RZR Transmission Installation, Alignment & Center to Center

January 8, 2022

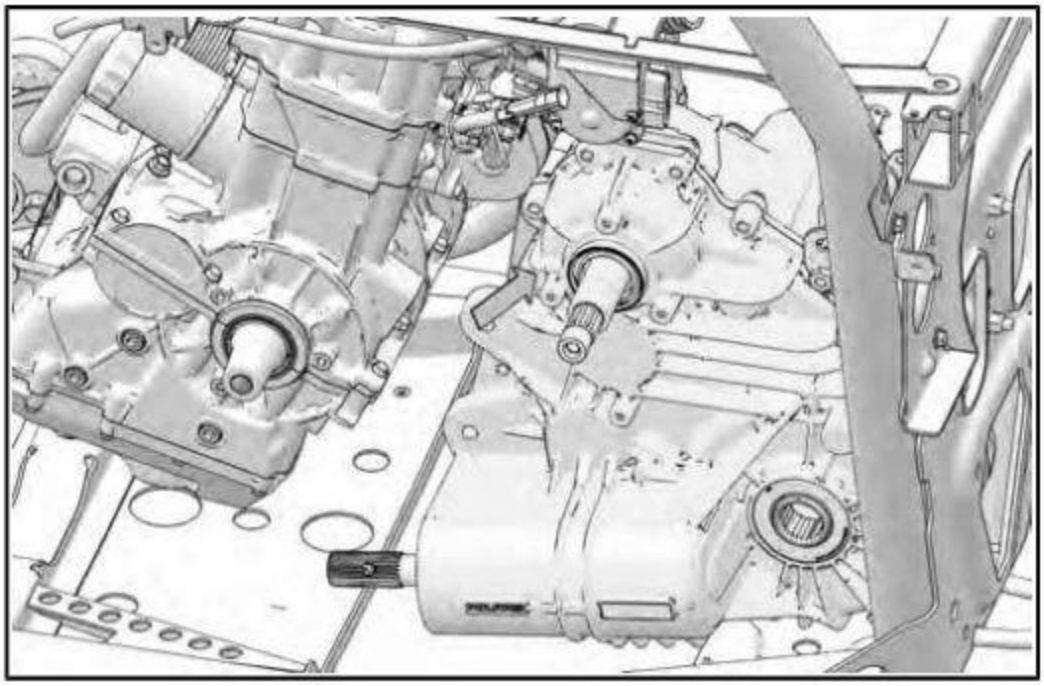
We get a lot of questions about alignment and use of our center to center tools. It is imperative to proper clutch function to not only have proper alignment, but also to have correct center to center distances. We sell a tool that allows customers an effective way to set center to center distances on a variety of models. The Polaris service manual does a good job of outlining how do do this, so we have decided to post this section for the community to reference. It is important to note that the torque sequence is critical when installing the transmission or making an alignment or center to center adjustment. The factory has found that following this torque sequence is the most effective way to ensure successful installation.

While the RZR XP Turbo, Turbo S, Pro XP and Turbo R models all use an aluminum inner clutch box, the naturally aspirated machines (RZR XP1000, 1000S, 900S, Ranger 900/1000, General 1000, etc) generally have a plastic inner clutch box that cannot be relied upon in any way to help align the transmission to the engine. It is even more critical on these machines to follow the procedure outlined in the service manual and to utilize the center to center tool that we offer. Here is the excerpt from the factory service manual.

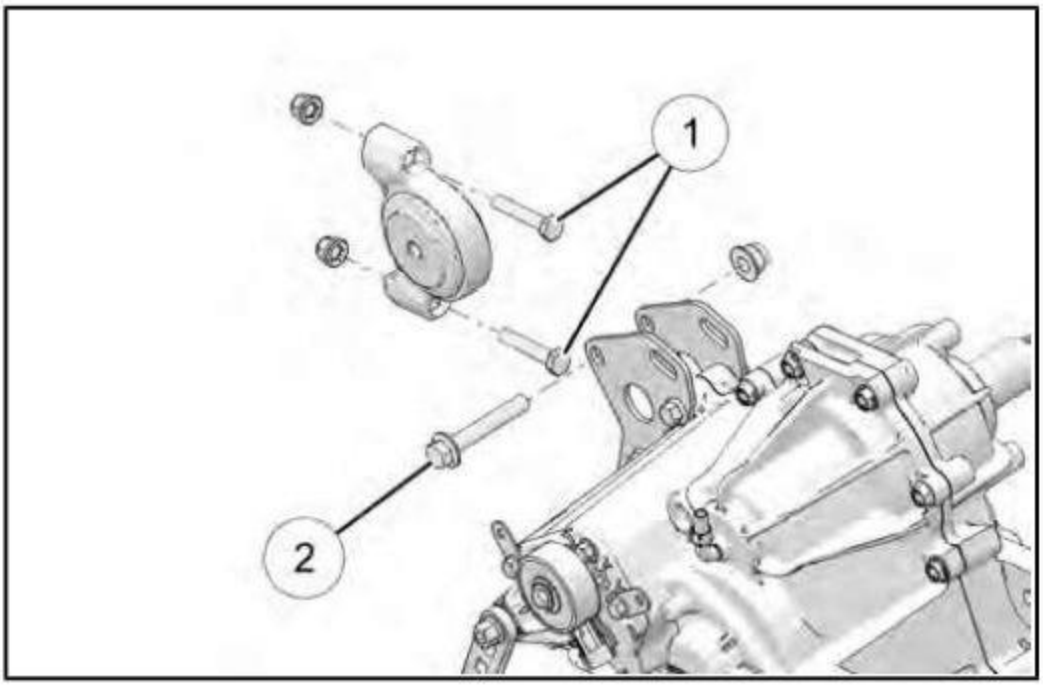
Step 6 is where you use the center to center tool to set the distance between the crank and the transmission input shaft.

TRANSMISSION INSTALLATION

1. With the help of an assistant, position the transmission into the vehicle frame through the left rear wheel well area.
2. Slide transmission towards rear of the vehicle and rotate the top of the transmission toward the right side of the vehicle.



3. Install the rear transmission mount to the frame and secure with M8 bolts and nuts. Torque nuts to specification.



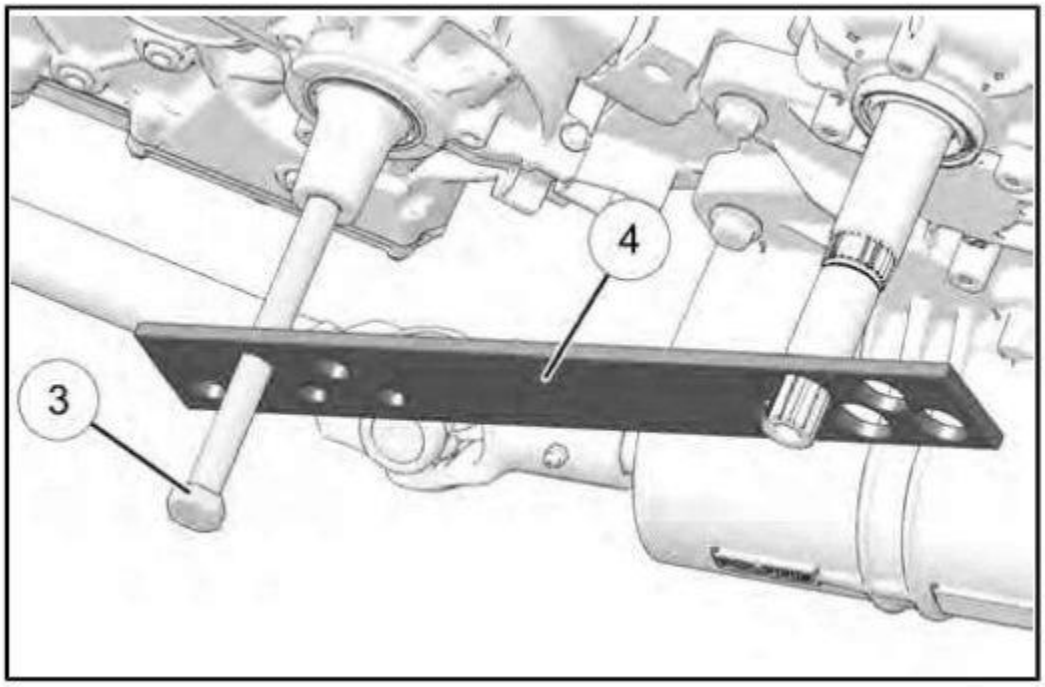
TORQUE
Rear Transmission Mount Bracket Fasteners ①: **22 ft-lb (30 Nm)**

4. Install M10 bolt and nut securing the transmission bracket to the rear mount. Torque fasteners to specification.

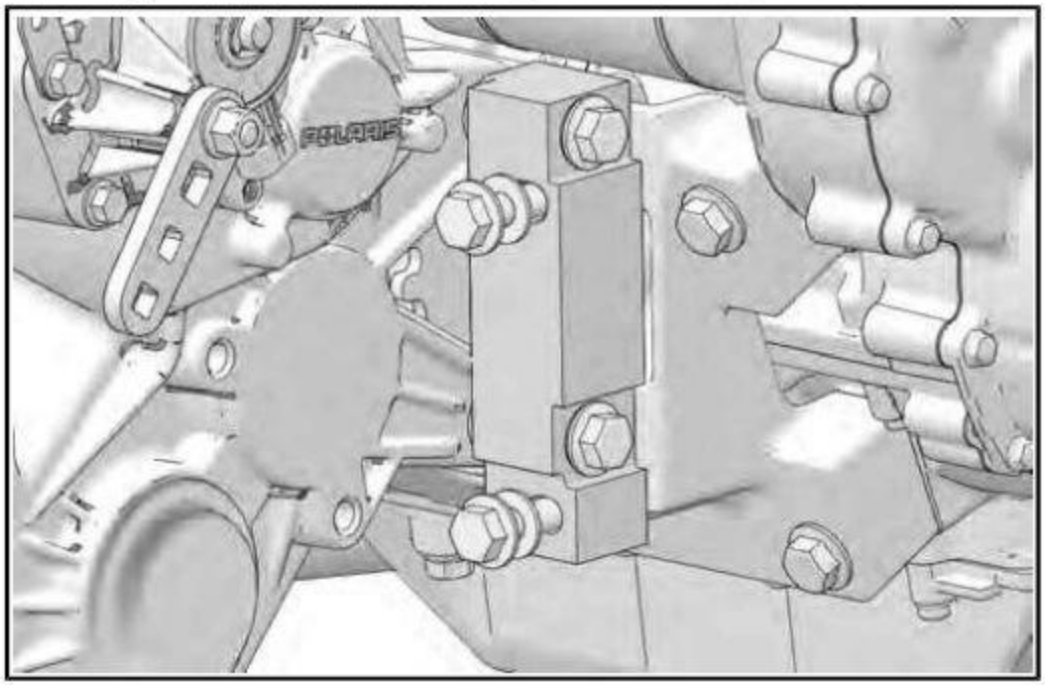
TORQUE
Rear Transmission Isolator Fasteners ②: **40 ft-lb (54 Nm)**

5. Install the two rear exhaust springs securing the muffler to the rear transmission mounting bracket.

6. Install the Clutch Center Distance Tool onto transmission input shaft and install the drive clutch bolt ③ to properly position the clutch center distance. The pictures below show the tool properly installed ④.



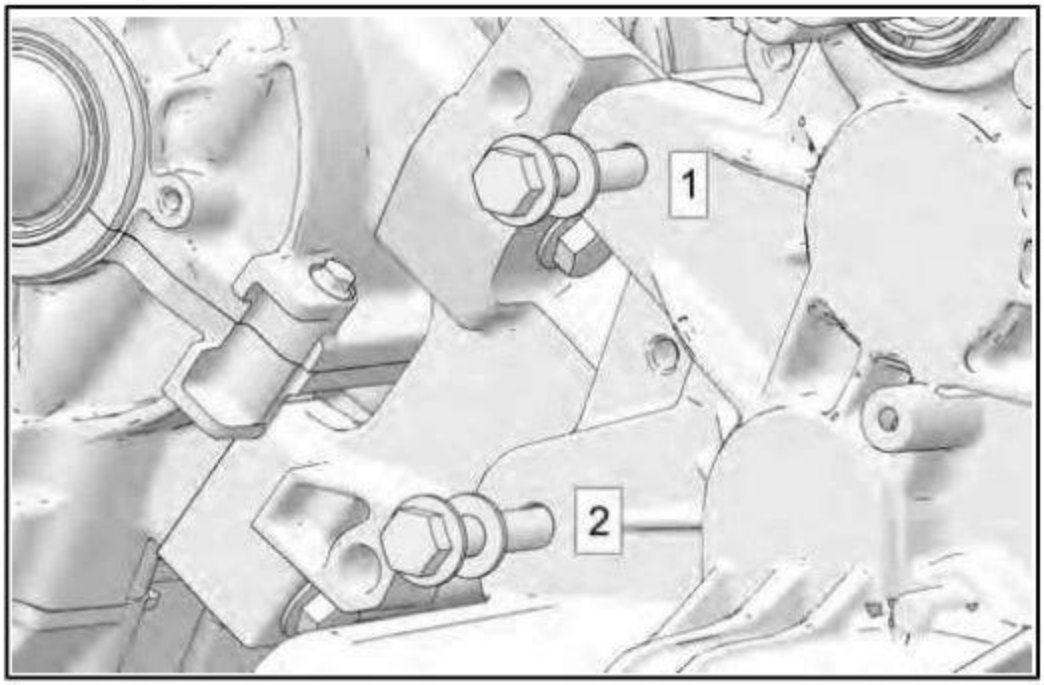
7. Loosen the two bolts retaining the transmission coupler bracket to the engine on the right side.



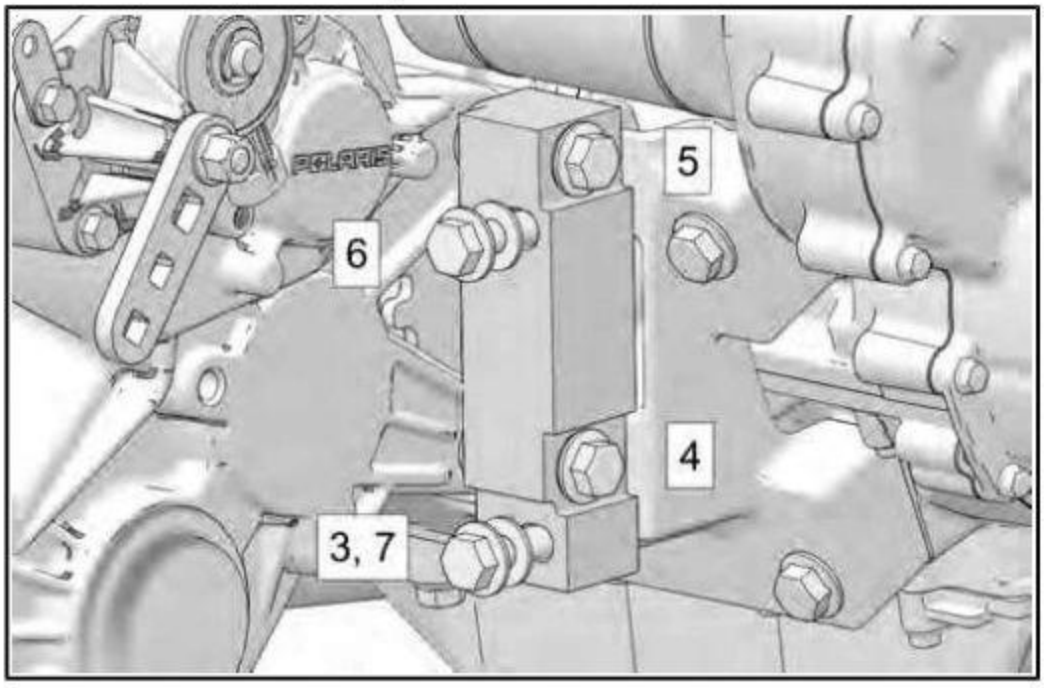
8. Align front transmission mounting holes with transmission joint bracket mounting holes on engine.
9. Loosely install the two longer bolts into left side mounting holes and two shorter bolts with washers into right side mounting holes.

NOTE
DO NOT torque fasteners at this time.

10. Torque left side mounting bolts to specification in sequence.



11. Torque right side mounting bolts to specification using the numbered sequence shown.



TORQUE
Engine / Transmission Mounting Bolts: **Step 1-2: 64 ft-lb (87 Nm) Step 3: 5 ft-lb (7 Nm) Step 4-7: 44 ft-lb (60 Nm)**

12. Remove the clutch center distance tool.
13. Remove the spacer or support between the vehicle frame and engine.