



EPIperformance.com

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POLARIS CLUTCH KIT INSTRUCTIONS

Model: 500 SPORTSMAN EFI 4x4 2008-2009 (EBS) (STOCK TIRES) Part #: WE436258

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, 7/16, 1/2 socket and wrench
- 5/8 socket
- Torque wrench
- Snap ring pliers
- Phillips screwdriver
- Side cutters
- 1/8 Allen wrench
- # 25 Torx wrench
- Primary Clutch Puller (EPI part # PCP-1)
- Clutch Compression Tool (EPI part #CCT510)

ENGAGEMENT

- 1,900 RPMs

1. Remove the key from the ignition. Remove the left side foot rest by unbolting it from the fenders and frame. Remove the zip ties or clamps on the vent hose coming from the top of the clutch cover. On some models you might have to remove the seat and the left side body panel between the front and rear fenders to gain access to the vent tube. Be careful not to damage the rubber boot when cutting the zip ties.
2. Remove the clutch cover bolts; note the length of the bolts and their location. Some models might have a little metal clamp at the rear of the cover that needs to be removed, simply take a flat tipped screw driver and pry the clamp off. Save the clamp because you will need to reuse it. Remove cover slowly being careful not to damage the gasket.
3. EPI found it easiest to remove both clutches and the belt at the same time but it is not required to install kit. If you plan on removing both clutches remove the secondary (rear) clutch bolt (1/2" wrench or socket) and temporarily leave clutch and belt on the machine. If you are NOT removing both clutches remove the belt. You can remove belt by squeezing the belt together between the two clutches, this will allow enough slack in the belt to remove the belt. The primary (front) clutch is pressed onto the crankshaft of the motor. Removal of the clutch is not required but does make the job much easier. To remove the clutch a special clutch puller is needed, this tool is available through EPI (part # PCP-1). Notice the "X" marked on the outside cover of the clutch, on the spider, and on the moveable sheave. These are alignment marks from the factory and must line up when you reassemble the clutch. If you are not removing the clutch see next step. To remove the clutch using a clutch puller remove the large center clutch bolt (5/8 socket). You will need to use a small bar or large screwdriver and stick it through the clutch to stop the clutch from rotating while you loosen the center bolt. Remove the center bolt, washers, and any spacers that are there. Thread the clutch puller in by hand and tighten until the clutch pops off the shaft, you will need to hold the clutch from rotating. Remove both clutches and the belt from the machine, go to step eight for complete secondary clutch removal instructions. Place clutch on a clean work surface and remove clutch puller.

4. If you are not pulling the primary clutch off the machine OR if you already have the clutch off the machine, remove the six outside bolts from the cover. Next remove the center bolt allowing the cover and spring to be removed (this bolt is already removed if clutch is off the machine).
5. With the spring removed you can change the weights. Using a 1/8" allen wrench and a 3/8" wrench or socket remove the bolt holding the weight in the clutch. Replace the stock weight with the weight included in the clutch kit and install the bolt and nut. Repeat the same process for the other two weights.
6. 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.
7. 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. Install the center clutch bolt and torque to 45-47 ft/lbs.
8. Remove the secondary (rear) clutch by removing the center clutch bolt and pulling towards you. The clutch should slide off the splined shaft. If the clutch sticks on the shaft spray some penetrating fluid on the shaft to help free it. If it still doesn't come off, you will need to order a secondary clutch puller available through EPI. 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.
9. 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 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. Install snap ring and remove clutch from tool. Install the **EPI** helix into clutch and push down. 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 to 52 inch pounds. Do not under or over tighten torx bolts.
10. If you removed both clutches from the machine it is easiest to install both clutches and the belt at the same time. To install both clutches and the belt place the belt in the secondary clutch so the numbers on the belt read from left to right. Squeeze the belt at the opposite end of the clutch to force the belt to open the secondary clutch and slide the belt down into the clutch OR you can LIGHTLY tap on the belt with a plastic or rubber hammer to force the belt into the clutch. Place the primary clutch through the belt and slide both clutches onto the machine. If you did not pull the primary clutch off, you will need to place the belt in the primary clutch and install the secondary clutch onto machine. Place the belt as much as you can into the secondary clutch, starting at the top of the secondary. If you can't get the belt completely on rotate the clutch so the belt rotates on. Torque the secondary clutch bolt to 15 ft/lbs. Torque the primary clutch bolt to 45-47 ft/lbs.
11. Install the plastic clutch cover making sure it seals properly. Install the small metal clip back onto the machine. Tighten the clamps or zip ties to seal the vent tube on top of the clutch cover. Install the side panel and seat. Install the foot rest and prepare to ride.
12. If after riding the machine something doesn't seem right, double check that the secondary clutch has been assembled correctly.
13. **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.