



EPIperformance.com

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POLARIS CLUTCH KIT INSTRUCTIONS

Model: 850 SPORTSMAN XP EFI 4x4 2009 (27"-28" TIRES) Part #: WE436900

Kits designed for Stock motor and stock exhaust at 0-3000 feet elevation.

ATV's can be dangerous. EPI has no control over the use of any part. EPI expects the customer to exercise good judgment as to the proper selection, installation, use and maintenance of any part. EPI assumes no responsibility for damage or injury of any kind because of misuse, improper installation and improper application of any parts in any way, by any person. Contact your local dealer to schedule installation of this clutch kit if you are not a qualified ATV mechanic.

This product is **NOT** to be installed on any ATV that will be used by any person under the age of 16.

TOOLS NEEDED TO INSTALL CLUTCH KIT

- 3/8, 5/8, 1/2, 15mm, 17mm, 18mm socket and wrench
- Torque wrench
- Snap ring pliers
- Phillips screwdriver
- 1/8 Allen wrench
- #25 & 40 Torx wrench
- Primary Clutch Puller (EPI part # PCP-12)
- Clutch Compression Tool (EPI part #CCT510)

ENGAGEMENT

- 2,000 RPMs

1. Remove the key from the ignition. Jack up the rear of the machine and remove the left rear wheel. Make sure the machine is stable – we suggest supporting the left wheel hub on a block or jack stand. Using the #40 Torx, remove the rear plastic skid plate. Then using a 15mm socket remove the 4 bolts that secure the removable section of frame alongside the clutch cover.



2. Remove the clutch cover bolts. The top 2 bolts can be accessed easier from the top by removing the seat. Remove the cover by sliding it out towards you through the opening in the frame. It's a tight fit but it will come out with enough patience!
3. Next grab the belt on the side closest to you and pull on it to slightly open the secondary clutch sheaves. This will give you just enough slack to make removing the primary clutch easier. Remove the primary clutch retaining bolt. **NOTE: THIS BOLT HAS LEFT-HAND THREADS SO TURN IT CLOCKWISE TO LOOSEN.** Be sure to remove all washers and the black plastic spacer from inside the clutch when removing this bolt. Using the **EPI** Clutch Puller PCP-12, remove the primary clutch from the motor. Thread the clutch puller in by hand and tighten with a wrench until the clutch pops off the shaft, you will need to hold the clutch from rotating while doing this. Remove the clutch and place it on a clean surface.
4. Notice the printing on the outside cover of the primary clutch and the "X" stamped on the spider, and on the moveable sheave. These are alignment marks from the factory and must line up when you reassemble the clutch. Remove the six outside bolts from the cover, set the cover and stock spring aside. Using a 1/8" allen wrench and a 3/8" wrench or socket remove the bolt from the pin holding the weight in the clutch and slide the pin out of the weight. Replace the stock weight with a weight included in the clutch kit and install the bolt and nut. Repeat the same process for all weights.

5. It is a good idea to clean your clutches. Using a clean rag and a contact/brake cleaner that DOES NOT leave an oily film or residue clean all areas of the clutch except on the bushings. Cleaning the clutch bushings with a cleaning solvent can cause premature wear. This applies to both clutches.
6. Install the **EPI** primary spring. Make sure the spring fits flat into the clutch at both ends. Install the cover plate making sure the "X" lines up. Tighten the six outside cover bolts evenly so the cover goes on straight to prevent bushing damage.
7. Remove the secondary clutch by removing the center clutch bolt and sliding it off the shaft. On the new XP models this is another tricky maneuver, there is limited space to get this clutch off the shaft. We find that tipping the clutch face upwards as it pivots off the shaft helps get it both off and back on the shaft. The breather vent above it has some flex so don't be afraid to muscle it a bit. When the clutch does come off pay attention to the shims behind the clutch on the shaft. These shims effect the clutch alignment, if they slide off the shaft be sure to put them back on.
8. Place the clutch face down so the four torx bolts / helix are facing up. Remove the four torx bolts. Pull up on the helix. **Note the position of the two rollers.** Tighten the CCT510 compression tool in a vise (or can be drilled and mounted to work bench). Thread one nut approximately 3/4 of the way down the threaded rod and then add washer. Slide clutch over threaded rod putting the helix side facing up. Slide the collar, washer and the nut on. Tighten the top nut down until there is slight pressure on the spring retainer allowing you to remove snap ring. Remove snap ring with snap ring pliers. Slowly loosen the top nut on threaded rod allowing the spring to slowly expand. If you run out of threads before all of the tension is off the spring lower the bottom nut to give you more space. Remove clutch from tool. Install the **EPI** secondary spring. To install the spring, slide clutch on threaded rod. Place spring in clutch, place spring retainer and snap ring on top of spring and add the washer and nut. Tighten nut until spring retainer is down far enough to install snap ring. The spring retainer will only install on the splines one way. If you look closely there is one extra wide spline that must match up in order for the retainer to mesh and install. Marking these points with a marker can help during reassembly. Install snap ring and remove clutch from tool. Install the **EPI** helix into clutch. Make sure that when you push the helix into the clutch you do not damage the two plastic rollers. Install the four torx bolts. If needed, you can rotate the clutch in either direction to align the torx bolts. Push the helix down. Tighten the four torx bolts to 42-52 in/lbs. **IMPORTANT: You must use Loctite on the helix retaining torx bolts. Failure to use Loctite on reassembly may result in the bolts loosening and backing out while riding.**
9. First install the secondary clutch back on the machine. Again, try tipping the face of the clutch upwards to make this easier. Install the clutch retaining bolt and tighten to 15 ft/lbs. Loop the belt over the secondary clutch with the numbers reading left to right and either squeeze the belt or pull down on it to slightly spread the clutch sheaves. You need to do this to have enough belt slack to install the primary clutch. Place the primary clutch through the belt and on the crankshaft. Torque the primary clutch bolt to 45-47 ft/lbs. With the transmission in neutral, spin the clutches to backshift the belt out to its normal idle position.



10. Install the plastic clutch cover making sure it seals properly. Reinstall the portion of frame you removed, the skid plate and rear wheel. You're ready to ride!
11. **EPI** is constantly testing our products. Sometimes there is a need to contact the user with new technical information. To ensure that you are receiving this information visit our web site **EPIperformance.com** to register your clutch kit.

NOTICE: Even with this clutch kit, you should be advised that using substantial throttle when the tires are not able to spin can cause the belt to slip and **damage may occur**. **EPI** recommends that the transmission be shifted into low range when high load, slower speed situations are encountered. **EPI is not responsible** for any damage to the drive belt or any other original equipment component.