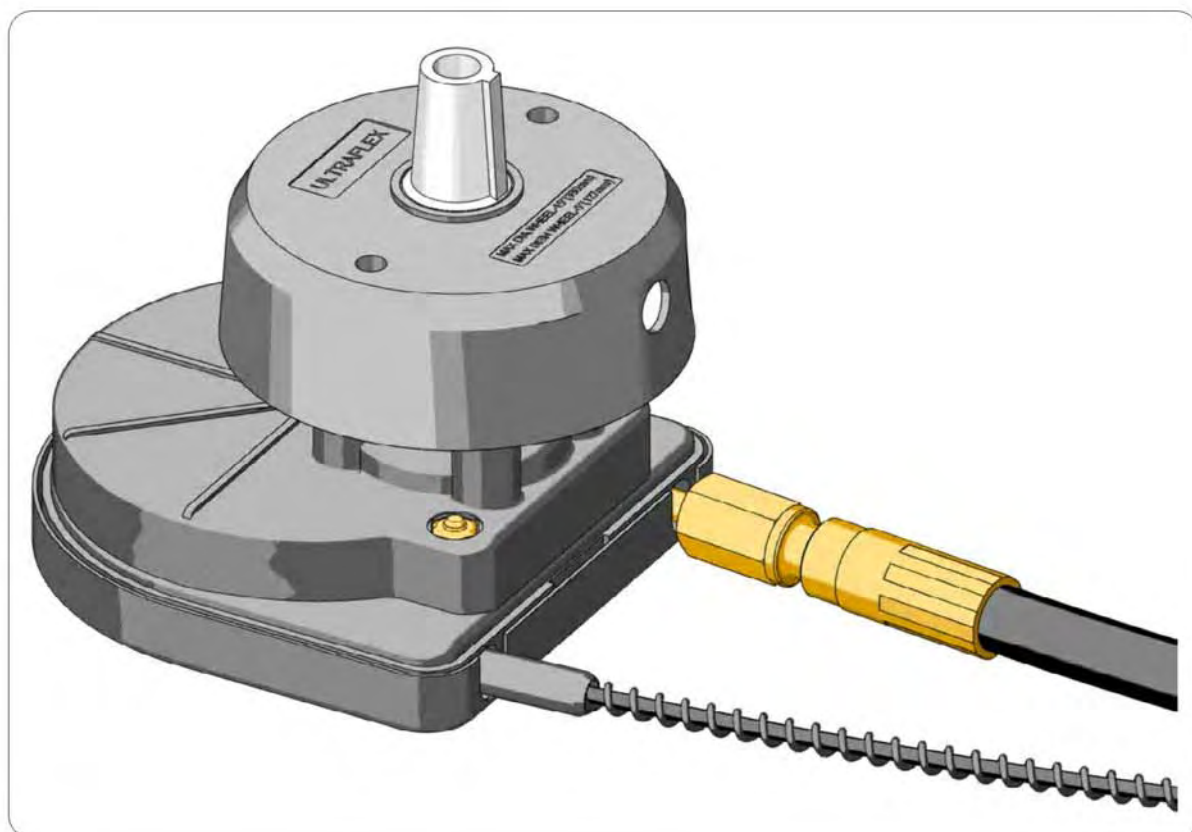


Installation and maintenance manual

T67 STEERING SYSTEM



CE

 **ULTRAFLEX**



PARTNER





Dear Customer,

We would like to thank you for choosing an **ULTRAFLEX** product.

ULTRAFLEX has been a leader in steering systems for pleasure and professional boats for many years. **ULTRAFLEX** production is since ever synonymous of reliability and safety.

All **ULTRAFLEX** products are designed and manufactured to ensure the best performance. To ensure your safety and to maintain a high quality level, **ULTRAFLEX** products are guaranteed only if they are used with original spare parts (see attached document "Application Spare Parts").

ULTRAFLEX and **UFLEX** Quality Management Systems are certified CISQ-IQNet by the Italian Shipping Registry (RINA), in conformity with the UNI EN ISO 9001:2000 rule. **ULTRAFLEX** certification No. 6669/02/S (former 420/96). **UFLEX** certification No. 8875/03/S.

The quality management system involves all the company resources and processes starting from the design, in order to:

- ensure product quality to the customer;
- maintain and improve the quality standards constantly;
- pursue a continuous process improvement to meet the market needs and to increase the customer satisfaction.



"**ULTRAFLEX** has over 70 years of experience in the marine industry and is a world leader in the production of mechanical, hydraulic and electronic steering systems, control boxes and steering wheels for any kind of pleasure, fishing or commercial boats.

The key factors which explain the increasing success of our products all over the world are the reliability of our products and the before and after sale service, the quality of the company organization and of the human resources and the continuous spending in research and development".

ULTRAFLEX S.p.A.

16015 Casella (Genova) Italia - Via Crose, 2

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MANUAL USE AND SYMBOLS USED

THE INSTALLATION AND MAINTENANCE MANUAL is the document given with the product from its sale to its replacement and discharge. The manual is an important part of the product itself. It is necessary to read carefully the manual, before ANY ACTIVITY involving the product, handling and unloading included.

In this manual the following symbols are used to ensure the user safety and to guarantee the correct operation of the product:

⚠ DANGER



Immediate hazards which CAUSE severe personal injury or death.

⚠ WARNING



Hazards or unsafe practices which COULD CAUSE severe personal injury or death.

⚠ CAUTION



Hazards or unsafe practices which COULD CAUSE minor injury or product or property damage.

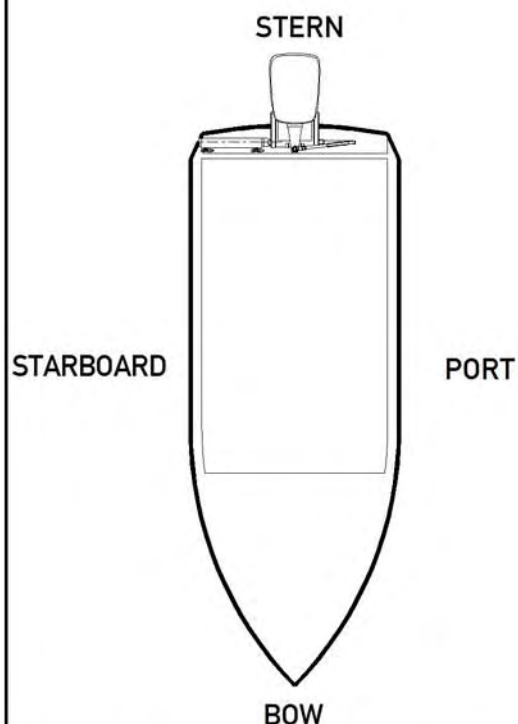
NOTICE



Important information for the correct installation and for maintenance, that does not cause any damage.



The symbols aside indicate all the operations which must be carried out by qualified or skilled staff, in order to avoid hazards. We recommend training the staff in charge of the product installation and checking their knowledge.



The symbols aside indicate all the operations which must be carried out by qualified or skilled staff, in order to avoid hazards.



INTRODUCTION

This installation and maintenance manual represents an important part of the product and must be available to the people in charge of its use and maintenance.

The user must know the content of this manual.

ULTRAFLEX declines all responsibility for possible mistakes in this manual due to printing errors.

Apart from the essential features of the described product, **ULTRAFLEX** reserves the right to make those modifications, such as descriptions, details and illustrations, that are considered to be suitable for its improvement, or for design or sales requirements, at any moment and without being obliged to update this publication.

ALL RIGHTS ARE RESERVED. Publishing rights, trademarks, part numbers and pictures of **ULTRAFLEX** products included in this manual are **ULTRAFLEX** property.

Great care has been taken in collecting and checking the documentation contained in this manual to make it as complete and comprehensible as possible. Nothing contained in this manual can be interpreted as warranty either expressed or implied - including, not in a restricted way, the suitability warranty for any special purpose. Nothing contained in this manual can be interpreted as a modification or confirmation of the terms of any purchase contract.

WARNING

To ensure the correct product and component operation, the product must be installed by qualified staff. In case of part damage or malfunction, please contact the qualified staff or our Technical Assistance Service.

TECHNICAL ASSISTANCE SERVICE

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WARRANTY

ULTRAFLEX guarantees that its products are well designed and free from manufacturing and material defects, for a period of two years from the date of manufacturing.

For the products which are installed and used on working or commercial boats the warranty is limited to one year from the date of manufacturing.

If during this period the product proves to be defective due to improper materials and/or manufacture, the manufacturer will repair or replace the defective parts free of charge.

Direct or indirect damage is not covered by this warranty. In particular the company is not responsible and this warranty will not cover the damage resulting from incorrect installation or use of the product (except for replacement or repair of defective parts according to the conditions and terms above).

This warranty does not cover the products installed on race boats or boats used in competitions.

The descriptions and illustrations contained in this manual should be used as general reference only.

For any further information please contact our Technical Assistance Service.

ULTRAFLEX steering system components are marked **CE** according to the Directive 94/25/CE and comply with EN 29775 standard.

We remind you that only **CE** marked steering systems must be used on the boats marked **CE**. (Art. 3 and Art. 5 of the Directive 94/25/CE). We inform you that the **ULTRAFLEX** warranty is null if some **ULTRAFLEX** components are installed on a steering system together with products of other brands.



1 PRODUCT DESCRIPTION

1.1 Description of the product and warnings for the correct use

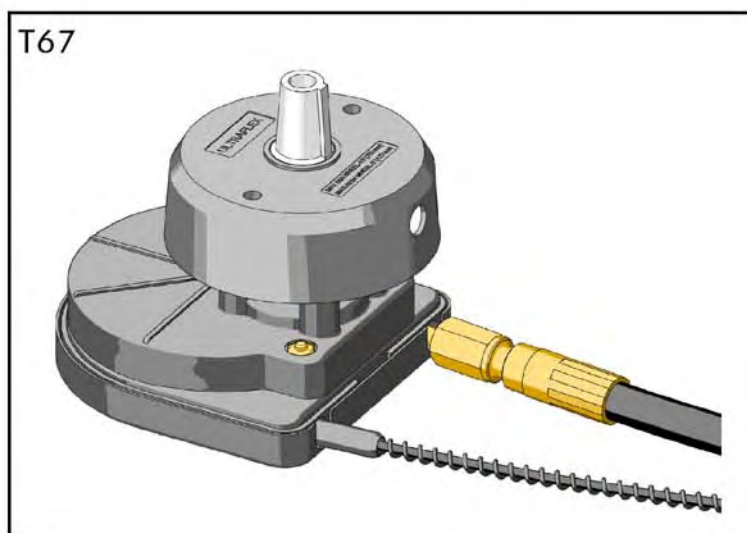
T67 mechanical steering system is designed to control boats equipped with outboard engines. T67 steering system must be used with **ULTRAFLEX** M58 single cable.

⚠ WARNING

T67 steering system is not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat and/or the speed of 50 knots (57.5 mph). This steering system complies with EN 29775 standard: it can be used with outboard engines with power up to 40kW (55 hp). In case of Evinrude E-TEC™50 engines, it is advisable to use T85 or T71FC steering systems.

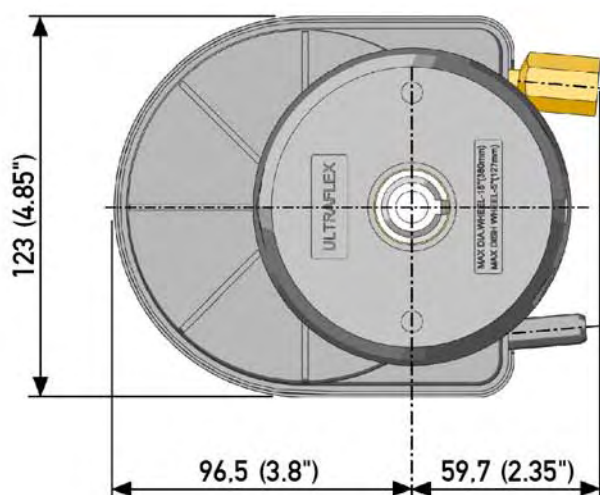
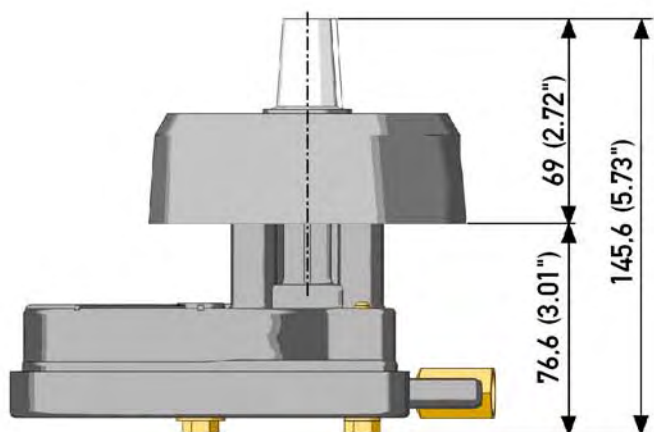
⚠ DANGER

DO NOT DISASSEMBLE ANY PART OF THE HELM DURING THE INSTALLATION OF THE CABLE. THE DISASSEMBLY OF THE COMPONENTS CAN GENERALLY CAUSE SERIOUS DAMAGE TO OBJECTS OR PEOPLE. THIS PROCEDURE CAUSES THE WARRANTY LOSS OF THE PRODUCT.

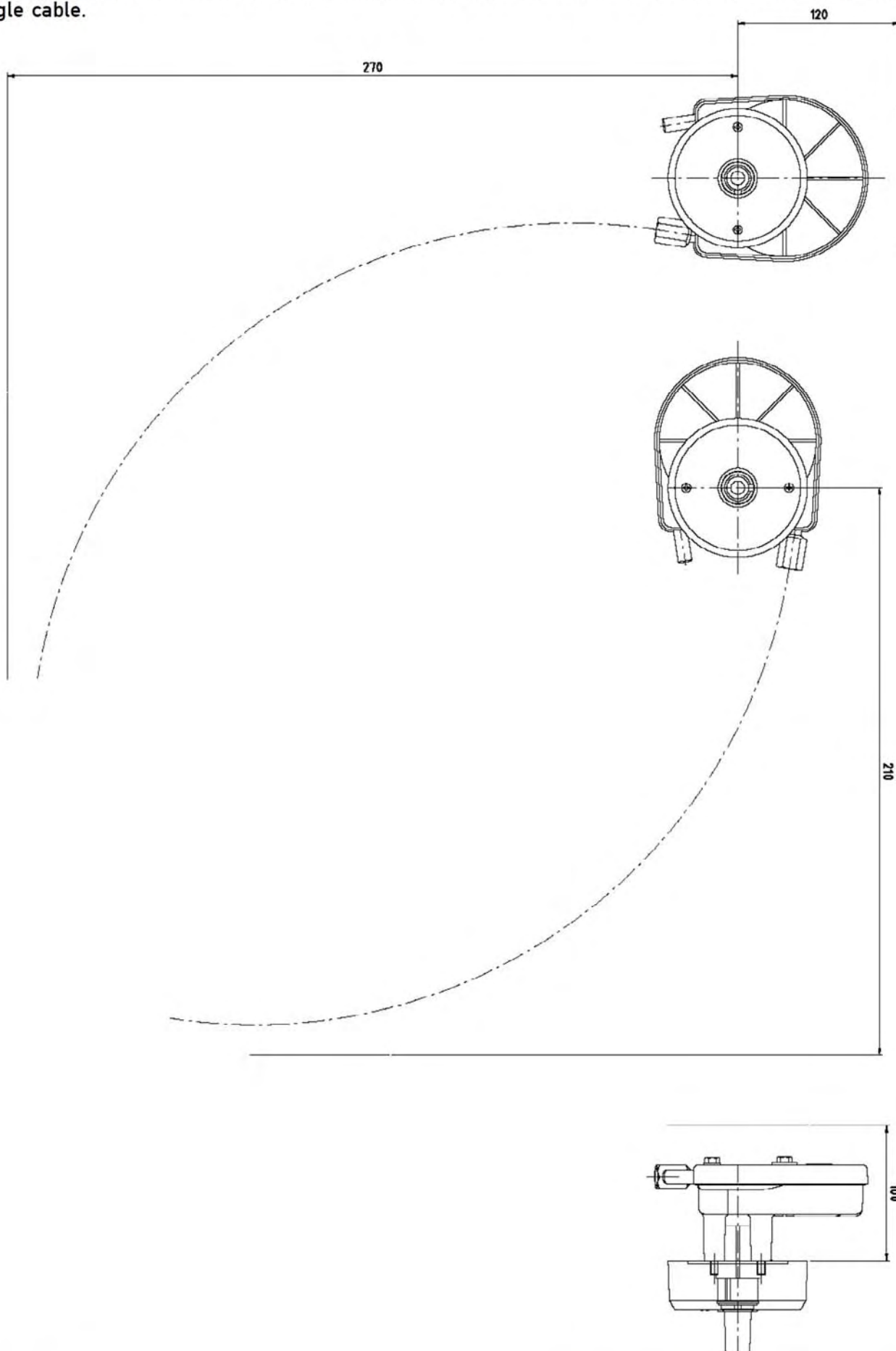


1.2 Dimensions

The following pictures show the dimensions of T67 helm.



The following pictures show the required minimum dimensions for the assembly of T67 helm with M58 single cable.



2 TRANSPORT

2.1 General warnings

The product weight with its packaging is 2.5 kg (5.5 pounds); therefore, it can be manually handled.

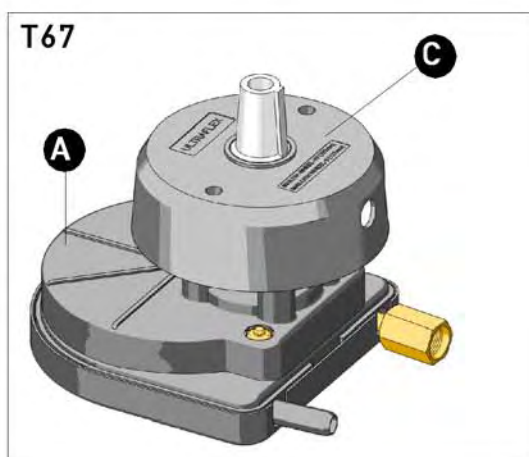
⚠ WARNING

The staff in charge of handling must wear protective gloves and safety shoes.

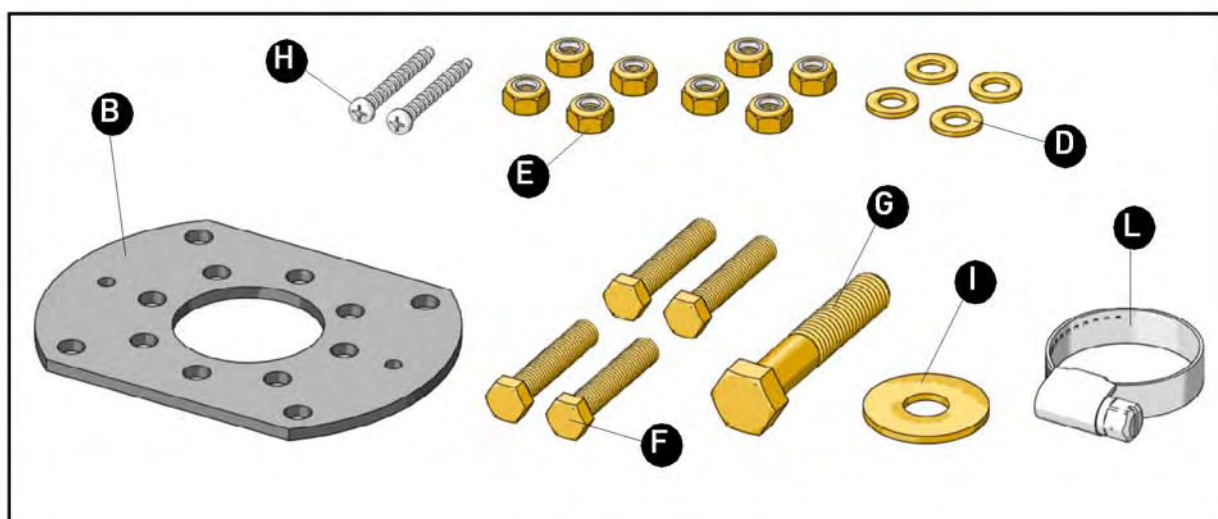
2.2 Packaging contents

Before using the equipment check that the product has not been damaged during transport or storage. Also make sure that all the standard components are in the packaging (see list). In case of damage, notify the claim to the forwarder and inform the supplier.

Contents of the helm packagings:



REF	T67
A	1 helm
B	1 bracket
C	1 mounting bezel
D	4 washers 6.5x12
E	8 nuts M6
F	4 screws M6x35
G	1 screw M10x50
H	2 self-threading screws
I	1 washer
L	1 ring



⚠ CAUTION

The packaging must be disposed of according to the existing laws.



3 INSTALLATION

3.1 Necessary tools



Phillips
screwdriver



2 Open end
wrenches
10mm [0.395"]



Open end
wrench
17mm [0.66"]



Drill



Slotted
screwdriver

ENGLISH

3.2 Steering system positioning

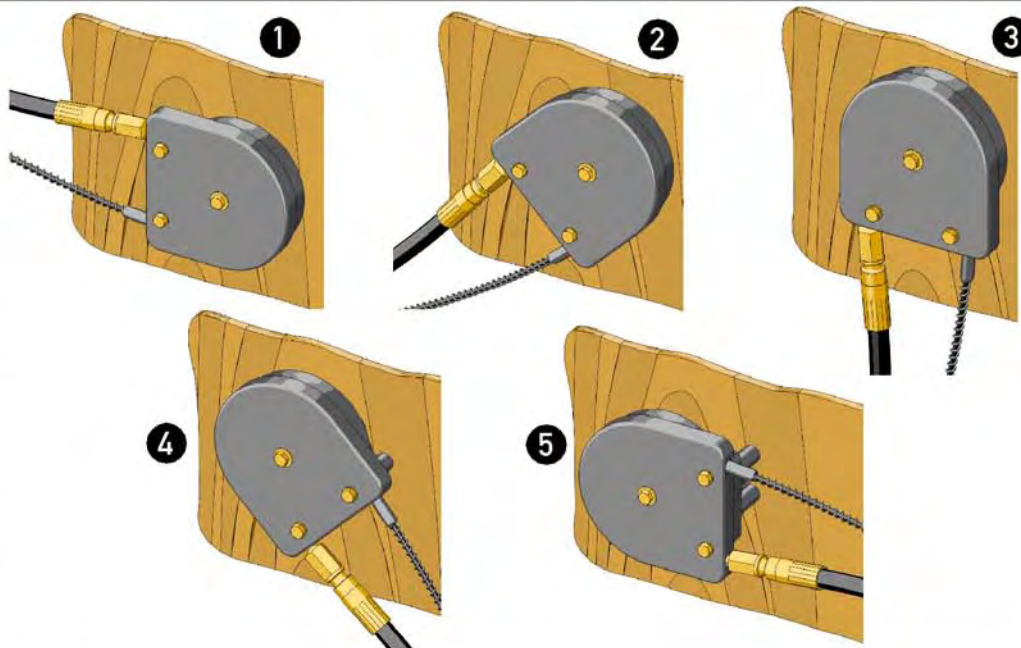


- 1 The single cable must be installed on the side of the boat closer to the steering wheel shaft.
- 2 Select a direct path with a minimum number of bends.

⚠ WARNING

The minimum bend radius for a single cable is 8" (200mm). A more severe bend will cause steering friction and reduce the single cable life.

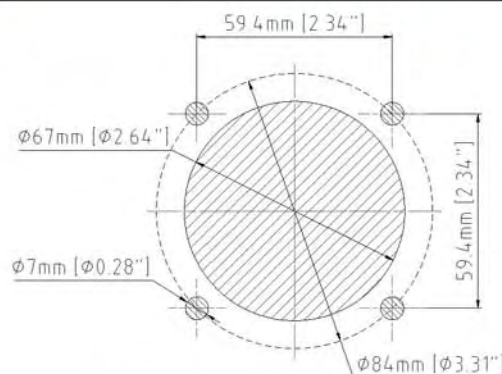
- 3 Make sure the distances between the axis of the shaft of the helm and the bulkheads are equal or longer than those indicated on page 7.



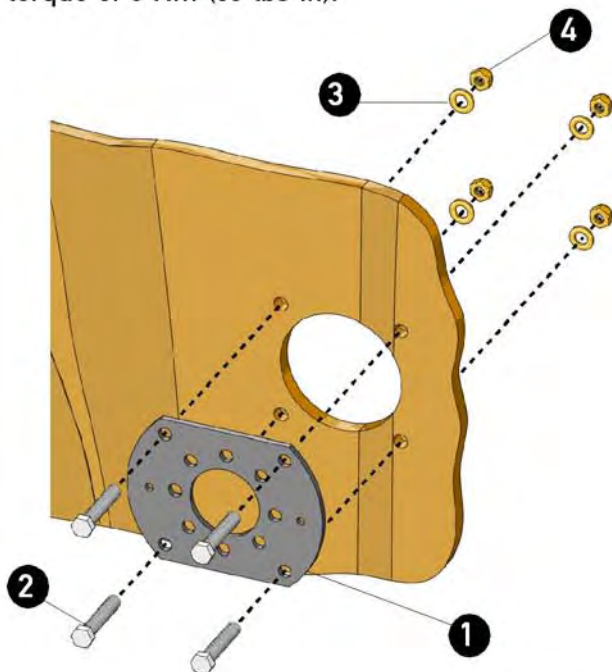
NOTE

The steering system unit can be installed in 5 different positions which allow the cable to exit in the most suitable direction.

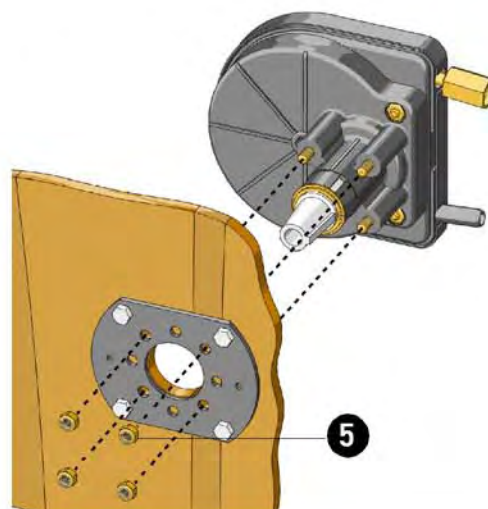
- 4 By using the supplied drilling template position the helm in the chosen place and create 4 holes of diameter 7 mm (0.28") and one of diameter 67 mm (2.64").



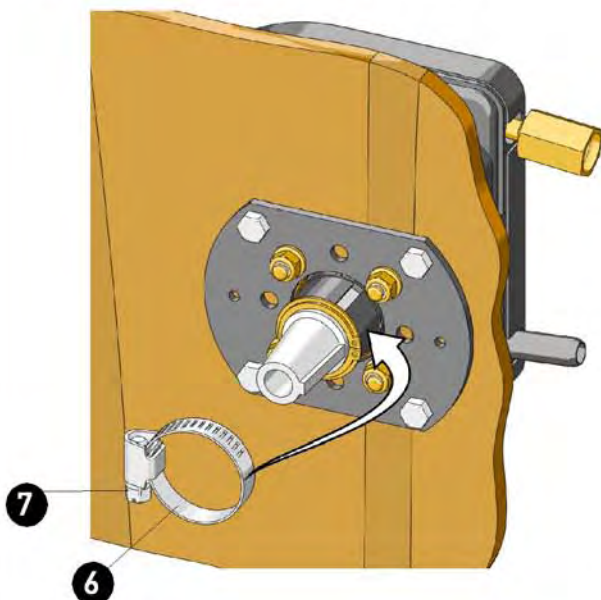
- 5** Tighten the bracket (1) to the dashboard using four screws M6x35 (hexagonal head) (2), four washers (3) and four self stopping nuts M6 (4) with torque of 6 Nm (53 lbs in).



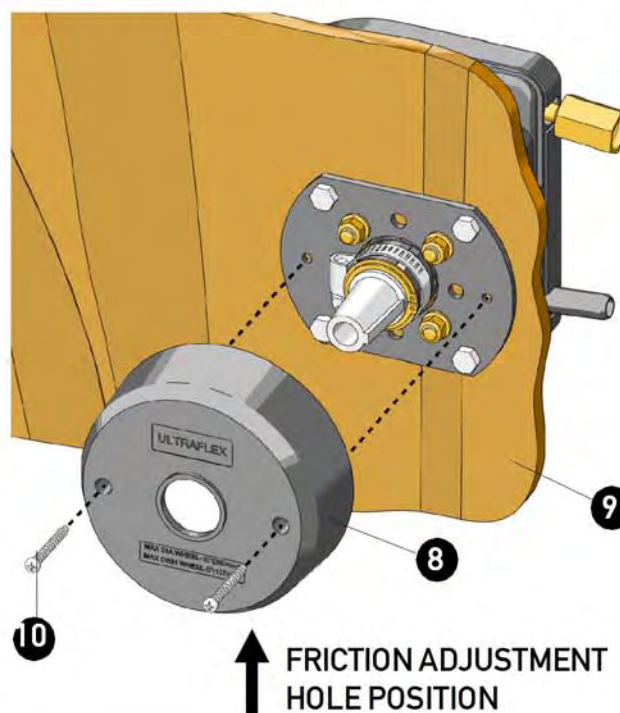
- 6** Insert the helm shaft from the back side of the dashboard through the hole of the mounting bracket. The helm can be fixed in 5 different positions (every 45°). The right position will be determined by the mounting side of the single cable. Place the helm in the selected position and align the holes for mounting. Tighten the helm to the bracket with four M6 self-locking nuts (5) with torque of 6 Nm (53 lbs in).



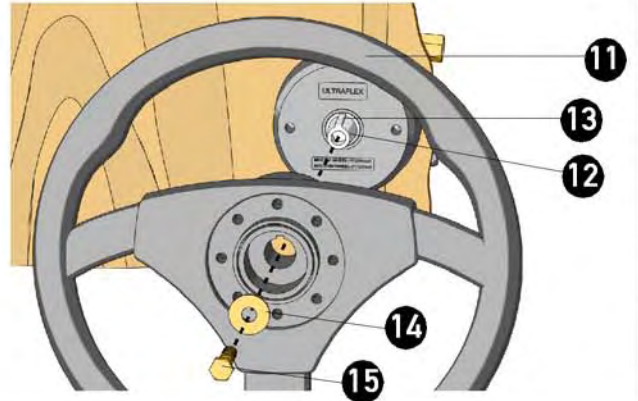
- 7** Insert the ring (6) on the helm bezel considering that the adjusting screw (7) must be aligned with the mounting bezel hole (8).



- 8** Insert the mounting bezel (8) and bringing in contact with the dashboard (9). Fix the mounting bezel (8) to the dashboard (9) by means of two self-threading screws (10).



- 9 Insert the steering wheel (11) on the helm shaft (12) aligning the recess of the hub with the key (13) of the shaft. Insert the washer (14) and screw the M10 screw (15) on the hub of the steering wheel, with torque of 35-40Nm (310-354 lbs in).



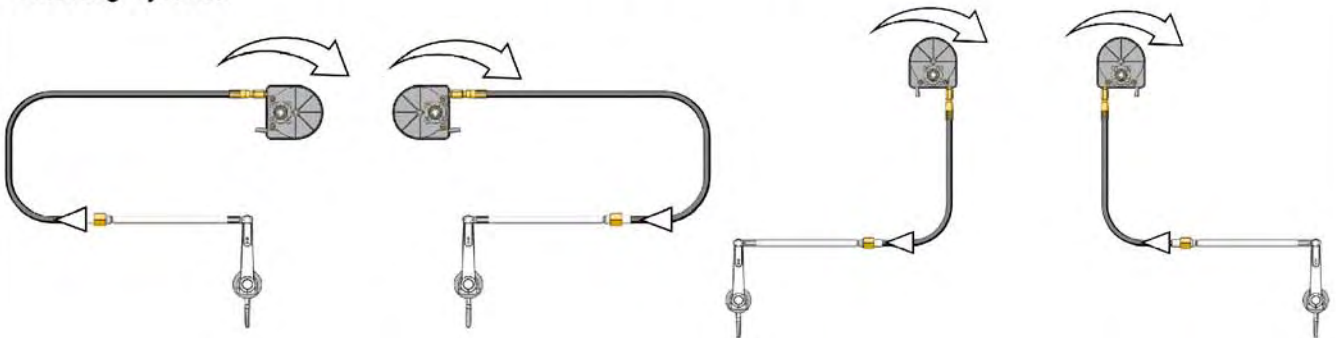
⚠ WARNING

Do not use a steering wheel with diameter wider than 380 mm (15").

3.3 Single cable connection to the steering system

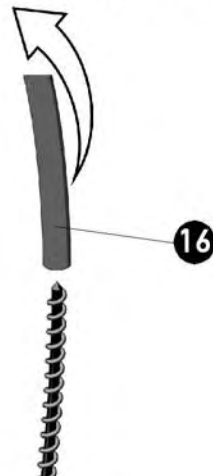


- 1 Determine the correct entry position of the single cable into the helm according to the proper steering system.

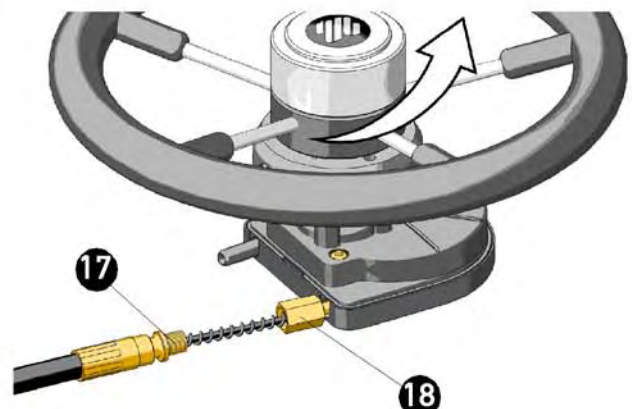


PUSH OR PULL TURNING DIRECTIONS

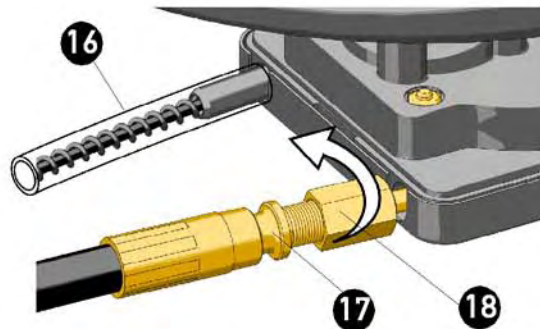
- 2 Remove protective tube (16) from cable **ULTRAFLEX M58** but preserve it (see picture 4) and keep it clean. Insert the helical cable into the helm.



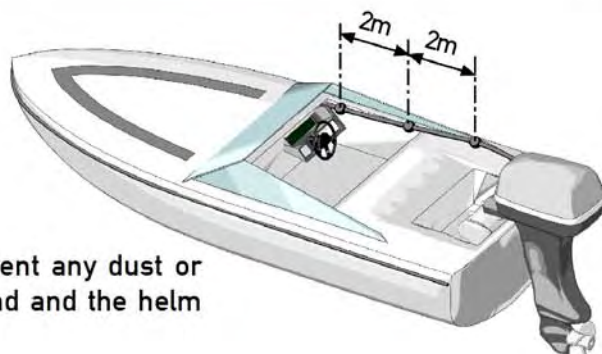
- 3 Turn the steering wheel so as to pull the cable into the helm, making the cable sheath end (17) touch the nut (18).



- 4 Turn the helm nut (18) to screw the cable sheath end (17) until it touches it. Then insert the protective tube (16) removed before (see pic. 2) and place it on the cable coming from the helm until the the helm tube is covered.



- 5 Fix the cable sheath every 2 m (6'). The sheath must not be fixed to the electric wires. Bulkhead openings require a minimum 38mm (1 1/2) hole diameter.



⚠ DANGER

During the single cable assembly on the helm, prevent any dust or foreign material from coming in contact with cable end and the helm itself.

⚠ DANGER

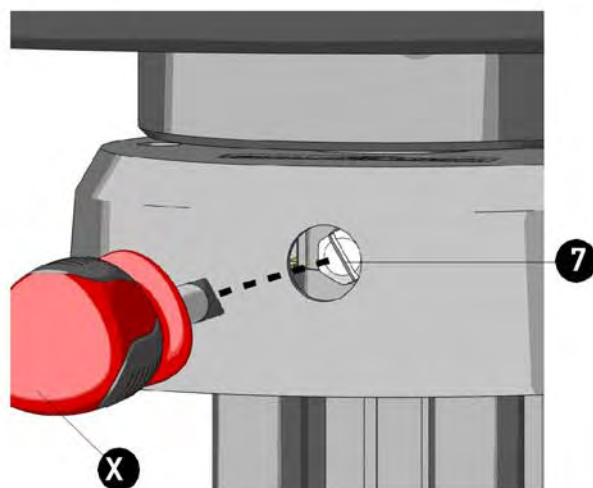
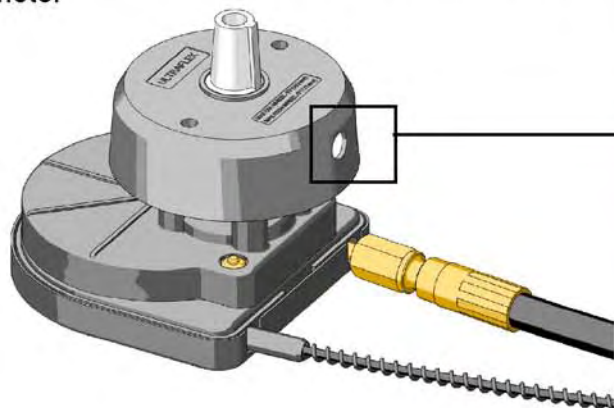
Make sure the single cable sheath does not enter in contact with cutting edges that could damage it.

⚠ WARNING

- 6 Make sure the direction of the steering wheel rotation corresponds to the boat direction.

This control must be carried out before the boat is operated in the water.

- 7 To modify the sensitivity of the steering wheel it is possible to adjust the friction positioned on the hub. By means of a slotted screwdriver (X), act on the screw (7) through the mounting bezel hole.



4 SAFETY WARNINGS

This section shows the safety rules which must be followed for the correct equipment operation. We recommend reading carefully this section and also the other manuals supplied with the steering system components.

4.1 Safety rules during installation and use

OBSERVE STRICTLY the following safety rules:

ULTRAFLEX declines all responsibility in case the user does not follow these rules and it is not responsible for negligence while using the system.

DANGER

- DO NOT PUT YOUR HANDS BETWEEN MOVING PARTS.
- Do not disable the safety devices.
- Do not modify or add devices to the system, without **ULTRAFLEX** written authorisation or technical intervention which will prove the modification in the report.
- Do not use this equipment for a purpose different from the one it has been designed for, which is specified in the installation and maintenance manual.
- Do not let unskilled staff perform the installation.

WARNING

- During installation, keep the system clean, to prevent any foreign body to damage it. Even the smallest object could cause permanent but not immediately perceivable damages.
- Avoid cable bends <200 mm (8")
- Avoid contact of cables with sharpened edges
- Avoid contact with sources of heat.

4.2 Clothing

WARNING

During installation, inspection or maintenance,

IT IS STRICTLY FORBIDDEN to wear necklaces, bracelets or clothes which could get caught in the moving parts.



5.1 Ordinary maintenance



⚠ WARNING

Poor installation and maintenance may result in loss of steering and cause property damage and/or personal injury. Maintenance requirements change according to climate, frequency and the use. Inspections are necessary at least every two years and must be carried out by specialized marine technicians.

Carry out the following maintenance operations:

- Periodically wash with water and soap the single cable removing any salt deposit.
- Every month check and if necessary tighten all the nuts fastening the system.

⚠ DANGER

Release or separation of one of the fasteners can cause failure of steering system resulting in property damage, injury or death.

- Periodically check the absence of corrosion on the metal parts of the cable end fittings and of abrasions on the conduit.
- Replace the damage parts that could compromise the steering system integrity.

5.2 Extraordinary maintenance



Technical Support

For any information or for assistance with unusual applications please contact our technical support staff (See paragraph "Introduction").

6 DISMANTLING

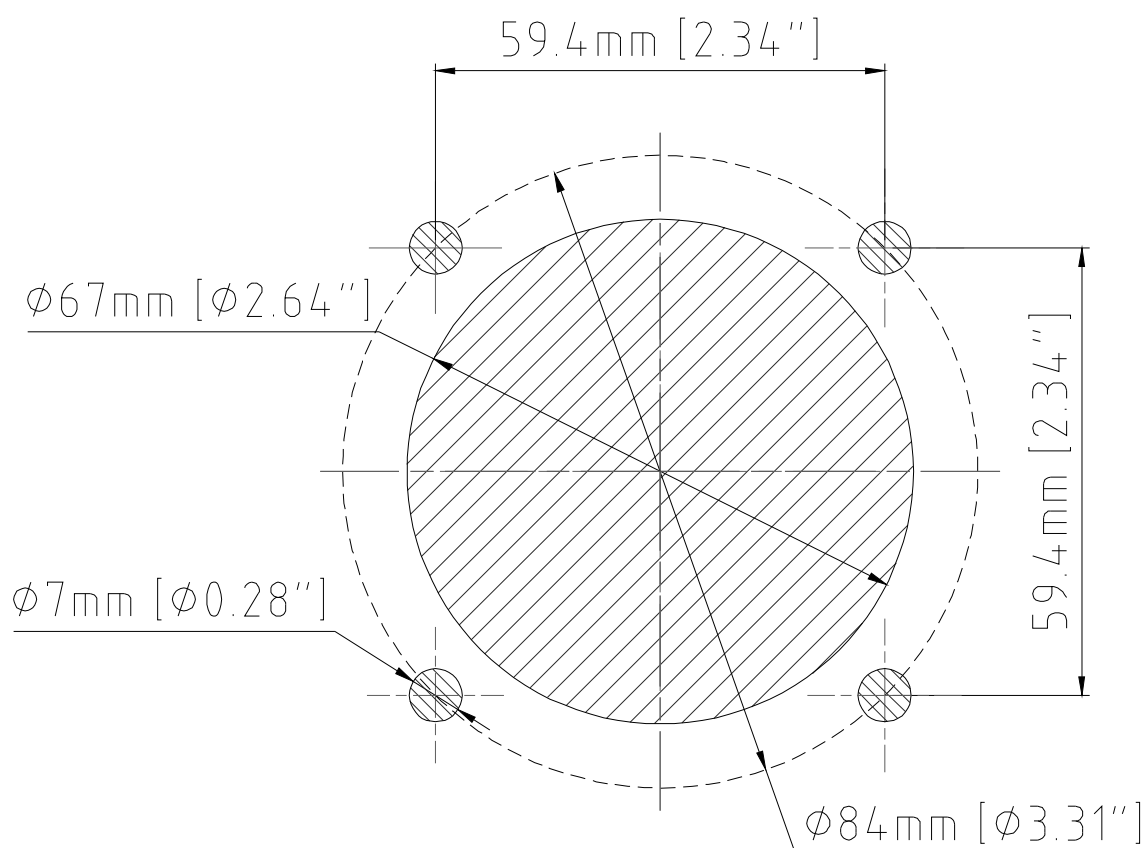
6.1 Dismantling

When for any reason, the system is put out of service, it is necessary to follow some rules in order to respect the environment.

Conduits, pipelines, plastic or non-metallic components must be disassembled and disposed of separately.



- UK Drilling template for T85 and T67 steering systems
- I Dima di foratura per sistemi di guida T85 e T67
- F Gabarit de perçage pour systèmes de gouvernement T85 et T67



 **ULTRAFLEX**



SO-
CIO

