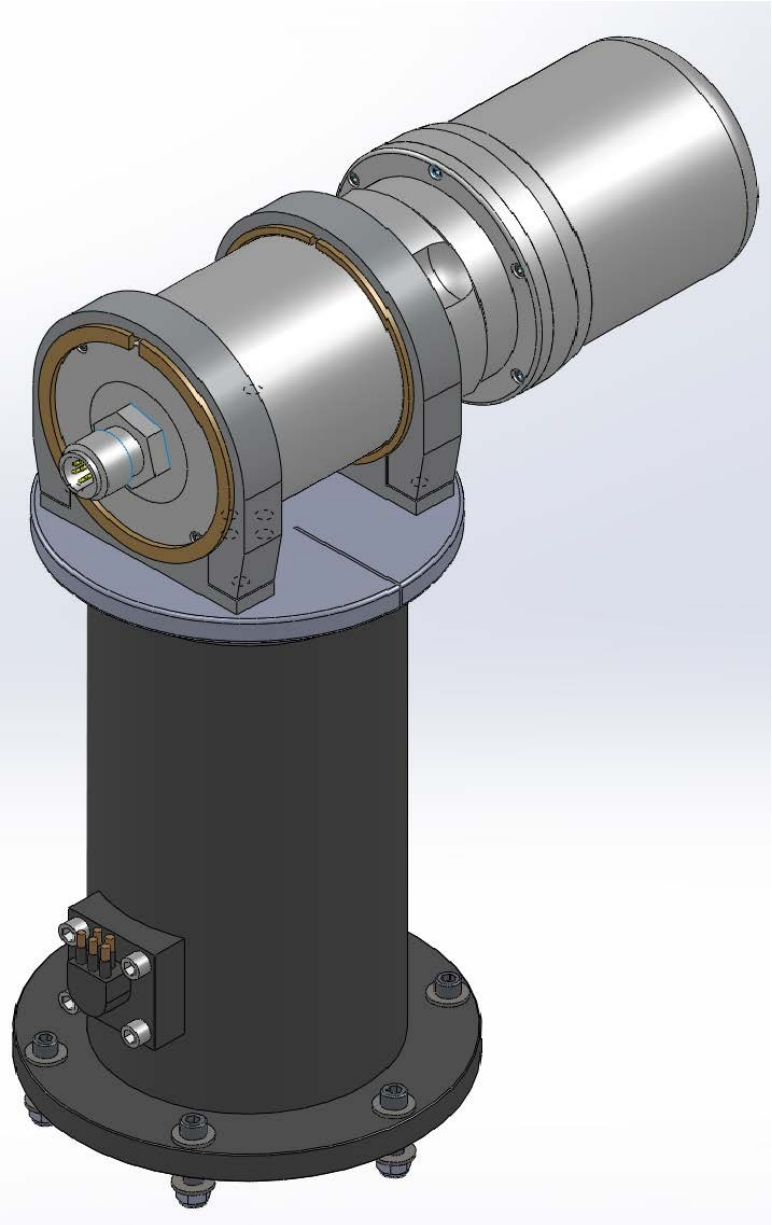
Installation manual

KONGSBERG

Rotator Clamp Kit

4000 m Domed Sonar Heads



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4000 m Domed Sonar Heads

Installation Manual

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About this document

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Document history

Version 1.0 First Release
Version 2.0 Fixed sonar head orientation
Version 3.0 Revised for new rotator hardware

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1 INSTALLATION INSTRUCTIONS

1.1 General

This is the instruction manual for the Rotator Clamp Kit designed for use with the Scanning Sonar Heads. The purpose of the manual is to present the information needed to assemble, deploy and maintain the clamp kit hardware.

The Rotator Clamp Kit is designed for the deployment of a profiling system for 3D profile point data acquisition. The Rotator can be deployed with the KML pole mount kit or any other user supplied deployment framework that provides a mechanical interface to the rotator baseplate.

This manual does not give a detailed description of the sonar and rotator devices. For information about these items, refer to the applicable manufacturer's documentation.

1.2 Installation Instructions

This document provides clamp kit assembly instructions as required for attaching the sonar head to the rotator. The assembly instructions should be used in conjunction with the parts information and assembly drawings to minimize the potential for errors.

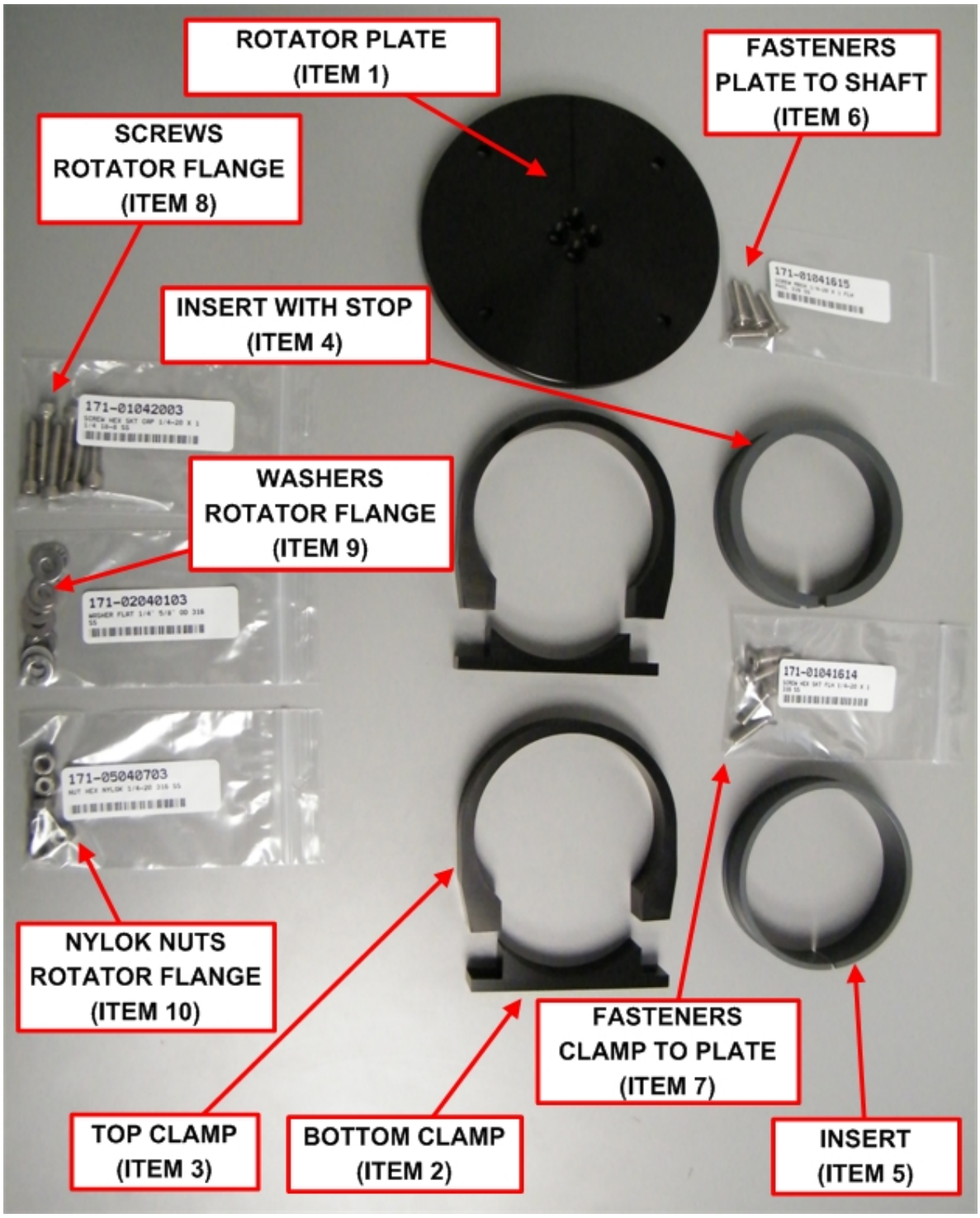
NOTE: We recommend a review of the assembly drawing P/N 422-00761000 and parts list included at the end of this document prior to starting the assembly process.

Assembly of the Rotator Clamp Kit requires between 15-20 minutes, from unpacking to complete assembly. One person is required for installation and deployment.

WARNING: Marine grade grease or anti-seize compound must be applied to all fasteners during assembly.

1.2.1 Unpacking

To start the assembly process, unpack the kit as shown in the picture below:



1.2.2 Assembly steps

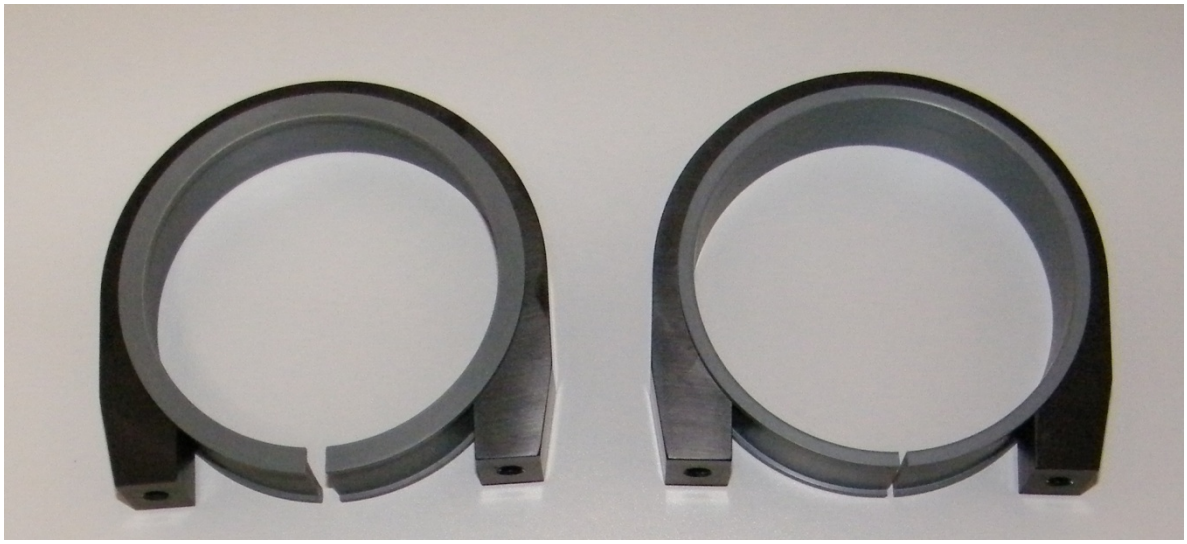
The Rotator Clamp Kit assembly steps are described below.

WARNING: Marine grade grease or anti-seize compound must be applied to all fasteners during assembly.

1.2.2.1 Install Inserts in the Top Clamps

Install the inserts in the top clamps as follows:

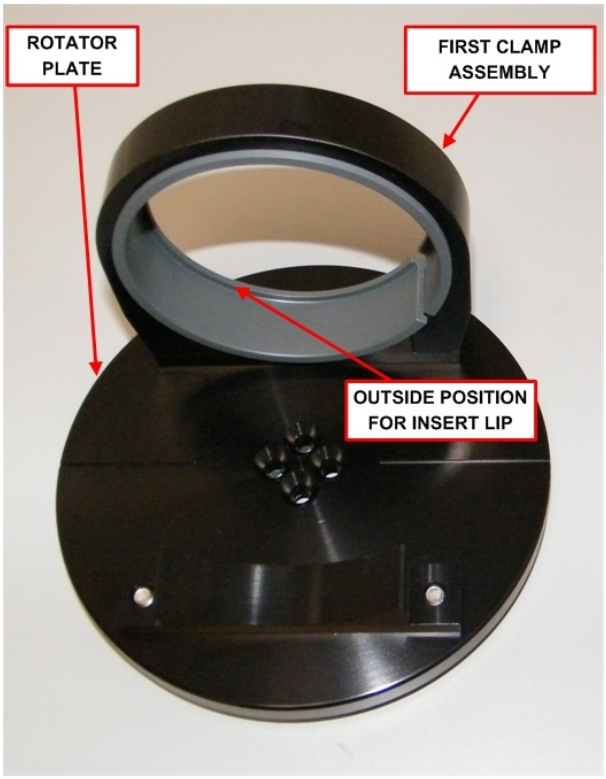
- Push one end of the insert on top of the other and gently squeeze until the insert fits inside the clamp.
- Release the insert until it returns to the normal shape with the top clamp fully seated in the insert groove.



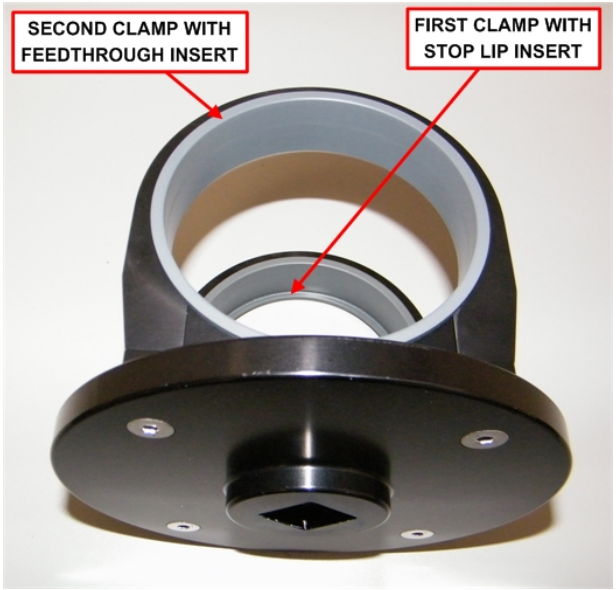
1.2.2.2 Attach Clamps to the Rotator Plate.

- Attach one top clamp assembly and bottom clamp to the rotator plate using the supplied fasteners. Do not tighten the screws at this time.

NOTE: One of the plastic inserts has a stop lip to provide repeatable positional offset for the profiling sonar head. Please install the clamp with the lip on the outside.



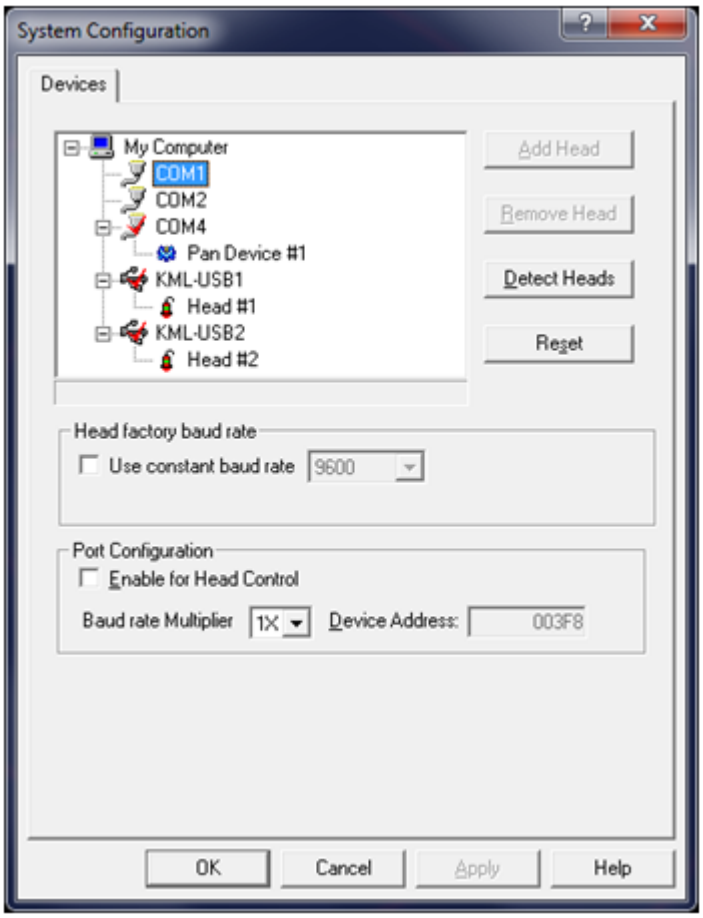
- Attach the other top clamp assembly and bottom clamp to the rotator plate using the supplied fasteners. Do not tighten the screws at this time.



1.2.2.3 Determine the zero position of the rotator shaft

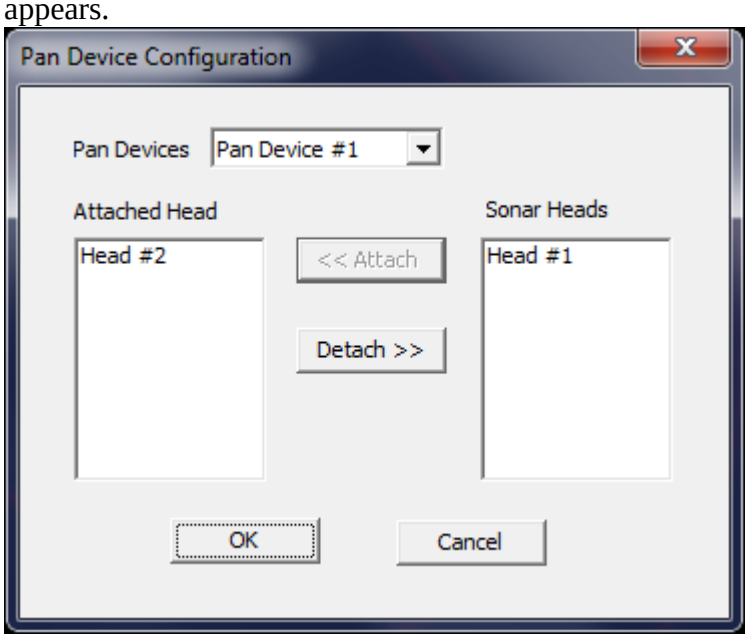
Before you can attach the rotator plate to the rotator, you need to set the rotator shaft to the zero position through the MS1000 Software.

- Connect your Sonar Head to the Sonar Head interface unit (or digital telemetry subsystem).
- Connect your rotator to the rotator interface unit.
- Connect both interface units to your Sonar Processor USB ports.
- Power up all your system units.
- On your Sonar Processor, double-click the MS1000 icon to start the software.
- Click the **Setup** tab on the right side of the presentation.
- Click the **Connect Sonar** button.
  Observe that the **System Configuration** dialog box opens.
- Click the **Detect Heads** button.
- Verify that your Sonar Head and rotator appears in the Devices list.

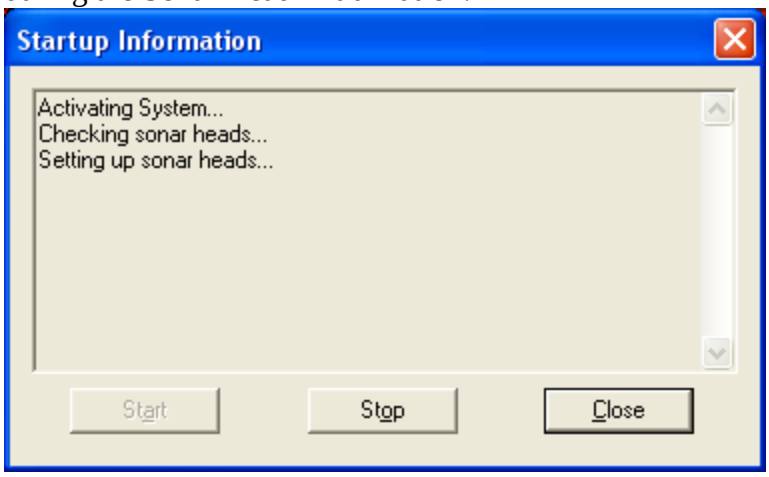


- Click **OK** to exit the dialog box.

- Click the **Pan Device** button.
  Observe that the **Pan Device Configuration** dialog box appears.



- Select your Sonar Head and click the << **Attach** button to associate the rotator to the Sonar Head.
- Click **OK** to exit the dialog box.
- Click the **System** button in the bottom-right corner of the presentation, then select *Run* from the submenu.
- Observe that a **Startup Information** dialog box appears during the Sonar Head initialization.



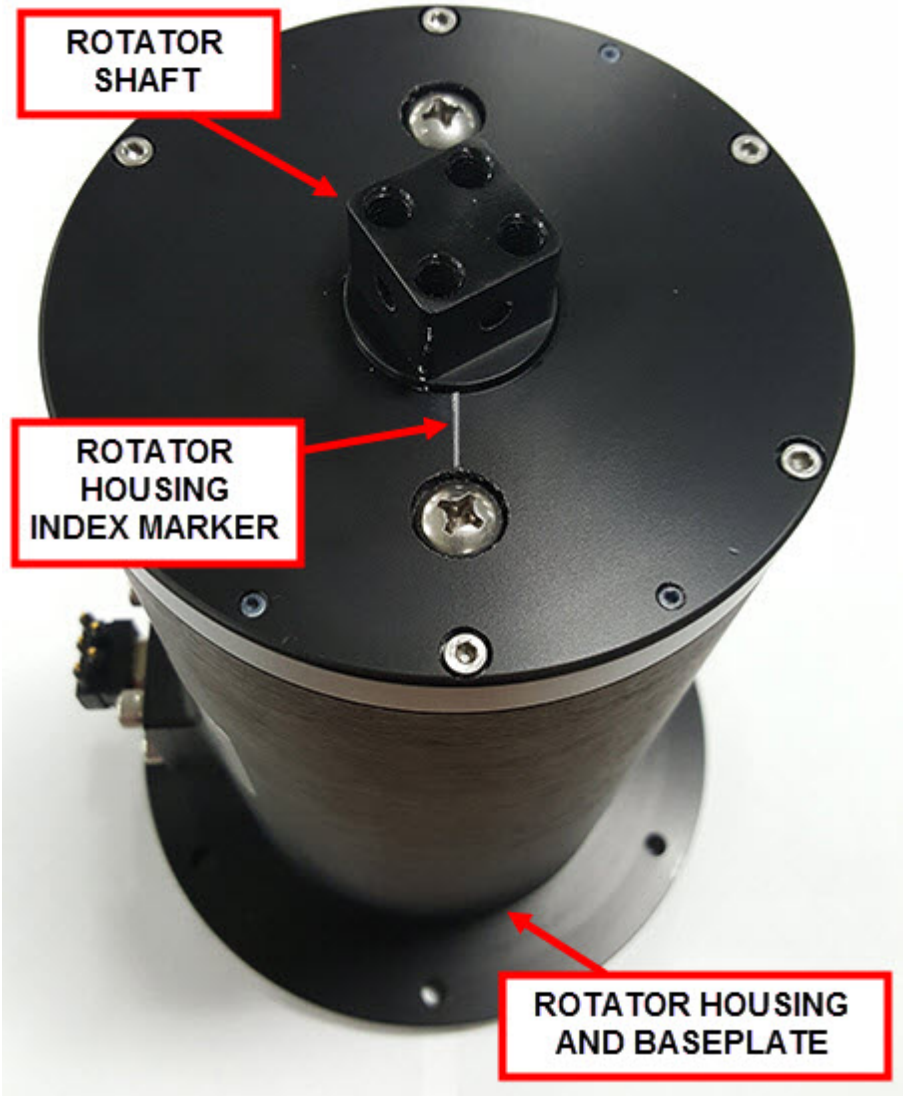
- Observe that the rotator shaft moves to zero position after rotator calibration is completed.

Note: During operation you can force the rotator shaft to move to the zero position by clicking **Operation→Mode→3D Scan→Reset to Zero**.

1.2.2.4 Assemble Rotator Plate to the rotator shaft

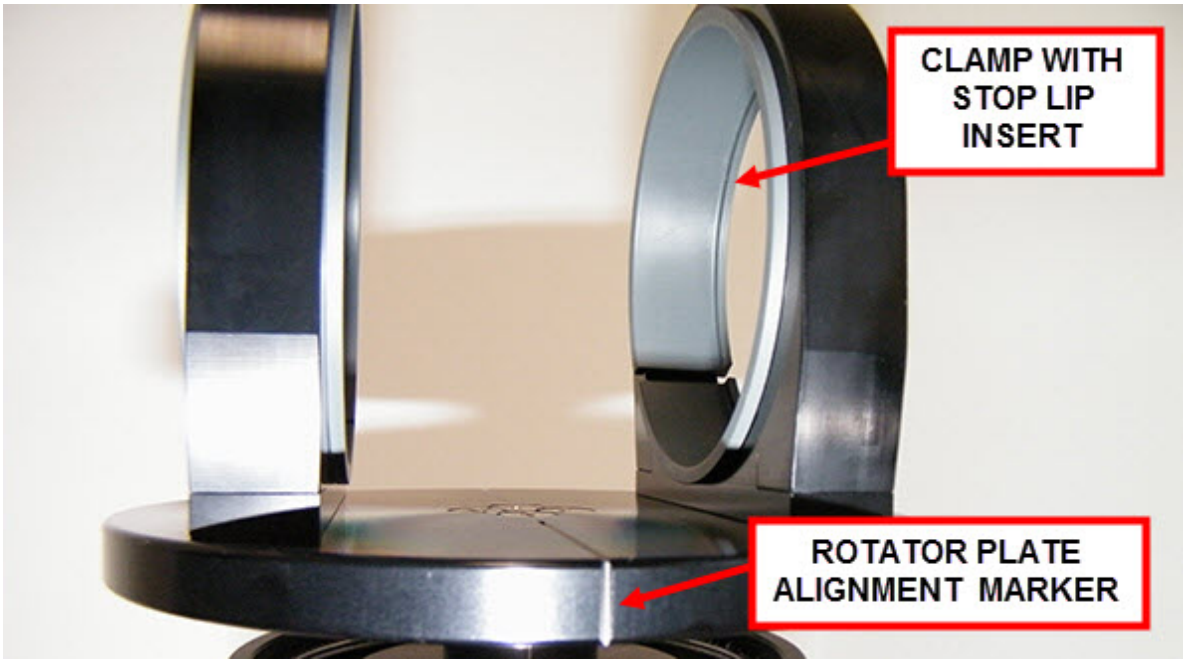
- Take note of the position of the rotator housing index marker. When the rotator is set to position zero, the rotator shaft is properly aligned with this marker.

NOTE: If the rotator is not set to position zero then the rotator housing index marker may not be an accurate reference for the installation of the rotator plate.



- Position the rotator so the rotator housing index marker is facing you.
- Insert the rotator plate on the rotator shaft.

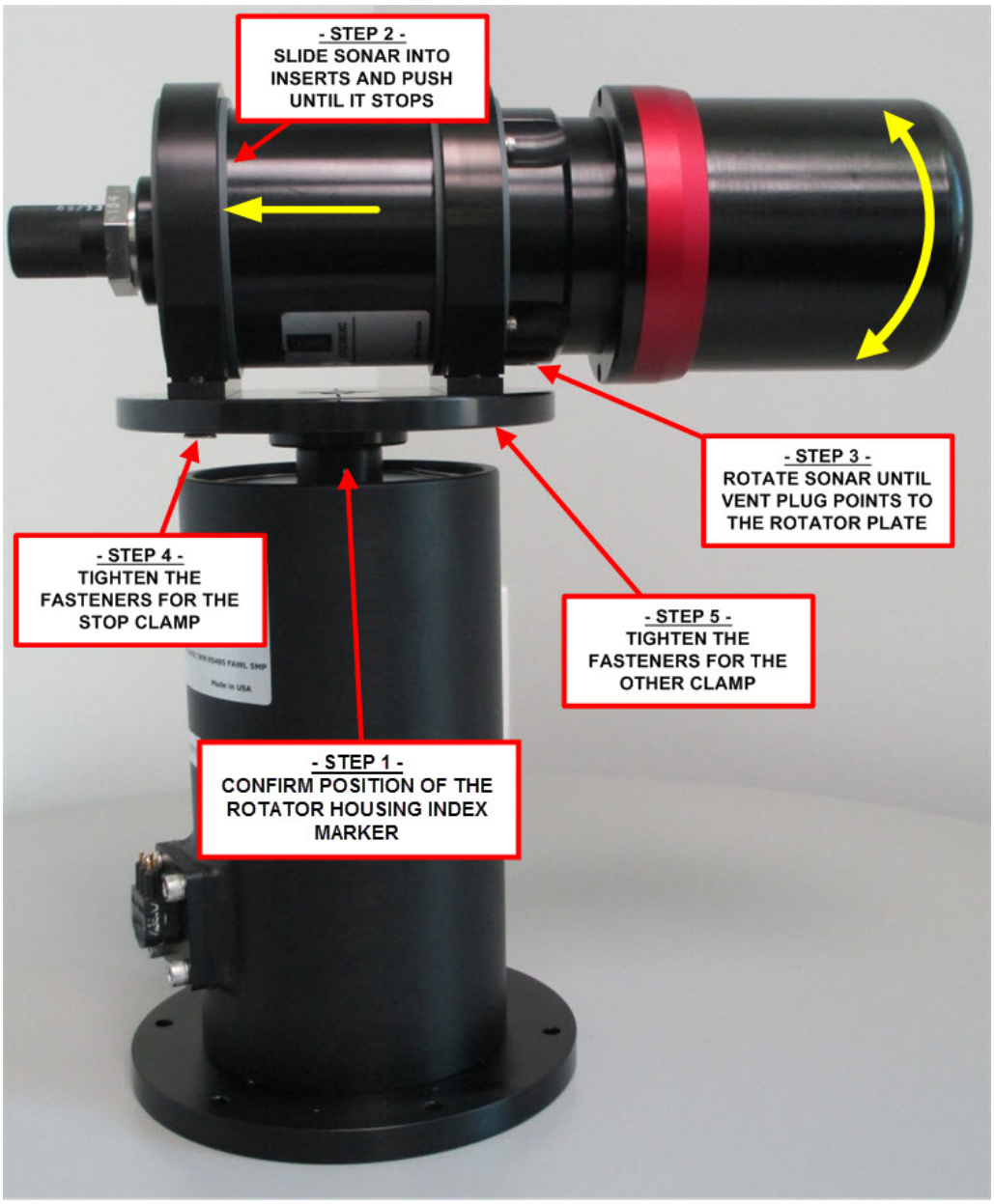
NOTE: For correct installation, the rotator plate alignment marker should be pointing towards you (matching the position of the rotator housing index marker) and the clamp with the stop lip insert is positioned to your right.



- Attach plate to the rotator shaft using the supplied fasteners.

1.2.2.5 Install Sonar Head

- Orient the rotator as necessary to position the rotator housing index marker so it is visible from your direction.
- Insert Sonar Head from right to left in the rotator clamps and push until it stops.
- Rotate Sonar head until the vent plug points towards the rotator plate.
- Secure the end clamp fasteners.
- Secure the fasteners for the other clamp.



The attachment of the sonar head to the rotator is complete. The 3D profiling system can now be attached to the deployment pole (or alternate deployment mechanism) using the rotator baseplate mounting holes.

2 PARTS LIST

The following parts are included in the Clamp Assembly Kit P/N 422-00760000, for 1171 4000m Domed Sonar Heads:

KML P/N	Description	QTY	Drawing #	Item #
355-03110000	Insert with stop for 1171 domed head	1	422-00761000	4
355-03140000	Rotator Clamp Top	2	422-00761000	3
355-03150000	Rotator Clamp Bottom	2	422-00761000	2
355-03170000	Insert for 1171 domed head	1	422-00761000	5
355-03190000	Rotator Plate for scanning heads	1	422-00761000	1
171-02040103	Washer Flat 1/4" 316 SS	12	422-00761000	9
171-01041614	1/4 -20 X 1 Socket Flathead 316 SS	4	422-00761000	7
171-01041615	1/4 -20 X 1 Philips Flathead 316 SS	4	422-00761000	6
171-01042003	1/4 -20 X 1 1/4 Socket Cap Screw 316 SS	6	422-00761000	8
171-05040703	Nut hex Nylok 1/4-20 316 SS	6	422-00761000	10
159-0072	Antiseize lubricant	1		
159-04000501	Allen Key 5/32	1		
159-04000502	Allen Key 3/16	1		
159-04000615	Wrench Combination 7/16	1		

NOTE: To order any replacement parts please use the corresponding Kongsberg Mesotech Ltd. part number (KML P/N) from the parts list above.

3 DRAWINGS

The assembly drawing is supplied with this kit to assist with the installation and maintenance of the Clamp Kit.

Document List	
Drawing Number	**Description**
422-00761000	Assembly Drawing Domed Profiling Head to Rotator

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