Rear Band Adjustment

Understanding Rear Band Adjustment

The objective of the rear band adjustment is to maintain adequate clearance between the rear band and reaction carrier drum surface when the servo is released, and to ensure full apply of the rear band when the servo is applied. There are specific demands that must be met during both the applied and released phases of rear servo operation in order to obtain maximum operating efficiency and component performance. Insufficient clearance during release will result in a partial apply of the rear band, causing the rear band to drag on the reaction carrier, reducing operating efficiency. Over time this will result in erosion of the band lining and reaction carrier drum surface. Excessive clearance during apply will result in a partial apply of the rear band, causing slipping between the band and reaction carrier. This can result in slipping or no movement in Reverse Range and no engine braking in Manual Low Range. If the vehicle is equipt with a transmission brake, poor performance of the device will result. Figure 15-30 shows the "as installed" position of the rear servo piston relative to the transmission case with the aid of a sectioned rear servo cover. When the servo piston is released, the face of its minor diameter rests against the inside of the rear servo cover and the face of its major diameter is approximately .025" below the servo cover mounting face of the transmission case at the location called out in Figure 15-33. When the servo is applied, pressurized oil pushes or 'strokes" the servo assembly, applying the rear band. The amount of servo piston travel, from the released position to the applied position is measured and adjusted to obtain proper rear band adjustment. The specification for this travel is .125" to .150". Travel is adjusted thru the use of selective band apply pins or modification of the original pin.

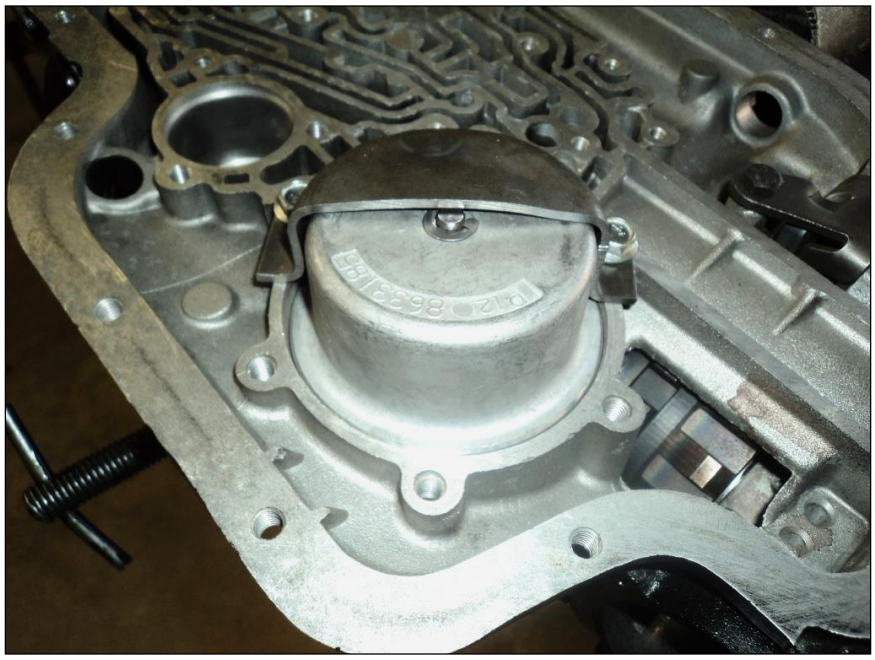

FIGURE 15-30
Rear Band Adjustment

Install the rear servo piston into the rear servo bore in the transmission case. See Figure 15-31. Do not fit the rear servo piston seal, accumulator piston, or accumulator spring at this time. Reach into the transmission case and firmly grasp the sun gear shaft and main shaft. Simultaneously rotate them in a clockwise direction as viewed from the front of the transmission. See Figure 15-32. The rotation of these two items should result in a direct drive of the complete geartrain assembly. Pay attention to the amount of force required to rotate the assembly.

FIGURE 15-31

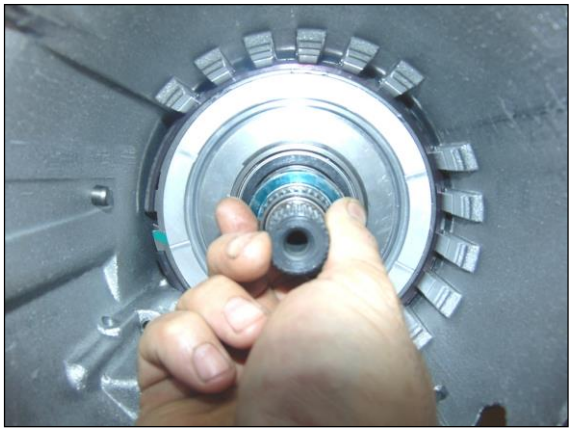

FIGURE 15-32

Continue rotating the assembly while applying downward force on the servo piston until the mass will no longer rotate. When the mass will no longer rotate, the distance from the servo cover mounting flange to the servo piston major diameter should be between .150" to .175". Because the mounting flange is not perpendicular to the pin bore, it is imperative the distance be checked only within the center of the arc between the two mounting bolt holes. See Figure 15-33. Measure distance with a caliper.

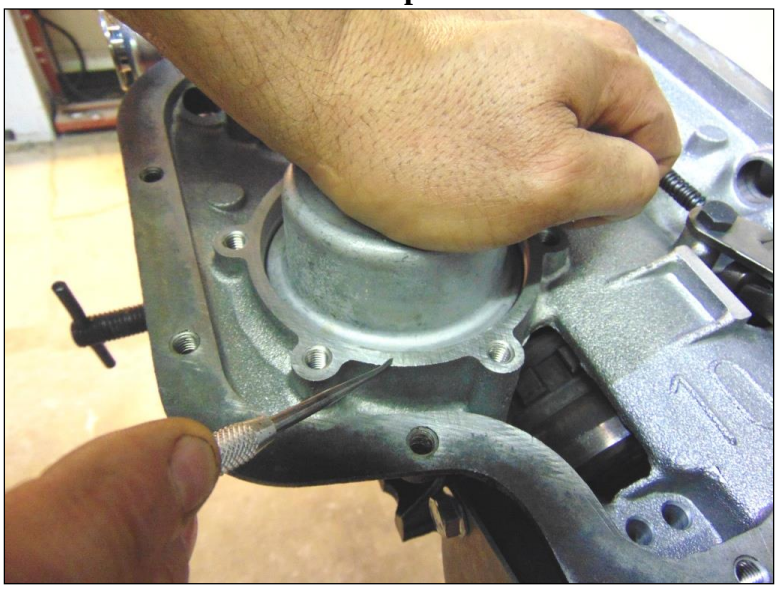

FIGURE 15-33

If the servo piston does not travel down in the bore far enough you will grind off the end of the servo pin until the specifications are met. Servo piston pins are selective to allow

adjustment of the rear band clearance. If the servo piston travels further down in the bore than specified, you will need to install a longer servo pin so that the specifications can be met. Identify the appropriate selective pin necessary from Figure 15-39. If access to selective pins is not available it is acceptable to weld up the pin tip to extend pin length.

A simple tool for checking rear band clearance can be fashioned from a spare rear servo cover and a 5/16-18 x 1.5" bolt. The center of the cover is drilled and tapped to accept the bolt. The cover is cut or "sectioned" to gain access to the measurement area. See Figures 15-34 and 15-35. Fit the tool to transmission case, carefully snugging the bolts with a speed handle. Tighten the bolt to 55 inch pounds to preload the servo assembly. Take measurement and make adjustments as necessary.

FIGURE 15-34

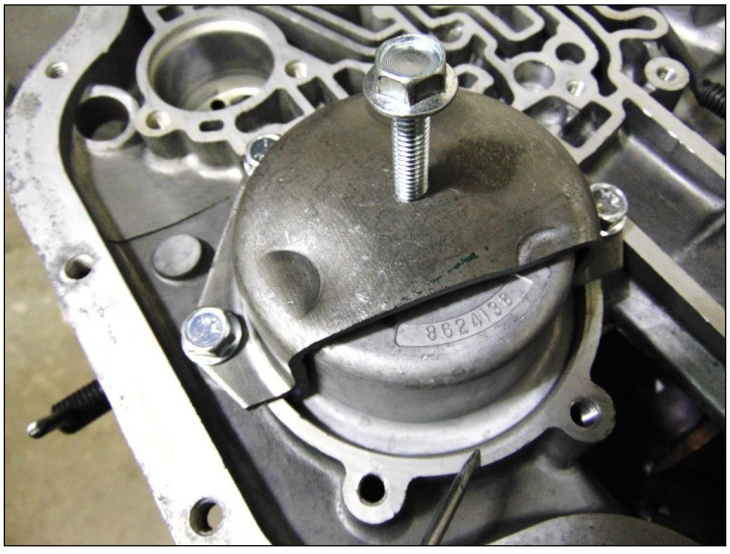

FIGURE 15-35

<u>Checking and Adjusting Rear Band with Early OEM Tooling</u>

Install the small diameter end of the gage pin (J-21370-5) into the rear servo bore and attach the rear band apply pin selection gage (J-21370-6) to the transmission case with the

attaching bolts as shown in Figure 15-36. Install the bolts finger tight and check for free movement of the selective pin. Torque the bolts to 175 inch pounds and again check for free pin movement. Apply 25 foot pounds of torque to the gage hex nut to apply the band and select the proper selective apply pin to be used based on the gage pin step position. See Figure 15-37. The band apply lug end of each selective apply pin bears identification in the form of one, two, or three rings. Selecting the proper pin is the equivalent of adjusting the band.

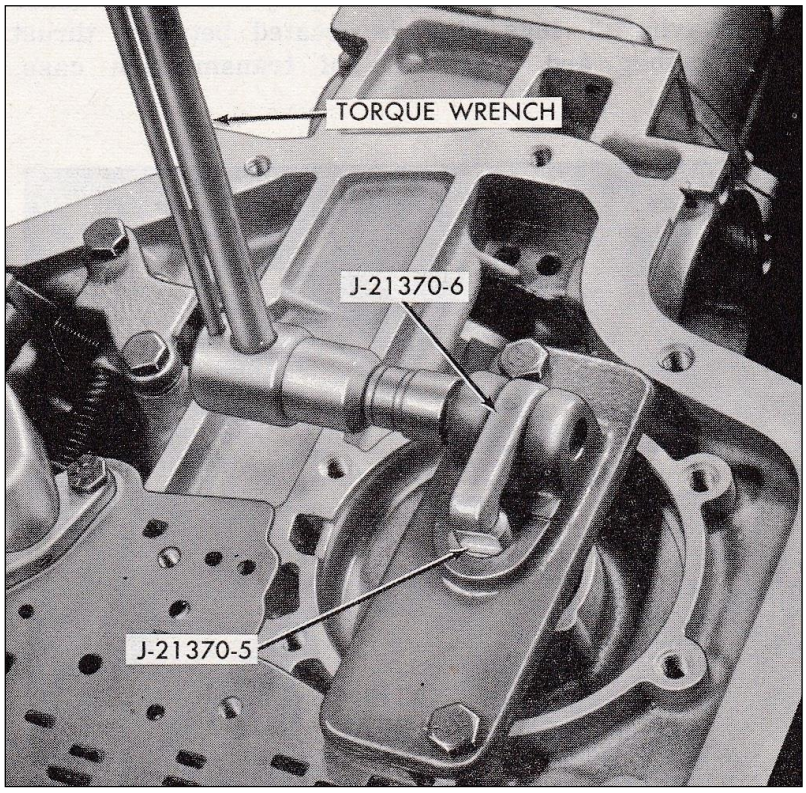

FIGURE15-36 GM

STEP LOCATION	PIN IDENT.	SIZE
TOP STEP OR ABOVE	THREE RINGS	LONG
THIS AREA	TWO RINGS	MED.
LOWER STEP OR BELOW	ONE RING	SHORT

J-21370-5

FIGURE 15-37 GM

<u>Checking and Adjusting Rear Band with Late OEM Tooling</u>

Note that for later model vehicles, GM released four additional selective apply pins to allow more precise rear band adjustments in the field. This also required a revised gage pin (J-21370-10) to facilitate rear band adjustments. See Figure 15-38. The band apply pin

selection gage and measurement methods are the same as previously mentioned. Select the proper selective apply pin to be used based on the gage pin step position. The band apply lug end of each selective apply pin bears identification relative to the pins overall length. Select the correct pin from the chart that coincides with the gage pin step position. See Figures 15-38 and 15-39. Selecting the proper pin is the equivalent of adjusting the band.

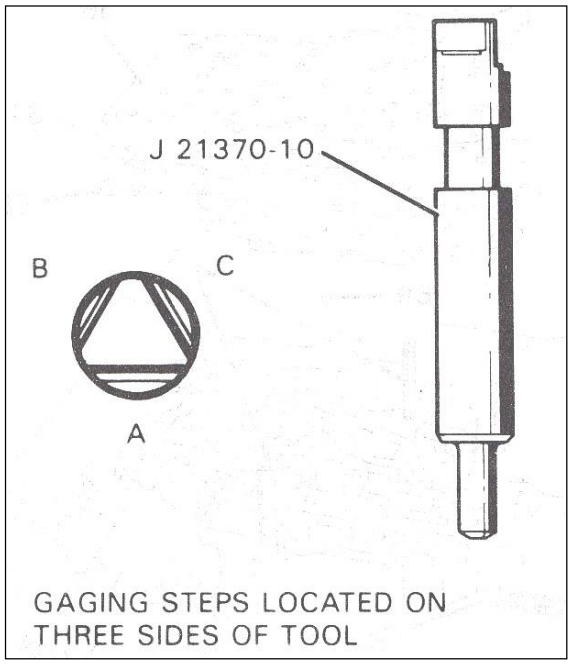

FIGURE 15-38 GM

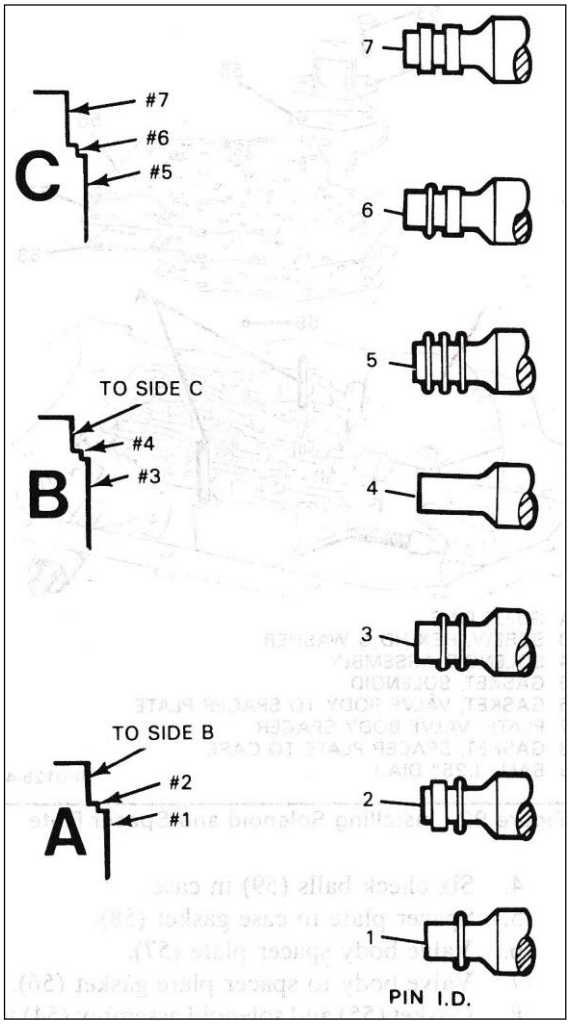

FIGURE 15-39 GM