



RIVA RACING
PERFORMANCE PRODUCTS & ACCESSORIES

Ceramic Supercharger Bearing Set
PART# - RS1750-CB-420

APPLICATION(S): Sea-Doo 255hp, 215hp & 185hp Engine Superchargers

Required tools

| | Part# |
|-----------------------------|--------------|
| Torx Screw adapter | 529 035 938 |
| 4-pin socket | 529 035 948 |
| Impeller Shaft Holder | 529 035 949 |
| Ball Bearing Support/Pusher | 529 035 950 |
| Hydraulic Press | N/A |

Recommended tools

| | Part# |
|----------------|--------------------|
| Oetiker Pliers | C-48550347 |
| Mounting Plate | 529 035 947 |
| Service Manual | <i>Please call</i> |

IMPORTANT NOTICE:

Supercharger washer degradation or failure can cause a loss in performance and/or engine damage. Washers should be inspected and or replaced.

***** NOTE: Allow craft's engine to cool thoroughly before performing installation. *****

- INSTALLATION INSTRUCTIONS -

1. Remove D.E.S.S. lanyard and disconnect battery cables.
2. Remove engine compartment cowling (RXP-X & RXP models) or seat bridge (RXT-X, RXT & GTX-SC models).
3. Remove inlet and outlet hoses attached to supercharger unit. (see illustration #1)
4. Disconnect exhaust gooseneck from exhaust manifold. Disconnect left muffler restraining strap and slide muffler rearward.
5. At the supercharger remove the 2 lower/front bolts (see illustration #2) & 1 upper/rear bolt (see illustration #'s 3) securing unit to engine. **NOTE: You will need a special Torx adapter to remove and replace the upper/rear bolt.**
6. Remove supercharger unit from engine.

NOTE: Before proceeding we recommend you verify clutch is operating properly. This should be done before disassembling supercharger unit. Refer to Engine Shop Manual for procedure.

If clutch slips prematurely clutch washers must be replaced. We recommend replacing OE washers with our Heavy-duty Clutch Washers (part# RS1751-HDW-*YEAR*).

It is extremely important that the area utilized to work on the supercharger unit is very clean. Any foreign debris introduced into the supercharger unit will cause damage. It is equally important that care is taken when performing the following steps so as not to damage the impeller or working parts of the supercharger unit. Even a small mark on the impeller would ruin the dynamic balance destroying the bearings and housing.

7. Secure supercharger unit to mounting plate and place in a securely mounted bench vise. Remove the nine bolts securing impeller cover to impeller housing. (see illustration #4) Remove impeller cover. **NOTE:** It may be necessary to tap the cover in order to remove it. **DO NOT PRY OPEN.** Use a small mallet and tap only on tab at top of impeller cover plate.

8. Secure impeller shaft on engine side of supercharger unit using shaft holding tool. Remove impeller cap nut and set aside. **NOTE: You will need to turn nut clock-wise as threads are left-handed.** Remove washer, impeller, o-ring and step collar. (see illustration #5)
9. On engine side of supercharger remove nut and all clutch components. (see illustration #6) **NOTE: BRP recommends that you replace the Supercharger clutch/shaft assembly (to '08 spec). Order part# 420881100. If using OE clutch washers we recommend you at least replace them with our Heavy-duty Clutch Washers (part# RS1751-HDW-YEAR).**
10. Carefully press supercharger shaft out of supercharger housing. (see illustration #7)
11. Carefully remove bearing from supercharger shaft. **NOTE: We recommend using the impeller shaft holder tool and a hydraulic press. (see illustration #8)**
12. On impeller side of supercharger housing, remove the retaining disc [at center] using a 4-pin socket tool. (see illustration #9) **NOTE: It may be necessary to heat housing to release retaining disc. Do not overheat!**
13. Using a press and suitable bearing pusher, remove bearing from supercharger housing. (see illustration #10)
14. Thoroughly clean supercharger housing halves of any sealant, dirt, oil, etc using a non-residual cleaner.
15. Apply engine oil to supplied Ceramic Bearings. Place one ceramic bearing on "protrusion side" of mounting plate with retainer cage facing downward. (see illustration #11) Insert supercharger shaft into bearing. Press shaft into bearing.
16. Place other ceramic bearing in supercharger housing (impeller side) with retainer cage facing out (towards impeller). Press into housing using ball bearing support/pusher. (see illustration #12)

NOTE: Both bearing retainer cages must face impeller.

17. Place ball bearing support/pusher onto protrusion side of mounting plate. (see illustration #13)
18. Place bearing in impeller side of supercharger housing on ball bearing support/pusher. Insert shaft into engine side of supercharger housing. (see illustration #14) Press shaft into bearing. **NOTE: Apply engine oil to shaft and heat to housing prior to pressing in.**
19. Secure supercharger housing to mounting plate. Install retainer disc. (see illustration #9) **NOTE: Apply red Loc-tite to threads. Torque to 30 N·m (22 lbf·ft).** If installing a new retainer disc do not apply Loc-tite as part is already coated.
20. If replacing retaining disc oil seal coat with engine oil and press [by hand] into retaining disc. (see illustration #15)

IMORTANT: It is critical that all parts and work area are absolutely clean during installation of engine side of supercharger (clutch assembly). Please refer to Sea-Doo service manual for procedure.

21. Apply Isoflex grease to clutch washer with larger inner diameter and install onto shaft. (see illustration #16) **NOTE: We recommend replacing OE ceramic washers with our Heavy-duty Clutch Washers at this time.**
22. Apply Isoflex grease to inner diameter of drive gear and to shaft. Wrap new needle bearings around shaft. Carefully remove adhesive backing. Install drive gear onto shaft and over needle bearings. (see illustration #16)
23. Apply Isoflex grease to clutch washer with smaller inner diameter and install onto shaft. (see illustration #16) **NOTE: We recommend replacing OE ceramic washers with our Heavy-duty Clutch Washers at this time.**
24. Apply Isoflex grease to lock washer and install onto shaft. (see illustration #16)
25. Apply engine oil to spring washers and install onto shaft. (see illustration #16) **NOTE: Installation direction is critical.**
26. Install L-ring onto shaft and secure with nut. (see illustration #16) **NOTE: Apply red Loc-tite to nut. Torque nut to 30 N·m (22 lbf·ft). Use impeller shaft holder to secure shaft.**
27. Install step collar, o-ring, supercharger impeller, washer and cap nut onto supercharger shaft in that order. (see illustration #17) **NOTE: Torque nut to 30 N·m (22 lbf·ft). Threads are left-handed. Use impeller shaft holder to secure shaft.**
28. Apply a thin coat of high temperature sealant to sealing surface on engine side supercharger housing. (see illustration #18) Spread evenly covering surface completely. Clean any excess sealant at inner edge of cover so as to prevent from discharging into impeller area when halves are joined together.
29. Install supercharger impeller cover and secure with bolts removed in step 7. **NOTE: Apply red Loc-tite to bolts. Torque in sequence to 10 N·m (89 lbf·in). (see illustration #19)**
30. Spin impeller shaft to ensure smooth operation.

31. Remove supercharger unit from mounting plate. Inspect o-rings on engine side of housing. If either is damaged replace both.
32. Thoroughly clean engine side of supercharger housing and coat unpainted area with Anti-seize. (see illustration #20)
33. Install supercharger unit onto engine. You may need to rotate supercharger impeller to allow gear to mesh with the flywheel gear. Secure supercharger unit to engine with bolts removed in step 5. **NOTE: Apply red Loc-tite to bolts. Torque to 10 N·m (89 lbf·in).**
34. Replace supercharger inlet hose. Replace supercharger outlet hose and secure with supplied Oetiker clamp. (see illustration #1)
35. Replace exhaust parts removed in step 4.
36. Run craft on flush kit to check for intake or exhaust leaks and to ensure smooth operation of supercharger.

Remember, the water belongs to everyone. Please ride responsibly!

Technical Support

For answers to questions regarding installation or trouble shooting RIVA Performance Products contact:
RIVA Technical Support directly at (954) 247-0705 or by e-mail at tech_support@rivamotorsports.com.

Limited Warranty

RIVA Ceramic Sea-Doo Supercharger Bearings carry a 90-day limited warranty to the original purchaser. They are warranted to be free of defects in materials and workmanship under normal use and service. Customer modified components will be void of warranty. This warranty is limited to defects in the primary components only. Finish and/or wear marks in or on primary components are not covered under this warranty.

RIVA Racing's liability is expressly limited to the repair or replacement of the components contained within or associated with this kit. RIVA Racing agrees to repair or at RIVA's option, replace any defective unit without charge, if product is returned to RIVA Racing freight prepaid within the warranty period. Any equipment returned which, in RIVA's opinion, has been subjected to misuse, abuse, overheating or accident shall not be covered by this warranty.

RIVA Racing shall have no liability for special, incidental or consequential damages or injury to persons or property from any cause arising from the sale, installation or use of this product.

No other warranty, express or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose, applies. Various states do not allow for the limitation of incidental or consequential damages and therefore the above exclusion or limitation may not apply to you.

Warranty does not include the expenses related to freight or transportation of parts or compensation for any inconvenience or loss of use while being repaired. A copy of the original invoice must accompany all warranty claims.

Warranted replacement parts will be returned freight collect.

- INSTALLATION IMAGES -

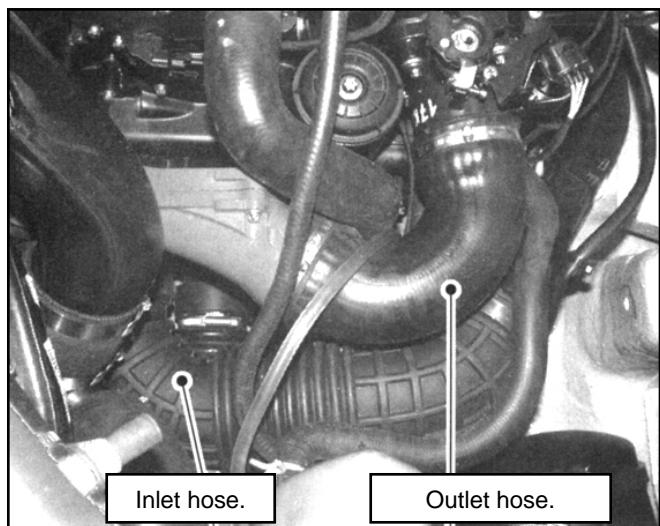


Illustration #1

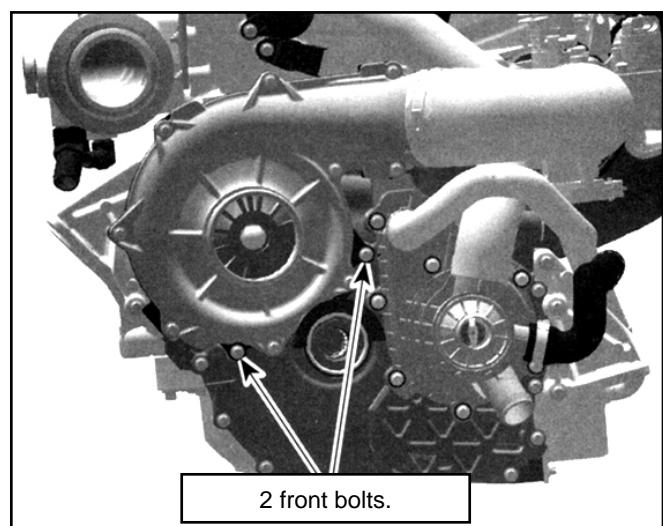


Illustration #2

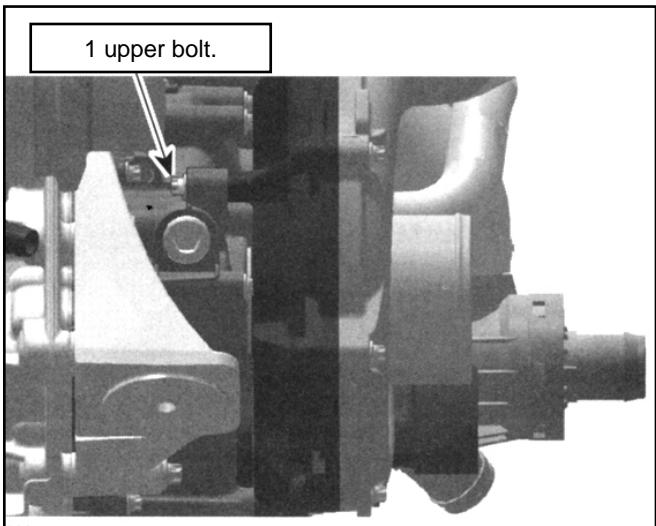


Illustration #3

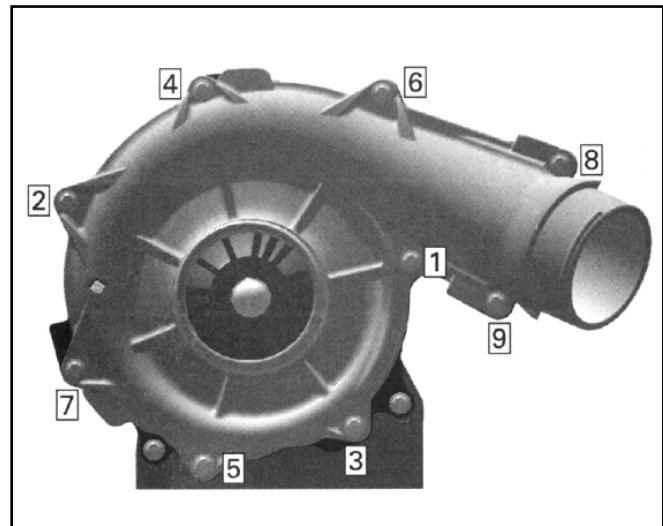


Illustration #4

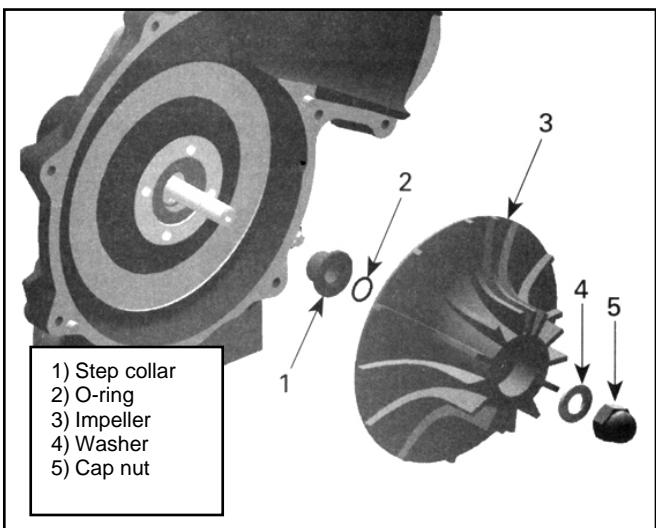


Illustration #5

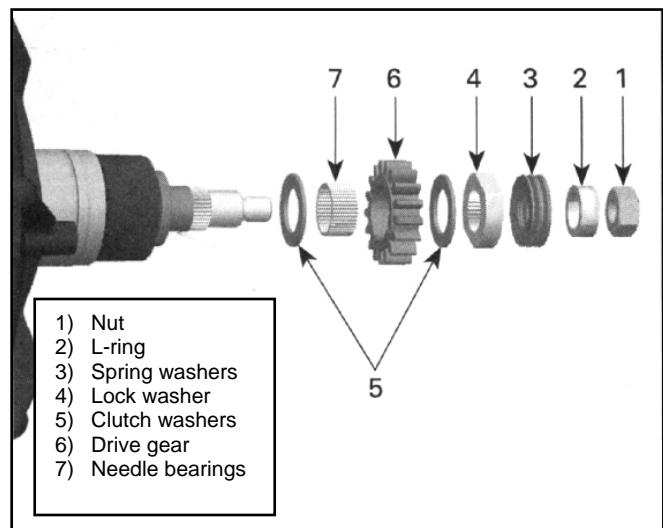


Illustration #6

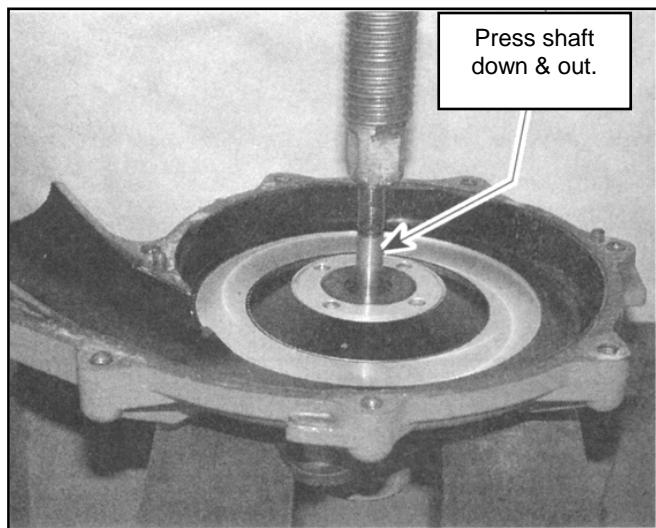


Illustration #7

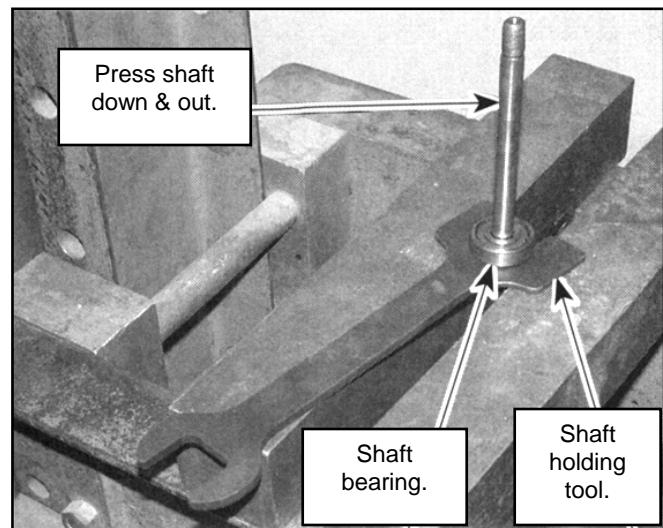


Illustration #8

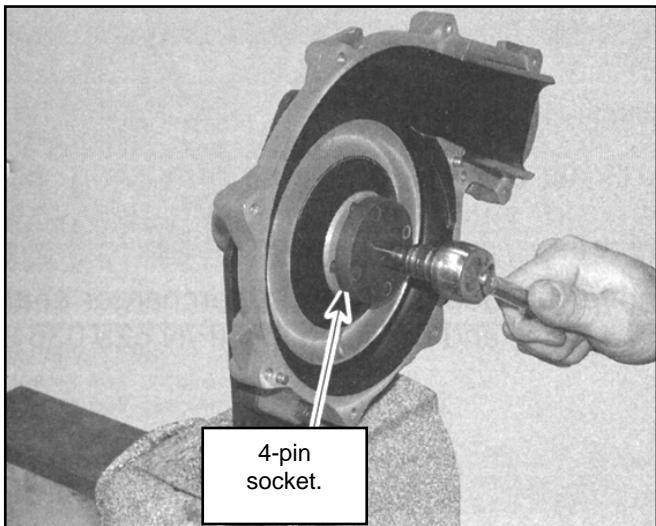


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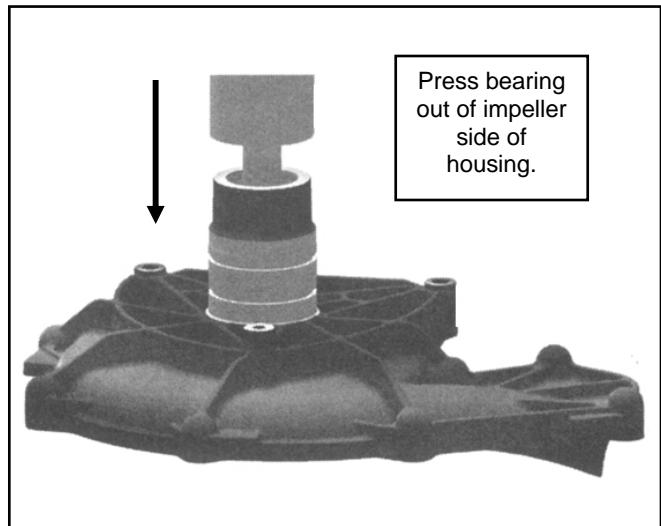


Illustration #10

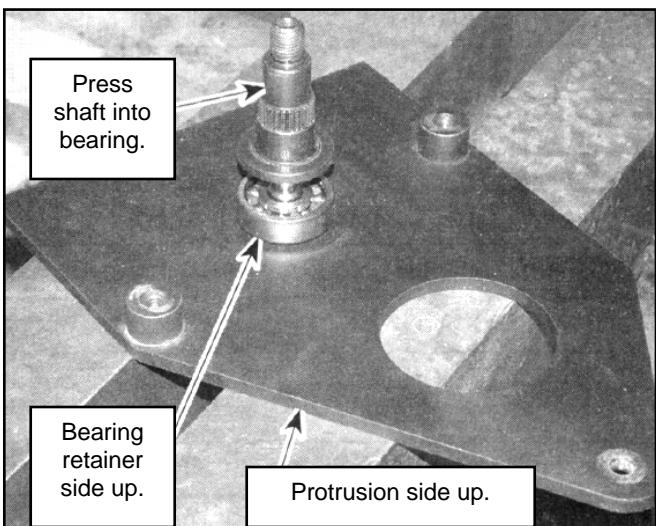


Illustration #11

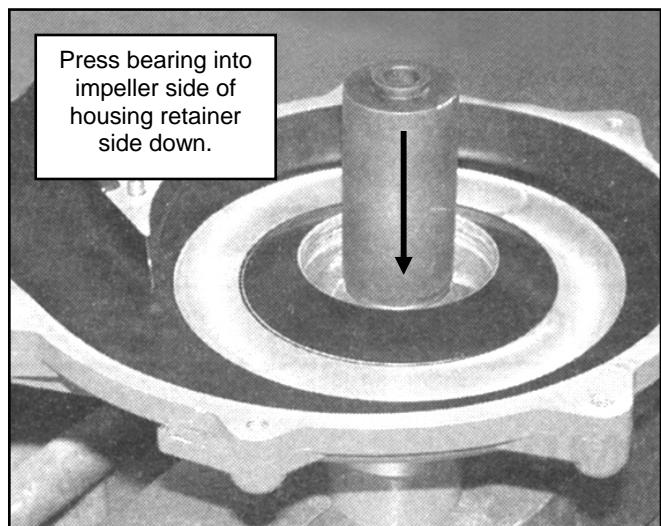


Illustration #12

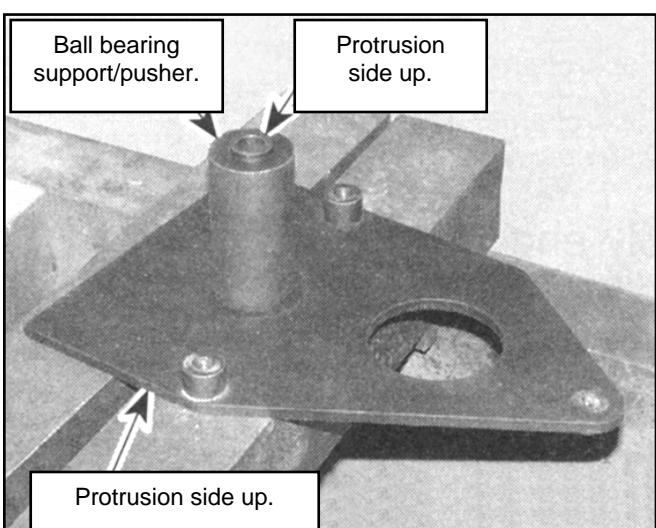


Illustration #13

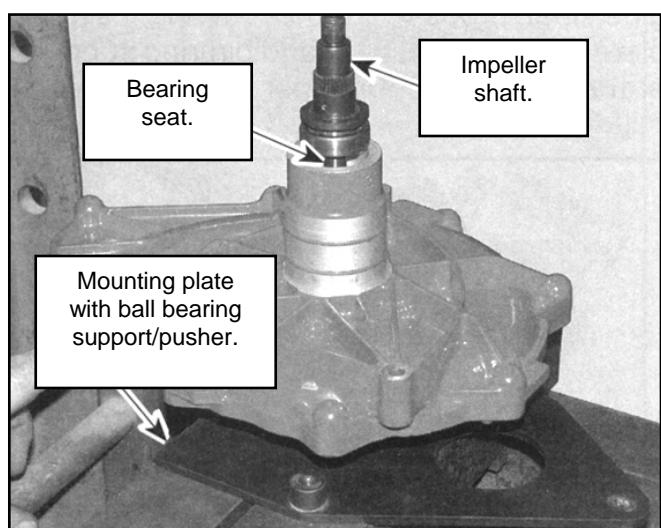


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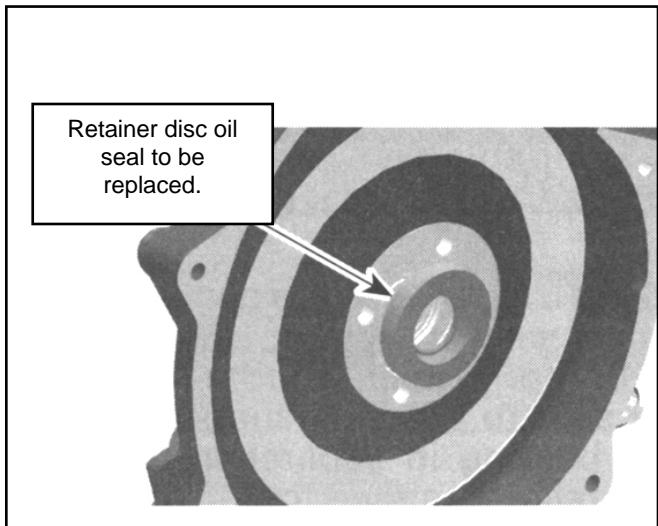


Illustration #15

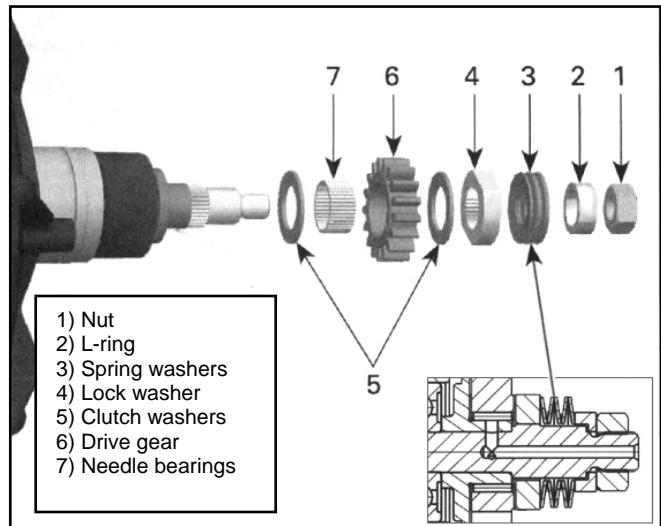


Illustration #16

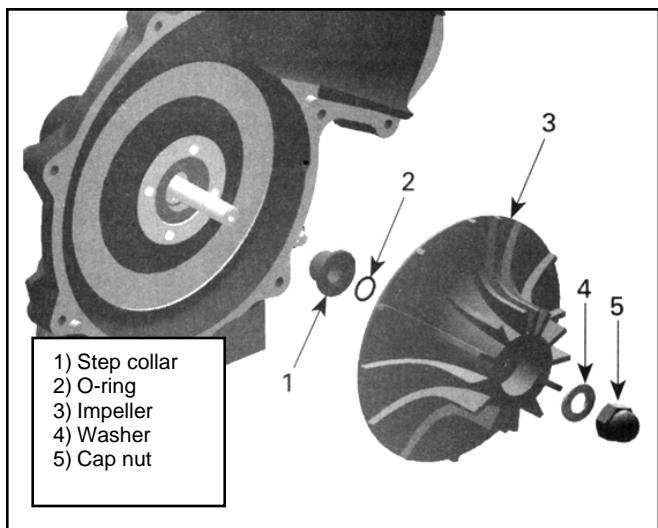


Illustration #17

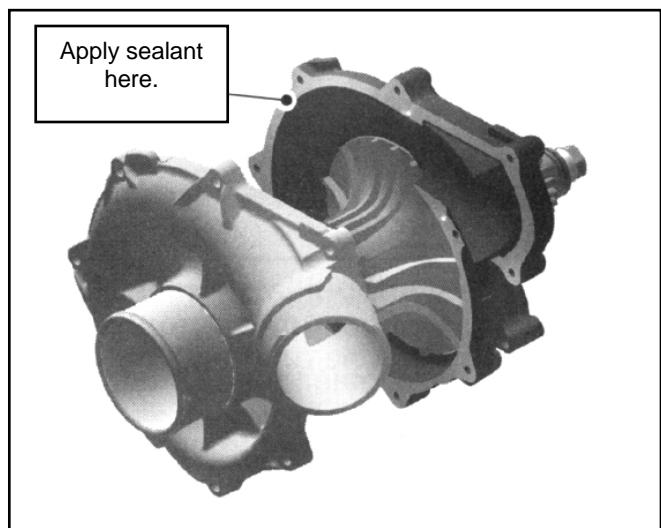


Illustration #18

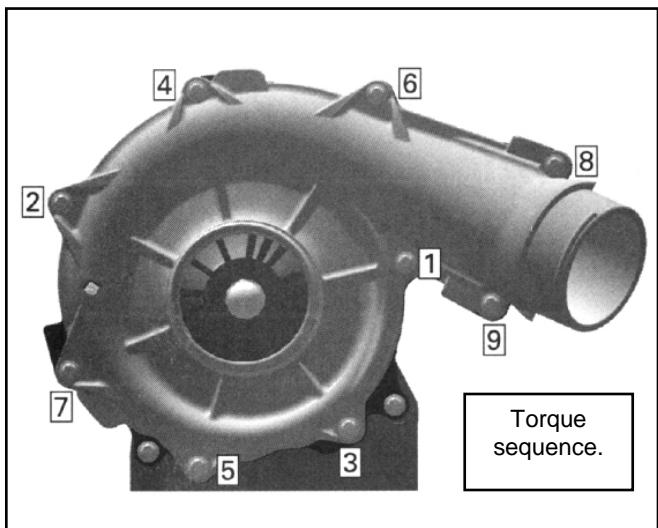


Illustration #19

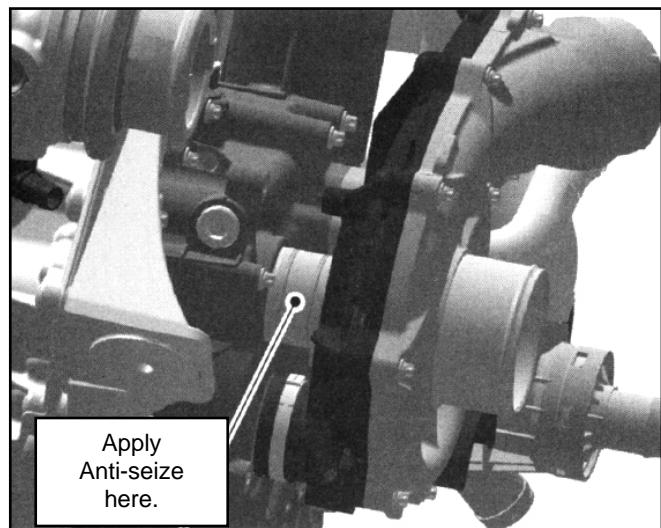


Illustration #20