

Installation Instructions

GOVERNOR RECALIBRATION KIT

For GM TH-700R4, TH-400 & TH-350
Automatic Transmissions

Part No. 20248

Rev. □

WORK SAFELY! For maximum safety, perform this installation on a clean, level surface and with the engine turned off. Place blocks or wedges in front of and behind both rear wheels to prevent movement in either direction.

CAUTION: To avoid any possibility of bodily injury or damage to vehicle, do not attempt installation until you are confident that the vehicle is safely secured and will not move.

INTRODUCTION

The B&M Governor Recalibration Kit will allow you to raise or lower, relative to vehicle speed, the points where your transmission shifts. This is accomplished by a system of combining a variety of weights and springs in your governor, modifying the vehicle speed signal your transmission's shift valves receive. B&M has found that this kit, when properly installed, can greatly improve the peak performance and enhance the driveability of your vehicle. The B&M Governor Recalibration Kit will not substantially change the quality, or crispness of the shift. This is done by recalibrating the valve body of the transmission. B&M offers a complete line of shift recalibration kits for these transmissions, available at your B&M dealer.

PREPARATION

Before doing any modification to your governor, we recommend documenting the shift points of your car. Full throttle shift points are the most critical and most easily repeated. The stock full throttle shift points should be recorded in relation to the engine rpm and/or vehicle speed at which these shifts occur. This should be done after each modification so as to compare how much your shift points have changed and help determine the direction and quantity of the next change. Before beginning installation, make sure the vehicle is firmly supported on a hoist, wheel ramps or jack stands. Leave at least 1-2 feet beneath the vehicle to allow yourself room to work. Automatic transmissions operate between 150°F to 250°F degrees. Allow the transmission to cool before beginning installation. Also, allow extra time for the catalytic converter to cool.

INSTALLATION

1. GOVERNOR REMOVAL

- A. TH-400:** Remove the (4) 1/2" bolts holding the governor cover to the transmission. Remove the governor assembly by pulling out and turning 1/8 turn counterclockwise. Take the governor assembly to your workbench and proceed to Step 2.
- B. TH-350 & 700-R4:** Remove the long clip holding the governor cover to the case and remove the governor cover. Remove the governor assembly to your workbench and proceed to Step 2.

2. With a pair of diagonal cutters, remove the heads of the nails. Remove and discard the nails from the governor assembly. Choosing from the chart at the end of these instructions, pick a weight and spring combination which will raise or lower your shift points as desired. The procedure we recommend starts by using a weight and spring combination similar to your stock setup, but at least one step in the direction, heavier or lighter, desired.

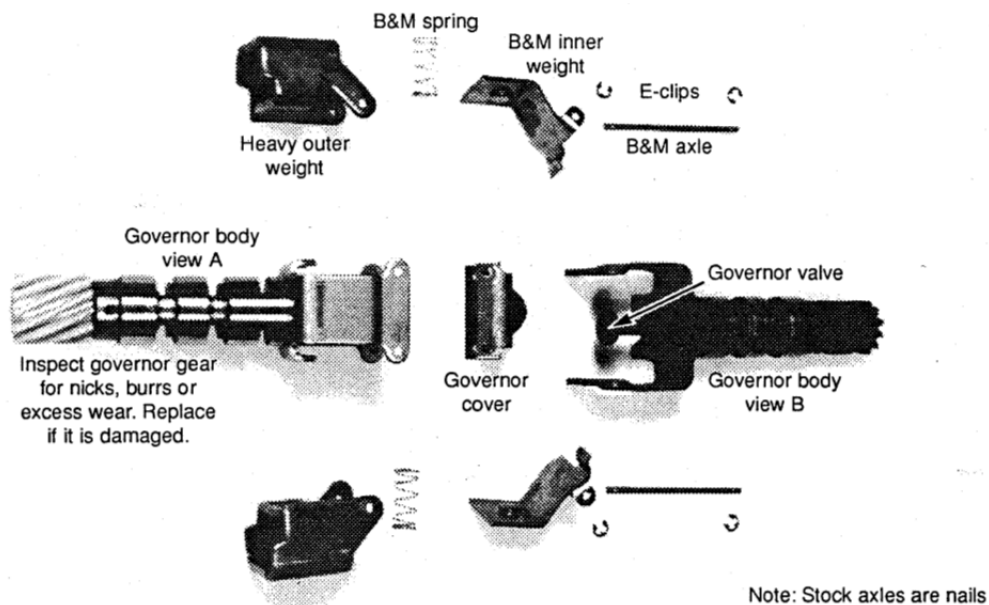
Heavier weights produce earlier shifts, lighter weights produce later shifts. Stiffer springs tend to produce earlier closely stacked shifts, weaker springs tend to raise and spread apart shift points.

As a general rule, the weight selection tends to bring the shift points into the general desired range. The springs then adjust the shift points more precisely to match your vehicle's performance to your driving preference. Always make changes one step at a time, first to the weights and then to the springs. Note the amount of change in your full throttle shift points, after each weight and/or spring change. Determine from this test which direction the next change, if any, should take. Repeat until the desired shift points are attained.

Bear in mind that this installation may require a few tries before the optimum vehicle shift points are attained. If the shift points do not fall into place on the first couple of tries, do not be alarmed. There are hundreds of combinations possible using the supplied weights and springs, therefore your optimum combination exists and is a matter of finding it through trial and error.

It is possible to raise your shift points even higher by using a single inner weight and spring. There should always be both the heavy outer weights installed, but the use of one inner weight and spring will permit more versatility and higher shift points.

3. Place the inner weight inside the heavy outer weight. Place the spring from the kit on the raised spring perches. Install one of the supplied E-rings on each of the supplied axles. Install the weight and spring assembly onto the governor. Place the cover on the governor. Insert the axle through the cover, governor body and the weights. Install a second E-ring on each of the axles. Make sure the governor valve moves freely in its bore and the governor weights move freely and properly (See Fig. 1 below).



4. Install the governor assembly into the transmission. A new gasket is supplied for the TH-400 and a new governor cover O-ring is supplied for the TH-350 and 700-R4. Tighten the TH-400 governor cover bolts to approximately 15ft.lbs. Install the clip over the cover on TH-350 and 700-R4. Make sure the clip is well seated to prevent leaks.

5. After all parts are installed, start the engine and allow the vehicle to warm up. Check the transmission fluid level. Add Trick Shift, Dexron or another quality ATF until the level is between the "Add" and "Full" marks.

6. Lower the vehicle and test drive. Check the shift points against earlier records. If the shift points are too early, use a lighter weight and/or spring. Refer to the chart at the end of these instructions and repeat the procedure in Steps 1 thru 5 until desired shift points are achieved. Do not be concerned if the shift points are not ideal on the first or second try. Achieving the shift points you feel most comfortable with is, by nature of the kit, a trial and error process. An extra set of 3/32" E-clips for the axles is provided in the kit, as these clips are very small and are easily lost. Be sure the E-clips are fully seated in the axle grooves.

PARTS LIST

6 Weights
 8 E-clips
 6 Springs
 2 Axles

 TH-350/700-Ry governor cover O-ring
 TH-400 governor cover gasket

TOOL LIST

1 Pair Diagonal cutters
 1 Small Punch
 1 Screwdriver
 1 1/2" Open End Wrench (TH-400 only)
 1 Drain Pan
 1 Funnel
 2 Qts Trick Shift or other ATF

WEIGHTS AND SPRING CHART

WEIGHTS							
Heavy	1	2	3	4	5	6	Light
SPRINGS							
Heavy	Purple	Blue	Green	Yellow	Orange	Red	Light

TROUBLESHOOTING GUIDE

MALFUNCTION	CAUSE
First gear only or very late shifts	Improperly installed governor or sticking valve. Excessively light weights & springs.
High gear too soon	Excessively heavy weights, stuck governor valve, outer weights not installed correctly.
Leaking governor cover	Gasket misaligned or bolts over tightened. (Replace the gasket.)

IMPORTANT: RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

