



EPIperformance.com



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ARCTIC CAT OUTLAW SUPER DUTY KIT INSTRUCTIONS

Model: 650 H1 PROWLER 4x4 2006-2009 (27"-28" TIRES) Part #: HLCKA650PR

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

- Set of metric sockets
- Phillips and flat tip screwdrivers
- #25, #30 Torx
- Snap ring pliers
- Torque wrench
- Spring tool or needle nose pliers
- Clutch compression tool (EPI part # CCT510)
- 1/2 impact wrench
- 2-3 quarts of Arctic Cat Motor Oil

GASKETS NEEDED TO INSTALL CLUTCH KIT

- **Order gaskets from your local dealer before you install clutch kit.**
- Internal Clutch Housing Gasket - part #0830-116

Engagement

18-1,900 RPMs

1. Remove the key from the ignition switch. Remove driver's and passenger seats. Remove black plastic center console between the seats. The console lifts up and off from the engine bay. Remove plastic floor pan. Remove clutch housing cover and gasket. Note the length of the bolts and their location.
2. Once the clutch cover has been removed you should be able to see the both clutches. Remove the large nut and washer that holds the primary clutch (rear clutch) on. Once the nut has been removed pull the clutch off of the machine and place on a flat clean surface. Carefully slide the inside plate up and out of the clutch. This should reveal eight clutch rollers.
3. Remove all eight of the stock rollers and set them to the side. Press in the new weights, supplied in the kit into the new roller housings supplied in the kit and place the roller back in the clutch. The weights can only be pushed into the housings one direction, make sure you are pushing it out the right way or damage can occur. Repeat this step for the remaining rollers. **NOTE: If your kit has two different weights, be sure to place them directly across from each other (or every other one). This keeps the clutch in balance.** Make sure you have all eight of the rollers in the proper place and position. Install the inside plate making sure all the rollers are in the proper location. Place clutch out of the way and start working on the secondary clutch.
4. **'07-'09 Prowler** - Remove the large nut and washer that holds the secondary clutch on. Remove the clutch and the belt from the machine. Using a compression tool (EPI part # CCT510) carefully compress the spring enough to take the pressure off the snap ring. Remove the snap ring and slowly release the pressure off the spring. Remove the spring. **'06 Prowler** - Remove the bolt that holds the secondary clutch on. Remove the clutch and belt from the machine. Using a spanner wrench or punch and a hammer loosen the large nut holding the secondary spring retainer. ONLY TURN NUT 1/2 TURN - DO NOT TOTALLY REMOVE THE NUT. The nut and retainer are under extreme pressure and can cause damage or injury if not removed properly. Using a compression tool (EPI part # CCT510) carefully compress the spring enough to take the pressure off the nut. Remove the nut and slowly release the pressure off the spring. Remove the spring.

5. **'07-'09 Prowler** - Install the EPI secondary spring in the **#1** hole in the helix and the **B** setting in the clutch. Align the helix on the shaft and place the snap ring on the helix. Using the compression tool (EPI part # CCT510) slowly and carefully compress until helix is approximately ½" above the plastic buttons. While holding the clutch, turn the helix counterclockwise approximately ½ - 1" just enough for the helix to clear the plastic button. Compress the helix the remainder of the way. Align the key way in the shaft and in the helix and install the key way and the snap ring. Once the snap ring has been installed you can remove the clutch from the press. Set the clutch aside.
'06 Prowler - Place the EPI spring in the clutch. Place the spring retainer on top of the spring. Set the nut on top of spring retainer, using the compression tool or press slowly and carefully compress the spring until the retainer is at the top of the shaft. Rotate the spring retainer so the flat spots line up properly to fully compress the spring. Once the retainer is in place tighten the nut, remove the clutch from the press and torque the nut to 72.5 ft/lbs.
6. Remove the oil drain plug from the motor; if you can carefully drain it into a clean container you should be able to reuse it. After oil is drained remove the bolts that hold the aluminum housing that contains the internal clutch. This is the housing that has the shaft sticking out of it that the primary clutch sits on. Slowly remove the housing, try not to damage the gasket. If gasket is damaged you will need to install a new one. Some oil may leak from the housing when first removed, this is normal. **Note: There is a directional bearing inside the clutch housing that could fall while removing the housing.**
7. Remove the nut (left handed threads) holding the internal clutch on. Slide the clutch basket off; keep track of which side faces out. Place clutch on a clean work area. Push down slightly on the outside cover and remove the e-clips. Keeping track of which way they come off remove the three round metal plates one at a time. This will allow you to see and change the complete spring. Remove the stock sprague springs. Install the EPI springs by inserting the spring into the outer edge first. Using a spring tool or pliers pull on the spring and insert the end into the hole. Install the three metal plates and the e-clips. Slide the clutch basket back onto the machine. Install the nut and torque it to 94 ft/lbs. If the directional bearing came out, replace the bearing on the inner Sprague clutch. The bearing is stamped indicating which side faces out. Make sure to put the bearing on making sure the stamping is facing out, if it did not come out when removing the housing it should be good. Install the gasket and install the aluminum housing. Torque the housing bolts to 7.2 ft/lbs.
8. Bolt on the clutch housing and any other brackets that were removed. Push the back half of the primary clutch back onto the shaft. Put the secondary clutch on; make sure it slides on all the way. Torque the nut to 72 ft/lbs. Thread the bolt included in this kit into one of the threaded holes on the side of the secondary clutch. This should spread the clutch sheaves apart. Put the belt in the clutch. Most belts have an arrow indicating direction of rotation. If your belt doesn't, be sure to install it so that you can read the part number. In either case, always run the belt the same direction as it was new.
9. Grab the primary clutch, push the inner part down with your thumbs and hold down as you pick up the clutch. While holding the inner part of the clutch from moving, slide the primary clutch onto the shaft. This should keep the rollers in place. Keep it pushed in until you can install the nut and washer. The clutch should slide all the way back easily. If the clutch doesn't seem to go on far enough to tighten the nut properly (it should slide all the way on to the edge of the splines) you might have a roller out of place or the belt might be blocking it. If needed, move the belt up and down to see if the clutch will slide on farther. If the rollers seem out of place take the clutch apart and check roller location. Install the large nut and torque it to 83 ft/lbs. Remove the bolt that was threaded into the secondary clutch.
10. Carefully install the clutch cover and gasket to ensure a good seal. Install the foot rest including the brake pedal and metal support bracket if they were removed. Attach the fenders to the foot rest.
11. Install oil drain plug. Refill your engine oil to the proper level according to owners manual. You can reuse your oil if it is clean and was drained into a clean container. You must use NON Friction Modified oil (stock Arctic Cat). DO NOT use oils with Friction Reducing Agents, this WILL CAUSE SLIPPAGE AND DAMAGE.
12. Go out and ride your machine. If the performance doesn't seem right double check to make sure everything has been done properly.

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.