

Oversized 4-3 Sequence Valve Kit

Part No.
77964-04K



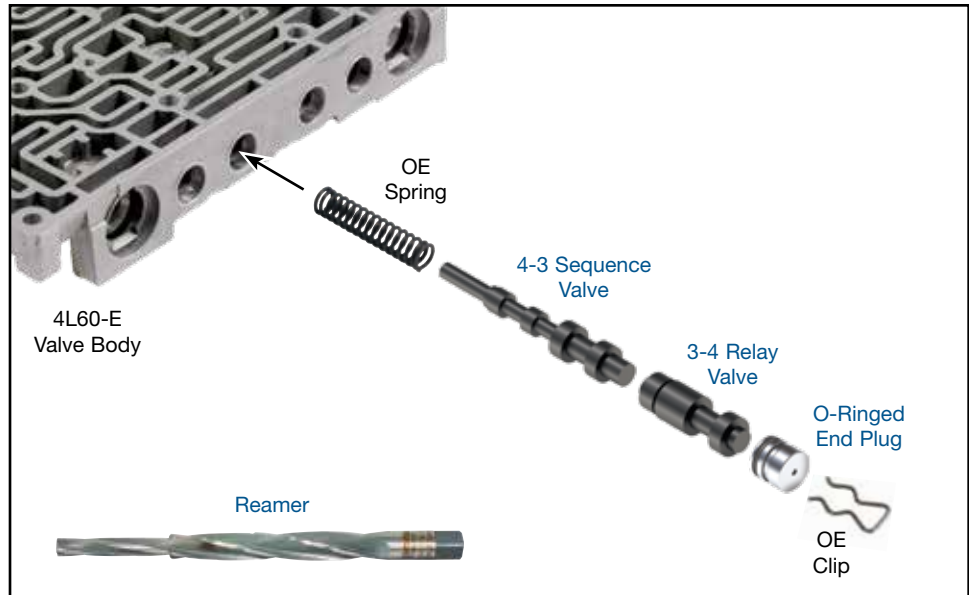
- 3-4 Relay Valve
- 4-3 Sequence Valve
- End Plug
- O-Ring

WARNING: This kit does not address wear on the inboard two spools. To address wear in that location, use Sonnax oversized 4-3 sequence valve kit 77964-14K.

Reamer

Part No.
77964-RM2

GM 4L60-E, 4L65-E, 4L70-E



Part No.	Identification Photos	Grooves
OE		1
77964-04K		0
77964-14K		2

NOTE: Sonnax **77964-14K** can only be used to replace OE steel valves in bore that has not been previously reamed for **77964-04K**. See chart above for ID information.

1. Disassembly

Remove OE valve lineup and save spring and retaining clip for reuse. Discard all other parts.

2. Bore & Reaming Preparation

- Clean the bore thoroughly in a solvent tank.
- Securely clamp the housing to a bench or vise, making sure not to clamp directly over the bore to be reamed.

CAUTIONS AND SUGGESTIONS:

- The reaming action must be clockwise in a smooth and continuous motion.
- Turning the reamer backward will dull it prematurely.
- Pushing on the reamer results in poor surface finish and inadequate and sporadic material removal.
- Never use a crescent wrench, ratchet or pliers to turn the reamer.
- A dull reamer will cut a smaller hole. Reamers can be sharpened, but this should only be done by a professional tool sharpener. Actual life of a Sonnax reamer before resharpening or replacing averages 50-70 bores.

3. Reaming

- Saturate bore and reamer with cutting fluid (i.e. Mobilmet S-122, Lubegard® Bio-Tap, Tap Magic™, etc.). For best results, provide a continuous flow of water-soluble cutting fluid during the reaming process.
- Gently insert reamer into the bore until cutting tip contacts the first land to be reamed.
- Use a loose fitting reamer socket and a wobble adapter to ream the bore. The reamer can be turned using a speed handle or with a low-RPM, high-torque drill regulated to a maximum of 200 RPM. The reaming actions must be clockwise in smooth and continuous motion at 60-200 RPM. Continue reaming until the reamer stop is reached.

4. Finish & Clean-up

- Using low air pressure, blow the chips free before removing reamer.
- To remove reamer, turn clockwise while slowly pulling outward.
- Examine bore after cleaning for surface finish, debris and burrs. Flashing and burrs on the exit side of land and in bores must be carefully removed. A small piece of Scotch-Brite™ material attached to a wire and powered with a drill motor is ideal for the task. However, Scotch-Brite™ is a very abrasive material and all residual Scotch-Brite™ debris must be removed afterward to ensure particles do not migrate or remain embedded in the surface. Cleaning this material out should involve several progressive steps using solvent on a lint-free rag.
- Clean reamer after each use and store in its protective tube.

5. Installation & Assembly

- Reinstall OE spring.
- Lubricate and install Sonnax valves (**Figure 1**).
- Install O-ring on Sonnax end plug and roll on bench to size. Lubricate O-ring and install plug with O-ringed end facing inward (**main photo**).
- Reinstall OE retaining clip.

6. Final Testing

Vacuum testing at the port(s) indicated holds the recommended minimum 16 in-Hg (**Figure 2**).

