



# PRETECH Mega Pinnacle Rotary Steering System Installation Guide

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**PRETECH**

## **INSTALLATION INSTRUCTIONS**

**7400XX ZTS Mega Pinnacle Rotary Steering System**  
**7500XX ZTS Mega Rotary Steering System**  
**7100XX 7000 Mega Pinnacle Rotary Steering System**  
**7200XX 7000 Mega Rotary Steering System**

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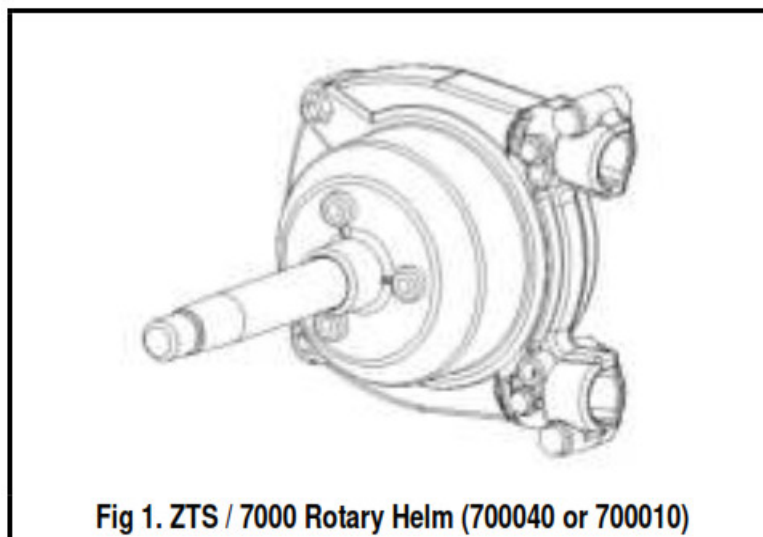
**NOTICE:** THESE INSTRUCTIONS CONTAIN IMPORTANT SAFETY INFORMATION AND MUST BE FORWARDED TO THE BOAT OWNER.

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## INTRO

These instructions show how to install the following products for Rotary Steering Systems. See Fig 1.



**Fig 1. ZTS / 7000 Rotary Helm (700040 or 700010)**

P/N	DESCRIPTION
700040	ZTS Rotary Helm (No Feedback)
700010	7000 Rotary Helm (Feedback)

Please check the following components are prepared.

COMPONENT	DESCRIPTION
Installation Kit Steering Cable Steering Wheel	See Fig 2. See Fig 3. See Fig 4. ( Not included )

And following tools are required. See Fig 4.

TOOL	DESCRIPTION
Spanner Hand Drill Hand Saw	1/4 ", 5/16 " $\phi$ 10mm[0.4 "], $\phi$ 83mm[3.27 "] General



1. Read this document thoroughly before installation.
2. Do not substitute parts without PRETECH's confirmation.
3. Every condition in this document must be fulfilled.
4. Do not disassemble any part of the product.

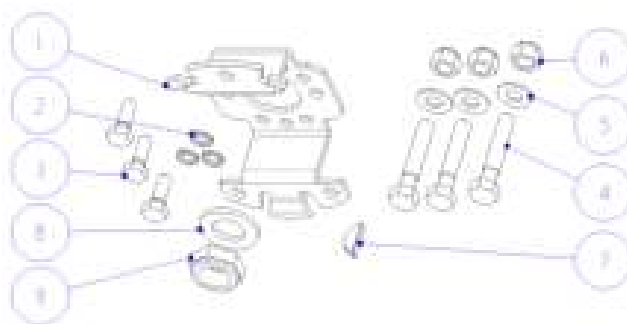
Incorrect installation or use of foreign parts may cause operation failure which can result in damage or injury to a boat or person. PROTECH will not be responsible for any cases that are in conformity to the conditions of this instruction.

## CHECK CLEARANCE

To avoid interference & difficulty in assembling, check the clearance requirements. And check the clearance for the Steering wheel's operation as Fig 5.

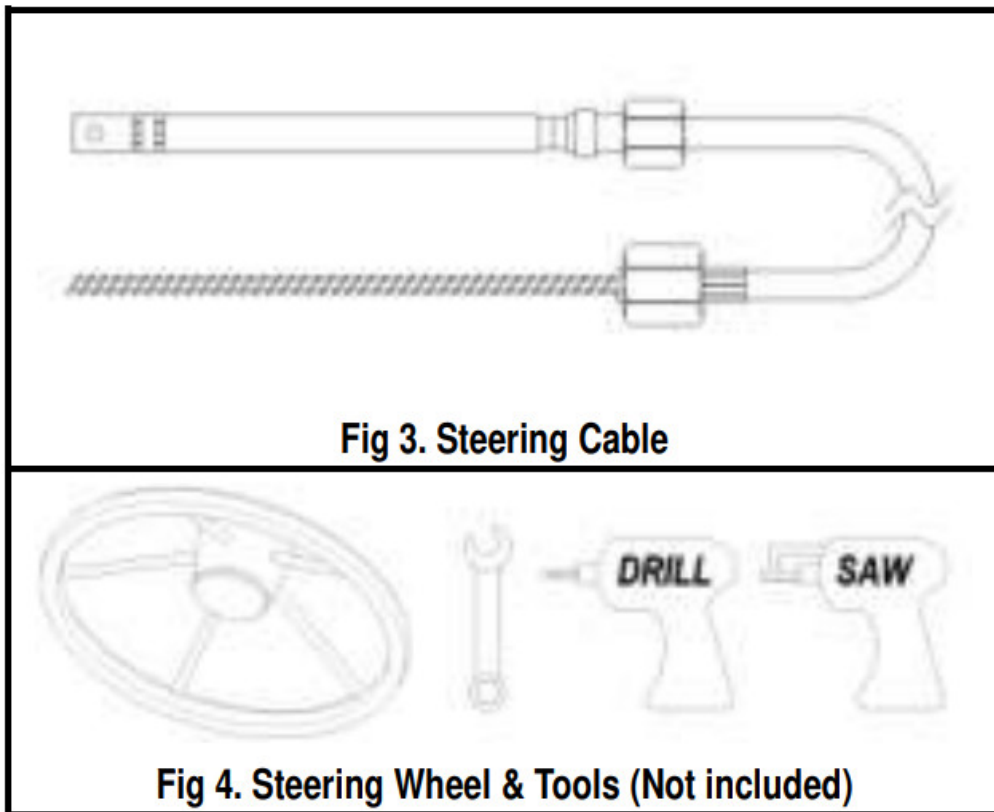
## DRILL ON CONSOLE

After checking clearance, locate holes on the dash. Templates can be used to mark. See Drawing A. If necessary, enlarge the center hole to accommodate the steering helm assembly.  
ONE HOLE MUST BE TOP CENTER.



**Fig 2. Installation Kit**

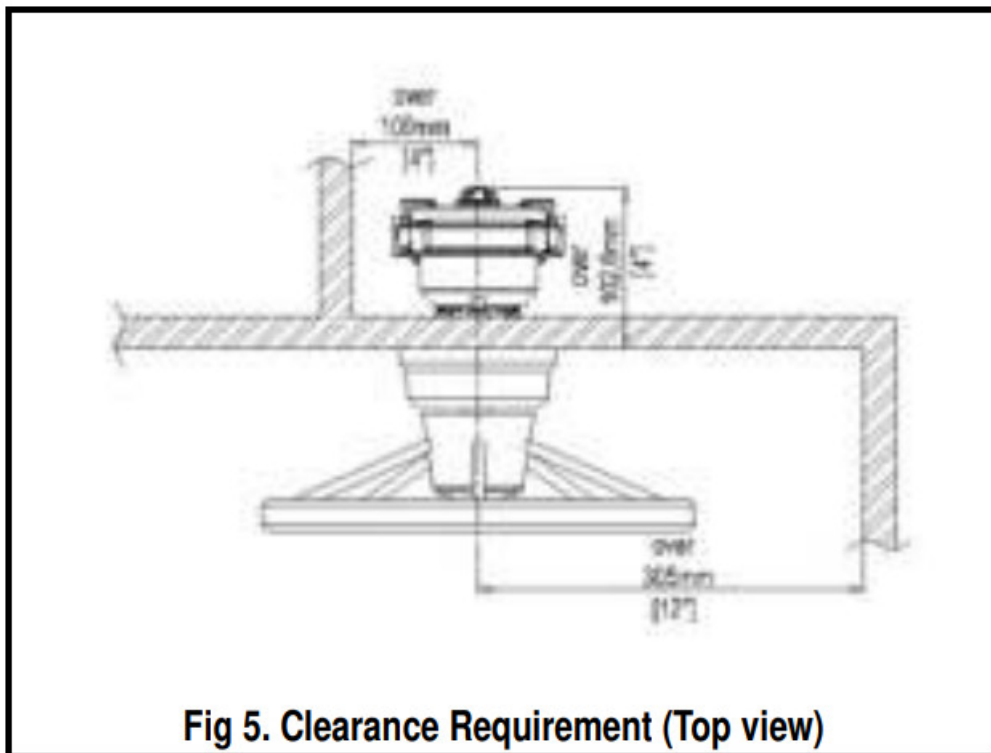
1	BRACKET, 1EA	6	NYLON NUT 5/16-18 UNC, 3 EA
2	STAR WASHER 1/4", 3EA	7	WOODRUFF KEY #9, 1EA
3	HEX BOLT 1/4-28 UNF, 3EA	8	FLAT WASHER 5/8", 1EA
4	HEX BOLT 5/16-18 UNC, 3EA FLAT WASHER 5/16", 3EA	9	NYLON NUT 5/8-18 UNF, 1EA
5	FLAT WASHER 5/16", 3EA		



## MOUNT BRACKET

Use fasteners as next, and see Fig 6.

No.	FASTENER	DESCRIPTION
1	Bracket	1EA
2	Hex Head Screw	5/16-18 UNC, 3EA
3	Flat Washer	5/16 ", 3EA
4	Lock Nut	5/16-18 UNC, 3EA



#### CAUTION

Nuts tightening torque

MIN. TORQUE 44.3 [lbf-in] (5.0 [N-m])

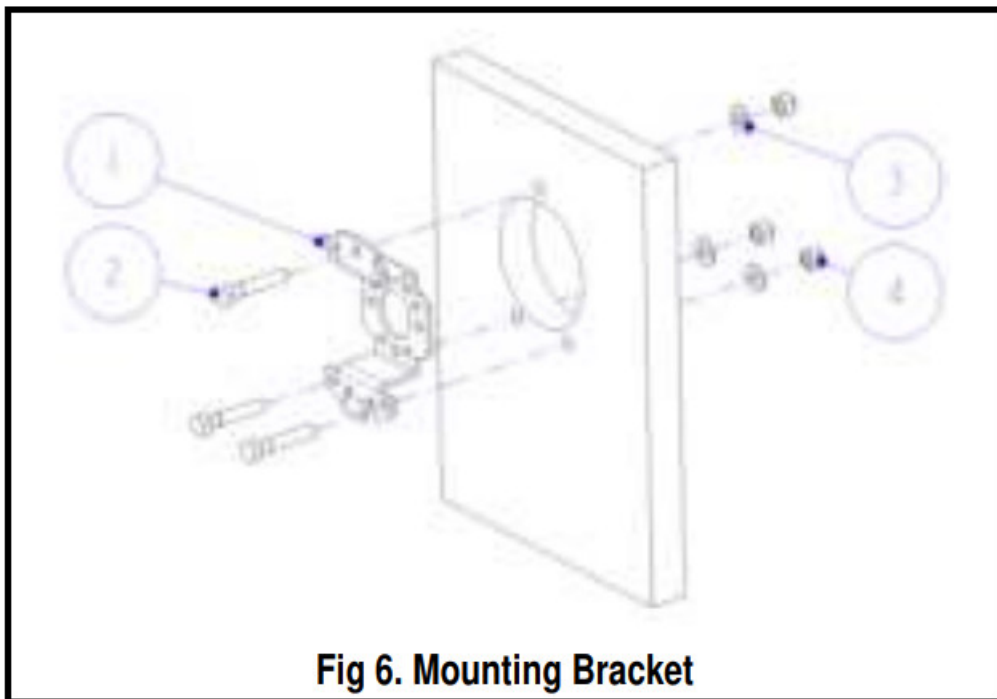
MAX. TORQUE 66.4 [lbf-in] (7.5 [N-m])

### INSTALL ROTARY HELM

Place helm through the center hold and orientate the helm to give the desire steering direction. There are multiple holes for mounting the helm. Which ones you use will depend on your particular installation location and cable routing. If the cable goes to the LEFT, hub cable openings should also go left, etc.

Use fasteners as next, and see Fig 7.

No.	FASTENER	DESCRIPTION
1	Rotary Helm	1EA
2	Star Washer	1/4 ", 3EA
3	Hex Head Screw	1/4-28 UNF, L 0.75 ", 3EA

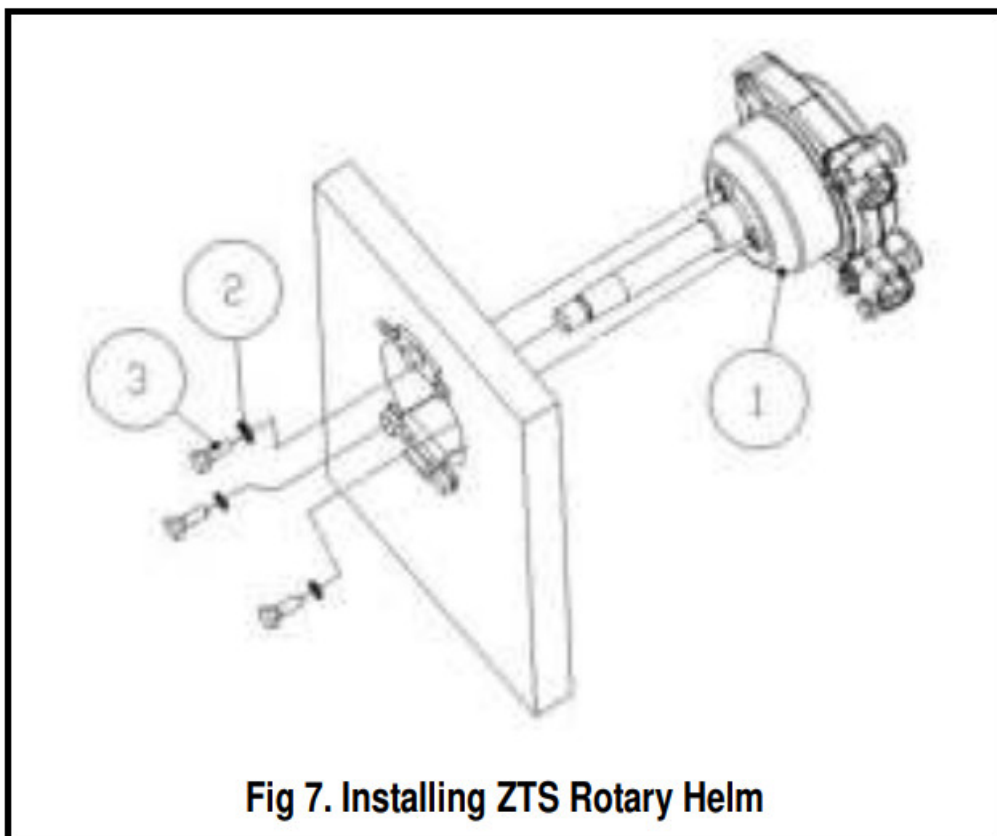


#### CAUTION

Nuts tightening torque

MIN. TORQUE 44.3 [lbf-in] (5.0 [N-m])

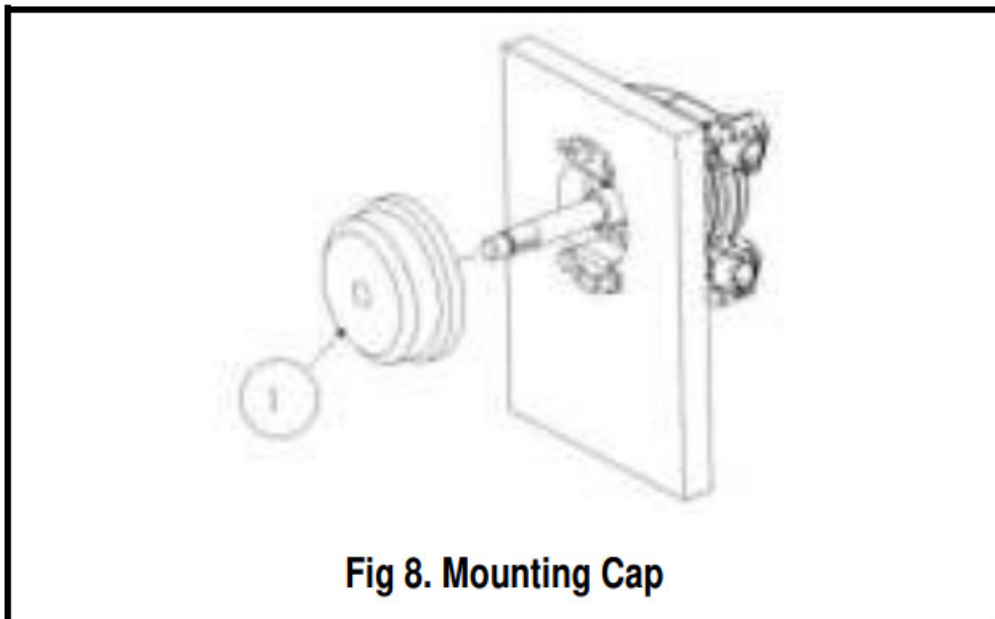
MAX. TORQUE 66.4 [lbf-in] (7.5 [N-m])



**MOUNT TRIM BEZEL**

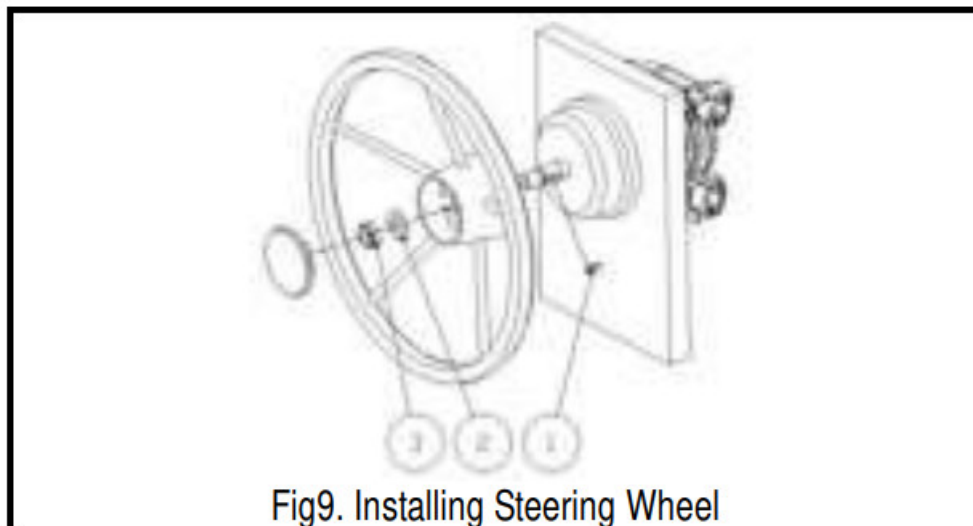
Place the trim bezel over the shaft and snap into place over the mounting bracket. Align Tilt Cap with the Bracket carefully. Fig8

No.	PART NAME	DESCRIPTION
1	TRIM BEZEL	1EA



**Fig 8. Mounting Cap**

#### **INSTALL STEERING WHEEL**



**Fig9. Installing Steering Wheel**

Turn the steering wheel column until the keyway groove is top dead center. (This will help to keep the keyway from falling out during installation. Centering wheel adjustments will be made later while attaching cable end to the tiller.) Place the woodruff key in the key slot on the shaft, then place the steering wheel on the shaft.

Use parts as next, and see Fig9.

(Shown steering wheel is just an example. It is not included.)

No.	FASTENER	DESCRIPTION
1	Woodruff Key #9	1EA
2	Flat Washer	5/8 ", 1EA
3	Lock Nut	5/8-18 UNF, 1EA

Place a washer onto shaft then thread the nut onto the shaft. Hold the steering wheel while tightening to avoid cable damage to helm assembly.



#### CAUTION

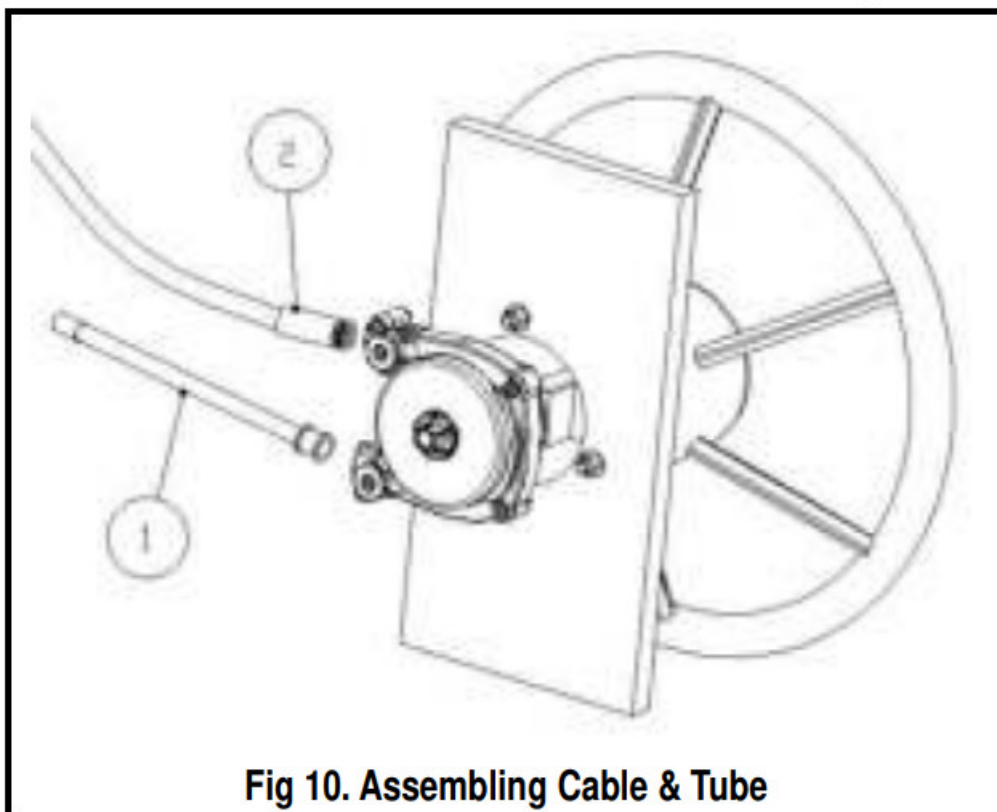
Nuts tightening torque

MIN. TORQUE 44.3 [lbf-in] (5.0 [N-m])

MAX. TORQUE 66.4 [lbf-in] (7.5 [N-m])

#### ROUTE CABLE

Assemble conduit fit by pulling locking knob. See Fig 10.

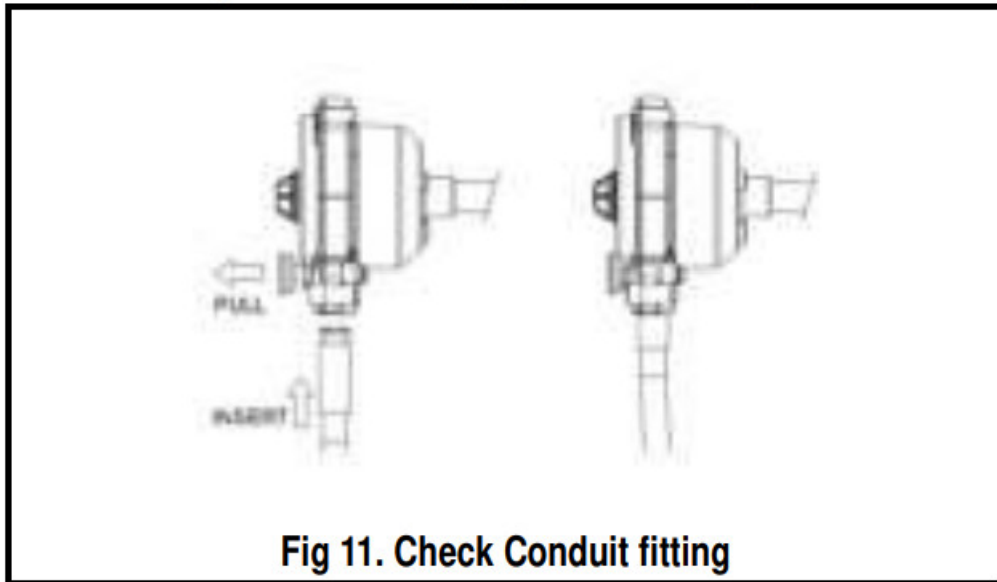


**Fig 10. Assembling Cable & Tube**



No.	FASTENER	DESCRIPTION
1	Spent Tube Core Cover	1EA
2	Steering Cable	1EA

Be sure the locking knob is in fitting groove. See Fig 11.



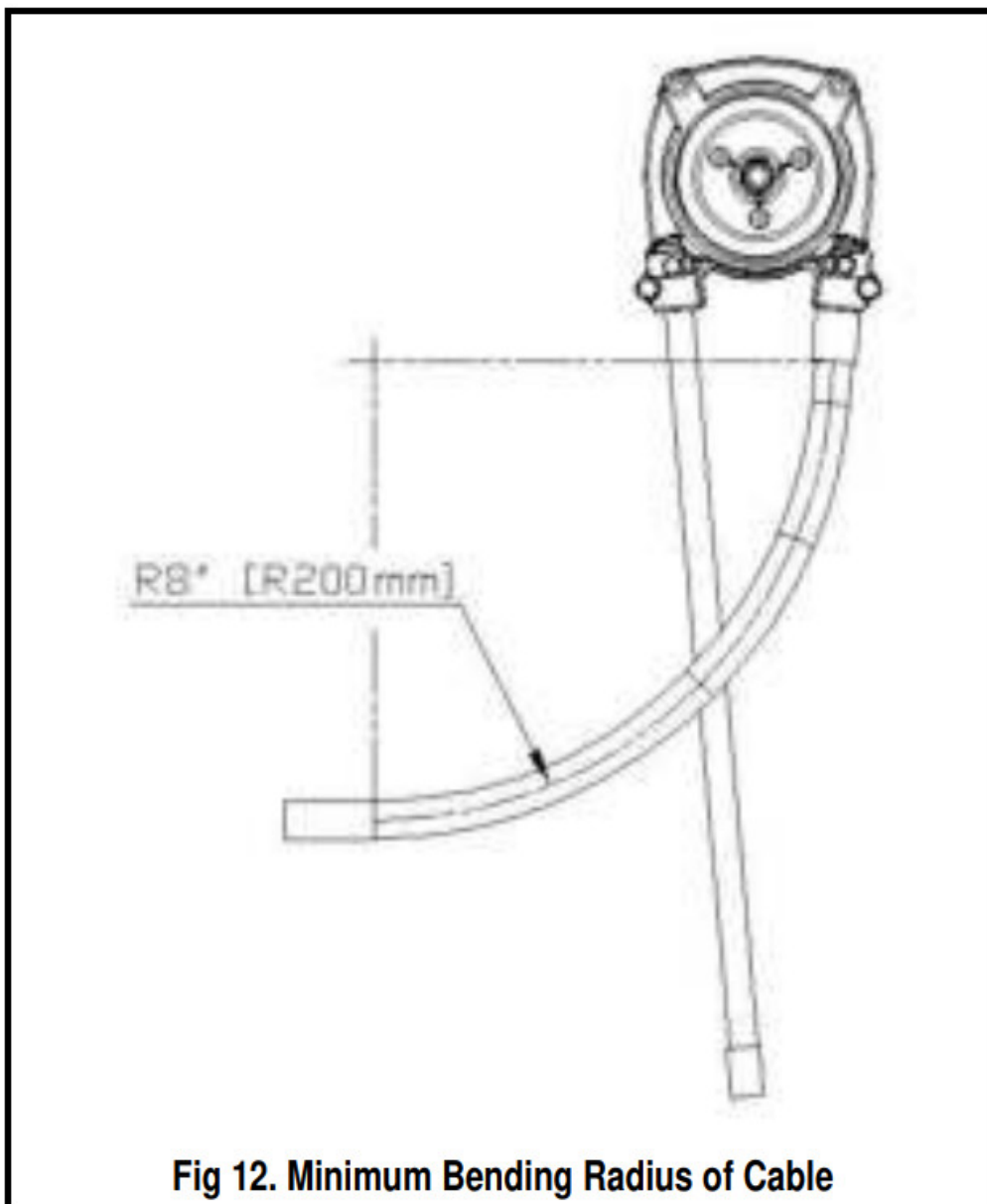
After placing the cable end(fitting) into the helm unit, rotate steering as you feed the cable end into the helm unit. Keep minimum bending radius 8"(200mm) and clearance. Fig 12.

Feed cable through, turning the wheel to pull cable end through the rotary assembly.

Check steering direction, making sure when the wheel is turned to the right, the boat should turn to the right as well.

Install spent tube cable cover by slipping it over the cable end, then securing it in the same manner as the cable jacket as you did.

See Fig 10 one more time.



## **INSTALL CABLE ON TILLER**

Route cable with as few turns as possible, keeping bends to an 8" minimum radius. Connect the end of the tiller using a transom connection kit or stock steering tube.

Adjust as required for steering wheel center with tiller center.

Check steering direction.

## **FINAL CHECKS-ALL CABLES**

Before try to test the operation, check the following list especially.

No.	CHECKPOINT
1	Cable radius NOT LESS than 8 " minimum.
2	Turn the wheel to determine that the direction of the wheel matches the direction of the rudder action.
3	Brake (if used) is adjusted to a proper feel.
4	Check that the rudder or drive stops coincide with cable travel.
5	All bolts and nuts are tightened to specifications.

## NOTE

Helm contains no internal field serviceable parts.

Any attempt at the disassembly of these units will void the warranty of this product.

Instructions are for 90-degree mount helms only.

10 and 20-degree mounting and/or bezel kits are available.

Please contact your dealer or PRETECH for information on purchase and installation.

Tilt helm assemblies are available.

Please contact your dealer or PRETECH for information.

## MAINTENANCE

It is recommended that the steering system be checked and serviced at least every 30 days in saltwater areas and at least every 90 days in freshwater areas. Check and service the following ;

No	
1.	<b>CABLE OUTPUT END :</b> Check all metal parts and the cable output end for corrosion. Remove any old grease from the cable ram and motor swivel connections using a mild solvent, such as kerosene. Spray the cleaned areas with a moisture displacing lubricant such as WD-40 or equivalent and apply a light coat of good quality marine grease. Do this with the cable ram fully extended.
2.	<b>CABLE :</b> Check the entire cable conduit for cracks or abrasion of the plastic cover. Replace the cable if needed.
3.	<b>HELM :</b> Check all bolts, nuts, and fasteners for tightness.
4.	<b>WINTER STORAGE :</b> in winter storage or used infrequently, clean the cable ram per the previously mentioned instructions. Cycle the steering several times when applying lubricant. If at any time the steering system becomes stiff, has an excessive amount of Freeplay, or shows any change in its operating characteristics, it is recommended to have the system checked by authorized dealers.

## LIMITED WARRANTY

PRETECH warranty to the first retail (end-user) purchaser of this product, or a PRETECH product incorporated in another vendor's product that, for a period of one(1) year from the date of original purchase, such product will be free from defects in materials and workmanship.

PRETECH MAKES NO WARRANTY AS TO THE MERCHANTABILITY OR FITNESS OF ITS PRODUCTS FOR A PARTICULAR PURPOSE.

The above warranty does not apply to a product that has not been installed or maintained in accordance with PRETECH's instructions, been subjected to damage in an accident or abuse during operation, or repaired or modified by persons other than PRETECH.

This warranty is also void when PRETECH Products are installed on a boat or engine judged by PRETECH to be an inappropriate application of its product or when PRETECH products are used with other marine accessory products which in PRETECH's judgment are incompatible with the PRETECH product or adversely affect its performance or durability.

If any PRETECH product is used commercially for such purposes as rental or other income-producing activities then this warranty is limited to 90 days from the date of the original retail purchase. PRETECH's responsibility in respect to warranty claims is limited solely to the repair or replacement of products found by PRETECH to be defective. PRETECH DOES NOT PAY FOR LABOR

CHARGES connected with the removal of a product deemed to be defective or with the installation of replacement or repaired product, or for any other incidental or consequential damage.

To make a claim under this warranty, return believed to be defective to your local marine dealer or PRETECH distributor, along with proof of purchase. IF your dealer or distributor feels that a warranty claim is justified, he/she should contact PRETECH giving a description of the product and requesting authorization to return it to the factory.


MERCHANDISE SHOULD NOT BE RETURNED TO PRETECH UNTIL A RETURN GOODS AUTHORIZATION FORM IS RECEIVED.

After receipt of an authorization form, he/she should return the product, freight prepaid, to PRETECH. If found to be defective, and if all return charges have been prepaid, PRETECH will repair or replace the product and return the freight prepaid.



<http://www.pretechco.com>

## Documents / Resources

	<p><b><a href="#">PRETECH Mega Pinnacle Rotary Steering System</a></b> [pdf] Installation Guide</p> <p>Mega Pinnacle Rotary Steering System, 7400XX, 7500XX, 7100XX, 7200XX, ZTS Mega Pinnacle Rotary Steering System, ZTS Mega Rotary Steering System, 7000 Mega Pinnacle Rotary Steering System, 7000 Mega Rotary Steering System</p>
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## References

-  [Pretechco Maxflex](#)