

2005 Ford Focus ZX5 S

2005 DRIVELINE/AXLE Front Drive Halfshafts - Focus

2005 DRIVELINE/AXLE**Front Drive Halfshafts - Focus****SPECIFICATIONS****LUBRICANTS, FLUIDS, SEALERS AND ADHESIVES****LUBRICANTS, FLUIDS, SEALERS AND ADHESIVES SPECIFICATIONS**

Item	Specification
MERCON(R) V Automatic Transmission Fluid XT-5-QM	MERCON(R) V
Full Synthetic Manual Transmission Fluid XT-M5-QS	WSD-M2C200-C
Constant Velocity Joint Grease (High Temperature) XG-5	WSS-M1C258-A1
Grease, Inner Tripod Joint	XS41-M1C230-BA

CAPACITIES**CAPACITIES**

Description	Liters
Transmission fluid - MTX-75 manual transaxle	2.75 (0-5 mm below the lower edge of the oil level check bore)
Grease, outer constant velocity joint	1/2 of sachet
Grease, inner tripod joint, MTX-75 manual transaxle and FN automatic transaxle	Full sachet

TORQUE SPECIFICATIONS**TORQUE SPECIFICATIONS**

Description	Nm	lb-ft
Lower arm ball joint nut	48	35
Intermediate shaft bearing	25	18
Wheel hub retaining nut	270	199
Wheel nut	128	94
Suspension strut top mount nuts	30	22
Constant velocity (CV) joint boot	21	15

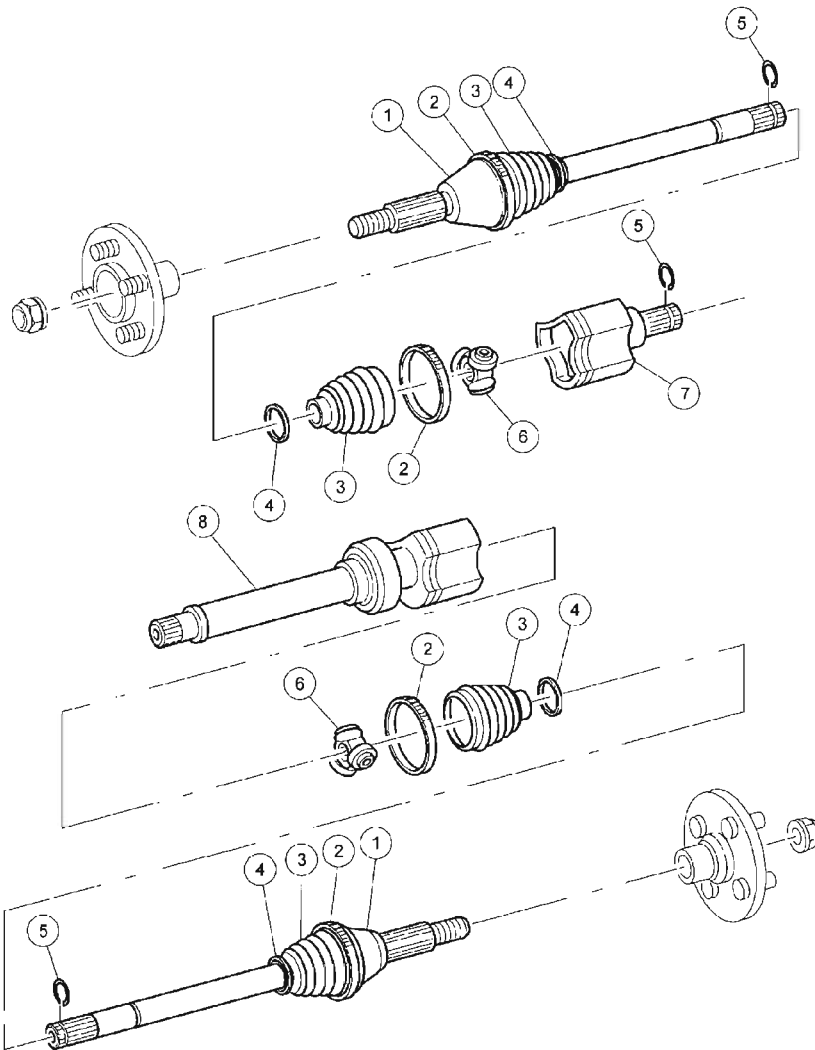
DESCRIPTION AND OPERATION

FRONT DRIVE HALFSHAFTS

- The front drive halfshafts have constant velocity joints at both ends to ensure that driving is smooth.
- Tripod joints (with tripod, running rollers and tripod housing) are fitted on the transmission side.
- The joints nearest the wheel are ball joints (with ball star, ball cage and ball shell).
- The left-hand tripod joint is secured in the differential with a snap-ring.
- The intermediate shaft (right-hand side) is secured in the differential by the intermediate shaft bearing.
- The tripod housing of the tripod joint for the right-hand front drive halfshaft and the intermediate shaft are attached as a unique part.
- The wheel-side constant velocity joints are attached to the wheel hubs.

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N0034629

Item	Part Number	Description
1		Fixed ball joint with front drive halfshaft
2	—	Clamping strap (large)
3	—	Boot
4	—	Clamping strap (small)
5	—	Snap-ring — CV joint, transmission end
6	—	Tripod star with constant velocity rollers
7	—	Tripod housing
8	—	Intermediate shaft with intermediate shaft bearing

Fig. 1: Exploded View Of Front Drive Halfshafts
Courtesy of FORD MOTOR CO.

Working Principle Of The Front Drive Halfshafts

- The front drive halfshafts transmit torque from the engine to the wheels.
- In order to allow vertical movement of the wheels and engine, the front drive halfshafts

operate at varying lengths and angles.

- The tripod joints allow for changes in halfshaft length during axial movements.

Handling Front Drive Halfshafts

NOTE: Do not place the tripod joint under tension.

Special care should be taken when removing/installing and assembling/disassembling front drive halfshafts. The following points should be observed:

- The inner tripod joint must not be bent at more than 18 degrees.
- Check polished surfaces and splines for damage.
- Do not allow the boots to come into contact with sharp edges, the engine when it is hot or the exhaust system.
- Do not drop the front drive halfshaft as this can damage the inside of the boots without any signs of damage showing on the outside.
- Do not use front drive halfshafts as levering tools for the installation of other components. The front drive halfshafts must always hang freely.
- The tripod joint can be damaged by knocks outside the joint housing.

Wheel Balancing, Front

CAUTION: Using a portable wheel balancing unit when the vehicle is lifted completely off the ground will result in damage to the tripod joints or boots, as the joint is bent at a large angle and therefore overheats.

To use a portable balancing unit, position a trolley jack under the suspension arm opposite the wheel which is being balanced. This prevents the joint from being bent too much when the vehicle is raised.

Where possible, wheels should be removed for balancing, and balanced using a stationary wheel balancing unit.

Raising the Vehicle

CAUTION: Never use the joints or front drive halfshafts as jacking points.

Lift the vehicle using the correct lifting and support locations. For additional information, refer to **JACKING AND LIFTING** .

Towing the Vehicle

CAUTION: Do not attach the tow rope to the front drive halfshaft.

It is recommended that your vehicle be towed with a wheel lift or flat bed equipment. Do not tow with a sling belt. Refer to the Owner's Manual for the correct towing procedure.

Underbody Protection and Corrosion Prevention

NOTE: The boots should be covered during application of underbody protection or corrosion prevention.

Foreign matter on the boots can cause premature aging of the material. Foreign matter on the front drive halfshafts can cause imbalance.

DIAGNOSIS AND TESTING

FRONT DRIVE HALFSHAFTS

Inspection and Verification

NOTE: New front wheel drive halfshafts should not be installed unless disassembly and inspection reveals unusual wear.

1. Inspect front wheel driveshaft joint boots for evidence of cracks, tears or splits.

NOTE: While inspecting the front wheel driveshaft CV joint boots, watch for indentations (dimples) in the boot convolutions. If an indentation is observed, it must be removed.

2. Inspect the underbody for any indication of grease splatter in the vicinity of the front wheel driveshaft CV joint boots outboard and inboard locations, which is an indication of front wheel driveshaft CV joint boot and/or front wheel driveshaft CV joint boot clamp damage.
3. Inspect for inboard CV joint stub shaft pilot bearing housing seal leakage at the front wheel driveshaft CV joint.
4. Make sure front axle wheel hub retainer is the correct prevailing torque type.
5. The silicone front wheel driveshaft CV joint boot will sweat during operation, causing a light film of grease to show on the outside of the front wheel driveshaft CV joint boot. This condition is normal.

NOTE: Halfshafts are not balanced and do not contribute to rotational vibration.

6. If the concerns remain after the inspection, determine the symptoms and GO to **SYMPTOM CHART**. For additional information, refer to **NOISE, VIBRATION AND HARSHNESS** .

Symptom Chart

SYMPTOM CHART

Condition	Possible Sources	Action
<ul style="list-style-type: none"> Clicking, popping or grinding noises while turning 	<ul style="list-style-type: none"> Inadequate or contaminated lube in outboard/inboard front wheel driveshaft CV joint. Another component contacting driveshaft assembly. Wheel bearings, brakes, suspension or steering components. 	<ul style="list-style-type: none"> INSPECT, CLEAN and LUBRICATE as necessary. INSPECT and REPAIR as necessary. INSPECT and REPAIR as necessary. REFER to <u>SUSPENSION SYSTEM-GENERAL INFORMATION</u> , <u>BRAKE SYSTEM-GENERAL INFORMATION</u> or <u>STEERING SYSTEM-GENERAL INFORMATION</u> .
<ul style="list-style-type: none"> Vibration at highway speeds 	<ul style="list-style-type: none"> Out of balance front wheels or tires. Out-of-round tires. Incorrectly seated outboard front wheel driveshaft CV joint in front wheel hub. 	<ul style="list-style-type: none"> REPAIR or INSTALL new as necessary. REFER to <u>WHEELS AND TIRES</u> . REPAIR or INSTALL new as necessary. REFER to <u>WHEELS AND TIRES</u> . REPAIR or INSTALL new as necessary. For additional information, REFER to <u>HALFSHAFT - LH</u> or <u>HALFSHAFT - RH</u> .
<ul style="list-style-type: none"> Shudder vibration during 	<ul style="list-style-type: none"> Excessively high CV joint operating angles 	<ul style="list-style-type: none"> CHECK ride height, VERIFY correct spring

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acceleration	<p>caused by incorrect ride height.</p> <ul style="list-style-type: none">Excessively worn or damaged inboard front wheel driveshaft joint or outboard front wheel driveshaft joint.	<p>rate and CHECK items under Halfshaft Joint Pullout. REPAIR or INSTALL new as necessary.</p> <ul style="list-style-type: none">INSPECT and INSTALL new as necessary.
<ul style="list-style-type: none">Half shaft joint pullout	<ul style="list-style-type: none">Inboard driveshaft bearing retainer circlip missing or not correctly seated in differential side gear.Engine/transaxle assembly mispositioned.Frame rail or strut tower out of position or damaged.Front suspension components worn or damaged.	<ul style="list-style-type: none">INSPECT and REPAIR or INSTALL new as necessary.CHECK engine mounts for damage or wear. REPAIR or INSTALL new as necessary.CHECK underbody dimensions. REFER to <u>BODY SYSTEM - GENERAL INFORMATION</u> .CHECK for worn bushings or bent components (front stabilizer bar, front suspension lower arm). REPAIR or INSTALL new as necessary.

REMOVAL AND INSTALLATION

HALFSHAFT - LH

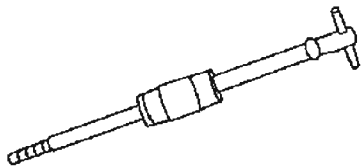
Special Tool(s)

SPECIAL TOOLS DESCRIPTION

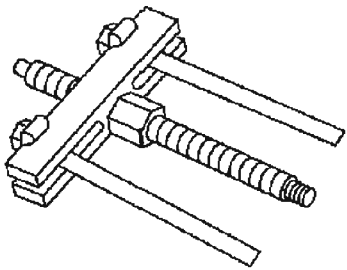
	Slide Hammer 100-001 (T50T-100-A)
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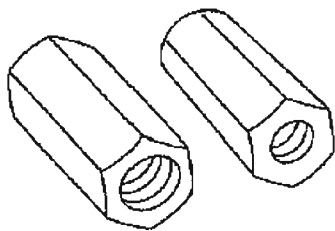


ST2789-A



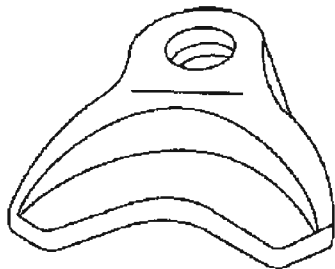
ST1516-A

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



ST1518-A

Remover, Wheel Stud (Metric) 204-085
(T83P-1104-BH)



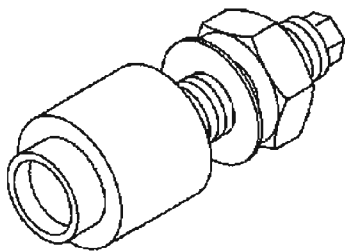
ST2038-A

Remover, Halfshaft (Plate) 205-290
(T89P-3541-B) use with 205-043

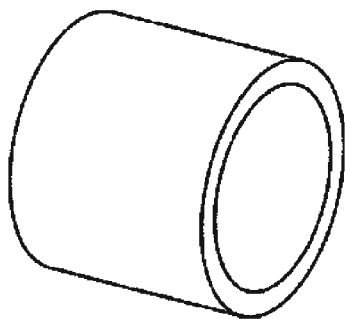
Installer, Halfshaft 204-161 (T97P-1175-A)

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205-379



ST1233-A

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

Material

MATERIAL SPECIFICATIONS

Item	Specification
Full Synthetic Manual Transmission Fluid XT-M5-QS	WSD-M2C200-C
MERCON(R) V Automatic Transmission Fluid XT-5-QM	MERCON(R) V

Removal

1. Loosen the LH strut and spring assembly top mount nuts by 4 turns.

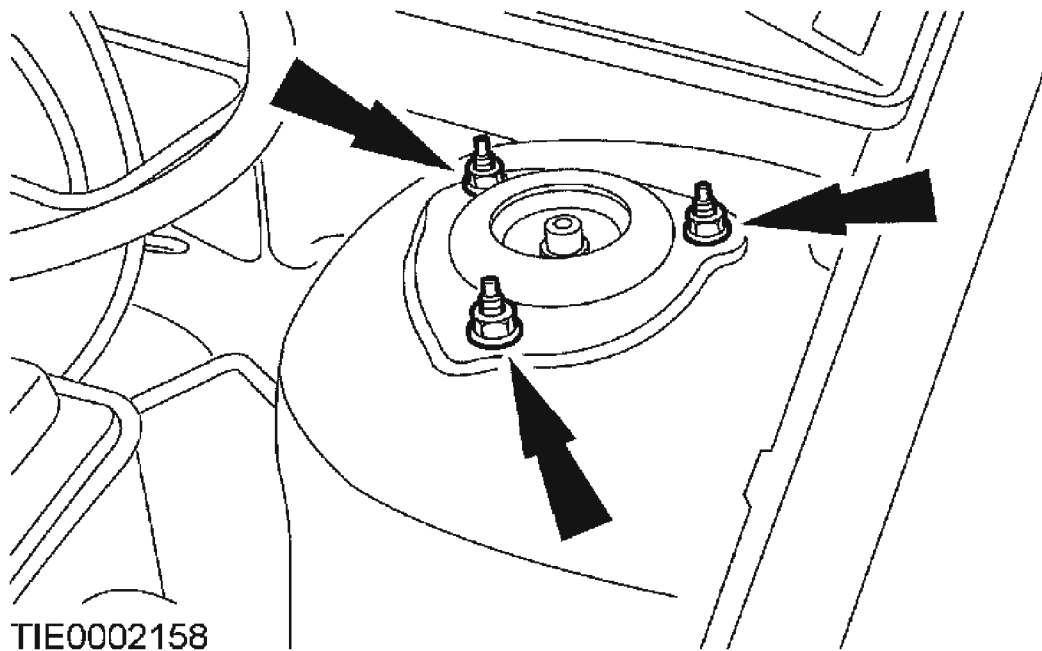
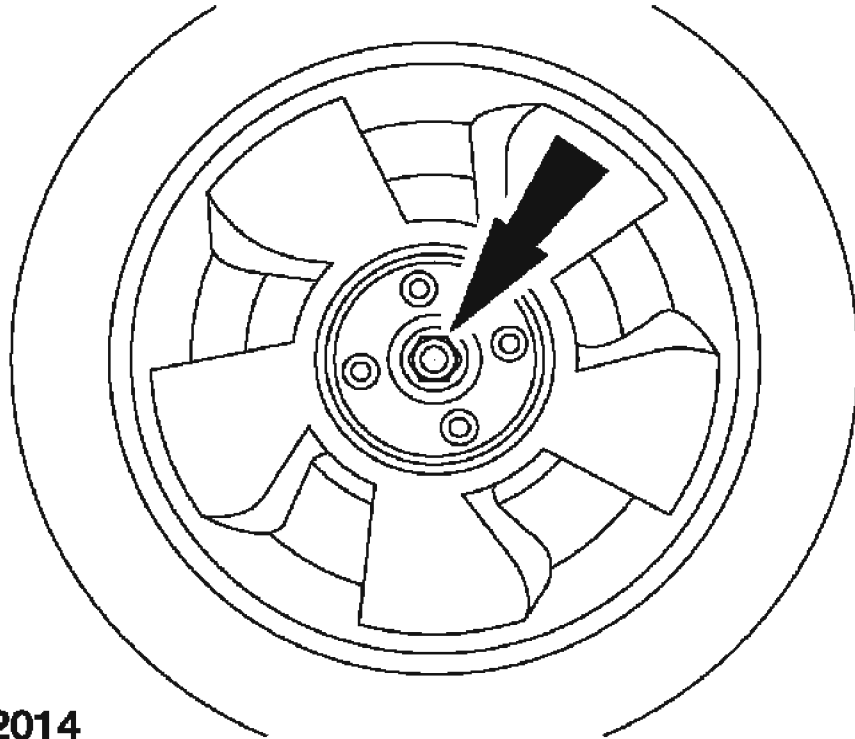


Fig. 2: Loosening LH Strut And Spring Assembly Top Mount Nuts
Courtesy of FORD MOTOR CO.

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



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Fig. 3: Loosening Wheel Hub Retaining Nut
Courtesy of FORD MOTOR CO.

2. Loosen the nuts.
 - Loosen the wheel nuts.
 - Loosen the wheel hub retaining nut.
3. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING**.
4. Remove the LH 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.

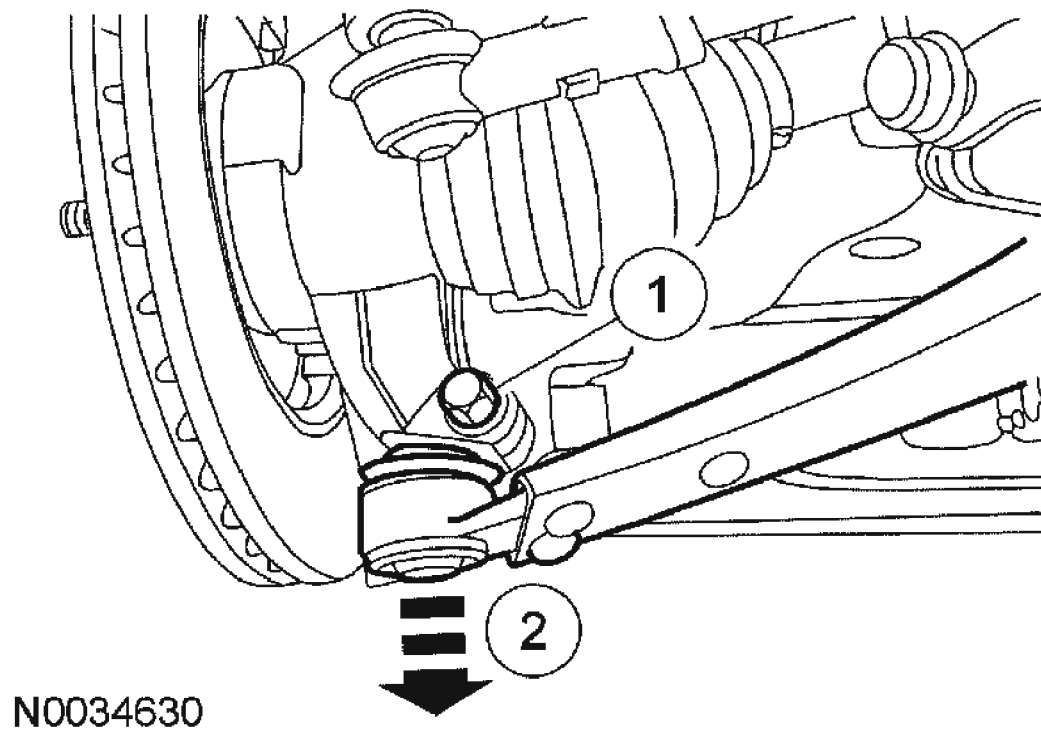
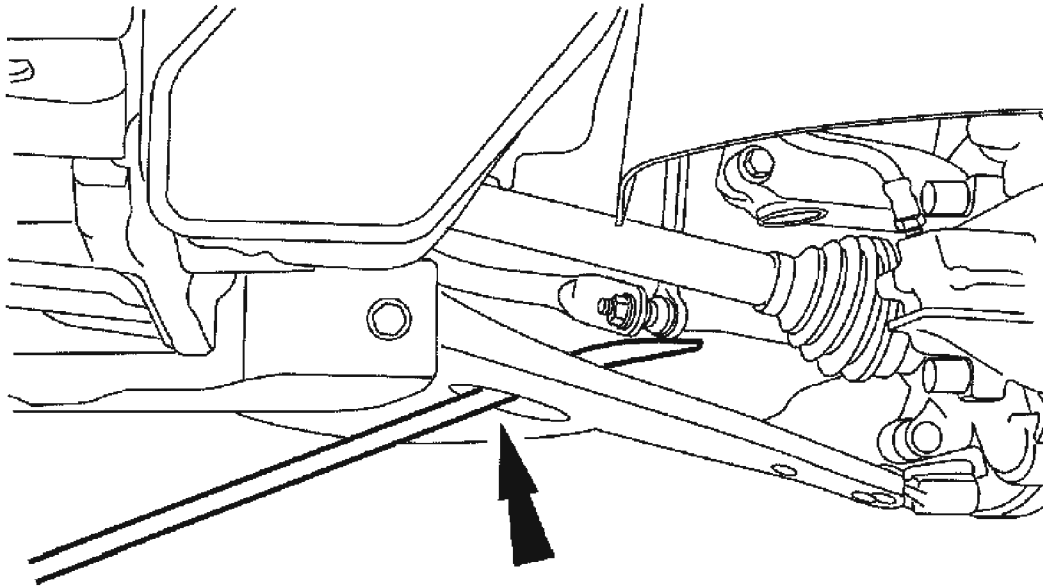


Fig. 4: Removing Lower Arm Ball Joint Nut And Bolt
Courtesy of FORD MOTOR CO.



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Fig. 5: Inserting Pry Bar In Lower Control Arm Body Opening To Separate Ball Joint

Courtesy of FORD MOTOR CO.

5. Detach the lower arm ball joint.
 1. Remove the lower arm ball joint nut and bolt.
 2. Detach the ball joint.
 - Insert a pry bar in the lower control arm body opening to separate the ball joint.
6. 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. 6: Installing Special Tool Over Ball Stud
Courtesy of FORD MOTOR CO.

7. Detach the LH drive half shaft from the wheel hub.
 - Using a commercially available puller, unscrew and remove the hub retaining nut and press out the halfshaft stub from the wheel hub.

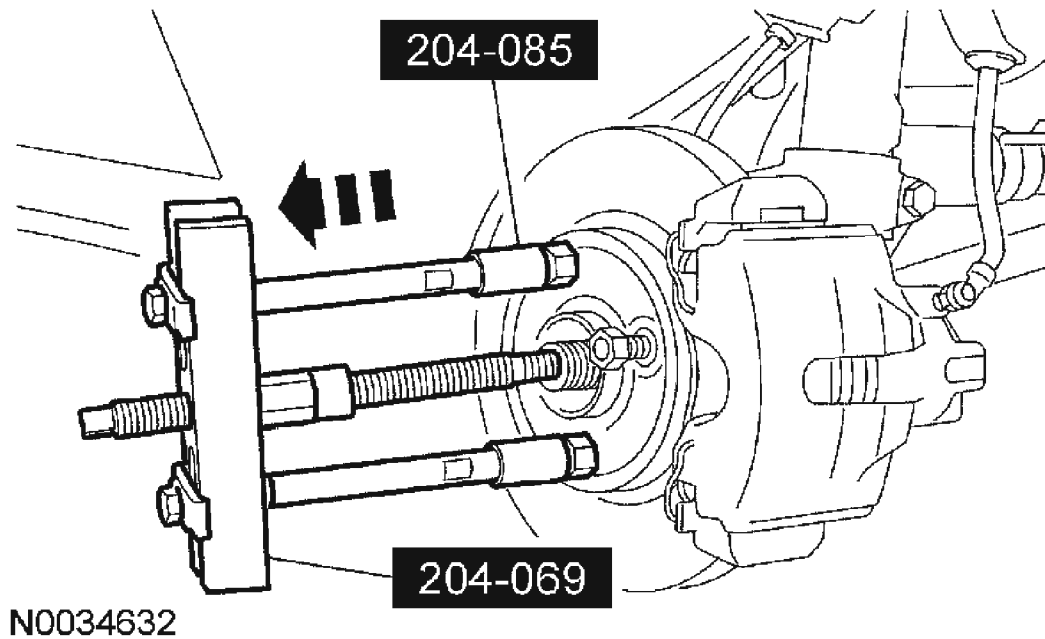


Fig. 7: Using Puller To Press Out The Halfshaft Stub From Wheel Hub
Courtesy of FORD MOTOR CO.

CAUTION: Support the halfshaft. The inner joint must not be bent at more than 18 degrees.

NOTE: Check for escaping oil.

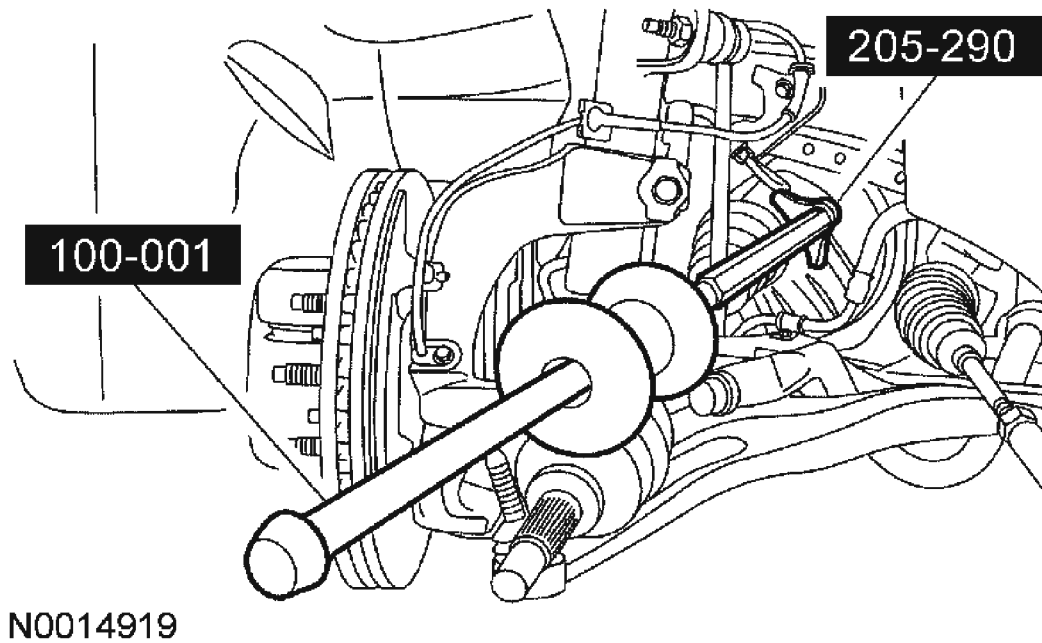


Fig. 8: Removing LH Drive Halfshaft From Transaxle
Courtesy of FORD MOTOR CO.

8. Remove the LH drive halfshaft from the transaxle.
 - Close off the transaxle opening with an auxiliary plug.

Installation

1. Install new self-locking nuts and a snap ring.

CAUTION: Support the halfshaft. The inner halfshaft joint must not be bent by more than 18 degrees.

CAUTION: Do not damage the oil seal when inserting the front drive halfshaft.

NOTE: Make sure the snap ring is fully engaged, by pulling on the joint housing.

NOTE: Remove the auxiliary plug from the transaxle opening.

2. Install the LH drive halfshaft and snap ring into the transaxle.

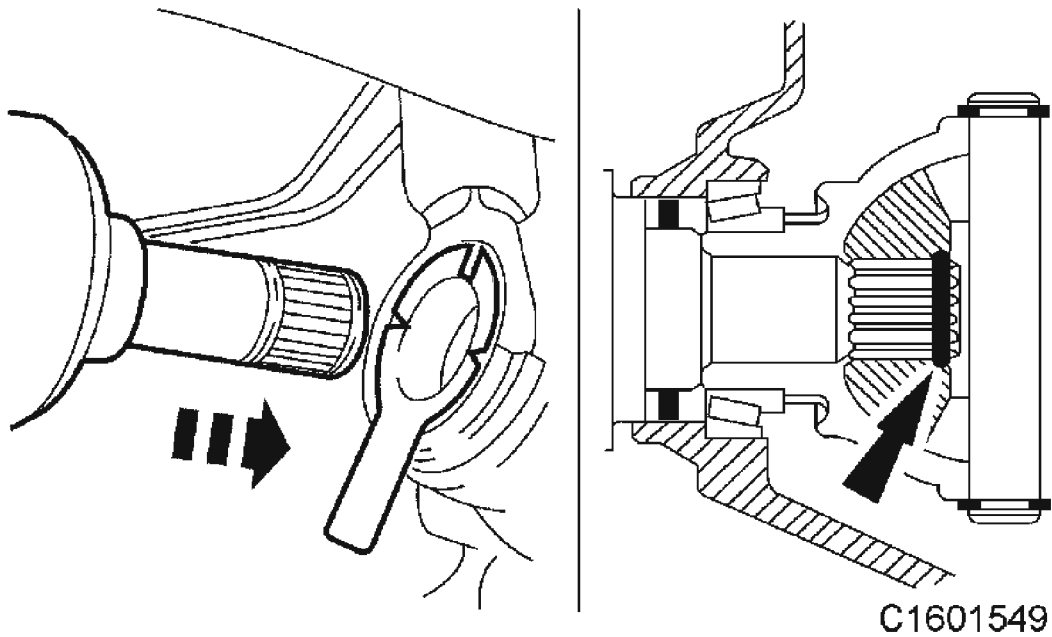


Fig. 9: Installing LH Drive Halfshaft And Snap Ring Into Transaxle
Courtesy of FORD MOTOR CO.

3. Using the special tool, install the LH halfshaft stub into the wheel hub.

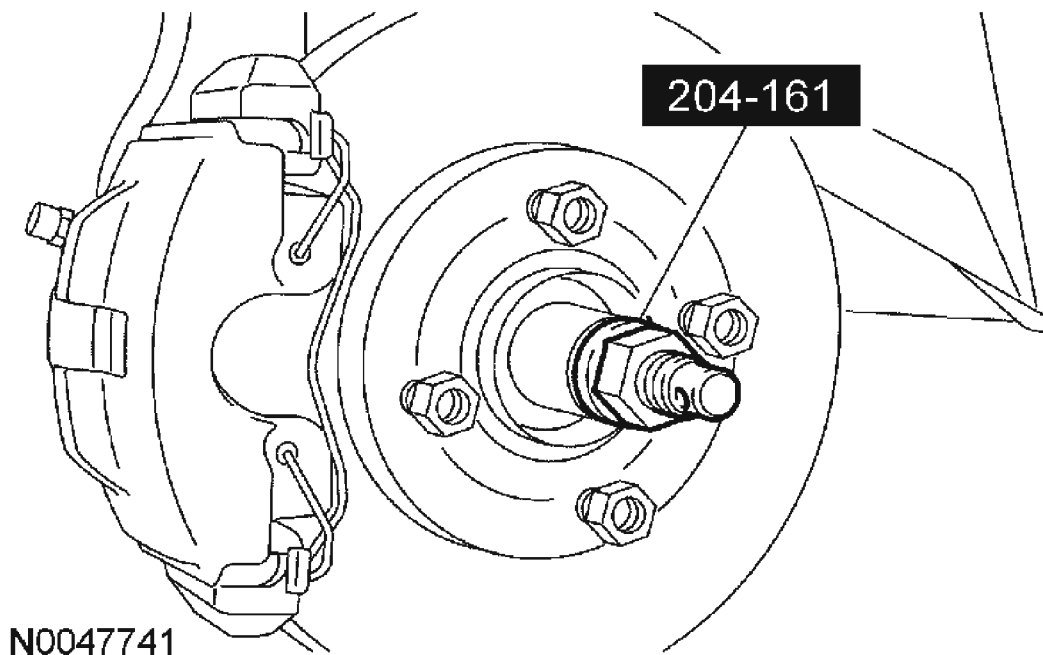


Fig. 10: Installing LH Halfshaft Stub Into Wheel Hub Using Special Tool
Courtesy of FORD MOTOR CO.

4. Check the transmission fluid level. For additional information, refer to **AUTOMATIC TRANSAXLE/TRANSMISSION** or **MANUAL TRANSAXLE/TRANSMISSION**.
5. Attach the LH lower arm.
 - Remove the special tool and attach the lower arm ball joint.
 - Install the lower arm bolt and nut.
 - Tighten to 48 Nm (35 lb-ft).

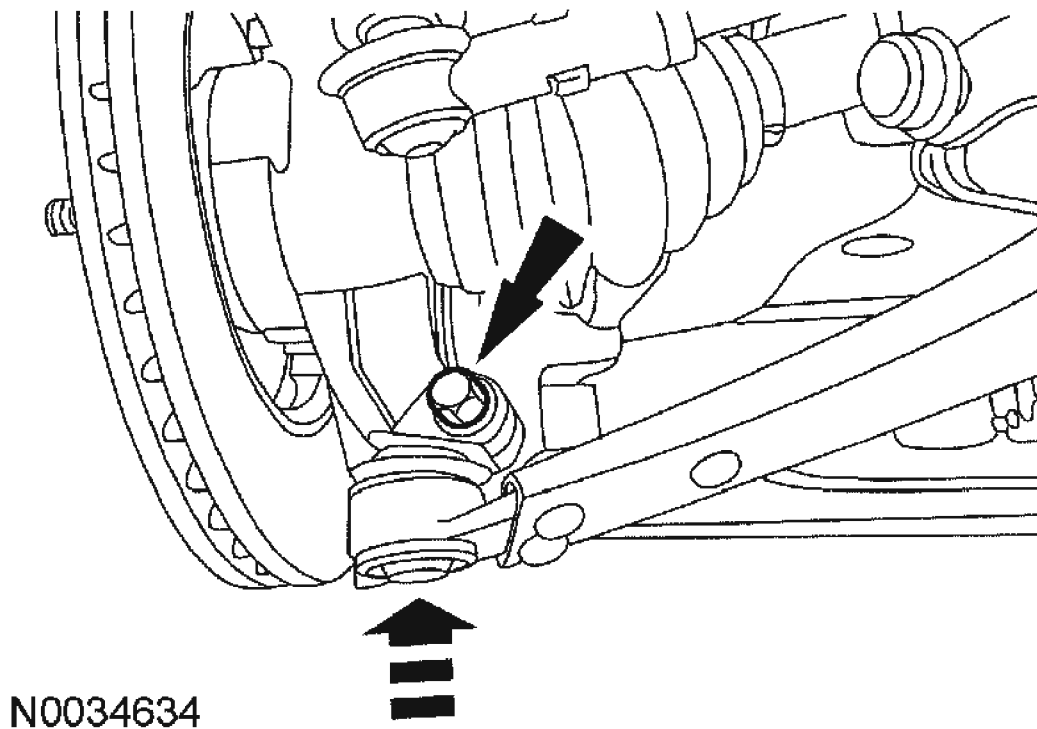


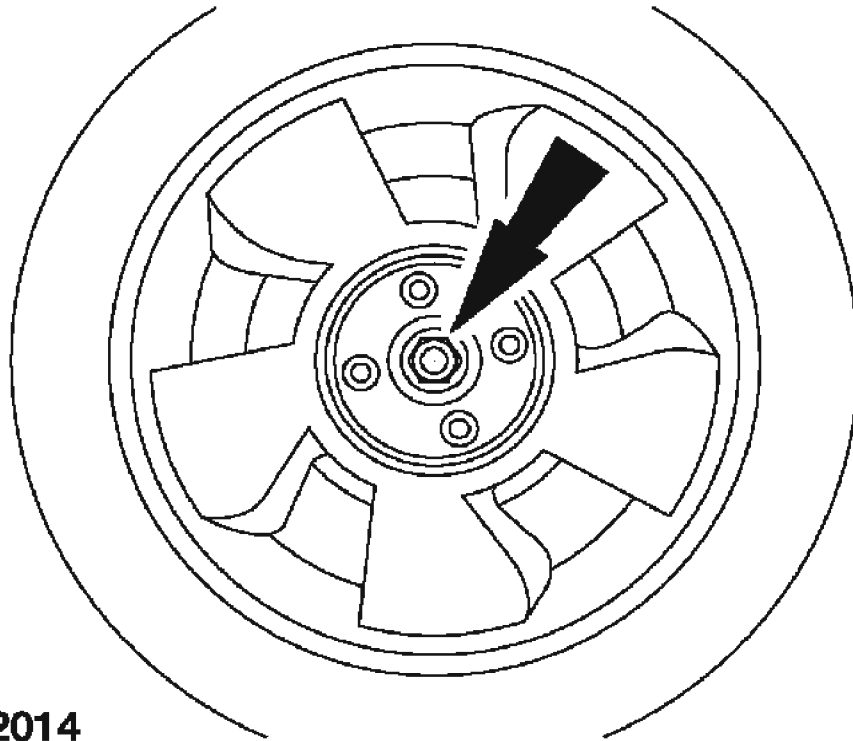
Fig. 11: Attaching Lower Arm Ball Joint
Courtesy of FORD MOTOR CO.

6. Install the LH wheel and tire assembly. For additional information, refer to **WHEELS AND TIRES**.
7. Lower the vehicle.

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

NOTE: Use a 32 mm socket wrench. Install a new wheel hub retaining nut.



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Fig. 12: Installing Wheel Hub Retaining Nut
Courtesy of FORD MOTOR CO.

8.
 - Tighten to 270 Nm (199 lb-ft).
9. Tighten the LH strut and spring assembly-to-mount nuts.
 - Tighten to 30 Nm (22 lb-ft).

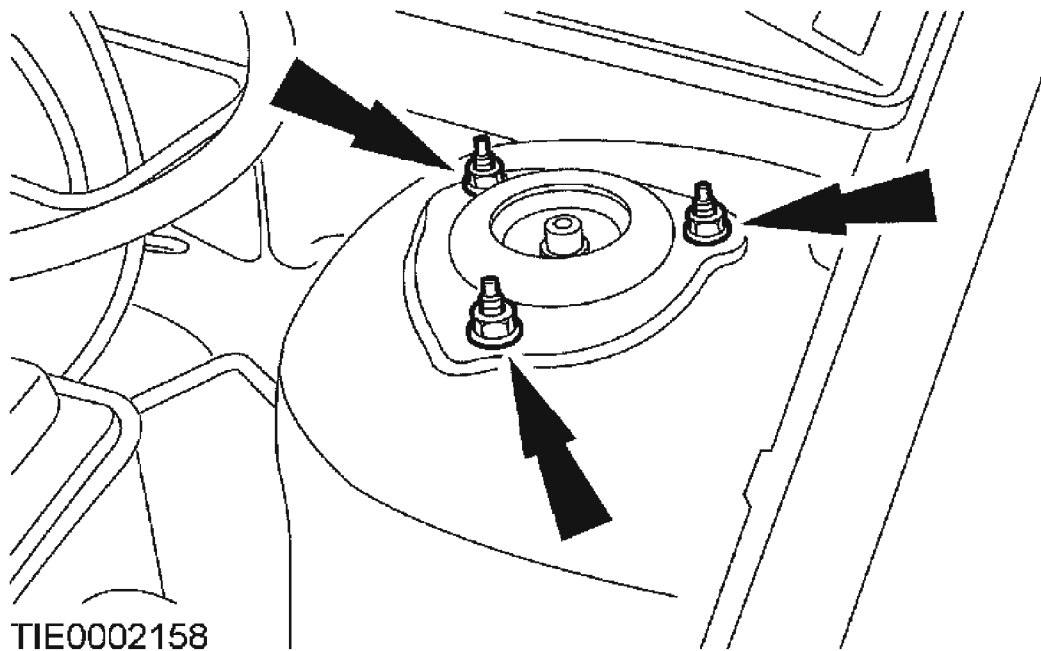
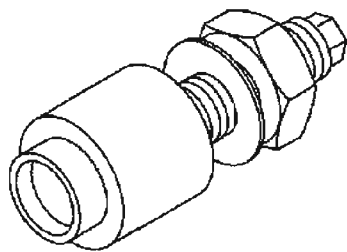


Fig. 13: Tightening LH Strut And Spring Assembly-To-Mount Nuts
Courtesy of FORD MOTOR CO.

HALFSHAFT - RH

Special Tool(s)

SPECIAL TOOLS DESCRIPTION



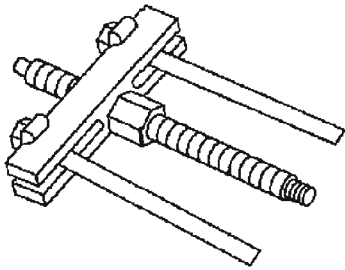
205-379

Installer, Halfshaft 204-161 (T97P-1175-A)

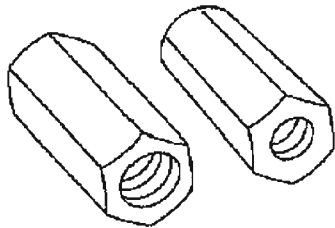
Remover/Installer, Front Wheel Hub 204-069 (T81P-1104-C)

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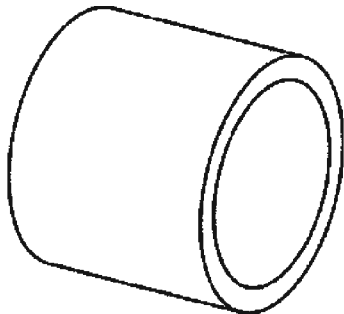


ST1516-A



ST1518-A

Remover, Wheel Stud (Metric) 204-085
(T83P-1104-BH)



ST1233-A

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

Material

MATERIAL SPECIFICATIONS

Item	Specification
Full Synthetic Manual Transmission Fluid XT-M5-QS	WSD-M2C200-C
MERCON(R) V Automatic Transmission Fluid XT-5-QM	MERCON(R) V

Removal

1. Loosen the RH strut and spring assembly top mount nuts by 5 turns.

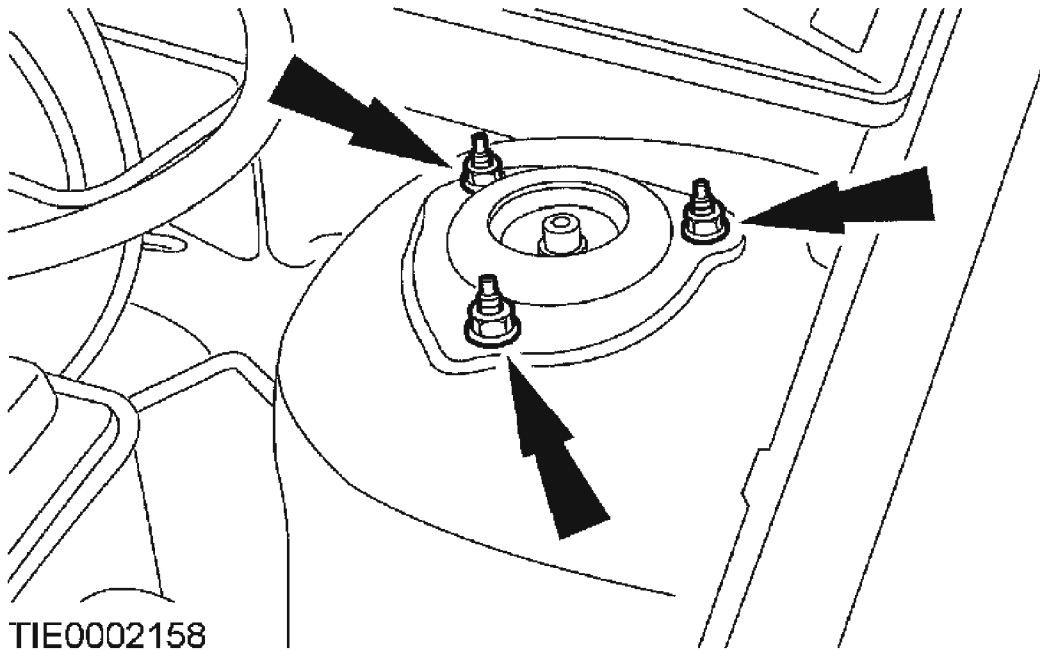
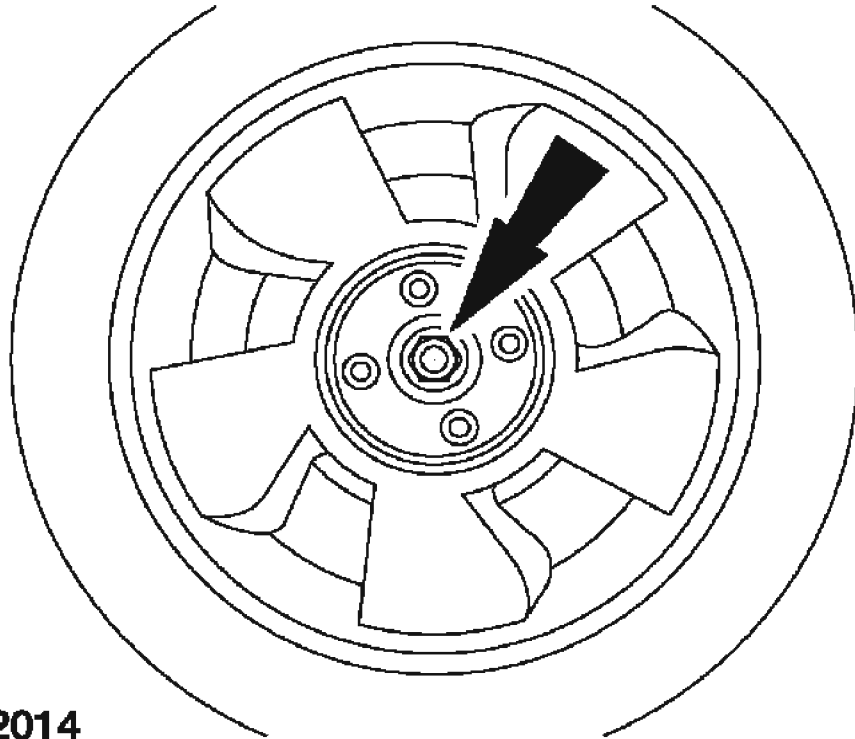


Fig. 14: Loosening RH Strut And Spring Assembly Top Mount Nuts
Courtesy of FORD MOTOR CO.

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



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Fig. 15: Loosening Wheel Hub Retaining Nut
Courtesy of FORD MOTOR CO.

2. Loosen the hub nuts.
 - Loosen the wheel nuts.
 - Loosen the wheel hub retaining nut.
3. With the vehicle in NEUTRAL, position it on a hoist. Raise and support the vehicle. For additional information, refer to **JACKING AND LIFTING** .
4. Remove the RH 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.

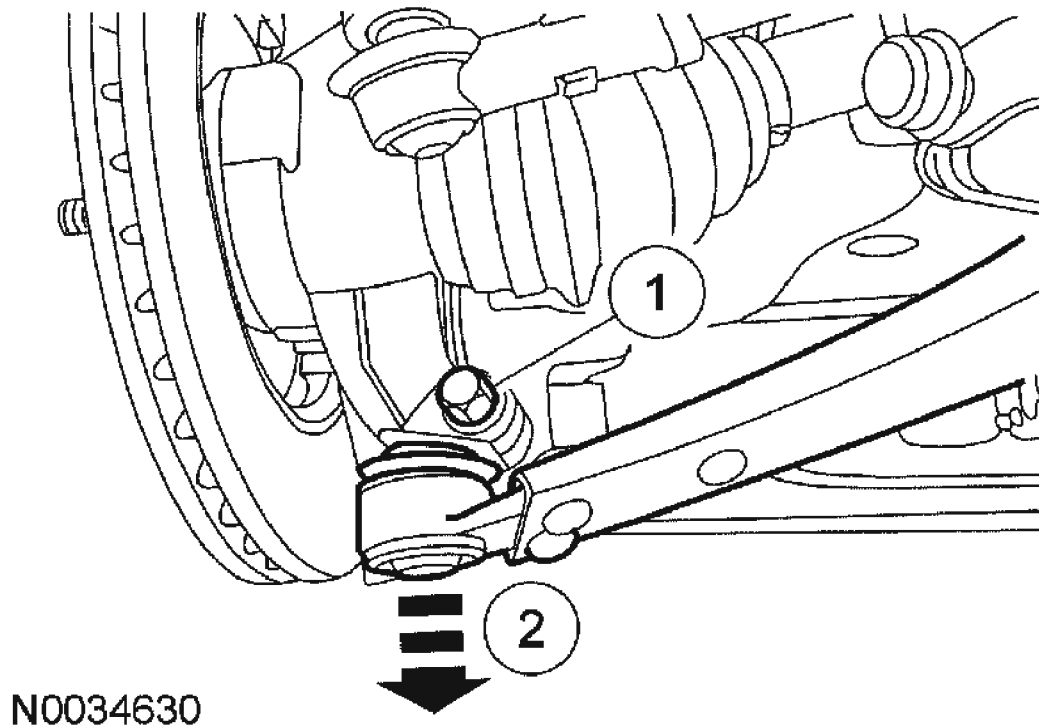


Fig. 16: Detaching Lower Arm Ball Joint
Courtesy of FORD MOTOR CO.

5. Detach the lower arm ball joint.
 1. Remove the lower arm ball joint nut and bolt.
 2. Detach the ball joint.
 - Insert a pry bar in the lower control arm body opening to separate the ball joint.
6. 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. 17: Install The Special Tool Over The Ball Stud
Courtesy of FORD MOTOR CO.

7. Use a commercially available puller, detach the RH drive half shaft from the wheel hub.
 - Unscrew and remove the hub nut and press out the hub from the wheel hub.

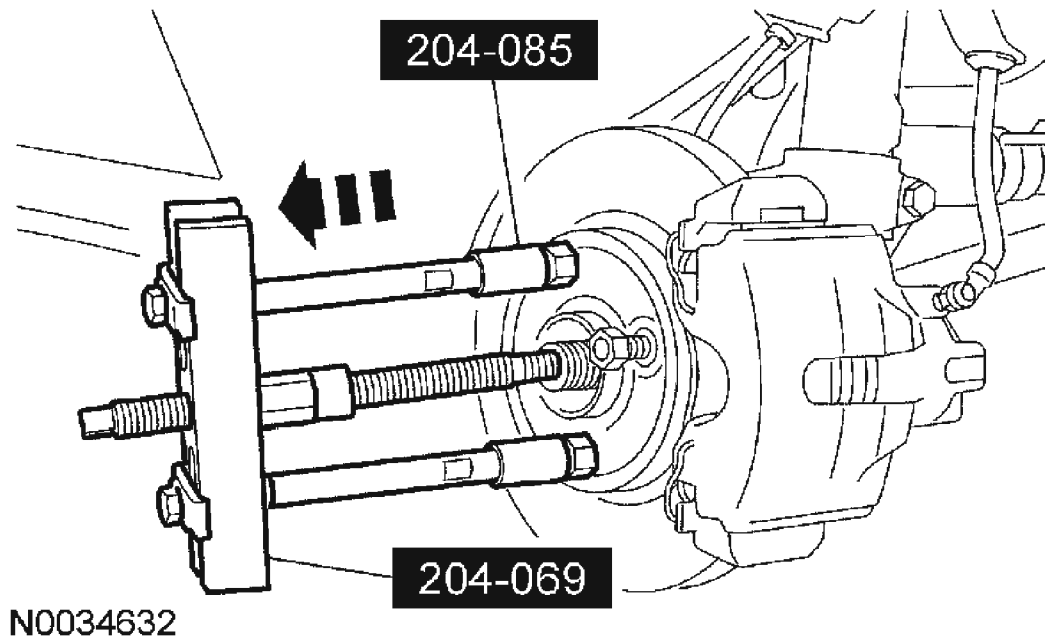


Fig. 18: Using Commercially Available Puller To Detach RH Drive Half Shaft From Wheel Hub
Courtesy of FORD MOTOR CO.

CAUTION: Support the halfshaft. The inner halfshaft joint must not be bent by more than 18 degrees.

NOTE: Allow the oil to drain into a suitable container.

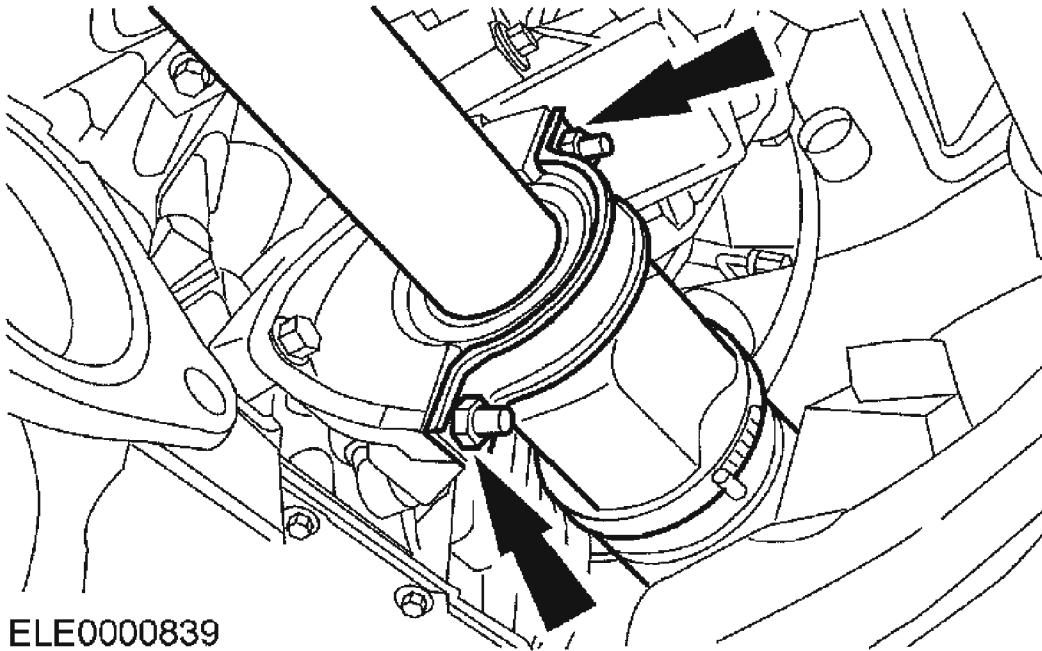


Fig. 19: Removing RH Drive Halfshaft
Courtesy of FORD MOTOR CO.

8. Remove the RH drive halfshaft.
 - Remove and discard the retaining clip and nuts.
 - Remove and discard the bearing bracket.
 - Pull out the intermediate shaft.
 - Close off the transaxle opening with an auxiliary plug.

Installation

CAUTION: Do not damage the oil seal when inserting the RH drive halfshaft.

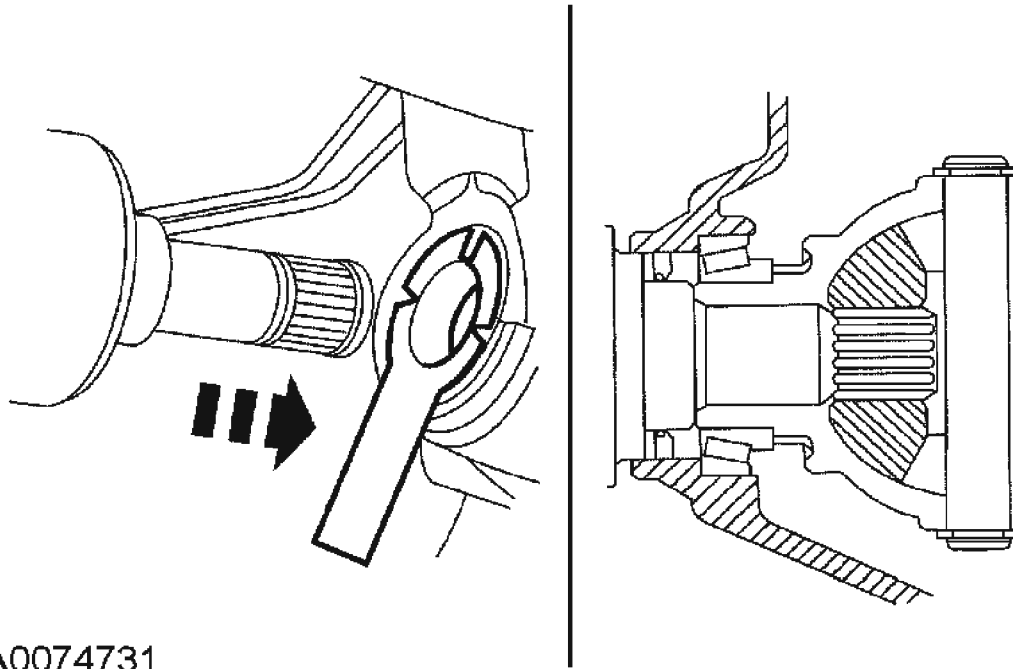


Fig. 20: Installing RH Drive Halfshaft With Intermediate Shaft
Courtesy of FORD MOTOR CO.

1. Install the RH drive halfshaft with the intermediate shaft.

NOTE: Install a new intermediate shaft bearing bracket.

NOTE: Install a new retaining clip and nuts on the intermediate shaft bearing.

NOTE: Insert the intermediate shaft into the transaxle until the intermediate shaft bearing contacts the rib of the intermediate shaft bracket.

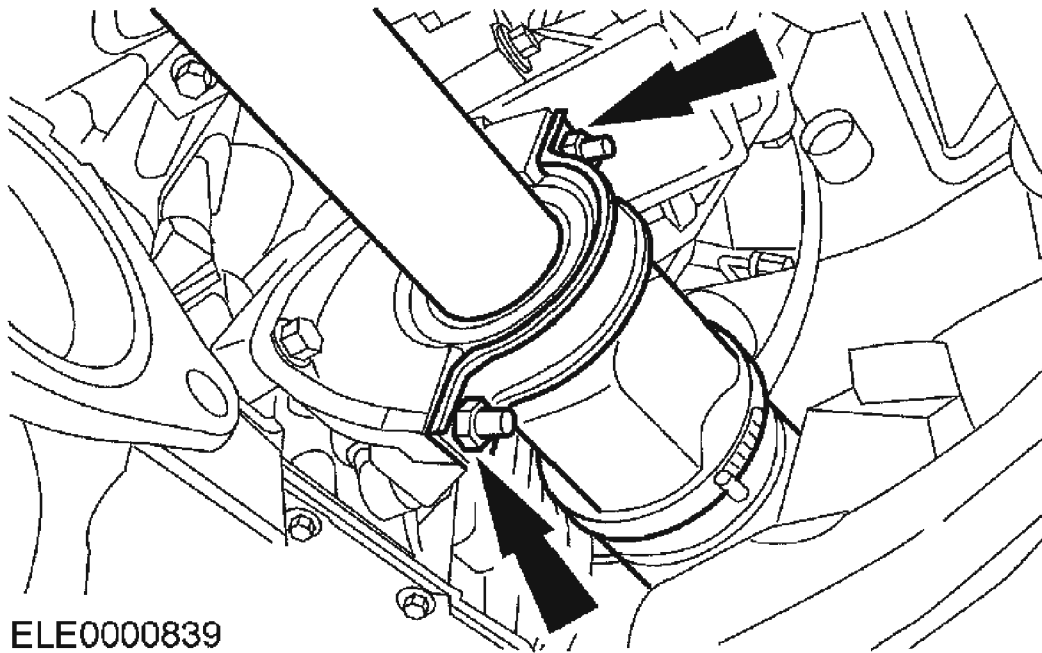


Fig. 21: Installing Front Drive Halfshaft With Intermediate Shaft
Courtesy of FORD MOTOR CO.

2. Install the front drive halfshaft with intermediate shaft.
 - Tighten to 25 Nm (18 lb-ft).
 - Clean the bearing surface on the bracket.
3. Using the special tool, install the RH halfshaft stub into the wheel hub.

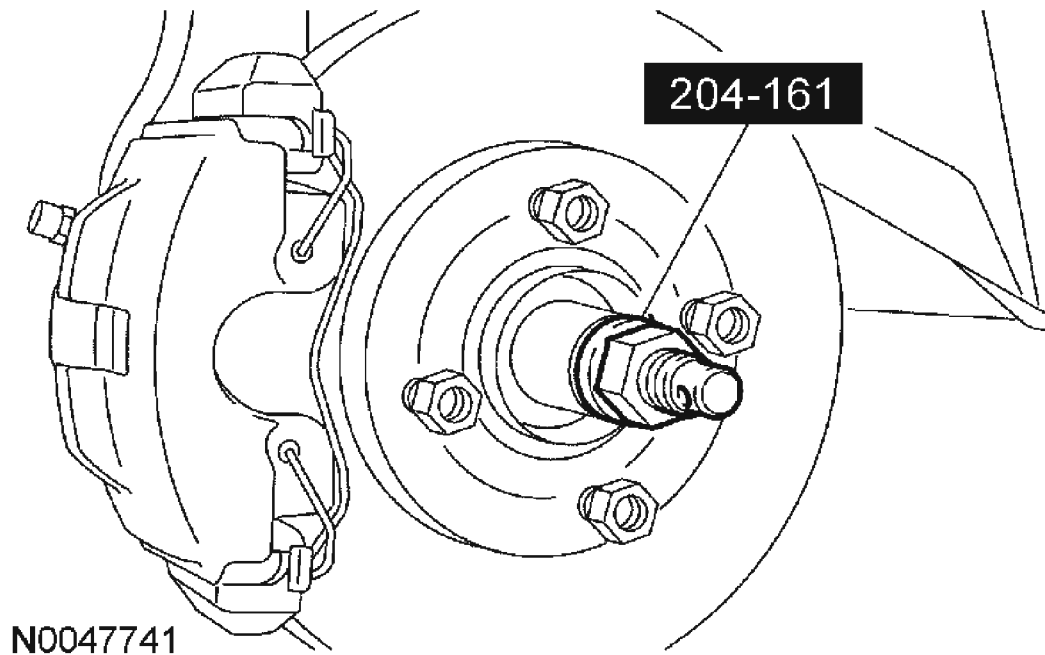


Fig. 22: Installing RH Halfshaft Stub Into Wheel Hub Using Special Tool
Courtesy of FORD MOTOR CO.

4. Check the transmission fluid level. For additional information, refer to **AUTOMATIC TRANSAXLE/TRANSMISSION** or **MANUAL TRANSAXLE/TRANSMISSION** .
5. Attach the RH lower arm.
 - Attach the lower arm ball joint.
 - Install the bolt.
 - Tighten to 48 Nm (35 lb-ft).

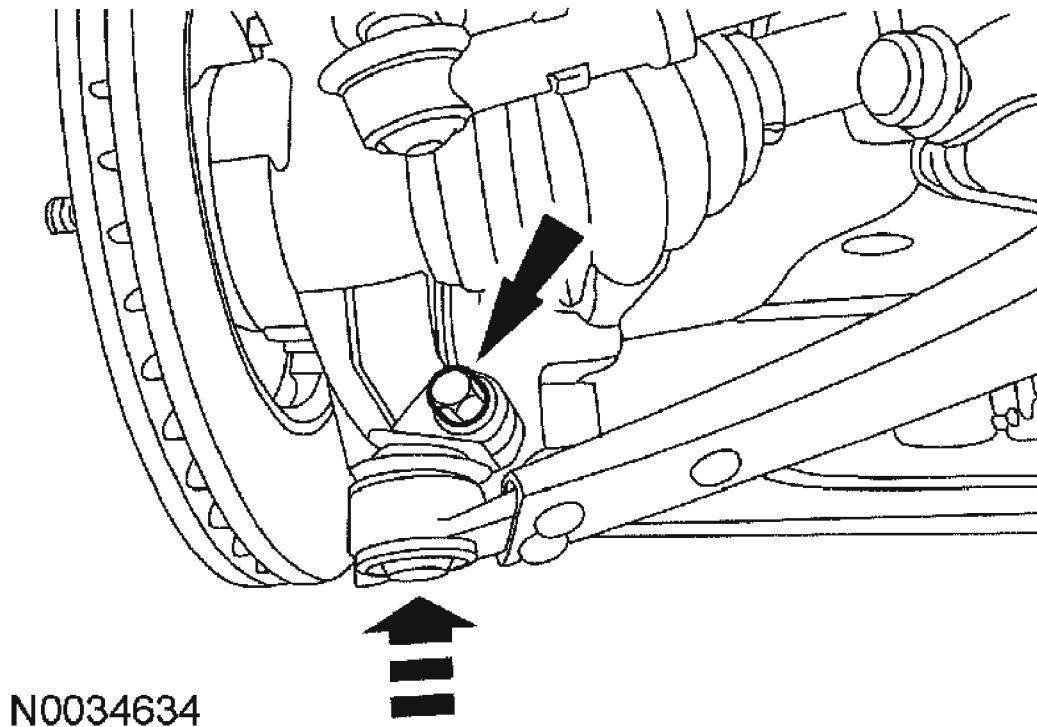


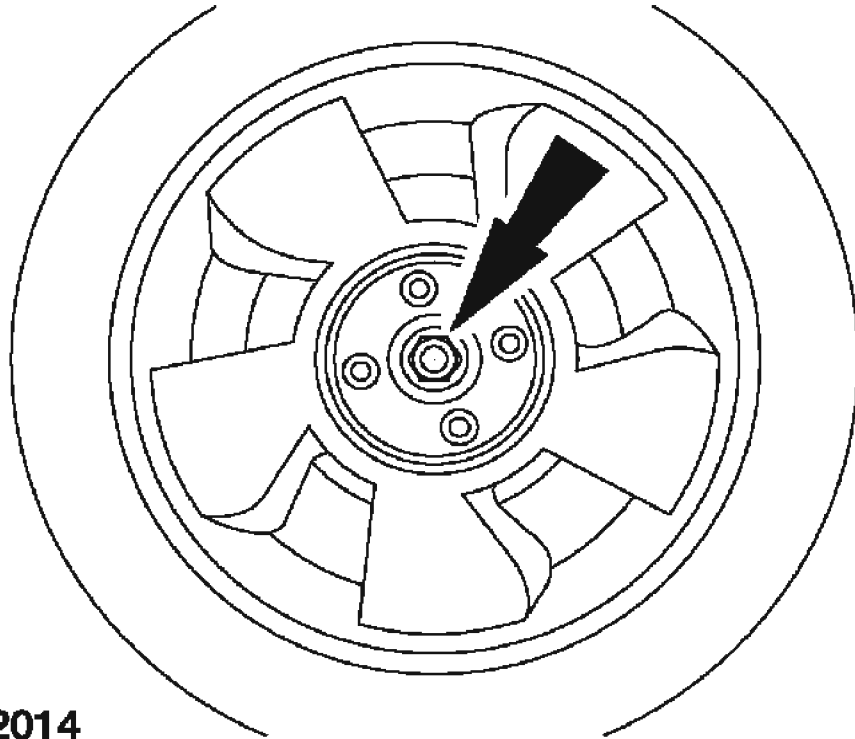
Fig. 23: Attaching RH Lower Arm
Courtesy of FORD MOTOR CO.

6. Install the wheel and tire assembly. For additional information, refer to **WHEELS AND TIRES**.
7. Lower the vehicle.

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

NOTE: Use a 32 mm socket wrench. Install a new wheel hub retaining nut.



ELW1402014

Fig. 24: Installing Wheel Hub Retaining Nut
Courtesy of FORD MOTOR CO.

8.
 - Tighten to 270 Nm (199 lb-ft).
9. Tighten the RH strut and spring assembly top mount nuts.
 - Tighten to 30 Nm (22 lb-ft).

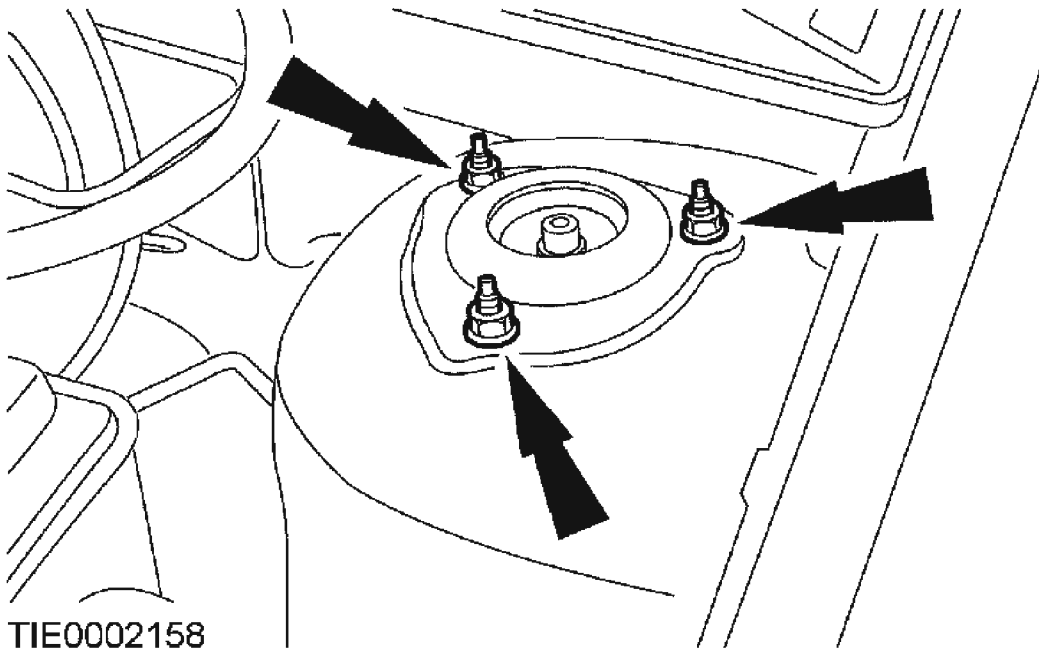


Fig. 25: Tightening RH Strut And Spring Assembly Top Mount Nuts
Courtesy of FORD MOTOR CO.

INTERMEDIATE SHAFT

General Equipment

INTERMEDIATE SHAFT - GENERAL EQUIPMENT

Locking Clamp (Hazet 1847-1)
Auxiliary Plugs

Material

MATERIAL SPECIFICATIONS

Item	Specification
Grease, Inner Tripod Joint	XS41-M1C230-BA

Removal

NOTE: Use an Allen key to stop the piston rod from turning.

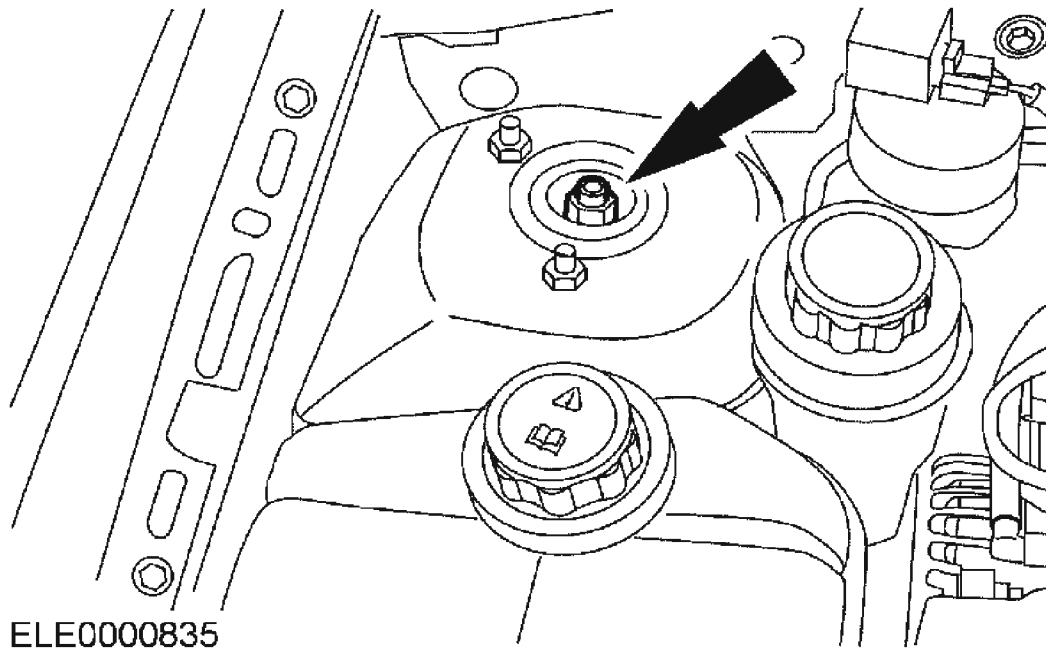


Fig. 26: Identifying Right-Hand Suspension Strut Top Nut
Courtesy of FORD MOTOR CO.

1. Undo the right-hand suspension strut top nut by 5 turns.
2. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** .
3. Detach the right-hand suspension arm.

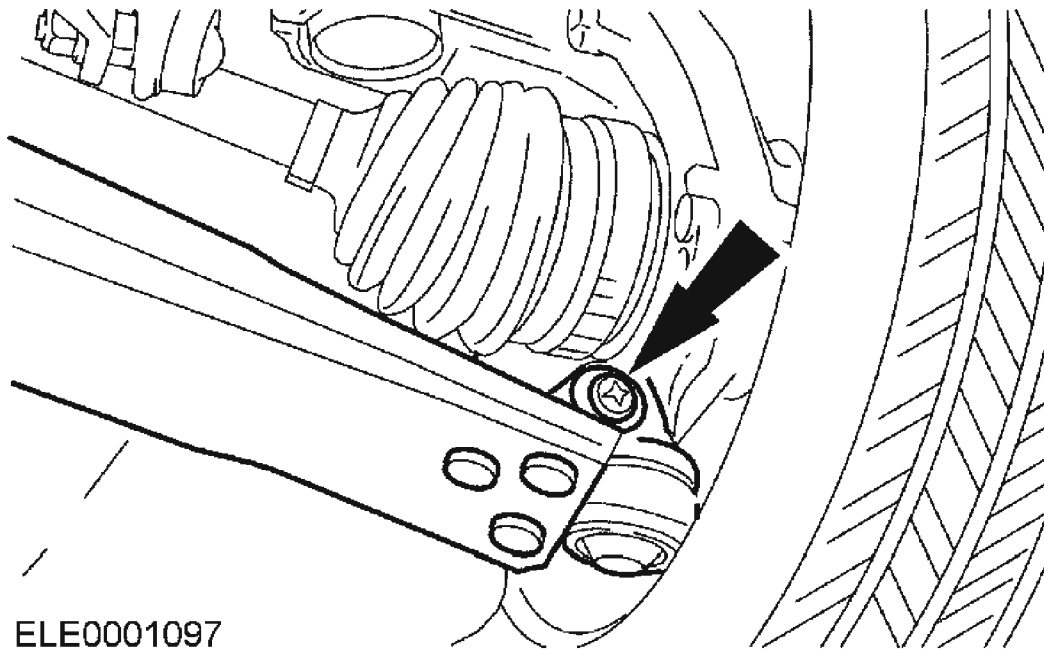


Fig. 27: Detaching Right-Hand Suspension Arm
Courtesy of FORD MOTOR CO.

CAUTION: The inner joint must not be bent at more than 18 degrees.

NOTE: Do not damage the gaiter.

4. Detach the right-hand front drive halfshaft from the intermediate shaft.
 - Separate the clamping strap and slide back the gaiter.
 - Pull out the front drive halfshaft from the tripod housing.
 - Remove the grease.
 - Secure the front drive halfshaft.

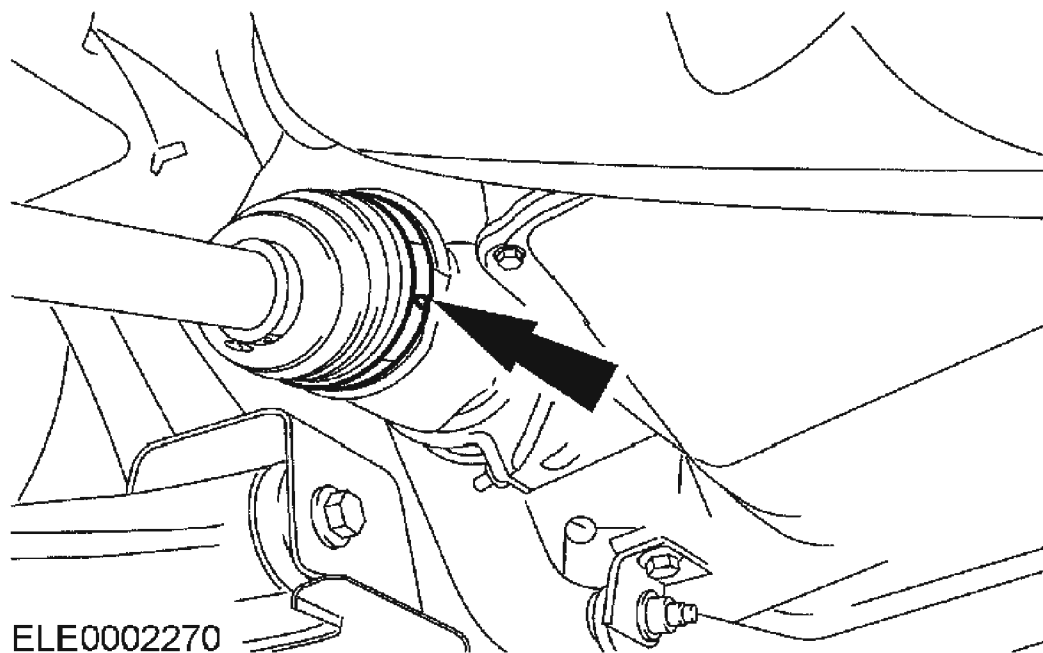


Fig. 28: Detaching Right-Hand Front Drive Halfshaft From Intermediate Shaft
Courtesy of FORD MOTOR CO.

NOTE: Check for escaping oil.

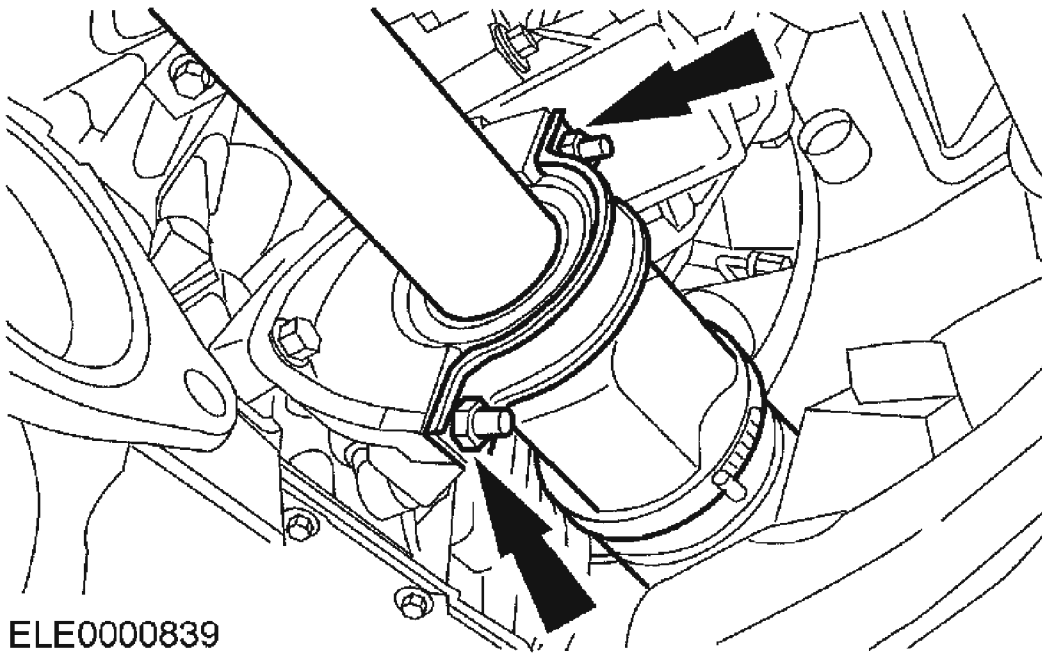
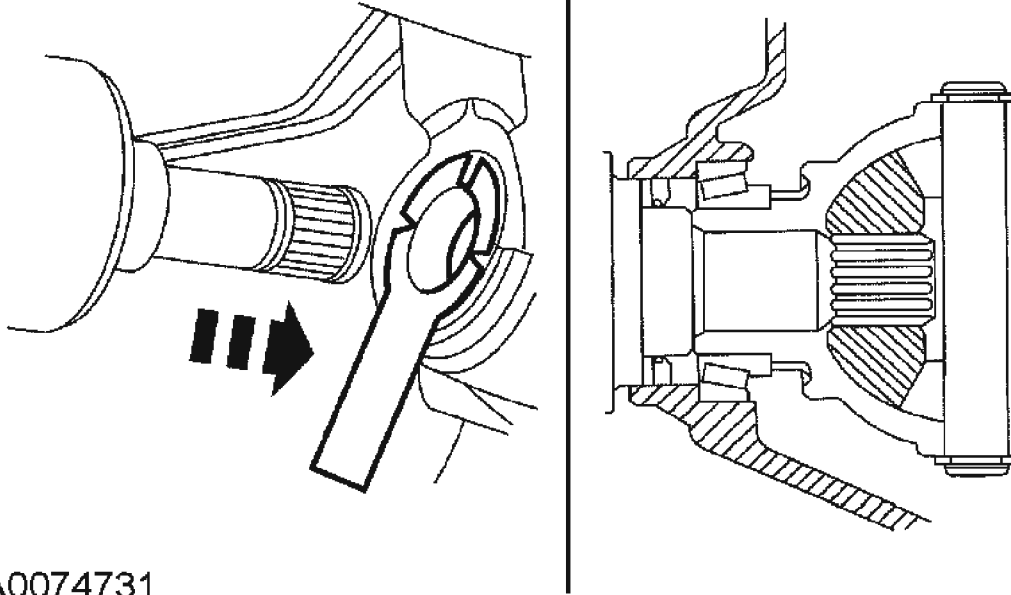


Fig. 29: Removing Intermediate Shaft
Courtesy of FORD MOTOR CO.

5. Remove the intermediate shaft.
 - Remove the retaining clip.
 - Pull the intermediate shaft from the transmission.
 - Close off the transmission with auxiliary plugs.

Installation

CAUTION: Do not damage the oil seal when inserting the front drive halfshaft.



A0074731

Fig. 30: Installing Intermediate Shaft In Transmission
Courtesy of FORD MOTOR CO.

1. Install the intermediate shaft in the transmission.

NOTE: Renew the retaining clip and nuts on the intermediate bearing.

NOTE: Insert the intermediate shaft into the transmission until the intermediate shaft bearing touches the rib of the intermediate shaft bracket.

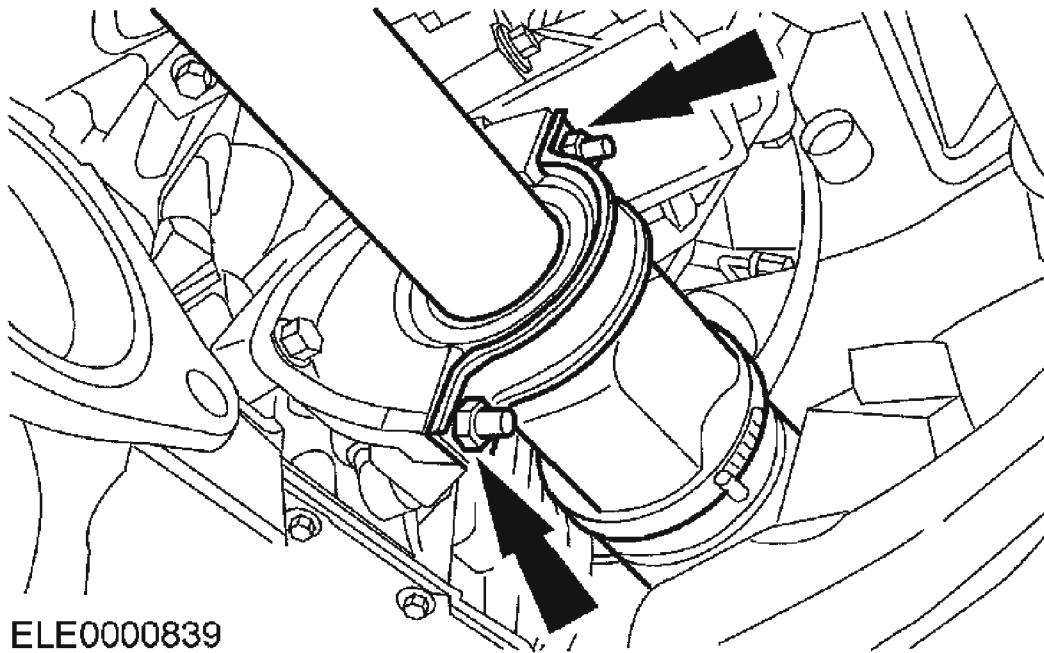
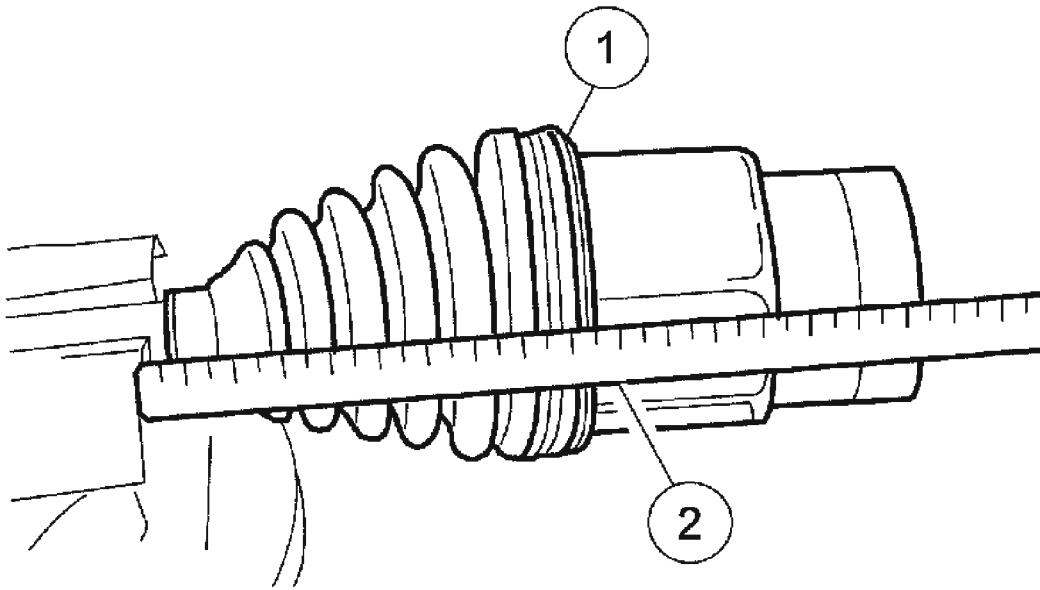


Fig. 31: Installing Intermediate Shaft In Transmission
Courtesy of FORD MOTOR CO.

CAUTION: The inner joint must not be bent at more than 18 degrees.

2. Install the intermediate shaft in the transmission.
 - Install the retaining clip.
 - Tighten to 25 Nm (18 lb-ft).
 3. Install front drive halfshaft.
 - Pack the tripod joint with grease for the inner joint (refer to **SPECIFICATIONS** for fill capacities).
1. Insert a small screwdriver under the gaiter seat to allow the air to escape.
 2. Slide the tripod joint in as far as the stop, then pull it out 20 mm.
 - Remove the screwdriver.



N0034635

Fig. 32: Sliding Tripod Joint In Front Drive Halfshaft
Courtesy of FORD MOTOR CO.

4. Insert the clamping strap in the gaiter ring groove and tighten it with the locking clamp.
 - Insert the clamping strap in the gaiter ring groove.

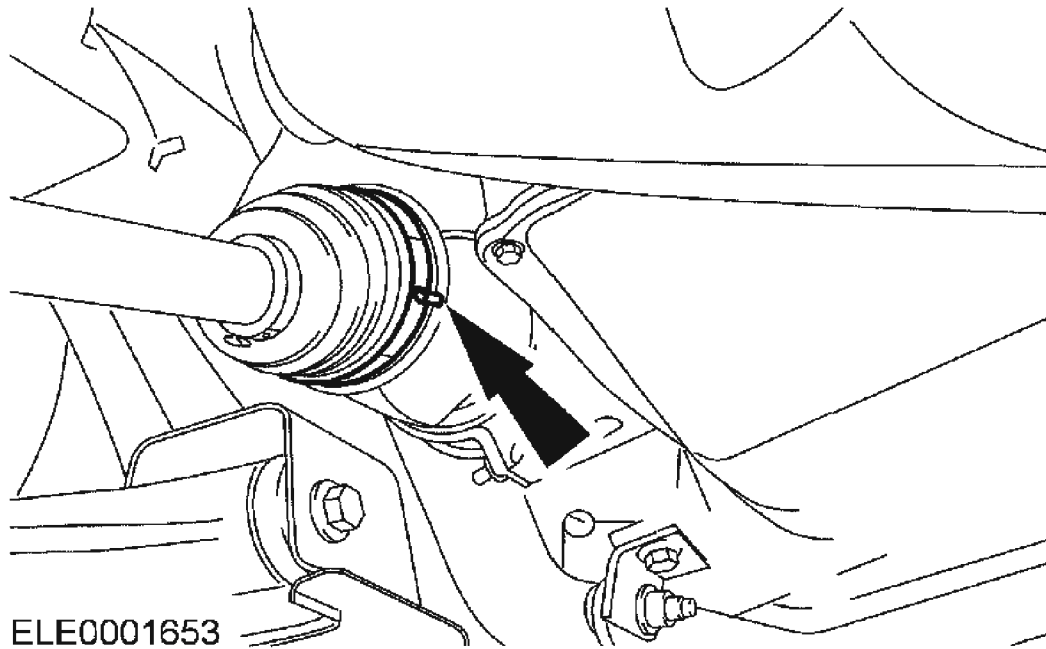


Fig. 33: Inserting Clamping Strap In Gaiter Ring Groove And Tighten It With Locking Clamp

Courtesy of FORD MOTOR CO.

5. Attach the right-hand suspension arm.
 - Tighten to 47 Nm (35 lb-ft).

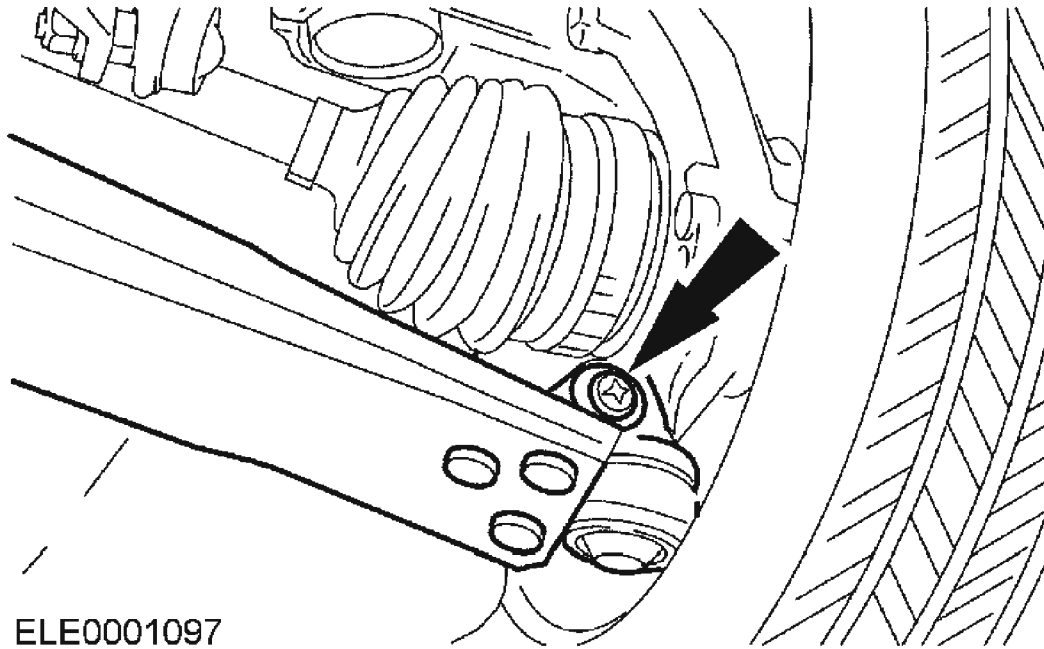


Fig. 34: Attaching Right-Hand Suspension Arm
Courtesy of FORD MOTOR CO.

6. Check the transmission fluid level. For additional information, refer to MANUAL TRANSAXLE/TRANSMISSION or AUTOMATIC TRANSAXLE/TRANSMISSION.
7. Lower the vehicle.
8. Tighten the right-hand suspension strut nut.
 - Stop it from turning using an Allen key.
 - Tighten by hand with a ring spanner.
 - Use a torque wrench to tighten.
 - Tighten to 48 Nm (35 lb-ft).

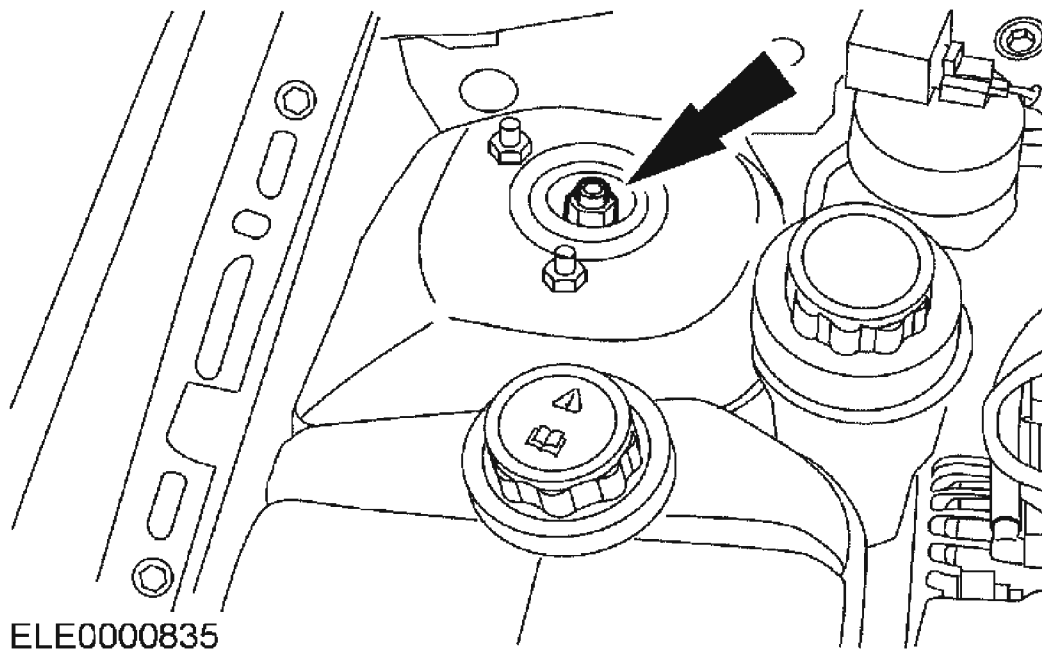
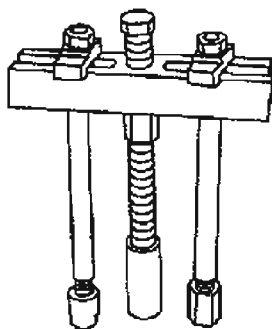


Fig. 35: Tightening Right-Hand Suspension Strut Nut
 Courtesy of FORD MOTOR CO.

INNER CONSTANT VELOCITY (CV) JOINT BOOT

Special Tool(s)

SPECIAL TOOLS DESCRIPTION



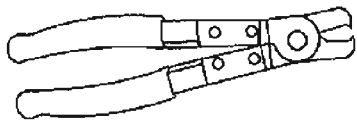
T81P-1104-C

Push/Puller 205-D024 (D80L-927-A1)

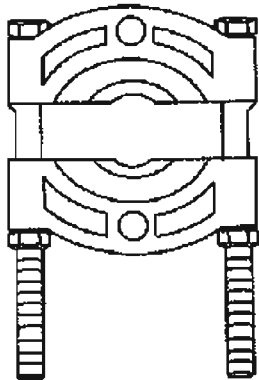
Pliers, Boot Clamp 205-D066 (D87P-1090-A)

2005 Ford Focus ZX5 S

2005 DRIVELINE/AXLE Front Drive Halfshafts - Focus



D87P1090A



D84L-1123-A

Puller, Bearing 205-D002 (D79L-4621-A)

Material

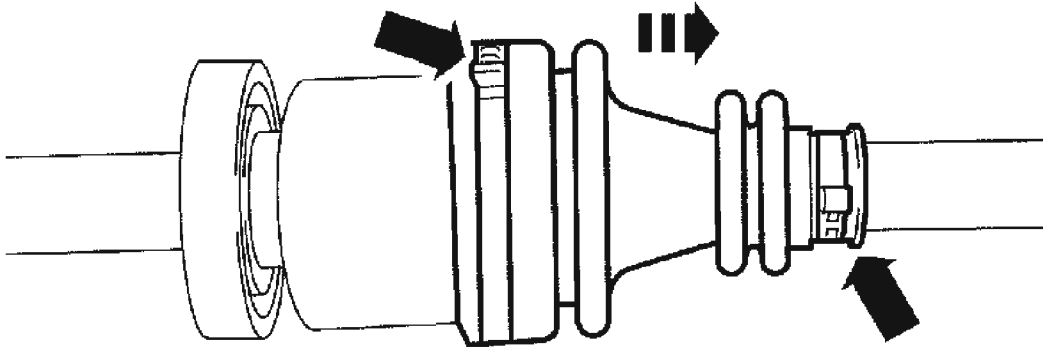
MATERIAL SPECIFICATIONS

Item	Specification
Constant Velocity Joint Grease (High Temperature) XG-5	WSS-M1C258-A1

Removal

1. Remove the halfshaft. For additional information, refer to **HALFSHAFT - LH** or **HALFSHAFT - RH**.

CAUTION: Use vise with jaw protectors.



E50570

Fig. 36: Removing CV Joint Boot Retaining Clamps, CV Joint Housing And Grease Filling

Courtesy of FORD MOTOR CO.

2. Secure the halfshaft in a vise and detach the constant velocity (CV) joint housing from the halfshaft.
 - Remove and discard the CV joint boot retaining clamps.
 - Remove the CV joint housing and discard the grease filling.
3. Remove the circlip.
 - Discard the circlip.

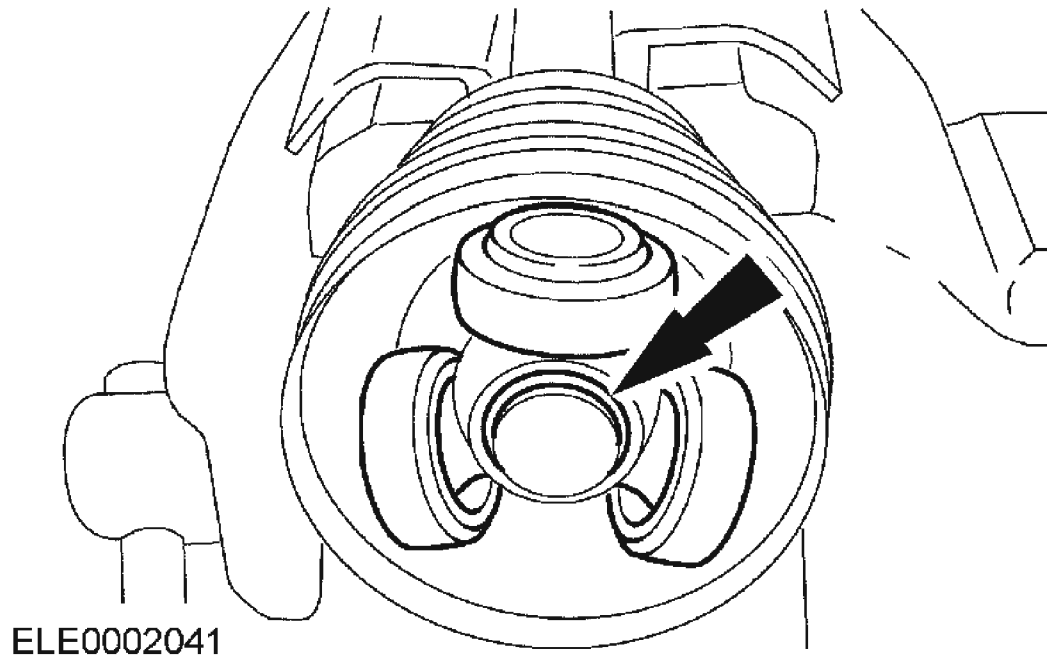


Fig. 37: Removing Circlip
Courtesy of FORD MOTOR CO.

4. Using the special tools, remove the tripod.
 - Discard the CV joint boot.

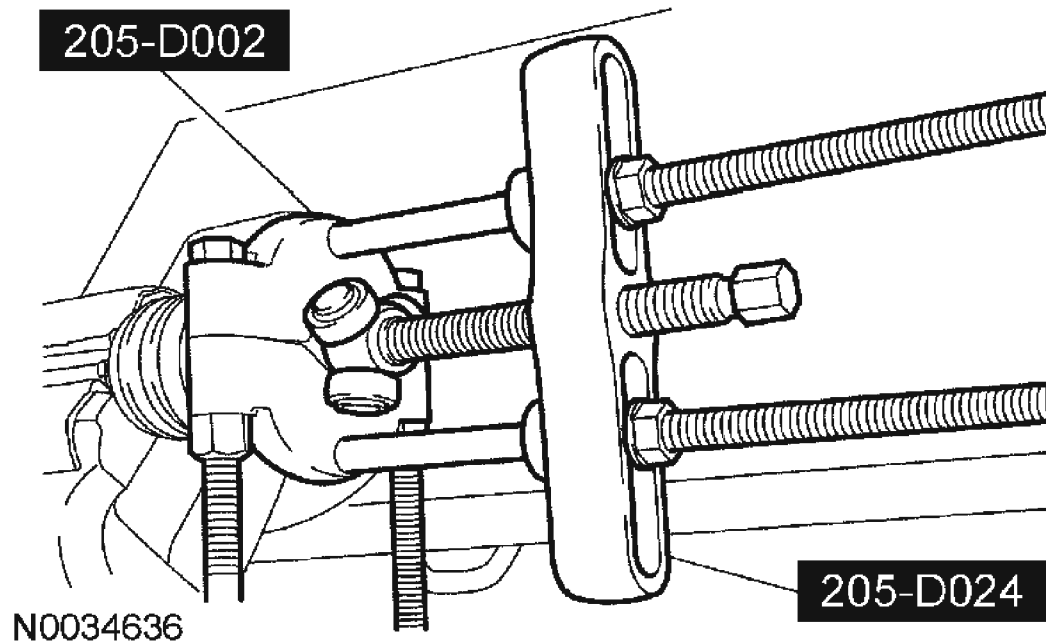


Fig. 38: Using Special Tools To Remove Tripod
Courtesy of FORD MOTOR CO.

Installation

CAUTION: Support the halfshaft. The inner joint must not be bent more than 18 degrees. The outer joint must not be bent more than 45 degrees.

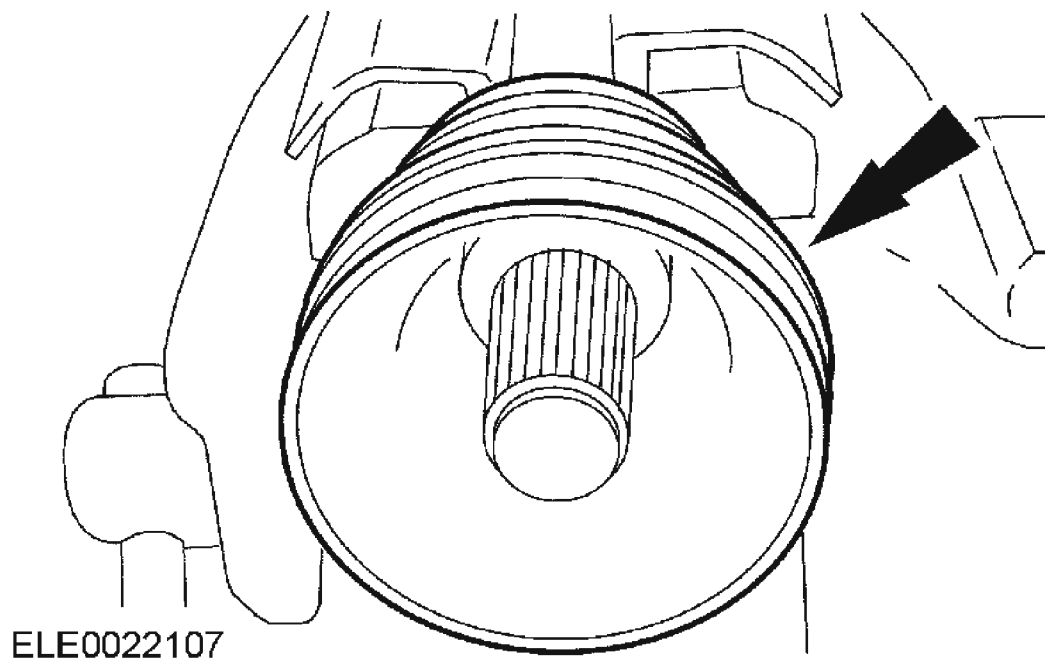


Fig. 39: Installing Constant Velocity (CV) Joint Boot
Courtesy of FORD MOTOR CO.

1. Install a new constant velocity (CV) joint boot.

NOTE: Install a new CV joint boot retaining clamp.

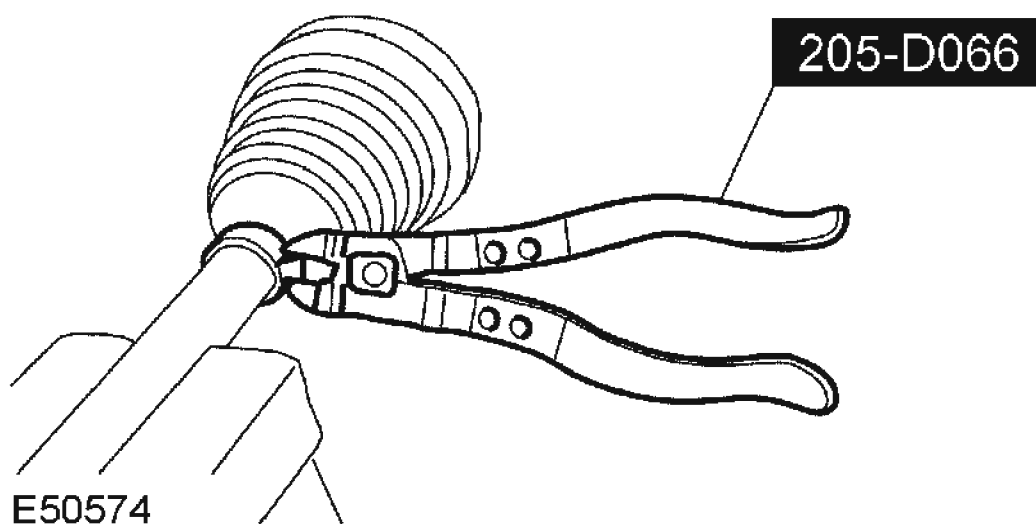


Fig. 40: Installing CV Joint Boot Retaining Inner Clamp Using Special Tool
Courtesy of FORD MOTOR CO.

2. Using the special tool, install the CV joint boot retaining inner clamp.

CAUTION: Do not damage the CV joint bearings.

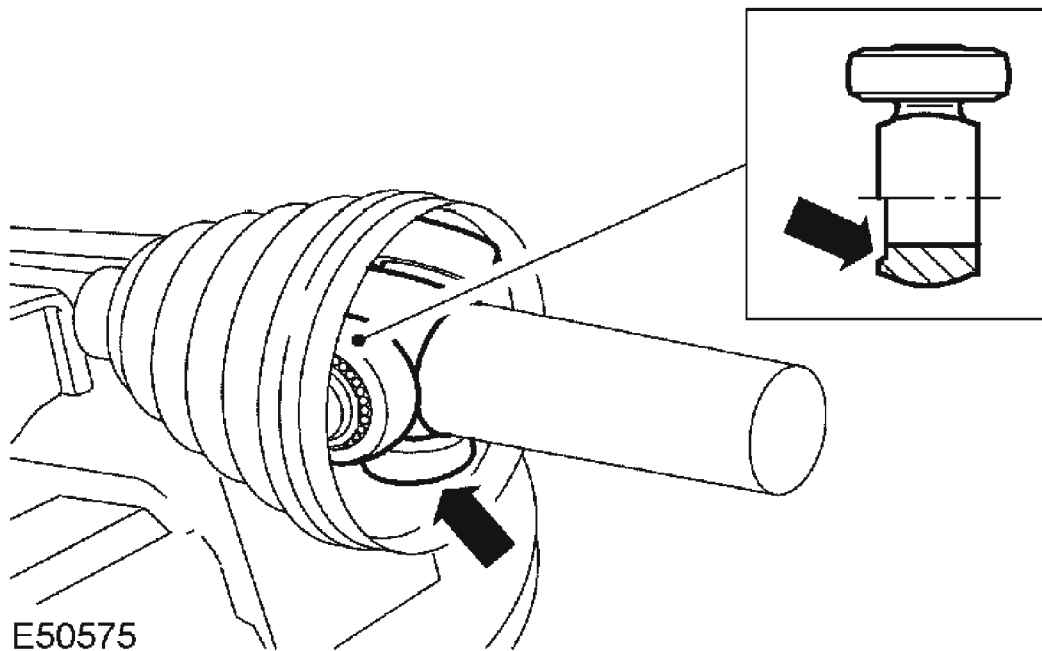


Fig. 41: Installing Tripod Using Suitable Installer
Courtesy of FORD MOTOR CO.

3. Using a suitable installer, install the tripod.

NOTE: Install a new circlip.

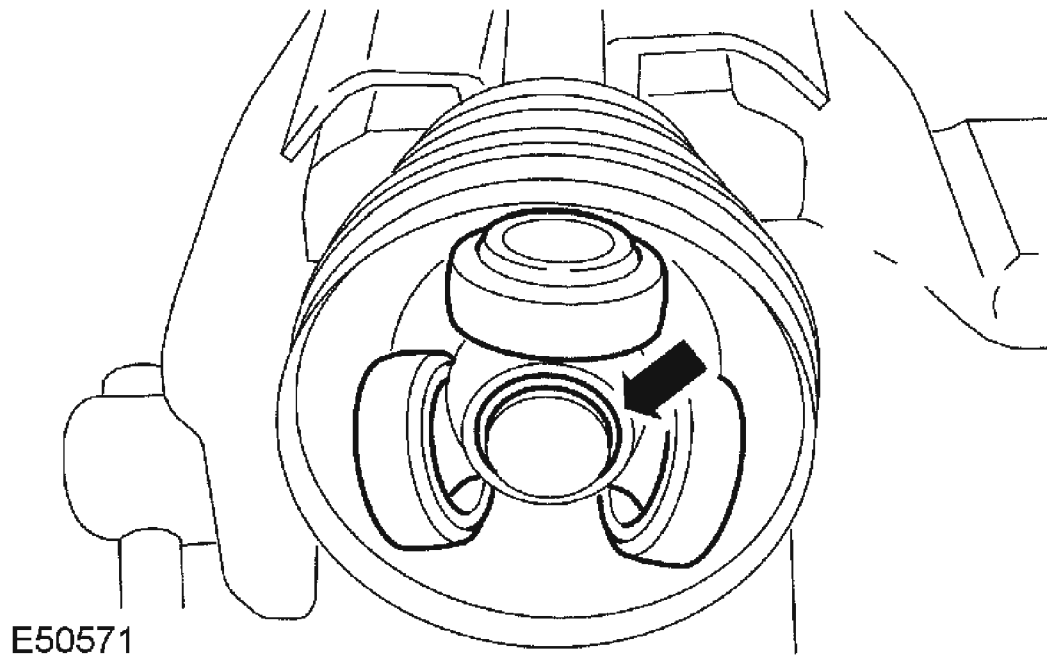


Fig. 42: Installing Circlip
Courtesy of FORD MOTOR CO.

4. Install the circlip.
5. Apply grease to the CV joint. For additional information, refer to **SPECIFICATIONS**.
6. Attach the CV joint housing to the halfshaft.
 1. Use a suitable screwdriver under the boot to allow air to escape.
 2. Install the CV joint housing and pull it backward 20 mm.

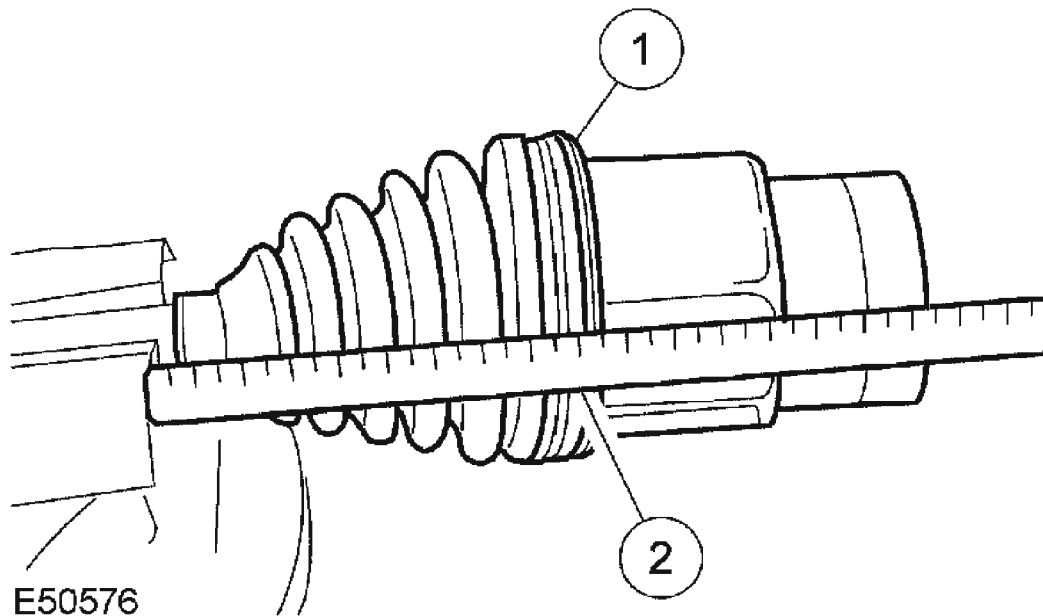


Fig. 43: Attaching CV Joint Housing To Halfshaft
Courtesy of FORD MOTOR CO.

NOTE: Install a new CV joint boot retaining clamp.

NOTE: Do not move the CV joint housing. Make sure that the CV joint boot is installed at the measured position.

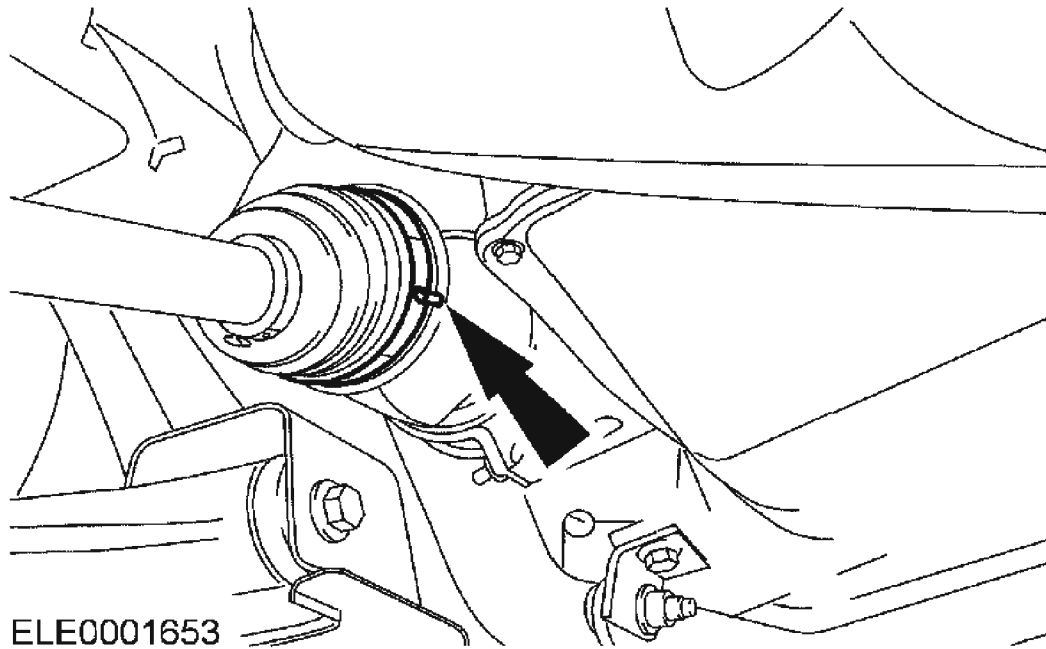


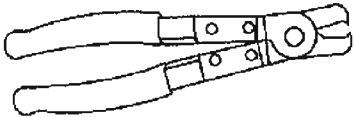
Fig. 44: Installing CV Joint Boot Outer Retaining Clamp Using Special Tool
Courtesy of FORD MOTOR CO.

7. Using the special tool, install the CV joint boot outer retaining clamp.
8. Install the halfshaft. For additional information, refer to **HALFSHAFT - LH** or **HALFSHAFT - RH**.

OUTER CONSTANT VELOCITY (CV) JOINT BOOT

Special Tool(s)

SPECIAL TOOLS DESCRIPTION

 <p>D87P1090A</p>	<p>Pliers, Boot Clamp 205-D066 (D87P-1090-A)</p>
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Material

MATERIAL SPECIFICATIONS

2005 Ford Focus ZX5 S

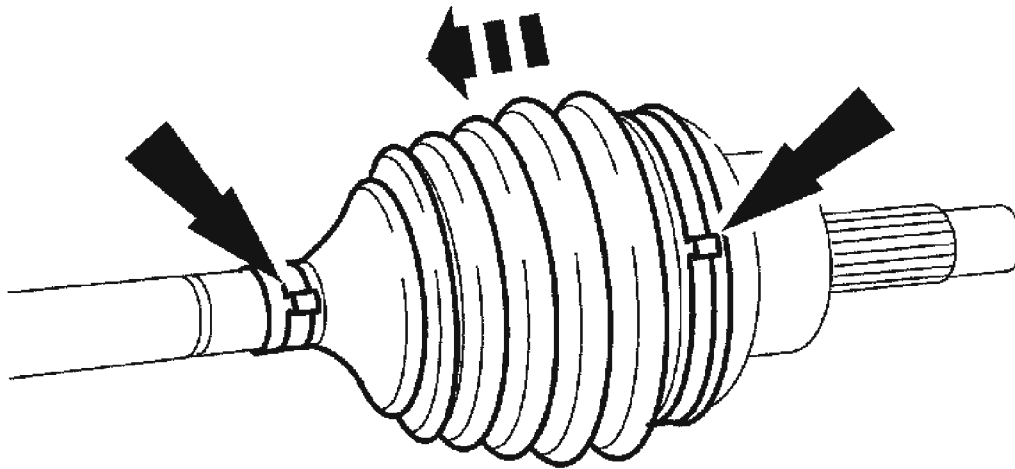
2005 DRIVELINE/AXLE Front Drive Halfshafts - Focus

Item	Specification
Constant Velocity Joint Grease (High Temperature) XG-5	WSS-M1C258-A1

Removal

1. Remove the inner constant velocity joint boot. For additional information, refer to INNER CONSTANT VELOCITY (CV) JOINT BOOT.

CAUTION: Use a vice with protective jaw covers.



ELE0019558

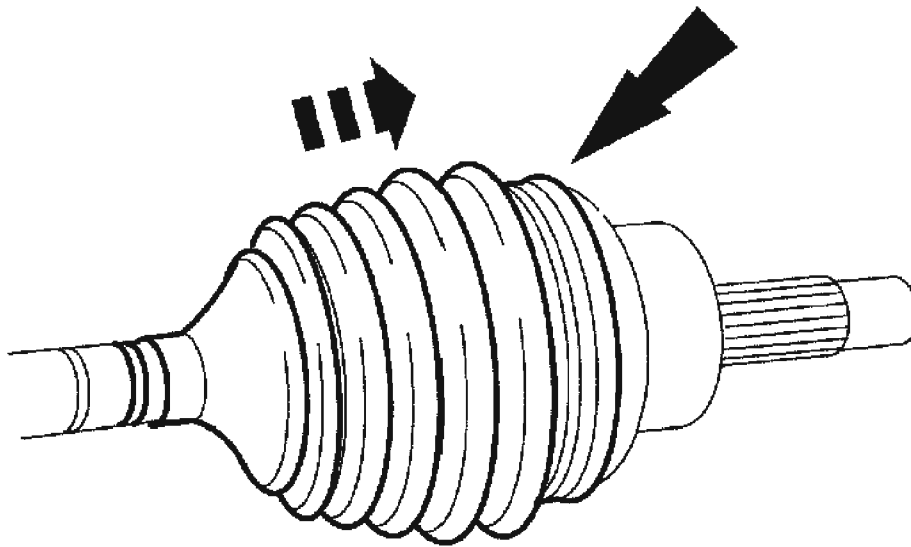
Fig. 45: Removing Outer Constant Velocity Joint Boot
Courtesy of FORD MOTOR CO.

2. Remove the outer constant velocity joint boot.
 - Remove the boot clamps.
 - Pull the boot inwards over the front drive halfshaft.

Installation

CAUTION: The constant velocity joint must not be packed with more than 120 g of grease.

1. Pack the constant velocity joint with grease.
2. Install the outer constant velocity joint boot.
 - Slide the outer boot outwards over the constant velocity joint.
 - Press the boot into the annular groove on the drive joint.
 - Slide a small screwdriver under the boot seat to allow the air to escape.
 - Locate the boot in position and remove the screwdriver.



ELE0019559

Fig. 46: Installing Outer Constant Velocity Joint Boot
Courtesy of FORD MOTOR CO.

NOTE: **Renew the boot clamp.**

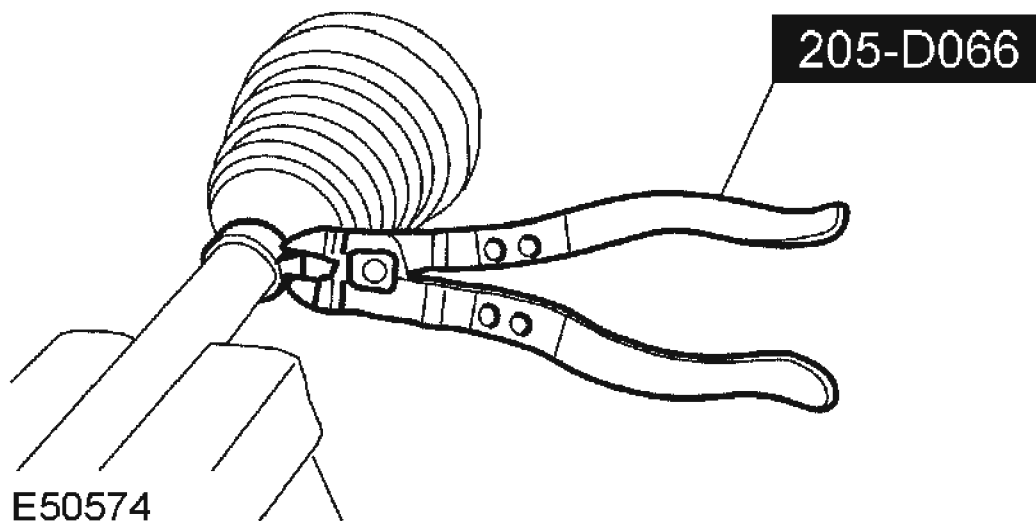


Fig. 47: Installing Inner Boot Clamp Using Special Tool
Courtesy of FORD MOTOR CO.

3. Install the inner boot clamp using the special tool.

NOTE: Renew the boot clamp.

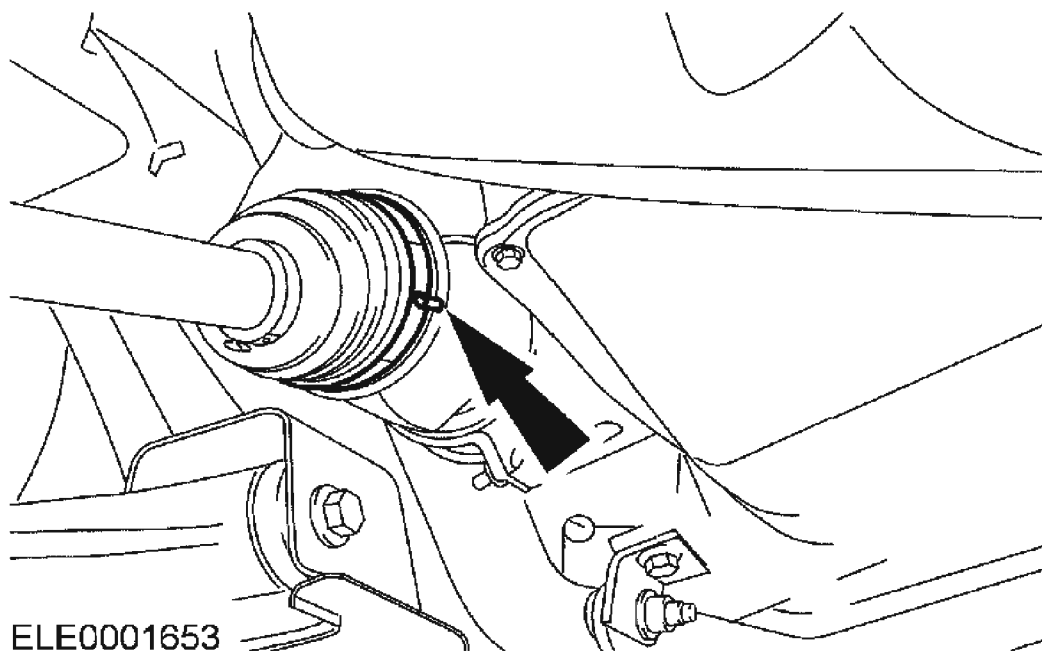


Fig. 48: Installing Outer Boot Clamp Using Special Tool
Courtesy of FORD MOTOR CO.

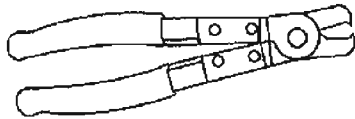
4. Install the outer boot clamp using the special tool.
5. Install the inner constant velocity joint boot. For additional information, refer to **INNER CONSTANT VELOCITY (CV) JOINT BOOT**.

DISASSEMBLY AND ASSEMBLY

HALFSHAFT - LH

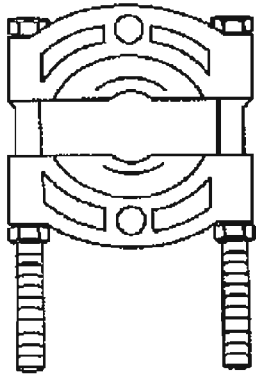
Special Tool(s)

SPECIAL TOOLS DESCRIPTION



D87P1090A

Pliers Boot Clamp 205-D066 (D87P-1090-A) or equivalent



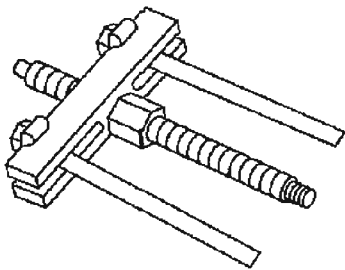
ST2785-A

Putter, Bearing 205-D002 (D79L-4621-A)

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

2005 Ford Focus ZX5 S

2005 DRIVELINE/AXLE Front Drive Halfshafts - Focus



ST1516-A

Material

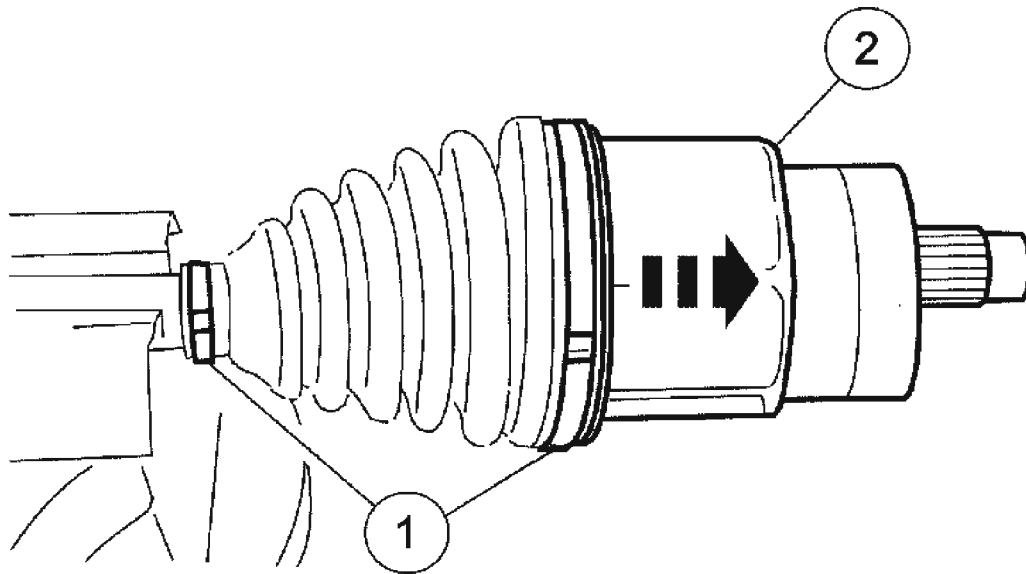
MATERIAL SPECIFICATIONS

Item	Specification
Grease, Inner Tripod Joint	XS41-M1C230-BA
Constant Velocity Joint Grease (High Temperature) XG-5	WSS-M1C258-A1

Disassembly

CAUTION: The inner joint must not be bent at more than 18 degrees; the outer joint must not be bent at more than 45 degrees.

NOTE: Use protective covers.



N0034639

Fig. 49: Disconnecting Driveshaft At Transaxle End
Courtesy of FORD MOTOR CO.

1. Disconnect the driveshaft at the transaxle end.
 - Hold the front driveshaft in a clamp.
 1. Separate and discard the clamping straps. Push back the boot along the shaft.
 2. Pull apart the tripod joint.
 - Remove all the grease.
2. Remove the snap ring.

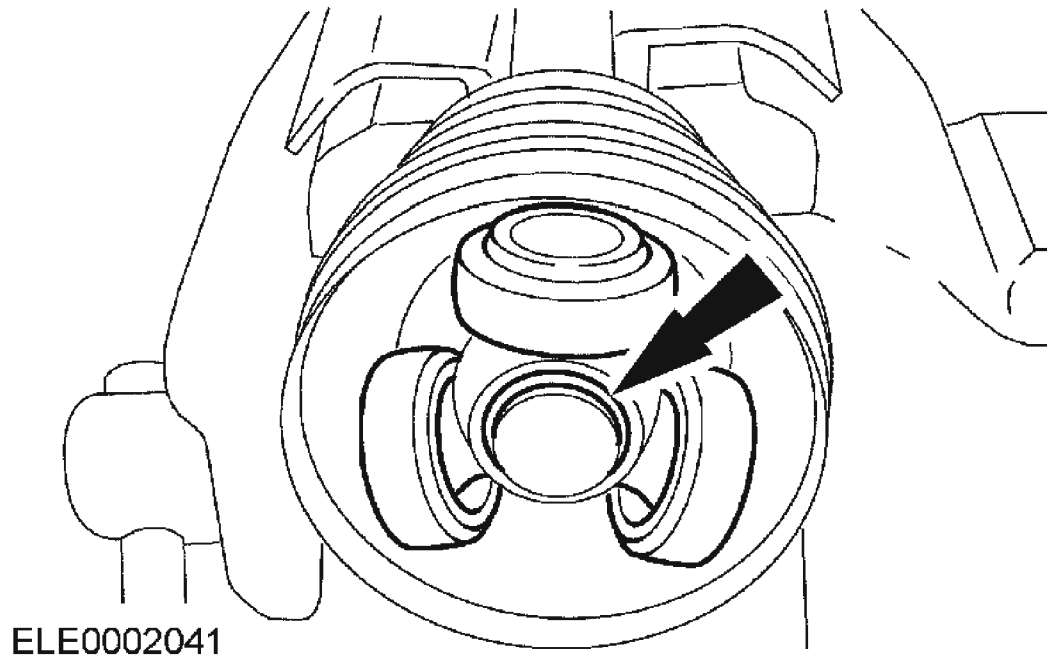


Fig. 50: Removing Snap Ring
Courtesy of FORD MOTOR CO.

3. Remove the tripod.
 - Using the special tool remove the tripod.
 - Remove the boot.

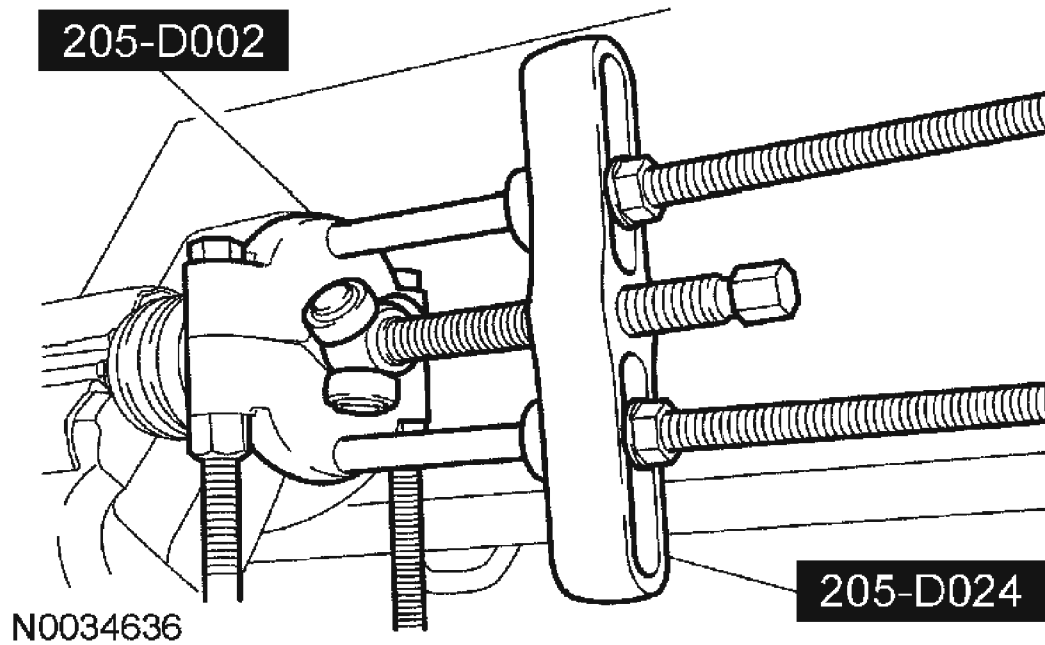
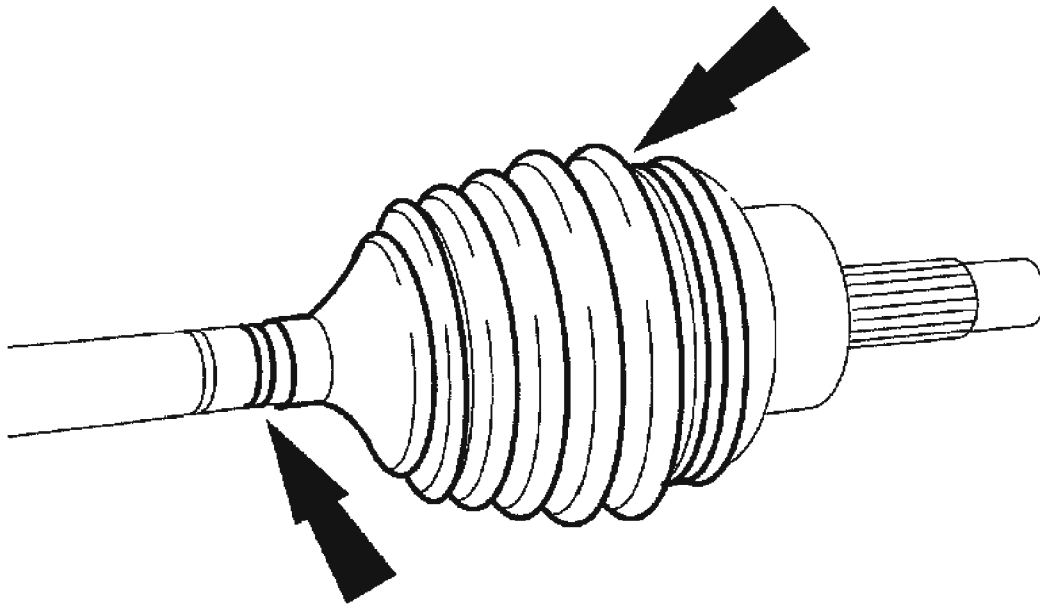


Fig. 51: Using Special Tool To Remove Tripod
Courtesy of FORD MOTOR CO.

4. Detach the boot at the wheel end.
 - Separate and discard the clamping straps.
 - Remove the boot over the transaxle side.
 - Remove the accessible grease.



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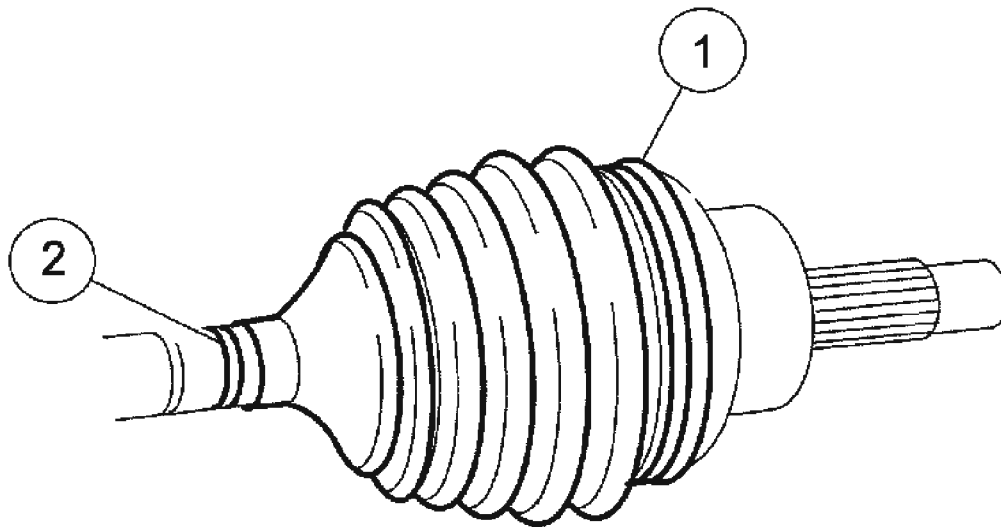
Fig. 52: Detaching Boot At Wheel End
Courtesy of FORD MOTOR CO.

Assembly

CAUTION: The inner joint must not be bent at more than 18 degrees;
the outer joint must not be bent at more than 45 degrees.

NOTE: Install the wheel-side boot over the transaxle side.

NOTE: To determine the amount of grease, refer to
SPECIFICATIONS for fill capacities.

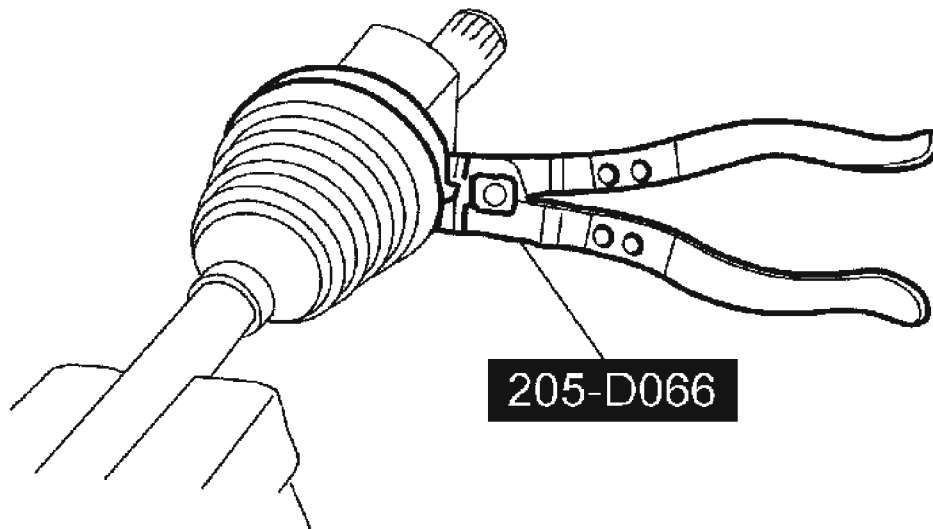


N0034645

Fig. 53: Installing Boot At Wheel End
Courtesy of FORD MOTOR CO.

1. Install the boot at the wheel end.
 - Inject the specified amount of grease into the outer joint.
 1. Slide a suitable tool under the boot seat to allow the air to escape.
 2. Locate the boot in position and remove the suitable tool.

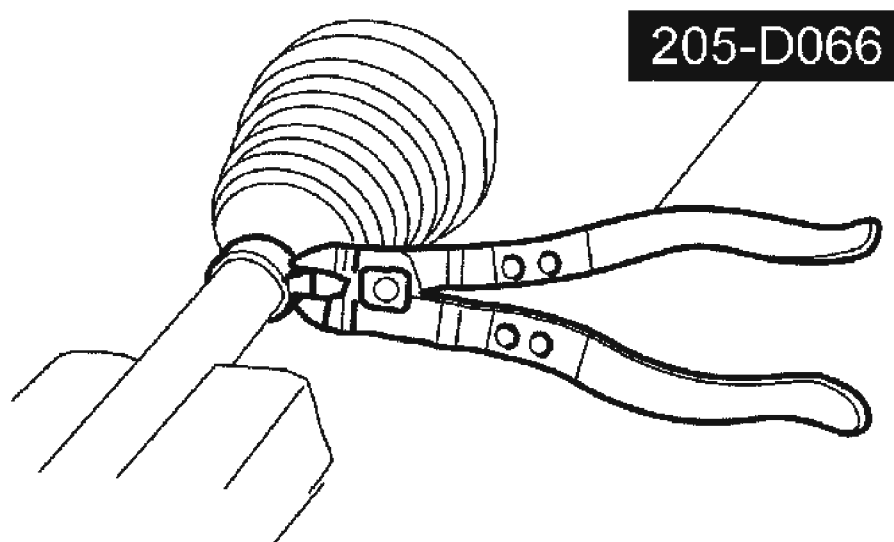
NOTE: Install new clamping straps.



N0034641

Fig. 54: Installing Clamping Straps In Boot Ring Grooves Using Special Tool
Courtesy of FORD MOTOR CO.

2. Using the special tool install the clamping straps in the boot ring grooves.
3. Install the boot at the transaxle end.
 - Insert the clamping strap in the boot ring groove and tighten it using the special tool.



N0034642

Fig. 55: Installing Boot At Transaxle End
Courtesy of FORD MOTOR CO.

CAUTION: Do not damage the universal joint rollers.

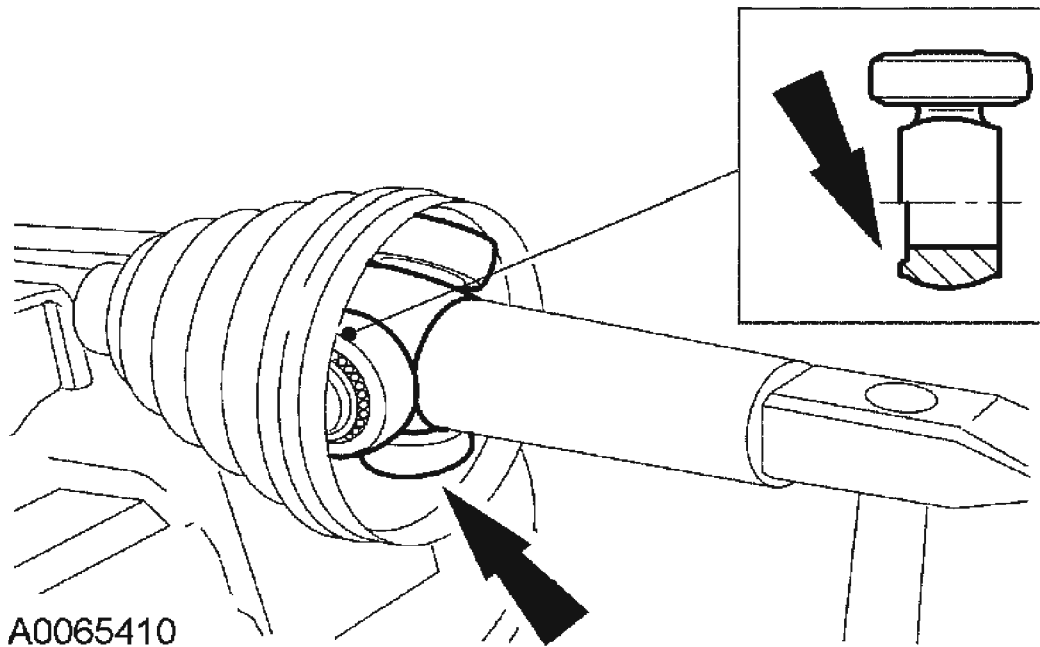


Fig. 56: Using Special Tool To Push Tripod Onto Front Drive Halfshaft As Far As It Will Go

Courtesy of FORD MOTOR CO.

4. Install the tripod.
 - Using the special tool, push the tripod onto the front drive halfshaft as far as it will go.

NOTE: Install a new snap ring.

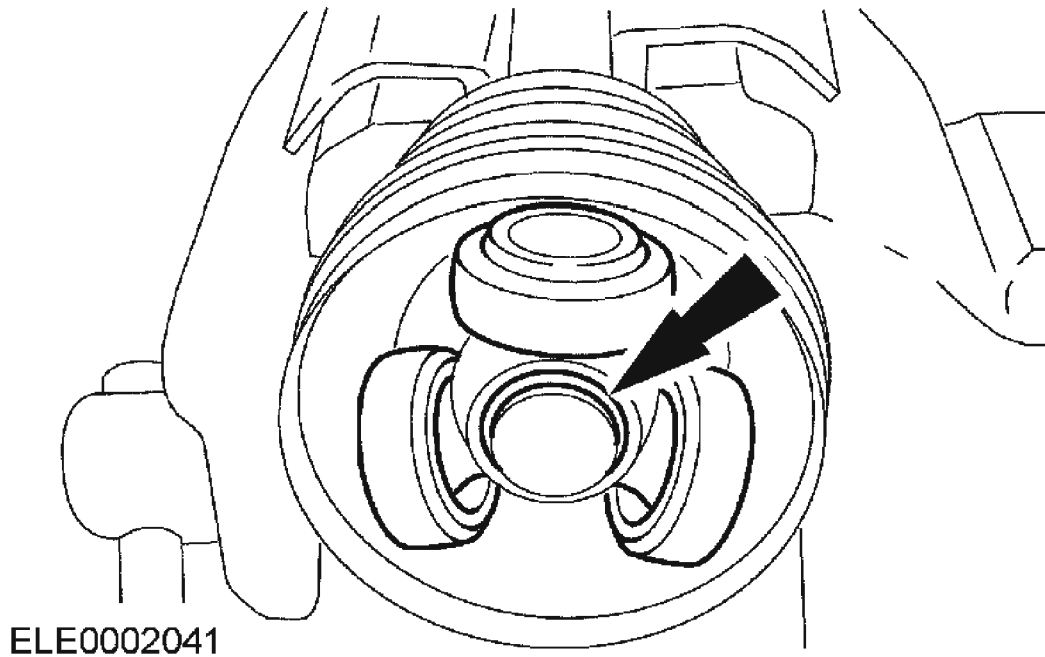
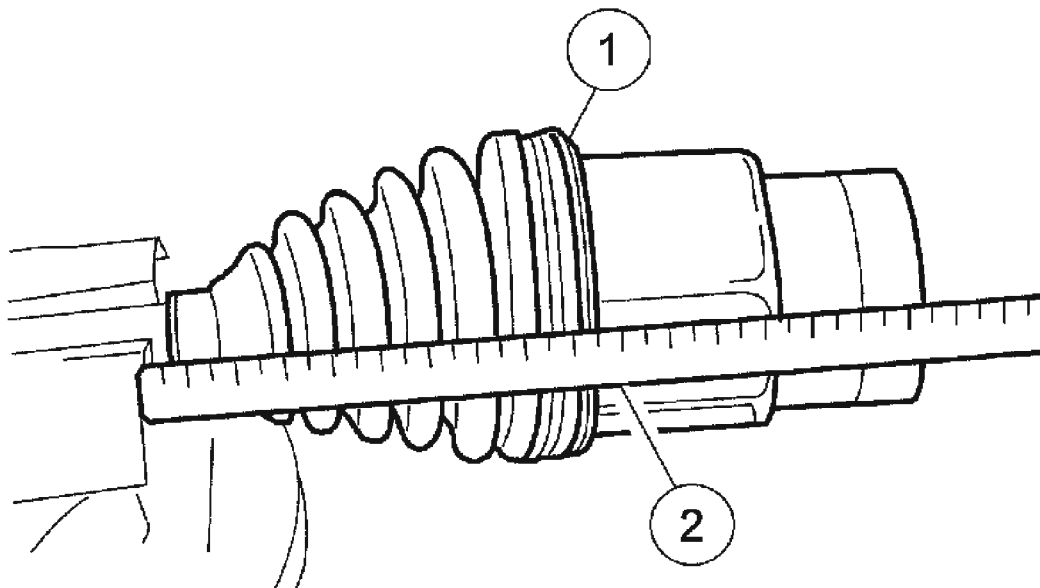


Fig. 57: Installing Snap Ring
Courtesy of FORD MOTOR CO.

5. Install the snap ring.

NOTE: To determine the amount of grease, refer to **SPECIFICATIONS** for fill capacities.

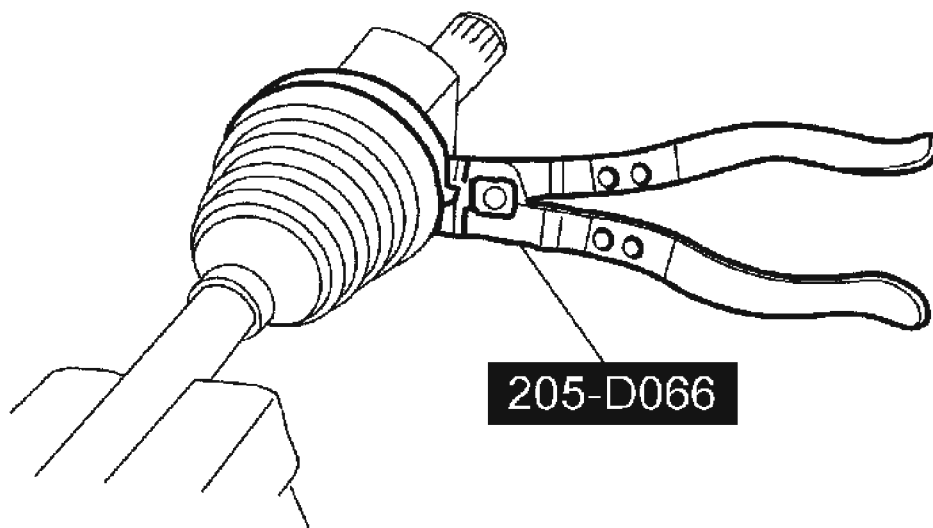
6. Inject half of the specified amount of grease into the transaxle side of the tripod joint. Inject the other half amount of grease into the boot.
7. Install the driveshaft at the transaxle end.
 1. Insert a suitable tool under the boot seat to allow the air to escape.
 2. Slide the tripod joint in as far as the stop, then pull it out 20 mm.
 - Remove the suitable tool.



N0034635

Fig. 58: Installing Driveshaft At Transaxle End
Courtesy of FORD MOTOR CO.

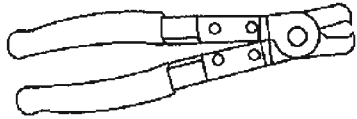
8. Insert the clamping strap in the boot ring groove and tighten with the special tool.



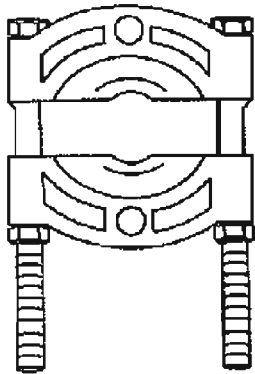
N0034641

Fig. 59: Inserting Clamping Strap In Boot Ring Groove And Tightening With Special Tool

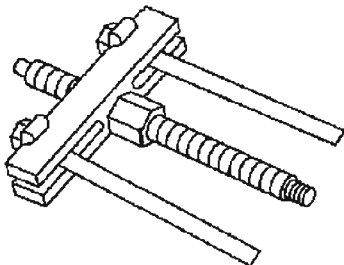
Courtesy of FORD MOTOR CO.

HALF SHAFT - RH**Special Tool(s)****SPECIAL TOOLS DESCRIPTION****D87P1090A**

Pliers, Boot Clamp 205-D066 (D87P-1090-A) or equivalent

**ST2785-A**

Puller, Bearing 205-D002 (D79L-4621-A)

**ST1516-A**

Push Puller 205-024 (D80L-927-A1)

Material**MATERIAL SPECIFICATIONS**

2005 Ford Focus ZX5 S

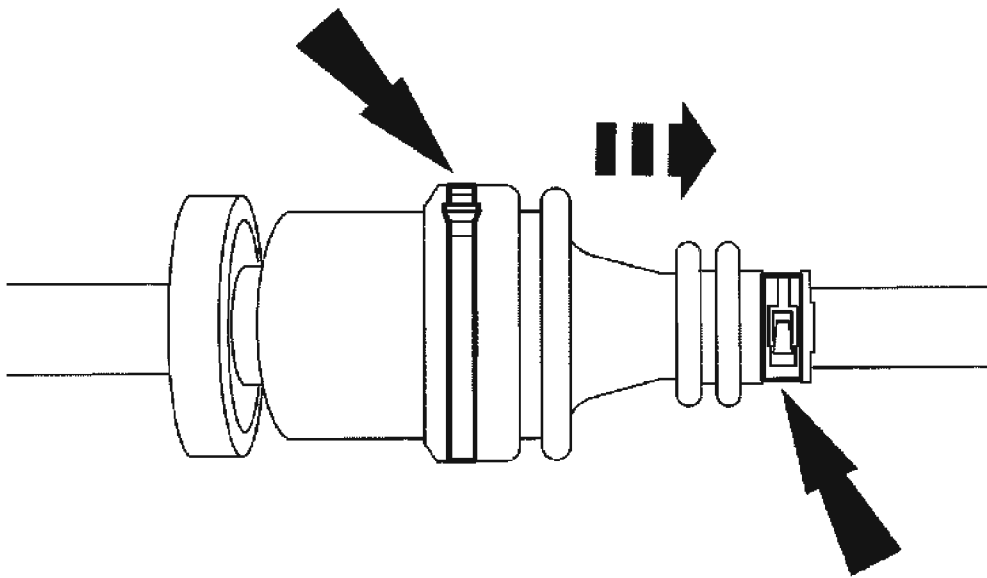
2005 DRIVELINE/AXLE Front Drive Halfshafts - Focus

Item	Specification
Grease, Inner Tripod Joint	XS41-M1C230-B
Constant Velocity Joint Grease (High Temperature) XG-5	WSS-M1C258-A1

Disassembly

CAUTION: The inner joint must not be bent at more than 18 degrees; the outer joint must not be bent at more than 45 degrees.

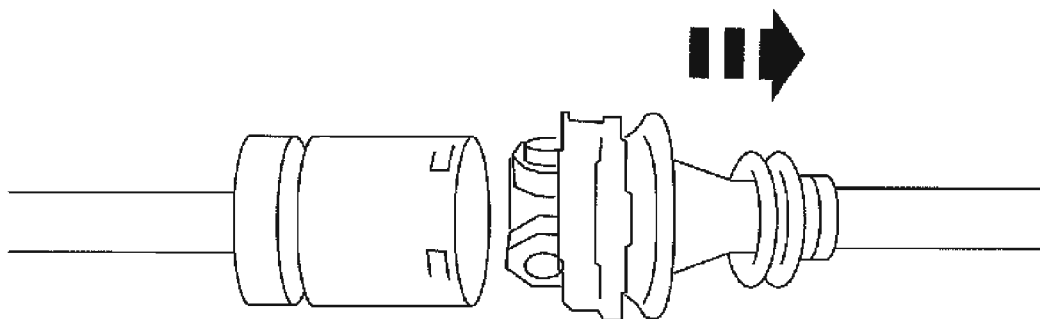
NOTE: Use protective covers.



A0074732

Fig. 60: Detaching Right-Hand Halfshaft From Intermediate Shaft
Courtesy of FORD MOTOR CO.

1. Detach the right-hand halfshaft from the intermediate shaft.
 - Hold the intermediate shaft in a vise.
 - Separate and discard the clamping straps. Push back the boot along the shaft.
2. Pull apart the tripod joint.
 - Remove all the grease.



A0074733

Fig. 61: Pulling Apart Tripod Joint
Courtesy of FORD MOTOR CO.

3. Using the special tool, remove the intermediate shaft bearing.

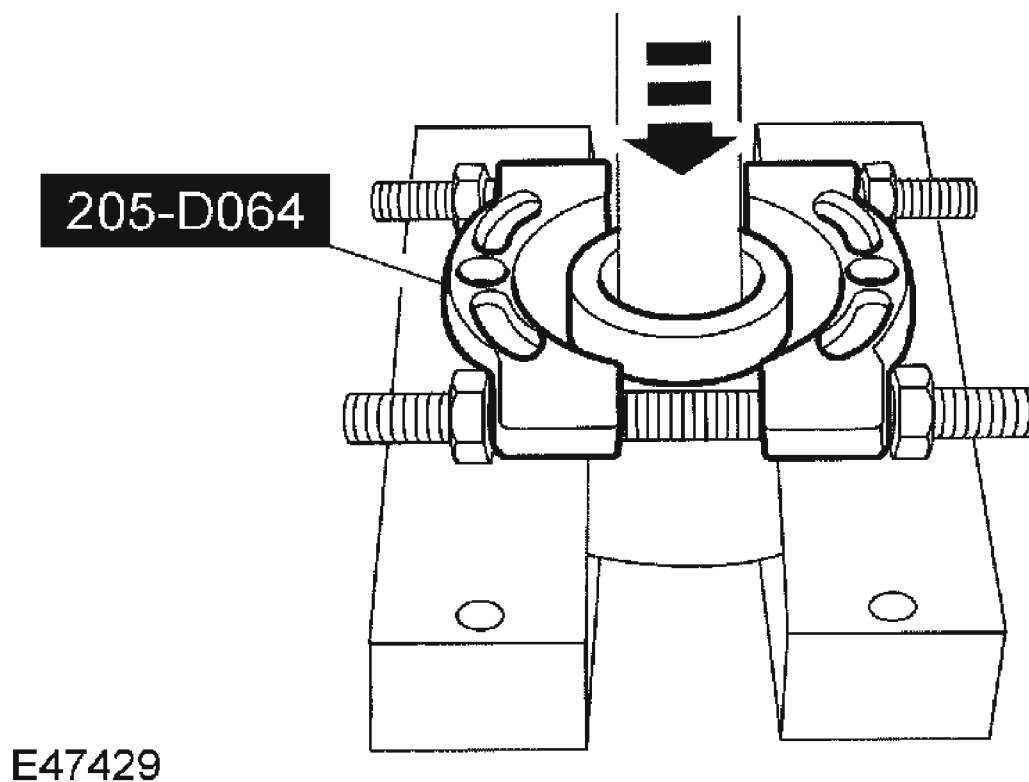


Fig. 62: Removing Intermediate Shaft Bearing Using Special Tool
Courtesy of FORD MOTOR CO.

4. Remove the snap ring.

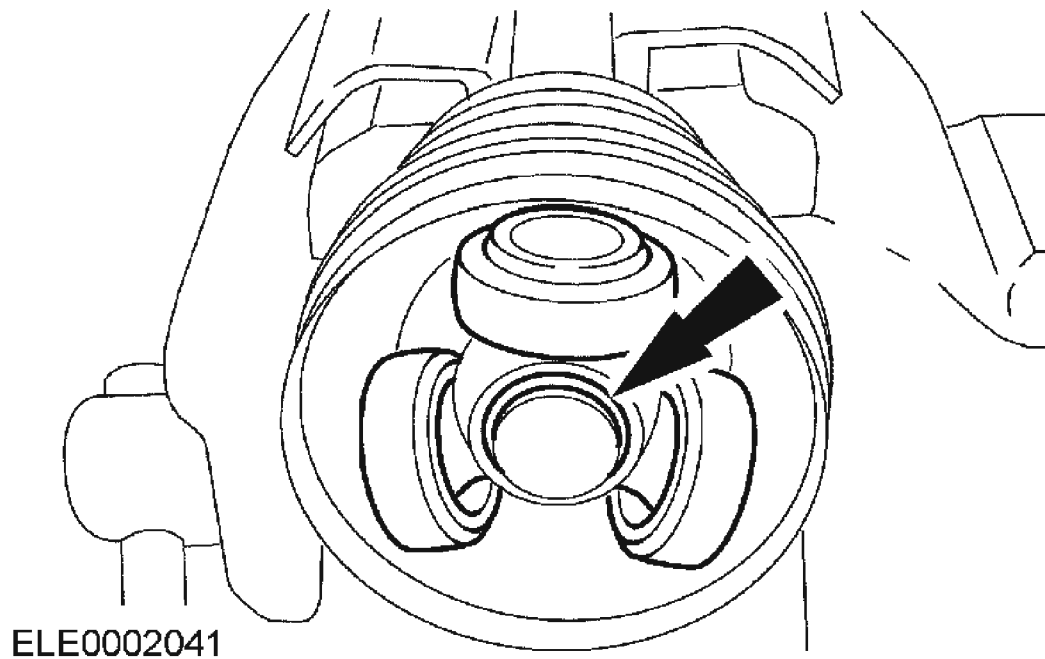


Fig. 63: Removing Snap Ring
Courtesy of FORD MOTOR CO.

5. Remove the tripod.
 - Using the special tool remove the tripod.
 - Remove the boot.

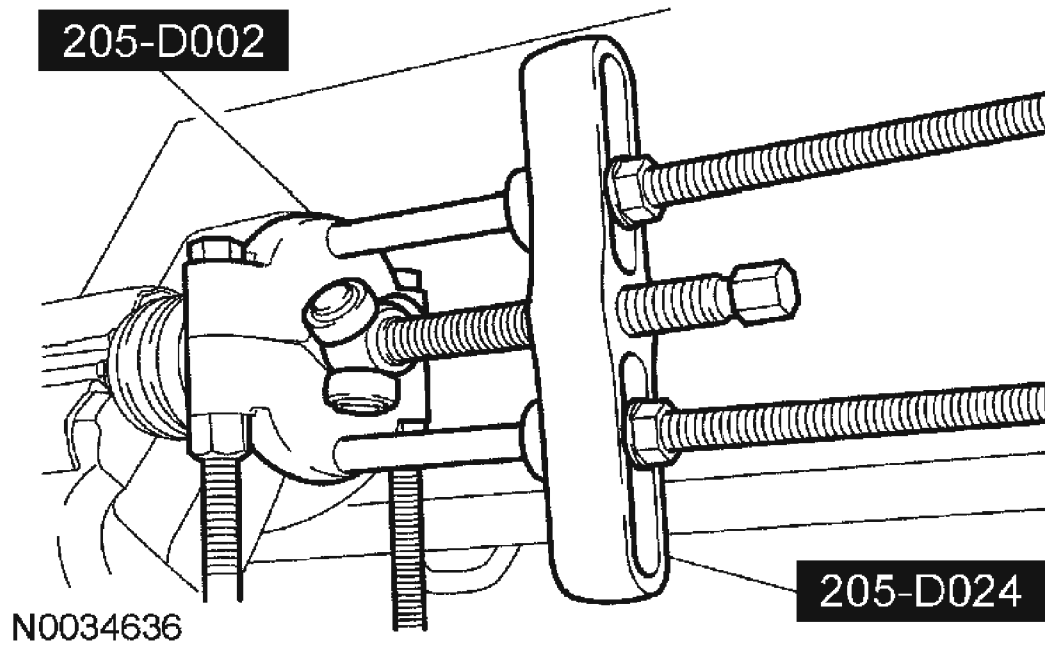
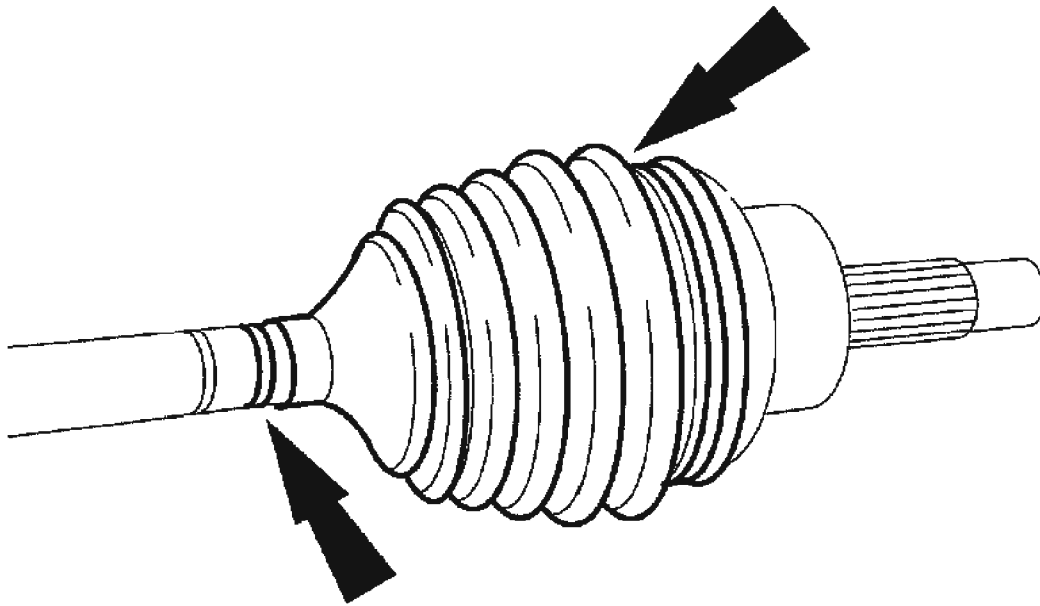


Fig. 64: Using Special Tool Removing Tripod
Courtesy of FORD MOTOR CO.

6. Detach the boot at the wheel end.
 - Separate and discard the clamping straps.
 - Remove the boot over the transaxle end.
 - Remove the accessible grease.



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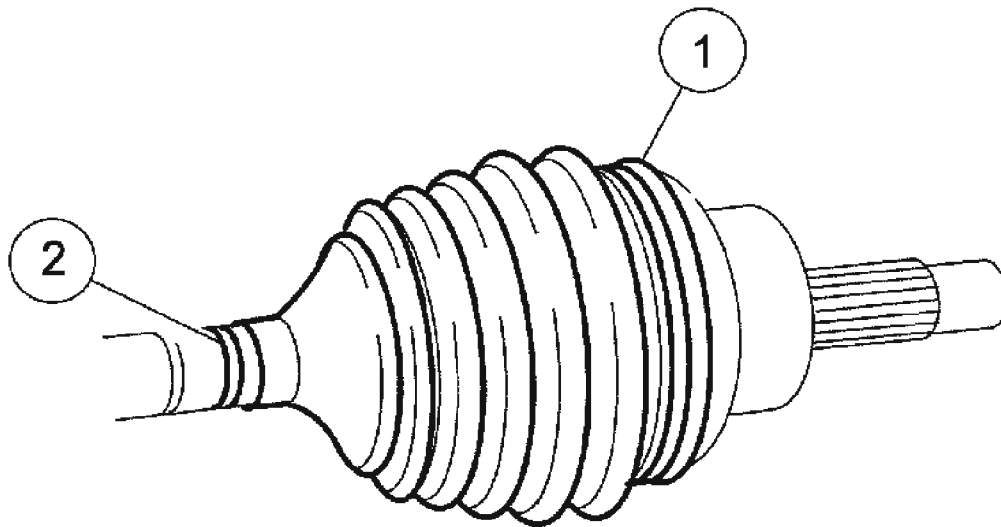
Fig. 65: Detaching Boot At Wheel End
Courtesy of FORD MOTOR CO.

Assembly

CAUTION: The inner joint must not be bent at more than 18 degrees;
the outer joint must not be bent at more than 45 degrees.

NOTE: Install the wheel-side boot over the transaxle end.

NOTE: To determine the amount of grease, refer to
SPECIFICATIONS for fill capacities.

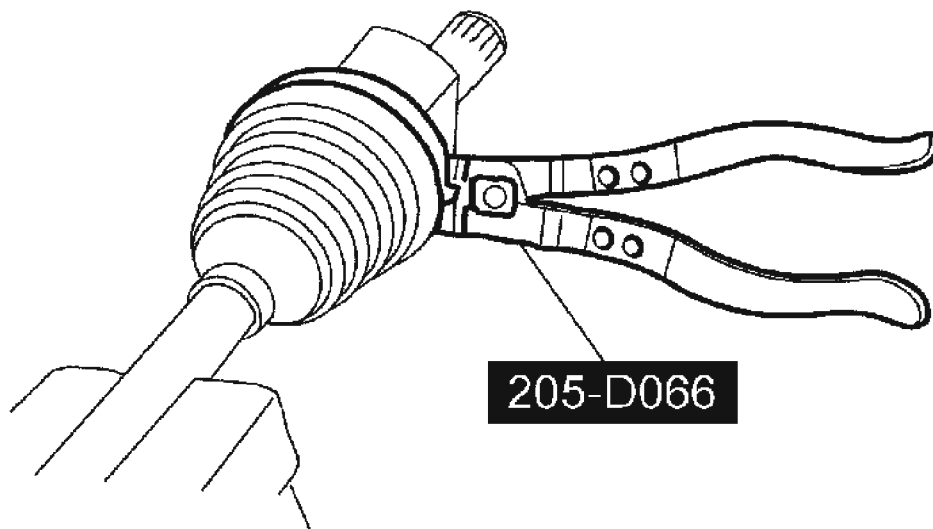


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Fig. 66: Installing Boot At Wheel End
Courtesy of FORD MOTOR CO.

1. Install the boot at the wheel end.
 - Inject the specified amount of grease into the outer joint.
 1. Slide a suitable tool under the boot seat to allow the air to escape.
 2. Locate the boot in position and remove the suitable tool.

NOTE: **Install a new clamping strap.**

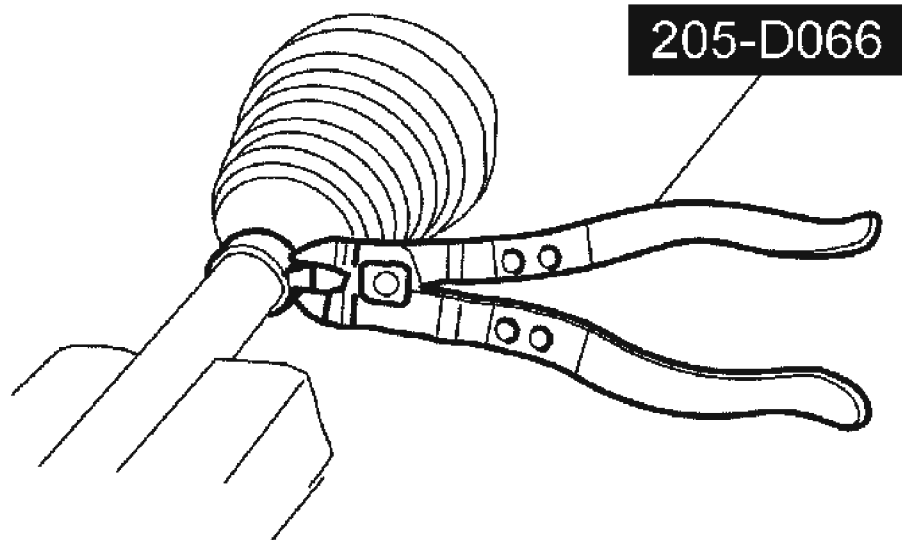


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Fig. 67: Using Special Tool To Install Clamping Straps In Boot Ring Grooves
Courtesy of FORD MOTOR CO.

2. Using the special tool install the clamping straps in the boot ring grooves.

NOTE: **Install a new clamping strap.**



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Fig. 68: Installing Clamping Straps In Boot Ring Groove Using Special Tool
Courtesy of FORD MOTOR CO.

3. Using the special tool, install the clamping straps in the boot ring groove.

CAUTION: Do not damage the tripod joint roller bearings.

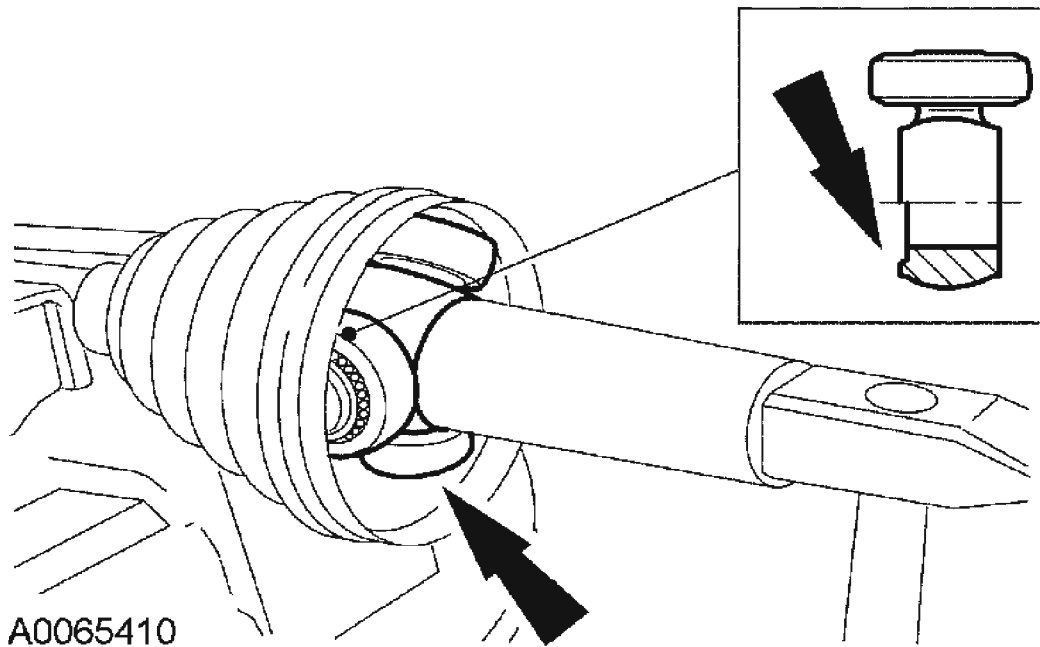


Fig. 69: Using Special Tool To Push Tripod Onto Front Drive Halfshaft As Far As It Will Go

Courtesy of FORD MOTOR CO.

4. Install the tripod.
 - Using the special tool, push the tripod onto the front drive halfshaft as far as it will go.

NOTE: Install a new snap ring.

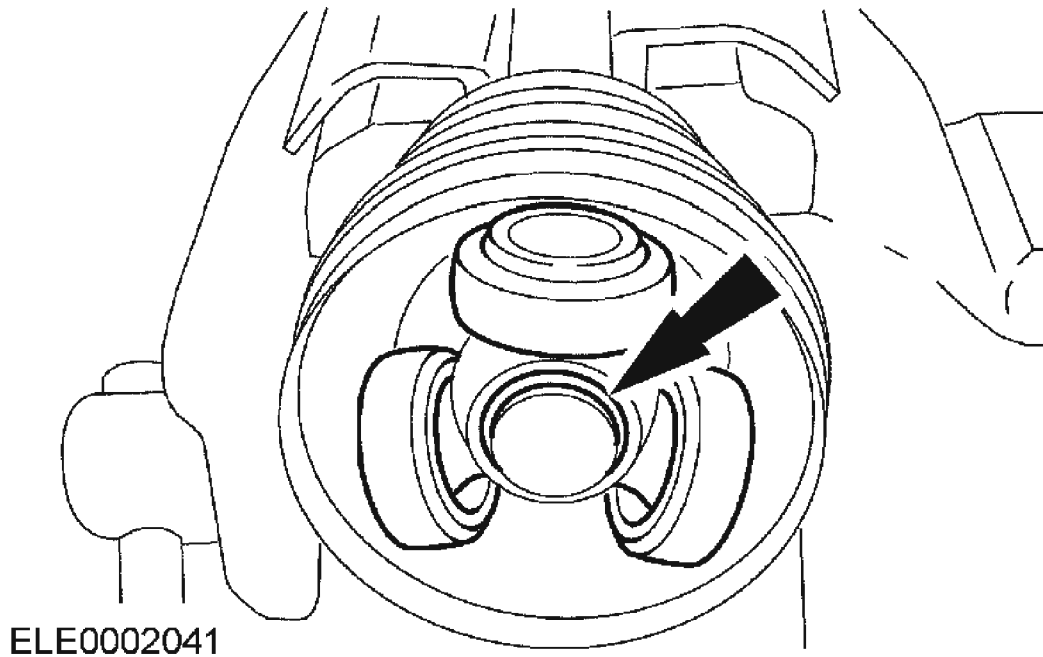
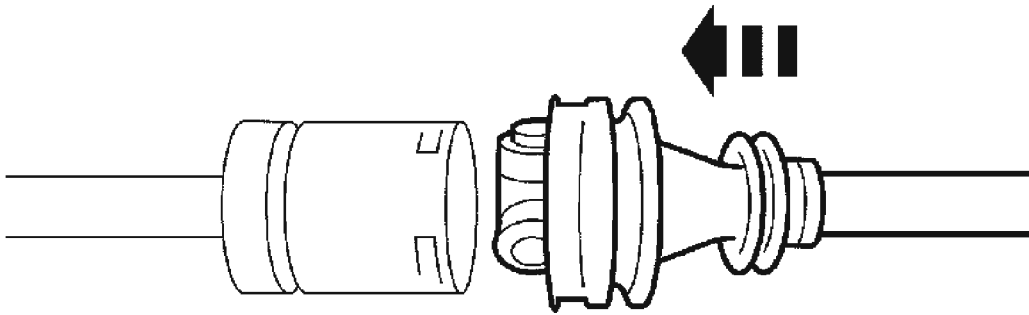


Fig. 70: Installing Snap Ring
Courtesy of FORD MOTOR CO.

5. Install the snap ring.
6. Using the special tool, install the intermediate shaft bearing.

NOTE: To determine the amount of grease, refer to **SPECIFICATIONS** for fill capacities.

7. Inject half of the specified amount of grease into the transaxle side of the tripod joint. Inject the other half amount of grease into the boot.
8. Install the intermediate shaft to the front drive halfshaft.

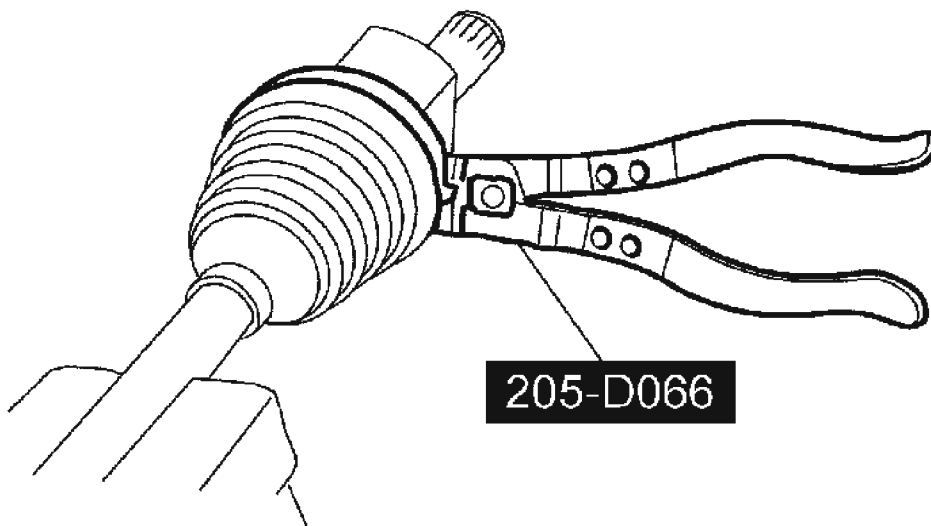


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Fig. 71: Installing Intermediate Shaft To Front Drive Halfshaft
Courtesy of FORD MOTOR CO.

NOTE: Install new clamping straps.

9. Using the special tool, install the clamping straps in the boot ring grooves.



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2005 Ford Focus ZX5 S
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Fig. 72: Installing Clamping Straps In Boot Ring Grooves Using Special Tool
Courtesy of FORD MOTOR CO.