

bearing cup and case (Fig. 24). Install the T78P-4136-B2 .300 gauge disc spacer on the pinion gear side (R.H.). Install the bearing caps and torque to 30 in.-lb.

NOTE: BEARING CAPS TO BE INSTALLED WITH ARROWS IN THE SAME DIRECTION AS THEY WERE WHEN REMOVED.

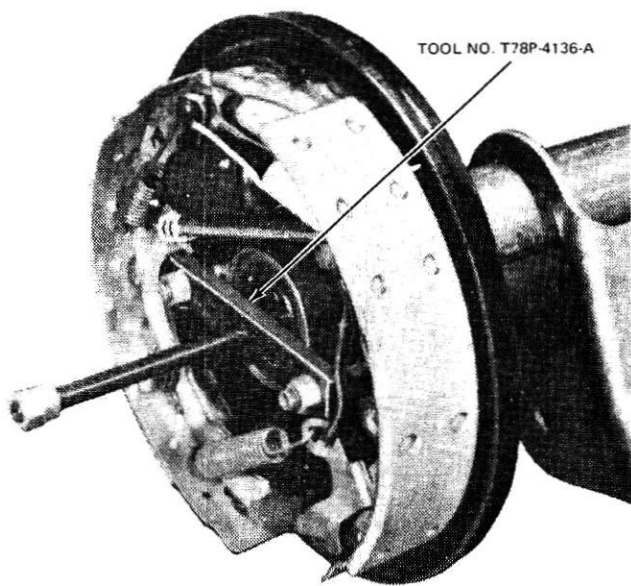


FIG. 25 Installation of Carrier Adjustment Tool

2. Install the T78P-4135-A adjuster rod into the ring gear side (L.H.) of the axle tube. Torque the adjuster nut to 40 in.-lb. (Figs. 25 and 26). This moves the differential assembly all the way towards the pinion gear side (R.H.). Rotate the ring gear several revolutions to insure proper seating on the differential bearings. Re-check the torque on the adjuster rod, it must read 40 in.-lb.
3. Using a feeler gauge tool, select the thickest feeler blade that will enter between the gauge disc and the carrier bore ring gear side (L.H.) (Fig. 27). The feeler gauge fit should be a slight drag-type feel. Record the feeler gauge thickness.
4. Add .500 in. to the feeler gauge recorded reading. (See example in step 11)
5. Back the adjuster rod sufficiently to allow removal of the .300 in. gauge disc spacer.
6. Remove the right bearing cap and remove the T78P-4136-B2 .300 in. gauge disc spacer.
7. Install the bearing preload spacer disc **T78-4135-B3** into the pinion gear side (R.H.) between the bearing cup and carrier bore (Fig. 28).
8. Install the bearing cap and torque the bearing cap bolts to 30 in.-lb. Cap to be installed with arrow pointing outboard.

9. Use a back and forth motion of the ring gear using your right hand, while tightening the rod with the left hand until zero backlash is obtained.

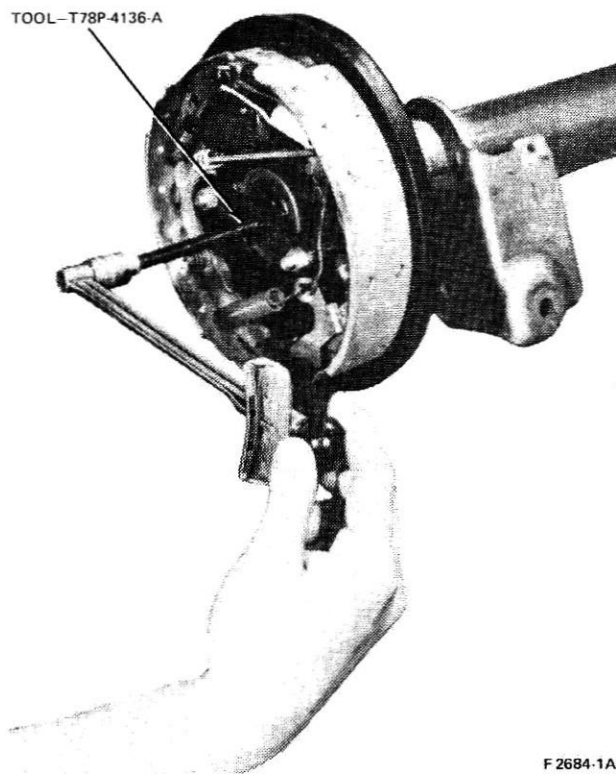


FIG. 26 Torquing the Carrier Adjustment Tool to 40 In.-Lb.

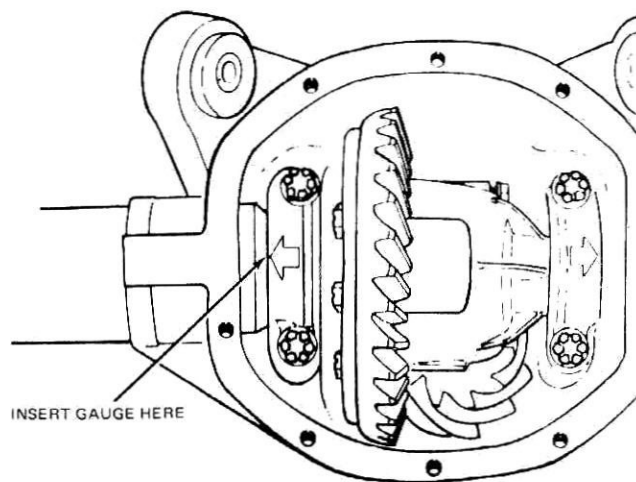
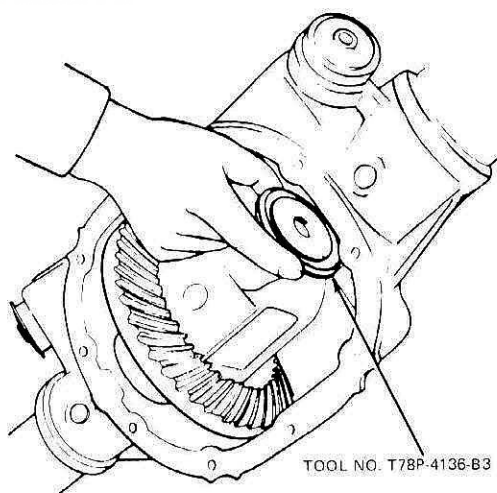


FIG. 27 Inserting Feeler Gauge

10. Using a feeler gauge tool, select the thickest feeler blade that will enter between the gauge disc and the carrier bore ring gear side (L.H.), (Fig 27). The feeler gauge fit should be a slight drag-type feel. Record the feeler gauge reading.
11. Add .200 in. to the feeler gauge recorded reading. See example below. The left shim thickness is the total reading minus .008 in., then subtract the total of the .200 in. plus the feeler gauge reading in Step 11 from Step 4 and add .016 in. to obtain the thickness for the pinion gear side (R.H.) shim.



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FIG. 28 Installation of Differential Bearing Preload Disc

EXAMPLE —

Step 4 — Feeler Gauge Reading	.040 in.
Add	.500 in.
Total Clearance	.540 in.

EXAMPLE —

Step 11 — Feeler Gauge Reading	.086 in.
Plus	.200 in.
Total	.286 in.
Ring Gear Side Shim L.H.	.286 in.
Subtract	.008 in.
Correct Shim Size Ring Gear Side (L.H.) (Fig. 28)	.278 in.

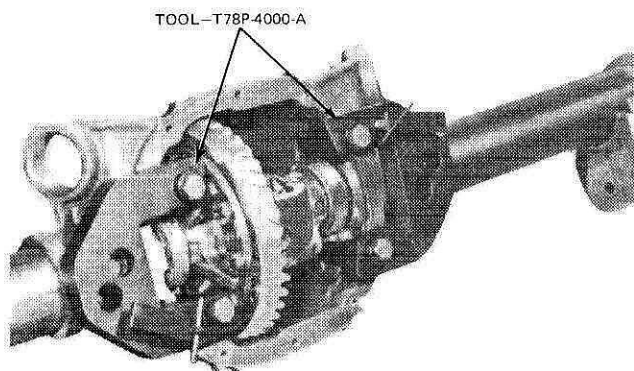
Total Clearance .540 in.
Obtained in Step 4

Subtract Ring Gear Side L.H. .286 in.
Obtained in Step 11

.245 in.
Add .016 in.

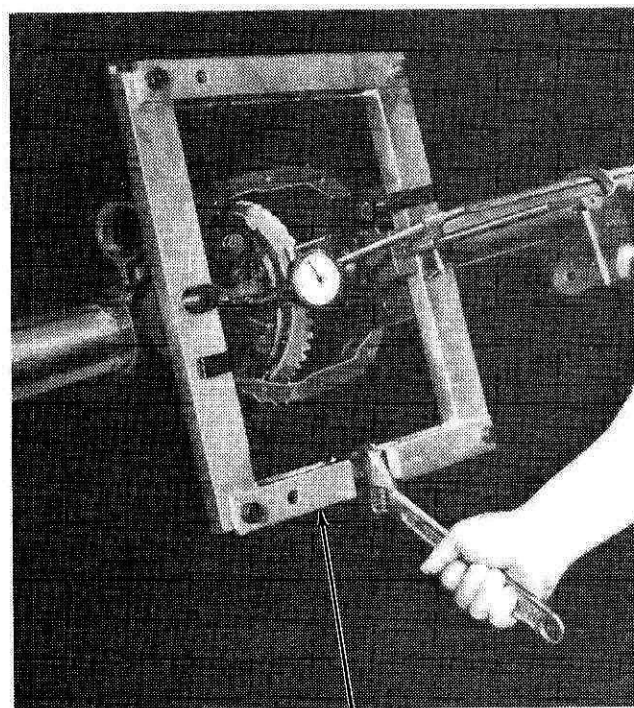
CORRECT SHIM SIZE PINION GEAR SIDE (R.H.) (Fig. 33) .270 in.

- 12 Remove the adjuster rod tool T78P-4136-A from the housing assembly.
13. Remove the bearing caps — two (2).
14. Remove the .200 in. gauge disc spacer tool T78P-4136-B1 and the bearing preload spacer disc T78P-4136-B3.
15. Install the carrier spreader adapters T78/-4000-A and spreader tool T78P-4000-E as shown in Figures 29 and 30.
16. Install a dial indicator (Tool 4201-C) to determine the housing spread as shown in Fig. 30.
17. Spread the housing to a value of .016 in. Do not exceed this dimension at the top of the case opening. Remove the dial indicator.
18. Install the shim on the ring gear side (L.H.) as determined in Step 11 and push the differential case and bearing cup as far left as possible.



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FIG. 29 Installation of Differential Carrier Spreader Adapters



TOOL-4000-D

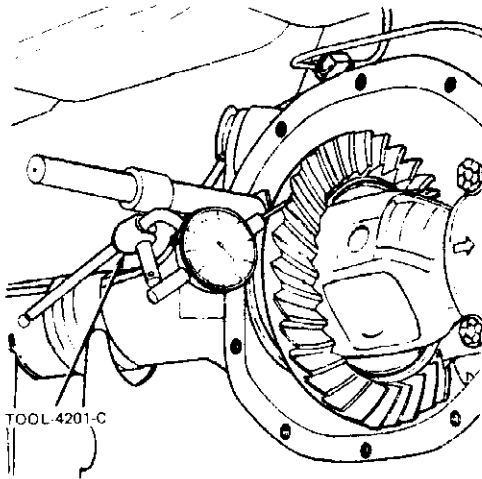
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FIG. 30 Spreading the Differential Carrier

19. Install the shim on the pinion gear side (R.H.) as determined in Step 11. Use a plastic hammer and tap the shim in until it is seated.
20. Release the spreader and remove it from the housing.
21. Install the bearing caps and torque them to specification (70-85 ft-lb.) making sure that the punch marks are aligned.

NOTE: CAP ARROWS TO BE POINTED OUT-BOARD.

22. Determine backlash readings at service teeth around the ring gear. (Specification .008-.012). However, the variance of the readings must not exceed .004 (Fig. 31).



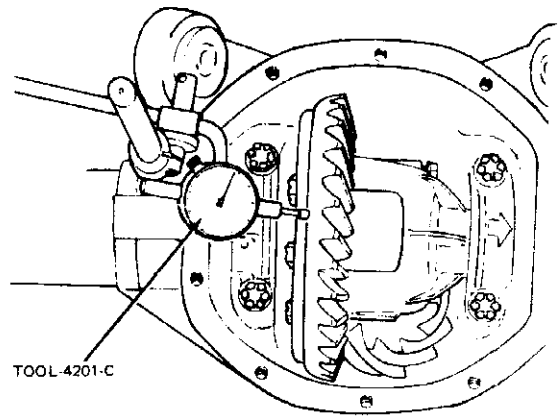
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FIG. 31 Checking Ring and Pinion Gear Backlash

23. Install the pinion side gears and thrust washers. Install axle shaft O-rings on the axle shafts.
24. Slide the axle shafts into place in the axle housing. Exercise care so that the splines or any portion of the axle shafts do not damage the oil seals.
25. Install the axle shaft C-locks on the inner end of the axle shafts and push the shafts outward so that the shaft lock seats in the counterbore of the differential side gear. (Fig. 3).
26. Position the pinion differential gears and thrust washers 180° apart to the differential side gears. Turn the gear assembly until the holes in the differential case are aligned with the pinion gears.
27. Position the differential pinion shaft through the case and pinions, aligning the hole in the shaft with the lock bolt hole. Tighten the lock bolt to specification. (Fig. 2).

Clean the gasket mounting surface of the rear axle housing and cover. Install a new bead of silicone sealant and install the cover and attach bolts. Torque the bolts to specification (Fig. 8).

28. Remove the oil seal replacer from the transmission extension housing. Install the driveshaft in the extension housing. Align the scribe marks on the flange and driveshaft and connect the driveshaft at the drive pinion flange. Torque the attaching bolts to specification (Fig. 9).
29. Install the brake drum and attaching shakeproof retainers.
30. Install the wheel and tire on the brake drum. Install the wheel covers.



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FIG. 32 Checking Ring Gear Runout

31. Add the amount of specified lubricant to rear axle. **Make sure the rear axle is in the running position. Install the filler plug and torque it to specification.**

NOTE: REFER TO THE SPECIFICATION SECTION UNDER LUBRICANT CHECKING PROCEDURE FOR THE SPECIFICATION.

32. Lower the vehicle.

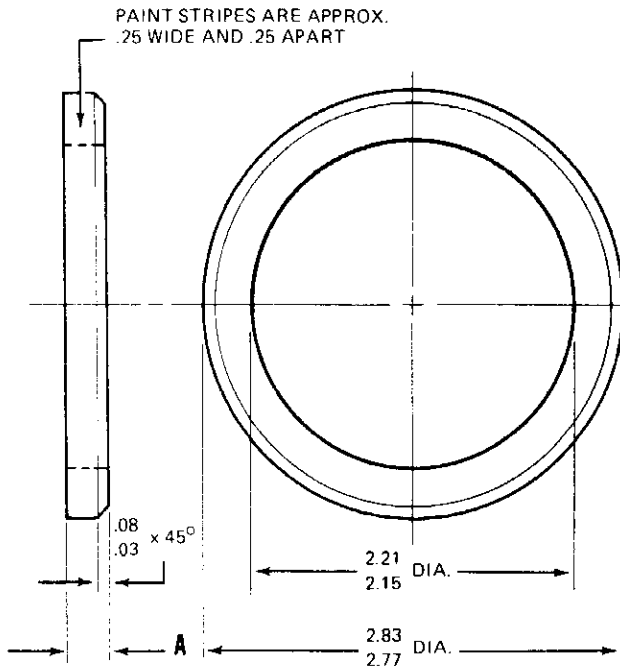
DRIVE PINION AND GEAR SET

Individual differences in machining the carrier casting and the gear set and variation in bearing widths require a shim between the pinion rear bearing and pinion head, in order to locate the pinion for correct tooth contact with the ring gear. To adjust the shim pack to the correct thickness for a given gear set, each service pinion gear is marked with an adjustment number such as +2 or -1. When replacing a ring and pinion gear the correct shim thickness for the new gear set to be installed, is determined by following procedure using tool T76P-4020-A.

PROCEDURE USING TOOL T76P-4020-A

1. Refer to Fig. 34 and, assemble the appropriate aligning adapter, gauge disc and gauge block to the screw.
2. Place the rear pinion bearing (new, or used if in good condition) over the aligning disc and insert into the pinion bearing cup of the carrier. Place the front bearing into the bearing cap and assemble the tool handle into the screw and tighten to 20 ft-lb.

NOTE: THE GAUGE BLOCK MUST BE OFF-SET (FIG. 35) TO OBTAIN AN ACCURATE READING.



NUMBER OF STRIPES AND COLOR CODE	PART NO. SUFFIX (BASIC PART NO. OF D8BW-4067-)	DIM. A
5 - BLU	AH1A/AH2A	.3030 - .3035
4 - BLU	AG1A/AG2A	.3010 - .3015
3 - BLU	AF1A/AG2A	.2990 - .2995
2 - BLU	AE1A/AE2A	.2970 - .2975
5 - PINK	AC1A/AC2A	.2930 - .2935
4 - PINK	AB1A/AB2A	.2910 - .2915
3 - PINK	AA1A/AA2A	.2890 - .2895
2 - PINK	Z1A/Z2A	.2870 - .2875
1 - PINK	Y1A/Y2A	.2850 - .2855
5 - GRN	X1A/X2A	.2830 - .2835
4 - GRN	V1A/V2A	.2810 - .2815
3 - GRN	U1A/U2A	.2790 - .2795
2 - GRN	T1A/T2A	.2770 - .2775
1 - GRN	S1A/S2A	.2750 - .2755
5 - WH	R1A/R2A	.2730 - .2735
4 - WH	P1A/P2A	.2710 - .2715
3 - WH	N1A/N2A	.2690 - .2695
2 - WH	M1A/M2A	.2670 - .2675
1 - WH	L1A/L2A	.2650 - .2655
5 - YEL	K1A/K2A	.2630 - .2635
4 - YEL	J1A/J2A	.2610 - .2615
3 - YEL	H1A/H2A	.2590 - .2595
2 - YEL	G1A/G2A	.2570 - .2575
1 - YEL	F1A/F2A	.2550 - .2555
5 - ORNG	E1A/E2A	.2530 - .2535
4 - ORNG	D1A/D2A	.2510 - .2515
3 - ORNG	C1A/C2A	.2490 - .2495
2 - ORNG	B1A/B2A	.2470 - .2475
1 - ORNG	A1A/A2A	.2450 - .2455

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FIG. 33 Shim Sizes Chart—Differential Side

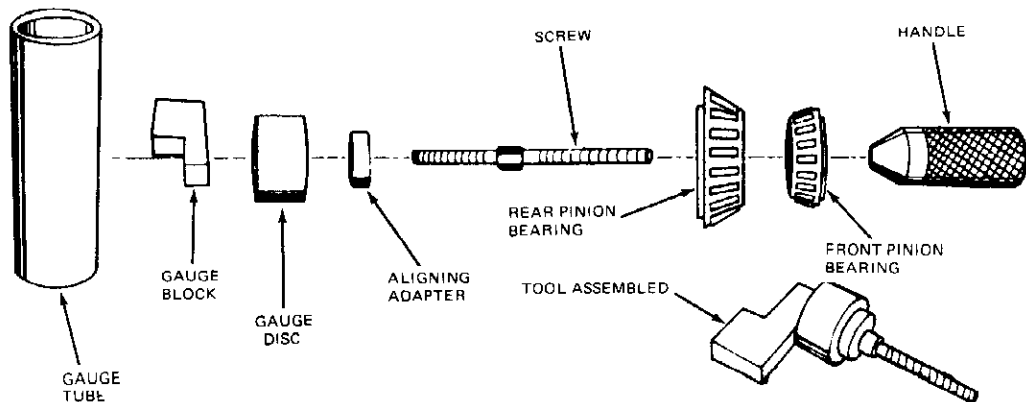


CHART 1

Dash Number	Description	Integral Carriers			
		6.75"	8.5"	8.7"	7.6"
-A1	Aligning Adapter (1.300 O. D.)	X			
-A3	Aligning Adapter (1.612 O. D.)		X	X	X
-A4	Gauge Disc (.458 thick)	X			
-A6	Gauge Disc (1.314 thick)		X	X	
-A9	Screw	X	X	X	X
-A10	Gauge Block (1.700 thick)	X	X	X	X
-A11	Handle	X	X	X	X
T78P-4020-A	Gauge Disc (.894 thick)				X

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FIG. 34 Rear Axle Pinion Depth Gauge Tool

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