



# SILVER SPORT *Transmissions*

## **1955-1957 CHEVROLET CAR STREET ROD AND TRUCK (MANUAL TRANS)**

### **T56 MAGNUM - 6 SPEED 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.

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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. Hydraulic throw out bearing kit – MAG-00402 Hydraulic Kit Instructions for GM
3. All Kits - MAA-00100 – Driveshaft Measuring Procedure
4. MAA-00201 – Automatic to Manual Conversion, General Guidelines

## A. REMOVE EXISTING EQUIPMENT

1. Disconnect negative (-) battery cable.
2. Place shifter in neutral.
3. Raise car securely on lift or jack stands (Sears 6 Ton recommended).
4. Make a reference angle measurement on the frame of the vehicle, marking the spot the measurement was taken. Measure the transmission angle for use in determining the correct elevation and driveline angle of the new transmission.
5. Remove clutch linkage at torque arm to clutch fork.
6. Remove bellhousing dust cover and starter.
7. Remove driveshaft at rear differential and remove from transmission.
8. Remove shifter assembly components.
9. Remove breather assembly distributor cap from engine. Big block vehicles may need the fan shroud loosened as fan blades may contact it as the engine is lowered in the back during transmission removal. Remove throttle linkage.
10. Remove speedometer cable.
11. Disconnect reverse lamp wiring.
12. Secure rear of engine with hydraulic jack.
13. Remove exhaust system for working clearance.
14. Remove crossmember or bellhousing mount.
15. Secure transmission (jack recommended) and unbolt from bellhousing, then move rearward in vehicle.
16. Remove bellhousing, clutch pressure plate and clutch disc.
17. Remove clutch fork and release bearing from bellhousing. Inspect release bearing, fork, and pivot ball stud for wear. Contact SST for replacement or repair.
18. 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.
19. Remove pilot bushing using removal tool (not supplied).
20. Clean mounting surface of engine and dowel pins.

## INSTALL NEW EQUIPMENT

**NOTE: To obtain proper driveline angle (the angle measured in step 4 during disassembly), the transmission tunnel will need to be modified to permit the T56 MAGNUM transmission to be raised into the tunnel. The T56 MAGNUM transmission, is much larger and longer than the original standard transmission.**

1. In order to determine the amount of tunnel material to be removed, temporarily install the bellhousing (clutch unit not required for this), the transmission adapter (remove from transmission first) using the flathead bolts provided and transmission with isolator to the engine and begin to raise the transmission into place. Most likely, the transmission will contact the tunnel before the transmission is high enough to attain the proper driveline angle. Using a paint marker, mark the tunnel around the area of the transmission needing removal and remove the material. Several attempts may be required to fully determine the area to be removed and permit the transmission to sit at the proper angle. (See fig A)  
**NOTE: DO NOT REMOVE SHIFTER TOWER FROM SHIFTER BASE PLATE to gain clearance for installation. Shift stub seal in shifter base plate could be damaged or not properly fitted on lower stub lever if tower is reinstalled on shifter base plate.**
2. Once the opening is made, a cardboard (or other stiff material) template can be made to cover and overlap the area. The template will be used to cut a repair patch from 20 gauge sheet metal to cover the opening. Additional slits in the sheet metal at the appropriate locations will assist in folding and shaping the sheet metal. Remove the transmission, adapter and bellhousing.
3. Install the sheet metal, seam seal and paint. (See fig B and C)
4. 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 ATF 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.**

5. Install new pilot bearing assembly using a socket of similar diameter to the bearing and a rubber mallet. Gently tap bearing fully into crankshaft until bearing face is flush with crankshaft face.

**NOTE: 1. The side with the needle roller bearing rubber seal faces the transmission. 2. If pilot bearing OD is larger than crankshaft ID by more than 0.002", a different pilot bearing is required. Contact Silver Sport Transmissions or your local parts store for a suitable replacement.**

6. Check bellhousing face parallelism using height gauge (not supplied; your local machine shop can inspect this). Faces should be within 0.002" parallel. If out of specification, bellhousing should be surfaced (milling) – SST or your local machine shop can perform this service. If a bellhousing problem exists (i.e. cracks, excessive runout, worn/damaged bore, etc.) several styles of new bellhousings are available from SST.
7. Install the bellhousing and inspect for proper alignment to crankshaft using dial indicator or test indicator (SST can provide these tools at extra cost). See MAA-00101 provided with your literature package. Make sure to send your

runout data to Silver Sport Transmissions in order for your warranty to be valid. Mark offset dowel pins position, if used, using paint marker and carefully remove bellhousing.

8. Use the provided alignment tool to center the clutch disk when applying torque to center the clutch disk when applying torque to the pressure plate bolts. Install the bolts with medium strength thread locking compound per clutch installation instruction sheet 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.

9. Reassemble clutch fork and release bearing to bellhousing pivot. Lubricate pivot.
10. 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.
11. Reinstall the adapter plate, previously removed from the front of the T56 transmission, on the bellhousing using the flathead screws provided.
12. Install transmission on engine.
13. Use caution while engaging input shaft in clutch disc and pilot bearing. Do not allow weight of transmission to rest on assembly until fully engaged (doing so can misalign disk or damage pilot bearing). Turn output slip yoke, as required to facilitate engagement into clutch disk. If engagement is approximately 1/2" short, install and lightly tighten (35 ft-lb) bellhousing to transmission bolts, connect clutch linkage and depress the clutch pedal lightly while pushing transmission forward to facilitate alignment of clutch disc to input shaft and pilot bearing. **DO NOT** force the transmission into engagement – damage to bearing may result.
14. Complete transmission installation and install on a tailhousing mounted crossmember. Due to transmission weight, a crossmember mount is required.
15. Confirm no interference to car body (or noise will occur).
16. Remove tailshaft plug, if present, and install driveshaft.
17. Reinstall bellhousing inspection cover.
18. Connect clutch linkage - do not preload release bearing. Adjust linkage as required. If using a SST hydraulic system (available separately) follow instructions provided.

19. Some 6 speed transmissions use a mechanical speedometer output and others use an electrical output. The electronic speedometer output requires a signal transducer, available separately (P/N ELA-0015) and separately available connector pigtail for the transmission to convert the pulse signals to mechanical output. Install signal transducer per manufacturer's instructions. The mechanical speedometer output requires a gear insert also available from SST.
20. Splice backup light harness into original harness. The backup light switch is on the right side of the main case. The reverse lockout solenoid needs to be wired into the brake light circuit ( power from the brake light circuit ahead of turn signal flasher then to ground, polarity unimportant) so the reverse lockout solenoid is energized when the brakes are applied. The reverse lockout solenoid is at the rear of the transmission near the top of the transmission tailshaft case. These connector pigtails are available from Silver Sport Transmissions.
21. Bolt on shifter handle with bolts and washers provided. Use medium strength threadlock compound. Torque to 25ft-lb. Confirm shifter motion through all gears.
22. Install rubber boot/retainer ring. ( See figure D )
23. Check clutch adjustment. Should be about 1" of free travel in the clutch pedal. (Threaded adjuster rod between clutch fork and linkage)
24. Reinstall exhaust system.
25. Reconnect battery negative (-) cable.

## B. QUALITY CHECK

It is important you confirm your work:

1. All bolts tightened to specifications
2. Full fill transmission fluid by adding at the fill plug on the right hand side of the main case.
3. Driveshaft fully assembled at both ends. Minimum 1/2inch clearance around moving parts.
4. Shifter operates smoothly through all gears.
5. No vibration at idle speed, upper RPM or highway speed. It is a good idea to drive the car before beginning installation in order to determine a baseline reference of vibration and noise.

## C. START-UP

- 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 uses a reverse lockout solenoid wired into the brake light wiring to ensure the vehicle is stopped prior to engaging reverse. Refer to step 20.
- Drive easy for 500-1000mi for break-in.
- Change oil at 30,000 miles.

#### D. SPECIFICATIONS

- Do not exceed maximum rating in 4<sup>th</sup> gear:

	650HP		450HP
• Gear ratios:			
1 <sup>st</sup>	2.66	1 <sup>st</sup>	2.97
2 <sup>nd</sup>	1.78	2 <sup>nd</sup>	2.07
3 <sup>rd</sup>	1.30	3 <sup>rd</sup>	1.43
4 <sup>th</sup>	1.00	4 <sup>th</sup>	1.00
5 <sup>th</sup>	0.74	5 <sup>TH</sup>	0.80
6 <sup>th</sup>	0.50	6 <sup>TH</sup>	0.62

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FIG A BELOW



FIG B BELOW



FIG C BELOW



FIG D BELOW



