

Remanufactured TEHCM

Part Nos.

GM6T70-G2-TEHCM

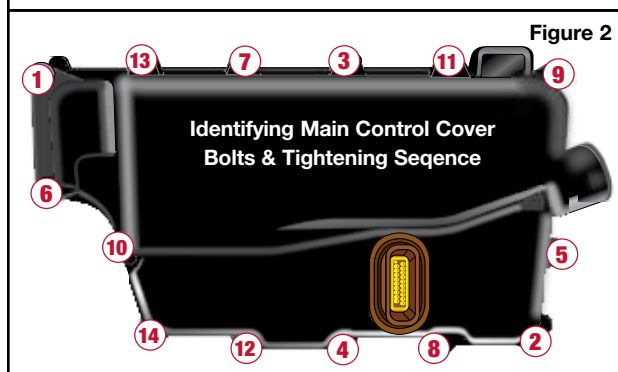
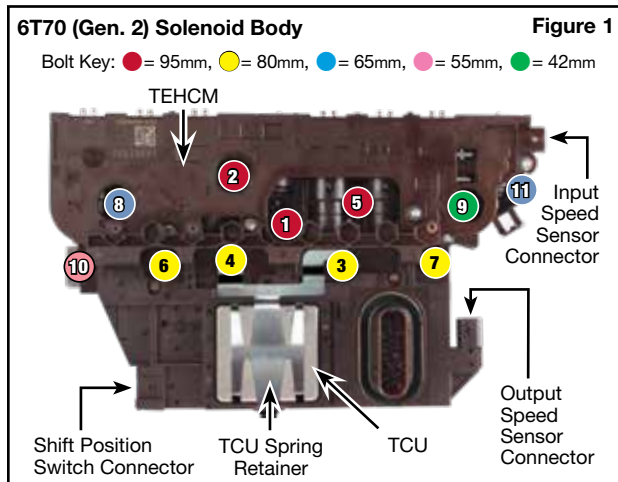
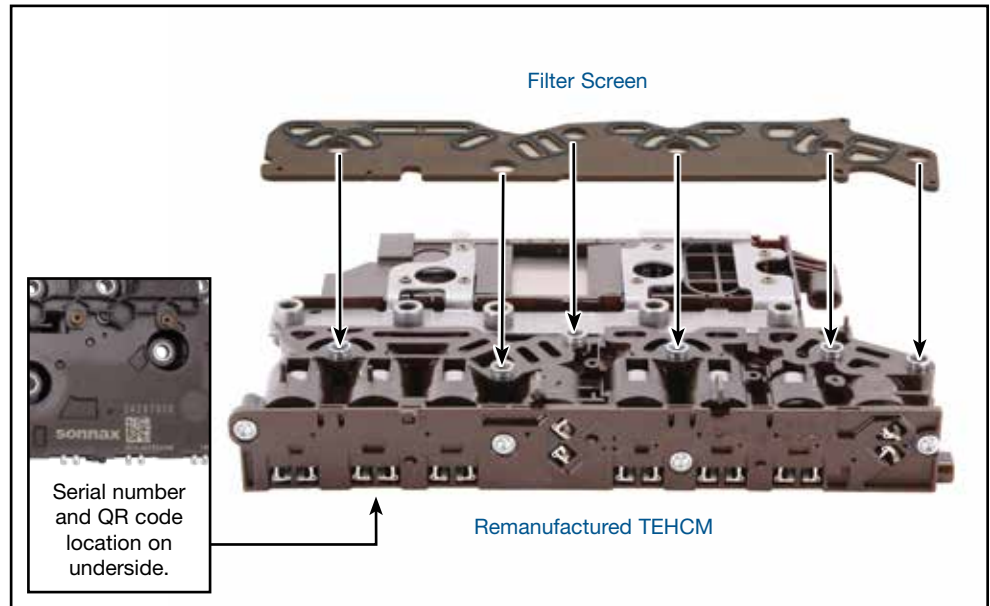
- Remanufactured TEHCM
- Filter Screen

NOTE: OE Part Nos. 24257300, 24264346, 24267570, 24268004, 24275870, 24276632

CAUTION: Care must be taken when handling the TEHCM. Use an ESD ground strap so static discharge does not damage the module.

NOTE: Sonnax TEHCM's are serialized with a unique number and the data from each TEHCM during its final testing is stored for future review. Please log your serial numbers as this will help with any diagnostic questions you may have, see image for reference.

GM 6T70/75/80 (Gen. 2)



1. Install TEHCM onto Valve Body

- Install Sonnax filter screen on TEHCM in orientation (**Main Photo**).
- Install TEHCM and TCU spring retainer onto valve body and secure with 11 bolts. Hand tighten then tighten in the sequence shown to 106 in-lb (**Figure 1**).
- Reconnect shift position switch.
- Reconnect output speed sensor (OSS).
- Reconnect turbine shaft speed sensor (TSS).

2. Install Main Control Cover onto the Transmission Case

- Install transmission oil pan gasket and main control cover onto case.
- Inspect the 20-pin TEHCM connector seal and make sure that the 6T70 seal is on the inside of the main control cover to prevent fluid leaks.
- Install bolts and studbolts. Torque in sequence noted to 106 in-lb. (**Figure 2**).

3. Fluid Fill

NOTE: Use Dexron VI transmission fluid only. Ensure the transmission has enough fluid to safely start vehicle without damaging the transmission.

- Park vehicle on level surface and start engine.
- Press brake pedal and move shift lever through each gear range, pausing for approximately 3 seconds in each range. Move shift lever back to Park.

3. Fluid Fill (continued)

- b. Press brake pedal and move shift lever through each gear range, pausing for approximately 3 seconds in each range. Move shift lever back to Park.
- c. Allow engine to idle 500–800 RPM for at least 1 minute. Release brake pedal.
- d. Keep engine running and check fluid temperature (TFT) using the Driver Information Center or appropriate scan tool. Temperature must be between 180–200 °F.
- e. Remove dipstick and wipe clean with rag.
- f. Install dipstick and tighten. Wait 3 seconds and remove again.
- g. Check both sides of dipstick and read lower level.
- h. Install and remove dipstick again to verify reading.
- i. Adjust fluid level accordingly. Do not add more than one pint at a time without rechecking level.

4. Transmission Diagnostic Tips

This remanufactured TEHCM has been through a rigorous inspection and rebuild process, then a comprehensive, functional hydraulic and electronic test to ensure it meets OE performance and quality. It is designed to eliminate many pressure-, shift- and converter-related complaints, but will not correct complaints that stem from other areas of the transmission.

The following are common areas of failure or root causes for symptoms that could be attributed to valve body/TEHCM issues that should also be examined or addressed during your transmission build. Clutch apply chart (Figure 4) and solenoid apply chart (Figure 5) are provided for additional aid in diagnosing problems.

- Codes P0716, P0717, P0722, P0723, P0751, P0756, P0776, P0796, P2714, P2723 may be caused by faulty ISS or OSS.
- P0218 Code transmission fluid over temperature may be caused by faulty overfilling of transmission.
- TCC slip, shudder, no apply or engine stalls after service may be caused by damaged or incorrectly installed sprocket support seal, and/or converter turbine hub seal damage during installation.
- Repeat 3-5-R clutch failure, harsh 2-3, 4-5, reverse engagement harsh may be caused by damaged 3-5-R clutch piston dam seal. This will not be detected in air check of 3-5-R clutch.
- Lack of power, shift concerns, DTC codes, ECM harness shorted to ground on ECM bracket.

- Binding on 3-4, 4-3; possible P0797 may be caused by worn ring groove on case cover hub sleeve.
- No Reverse or DTC P0776, P0842 may be caused by broken 3-5-R clutch wave plate.

5. Service Fast Learn Adapts

- a. The fast learn adapt procedure must be performed after installation of this remanufactured TEHCM. Reference OE information for specific processes and procedures for particular vehicle serviced.
- b. Service Fast Learn Adapts is a procedure in which a series of tests are run to all the TCM to learn individual clutch characteristics. The TCM uses this data for clutch control during shifts. An appropriate scan tool provides initiation of the procedure.

Clutch Apply Chart

Figure 4

Gear	1-2-3-4 Clutch	3-5 Clutch	4-5-6 Clutch	2-6 Clutch	Low & Reverse Clutch	Low & Reverse One-Way Clutch
Park					X	
Reverse		X			X	
Neutral					X	
1st Breaking	X				X	Holding
Drive	1st	X				Holding
	2nd	X			X	
	3rd	X	X			
	4th	X		X		
	5th		X	X		
	6th			X	X	

Solenoid Apply Chart

Figure 5

Gear	Solenoid					
	Shift Solenoid 1	Shift Solenoid 2	1-2-3-4 PC Solenoid 5 NL	2-6 PC Solenoid 4 NL	3-5 Rev. PC Solenoid 2 NH	4-5-6 PC Solenoid 3 NH
Park	X	X			X*	
Reverse	X					
Neutral	X	X			X*	
Drive	1st	X	X*		X*	X*
	2nd		X	X*	X*	X*
	3rd		X	X*		
	4th		X	X*		X*
	5th		X			
	6th		X		X*	X*

KEY: X = Solenoid Electrically Energized, * = Modulating

Quality Report

Sonnax designs its TEHCM remanufacturing processes to ensure all units achieve the highest level of operational performance. This quality report details the intensive inspection, build and test procedures this TEHCM underwent to verify it meets OE performance and quality standards.

Sonnax remanufactured TEHCM **GM6T70-G2-TEHCM** addresses failed components, circuit faults, and can be VIN-programmed to your specific vehicle. In remanufacturing the TEHCM, failed components are replaced and each unit is given a complete diagnostic test to ensure full functional performance consistent with a new OE TEHCM. This provides a significant cost savings over an OE replacement.

Sonnax has built a sophisticated electro-hydraulic test for the TEHCM that mimics a full and varied drive event, using data acquired from the various sensors and switches during actual vehicle drive cycles. This allows the Sonnax test to validate all TCM communication paths, each solenoid, and the fluid temperature sensor by essentially 'driving' the TEHCM as if it were in a vehicle (**Figures 6 & 7**). After installation, this remanufactured TEHCM must be reprogrammed on the vehicle using a J2534 device in order to function correctly. A vehicle VIN remains on the Sonnax remanufactured TEHCM, and will be overwritten by the transmission shop technician with the new vehicle VIN during the reprogramming process.

Prior to the end-of-line test, each TEHCM goes through an ultrasonic cleaning process and the solenoids go through a rigorous flushing process to remove all dirt and debris – no matter how hidden. The commonly failed parts are all replaced with new parts, and a

new filter plate/screen assembly is included. The fully tested TEHCM is serialized, the test data stored, and is packaged in a mylar bag with a protective connector cover to prevent inadvertent static discharge issues during the shipping, handling and receiving processes.

Cleaning & Inspection Process



- TEHCM is ultrasonically cleaned to remove all surface debris.
- Solenoids are rigorously flushed to remove all internal dirt & debris.
- Solenoids are tested to ensure proper resistance.

Rebuilding Process



- Failed components are replaced.
- New filter plate/screen assembly is included.
- A vehicle VIN remains on the TEHCM, and will be overwritten by the transmission shop technician when reprogramming the remanufactured TEHCM on vehicle to the new VIN.

Figure 6 – Solenoid Pressure Test
Sonnax reman unit solenoid pressure match OE

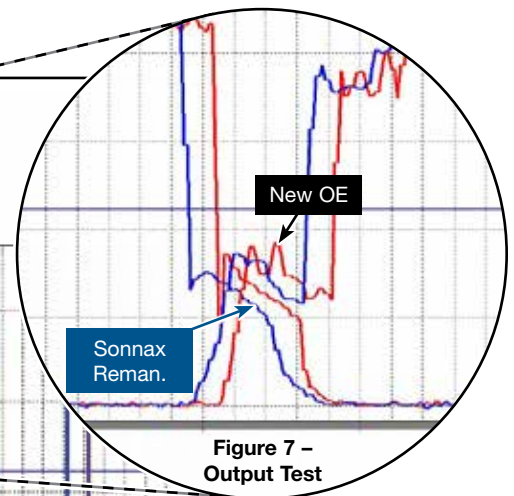
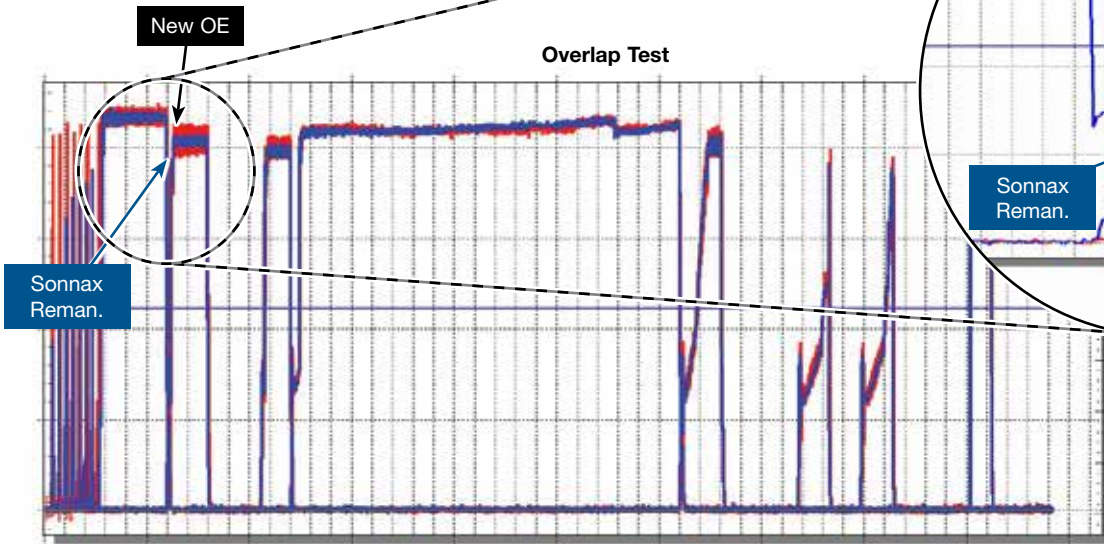


Figure 7 – Output Test