



2013-17 Ski-doo 800 XS E-TEC 120/129" track (121-213) 0-3000ft

**Bill of Materials in Clutch Kit:**

**PLEASE SEE PIN KIT PACKAGING FOR WEIGHTS ON SET SCREWS**

**Setting:**

- 1 Primary Spring (121-149)
- 3 Ramps NA (use stock)
- Full Range Pin Kit - Heavy (121-232)
- 1 Helix-SPI-19
- 1 Secondary Spring (121-157)
- Instructions/Sticker

- Ramp Position # 3
- Pin Weight Stock Pipe: 22
- Pin Weight SPI Pipe 22.6
- Pin Weight SPI pipe/Y-pipe 23-23.5
- Operating RPM Stock and SPI Pipe – 7900-8000
- Operating RPM Stock and SPI Pipe & Y-Pipe – 7900-8100

Checked by:

***A Straightline Clutch kit should always be installed by a certified snowmobile professional. Improper setting or installation can cause the machine to perform incorrectly or engine damage.***

The new QRS secondary clutch kit install.

1. Remove the chain case cover and un-bolt the top gear. (see SPI tools for easy installation 151-107 & 151-106) or continue below.
2. On the clutch side unbolt and remove the half moon keeper holding the jackshaft bearing into the chassis bearing support.
3. Place a screw driver or similar device in the bolt hole of the jackshaft from the chain case side and tap the entire jackshaft out. Have someone hold and lightly pull from the clutch side to completely remove the clutch and shaft assembly.
4. Use the Straightline helix and spring compressor to compress the helix. You may have to use light heat and an impact driver to remove the 4 stock bolts from the helix. After removing the helix install the plastic washer in the stock helix into the new SPI helix, and then install the spring. Be sure to lock tight the bolts back into the helix.
5. Re-install the clutch and jackshaft into the chassis; be sure not to loose the spacer behind the top sprocket. Bolt top gear back on and install bearing keeper support.
6. Remove primary clutch and install new spring and adjustable pin kit to proper specifications.
7. RPM's under acceleration will be 7800-7900 peak rpm's will be 7900-8100. It is not uncommon under **extremely** long pulls to see slightly higher rpm's.

This is a trail kit and designed for low elevation use. If sled is under-revving at wide-open throttle, remove setscrews to achieve the next lower setting. If this sled over-revving install 1 gram at a time till desired rpm is achieved.

## Tools Available from Straightline

### Proper Installation of the QRS Helix Compressor (151-107) & Helix Removal Ratchet (151-106)

#### Step 1.

Remove the stock belt adjuster from the outer shaft of the QRS clutch.

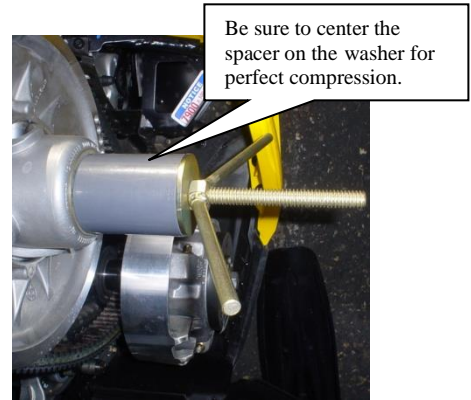
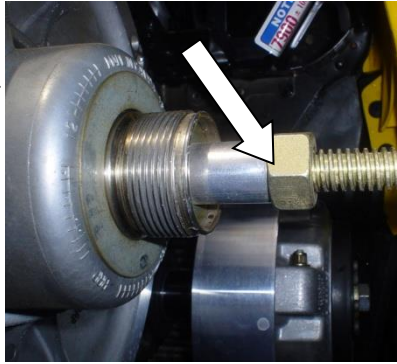
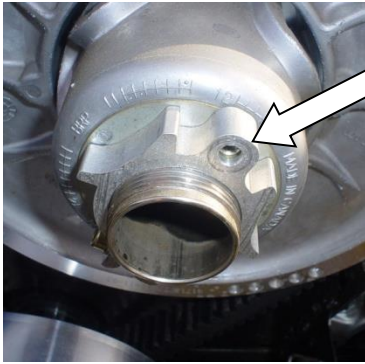
#### Step 2.

Insert tool inside of the hollow shaft of the QRS clutch, and tighten the nut down against the spacer. This can be done by hand. When the nut is too tight to turn by hand, use a wrench to snug the nut on for extra support. It will not take a lot of pressure to support the tool.

#### Step 3.

Install the plastic tube, then the washer, and last the handle. Turn and compress. It will only need to compress a 1/2" to aid in removal of the bolts. Lastly, unwind compression handle remove helix and spring and repeat steps in reverse order.

### Be sure Helix is installed with Reverse notch over the Rollers



QRS Helix Removal Tool (151-106)



*Enables the user to remove the QRS helix without removing the driveshaft.*

To remove the helix, simply turn the clutch to enable the torx head to be facing toward the upper rear corner and remove each bolt individually. The helix does have spring tension; typically the tension is not enough that simply pressing the helix in would enable the removal. The QRS helix has a belt adjuster that can be used to hold the helix one during removal if needed. Simple press the new helix back in and re-bolt on. Use a small amount of blue lock tight when done.

Technical questions please email [tech@straightlineperformance.com](mailto:tech@straightlineperformance.com)



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