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TCI® 326200

Installation Instructions for Turbo Hydramatic 350

NOTE: This kit was not intended for installation in transmissions that are in poor general condition. It will not correct the condition of malfunctioning or slippage in transmissions.

KIT INTRODUCTION

This kit can be installed in a few hours by carefully following directions. Read all instructions first to familiarize yourself with the parts and procedures. Work slowly and do not force any parts. Transmission components and valves are precision fit parts. Burrs and dirt are the number one enemies of an automatic transmission. Cleanliness is very important so a clean work area or bench is necessary. We suggest a clean work bench top from which oil can easily be cleaned or a large piece of cardboard.

Automatic transmissions operate at temperatures between 150°F and 250°F. It is suggested that the vehicle be allowed to cool for a few hours to avoid burns from hot oil and parts. The vehicle should be off the ground for ease of installation. Jack stands, wheel ramps, or a hoist will work fine. Make sure the vehicle is firmly supported! Try to raise it 1-2 feet so you have plenty of room to work easily. Have a box or pan handy to put small parts in so they won't be lost. Also use a drain pan to catch the transmission fluid.

DISASSEMBLY

STEP 1 Some Turbo 350 transmissions do not have drain plugs. You may want to install a TCI® 805800 Drain Plug Kit before you reinstall your transmission pan. Drain the oil by removing the back oil pan bolts and work towards the front slowly. (Note: Some vehicles will require removal of the crossmember to remove the pan. Make sure you support the back of the transmission so you don't damage the distributor.) Do not remove the front two (2) pan bolts yet. If the pan sticks to the gasket, insert a screwdriver between the pan and case and pry the pan down slightly to break it loose. Allow the fluid to drain. Now remove the two (2) front bolts slowly. This will lower the pan to allow the rest of the fluid to drain. Lower the pan and set aside. Put the pan bolts in your tray.

STEP 2 Use a screwdriver to remove two (2) screws and remove the oil filter and filter gasket. Put them in the oil pan. **(See Figure 1)**

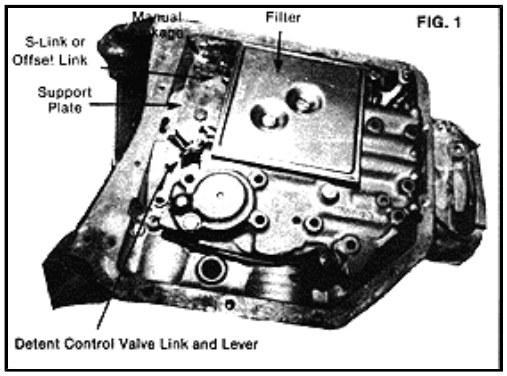


Figure 1

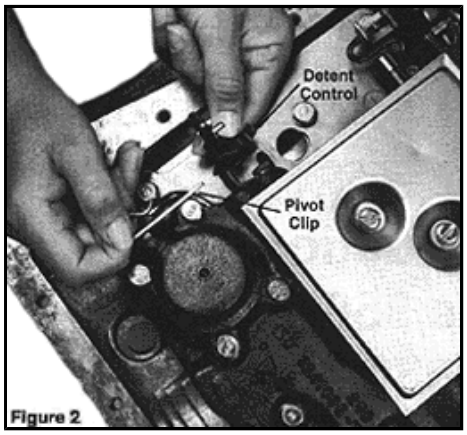


Figure 2

STEP 3 Observe the location of the following: **(See Figure 1)** Manual linkage, detent spring and roller, s-link or offset link, detent control valve link and lever, and support plate.

STEP 4 Remove pivot clip holding detent control valve lever in place. **(See Figure 2)** Remove lever also and set them in the tray. Remove eighteen (18) valve body attaching bolts. **(See Figure 3)** Remove valve body by pulling straight down and disengaging manual valve and link from manual lever. *(Do not let manual valve fall out of valve body.)* Put the valve body in the

oil pan.

STEP 5 Remove support plate bolts and support plate. **(See Figure 1)** Remove separator plate, gasket and four (4) check balls.

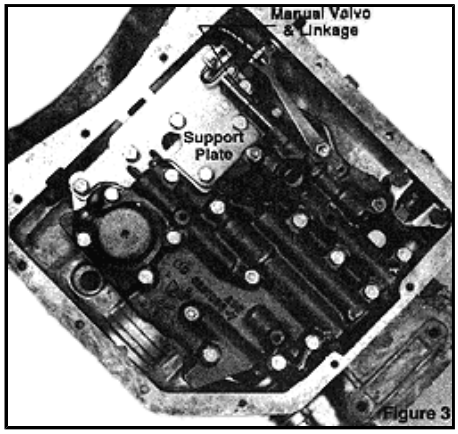


Figure 3

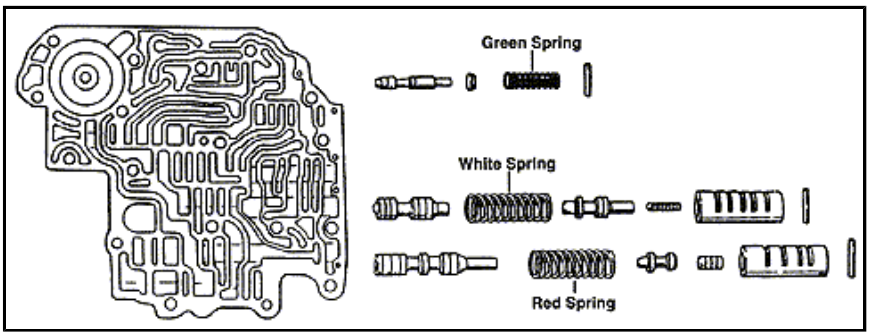


Figure 4

STEP 6 Vacuum Modulator: No modification is necessary for this application. Part throttle shift points can be lowered 5-6 mph by installing the gold spring in back of the modulator valve. Remove modulator and valve. **(See Figure 8)** Insert spring on end of valve and install valve and modulator as removed. Reconnect vacuum line. Adjustable modulator should be used with this valve body kit. You can purchase this from TCI® or any GM dealer.

STEP 7 Valve Body: Place the valve body on the bench with the channel side up. Remove the roll pin holding the 2-3 shift control valve sleeve in place. **(See Figure 4)** Remove the sleeve carefully. This may require a little prying with a small screwdriver. Try not to raise any burrs during removal. Next, remove 2-3 shift valve spring. Discard this spring and replace it with the white spring supplied with the kit. Note: The small tapered end goes in first. Install the 2-3 shift control sleeve assembly as removed. Align sleeve and install retaining roll pin.

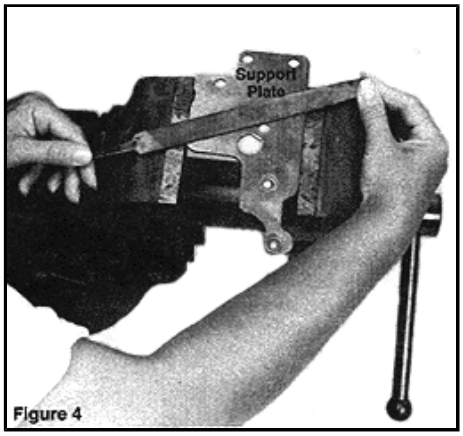
STEP 8 Remove the roll pin holding the boost valve sleeve in place. Remove the sleeve carefully. Again, this may required a little prying with a small screwdriver. Remove the pressure regulator spring and discard it. Replace with the red spring supplied with the kit. Note: This small tapered end goes in first. Replace sleeve assembly and roll pin. **(See Figure 4)**

STEP 9 Remove the roll pin that holds the detent regulator spring in place. Discard the spring and install the special green spring supplied in its place. Install the pin as removed. **(See Figure 4)**

STEP 10 Scrape off any excess gasket material that may be stuck to the casting surface. This is very important as stray gaskets can cause leaks. Wash valve body in solvent or gasoline to remove residue. Be careful not to lose the roll pins that hold sleeves in place.

STEP 11 Clamp the support plate in a vise and run a file across the surface that will contact the separator plate. **(See Figure 5)** You want the support to be flat. If your support plate is bent or excessively warped, it should be replaced.

STEP 12 Scrape any excess gasket material that may be stuck to the case surface. This is very important as stray gasket can cause leaks.



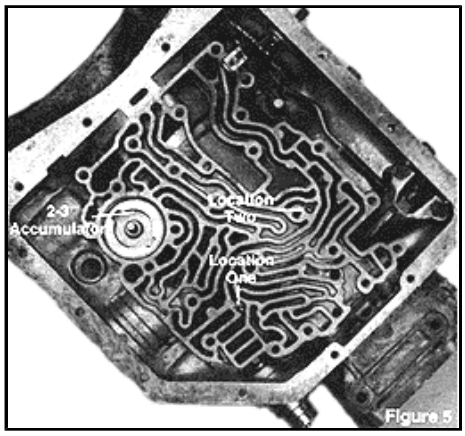
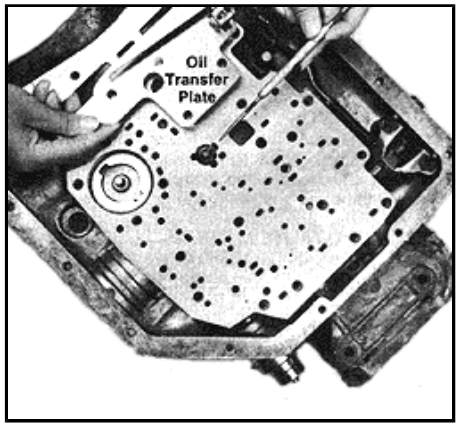


Figure 5 **Figure 6**

STEP 13 Lay separator plate-to-case gasket (the large one) in position on the separator plate. Check Ball positioning: Insert four (4) check balls according to **Figure 6**. Check balls may be held in place with grease or vaseline.

STEP 14 Install separator plate, gasket and stock support plate **(See Figure 7)** Install support plate bolts finger tight. Remove center pan bolt. Make sure plate does not drop far enough to lose check balls.



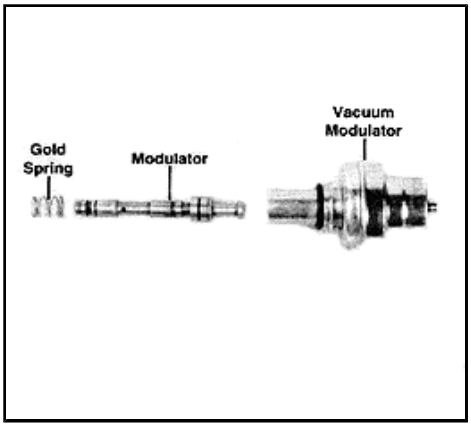


Figure 7 **Figure 8**

STEP 15 Guide valve body into position. Engage manual valve linkage in selector lever. S-link can only install one way. Off-set linkage must be installed with the link in the forward position. Install valve body bolts finger tight. Install detent roller spring so it engages selector lever. Tighten valve body bolts to 13-ft.lbs. Tighten support plate bolts to 13-ft.lbs. Make sure shifter operates freely at this point.

STEP 16 Install new oil filter and gasket supplied. Tighten screws securely.

STEP 17 Clean pan in solvent and scrape any excess gasket material oft of the pan and case surface. Install pan with new gasket. Install pan bolts and tighten 13ft.-lbs. Tighten drain plug, if so equipped. (Remember TCI® 805800 drain plug kit for easy fluid changes.)

STEP 18 Remove the clip retaining the governor cover. Remove governor cover and governor. Replace the original springs with the TCI® pink or yellow springs supplied. Use the TCI® springs that match the originals' O.D. Replace governor and cover. Be sure governor clip is secure and cover is seated to prevent leaks.

STEP 19 Check shifter adjustment. Place selector lever in each gear position making sure detents in transmission correspond exactly with selector lever detents. Adjustments can be made by loosening pinch bolt on rod or cable.

STEP 20 Detent cable: Depress accelerator pedal fully and check that throttle is opening fully. Adjust if necessary. Adjust detent cable so that full throttle coincides with maximum cable position.

STEP 21 Lower vehicle. Keep the rear wheels off the ground if possible. Add four (4) quarts of GM Dexron3 ATE or use TCI®'s RTF Part No. 950600 specially formulated to *reduce friction, increase performance, and reduce heat.* Place transmission in neutral, start engine and fill to the "Add" marks. Place selector lever in all gear positions. If the wheels are off the ground, allow the transmission to shift through all gears. Check fluid level and make sure it is between "Add" and "Full".

TROUBLE SHOOTING GUIDE TURBO HYDRAMATIC 350

Malfunction & Probable Cause	**Late Hard Shifts**	**Foaming at Dipstick Tube or Breather**
	Vacuum Line Cracked or Leaking Modulator Plug Installed in a HeavyDuty or Street Unit	Cooler Plugged Cooler Insufficient
Slips	**Will Not Shift**	**Erratic Shifting**
Low Fluid Level Pressure Regulator Valve Assembly Improperly Installed Valve Body Bolts Loose Support Plate Bolts Loose	Valve Body Bolts Loose 2-3 Shift Valve Burred or Sticking Kickdown Cable Misadjusted	Shifter Misadjusted Kickdown Cable Misadjusted Low Fluid Level High Fluid Level Vacuum Line Cracked or Leaking Valve Body Bolts Loose Support Plate Bolts Loose Low Fluid Level
No Reverse or High	**Overheating**	**Pump Buzz or Whine**
Support Plate Missing or Loose	High Fluid Level	Low Fluid Level Loose Valve Body Support Plate Bolts

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