



Nissan Turbo400 automatic transmission adapter kit

Parts List

(1) Bellhousing adapter

Hardware:

(4) 82° tapered seat allen drive bolts

(4) $\frac{5}{16}$ " NC x 2 $\frac{1}{2}$ " grade 8 flange-head bolts

(6) $\frac{5}{16}$ " NC x 1 $\frac{1}{4}$ " grade 8 flange-head bolts

(8) Viton o-rings ($\frac{5}{16}$ " ID)

Tools Required (to install kit onto transmission)

$\frac{3}{16}$ " Allen socket

$\frac{5}{32}$ " Allen wrench

$\frac{1}{2}$ " socket

$\frac{9}{16}$ " socket or wrench

Torque wrench

Quality moly based grease

Transmission

The bellhousing needs to be machined off of the TH400 case to allow the VH45 bellhousing and adapter to be fitted. Fortunately, this is the very same requirement to fit a *JW Performance Ultrabell*. Utilizing this technique allows the transmission to be easily converted to any application that is serviced by the *JW Ultrabell*, so there is no value lost with this modification to the transmission.

TIP: the transmission case must be machined 0.010" to 0.040" below the pump surface to allow the adapter plate to position properly on the pump. This typically means that the transmission will need to be disassembled to do it the right way. **Do not cut the oil pan rail to the same depth** as the rest of the housing; the adapter plate is relieved on the bottom to allow the oil pan rail to remain un-modified.

Bellhousing Adapter

Because of the way the TH400 is cast, it has the potential to leak fluid through the pump bolt holes; GM used plastic washers under the bolt heads as gaskets to prevent this. The bellhousing adapter has o-rings engineered to seal both the bolt shank and the adapter to the pump, thereby preventing leaks entirely.

- Remove the OE bolts from the front pump and discard.
- Clean the surface of the pump and ensure that the housing is machined lower than the pump surface and that there are no raised burrs.
- Lube the Viton o-rings with bearing grease and install all eight (8) into the counter-bores on the back of the adapter (Fig. 2).



Figure 1 — Bellhousing adapter back



Figure 2 – O-ring counter-bore detail

- Grease the four (4) tapered seat bolt shanks and under-head surface entirely.
- Install the adapter with the o-rings towards the pump and thread the taper seat bolts into the o-rings eventually threading into the transmission.

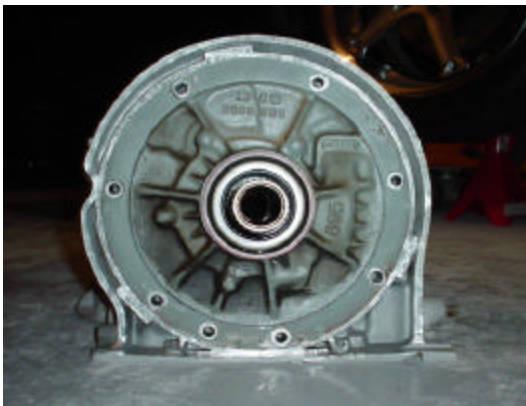


Figure 3 – Machined housing and pump face

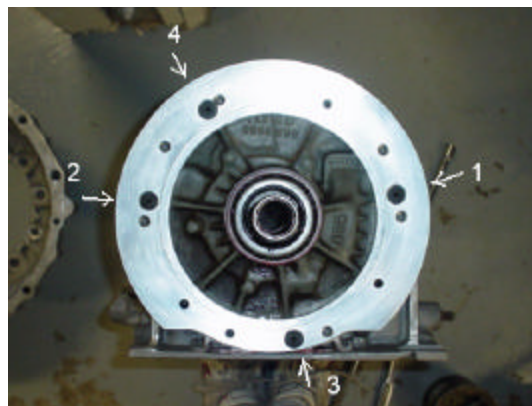


Figure 4 – Adapter installed, torque sequence

- When all four bolts are installed and snug, verify that no o-rings have become dislodged, preventing the adapter from sitting flat on the pump surface.
- Torque the bolts using a 3/16" allen drive socket to 18 ft-lbs (see Fig. 4 for torque sequence) and wipe off any excess grease.

Bellhousing

- Place the bellhousing onto the adapter and tap into position (sight through bolt holes 5 – 8 [Fig. 5] which index the entire assembly).



Figure 5 – Long bolt torque sequence

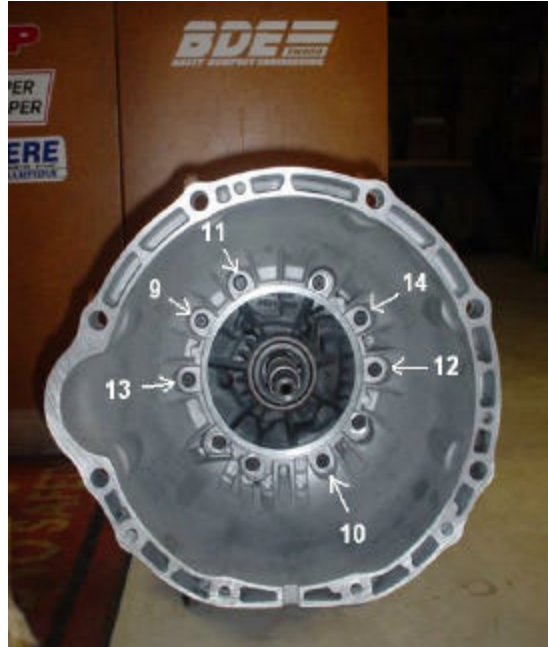


Figure 6 – Short bolt torque sequence

- Grease the entire shank and under-head washer surface of the four (4) 2 ½" long bolts and thread into positions 5 - 8 (Fig. 5) through the adapter o-rings and into the transmission threads. Torque to 18 ft-lbs using Fig. 5 torque sequence.
- Grease the remaining short bolt's threads and under-head washer and install
- Torque bolts 9 – 14 to 18 ft-lbs using Fig. 6 torque sequence.