For later models refer to supplement.

MANUAL TRANSAXLE

SPECIFICATIONS

TWO WHEEL DRIVE FOUR SPEED TRANSAXLE

Drive shaft to pinion shaft clearance ..... 0.2 mm
Drive pinion shim adjustment code location ..... End face
Drive pinion end float gauge initial setting ..... 0.5 mm
Pinion shaft retaining pin depth in case ... 1.0 mm
Mainshaft bearing end float ..... 0–0.05 mm
Synchro sleeve to gear face clearance:
- First ..... 9.5 mm
- Second ..... 9.5 mm
- Third —
  - 1979–1984 models ..... 11.0 mm
  - 1985–1987 models ..... 9.5 mm
- Fourth ..... 9.5 mm

Reverse idler gear clearance ..... 1.5–3.0 mm
Pinion gear to side gear backlash:
- 1979–1980 models ..... 0.05–0.15 mm
- 1981–1987 models ..... 0.13–0.18 mm

Crownwheel to drive pinion backlash ..... 0.10–0.18 mm
Shifter fork rod end separation clearances:
- 1979–1980 models ..... 0.3–1.6 mm
- 1981–1982 models —
  - Between first/second and third/fourth ..... 1.8–3.1 mm
  - Between third/fourth and reverse .. 0.3–1.6 mm
- 1983–1984 models ..... 0.3–2.1 mm
- 1985–1987 models ..... 0.3–1.6 mm

TWO WHEEL DRIVE FIVE SPEED TRANSAXLE

Drive shaft to pinion shaft clearance ..... 0.2 mm
Drive pinion shim adjustment code location ..... End face
Drive pinion end float gauge initial setting ..... 0.5 mm
Pinion shaft retaining pin depth in case ... 1.0 mm
Mainshaft bearing end float ..... 0–0.05 mm
Synchro sleeve to gear face clearance:
- First ..... 9.5 mm
- Second ..... 9.5 mm
- Third —
  - 1979–1984 models ..... 11.0 mm
  - 1985–1987 models ..... 9.3 mm
- Fourth —
  - 1979–1984 models ..... 9.5 mm
  - 1985–1987 models ..... 9.3 mm
- Fifth —
  - 1979–1984 models ..... 10.5 mm
  - 1985–1987 models ..... 9.3 mm

Reverse idler gear clearance:
- Reverse position ..... 1.5–3.0 mm
- Neutral position at washer ..... 0–0.5 mm

Pinion gear to side gear backlash:
- 1979–1980 models ..... 0.5–0.15 mm
- 1981–1987 models ..... 0.13–0.18 mm

Crownwheel to drive pinion backlash ..... 0.10–0.18 mm
Shifter fork rod end separation clearances:
- 1979–1980 models ..... 0.3–1.6 mm
- 1981–1983–1984 models — Between first/second and third/fourth ..... 1.8–3.1 mm
- Between third/fourth and fifth .... 0.3–1.6 mm
- 1982 models ..... 0.3–2.1 mm
- 1985–1987 models — Between first/second and third/fourth ..... 0.5–1.5 mm
- Between third/fourth and fifth .... 0.6–1.4 mm

FOUR WHEEL DRIVE FOUR SPEED TRANSAXLE

Drive shaft to pinion shaft clearance ..... 0.2 mm
Drive pinion shim adjustment code location ..... End face
Drive pinion end float gauge initial setting ..... 0.5 mm
Pinion shaft retaining pin depth in case ... 1.0 mm
Mainshaft rear bearing end float ..... 0–0.05 mm
Synchro sleeve to gear face clearance:
- First ..... 9.5 mm
- Second ..... 9.5 mm
- Third ..... 11.0 mm
- Fourth ..... 9.5 mm

Reverse idler gear clearance ..... 1.5–3.0 mm
Pinion gear to side gear backlash:
- 1979–1980 models ..... 0.05–0.15 mm
- 1981–1987 models ..... 0.13–0.18 mm

Crownwheel to drive pinion backlash ..... 0.10–0.18 mm
Shifter fork rod end separation clearances:
- 1979–1980 models ..... 0.3–1.6 mm
- 1981–1984 models — Between first/second and third/fourth ..... 1.8–3.1 mm
- Between third/fourth and reverse .. 0.3–3.6 mm
- 1985–1987 models — Between first/second and third/fourth ..... 0.5–1.5 mm
- Between third/fourth and reverse .. 0.6–1.4 mm

Dual Ratio Models

Mainshaft high/low synchro hub end float ..... 0.60–0.10 mm
Input shaft front bearing end float ..... 0–0.08 mm
Input shaft front bearing end float in retainer ..... 0–0.08 mm
Transfer drive gear to case clearance ..... 10 mm
Transfer shifter rod length from rear face of ball joint shoulder to end of rod ..... 178 mm
Selector lever forward clearance ..... 40 mm

FOUR WHEEL DRIVE FIVE SPEED TRANSAXLE

Drive shaft to pinion shaft clearance	0.2 mm
Drive pinion shim adjustment code location	End face
Drive pinion end float gauge initial setting	0.5 mm
Pinion shaft retaining pin depth in case	1.0 mm
Mainshaft bearing end float	0–0.05 mm
Synchro sleeve to gear face clearance:	
1979–1987 models —	
First	9.5 mm
Second	9.5 mm
1979–1984 models —	
Third	11 mm
Fourth	9.5 mm
Fifth	10.5 mm
1985–1987 models —	
Third	9.3 mm
Fourth	9.3 mm
Fifth	9.3 mm
Shifter fork rod end separation clearances:	
1979–1980 models	0.3–1.6 mm
1981–1983–1984 models —	
Between first/second and third/fourth	1.8–3.1 mm
Between third/fourth and fifth	0.3–1.6 mm
1982 models	0.3–2.1 mm
1985–1987 models —	
Between first/second and third/fourth	0.5–1.5 mm
Between third/fourth and fifth	0.6–1.4 mm
Reverse idler gear clearances:	
Reverse position	6.0–7.5 mm
Neutral position	0–0.5 mm
Pinion gear to side gear backlash	0.13–0.18 mm
Crownwheel to drive pinion backlash	0.13–0.18 mm

Dual Ratio Models

Mainshaft high/low synchro hub end float	0.60–0.10 mm
Input shaft front bearing end float	0–0.08 mm
Input shaft front bearing end float in retainer	0–0.08 mm
High/low shifter rod from rear ball joint to end of chamfer on rod (1985–1987 models)	21 mm

AXLE SHAFTS

Distance between axle shaft rubber boot inner retaining clips:	
Two wheel drive —	
1979–1984 models	224 mm
1985–1987 models	257 mm
Four wheel drive —	
1979–1981 models	210 mm
1982–1984 and all Utility models	220 mm
1985–1987 models	257 mm

TORQUE WRENCH SETTINGS

Transaxle 1979–1984 and Utility Models

Crossmember to transaxle nuts	47 Nm
Crossmember to body nuts:	
1979–1981 models	26 Nm
1982–1984 and Utility models	67 Nm
Stay bracket to transaxle nuts/bolts	18 Nm
Control rod nuts/bolts	18 Nm
Stay bracket to cushion rubber nuts/bolts	29 Nm
Cushion rubber to body nuts/bolts	23 Nm
Four wheel drive selector control rod:	
To selector lever nuts	22 Nm
To transaxle control rod nuts	49 Nm
To dual ratio shifter rod nuts	36 Nm

Transaxle 1985–1987 Sedan and Station Wagon Models

Crossmember to transaxle nuts	47 Nm
Rigid crossmember to chassis bolts	118 Nm
Transaxle half case/harness clip retaining bolt and nut	26 Nm
Control rod nuts	15 Nm
Stay rod nuts/bolts	15 Nm
Cushion rubber nuts	23 Nm
Dual ratio selector lever nuts	23 Nm

Propeller Shaft 1979–1984 and Utility Models

Flange to rear drive pinion	25 Nm

Propeller Shafts 1985–1987 Sedan and Station Wagon Models

Centre bearing/flange retaining nut	235 Nm
Centre bearing to chassis nuts/bolt	44 Nm
Flange to drive pinion/flange	32 Nm

1. TRANSAXLE TROUBLE SHOOTING

DIFFICULT GEAR CHANGE

(1) Faulty clutch or clutch release mechanism: Check, adjust or overhaul clutch or release mechanism.

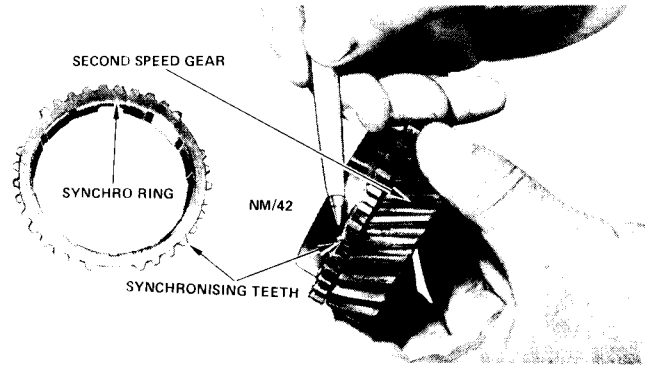
(2) Insufficient clutch release due to improper cable adjustment. Pay particular attention to the Hill Holder cable if installed: Check and adjust cable(s) as necessary.

(3) Faulty gear synchroniser mechanism: Overhaul the transaxle assembly.

(4) Gear bushes worn and/or damaged: Overhaul the transaxle assembly.

(5) Worn selector mechanism or control lever linkages worn or damaged: Check and replace as necessary.

(6) Excessive end float in transaxle mainshaft



Check the synchronising teeth on the gears and synchro rings for chipping or wear.

and/or gears and synchro assemblies: Overhaul the transaxle assembly.

NOTE: First check the clutch and Hill Holder where installed for correct operation. if reverse gear can be selected without any sign of 'clash' this is a fairly good indication that the clutch is functioning normally. Also check that the correct type and viscosity of oil is used as this can also cause difficult gear changing.

TRANSAXLE GEAR CLASH ON CHANGING DOWN

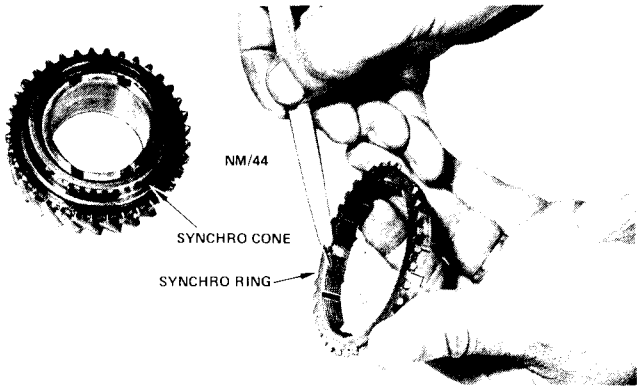
(1) Faulty clutch or clutch release mechanism: Check, adjust or overhaul clutch or clutch release mechanism.

(2) Faulty synchro rings and cones: Check and overhaul the transaxle assembly.

(3) Lubricating oil too heavy: Drain the transaxle and refill with the correct grade and quantity of oil.

(4) Broken, weak or incorrect positioning of the synchro springs on the synchro rings: Check and overhaul the transaxle assembly.

(5) Excessive end float in the mainshaft gears and/or laygear: Check and overhaul the transaxle assembly.



Check the friction surface of the synchro rings and cones for wear or damage.

NOTE: Check the clutch for correct operation as previously outlined before removing the transaxle for dismantling and inspection. Also check that the correct type of oil is being used.

TRANSAXLE SLIPPING OUT OF GEAR

(1) Weak or broken detent springs or worn detent balls and interlock plungers: Renew worn or damaged components as necessary.

(2) Torque stay rod damaged or incorrectly adjusted: Check and adjust or replace torque stay rod as described in the Engine section.

(3) Worn synchroniser assembly or worn synchro ring teeth. Worn sliding sleeve teeth on transfer gear: Renew the worn components.

(4) Worn gear needle bearings or bushes: Renew worn or damaged components as necessary.

(5) Loose engine mounting bolts: Check, tighten or renew as necessary.

(6) Support bearings worn or damaged: Renew as necessary.

NOTE: In most cases this condition is caused by wear or damage to components inside the transaxle . . . However, check the engine mounting rubbers and mounting hardware as vibrations caused by deteriorated mountings can cause the transaxle to slip out of gears.

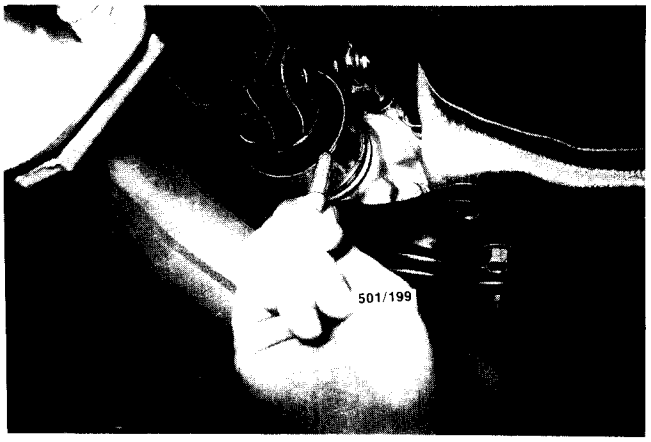
TRANSAXLE NOISE IN NEUTRAL

(1) Worn input shaft/mainshaft support bearing(s): Overhaul transaxle and renew bearing(s).

(2) Insufficient or incorrect lubricant: Check and top up or renew as necessary.

(3) Constant mesh gears worn or pitted: Overhaul transaxle and renew as necessary.

(4) Worn input shaft/mainshaft spigot bearing in crankshaft/flywheel: Renew as necessary.



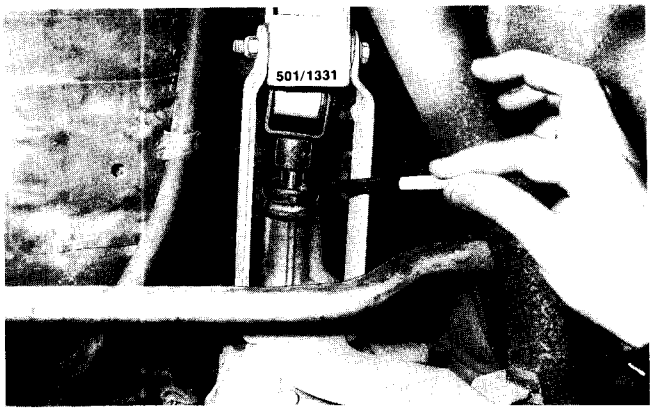
If the transmission oil level is low, check for the cause of oil loss. The output shaft oil seals are a likely source of leakage.

(5) Excessive counter gear end float: Check and renew bearings, spacer and snap ring as necessary.

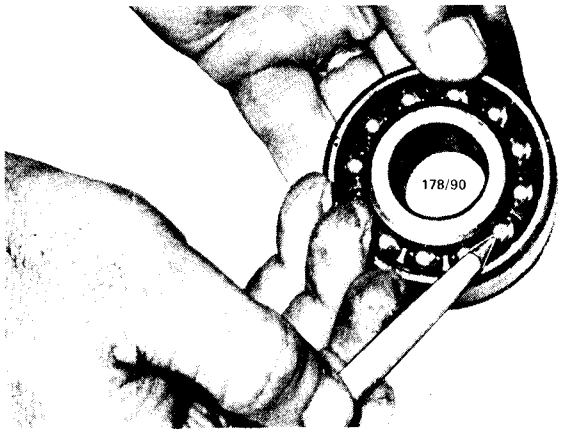
NOTE: First check the lubricant level in the transaxle assembly. To isolate transaxle noise in neutral, run the engine, depress the clutch and engage any gear. If the noise ceases with the clutch depressed it is indicated that the noise is in the transaxle.

TRANSAXLE NOISE (FORWARD GEARS ENGAGED, VEHICLE MOVING)

(1) Insufficient or incorrect lubricant: Check, top up or renew as necessary.
(2) Incorrect adjustment of differential and drive pinion assembly: Dismantle, check and readjust as necessary.
(3) Crownwheel insecure on differential: Dismantle and secure or renew parts as necessary.
(4) Worn front and/or rear support bearings: Overhaul transaxle and renew bearings as necessary.
(5) Constant mesh gears worn or pitted: Overhaul transaxle and renew gears as necessary.
(6) Excessive counter gear end float: Check and renew bearings, spacer and snap ring as necessary.



Check the transaxle selector rod oil seal as a source of oil leakage, 1983 two wheel drive model shown.



Check the bearings for pitting in the hardening of the balls and tracks.

(7) Reverse idler gear chipped or damaged: Overhaul transaxle and renew components as necessary.
(8) Axle shaft joints worn or damaged: Check and renew components or axle shaft as necessary.

DIFFICULT HIGH TO LOW, OR LOW TO HIGH RANGE CHANGE

(1) High/low sliding sleeve or synchro assembly splines or rear drive shaft splines worn or damaged: Overhaul the transaxle and renew components as necessary.
(2) Worn or damaged gear and synchro teeth on the high and low input gears: Overhaul the transaxle and renew components as necessary.
(3) Loose or worn selector lever components: Check, adjust or renew components as necessary.

DIFFICULT TO ENGAGE FOUR WHEEL DRIVE

(1) Four wheel drive sliding sleeve or hub worn or damaged: Renew components as necessary.
(2) Worn or loose selector lever components: Check, adjust or renew components as necessary.
(3) Faulty switch or wiring and loose control cable: Check adjust or renew components as necessary.
(4) Faulty vacuum servo unit, manifold vacuum pipes or solenoid control valve: Check, and renew or service components as necessary.

GEAR SELECTED BUT NO FRONT WHEEL DRIVE

(1) Axle shaft or hub splines worn and damaged: Renew components as necessary.
(2) Constant velocity joint worn and damaged: Renew axle shaft.
(3) Axle shaft broken: Renew axle shaft.
(4) Double offset joint worn or damaged: Check and renew components or axle shaft as necessary.
(5) Differential drive shaft splines worn and damaged: Refer the problem to a suitable specialised workshop.
(6) Transaxle final drive worn and damaged: Refer the problem to a suitable specialised workshop.
(7) Incorrect offset joint installed: Refer the problem to a specialised workshop.

NOTE: Remove the axle shaft and check for damage. The axle shaft/constant velocity joint cannot be dismantled or repaired and if found to be faulty the axle shaft and joint must be renewed as a unit. The incorrect offset joint installed to the axle shaft such as a large diameter joint to a small diameter axle shaft will cause the splines to be damaged and cause slippage on the axle and drive shafts. When differential drive shafts and differential are found to be faulty, it is

recommended that the problem be referred to a suitable specialised workshop for correction.

FRONT WHEEL NOISE (APPARENT)

(1) Tyre noise: Determine whether it is normal or excessive for the type of vehicle and tyre construction.

(2) Wheel loose on axle shaft hub: Check condition of wheel rim, hub, nuts and wheel studs and tighten or renew all faulty components.

(3) Defective brake components: Overhaul brakes as described in Brakes section.

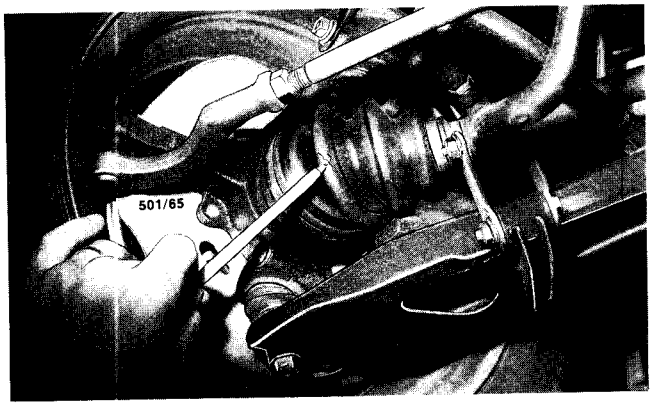
(4) Incorrect or faulty swivel hub bearings, loose axle shaft retaining nut: Check and tighten or renew faulty components.

(5) Worn or defective constant velocity joints: Check and renew the axle shaft assembly.

(6) Axle shaft and hub splines worn: Check and renew components as necessary.

(7) Wheel bent or out of balance: Renew the wheel rim or balance wheel and tyre assembly.

(8) Lack of lubricant in constant velocity joint. Check the rubber boots for damage or deterioration and renew driveshaft or components as necessary.



Check the constant velocity joint rubber boots for signs of leakage, damage and deterioration.

NOTE: The constant velocity joint noise is most obvious when the steering is in the right or left hand lock position with the vehicle in motion. The constant velocity joint cannot be dismantled or repaired and if found to be faulty the axle shaft and joint must be renewed as a unit.

Both the constant velocity joint and the double offset joint are protected by rubber boots, the boots if damaged can allow the loss of lubricant and the entry of dirt which will cause subsequent damage to the joints.

PROPELLER SHAFT VIBRATION

(1) Bent or dented propeller shaft(s): Renew the propeller shaft(s).

(2) Worn or damaged universal joint trunnions and/or needle bearings: Renew the universal joint assembly.

(3) Propeller shaft(s) out of balance: Balance or renew the propeller shaft(s).

(4) Propeller shaft(s) and universal flanges retaining bolts and nuts loose: Check and renew or tighten the components as necessary.

(5) Propeller shaft interior sliding splines worn: Renew the propeller shaft.

(6) Propeller shaft(s) not correctly aligned to each other or the rear drive pinion flange: Correct the alignment.

(7) Worn or damaged centre bearing and rubber mounting: Renew the centre bearing and rubber mounting.

(8) Propeller shaft and centre flange serrations worn: Renew the propeller shaft and centre flange.

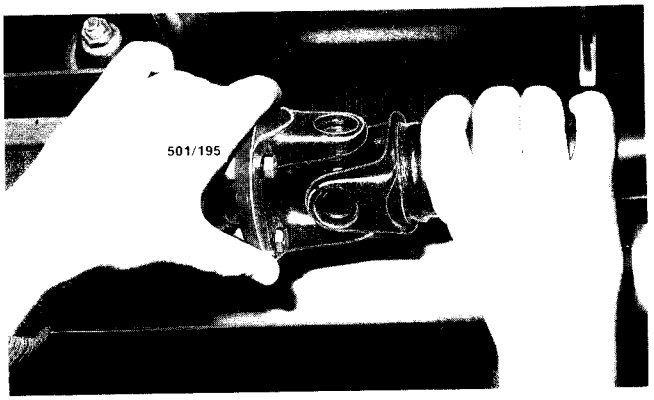
Check that the universal joint to pinion flange bolts are tight.

EXCESSIVE PROPELLER SHAFT BACKLASH

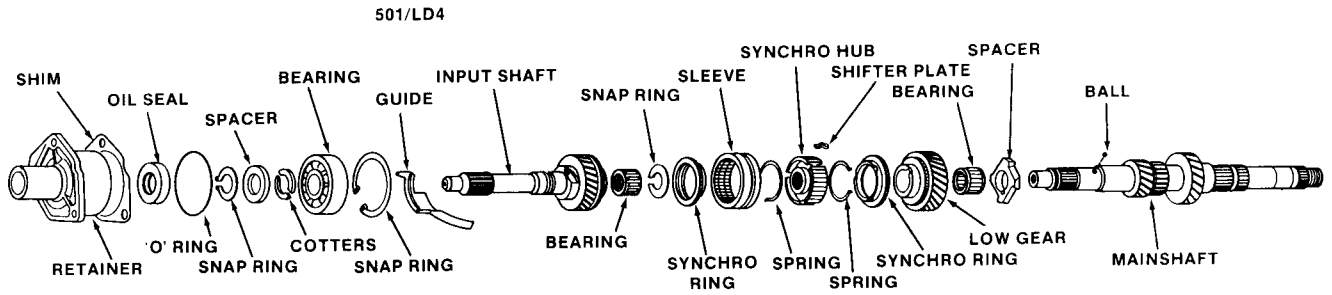
(1) Worn or damaged universal joint trunnions and/or needle bearings: Renew the universal joint assembly.

(2) Propeller shaft(s) interior sliding splines worn: Renew the propeller shaft(s).

(3) Centre universal joint flange and propeller shaft serrations worn: Renew the propeller shaft and flange.



Check the universal joints for wear by manual manipulation.



Illustrated view of four wheel drive dual ratio mainshaft and components.

2. DESCRIPTION

The front wheel drive transaxle houses the drive and driven gears, the final drive pinion and differential assembly. The front axle shafts also engage with the assembly.

The four wheel drive transaxle unit is similar in design but includes a transfer case which provides the drive to the rear wheels by means of the propeller shaft to the rear axle.

In all transaxles the forward gears and where installed, the transfer high/low gears are of helical construction and fully synchromesh to achieve a quiet smooth operation. On models equipped with two wheel drive and four wheel drive single ratio the transaxle input shaft and mainshaft are integral and is supported by a roller bearing located in the front and by a ball bearing in the rear.

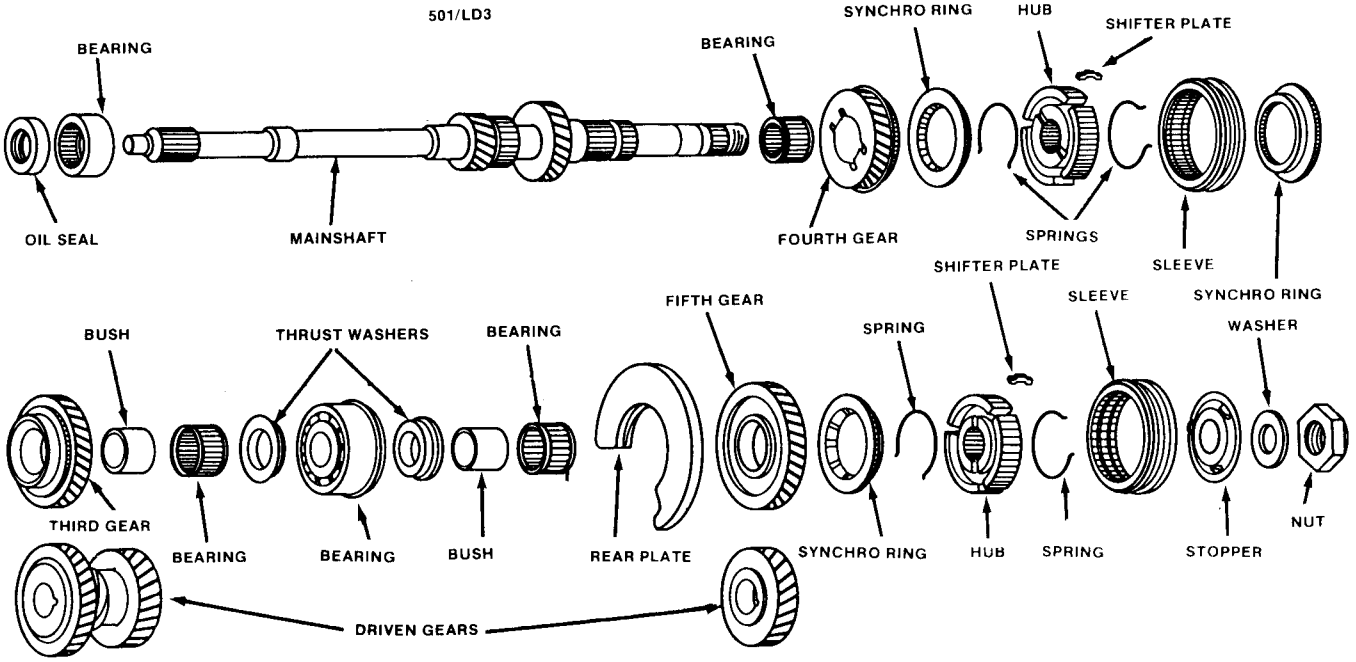
The rear of the mainshaft assembly includes, the fifth drive gear and synchro assembly where installed and the third and fourth drive gear and synchro assemblies which includes reverse gear, the front of the mainshaft has no other assemblies other than the bearing and oil seal.

On models equipped with four wheel drive dual ratio the mainshaft assembly comprises two separate components, the input shaft and the mainshaft.

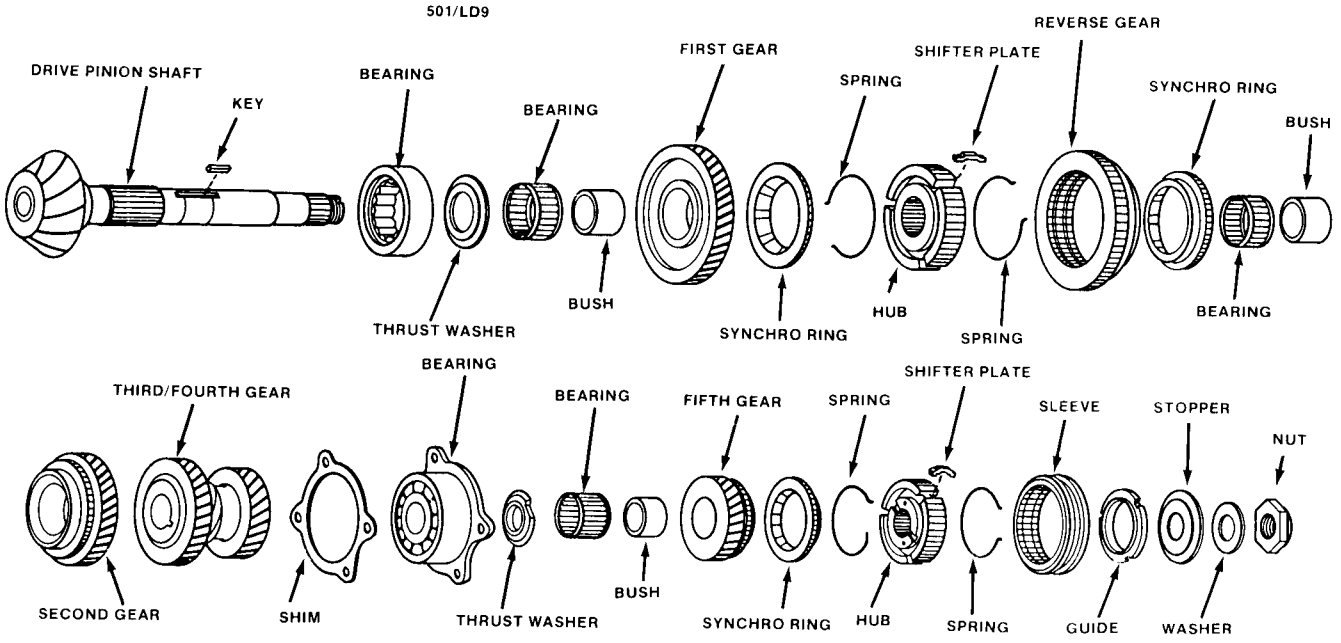
The front of the mainshaft is supported by a spigot bearing in the rear of the input shaft and supported by bearings at the middle and rear. When assembled to the engine, all transaxle mainshafts/input shafts are further supported by a ball bearing located in the crankshaft on earlier models and in the flywheel on later models.

The gear assembly located on the rear of the four wheel drive dual ratio mainshaft is similar to the four wheel drive single ratio. The assembly on the front of the mainshaft includes the transfer input gear and synchro assembly.

The differential located inside the transaxle case consists of the differential pinion gears turned by the crownwheel. The differential is supported on each side by roller bearings in the transaxle case. Drive to the front wheels is provided by drive shafts located in



Illustrated view of four wheel drive, single ratio mainshaft and components.



Illustrated view of two wheel drive, drive pinion shaft and components.

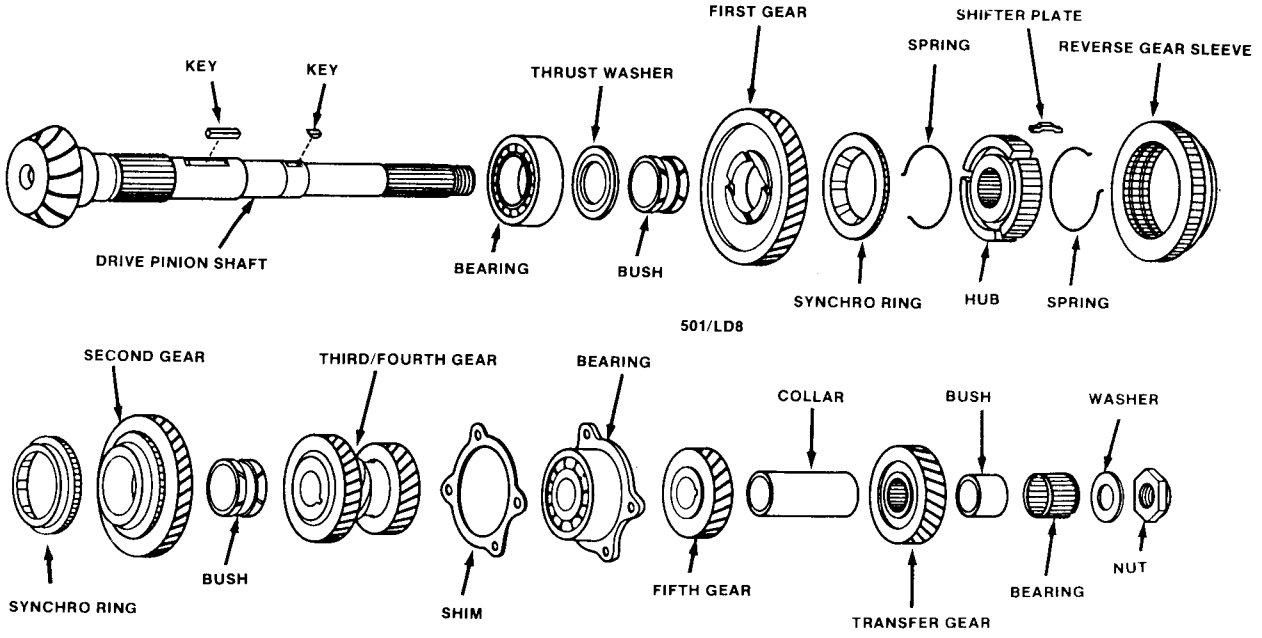
the differential side gears and external axle shafts to the road wheels.

On models equipped with two wheel drive the drive pinion assembly consists of the fifth driven gear and synchro assembly where installed, third and fourth driven gear and synchro assemblies, first and second driven gear and synchro assemblies including reverse gear retained by a lock nut.

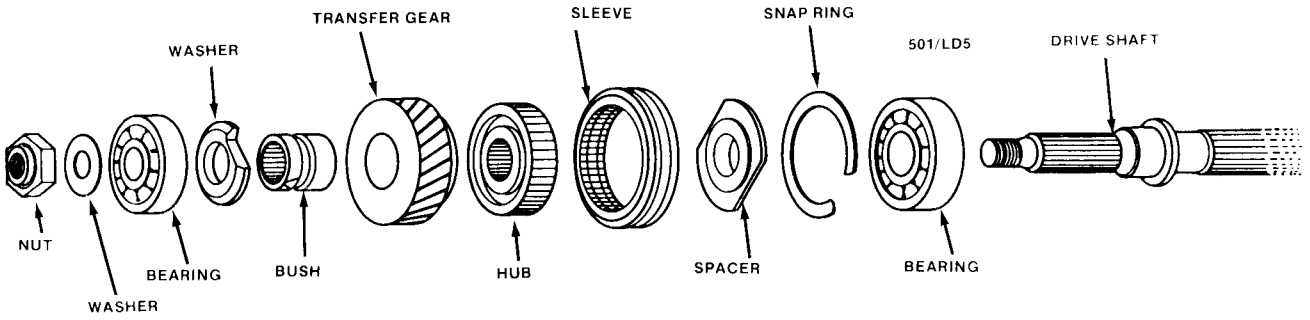
On models equipped with four wheel drive, the drive pinion assembly is similar other than the inclusion of the transfer drive gear.

The reverse idler gear when engaged between the laygear and mainshaft gear changes the direction of rotation of the drive gear train, it is located inside the transaxle case and is supported on bushes on a shaft, or on the later models directly on the shaft.

The transfer case contains the mainshaft transfer drive gear, drive shaft driven gear assembly, high/low or four wheel drive synchro hub assembly, shifter rod and fork, transfer shifter lever, oil seal and reverse lamp switch.



Illustrated view of four wheel drive, drive pinion shaft and components.



Illustrated view of four wheel drive rear drive shaft and components.

The rear extension on the transaxle assembly contains the rear drive shaft to the rear propeller shaft with the transfer driven gear and sliding hub assembly which locates in the transfer case during the final transaxle assembly. The rear extension also contains the four wheel drive indicator switch and the rear drive shaft oil seal. A floor type gear and transfer drive change control is installed to the floor and a stay bracket or rod secured to the transaxle and the vehicle floor.

On 1979–1984 and all Utility models equipped with four wheel drive, the transaxle control lever pivots on the transaxle extension housing. On 1985–1987 Station Wagon and Sedan models equipped with four wheel drive single ratio, the four wheel drive is actuated by an electric switch on the transaxle lever which allows manifold vacuum to operate a control cable to the transaxle via a vacuum servo unit.

Gear selection is obtained by the transaxle lever moving a control rod connected to the transaxle.

The design of the transaxle necessitates fine tolerances and adjustments, and many checks and adjustments are required during the overhaul of the transaxle. During the checks and adjustments, the use of specialised skills and equipment are essential and it is recommended that transaxle assembly repairs should be referred to a suitable specialised workshop.

Specifications and a tooth marking chart are included in this section for those who may feel competent and sufficiently equipped to undertake the operation.

The transaxle drive shaft oil seals must be removed from the differential bearing adjusting retaining rings when the rings are removed from the transaxle.

The differential retaining rings once removed will make it necessary to adjust the differential backlash and preload which can only be achieved with the transaxle removed from the vehicle.

If the oil seals require renewal, refer the work to a suitable specialised workshop.

On models equipped with two wheel drive, the transaxle selector rod enters an oil seal in the rear case. The transaxle selector rod oil seal can be renewed on the vehicle by first disconnecting the control linkage and withdrawing the oil seal over the selector rod.

On models equipped with four wheel drive, the rear propeller shaft engages with the rear drive shaft through an oil seal on the rear extension. The oil seal can be renewed on the vehicle by removing the propeller shaft(s) and withdrawing the oil seal over the transaxle rear drive shaft.

The front axle shafts on the two and four wheel drive models are similar and provide a smooth and flexible transfer of power during the driving operation. The axle shafts are secured to the transaxle drive shafts at the double offset joint outer race by interior splines and a retaining pin. The double offset joint comprising of an outer race, cage and balls and an inner race, allows flexibility during suspension flexing and is lubricated by a special grease. It is protected from the loss of lubricant or the entry of dirt by a rubber boot.

The outer end of the axle shaft has a constant velocity joint between the axle shaft and the hub drive shaft to allow for the larger turning angles when steering. The constant velocity joint is also lubricated by the special grease and protected by a rubber boot. The joint is an integral part of the front axle shaft and cannot be dismantled or repaired. In the event of a faulty constant velocity joint or damaged axle shaft the axle shaft must be renewed as a unit.

The splines on the axle shaft assemblies for the different year models vary and special care should be taken to ensure the correct axle assembly is installed othewise damage will occur after installation. The double offset joint outer race splines and diameter correspond with the splines and diameter of the drive shafts on the transaxle and special care should be taken to instal the correct components during assembly or damage will occur.

The four wheel drive propeller shaft(s) consist of a single piece tubular shaft on the 1979–1984 and all Utility models and two single piece tubular shafts and a centre bearing assembly on the 1985–1987 Sedan and Station Wagon models. The front of the propeller shaft has a splined interior which slides on the transaxle rear drive shaft external splines during the deflection of the rear suspension.

The rear of the propeller shaft is connected to the rear drive pinion flange by a flange and retaining bolts and nuts.

On the 1985–1987 Sedan and Station Wagon

models equipped with the two propeller shafts, the centre bearing is secured on the rear of the front propeller shaft and retained by a flange and retaining nut. The centre bearing is secured to the chassis by retaining bolts and nuts.

The rear propeller shaft front flange is secured to the front propeller rear flange by retaining bolts and nuts. A universal joint is installed at each end of the shaft and in the case of the 1985–1987 Sedan and Station Wagon models one at the front and rear of the rear shaft and at the front of the front shaft.

The universal joint consists of a central cross or spider having four trunnions, four needle roller bearing cups and oil seals positioned in the propeller shaft yokes. On 1979–1984 and all Utility models the universal joint is retained by snap rings in the yokes and can be renewed. The trunnion bearing cup end float in the yokes can be controlled by selective fit snap rings.

On the 1985–1987 Sedan and Station Wagon models, the trunnion bearing cup in the propeller shaft yoke is retained by staking the yoke and cannot be renewed. In the event of a fault in the universal joint the propeller shaft must be renewed as a unit. The propeller shaft(s) if found to be worn or damaged on the splines, serrations or centre bearing contact surface must be renewed as a unit.

It is important to mark all mating flanges during dismantling and removal and to ensure the propeller shaft(s) are not dented and damaged as they are finely balanced otherwise damage will occur.

3. TRANSAXLE ASSEMBLY

Special Equipment Required:
To Remove and Instal — Transmission jack

TO REMOVE

(1) Disconnect the negative battery terminal.

(2) Remove the spare wheel from the engine compartment.

(3) Remove the spare wheel support bracket retaining bolts and remove the bracket.

(4) On models equipped with a Hill Holder remove the cable retaining nut and clip from the transaxle bracket and withdraw the cable.

(5) Remove the clutch cable locknut, adjusting nut and domed spacer from the cable.

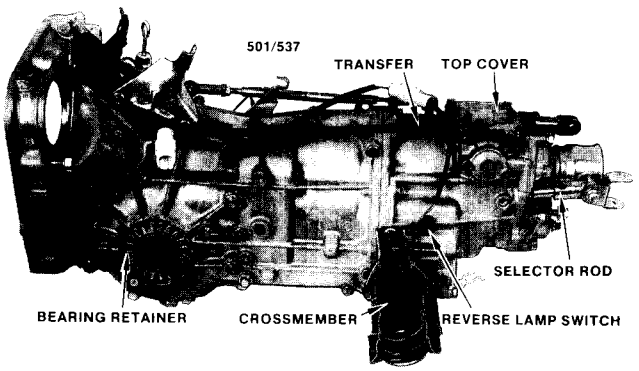
(6) Remove the cable to cable bracket retaining clip and remove the cable.

(7) On 1979–1984 and Utility models, remove the clutch return spring.

(8) Remove the clutch release lever rubber boot.

(9) On 1985–1987 Sedan and Station Wagon models, remove the hot air ducting from the carburettor.

(10) Unscrew the speedometer cable collar and remove the cable from the transaxle.



Left hand view of 1986 four wheel drive, five speed dual ratio transaxle removed from the vehicle.

(11) Disconnect the wiring harness and connectors to the reverse lamp.

(12) Remove the earth wire to body retaining screw and disconnect the earth wire.

(13) On 1979–1984 and Utility models, remove the starter motor retaining bolts and nuts and withdraw the starter motor. Position it securely on the engine compartment bulkhead.

(14) On 1985–1987 Sedan and Station Wagon models, proceed as follows:

(a) Where installed disconnect the wiring to the CO2 sensor on the exhaust.

(b) Disconnect the wiring cables to the starter motor.

(c) Remove the starter motor retaining nuts and remove the earth wire. Remove the starter motor from the vehicle.

(15) On 1979–1984 and Utility models, proceed as follows:

(a) Remove the transaxle to engine retaining bolts.

(b) Loosen the transaxle to engine lower retaining nuts.

(c) Loosen the torque stay rod to transaxle retaining nut sufficiently to allow the engine to be tilted to the rear on the transaxle removal.

(16) On 1985–1987 Sedan and Station Wagon models, remove the torque stay rod to body and transaxle retaining bolts and nuts and remove the stay rod from the vehicle.

(17) On 1979–1984 and Utility models, equipped with four wheel drive proceed as follows:

(a) Working inside the vehicle remove the gear lever knob.

(b) Remove the floor cover retaining screws and remove the lever and handbrake covers from the floor.

(c) Position the selector lever in four wheel drive position.

(d) Remove the selector control rod to selector/transaxle control rod retaining nuts.

(e) Remove the selector lever pivot bracket to floor retaining bolts and remove the lever assembly.

(f) Remove the gear lever rubber boot to floor retaining screws and remove the rubber boot and plate.

(g) Remove the gear lever to transaxle shifter rod lever retaining bolt and nut and remove the gear lever.

(18) Raise the vehicle to a suitable working height and support it on chassis stands.

(19) On 1985–1987 Sedan and Station Wagon models, remove the transaxle to engine retaining bolt and nut.

(20) On 1979–1984 and Utility models, remove the hot air intake hose from the exhaust.

(21) Loosen the exhaust engine pipe to engine retaining nuts.

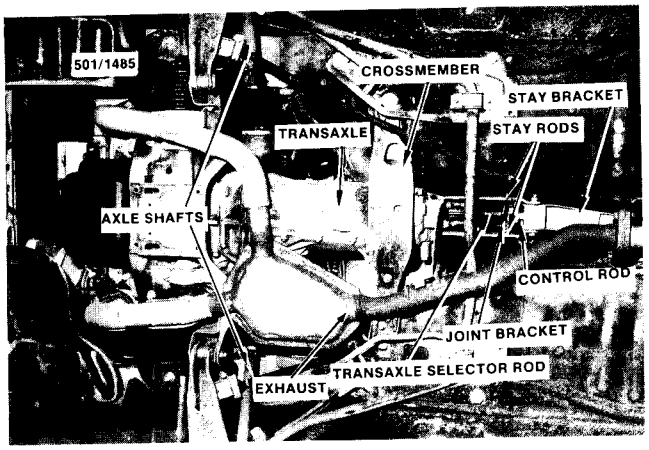
(22) Remove the engine pipe to intermediate pipe retaining bolts, springs and nuts.

(23) Remove the engine pipe to support bracket retaining bolt and nut.

(24) Remove the engine pipe to engine retaining nuts and remove the engine pipe from the vehicle.

(25) On models equipped with four wheel drive, remove the intermediate pipe to the rear muffler retaining bolts and nuts and remove the intermediate pipe from the vehicle.

(26) On models equipped with four wheel drive, remove the propeller shaft(s) from the vehicle ensuring that the transaxle aperture is plugged to prevent oil leakage.



Underbody view of installed manual transaxle. Two wheel drive, 1983 model.

(27) On 1979–1984 and Utility models, equipped with two wheel drive, working under the vehicle proceed as follows:

(a) Remove the gear lever control rod to joint bracket retaining bolt and nut and separate the rod.

(b) Remove the transaxle stay rods to stay bracket retaining nuts and separate the rods. Discard the retaining nuts.

(28) On 1985–1987 Sedan and Station Wagon models, working under the vehicle proceed as follows:

(a) Remove the neutral set spring from the spring retainer.

(b) Remove the control rod to joint bracket retaining bolt and nut and separate the rod.

(c) On models equipped with two wheel drive, remove the stay rod to clevis bracket retaining bolt and nut and separate the rod.

(d) On models equipped with four wheel drive single ratio, remove the stay rod pin bracket to transaxle retaining bolts and separate the pin bracket.

(e) On models equipped with four wheel drive dual ratio, remove the stay rod pin bracket to transaxle retaining bolts and separate the pin bracket.

(f) Remove the clevis pin from the selector lever control rod to the transaxle and separate the control rod.

(g) On models equipped with four wheel drive single ratio, remove the vacuum hoses from the vacuum servo unit.

(29) On 1979–1984 and Utility models, proceed as follows:

(a) Remove the stabiliser bar to chassis retaining bolts and nuts and remove the clamps and rubbers noting their installed position.

(b) Remove the stabiliser bar to radius rod retaining bolts and nuts and remove the clamps and rubber noting their installed position. Remove the stabiliser bar from the vehicle.

(30) On 1985–1987 Sedan and Station Wagon models, remove the stabiliser bar link plates to control arm retaining bolts and nuts and separate the stabiliser bar. Discard the retaining nuts.

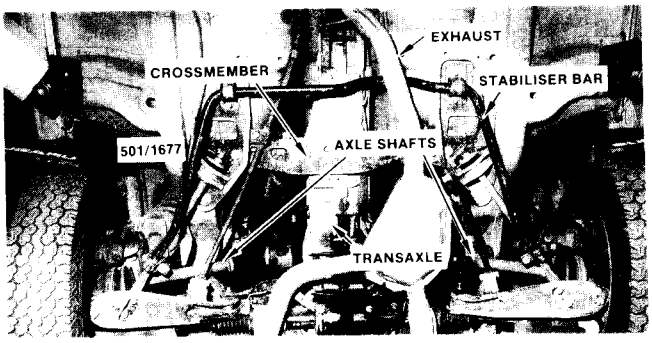
(31) Remove the control arms to front crossmember retaining bolts and nuts and lower the arms. Discard the retaining nuts.

(32) On 1985–1987 Sedan and Station Wagon models, remove the handbrake cable bracket to control arm retaining bolts and nuts and separate the cable and lower the arms.

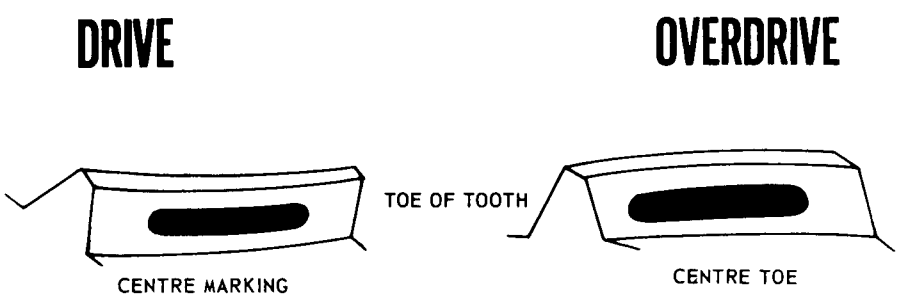
(33) Using a suitable drift drive the axle shaft to drive shaft retaining pins from the axle and drive shafts. Discard the retaining pins.

(34) Pushing the rear of the front wheels outwards separate the axle shafts from the drive shafts.

(35) On 1979–1984 and Utility models, remove the handbrake cable to chassis retaining bolt and nut and disconnect the cable.



Underbody view of installed manual transaxle. Four wheel drive, dual ratio, 1983 model.



Crownwheel Tooth Marking for Correctly Adjusted Crownwheel and Pinion. Marking will be slightly Closer to Toe of Tooth on Overdrive or Concave Side. Changes in Thickness of Pinion Positioning Shims will Affect Tooth Marking on Overdrive to Greater Extent than on Drive or Convex Side of Tooth. Changes in Backlash have a more Pronounced Effect on Drive Side Markings (All models.)

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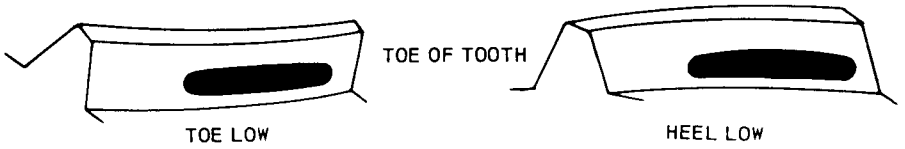
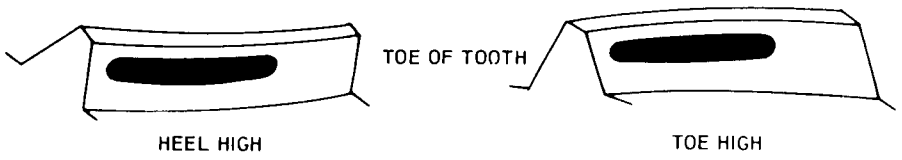
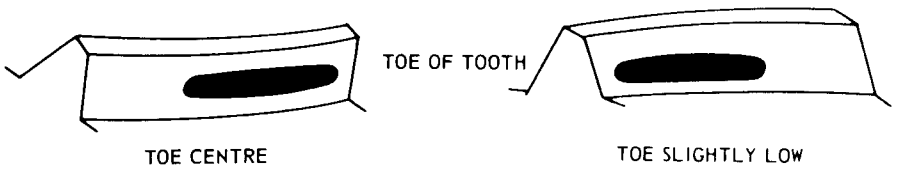


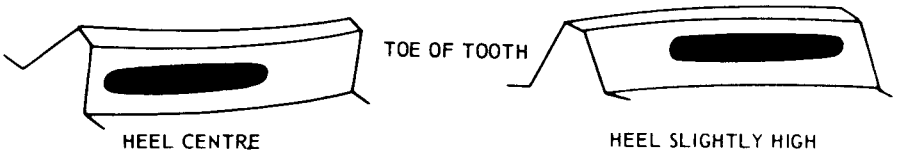
Low Profile Marking on Both Sides of Tooth. Rectify by Reducing Thickness of Pinion Positioning Shims and Reset Backlash (All models.)



High Profile Marking on Both Sides of Crownwheel Tooth. Rectify by Increasing of Pinion Positioning Shims and Reset Backlash (All models.)



Toe Marking on Drive Side and Low Profile Marking on Overdrive Side of Crownwheel Tooth. To Rectify, Increase Backlash. It may be Necessary to Increase Thickness of Pinion Positioning Shims to Maintain Backlash within Specified Limits (All models.)



Heel Marking on Drive Side and High Profile Marking on Overdrive Side of Crownwheel Tooth. To Rectify, Reduce Backlash. It may be Necessary to Decrease Thickness of Pinion Positioning Shims to Maintain Backlash within Specified Limits (All models.)

(36) Remove the rear crossmember to transaxle retaining nuts.

(37) On 1985–1987 Sedan and Station Wagon models, remove the transaxle to engine retaining nuts.

(38) Using a transmission jack, support the weight of the transaxle.

(39) Remove the rear crossmember to chassis retaining bolts and remove the crossmember.

(40) On 1985–1987 Sedan and Station Wagon models, remove the rigid crossmember to chassis retaining bolts and remove the crossmember.

(41) On models equipped with four wheel drive, disconnect the wiring from the four wheel drive switch.

(42) Remove the transaxle to engine retaining bolts and nuts and carefully separate it from the engine.

(43) Carefully lower the transaxle ensuring it does not foul any component and withdraw it from the vehicle.

(44) Thoroughly clean the exterior of the transaxle assembly in a suitable solvent ensuring no foreign object or liquid enters the transaxle. Check the transaxle cases for cracks and damage, renew as necessary.

The design of the transaxle necessitates fine tolerances and adjustments and many checks and adjustments are required during the overhaul of the transaxle. During the checks and adjustments, the use of specialised skills and equipment are essential and it is recommended that transaxle assembly repairs should be referred to a suitable specialised workshop. Specifications and a tooth marking chart are included in this section for those who may feel competent and sufficiently equipped to undertake the operation.

TO INSTAL

(1) Apply grease to the input shaft splines, bearing retainer exterior tube and the clutch release lever pivot point.

(2) Ensure that the mating surfaces of the transaxle and the flywheel housing are clean and free of burrs and paint.

(3) Using the transmission jack, position the transaxle under the vehicle for entry onto the engine.

(4) Guide the transaxle forward to enter its input shaft into the clutch assembly and spigot bearing in the crankshaft/flywheel. Carefully guide the transaxle forward until it locates on the dowels and abuts the face of the flywheel housing.

NOTE: If the transaxle will not slip forward, simultaneously turn both transaxle shafts until the input shaft splines engage the driven plate splines.

(5) Instal the right hand retaining bolts and nuts and lower retaining nuts to the transaxle and engine and tighten them securely.

(6) Instal the rear crossmember to the transaxle and instal the new retaining nuts and tighten them to Specifications.

(7) Instal the rear crossmember to chassis and instal the retaining bolts and tighten them to Specifications.

(8) On 1985–1987 Sedan and Station Wagon models, instal the rigid crossmember to the chassis and instal the retaining bolts and tighten them to Specifications.

(9) Remove the transmission jack.

On 1979–1984 and Utility models, instal the handbrake cable to the chassis and instal the retaining bolt and nut and tighten the nut securely.

(10) Push the outside of the front wheels inwards and instal the axle shafts to the drive shafts ensuring the retaining pin holes are aligned.

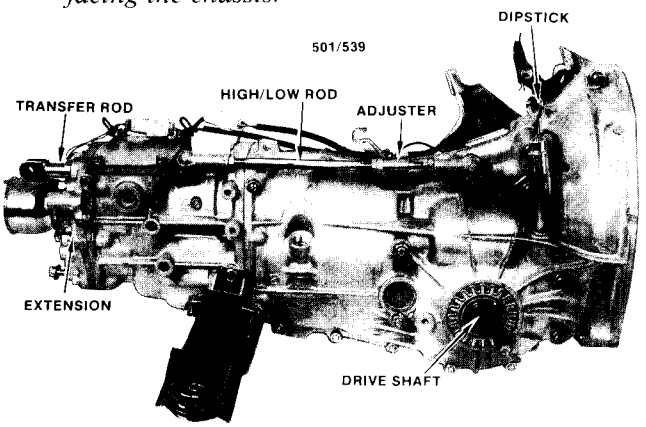
(11) Instal new steel roll retaining pins to the axle and drive shafts.

(12) Instal the control arms to the front crossmember and instal the retaining bolts and new nuts and tighten them securely.

(13) On 1979–1984 and Utility models, proceed as follows:

(a) Instal the stabiliser bar, rubbers and clamps to the chassis and instal the retaining bolts and nuts and tighten them to Specifications. Ensure that the rubbers are installed with their compliance slits to the rear.

NOTE: On models equipped with the modified stabiliser bar to chassis rubber bushes the compliance slits should be positioned facing the chassis.



Right hand view of 1986 four wheel drive five speed dual ratio transaxle removed from the vehicle.

(b) Instal the spacers, rubber bushings and clamping plates to each end of the stabiliser bar. Instal the retaining bolts and nuts to each end of the stabiliser bar and to the control arms. Tighten the nuts securely.

Ensure that the slits in the rubber bushings face towards the rear of the vehicle.

(14) On 1985–1987 Sedan and Station Wagon models proceed as follows:

(a) Instal the stabiliser bar link plates to the control arms and instal the retaining bolts and new nuts and tighten them securely.

(b) Instal the handbrake cable bracket to the control arm and instal the retaining bolt and nut and tighten the nut securely.

(15) On 1979–1984 and Utility models equipped with two wheel drive proceed as follows:

(a) Instal the gear lever control rod to joint bracket and instal the retaining bolt and nut and tighten to Specifications.

(b) Instal the transaxle stay rods to the stay bracket and instal the new retaining nuts and tighten securely.

(16) On 1985–1987 Sedan and Station Wagon models proceed as follows:

(a) Instal the control rod to the joint bracket and instal the retaining bolt and nut and tighten to Specifications.

(b) Instal the neutral set spring to the spring retainer.

(c) On models equipped with two wheel drive, instal the stay rod to the clevis bracket and instal the retaining bolt and spring retainer/nut and tighten it to Specifications. Instal the neutral set spring to the retainer.

(d) On models equipped with four wheel drive, instal the control rod pin bracket to the transaxle and instal the retaining bolts and tighten securely.

(e) On models equipped with four wheel drive dual ratio, instal the selector control rod to the transfer selector rod and instal the clevis pin and secure with the split pin.

(17) On models equipped with four wheel drive, instal the propeller shaft(s).

(18) On 1985–1987 Sedan and Station Wagon models proceed as follows:

(a) Lower the vehicle to the ground and tighten the control arms to front crossmember retaining bolts and nuts to Specifications.

(b) Tighten the stabiliser bar linkplate to control arm retaining bolts and nuts to Specifications.

(c) Instal the transaxle to engine retaining bolt and nut and tighten to Specifications.

(d) Raise the vehicle to a suitable working height and support it on chassis stands.

(19) Position the engine exhaut pipe on its support bracket and instal the retaining bolt loosely.

(20) Instal the engine pipe and new gasket to the engine and instal the retaining nuts loosely.

(21) Instal the engine pipe and new gasket to the intermediate pipe. Instal the retaining bolts, springs and nuts and tighten securely.

(22) Tighten the engine pipe to engine and support bracket retaining bolts and nuts and tighten securely.

(23) On 1979–1984 and Utility models, instal the hot air intake hose to the exhaust.

(24) On models equipped with four wheel drive, instal the intermediate pipe and a new gasket to the rear muffler. Instal the retaining bolts and nuts and tighten securely. Ensure the exhaust is located on the hangers.

(25) Lower the vehicle to the ground.

(26) On 1979–1984 and Utility models proceed as follows:

(a) Instal the starter motor to the engine and instal the retaining bolts and nuts and tighten securely.

(b) Tighten the transaxle to engine retaining bolts and nuts to Specifications.

(27) On 1985–1987 Sedan and Station Wagon models proceed as follows:

(a) Instal the torque stay rod to the transaxle and body. Instal the retaining bolts and nuts and tighten to Specifications.

(b) Instal the starter motor to the engine. Instal the retaining bolts and nuts and tighten to Specifications. Ensure the earth wire is secured by the retaining nut.

(c) Instal the wiring cables to the starter motor.

(28) On 1979–1984 and Utility models proceed as follows:

(a) Loosen the stay rod adjusting nut until the rod is loose on the engine bracket.

(b) Tighten the rear nut and check the clearance between the washer and rubbers at the engine, it should be a maximum of 1.2 mm. This is specified as torque stay rod clearance and is controlled by the adjusting nut, or the installation of new rubbers.

(c) When adjustment is complete secure the rear nut and tighten the adjusting nut securely.

(29) Instal the speedometer cable to the transaxle and tighten the retaining collar securely ensuring that it is routed under the torque stay rod.

(30) Connect the wiring harness and wiring to the reverse lamp switch.

(31) Instal the earth wire to the body and instal the retaining screw and tighten securely.

(32) On 1985–1987 Sedan and Station Wagon models equipped with CO2 sensors, instal the wiring to the sensor on the exhaust.

(33) On 1979–1984 and Utility models, instal the return spring to the clutch release lever.

(34) Instal the clutch cable to the cable bracket and instal the retaining clip.

(35) Instal the clutch cable to the release lever and instal the domed spacer adjusting nut and locknut to the cable and adjust the cable and secure with the locknut. Refer to the Clutch section.

(36) On models equipped with a Hill Holder, instal the cable to the release lever and transaxle bracket and instal the retaining nut and clip to the cable and bracket.

(37) On 1979–1984 and Utility models equipped with four wheel drive proceed as follows:

(a) Position the gear lever on the transmission ensuring the lever dust seal is seated correctly.

(b) Instal the gear lever to the transaxle shifter rod lever. Instal the retaining bolt and a new nut and tighten to Specifications.

(c) Position the selector lever transaxle control rod in the rubber boot and instal the boot and plate to the floor. Instal the rubber boot retaining screws and tighten securely.

(d) Instal the selector lever pivot bracket to the floor and the selector control rod to the selector transaxle control rod.

(e) Instal the lever pivot bracket to floor retaining bolts and tighten securely.

(f) Instal the selector control rod to selector transaxle control rod retaining nut and locknut, tighten the retaining nut and secure with the locknut.

(g) Instal the floor and handbrake covers and instal the retaining screws and tighten securely.

(h) Instal the knob to the gear lever ensuring the markings match the lever movements.

(38) On models equipped with four wheel drive, connect the wiring to the four wheel drive indicator switch.

(39) On 1985–1987 Sedan and Station Wagon models equipped with four wheel drive single ratio, connect the vacuum hose to the vacuum servo unit.

(40) On 1979–1984 and Utility models, tighten the control arms to the front crossmember retaining bolts and nuts to Specifications.

(41) On 1985–1987 Sedan and Station Wagon models instal the air ducting to the carburettor.

(42) Instal the spare wheel support bracket and instal the retaining bolts and tighten securely.

(43) Check the transaxle oil level and top up as necessary.

(44) Connect the negative battery terminal.

(45) Start the engine and check for exhaust leaks.

(46) Check the clutch and transaxle controls operations for free and smooth movement.

(47) Instal the spare wheel to the vehicle. On models equipped with a Hill Holder refer to the Brakes section.

TO RENEW REAR CASE OIL SEAL — TWO WHEEL DRIVE

(1) Raise the vehicle to a suitable working height and support it on chassis stands.

(2) Remove the transaxle control rod to joint bracket retaining bolt and nut. Ensure that the bushes are not mislaid.

(3) Using a suitable drift remove the joint bracket to transaxle selector rod retaining pin.

(4) Position the transaxle gear lever in a forward position and remove the joint bracket/sleeve from the selector rod.

(5) Using a suitable screwdriver or tool, prise the oil seal out of the rear case and over the transaxle selector rod. Discard the oil seal.

(6) Check the oil seal running surface on the transaxle selector rod for wear and damage, renew the selector rod as necessary. If appropriate refer the problem to a suitable specialised workshop.

(7) Check the oil seal aperture in the rear case for wear and damage, renew the rear case as necessary. If appropriate refer the problem to a specialised workshop.

(8) Ensure the oil seal aperture is clean and free from burrs and obstructions.

(9) Apply grease to the inner lips of the oil seal and position it in the rear case.

(10) Using a suitable tool or tube with the general dimensions of the oil seal, drive the oil seal into the rear case ensuring that it is fully home and that the lips of the seal are facing to the inside.

(11) Instal the joint bracket/sleeve to the transaxle selector rod. Align the retaining pin holes and instal the retaining pin to the selector rod and bracket/sleeve.

(12) Instal the transaxle control rod to the joint bracket. Instal the retaining bolt and nut and tighten to Specifications.

(13) Lower the vehicle to the ground.

TO RENEW REAR EXTENSION OIL SEAL — FOUR WHEEL DRIVE

(1) Raise the vehicle to a suitable working height and support it on chassis stands.

(2) Remove the propeller shaft from the vehicle.

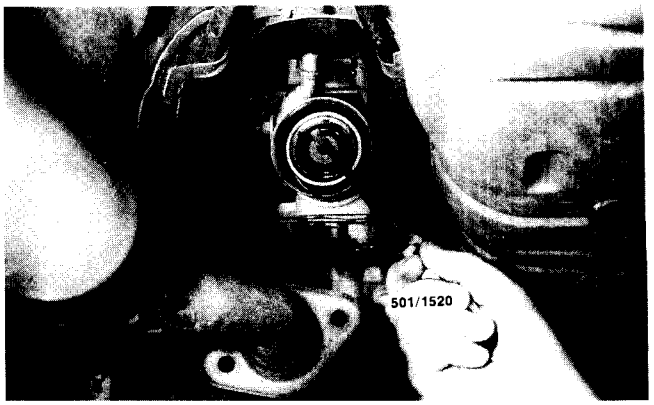
(3) Using a suitable tool or screwdriver prise the oil seal out of the rear extension and over the transaxle rear drive shaft. Discard the oil seal.

(4) Check the oil seal running surface on the propeller shaft(s) for wear and damage, renew as necessary.

(5) Check the oil seal aperture in the rear extension for wear and damage, renew the rear extension as necessary. If appropriate refer the problem to a suitable specialised workshop.

(6) Ensure that the oil seal aperture is clean and free from burrs and obstructions.

(7) Apply grease to the lips of the oil seal and position it on the rear extension.



Using a suitable screwdriver, prise the oil seal from the rear of the transaxle rear extension.

(8) Using a suitable tool or a tube with the general dimensions of the oil seal, drive the oil seal into the rear extension, ensuring that it is fully home and that the lips of the seal are facing to the inside.

(9) Instal the propeller shaft(s) and lower the vehicle to the ground.

4. TRANSAXLE CONTROLS

Special Equipment Required:

To Adjust, 1981–1984 and all Utility Models — four wheel drive high/low linkage rod clamp/bracket

To Adjust, 1985–1987 Sedan and Station Wagon Models — high/low linkage rod locating pin tool, selector cable vacuum pump

TO REMOVE AND INSTAL

Two Wheel Drive 1979–1984 Models

(1) Raise the vehicle to a suitable working height and support it on chassis stands.

(2) Remove the engine exhaust pipes to engine retaining nuts.

(3) Remove the front exhaust bracket retaining bolt and nut.

(4) Remove the engine exhaust pipe to intermediate pipe retaining bolts and nuts and remove the exhaust pipe from the vehicle.

(5) Remove the gear lever knob.

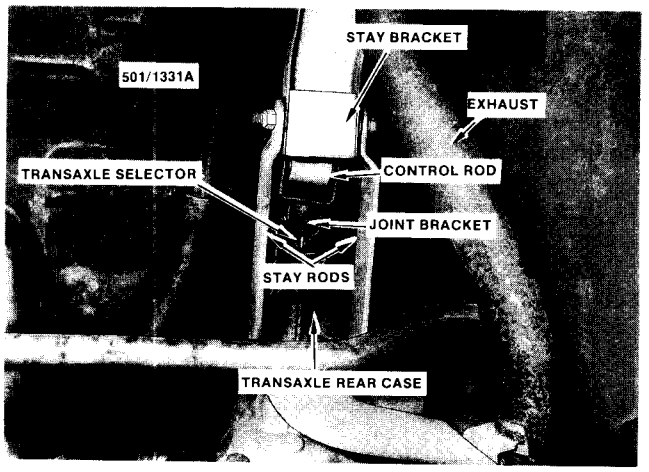
(6) Working underneath the vehicle, remove the neutral set spring from the joint bracket.

(7) Remove the stay bracket to stay rods retaining bolt, nut, bushes and spacer.

(8) Remove the control rod to joint bracket retaining bolt, nut, resin bushes, rubber bushes and spacer.

(9) Remove the cushion rubber to floor retaining nut and withdraw the lever assembly from the floor.

(10) Remove the control rod to transaxle lever retaining bolt, nut, resin bushes, rubber bushes and spacer. Remove the control rod.



Installed view of 1983 model two wheel drive transaxle controls.

(11) Remove the gear lever plate to stay bracket retaining bolts and remove the lever and plate.

(12) Remove the cushion, bush, plate and dust seal from the lever.

(13) Remove the cushion rubber to stay bracket retaining nut and remove the cushion rubber.

(14) Thoroughly clean all parts except the rubber components with a suitable solvent and check the control rod and lever for wear and damage, renew as necessary.

(15) Check the joint bracket, stay bracket and plate for wear and damage and renew as necessary.

(16) Check the cushion rubber for wear and damage, renew as necessary.

(17) Check the bushes, spacer and dust seal for wear and damage, renew as necessary.

(18) Check the neutral set spring for tension, wear and damage, renew as necessary.

Installation is a reversal of the removal procedure with attention to the following points:

(1) Instal the cushion rubber to the stay bracket, ensuring that its locating pin is in the stay hole and instal the retaining nut and tighten to Specifications.

(2) Instal the bushes and spacer to the stay bracket ensuring the bush small diameter flange is to the inside.

(3) Instal the dust seal to the plate and secure with wire ensuring the wire ends are at the long side of the plate.

(4) Apply grease to the bush and instal the cushion, bush and lever to the stay bracket.

(5) Apply sealant to the bracket to plate mating surface and grease to the transaxle lever and plate contact surface.

(6) Instal the plate and gear lever to the stay bracket ensuring the dust seal wire ends are to the left hand side. Instal the retaining bolts and tighten to Specifications. Check the lever for free smooth movement.

(7) Apply grease to the resin bushes and instal the bushes and chrome spacer to the lever end of the rod and the bushes and zinc spacer to the opposite end.

(8) Instal the control rod to the gear lever and instal the retaining bolt and a new nut and tighten to Specifications.

(9) Check that the control rod moves freely and smoothly on the lever.

(10) Instal the control rod to the joint bracket and instal the retaining bolt and a new nut from the right hand side and tighten to Specifications.

(11) Position the gear lever in the floor and instal the stay bracket to the stay rods. Instal the retaining bolt and nut and tighten to Specifications.

(12) Instal the cushion rubber on the body and instal the retaining nut and tighten to the Specifications.

(13) Instal the neutral set spring to the joint bracket.

(14) Instal the locknut and knob to the gear lever ensuring the knob markings match the lever movement.

(15) Check the gear lever and selector lever operation functions freely and smoothly.

(16) Instal the engine exhaust pipes and new gaskets to the engine and instal the retaining nuts loosely.

(17) Instal the engine exhaust pipe and new gasket to the intermediate pipe and instal the retaining bolts and nuts loosely.

(18) Instal the engine exhaust pipe bracket retaining bolt and nuts loosely.

(19) Tighten the engine exhaust pipe to intermediate pipe retaining nuts securely.

(20) Tighten the exhaust pipe to engine and exhaust bracket retaining bolts and nuts securely.

(21) Lower the vehicle to the ground.

Two Wheel Drive 1985–1987 Models

(1) Remove the knob from the gear lever.

(2) Raise the vehicle to a suitable working height and support it with chassis stands.

(3) Working under the vehicle, remove the rear rigid crossmember retaining bolts and remove the crossmember.

(4) Remove the neutral set spring from the retainer bracket and clevis bracket.

(5) Remove the stay rod to clevis bracket retaining bolt and retainer bracket.

(6) Remove the joint bracket to double joint bracket retaining nut and bolt and rubber bushes.

(7) Remove the cushion rubber to body retaining nut and remove the assembly from the vehicle.

(8) Remove the control rod to gear lever retaining bolt and nut, nylon bushes, rubber bushes and spacer.

(9) Remove the double joint bracket to control rod retaining bolt and nut, nylon bushes, rubber bushes, spacer and remove the bracket.

(10) Remove the lever plate to stay rod retaining nuts and remove the lever.

(11) Remove the cushion, bush, plate, dust seal and locking wire from the lever.

(12) Remove the rubber bushes, and spacer from the stay rod.

(13) Remove the cushion rubber to stay rod retaining nut and remove the rubber cushion.

(14) Thoroughly clean all parts except the rubber components in a suitable solvent and check the control rod and stay rod for wear and damage, renew as necessary.

(15) Check the double joint bracket, clevis bracket and lever plate for wear and damage, renew as necessary.

(16) Check the cushion rubber for wear and damage, renew as necessary.

(17) Check the bushes, spacers and dust seal for wear and damage, renew as necessary.

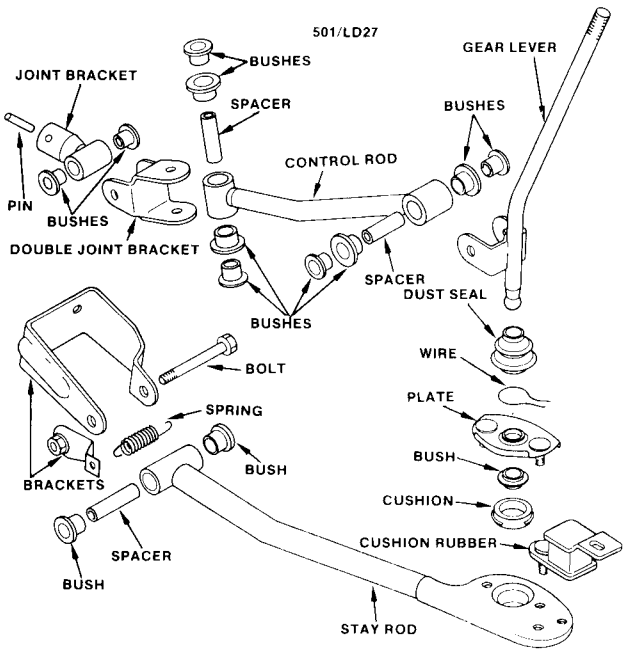


Illustration of 1985–1987 two wheel drive transaxle controls.

(18) Check the neutral set spring for tension, wear and damage, renew as necessary.

(19) Check the gear lever for wear and damage, renew as necessary.

Installation is a reversal of the removal procedure with attention to the following points:

(1) Instal the cushion rubber to the stay rod and instal the retaining nut and tighten to Specifications.

(2) Instal the rubber bushes and spacer to the stay rod.

(3) Instal the dust seal to the plate and secure with tying wire ensuring the wire ends are at the long side of the plate.

(4) Apply grease to the bush and instal the cushion, bush and lever to the stay rod.

(5) Apply a suitable sealant to the stay rod to plate mating surface and grease to the transaxle lever and plate contact surface.

(6) Instal the plate and the gear lever to the stay rod ensuring the dust seal wire ends are to the left hand side.

(7) Instal the plate retaining nuts and tighten to Specifications. Check the lever operation moves freely.

(8) Instal the rubber bushes, nylon bushes, spacer and double joint bracket to the control rod and instal the retaining bolt and nut and tighten to Specifications.

(9) Apply grease to the nylon bushes and instal the nylon bushes, rubber bushes and spacer to the control rod.

(10) Instal the control rod to the gear lever and instal the retaining bolt and nut and tighten to Specifications.

(11) Check that the control rod moves freely and smoothly on the lever.

(12) Working under the vehicle instal the double joint bracket to the joint bracket and instal the retaining bolt and nut and tighten to Specifications.

(13) Instal the stay rod to the clevis bracket and instal the bolt and retainer bracket and tighten to Specifications.

(14) Instal the cushion rubber to the floor and instal the retaining nut and tighten to Specifications.

(15) Instal the neutral set spring to the retainer bracket and the double joint bracket ensuring the longest hook locates on the joint bracket.

(16) Instal the knob to the gear lever ensuring the knob markings match the lever movement.

(17) Check the gear lever operation functions freely and smoothly.

(18) Instal the rear rigid crossmember and instal the retaining bolts and tighten them securely.

(19) Lower the vehicle to the ground.

Four Wheel Drive 1979–1984 and Utility Models

(1) Remove the knob from the gear lever.

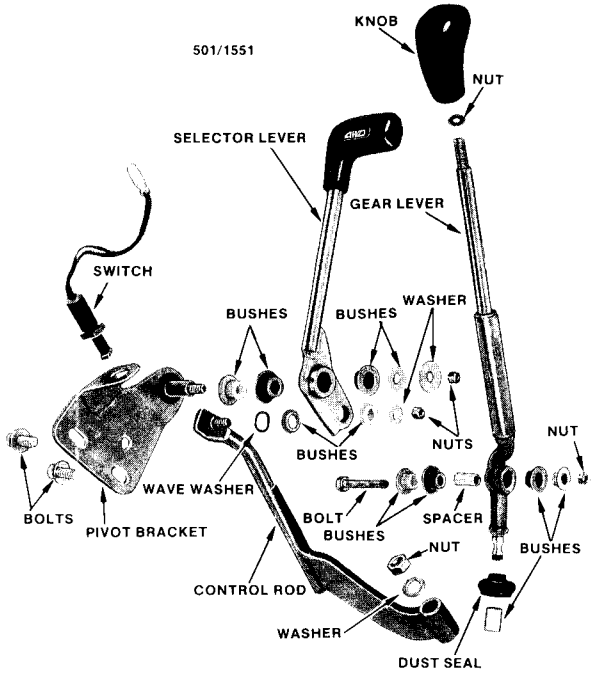
(2) Remove the retaining screws from the gear lever and selector lever covers and remove the covers.

(3) Remove the selector lever control rod to transaxle control rod retaining nut.

(4) Remove the selector lever pivot bracket to floor retaining bolts.

(5) On models equipped with dual ratio, disconnect the four wheel drive indicator switch wiring and remove the selector lever assembly from the vehicle.

(6) Remove the floor plate retaining screws and remove the plate and rubber boot.



Dismantled view of 1983 model, four wheel drive, dual ratio transaxle controls.

(7) Remove the gear lever to the shifter rod lever retaining bolt and nut and remove the gear lever from the transaxle.

(8) Remove the dust seal and gear lever pivot bush from the transaxle.

(9) Remove the rubber bushes, resin bushes and spacer from the gear lever.

(10) Remove the selector lever control rod to selector lever retaining nut, washer and bush and separate the control rod from the lever.

(11) Remove the bushes and wave washer from the selector lever control rod.

(12) Remove the selector lever to pivot bracket retaining nut and washer.

(13) Remove the resin bushes, rubber bushes and spacer from the selector lever.

(14) Thoroughly clean all parts except the rubber components with a suitable solvent.

(15) Check the control rod and levers for wear and damage, renew as necessary.

(16) Check the pivot bracket for wear and damage, renew as necessary.

(17) Check the bushes and spacers for wear and damage renew as necessary.

(18) Check the rubber boot and dust seal for cracks and damage, renew as necessary.

Installation is a reversal of the removal procedure with attention to the following points:

(1) Apply grease to all the resin bushes.

(2) Instal the rubber bushes, resin bushes and spacer to the gear lever.

(3) Instal the resin bushes, rubber bushes and spacer to the selector lever.

(4) Instal the wave washer to the selector lever control rod.

(5) Instal the selector lever control rod to the selector lever and instal the new retaining nut and washer and tighten to Specifications. Ensure the control rod moves freely and smoothly on the lever.

(6) Instal the selector lever to the pivot bracket and instal the new retaining nut and tighten it securely.

(7) Apply grease to the gear lever pivot bush and position in the transaxle.

(8) Instal the dust seal to the transaxle and secure it with the retaining clip.

(9) Instal the gear lever to the dust seal and transaxle.

(10) Instal the gear lever to shifter rod lever, instal the retaining bolt and nut and tighten to Specifications.

(11) Instal the floor plate and rubber boot to the floor ensuring that the selector lever control rod is protuding from the boot. Instal the retaining screws and tighten them securely.

(12) Position the selector lever assembly and instal the selector lever control rod to the selector control rod and instal the retaining nut and tighten it to Specifications.

(13) Ensure that the selector control rod is as far forward as possible and align the notch on the lower edge of the selector lever with the pin hole in the pin bracket. Instal a locating pin to hold the pivot bracket and selector lever rigid.

(14) Position the pivot bracket on the floor and instal the retaining bolts and tighten them to the Specifications.

(15) Remove the locating pin from the pivot bracket and check that the gear lever and selector lever operation functions freely and smoothly.

(16) Instal the gear lever and selector lever covers to the floor and instal the retaining screws and tighten them securely.

(17) On models equipped with dual range, ensure that the selector lever and cover have a clearance that is within the Specifications. This is specified as selector lever forward clearance and is controlled by adjusting the location of the selector lever pivot bracket.

(18) Instal the knob to the gear lever ensuring the knob markings match the lever movements.

Four Wheel Drive Single Ratio 1985–1987 Models

(1) Disconnect the negative battery terminal and disconnect the wiring from the four wheel drive switch.

(2) Raise the vehicle to a suitable working height and support it on chassis stands.

(3) Working under the vehicle, remove the engine exhaust pipe to intermediate pipe retaining bolts, springs and nuts.

(4) Remove the intermediate pipe and rear muffler from the mounting rubbers and secure it away from the work area.

(5) Remove the rear rigid crossmember retaining bolts and remove the crossmember.

(6) Remove the neutral set spring from the spring plate.

(7) Remove the control rod to double joint bracket retaining bolt and nut.

(8) Remove the pin bracket to transaxle retaining bolts.

(9) Remove the cushion rubber to floor retaining nut and remove the assembly from the vehicle.

(10) Remove the nylon bushes, rubber bushes and spacers from the control rod.

(11) Remove the gear lever plate to stay rod retaining nuts and remove the gear lever and plate.

(12) Remove the cushion, bush, plate, locking wire and dust seal from the lever.

(13) Remove the pin bracket to stay rod retaining nut and remove the spring plate, washers, pin bracket and bushes from the stay rod.

(14) Thoroughly clean all parts except the rubber components in a suitable solvent and check the control rod and stay rod for wear and damage, renew as necessary.

(15) Check the double joint bracket, pin bracket and gear lever plate for wear and damage renew as necessary.

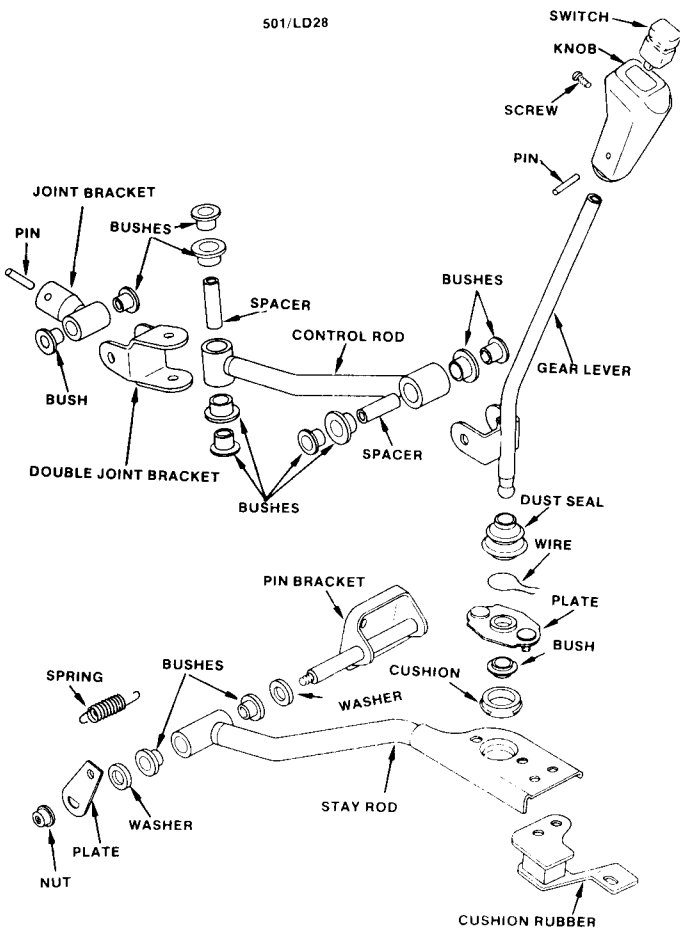


Illustration of 1985–1987 four wheel drive, single ratio transaxle controls.

(16) Check the cushion rubber for wear and damage, renew as necessary.

(17) Check the bushes, spacer and dust seal for wear and damage, renew as necessary.

(18) Check the neutral set spring for stretching, wear and damage, renew as necessary.

(19) Check the gear lever for wear and damage, renew as necessary.

(20) Check the wiring loom and connector for damage, renew as necessary.

Installation is a reversal of the removal procedure with attention to the following points:

(1) Instal the cushion rubber to the stay rod and instal the retaining bolts and nuts and tighten to Specifications.

(2) Instal the bushes, washers, pin bracket, spring plate and retaining nut to the stay rod and tighten the retaining nut to Specifications. Instal the neutral set spring to the spring plate.

(3) Instal the dust seal to the gear lever plate and secure it with tying wire, ensure that the wire ends are at the long side of the plate.

(4) Apply grease to the bush and instal the

cushion, bush and lever to the stay rod.

(5) Apply a suitable sealant to the stay rod to plate mating surfaces and grease to the gear lever and plate contact surface.

(6) Instal the plate and the gear lever to the stay rod ensuring the dust seal wire ends are to the left hand side.

(7) Instal the plate retaining nuts and tighten to Specifications. Check the gear lever operation functions freely and smoothly.

(8) Apply grease to the nylon bushes and instal the nylon bushes, rubber bushes and yellow spacer to the transaxle end of the control rod.

(9) Apply grease to the nylon bushes at the lever end of the control rod and instal the rubber bushes, nylon bushes and chrome spacer to the control rod.

(10) Instal the control rod to the gear lever and instal the retaining bolt and nut and tighten to Specifications.

(11) Check that the control rod moves freely and smoothly on the lever.

(12) Working under the vehicle, instal the control rod to the double joint bracket and instal the retaining bolt and nut and tighten to Specifications.

(13) Instal the pin bracket to the transaxle and instal the retaining bolts and tighten them to Specifications.

(14) Instal the cushion rubber to the floor and instal the retaining nut and tighten it to Specification.

(15) Connect the neutral set spring to the double joint.

(16) Connect the wiring to the four wheel drive switch.

(17) Check that the gear lever operation functions freely and smoothly.

(18) Instal the intermediate exhaust pipe assembly to the mounting rubbers.

(19) Instal the intermediate exhaust pipe and new gasket to the engine exhaust pipe and instal the retaining bolts, springs and nuts and tighten them securely.

(20) Instal the rear rigid crossmember and instal the retaining bolts and tighten them to Specifications..

(21) Lower the vehicle to the ground.

Four Wheel Drive Dual Ratio 1985–1987 Sedan and Station Wagon Models

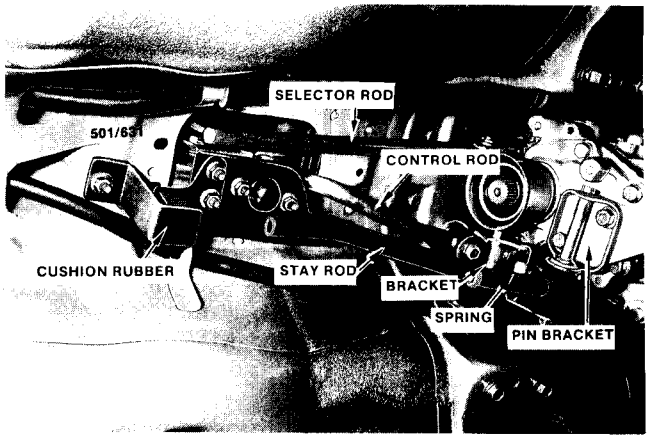
(1) Raise the vehicle to a suitable working height and support it on chassis stands.

(2) Remove the engine exhaust pipe bracket retaining bolt.

(3) Loosen the engine exhaust pipes to engine retaining nuts.

(4) Remove the intermediate pipe to rear muffler retaining bolts, springs and nuts. Discard the gasket.

(5) Remove the engine exhaust pipe to engine retaining nuts and remove the engine pipe and intermediate pipe. Discard the gaskets.



Installed view of 1986 four wheel drive five speed, dual ratio transaxle controls. Propeller shaft and crossmember removed for clarity.

(6) Remove the rear rigid crossmember retaining bolts and remove the crossmember.

(7) Remove the propeller shaft from the vehicle.

(8) Remove the gear lever and selector lever knobs.

(9) Remove the retaining screws and remove the gear lever and selector lever covers from the floor.

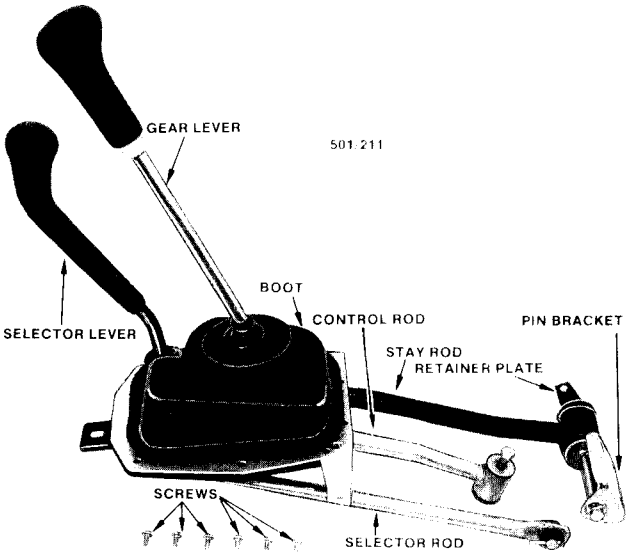
(10) Remove the four wheel drive indicator switch plate to pivot bracket retaining nuts and remove the switch and plate.

(11) Remove the rubber boot plate to floor retaining screws and remove the plate and boot.

(12) Disconnect the neutral set spring from the double joint bracket.

(13) Remove the pin bracket to transaxle retaining bolts.

(14) Remove the control rod to double joint bracket retaining bolt, rubber bushes, nylon bushes, spacer and nut.



View of 1986 four wheel drive, five speed, dual ratio transaxle controls removed from the vehicle.

(15) Remove the selector rod to transaxle selector rod split pin and clevis pin.

(16) Remove the cushion rubber to floor retaining nut.

(17) Remove the selector lever pivot bracket to stay rod retaining nuts and remove the transaxle control assembly from inside the vehicle.

(18) Separate the cushion rubber from the stay rod and remove it from the assembly.

(19) Remove the control rod to gear lever retaining bolt and nut.

(20) Remove the nylon bushes, rubber bushes and spacers from the control rod.

(21) Remove the gear lever plate to stay rod retaining nuts and remove the lever.

(22) Remove the cushion, bush, plate, locking wire and dust seal from the lever.

(23) Remove the pin bracket to stay rod retaining nut and remove the retainer plate, washers, pin bracket and bushes.

(24) Remove the selector rod to selector lever retaining nut and remove the selector rod.

(25) Remove the selector lever to pivot bracket retaining bolt and nut and remove the bracket.

(26) Remove the nylon bushes, rubber bushes and spacer from the selector lever.

(27) Remove the bushes from the selector rod.

(28) Thoroughly clean all parts except the rubber components in a suitable solvent and check the control rod, stay rod, and selector rod for wear and damage, renew as necessary.

(29) Check the double joint bracket, pin bracket, lever plate, selector lever pivot bracket and switch plate for wear and damage, renew as necessary.

(30) Check the cushion rubber for wear and damage, renew as necessary.

(31) Check the bushes, spacers and dust seal for wear and damage, renew as necessary.

(32) Check the neutral set spring for signs of stretching, wear and damage, renew as necessary.

(33) Check the gear and selector levers for wear and damage and renew as necessary.

Installation is a reversal of the removal procedure with attention to the following points:

(1) Apply grease to all nylon bush interior surfaces.

(2) Instal the rubber bushes, nylon bushes and spacer to the selector lever.

(3) Instal the selector lever to the pivot bracket and instal the retaining bolt and nut and tighten it to Specifications.

(4) Instal the bushes to the selector rod.

(5) Instal the selector rod to the selector lever and instal the retaining nut and tighten it to Specifications.

(6) Instal the bushes, washers, pin bracket, retainer plate and retaining nut to the stay rod and tighten it to Specifications. Connect the neutral set spring to the retainer plate.

(7) Instal the dust seal to the plate and secure it with tying wire, ensuring that the wire ends are at the long side of the plate.

(8) Apply grease to the bush and instal the cushion, bush and lever to the stay rod.

(9) Apply a suitable sealant to the stay rod to plate mating surfaces and grease to the gear lever and plate contact surfaces.

(10) Instal the plate and the gear lever to the stay rod, ensuring the dust seal wire ends are to the left hand side.

(11) Instal the plate retaining nuts and tighten them to Specifications.

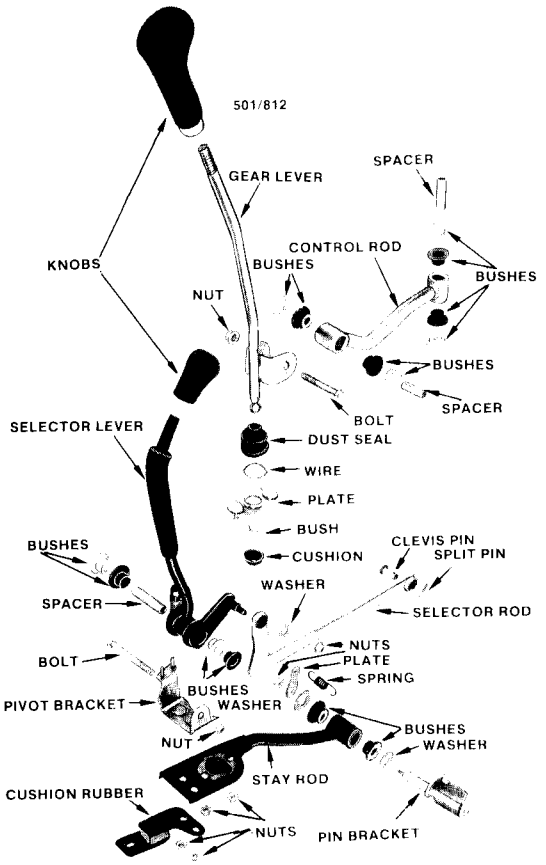
(12) Check the gear lever operation for free, smooth movement.

(13) Instal the rubber bushes, nylon bushes and yellow spacer to the control rod at the gear lever end of the rod.

(14) At the transaxle end of the control rod, instal the rubber bushes, nylon bushes and chrome spacer.

(15) Instal the control rod to the gear lever. Instal the retaining bolt and nut and tighten them to Specifications.

(16) Instal the selector lever pivot bracket to the stay rod together with the cushion rubber, instal the retaining nuts and tighten them to Specifications.



Dismantled view of 1986 five speed, four wheel drive, dual ratio transaxle controls.

(17) Check that the control rods moves freely and smoothly on their levers and instal the transaxle control assembly into the vehicle.

(18) Working under the vehicle, instal the control rod to the transaxle selector rod and instal the retaining clevis pin and split pin.

(19) Instal the transaxle control rod to the double joint bracket and instal the retaining bolt and nut and tighten them to Specifications. Insert the retaining bolt at the double joint lower side.

(20) Instal the pin bracket to the transaxle and instal the retaining bolts and tighten them securely.

(21) Connect the neutral set spring to the double joint bracket.

(22) Instal the cushion rubber to the body and instal the retaining nut and tighten it to Specifications.

(23) Instal the propeller shaft.

(24) Instal the engine exhaust pipe with new gaskets to the engine and instal the retaining nuts loosely.

(25) Instal the intermediate pipe with a new gasket to the rear muffler and instal the retaining bolts, spring and nuts and tighten them securely.

(26) Instal the engine pipe to bracket retaining bolt.

(27) Tighten the engine pipe retaining nuts and bracket retaining bolt securely.

(28) Instal the rear rigid crossmember and instal the retaining bolts and tighten them to Specifications.

(29) Instal the gear lever and selector lever rubber boot and plate to the floor and instal the retaining screws and tighten them securely.

(30) Instal the four wheel drive indicator switch and plate onto the pivot bracket and instal the retaining nuts and tighten them securely.

(31) Check the operational functions of the gear and selector levers and the four wheel drive switch.

(32) Instal the gear lever and selector lever covers to the floor and instal the retaining screws and tighten them securely.

(33) Instal the knobs to the gear lever and the selector lever ensuring the knob markings match the lever movements.

(34) Lower the vehicle to the ground.

TO ADJUST FOUR WHEEL DRIVE DUAL RATIO HIGH/LOW LINKAGE

1979–1984 and Utility Models

With the clutch and four wheel drive selector lever adjustments correct, the high/low linkage rod should be checked and adjusted as necessary. The high/low linkage rod can be adjusted on the vehicle.

(1) Disconnect the negative battery terminal.

(2) Remove the spare wheel from the engine compartment.

(3) Remove the starter motor retaining bolts and nuts and withdraw the starter motor, position it securely on the engine compartment bulkhead.

(4) Disconnect the reverse lamp and four wheel drive warning switches harness from the harness retaining clip on the transaxle case.

(5) Loosen the front and rear locknuts of the high/low linkage adjuster screw.

NOTE: The linkage rod adjuster rear locknut is left hand threaded.

(6) Shorten the linkage rod by turning the adjuster screw one or two turns in a clockwise direction.

(7) Position the selector lever in four wheel drive low and loosen the transaxle half case/harness clip retaining bolt and nut.

(8) Using the special linkage rod adjusting tool to hold the linkage rod secure, remove the rod clamp and position the bracket between the retaining bolt head and the transaxle case and the top of the linkage rod.

(9) Instal the rod clamp to the adjusting tool bracket and tighten the retaining bolts. Tighten the transaxle case and rod clamp bolts and nuts securely ensuring that the bracket face firmly abuts the transaxle case and holds the linkage rod rigid.

(10) While securing the linkage rod front ball joint by hand lengthen the linkage rod by turning the adjuster screw anti-clockwise until the front ball joint becomes tight.

(11) Turn the adjuster screw clockwise 90 degrees and while securing the ball joint, tighten the adjuster screw rear and front locknuts securely.

(12) Remove the linkage rod adjusting tool from the linkage rod and transaxle case, tighten the transaxle half case/harness clip retaining bolt and nut to Specifications.

(13) Instal the reverse lamp and four wheel drive warning switches harness to the retaining clip.

(14) Instal the starter motor to the engine/transaxle and instal the retaining bolt and nuts. Tighten the retaining bolt and nuts securely.

(15) Connect the negative battery terminal.

(16) Check the operation of the four wheel drive selection for free and smooth movement.

1985–1987 Sedan and Station Wagon Models

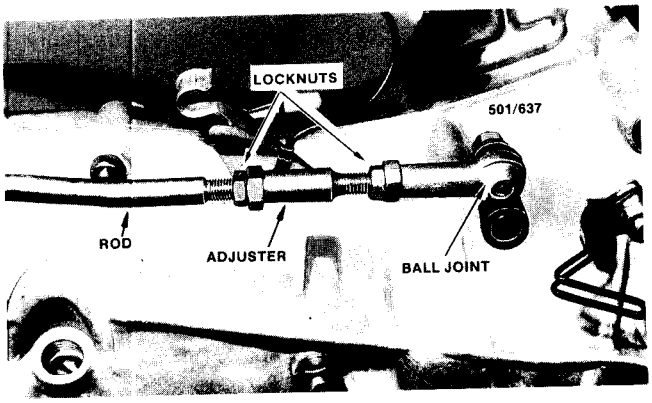
With the clutch, the four wheel drive selector and the hill holder adjustment correct, the high/low linkage rod should be checked and adjusted as necessary. The design of the transaxle and the method of adjustment necessitates the removal of the transaxle from the vehicle.

(1) Remove the transaxle from the vehicle as previously described.

(2) Remove the top cover and gasket from the transfer case.

(3) Ensure that the curved section of the linkage rod is horizontal to the transaxle.

(4) Position the transfer rod in four wheel drive low and instal the special linkage adjusting locating pin tool in the locating pin holes at the transfer rod on



View of high/low linkage and adjuster, 1986 model shown.

the transfer case in order to hold the transfer rod and linkage rigid.

(5) While securing the linkage front ball joint by hand loosen the front and rear locknuts.

NOTE: The linkage rod adjuster rear locknut is left hand threaded.

(6) While holding the front ball joint by hand turn the adjuster screw anti-clockwise until the front ball joint becomes tight.

(7) Turn the adjuster screw clockwise 90 degrees and while securing the ball joint tighten the adjuster screw rear and front locknut to Specifications.

(8) Remove the linkage adjusting locating pin tool from the transaxle.

(9) Check the operation of the four wheel drive selection for free and smooth movement.

(10) Instal the top cover and gasket to the transfer case and instal the retaining bolts and tighten to Specifications.

(11) Instal the transaxle to the vehicle as previously described.

TO ADJUST FOUR WHEEL DRIVE SINGLE RATIO CABLE

1985–1987 Sedan and Station Wagon Models

With the electrical components operating correctly and the vacuum hoses serviceable and secure, the four wheel drive selection cable should be checked and adjusted as necessary. The design of the transaxle and the method of adjustment necessitates the removal of the transaxle from the vehicle.

(1) Remove the transaxle from the vehicle as previously described.

(2) Using a vacuum pump, apply a vacuum to the outer aperture on the vacuum servo-unit until the cable is fully extended forward as in the two wheel drive position and secure the cable.

(3) Loosen the cable adjusting turnbuckle locknuts and using the turnbuckle, shorten the cable until the turnbuckle becomes tight.

(4) Release the turnbuckle 180 degrees and secure by tightening the locknuts securely.

(5) Using the vacuum pump check the operation of the four wheel selection for free and smooth movement.

(6) Remove the vacuum pump and instal the transaxle to the vehicle as previously described.

5. AXLE SHAFTS

Special Equipment Required:
To Remove — Axle shaft puller
To Instal — Axle shaft installing tool

TO REMOVE AND DISMANTLE

It is possible to renew the axle shaft double offset joint and rubber boot with the axle shaft on the vehicle. This is achieved by removing the front exhaust pipe and disconnecting the control arm from the front crossmember and utilising the appropriate part of the following procedures for the removal and installation of the rubber boot and offset joint.

Special care should be taken that the correct diameter offset joint is installed. The installation of the incorrect component will result in damage to the assembly.

(1) Disconnect the negative battery terminal.

(2) Ensure the handbrake is fully applied.

(3) Remove the front wheel hub caps where fitted and remove the axle shaft retaining nut split pin.

(4) Loosen the road wheel nuts and axle shaft retaining nut.

(5) Raise the vehicle to a suitable working height and support it on chassis stands.

(6) Remove the road wheels and release the handbrake.

(7) Remove the caliper to swivel hub retaining bolts and remove the caliper. Secure the caliper away from the work area ensuring no strain is put on the flexible hose.

(8) Remove the axle shaft retaining nut, spacer, shaped washer and hub assembly from the axle shaft.

(9) Remove the suspension unit to steering knuckle retaining bolts and separate the suspension unit.

(10) Remove the steering tie rod end to steering knuckle retaining nut split pin and remove the retaining nut. Separate the tie rod end.

NOTE: Disconnect the tie rod end ball joint stud by placing a suitable dolly or hammer against the side of the steering knuckle steering eye and striking the opposite side with a hammer.

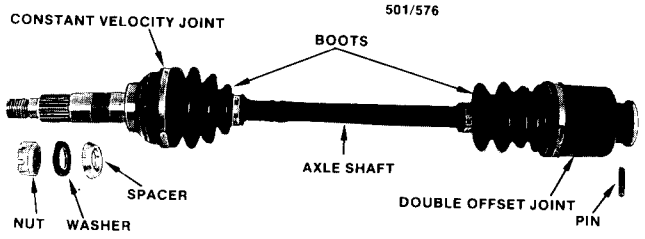
(11) Remove the steering knuckle control arm ball joint retaining bolt and expanding the ball joint retaining gap on the hub separate the ball joint. Do not expand the gap any further than 4 mm. This is specified as the ball joint retaining gap.

(12) Remove the disc dust cover to steering knuckle retaining bolt and remove the dust cover.

(13) Using the special axle shaft puller separate the steering knuckle from the axle shaft and remove it from the vehicle.

(14) Working under the vehicle and using a suitable drift, drive the axle shaft to differential drive shaft retaining pin from the axle and drive shaft, discard the pin, remove the axle shaft from the vehicle.

(15) Secure the axle shaft in a suitable vice or holding fixture and carefully remove the offset joint rubber boot retaining clips ensuring the boots are not damaged. Discard the retaining clips.



View of front axle shaft assembly removed from the vehicle.

(16) Remove the rubber boot from the joint outer race and using a suitable screwdriver remove the retaining snap ring from the outer race.

(17) Mark or note the installed position of the outer race to the joint cage and remove the outer race from the axle shaft.

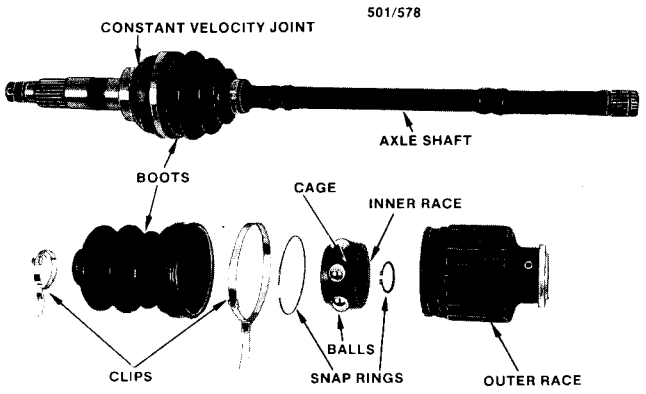
(18) Carefully remove the balls from the joint cage ensuring they are not mislaid.

(19) Turn the joint cage with its protusion aligned with its groove on the inner race and remove it to the rear of the inner race.

(20) Using a suitable pair of snap ring pliers, remove the inner race retaining snap ring from the axle shaft and remove the inner race, cage and rubber boot. Note or mark the installed direction of the cage.

(21) Carefully remove the constant velocity joint rubber boot retaining clips ensuring the boots are not damaged. Discard the retaining clips.

(22) Remove the constant velocity joint rubber boots from the axle shaft.



Dismantled view of double offset joint.

NOTE: The axle shaft constant velocity joints are an integral part of the axle shaft and cannot be dismantled. Any faults found with the axle shaft assembly will make it necessary to renew the axle shaft assembly as a unit. The axle shaft and double offset joints can differ in spline numbers and diameters and if installed incorrectly will cause damage to the components.

TO CHECK AND INSPECT

(1) Clean all components other than the rubber boots in a suitable solvent.

(2) Check the rubber boots for damage and deterioration, renew as necessary.

(3) Check the axle shaft for bend and damage, pay particular attention to the splines and retaining snap ring groove, renew as necessary.

(4) Check the constant velocity joint for smoothness of operation damage and corrosion, renew the axle shaft assembly as necessary.

(5) Check the double offset joint balls, inner race and outer race for wear and damage pay particular attention to the splines and retaining snap ring groove, renew as necessary.

(6) Check the double offset joint outer race interior splines and retaining pin hole for wear and damage, renew as necessary.

TO ASSEMBLE AND INSTAL

(1) Position the rubber boot on the axle shaft constant velocity joint and pack with Subaru Molylex No. 2 grease, or alternatively, any molybdenum disulphide grease.

(2) Position the double offset joint rubber boot on the centre of the axle shaft and instal the double offset joint cage to the shaft as noted.

On 1985–1987 Sedan and Station Wagon models, ensure that the cage is installed with the recessed cut-out face towards the inner end of the shaft, (towards the retaining pin boss).

(3) Instal the double offset joint inner race to the axle shaft and instal the retaining snap ring.

NOTE: The axle shaft, double offset joint and differential drive shaft splines must correspond with each other. Special care should be taken to ensure their dimensions are correct prior to installation otherwise damage will occur.

(4) Draw the offset joint cage forward and turn it to allow its protusion to align with its groove on the inner race, position it on the inner race.

(5) Apply the recommended grease to the cage

and instal the balls to the cage. Refer to the Lubrication and Maintenance section.

(6) Instal the outer race to the cage as noted on removal and instal the retaining snap ring. Ensure that the retaining snap ring is fully home and that the joint operates smoothly.

(7) Apply the recommended grease to the outer race and rubber boot interiors. Position the rubber boot on the offset joint.

(8) Instal new retaining clips to the rubber boots ensuring they are located on their axle shaft grooves. Ensure the rubber boots inner retaining clips are located correctly in accordance with Specifications.

(9) Instal the axle shafts to the differential drive shafts ensuring the retaining pin holes are aligned and instal the new retaining steel roll pins.

(10) Position the steering knuckle on the axle shaft and using the special axle shaft installing tool instal it to the axle shaft threads.

Secure the axle shaft installing tool centre threaded bolt and unscrew the outer sleeve from the threaded bolt until the shaft is fully pulled through. Alternatively using suitable spacers and a washer on the axle shaft abutting the steering knuckle, instal the retaining nut and pull the shaft through the knuckle.

(11) Instal the control arm ball joint to the steering knuckle and instal the retaining bolt and tighten to Specifications.

(12) Instal the suspension unit in the steering knuckle and instal the clamp and retaining bolts and tighten to Specifications.

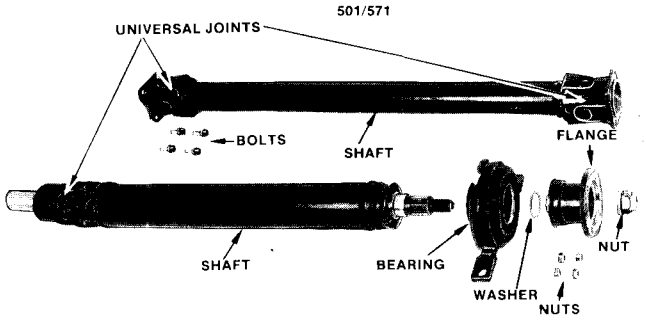
(13) Instal the tie rod end to the steering knuckle and instal the retaining nut and tighten it to Specifications. Tighten the retaining nut a maximum of a further 60 degrees to align the holes and secure it with the split pin.

(14) Remove the installing tool/spacers and instal the disc dust cover and instal the retaining bolt and tighten to Specifications.

(15) Instal the hub onto the axle shaft ensuring it is fully home by turning during installation.

(16) Instal the caliper to the steering knuckle and instal the retaining bolts and tighten to Specifications.

(17) Connect the handbrake cable to the caliper and secure the outer cable with the retaining clip.



Dismantled view of propeller shaft and components, 1986 model shown.

(18) Instal the shaped spacer, washer and retaining nut to the axle shaft. Tighten the retaining nut to Specifications.

(19) Tighten the retaining nut a maximum of a further 30 degrees to align the holes and secure the nut with the split pin.

NOTE: Ensure the spacer is installed with the painted front face to the retaining nut.

(20) Instal the road wheels and lower the vehicle to the ground.

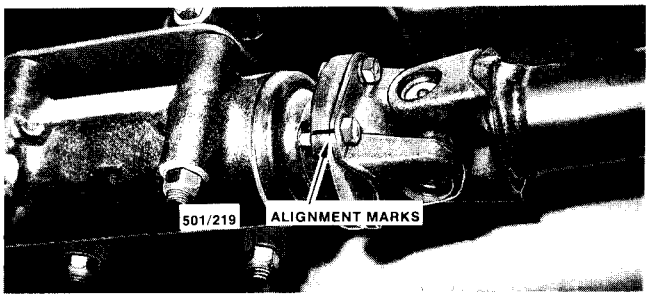
6. PROPELLER SHAFT

TO REMOVE AND INSTAL

(1) Raise the vehicle to a suitable working height and support it on chassis stands.

(2) Apply identifying marks on the propeller shaft flange and rear axle drive pinion flange to ensure the propeller shaft is installed in its original position.

(3) Remove the retaining bolts and nuts from the propeller shaft and rear drive pinion flanges and withdraw the propeller shaft from the transaxle.



Mark the installed position of the propeller shaft mating flanges to ensure correct installation.

On 1985–1987 Sedan and Station Wagon models, remove the propeller shaft centre bearing to chassis retaining bolts and remove the propeller shaft assembly from the vehicle.

Ensure the propeller shaft aperture is plugged to prevent the loss of lubricant and the entry of dirt.

Installation is a reversal of the removal procedure with attention to the following points:

(1) Instal the propeller shaft according to the identifying marks made during removal and tighten the retaining bolts and nuts to Specifications.

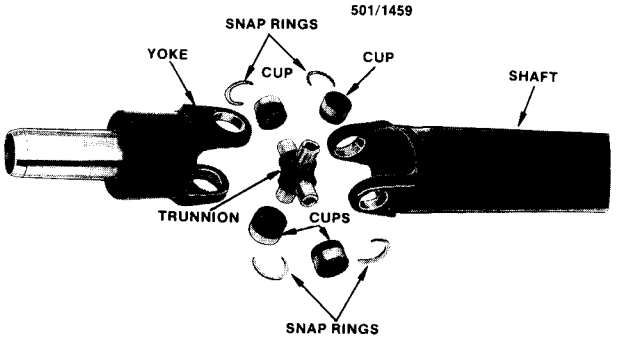
(2) On the 1985–1987 Sedan and Station Wagon models, instal the centre bearing assembly to the chassis and instal the retaining bolts and tighten them to Specifications.

TO RENEW UNIVERSAL JOINTS

On 1979–1984 and Utility models, in the event of the universal joint being worn or the trunnion bearing cups having excessive end float, the joint can be renewed and the bearing cup end float controlled by the use of selective fit retaining snap rings.

NOTE: Each universal joint is serviced as a kit which includes trunnion, four needle rollers bearings and cups, seals and snap rings. It is not practicable to dismantle a universal joint unless the components are to be renewed.

Do not hold the propeller shaft or the interior splined tube too tightly in the vice as damage and distortion will result.



Dismantled view of propeller shaft universal joint, 1983 model shown.

On 1985–1987 Sedan and Station Wagon models, the trunnion bearing cups are retained by the top surface of the yoke, which is staked over during manufacture and if worn or faulty it is necessary to renew the propeller shaft as a unit.

(1) Remove the propeller shaft from the vehicle as previously described.

(2) Remove the trunnion bearing cup retaining snap rings from the propeller shaft.

(3) Support the propeller shaft in a suitable vice or holding fixture and using a suitable drift, tap one of the bearing cups in to drive the trunnion and other bearing cup out of the yoke.

(4) Again using the drift, tap the trunnion of the bearing cup just removed to drive the other cup back into and then out of the yoke.

NOTE: The propeller shaft is balanced to fine tolerances and must not be dented or otherwise damaged.

(5) Manoeuvre the yoke and trunnion out of the propeller shaft yoke.

(6) Repeat this procedure with the other universal joints.

(7) Clean and remove all burrs from the bearing cup apertures in the yokes.

The assembly procedure is the reversal of the dismantling procedure with attention to the following points:

(1) Ensure that the needle rollers in the bearing cups are not out of alignment and lubricate the needle rollers with grease.

(2) Ensure the bearing cup end float is not more than 0.02 mm and that the retaining snap rings are correctly located.

NOTE: Whilst using selective fit retaining snap rings to control the trunnion bearing cup end float in the yoke, the same thickness of selective fit snap rings must be installed on both sides of the yoke.

TO REMOVE AND INSTAL CENTRE BEARING ASSEMBLY

(1) Remove the propeller shaft from the vehicle as previously described.

(2) Secure the propeller shafts in a suitable vice or holding fixture and remove the front to rear propeller shaft retaining bolts and nuts. Separate the propeller shafts.

(3) Support the front propeller shaft in a suitable vice or holding fixture and remove the bearing/flange retaining nut, discard the retaining nut.

(4) Apply identifying marks to the flange and shaft to ensure the flange is installed to the original serrations on the propeller shaft during assembly.

(5) Using a copper hammer remove the flange, washer and centre bearing from the propeller shaft.

(6) Check the propeller shaft serrations, splines and bearing contact surfaces for wear and damage, renew as necessary.

(7) Check the flanges and interior serrations for wear and damage, renew as necessary.

Installation is a reversal of the removal procedure with attention to the following points:

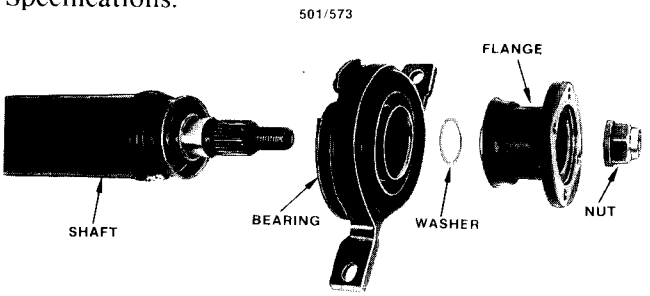
(1) Apply molybdenum disulphide grease to both faces of the washer and instal the bearing assembly, washer and flange to the propeller shaft. Ensure that the flange is installed to the correct propeller shaft serrations as marked prior to removal.

(2) Instal the new bearing/flange retaining nut and tighten it to Specifications and secure by staking the retaining nut.

(3) Position the propeller shafts and instal the retaining bolts and nuts. Ensure the propeller shafts are connected as marked prior to removal and tighten retaining bolts and nuts to Specifications.

(4) Position the propeller shaft on the vehicle and instal the centre bearing to chassis retaining bolts and nuts and tighten to Specifications.

(5) Instal the propeller shaft to differential drive pinion flange retaining bolts and tighten them to Specifications.



Dismantled view of propeller shaft centre bearing and components, 1986 model shown.