



Part Number: PRC-8000 Custom Rhino Overdrive / Underdrive Sheave Kit
Contents: 1 Modified Yamaha Sheave with Studs & Spacer Nuts Installed;
8 Brass 4mm Washers and 8 Thin 8mm SS Hex Nuts – 1 20mm Shaft Spacer

READ AND UNDERSTAND THESE INSTRUCTIONS COMPLETELY BEFORE BEGINNING INSTALLATION.

Do not remove the 8 studs or the lower spacer nuts from your new Sheave. The lower (thicker) nuts are used as cover spacers.

THIS INFORMATION IS PROVIDED AS SUGGESTIONS ONLY, MPI MAKES NO GUARANTEES AND ACCEPTS NO LIABILITIES; IMPLIED OR STATED. USE THIS INFORMATION AT YOUR OWN RISK.

This modified Sheave works extremely well on Stock and Supercharged Units.

- This sheave is NOT recommended with Tires over 27 inches in height
- We have not seen positive effects from any other aftermarket clutching components. Including:
 - Modified or shimmed secondary springs.
 - Lighter or heavier primary rollers
 - Altered sprag (wet clutch) springs.
 - BEST COMBINATION is 100% OEM with Modified Sheave
- Always install a new belt when installing the clutch
- Always install 110grams of new grease when installing the kit.
- Yamaha omitted the Tachometer for some reason, but it is imperative for monitoring performance, please do not call for tech support without tach readings; thank you.

PRIMARY CLUTCH REMOVAL

1. Remove Plastic Drive Belt Cover and Rubber Gasket (the Fuel Tank will have to be removed 1st on Supercharged models).
2. Remove Cast Aluminum Bearing Housing (“Clutch Basket”) over Primary Clutch (4 - 6mm Bolts). Be sure and save the 2 dowel pins behind the basket.
3. Spread the secondary sheaves by threading in one of the 4 – 6mm Clutch Basket bolts you just removed into 1 of 2 the center hub holes in the secondary. Do not use an impact on the bolt to separate the secondary.
4. Remove, Inspect and Discard the Primary Drive Belt. Factory recommends replacing the drive belt every 50 to 100 hours. We have seen no increased wear with the new sheave (or the supercharger for that matter).
5. Remove the Primary Sheave Nut (22mm Socket); Impact works best
6. Remove the Primary sheave and the large steel collar that sits on the shaft that the clutch rides on (about 1-3/8” Diameter by 3” long)



PRIMARY CLUTCH MODIFICATION

7. Remove the 8 phillips headed 4mm screws and copper washers (they will not be reused)
8. Remove the Primary Pulley Sheave Cap and o-ring (do not stretch the o-ring)
9. Remove the Primary Pulley Cam (“Spider”). Keep track of the 4 metal Spacers and the 4 Plastic Sliders.
10. Clean grease, etc from all parts being reused. Pulley Sheave Cap, Spider, 1-3/8” diameter x 3” metal collar, 8 Rollers, 4 ea metal spacers and plastic Sliders.
11. Measure 110 grams or 4 oz (or ¼ of a 1 pound tub) of Yamaha Ultramatic Grease. About 80% of the grease will be used to coat the rollers with the remaining 20% will be used to coat everything else. Coat the inside and outside of the OEM 1-3/8” x 3” steel collar with grease. Coat the inside of the seals and the bushings inside you new overdrive sheave. Coat the 8 grooves in the sheaves that the roller ride in with grease. Cover the outside of each roller with 10 grams of grease (about 1/10 of the amount measured out on each roller).
12. **SPECIAL NOTE: ONCE YOU BEGIN THE SHEAVE ASSEMBLY, KEEP IT FLAT ON THE BENCH UNTIL THE COVER IS TORQUED INTO PLACE.** Once the cover is install, you must still keep the spider press against the sheave / away from the cover.
13. Install the 8 OEM grease coated rollers into the new sheave. Be sure that none of the rollers fall over or get cocked in the groove. Misplaced rollers will cause the machine to function improperly and possibly destroy parts.
14. Reinstall the OEM Spider (including the 4 metal spacers and plastic sliders into your new sheave. Be sure that the larger square flange on the plastic slider is pointing down, towards the inside of the clutch.
15. Remove the 8 top nuts and brass washers from your new sheave. The 8 stud and bottom nuts are loctited in place and should not be removed.
(Only if you mistakenly remove the studs; backoff the lower thicker nut. Loctite the stud. Screw the stud in all the way, then back the stud out 2 turns. Hold the stud in place and tighten the lower, thicker nut.
16. Replace the outer o-ring than seals the cover.
17. Place the cover onto the new sheave. Press it down evenly enough to start the nuts and washers. **INSURE THAT THE COVER O-RING IS STILL IN PLACE**
18. Install the 8 brass washers and the 8 Thin Stainless 4mm nuts to hold the cap in place. Use Red 272 Loctite on the nuts. **DO NOT OVER TIGHTEN** the nuts. Torque nuts to 20 in-lbs. Be sure that there is not more than 1 or 2 threads protruding from the top of the nut. A long stud will cause a problem.

PRIMARY CLUTCH INSTALLATION

19. **DO NOT TIP THE CLUTCH UPSIDE DOWN. ROLLERS WILL FALL OUT OF PLACE.**
KEEK THE SPIDER PRESSED BACK AGAINST SHEAVE (AWAY FROM THE COVER)
20. Slide the collar onto the Primary shaft.
21. **SLIDE THE 1mm THICK SHIM INCLUDED IN YOUR SHEAVE KIT ONTO THE SHAFT NEXT.** The shim is 20mm ID, 28mm OD by 1mm. The Long Collar and the Shim must but be on the shaft before you install the sheave.
22. Check to be sure both sheaves are clean and grease free.
23. Install the new sheave over the shaft, collar and spacer washer / 1mm shim. Be careful to not roll seals over when install sheave onto collar.
24. Install the Large Primary Sheave nut and torque to 85 ft-lbs.



MOUNTAIN PERFORMANCE

25. Install a new belt. Note the directional arrow on the belt. With the Arrow on the top of the belt, the Arrow should point to the primary clutch (or towards the back of the vehicle).
26. Remove the bolt holding the secondary open that you install earlier to separate the secondary clutch. The bolt used to separate will be reused to install the clutch basket.
27. Install the Cast Aluminum Bearing Housing ("Clutch Basket") over Primary Clutch (4 - 6mm Bolts). Be sure the 2 dowel pins behind the basket step in the correct place. They are easy to loose. Torque the basket bolts to 7.2 ft-lbs
28. Check clearance between the primary clutch and the Bearing Housing / Basket. Put the vehicle in Neutral and release the parking brake. Make 2 full revolutions on the primary clutch and insure that none of the 8 primary cover nuts or studs hit the Bearing Housing / Basket.
29. Install the Plastic Drive Belt Cover and Rubber Gasket (the Fuel Tank will also have to be reinstalled 1st on Supercharged models). Torque to 7.2 ft-lbs.

OPERATION

30. Allow as many miles as you can stand it for belt break-in. 50 miles is optimum. Belt break-in means keep the belt cool. No full throttle, no towing, no lugging, etc. Keep the belt cool. The better you break-in the belt, the longer the belt will last and the longer the sheaves will last.



