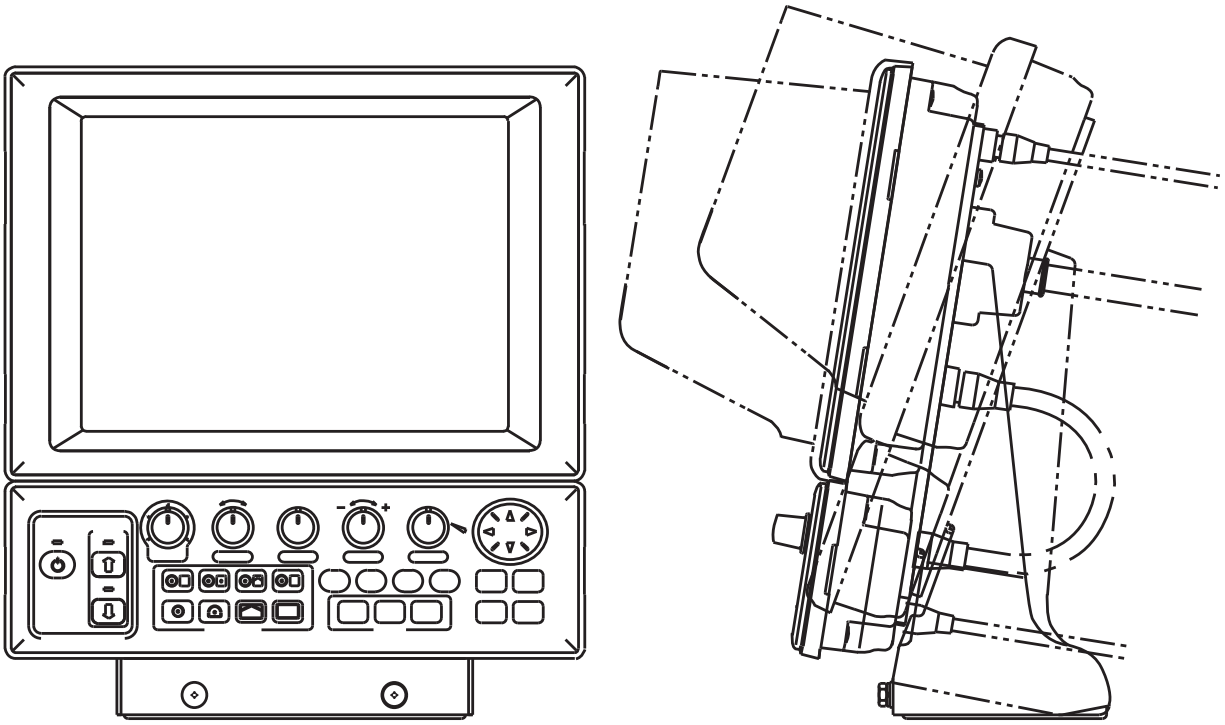
Please read this supplement to the CH250 Manual first.

FURUNO®

CH250 Searchlight Sonar



Important Technical Installation Information

The following checklist and information sheets are provided to help you efficiently install your CH250 sonar. If this is a high speed vessel, please pay careful attention to the tube length and fairing instructions.

CH250 Installation Supplement Contents

The following checklist and information sheets are provided to help you properly and efficiently install your CH250 sonar. If this is a high speed vessel, please pay careful attention to the tube length and fairing instructions.

Page

Please feel free to contact us with any questions that you may have. Additional information such as this may be found on our web site www.Furuno.com.

This material is provided to augment, not replace, what is found in your CH250 manuals.

CH250 Installation Check Sheet

Vessel Information

Vessel Name: _____
Type: _____ Use: _____
Length: _____ Registry: _____
Operating Speed: _____ Hull Type: _____

CH250 System Information

CH250 Model: _____
Serial Number: _____
Shaft Travel: _____
System Input Voltage: _____

Dealer Information

Dealer Name: _____
Address: _____ City, State, Zip: _____
Installed By: _____
Date: _____ Location: _____

Standard System – MU100C Display Check List

Are all cables and connections tight & strapped?	❑ Yes	❑ No
Is NMEA data connected and activated?	❑ Yes	❑ No
What NMEA devices are connected: _____		
Has CH252 control head installation & operation been checked?	❑ Yes	❑ No
Is the unit grounded properly?	❑ Yes	❑ No

OR

Black Box System – VGA Display Check List

Are all cables and connections tight & strapped?	❑ Yes	❑ No
Does the monitor display the correct color palette?	❑ Yes	❑ No
Are the IF8000 dip switches set correctly?	❑ Yes	❑ No
Is NMEA data connected and activated?	❑ Yes	❑ No
What NMEA devices are connected: _____		
Has CH252 control head installation & operation been checked?	❑ Yes	❑ No
Is the unit grounded properly?	❑ Yes	❑ No

CH253 Transceiver Unit Check List

Are all cables and connections tight & strapped?	❑ Yes	❑ No
Check and note actual input voltage _____		
Is the unit grounded properly?	❑ Yes	❑ No

Motion Sensor or Incinometer Check List

Which sensor is being used, BS704 or MS100?	❑ BS704	❑ MS100
Where is the sensor located? _____		
Has the sonar been programmed to look for the sensor?	❑ Yes	❑ No

Sonar Tube Installation Check List

Was a Furuno supplied sonar tube used?	❑ Yes	❑ No
If not, what was the ID of the sonar tube used? _____		
What is the actual length of the sonar tube? _____		
Where is the sonar tube mounted? _____		
Is the sonar tube on or off the vessels centerline?	❑ On	❑ Off
Has a sonar tube air venting system been installed?	❑ Yes	❑ No
Has a forward sonar tube fairing been installed?	❑ Yes	❑ No

CH250 Installation Check Sheet - continued

CH254 or CH255 Hull Unit Check List

Check and note actual input voltage: _____

Are all cables and connections tight and strapped?	❑ Yes	❑ No
Is the unit grounded properly?	❑ Yes	❑ No
Has the soundome been lowered and raised by hand?	❑ Yes	❑ No
Have the shaft guides been adjusted for 0.5mm tolerance?	❑ Yes	❑ No
Does the shaft have a heading mark inscribed?	❑ Yes	❑ No
Is the soundome 1/2" up, in the sonar tube when retracted?	❑ Yes	❑ No
Has epoxy been used on shaft threads?	❑ Yes	❑ No
Has Kinoruster been used?	❑ Yes	❑ No
Has soundome packing sponge been removed?	❑ Yes	❑ No
Was oil added to the soundome?	❑ Yes	❑ No

*****CAUTION - Do not lay soundome on its side once oil has been added*****

Are all the soundome capscrews tight?	❑ Yes	❑ No
Have 3 layers of greased cotton packing been used?	❑ Yes	❑ No
Is the safety clamp installed and tightened?	❑ Yes	❑ No

Accessories Check List - if applicable

Checked operation of the SC-05WR external speaker?	❑ Yes	❑ No
Checked operation of the CH256 handheld remote control?	❑ Yes	❑ No

Sea Trial Check List

Date: _____ Location: _____
Operator: _____
System Frequency: _____ Sea conditions: _____
Maximum detection range for the sea-bottom: _____
Maximum detection range for fish targets: _____

Has the sonar picture been checked for alignment?	❑ Yes	❑ No
Has the auto-retraction feature been checked?	❑ Yes	❑ No
Have the system manuals been given to the operator?	❑ Yes	❑ No
Was any hoist movement noted at maximum speed?	❑ Yes	❑ No

Operator Training

Date: _____ Location: _____
Trainer: _____
Training provided for: _____

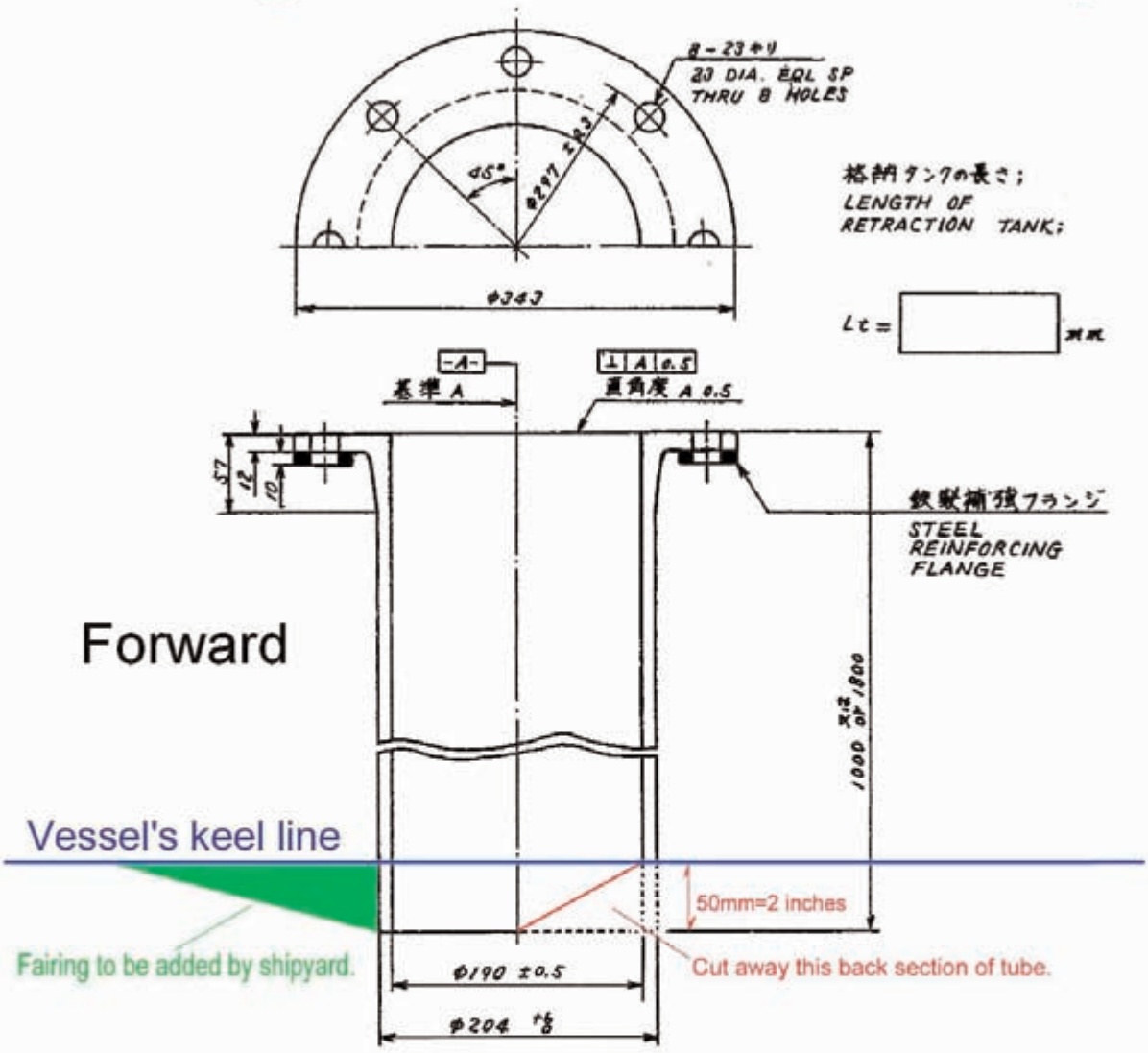
Necessary Follow-up

Required for: _____
When: _____

Warranty Card Completed and Sent to Furuno USA

Date: _____

Drawing for keel installation only.



Standard tank length is 1 meter.
Minimum tank length is 26 inches or 660mm.

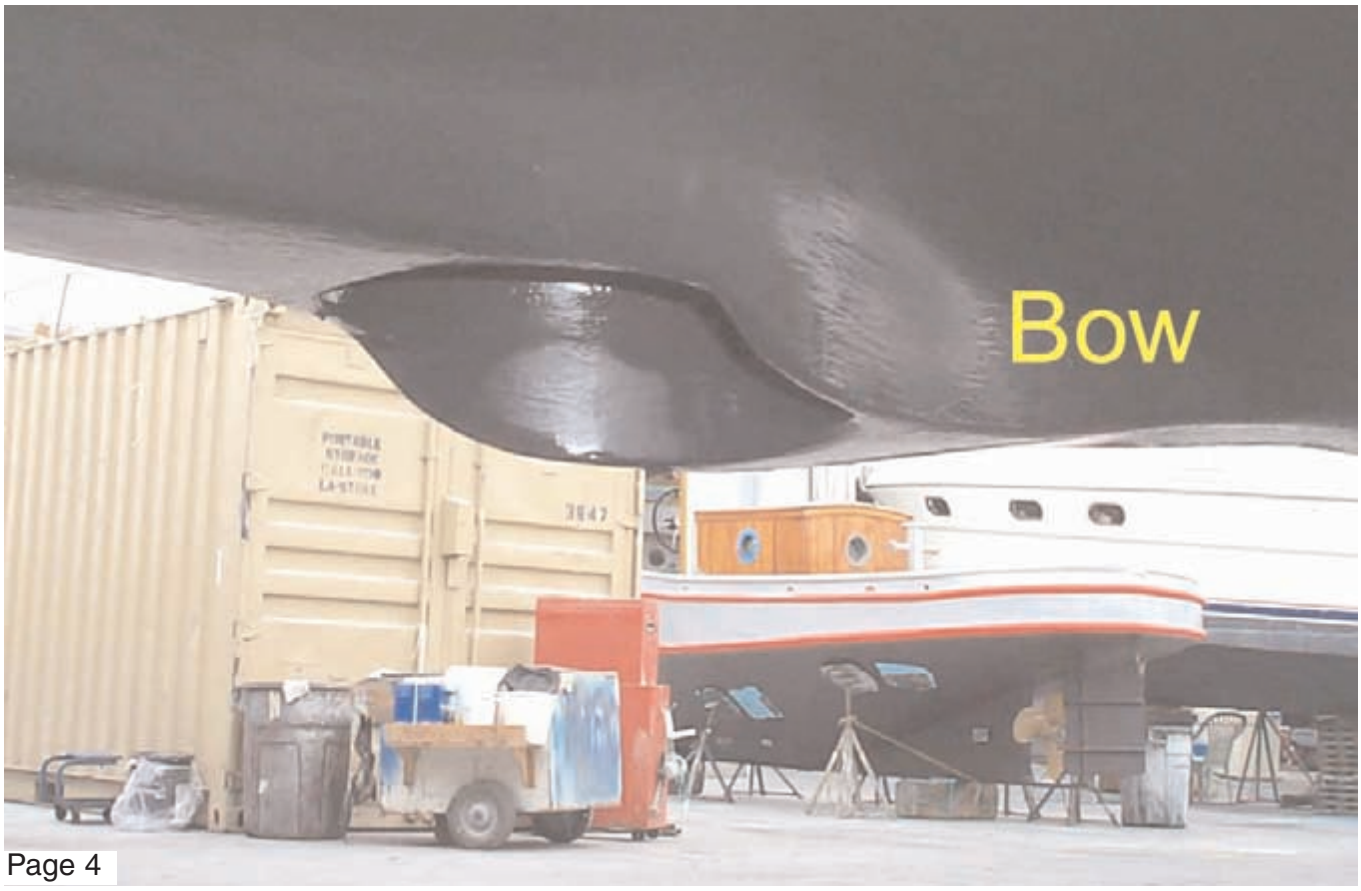
単位 UNIT: mm		品番 ITEM	品名 NAME	材質 MATERIAL	数量 Q'TY	図番 DWG.NO.	摘要 REMARKS
承認 APPROVED		三角法 THIRD ANGLE PROJECTION		名称 TITLE	FRP製格納タンク外観図 FRP RETRACTION TANK OUTLINE DRAWING		
検図 CHECKED	July·18·'98	尺度 SCALE	1/5				
製図 DRAWN	July·18·'98	重量 WEIGHT	1000mm: 20kg 1800mm: 27kg	図番 DWG.NO.	C1229-007-E		

FURUNO ELECTRIC CO., LTD.

Sonar tube fairings for high speed vessels

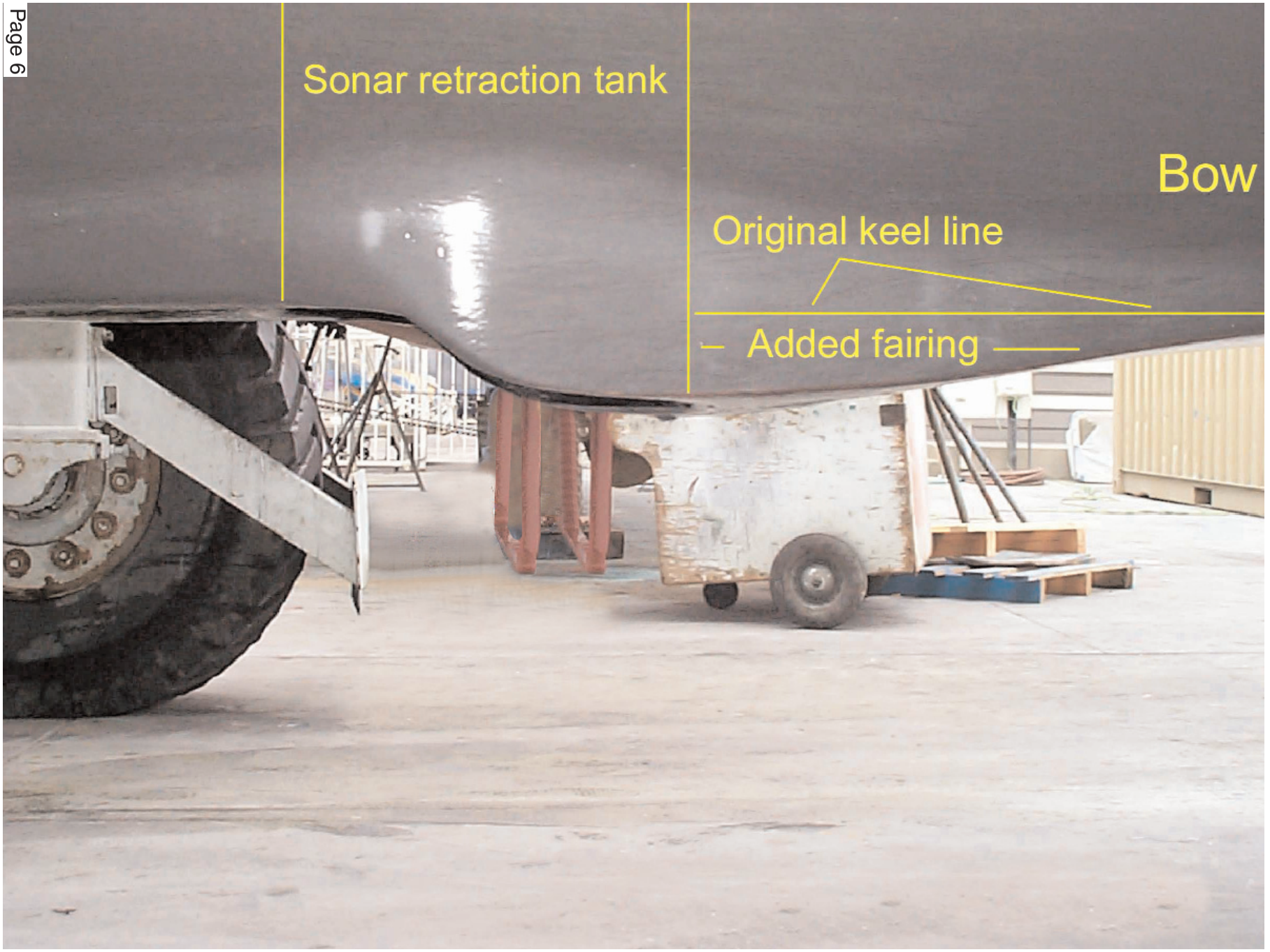
Today, many CH250 hull tubes have to be placed in the forward part of the vessel. This location almost guarantees underway turbulence. Although a poor location, space limitations usually make it the only site available for the hull tube and hoist. As the installation manual shows, the best location is always one third to one half way back from the bow. This is okay, because a bit of prior planning and on - site fabrication will allow a very successful installation on a fast, planing hull vessel. When the vessel's bow rises or she is on a plane, you must prevent the hull tube rear wall from becoming a large water scoop. A simple but effective fairing must be constructed. The fairing routes (diverts) the water flow away from the tube opening, preventing it from striking the tube's rear wall. The same principles applicable for bow thruster installations are true for any sonar hull tube.

Properly sized and shaped, the fairing will minimize turbulence and destructive soundome or shaft movement. Some vessels may require several fairing size and shape adjustments to be absolutely successful. Pictures of several typical, successful fairings are attached for your information and use. A carefully fitted installation will insure you many years of reliable, trouble free CH250 sonar operation.



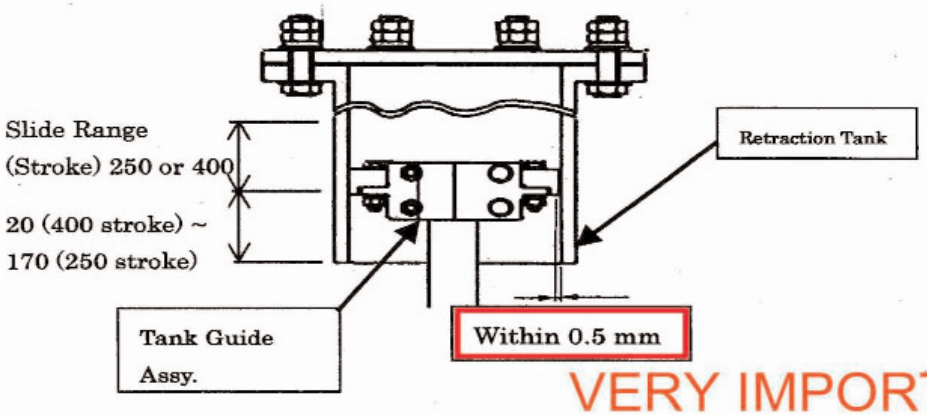

Bow


Bow


Sonar retraction tank
Bow
Original keel line
Added fairing

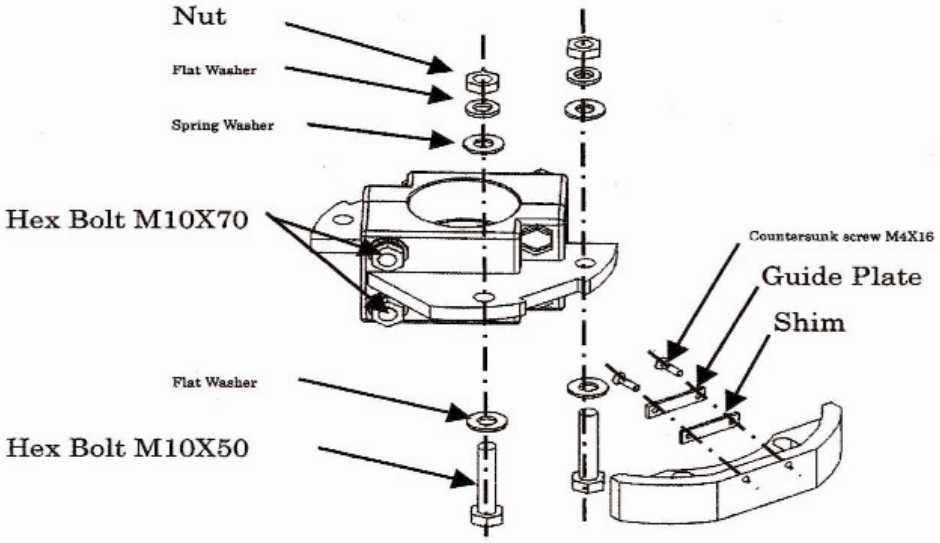
CH-250 Instructions for modifying tank guide

1. As shown in the drawing below, confirm that the narrowest gap between the tank guide assy. and retraction tank in the slide range (20-170 mm) is within 0.5 mm.



VERY IMPORTANT

2. If the gap at a side is more than 0.5 mm, install a shim to make the gap within 0.5 mm.
   - 2 — 1. Unscrew four M10X50 bolts.
   - 2 — 2. Unscrew four countersunk screws, then attach the shim with the countersunk screws as shown below.



3. Unscrew four M10X70 bolts, then fasten the tank guide to the neck of the main shaft as shown in the installation manual.

Motion Sensors, Inclinometers and Longer Interconnect Cables

This valuable accessory unit must be mounted correctly to obtain any benefit from it:

a) Select a mounting location that is dry and vibration free
b) The selected location should be as close to the sonar hoist unit as possible
c) Mount the unit level (only compensating for normal vessel trim)
d) Line the unit up "fore and aft" accurately
e) Mount the unit "right side up" only

If a longer interconnect cable assembly is required, the following options are available:

Part number	**Description**
MS1-CBL-15M	*15 meter signal cable assembly*
MS1-CBL-30M	*30 meter signal cable assembly*
MS1-CBL-50M	*50 meter signal cable assembly*

Note:
The MS100 compensates for any vessel pitching and rolling at sea. To properly set itself the motion sensor must be powered up while the vessel is in a stable condition. This step is easier to accomplish at the dock. Please get in the habit of powering up the entire CH250 system prior to departing from the dock. This one easy step will ensure proper operation of the MS100 and enhanced CH250 performance for the duration of the voyage.

Soundome Cover Removal and Replacement

Remember to detach or replace the soundome cover assembly, ONLY remove the 10 stainless steel Allen head cap screws! *These are the cap screws that hold the soundome cover assembly to the upper bronze housing.*

The plastic cover cross head screws should never be touched! This cover has been factory sealed and cannot be replaced in the field without destroying the soundome's watertight integrity and warranty.

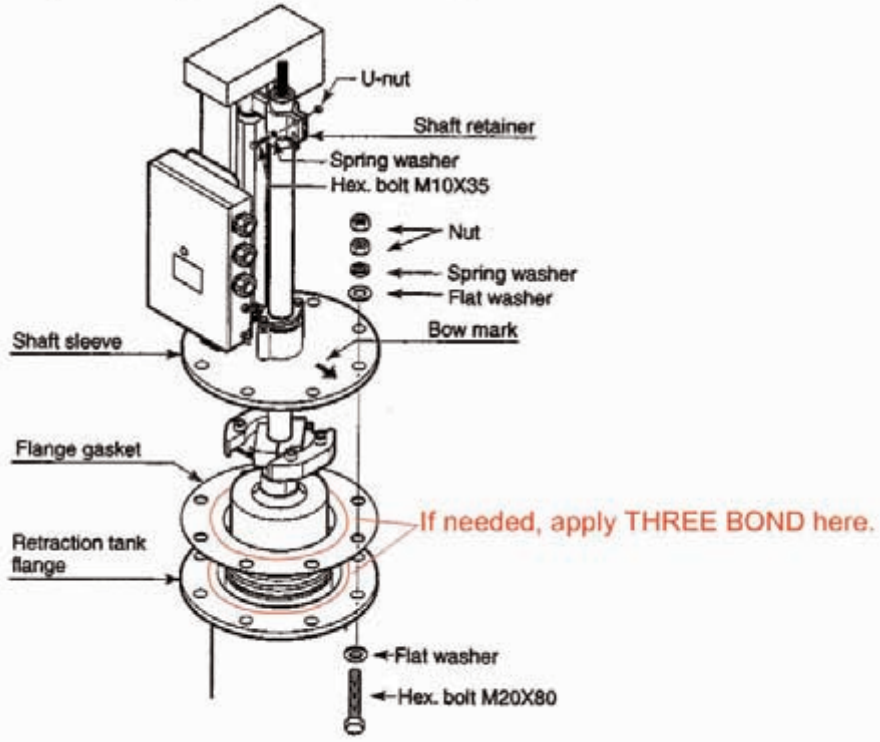
Once the soundome has been filled with oil, keep it in a vertical position to prevent any internal seepage. If the soundome assembly has to be removed for repair or shipment, the oil must always be removed. You may wish to retain the soundome packing material for future use.

Tank Gasket Installation

Clean surface of gasket, tank flange and shaft sleeve.

IMPORTANT
Normally a clean flange gasket is enough for a water tight seal.
For added protection you may add an 1/16" bead of THREE BOND 1104.

Warning: Using an excessive amount of THREE BOND can distort the flange gasket and in some cases permanently attach the sonar flange to the retraction tank.



Check Soundome When In Dry Dock

When the vessel is dry-docked, check for any signs of corrosion on the Soundome. Find the reason for the corrosion and as necessary attach a zinc plate to the hull unit as an anticorrosion measure.

Please feel free to call us at (360) 834-9300 or visit us on the web at www.Furuno.com if you have any additional questions.

Thank you for purchasing the CH250 Searchlight Sonar System!

Furuno U.S.A., Inc.