

## Supported Servo Master Kit

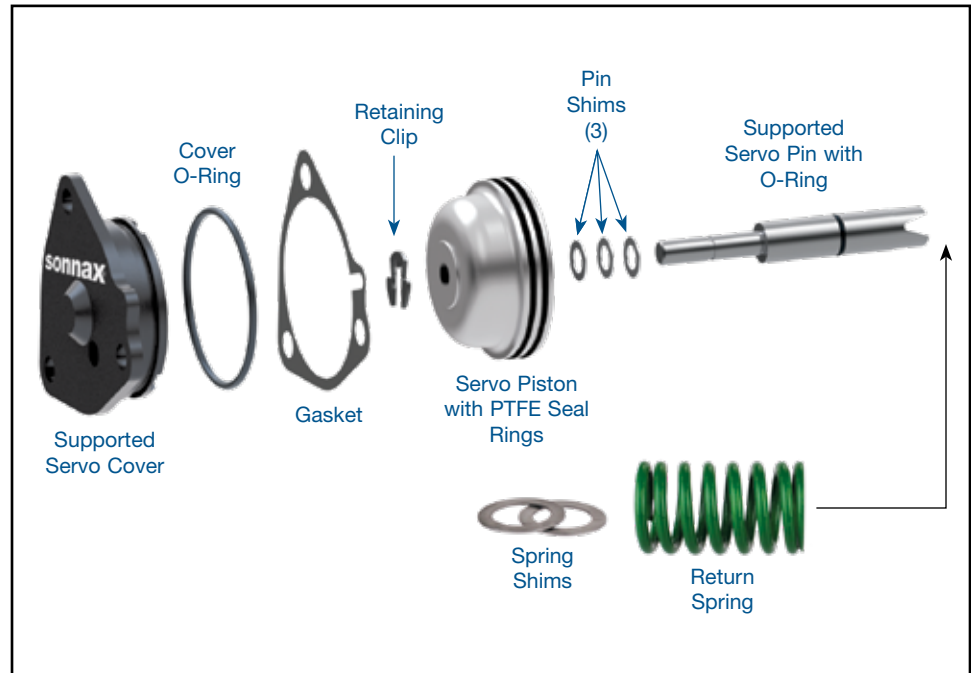
### Part No.

# 28821-20K

- Supported Servo Cover
- Cover O-Ring
- Gasket
- Retaining Clip
- Servo Piston
- PTFE Piston Seal Rings (2)
- Pin Shims (3)
- Supported Servo Pin
- Pin O-Rings (2) 1 Extra
- Return Spring
- Spring Shims (2)
- Bolts (3) Not Shown
- Drain Plug Not Shown

Patent No. 10,072,683

## GM Powerglide



### 1. Master Kit Assembly

- a. Assemble Sonnax servo piston onto Sonnax pin (**main photo**).



**NOTE:** Do not install OE cushion spring and washer between pin and piston. Sonnax kit is intended to be used without these OE components.

- b. Install Sonnax retaining clip.
- c. Check for clearance or play between piston and clip. If clearance exists, remove clip, add Sonnax pin shims between pin and piston to minimize clearance or play between piston and clip (**main photo**).
- d. Install Sonnax O-ring on servo pin and lubricate. Roll on clean flat surface to size O-ring into groove.
- e. Using round file or fine sandpaper, remove sharp edge of servo pin bore to prevent O-ring damage during installation (**Figure 1**). Clean thoroughly after removing sharp edge.
- f. Install servo piston assembly with piston seals and Sonnax return spring into case.
- g. Install servo cover with Sonnax O-ring, gasket, plug and 3 bolts.
- h. Adjust servo using typical procedures.

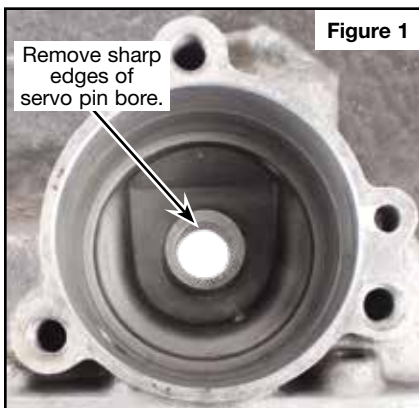


Figure 1

### 2. Return Spring

The Sonnax return spring is intended to be used with line pressures from 200-275 psi and assumes a case spring pocket depth from gasket surface to inner spring seat of 3.090".

### 3. Spring Shims

Adding shims increases release spring tension for quicker initial release and are needed to offset the pin-bias force created by higher transmission pressures. Reference Sonnax Tech article "Powerglide® Servo Pin Bias Effect" at [www.sonnax.com](http://www.sonnax.com) for more information on this issue.

- No shims are required for pressures from 200-225 psi.
- Add one shim for pressure around 250 psi.
- Add two shims for pressure around 275 and higher.

### 4. Band Adjustment (if all else remains the same)

- More turns out of adjuster sets the servo deeper into the case when applied and increases release spring tension for quicker initial release.
- Fewer turns out of adjuster sets the servo less deep in the case and decreases release spring tension for slower initial release.

### 5. Line Pressure (if all else remains the same)

- Higher Line = slower release of the servo (due to pin bias effect) and quicker apply of the high clutch.
- Lower Line = faster release of the servo (and slower apply of the high clutch).