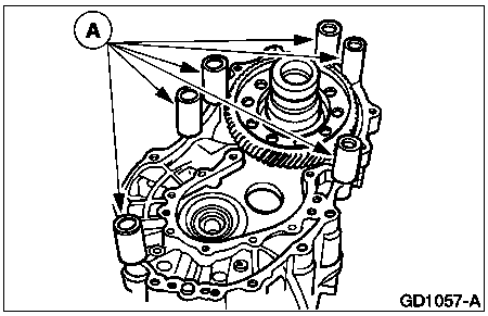
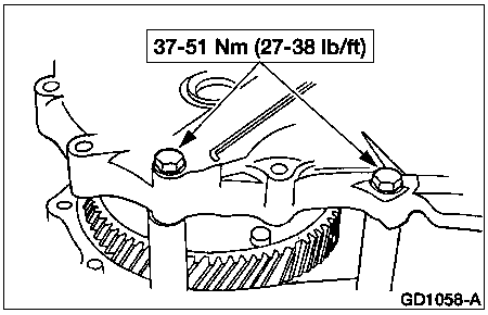
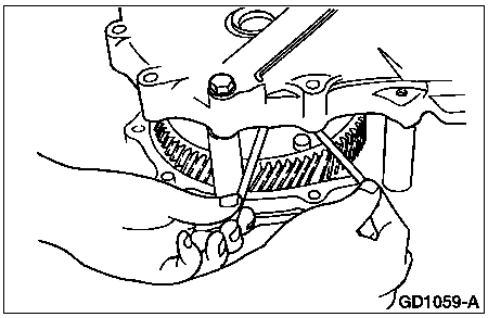


4. Set the transaxle case on the converter housing, then install the six collar bolts and washers (part of T88C-77000-JF).



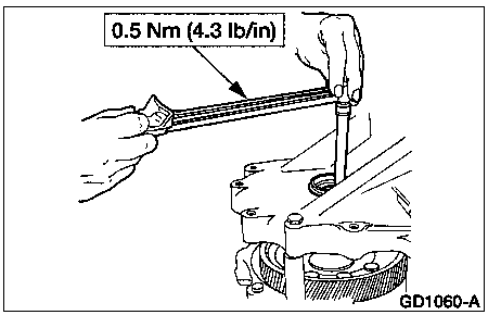
5. Turn the Shim Selection Gauge to increase the clearance by using the rods (part of T88C-77000-JF) until the shim selection gauge no longer turns. This is to seat the bearing race. Turn the shim selection gauge in the opposite direction until the preload is eliminated (gap is reduced).



6. **NOTE:** Read the preload when the differential starts to turn.

   NOTE: Take several measurements and calculate the average value.

   Insert the Torque Adapter T90P-7025-BH and attach a torque wrench to the adapter. Measure the drag on the differential bearing.



7. Adjust the clearance of the shim selection gauge, using the rods, to obtain the specified preload.

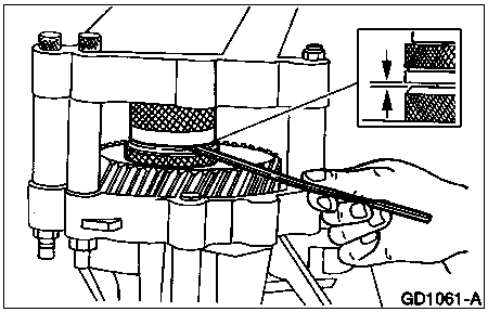
- Preload should be 0.5 Nm (4.3 lb/in).

8. **NOTE:** Measure the clearance around the entire circumference. Select the shim(s) based on the largest clearance.

   NOTE: Use no more than three shims.

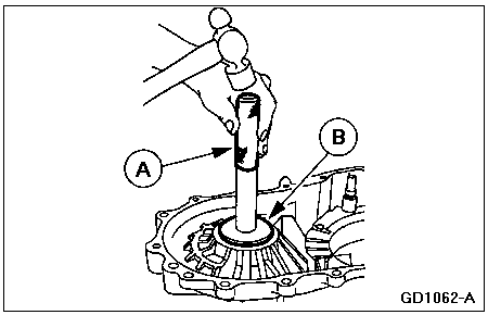
   Use a feeler gauge to measure the gap between the two halves of the Shim Selection Gauge. Add 0.3mm (0.0118 in) to the largest measurement. Select the shim(s) closest in value to the measurement from the following chart:

mm (in)	mm (in)	mm (in)	mm (in)
0.50 (0.020)	0.525 (0.021)	0.55 (0.022)	0.575 (0.023)
0.60 (0.024)	0.625 (0.025)	0.65 (0.026)	0.675 (0.027)
0.70 (0.028)	0.725 (0.029)	0.75 (0.030)	0.775 (0.031)
0.80 (0.031)	0.825 (0.032)	0.85 (0.033)	0.875 (0.034)
0.90 (0.035)	0.925 (0.036)	0.95 (0.037)	0.975 (0.038)
1.00 (0.039)	1.025 (0.040)	1.05 (0.041)	1.075 (0.042)
1.10 (0.043)	1.125 (0.044)	1.15 (0.045)	1.175 (0.046)
1.20 (0.047)	1.225 (0.048)	1.25 (0.049)	1.275 (0.050)
1.30 (0.051)	1.325 (0.052)	1.35 (0.053)	1.375 (0.054)
1.40 (0.055)	1.425 (0.056)	1.45 (0.057)	

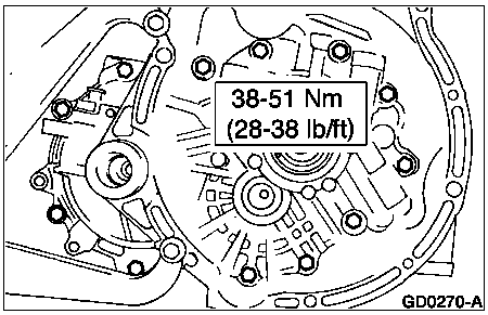


9. Remove the bolts, washers, transaxle case, collars, shim selection gauge, and the bearing cup.

10. Use (A) Driver Handle T80T-4000-W and (B) Bearing Cup Replacer T77F-1217-B to install the required selective shim(s) and tap the bearing cup into the transaxle case.

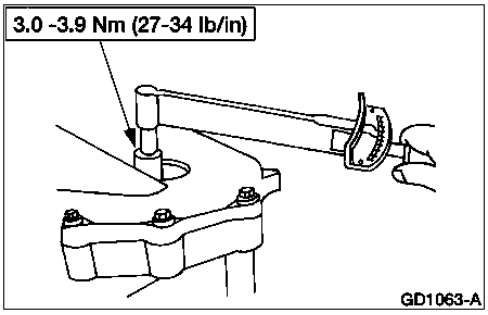


11. Install the transaxle case.



12. **NOTE:** Take several measurements and calculate the average value.

    Install Torque Adapter T90P-7025-BH and a torque wrench to the pinion shaft through the transaxle case. Measure the bearing preload.

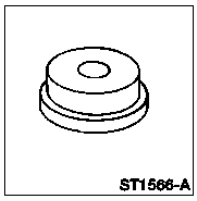
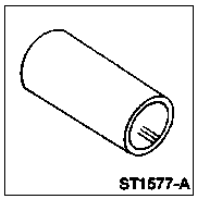
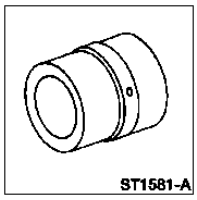
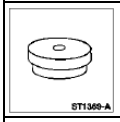
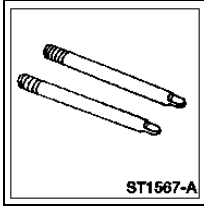


13. Repeat the gauging process if the preload is not within specification.

14. Remove the transaxle case.

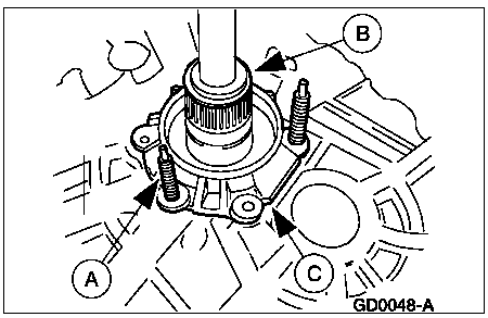
Bearing Housing

Special Service Tool(s)

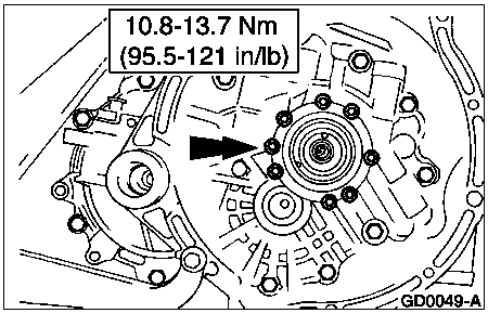
 ST1566-A	Bearing Cup Replacer T77F-1217-B
 ST1577-A	Preload Torque Adapter T90P-77000-BH
 ST1581-A	Shim Selection Gauge T91P-77000-B
	Step Plate D80L-630-A
 ST1567-A	Valve Body Guide Pins T80L-77100-A

NOTE: Whenever the transaxle is disassembled, the bearing preload must be adjusted. The output gear bearing preload is adjusted by selective shims inserted under the bearing cup. To determine the correct thickness of the shim(s), use the appropriate shim selection set along with the following procedures.

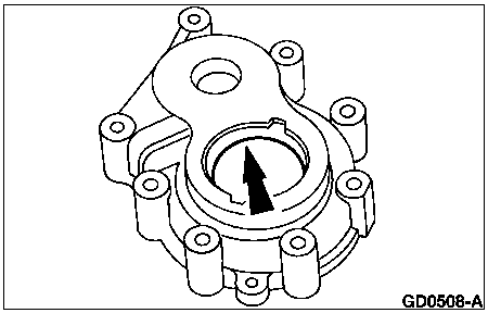
1. Use (A) Valve Body Guide Pins T80L-77100-A to align the torque converter stator support. Use (B) Step Plate D80L-630-6 or equivalent to press the (C) torque converter stator support into the torque converter housing.



2. Install the torque converter stator support bolts.

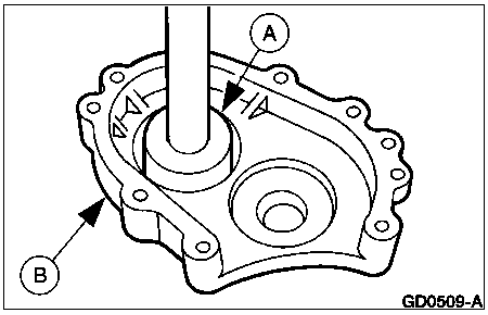


3. Remove the bearing cup and adjustment shims from the bearing housing.
   - Use a pin punch and hammer in the two housing cutouts and tap the bearing cup out.



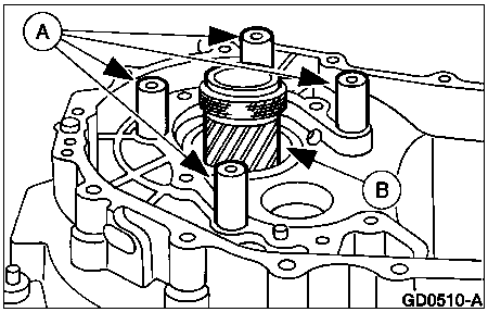
4. **NOTE:** Do not reinstall the shims.

   Use (A) Bearing Cup Replacer T77F-1217-B to press the bearing cup into the (B) bearing housing.

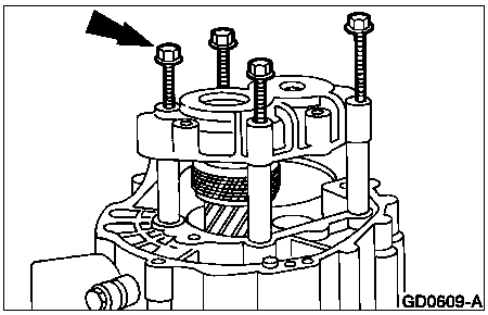


5. Install the output gear and the bearing cup into the converter housing.

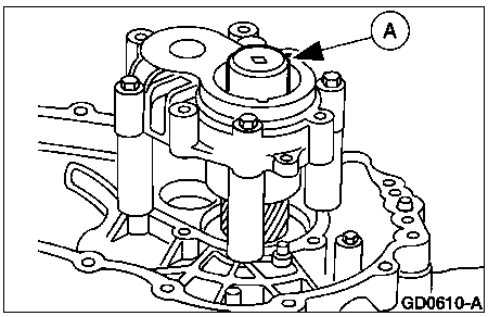
6. Place four collars (part of T88C-77000-JF) on the (A) converter housing. Place Shim Selection Gauge T91P-77000-B on the (B) output gear. Be sure to turn the two halves of the gauge to eliminate any gap between them.



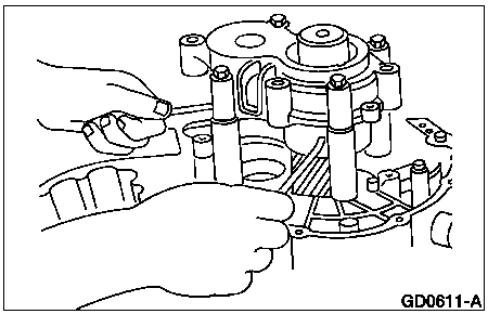
7. Place the bearing housing onto the collars, then install four collar bolts with washers. Tighten the collar bolts to the specified torque.



8. Place the (A) Preload Torque Adapter T90P-77000-BH on the output gear.



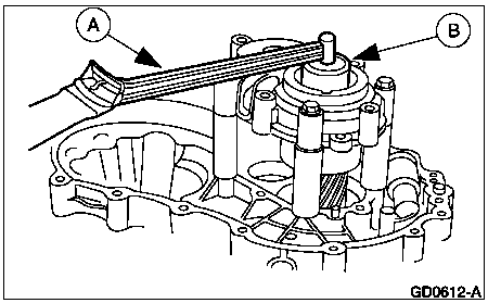
9. Use the rods (part of T88C-77000-JF) to loosen the gauge halves until all of the free play is removed and the bearing cup is seated.



10. **NOTE:** The gear should be rotated several times before taking preload measurements.

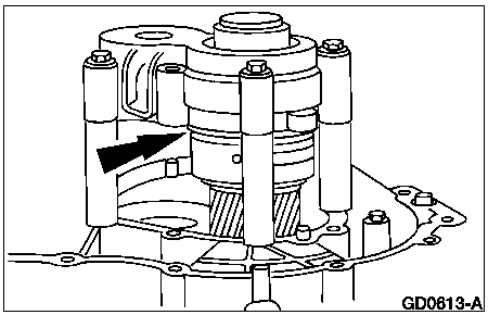
    NOTE: Read the preload when the output gear starts to turn.

    Attach a (A) torque wrench to the (B) Preload Torque Adapter T90P-77000-BH. Measure the drag on the output gear bearing.



11. Use the rods to turn the gauge to obtain the specified preload.
    - Preload: 0.03-0.88 Nm (0.27-7.81 lb/in).

12. Use a feeler gauge to measure the gap between the two halves of the shim selection gauge. Measure the clearance around the entire circumference. Use the largest measurement.



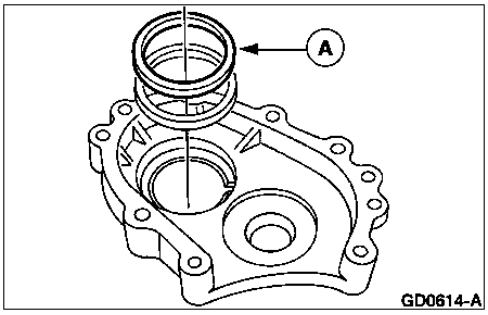
13. **NOTE:** Use no more than seven shims.

    Select the (A) shim(s) that is closest to the measured value of the gauge gap from the following chart.

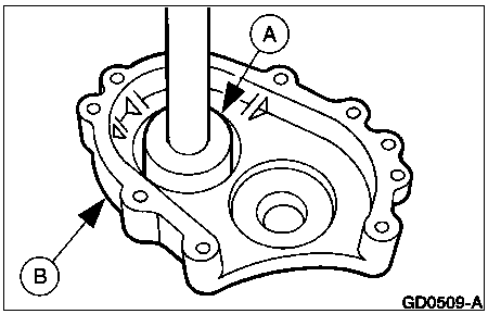
    Thickness of Shim

mm	in
0.50	0.020
0.525	0.021
0.55	0.022
0.575	0.023
0.60	0.024
0.625	0.025
0.65	0.026
0.675	0.027
0.70	0.028
0.725	0.029
0.75	0.030
0.775	0.031
0.80	0.031
0.825	0.032
0.85	0.033
0.875	0.034
0.90	0.035
0.925	0.036
0.95	0.037
0.975	0.038
1.00	0.039
1.025	0.040
1.05	0.041

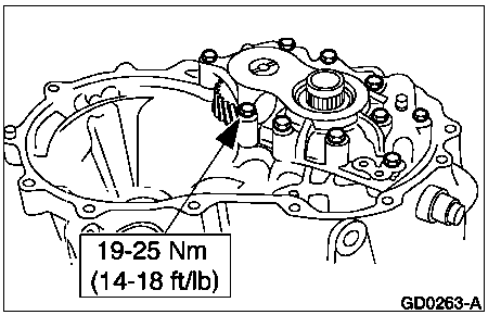
1.075	0.042
1.10	0.043
1.125	0.044
1.15	0.045
1.175	0.046
1.20	0.040
1.225	0.048
1.25	0.049
1.275	0.050
1.30	0.051
1.325	0.052
1.35	0.053
1.375	0.054
1.40	0.055
1.425	0.056
1.45	0.057



14. Remove the bolts, washers, bearing housing, gauge, and bearing cup. Use (A) Bearing Cup Replacer T77F-1217-B to press the selected shim(s) and bearing cup into the (B) bearing housing.

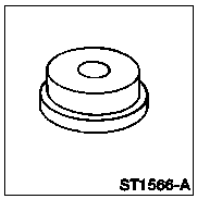
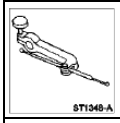
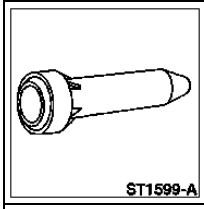
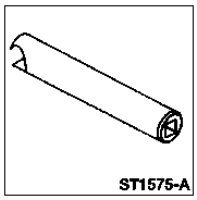
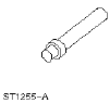
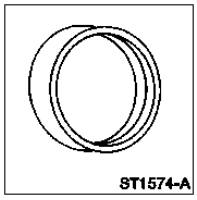
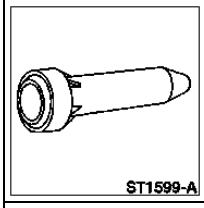
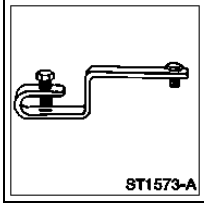


15. Install the bearing housing and measure the bearing preload. If the preload measurement is not within specification, repeat the gauging process. When the proper preload specification has been obtained, remove the bearing housing.


19-25 Nm
(14-18 ft/lb)
GD0263-A

Transaxle

Special Service Tool(s)

 ST1566-A	Bearing Cup Replacer T77F-1217-B
 ST1348-A	Clutch Housing Alignment Adapter T75L-4201-A
 ST1599-A	Converter Seal Replacer T88C-77000-BH
 ST1575-A	Differential Rotator T90P-7025-BH
 ST1255-A	Driver Handle T80T-4000-W
 ST1574-A	Shim Gauge Adapter Ring T90P-7025-AH
 ST1599-A	Shim Selection Set T88C-77000-JF
 ST1573-A	Turbine Shaft Holder T88C-77000-KH