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Five Speed Manual Transmission Popping Out Of Gear

A customer complaint of a Subaru five speed manual transmission that pops out of first gear during deceleration may be caused by excessive radial clearance between the driven shaft and the 1st driven gear. Subaru Service Bulletin 03-46-90 addresses this complaint, but it should be used for basic information only, as the transmission internal parts have been changed since 1990. The part numbers listed in the bulletin are incorrect for later models.

The primary problem you will encounter if you were to use the part numbers mentioned in the Service Bulletin is that the key on the driven shaft that holds 5th gear is larger and will not fit into the keyway of the shaft mentioned in the Service Bulletin.

To cure the popping out of first gear, the radial clearance between the driven shaft and the 1st driven gear must be reduced. To accomplish this, it is necessary to select a driven shaft with a larger outside diameter and match it with a 1st driven gear with a smaller internal diameter.

An example can be seen using the 1997 Legacy Service Manual, Volume 6, Section 3-1, page 19 [W5B6]. Listed under item 6 is a chart showing The driven shaft part number and external diameter along with the 1st driven gear. You will have to refer to the appropriate parts manual for the 1st driven gear measurements, as they are not listed on this page.

Using this example, you could choose a driven shaft with P/N 32229AA140 (external measurement of 49.967-49.975 mm) and match it with a 1st driven gear with P/N 32231AA290 (internal measurement of 49.996-50.012 mm). This would result in the proper radial clearance (0.030-0.050 mm for AWD units).

Note: These part numbers are for use in a 2.5 liter MT.

Remember, this is an example. The actual parts you might need to correct the problem could be different than those mentioned here. Always refer to the appropriate parts manual for the correct parts listing and measurements.

