sonnax®
TIME TESTED • INDUSTRY TRUSTED®

TRANSMISSION PARTS

Instructions

Chrysler A404, A413, A470, A670

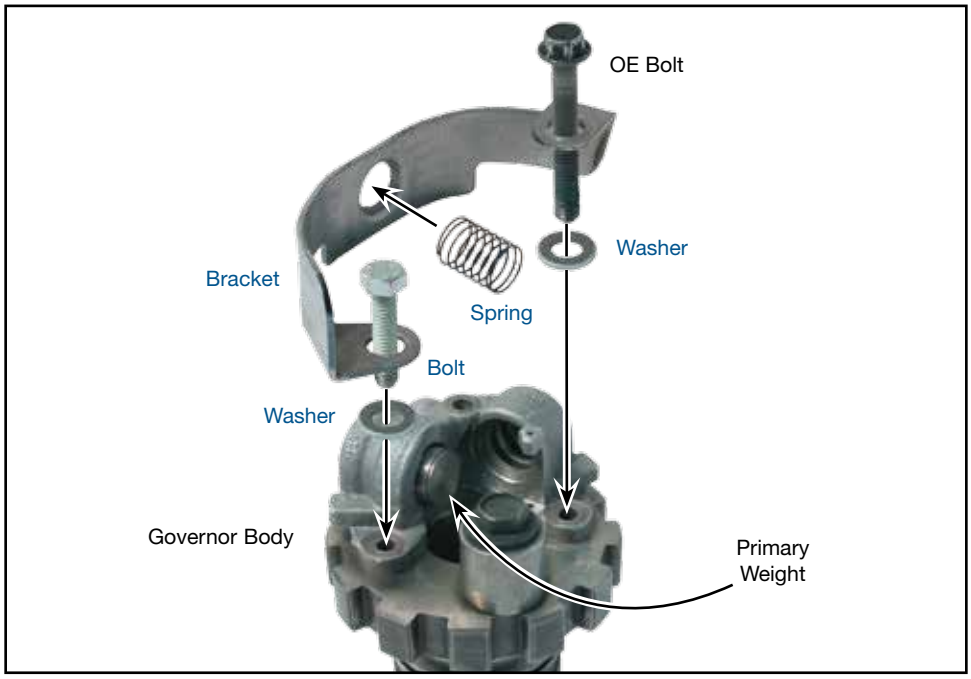
Governor Bracket & Spring Kit

Part No. 32204-03K

- Bracket
- Washers (2)
- Bolt
- 6-Coil Heavy Wire Spring for V6
- 9-Coil Light Wire Spring for 4-Cylinder or Turbo

Patent No. 7,051,750

NOTE: If primary weight has a through bore, use 9-coil light spring, not the 6-coil heavy spring. It is recommended to use a PTFE seal ring since the cast-iron rings can contaminate the governor.



MPH Shift Timing -vs- Governor Pressure

Figure 1

Minimum Throttle	1-2 Upshift	2-3 Upshift		
4-Cylinder Applications	Vehicle Speed MPH	Governor Pressure PSI	Vehicle Speed MPH	Governor Pressure PSI
OE (No Spring)	12-14	4-5	20-22	11-13
9-Coil Spring	16-18	4-5	23-25	11-13
*6-Coil Spring	20-24	4-5	25-27	11-13

Part Throttle	1-2 Upshift	2-3 Upshift		
4-Cylinder Applications	Vehicle Speed MPH	Governor Pressure PSI	Vehicle Speed MPH	Governor Pressure PSI
OE (No Spring)	15-17	9-12	24-26	13-15
9-Coil Spring	20-22	9-12	26-28	13-15
*6-Coil Spring	26-28	9-12	32-34	15-16

Minimum Throttle	1-2 Upshift	2-3 Upshift		
6-Cylinder Applications	Vehicle Speed MPH	Governor Pressure PSI	Vehicle Speed MPH	Governor Pressure PSI
OE (No Spring)	8-10	4-5	16-20	11-13
9-Coil Spring	10-12	4-5	18-22	11-13
6-Coil Spring	12-14	4-5	20-24	11-13

Part Throttle	1-2 Upshift	2-3 Upshift		
6-Cylinder Applications	Vehicle Speed MPH	Governor Pressure PSI	Vehicle Speed MPH	Governor Pressure PSI
OE (No Spring)	13-15	9-12	18-22	13-15
9-Coil Spring	15-17	9-12	18-22	13-15
6-Coil Spring	15-17	9-12	18-22	13-15

*__NOTE:__ 6-Coil spring is not recommended for standard 4-cylinder applications, but can be used for turbo applications to change shift timing.

NOTES: Chart provided if a change of shift timing is desired (**Figure 1**).

1. Averages are affected by engine, governor weight and differential ratios.
2. Throttle pressure adjustments affect above.
3. Governor pressure must drop to 0 at rest and have a minimum of 50 psi over 60 mph.
4. Governor pressure tap above rear pan, lower case.

1. Pre-Installation Inspection

a. Resurface the aluminum governor body and the collector with a flat stone or fine paper on a flat surface (**Figure 2**).

b. Clean the housing, filter and governor components.

c. Inspect the run-out of the sunshell. Run-out on the outer diameter should not exceed .020". If run-out is excessive then the governor bracket may contact the sunshell. After installation, be sure to rotate the differential to ensure bracket does not touch the sunshell or case (**Figure 3**).

d. Inspect the valve lands; they must be flat and without scoring. Rounded valve lands often cause valve hang-ups.

e. Inspect the body and the weights and replace if worn.

NOTE: If the weight has a through bore, use the 9-coil light wire spring – if not, use the appropriate one depending on engine size. Do not grind flats on the primary weight - this will reduce forward clutch oil and create delayed engagement.

2. Bracket Installation & Spring Selection

a. Use assembly lube to hold the small primary weight in position (**main photo**).

b. Place both flat washers on top of the governor body.

c. Place the appropriate Sonnax spring on end of the primary weight (9-coils) 4-cylinder or turbo (6-coils) V6 (**see Chart, Figure 1**).

d. Place the governor bracket on top of washers.

e. Use Loctite® on the bolt threads.

f. Install the long OE bolt and finger tighten only.

g. Swing the bracket into position. While holding bracket in position install the Sonnax supplied bolt.

h. Torque the Sonnax bolt first to 60 in-lb. Then tighten the longer OE bolt.

IMPORTANT: After assembly it is extremely important to make sure the spring pocket is centered over the governor weight. Stroke the primary weight away from the shaft, through its complete travel. Verify it does not hang and strokes on center with the hole.

3. In-Vehicle Installation

a. Follow steps 2a–2c above.

b. Position the bolts through governor body, new bracket and washers. Remember to switch short bolt that goes through bracket with new longer bolt.

c. Use Loctite® on bolt threads.

d. Carefully rotate governor body and bracket into position on governor collector.

e. Torque bolts to 60 in-lb.

IMPORTANT: After assembly, stroke the primary weight away from the shaft, through its complete travel. Verify it does not hang and strokes on center with the hole.

CAUTION: Do not use sunshells with extreme wear. Run-out at the outer diameter exceeding .020" may cause the governor bracket to contact the shell. Rotate differential to ensure bracket does not touch sunshell or case (**Figure 4**).

Figure 2

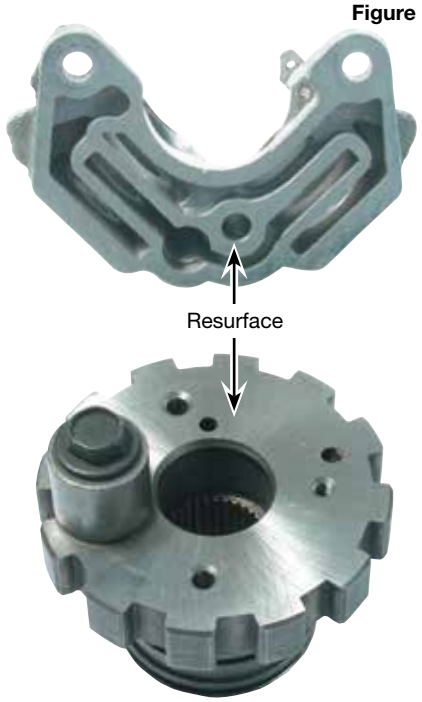
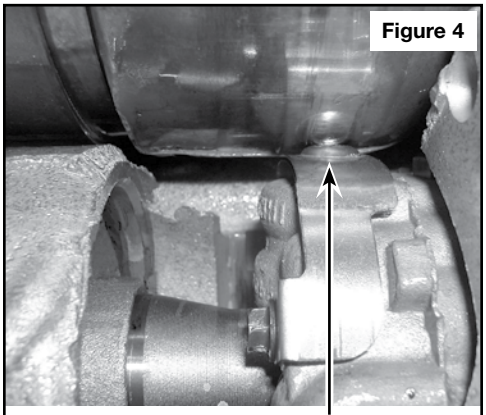


Figure 3

Spring pocket must be on center with governor weight.

Figure 4



Rotate differential to ensure bracket does not touch shunshell or case at this point.

4. Troubleshooting

a. No Upshifts

- Verify that the governor bracket is centered relative to the governor weight.
- Verify that the governor weight does not hang up throughout its travel.

b. Late Upshifts

- Attach pressure gauge to governor pressure tap.
- Compare governor pressure and shift speed (**see Chart, Figure 1**).
- Adjust TV pressure.

c. Problems related to improper TV adjustment

- Late upshifts
- Sensitive 2-1/3-2 downshifts
- No forced kickdown
- Shuttle shifting
- Refer to manual for correct TV adjustment