



**SILVER SPORT**  
*Transmissions*

**1978 – 1988 GM G-BODY**

**T5 5-SPEED**

**MANUAL TO MANUAL  
TRANSMISSION CONVERSION  
INSTALLATION MANUAL**

FOLLOW FACTORY SERVICE MANUAL (FSM) RECOMMENDED SAFETY PRECAUTIONS. TRANSMISSION REMOVAL AND INSTALLATION IS A LABOR INTENSIVE JOB, WHICH CAN RESULT IN SERIOUS INJURY OR DEATH IF CAUTION IS NOT TAKEN. PLEASE BE CAREFUL PERFORMING THIS JOB, OR HAVE A PROFESSIONAL PERFORM THE JOB FOR YOU. REFER TO FSM FOR ADDITIONAL DETAILS OF THE PROCEDURES BELOW, AS REQUIRED.

*The material herein is the intellectual property of Silver Sport Transmissions ("SST") and is to be used by SST customers or their authorized installers for the sole purpose of installing SST-supplied transmissions and related parts. Under no circumstances shall the manual or any portion thereof be copied, duplicated, distributed or incorporated in any written or printed document without the express written approval of Silver Sport Transmissions.*

## Before you start:

Test drive the vehicle, if possible, before you begin. Pay attention to noise and vibration and record your observations. At the end of the installation, perform another test drive to compare results.

It is also a good idea to measure engine driveline angle and driveshaft operating angles for your existing transmission to use as a comparison to the new angles after the T56 Magnum is installed.

You should also verify the parts you received. Compare the received items to the detailed invoice provided in your shipment.

## **PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION**

In addition to these instructions, you should receive the following instructions based on your order, **if applicable**:

1. All kits – MAA-00101 Inspection and Correction of Bellhousing to Crankshaft Runout.
2. All kits – MAA-00100 Driveshaft Measuring Procedure.
3. Hydraulic throw out bearing kit – Hydraulic Kit Instructions for GM MAG-00402.

Your invoice lists the individual hardware packs and where they are used.

**NOTE:** This transmission **must** be test shifted before installation. Due to jostling during shipping, some transmissions will not shift properly when removed from the box. Please make sure that the gear selector will move into each of the shift gate positions while rotating the input shaft and checking for output shaft rotation. If the input shaft will not turn, slide a clutch disc over the input shaft and jerk the clutch disc left and right to break it free. If this does not correct the issue, call Silver Sport Transmissions at **888-609-0094** for assistance.

**THIS CANNOT BE CORRECTED WITH THE TRANSMISSION INSTALLED IN THE CAR!**  
**TEST SHIFT FIRST!**

## A. REMOVE EXISTING EQUIPMENT

1. Disconnect negative (-) battery cable.
2. Place transmission in neutral. Remove shifter knob and boot.
3. Remove console. Note location and orientation of all components and wiring.
4. Remove front seats and carpet.
5. Remove engine cooling fan and fan shroud.
6. Remove breather assembly & ignition cluster cover/distributor cap from engine.
7. Raise car securely on lift or jack stands.
8. Loosen exhaust at manifold pipe.
9. Unbolt starter and set aside.
10. Remove drive shaft at rear differential pinion yoke and remove from car.
11. Remove bell housing dust cover/inspection cover.
12. Remove linkage pin & clip at torque arm to clutch fork.
13. Remove shifter assembly.
14. Remove speedometer cable.
15. Remove exhaust pipes as required for working clearance and permit engine to drop.
16. Unbolt transmission isolator and remove crossmember.
17. Loosen brake cable lines and secure for working clearance.

18. Disconnect backup switch wiring.
19. Secure rear of engine with hydraulic jack.
20. Secure transmission (jack recommended) and unbolt 4 speed transmission from bellhousing, then move rearward in vehicle and remove.
21. Remove manual transmission bellhousing, clutch pressure plate and clutch disk.
22. Remove manual transmission clutch fork and release bearing from bellhousing. Inspect release bearing, fork, and pivot ball stud for wear. Contact Silver Sport Transmissions for replacement or repair.
23. Inspect flywheel ring gear teeth (no cracks, chips, wear), and friction surface (no cracks). Silver Sport Transmissions strongly suggests removing flywheel and having it surfaced, then dynamically balanced at a reputable automotive machine shop **unless** the engine was externally balanced with the flywheel installed.
24. Remove the manual transmission pilot bushing.

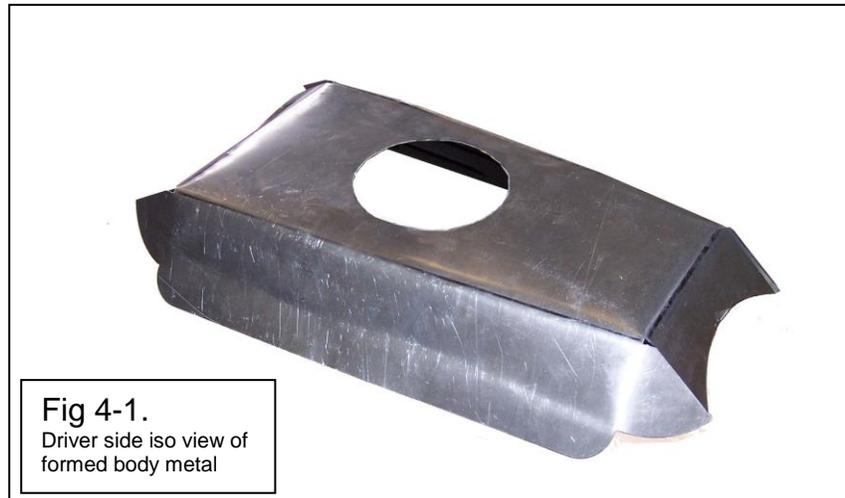
## B. TUNNEL MODIFICATION

1. Prepare the tunnel hole cutting template as per the instructions printed on the template TMG-00904. Position the rear of template aligned with floor brace and centered on the tunnel.
2. Tape template to floor. Mark rectangular area to cut.
3. Carefully cut the area marked and remove template. See Fig 3-1 for top view of finished tunnel hole cut (Shown with T5 installed w/o shifter - reference only).



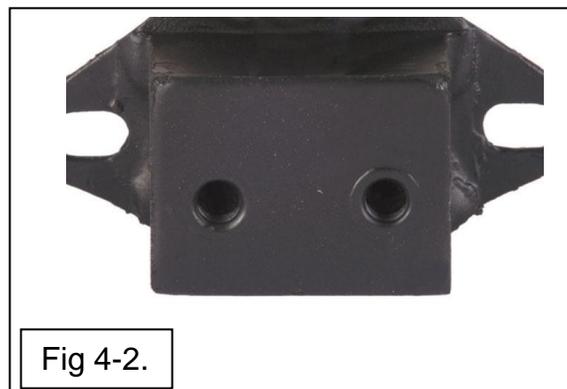
Fig 3-1.  
Tunnel hole cut.

4. Form the new tunnel body metal by bending and aligning tabs. The body metal will need to be custom fitted to match the contour around the newly cut opening in your tunnel. The final shape of new tunnel body metal should look similar to picture shown in Fig 4-1.

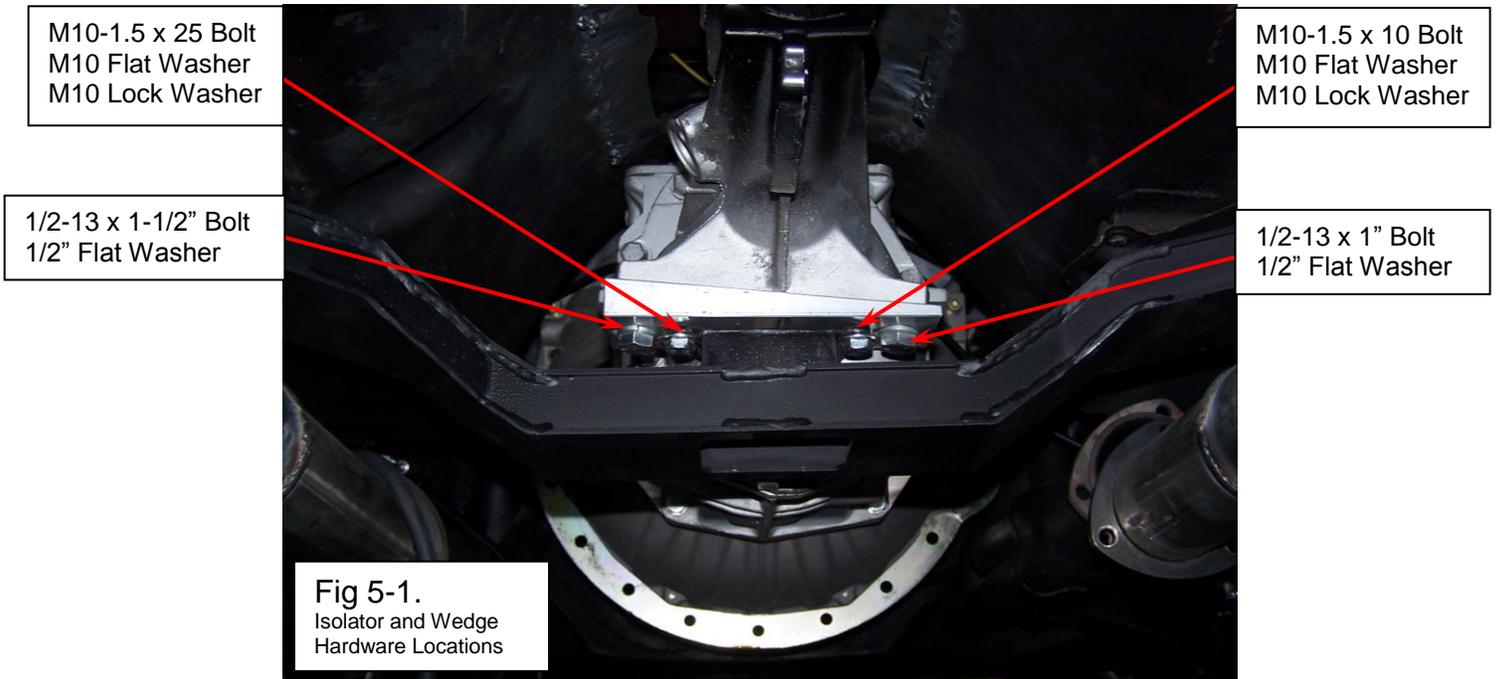


### C. TEST FITMENT

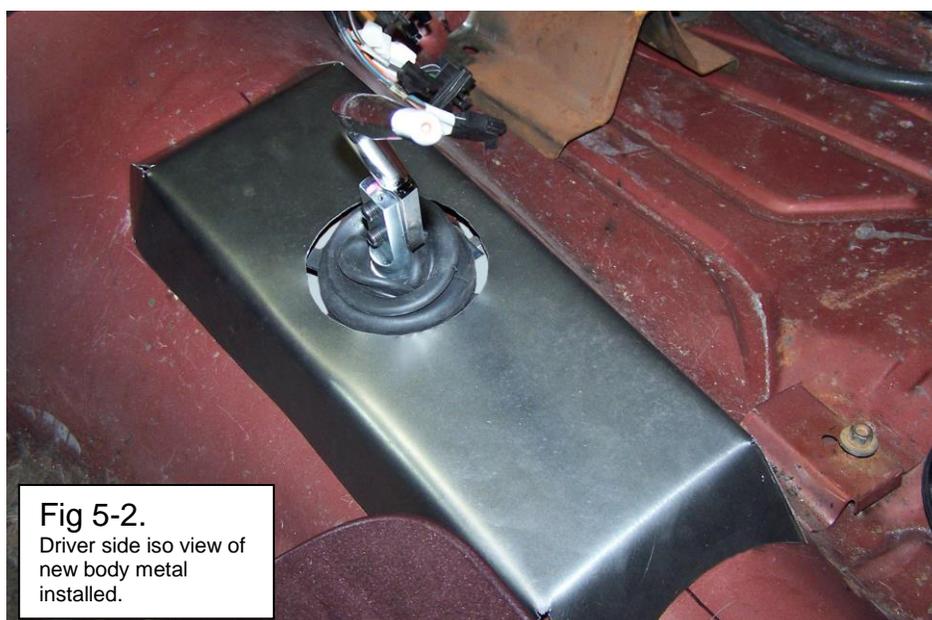
1. Once the new body metal has been formed and fitted to your tunnel, a trial fit for T5 clearance should be done before permanently attaching the new tunnel body metal.
2. Temporarily attach bell housing, without clutch components, to the engine.
3. Lower rear of engine and install transmission to bell housing using 7/16"-14 x 1-1/2" bolts and lock washers provided (HWM-PACK A). Support the transmission with a jack.
4. Using Hardware Pack HWA-Pack T, attach isolator mount ISG-02665 (see Fig. 4-2) to wedge mount XMG-02010 with M10 bolts and washers. Attach that sub-assembly to T5 isolator mounting pad with 1/2-13 bolts and washers. (see Fig. 5-1). Using jack, raise rear of engine/transmission as far as possible to allow crossmember to be installed.



5. Position crossmember perch area under isolator and lower transmission to rest on crossmember. Keep transmission secured to jack – there is no need to install the crossmember to isolator bolts for this clearance fit check.



6. Verify 1/8-1/4" minimum clearance between T5 and tunnel.
7. Complete the body metal custom fit to match the tunnel contour with the opening centered around the T5 shifter. Mark location of the formed tunnel body metal to floor. See Fig 5-2.

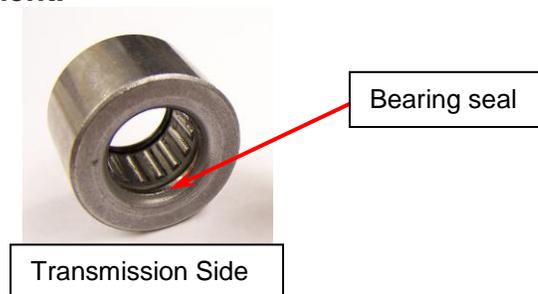


8. The next step is to measure for your driveshaft. Ensure that the rear suspension is weighted as the car will be when it is being driven. Take your length measurement and your U-joint dimensions as instructed on the Driveshaft Order Form in your instruction packet, and call Silver Sport Transmissions with those dimensions at (888) 609-0094.
9. Remove crossmember and the transmission to gain access for completing final tunnel body metal installation.
10. Attach formed tunnel body metal to car using rivets, screws, or by welding.
11. Apply body sealer LORD Fuser 803DTM Metal Sealer or equivalent around perimeter joint to prevent water intrusion. Paint exposed sheet metal surfaces for corrosion protection.

#### D. INSTALL NEW EQUIPMENT

1. Clean all mating engine surfaces and dowel pins.
2. Remove your original pilot bushing or bearing (if equipped) using a pilot bearing removal tool. Install the new SST pilot bearing assembly using a bearing driver or a socket of similar diameter. Gently tap bearing fully into crankshaft until the outer bearing face is flush with crankshaft face.

**NOTE: The side with the needle roller bearing grease seal faces the transmission. If pilot bearing OD is larger than crankshaft ID by more than 0.002", a different pilot bearing is required. Contact SST or your local parts store for a suitable replacement.**



3. Use the provided 10T alignment tool with large pilot diameter end to center the clutch disk when torqueing the pressure plate bolts. Install the bolts with medium thread locking compound per clutch installation instructions and tighten in a star pattern, one turn at a time to prevent distorting the pressure plate fingers, until the cover is snug against the flywheel. Torque the bolts to 35 lb.-ft. in a star pattern.

**NOTE:** When installing the pressure plate and clutch disk onto the flywheel, **NEVER** use power or air tools. Using power or air tools will cause the flanges of the pressure plate to distort. This will in turn cause uneven pressure plate finger heights, which will lead to inconsistent or unsuccessful clutch releases. See MAA-05000 clutch installation instructions for more details.

**NOTE:** If using a diaphragm-style pressure plate, it will be necessary to remove the large over-center spring from the clutch pedal. The over-center spring can hold the clutch disengaged or cause unusual fluctuations at the clutch engagement and release points. If using a three-finger style pressure plate, the over-center spring will be retained.

4. Lower rear of engine as far as possible (required for new transmission installation).
5. With the bellhousing still removed from the engine, install clutch fork and new SST release bearing in the bellhousing if using mechanical clutch linkage. **An original equipment style release bearing will not fit the SST 5-speed.** If you purchased the SST hydraulic system with your transmission, the hydraulic release bearing will already be installed and you will not be using a clutch fork.

**NOTE:** Make sure you have the correct clutch fork for your car and engine. Check length by fully engaging the fork in the pivot bracket and release bearing, with the pushrod disconnected from the clutch fork. Verify that the pushrod is aligned with the fork eyelet. Silver Sport Transmissions can provide a new clutch fork, pivot, and boot kit if needed.

6. Install bellhousing to engine, while making sure there are no hoses, cables, or wires caught between the bellhousing and engine block. Torque the fasteners to the specification found in your factory service manual.

**IMPORTANT !!! Refer to MAA-00101 Inspection and Correction of Bellhousing to Crankshaft Runout**

It is an absolute **requirement** that **runout** is **checked** and **corrected PRIOR** to installing the transmission. The runout specification for all of Silver Sport's kits is **0.005" (5 thousandths of an inch) MAXIMUM**. You **MUST** document the results **PRIOR** to installation of transmission and keep these measurements recorded in a safe place for your transmission warranty. Silver Sport's Customer Service will need this information if a warranty issue arises.

7. Reinstall the rubber sleeve on the output shaft (if it was removed during test shifting) to help prevent fluid leakage during the installation. Fill transmission with approx. 2 quarts, 24 ounces of transmission fluid until fluid runs out of the fill hole with the vehicle level. Reinstall the fill plug after adding fluid. Use pipe sealant - but do not over tighten the tapered pipe plug until head is flush with boss.

8. Install transmission, using caution when inserting the input shaft into the clutch disc and pilot bearing. Do not allow weight of transmission to rest on assembly until fully engaged (doing so can misalign disc or damage pilot bearing). The rubber tailshaft sleeve may be temporarily removed and the slip yoke inserted to rotate the tailshaft, as required, to facilitate engagement into clutch disk.

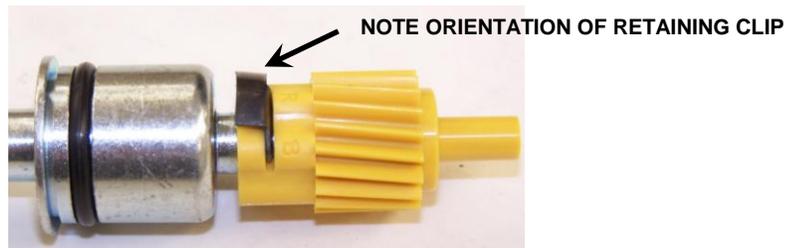
**DO NOT UNDER ANY CIRCUMSTANCES use the transmission-to-bellhousing bolts to draw/pull the transmission up to the bellhousing!** This could damage the input shaft of the transmission and is not covered by Silver Sport Transmissions' Warranty. If the transmission will not slide up to the bellhousing, there is a problem. Stop and call Silver Sport Transmissions' Technical Support at 888-609-0094 for a consultation.

**NOTE:** If the transmission stops approximately 1/2" away from seating fully against the bellhousing, install and **finger-tighten** bellhousing to transmission bolts. Connect clutch linkage and depress pedal lightly while pushing transmission forward to facilitate alignment of clutch disk to input shaft and pilot bearing. **DO NOT** force the transmission into engagement – damage to the pilot bearing may result. Tighten bellhousing to engine bolts once the transmission is seated against the bellhousing.

9. Once the transmission is fully seated by hand against the bellhousing, fasten with 7/16"-14 x 1-1/2" lg bolts provided (HWM-PACK A) and torque to 50 lb.-ft.
10. Raise up engine/transmission until transmission contacts the top of the tunnel.
11. Repeating the same procedure as before for installing crossmember (Section B – Steps 8-9), place your crossmember on the frame rails so that perch mounting slots lines up with the new isolator mount holes. Lower transmission fully onto crossmember, and attach to the rubber isolator mount with M10-1.5 x 30 bolts, flat washers, and lock washers provided (Hardware Pack HWG-PACK B). Confirm no interference to car body or noise will occur as the driveline moves under load.
12. Attach the crossmember to the frame using your original hardware.



13. The rubber tailshaft sleeve may be removed at this point. Install driveshaft by inserting the slip yoke into the rear of the transmission first. Then position the rear U-joint in the differential U-joint saddles. It may be helpful to be able to turn the rear wheels. Install rear straps and torque to factory specs: 17 lb.-ft. for 1310/1330 U-bolts; 24 lb.-ft. for 1350 U-bolts (excessive torque can distort bearing cap leading to premature failure). Double check your assembly.
14. Install bellhousing inspection cover and starter.
15. Connect clutch linkage - do not preload mechanical release bearing. Adjust linkage as required. If using SST hydraulic system (available separately), follow instructions provided.
16. Remove red shipping plug from the speedometer cable port and install new speedometer cable with gear, clip and O-ring (HWA-PACK S) into transmission case. Install cable retainer bolt and tighten bolt to 4 lb.-ft. Connect opposite end of cable to speedometer head.



**SPEEDOMETER CABLE PORT**



**REVERSE LIGHT SWITCH**



**NEUTRAL SAFETY SWITCH**



17. The reverse light switch is a black-bodied switch with (2) studs located on the driver's side of the case. The switch is a normally open, non-directional switch that will complete the lighting circuit when the transmission is in reverse. SST has provided a two-wire harness with your kit that will attach to the 5-speed reverse light switch. It can be spliced into your car's wiring harness in place of your original switch that was mounted to your 4-speed shift linkage.
18. The wire pigtail at the top of the main case cover on driver's side is a neutral safety switch. It is a normally open, non-directional switch that will complete the circuit when the transmission is in neutral. The plastic connector can be removed and the neutral safety switch spliced in to your starter circuit between the ignition switch and the starter solenoid if you so choose.

19. Re-install and tighten exhaust.
20. Install E-brake cable. Adjust tension per factory specs.
21. Install new speedo cable per MAA-00102.
22. Connect throttle linkage to carburetor.
23. Install distributor cap if removed earlier.
24. Bolt on upper shift handle with 3/8"-24 x 1" bolts and washers provided (HWA-PACK L). Use medium strength thread locking compound. Torque to 25 lb.-ft. Confirm shifter motion through all gears.
25. Install front console (if equipped) and front seats.
26. Reconnect battery negative (-) cable.
27. Install shifter boot and retainer ring, and/or console if equipped.
28. Tighten fan shroud if it was loosened earlier.
29. Reconnect the negative (-) battery cable.

## QUALITY CHECK

It is important you confirm your work:

1. All bolts tightened to specifications
2. Full fill transmission fluid. Do not over tighten plug until head is flush with boss. This is tapered pipe plug.
3. Driveshaft fully assembled at both ends. Minimum 1/4" clearance around moving parts.
4. Shifter operates smoothly through all gears.
5. No vibration at idle speed, upper RPM or highway speed.



*Silver Sport Transmissions is dedicated to your satisfaction and enjoyment of this product. Please send us pictures of your car along with a testimonial of how you rate this product. We will be posting many customer feedback letters and pictures on our web-site and catalogs.*

## E. FINAL INSPECTION AND START UP PROCEDURE

1. Verify the transmission has been filled with fluid.
2. Start engine and allow it to idle for a few minutes.
3. Check for leaks while warming up.
4. Slowly rev engine in neutral and listen for any unusual sounds or vibration.
5. Shift through all forward gears with the clutch disengaged (clutch pedal depressed).
6. Do not shift into reverse above idle speed or when moving forward, reverse is not synchronized. Shifting into reverse may require shifting into a forward gear first to prevent grinding.
7. Test drive at low speeds and low RPM.
8. Gradually increase engine RPM and vehicle speed.
9. Compare this test drive to the pre-installation test drive.
10. Drive conservatively for the first 500-1000 miles for transmission break-in.
11. If you experience vibration at highway speeds, verify that there is no body contact with the new transmission. If there is no contact, recheck your driveline angles. If you need further help with diagnosing a vibration, call Silver Sport Transmissions' Customer Service and Technical Support at 888-609-0094.

## E. SPECIFICATIONS

DO NOT EXCEED MAXIMUM  
INPUT TORQUE:

T5: 300 lb-ft in 4<sup>th</sup> gear

GEAR RATIOS

1 <sup>st</sup>	2.95
2 <sup>nd</sup>	1.94
3 <sup>rd</sup>	1.34
4 <sup>th</sup>	1.00
5 <sup>th</sup>	0.63

### CONTACT INFORMATION

SILVER SPORT TRANSMISSIONS  
2250 STOCK CREEK BOULEVARD  
ROCKFORD, TENNESSEE 37853-3043

Phone: (865) 609-8187  
Toll Free: (888) 609-0094  
Fax: (865) 609-8287

[WWW.SHIFTSST.COM](http://WWW.SHIFTSST.COM)

*SILVER SPORT TRANSMISSIONS IS DEDICATED TO YOUR SATISFACTION AND ENJOYMENT OF THIS PRODUCT. PLEASE SEND US PICTURES OF YOUR CAR ALONG WITH A TESTIMONIAL OF HOW YOU RATE THIS PRODUCT. WE WILL BE POSTING MANY CUSTOMER FEEDBACK LETTERS AND PICTURES ON OUR WEBSITE AND BROCHURES.*

**ENJOY YOUR SILVER SPORT  
TRANSMISSION SYSTEM!**

FLUID CAPACITY: Approx. 2 quarts, 24 ounces (U.S.)

**TREMEC High Performance Manual Transmission Fluid** is endorsed by Tremec for use in all aftermarket high performance Tremec brand manual transmissions. **Dexron III Automatic Transmission Fluid (ATF) and Mobil 1 ATF are the only other fluids approved by Tremec.**

The proper fill level is achieved when the oil reaches the fill plug hole.