TEAM Industries TIED Roller-type Driven Snowmobile Clutch

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If you have questions about this product, please call 1-218-844-3283.

Tools required:
- Wrench (for installation/removal of secondary clutch retaining bolt)
- spring compression tool
- external retaining ring pliers

Recommended/Optional Tools:
- 1/2" wrench
- hex wrench (#26571) supplied in kit
- Torx T-27 driver

Tools required:

Installation, adjustment and removal procedures:
Remove drive belt and existing driven clutch from jackshaft. Keep the key (if applicable, see below), spacers and retaining bolt/washers for re-use (unless stated otherwise below).

TEAM® clutch installation on jackshaft
- It is recommended that you lubricate the exposed jackshaft with a light coating of low-temperature grease prior to clutch installation. This will prevent surface corrosion on the jackshaft and make future removal easier. Each manufacturer uses a different interface between the clutch and jackshaft: Some use a spline while others use keys. Make sure to use the proper sized key for your model and year of machine (included in kit). Do not attempt to use a key that is smaller than the keyway or component damage may result.

Brand-Specific Instructions

1. Ski-Doo
   1. Remove stock clutch and large concave spacer (2003 & newer models)
   2. Install .090 shims (or three (3) .030” shims - this is average reference) on jackshaft.
   3. Install TEAM Tied clutch (part #421515) and supplied retaining bolt.
   4. Torque the driven clutch retaining bolt to manufacturer’s specifications indicated in your Owner’s Manual.
   5. Checking clutch alignment:
      i. For the 2003 and newer Rev chassis, use TEAM Clutch Alignment tool (PART No 930721 FOR MXZ ZX AND PART No 930720 FOR SUMMIT CHASSIS) –
         1. Summit chassis models generally only two (2) shims .030 thick with none of the stock shims removed.
      ii. For the Mach Z 1000 and RT 1000 Summit Customers we have added two button head screws to the installation kit. These two screws replace the two factory ones that hold the jackshaft bearing cover together. Once the secondary clutch is removed, remove the two screws on the bearing cover (see illustration below). Apply 2 to3 drops of red Loctite to the new screws and install them with a 5mm Allen wrench.
2. **Arctic Cat – ProCross/ProClimb (2012-___)**
   1. Remove stock clutch
   2. Install TEAM Tied clutch (PART NO 421896)
   3. Install *Floater Plug* (supplied with *tool kit*) with bolt and washers from the factory clutch.
   4. Torque the driven clutch retaining bolt to manufacturer’s specifications, as indicated in your owner’s manual.
   5. Verify that there is .030-.040 float in the clutch. Add or remove washers behind floater plug to achieve recommended float.
   6. Verify alignment of clutch with **TEAM Clutch Alignment tool** (PART No 930721)

3. **Arctic Cat**
   1. Remove stock clutch and rubber O-ring
   2. Install .150” shim (or five (5) .030” shims,) on jackshaft.
   3. Install TEAM Tied clutch (1” Keyed PART NO 421238 – for Arctic Cat models 2005 and older *without Diamond Drive*).
   4. Install the key, (.250” x .154” included in kit) into the keyway in the center post of the clutch.
   5. Rotate the clutch on the jackshaft until the key drops into the keyway on the jackshaft. Install spacer(s) and retaining bolt supplied in kit.
   6. Torque the driven clutch retaining bolt to manufacturer’s specifications indicated in your Owner’s Manual.
   7. Clutch alignment should be verified with **TEAM Clutch Alignment tool** (PART No 930720).

4. **Polaris**
   1. Remove stock clutch
   2. Install TEAM Tied clutch (splined - PART #421511, 1” keyed – PART #421438)
   3. Install the key, (.250” x .1875” included in kit) into the keyway in the center post of the clutch.
   4. Rotate the clutch on the jackshaft until the key drops into the keyway on the jackshaft. Install spacer(s) and retaining bolt supplied in kit.
   5. Torque the driven clutch retaining bolt to manufacturer’s specifications indicated in your Owner’s Manual.
   6. Clutch alignment should be checked with **TEAM Clutch Alignment tool** (PART No 930721).

5. **Yamaha**
   1. Remove stock clutch and hollow aluminum spacer.
   2. Place the six (6) gold washers on jackshaft (supplied in kit). Install new TEAM Tied clutch (PART NO 421512) on the shaft and slide OEM aluminum spacer in the clutch shaft.
   3. Thread stock clutch bolt into shaft and torque to OEM specifications indicated in your Owner’s Manual. (There should be about .040 - .060 side-to-side play once the clutch bolt is torqued to specifications.)
   4. Verify alignment with **TEAM Clutch Alignment tool** (PART No 930720).

### Checking Offset

If premature belt wear is experienced, the clutch offset and parallelism must be checked. To check this, use the **TEAM Clutch Alignment tool** specified for your sled (part numbers above) and follow instructions shown below.

1. Open the clutch guard and remove the belt.
2. Install the clutch alignment bar between the drive clutch sheaves and against the outside edge of the Team driven stationary sheave.
3. Allow alignment bar to rest on the drive clutch shaft.
4. With the bar flush at points A and B, the front portion of the bar should just clear the inside
edge of the stationary sheave or be within .030 with the bar resting on the stationary shaft.

Checking Parallelism
1) Using the alignment bar, a caliper, and a machinist's scale, take a measurement from the back side of the bar at points X and Y. These measurements should be equal or Y must not exceed X by more than .060”.

DO NOT add grease or lubrication inside the roller/spider area. It is designed to operate clean and dry.

Belt installation
- Thread the belt installation tool (part #650343) provided in your kit into the open hole next to the belt width adjuster bolt.
- Thread the tool into the hole until the sheaves separate enough to install the drive belt.
- Note: if belt is low in the secondary, rotate the clutch counter-clockwise until the belt rises up in the clutch. Further adjustments will be covered in next step.

Belt width adjustment
The sheave faces can be adjusted slightly to allow for belt width or length tolerances. (See your snowmobile Owner’s Manual for more details on this procedure.)
- To adjust the sheaves, loosen the 1/2” jam nut on the belt width adjuster.
- Using a 5/32” hex wrench, adjust the threaded set screw as needed.
- Turn the set screw in (clockwise) to increase the distance between the sheaves and out (counter clockwise) to decrease the distance.
- Tighten the jam nut after the belt adjustment is made.

Rapid Reaction Secondary Clutch Tuning
Twin Trax™ helix change or adjustment
The driven clutch assembly must be removed from the snowmobile before changing the Twin Trax™ helix.
- To change cams, remove the Torx (T-27) screws that retain the cam to the moveable sheave.
- Pull the cam straight out or turn the sheaves relative to each other to twist the cam out.
  - If the cam is hard to remove, place the clutch assembly on a flat surface with the cam side facing down. Press down on the moveable sheave belt face with both hands and the cam will release.
- Select the Twin Trax™ angle you want to run and align that pair of cuts with the X stamped on the spider.
- Slide the cam down over the rollers, install the screws and tighten.
When the cam is removed, the moveable sheave may be misaligned with the stationary sheave. If the cam is hard to install, make sure the sheaves are aligned by rocking the moveable sheave while pressing on the cam.

**Spring change**

The driven clutch assembly must be removed from the snowmobile and the cam removed from the clutch before changing springs (see above). The spider and roller assembly must be removed to change springs.

- The spring force is retained by the spider/roller assembly and the large retaining ring. You must take the force off the spider and remove the retaining ring. Springs with a relatively large preload require the **TEAM Spring Compression Tool** (PART NO 930001) or use one of the commercially available driven clutch presses.
- After the spring has been safely compressed, the retaining ring can be removed using standard **external retaining ring pliers**. Do not damage the steel post while removing the retaining ring.
- (Installation is done in the reverse order.) Install the desired rate spring, place the spider/roller assembly on top, compress the spring using the **TEAM Spring Compression Tool** (PART NO 930001), align the splines for the last ½” of compression, and install the retaining ring.
  - Note: the splines have a “skip tooth” that must be aligned during installation. Do not try to force the parts together if they are not aligned properly. Find the skip tooth on the clutch post and make a line from the tooth to the top of the post for easier installation.

- Also note that the moveable sheave and the spider have an alignment mark on them. Care must be taken to keep these marks aligned with each other to preserve the balance of the assembly.
- Make sure the retaining ring is fully seated in the groove before releasing the spring force.
- Install a Twin Trax™ helix and replace the clutch assembly on the vehicle. Tighten cam-retaining bolts to 8-12 ft lbs.