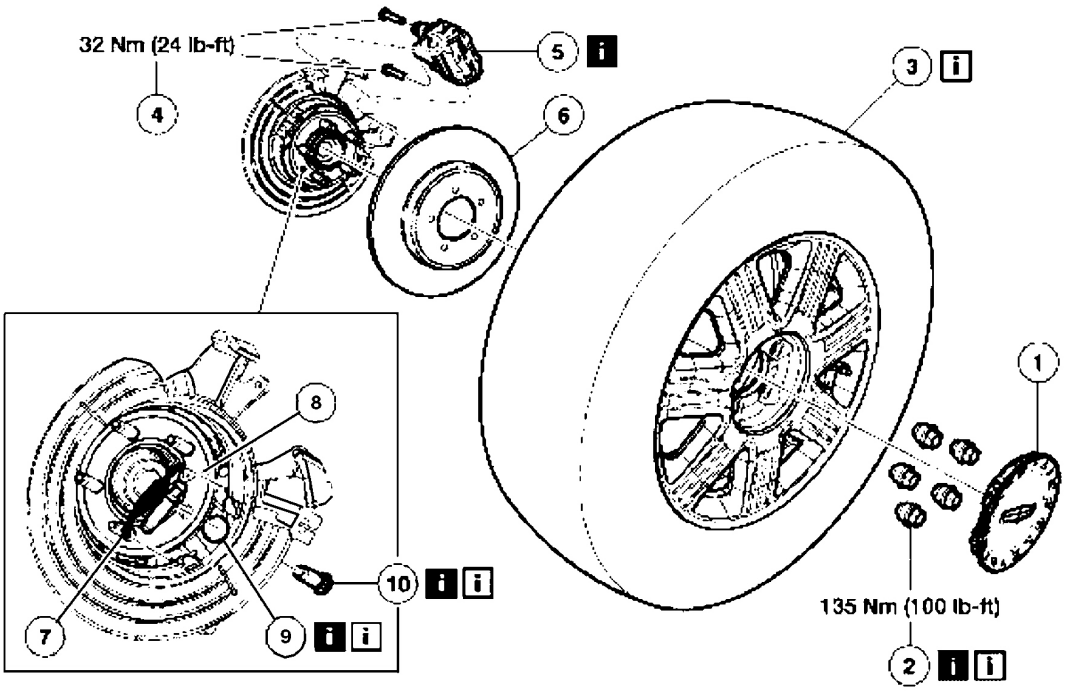
Removal and Installation

1. Remove the parts in the order indicated in the following illustration and table.

   To remove individual parts, only carry out the listed steps:

   COMPONENT REMOVAL STEPS

Component	Steps
Wheel and tire assembly	1-3
Wheel stud	1-10



Item	Part Number	Description
1	1130	Wheel cap
2	1012	Wheel nuts Removal Note Installation Note
3	1007	Wheel and tire assembly Installation Note
4	—	Brake caliper anchor plate bolts
5	2027	Caliper, pads and anchor plate Removal Note
6	2C026	Brake disc
7	—	Spring (part of 2648)
8	2041	Adjuster
9	—	Access hole knockout (part of 2C028) Removal Note Installation Note
10	1107	Wheel stud Removal Note Installation Note

G03180204

Fig. 78: Exploded View Of Wheel And Tire (Rear)
Courtesy of FORD MOTOR CO.

2. To install, reverse the removal procedure.

Item 2: Wheel Nuts Removal Note

CAUTION: Do not use heat to loosen a seized wheel nut or damage to the wheel and wheel bearing can occur.

1. With the weight of the vehicle on the wheels, loosen the wheel nuts.
2. With vehicle in NEUTRAL, position on a hoist. For additional information, refer to **JACKING & LIFTING**

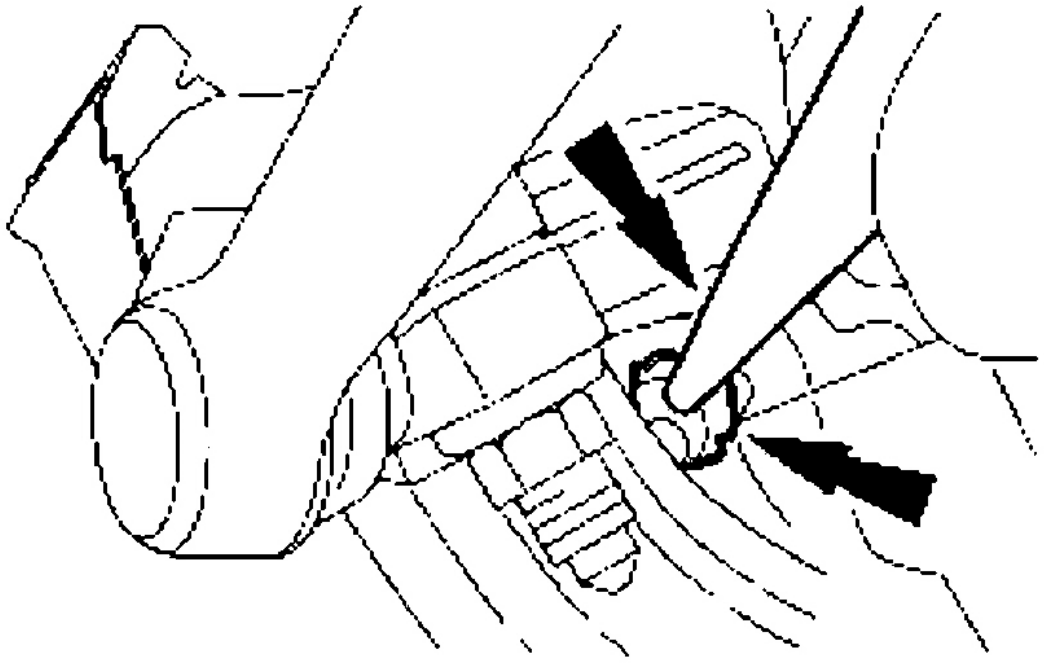
Item 5: Caliper, Pads and Anchor Plate Removal Note

CAUTION: Do not allow the brake caliper to hang from the hose or damage to the hose can result.

1. Remove the bolts and position the caliper, pads and anchor plate aside.

Item 9: Access Hole Knockout Removal Note

CAUTION: The brake shield has an access hole knockout that must be removed to allow for the removal of the wheel stud.



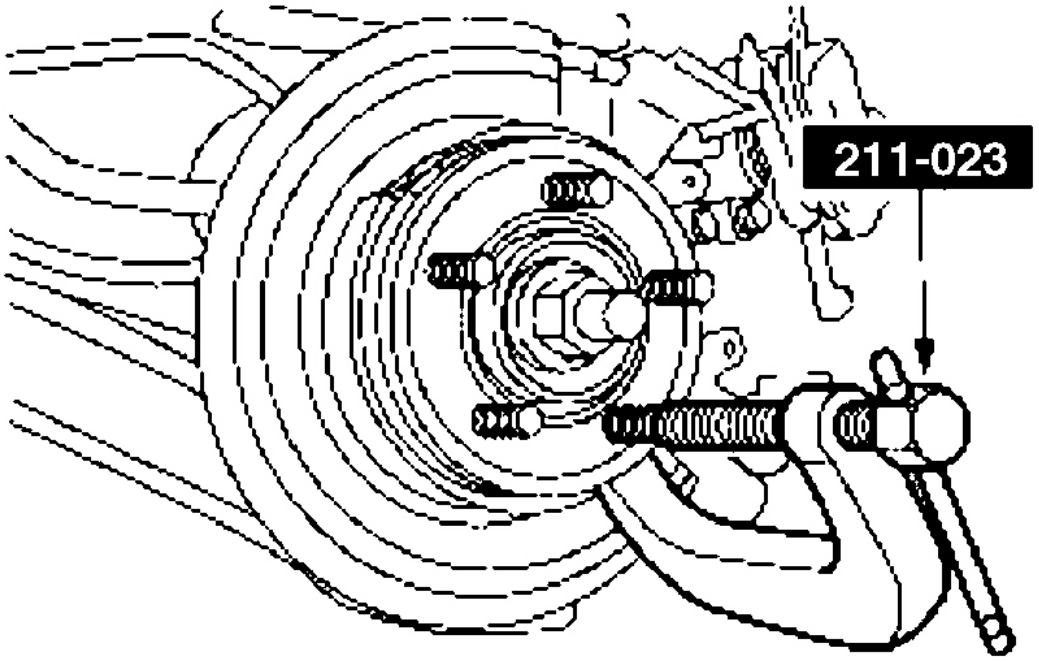
G03180205

Fig. 79: Removing Access Hole Cover From Brake Shield
Courtesy of FORD MOTOR CO.

1. Using a suitable punch, remove the access hole cover from the brake shield.

Item 10: Wheel Stud Removal Note

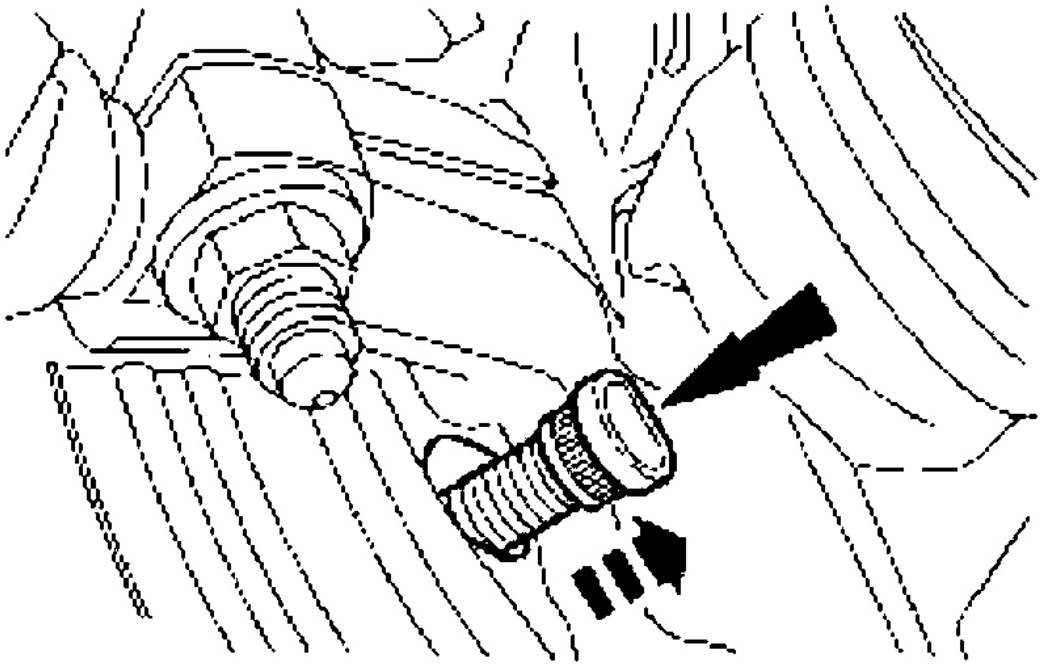
NOTE: Make sure that the wheel stud is aligned with the recessed area of the wheel knuckle.



G03180206

Fig. 80: Pressing Wheel Stud Using Special Tool
Courtesy of FORD MOTOR CO.

1. Using the special tool, press the wheel stud until it makes contact with the edge of the wheel knuckle.
   - Use a hammer and punch to drive the wheel stud past the edge of the wheel knuckle.
2. Route the wheel stud through the access hole and discard the wheel stud.
   - To remove, lightly tap the stud with a hammer. Align the flat spot on the wheel stub with the knuckle.



G03180207

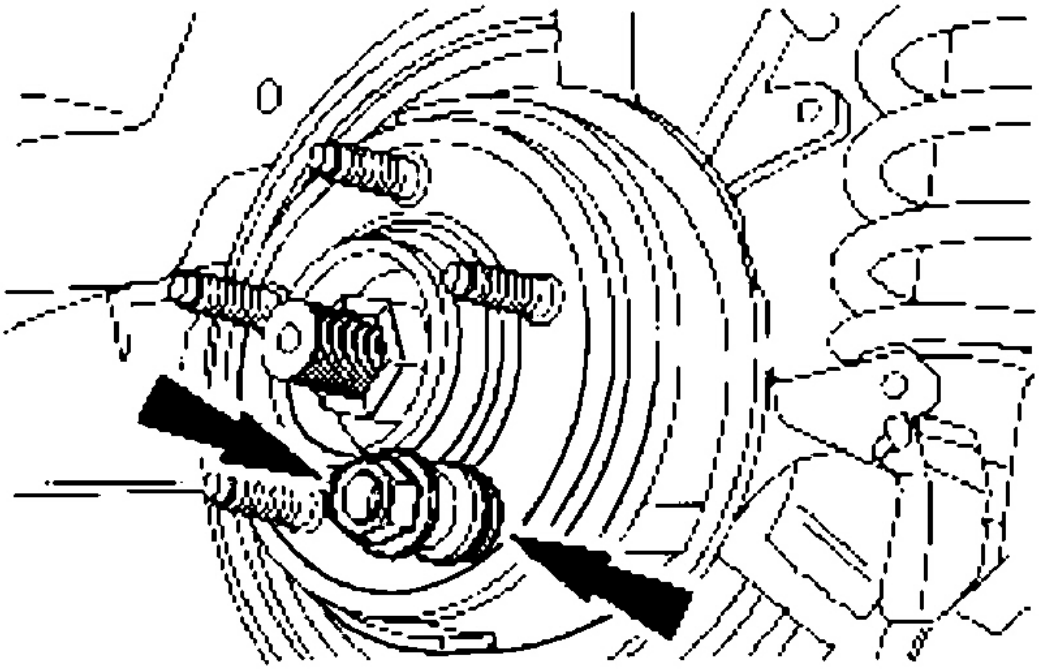
Fig. 81: Removing Wheel Stud
Courtesy of FORD MOTOR CO.

Item 10: Wheel Stud Installation Note

CAUTION: Do not use power tools to install the wheel stud. The serrations on the stud can be stripped.

NOTE: To position the wheel stud in the wheel hub, align the flat area on the wheel stud with the recessed area of the wheel knuckle.

NOTE: Do not use the wheel nut that came with the vehicle.



G03180208

Fig. 82: Seating New Wheel Nut
Courtesy of FORD MOTOR CO.

1. Install washers and a new wheel nut on the wheel stud and tighten the nut until the stud seats against the flange.
    - Discard the wheel nut and washers.

Item 9: Access Hole Knockout Installation Note

1. A plug must be inserted in place of the knockout to prevent contamination to the parking brake shoe assemblies.

Item 3: Wheel and Tire Installation Note

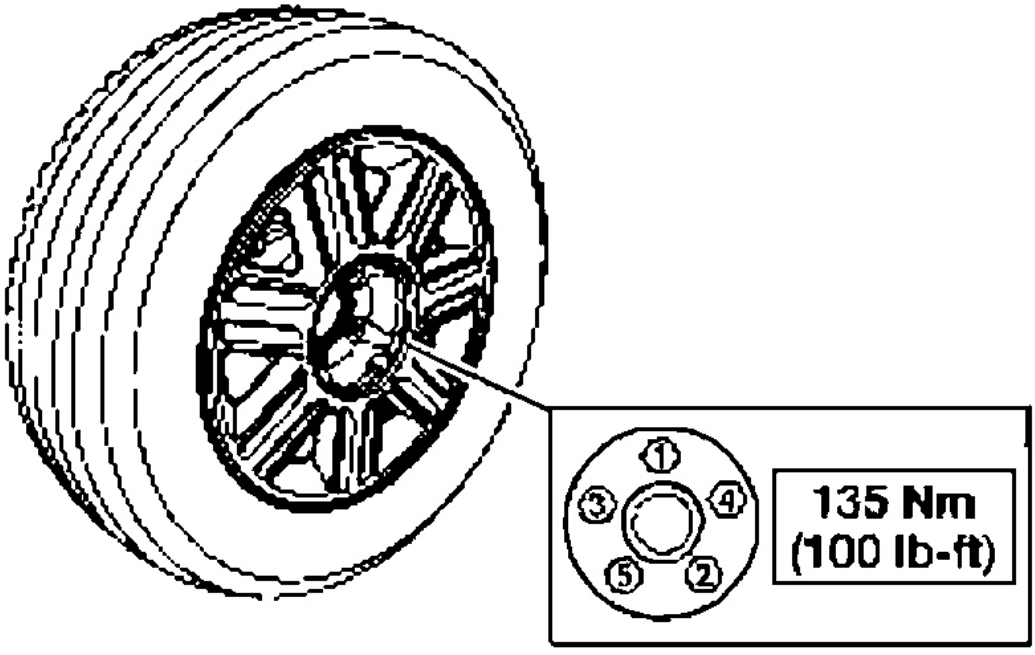
WARNING: When installing a wheel and tire, make sure to remove any corrosion, dirt or foreign material present on the mounting surfaces of the wheel and brake disc. Installing a wheel without correct metal-to-metal contact at the mounting surfaces can cause the wheel nuts to loosen and the wheel to come off while the vehicle is in motion, causing loss of control.

1. Clean the wheel mounting surfaces.

Item 2: Wheel Nuts Installation Note

WARNING: **Retighten at 800 km (500 miles) after any wheel change or any time the wheel nuts are loosened. Failure to retighten the wheel nuts at the mileage specified could allow the wheels to come off while the vehicle is in motion, possibly causing loss of control.**

CAUTION: **Failure to tighten the wheel nuts in a star pattern can result in high brake disc runout, which will speed up the development of brake roughness, shudder and vibration.**



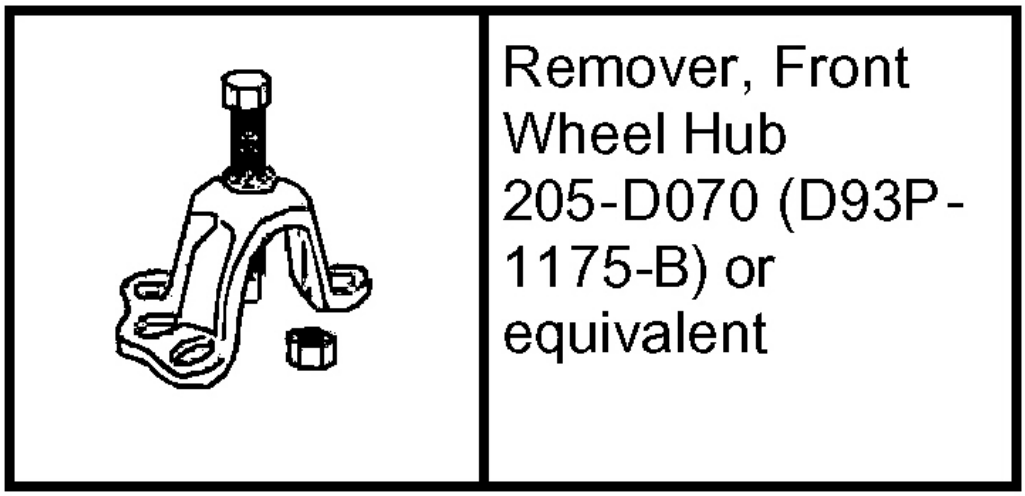
G03180209

Fig. 83: Tightening Wheel Nuts
Courtesy of FORD MOTOR CO.

1. Tighten the wheel nuts.

WHEEL BEARING, HUB, KNUCKLE, UPPER ARM AND LOWER ARM - REAR

Special Tool(s)



G03180210

Fig. 84: Identifying Special Tool
Courtesy of FORD MOTOR CO.

Removal and Installation

CAUTION: Do not loosen the axle wheel hub retainer until the wheel and tire are removed from the vehicle. Wheel bearing damage will occur if the wheel bearing is unloaded with the weight of the vehicle applied.

NOTE: Have an assistant press the brake pedal to keep the axle from turning.

NOTE: Only carry out this step if servicing the wheel knuckle and wheel bearing.

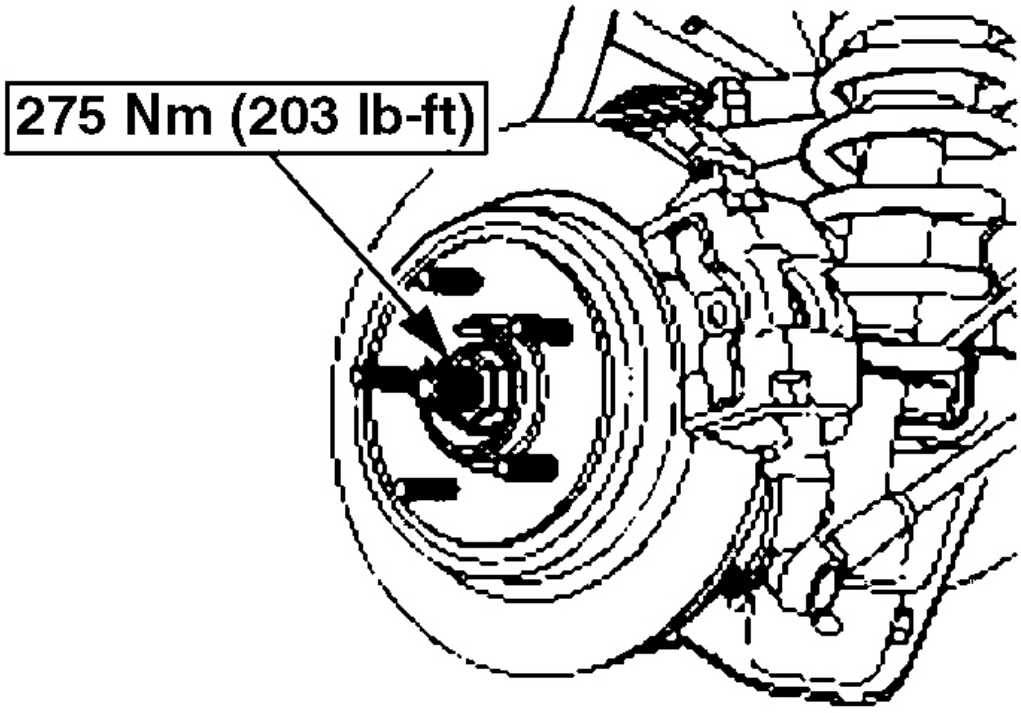
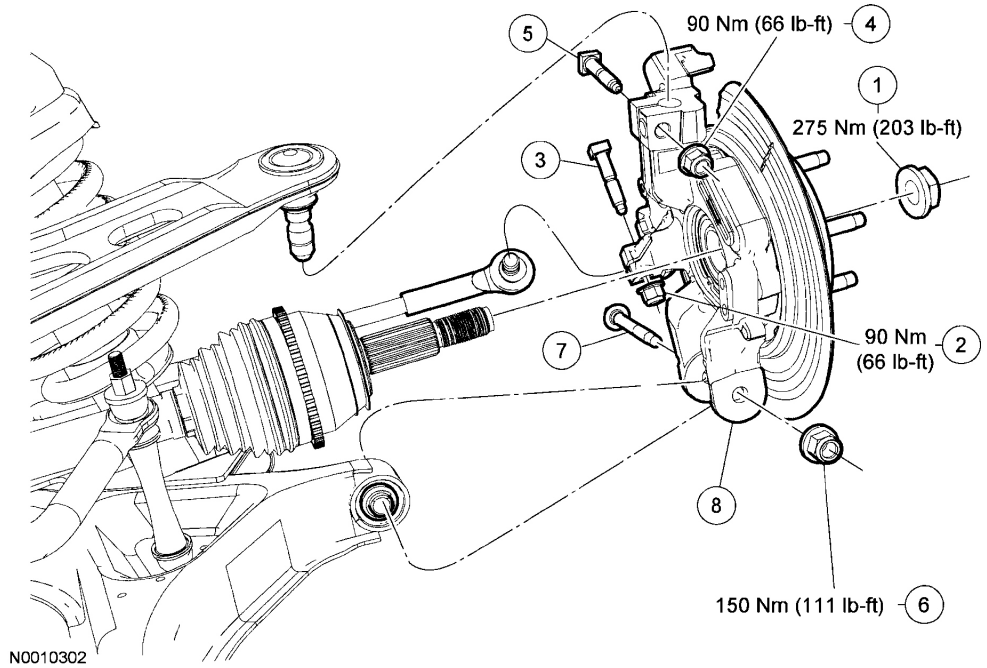


Fig. 85: Removing Nut And Washer
Courtesy of FORD MOTOR CO.

1. Remove the nut and washer.
   - Discard the nut.
2. Remove the parking brake shoes. For additional information, refer to **BRAKE SYSTEM-GENERAL INFORMATION** .
3. Remove the parts in the order indicated in the following illustrations and tables.

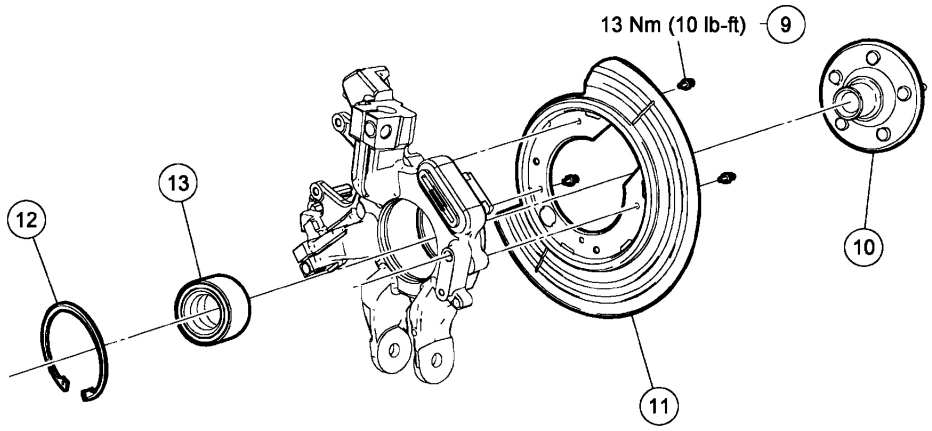
To remove individual parts, only carry out the listed steps:



Item	Part Number	Description
1	N808405-S100	Axle nut
2	W520214-S436	Toe link-to-wheel knuckle nut
3	W706957-S436	Toe link-to-wheel knuckle bolt
4	W520214-S436	Upper arm-to-wheel knuckle nut
5	W706957-S436	Upper arm-to-wheel knuckle bolt

Item	Part Number	Description
6	W520215-S436	Lower arm-to-wheel knuckle nut
7	W707337-S436	Lower arm-to-wheel knuckle bolt
8	5A968	Wheel knuckle

Fig. 86: Exploded View Of Rear Suspension With Torque Specifications (1 Of 3)
Courtesy of FORD MOTOR CO.

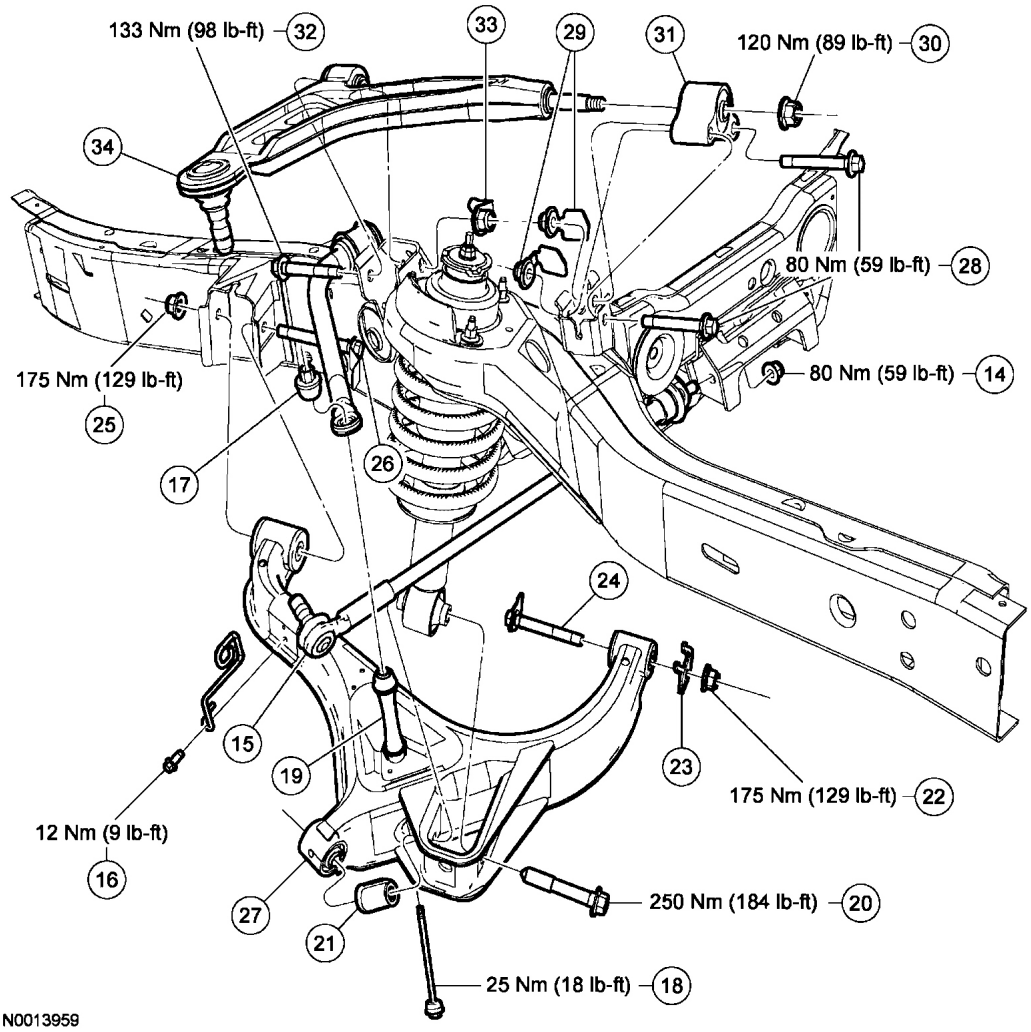


N0010303

Item	Part Number	Description
9	—	Brake shield-to-wheel knuckle bolts (part of 2C028)
10	—	Wheel hub (part of 1109)
11	2C028	Brake shield

Item	Part Number	Description
12	—	Retainer ring (part of 1109)
13	—	Wheel bearing (part of 1109)

Fig. 87: Exploded View Of Rear Suspension With Torque Specifications (2 Of 3)
Courtesy of FORD MOTOR CO.



Item	Part Number	Description
14	W520214-S436	Toe link-to-frame nut
15	5A972	Toe link
16	—	Parking brake cable bracket-to-lower arm bolt
17	5C491	Stabilizer bar link-to-stabilizer bar nut and bushing
18	5495	Stud
19	5K498	Stabilizer bar link
20	W707516-S426	Shock absorber-to-lower arm bolt
21	W707573-S436	Flag nut
22	W707251-S436	Lower arm-to-frame nut (rearward mounting)
23	5A983	Set shim
24	W707363-S436	Lower arm-to-frame flag bolt
25	W707251-S436	Lower arm-to-frame nut (forward mounting)
26	W708280-S436	Lower arm-to-frame flag bolt
27	5A649	Lower arm

Item	Part Number	Description
28	W707336-S426	Upper arm-to-frame bolt (rearward mounting) (2 required)
28	W707336-S426	Upper arm-to-frame bolt (rearward mounting) (2 required)
29	W707282-S436	Flag nut (2 required)
30	—	Upper arm bushing-to-upper arm nut (part of 3069)
31	3069	Upper arm bushing (rearward mounting)
32	W707579-S426	Upper arm-to-frame bolt (forward mounting)
33	W707471-S436	Flag nut
34	5500	Upper arm

Fig. 88: Exploded View Of Rear Suspension With Torque Specifications (3 Of 3)
Courtesy of FORD MOTOR CO.

4. To install, reverse the removal procedure.
5. Check and, if necessary, align the rear end. For additional information, refer to **Wheel Alignment**.

CAUTION: Do not use a hammer to separate the outboard CV joint from the hub. Damage to the treads and internal CV joint component can result. Use special tool to press outboard CV joint until it is loose from hub. See Fig. 89.

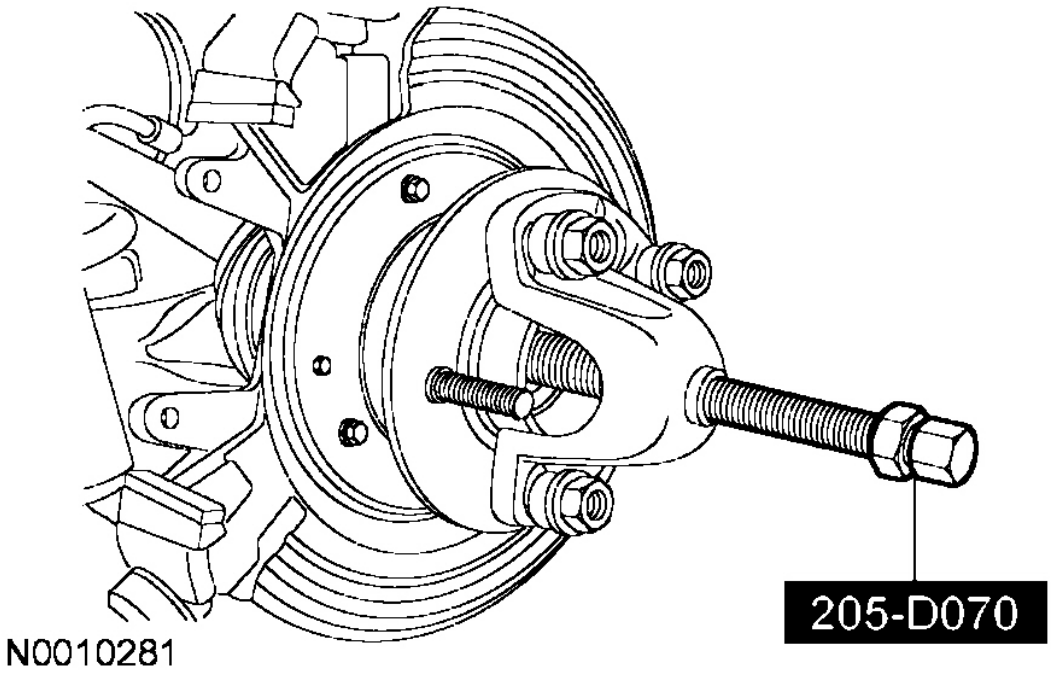
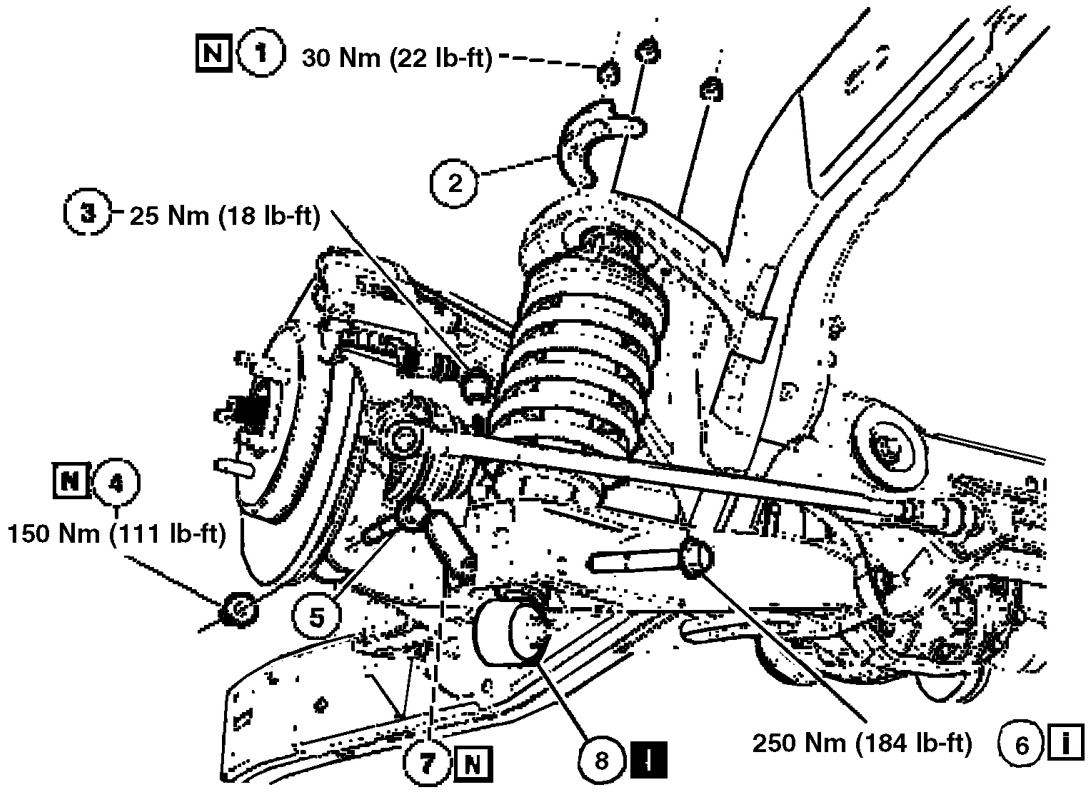


Fig. 89: Pressing Outboard CV Joint
Courtesy of FORD MOTOR CO.

SHOCK ABSORBER AND SPRING ASSEMBLY - REAR

Removal and Installation

1. Remove the wheel and tire assembly. For additional information, refer to **WHEEL AND TIRE - REAR**.
2. Remove the parts in the order indicated in the following illustration and table.



Item	Part Number	Description
1	W704790-S427	Nuts
2	4002	Jounce bumper
3	5C491	Stabilizer link nut and grommet
4	W520215-S436	Lower arm-to-wheel knuckle nut
5	W707337-S436	Lower arm-to-wheel knuckle bolt
6	W707516-S426	Shock absorber-to-lower arm bolt Installation Note
7	W707573-S436	Shock absorber-to-lower arm flag nut
8	—	Shock absorber and spring assembly Removal Note

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Fig. 90: Identifying Components Of Shock Absorber And Spring Assembly (Rear)
Courtesy of FORD MOTOR CO.

3. To install, reverse the removal procedure.

Item 8: Shock Absorber and Spring Assembly Removal Note

1. For additional information on the disassembly and assembly of the shock absorber and spring assembly refer to **SHOCK ABSORBER AND SPRING ASSEMBLY**.

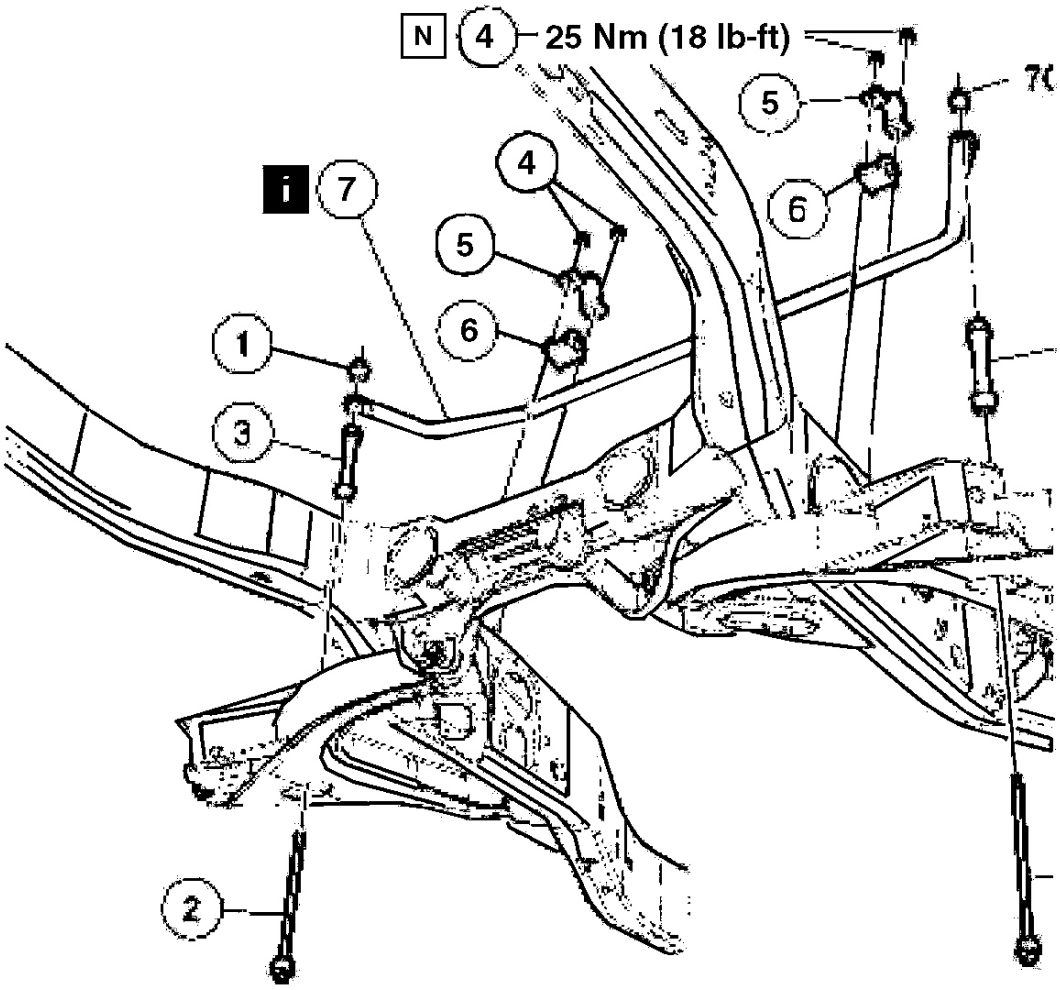
Item 6: Shock Absorber-to-Lower Arm Bolt Installation Note

1. Do not tighten until the installation procedure is complete and the weight of the vehicle is resting on the wheel and tire assemblies.

STABILIZER BAR AND LINK - REAR

Removal and Installation

1. Remove the wheel and tire assemblies. For additional information, refer to **WHEEL AND TIRE - REAR**.
2. Remove the components in the order indicated in the following illustration and table.
3. To install, reverse the removal procedure.



Item	Part Number	Description
1	5C491	Nut and grommet
2	5495	Stud
3	5K484	Stabilizer bar link
4	W520213-S427	Stabilizer bar-to-frame nuts
5	5486	Bracket
6	5493	Stabilizer bar insulator
7	5A772	Stabilizer bar Removal Note

G03180213

Fig. 91: Identifying Stabilizer Bar And Link (Rear)
Courtesy of FORD MOTOR CO.

Item 7: Stabilizer Bar Removal Note

TIRE PRESSURE SENSOR

Special Tool(s)

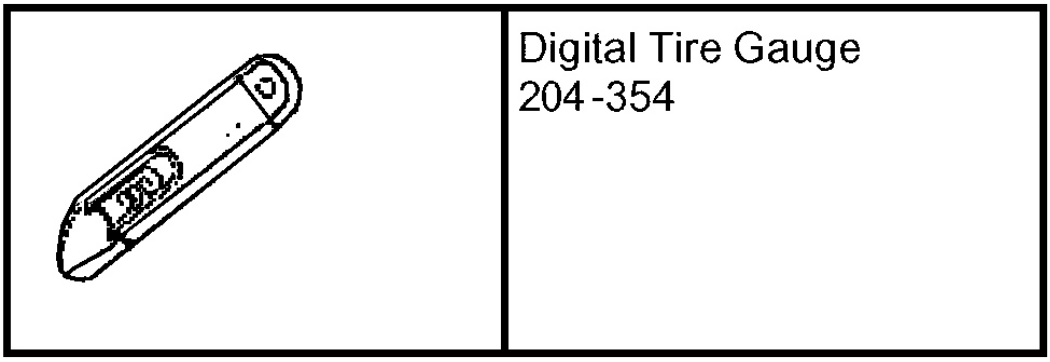


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Fig. 92: Identifying Special Tool
Courtesy of FORD MOTOR CO.

CAUTION: Use only special tool 204-354 anytime tire pressures are measured to be sure that accurate values are obtained.

CAUTION: Place the air chuck straight on the valve stem to inflate the tire. Do not cock the air chuck during the inflation cycle. Doing so can damage the valve stem and cause air leaks.

CAUTION: Ford recommends using a round head air chuck on tire pressure sensors; it is not recommended to use air chucks with long shanks.

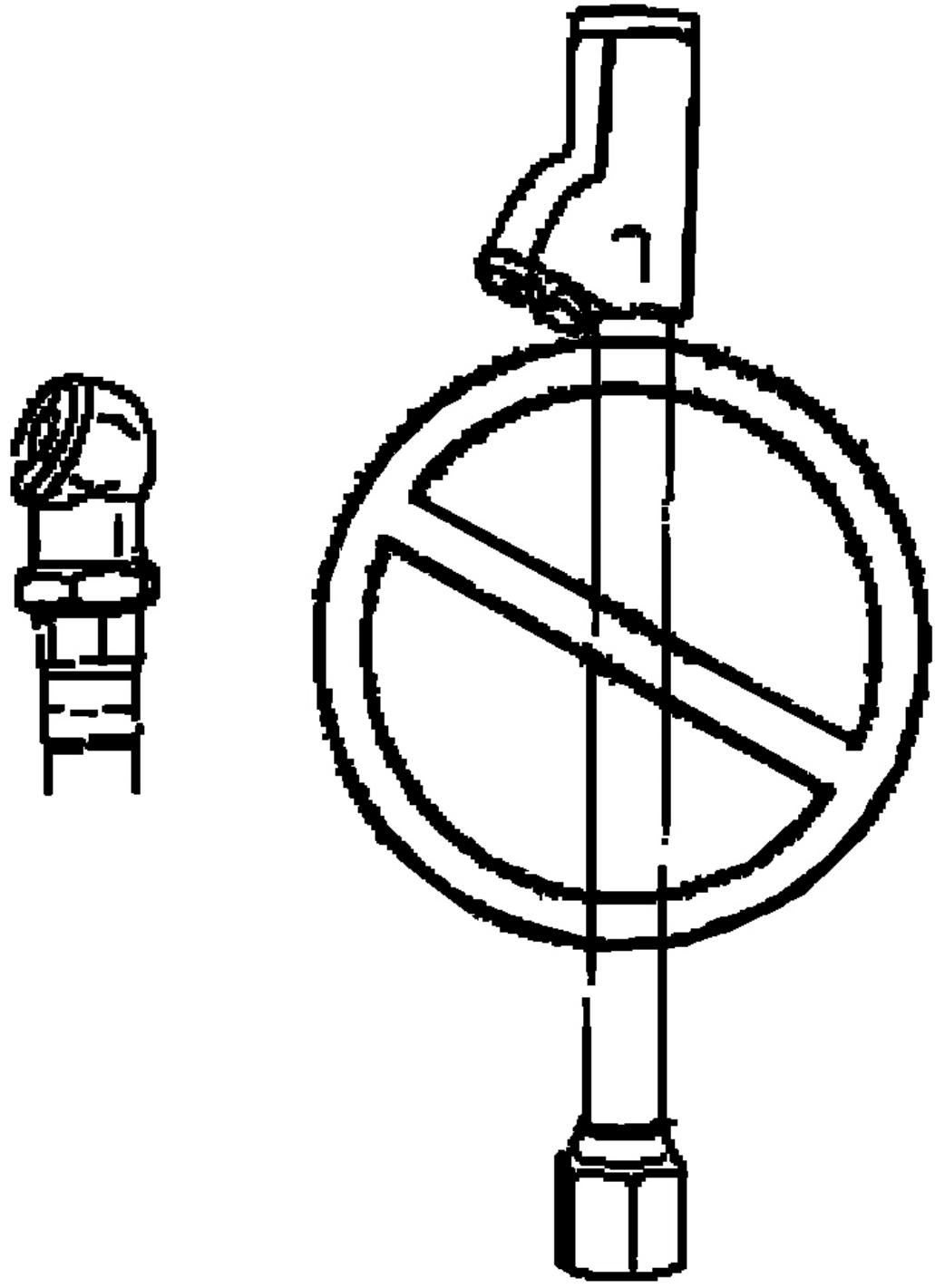


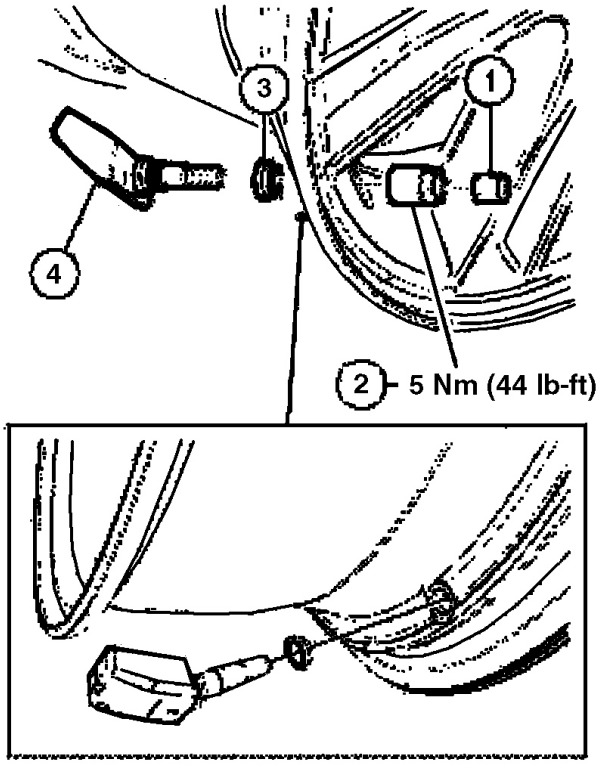
Fig. 93: Caution For Not Using Air Chucks With Long Shanks
Courtesy of FORD MOTOR CO.

Removal

1. Remove the wheel and tire assembly. For additional information, refer to **WHEEL AND TIRE - FRONT** or **WHEEL AND TIRE - REAR**.

CAUTION: Make sure to install a new sensor grommet or an air leak can occur.

NOTE: Do not remove the valve stem core to relieve the tire pressure.



Item	Part Number	Description
1	1A163	Valve stem cap
2	1A160	Sensor retainer nut
3	1A162	Grommet
4	1A150	Tire pressure monitoring sensor

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Fig. 94: Identifying Parts Of Tire Pressure Monitoring Sensor Assembly
Courtesy of FORD MOTOR CO.

2. The following illustration and table indicates parts making up the tire pressure monitoring sensor assembly.

CAUTION: If the valve stem core has been removed from the valve stem,

reinstall the original valve stem core. If the original valve stem core is damaged, a nickel-plated core must be installed. Failure to use a nickel-plated core will result in corrosion and the possible loss of tire pressure.

NOTE: Release the tire pressure by removing the sensor retaining nut.

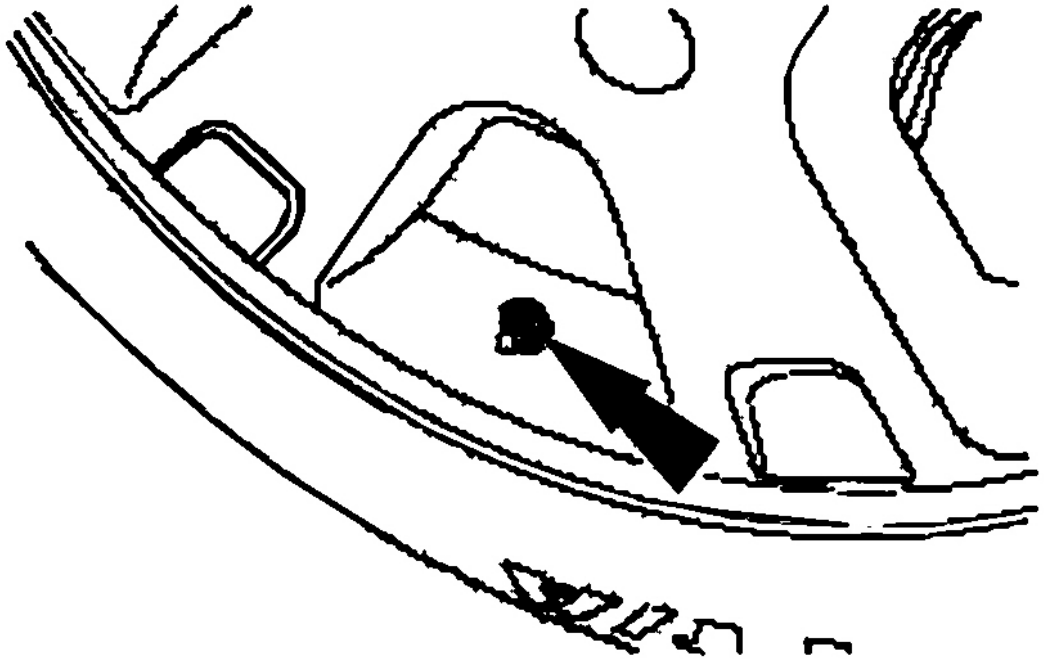

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Fig. 95: Identifying Sensor Retaining Nut
Courtesy of FORD MOTOR CO.

3. With the valve stem at the 6 o'clock position, remove the sensor retaining nut and push the sensor by hand into the tire (with the cap on).
4. Using a suitable tire machine, separate both beads of the tire from the wheel.

CAUTION: Care should be taken not to damage the tire pressure sensor while separating the outside bead of tire from the wheel.

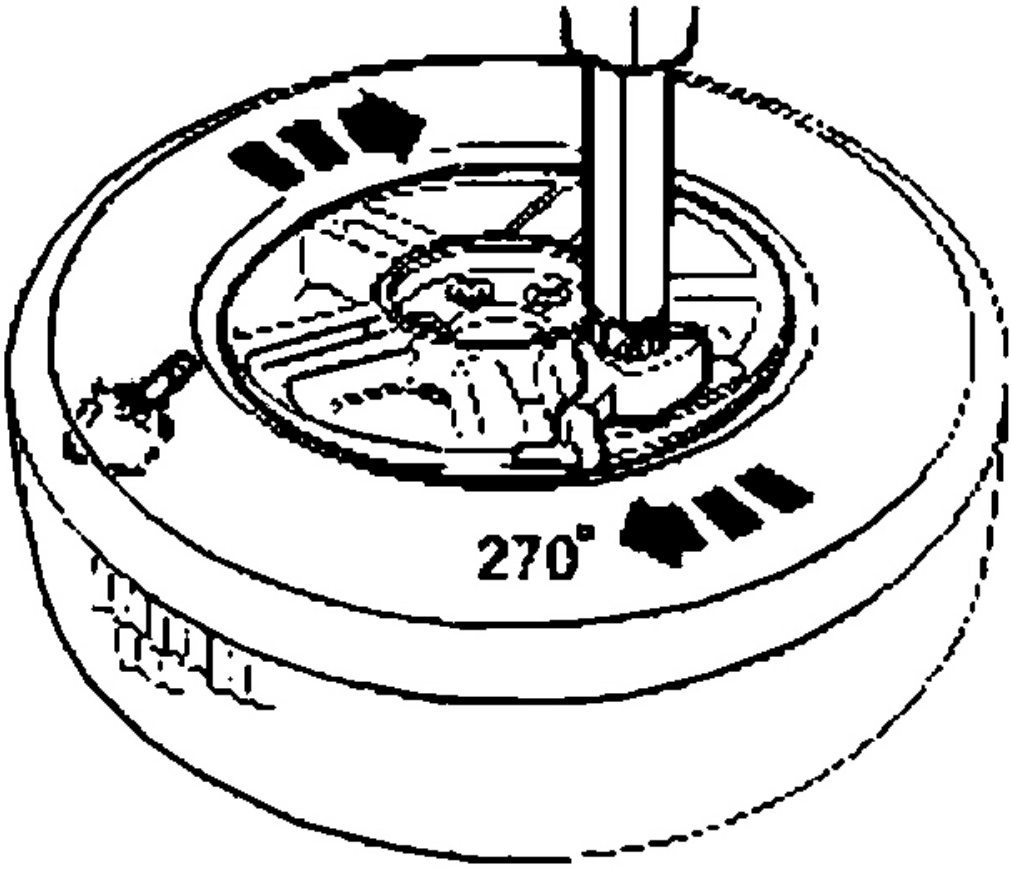

Fig. 96: Placing Wheel And Tire On Turntable Of Tire Machine
Courtesy of FORD MOTOR CO.

5. Place the wheel and tire on the turntable of the tire machine, index-mark the valve stem and wheel weight positions, lubricate the bead of the tire and dismount the outside bead of the tire from the wheel.
6. Remove the tire pressure sensor from inside the tire.

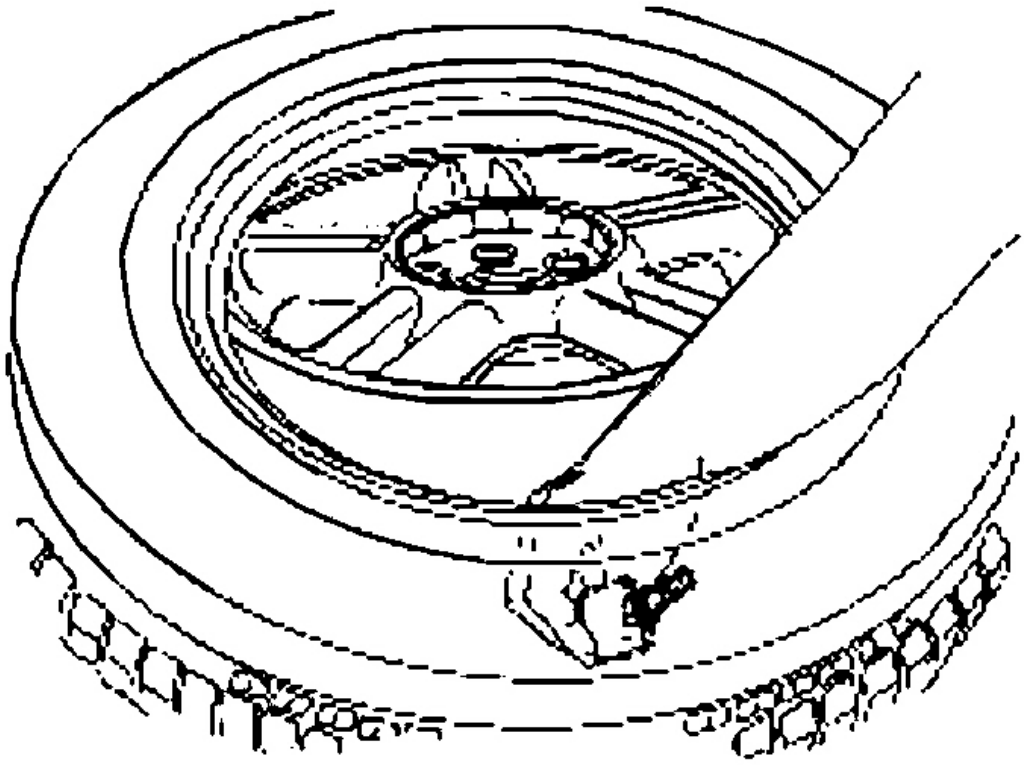

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Fig. 97: Removing Tire Pressure Sensor From Inside Tire
Courtesy of FORD MOTOR CO.

7. Remove and discard the grommet from the tire pressure sensor.

Installation

CAUTION: Overtightening the tire pressure sensor valve stem nut can damage the tire pressure sensor, under tightening can cause air leaks.

1. Install a new grommet on the tire pressure sensor.
2. Lubricate and mount the outside and inside bead of the tire to the rim. Do not allow the tire to rotate relative to the rim while mounting the tire.

CAUTION: Overtightening the tire pressure sensor valve stem nut can damage the tire pressure sensor, under tightening can cause air leaks.

NOTE: Sensor position is critical for correct sensor operation. The "flat" side of the sensor must be facing the wheel and the "slanted" side of the

sensor must be facing away from the wheel. When correctly installed, there will be a very small gap between the sensor and the wheel.

NOTE: **Tightening the nut to 5 Nm (44 lb-in) equals approximately two clockwise turns after the nut has been tightened by hand.**

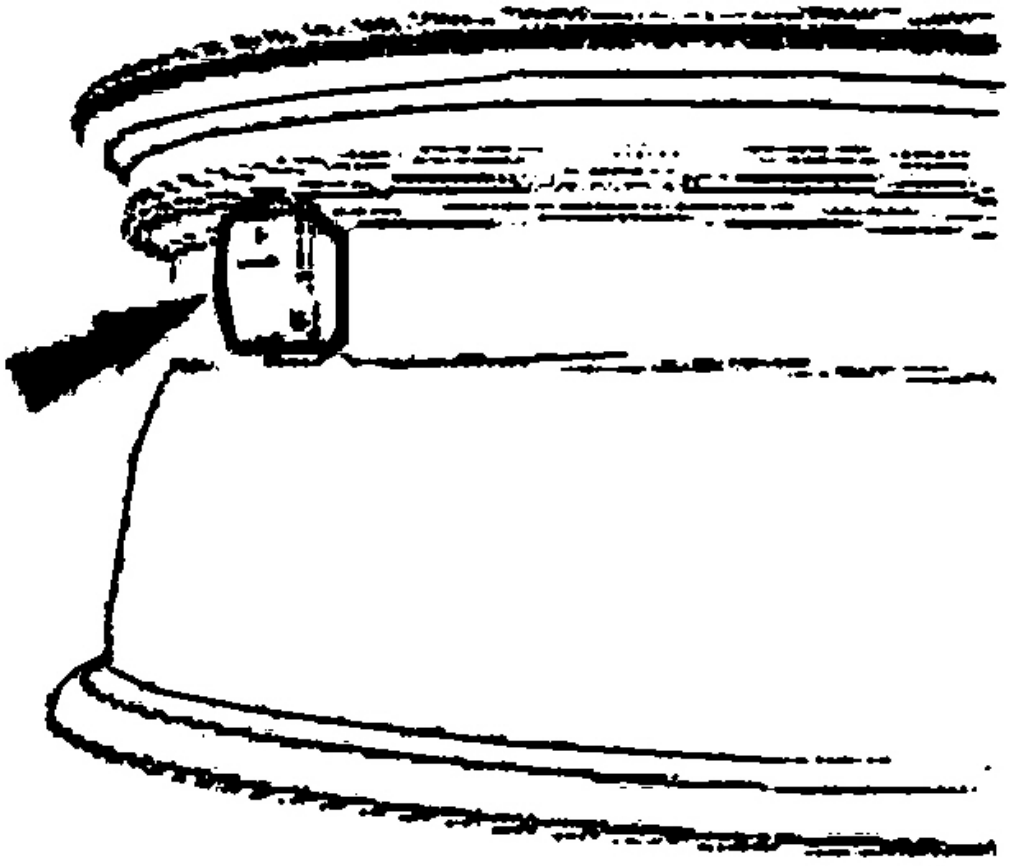

Fig. 98: Installing Tire Pressure Sensor
Courtesy of FORD MOTOR CO.

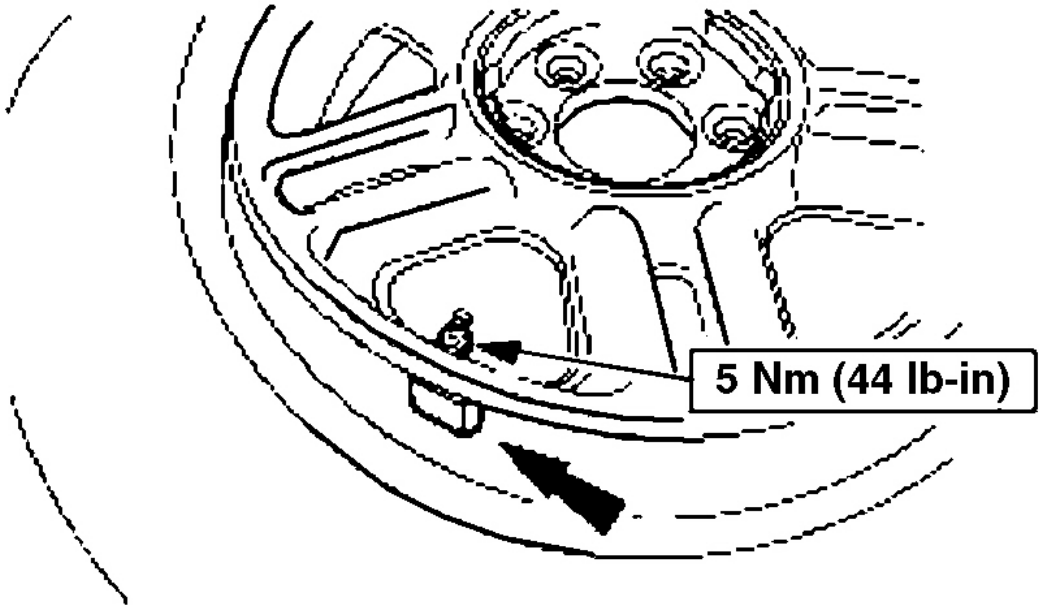

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Fig. 99: Tightening Nut
Courtesy of FORD MOTOR CO.

3. Push the side wall of the tire and install the tire pressure sensor. Tighten the nut to 5 Nm (44 lb-in).
4. Tighten the sensor retaining nut to 5 Nm (44 lb-in) (approximately two clockwise turns after the nut has been tightened by hand).

CAUTION: Use only special tool 204-354 anytime tire pressures are measured to be sure that accurate values are obtained.

CAUTION: Place the air chuck straight on the valve stem to inflate the tire. Do not cock the air chuck during the inflation cycle. Doing so can damage the valve stem and cause air leaks.

CAUTION: Ford recommends using a round head air chuck on tire pressure sensors; it is not recommended to use air chucks with long shanks.

CAUTION: Use only OEM valve caps (aluminum or plastic valve caps) with the tire pressure sensors. Do not use brass threaded valve caps with the tire pressure sensors.

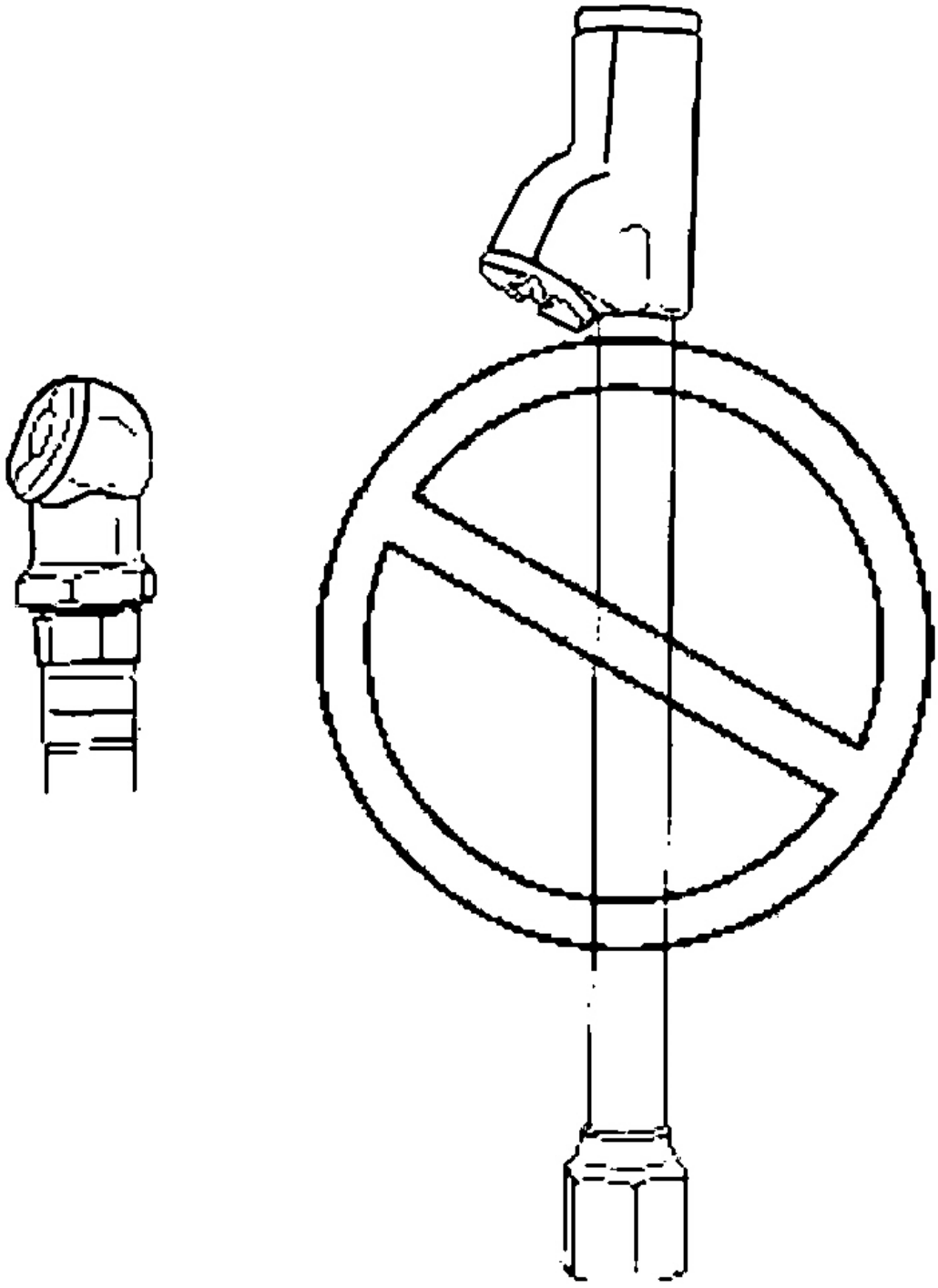


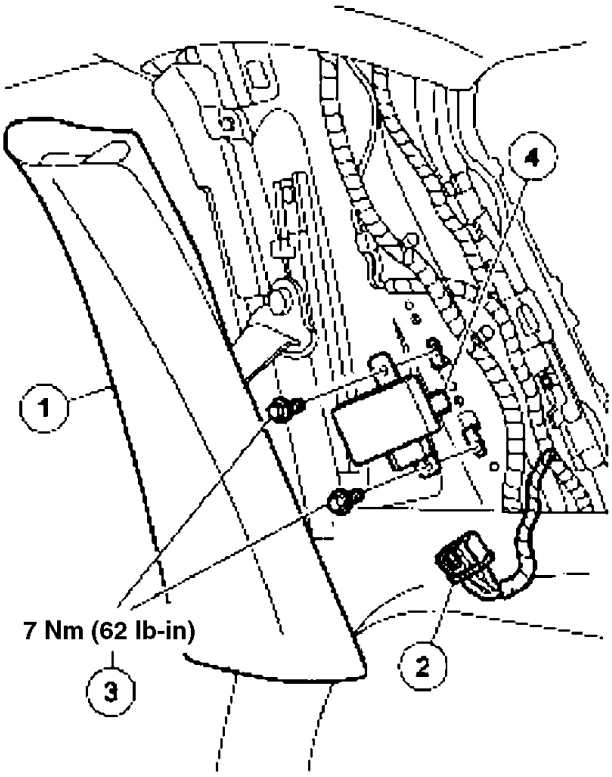
Fig. 100: Caution For Not Using Brass Threaded Valve Caps With Tire Pressure Sensors
Courtesy of FORD MOTOR CO.

5. Inflate the tire to the pressure specified on the safety certification sticker located on the driver door or door pillar.
6. Install the wheel and tire assembly. For additional information, refer to **WHEEL AND TIRE - FRONT** or **WHEEL AND TIRE - REAR**.
7. Train the tire pressure sensors. For additional information, refer to **SENSOR TRAINING** Component Test.

TIRE PRESSURE MONITORING SYSTEM MODULE

Removal and Installation

1. Remove the parts in the order indicated in the following illustration and table.



Item	Part Number	Description
1	—	RH C-pillar trim panel (position aside only)
2	—	Electrical connector
3	—	Bolts
4	—	Tire pressure monitoring system module

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Fig. 101: Identifying Tire Pressure Monitoring System Module Components
Courtesy of FORD MOTOR CO.

2. To install, reverse the removal procedure.
3. Reconfigure the TPMS module. For additional information, refer to **MODULE COMMUNICATIONS NETWORK** .
4. Train the tire pressure sensors. For additional information, refer to **SENSOR TRAINING** Component Test.
5. Clear the DTCs. Repeat the self-test.