

**SUBJECT:**

All Models with Automatic Transmission 722.9, 7G-Tronic (NAG2) Uncomfortable Shift Quality of 1-2, 3-2 and 2-1 Gear shifts

If you receive customer reports in the above model vehicles of rough 1-2, 3-2 and 2-1 gearshifts, this may be due to the specific gear not being fully adapted or there could also be a mechanical cause as well. To resolve, perform the following diagnostic sequence.

1. Reproduce the complaint and identify the affected shifts using Star Diagnosis.
2. Print out adaptation data in the form of a transmission control unit log (do not reset the adaptation values).
3. Re-adapt the problem shift using the adaptation process in Star Diagnosis and print a post process transmission control unit log.

**NOTE:** For downshifts, the vehicle must coast to a stop without braking in order for adaptation to occur.

For upshifts, the vehicle must be driven and shifted within the valid torque window (green zone in torque display in Star Diagnosis).

If the condition still exists after adaptation, compare adaptation values before and after adaptation test drive. If the values for the filling times of these shift operations are close to the negative limit of -20 cycles (between -15 and -20), but move further into the negative with further adaptation, this may have the following cause / remedy.

**Cause A** - An incorrectly installed retaining ring for return spring B1 or B3.

**Remedy A:**

1. Remove the transmission
2. Disassemble multi-disk brake B1 & B3
3. Remove / install / replace retaining ring and disk spring. Refer to test/repair work procedure in WIS document AR27.50-P-0870W and AR27.50-P-0890W.

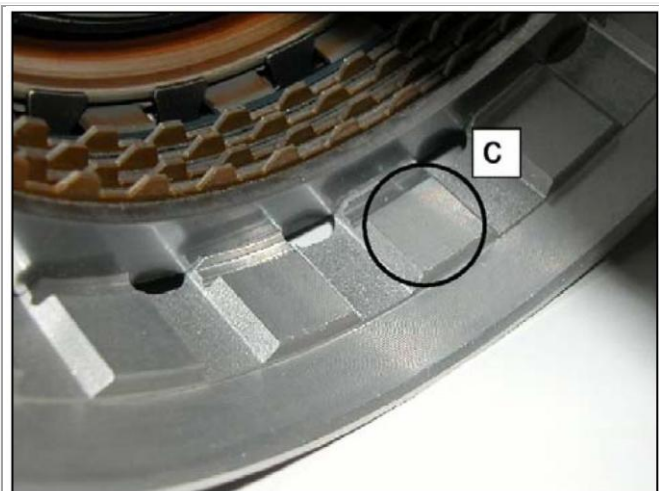


Figure 1

P-B-27.60/61d

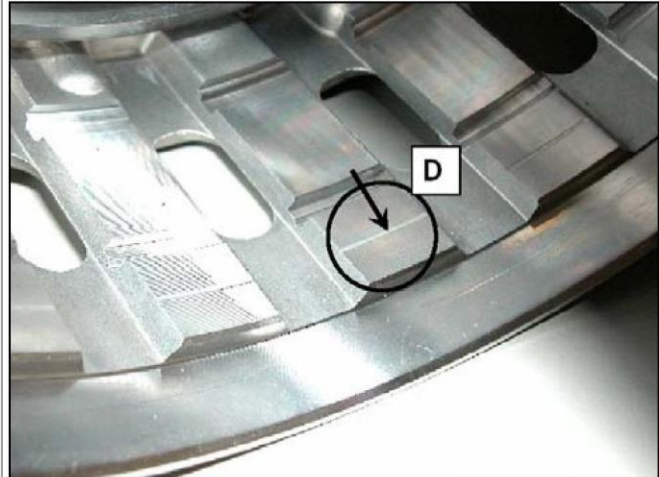


Figure 2

P-B-27.60/61d

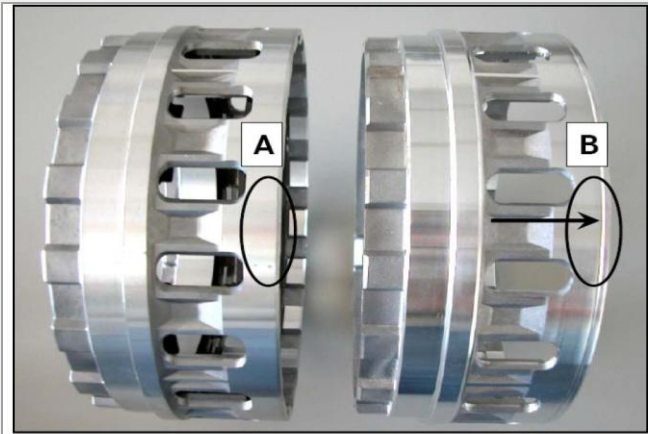


Figure 3

P-B-27.60/61f

**NOTE:** There are two different versions of the B1 and B3 multi-disk brake. It is essential to ensure that the retaining ring is ordered correctly. Refer to Figures 1 through 3 and the parts table, identification groove on the inside/outside of the plate supports.



Figure 4

P-B-27.60/61g

4. When assembling, insure that the anti-twist locks are correctly positioned! (See Figure 4: Correct positioning of anti-twist lock for thrust bearing).
5. Completely reset all adaptation data.
6. If shift quality complaints still occur after the work has been completed, the affected shifts must be adapted before further steps are taken.

**Cause B-** Warped disks of the B1. This can be determined by placing them on a flat surface - they do not lie flat and are uneven.

### **Remedy B**

1. Replace disks of B1, disk spring and retaining ring.
2. Completely reset all adaptation data.
3. If shift quality complaints still occur after the work has been completed, the affected shifts must be adapted before further steps are taken.