



Sparks Racing Revolution Clutch Kit, Polaris 2016- Current XP/XP4 Turbo

Bill of Materials:

- 1 Primary Clutch Spring
- 1 Primary Clutch Adjustable Arm Kit (depending on kit)
- 1 Secondary Clutch Spring
- 1 Secondary Clutch Post
- 1 Secondary Clutch Post Spacer
- 1 Secondary Clutch Thrust Washer
- 1 Secondary Clutch Helix
- 1 Secondary Clutch Spring Seat
- 1 10mm X 80mm Bolt
- 1 Drive Belt

Congratulations on your purchase of the Sparks Racing Revolution Clutch Kit. This is kit the most advanced and durable clutch kit available for the XP Turbo. We have spent over a year developing our Revolution clutch kit, so you can be confident in the parts you're installing in your machine. Our clutch tuning team is always available to help with any tech or tuning questions you may have.

*****This kit is intended to be installed by a qualified mechanic. It is extremely important to fully read and understand these instructions before proceeding with the installation*****

Installation Instructions:

1. Remove the outer clutch cover to gain access to the clutches
2. Remove the OEM belt
3. After removing the belt removal tool from the secondary, remove the 15mm bolt, washers, and e-clip retaining the secondary clutch to the transmission input shaft
4. Remove the secondary clutch from the transmission shaft
5. Depending on the model year of the vehicle, there MAY, or MAY NOT be a "star" washer on the splines of the transmission input shaft (Figure 1). If there's a "star" washer on the shaft, remove it. If there's no "star" washer on the transmission shaft, move to the next step

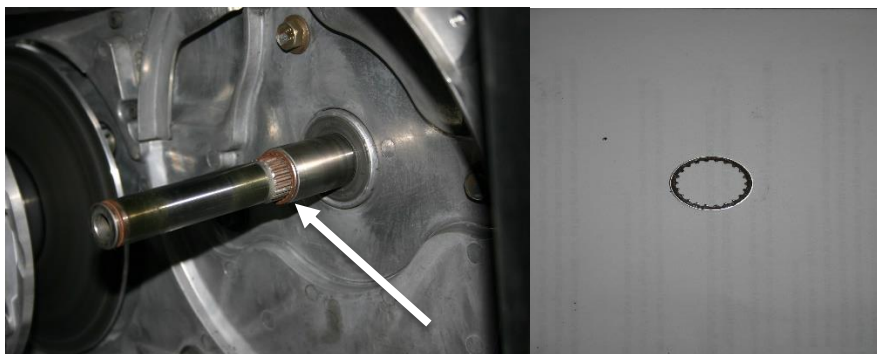


Figure 1

6. Remove the 21mm primary clutch bolt
7. Remove the primary clutch from the crank shaft (you will need a primary clutch puller to remove the clutch from the engine, Sparks Racing Part# CPP-001)
8. With the clutches removed from the vehicle, thoroughly clean and inspect both the crank shaft and transmission input shaft for damage or wear
9. With the inner and outer secondary sheaves separated, apply a small amount of pressure to the spider retaining the helix and spring (we recommend the use of an arbor press). The spider is under spring pressure, so even pressure must be applied during remove of the three T30 screws. Heat may need to be applied to the surrounding areas of the screws to release the thread locker applied to the screws (Figure 2).



Figure 2

10. With the secondary spider removed, remove the secondary spring, plastic spring seat, and helix (these will not be reused). Now is the time to completely inspect the secondary clutch for wear. There are several wear pucks and surfaces which should be in good working order before proceeding
11. Install the supplied secondary spring, spring seat, and helix (figure 3).



Figure 3

12. Reinstall the OEM secondary spider and screws removed earlier. We recommend the use of blue thread locker on the Torx bolts. Torque bolts to 8 ft-lb *****NOTE: there's nothing to align the bore of the spider and the splines of the helix. After the bolts are torqued, the helix may need**

to get tapped around with a soft hammer to make sure the spider and helix are as concentric as possible to aide in installation onto the transmission shaft (Figure 4)



Figure 4

13. Using great care, press the secondary clutch post out of the outer secondary clutch sheave
******NOTE: It is extremely important to know and understand the limitations of the materials you're working with. Heat may need to be applied to the area surrounding the post to aide in removal. It is the installer's sole responsibility to make sure proper care has been taken during this process. If you do not feel comfortable with this step, Sparks Racing offers a service to install the post (Figure 5)**



Figure 5

14. After thoroughly cleaning the bore the post was removed from, Install the supplied secondary clutch post (Figure 6). It is very important the post is fully seated against the face of the sheave
******NOTE: A liberal amount of lubrication must be applied to the sheave bore as well as the secondary clutch post to aide in installation. At the discretion of the installer, heat may be applied to the sheave to aide in installation (Figure 6)**



Figure 6

15. Clean and remove all grease and oil from the secondary clutch and post
16. Depending on year and model, there are two different transmission input shaft lengths. Using a ruler or similar measuring device, measure from the shoulder at the base of the splines to the end of the shaft (figure 7). The shaft should measure either 4.5" or 4.375" (we will use this information in a later step)

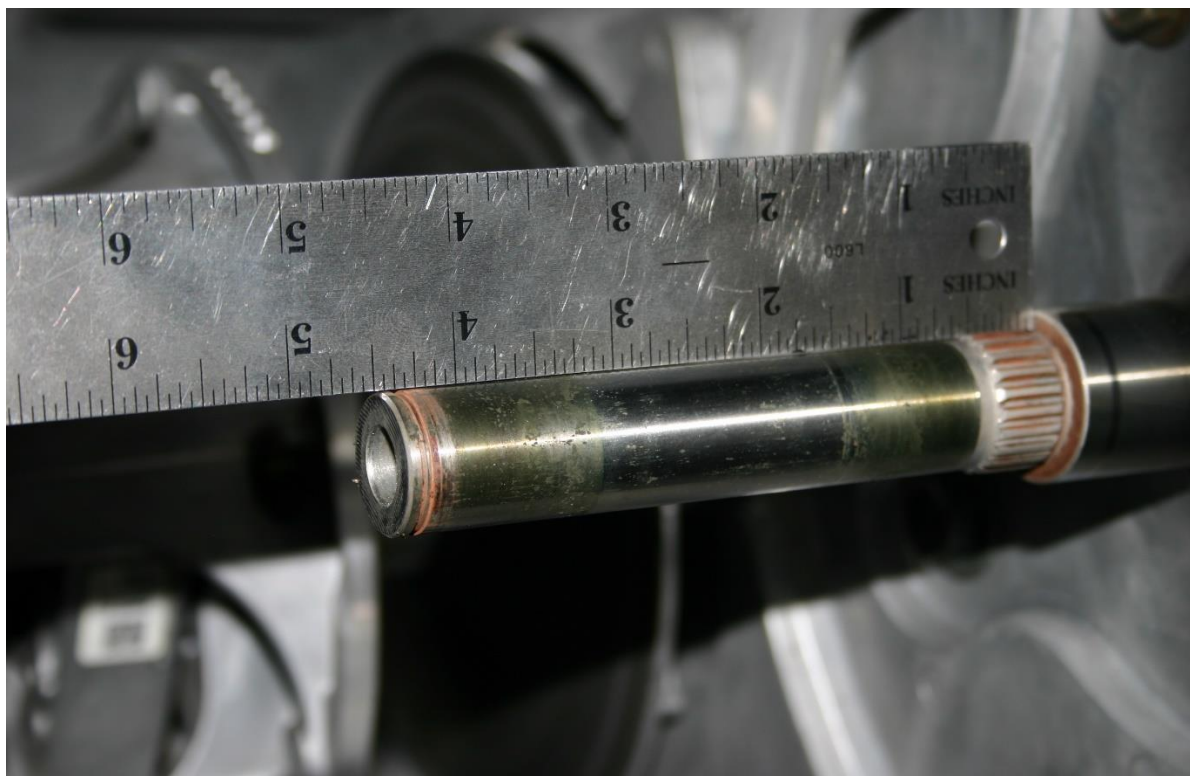


Figure 7

17. Install the inner secondary clutch sheave onto the transmission input shaft making sure the helix splines install completely onto the shaft

18. Install the outer secondary clutch sheave onto the transmission shaft until it is fully seated against the inner sheave.
19. From the previous step. If the transmission shaft measured 4.375", skip to the next step. If the transmission shaft measured 4.5", install the supplied shaft spacer onto the transmission shaft. If everything is installed correctly, the transmission shaft should protrude slightly passed the face of the post/ spacer face (Figure 8)

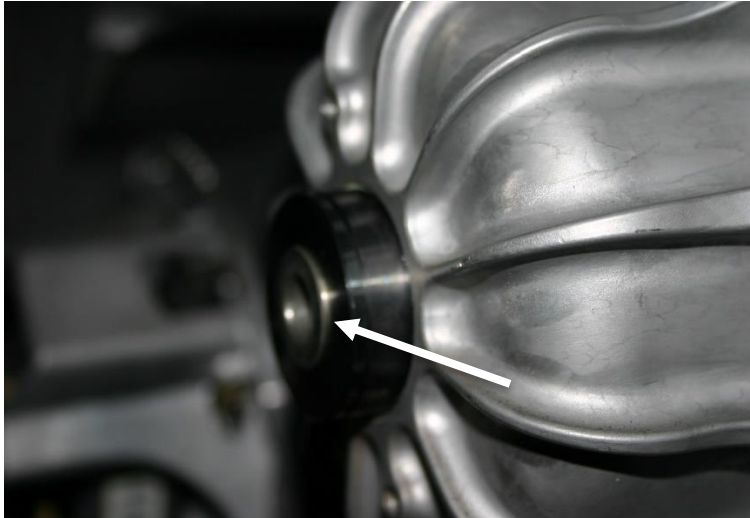


Figure 8

20. Install the supplied thrust washer with the fiber side of the washer against the face of the post/ post spacer (Figure 9)

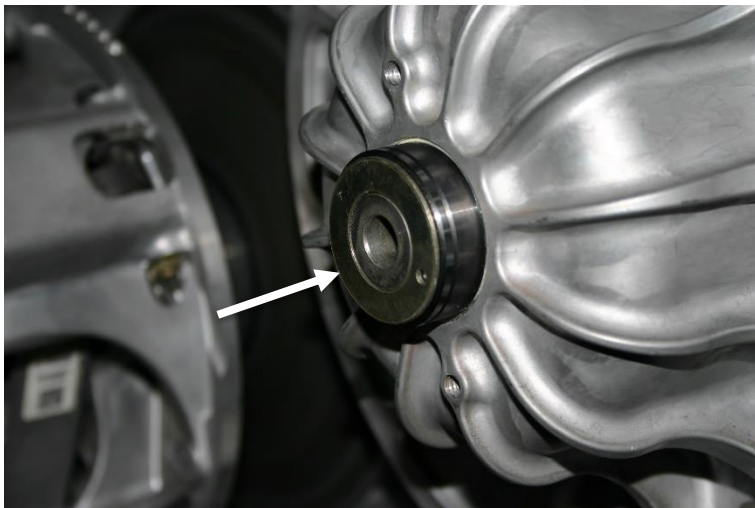


Figure 9

21. Install the supplied 14mm secondary clutch bolt and OEM fender washer off the OEM secondary clutch bolt. Torque to 40 ft-lb (Figure 10)



Figure 10

22. Before removing the hat from the primary clutch, we recommend deburring the edges of the castle nut with a sanding disc or alike tool. Otherwise, the hat bushing may be damaged when the hat is removed
23. Remove the the six 10mm bolts retaining the primary hat ******NOTE: the hat is under spring pressure, so a second set of hands or arbor press is recommended while removing the screws**
24. Remove the OEM primary spring, spring limiter, and clutch arms. Now is the time to inspect the primary clutch for wear. It is very important the clutch is in good working order before installing new parts
25. Install the supplied clutch arms (if purchased with the kit). Torque pivot bolts to 20 in-lb
26. Install the supplied primary spring and OEM spring limiter *****NOTE: Because the belt being used in this kit is different than OEM, the gear ratio of the clutch system has changed. It is recommended to use the OEM spring limiter whenever possible. If higher top speed is desired, the OEM spring limiter can be removed. However, the end user should understand more care will need to be taken at higher speeds to insure belt durability**
27. Install the primary clutch hat and torque bolts to 9 ft-lb
28. Install the primary clutch onto the crank shaft. Torque primary clutch bolt to 96 ft-lb
29. Using the OEM belt tool, install the supplied Sparks Racing Drive Belt, with the arrow pointing in the direction of rotation. With the belt tool removed, rotate the secondary clutch until the belt has come out of the secondary and has tension
30. Install the outer clutch cover

The installation is now complete. We recommend breaking in a new drive belt with 20 miles of light duty use before high loads or high speeds are applied. During the break in period, it is not uncommon to have difficulty shifting in and out of gear with the car running. This issue will resolve itself before the break in period is over.

*****NOTE: This clutch kit is designed to work with the Sparks Racing Performance Drive Belt ONLY. There are no other belts available that will directly interchange with this belt*****

Disclaimer: Installation of performance parts requires good mechanical ability and a complete understanding of the entire machine. The instructions we provide are guidelines only and will not thoroughly explain how to handle the complete installation.

Warranty: The products are provided “as is” and there are no warranties, representations or conditions, expressed or implied, regarding them or any other goods or services provided by Sparks Racing. Sparks Racing disclaims any implied warranty or condition of merchantability, durability, or fitness for a particular purpose. No representation or other affirmation of fact, including but not limited to oral or written statements regarding performance of the products shall be deemed to be a warranty by Sparks Racing. In no event will Sparks Racing be liable for incidental, indirect, special, or consequential damages, or any damages whatsoever resulting from loss of use arising in connection with these products.