

DRIVELINE

HALFSHAFT

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HALFSHAFT

DESCRIPTION

The front halfshaft assemblies are flexible assemblies consisting of an inner and outer flexible joint connected by an solid shaft (Fig. 1) (Fig. 2). Transaxle packaging and location requires the use of unequal length halfshafts, with the left shaft being longer than the right.

The inner joints are of a tripod design (Fig. 2), and allow for axial and angular movement to accommodate for shifting of powertrain and suspension components. The inner joints incorporate a female spline which install over the transaxle stub shafts.

The outer joints are of a Rzeppa design (Fig. 2), and only offer angular flexibility. The outer joints incorporate a male spline, which connect to the wheel hub/bearing. The outer joint is fastened to the hub to ensure that there is no axial movement (end-play).

Both inner and outer joints utilize flexible "boots" (Fig. 1) (Fig. 2) which maintain grease within the joints, protect the joints from the environment/elements, and facilitate the axial and angular movement of the joints. The inner joint boots are constructed of silicone rubber. The outer boots are made of Hytrel plastic.

NOTE: When halfshaft boots are replaced be sure boots of the correct material are used.

OPERATION

Halfshaft assemblies are designed to transmit power from the transaxle to the front wheels, while allowing for powertrain and suspension flex.

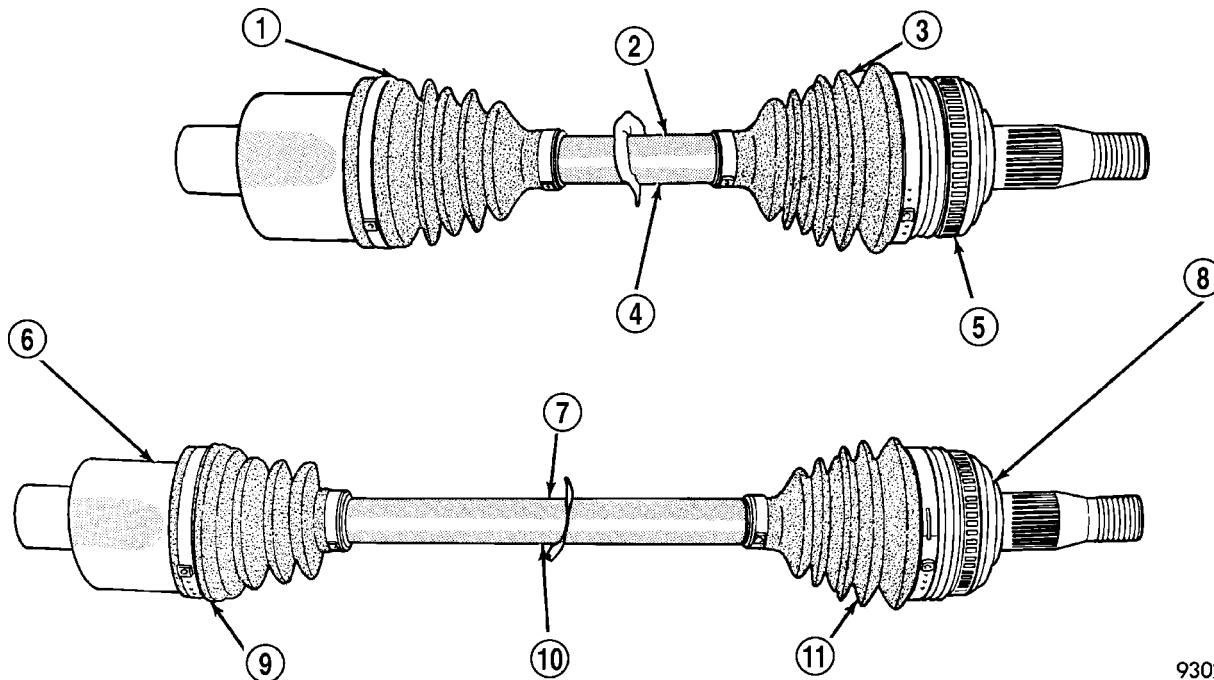
DIAGNOSIS AND TESTING - DRIVELINE

HALFSHAFT VISUAL INSPECTION

(1) Check for grease in the vicinity of the inboard tripod joint and outboard C/V joint; this is a sign of inner or outer joint seal boot or seal boot clamp damage.

(2) A light film of grease may appear on the inner tripod joint seal boot; this is considered normal and should not require replacement of the seal boot. All inner tripod joint seal boots are made of silicone rubber; which will allow the weeping (sweating) of the joint lubricant to pass through it while in operation.

HALFSHAFT (Continued)



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Fig. 1 Front Halfshaft Assemblies

1 - INNER BOOT
 2 - INTERCONNECTING SHAFT
 3 - OUTER BOOT
 4 - RIGHT HALF SHAFT
 5 - TONE WHEEL
 (WHEN EQUIPPED WITH ABS)
 6 - INNER TRIPOD JOINT

7 - INTERCONNECTING SHAFT
 8 - OUTER RZEPPA JOINT
 9 - INNER BOOT
 10 - LEFT HALF SHAFT
 11 - OUTER BOOT

NOISE AND/OR VIBRATION IN TURNS

A clicking noise and/or a vibration in turns could be caused by one of the following conditions:

(1) Damaged outer C/V or inner tripod joint seal boot or seal boot clamps. This will result in the loss and/or contamination of the joint grease, resulting in inadequate lubrication of the joint.

(2) Noise may also be caused by another component of the vehicle coming in contact with the halfshafts.

CLUNKING NOISE DURING ACCELERATION

This noise may be a result of one of the following conditions:

(1) A torn seal boot on the inner or outer joint of the halfshaft assembly.

(2) A loose or missing clamp on the inner or outer joint of the halfshaft assembly.

(3) A damaged or worn halfshaft C/V joint.

SHUDDER OR VIBRATION DURING ACCELERATION

This problem could be a result of:

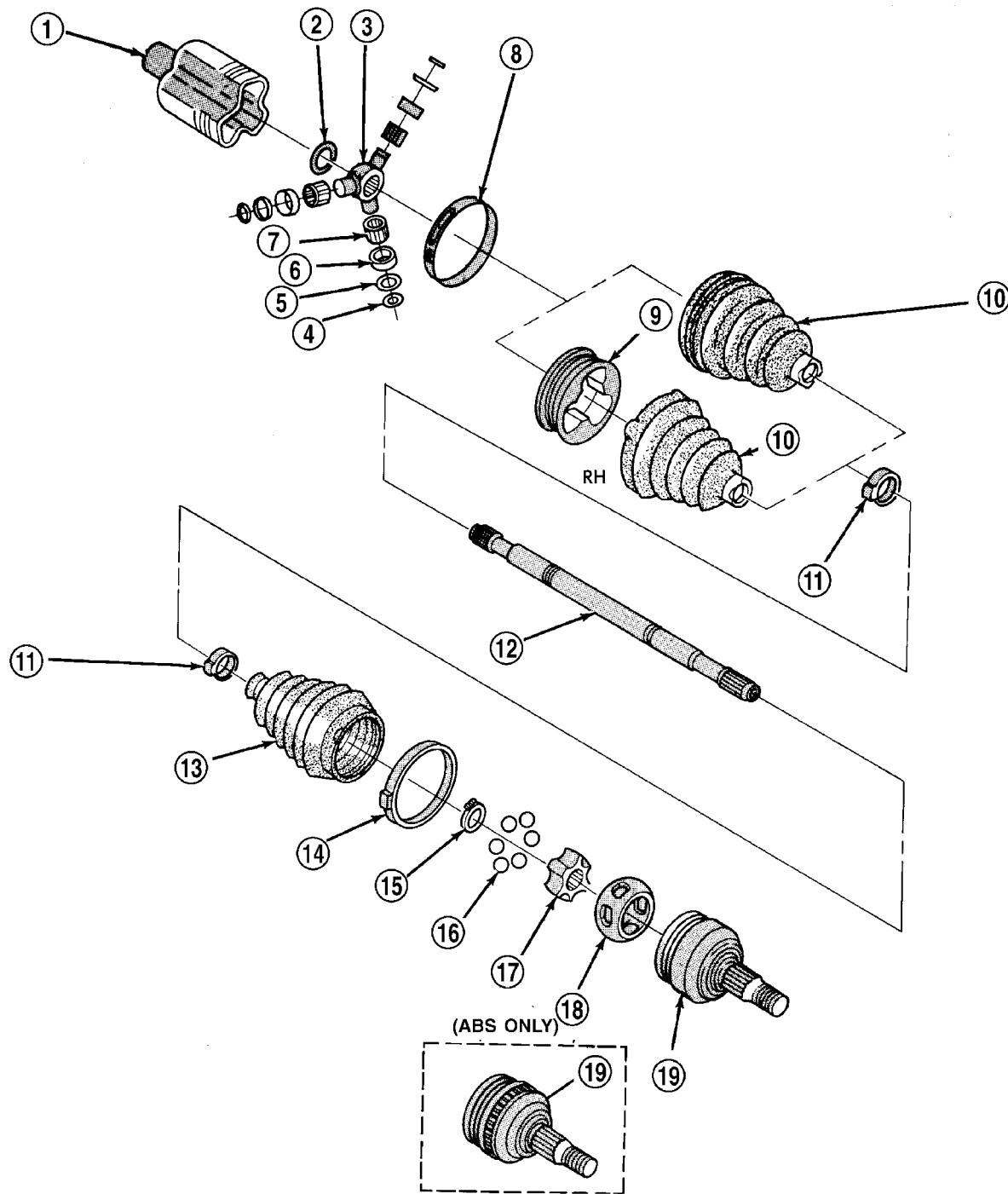
- (1) A worn or damaged halfshaft inner tripod joint.
- (2) A sticking tripod joint spider assembly (inner tripod joint only).
- (3) Improper wheel alignment. (Refer to 2 - SUSPENSION/WHEEL ALIGNMENT - STANDARD PROCEDURE)

VIBRATION AT HIGHWAY SPEEDS

This problem could be a result of:

- (1) Foreign material (mud, snow, etc.) packed on the backside of the wheel(s).
- (2) Out of balance front tires or wheels. (Refer to 22 - TIRES/WHEELS - STANDARD PROCEDURE)
- (3) Improper tire and/or wheel runout. (Refer to 22 - TIRES/WHEELS - DIAGNOSIS AND TESTING)

HALFSHAFT (Continued)



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Fig. 2 Halfshaft Component Identification

- 1 - HOUSING ASM, RETAINER
- 2 - RING, SPACER
- 3 - SPIDER, TRIPOD JOINT
- 4 - RING, RETAINING
- 5 - RETAINER, BALL & ROLLER
- 6 - BALL, TRIPOD JOINT
- 7 - ROLLER, NEEDLE
- 8 - CLAMP, SEAL RETAINING
- 9 - BUSHING, TRILOBAL TRIPOD
- 10 - SEAL, DRIVE AXLE INBOARD

- 11 - CLAMP, SEAL RETAINING
- 12 - SHAFT, AXLE (RH SHOWN, LH SIMILAR)
- 13 - SEAL, DRIVE AXLE OUTBOARD
- 14 - CLAMP, SEAL RETAINING
- 15 - RING, RACE RETAINING
- 16 - BALL, CHROME ALLOY
- 17 - RACE, C/V JOINT INNER
- 18 - CAGE, C/V JOINT (ABS ONLY)
- 19 - RACE, C/V JOINT OUTER

HALFSHAFT (Continued)

REMOVAL

- (1) Raise vehicle on jackstands or centered on a frame contact type hoist.
- (2) Remove the front wheel and tire assembly from the vehicle.
- (3) Remove the front caliper assembly from the front steering knuckle assembly (Fig. 3).

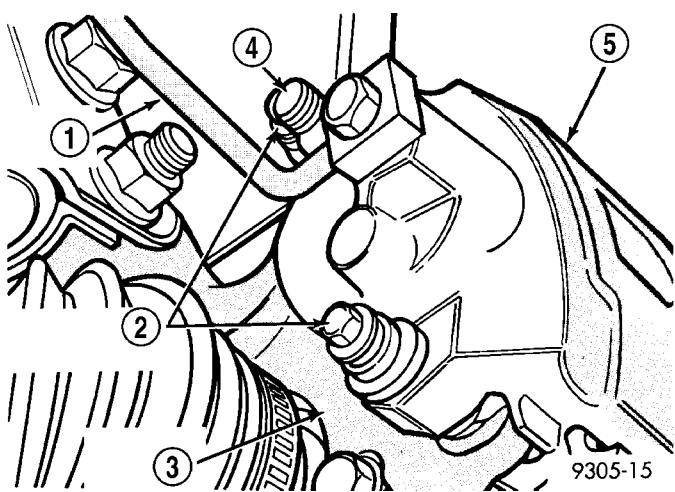


Fig. 3 Disc Brake Caliper Mounting

- 1 - BRAKE LINE
- 2 - CALIPER GUIDE PIN BOLTS
- 3 - STEERING KNUCKLE
- 4 - BLEEDER SCREW
- 5 - CALIPER ASSEMBLY

(4) Remove front braking disk (rotor) from hub, by pulling it straight off wheel mounting studs (Fig. 4).

(5) Remove the speed sensor cable routing bracket from the strut assembly (Fig. 5).

(6) Remove the hub and bearing-to-stub axle retaining nut (Fig. 6).

(7) Dislodge inner tripod joint from stub shaft retaining snap ring on transaxle assembly (Fig. 7). Inner tripod joint is dislodged from stub shaft retaining snap ring, by inserting a pry bar between transaxle case and inner tripod joint and prying on tripod joint. **Only disengage the inner tripod joint from the retaining snap ring. Do not attempt to remove the inner tripod joint from the transmission stub shaft at this time.**

CAUTION: The strut assembly to steering knuckle bolts are serrated where they go through strut assembly and steering knuckle. When removing bolts, turn nuts off bolts. **DO NOT TURN BOLTS IN STEERING KNUCKLE.** If bolts are turned, damage to steering knuckle will result.

(8) Remove the strut assembly to steering knuckle attaching bolts (Fig. 8).

(9) Remove the top of the steering knuckle from the strut assembly.

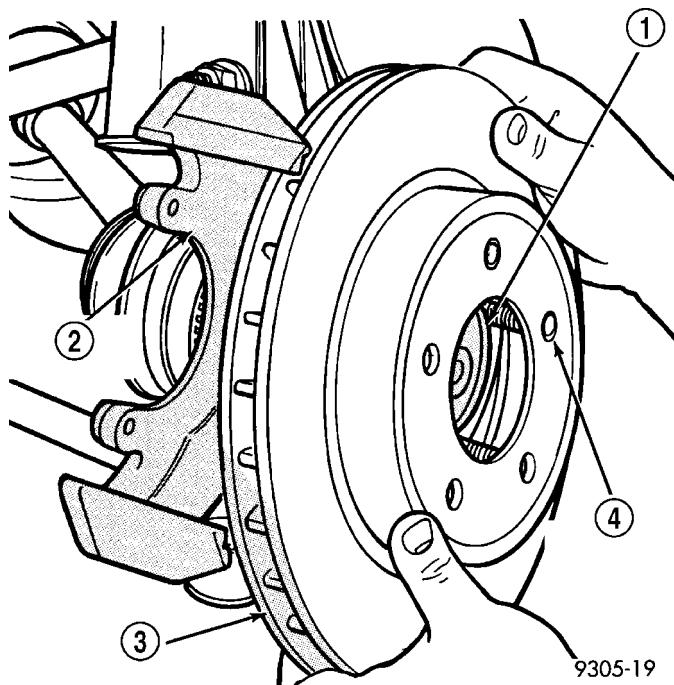


Fig. 4 Removing Braking Disc

- 1 - HUB
- 2 - STEERING KNUCKLE
- 3 - BRAKE ROTOR (DISC)
- 4 - WHEEL MOUNTING STUD

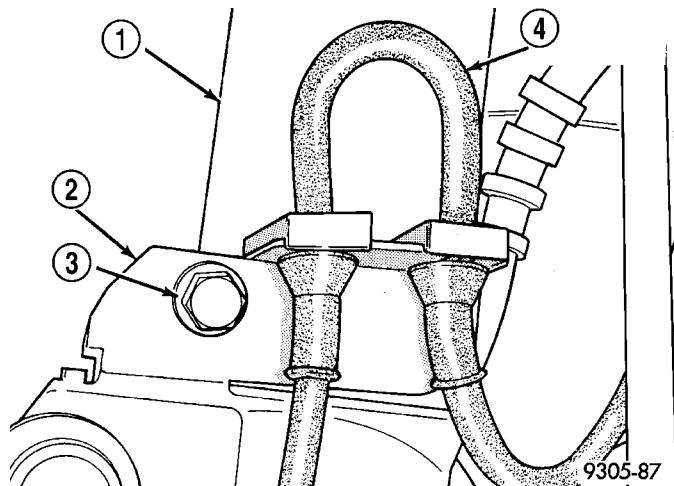
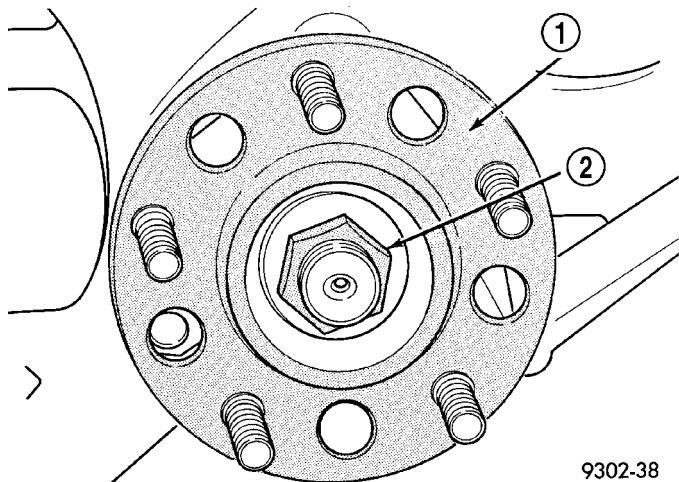


Fig. 5 Speed Sensor Cable Routing Bracket

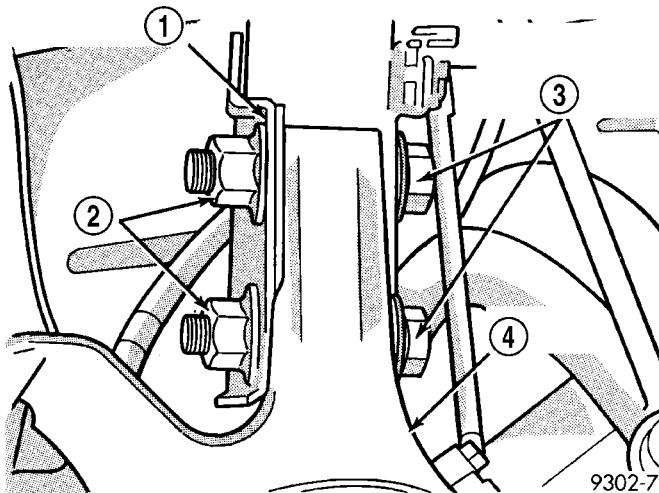
- 1 - STRUT ASSEMBLY
- 2 - ROUTING BRACKET
- 3 - SCREW
- 4 - SPEED SENSOR CABLE

(10) Hold outer C/V joint assembly with one hand. Grasp steering knuckle with other and rotate it out and to the rear of the vehicle, until outer C/V joint clears hub and bearing assembly (Fig. 9).

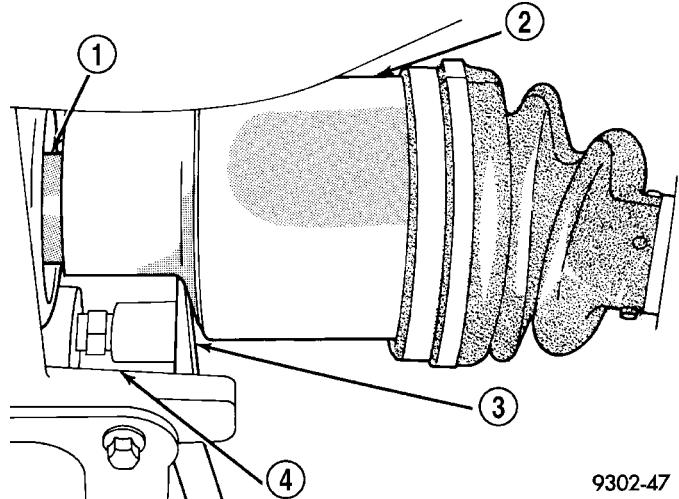
HALFSHAFT (Continued)

**Fig. 6 Hub And Bearing To Stub Axe Retaining Nut**

1 - HUB/BEARING ASSEMBLY
2 - NUT

**Fig. 8 Strut Assembly To Steering Knuckle Attaching Bolts**

1 - STRUT ASSEMBLY
2 - NUTS
3 - STRUT ASSEMBLY TO STEERING KNUCKLE ATTACHING BOLTS
4 - STEERING KNUCKLE

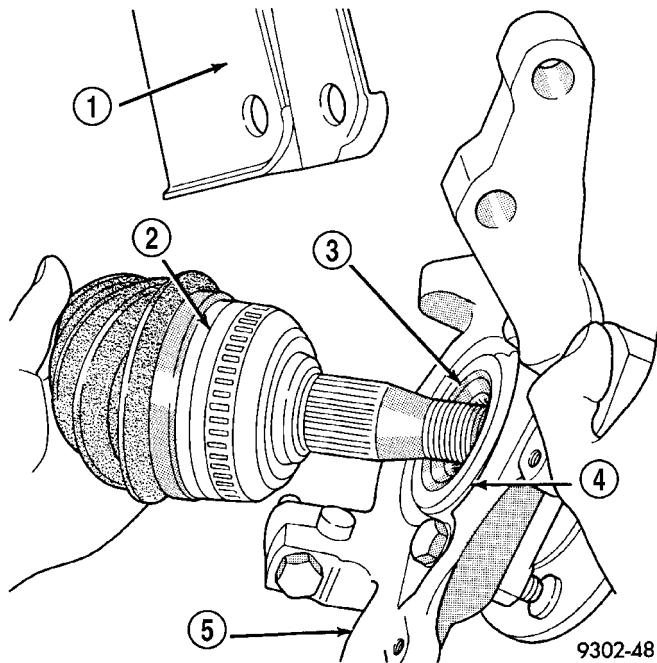
**Fig. 7 Inner Tripod Joint Removal from Stub Shaft**

1 - TRANSMISSION STUB SHAFT
2 - INNER TRIPOD JOINT
3 - PRY BAR
4 - TRANSAKLE

(11) Remove driveshaft inner tripod joint from transaxle stub shaft. **When removing driveshaft, do not pull on interconnecting shaft to remove inner tripod joint from stub shaft. Removal in this manner will separate the spider assembly from the tripod joint housing. Grasp inner tripod joint (Fig. 10) and interconnecting shaft and pull on both pieces at the same time.**

INSTALLATION

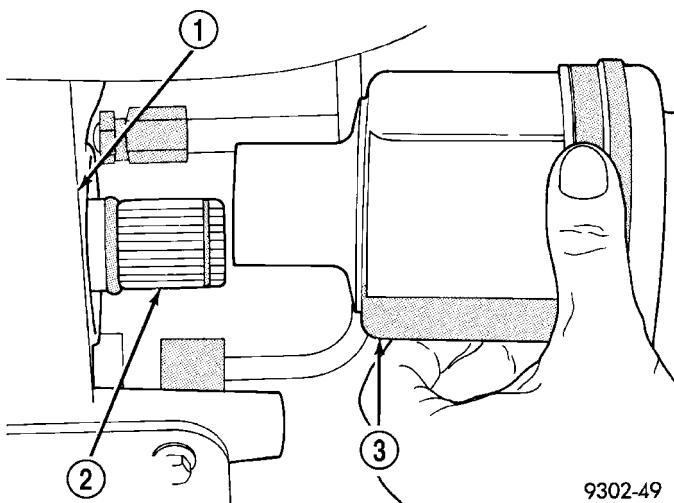
CAUTION: The inboard tripod joint retaining circlip and O-ring seal (Fig. 11) on the transaxle stub shaft are not re-usable. Whenever the inboard tripod joint is removed from the stub shaft, the retaining circlip

**Fig. 9 Outer C/V Joint Removal From Hub and Bearing**

1 - STRUT ASSEMBLY
2 - OUTER C/V JOINT
3 - HUB/BEARING ASSEMBLY
4 - FLINGER DISK
5 - STEERING KNUCKLE

and O-ring seal MUST BE REPLACED. The retaining circlip and O-ring seal is included in all service kits requiring removal of the inboard tripod joint from the stub shaft.

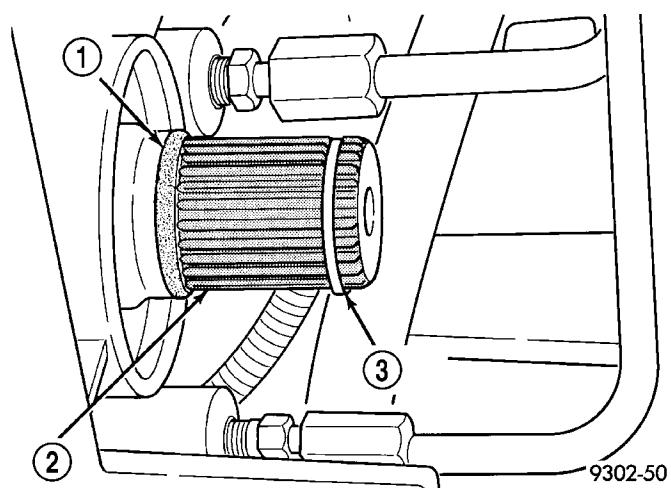
HALFSHAFT (Continued)



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Fig. 10 Inner Tripod Joint Removal From Stub Shaft

1 - TRANSALE
2 - TRANSMISSION STUB SHAFT
3 - INNER TRIPOD JOINT



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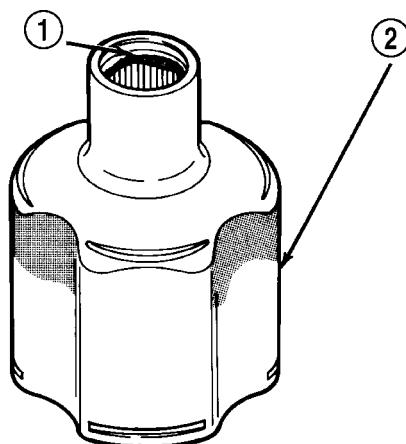
Fig. 11 Tripod Joint Retaining Circlip And O-Ring Seal

1 - O-RING SEAL
2 - STUB SHAFT
3 - RETAINING CIR CLIP

(1) Replace O-ring seal and tripod joint retaining circlip (Fig. 11) on the transaxle stub shaft.

(2) Evenly apply a bead of grease, such as Mopar Multi-Purpose Lubricant or an equivalent, around spline of inner tripod joint (Fig. 12) where the O-ring seats against tripod joint. This will spread grease onto stub shaft during tripod joint installation preventing corrosion and help to seal the O-ring.

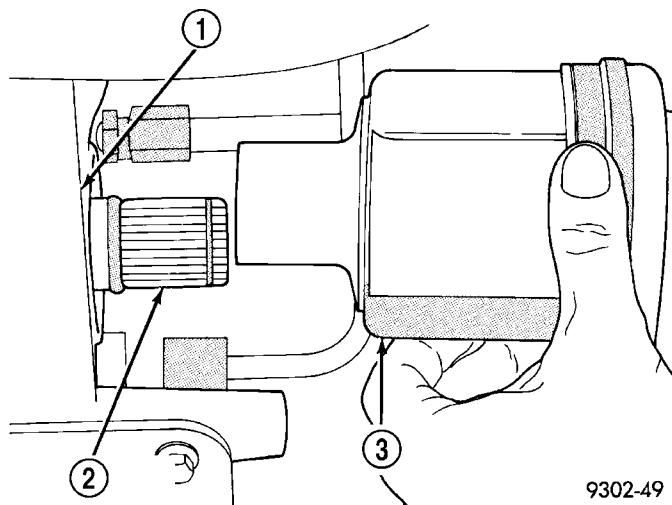
(3) Install driveshaft through hole in splash shield. Grasp inner tripod joint in one hand and interconnecting shaft in the other. Align inner tripod joint spline with stub shaft spline on transaxle (Fig. 13). Use a rocking motion with the inner tripod joint, to get it past the circlip on the transaxle stub shaft.



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Fig. 12 Grease Applied To Inner Tripod Joint Housing Spline

1 - APPLY 1 MILLILITER BEAD OF GREASE HERE
2 - INNER TRIPOD JOINT HOUSING



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Fig. 13 Inner Tripod Joint Installation On Stub Shaft

1 - TRANSALE
2 - TRANSMISSION STUB SHAFT
3 - INNER TRIPOD JOINT

(4) Continue pushing tripod joint onto transaxle stub shaft until it stops moving. The O-ring seal on the stub should not be visible when inner tripod joint is fully installed on stub shaft. **To check that inner tripod joint retaining circlip is locked into tripod joint, grasp inner tripod joint and pull on it by hand. If circlip is locked into tripod joint, tripod joint will not move on stub shaft.**

CAUTION: When installing outer C/V joint into the hub and bearing assembly, do not allow the flinger disk on hub and bearing assembly to become damaged. Damage to the flinger disk can cause dirt and water intrusion into bearing and premature bearing failure.

HALFSHAFT (Continued)

(5) Hold outer C/V joint assembly with one hand. Grasp steering knuckle with other hand and rotate it out and to the rear of the vehicle. Install outer C/V joint into the hub and bearing assembly (Fig. 14).

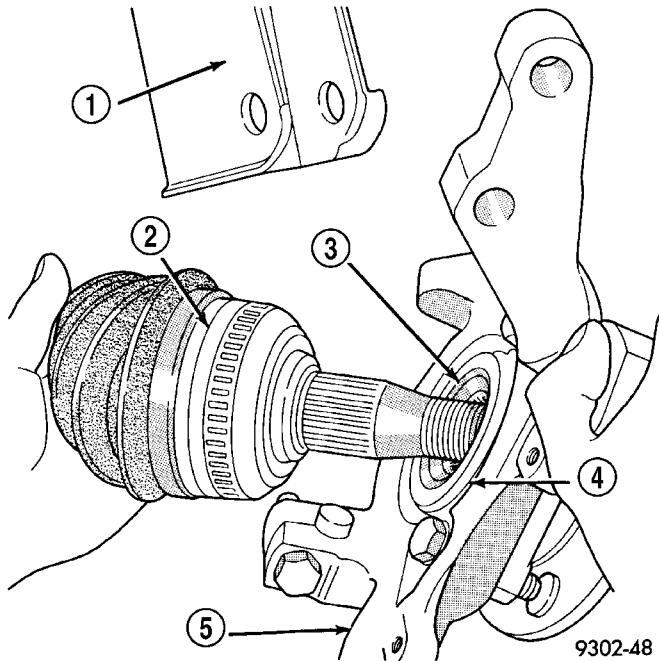


Fig. 14 Outer C/V Joint Installation Into Hub and Bearing

- 1 - STRUT ASSEMBLY
- 2 - OUTER C/V JOINT
- 3 - HUB/BEARING ASSEMBLY
- 4 - FLINGER DISK
- 5 - STEERING KNUCKLE

(6) Install the top of the steering knuckle into the strut assembly. Align the steering knuckle to strut assembly mounting holes.

CAUTION: The strut assembly to steering knuckle bolts are serrated where they go through strut assembly and steering knuckle. When installing bolts, turn nuts onto bolts. **DO NOT TURN BOLTS IN STEERING KNUCKLE.** If bolts are turned, damage to steering knuckle will result.

(7) Install the strut assembly to steering knuckle attaching bolts. Install nuts on attaching bolts (Fig. 15). Tighten the strut assembly to steering knuckle bolt nuts to 210 N·m (155 ft. lbs.). **TURN NUTS ON BOLTS. DO NOT TURN BOLTS.**

CAUTION: The hub and bearing assembly to stub shaft retaining nut is a prevailing torque nut and can not be re-used. A NEW retaining nut MUST be used when assembled.

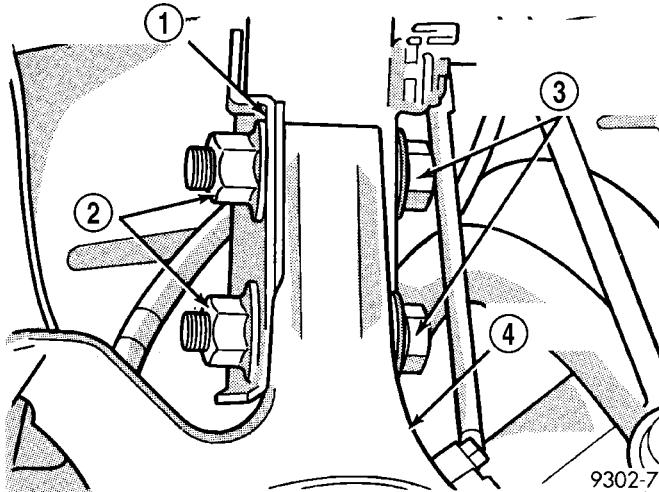


Fig. 15 Strut Assembly to Steering Knuckle Attaching Bolts

- 1 - STRUT ASSEMBLY
- 2 - NUTS
- 3 - STRUT ASSEMBLY TO STEERING KNUCKLE ATTACHING BOLTS
- 4 - STEERING KNUCKLE

(8) Install a **NEW** retaining nut (Fig. 16). **Tighten, but do not torque the hub nut at this time.**

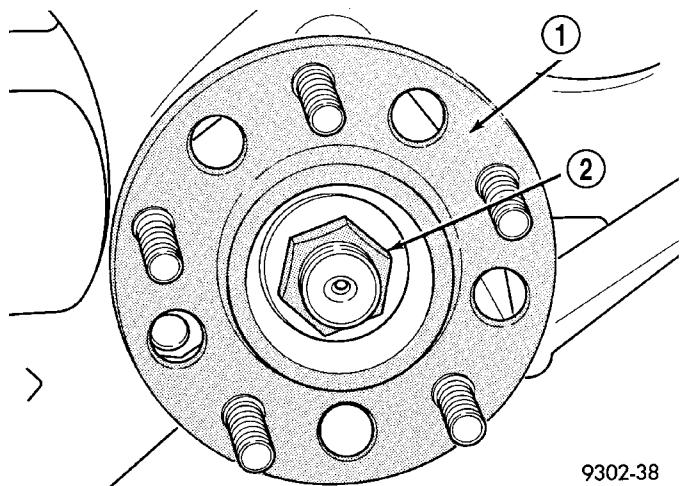


Fig. 16 Hub And Bearing To Stub Axle Retaining Nut

- 1 - HUB/BEARING ASSEMBLY
- 2 - NUT

(9) Install speed sensor cable routing bracket on front strut assembly. Install and securely tighten routing bracket screw.

(10) Install the braking disk on the hub and bearing assembly (Fig. 17).

(11) Install front brake caliper over braking disc and align with caliper mounting holes on steering knuckle (Fig. 18). Install the caliper to steering knuckle bolts. Tighten bolts to 22 N·m (192 in. lbs.).

HALFSHAFT (Continued)

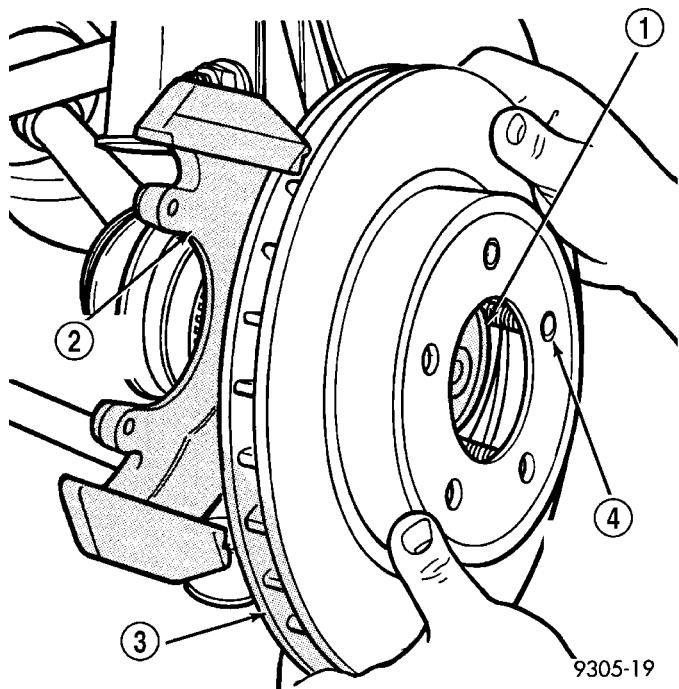


Fig. 17 Installing Brake Rotor

1 - HUB
2 - STEERING KNUCKLE
3 - BRAKE ROTOR (DISC)
4 - WHEEL MOUNTING STUD

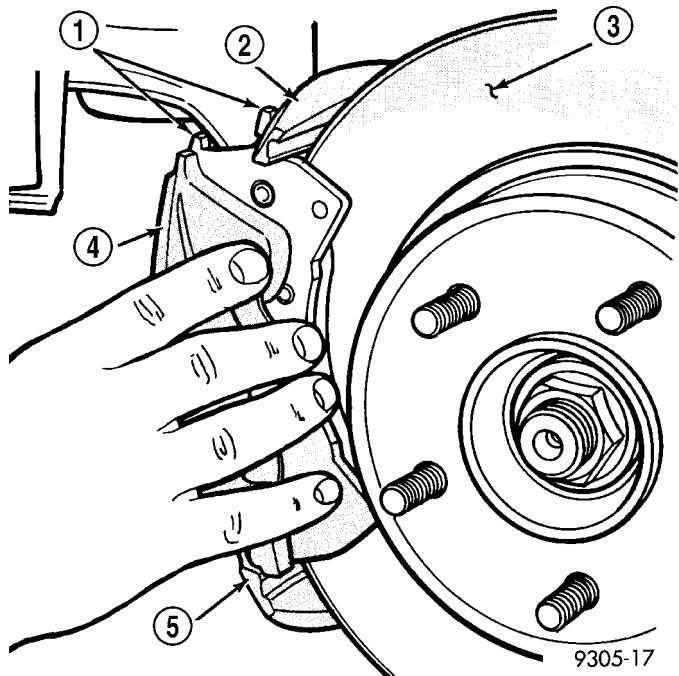


Fig. 18 Disc Brake Caliper Mounting

1 - BRAKE SHOES
2 - STEERING KNUCKLE
3 - BRAKING DISC
4 - CALIPER ASSEMBLY
5 - MACHINED ABUTMENT

(12) Install wheel and tire assembly on vehicle. Tighten the wheel mounting stud nuts in proper sequence (Fig. 19), until all nuts are tightened to half specification. Then repeat the tightening sequence to the full specified torque of 135 N·m (100 ft. lbs.).

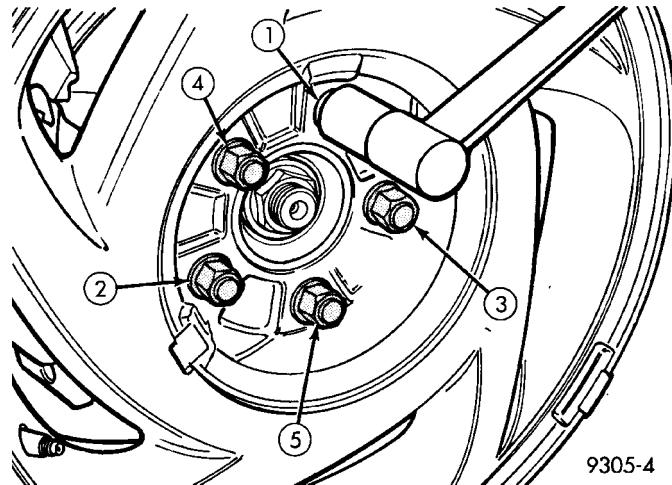


Fig. 19 Tightening Wheel Nuts

(13) Lower vehicle to the ground.

CAUTION: When tightening hub and bearing assembly to stub shaft retaining nut, do not exceed the maximum torque of 142 N·m (105 ft. lbs.). If the maximum torque is exceeded this may result in a failure of the driveshaft.

(14) Apply the vehicle's brakes to keep vehicle from moving. Tighten the NEW stub shaft to hub and bearing assembly retaining nut to 142 N·m (105 ft. lbs.) (Fig. 20).

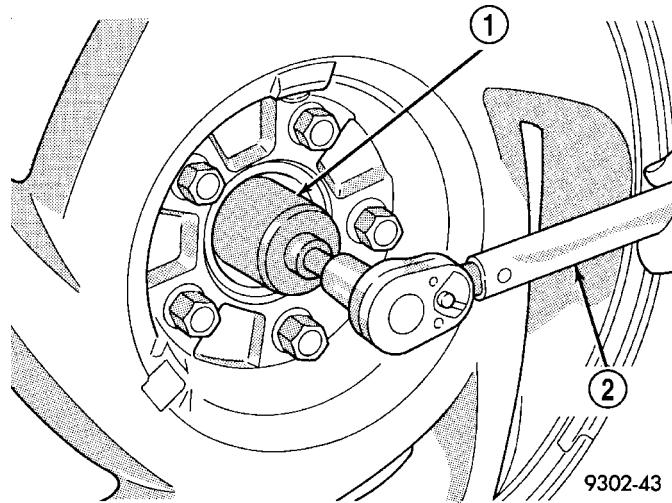


Fig. 20 Tighten Hub And Bearing Retaining Nut

1 - HUB/BEARING
2 - TORQUE WRENCH

HALFSHAFT (Continued)

SPECIFICATIONS

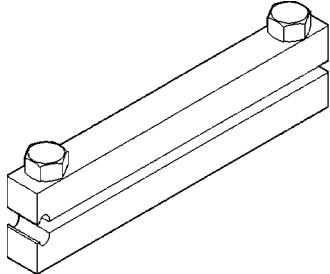
TORQUE

TORQUE SPECIFICATIONS

DESCRIPTION	N·m	Ft. Lbs.	In. Lbs.
Bolt, Caliper-to-Knuckle	22		192
Bolt, Knuckle-to-Strut	210	155	
Nut, Front Wheel Lug	135	100	
Nut, Halfshaft	142	105	
Nut, Tie Rod End-to-Knuckle	37	27	

SPECIAL TOOLS

DRIVELINE



Boot Clamp Installer C-4975A

CV BOOT-INNER

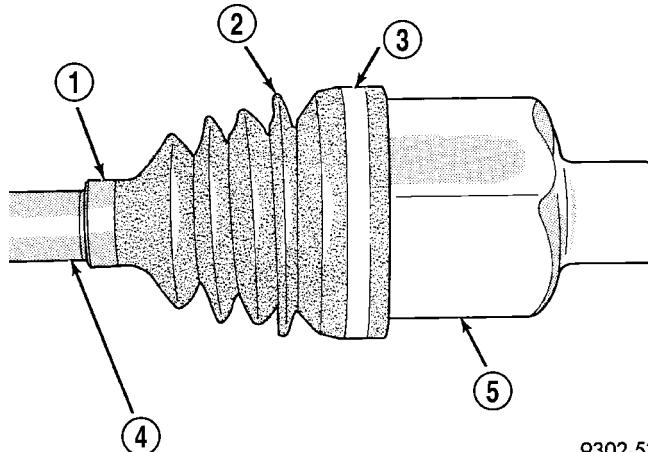
REMOVAL

To remove sealing boots from halfshafts for replacement, the halfshaft assemblies must be removed from the vehicle. (Refer to 3 - DIFFERENTIAL & DRIVELINE/HALF SHAFT - REMOVAL) (Refer to 3 - DIFFERENTIAL & DRIVELINE/HALF SHAFT - INSTALLATION)

(1) Remove the halfshaft requiring boot replacement from the vehicle.

(2) Remove large boot clamp which retains inner tripod joint sealing boot to tripod joint housing (Fig. 21) and discard. Remove small clamp which retains inner tripod joint sealing boot to interconnecting shaft and discard. Remove the sealing boot from the tripod housing and slide it down the interconnecting shaft.

CAUTION: When removing the spider joint from the tripod joint housing. Hold the rollers in place on the spider trunions to prevent the rollers and needle bearings from falling away.



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Fig. 21 Inner Tripod Joint Sealing Boot Clamps

- 1 - SMALL CLAMP
- 2 - SEALING BOOT
- 3 - LARGE CLAMP
- 4 - INTERCONNECTING SHAFT
- 5 - INNER TRIPOD JOINT

(3) Slide the interconnecting shaft and spider assembly out of the tripod joint housing (Fig. 22).

(4) Remove snap ring which retains spider assembly to interconnecting shaft (Fig. 23). Then remove the spider assembly from interconnecting shaft. If spider assembly will not come off interconnecting shaft by hand, it can be removed by tapping the end of the spider body with a brass drift. **Do not hit the outer tripod bearings in an attempt to remove spider assembly from interconnecting shaft.**

(5) Slide failed sealing boot off the interconnecting shaft.

(6) Thoroughly clean and inspect spider assembly, tripod joint housing and interconnecting shaft for any signs of excessive wear. **If any parts show signs of excessive wear, the halfshaft assembly will require replacement. Component parts of the assemblies are not serviceable.**

CV BOOT-INNER (Continued)

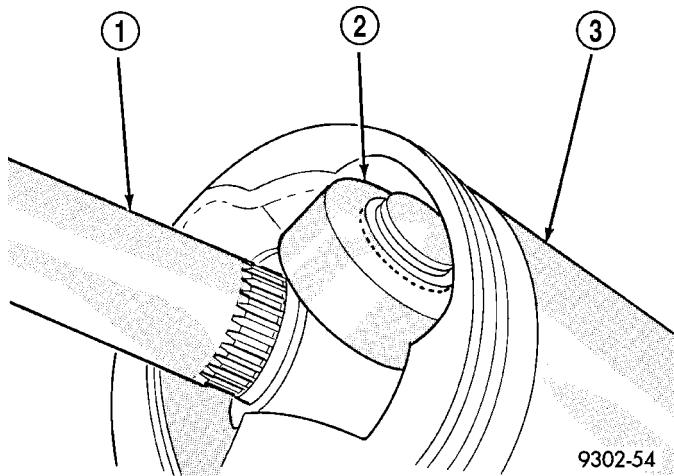


Fig. 22 Spider Joint Assembly Removal From Housing

1 - INTERCONNECTING SHAFT
2 - SPIDER ASSEMBLY
3 - TRIPOD JOINT HOUSING

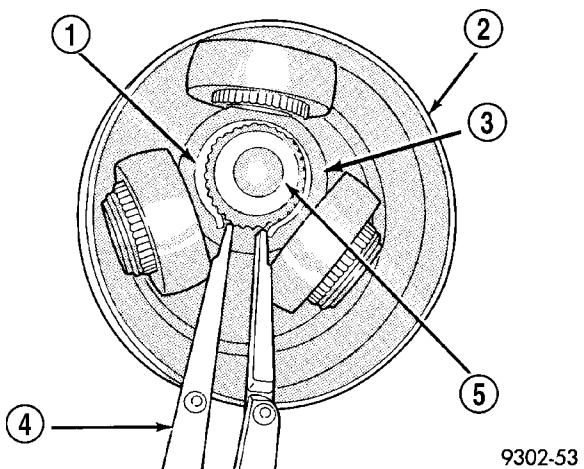


Fig. 23 Spider Assembly Retaining Snap Ring

1 - SNAP RING
2 - SEALING BOOT
3 - SPIDER ASSEMBLY
4 - SNAP RING PLIERS
5 - INTERCONNECTING SHAFT

INSTALLATION

NOTE: The inner tripod joint sealing boots are made of silicone rubber which is soft and pliable. The replacement sealing boot **MUST BE** the same type of material as the sealing boot which was removed.

(1) Slide inner tripod joint seal boot retaining clamp, onto interconnecting shaft. Then slide replacement inner tripod joint sealing boot onto the interconnecting shaft. **Inner tripod joint seal boot MUST be positioned on interconnecting shaft, so only the thinnest (sight) groove on interconnecting shaft is visible (Fig. 24).**

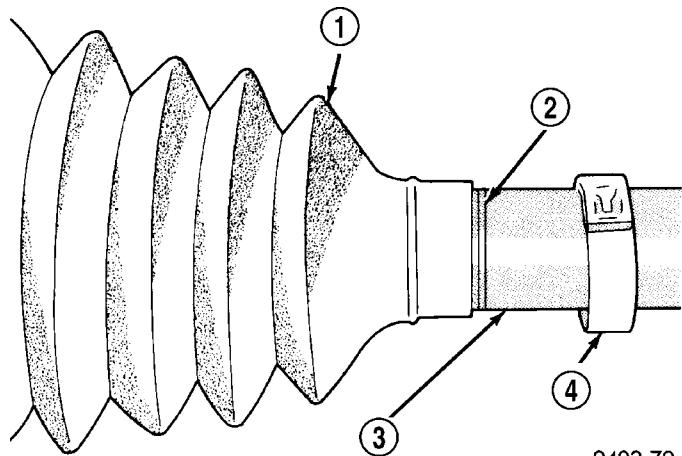


Fig. 24 Seal Boot Correctly Positioned On Interconnecting Shaft

1 - SEALING BOOT
2 - INTERCONNECTING SHAFT THINNEST GROOVE
3 - INTERCONNECTING SHAFT
4 - BOOT CLAMP

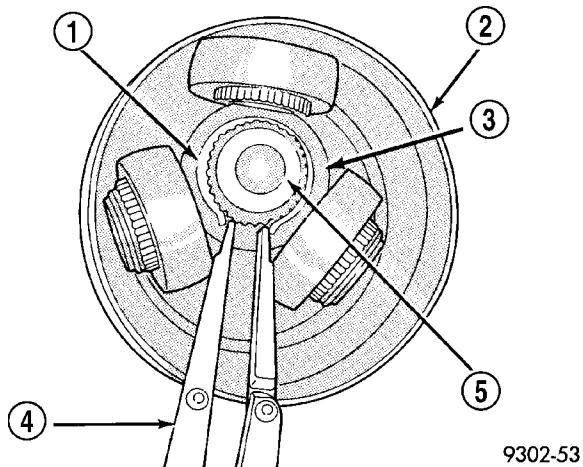
(2) Install the spider assembly onto the interconnecting shaft. Spider assembly must be installed on interconnecting shaft far enough to fully install the retaining snap ring. If spider assembly will not fully install on interconnecting shaft by hand, it can be installed by tapping the spider body with a brass drift. **Do not hit the outer tripod bearings in an attempt to install spider assembly on interconnecting shaft.**

(3) Install the spider assembly to interconnecting shaft retaining snap ring into groove on end of interconnecting shaft (Fig. 25). Verify the snap ring is fully seated into groove on interconnecting shaft.

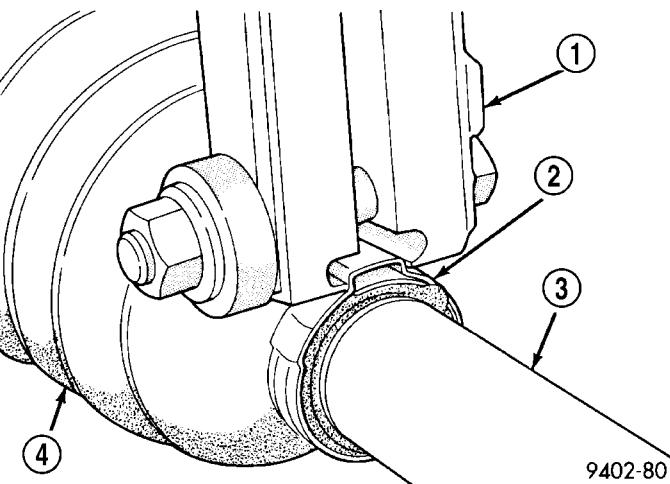
(4) Distribute 1/2 the amount of grease provided in the seal boot service package (DO NOT USE ANY OTHER TYPE OF GREASE) into tripod housing. Put the remaining amount into the sealing boot.

(5) Slide the spider assembly and the interconnecting shaft into the tripod joint housing (Fig. 26).

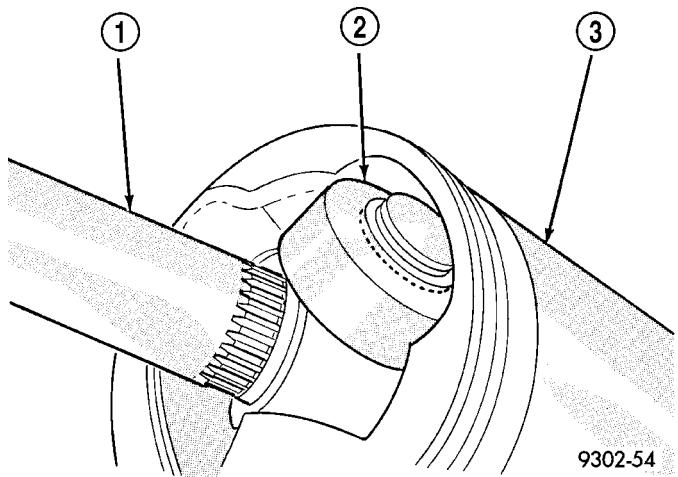
CV BOOT-INNER (Continued)

**Fig. 25 Spider Assembly Retaining Snap Ring**

- 1 - SNAP RING
- 2 - SEALING BOOT
- 3 - SPIDER ASSEMBLY
- 4 - SNAP RING PLIERS
- 5 - INTERCONNECTING SHAFT

**Fig. 27 Crimping Tool Installed On Sealing Boot Clamp**

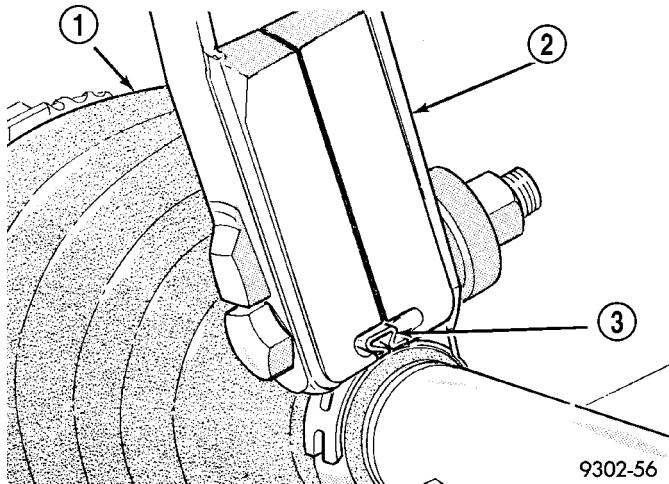
- 1 - SPECIAL TOOL C-4975
- 2 - SEALING BOOT CLAMP
- 3 - INTERCONNECTING SHAFT
- 4 - SEALING BOOT

**Fig. 26 Spider Assembly Installed in Housing**

- 1 - INTERCONNECTING SHAFT
- 2 - SPIDER ASSEMBLY
- 3 - TRIPOD JOINT HOUSING

(6) Install inner tripod joint seal boot to interconnecting shaft clamp evenly on sealing boot.

(7) Clamp sealing boot onto interconnecting shaft using Crimper, Special Tool C-4975 and the following procedure. Place crimping tool C-4975 over bridge of clamp (Fig. 27). Tighten nut on crimping tool C-4975 until jaws on tool are closed completely together, face to face (Fig. 28).

**Fig. 28 Sealing Boot Retaining Clamp Installed**

- 1 - SEALING BOOT
- 2 - SPECIAL TOOL C-4975
- 3 - CLAMP BRIDGE

CAUTION: Seal must not be dimpled, stretched or out of shape in any way. If seal is NOT shaped correctly, equalize pressure in seal and shape it by hand.

(8) Position the sealing boot into the tripod housing retaining groove (Fig. 29). Install seal boot retaining clamp evenly on sealing boot.

(9) Clamp sealing boot onto tripod housing using Crimper, Special Tool C-4975 and the following procedure. Place crimping tool C-4975 over bridge of clamp. Tighten nut on crimping tool C-4975 until jaws on tool are closed completely together, face to face.

CV BOOT-INNER (Continued)

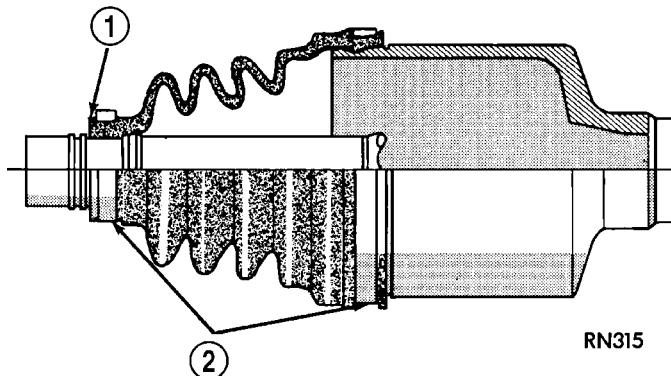


Fig. 29 Boot and Clamp Positioning

1 - POSITION ON FLAT BETWEEN LOCATING SHOULDERS
2 - CLAMPS

(10) Install the halfshaft back into the vehicle.
(Refer to 3 - DIFFERENTIAL & DRIVELINE/HALF SHAFT - INSTALLATION)

CV BOOT-OUTER

REMOVAL

To remove sealing boots from halfshafts for replacement, the halfshaft assemblies must be removed from the vehicle.

(1) Remove the halfshaft requiring boot replacement from the vehicle. (Refer to 3 - DIFFERENTIAL & DRIVELINE/HALF SHAFT - REMOVAL) (Refer to 3 - DIFFERENTIAL & DRIVELINE/HALF SHAFT - INSTALLATION)

(2) Remove large boot clamp, retaining C/V joint sealing boot, to C/V joint housing (Fig. 30) and discard. Remove small clamp which retains outer C/V joint sealing boot to interconnecting shaft and discard. Remove sealing boot from outer C/V joint housing and slide it down interconnecting shaft.

(3) Wipe away grease to expose outer C/V joint to interconnecting shaft retaining ring. Spread ears apart on C/V joint assembly to interconnecting shaft retaining snap ring (Fig. 31). Slide outer C/V joint assembly off end of interconnecting shaft.

(4) Slide failed sealing boot off interconnecting shaft.

(5) Thoroughly clean and inspect outer C/V joint assembly and interconnecting joint for any signs of excessive wear. **If any parts show signs of excessive wear, the halfshaft assembly will require replacement. Component parts of the halfshaft assemblies are not serviceable.**

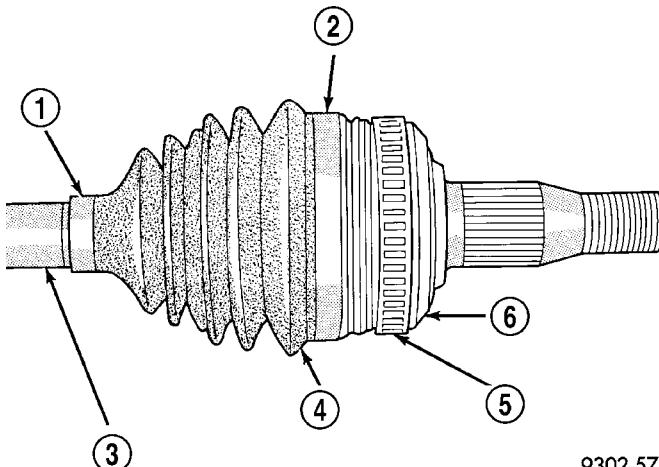


Fig. 30 Outer C/V Joint Seal Boot Clamps

1 - SMALL CLAMP
2 - LARGE CLAMP
3 - INTERCONNECTING SHAFT
4 - SEALING BOOT
5 - TONE WHEEL
(ABS ONLY)
6 - OUTER C/V JOINT HOUSING

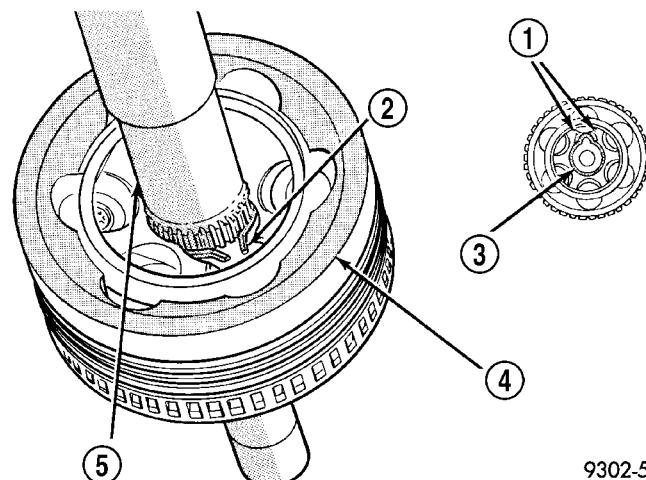


Fig. 31 Outer C/V Joint Removal From Interconnecting Shaft

1 - SPREAD RETAINING RING EARS AND PULL JOINT OFF SHAFT
2 - RETAINING SNAP RING
3 - RETAINING RING
4 - OUTER C/V JOINT ASSEMBLY
5 - INTERCONNECTING SHAFT

CV BOOT-OUTER (Continued)

INSTALLATION

(1) Slide a new seal boot to interconnecting shaft retaining clamp, onto the interconnecting shaft. Then slide the replacement outer C/V joint assembly sealing boot onto the interconnecting shaft.

(2) Install outer C/V joint assembly onto interconnecting shaft. Joint is installed on interconnecting shaft, by pushing interconnecting shaft into outer C/V joint, until retaining snap ring is seated in groove on interconnecting shaft (Fig. 32). Verify the snap ring is fully seated into groove on interconnecting shaft.

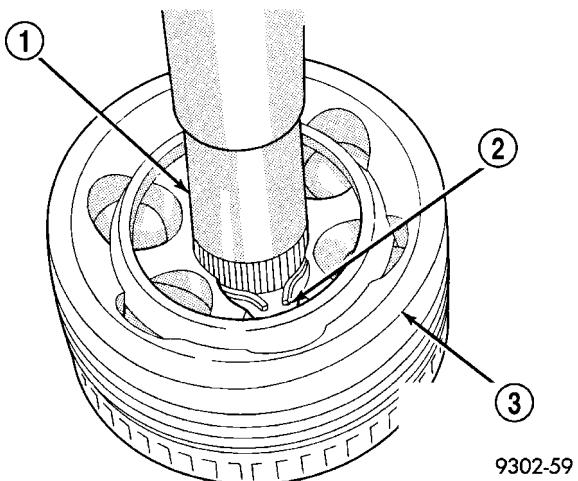


Fig. 32 Outer C/V Joint Installed On Interconnecting Shaft

1 - INTERCONNECTING SHAFT
2 - RETAINING SNAP RING
3 - OUTER C/V JOINT ASSEMBLY

(3) Distribute 1/2 the amount of grease provided in seal boot service package (DO NOT USE ANY OTHER TYPE OF GREASE) into outer C/V joint assembly housing. Put the remaining amount into the sealing boot.

(4) Install outer C/V joint seal boot retaining clamp, onto interconnecting shaft. Install replacement outer C/V joint sealing boot onto interconnecting shaft. **Outer C/V joint seal boot MUST be positioned on interconnecting shaft, so only the thinnest (sight) groove on interconnecting shaft is visible (Fig. 33).**

(5) Clamp sealing boot on interconnecting shaft using Crimper, Special Tool C-4975 and the following procedure. Place crimping tool C-4975 over bridge of clamp (Fig. 34). Tighten nut on crimping tool C-4975 until jaws on tool are closed completely together, face to face (Fig. 35).

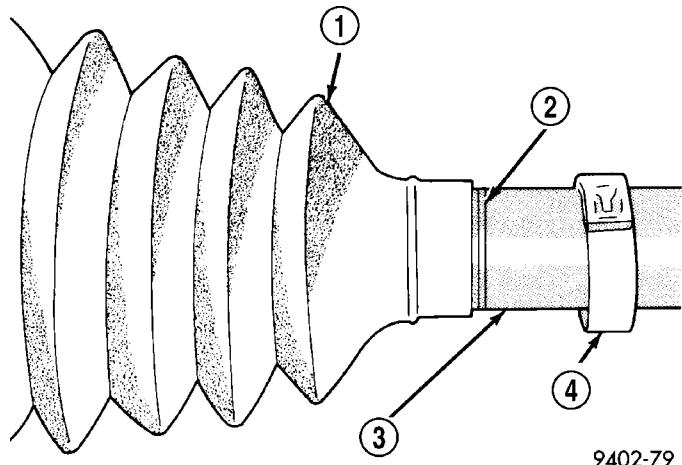


Fig. 33 Seal Boot Correctly Positioned On Interconnecting Shaft

1 - SEALING BOOT
2 - INTERCONNECTING SHAFT THINNEST GROOVE
3 - INTERCONNECTING SHAFT
4 - BOOT CLAMP

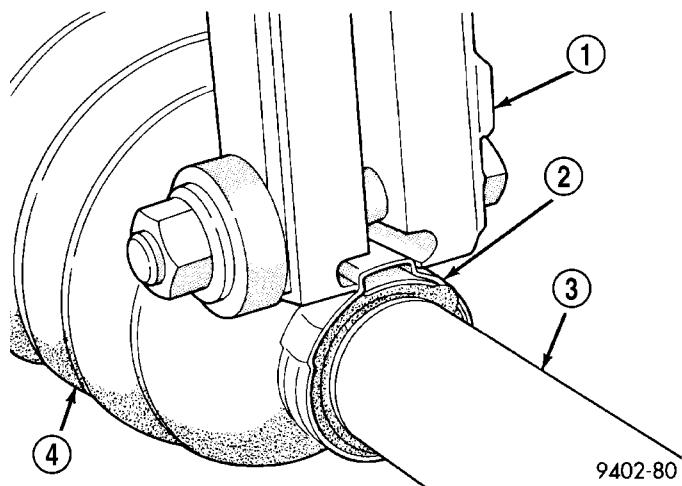


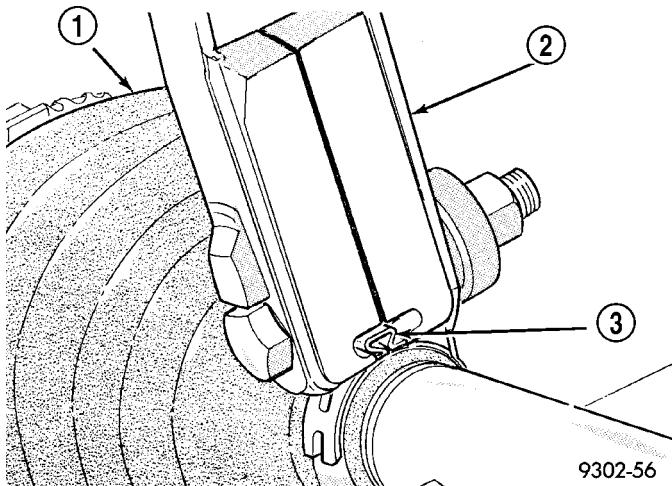
Fig. 34 Crimping Tool Installed On Sealing Boot Clamp

1 - SPECIAL TOOL C-4975
2 - SEALING BOOT CLAMP
3 - INTERCONNECTING SHAFT
4 - SEALING BOOT

CAUTION: Seal must not be dimpled, stretched or out of shape in any way. If seal is NOT shaped correctly, equalize pressure in seal and shape it by hand.

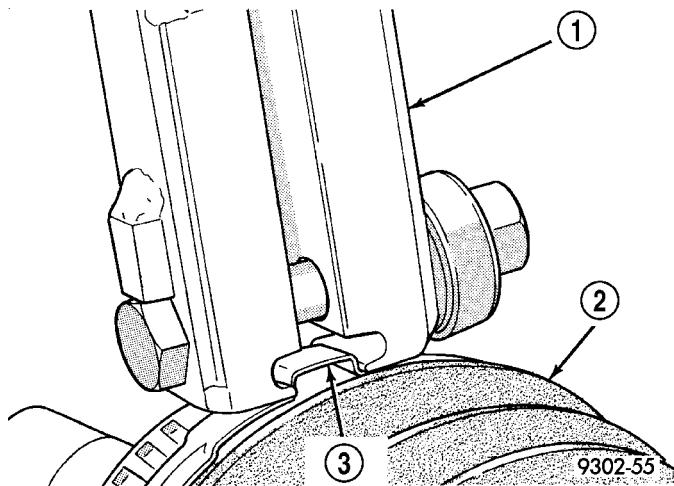
(6) Position outer C/V joint seal boot, into boot retaining groove on outer C/V joint housing. Install seal boot to outer C/V joint retaining clamp evenly on sealing boot.

CV BOOT-OUTER (Continued)

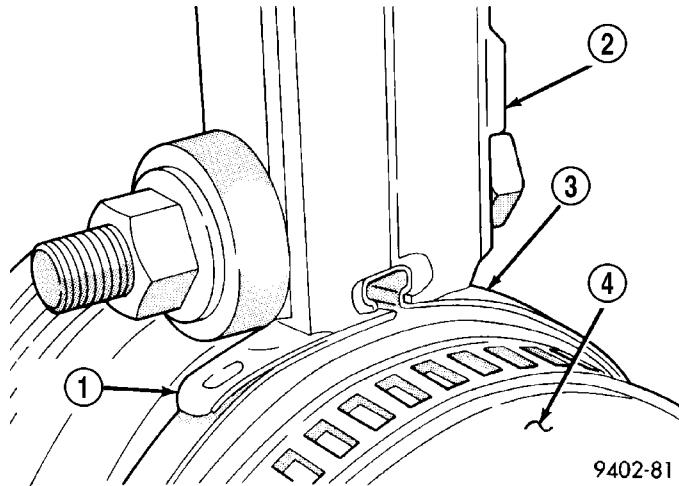
**Fig. 35 Sealing Boot Retaining Clamp Installed**

- 1 - SEALING BOOT
- 2 - SPECIAL TOOL C-4975
- 3 - CLAMP BRIDGE

(7) Clamp sealing boot onto outer C/V joint housing using Crimper, Special Tool C-4975 and the following procedure. Place crimping tool C-4975 over bridge of clamp (Fig. 36). Tighten nut on crimping tool C-4975 until jaws on tool are closed completely together, face to face (Fig. 37).

**Fig. 36 Crimping Tool Installed On Sealing Boot Clamp**

- 1 - SPECIAL TOOL C-4975
- 2 - SEALING BOOT
- 3 - CLAMP BRIDGE

**Fig. 37 Sealing Boot Retaining Clamp Installed**

- 1 - BOOT CLAMP
- 2 - SPECIAL TOOL C-4975
- 3 - SEALING BOOT
- 4 - OUTER C/V JOINT

(8) Install the driveshaft requiring boot replacement back on the vehicle. (Refer to 3 - DIFFERENTIAL & DRIVELINE/HALF SHAFT - INSTALLATION)