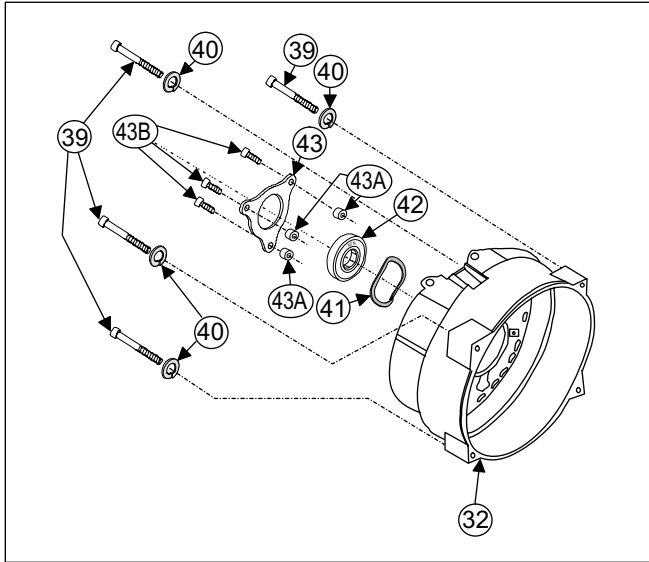
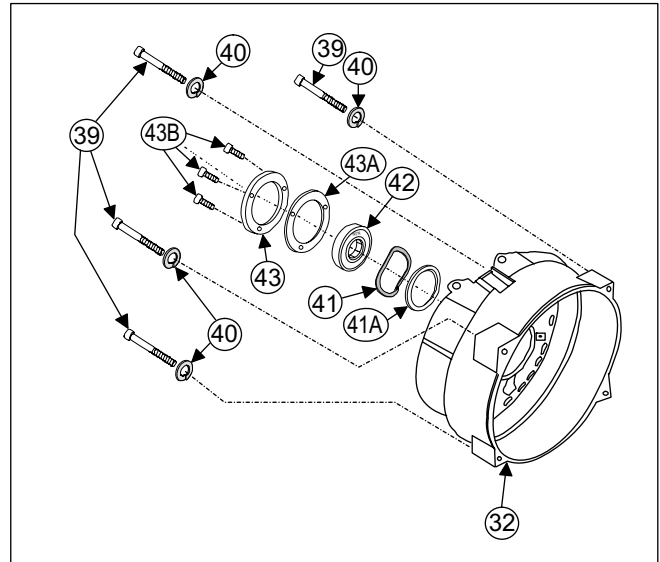


Many design changes have been made in these alternators since they were first introduced. Rear bearing retention has been changed three times. Heat sink, diode and output post design has been upgraded. Some older parts are just not being made any more. The PX-2 evolved into the larger and more powerful PX-5. Kits were created that included upgraded parts needed to get older designs charging again.

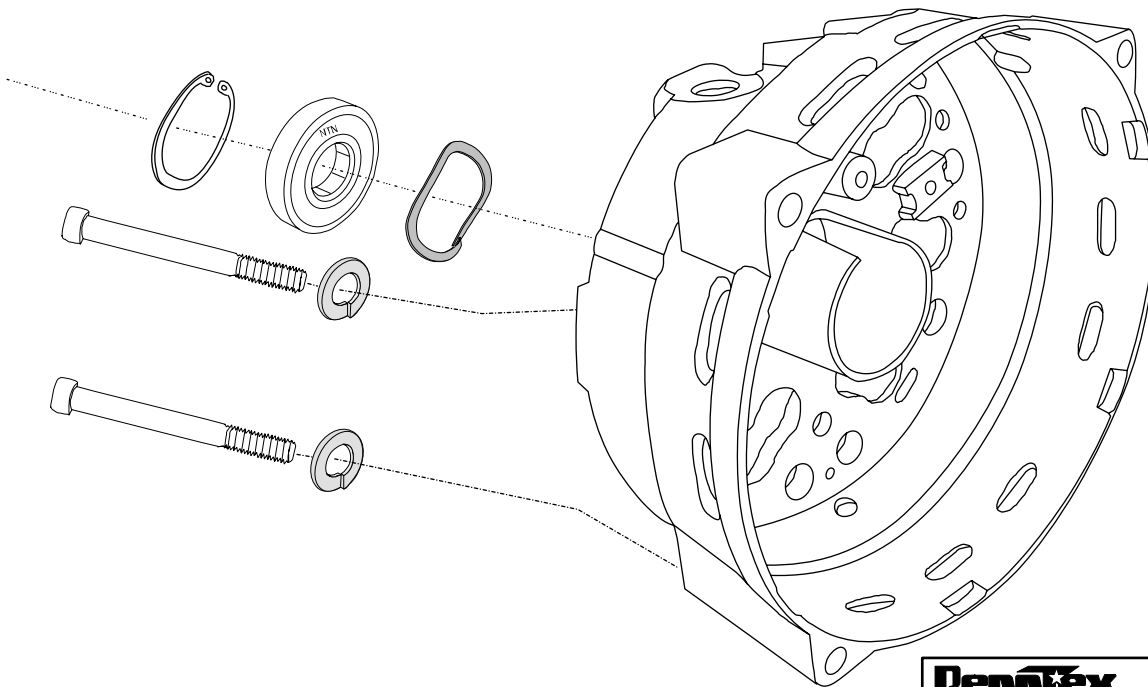
Parts for Early PX-2 made from
September 1996 to October 1997
(from Catalog Pages 4 & 5)



Parts for PX-2 made from
October 1997 to July 1999
(from Catalog Pages 6 & 7)



Below: parts used in latest design of rear housing. See Parts Lists on next page.



These kits include upgraded parts for rear housing assemblies that are no longer made. The kits also allow the purchase of parts that are otherwise only sold in multiples. Some PX-7 parts must be purchased in multiples.

PX-2 & PX-4G Series:

PX-2536 Parts Include:

- #1) 1: PX-2534 Bearing R & I Kit
- #32) 1: PX-1124 PX-2 & 4G Rear Housing
- #39 2: PX-1294 Case Thru Bolts
- #40) 2: PX-1104 1/4" Lock Washers
- #41) 1: PX-1249 Wave Spring
- #42) 1: PX-1025 PX-2, 4G, 7 Rear Bearing
- #43) 1: PX-1366 Retainer Snap Ring

NOTE:

FOR THE ABOVE PARTS MINUS THE PX-2534 BEARING INSTALL KIT AND MINUS THE PX-1124 REAR HOUSING, ORDER PART # **PX-2536-SP**.

NOTE:

PX-2, PX-4G, & PX-7 SERIES
USE DIFFERENT PARTS THAN THE PX-5 SERIES.
REAR BEARINGS, REAR HOUSINGS & OTHER PARTS DO NOT INTERCHANGE.
SEE PARTS LISTS OR PENNTEX PARTS CATALOG FOR MORE INFORMATION.

PX-5 Series:

PX-5508 Parts Include:

- #1) 1: PX-2534 Bearing R & I Kit
- #32) 1: PX-1292 PX-5 Rear Housing
- #39 2: PX-1361 Case Thru Bolts
- #40) 2: PX-1104 1/4" Lock Washers
- #41) 1: PX-1249 Wave Spring
- #42) 1: PX-1291 PX-5 Rear Bearing
- #43) 1: PX-1366 Retainer Snap Ring

NOTE:

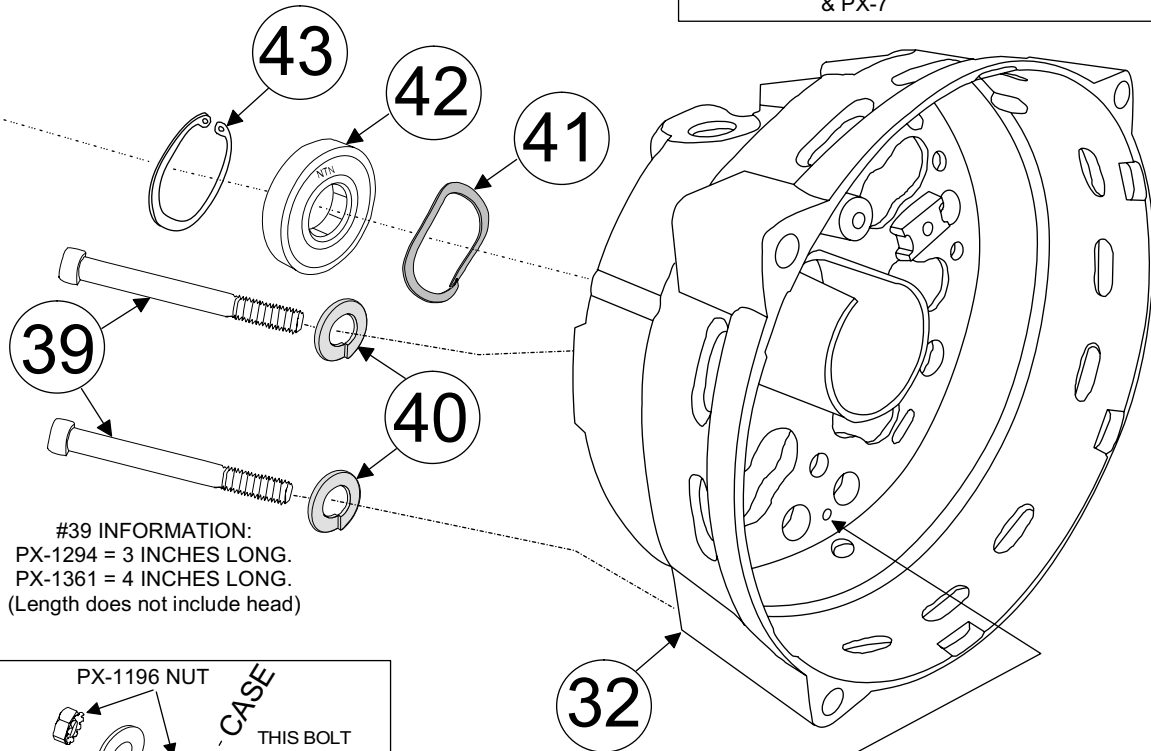
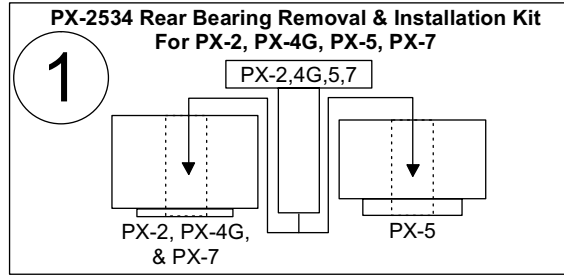
FOR THE ABOVE PARTS MINUS THE PX-2534 BEARING INSTALL KIT AND MINUS THE PX-1292 REAR HOUSING, ORDER PART # **PX-5508-SP**.

PX-7 Series:

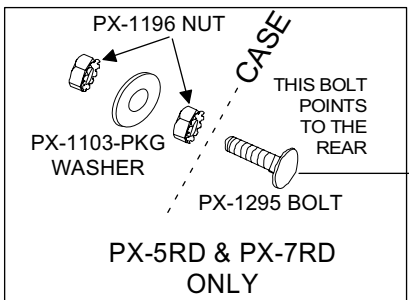
(No PX-7 Rear Housing Upgrade Kit is Made)

Part numbers used in PX-7:

- #1) 1: PX-2534 Bearing R & I Kit
- #32) 1: PX-7292 PX-7 Only Rear Housing
- #41) 1: PX-1249-PKG Wave Spring (Package of 10)
- #42) 1: PX-1025 PX-2, 4G, 7 Rear Bearing
- #43) 1: PX-1366-PKG Retainer Snap Ring (Package of 10)



#39 INFORMATION:
PX-1294 = 3 INCHES LONG.
PX-1361 = 4 INCHES LONG.
(Length does not include head)



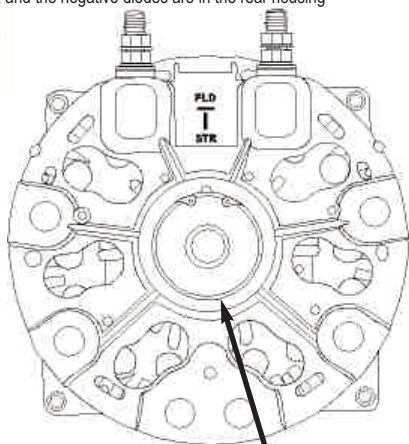
Penntex
INDUSTRIES, INC. Date: 06-11-2016
DRAWING BY DMc Scale: None
REVISED BY DATE:

**Rear Housing Upgrade Kits
for PX-2, 4G & 5 Alternators**

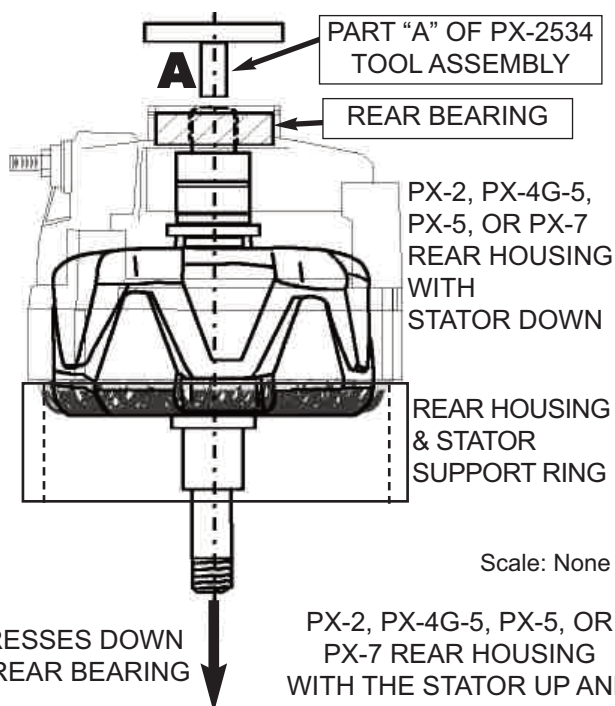


PX-2, PX-4G-5, PX-5 & PX-7 Rotor Removal Tool Instructions

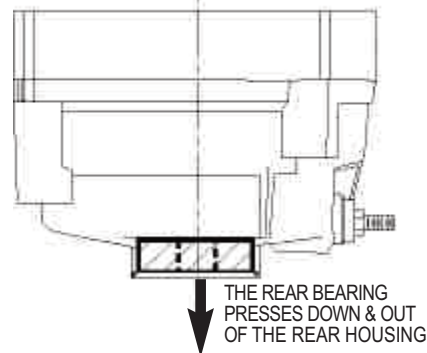
Note: A Dual-Positive-Post PX-5 or PX-7 Alternator will have an insulated bridge between these two posts, and the negative diodes are in the rear housing



REMOVE THE REAR BEARING RETAINER SNAP RING



PX-2, PX-4G-5, PX-5, OR PX-7 REAR HOUSING WITH THE STATOR UP AND THE ROTOR REMOVED/ SNAP RING REMOVED



These instructions are very important if you want to get the rotor out without breaking the rear housing. The rotor presses down and out of the rear bearing. The bearing stays in the housing and is pressed out from the other direction after removing the rotor. On a PX-2, PX-4G-5, PX-5, or PX-7 if you try to press the rear bearing out with the rotor, you will destroy the rear housing.

- 1) Remove the pulley attaching nut, pulley, fan, fan spacer, and housing bolts.
- 2) Lubricate the front and rear bearings with penetrating oil at the rotor. Let the penetrant soak in for a few minutes. Remove the front housing with a 3-jaw puller.
- 3) Place the assembly on an arbor press with the stator and housing supported.
- 4) Place Part A of the PX-2534 Tool assembly on the rotor shaft and bring the arbor press in contact with the tool.
- 5) Put slight pressure on the press and "bump" the rotor loose from the rear bearing. Once the rotor has started to move, more pressure can be put on the rotor to push it down and out of the rear bearing. If all of your force is put on the rotor before it breaks loose from the bearing, the rear housing can be cracked or broken. Start out with light pressure and the rotor will come out every time.
- 6) Once the rotor has been removed, the housing can be turned over and disassembled if desired. Removing the three stator attaching nuts and removing the stator makes disassembly easier. The rear bearing can be pressed out without taking the rear assembly apart if care is used to not damage the brushes when pressing the rear bearing out.

PERFORMANCE, ENDURANCE AND SATISFACTION

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PX-2, PX-4G-5, PX-5, and PX-7 Rear Bearing Installation Instructions Using a PX-2534 Assembly Tool

Page 1 of 2

NOTE: the procedures below are used with PX-2, PX-4G-5, PX-5, and PX-7 Series alternators that use a snap ring rear bearing retainer. This tool isn't used on 1999 and older PennTex models that use a 3-screw rear bearing retainer plate.

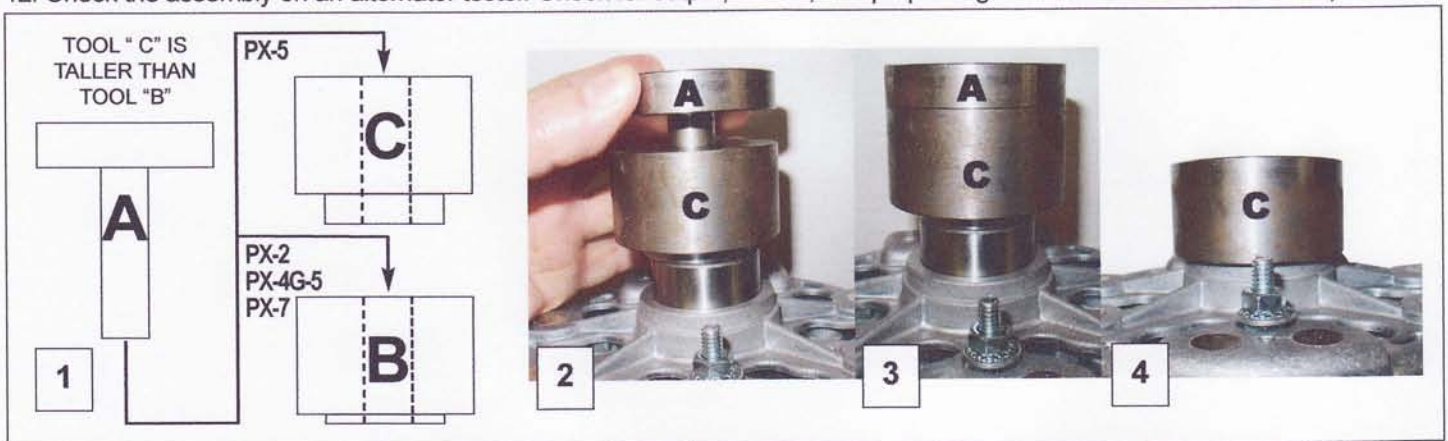
The rear bearing is the second-to-last part installed during assembly of the alternator. The rear bearing is installed from the rear, pressing into the rear housing and on to the rotor shaft. If an attempt is made to install the rotor with the rear bearing installed on the rotor, or with the rear bearing already installed in the rear housing, severe damage will be done.

Each rear bearing installation kit will contain three pieces:

- A: Rear Bearing Alignment Tool (*this tool can also be used to press the rotor out during disassembly - see Page Two*)
- B: PX-2, PX-4G-5, and PX-7 Rear Bearing Press Tool
- C: PX-5 Rear Bearing Press Tool

INSTALLATION PROCEDURES:

- 1: This tool properly positions the rear bearing in the case. It is pressed in from the rear of the almost completely assembled alternator. Note: the four housing thru-bolts that hold the front and rear housings together should be installed but loose enough to allow for the housings to shift around.
- 2: Use tools **A** and **B** when assembling a PX-2, PX-4G-5, or PX-7 alternator. Use tools **A** and **C** when assembling a PX-5. Tools **B** and **C** are a specific height and are used in specific alternator series to position the rear bearing properly in the rear housing. If the bearing is not pressed down properly, the bearing, case, and rotor can be damaged.
- 3: Place the alternator on an arbor press with the pulley facing down.
- 4: Install the PX-1249 wave washer in the rear bearing cavity. The same wave washer is used in these four alternator series.
- 5: Set the rear bearing loosely on the rear bearing cavity.
- 6: Depending on the alternator Series, place tool **B** or **C** on the bearing. PX-5 Series use **C**, and PX-2, PX-4G-5, & PX-7 use **B**.
- 7: Place tool **A** on top of **B** or **C**, and move the tools around until tool **A** centers itself inside the inner diameter of the rear bearing.
- 8: Press the tools and the bearing into the cavity until tool **A** bottoms out on the rotor shaft.
- 9: Remove tool **A** from tool **B** or **C** and continue to press the bearing down until **B** or **C** bottoms out on the rear housing.
- 10: The rear bearing is now in the proper location and the PX-1366 snap ring retainer (same in all four Series) can be installed.
- 11: Finish tightening the four case thru-bolts. Spin the alternator and check for binding or interference. Adjust the bolts as required.
- 12: Check the assembly on an alternator tester. Check for output, noises, and proper alignment of all exterior alternator parts.



Drawing 1 shows the components of a PX-2534 Kit and how they fit together. **Photo 2** shows tool **A** being inserted in tool **C** on a PX-1074 rear bearing and PX-5 series alternator. A PX-1249 wave washer has been placed in the bottom of the rear bearing cavity and the bearing is sitting at the top of the opening. **Photo 3** shows the alignment of the tools once tool **A** is centered in the rear bearing. **Photo 4** shows Tool **A** has been removed from tool **C** after tool **A** bottomed out on the rotor shaft. Tool **C** is bottomed out on the alternator housing and the rear bearing is in place at this point. When tool **A** bottoms out on the rotor shaft, the bearing is properly aligned in the rear bearing cavity, and tool **C** by itself can be used to finish pressing the bearing into the rear housing.