Instruction Data Sheet

U140E/F, U240E, U241E

PART NUMBERS **57917E-13K, F-57917E-TL13**

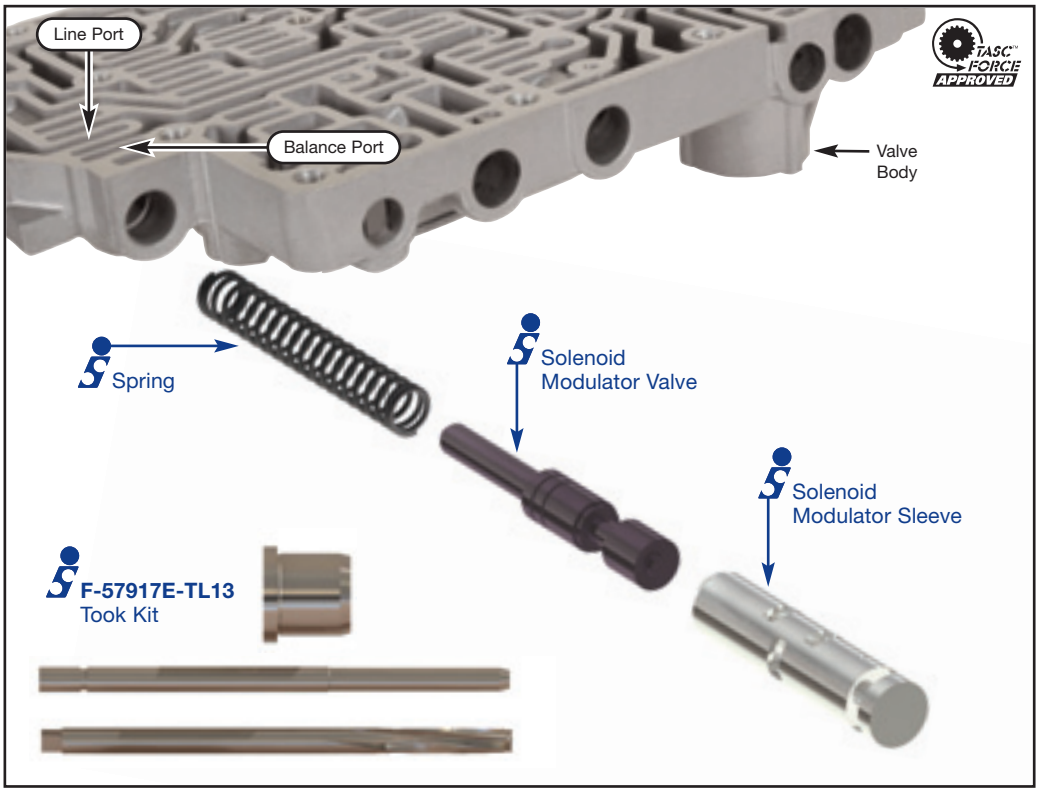
Solenoid Modulator Valve Kit

57917E-13K

1 Solenoid Modulator Valve
1 Solenoid Modulator Sleeve
1 Spring

F-57917E-TL13

1 Reamer
1 Reamer Jig
1 Guide Pin



Wear Identification

Visible wear is often seen as a shiny patch on the inside diameter of the valve bore.

• **Wet Air Test:** Place a small amount of ATF into the balance line circuit. Follow with low air pressure while holding the valve outboard. There should be little or no leakage of air or oil past the valve spool and out the neighboring line port.

• **Vacuum test:** Vacuum testing of the balance line port should maintain a minimum of 19".

Disassembly Steps

1. Remove and discard the OEM end-plug, valve and spring.
2. Keep the OEM retainer for use with the replacement kit.

Reaming Instructions

Prep and Set-up:

1. Remove all components from the bore.
2. Clean the bore thoroughly in a solvent tank.
3. Place the valve body on the reaming fixture (**VB-FIX**). Align and secure the valve body to the fixture according to the **VB-FIX** instructions, using the guide pin and reamer jig from the **F-57917E-TL13** tool kit. Once position has been established, do not loosen wing nuts or clamp until the entire reaming process is complete.

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4. Remove the guide pin.
5. Soak the bore and reamer with cutting fluid (Mobilmet S-122, Lubegard Bio-Tap, Tap Magic™, etc). For best results, provide a continuous flow of water-soluble cutting fluid (i.e. Mobilmet S-122) during the reaming process.
6. Gently insert the reamer through the jig and into the bore until the cutting tip contacts the first bore to be reamed.
7. Select the correct sized socket to fit the square shank of the reamer, and attach it to a wobble/swivel socket drive.

Reaming:

1. The reamer should be turned either by hand using a speed handle or by a low rpm, high torque air drill regulated to a maximum of 200 rpm.
2. The reaming action should be clockwise in a smooth and continuous motion at 60-200 rpm. The reamer should actually pull itself through the bore, so little or no forward force should be applied.
3. Continue reaming until the reamer stop is reached.

Finish and Clean-up:

1. Using low air pressure, blow the chips free before removing the reamer.
2. To remove the reamer, turn clockwise while slowly pulling outward on the reamer.
3. Remove any remaining debris from the bore with low air pressure and clean in a solvent tank.
4. Examine the bore after cleaning for surface finish, debris, and burrs. Flashing and burrs on the exit side of casting bores can be carefully removed with a small piece of Scotchbrite™ on the end of a long wire.
5. Clean the reamer after each use and store in its protective tube.

Cautions and Suggestions:

1. Turning the reamer backward will dull it prematurely.
2. Pushing on the reamer will result in poor surface finish and inadequate and sporadic material removal.
3. Never use a crescent wrench, ratchet or pliers to turn the reamer.
4. A dull reamer will cut a smaller hole. Reamers can be sharpened, but should only be done by a professional tool sharpener. Actual life of a reamer before resharpening or replacing averages 50-70 bores.

Installation/Assembly Steps

1. Ream the bore per tool kit instructions.
2. Place the replacement spring over the long stem on the replacement valve.
3. Push the spring/valve/sleeve assembly into the bore, spring end first. To minimize affect of line port side-loading, install the sleeve as shown in the photo *(see page 1)* so that the balance orifice and line port opening can be seen when looking into the casting ports.
4. Install the OEM retainer into the sleeve groove.