



SILVER SPORT
Transmissions

MOPAR A-BODY 1964-1976

**MAGNUM 6-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 FACTORY SERVICE MANUAL (FSM) FOR ADDITIONAL DETAILS OF THE PROCEDURES BELOW, AS REQUIRED.

FOR BOLT TORQUE SPECIFICATIONS, REFER TO YOUR FACTORY SERVICE MANUAL.

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.

In addition to this manual, you should have received instructions for checking your bellhousing runout. **The bellhousing runout must be checked (and corrected if necessary) for Tremec's warranty coverage.**

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. Manual Pedal Installation Instructions MAM-01501
4. Hydraulic Kit Instructions for MOPAR MAM-00201
5. MAA-00801 – T56 Magnum Installation General Guidelines

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

NOTE: 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 six possible positions while rotating the input shaft and checking for output shaft rotation. If the input shaft will not turn, slide the 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 help.

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

A. REMOVE EXISTING EQUIPMENT

1. Disconnect negative (-) battery cable.
2. Remove breather assembly and fan shroud.
3. Remove distributor cap if the engine is a small block.
4. Place shifter in neutral. Remove shift boot and lever.
5. Remove console, if equipped.
6. Raise car securely on lift or jack stands. 6 ton stands are usually taller and will give you more room under the car. Eighteen inches or more of working room is recommended.

7. Measure and record the existing stock driveline angles with the weight of the vehicle supported by the rear axle. This information may be helpful later. Much has been written about driveline angles and how to determine them, and there is a lot of great information available online from multiple websites. If you need additional help determining your driveline angle, call Silver Sport Transmissions' Customer Service at 888-609-0094.
8. Remove exhaust, as required, for working clearance.
9. Unbolt starter and set aside.
10. Remove clutch linkage at torque arm to clutch fork.
11. Remove bellhousing dust cover.
12. Disconnect driveshaft from differential and remove from car.
13. Remove shifter assembly.
14. Remove speedometer cable.
15. Disconnect reverse lamp wiring.
16. Secure rear of engine with hydraulic jack.
17. Unbolt transmission isolator from the crossmember and remove crossmember.
18. Secure transmission (jack recommended) and unbolt from bellhousing, then move rearward and remove from vehicle.
19. Remove bellhousing and clutch unit.
20. Remove clutch fork and release bearing from bellhousing. Inspect fork and pivot for wear. Contact Silver Sport Transmissions or your local parts supplier if replacements are needed.
21. Inspect flywheel ring gear teeth (no cracks, chips, wear), and friction surface (no cracks). Silver Sport Transmissions strongly suggests removing flywheel and having it resurfaced, then dynamically balanced at a reputable automotive machine shop **unless** the engine was externally balanced with the flywheel installed.
22. Remove pilot bushing using removal tool (not supplied).

B. TUNNEL MODIFICATION

Because the T56 Magnum transmission is much larger than factory original manual or automatic transmission, major tunnel modification will be required to install the T56 Magnum transmission to the proper driveline angle to obtain acceptable driveshaft operating angles. It is important to use the Silver Sport Transmission supplied tunnel cutting template and the body metal supplied in the kit. Using the following directions, the T56 Magnum can be installed and still retain use of the original factory manual console if desired.

1. Remove the front seats and carpet.

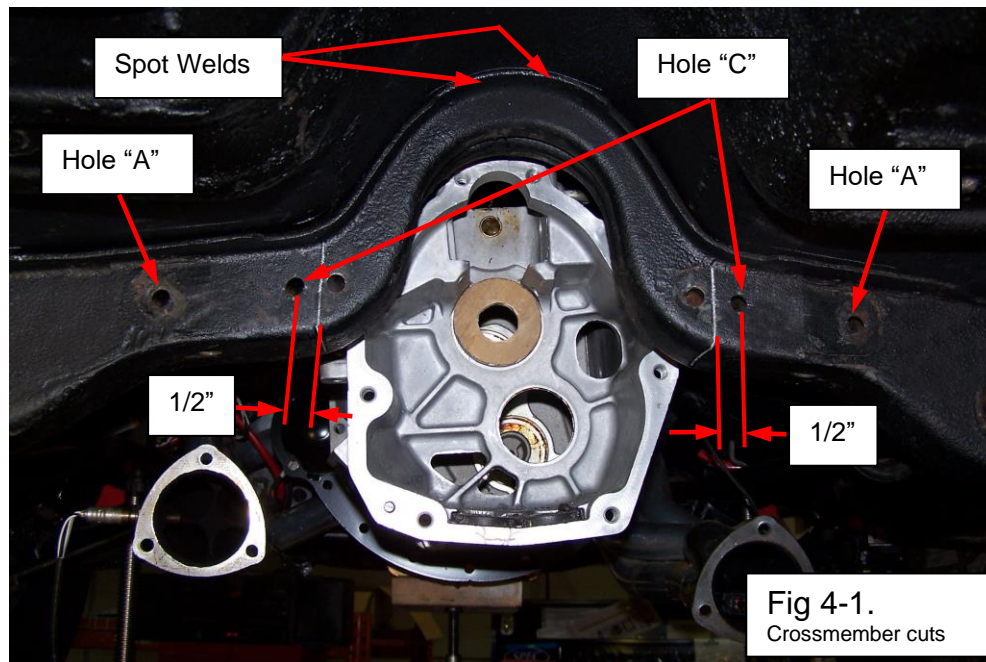
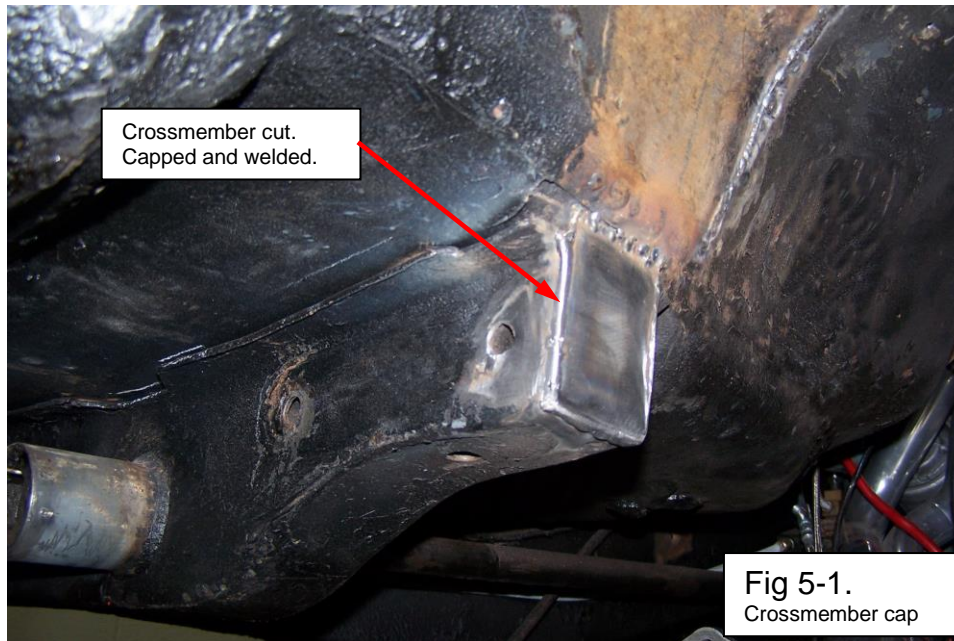


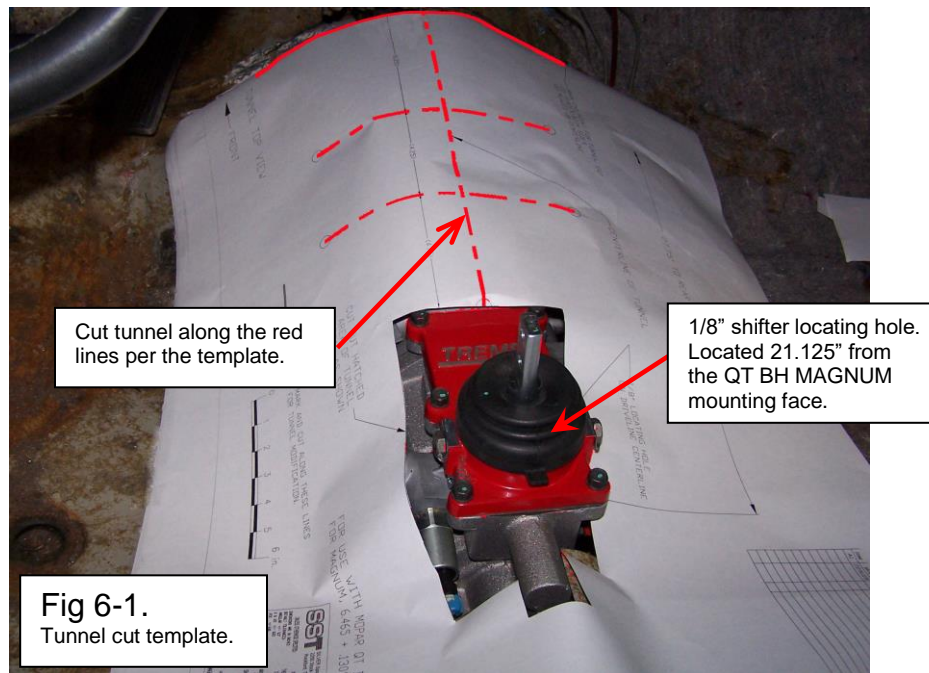
Fig 4-1.
Crossmember cuts

2. Using the new Magnum transmission crossmember XMM-11000 as a guide, temporarily install crossmember (with isolator perching facing rearward) to rear face of torsion bar crossmember using the (2) outer mounting hole "A" bolts and mark location for the (2) new inner crossmember mounting bolt holes "C". Move crossmember to front side of torsion bar crossmember and mark hole "C" locations.
3. Remove transmission crossmember and drill (2) 17/32 to 9/16" diameter holes "C" thru torsion bar crossmember on both front and back faces. See Fig 5-1.
4. The factory torsion bar crossmember center section must be cut out and removed to provide clearance for the rear area of Magnum transmission tail housing. Mark a vertical line on torsion bar crossmember located 1/2" from center of each new drilled hole "C" locations toward center of tunnel. See Fig. 4-1.
5. Cut thru torsion bar crossmember along the marked lines on both sides and deburr cut edges. Drill the (4) spot weld areas in the top center attaching the torsion bar brace to floor to remove the cut center section: (2) spot welds on front lip and (2) spot welds on rear lip. Remove cut center section.
6. To plug the open ends of the cut torsion bar crossmember, install supplied end cap XMM-11005 into each cut side and secure in place by welding or using body sealer. See Fig 5-2. Verify 1/2" bolt fits thru end cap bushing before securing. End caps also provide reinforcement bushing for hole "C" bolts to prevent collapsing of cut floor brace when bolt is tightened when crossmember is attached. Paint exposed sheet metal surfaces for corrosion protection.



C. SHEET METAL MODIFICATIONS

1. Temporarily attach Quick Time bell housing with engine backing plate, without clutch components, to the engine.
From rear face of bell housing (transmission mounting face), measure 21.125" on driveline centerline and mark tower center location on underside of tunnel. Drill 1/8" dia shifter locating hole thru tunnel.
2. Cut out the paper template TMM-00750, tunnel cutting template, following the instructions found on the template. Place the paper template on the tunnel to align with the 1/8" dia shifter locating hole.
3. Mark the sections to be cut by tracing on the floor for the lines designated on the paper template as shown in red on Fig 6-1.
4. Remove the paper template and cut tunnel down the center spine and (3) side cuts as shown. Cut out the rectangular hatched area of template for the shifter opening. Deburr edges of hole. See Fig 7-1.



5. Bell housing should still be temporarily installed on engine. No clutch or flywheel is necessary for this step.
6. Lower engine and install transmission to bellhousing using M10 flange head bolts from hardware pack HWG-PACK AT56. Support the transmission with a jack.
NOTE: In order to lower engine driveline angle enough to install Magnum transmission, it may be necessary to loosen or remove the (4) K-frame mounting bolts.
7. Attach isolator mount to MAGNUM mounting pad with (2) M10 x 30mm bolts and washers from hardware pack HWG-Pack B.
8. Raise the transmission enough to be able to install the new crossmember under the isolator mount.
9. Temporarily install the new crossmember to the rear face of torsion bar crossmember using 1/2" x 4-1/2" long bolts from hardware pack HWM-PACKB2XM. Do not install nuts onto the bolts.
10. Lower transmission with the isolator mount attached onto the new crossmember.
11. The cut sections of the tunnel will be pulled up and out and bent to provide required clearance for the Magnum transmission resulting in approx. 2" gap down the middle tunnel split cut.
12. Check for interference with floor tunnel, especially on the passenger's side towards the front of the transmission. You will need a minimum of 1/4" of clearance between the transmission and the tunnel. An easy way to check areas that you cannot see is to use a length of rubber hose that is 1/4" outside diameter. Loop it over the transmission at the bellhousing and see if you can slide it all the way to the tail housing. If the transmission has less than 1/4" clearance at any point in the tunnel, you may be able to "massage" the tunnel with a hammer and dolly to prevent additional cutting of the tunnel.



Fig 7-1.

13. With proper clearance now set on cut tunnel areas, install body metal supplied in kit to cover the tunnel openings. Install the (4) body metal pieces supplied with kit to tunnel with screws or rivets as shown in Fig. 7-2. Trim excess body metal to fit as needed. Paint exposed sheet metal surfaces for corrosion protection.

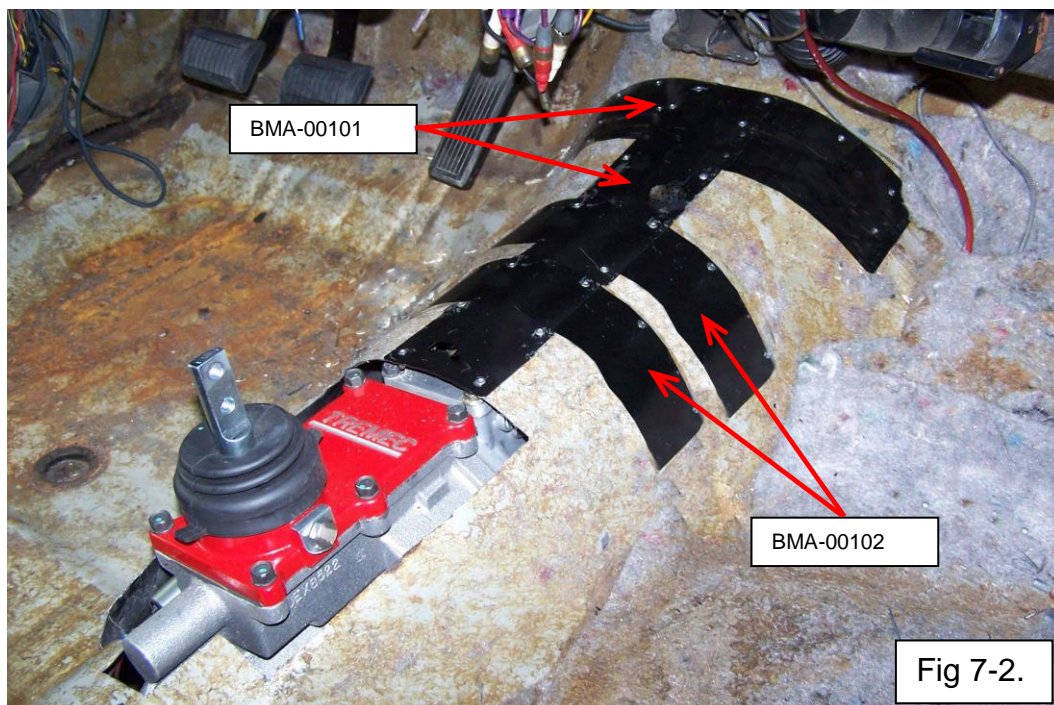


Fig 7-2.

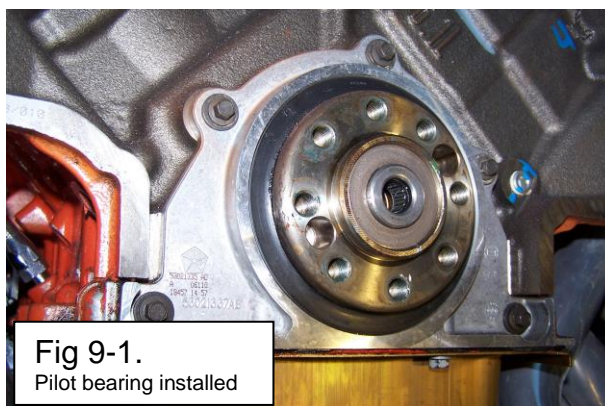
14. To install the tunnel hump body metal, begin shaping the flat sheet metal BMM-00752 by bending the sides of the body metal down to fit over the tunnel and roll the rear sections to overlap and secure with rivets or screws. Corners can be welded or seam sealed. See Fig. 8-1 for picture of formed tunnel hump.
15. Attach the formed tunnel hump to tunnel with screws or rivets.
16. This would also be a good time to take the driveline measurement per the driveline instruction sheet so that the new SST driveshaft can be ordered. See MAA-00100 form in the customer info pack



17. Once proper tunnel to Magnum transmission clearance has been verified after all the body metal pieces have been installed, remove crossmember and transmission to gain underside access to complete final tunnel sheet metal preparation.
18. Apply body sealer LORD Fuser 803DTM Metal Sealer or equivalent around perimeter joint on all body metal 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. Verify dowel pin full diameter exposed length is greater than 3/8" to assure that Quick Time bell housing will be accurately positioned with the Quick Time engine block plate installed. Reposition or replace with longer dowel pins BHM-15945 if necessary.
- 2) For Quick Time bell housing, be sure to install engine block plate prior to installing flywheel. Install new flywheel and flywheel bolts torqued to factory spec. Be sure to tighten bolts in alternating cross pattern sequence. Torque the fasteners to the specification found in your factory service manual or Quick Time instructions.
- 3) Install new pilot bearing assembly into crankshaft using a socket of similar diameter to the bearing and a rubber mallet. **The side with the needle roller bearing grease seal faces the transmission.** Gently tap bearing fully into crankshaft until bearing face is flush to 1/32" recessed with crankshaft face. Pilot bearing is designed to be light press fit (.0005" - .002" press).



- 4) Use the provided 26T alignment tool with large pilot dia end to center the clutch disk when applying torque to the pressure plate bolts. Install the bolts with medium thread locking compound per clutch 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.

- 5) 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 or Quick Time instructions.

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.

- 6) It will be easier to add transmission fluid at this point before completing the final installation of T56 Magnum transmission. See MAA-00801. The fill plug is on the left side of the transmission midway up the case. Use pipe sealant - but do not over tighten the tapered pipe plug until head is flush with boss. Be sure to use shipping plug installed into rear seal to prevent fluid loss during installation.
NOTE: DO NOT REMOVE SHIFTER TOWER FROM SHIFTER BASE PLATE to add fluid. Shift stub seal in shifter base plate could be damaged or not properly fitted on stub lever if tower is reinstalled on shifter base plate.
- 7) At this point, install a SST Hydraulic system (available separately) following instructions provided, MAM-00201.
- 8) When installing T56 Magnum transmission, use 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).

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 for a consultation.

NOTE: MECHANICAL LINKAGE ONLY 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 bolts provided (HWG-PACK A T56).
- 10) Raise up engine/transmission until transmission contacts the top of the tunnel.
- 11) Install crossmember to rear face of torsion bar crossmember with (4) 1/2-13 x 4-1/2" long bolts, flat washers, lock washers, and nuts from hardware pack HWM-PACKB2XM and lower the transmission fully onto crossmember. Attach crossmember to isolator mount with (2) M10 x 30 mm long bolts, flat washers, and lock washers. NOTE: (2) M10 nuts from the hardware pack will not be used and can be discarded. Confirm no interference to car body.

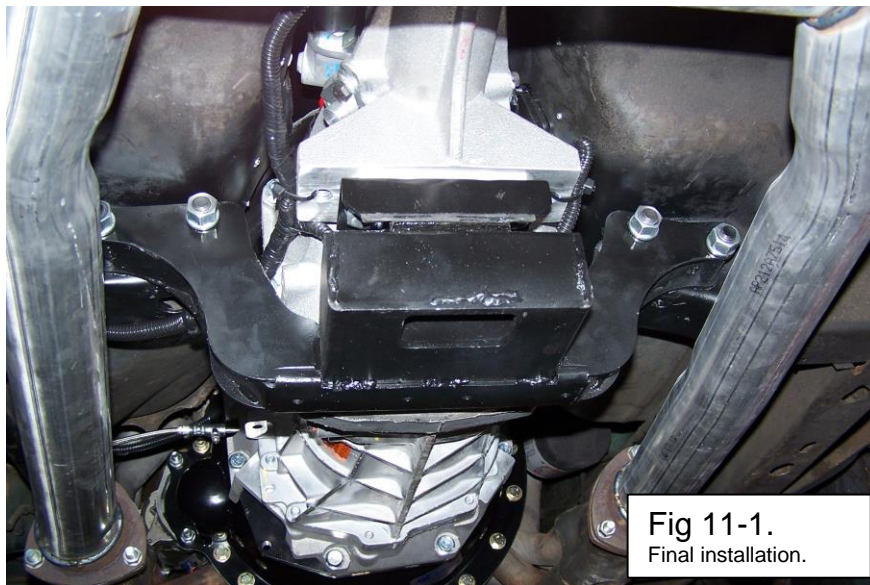
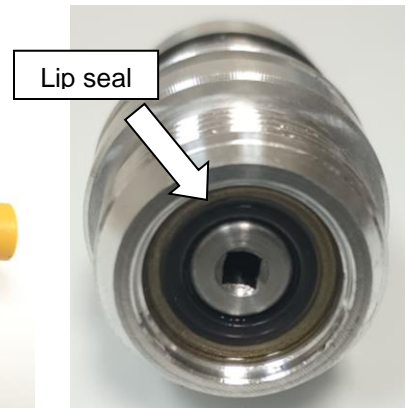
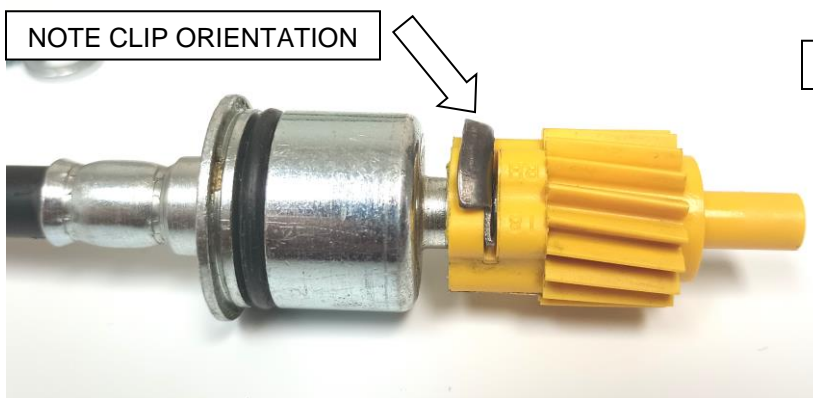
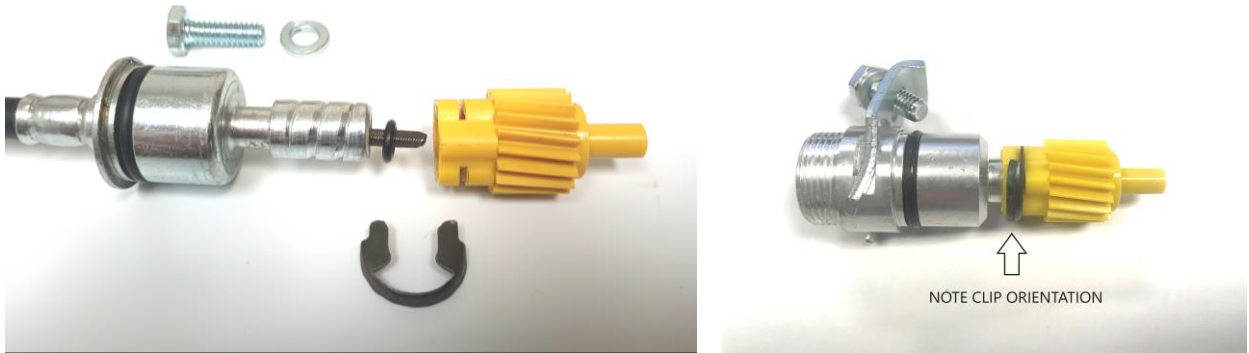


Fig 11-1.
Final installation.

- 12) Remove shipping plug and insert slip yoke fully until touching transmission seal rubber dust boot. Set driveshaft into position at differential and seat u-joints into differential pinion yoke. Make certain all parts are clean and properly assembled.
- 13) Install 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) This would also be a good time to double check driveline operating angles to confirm front and rear angles are within recommended values. Adjust as necessary.
- 15) Install E-brake cables. Adjust tension per factory specs.
- 16) Reinstall starter.
- 17) Splice backup light harness into original harness. The backup light switch is on the right side of the main case.
- 18) The reverse lockout solenoid needs to be wired into a reverse lockout control module. Follow the wiring instructions provided with your reverse lockout module. The connector pigtails and reverse lockout modules are available from Silver Sport Transmissions.
- 19) Tighten K-frame bolts if previously loosened. Load the torsion bars by winding the adjusters at the lower control arm. Lower front wheels to support front end of car.
- 20) Re-install and tighten exhaust.
- 21) Install new speedo cable per MAA-00102.
- 22) Wrap tape around speedometer cable ends to prevent damage and keep them clean while routing new speedometer cable to transmission. Remove the plug from the speedometer cable port and install new speedometer cable or speedometer cable adapter with gear, clip and O-ring (HWA-PACK S) into transmission case. Install cable retainer bolt and tighten bolt to 4 lb.-ft. Connect cable to speedometer. **NOTE: If using a SPFP-SN18 speedometer cable adapter with a lip seal omit the o-ring.**

NOTE ORIENTATION OF RETAINING CLIP

*****Speedometer gear will have resistance when turning after assembled*****



23) Install the lower boot SBM-RHA and the trim ring SBM-TRA with (4) sht metal screws HWAP-72293. See Fig.12-1.



Fig 12-1.
Lower body boot.

- 24) Install front carpet and seat(s).
- 25) Bolt on shifter 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.
- 26) Connect throttle linkage to carburetor.
- 27) Install distributor cap and breather.
- 28) Tighten fan shroud if it was loosened earlier.
- 29) Reconnect the negative (-) battery cable.

E. 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.

G. FINAL INSPECTION AND START UP PROCEDURE

- Start engine and let idle for 2 minutes.
- Slowly rev engine in neutral and listen for odd noises. Feel for vibration in driveline.
- With clutch disengaged, shift through all gears. Do not shift into reverse at RPM higher than idle.
- Test drive at low speeds and low RPMs. Gradually test higher RPMs, then higher speeds.
- If you experience a vibration at cruising speeds, it may be necessary to adjust the rear end angle to achieve the correct driveshaft angle. Please refer to factory manuals for measurement and adjustment methods.
- If you experience a vibration at zero speed, as you rev up engine with clutch released, a faulty flywheel/clutch plate balance may exist. If vibration occurs when depressing the clutch pedal only a release bearing may be faulty.
- Reverse is synchronized and uses a reverse lockout solenoid wired into the reverse lockout module to ensure the vehicle is stopped prior to engaging reverse.
- Drive easy for 500 mile break-in period.
- Change oil at 30,000 miles.
- Spare parts are available from SST or an authorized TREMEC distributor.

CONTACT INFORMATION

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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!

H. SPECIFICATIONS

- Do not exceed input torque 700 lb-ft in 4th gear.

- Gear ratios:

	CLOSE		WIDE
1 st	2.66	1 st	2.97
2 nd	1.78	2 nd	2.10
3 rd	1.30	3 rd	1.46
4 th	1.00	4 th	1.00
5 th	0.80	5 th	0.74
6 th	0.63	6 th	0.50

FLUID CAPACITY: (approximately 3 quarts, 21 ounces)

TREMEC HighPerformance ManualTransmissionFluid 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.