

**2005 Ford Focus ZX4 S****2005 SUSPENSION Front Suspension - Focus****2005 SUSPENSION****Front Suspension - Focus****SPECIFICATIONS****TORQUE SPECIFICATIONS****TORQUE SPECIFICATIONS**

<b>Description</b>	<b>Nm</b>	<b>lb-ft</b>	<b>lb-in</b>
Lower arm-to-wheel knuckle pinch bolt nut	48	35	-
Wheel knuckle-to-strut and spring assembly pinch bolt	115	85	-
Wheel hub nut	270	199	-
Wheel speed sensor bolt	9	-	80
Tie-rod end-to-wheel knuckle nut	48	35	-
Stabilizer bar link nuts	55	41	-
Strut top mount nuts	30	22	-
Strut and spring assembly thrust bearing nut	66	49	-
Disc brake caliper-to-wheel knuckle bolts	28	21	-
Lower arm bolts <sup>(1)</sup>	-	-	-
Stabilizer bar bracket bolts	55	41	-
Stabilizer bar link-to-strut and spring assembly nut	55	41	-
Lower steering column shaft coupling.	28	21	-
Front subframe retaining bolts (M12)	115	85	-
Front subframe retaining bolts (M14)	175	129	-

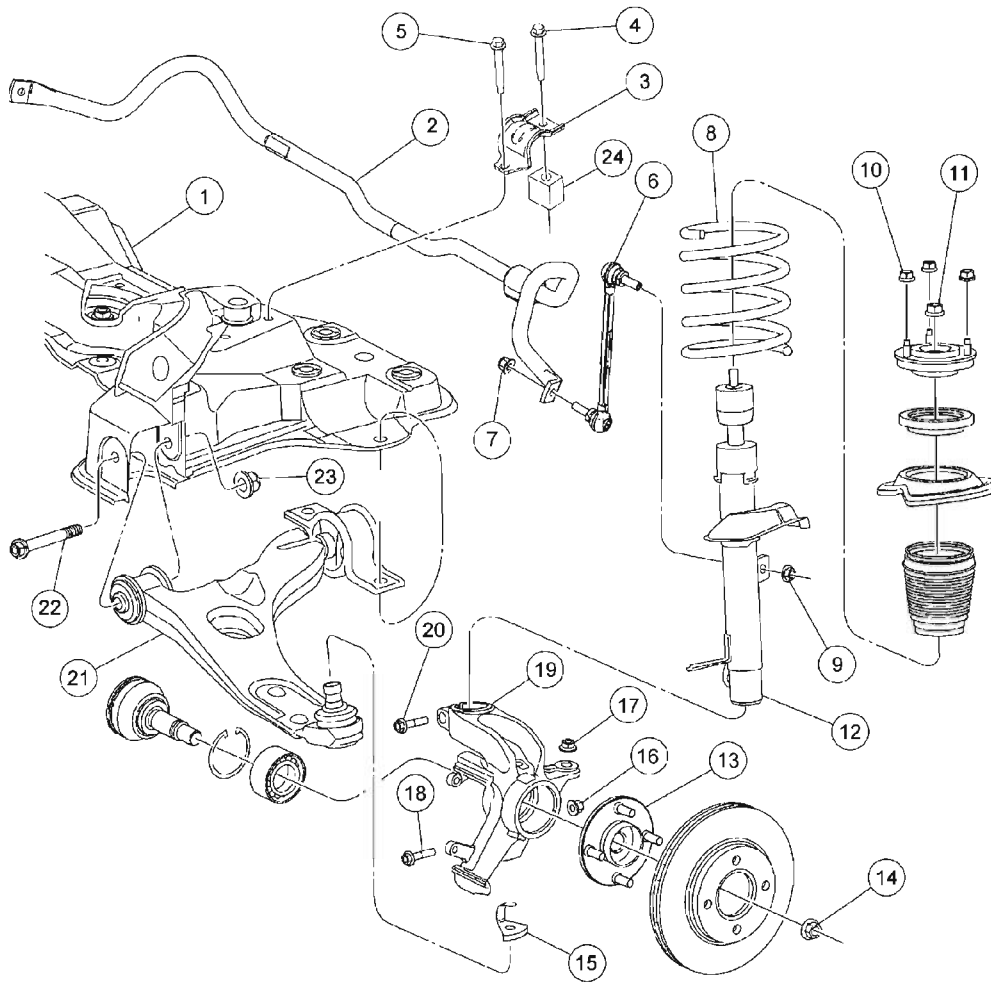
(1) Refer to the procedure in this article a
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**DESCRIPTION AND OPERATION**

**FRONT SUSPENSION**

## 2005 Ford Focus ZX4 S

### 2005 SUSPENSION Front Suspension - Focus



N0043772

Item	Part Number	Description
1	5019	Front subframe
2	5494	Stabilizer bar
3	5488	Stabilizer bar bracket
4	W710900	Bolt
5	W710899	Bolt
6	3B438	Stabilizer bar link
7	W520213	Nut
8	5310	Spring
9	W520213	Nut
10	W520102	Nut (3 req'd)
11	W700212	Nut
12	18124	Strut

Item	Part Number	Description
13	1104	Hub
14	3B477	Axle shaft nut
15	3A238	Lower ball joint heat shield
16	W520203	Nut
17	W520203	Nut
18	W706117	Bolt
19	3K185/3K186	Wheel knuckle (RH/LH)
20	W703214	Bolt
21	3042/3051	Lower control arm (LH/RH)
22	W706861	Bolt
23	W706842	Nut
24	51836	Stabilizer bar bracket spacer

**Fig. 1: Identifying Front Suspension Components**  
 Courtesy of FORD MOTOR CO.

**NOTE:** The final tightening of the suspension must be carried out at curb ride height.

Carry out the final tightening of the suspension components with the vehicle on a drive-on hoist or on an alignment rack.

## DIAGNOSIS AND TESTING

### FRONT SUSPENSION

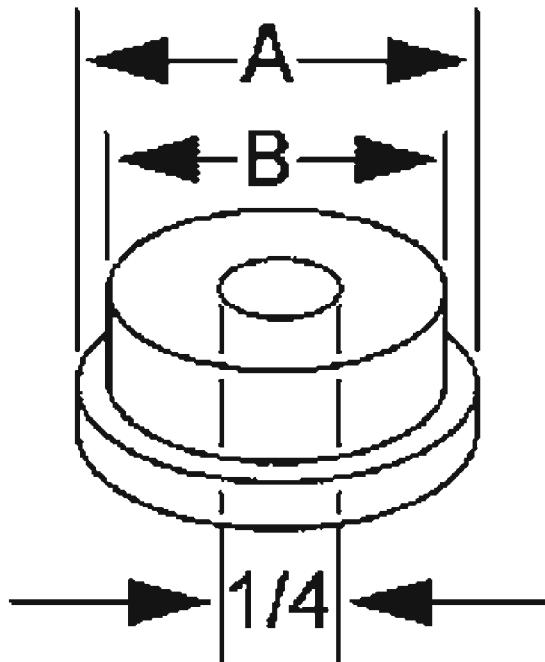
For additional information, refer to SUSPENSION SYSTEM-GENERAL INFORMATION .

## REMOVAL AND INSTALLATION

### WHEEL BEARING

Special Tool(s)

### SPECIAL TOOLS DESCRIPTION

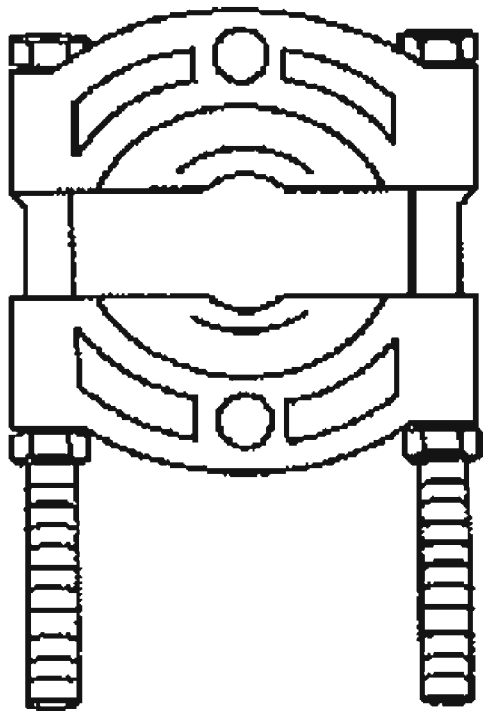


**T80T-4000-E**

Installer, Drive Pinion Bearing Cup  
205-140 (T80T-4000-F)

2005 Ford Focus ZX4 S

2005 SUSPENSION Front Suspension - Focus



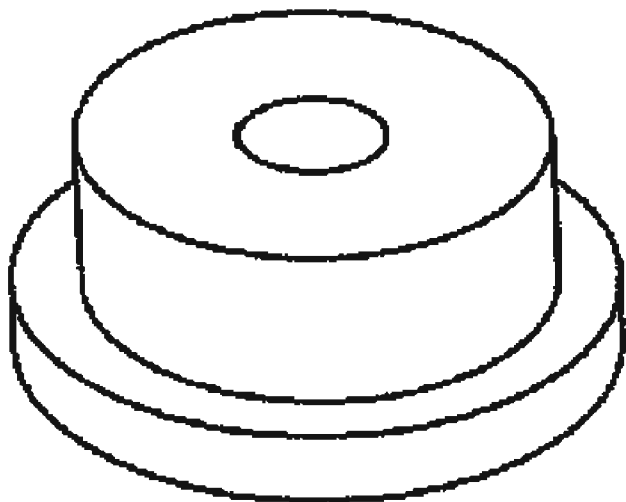
ST2785-A

Puller, Bearing 205-D064 (D84L-1123-A)

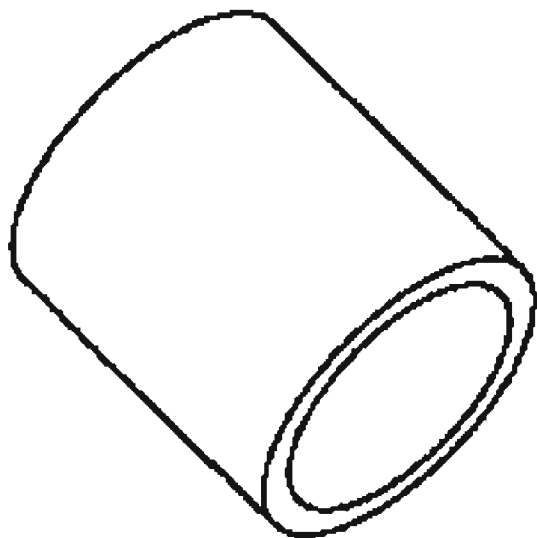
Installer, Wheel Hub Bearing Cup  
204-023 (T73T-1217-A)

**2005 Ford Focus ZX4 S**

2005 SUSPENSION Front Suspension - Focus



**ST1861-A**

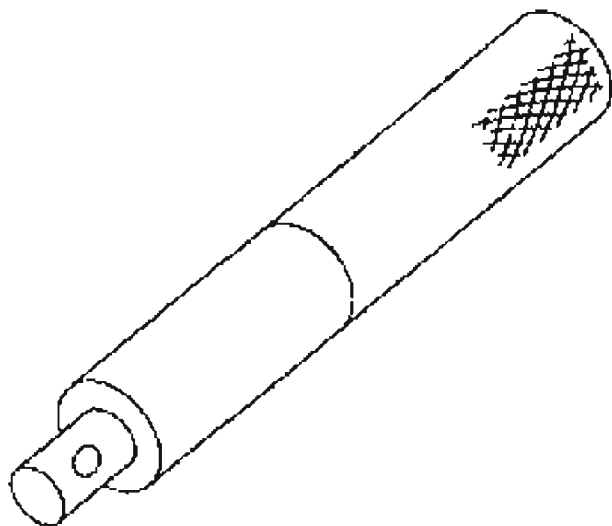


**ST1159-A**

Remover/Installer, Bushing 204-180  
(T93P-5493-A)

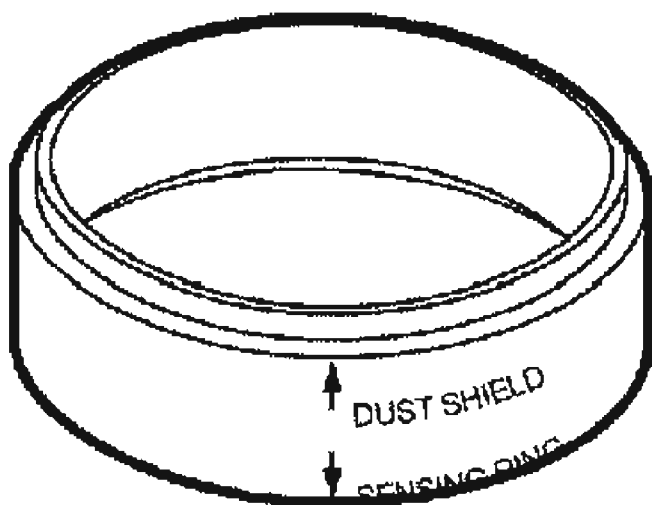
2005 Ford Focus ZX4 S

2005 SUSPENSION Front Suspension - Focus



ST1326-A

Adapter for 303-224 (Handle) 205-153  
(T80T-4000-W)



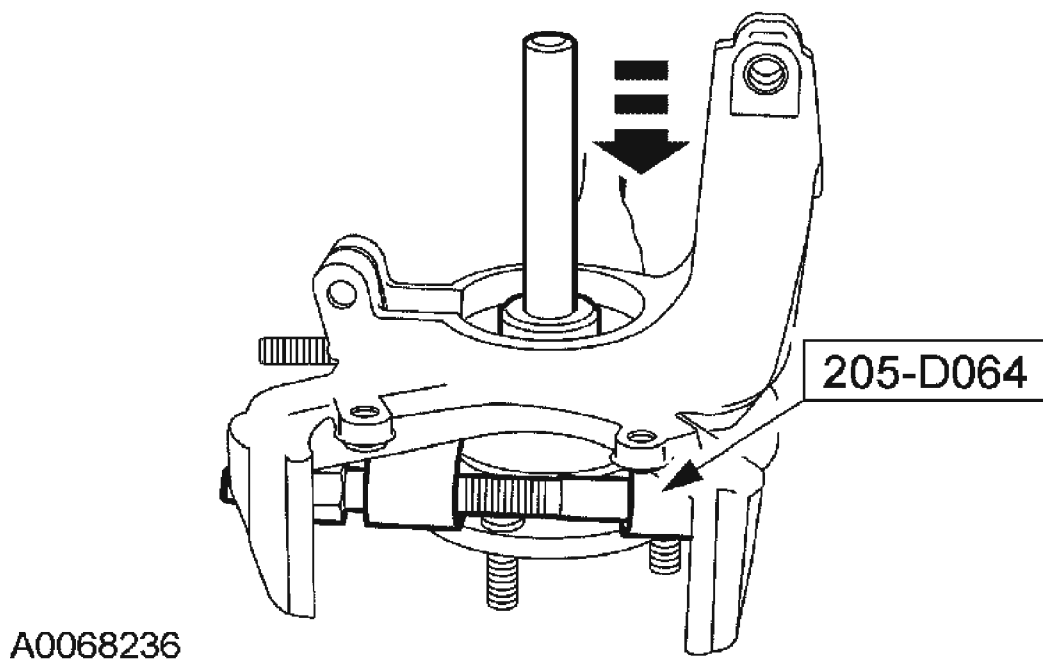
ST2282-A

Installer, Wheel Speed Sensor Ring  
206-054 (T93P-20202-A)

**Removal**

1. Remove the wheel knuckle. For additional information, refer to **WHEEL KNUCKLE**.

**NOTE:** When removing the hub from the wheel knuckle, the bearing will be destroyed. The bearing inner ring will be in the wheel knuckle.



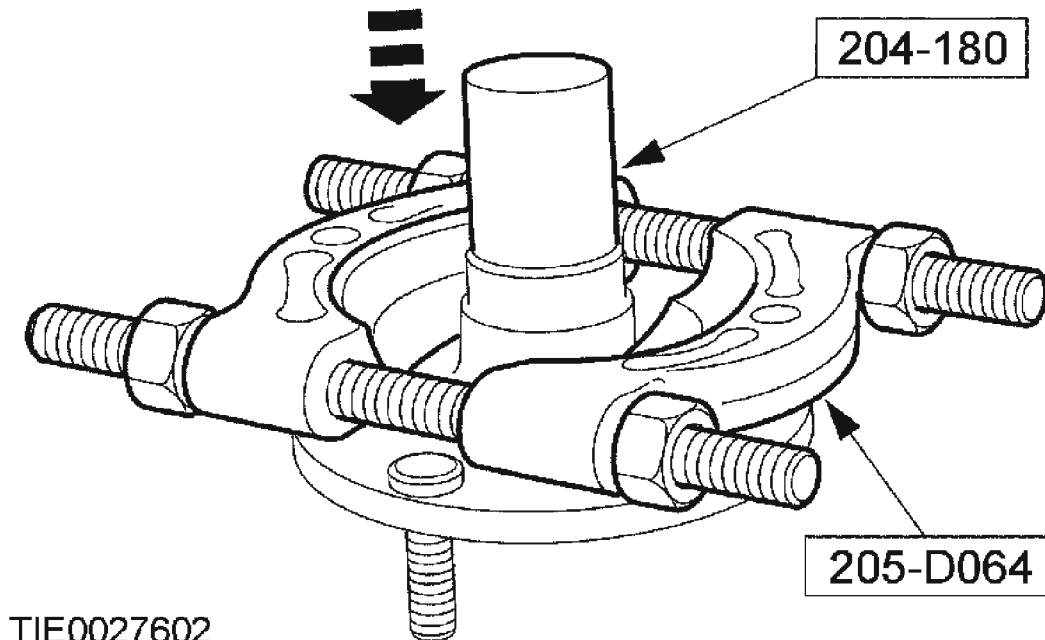
**Fig. 2: Removing Wheel Hub And Outer Bearing Race**  
Courtesy of FORD MOTOR CO.

2. Using the special tools, remove the wheel hub and outer bearing race.

**CAUTION:** The special tools must be used to prevent damage to the hub. If the hub is damaged, a new hub must be installed.

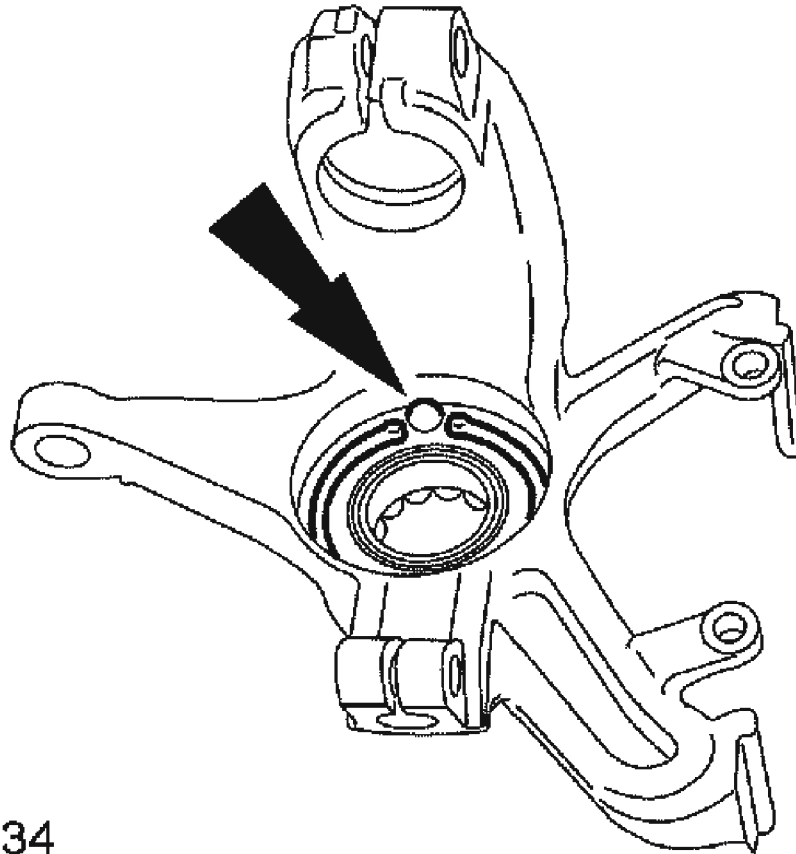
**CAUTION:** Do not use heat to remove the bearing inner ring.





**Fig. 3: Removing Bearing Inner Ring From Wheel Hub Using special tools**  
**Courtesy of FORD MOTOR CO.**

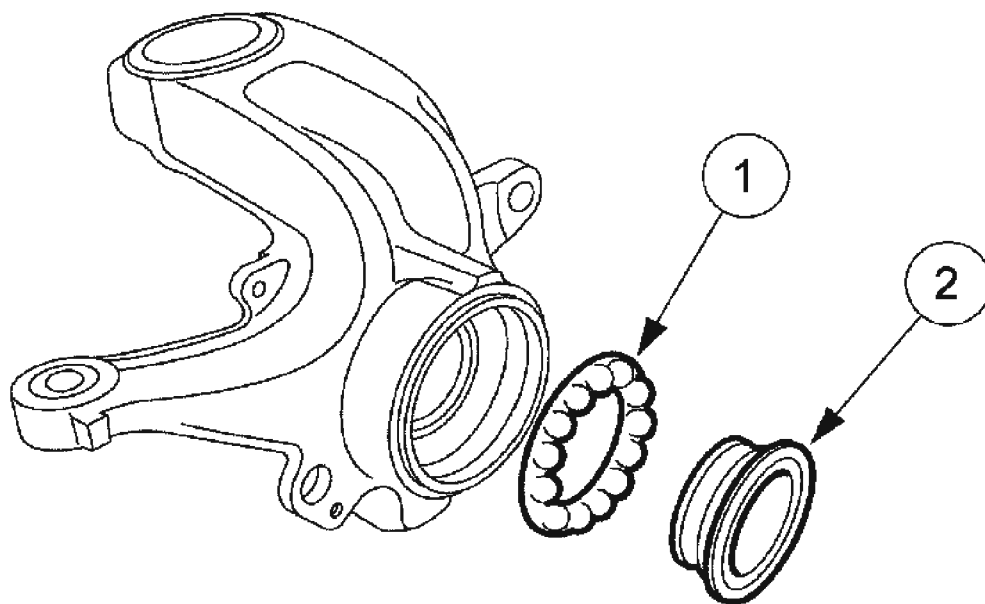
3. Using the special tools, remove the bearing inner ring from the wheel hub.
4. Remove the circlip from the wheel knuckle.



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**Fig. 4: Removing Circlip From Wheel Knuckle**  
**Courtesy of FORD MOTOR CO.**

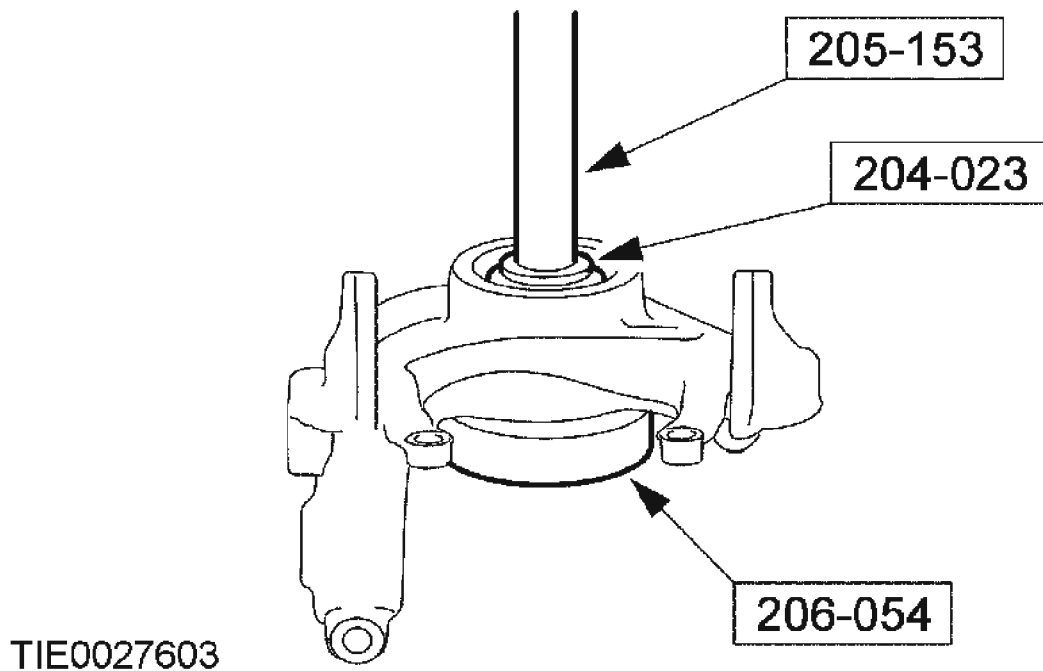
5. Install the old bearing inner ring.
  1. Install the bearing cage onto the bearing inner ring.
  2. Install the bearing cage and inner ring assembly to the wheel knuckle.



TIW1401022

**Fig. 5: Installing Old Bearing Inner Ring**  
**Courtesy of FORD MOTOR CO.**

6. Using the special tools, remove the bearing outer ring from the wheel knuckle.



**Fig. 6: Removing Bearing Outer Ring From Wheel Knuckle Using Special Tools**  
Courtesy of FORD MOTOR CO.

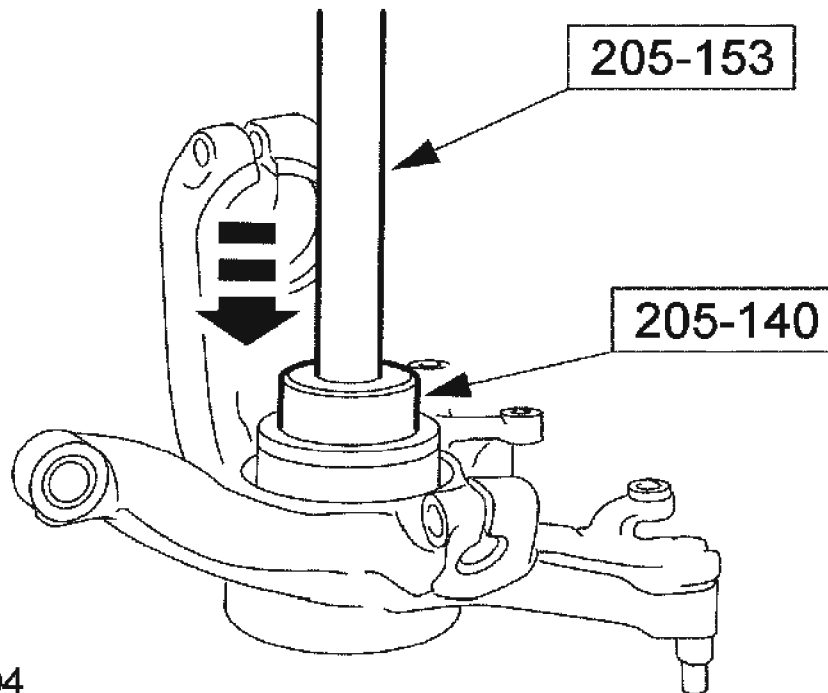
#### Installation

**CAUTION:** Avoid any impact on the wheel speed sensor ring.

**CAUTION:** Make sure the wheel speed sensor ring is clean.

**CAUTION:** Avoid any contact between the wheel speed sensor ring and a magnetic surface.

**CAUTION:** Make sure the wheel bearing is installed into the wheel knuckle with the wheel speed sensor ring, colored black, at the wheel speed sensor end of the wheel knuckle.

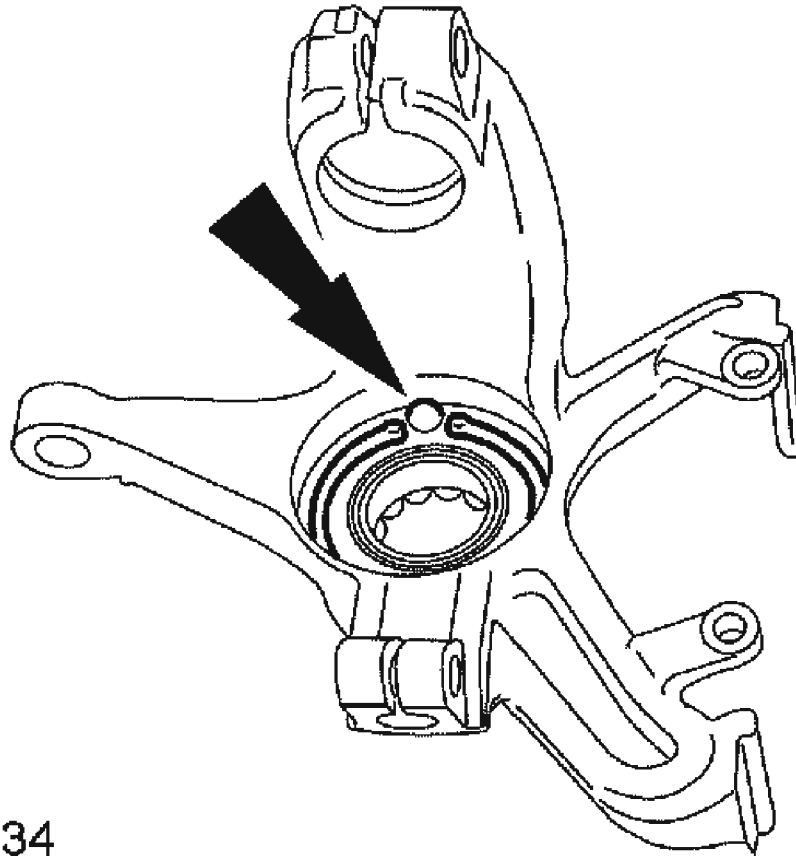


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**Fig. 7: Installing Wheel Bearing To Wheel Knuckle Using Special Tools**  
**Courtesy of FORD MOTOR CO.**

1. Using the special tools, install the new wheel bearing to the wheel knuckle.

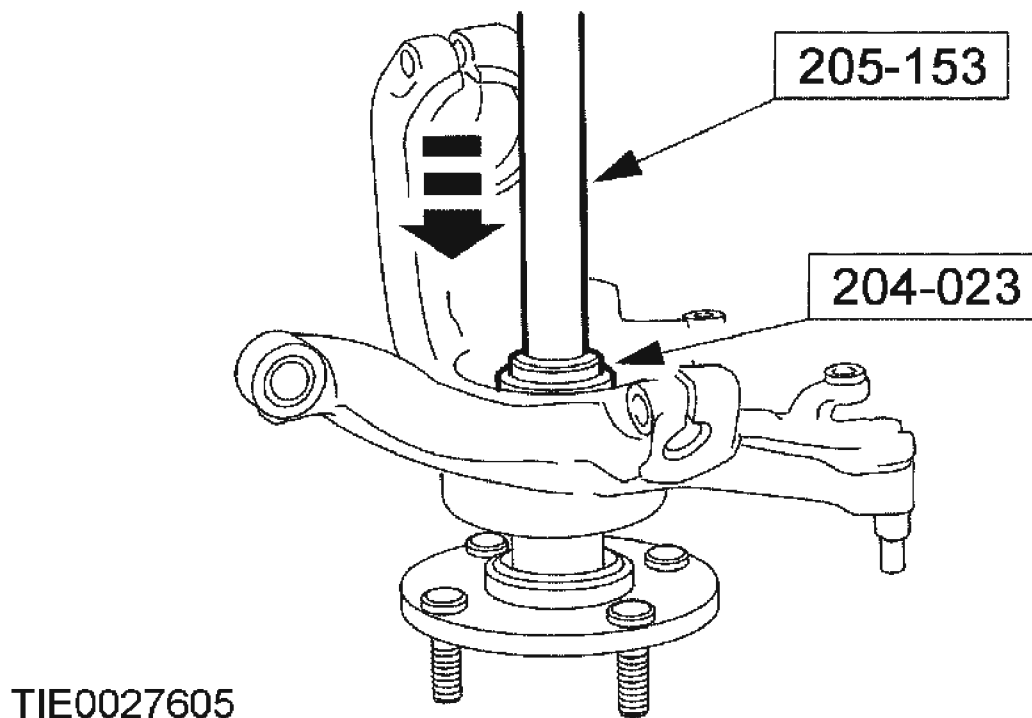
**NOTE:**      **Make sure the circlip does not cover the wheel speed sensor.**



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**Fig. 8: Installing Circlip To Wheel Knuckle**  
**Courtesy of FORD MOTOR CO.**

2. Install the circlip to the wheel knuckle.
3. Using the special tools, install the wheel hub to the wheel knuckle.



**Fig. 9: Installing Wheel Hub To Wheel Knuckle Using Special Tools**  
Courtesy of FORD MOTOR CO.

4. Install the wheel knuckle. For additional information, refer to **WHEEL KNUCKLE**.

#### LOWER ARM

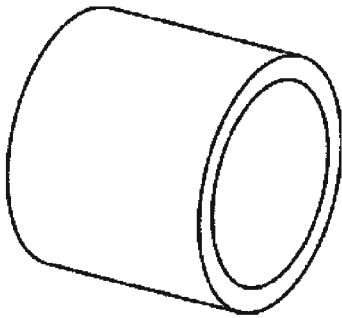
Special Tool(s)

#### SPECIAL TOOLS DESCRIPTION

	Adapter 307-102 (T81P-70363-A4) Part of 307-8088 (T81P-77000-A)
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## 2005 Ford Focus ZX4 S

### 2005 SUSPENSION Front Suspension - Focus



ST1233-A

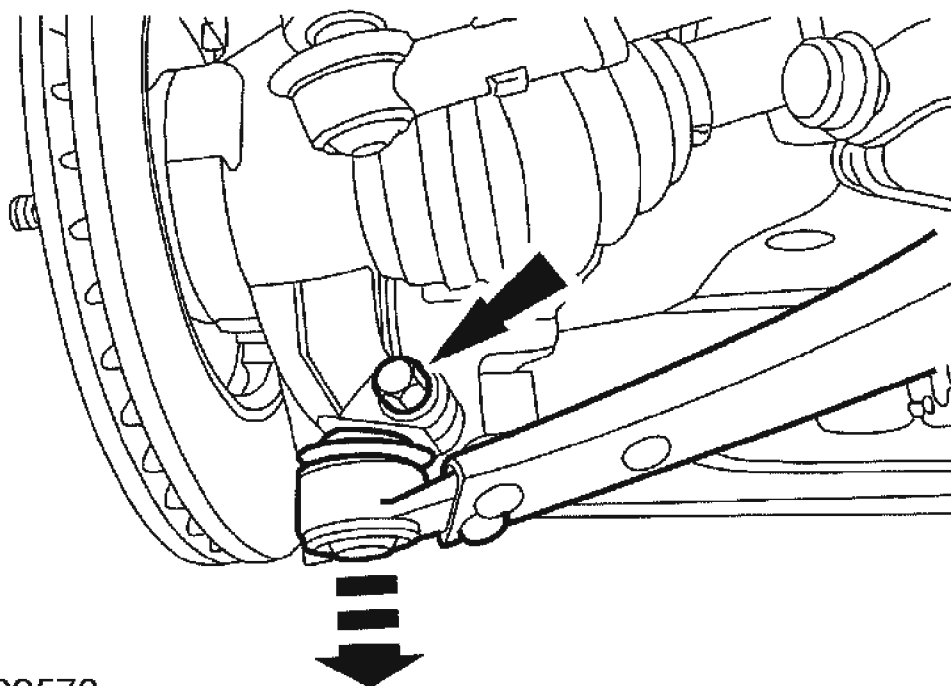
#### Removal

1. Remove the wheel and tire assembly. For additional information, refer to **WHEELS AND TIRES** .

**CAUTION:** Do not use a prying device or separator fork between the lower arm ball joint and the knuckle. Damage to the ball joint or ball joint dust boot can result. Only use the pry bar by inserting it into the lower control arm body opening.

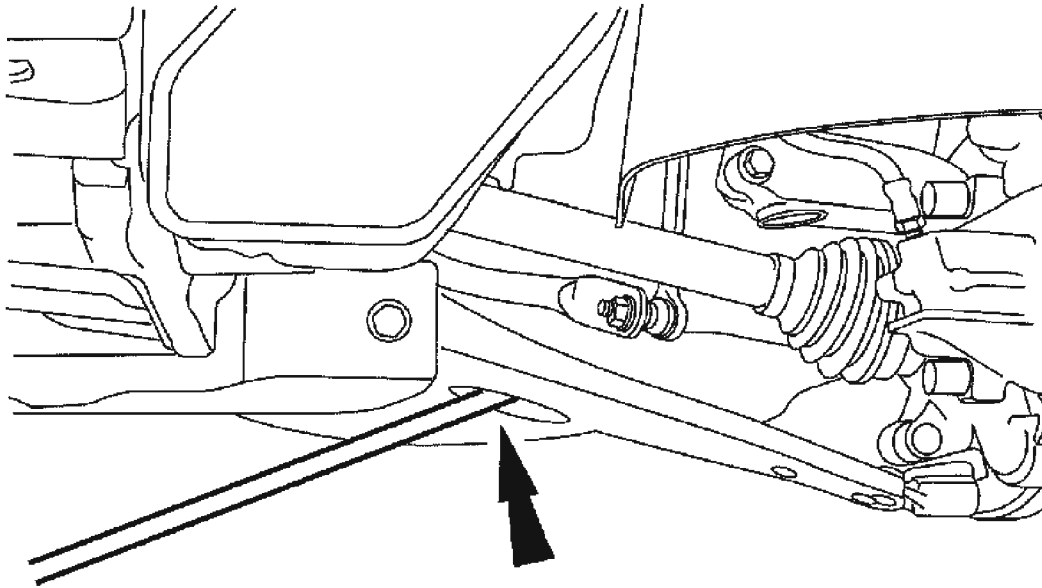
**CAUTION:** Do not damage suspension components when using the pry bar to separate the ball joint.





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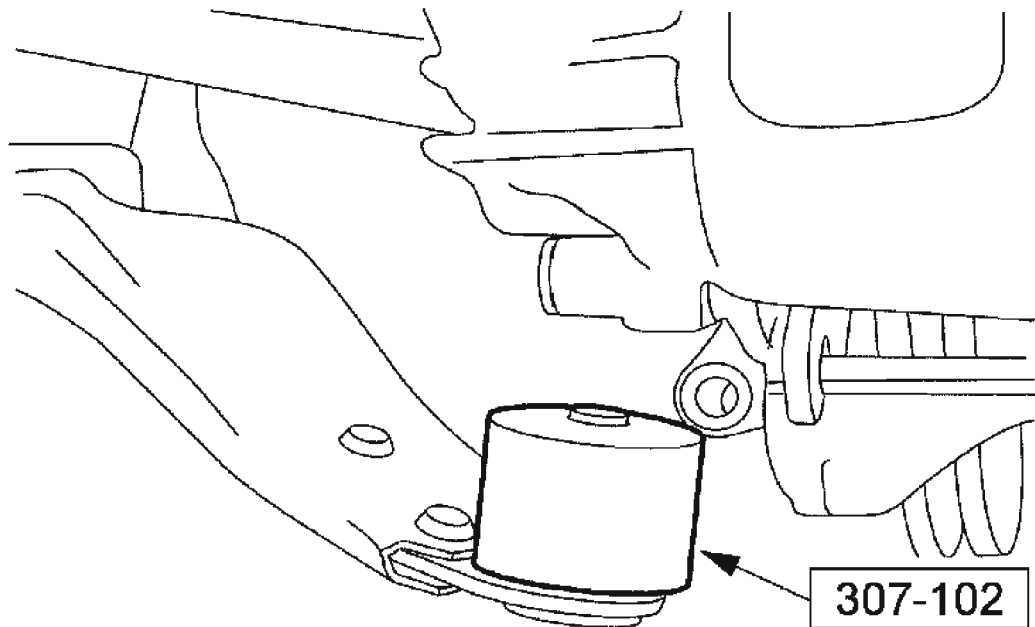
**Fig. 10: Removing Pinch Bolt And Separating Lower Ball Joint From Wheel Knuckle**  
Courtesy of FORD MOTOR CO.



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**Fig. 11: Inserting Pry Bar In Lower Arm Body Opening**  
**Courtesy of FORD MOTOR CO.**

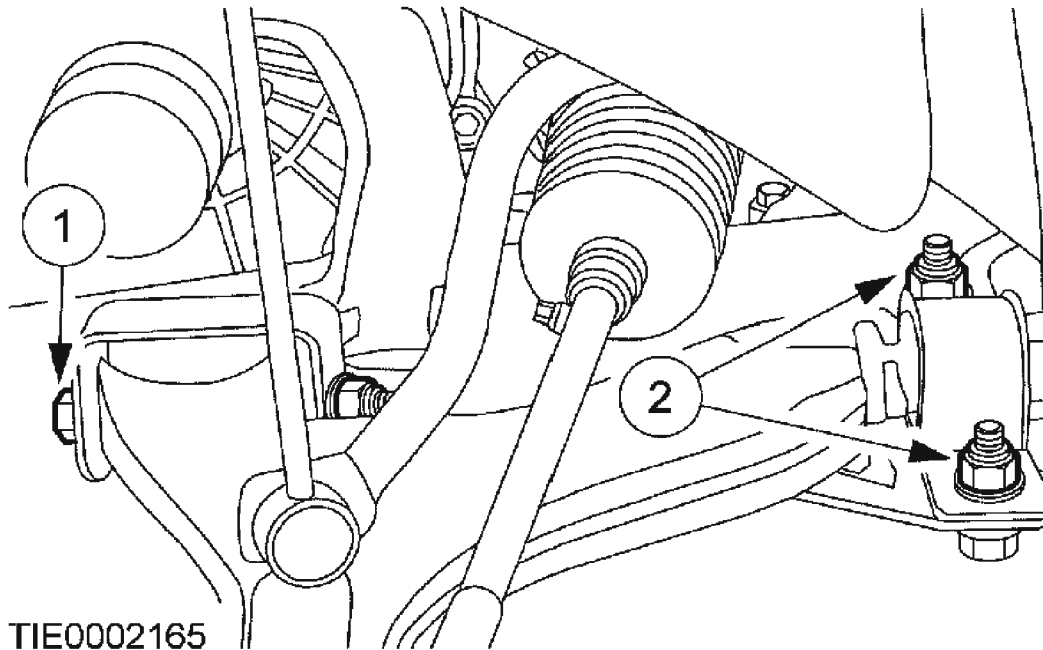
2. Remove the pinch bolt then separate the lower ball joint from the wheel knuckle and remove the heat shield.
  - Insert a pry bar in the lower arm body opening to separate the ball joint.
3. After separating the lower control arm from the wheel knuckle, immediately install the special tool over the ball stud before releasing the lower control arm and knuckle into rest positions.
  - Leave the special tool in place during service and only remove prior to reassembly.



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**Fig. 12: Installing Special Tool Over Ball Stud**  
**Courtesy of FORD MOTOR CO.**

4. Remove the lower arm bolts.
  1. Remove the front bolt.
  2. Remove the rear clamp bolts.



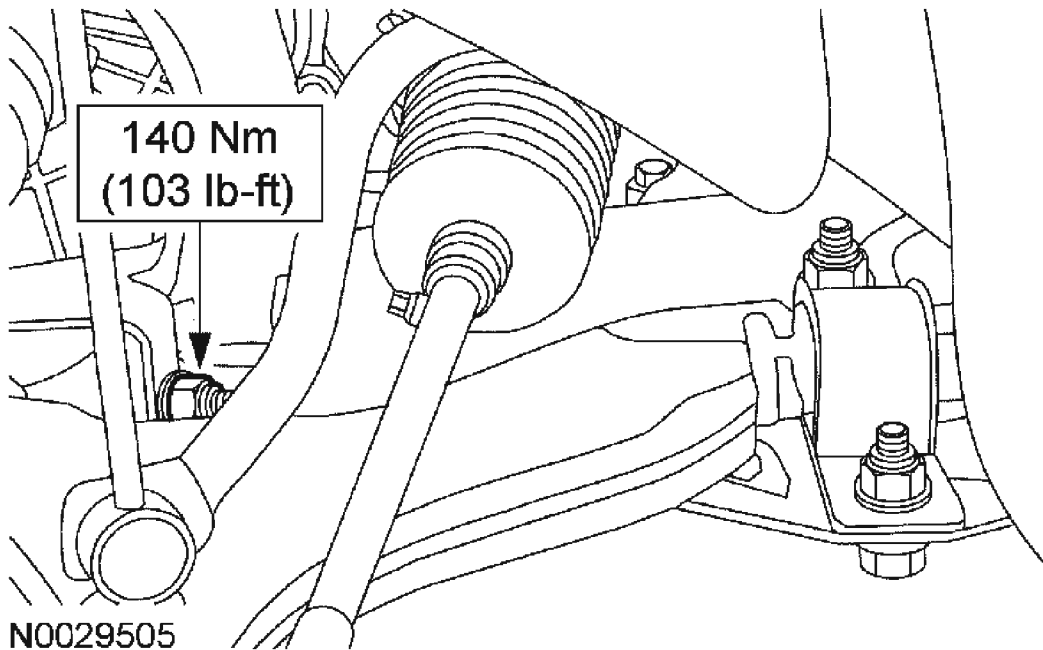
**Fig. 13: Removing Lower Arm Bolts**  
Courtesy of FORD MOTOR CO.

5. Remove the lower arm.

#### Installation

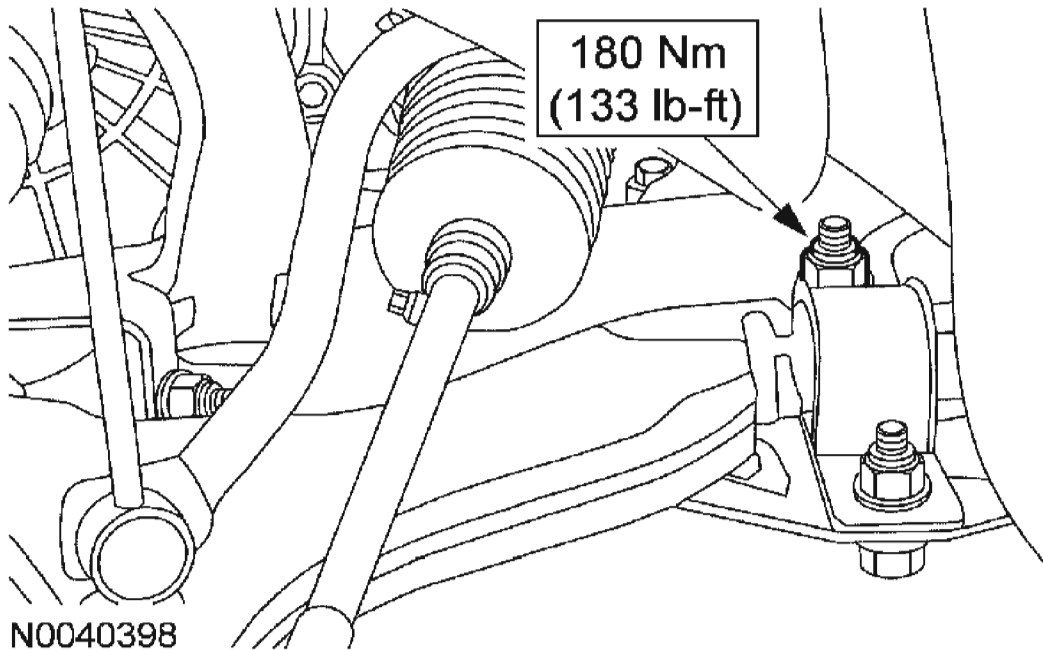
**NOTE:** The lower control arm fasteners are one time use only. New nuts, bolts and ball bearing washers must be installed.

1. Position the lower arm and install new nuts and bolts. Do not tighten the nuts and bolts at this time.
2. Tighten the lower arm front pivot bolt.



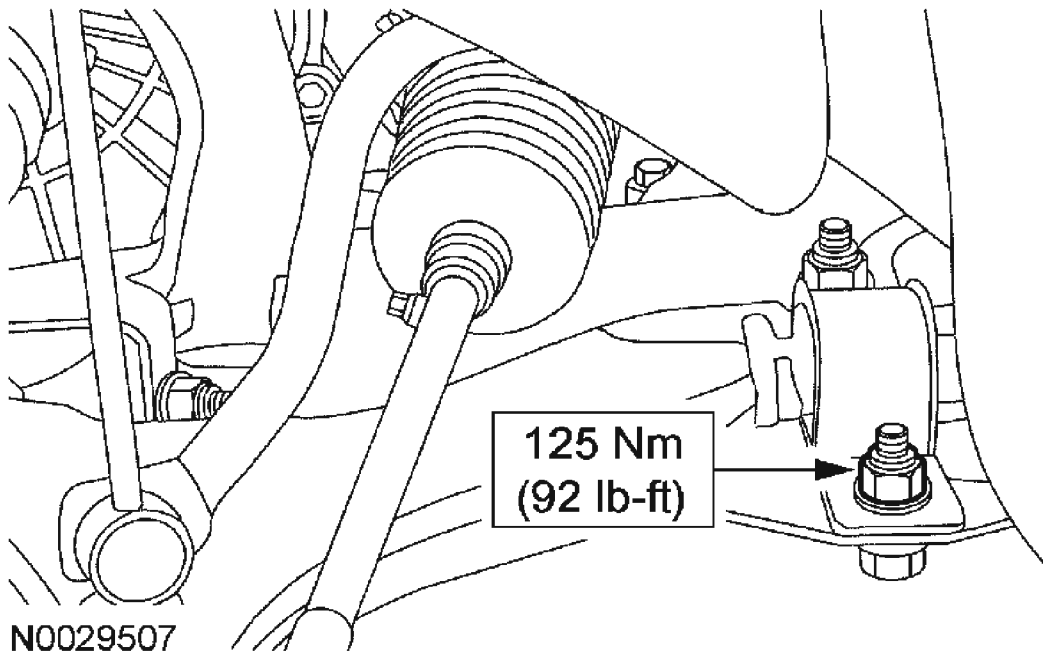
**Fig. 14: Tightening Lower Arm Front Pivot Bolt**  
**Courtesy of FORD MOTOR CO.**

3. Tighten the lower arm rear inboard nut.



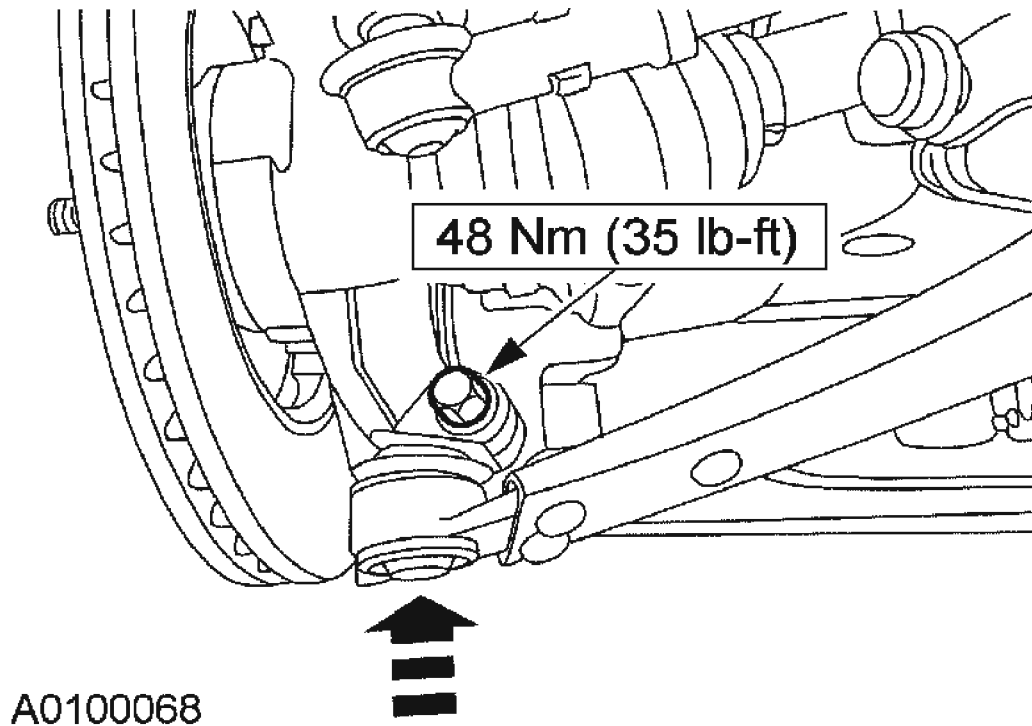
**Fig. 15: Tightening Lower Arm Rear Inboard Nut**  
**Courtesy of FORD MOTOR CO.**

4. Tighten the lower arm rear outboard nut.



**Fig. 16: Tightening Lower Arm Rear Outboard Nut**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Make sure the ball joint heat shield is installed on the lower arm to prevent damage to the ball joint.

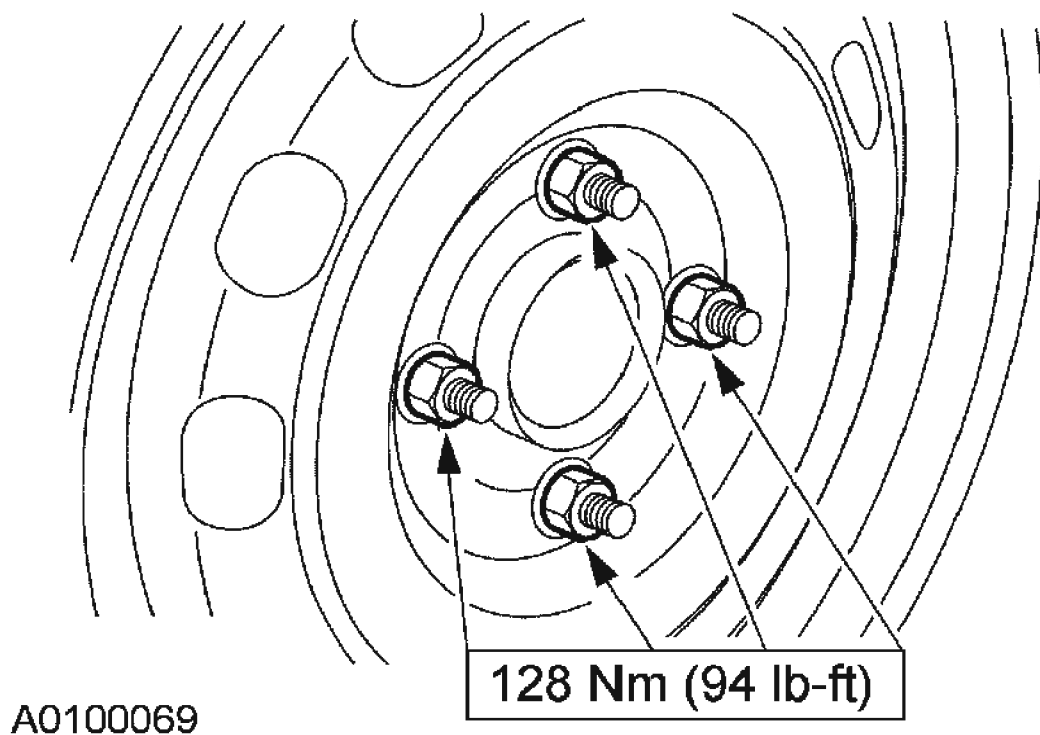


**Fig. 17: Positioning Ball Joint Heat Shield On Lower Arm And Inserting Ball Joint Stud Into Wheel Knuckle**

**Courtesy of FORD MOTOR CO.**

5. Position the ball joint heat shield on the lower arm, insert the ball joint stud into the wheel knuckle, then install the pinch bolt.
6. Install the wheel and tire assembly. For





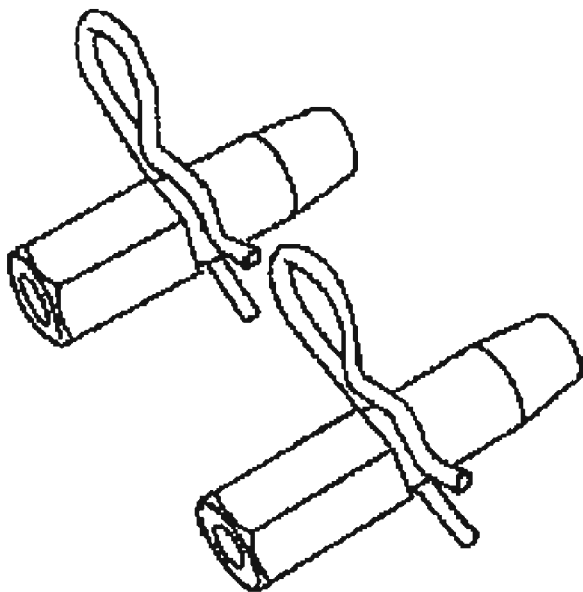
**Fig. 18: Tightening Wheel Nuts**  
Courtesy of FORD MOTOR CO.

#### STABILIZER BAR

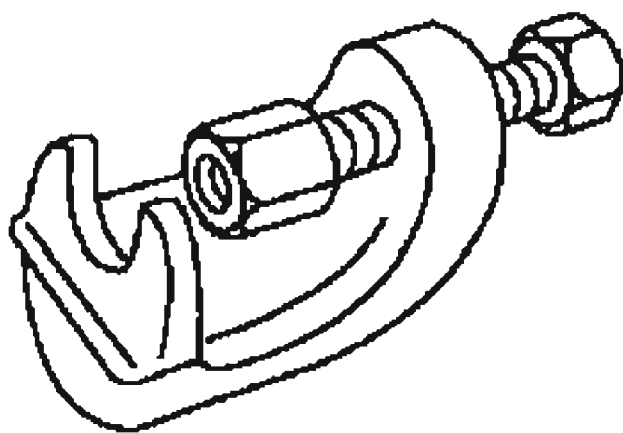
Special Tool(s)

#### SPECIAL TOOLS DESCRIPTION

Alignment Pins, Subframe 502-002  
(T94P-2100-AH)

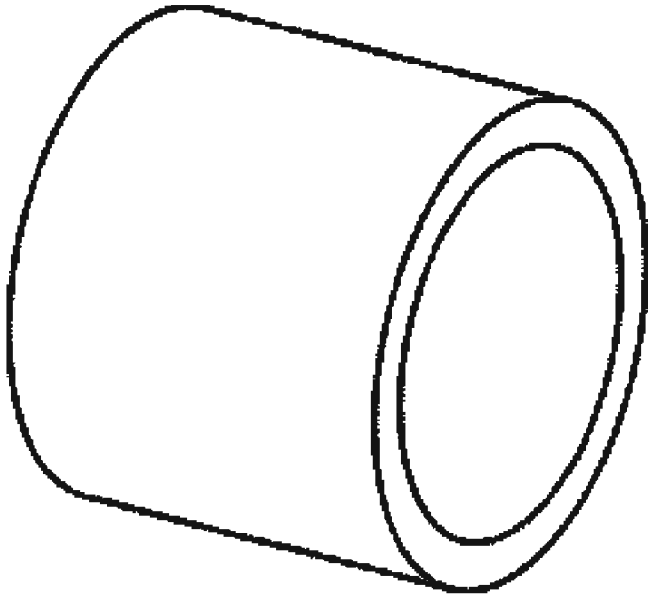


**ST2778-A**



**ST2783-A**

Remover, Tie-Rod End 211-001  
(Tool-3290-D)



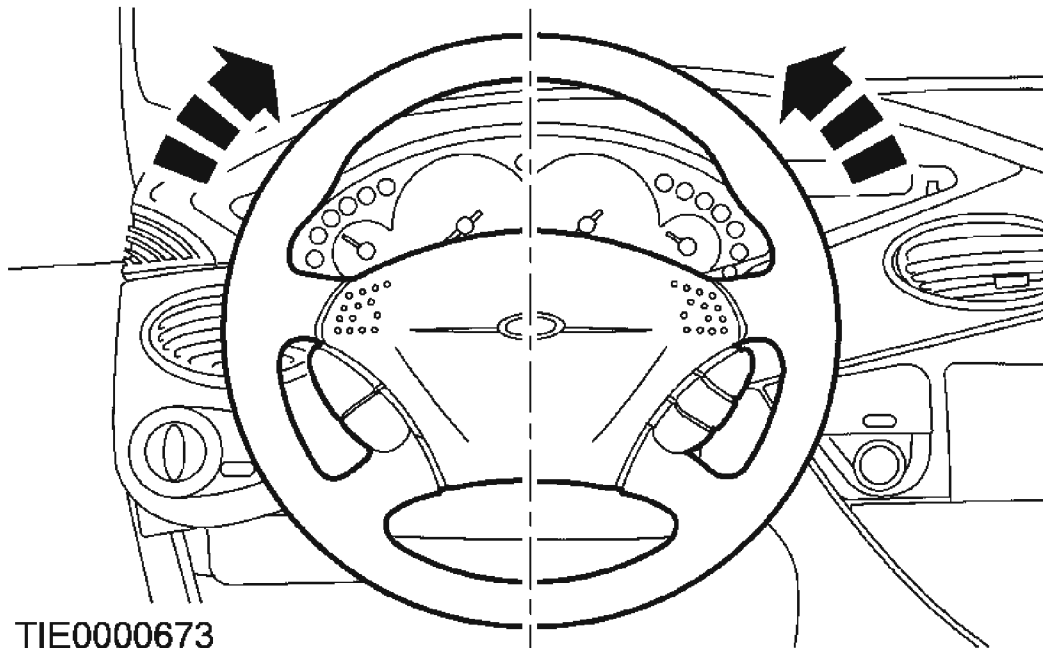
Adapter 307-102 (T81P-70363-A4)  
Part of 307-8088 (T81P-77000-A)

**ST1233-A**

#### Removal

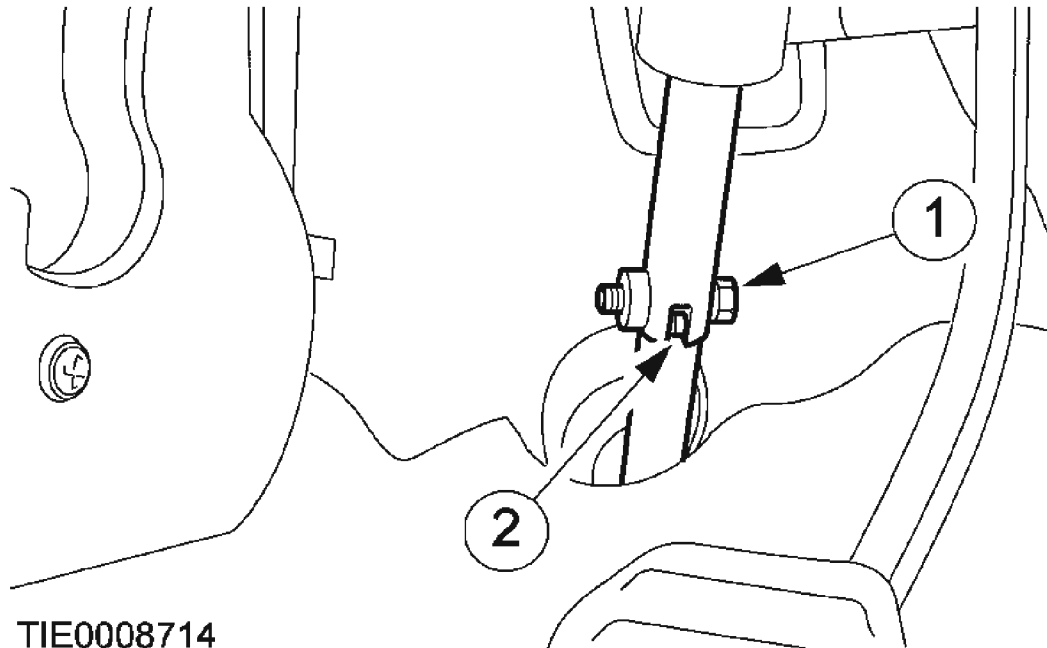
1. To prevent damage to the battery ground cable, disconnect the battery ground cable from the battery. For additional information, refer to **BATTERY, MOUNTING AND CABLES**.

**NOTE:** Make sure the front wheels are in the straight-ahead position.



**Fig. 19: Identifying Steering Wheel And Lock In Center Position**  
**Courtesy of FORD MOTOR CO.**

2. Center the steering wheel and lock it in position.
3. Disconnect the steering column shaft from the steering gear pinion extension.
  1. Remove the bolt.
  2. Release the pinion shaft extension from the steering column.
    - Discard the bolt.

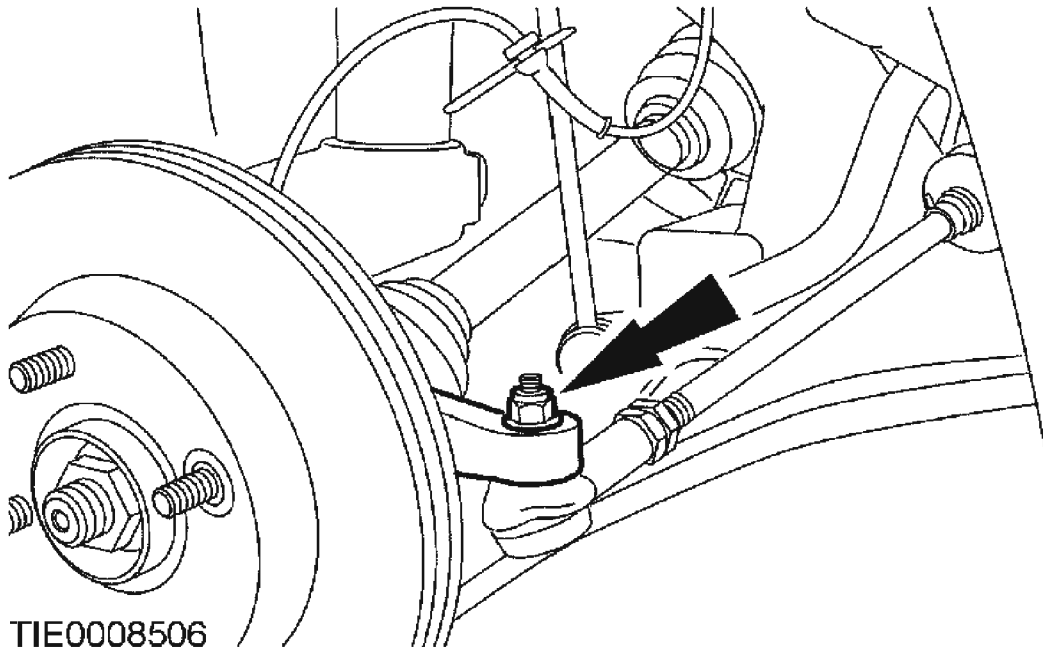


**Fig. 20: Removing Bolt And Releasing Pinion Shaft Extension From Steering Column**

**Courtesy of FORD MOTOR CO.**

4. Remove the front wheels and tires. For additional information, refer to **WHEELS AND TIRES** .

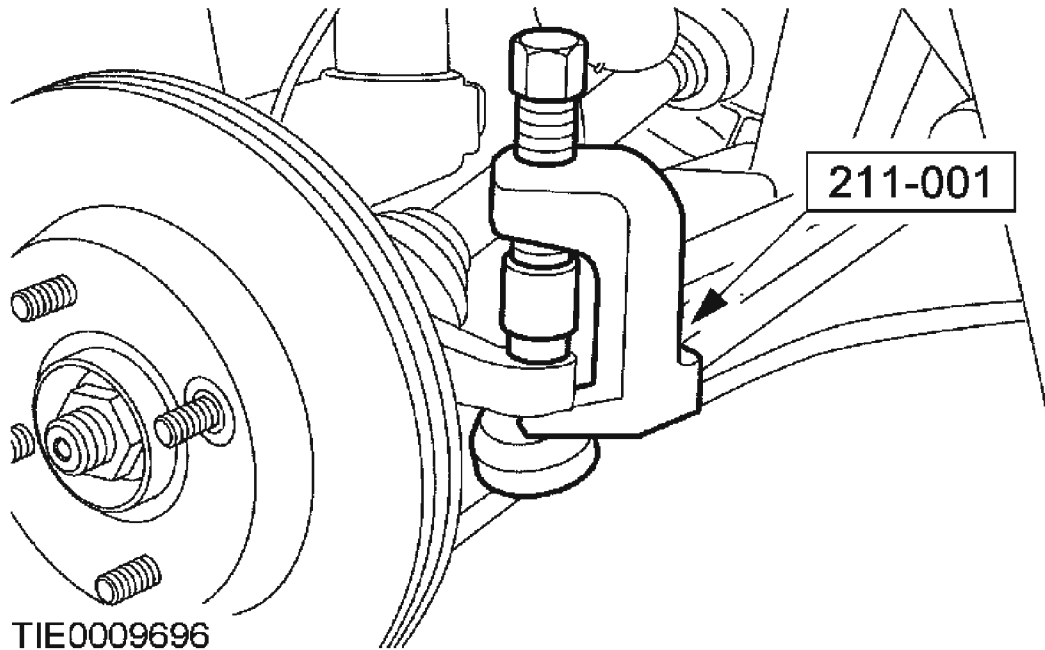
**CAUTION:** Leave the tie-rod end retaining nut in place to protect the ball joint stud.



**Fig. 21: Loosening Tie-Rod End Retaining Nuts (LH Side Shown)**  
**Courtesy of FORD MOTOR CO.**

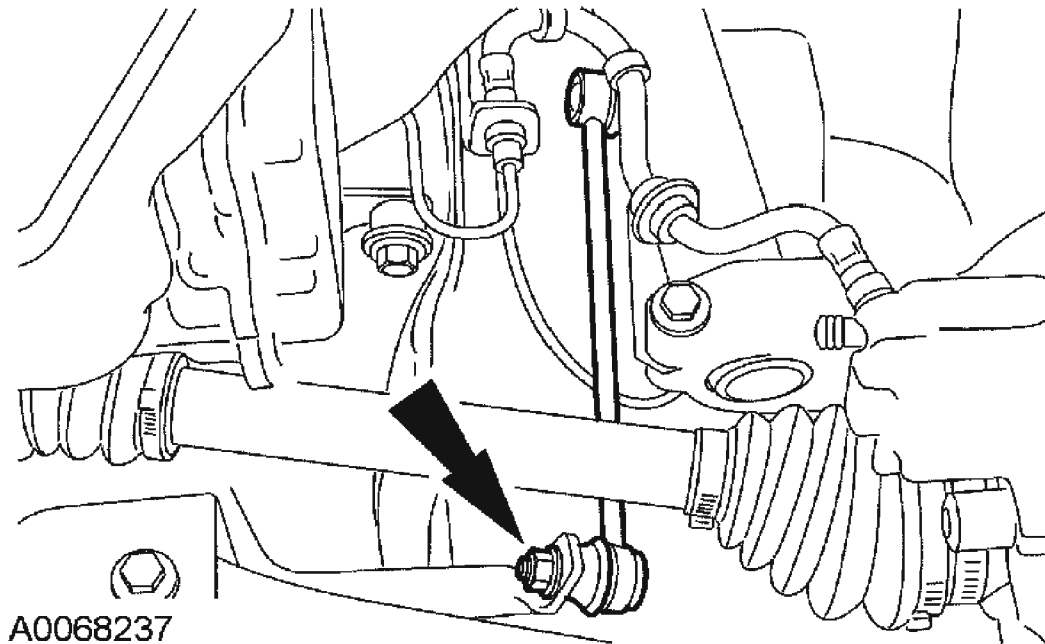
5. Loosening tie-rod end retaining nuts (LH side shown).

**CAUTION: Protect the ball joint seal using a soft cloth to prevent damage.**



**Fig. 22: Detaching Tie-Rod Ends From Wheel Knuckles Using Special Tool**  
**Courtesy of FORD MOTOR CO.**

6. Using the special tool, detach the tie-rod ends from the wheel knuckles.
  - Discard the retaining nuts.
7. Detach the stabilizer bar connecting links from the stabilizer bar (LH side shown).



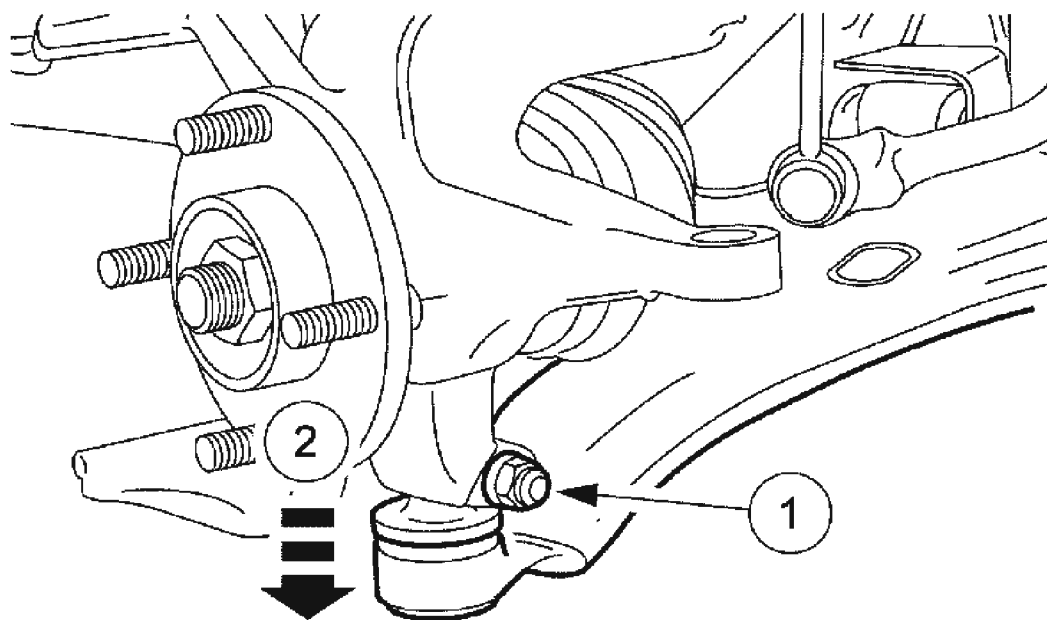
**Fig. 23: Detaching Stabilizer Bar Connecting Links From Stabilizer Bar (LH Side Shown)**

**Courtesy of FORD MOTOR CO.**

**CAUTION:** Do not use a prying device or separator fork between the lower arm ball joint and the knuckle. Damage to the ball joint or ball joint dust boot can result. Only use the pry bar by inserting it into the lower control arm body opening.

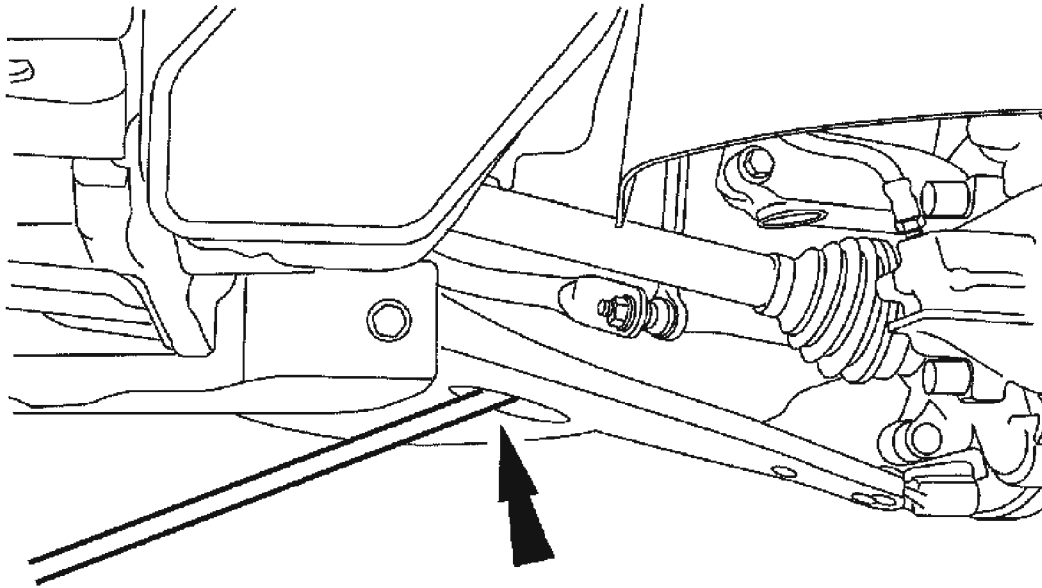
**CAUTION:** Do not damage suspension components when using the pry bar to separate the ball joint.





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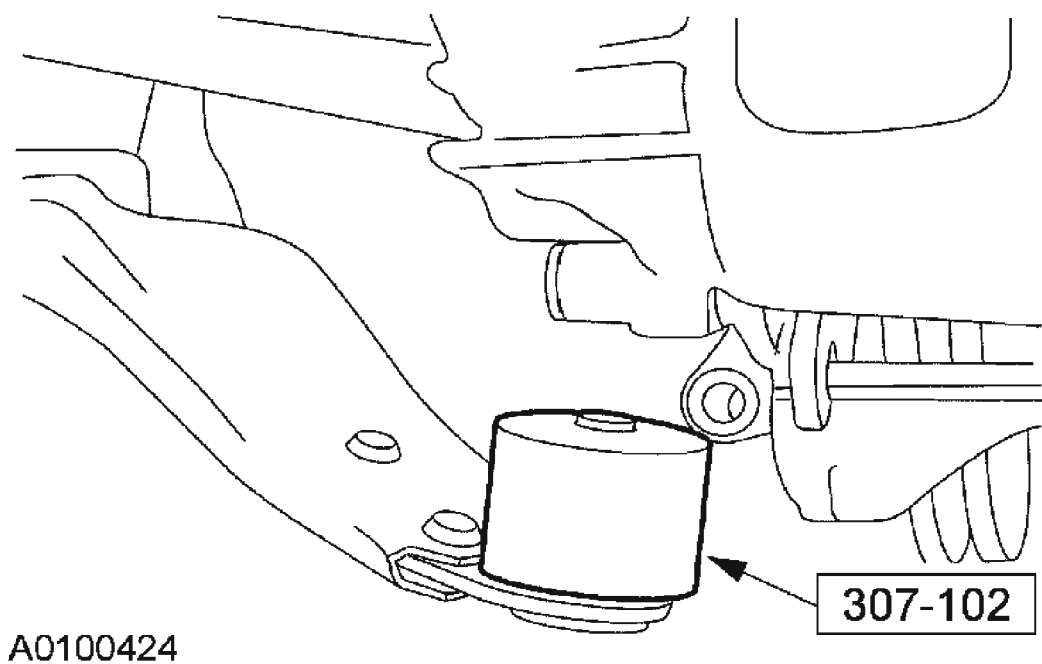
**Fig. 24: Removing Nut, Bolt And Detaching Ball Joint**  
**Courtesy of FORD MOTOR CO.**



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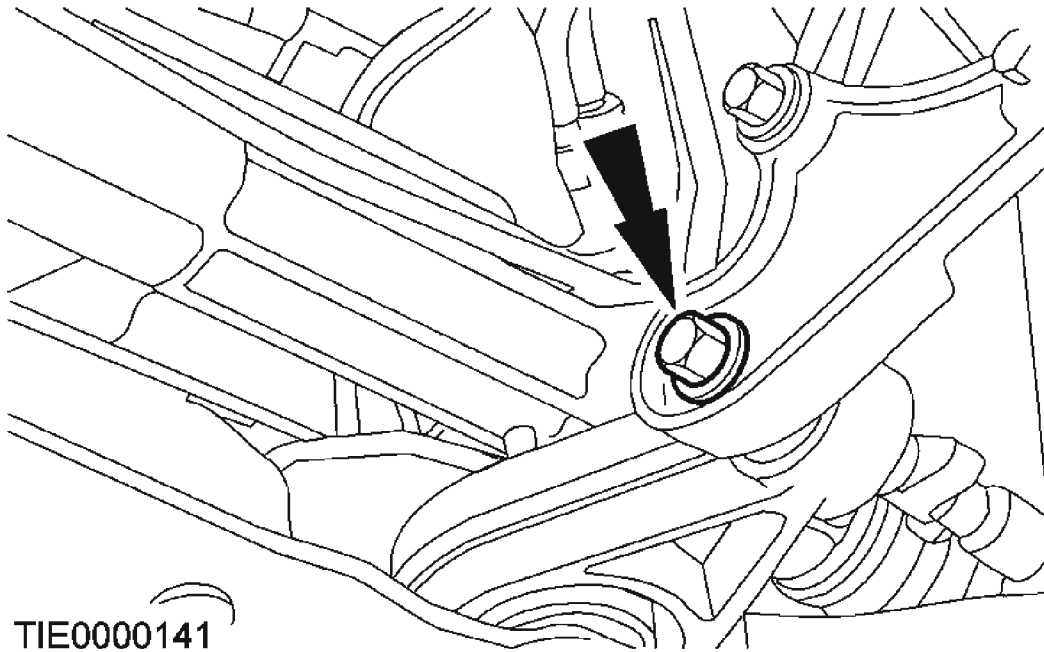
**Fig. 25: Inserting Pry Bar In Lower Control Arm Body Opening**  
**Courtesy of FORD MOTOR CO.**

8. Detach the lower arm ball joint.
  1. Remove the nut and bolt.
  2. Detach the ball joint.
    - Insert a pry bar in the lower control arm body opening to separate the ball joint.
9. After separating the lower control arm from the wheel knuckle, immediately install the special tool over the ball stud before releasing the lower control arm and knuckle into rest positions.
  - Leave the special tool in place during service and only remove prior to reassembly.



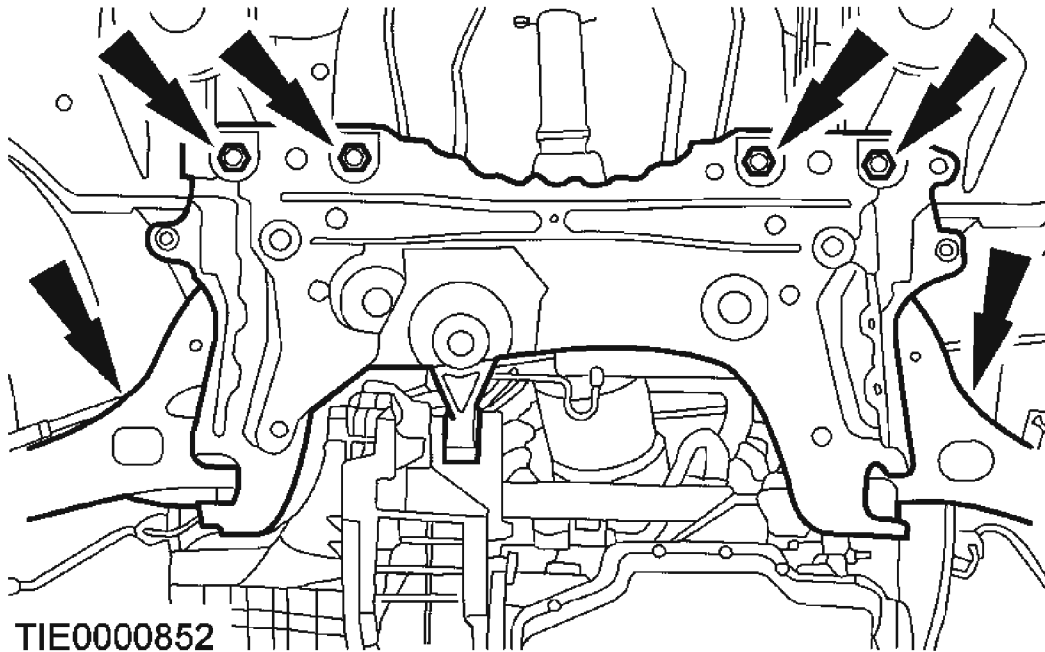
**Fig. 26: Installing Special Tool Over Ball Stud**  
**Courtesy of FORD MOTOR CO.**

10. Remove the support insulator to transaxle center bolt.



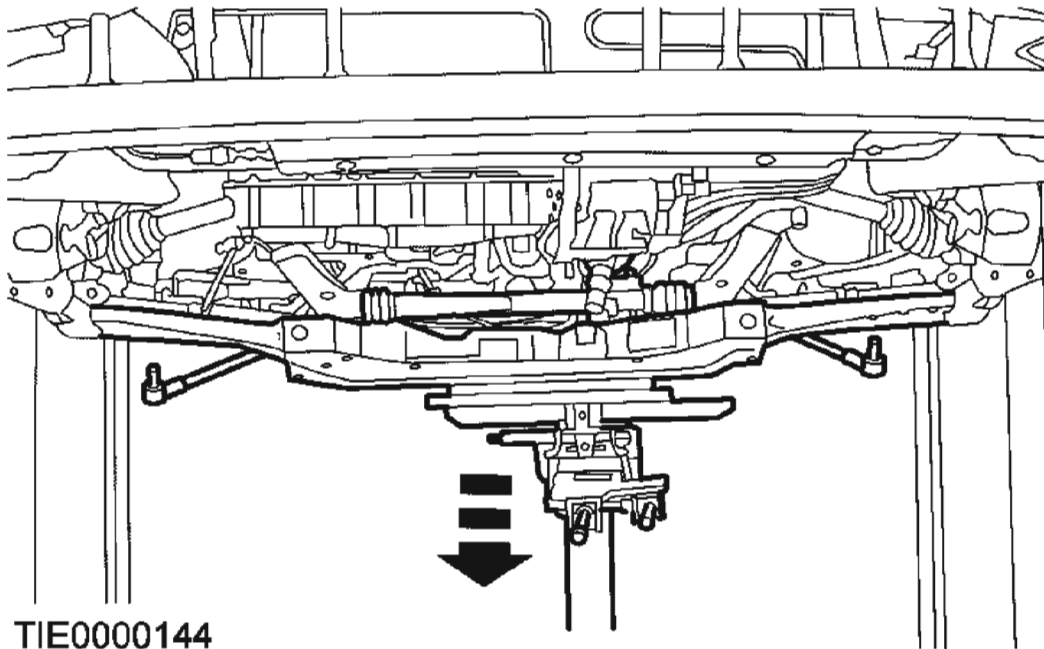
**Fig. 27: Removing Support Insulator To Transaxle Center Bolt**  
**Courtesy of FORD MOTOR CO.**

11. Using a suitable transmission jack, support the crossmember.
12. Remove the 6 crossmember bolts (support removed for clarity).



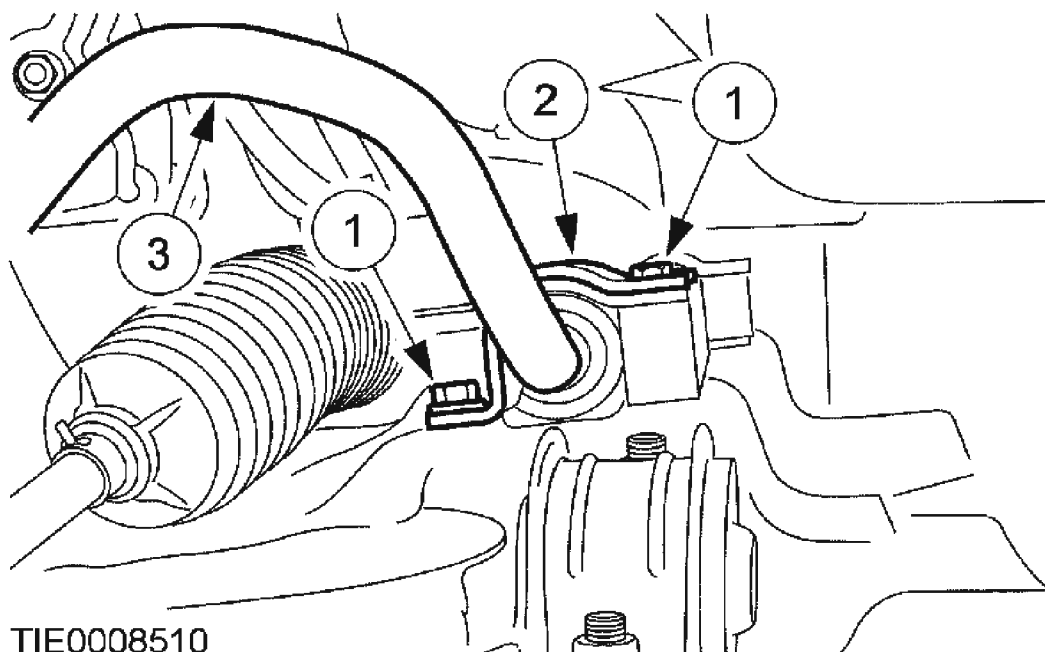
**Fig. 28: Removing Crossmember Bolts (Support Removed For Clarity)**  
Courtesy of FORD MOTOR CO.

**CAUTION:** The power steering lines are attached to the steering gear.



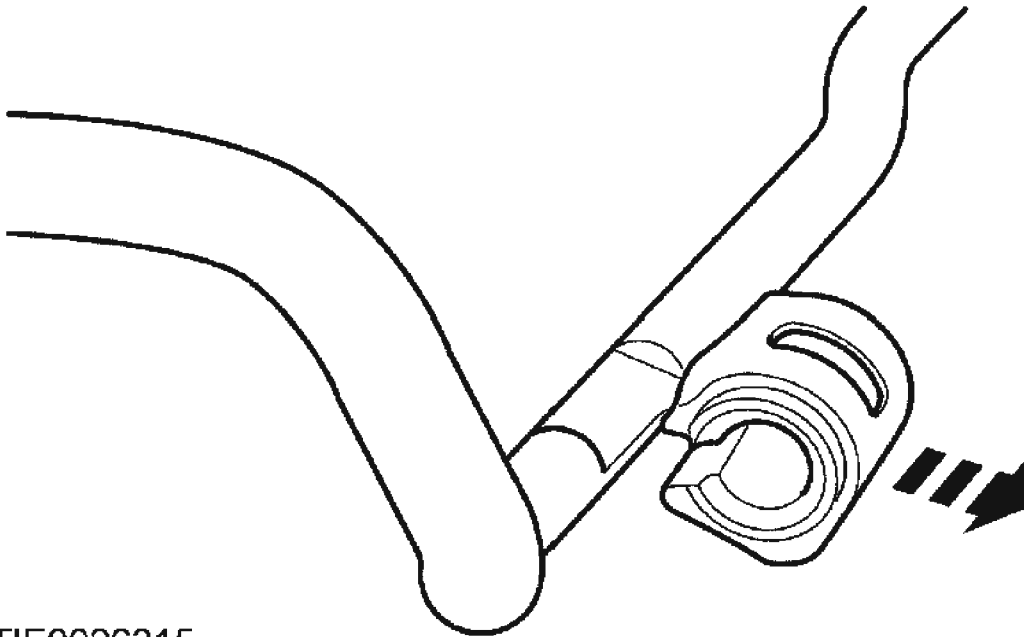
**Fig. 29: Lowering Crossmember**  
**Courtesy of FORD MOTOR CO.**

13. Lower the crossmember to gain access to the stabilizer bar.
14. Remove the stabilizer bar.
  1. Remove the bolts.
  2. Remove the clamps.
  3. Remove the stabilizer bar.



**Fig. 30: Removing Stabilizer Bar**  
**Courtesy of FORD MOTOR CO.**

15. Remove the stabilizer bar bushings.



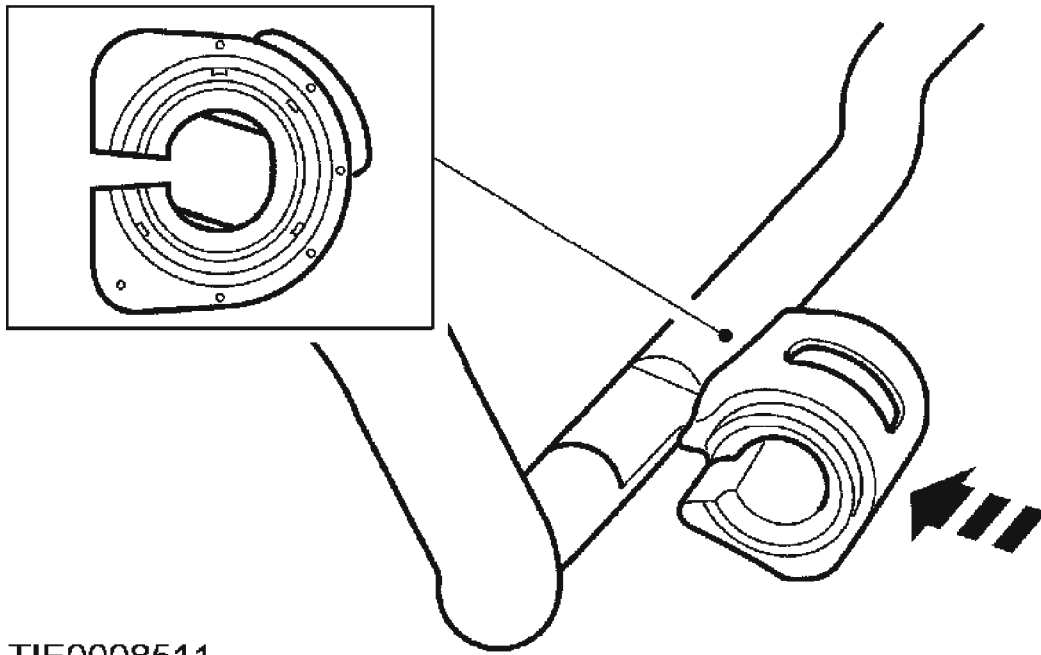
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**Fig. 31: Removing Stabilizer Bar Bushings**  
Courtesy of FORD MOTOR CO.

**Installation**

**CAUTION:** The stabilizer bar bushings must be located correctly on the flats of the stabilizer bar with no lubricant.

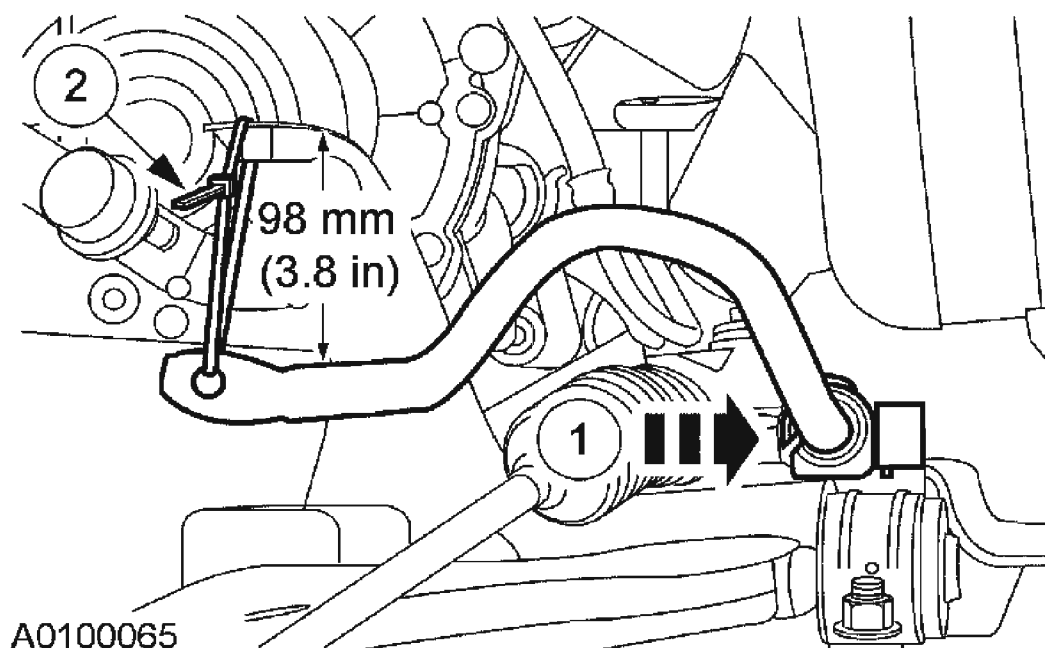




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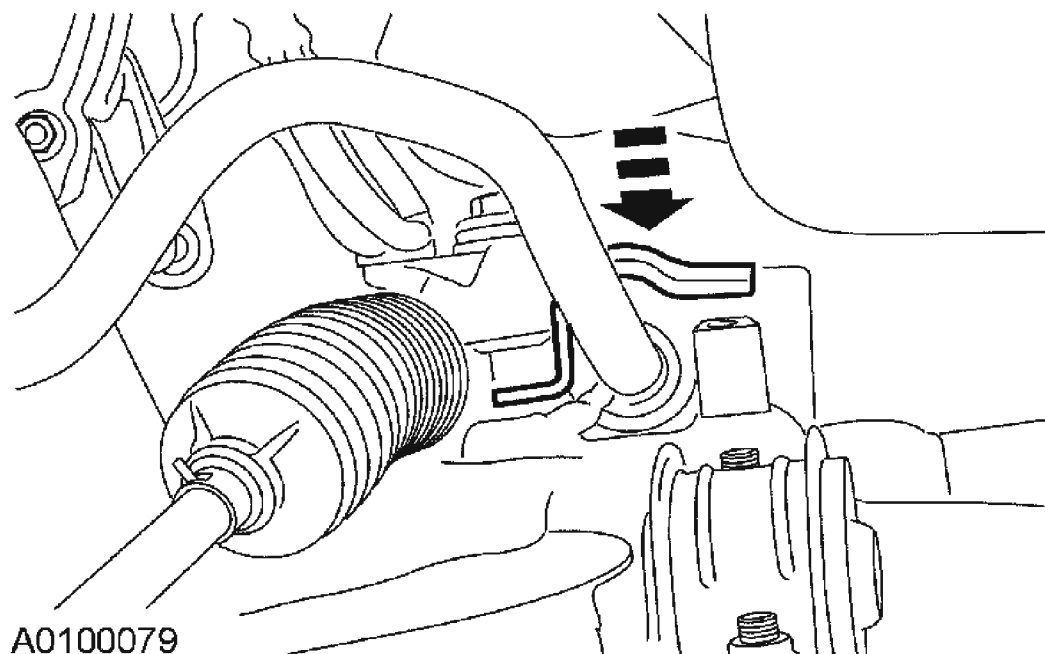
**Fig. 32: Installing Stabilizer Bar Bushings**  
**Courtesy of FORD MOTOR CO.**

1. Install the stabilizer bar bushings (both sides).
2. Install the stabilizer bar.
  1. Locate the bushing against the spacer (both sides).
  2. Using suitable cable ties, support the stabilizer bar to specification (both sides).



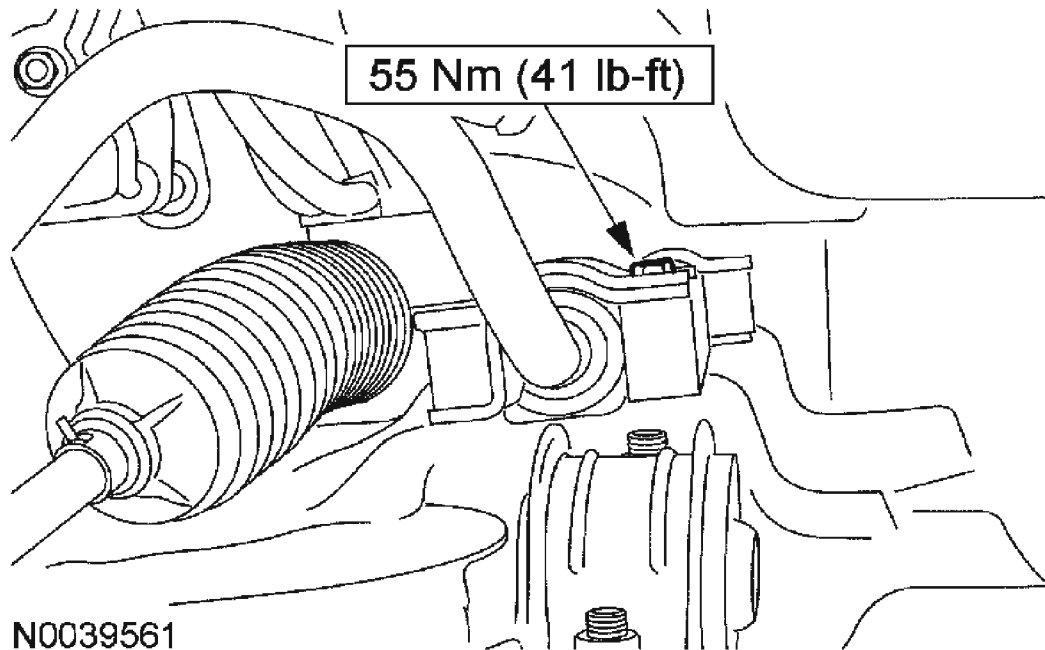
**Fig. 33: Installing Stabilizer Bar**  
**Courtesy of FORD MOTOR CO.**

3. Install the stabilizer bar clamps.



**Fig. 34: Installing Stabilizer Bar Clamps**  
**Courtesy of FORD MOTOR CO.**

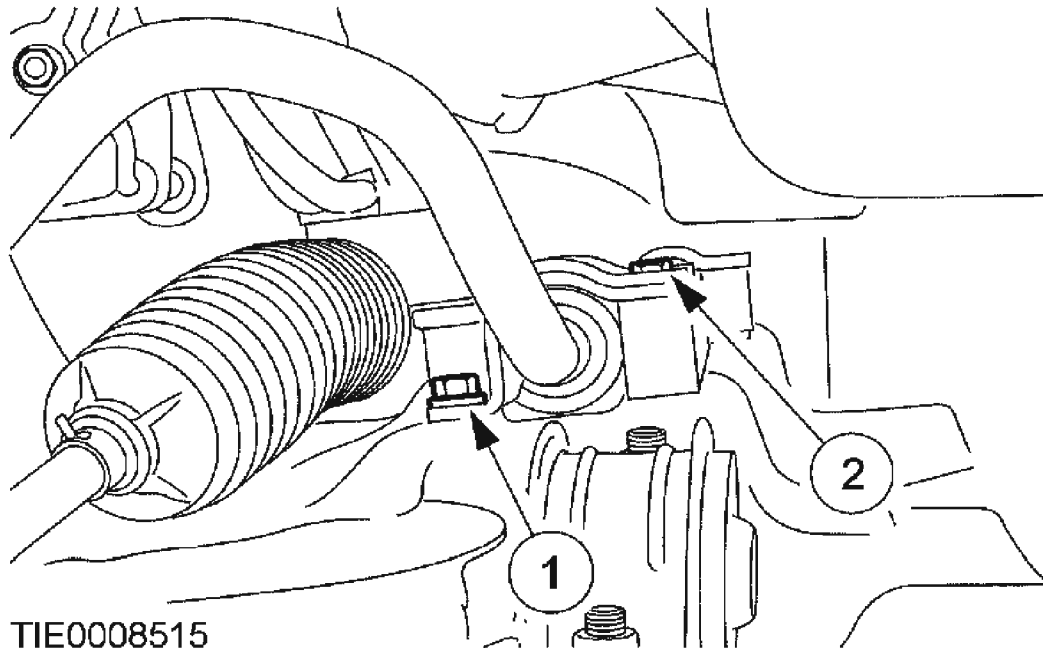
4. Install the stabilizer bar clamp rear retaining bolts.



**Fig. 35: Installing Stabilizer Bar Clamp Rear Retaining Bolts**  
Courtesy of FORD MOTOR CO.

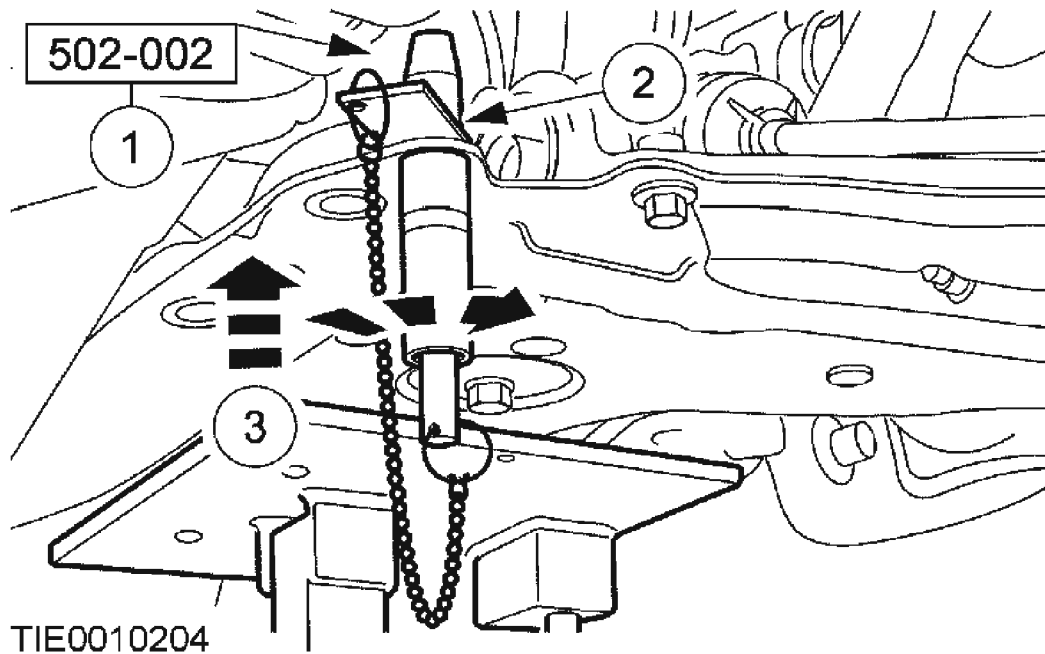
**NOTE:** Do not fully tighten stabilizer bar clamp front retaining bolts at this stage.

5. Install the stabilizer bar clamp front retaining bolts.
6. Tighten the stabilizer bar clamp retaining bolts.
  - Tighten the bolts in the sequence shown in two stages.
  - Stage 1: Tighten bolts 1 through 2 to 30 Nm (22 lb-ft).
  - Stage 2: Tighten bolts 1 through 2 to 55 Nm (41 lb-ft).



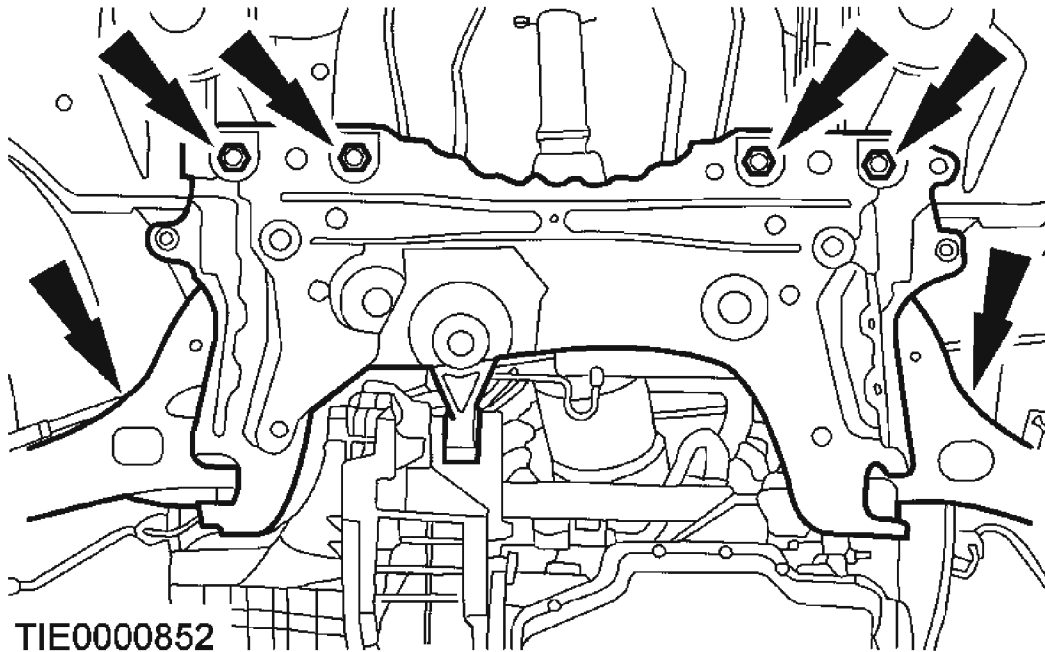
**Fig. 36: Tightening Stabilizer Bar Clamp Retaining Bolts**  
**Courtesy of FORD MOTOR CO.**

7. Remove the cable ties supporting the stabilizer bar.
8. Using the special tools, align the subframe.
  1. Insert the guide pins through the subframe alignment holes.
  2. Slide the locking plates into the grooves and tighten the guide pin sleeve.
  3. Raise the subframe, engaging the guide pins into the chassis alignment holes.



**Fig. 37: Using Special Tools To Align Subframe**  
Courtesy of FORD MOTOR CO.

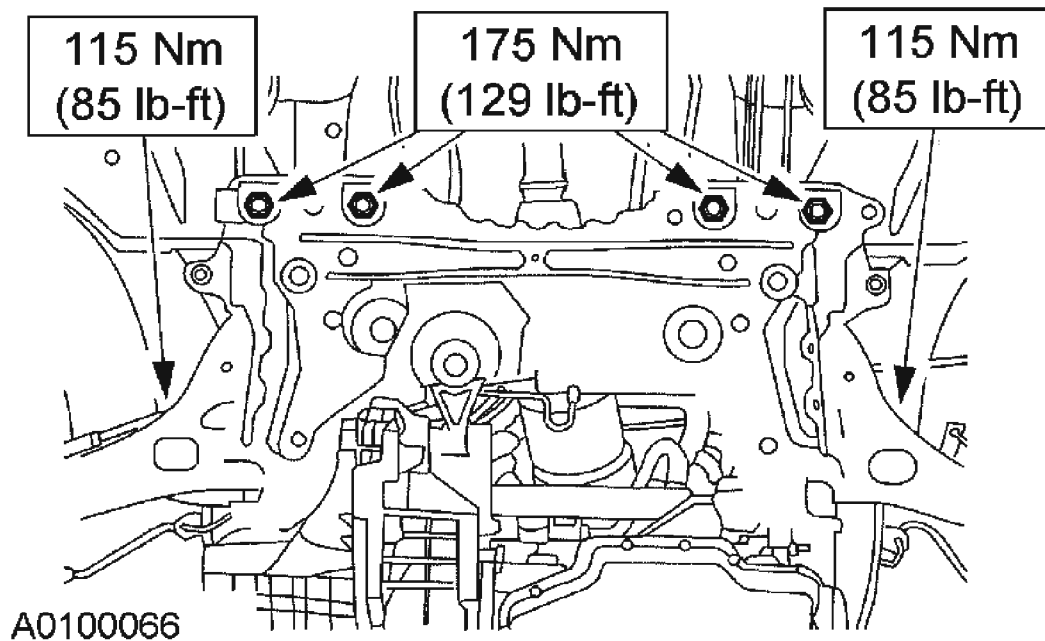
**NOTE:** Do not fully tighten the subframe retaining bolts at this stage.



**Fig. 38: Installing Subframe Retaining Bolts**  
Courtesy of FORD MOTOR CO.

9. Install the subframe retaining bolts.
10. Remove the subframe RH alignment pin.

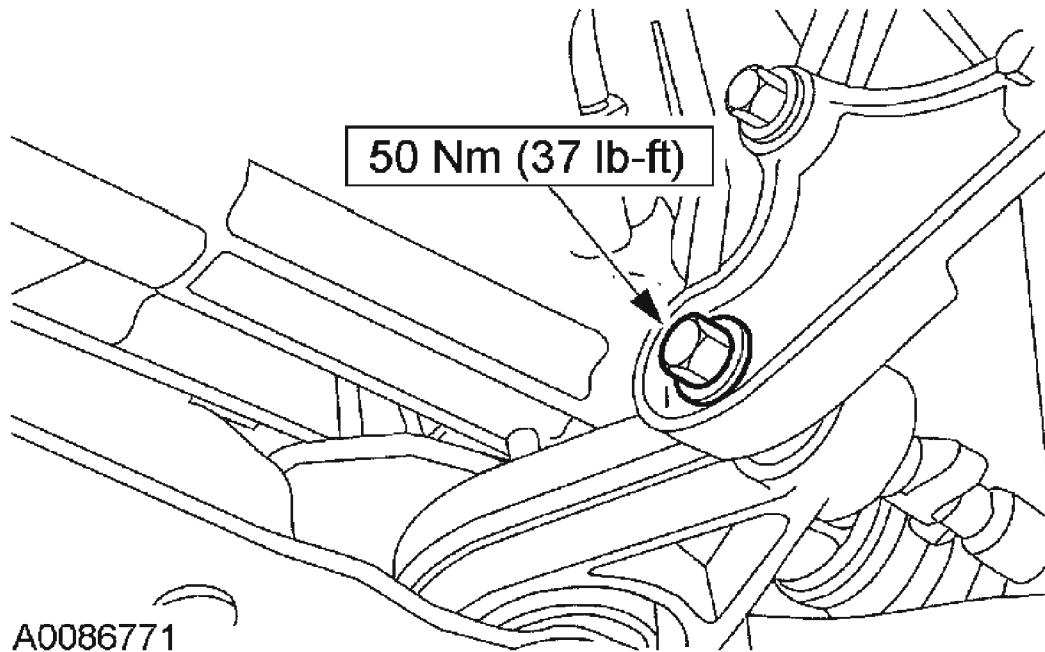
**CAUTION:** While tightening the subframe retaining bolts, make sure the subframe does not move.



**Fig. 39: Tightening Subframe Retaining Bolts**  
Courtesy of FORD MOTOR CO.

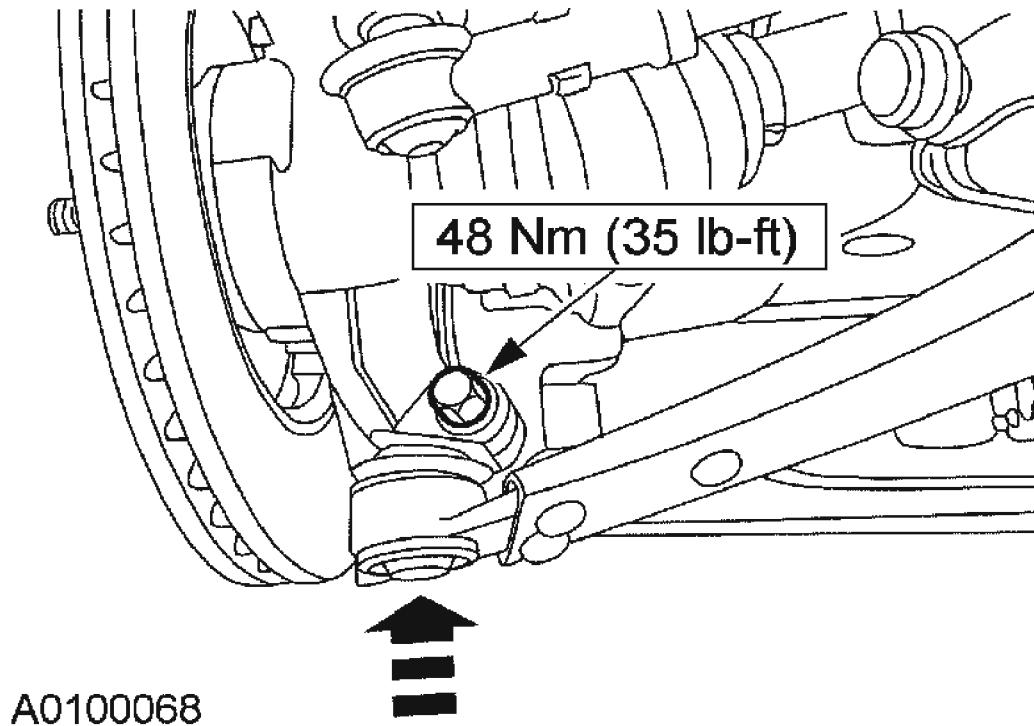
11. Tighten the subframe retaining bolts.
12. Lower and remove the transmission jack.
13. Remove the subframe LH alignment pin.
14. Install the support insulator to transaxle center bolt.





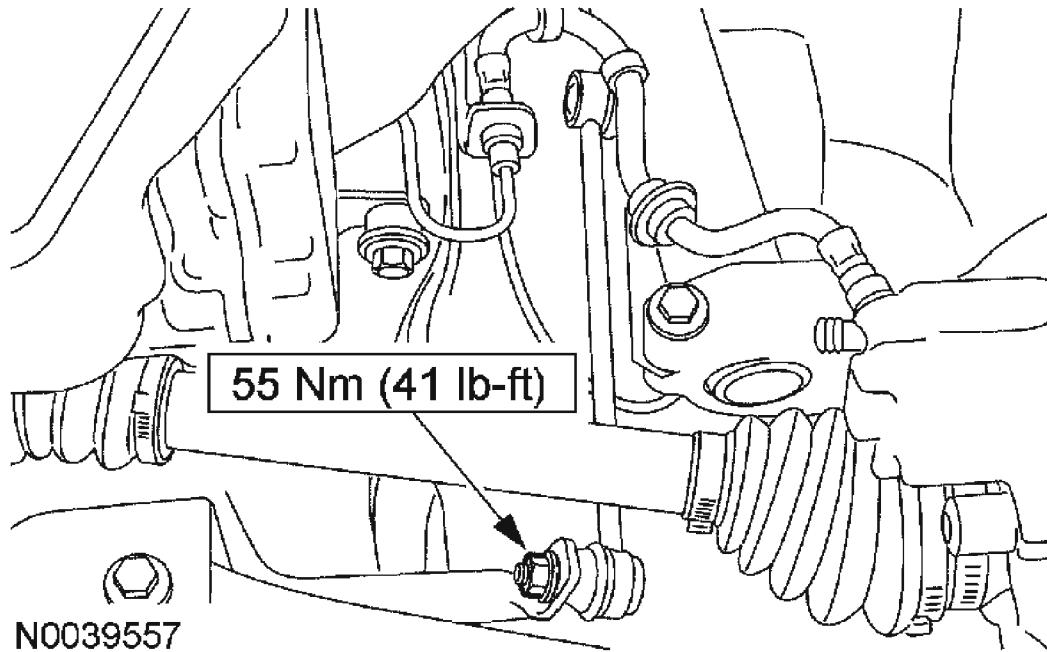
**Fig. 40: Installing Support Insulator To Transaxle Center Bolt**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Make sure the heat shield is installed to prevent damage to the ball joint.



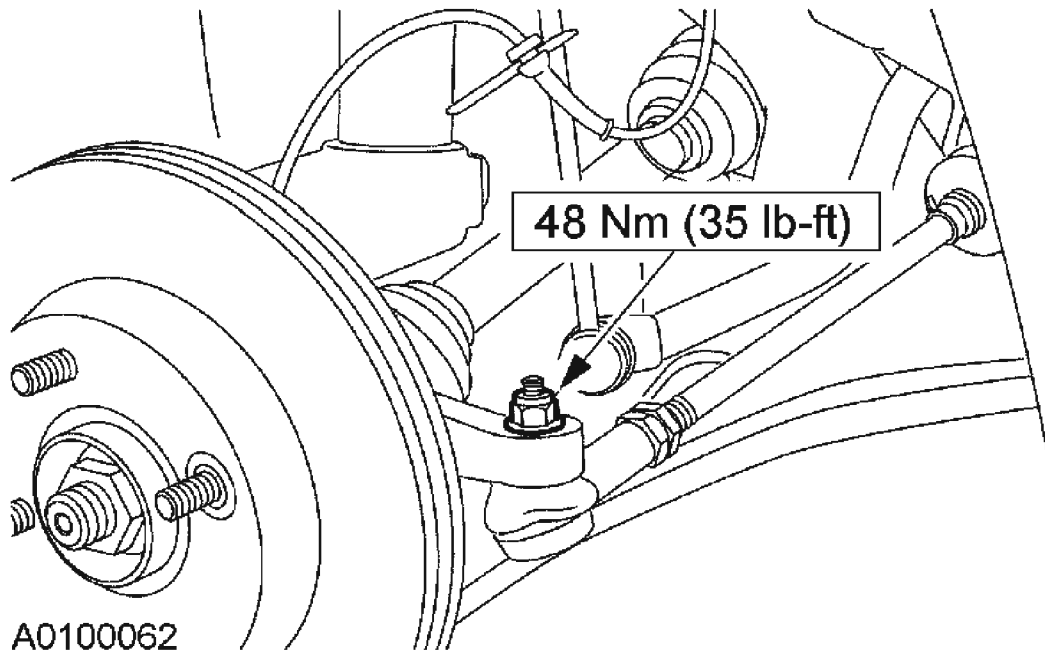
**Fig. 41: Installing Lower Arm Ball Joint**  
**Courtesy of FORD MOTOR CO.**

15. Install the lower arm ball joint.
16. Attach the stabilizer bar links to the stabilizer bar (LH side shown).



**Fig. 42: Attaching Stabilizer Bar Links To Stabilizer Bar (LH Side Shown)**  
Courtesy of FORD MOTOR CO.

**WARNING:** Install new tie-rod end retaining nuts. Failure to follow this instruction may result in personal injury.



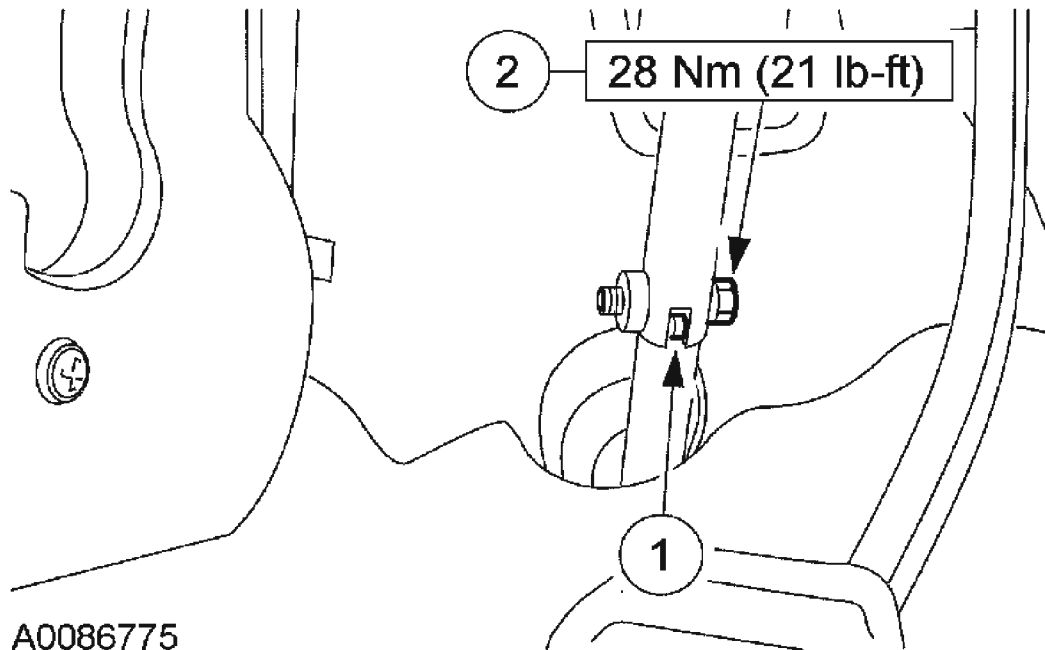
**Fig. 43: Attaching Tie-Rod Ends To Wheel Knuckles (LH Side Shown)**  
Courtesy of FORD MOTOR CO.

17. Attach the tie-rod ends to the wheel knuckles (LH side shown).
18. Install the front wheels and tires. For additional information, refer to **WHEELS AND TIRES** .

**WARNING:** Make sure the vehicle is in the straight-ahead position, before lowering the vehicle.

19. Lower the vehicle.

**WARNING:** Install a new steering column pinch bolt. Failure to follow this instruction may result in personal injury.



**Fig. 44: Connecting Steering Column Shaft To Steering Gear Pinion Extension**  
Courtesy of FORD MOTOR CO.

20. Connect the steering column shaft to the steering gear pinion extension.
  1. Connect the pinion shaft extension to the steering column.
  2. Install the bolt.

**CAUTION:** When the battery has been disconnected and reconnected, some abnormal drive symptoms may occur while the vehicle relearns its adaptive strategy. The vehicle may need to be driven 16 km (10 miles) or more to relearn the strategy.

21. Connect the battery ground cable. For additional information, refer to **BATTERY, MOUNTING AND CABLES**.

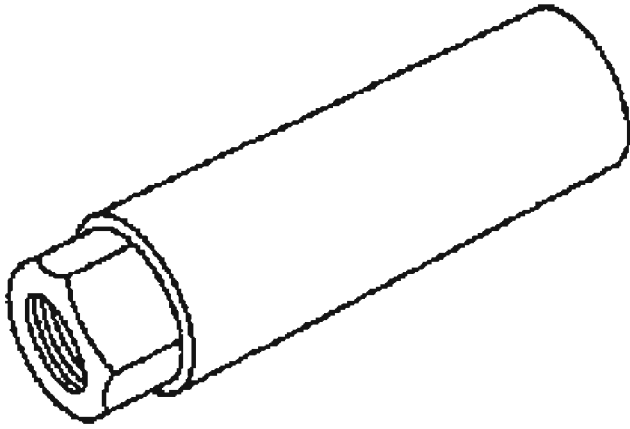
## WHEEL KNUCKLE

Special Tool(s)

## SPECIAL TOOLS DESCRIPTION

**2005 Ford Focus ZX4 S**

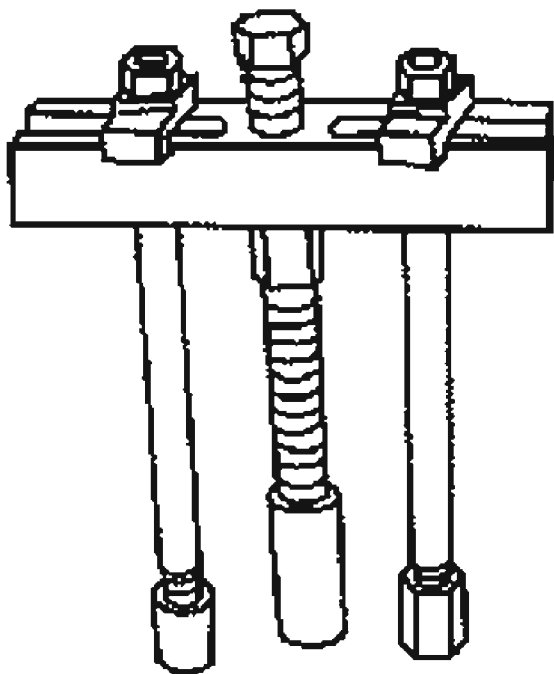
**2005 SUSPENSION Front Suspension - Focus**



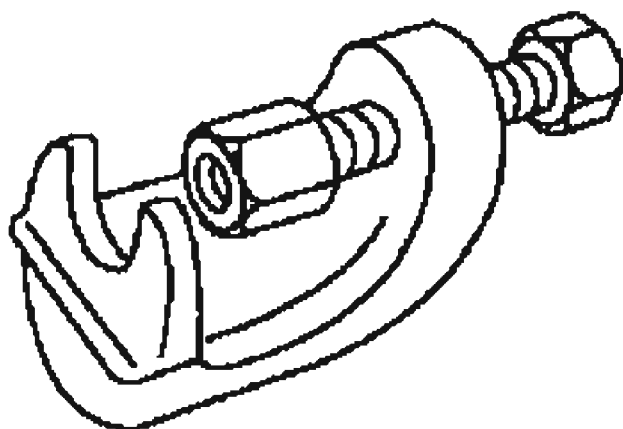
**T81P-1104-A**

Installer, Halfshaft 204-067 (T81P-1104-A)

Remover/Installer, Front Wheel Hub  
204-069 (T81P-1104-C)



**ST2770-A**

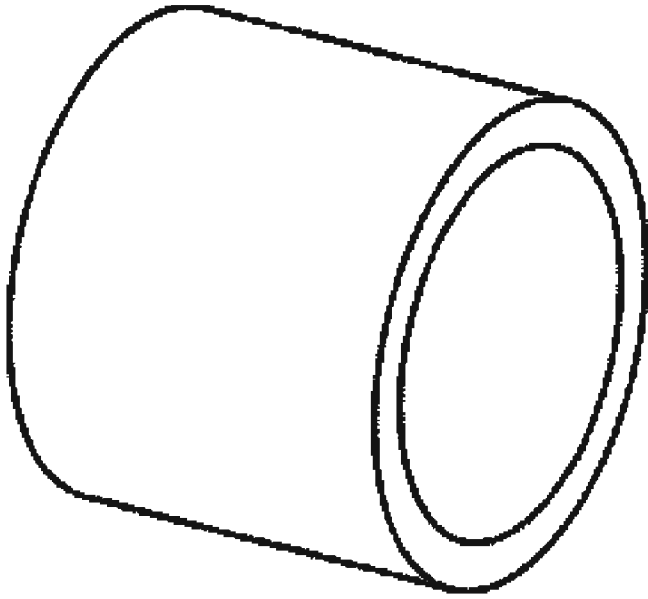


**ST2783-A**

Remover, Tie-Rod End 211-001  
(TOOL-3290-D)

## 2005 Ford Focus ZX4 S

### 2005 SUSPENSION Front Suspension - Focus



**ST1233-A**

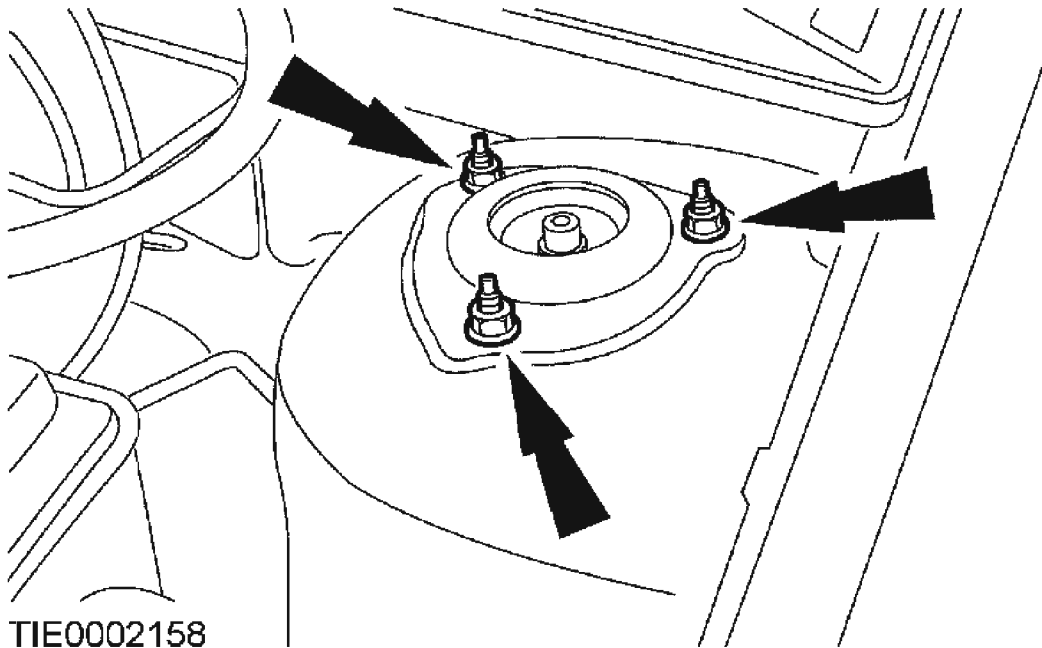
Adapter 307-102 (T81P-70363-A4)  
Part of 307-8088 (T81P-77000-A)

#### Removal

#### ALL VEHICLES

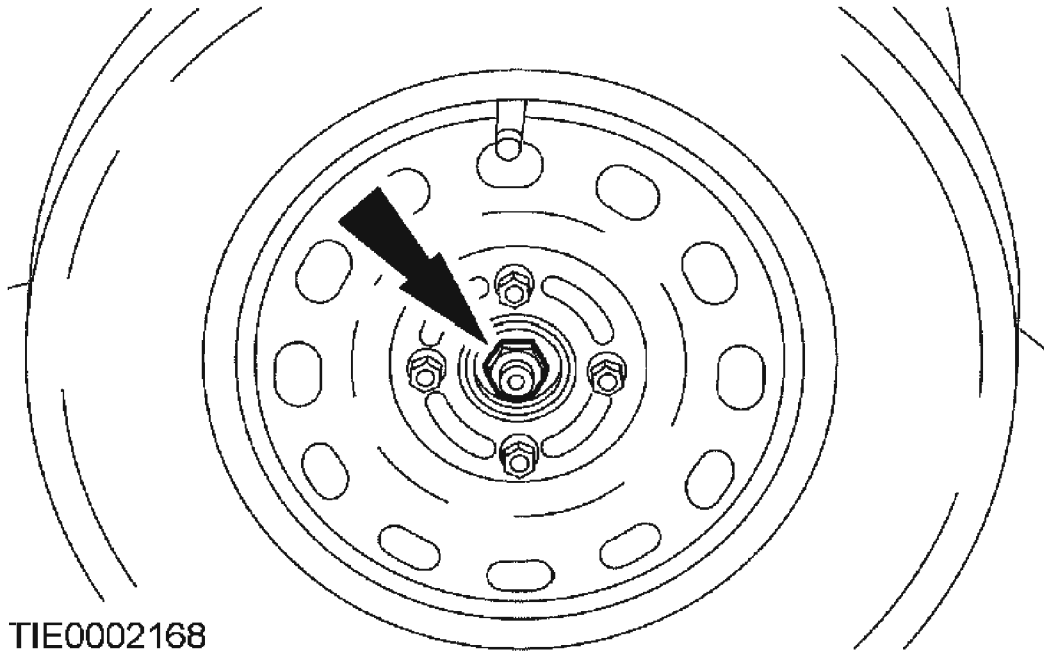
1. Loosen the 3 strut tower nuts by at least five turns.





**Fig. 45: Loosening Strut Tower Nuts**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Do not use power tools to remove the nut. Use a socket to remove the wheel hub retaining nut to prevent damage.



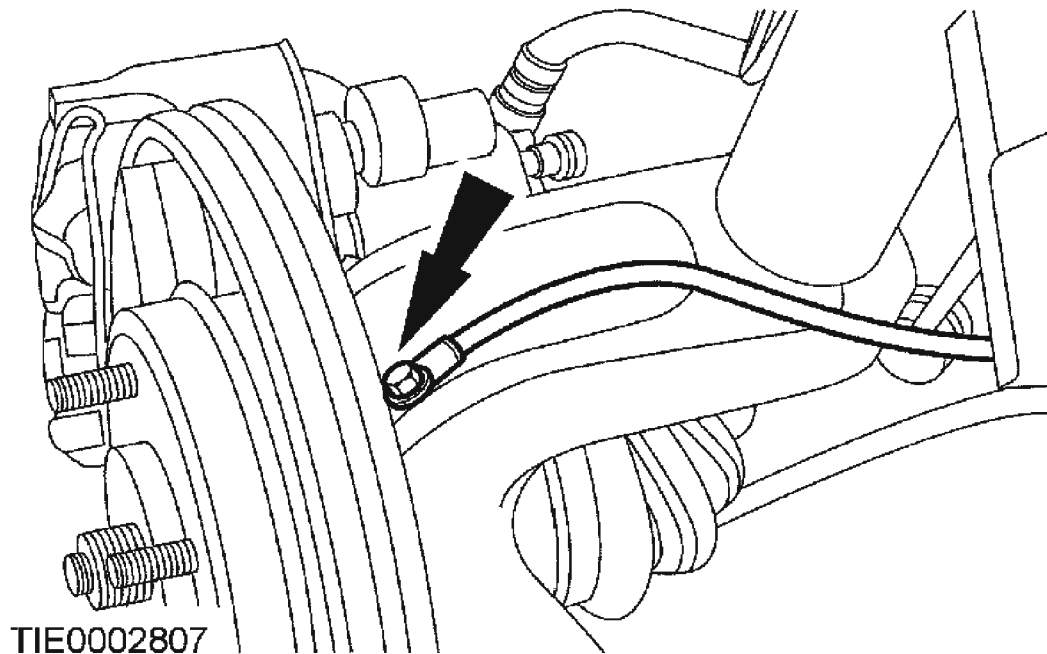
TIE0002168

**Fig. 46: Loosening Wheel Hub Retaining Nut**  
**Courtesy of FORD MOTOR CO.**

2. Loosen the wheel hub retaining nut.
3. Remove the brake disc. For additional information, refer to **FRONT DISC BRAKE** .

#### **VEHICLES WITH ANTI-LOCK BRAKES**

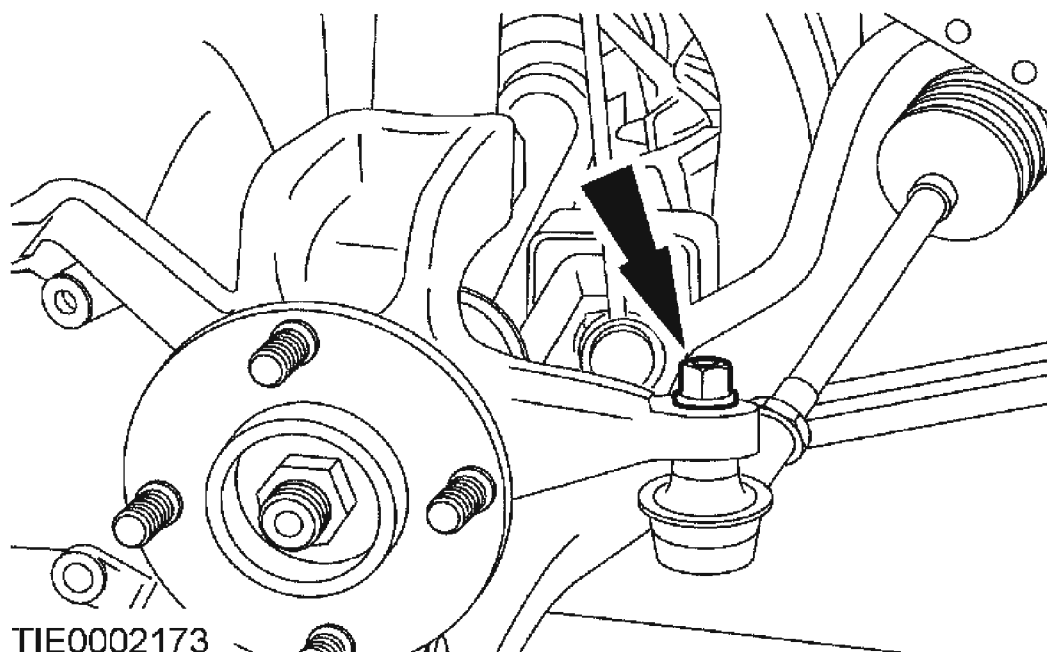
4. Detach the wheel speed sensor.



**Fig. 47: Detaching Wheel Speed Sensor**  
**Courtesy of FORD MOTOR CO.**

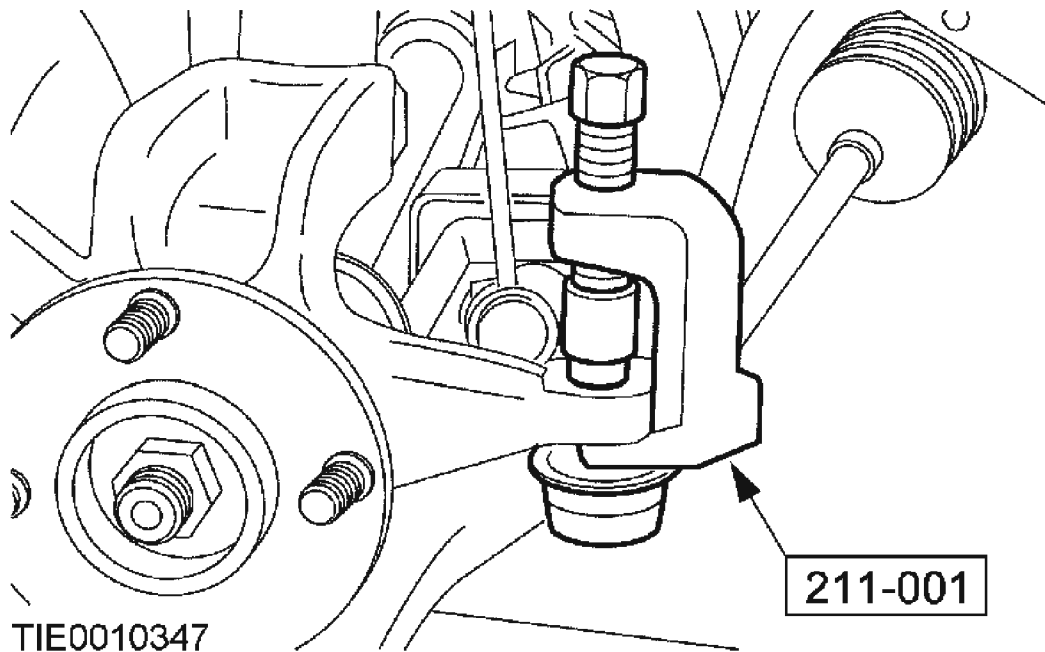
**ALL VEHICLES**

5. Remove the tie-rod end retaining nut.



**Fig. 48: Removing Tie-Rod End Retaining Nut**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Protect the ball joint seal using a soft cloth to prevent damage.

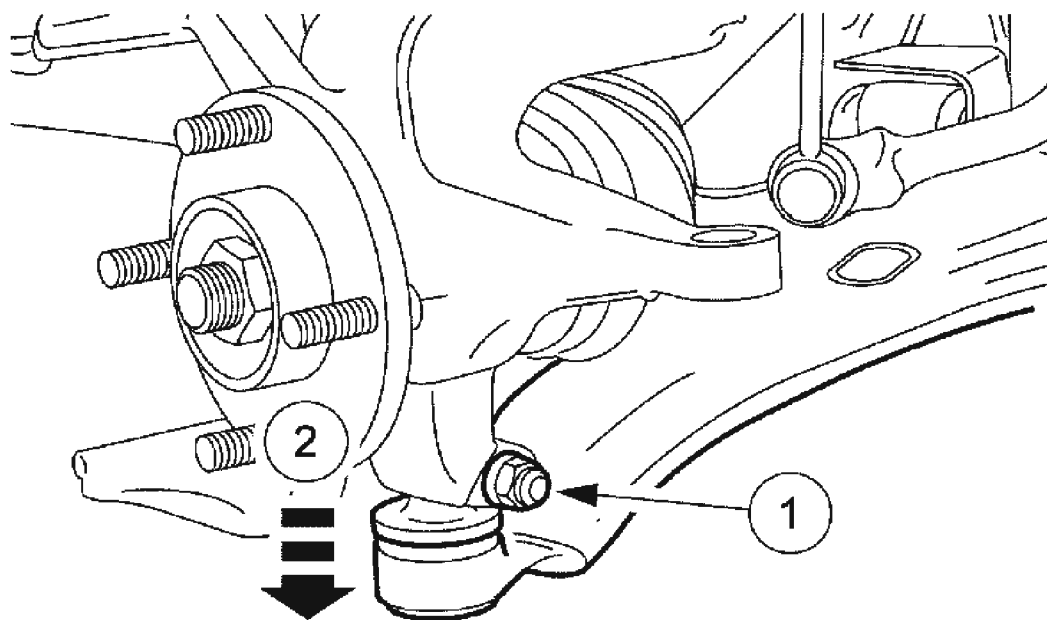


**Fig. 49: Detaching Tie-Rod End Ball Joint End Using Special Tool**  
Courtesy of FORD MOTOR CO.

6. Using the special tool, detach the tie-rod end ball joint end.

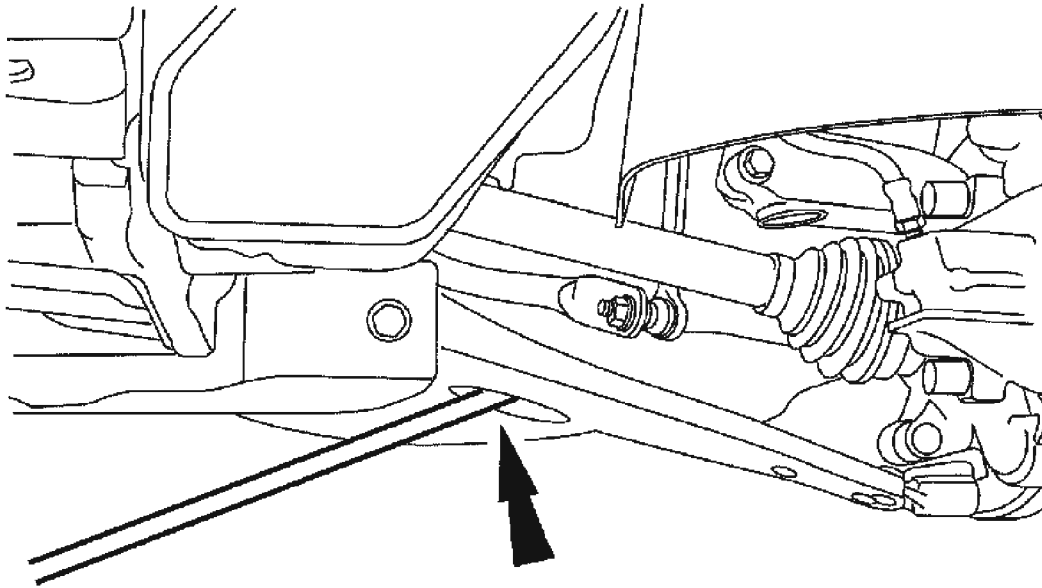
**CAUTION:** Do not use a prying device or separator fork between the lower arm ball joint and the knuckle. Damage to the ball joint or ball joint dust boot can result. Only use the pry bar by inserting it into the lower control arm body opening.

**CAUTION:** Do not damage suspension components when using the pry bar to separate the ball joint.



TIE0002176

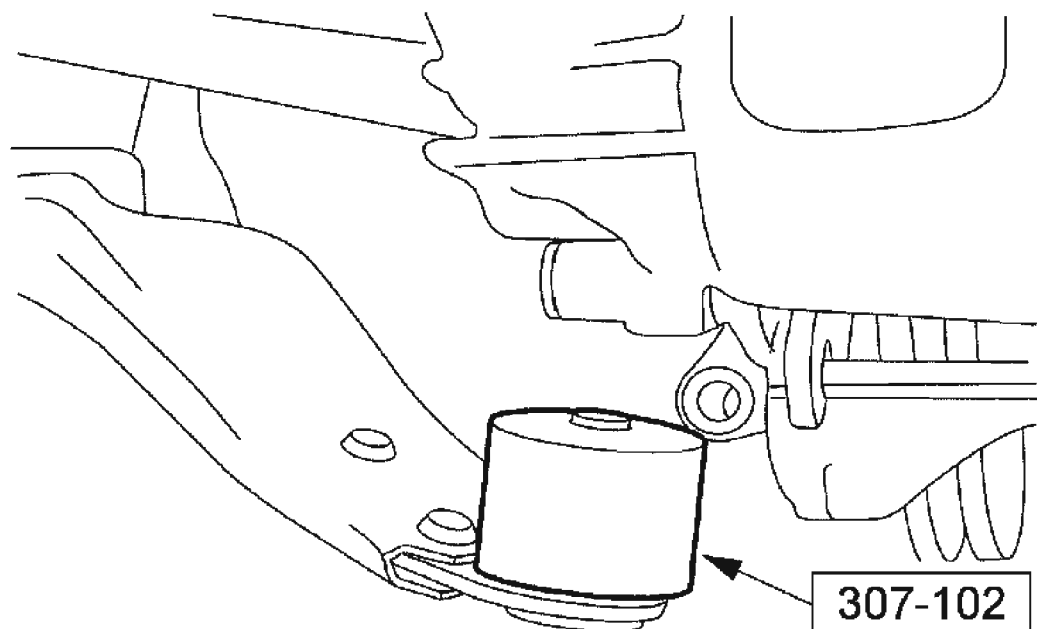
**Fig. 50: Detaching Lower Arm Ball Joint**  
**Courtesy of FORD MOTOR CO.**



N0006656

**Fig. 51: Inserting Pry Bar In Lower Control Arm Body Opening**  
**Courtesy of FORD MOTOR CO.**

7. Detaching lower arm ball joint.
  1. Remove the nut and bolt.
  2. Detach the ball joint.
    - Insert a pry bar in the lower control arm body opening to separate the ball joint.
8. After separating the lower control arm from the wheel knuckle, immediately install the special tool over the ball stud before releasing the lower control arm and knuckle into rest positions.
  - Leave the special tool in place during service and only remove prior to reassembly.

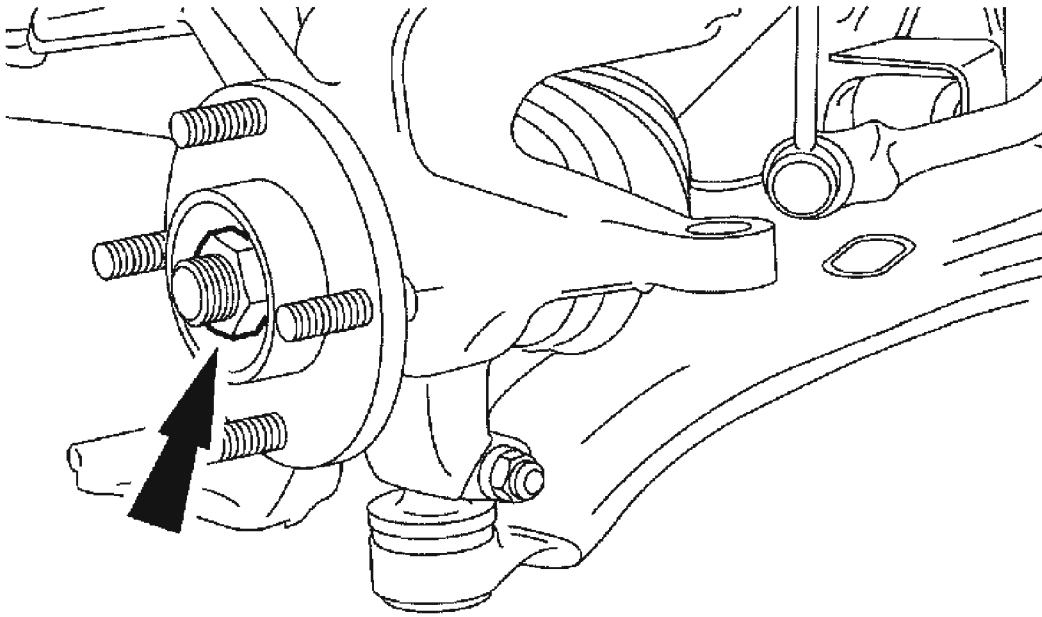


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**Fig. 52: Installing Special Tool Over Ball Stud**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Do not use power tools to remove the nut. Use a socket to remove the wheel hub retaining nut to prevent damage.



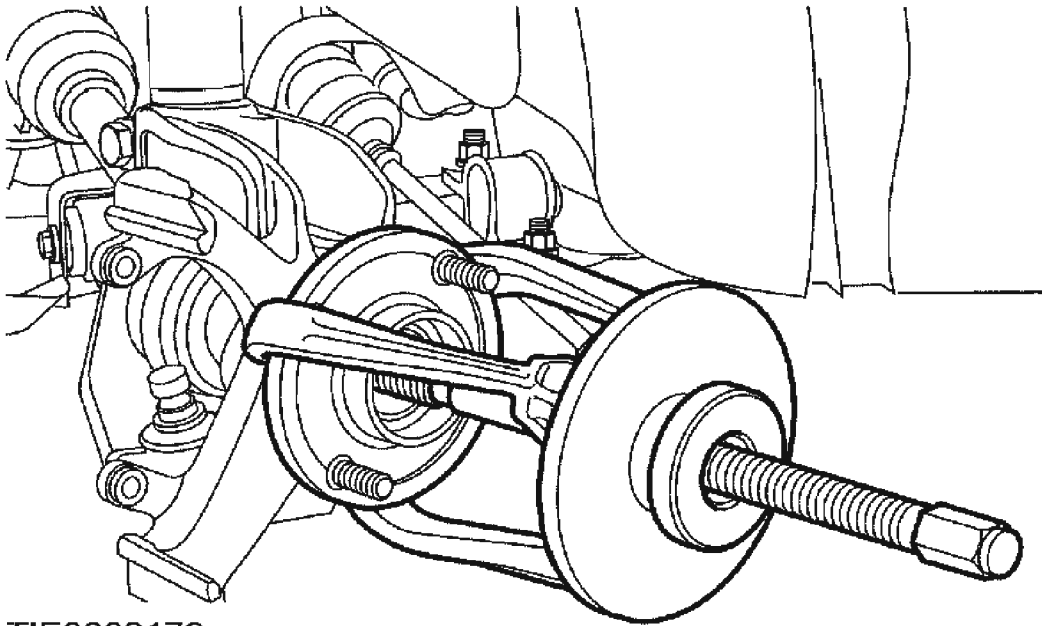


TIE0002177

**Fig. 53: Removing Wheel Hub Retaining Nut**  
Courtesy of FORD MOTOR CO.

9. Remove the wheel hub retaining nut.

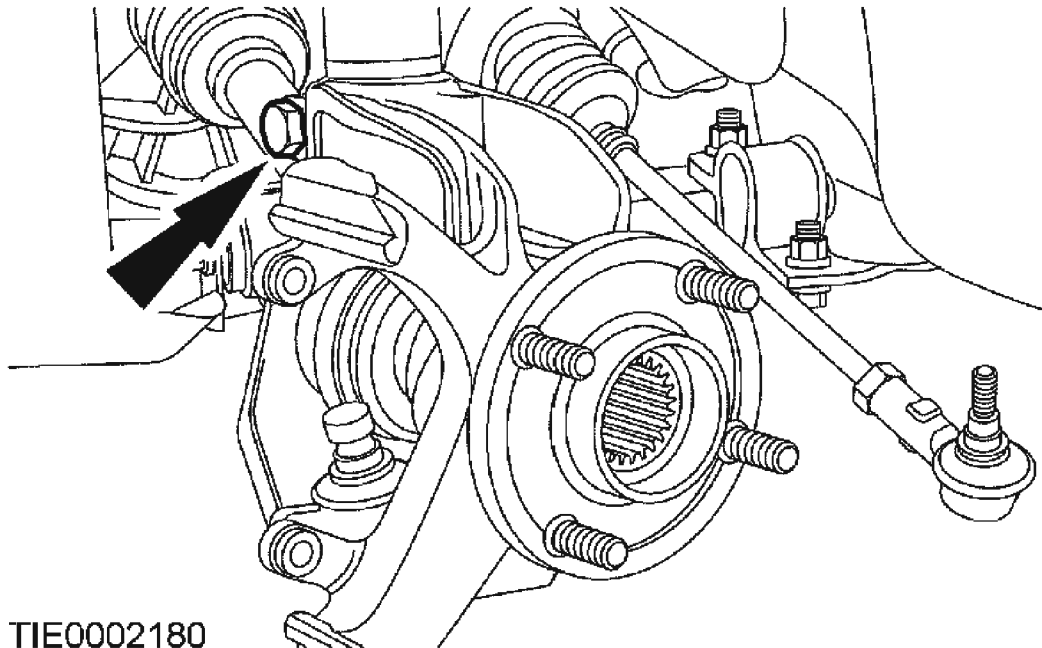
**NOTE:**      **Make sure that the halfshaft does not disengage from the inner constant velocity joint.**



TIE0002179

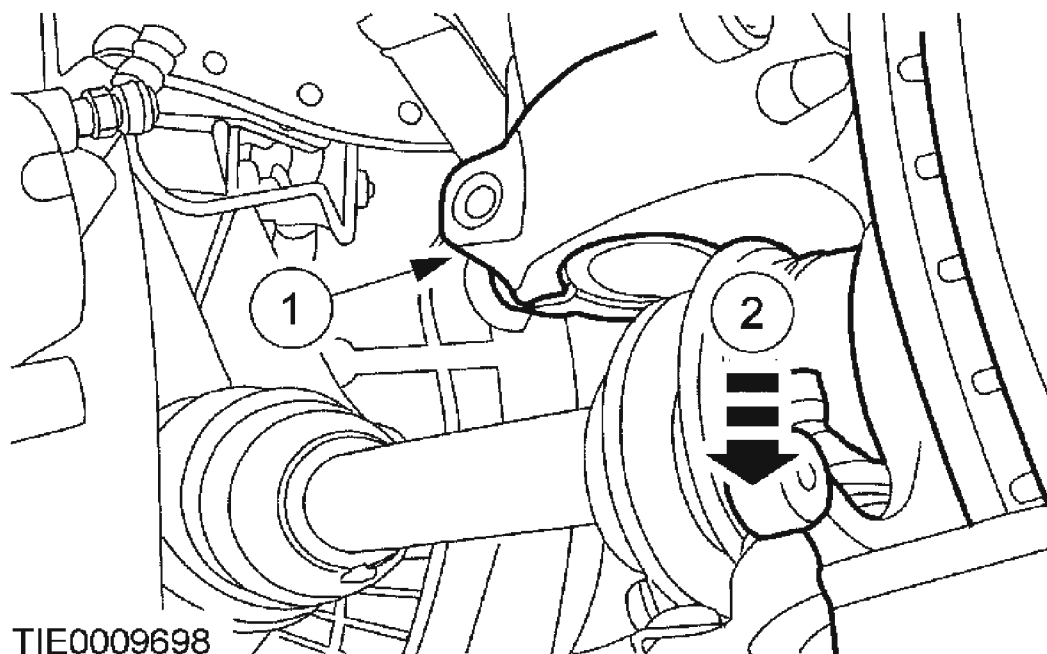
**Fig. 54: Separating Wheel Hub From Halfshaft Using Suitable Puller**  
**Courtesy of FORD MOTOR CO.**

10. Using a suitable puller, separate the wheel hub from the halfshaft.
11. Remove the wheel knuckle bolt.



**Fig. 55: Removing Wheel Knuckle Bolt**  
**Courtesy of FORD MOTOR CO.**

12. Remove the wheel knuckle.
  1. Using a suitable lever, release the knuckle.
  2. Remove the wheel knuckle.
    - Support the halfshaft out of the way.

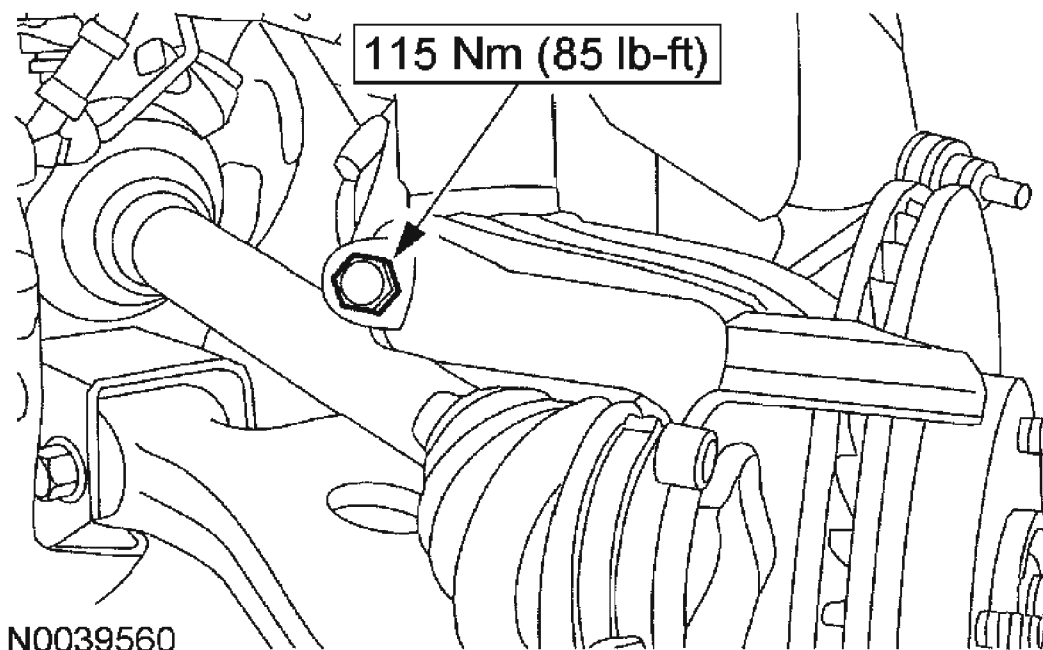


**Fig. 56: Removing Wheel Knuckle**  
**Courtesy of FORD MOTOR CO.**

**Installation**

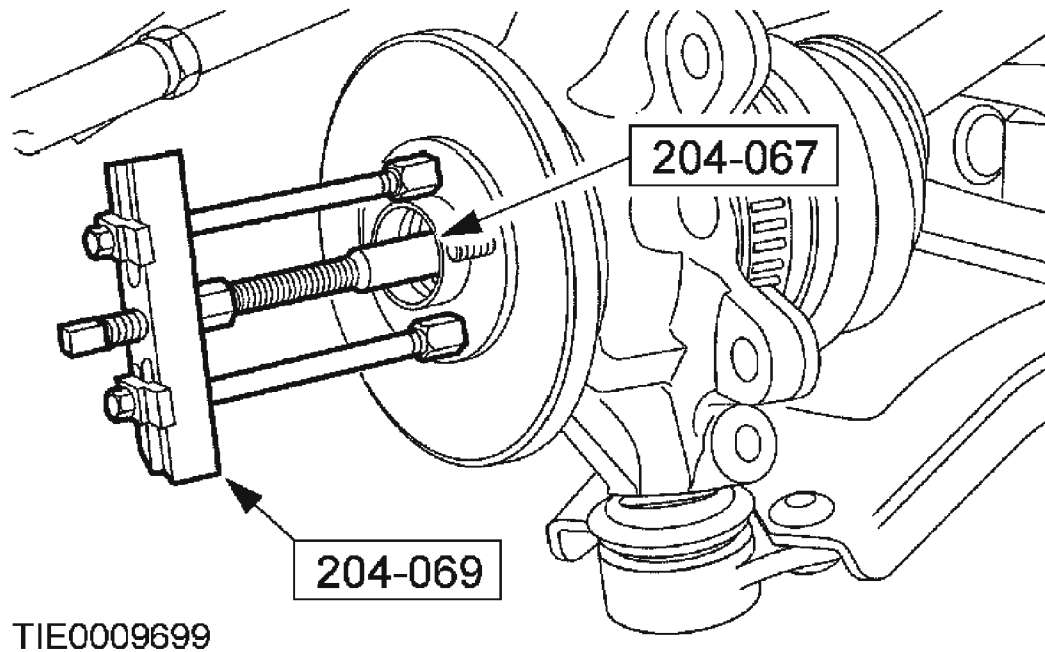
**ALL VEHICLES**

1. Install the wheel knuckle to strut pinch bolt.



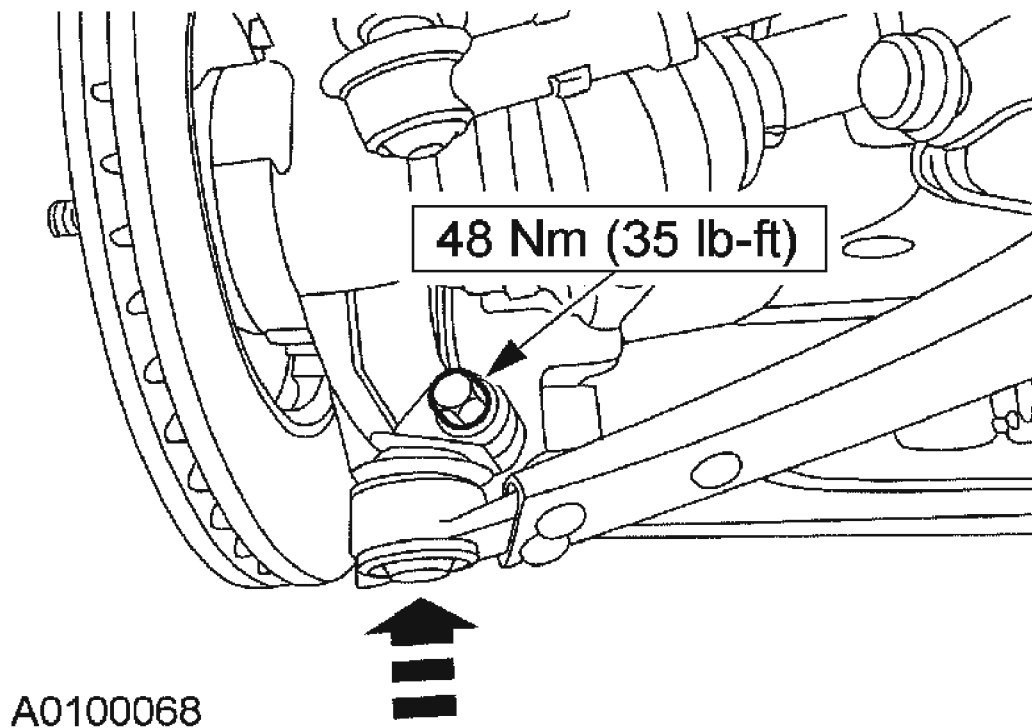
**Fig. 57: Installing Wheel Knuckle To Strut Pinch Bolt**  
**Courtesy of FORD MOTOR CO.**

2. Using the special tools, install the halfshaft.



**Fig. 58: Using Special Tools To Installing Halfshaft**  
Courtesy of FORD MOTOR CO.

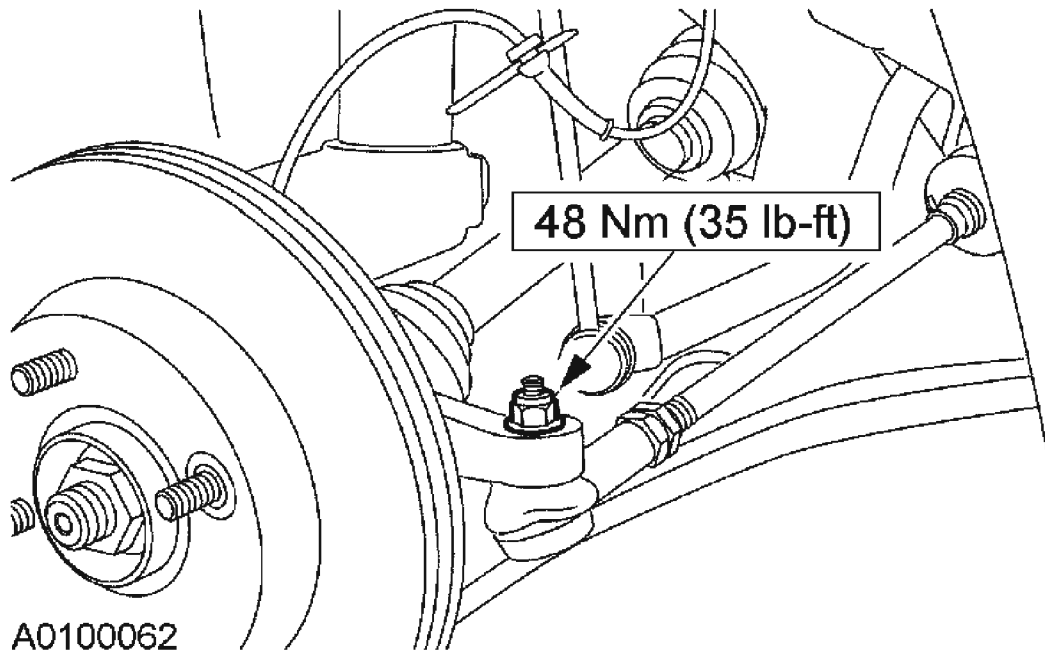
**CAUTION:** Make sure the heat shield is installed to prevent damage to the ball joint.



**Fig. 59: Installing Lower Arm To Wheel Knuckle Nut And Bolt**  
Courtesy of FORD MOTOR CO.

3. Install the lower arm to wheel knuckle nut and bolt.

**WARNING:** Install a new tie-rod end retaining nut. Failure to follow this instruction may result in personal injury.



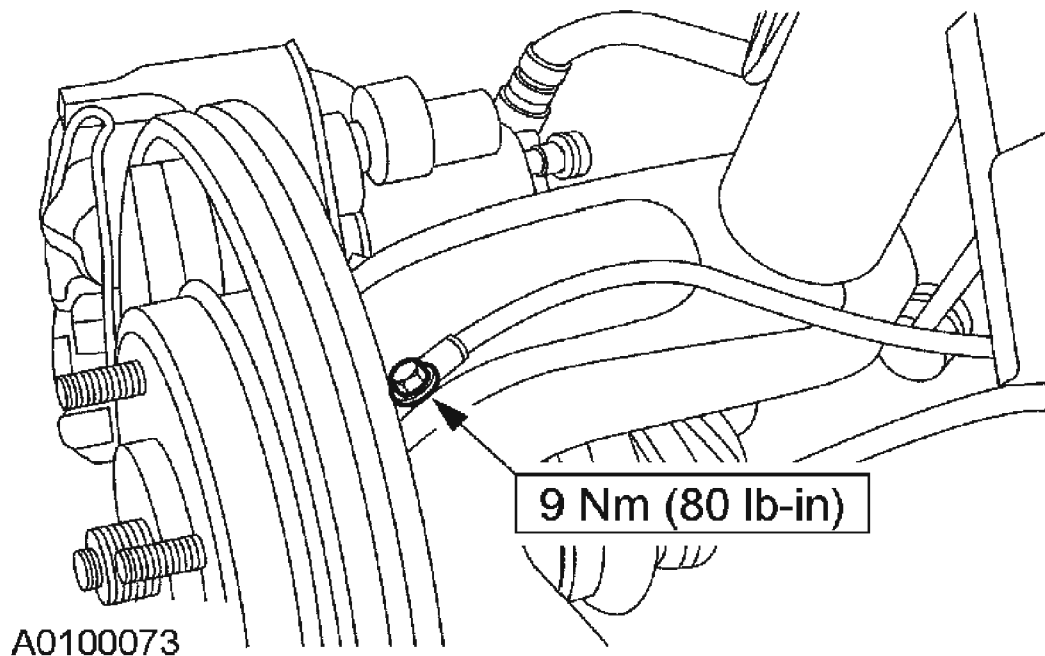
**Fig. 60: Installing Tie-Rod End**  
**Courtesy of FORD MOTOR CO.**

4. Install the tie-rod end.

**Vehicles With Anti-Lock Brakes**

5. Attach the wheel speed sensor.





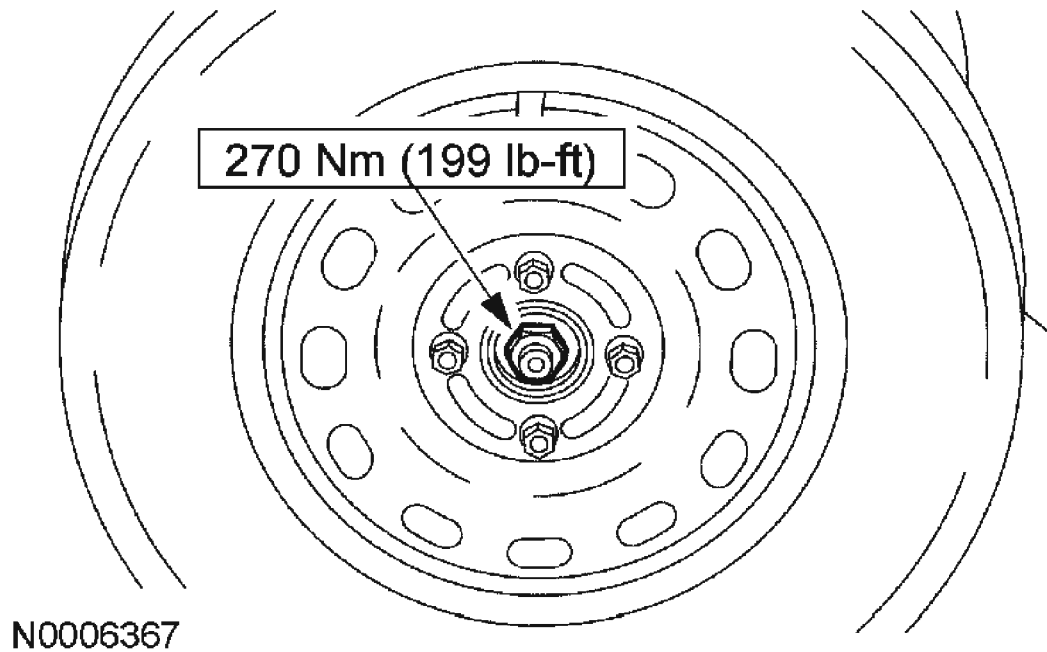
**Fig. 61: Attaching Wheel Speed Sensor**  
Courtesy of FORD MOTOR CO.

**All Vehicles**

6. Install the brake disc. For additional information, refer to **FRONT DISC BRAKE** .

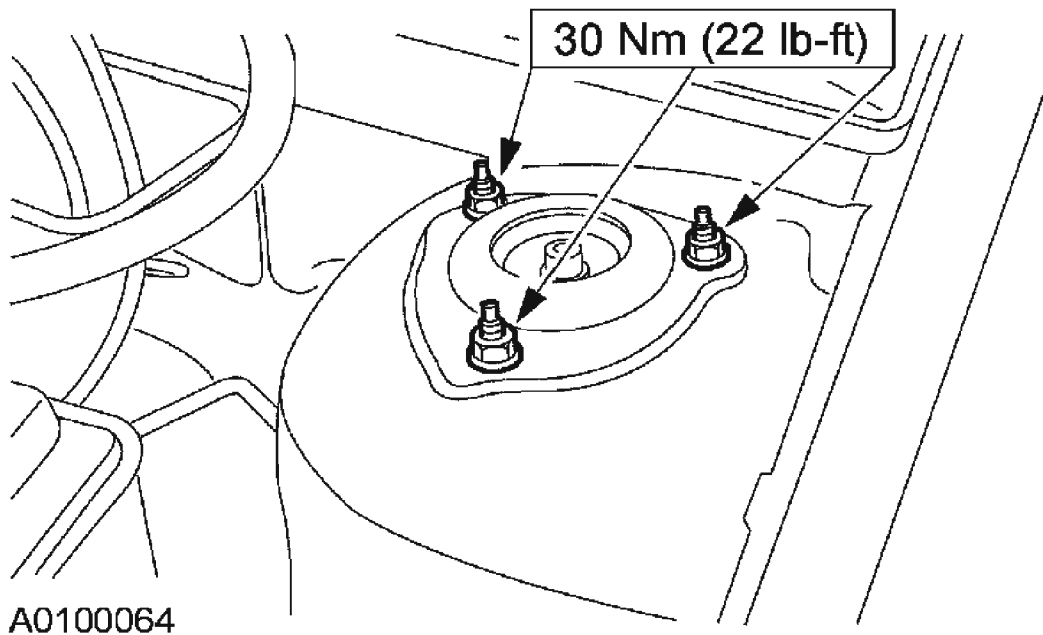
**CAUTION:** Install and tighten the new wheel hub retaining nut to specification in a continuous rotation. Always install a new front axle wheel end nut after loosening or when not tightened to specification in a continuous rotation.

**CAUTION:** Always tighten a new wheel hub retaining nut with a torque wrench. Never use power tools to tighten the wheel hub retaining nut. Power tools may damage the nut or the halfshaft.



**Fig. 62: Installing Front Axle Wheel End Nut**  
**Courtesy of FORD MOTOR CO.**

7. Install a new front axle wheel end nut.
8. Tighten the strut tower nuts.

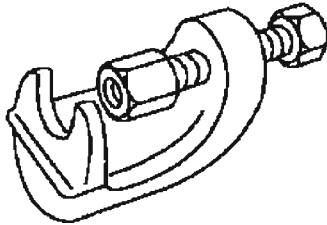


**Fig. 63: Tightening Strut Tower Nuts**  
Courtesy of FORD MOTOR CO.

## STRUT AND SPRING ASSEMBLY

Special Tool(s)

### SPECIAL TOOLS DESCRIPTION

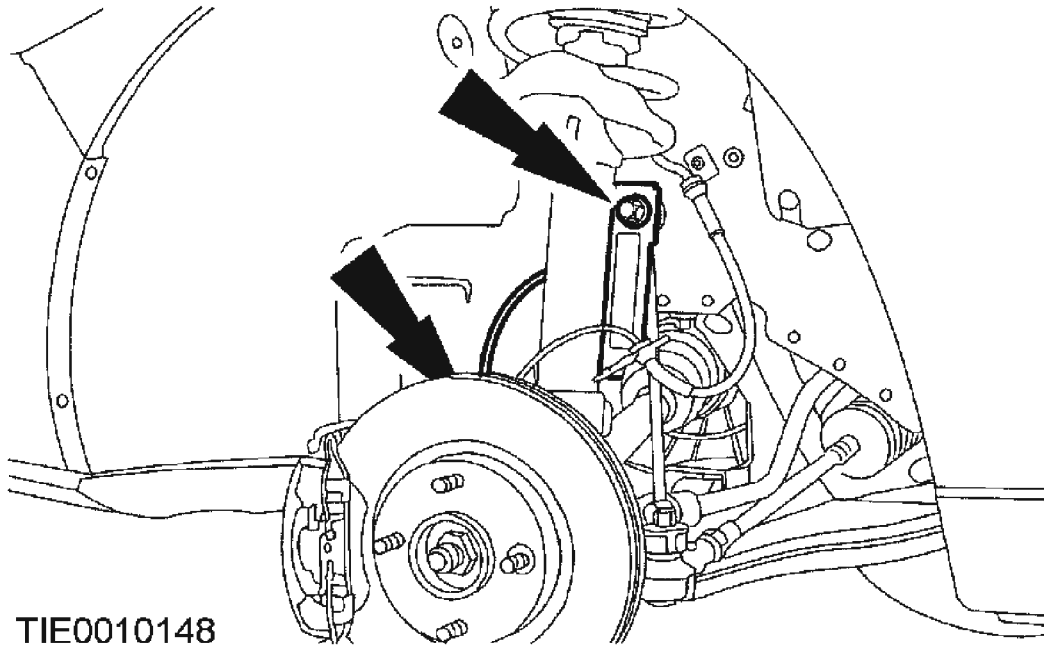
 <p>ST2783-A</p>	Remover, Tie-Rod End 211-001 (TOOL-3290-D)
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## Removal and Installation

1. Remove the wheel and tire assembly. For additional information, refer to **WHEELS AND**

## **TIRES .**

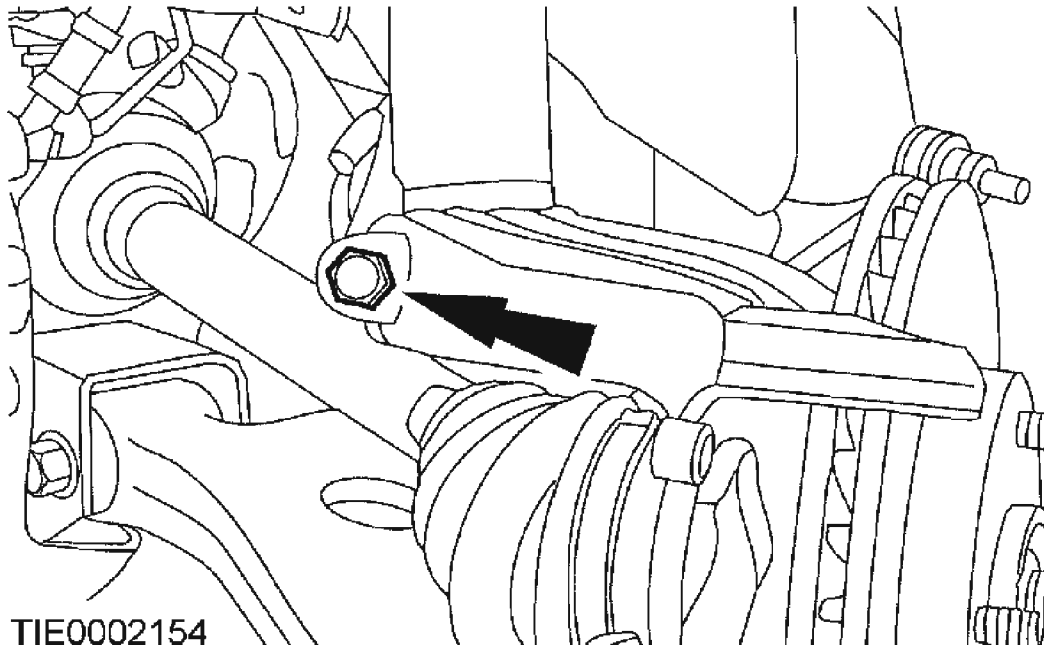
2. Detach the brake hose from the support bracket and detach the stabilizer bar connecting link.



**Fig. 64: Detaching Brake Hose From Support Bracket And Stabilizer Bar Connecting Link**

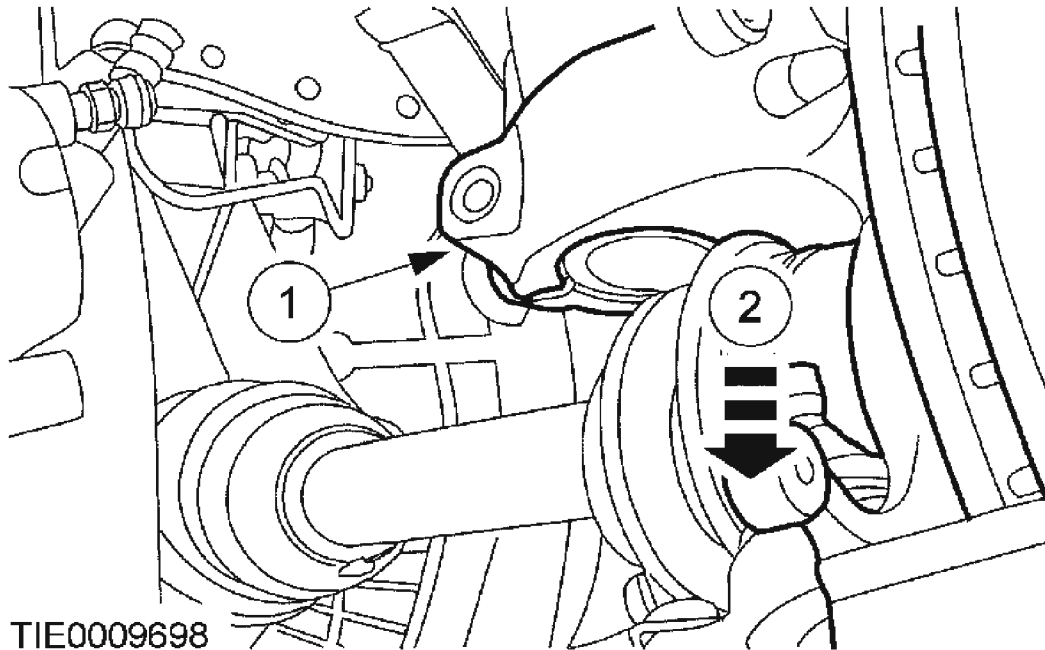
**Courtesy of FORD MOTOR CO.**

3. Remove the wheel knuckle bolt.



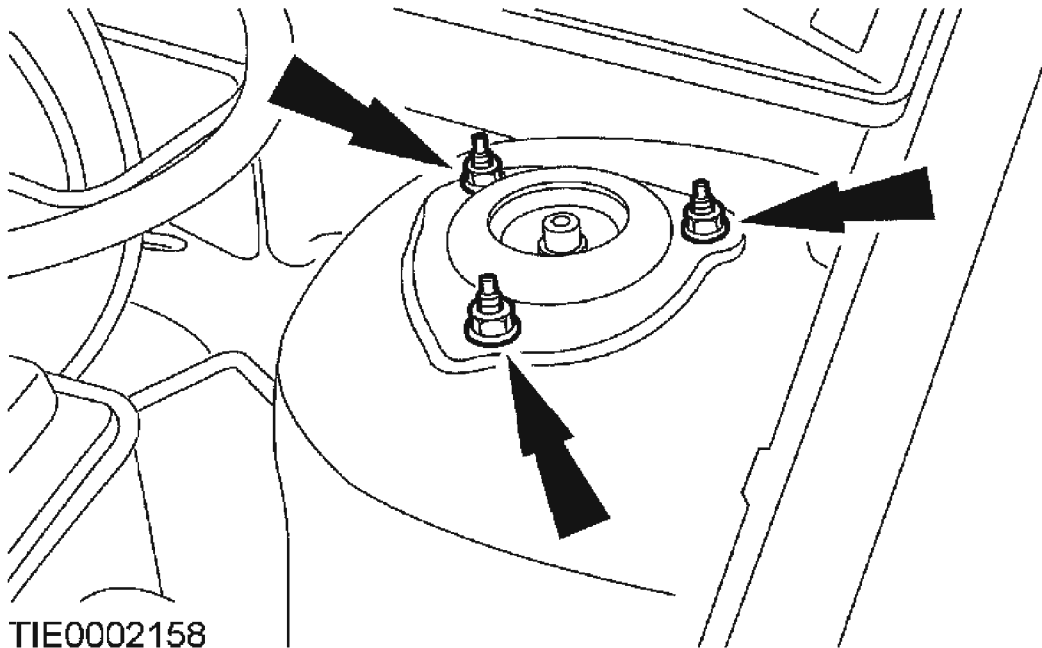
**Fig. 65: Removing Wheel Knuckle Bolt**  
**Courtesy of FORD MOTOR CO.**

4. Detach the wheel knuckle.
  1. Using a suitable lever, release the knuckle.
  2. Detach the wheel knuckle.
    - Support the halfshaft out of the way.



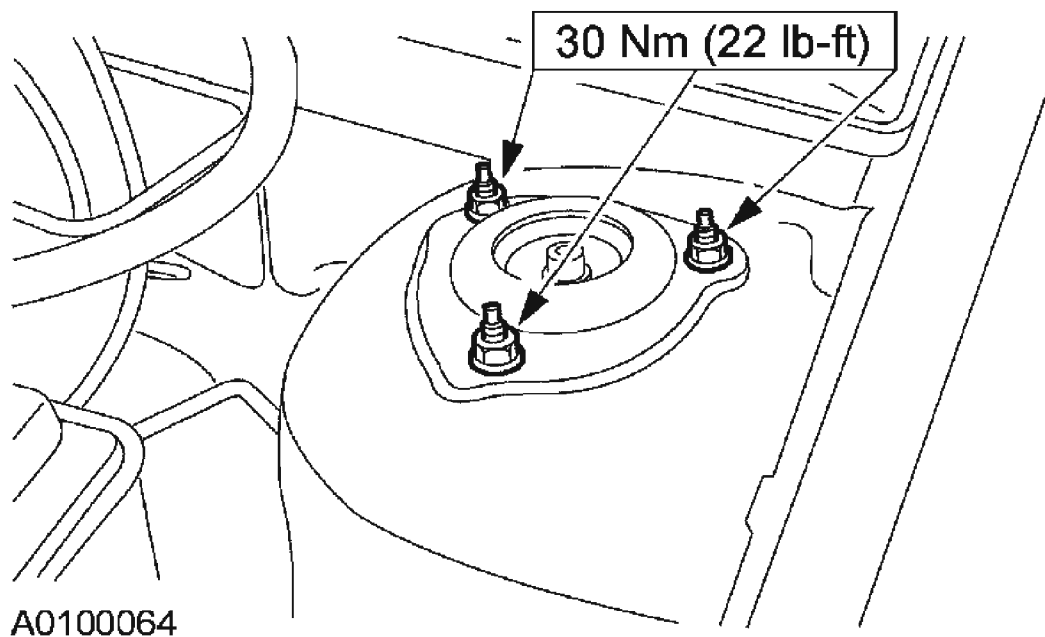
**Fig. 66: Detaching Wheel Knuckle**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Support the strut and spring assembly to prevent damage.



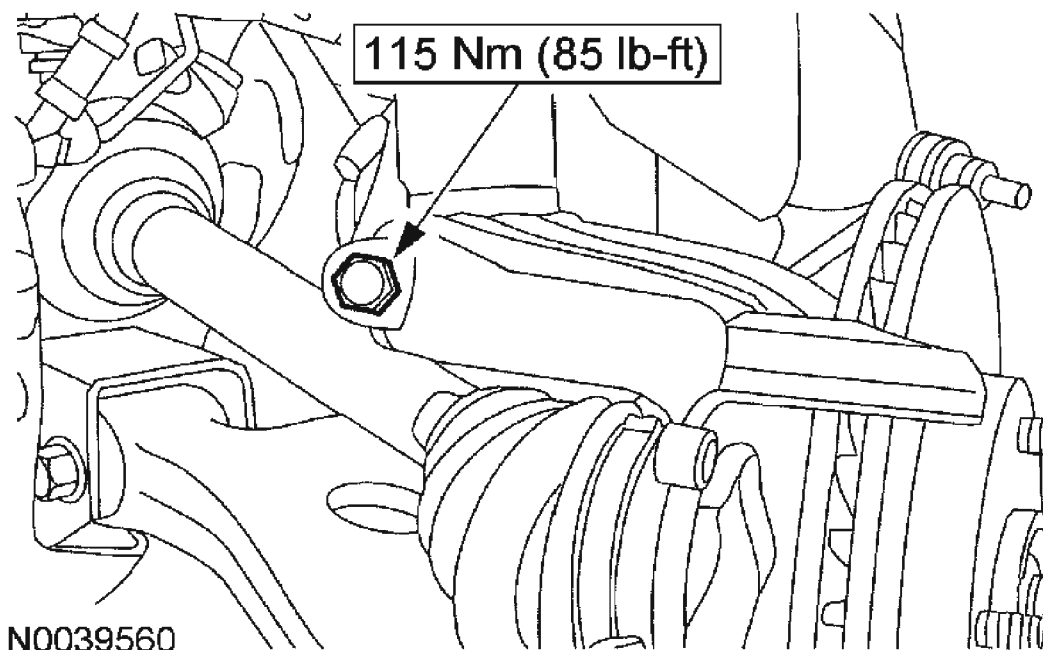
**Fig. 67: Removing Strut Tower Nuts**  
**Courtesy of FORD MOTOR CO.**

5. Remove the strut tower nuts.
6. Remove the strut and spring assembly.
7. To install, reverse the removal procedure.



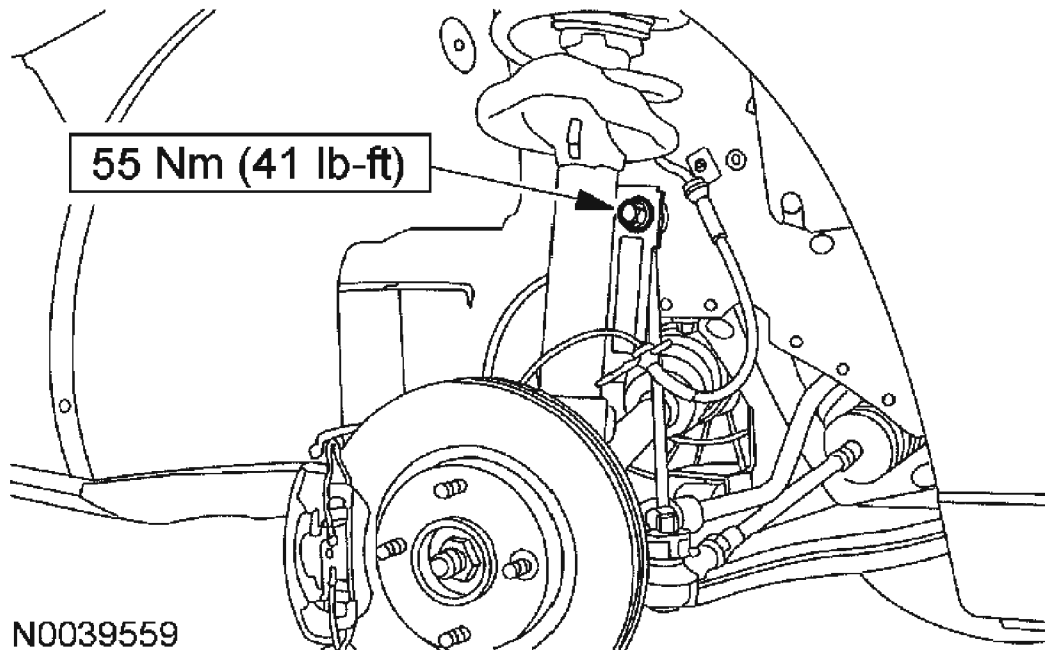
**Fig. 68: Installing Strut Tower Nuts**  
**Courtesy of FORD MOTOR CO.**





**Fig. 69: Installing Wheel Knuckle Bolt**  
**Courtesy of FORD MOTOR CO.**

8. Check the front wheel alignment. For additional information, refer to **SUSPENSION SYSTEM-GENERAL INFORMATION** .



**Fig. 70: Checking Front Wheel Alignment**  
Courtesy of FORD MOTOR CO.

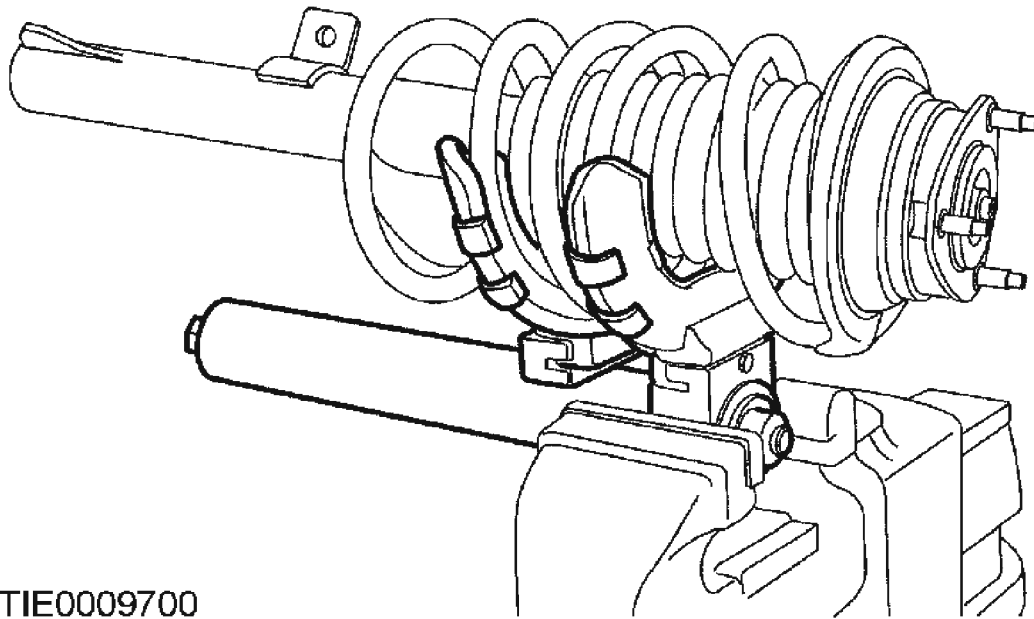
## DISASSEMBLY AND ASSEMBLY

### STRUT AND SPRING ASSEMBLY

#### Disassembly and Assembly

1. Remove the strut and spring assembly. For additional information, refer to **STRUT AND SPRING ASSEMBLY**.

**WARNING:** As the spring is under extreme tension care must be taken at all times. Failure to follow this instruction may result in personal injury.

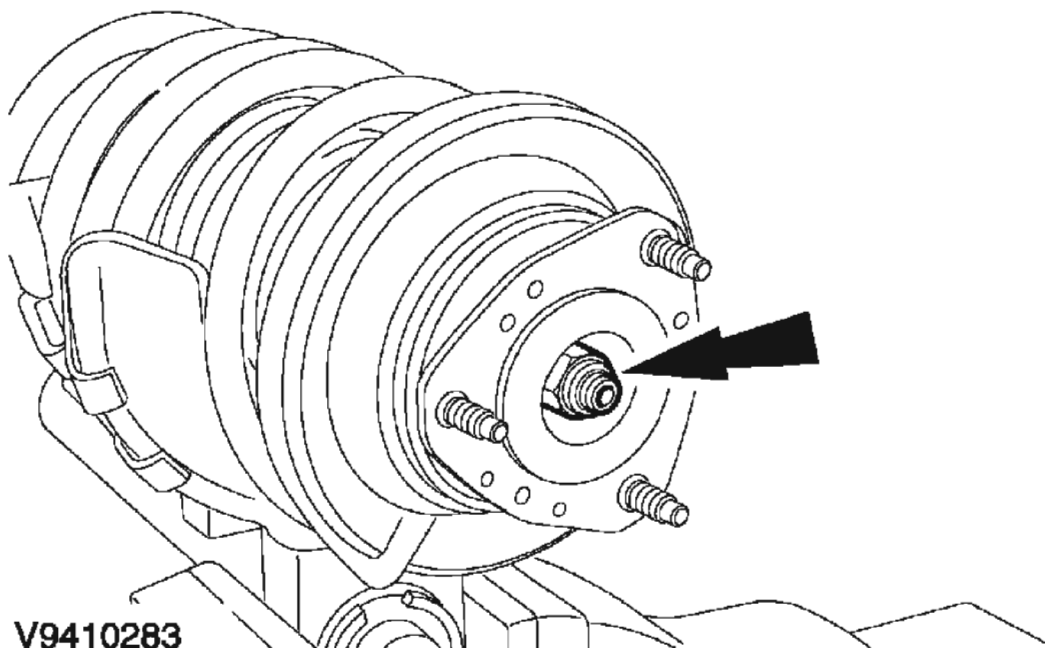


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**Fig. 71: Compressing Spring Using Suitable Coil Spring Compressor**  
**Courtesy of FORD MOTOR CO.**

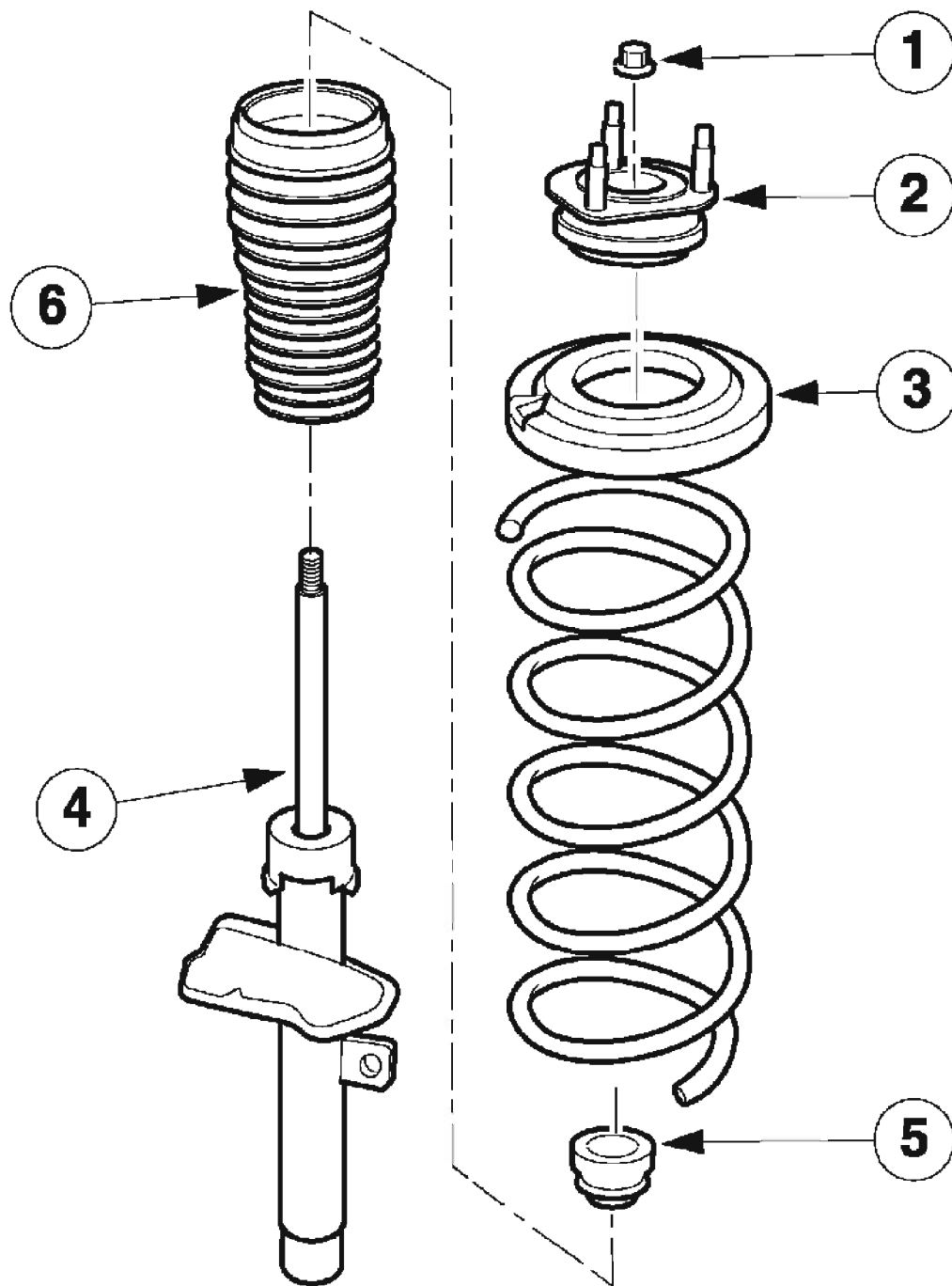
2. Using a suitable coil spring compressor, compress the spring.

**CAUTION: Use an Allen key to prevent the piston rod from rotating.**



**Fig. 72: Loosening Thrust Bearing Nut**  
**Courtesy of FORD MOTOR CO.**

3. Loosen the thrust bearing nut.
4. Disassemble the strut and spring assembly.
  1. Remove the thrust bearing nut.
  2. Remove the top mount.
  3. Remove the thrust bearing.
  4. Remove the strut.
  5. Remove the bump stop.
  6. Remove the boot.



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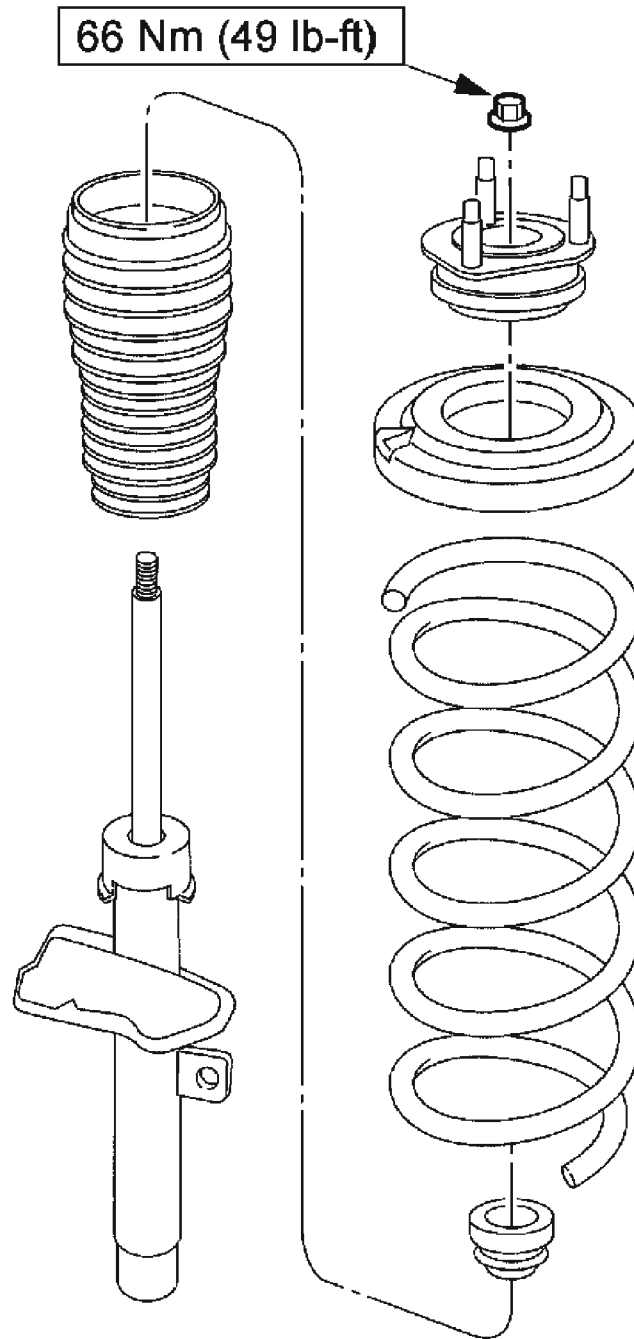
**Fig. 73: Disassembling Strut And Spring Assembly**

<b>2005 Ford Focus ZX4 S</b>
2005 SUSPENSION Front Suspension - Focus

**Courtesy of FORD MOTOR CO.**

**CAUTION: Make sure the top mount is correctly seated onto the thrust bearing before assembly.**

**CAUTION: Make sure the spring ends butt correctly against the spring seats, color code at the bottom. Make sure the bump stop is installed with the flat surface facing up.**



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**Fig. 74: Assembling Strut And Spring Assembly**  
Courtesy of FORD MOTOR CO.

5. To assemble, reverse the disassembly procedure.