

INSTALLATION INSTRUCTIONS

NOTICE TO BOAT MANUFACTURER OR INSTALLER:
THE FOLLOWING INSTRUCTIONS CONTAIN IMPORTANT SAFETY INFORMATION AND MUST BE FORWARDED TO THE OWNER OF THE VESSEL.

Contents:

T71FC – T73NRFC	T72FC – T74NRFC
1 mechanical helm	1 mechanical helm
1 protective guide tube	2 protective guide tube
1 guide tube bushing	2 guide tube bushing
2 cable locking screws	2 cable locking screws



THE MAXIMUM DIAMETER STEERING WHEEL TO BE USED ON THESE HELMS IS 16”(406MM).

Before installation of this product.....

- ✓ Please read these instructions very carefully before beginning the installation.
- ✓ Make sure the package contains all the parts listed.
- ✓ The helm requires an **Uflex M66** steering cable to be used.
- ✓ Make sure the steering cables will be free from obstructions and the correct length is used, so no severe bends are created through the installation process possibly affecting the steering operation.
- ✓ Improper use or incorrect installation may cause faulty operation, which could result in subsequent damage to property and/or injury to persons.

Safety Symbols, to alert and indicate the level of risk for the identified procedure.



Product Description and Recommended Utilization

The **T71FC** single cable and **T72FC** dual cable mechanical steering helms are designed for the purpose of controlling a **marine** vessels' **rudder** apparatus (*outboard, inboard, I/O, jet pump*).

The **T73NRFC** single cable and **T74NRFC** dual cable mechanical helms perform the same task with an additional clutch designed to reduce steering rudder torque experienced at the helm.

These instructions explain the correct procedure to connect a steering cable to the mechanical helm.

Before the helm can be secured and the cable installation performed, a Uflex mounting bezel X34 or X35 must be installed for the T71FC, T72FC, T73NRFC, T74NRFC helms.



DO NOT DISASSEMBLE ANY PART OF THE HELM FOR THE INSTALLATION OF A STEERING CABLE, A LOSS OF STEERING MAY OCCUR, CAUSING SERIOUS PROPERTY DAMAGE AND / OR PERSONAL INJURY. DISASSEMBLING OF A HELM WILL VOID ALL PRODUCT WARRANTIES.

STEP 1 System Preparation

- The steering cable(s) will need to be installed in the vessel.
 - Select a direct path with a minimal number of bends
 - The minimum bend radius for a steering cable is 8 inches (200mm).



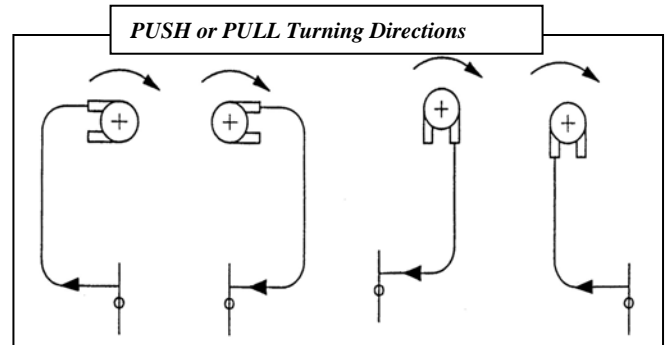
CAUTION

A more severe bend will cause steering friction and premature cable life

- The steering cable(s) will need to be supported at a minimum of 6' (2mt) intervals it's entire length. Do not bundle any electrical wires to the cable(s) when supporting.
- Bulkhead passages require a minimum 1 ½" hole diameter (38mm).

STEP 2 Steering Cable Connection(s)

- Determine the correct helm entry to use for the proper turning direction of the rudder apparatus.
- Connect the cable(s) to the helm before the rudder.
- Remove protective tube from cable(s) end and insert the helical cable end(s) into the helm. *For the T72FC, T74NRFC helms, both cable ends must be inserted simultaneously.*



WARNING

Prevent any dust or foreign material from contacting the exposed greased helical cable end(s).

- Turn the steering wheel in the referenced direction to “pull” the cable(s) into the helm, aligning cable conduit recess(s) **A** with screw hole in helm base **1**.
- Insert one of the cable locking screws **B**.
Torque screw to 53 in-lbs. (6Nm).
- Slide the guide tube bushing(s) **3**, large end first, over the helical cable of the second entry of the helm **C**.
- Align the bushing recess with the screw in the end of the helm and insert the second locking screw **2**. **Torque screw to 53 in-lbs. (6Nm).**
- Slide Protective tube(s) **4** over the exposed helical cable onto the end of the guide tube bushing **3**.

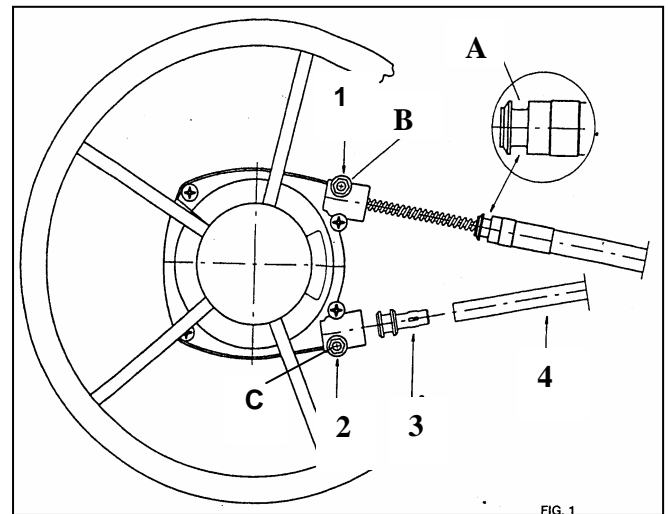


FIG. 1

STEP 3 Test the system

- With the steering cable connected to the rudder, rotate the steering wheel in both directions
- Confirm that the direction the steering wheel is turning is correct to turn the boat the same direction.



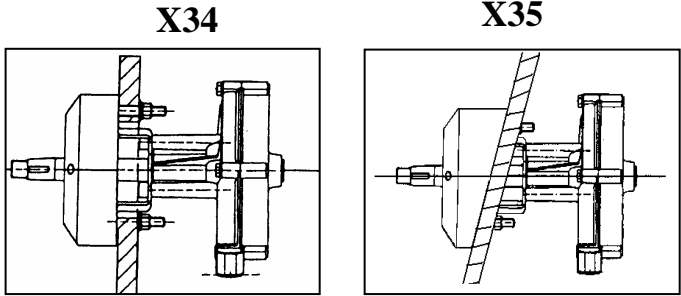
WARNING

Check the direction the steering system is moving in regards to the turning direction of the vessel. This must be performed before the vessel is operated in the water.

PACKAGED STEERING SYSTEMS: ROTECH I – ROTECH II - ACCURA I – ACCURA II

BAZEL INSTALLATIONS FOR X34 AND X35

The Uflex **X34** and **X35** bezels mount a **T71FC, T72FC, T73NRFC, T74NRFC** mechanical helm to a vessel's dashboard. The **X34** bezel is design to mount a steering helm **90°** to the surface of the helm location. The **X35** bezel is designed to mount a steering helm **20°** to the surface of a helm location.



Bezel package contents:

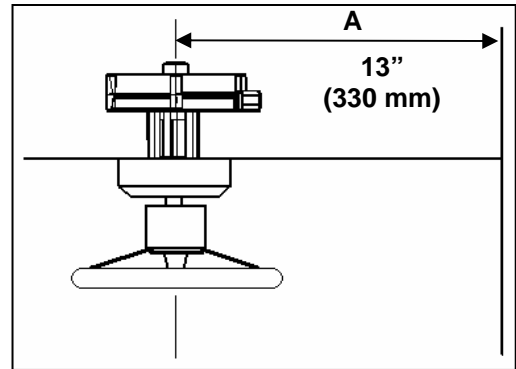
- 1 helm bracket, 3 screws M8 x 45, 3 washers, 3 nuts M8, 3 helm screws M8 x 20, 1 cover, 2 screws coarse, 1 woodruff key, 1 bushing, 1 shaft nut M12

STEP 4 Helm Position

- The steering cable(s) will need to be installed in the side of the vessel closer to the steering wheel shaft.
- Select a direct path with a minimal number of bends
- The minimum bend radius for a steering cable is 8" (200mm).

⚠ CAUTION *A more severe bend will cause steering friction and premature cable life*

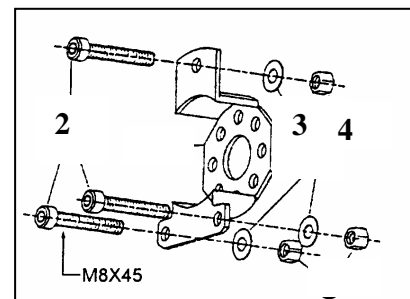
- A minimum distance **A** of 13" (330mm) is required from the center of the helm shaft to the side bulkhead.
- Using the mounting template pg 5, position the desired location of the helm. Mark and drill the three $\frac{3}{8}$ " (9.5mm) diameter holes, and one $3\frac{1}{4}$ " (83mm) diameter hole.



STEP 5 Mounting the bracket

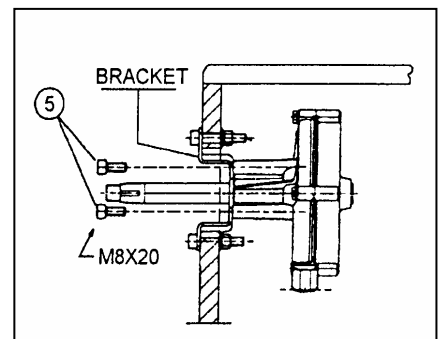
- Align the bracket with the three $\frac{3}{8}$ " (9.5mm) holes.
- Insert the three socket heads screws M8x45. **2**
- Apply the three flat washers **3** and M8 nuts **4** to the threads of the three screws protruding through the underside of the dash.

****Tighten / torque nuts to 140 inch lbs (16 Nm).**



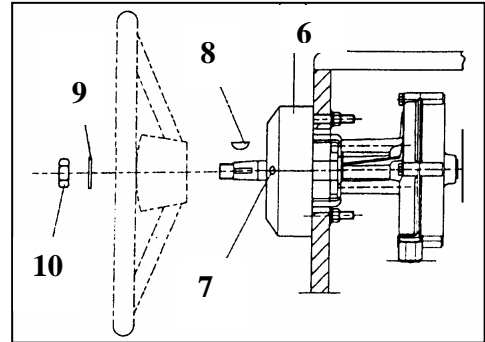
STEP 6 Mounting the steering helm

- Insert the shaft of the helm from the underside of the dash through the center hole in the bracket.
 - Rotate the helm until the three bolt positions align with the holes in the bracket, providing a minimum cable bend radius.
 - Insert the three socket heads screws M8x20. **5**
- **Tighten / torque nuts to 105 inch lbs. (12 Nm)**



STEP 7 Mounting steering wheel

- Place cover over the protruding shaft **6**, mount with 2 coarse screws **7**.
- Insert woodruff key **8** into the recess on the end of the shaft, slide steering wheel hub onto shaft aligning the key way.
- Place shaft washer **9** and shaft nut M12 **10** onto the threaded end. ****Tighten / torque nuts to 300 inch lbs (34 Nm).**



⚠ WARNING

Check the direction the steering system is moving in regards to the turning direction of the vessel. This must be performed before the vessel is operated in the water.

Product Maintenance

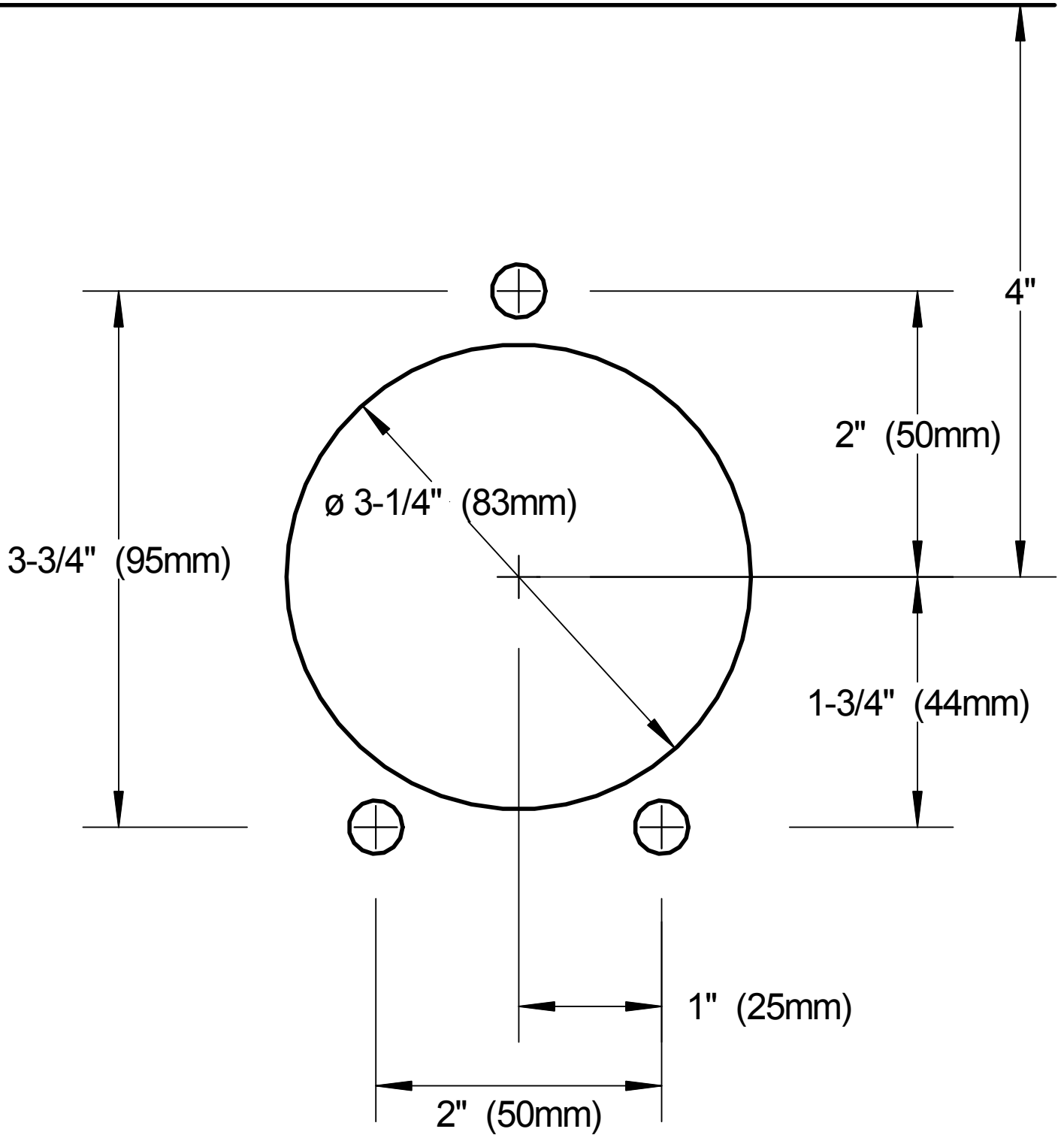
Periodically wash exposed components with a mild dish soap and water, removing any salt build up. Each month inspect the connection screws, bolts and nuts for any that may have become loose; retighten.

Technical Support

For any information or for assistance with unusual applications please contact our technical support personnel.

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4" Minimum distance to the bottom side of the console



X34 & X35 Mounting Template

UFLEX USA, INC., LIMITED WARRANTY

1. Two Year Limited Warranty. Uflex USA, Inc. warrants that all products manufactured by Uflex USA or Ultraflex S.p.A. and sold by Uflex USA to the retail purchaser (“Purchaser”) that for two (2) years after the date of manufacture to be free from defects due to material or workmanship, subject to the exclusions below. Improper installation VOIDS this warranty. Installation should only be attempted by a trained and qualified technician.

2. Exclusions. This limited warranty does not cover and does not extend to any of the following:

(a) Failure caused by normal wear and tear, climatic conditions, misuse, neglect, lack of proper maintenance, accident, fire or other casualty damage, racing, overloading, negligence, modification, beaching or grounding of vessel, collision, impact, towing, acts of war or hostilities; (b) components not manufactured by Uflex USA, Inc., or its affiliates; (c) cost of removal or reinstallation of any component (including components manufactured by Uflex USA, Inc.), or disassembly and reassembly of the unit containing the component; (d) components not manufactured by Uflex USA, Inc. or Ultraflex S.p.A., whether or not warranted by the other manufacturer. (e) any product which has not been properly installed.

3. Limitations. THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS SHALL BE PURCHASER’S SOLE AND EXCLUSIVE REMEDY AND UFLEX USA, INC.’S SOLE AND EXCLUSIVE LIABILITY UNDER THIS WARRANTY. LABOR FOR REPLACEMENT IS NOT INCLUDED. Uflex USA, Inc.'s obligation under this warranty is limited to the repair or replacement (at Uflex USA, Inc.'s sole election) of any covered item found to be defective, when delivered by Purchaser pursuant to written authorization and instructions from Uflex USA, Inc., shipping prepaid to Uflex USA, Inc.'s, plant or other designated repair facility. Repaired or replaced items are warranted as provided herein for the unexpired portion of the applicable warranty period.

THIS WARRANTY, AND THE RIGHTS AND REMEDIES UNDER IT, IS EXCLUSIVE AND IS GIVEN IN PLACE OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, WHETHER ARISING BY LAW, CUSTOM, CONDUCT OR USAGE OF TRADE. PURCHASER'S REMEDIES SHALL BE LIMITED AS STATED HEREIN AND UFLEX USA, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES OR LOSSES RESULTING FROM DEFECTS.

THE RETAIL SELLER IS NOT A CO-WARRANTOR AND IS NOT AUTHORIZED BY UFLEX USA, INC. TO AMEND OR MODIFY THIS LIMITED WARRANTY IN ANY MANNER.

4. Transferability of Warranty. This limited warranty may not be transferred to subsequent purchasers.

5. Miscellaneous. Uflex USA, Inc. is an affiliate of Ultraflex S.p.A. Uflex, USA, Inc., reserves the right to make changes in the design and construction of its products at any time, without notice and without any obligation to incorporate such changes into products of prior manufacture. This limited warranty applies to new components sold by Uflex USA, Inc.. This limited warranty contains the entire agreement between Uflex USA, Inc. and Purchaser and supersedes all prior agreements, discussions, negotiations, commitments and representations, whether oral or written, between them regarding Uflex USA, Inc.'s warranty. If any provision of this limited warranty, or the application of it, is determined to be invalid or unenforceable for any reason, the remainder of this limited warranty and the application of it shall not be affected.

All communications and notices from Purchaser regarding this limited warranty should be sent to: UFLEX USA, INC. , 6442 Parkland Drive, Sarasota, FL 34243; (941) 351-2628.

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