

INSTALLATION & OPERATOR'S
MANUAL

HELMSMAN RTC15F

STEERING CONTROL FOR
FURUNO AUTOPILOTS



HELMSMAN

TAKE COMMAND WITH CONFIDENCE

WWW.HELMSMAN-MARINE.COM



Autopilot Steering Controls & Innovative Marine Solutions

"TAKE COMMAND WITH CONFIDENCE."

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OVERVIEW

1.1 SCOPE

This manual is a reference guide for installing and operating the Helmsman RTC15F remote steering controller. Please take time to read this manual to gain a thorough understanding of the RTC15F and its relationship to a complete autopilot system.

1.2 DESCRIPTION

The Helmsman RTC15F is a 'full-follow-up' remote steering controller for use with popular Furuno automatic pilots. It is robust, submersible, and constructed of noncorrosive materials, making it suitable for exposure to wet marine environments. The RTC15F is also compact and includes features that make it more versatile than original equipment.

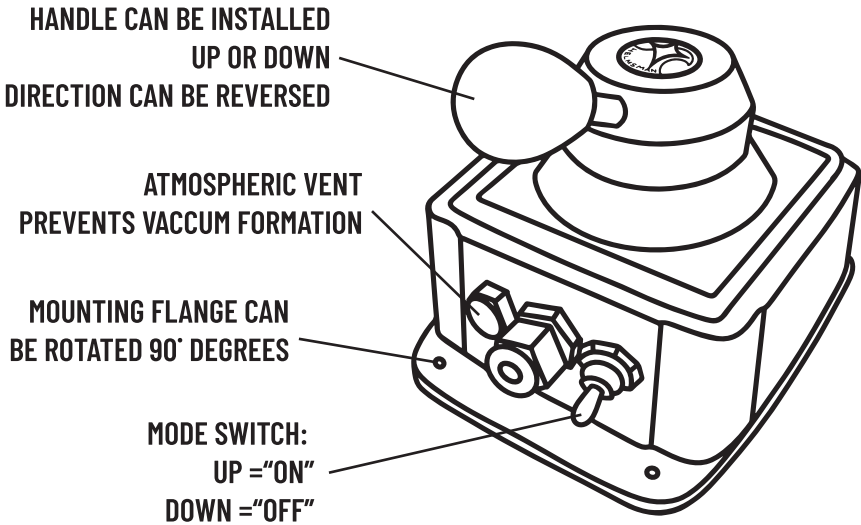
1.3 COMPATIBILITY

The Helmsman RTC15F is fully compatible with the following Furuno autopilot systems:

- NAVPILOT 500
- NAVPILOT 511
- NAVPILOT 700
- NAVPILOT 711
- NAVPILOT 1000
- FAP50 (Legacy model)

1.4 FEATURES

Some key features of the RTC15F are shown in the figure below.



OPERATION

2.1 TAKING COMMAND

To take command with the RTC15F, simply move the toggle switch to the up position. The control handle will now command the ship's rudder position. Move the toggle switch down to relinquish control back to the autopilot. If the autopilot was previously in autosteering mode, it will now revert back to autosteering.

2.2 STEERING WITH THE RTC15F

The RTC15F is a 'full-follow-up' steering control, which means the ship's rudder position follows the position of the steering handle. Full-follow-up control is the preferred steering method and is distinct from non-follow-up or 'jog' steering, which only commands rudder direction and not rudder position.

Furuno autopilots provide two input ports for remote steering controllers and thus, will accept two full-follow-up steering controls or two non-follow-up steering controls. Each input port must be configured in the autopilot setup menu so that the steering control will be recognized. (*Note: the NAVPILOT 1000 will accept three remote controllers.*) Refer to your Furuno manual for specific information on how to configure the autopilot ports for remote steering controls.

CONFIGURATION & INSTALLATION

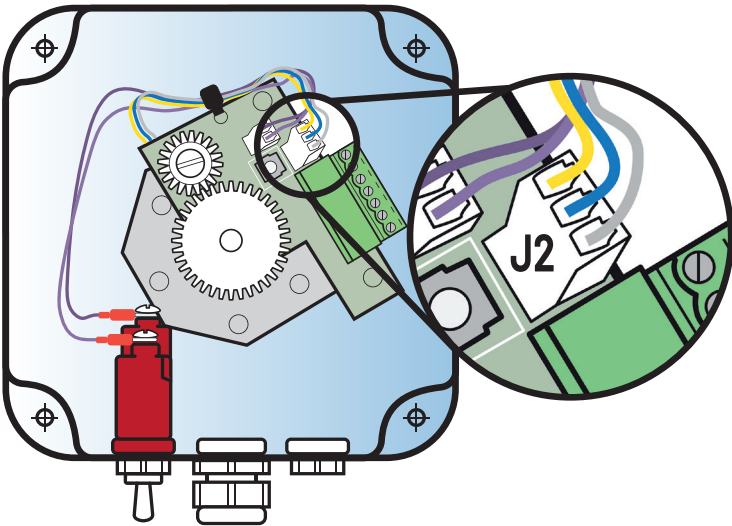
3.1 HANDLE POSITIONING

The RTC15F control handle has a 5/16-18 threaded shank that can be installed in two locations on the hub. A plastic hole-plug (*included in the fastener kit*) should be pressed into the unused hole to protect the threads. (*Refer to the Diagrams section of this document for visual guidance.*)

3.2 HANDLE ACTION

Clockwise rotation of the hub will typically result in port rudder direction, but in some installations, it may be preferable to have the rudder travel the opposite direction. The action of the control handle is reversible to accommodate operator preference.

To reverse the control handle's action, remove the back cover and reverse the potentiometer connector (J2) as shown in the following illustration.



NOTE: Before replacing the cover inspect the perimeter gasket to ascertain that there is no debris on the gasket which may compromise sealing integrity.

NOTE: Do not overtighten the fasteners. Tighten enough to evenly compress the gasket. Excessive force can cause damage to the threaded inserts.

3.3 MOUNTING OPTIONS

The RTC15F back cover features a mounting flange which can be rotated 90 degrees to accommodate customer preference. Use a #1 Phillips screwdriver to remove the back cover, rotate the base flange and reinstall the back cover. (Refer to the *Diagrams* section of this document for visual guidance.)

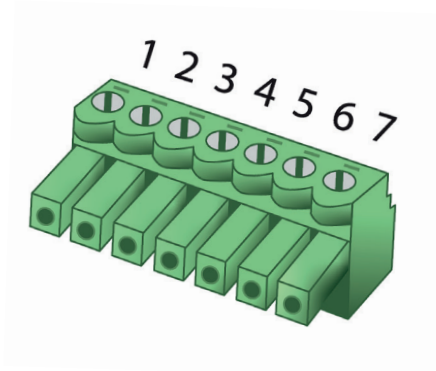
NOTE: Before replacing the cover inspect the perimeter gasket to ascertain that there is no debris on the gasket which may compromise sealing integrity.

NOTE: Tighten fasteners just enough to evenly compress the silicone gasket. Excessive force can damage the threaded inserts.

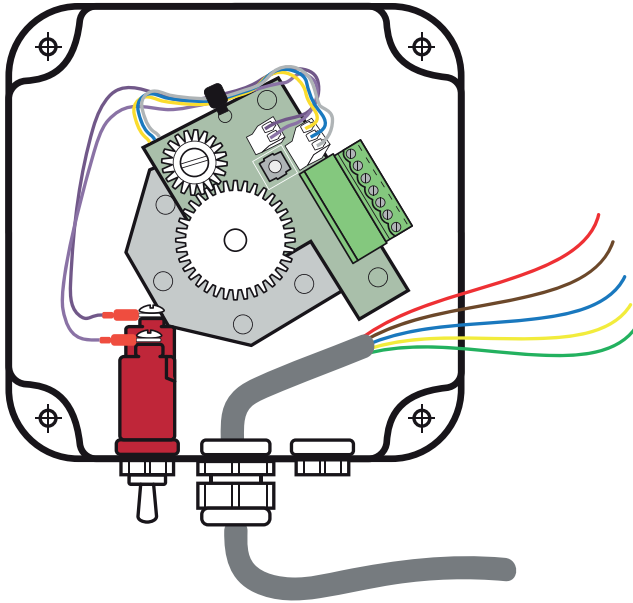
3.4 WIRING CONNECTIONS

- A. Remove the back cover using a #1 Phillips screwdriver.
- B. Remove the 7-position connector plug to facilitate wire insertion into the contacts.

7- POSITION CONNECTOR



C. Loosen the cord-grip (cable seal) to allow free insertion of the multiconductor cable and pass the cable through the cord-grip.



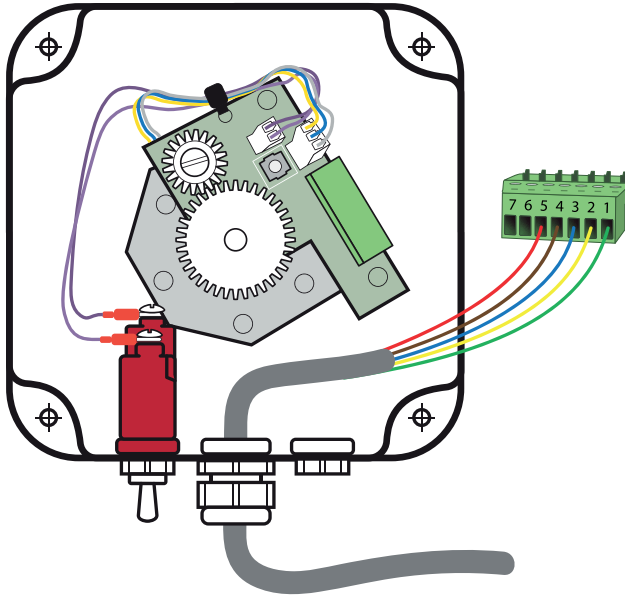
D. Strip off ¼" of insulation from each wire, observing the wire colors shown on the following diagram.

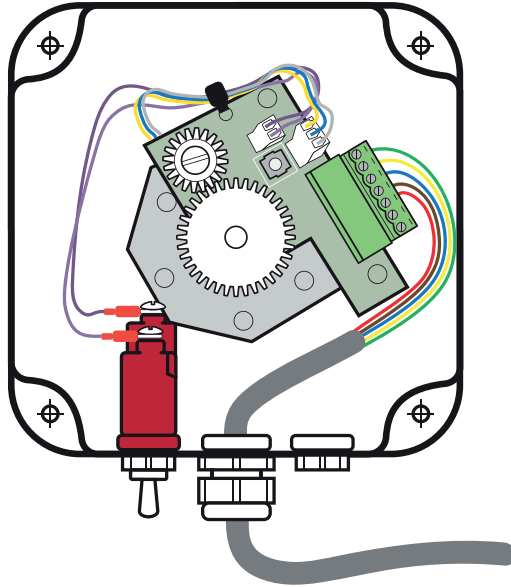
| | HELMSMAN RTC15F | NAVpilot 500 Series | NAVpilot 700 Series | FUNCTION |
|---|-----------------|---------------------|---------------------|----------------|
| | P1 | REM A | REM 1 | |
| 1 | GREEN | REM-A-1 | REM-1-1 | POTENTIOMETER |
| 2 | YELLOW | REM-A-2 | REM-1-2 | WIPER (POT.) |
| 3 | BLUE | REM-A-3 | REM-1-3 | POTENTIOMETER |
| 4 | BROWN | REM-A-4 | REM-1-4 | CONTROL SWITCH |
| 5 | RED | REM-A-5 | REM-1-5 | GROUND |
| 6 | NC | REM-A-6 | REM-1-6 | |
| 7 | NC | REM-A-7 | REM-1-7 | |

V.P MULTICONDUCTOR CABLE SHOWN

E. Secure each wire in its corresponding contact position as illustrated.

NOTE: Be sure to inspect for stray conductors and tug each wire slightly to ensure that connections are secure.





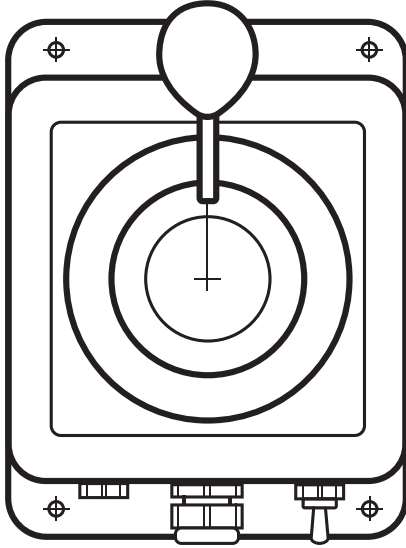
F. Reinsert the 7-position plug in the socket and replace the backcover.

NOTE: Before replacing the cover inspect the perimeter gasket to ascertain that there is no debris on the gasket which may compromise sealing integrity.

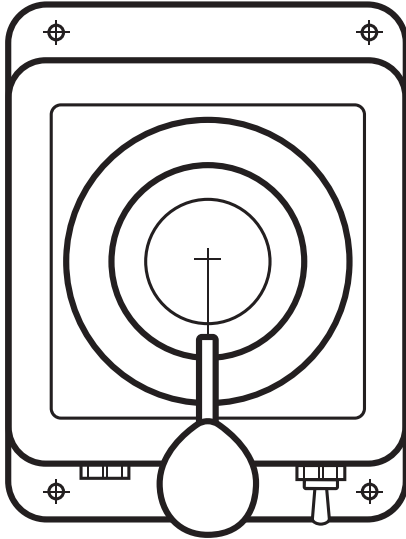
NOTE: Tighten fasteners just enough to evenly compress the silicone gasket. Excessive force can damage the threaded inserts.

DIAGRAMS

4.1

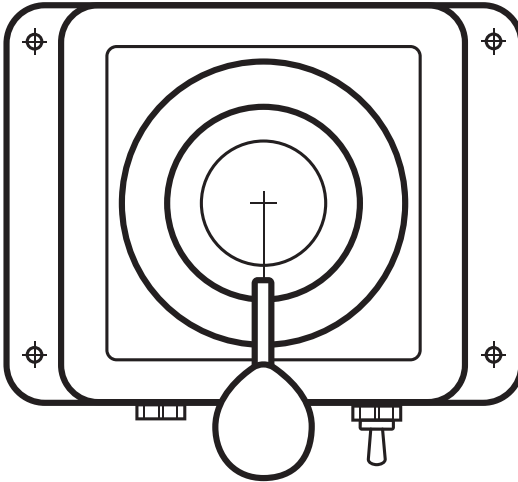
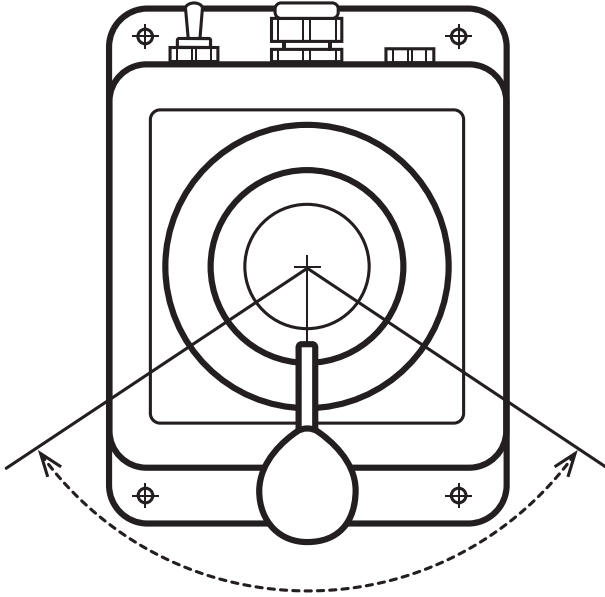


HANDLE UP



HANDLE DOWN

4.2



FLANGE 90°

DIMENSIONS

4.3

