

# Grizzly 660 - Clutch Maintenance - Primary and Secondary Sheave

by **dknarnd**, 2005-03-16

Once I have my photos formatted for the forum there will be some photos posted with this tip.

## Primary and Secondary Sheaves

- Remove the seat.
  
- Remove the right side panel.
  
- Remove the right side floorboards.
  
- Remove the 10mm bolts holding the drive belt cover on. The gasket on the cover is a reusable rubber gasket so take care not to harm it. You will have to depress the brake pedal for clearance to remove the cover.
  
- Remove the bearing housing from over the primary clutch. There are 4 bolts holding this on, two of these are longer and when assembling they go in the upper right and lower left holes. Be careful not to get any dirt inside the bearing that is in the center of the bearing housing.
  - o If doing maintenance on the secondary sheave or changing the spring check the section below titled "Secondary Sheave" before continuing.
  
- Next you have to loosen the 22mm nut holding the primary sheave on. Most people use an impact wrench to do this but you can also do it by hand. A large strap wrench, able to handle a minimum of 7" diameter is required to hold the primary sheave. If a strap wrench is not available I have used an old accessory belt off of a vehicle by wrapping it around the sheave and holding it tight together with a pair of vise grips then attaching the end of the belt to the floorboard supports with another pair of vise grips.
  
- Once the primary nut is loose take two of the long 10mm cover bolts and place them into the holes on the secondary sheave center area to expand the sheave and loosen the belt.
  
- Now remove the nut holding the primary and remove the primary from the shaft. Keep the surface of the sheave clean of grease and dirt and take it to a bench. The inner

primary fixed sheave and stay in place for now, just before assembly, remove and clean it.

- o If you remove the belt make sure it has an arrow on it pointing towards the front of the machine, if it does not mark the belt so that you place it back on exactly like it came off.

- Remove the 8 Phillips screws and copper washers that hold the primary sheave cap on and carefully pry off the cap being careful not to bend it or tear the o-ring gasket that is underneath it. Once this is off clean the grease off of the primary pulley cam.

- Next carefully remove the primary pulley cam and clean the grease off of it. Be careful not to loose the 4 sliders that are attached to the cam.

- Now you will see allot more grease and the 8 roller weights. Take the weights out and clean all of the grease off of the weights and from inside the primary sliding sheave.
  - o If you are changing weights there is a plastic cover on the stock weights that will have to be removed and used on the replacement weights (unless your weights include the cover). I used a socket sitting on the bench and pressed the weight down over the socket to remove the cover, being careful not to damage the cover. To install the new weight just press them into the cover by hand very carefully.

- To grease the primary sliding sheave use about a teaspoon of Grizzly Grease (good quality marine grease can be substituted) per weight. I placed about half into the guide where the roller weight sets then placed the weight into the slot and the other half smeared onto the inside surface of the primary sliding sheave. Basically in the same placement as what grease was removed when cleaning it.

- Re-assemble the primary sheave assembly in the reverse order being aware to keep the weights in their proper place by keeping the primary pulley cam pressed in while handling the assembly. Keep the sheave face as clean and free of greasy fingerprints as possible. I have used Carburetor or Brake cleaner to clean the sheave faces, just be certain not to get any cleaner where the grease should be. It is also a good idea to take very fine sandpaper and just lightly score the sheaves before assembly to take off any glaze. Again wipe clean and keep the dust out of the grease.

- If you haven't already, clean the inner primary fixed sheave.

- o If you have the secondary sheave assembly off now is the time to place it back onto the machine following the instruction found in the secondary section below.

- Install the primary sheave assembly back on the shaft being careful to make sure the spines line up properly. Now put the nut on and torque it to 85 ft – lb.

- Install the bearing housing back over the primary clutch, remember the two long bolts belong in the upper right and lower left holes. These get torque to 7.2 ft – lb.
- Remove the two 10mm long bolts from the secondary sheave assembly.
- You can now start it up and run it in neutral to verify that the primary sheave has full travel. Many people have put this together only to find that a weight has slipped out of place during assembly.

## Secondary Sheave

- If you are removing both the primary and secondary sheave assemblies loosen the 22mm nut on the secondary assembly before loosening the nut on the primary assembly then continue with the primary instructions as listed above.
- Remove the belt paying attention to the orientation of the arrow on the belt pointing towards the primary sheave assembly. If there is no arrow visible place a piece of tape on the belt with an arrow facing forward before removing the belt.
- Remove the two 10mm cover bolts you placed into the secondary sheave to loosen the belt.
- Next remove the nut from the secondary and slide the secondary sheave assembly off.
  - o To disassemble and replace the spring you will need a spring compressor for this task.
- Before you complete the assembly of placing your secondary into the spring compressor, loosen the large nut holding the spring in place, **ONLY ABOUT 1/8 TURN – DO NOT REMOVE THE NUT AT THIS TIME.** I do not know what size it is but I do know you need something larger than a 15” adjustable wrench because it will not open up enough to fit.
- With the spring compressor in place tighten up on the nut to put pressure on the spring seat just enough to allow you to back the large nut off.
- Once the large nut is off, back off on the spring compressor nut to relieve pressure on the spring. Take the spring off and place your new one on then reverse the procedure to complete the assembly of the new spring onto the secondary sheave assembly.

- Torque the large nut to 65 ft – lb.
- Place the secondary assembly onto the shaft and put the nut on but do not torque it at this time.
- Place the two 10mm long bolts into the secondary and separate the sheaves.
- Place the belt onto the secondary assembly, pay attention to the arrow.
- If you have the primary sheave assembly off now is the time to place it on the machine and torque it on.
- Remove the two 10mm long bolts from the secondary sheave.
- Torque the nut holding the secondary sheave on to 85 ft – lb.