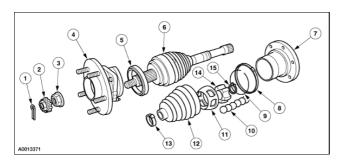
SECTION 205-04: Front Drive Halfshafts DESCRIPTION AND OPERATION

2002 Expedition/Navigator Workshop Manual

## **Front Drive Halfshafts**

#### Front Wheel Halfshaft and Joint, Disassembled View



Item	Description
1	Cotter pin
2	Retainer
3	Nut and washer
4	Hub and bearing assembly
5	Seal
6	Outboard CV joint and interconnecting shaft assembly
7	Inboard CV joint housing
8	Boot clamp
9	Retaining ring
10	Ball
11	Ball cage
12	Inboard boot
13	Boot clamp
14	Inner race
15	Snap ring

New halfshaft components are available as follows:

- A repair kit includes the boots, clamps, snap ring, retaining ring, and grease.
- A new inboard CV joint (plunge type).
- A new outboard CV joint and interconnecting shaft assembly includes the outboard front wheel halfshaft joint (fixed type), boot, clamps, and the front wheel excluder seal (assembled on the joint).

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SECTION 205-04: Front Drive Halfshafts DIAGNOSIS AND TESTING

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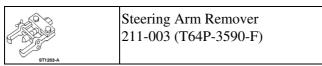
# Front Drive Halfshafts

Refer to Section 205-00.

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# Halfshaft

Special Tool(s)

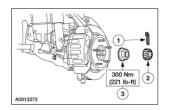


## **Removal and Installation**

1. A WARNING: The electrical power to the air suspension system must be shut off prior to hoisting, jacking or towing an air suspension vehicle. This can be accomplished by turning off the air suspension switch located in the RH kick panel area. Failure to do so can result in unexpected inflation or deflation of the air springs, which can result in shifting of the vehicle during these operations.

Raise and support the vehicle. For additional information, refer to Section 100-02.

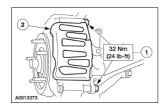
- 2. Remove the front wheel and tire assembly. For additional information, refer to Section 204-04.
- 3. Remove the fastener.
  - 1. Remove and discard the cotter pin.
  - 2. Remove the retainer.
  - 3. Remove the nut.



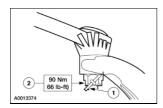
# 4. **A** CAUTION: Do not allow the front disc brake caliper to hang from the brake hose. Provide a suitable support.

Position the front disc brake caliper aside.

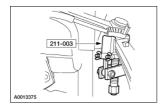
- 1. Remove the bolts.
- 2. Lift the caliper from the anchor plate and position it aside.



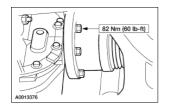
- 5. Remove the nut.
  - 1. Remove and discard the cotter pin.
  - 2. Remove the nut.



6. Using the special tool, separate the front wheel knuckle from the front suspension upper arm.

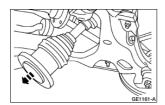


7. Remove the six bolts.



# 8. **A CAUTION: Do not damage the hub seal.**

Separate the halfshaft from the axle and the hub, and remove the assembly from the vehicle.



9. To install, reverse the removal procedure.

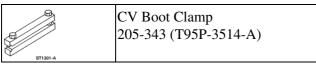
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SECTION 205-04: Front Drive Halfshafts DISASSEMBLY AND ASSEMBLY

2002 Expedition/Navigator Workshop Manual

# Halfshaft

Special Tool(s)

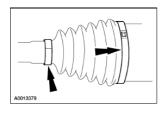


## Disassembly

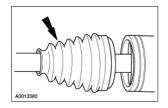
1. Remove the halfshaft from the vehicle. For additional information, refer to Halfshaft in the Removal and Installation portion of this section.

## 2. **AUTION:** Do not damage the boot.

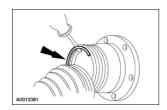
Remove the boot clamps.



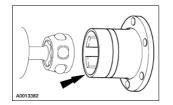
3. Separate the boot from the inboard CV joint housing.



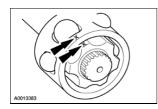
4. Remove the retaining ring.



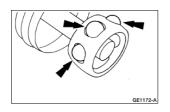
5. Remove the inboard CV joint housing.



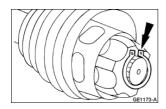
6. Index-mark the inner race and ball cage.



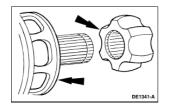
7. Remove the six balls.



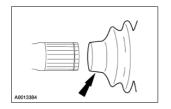
8. Remove the snap ring.



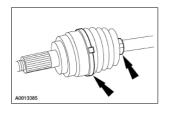
9. Remove the inner race and the ball cage.



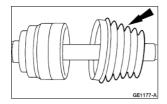
10. Remove the inboard boot.



11. Remove the boot clamps.



12. Remove the outboard boot.

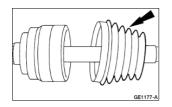


13. **NOTE:** If the grease is contaminated, clean and inspect the joint for wear. Install a new outboard CV joint and interconnecting shaft assembly if worn/damaged.

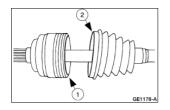
Check the grease for contamination.

## Assembly

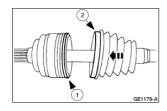
1. Position the outboard boot on the shaft.



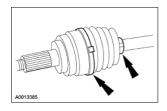
- 2. Pack the outboard CV joint with 165 grams (5.82 ounces) of grease.
  - 1. Use High Temp Constant Velocity Joint Grease E43Z-19590-A or equivalent meeting Ford specification ESP-M1C207-A provided in the boot kit.
  - 2. Spread any remaining grease from the kit evenly inside the boot.



- 3. Install the outboard boot.
  - 1. Clean the boot mounting surface.
  - 2. Seat the boot in the joint boot groove.

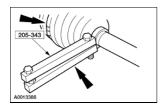


4. Position the boot clamps.

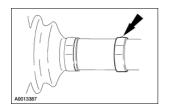


5. **NOTE:** Tighten the through-bolt until the tool is in the closed position.

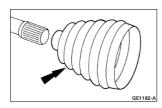
Using the special tool, install the two boot clamps.



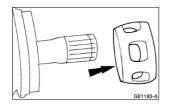
6. Position the boot clamp on the shaft.



7. Position the inboard boot on the shaft.

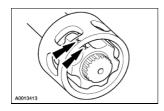


8. Position the ball cage on the shaft with the tapered end facing the boot.

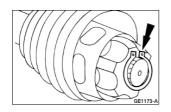


9. NOTE: Align the index marks.

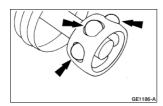
Position the inner race on the shaft with the counterbored end facing the boot.



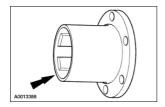
10. Install the snap ring.



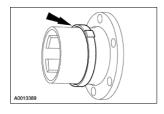
- 11. Lubricate and position the six balls.
  - Use High Temp Constant Velocity Joint Grease E43Z-19590-A or equivalent meeting Ford specification ESP-M1C207-A provided in the boot kit.



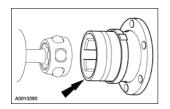
- 12. Fill the inboard CV joint housing with 235 grams (8.29 ounces) of grease.
  - Use High Temp Constant Velocity Joint Grease E43Z-19590-A or equivalent meeting Ford specification ESP-M1C207-A provided in the boot kit.



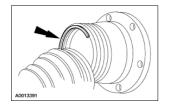
13. Position the boot clamp on the inboard CV joint housing.



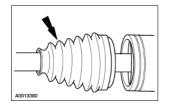
14. Position the inboard CV joint housing on the ball and race assembly.



15. Install the retaining ring.



16. Remove any excess grease from the mating surface. Seat the boot in the joint boot groove.



17. Set the halfshaft assembled length to specification. Refer to Specifications in this section.