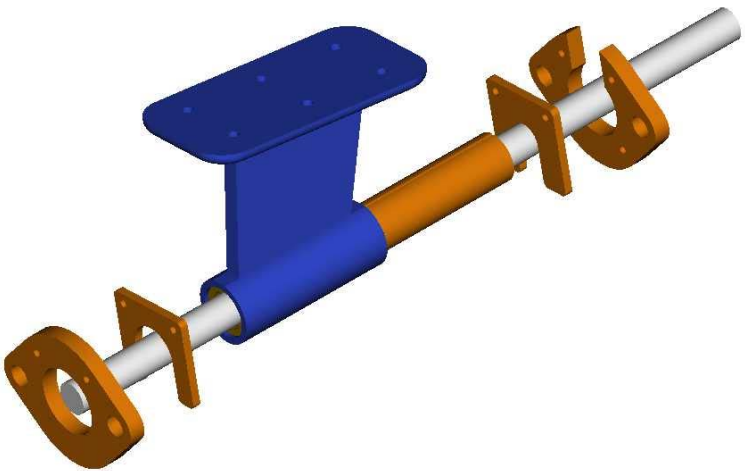


## Operating Instructions



### **Strut-Pro® Cutless® Bearing Replacement Tools**

*The Standard In Affordable Damage-Free Strut Bearing Replacement.*

## **WARNING**

***Strut Pro***® is a safe and convenient tool when used properly. As with any tool, however, it is important to have a thorough knowledge of proper use. To reduce the risk of serious injury, read the following safety instructions. Review all drawings and photos before using and please call us before using should you have any questions.

### **IMPORTANT:**

This tool is designed to replace the most popular size cutless bearings. Should you encounter a size that does not match properly to a collet, such as metric or a off standard size, shim the nearest collet that most closely matches the outer diameter of the cutless bearing. Use a thin, non-abrasive material between the propeller shaft and collet to properly space the collet to match the outer shell of the Cutless® bearing. Do not exceed the bearing outer diameter.

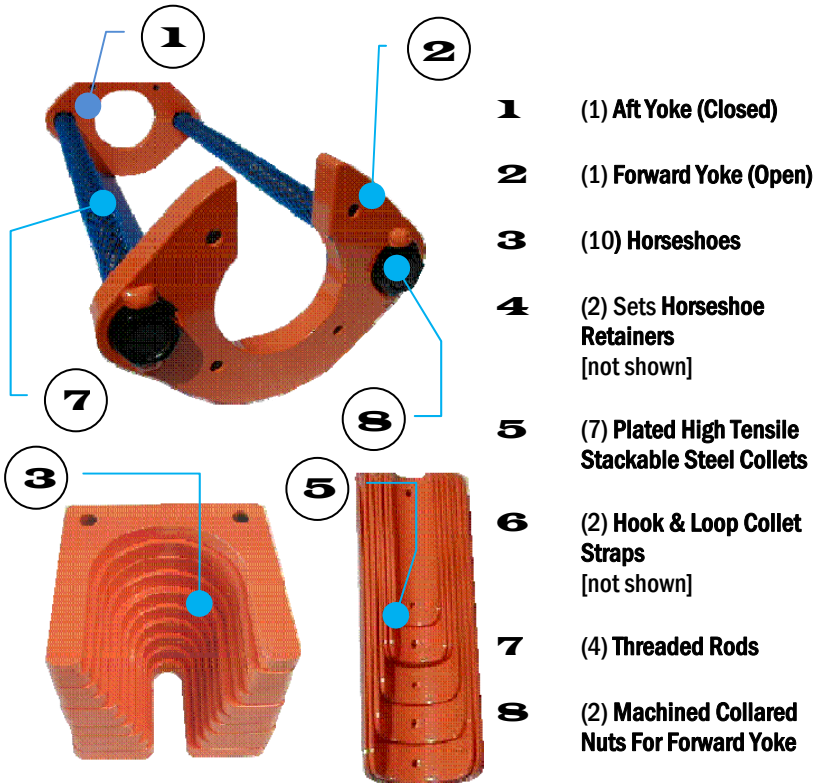
*The Standard In Affordable Damage-Free Strut Bearing Replacement.*

# TABLE OF CONTENTS

1. [Before you begin.](#)
2. [Set-Up Instructions.](#)
3. [Assembly Instructions.](#)
4. [Bearing Removal.](#)
5. [Bearing Installation.](#)

## Complete Kit Parts List

See exploded drawing below to view individual parts description.



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# Before You Begin

Thank you for choosing *Strut Pro*®. We take great pride in producing such a quality product. Review drawings and photos to familiarize yourself with the parts. Read this manual carefully before proceeding.

**The threaded rods are pre-lubricated with copper based anti-seize before shipping to insure smooth operation and prevent thread galling. Keep all parts clean and free of dirt and other debris.**

*Global Marine Industries, Inc.* manufactures its products with the finest materials and uses the highest standards of manufacturing. Despite our quality control measured, occasionally a defective part is not discovered in the inspection process. Also, from time to time, a part necessary for operation fails to be shipped with the product. Even with the highest inspection and quality controls in place these things can happen. Please do not return the product. Contact us should this problem occur and we will immediately remedy the problem.

***Global Marine Industries, Inc.***

Anacortes, WA 98221

**Telephone 425-397-6601**

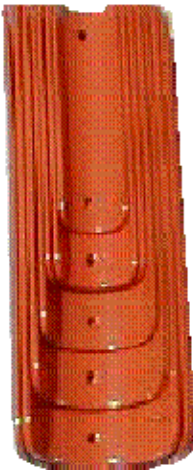
Email: [info@strutpro.com](mailto:info@strutpro.com)

*The Standard In Affordable Damage-Free Strut Bearing Replacement.*

## Setup Instructions

Remove the propeller. Closely inspect the strut for any set screws used for retaining the strut bearing. Sometimes the set screws have been painted over with antifouling paint so it's important to remove any set screws before proceeding.

You will need two measurements; The outside diameter (O.D.) of the strut bearing and the diameter of the propeller shaft.



Select the proper collet that most closely matches the outer diameter of the bearing. Do not exceed the outside diameter of the bearing or you could jam the collets inside the strut.

Collets are designed to be stacked if necessary to fit a wider range of bearing diameters. Special spacers are provided for 3/4" and 7/8" shaft sizes.

Position the collets onto the propeller shaft forward of the strut. Secure the



collets using the hook & loop straps provided (see adjacent photo).

Position one strap approx. 1" from each end of the

collet and pull snug. Rotate the collets so the seams are on top and bottom to maximize the surface area of the collet to the forward horseshoe. Slide the collet back to make contact with the bearing. Visually inspect to make sure the collet closely matches but does not exceed the outside diameter of the bearing.

## **Assembly Instructions:**

Lay the forward and aft. yokes on a clean surface. First insert a flat steel washer and then the roller thrust bearing over each threaded rod. Insert the threaded rods through the yokes starting with the aft. yoke first and then through the forward yoke. Attach the machined nuts and insert into the forward yoke positioning the nuts into the locking tabs.

Install the aft. horseshoe on the aft. yoke using the cotter pins provided. The aft. horseshoe is to be secured to the forward side of the aft. strut, between the aft. yoke and the strut. Slide the aft. yoke over the propeller shaft and forward to the strut. You can now lift the forward tool assembly into place.



Swing the forward yoke up and between the propeller shaft, forward of the collets previously installed onto the shaft. Install the forward horseshoe that most closely matches the propeller shaft diameter. Insert the cotter pins through the horseshoe and into the yoke to hold the horseshoe in place.

## **Bearing Removal**

The tool is now installed and you are about to remove the bearing. It is very important to apply equal pressure to both threaded rods. Begin by turning the welded nuts clockwise. This will compress the puller assembly.

Once the slack has been taken you will need to make final adjustments and inspections. With the tool snug gently tap the aft. yoke upwards so the bearing will clear the aft. horseshoe as the puller begins to press out the bearing. This is very important. There must be clearance for the cutless bearing to slide out. Watch carefully. If the puller assembly gets tight without the bearing moving stop and examine the cause. (Also re examine to make positive there are no set screws securing the bearing into the strut).

Be sure the collet seams are on top and bottom, the forward horseshoe is in direct contact with the collets and

inspect to insure the collets are properly aligned with the bearing.

Proceed with caution. Turn each nut no more than five cranks, then the other. Watch closely to insure alignment remains consistent between the forward and aft yokes. As you continue turning the nuts the tool will force the collet through the strut, removing the worn bearing.

Once the bearing is free it can easily be slid back and over the propeller shaft. Loosen the threaded rods and remove the collets which are now inside the strut. This might require tapping the collets to free them from the strut. Holes are provided in the collets for this purpose.

## **Installing New Bearing**

Installing the new Cutless® bearing is basically a reverse action of the removal process. Switch horseshoes: To install a new strut bearing attach the shaft diameter horseshoe (which was previously used on the forward yoke) to the aft. yoke. This is necessary so the horseshoe makes maximum contact with the new bearing being installed. Next attach the larger horseshoe to the forward yoke. Note: Some struts have a steep rake angle which may be necessary to rotate the forward horseshoe 180 degrees before attaching to the forward yoke (the forward yoke has four holes for this purpose). This will provide the needed clearance so the forward horseshoe does not contact the vertical rib of the strut. Slide the new bearing over the shaft and gently start it inside the strut. In most cases the new bearing can be easily pressed part way into the strut by hand. Begin compressing the threaded rods until the new bearing is in place.

***Go Boating!***

*The Standard In Affordable Damage-Free Strut Bearing Replacement.*

# *Global* *Marine Industries, Inc.*



Strut-Pro tools work whether  
your bearing size is U.S. or  
Metric. We ship internationally

This product is protected under U.S. Patent Number  
6,539,601

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