



K65703, -1 & 65703-SK, -14K

GM 200-4R SUPER SIZE INTERMEDIATE SERVO

H I G H P E R F O R M A N C E T R A N S M I S S I O N P A R T S

Part No.

K65703

Cover (Purple anodized with Sonnax logo)

Piston

Servo Pin

Shim

Spacer

Spring

Seal Ring (2 per assembly)

2 Lip Seals

Servo Pin O-Ring

Servo Cover O-Ring

Retaining Ring

Note: U.S. Patent Nos. 6,907,974 and 7,047,611

Part No.

K65703-1

Cover (Non-anodized without Sonnax logo)

Piston

Servo Pin

Shim

Spacer

Spring

Seal Ring (2 per assembly)

2 Lip Seals

Servo Pin O-Ring

Servo Cover O-Ring

Retaining Ring

Part No.

65703-SK

Seal Ring (2 per assembly)

2 Lip Seals

Servo Pin O-Ring

Servo Cover O-Ring

Part No.

65703-14K

1 Servo Pin (Non-OEM Design)

1 Retaining Ring

SUMMARY:

The Sonnax 200-4R Super Servo has far more 2nd gear band apply area than any other available servo (17% larger than Grand National). The Sonnax kit is versatile and can be installed with or without cushion springs to match shift performance to customer needs.

No cushion spring & light return spring = firmest 1-2 and 3-4 shifts

Heaviest cushion & return springs = less shock to band and drivetrain & reduced tendency for 2-1 coastdown clunk.



SONNAX KIT CONTENTS (K65703 AND K65703-1):

1. Servo cover and piston with larger apply area
2. Servo pin that is longer than the longest OEM pin and includes o-ring seal
3. Optional shim for adjusting large cushion spring
4. Optional spacer to eliminate large cushion spring
5. Medium rate return spring
6. E-clip
7. Seals (2 o-rings, 2 lip seals, 2 seal rings)

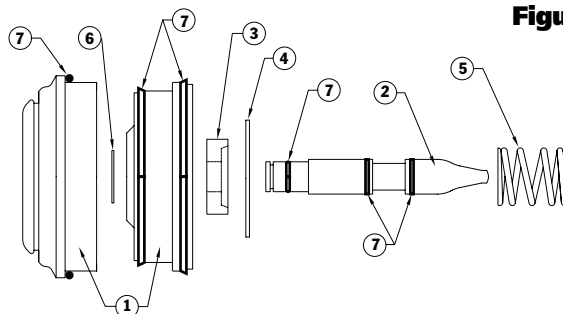


Figure 1

FINAL PRODUCTION DESIGN

INSTALLATION INSTRUCTIONS (K65703 AND K65703-1):

- Step 1. Set servo pin travel
- Step 2. Select servo configuration
- Step 3. Install servo
- Step 4. Air test servo

GM 200-4R Super Size Intermediate Servo

STEP 1: SET SERVO PIN TRAVEL (K65703 AND K65703-1):

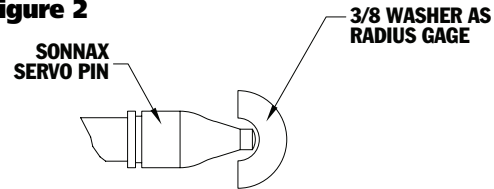
Remove original (OEM) servo assembly. Discard everything except the springs and bell-shaped spring retainer.

Assemble replacement pin, spacer, piston, E-clip and cover (as shown in Figure 4). NOTE: Do not install any seals or the large spring at this time.

Place small return spring on the pin and install assembly with cover and retaining ring into case.

Check servo travel by pushing on cover. Grind tip of servo pin as necessary to achieve desired travel (about .110"). NOTE: It is important to maintain the spherical tip radius when grinding the pin. The inner hole of a 3/8 flat washer cut in half makes a good gauge for this (see Figure 2).

Figure 2



STEP 2: SELECT SERVO CONFIGURATION (K65703 AND K65703-1):

For standard high performance applications, install all parts that come in kit with original large cushion spring and bell-shaped spring retainer and do not use thick spacer (see Figure 3).

To increase cushion spring rate, install the supplied optional shim.

FOR FIRMEST 1-2 SHIFTS (K65703 AND K65703-1):

Install the Sonnax solid spacer in place of the large cushion spring and bell shaped retainer. Select the lightest OEM return spring (figure 4).

Large cushion spring:

Lightest: Common yellow spring OEM # 8628109

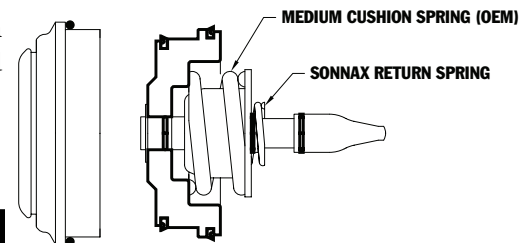
Heaviest: (some models) Red spring OEM # 8639264

Return spring:

Lightest: Common original spring (pink) OEM # 8632661

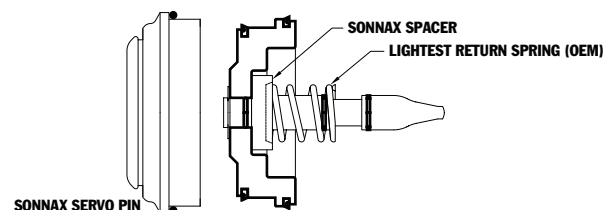
Medium: Sonnax spring (included in kit)

Heaviest: Uncommon spring (black) OEM # 8632147



**FINAL PRODUCTION DESIGN
STANDARD HIGH PERFORMANCE**

Figure 3



HIGHEST PERFORMANCE SET-UP

Figure 4

STEP 3: INSTALL SERVO (K65703 AND K65703-1):

Install seals on pin, piston and cover. Lubricate with assembly jell and install servo assembly into case.

STEP 4: AIR TEST SERVO (K65703 AND K65703-1):

Leak test the 2nd apply and 3rd release sides of the servo with 1/4" O.D. tubing and a short piece of rubber vacuum line (see Figure 5).

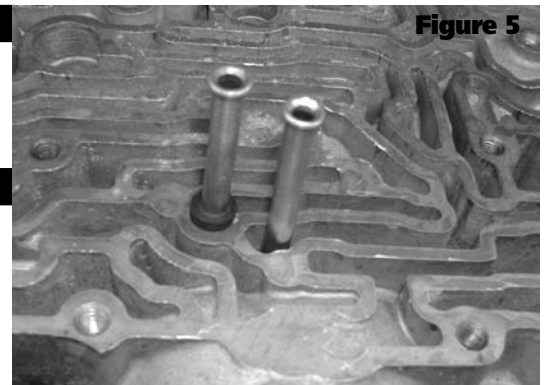


Figure 5

GM 200-4R Super Size Intermediate Servo

INSTALLATION INSTRUCTIONS (65703-14K):

- Step 1. Set servo pin travel
- Step 2. Final servo assembly
- Step 3. Install servo into case
- Step 4. Air test servo

STEP 1: SET SERVO PIN TRAVEL (65703-14K):

Remove K65703 or K65703-1 servo assembly from case. Remove and discard servo pin, retaining ring and all seals.

Assemble replacement pin, spacer, piston, retaining ring and cover (as shown in Figure 1). NOTE: Do not install any seals or the large spring at this time.

Place small return spring on the pin and install assembly with cover and retaining ring into case.

Check servo travel by pushing on cover. Grind tip of new servo pin as necessary to achieve desired travel (about .110") NOTE: It is important to maintain the spherical tip radius when grinding the pin. The inner hole of a 3/8 flat washer cut in half makes a good gauge for this (see Figure 2).

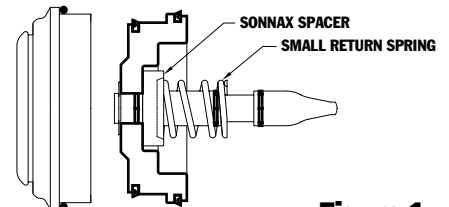


Figure 1

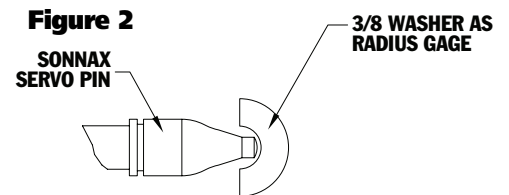


Figure 2

STEP 2: FINAL SERVO ASSEMBLY (65703-14K):

Disassemble servo.

Install new seals on piston, pin and cover. Use Sonnax replacement seal kit 65703-SK.

Reassemble servo. Including large cushion spring and bell-shaped spring retainer (see Figure 3).

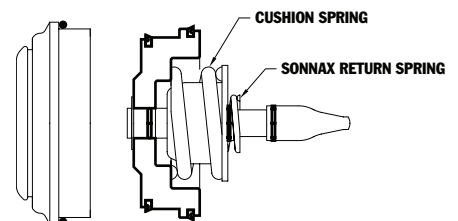


Figure 3

STEP 3) INSTALL SERVO INTO CASE (65703-14K):

Lubricate servo assembly with assembly jell and install into case.

STEP 4) AIR TEST SERVO (65703-14K):

Leak test the 2nd apply and 3rd release sides of the servo with 1/4" O.D. tubing and a short piece of rubber vacuum line (see Figure 4).

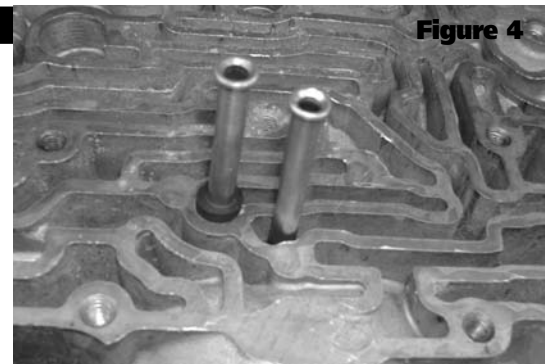


Figure 4