

AXLE SHAFTS - FRONT (EXCEPT "C" BODY)

1988 Chrysler LeBaron Convert/Coupe

1988 FWD Axle Shafts

Chrysler FWD Models

DESCRIPTION & IDENTIFICATION

Only 2.2L turbo models use axle shafts of equal length. All others use unequal length axle shafts. The equal length system uses an intermediate shaft on the right side. Unequal length system has a long axle shaft on right side and short axle shaft on left side. Except for a rubber washer seal attached to right inner CV joint on the equal length type, axle shafts can be serviced the same.

Several different axle shafts are used and are identified by configuration and manufacturer. The types are either A.C.I., G.K.N., SSG or Citroen. The different types are not interchangeable and must not be intermixed. See Fig. 1.

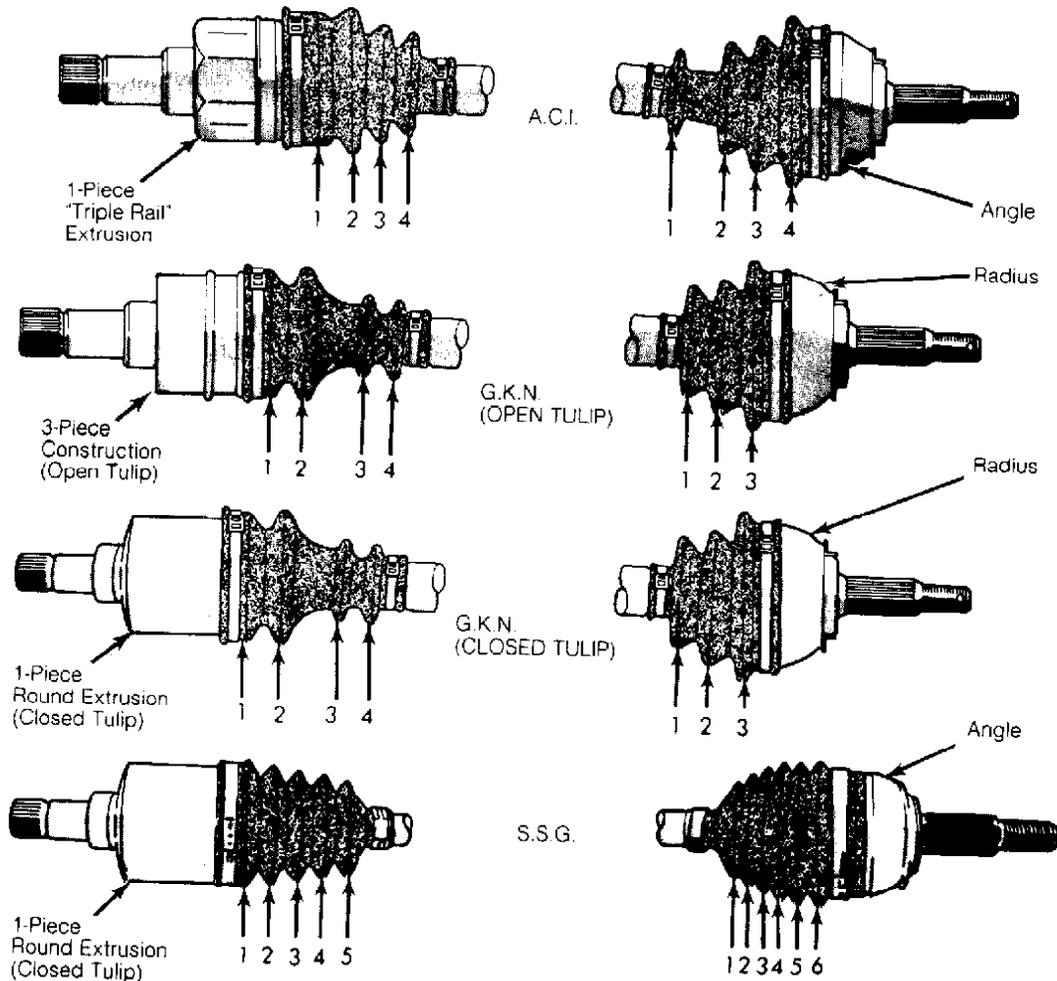


Fig. 1: Axle Shaft Identification

LUBRICATION

The CV joints require special lubrication. The CV joints are enclosed with a boot to contain the lubricant and prevent contamination from entering. Periodic lubrication of the CV joints is not required but the boots should be inspected on regular intervals. The lubricant requirements and quantities are different for inner, outer and type of CV joints being serviced. Use only the specified lubricant.

If necessary to refill transaxle with fluid, use SAE, SF or SF/CC rated 5W-30 engine oil for manual transaxles. For automatic transaxles, use Mopar ATF Plus (7176). If Mopar ATF is not available, Dexron II should be used.

SERVICE (IN-VEHICLE)

HUB BEARINGS

NOTE: Hub and axle shaft are splined together through knuckle hub bearing and retained by hub nut. New bearings **MUST** be installed whenever hub is removed.

Removal

1) Remove dust cap, cotter pin, nut lock and spring washer. With vehicle on ground, apply brakes and loosen wheel nuts and hub nut. Raise and support vehicle. Remove wheel. Remove hub nut and washer. Tap end of axle shaft lightly (if necessary), with brass hammer to free axle shaft from hub splines.

2) Disconnect brake hose retainer from strut damper. Remove lower ball joint clamp bolt. Remove brake caliper and support caliper to vehicle frame. Remove brake rotor. Separate lower ball joint from steering knuckle. Pull steering knuckle out and away from axle shaft.

3) Install Bracket (C-4811-17) to steering knuckle. Install Thrust Button (C-4811-6) inside hub bore. See Fig. 2. Install Puller (C-4811-14) and remove hub. See Fig. 4. Use a universal puller and remove outer bearing race from hub. Remove bearing retainer from steering knuckle.

4) Pry out bearing seal from machined recess in steering knuckle and thoroughly clean recess. Install Puller Kit (C-4811) and remove bearing from steering knuckle. See Fig. 5.

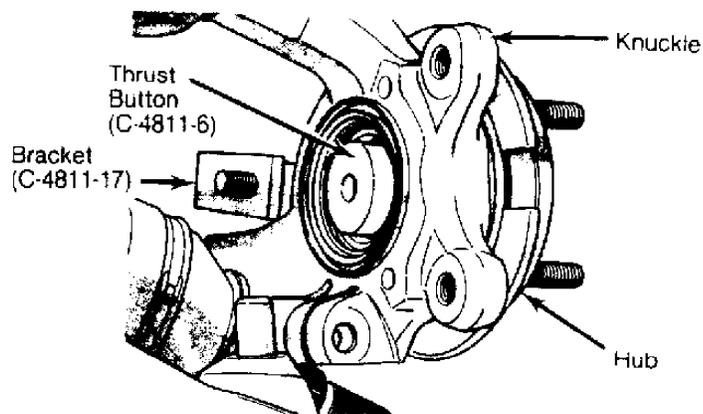
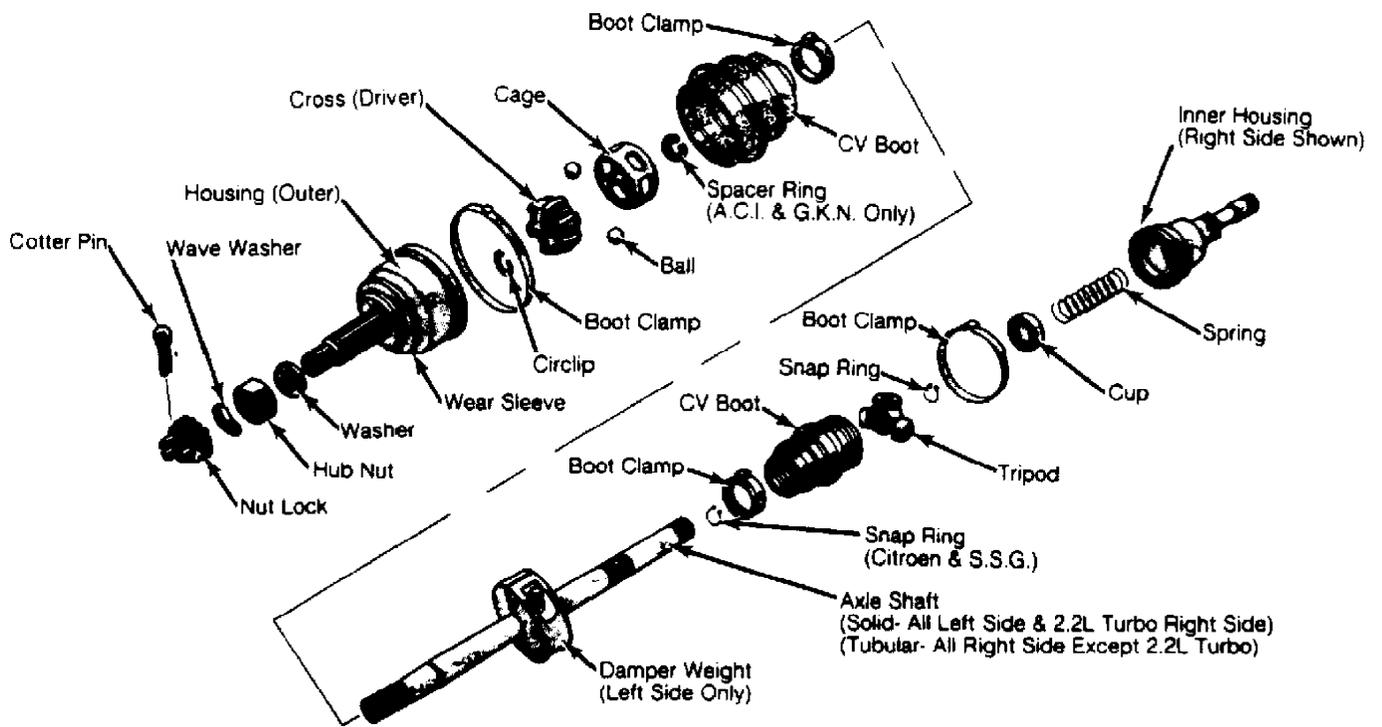
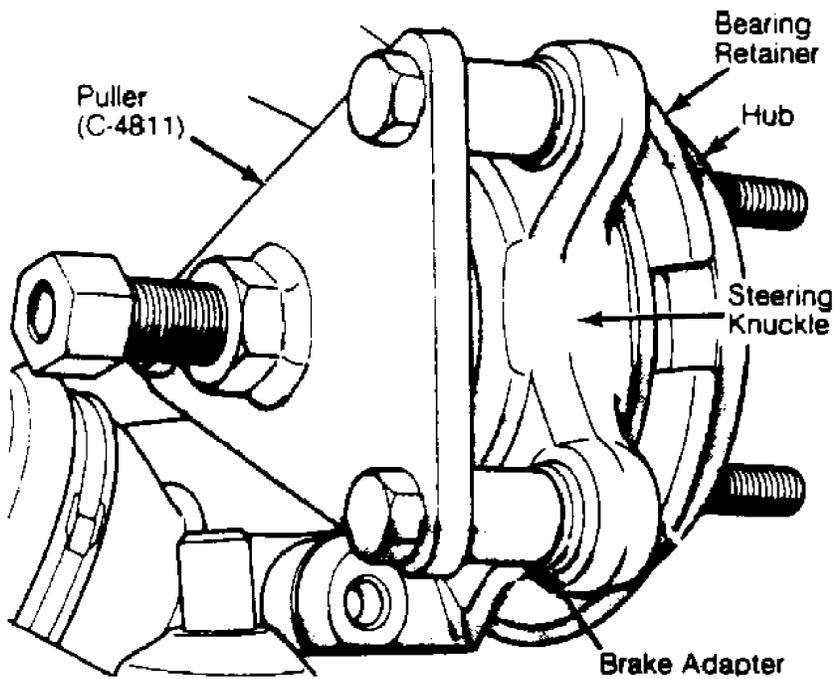


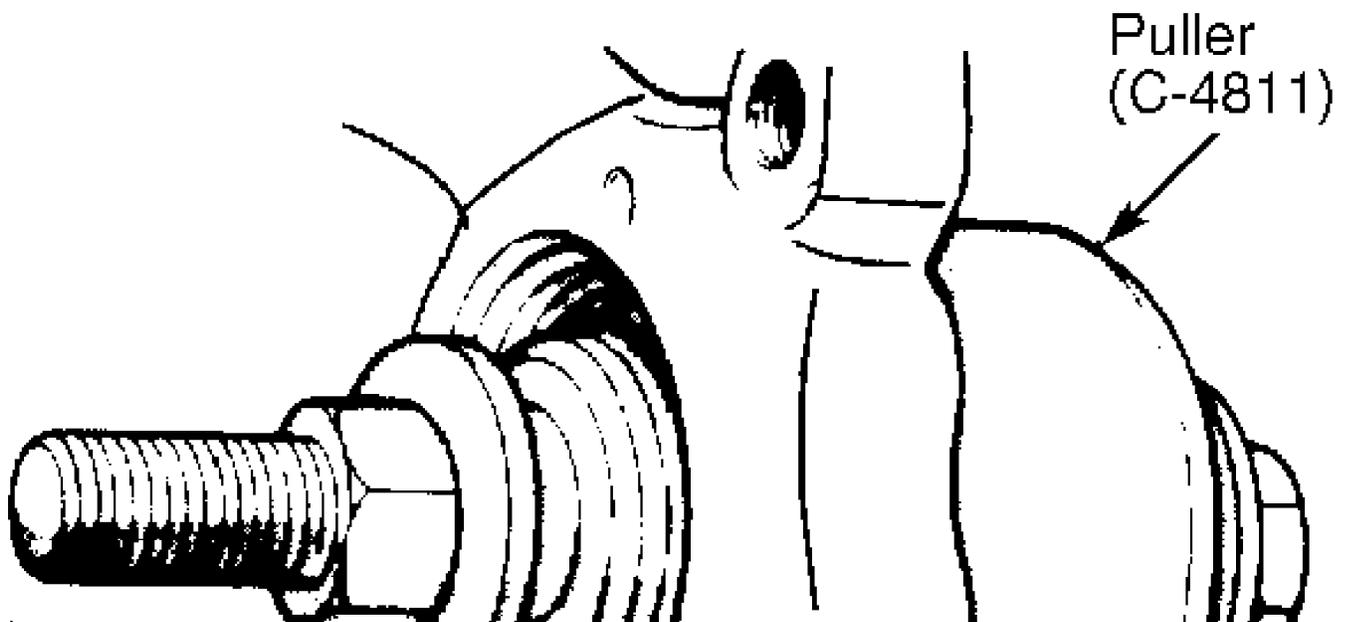
Fig. 2: Installing Hub Tool



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 Fig. 3: Exploded View of Typical Axle Shaft



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 Fig. 4: Removing Hub From Steering Knuckle



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Fig. 5: Removing Bearing

Installation

1) Reverse Puller (C-4811) and press new bearing in steering knuckle. Install bearing with Red seal portion of bearing facing bearing retainer. Install new seal and bearing retainer. Tighten retainer bolts to specifications. Press hub into steering knuckle with Puller Kit (C-4811). See Fig. 6.

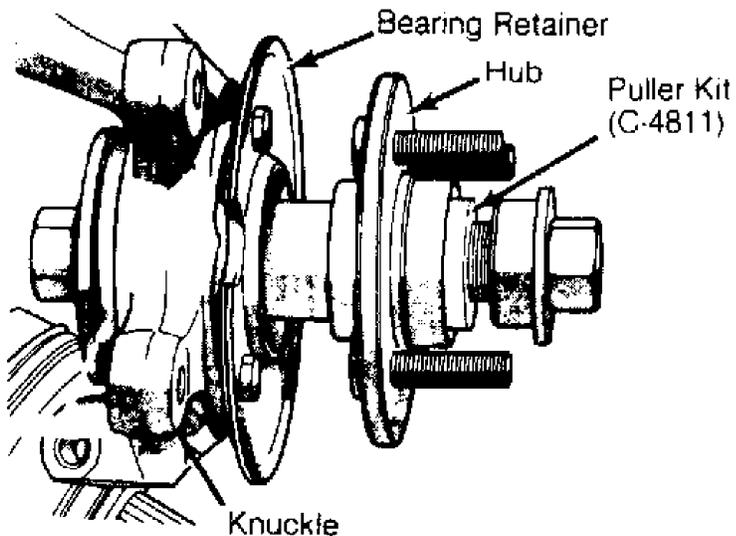


Fig. 6: Install Hub

2) Using Mopar Multi-Purpose Grease (4318063), lubricate complete circumference of seal and wear sleeve. To complete installation, reverse removal procedure. Tighten all bolts/nuts to

specifications.

AXLE SHAFTS

Removal

1) Remove spindle nut. Raise and support vehicle. If removing right axle shaft, remove speedometer pinion assembly from transaxle. Tap axle shaft end lightly with brass hammer to free axle shaft from hub splines. Remove lower ball joint clamp bolt. Separate lower ball joint from steering knuckle.

2) Pull out on hub/steering knuckle assembly and separate axle shaft from hub. Grasp both CV joints at outer housings, to prevent separation and pull axle shaft out of transaxle or intermediate shaft. Remove axle shaft from vehicle.

Installation

Grasp both CV joints at outer housings and insert inner CV joint in transaxle or intermediate shaft. Ensure A.C.I. tripod type CV joint is engaged in housing and boot is not twisted. To complete installation, reverse removal procedure. Tighten all bolts/nuts to specifications. Lubricate seal and wear sleeve with Mopar grease.

OVERHAUL

NOTE: All left axle shafts on FWD models have damper weights. See AXLE SHAFT DAMPER WEIGHTS in this article.

INNER CV JOINT

Disassembly

1) Remove axle shaft assembly. See AXLE SHAFTS in this article. Identify type of axle shaft being serviced. See Fig. 1. Remove boot clamps and slide boot away from joint.

2) On A.C.I. type joints, tripod retaining tabs are an integral part of staked boot retaining collar. On G.K.N. type joints, the tripod retaining tabs are an integral part of the housing cover. Lightly compress CV joint retention spring while bending tabs with pliers. See Fig. 7.

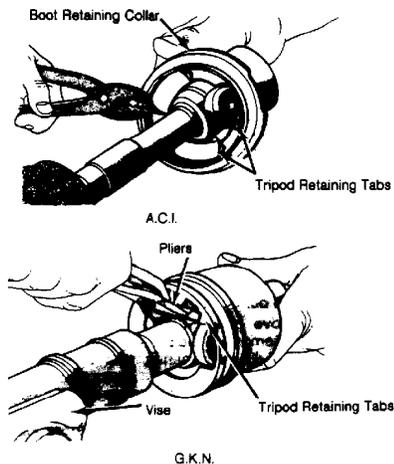


Fig. 7: Separating A.C.I. & G.K.N. Joints

3) S.S.G. type joints utilize a wire ring tripod retainer which expands into a groove. Use a flat tip screwdriver and pry wire out of groove. Slide tripod from housing. Replace wire ring tripod

retainer if deformed.

4) With tripod joint removed from housing, tape tripod rollers to hold into place. Remove snap ring from end of axle shaft. Remove tripod from axle shaft.

Inspection

1) Remove as much grease as possible from tripod assembly. Inspect CV joint housing ball race and tripod components for excessive wear. Inspect spring, spring cup and spherical end of connecting shaft for damage or excessive wear.

2) Clean and check CV joint boot for cracks, tears and/or scuffed areas on interior surfaces. Replace components as necessary.

Reassembly

1) On Turbo models install rubber washer seal over right inner stub shaft and seat in groove. Lubricate boot and slide boot on axle shaft (if removed). On A.C.I. and G.K.N. type, install tripod with chamfered end toward long length of axle shaft and install retaining ring. See Fig. 8. On S.S.G. type, install inner retaining ring, tripod and outer retaining ring.

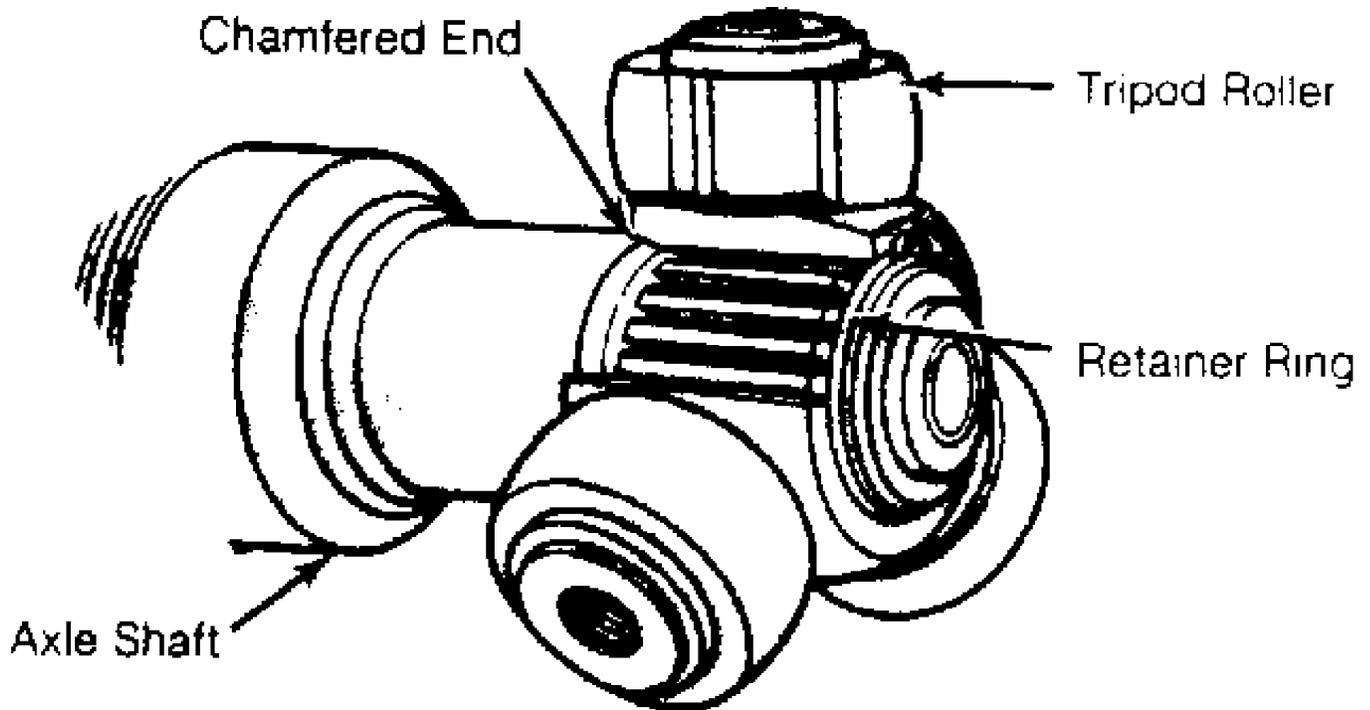


Fig. 8: A.C.I. & G.K.N. Tripod Installation

2) On all types, install tripod snap ring. On A.C.I. type, distribute one packet of grease into boot and remaining one packet into housing. On G.K.N. type, distribute 2 packets of grease into boot and remaining packet into housing. On S.S.G. type, distribute 1/2 packet of grease into housing and remaining amount into boot.

CAUTION: On retaining tab type joints, DO NOT bend retaining tabs to original position. Instead, reattach boot to hold housing

onto axle shaft. Tripod must be reengaged in housing when axle shaft is installed in vehicle.

3) Position spring in housing and install spring cup. Place a small amount of grease on concave surface of spring cup. To complete reassembly, reverse disassembly procedure. Ensure spring in housing is centered in housing.

OUTER CV JOINT

Disassembly

1) Remove axle shaft from vehicle. See AXLE SHAFTS in this article. Remove boot clamps. On A.C.I. and G.K.N. type, support axle shaft in vise with protected jaws. Tap top of CV joint housing to dislodge joint from internal circlip. On S.S.G. type, loosen damper weight bolts and slide it and boot towards inner joint. Expand circlip and slide joint off axle shaft. Reinstall damper weights.

2) On A.C.I. and G.K.N. type, DO NOT remove heavy spacer ring from axle shaft unless replacing shaft. If replacing boot only, DO NOT disassemble further. If CV joint is defective, replace complete unit. If lubricating CV joint proceed to next step.

3) Wipe surplus grease and mark position of inner cross, cage and housing. Clamp splined end of shaft in vise with protected jaws (joint vertical). Press down on one side of inner race to tilt cage and remove ball. See Fig. 9. If joint is tight, a hammer and brass drift may be used to tilt cage. DO NOT hit cage. Repeat procedure for remaining balls.

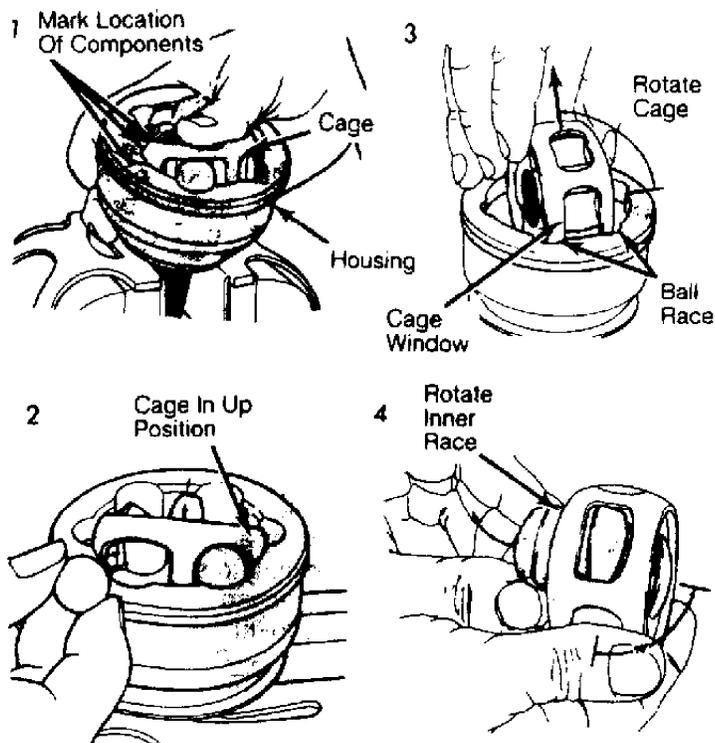


Fig. 9: Disassembling Outer CV Joint

4) Tilt cage and inner race assembly vertically and position 2 opposing cage windows in area between ball grooves. Remove cage and inner race assembly. Turn inner cross 90 degrees to cage and align one

of the race spherical lands with cage window. Raise land into cage window and remove inner race. See Fig. 9.

Inspect

1) Check grease for contamination. Wash all parts in solvent and dry with compressed air. Inspect housing ball races for defects, excessive wear and scoring. Check splined shaft and nut threads for damage. Inspect all 6 balls for pitting, cracks, scoring and wear.

2) Inspect cage for excessive wear on inside and outside spherical surfaces, heavy brinelling of cage windows, cracks and chipping. Inspect inner race for excessive wear or scoring of ball races. If any of the conditions are found, replace complete CV joint assembly.

Reassembly

Install a new wear sleeve on CV joint housing. Lightly oil all components prior to reassembly. Align marks made at disassembly. To complete reassembly, reverse disassembly procedure. Use new circlips. Tighten all bolts/nuts to specifications.

INTERMEDIATE SHAFT ASSEMBLY

Removal & Installation

Remove right axle shaft. See AXLE SHAFTS in this article. Remove 2 bolts from bearing bracket-to-engine. Remove assembly from transaxle extension by pulling outward on yoke. To install, reverse removal procedure.

Disassembly

1) Mark relationship of stub axle shaft to intermediate shaft to ensure proper reassembly. Apply penetrating oil to bearing caps and remove snap rings. Place yoke and "U" joint in vise. Use a suitable socket and hammer and remove one "U" joint cap at a time. With all caps removed, remove cross section of "U" joint.

2) Using arbor press, press stub axle out of bearing assembly and outer slinger. Use care not to dent or damage slinger or end of stub shaft. If replacing slinger, carefully press shaft out through slinger.

Reassembly

Place a new slinger on stub shaft and drive it on until it bottoms. Use care not to damage slinger at installation. Press bearing assembly into position. There should be a minimum clearance of .0313" (.795 mm) between slinger and bearing assembly. To install "U" joint, reverse disassembly procedure. Tighten all bolts/nuts to specifications.

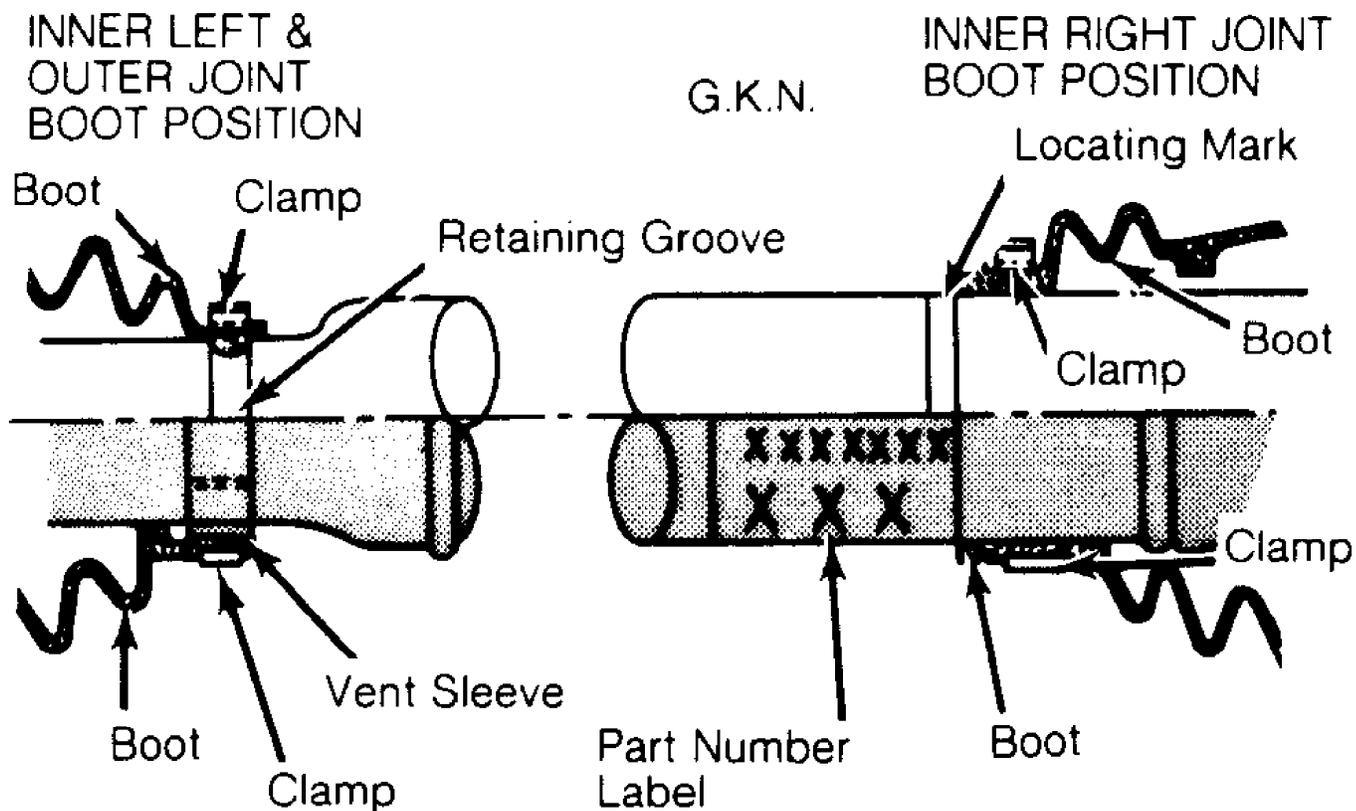
CV JOINT BOOTS

Removal

Cut boot clamps. Disassemble CV joint. See DISASSEMBLY under INNER CV JOINT or OUTER CV JOINT in this article. Remove boot from axle shaft.

Installation (A.C.I. & G.K.N.)

1) Use strap and buckle type clamp with Strap Installer (C-4653) only. Slide small end of boot over shaft. Position boot to edge of locating mark or groove. See Fig. 10. Slide large diameter of boot into position. Wrap strap around boot twice. Add 2.50" (63.5 mm) and cut strap.

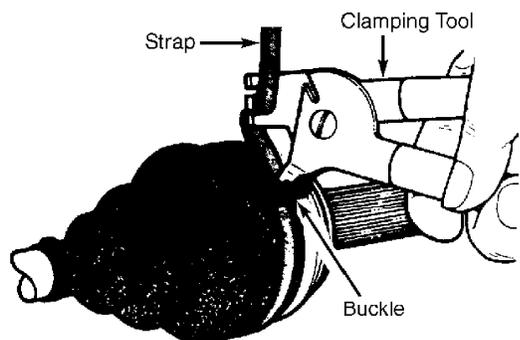


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Fig. 10: CV Joint Boot Positioning (A.C.I. G.K.N.)

2) Remove strap from CV joint. Install buckle on strap and fold strap back about 1.125" (28.58 mm), on inside of buckle. Wrap strap around CV joint once and pass through buckle. Wrap strap around a second time and pass through buckle again. See Fig. 11. Using Strap Installer (C-4653), tighten strap. DO NOT pull installer downward to tighten strap as this can break strap.

3) Disconnect installer and retighten strap if necessary. With strap tight enough, remove installer sideways and cut off strap .125" (3.18 mm). Complete job by folding strap neatly into buckle.



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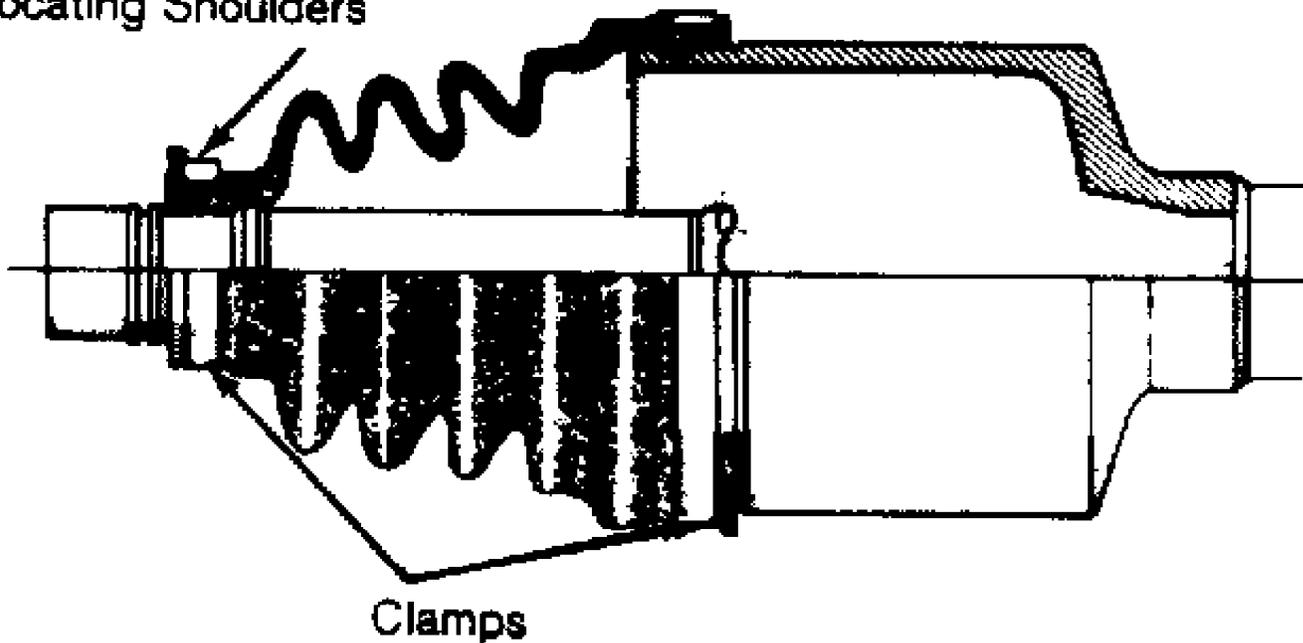
Fig. 11: Installing Strap

Installation (S.S.G., Right Inner)

1) Slide small boot clamp onto axle shaft. Install boot onto shaft and position on flat between locating shoulders. See Fig. 12.

Position clamp on boot and crimp bridge of clamp with Crimper (C-4124).

**Position On
Flat Between
Locating Shoulders**



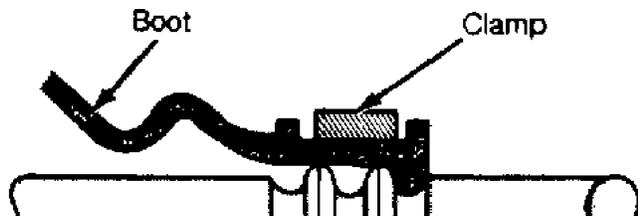
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Fig. 12: Right Inner S.S.G. Boot Installation

2) Install CV joint. See INSTALLATION under INNER CV JOINT or OUTER CV JOINT in this article. Position large end of boot on housing and install clamp. Crimp bridge of clamp with Crimper Tool (C-3250). Lubricate wear sleeve and seal with Mopar Multi-Purpose Grease (4318063). To complete installation, reverse removal procedure.

Installation (S.S.G., Left Inner & All Outer)

1) Install small clamp on axle shaft. Position small end of boot over axle shaft with lip of boot in third groove, toward center of axle shaft. See Fig. 13. Install boot clamp evenly over boot. Crimp bridge of clamp with Clamp Installer (C-4975).



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Fig. 13: S.S.G. Boot Positioning

2) Install CV joint. See INSTALLATION under INNER CV JOINT or OUTER CV JOINT in this article. Position large end of boot over housing and install boot clamp. Crimp bridge of clamp with Clamp

Installer (C-4975). To complete installation, reverse removal procedure.

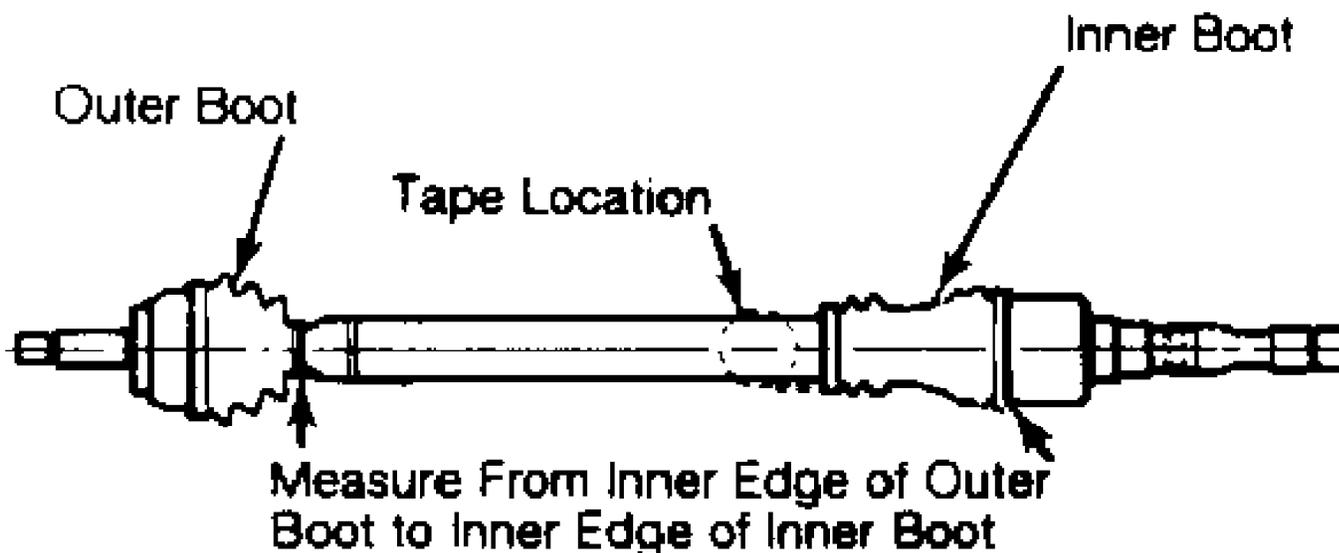
AXLE SHAFT DAMPER WEIGHTS

Damper weights are attached to axle shaft between inner and outer CV joints and are available as a separate service part. Damper weights should be removed from axle shaft during axle shaft positioning procedure. Ensure damper weight bolts are tightened to specifications.

AXLE SHAFT POSITIONING

1) Engine mount bolt holes are slotted for side-to-side positioning of engine. Incorrect axle shaft positioning may result in premature failure of components. Check axle shaft positioning if engine/transaxle is loosened or moved or if front structural damage has occurred.

2) Completely assemble vehicle. Ensure front wheels are properly aligned and in straight ahead position. Ensure full weight of vehicle is evenly distributed on all 4 wheels. Using a tape measure, measure direct distance from inner edge of outboard boot to inner edge of inboard boot on both axle shafts. See Fig. 14. This measurement must be taken at bottom of axle shaft only.



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Fig. 14: Measuring Axle Shaft Positioning

3) If both axle shafts are within specifications, no further service is necessary. If either left or right axle shaft is not within specifications, proceed to next step.

4) Support engine/transaxle assembly with a floor jack. Loosen right engine mount vertical fasteners, front engine mount bracket and front crossmember fasteners. Pry engine right or left as required to obtain the correct axle shaft length. Refer to the below AXLE SHAFT LENGTH SPECIFICATIONS table in this article.

5) Tighten mounting bolts/nuts to specifications. Recheck axle shaft length. Install damper weights and tighten to specifications.

AXLE SPECIFICATIONS

AXLE SHAFT LENGTH SPECIFICATIONS TABLE

Engine	Type	Side	Transaxle	Length: in. (mm.)
2.2L	G.K.N.	Right	All	19.9-20.3 (505-515)
****	(69-92)	Left	All	8.9-9.6 (227-245)
****	G.K.N.	Right	All	19.3-19.6 (490-498)
****	(82-98)	Left	All	8.9-9.2 (227-234)
****	A.C.I.	Right	All	18.8-19.1 (477-485)
****	*****	Left	All	7.8-8.3 (197-212)
****	S.S.G.	Right	All	18.0-18.5 (457-469)
****	*****	Left	All	7.2-7.9 (184-200)
2.2L Turbo I	G.K.N.	Right	All	8.9-9.2 (227-234)
****	(82-98)	Left	All	8.9-9.2 (227-234)
****	S.S.G.	Right	All	7.4-7.7 (187-196)
****	*****	Left	All	7.4-7.7 (187-196)
2.2L (1)	G.K.N.	Right	All	8.9-9.2 (227-234)
Turbo II	*****	Left	All	8.9-9.2 (227-234)

(1) - Daytona Shelby Z and Lancer Shelby models with M/T only.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Ball Joint Clamp Bolt	70 (95)
Brake Caliper Bolt	160 (217)
Brake Hose Retainer Bolt	10 (14)
Damper Weight Bolt	
S.S.G.	21 (28)
G.K.N.	23 (31)
Hub Bearing Retainer Bolt	20 (27)
Inner CV Joint Flange	36 (49)
Intermediate Shaft	
Bracket-to-Bearing Bolt	21 (28)
Bracket-to-Engine Bolt	40 (54)
Spindle Nut	180 (244)
Tie Rod Nut	35 (47)
Wheel Nut	95 (129)
	INCH Lbs. (N.m)
Damper Weight Bolt (A.C.I.)	96 (11)
Speedometer Gear Bolt	60 (7)