Installation Instructions

6L80 Locking Dipstick

SPECIFICALLY DESIGNED FOR 2010-2014 CAMARO SS (V8)
(vehicles with 6-speed 6L80 automatic transmission)
36" tube length may fit other vehicle applications

Part Number 22168

This **B&M 6L80 Locking Dipstick** has been designed to work on most GM vehicles equipped with a 6L80 transmission and has been specifically designed to work on most 2010-2014 Chevrolet Camaro SS (V8) vehicles equipped with an automatic transmission. Please verify your vehicle transmission and check that proper tube length, routing, and mounting position can be achieved before attempting install.

CAUTION!: It is highly suggested that this dipstick kit be installed prior to any other installation of B&M 6L80 transmission products including: The **B&M 6L80 Cast Aluminum High Capacity Deep Transmission Pan (70391)**, the **B&M Hi-Tek Automatic Transmission Cooler (70297)**, or the **B&M SuperCooler Automatic Transmission Cooler (70274)**. Installing this kit prior to any transmission modification will help insure that the original fluid level was measured and can be maintained.

INTRODUCTION

Automatic transmission fluid expands and contracts as its temperature changes. Fluid level within the transmission pan differs greatly with fluid temperature and vehicle operating conditions. Therefore, always consult the vehicle's service manual on the proper procedures to correctly and consistently check the automatic transmission fluid level and condition. A guide at the end of these instructions help define the proper procedure.

WARNING: There is a risk of accident from the vehicle starting off by itself when the engine is running. There is a risk of injury from contusions and burns if you insert your hands into the engine when it is started or when it is running. Secure vehicle to prevent it from moving off by itself. Wear properly fastened and close-fitting work clothes. Do not touch hot or rotating parts.

NOTE: Before installing the B&M 6L80 Locking Dipstick in, be sure to use a clean, dry, lint free rag to fully clean off any rust preventative oil residue on the internal dip stick and wire. When checking the fluid from a factory filled transmission, it is common to have a higher fluid reading as the factory tends for overfilled it just slightly.

INSTALLATION

STEP 1. With the vehicle turned OFF and allowed to sufficiently cool (we suggest an hour or two), raise and support the vehicle. The vehicle should be raised so there is at least 2 feet of ground clearance for ease of installation and safety.
CAUTION: MAKE SURE THE VEHICLE IS RIGIDLY AND SECURELY SUPPORTED. JACK STANDS, WHEEL RAMPS OR A HOIST WORK BEST. DO NOT USE JACKS ALONE.

STEP 2. From underneath the vehicle locate the transmission fluid fill plug on the passenger side of the transmission body casting a few inches above the pan rail (see Figure 1).

STEP 3. Fully clean the area around and directly on top of the fill plug to avoid allowing dirt and debris to enter the transmission.

STEP 4. Unlock the fill tube plug by lifting the plunger (see Figure 1). Once the plunger is lifted, remove the entire plug assembly. It may be necessary to use a long pair of needle nose pliers and or flat-blade screw driver to lift the plunger and remove the plug assembly.

STEP 5. While underneath the vehicle, observe possible dipstick tube routes that are straight and direct, and note.

STEP 6. Inspect the **B&M Locking Dipstick**. Remove the dipstick from the tube and note how different bend angles and curves cause the dipstick to bind within the tube as it is inserted

and removed. Also note how the dipstick indicator end tends to catch on the edge of the dipstick tube end. These observations will help you to determine the minimum bend radius the tube can sustain. This will also stress the importance of routing the dipstick tube as straight and direct to the transmission fill port as possible.

STEP 7. From the engine compartment of the vehicle, route the dipstick tube assembly down next to the engine (passenger side) and next to the firewall (see Figure 2).
CAUTION!: Make sure that the dipstick tube stays well away from headers that can become extremely hot and damage the tube assembly. Also avoid having the tube contact other components such as plug wires, brake lines, etc. The steel braided tube construction can act almost like a saw and cut through vital vehicle components and systems. Plastic ties have been included in this kit to restrain the steel braided tube from dangerous contact.

STEP 8. From underneath the vehicle plug the end of the **B&M Locking Dipstick** tube (end with o-rings) into the transmission port. Ensure that the stainless steel tube end and three o-rings press all the way into the transmission. The hex shoulder of the tube end should seat up against the port.

STEP 9. From inside the engine compartment of the vehicle, again unscrew the dipstick and check that the indicator and wire can be pulled from the tube as well as inserted back into the tube completely. If the indicator cannot be removed or re-inserted, straighten the tube routing as much as possible. NOTE: As previously mentioned, the indicator may hang-up on the tube end. Twisting the cap and wire while removing and inserting the indicator will aid in removal and insertion. Also feeding the wire (see Figure 3) into and out of the tube will also ease removal and insertion if the tube happens to have excessive bends.

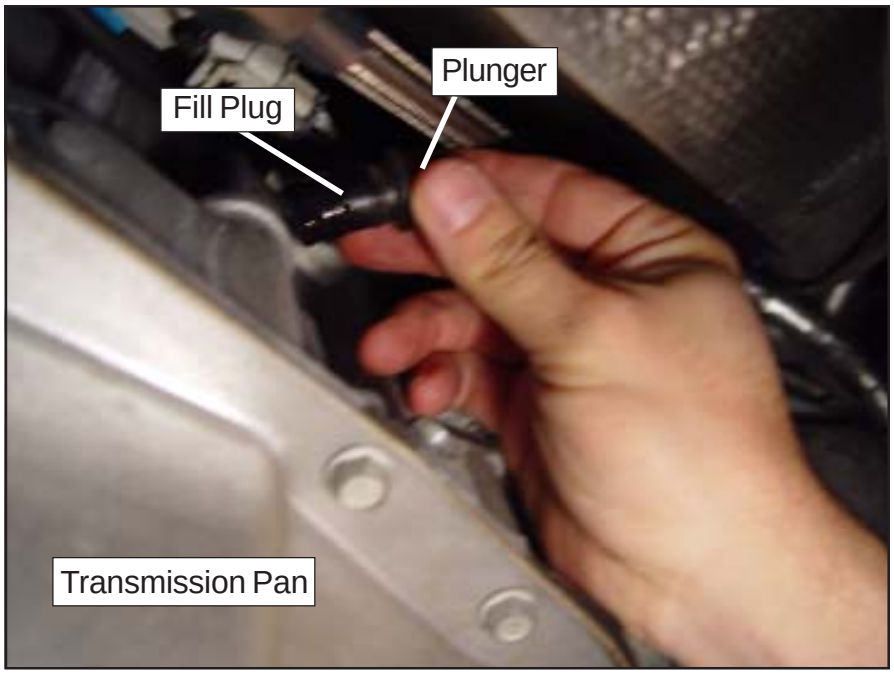

Figure 1

Figure 2

STEP 10. Locate a suitable mounting position for the upper tube end bracket. The most common tube bracket mounting location is up against the firewall in most vehicles (see Figure 4). Ensure that the mounting location leaves plenty of space to remove and insert the indicator, as well as leave room to fit a funnel for filling the transmission. Using the supplied hardware mount the upper bracket. Again, check that the indicator can be freely removed and re-inserted. Straighten tube routing as much as possible, if it cannot.

STEP 11. It is suggested to check and document your factory fill level (if possible) prior to making any modifications to the transmission that could possibly change fluid level. Follow the "TRANSMISSION FLUID LEVEL

CHECK PROCEDURE" as shown below every time you check the transmission fluid. Once the fluid level is checked it is suggested to mark or scribe (see Figure 5) the indicator end fluid level reading to help ensure the factory fluid fill level is maintained. The indicator has been made to indicate a normal fluid level at just above the text on the indicator end. However, due to production variations, vehicle fill variations, and tube routing and mounting differences – each vehicle will differ slightly in proper level indication and should be calibrated and marked or scribed individually as previously mentioned. NOTE: if you are unsure that the proper transmission fluid level has been maintained, proceed to the "TRANSMISSION FLUID LEVEL SET PROCEDURE" only after the TRANSMISSION FLUID LEVEL CHECK PROCEDURE" has been completed.

Figure 3

Figure 4

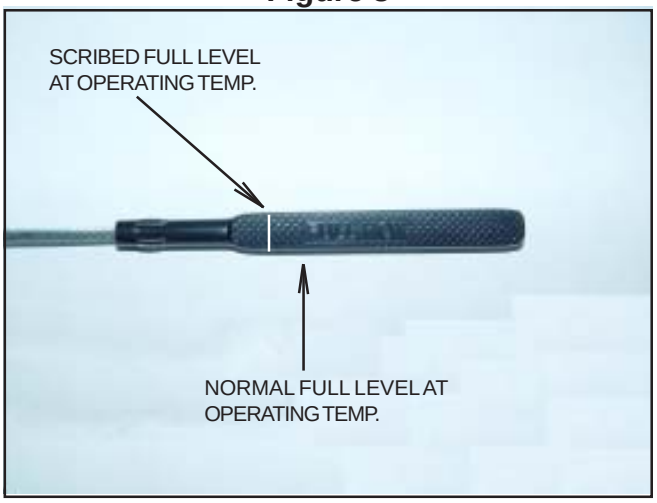

Figure 5

TRANSMISSION FLUID LEVEL CHECK PROCEDURE

The following is the proper conditions for checking the fluid level and condition of the 6L45 / 6L50 / 6L80 / 6L90 automatic transmissions with specific information for the 2010-2014 Camaro. CAUTION: The transmission fluid level must be checked when the transmission fluid temperature (TFT) is between 30-50°C (86-122°F) operating temperature. If the TFT is not within this range, operate the vehicle or allow the fluid to cool as required. Check or setting the fluid level with a TFT outside this range will result in either an under or over-filled transmission. TFT>50°C (122°F) = under-filled transmission or higher than actual fill level reading. TFT<30°C (86°F) = over-filled transmission or lower than actual fill level reading. An under-filled transmission will cause premature component wear or damage. An over-filled transmission will cause fluid to discharge out the vent tube, fluid foaming, and/or pump cavitation.

A. Observe the TFT using the driver information center (DIC), scan tool, or other temperature probe device.

B. Start and idle the engine.

C. Depress the brake pedal and move the shift lever through each gear range. Pause for at least 3 seconds in each range. Move the shift lever back to PARK. Ensure the engine RPM is low (500-800 RPM).

D. Allow the engine to idle at least 1 minute.

E. With the engine still running and the vehicle level. The transmission fluid level can now be checked and/or set.

TRANSMISSION FLUID LEVEL SET PROCEDURE

NOTE: this procedure is only required if the transmission fluid level is questionable.

F. Ensure that steps A-E have been followed above. DO NOT PROCEED IF THE TFT IS OUT OF RANGE.

G. With engine still running locate the check plug in the bottom of the transmission pan.

H. Have a catch pan ready under the check plug and remove the check plug. Allow the transmission fluid to drain until the transmission fluid is barely trickling out. If no fluid comes out during this step, replace the check plug (tighten to 25 N-m (18 lb ft)) and add one quart of Dextron VI transmission fluid only, through the top of the B&M Locking Dipstick tube and then re-perform steps A-H above (Transmission Fluid Level Check & Set Procedures).

I. Install the check plug and tighten to 25 N-m (18 lb ft).

J. Check transmission fluid level as described above.

CAUTION!: USE DEXTRON VI TRANSMISSION FLUID ONLY. FAILURE TO USE PROPER FLUID MAY RESULT IN INTERNAL TRANSMISSION DAMAGE.

Tools List

FOR INSTALL:

Jack & Jack Stands
Drill & Drill Bit (6mm or slightly larger)
Needle Nose Pliers
Flat Blade Screwdriver
4mm Hex Wrench
8mm Open-Ended Wrench
Wire Cutter
Drain Pan
Clean Rags

FOR FLUID SET:

Drain Pan
14mm Deep Socket
Ratchet Extension
Ratchet
Torque Wrench(s)
Clean Rags
Dexron VI Transmission Fluid
Funnel