Installation Guide

i-Dock Joystick Steering System

EVINRUDE® E-TEC®

BRP

BRP US Inc.
Technical Publications
P.O. Box 597
Sturtevant, Wisconsin 53177 United States
www.evinrude.com
www.brp.com

† ABYC is a registered trademark of the American Boat & Yacht Council (http://www.abycinc.org).
† NMEA 2000 is a registered trademark of the National Marine Electronics Association.

The following trademarks are the property of BRP US Inc. or its affiliates:

Evinrude ®

Evinrude ® *E-TEC* ®

Evinrude ® *ICON II* ™

This guide contains the information required to install, calibrate, and operate the *Evinrude*® *iDock* System on a dual outboard engine application.

Printed in the United States.

Table of Contents

Safety Notice

Before working on any part of the outboard, read the SAFETY INFORMATION section in this guide.

This publication is written for qualified, factory-trained technicians who are already familiar with the use of *Evinrude* Special Tools. The included information is not a substitute for work experience. It is an organized guide for reference, repair, and/or maintenance.

The following symbols and/or signal words may be used in this document:

⚠ DANGER
Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING
Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION
Indicates a hazardous situation which, if not avoided, could result in minor or moderate personal injury.

NOTICE
Indicates an instruction which, if not followed, could severely damage engine components or other property.

These safety alert signal words mean:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

IMPORTANT: Identifies information that controls correct assembly and operation of the product.

ENVIRONMENTAL NOTE:
A note which provides tips and behaviors related to protecting the environment.

DO NOT perform any work until you have read and understood these instructions completely.

Strictly adhere to torque wrench tightening specifications.

Should removal of any locking fastener (lock tabs, lock nuts, or patch screws) be required, always replace with a new component.

When replacement parts are required, use *Evinrude Genuine Parts* or parts with equivalent characteristics, including type, strength and material. Use of substandard parts could result in injury or product malfunction.

Always wear EYE PROTECTION AND APPROPRIATE GLOVES when using power tools.

The engine must be OFF when performing this work unless otherwise specified.

Always be aware of moving parts such as flywheels, propellers, etc.

Some components may be HOT. Always wait for engine to cool down before performing any work.

If you use procedures or service tools that are not recommended in this manual, YOU ALONE must decide if your actions might cause injury or damage the outboard.

This document may be translated into other languages. In the event of any discrepancy, the English version shall prevail.

Safety Information

⚠ WARNING

The safety information provided here is intended to inform you of the dangers that may be present before, during, and after installation. It is critical to read and understand this information.

Failure to comply with any warning, notice or caution may lead to loss of steering control resulting in a collision or ejection from the boat, possibly resulting in property damage, injury, or death.

Only operate the boat if all components are in proper working condition. Safe operation depends upon proper installation and maintenance of the system, and the common sense, safe judgment, knowledge, and expertise of the operator. Every installer and operator of the steering system should know the following requirements before installing or operating the steering system. If you have any questions regarding any of these warnings, contact the dealer that installed the system.

Installation Requirements

⚠ WARNING

When installing the *Evinrude iDock system*, it is REQUIRED there is one counter rotation outboard and one standard rotation outboard. It is REQUIRED to mount the counter rotation outboard on the port side of the transom and the standard rotation outboard on the starboard side of the transom.

Mount the 74° V6 outboard using a minimum of a 28 inch centerline.

Mount the 66° V6 outboard using a minimum of a 27.5 inch centerline.

Failure to follow these requirements can result in a loss of steering resulting in engine damage, serious personal injury or even death.

1. Read and understand this guide and any instructions provided with the system components. Give this guide to the end-user when the installation is complete.
2. Ensure that all components required to complete the installation are on hand (including hoses, fittings, oil, and the proper tools).
3. Do NOT substitute any component. Substitution with non-*Evinrude* or non- *iDock* components may compromise system safety, performance, and reliability.
4. Do NOT use a wheel-mounted, coiled-cord trim switch. The cord can wrap tight around the steering wheel shaft and inhibit steering at all times.
5. The *Evinrude iDock* System requires a gauge that supports *Evinrude iDock* fault code notifications. Mount the gauge in an unobstructed area where notifications can be seen by the operator at all times during operation.

Prior to every use:

1. Verify immediate steering response when turning steering wheel(s).
2. Inspect all steering hoses, fittings, and electrical harnesses for wear, kinks, or leaks.
3. Check for binding, loose, worn or leaking steering or shift/throttle control components.
4. Verify that proper shift and throttle response is available for all control handles.

During use:

1. Wear a Coast Guard-approved PFD with the ignition lanyard attached at all times.
2. Only allow those who are familiar with the operation of the steering system operate the boat.
3. If boat is equipped with multiple helms, ensure that only one is used at a time.
4. Know and adhere to all applicable federal, state, and municipal laws and regulations that govern boating in your area.

Standard Torque Specifications

Size	In. Lb.	Ft. Lb.	N·m
No. 6	7–10	0.58–0.83	0.8–1.1
No. 8	15–22	1.25–1.83	1.7–2.5
No. 10	24–36	2–3	2.7–4.0
No. 12	36–48	3–4	4.0–5.4
1/4 in.	60–84	5–7	7-9.5
5/16 in.	120–144	10–12	13.5–16.5
3/8 in.	216–240	18–20	24.5–27
7/16 in.	336–384	28–32	38–43.5
M3	15–22	1.25–1.83	1.7–2.5
M4	24–35	2–2.9	2.7–4.0
M5	35–60	2.9–5	4.0–6.8
M6	84–106	7–8.8	9.5–12
M8	177–204	14.7–17	20–23
M10	310–336	25.8–28	35–38
IMPORTANT: These values apply only when a specific torque for a specific fastener is not listed in the appropriate section. When tightening two or more screws on the same part, tighten the screws evenly. DO NOT tighten the screws one at a time to the torque specification.			

Abbreviations

The following abbreviations are used in this manual:

ABYC	American Boat & Yacht Council
AUX	Auxiliary
BAT	Battery
CAN	Controller Area Network
CAN Bus	Controller Area Network (data) bus. (A harness of wires that carry digital signals and power between electronic modules)
ENG	Engine
EPS	Electronic Power Steering
EVD6	*Evinrude Diagnostic 6* software
FT-LB	Foot Pounds
GND	Ground
HI	CAN High Signal
IN-LB	Inch Pounds
LED	Light Emitting Diode
LO	CAN Low Signal
MPH	Miles Per Hour
NA	Not Applicable or Not Available
N/C	No Connection
Nm	Newton Meters
NMEA	National Marine Electronics Association
NMEA 2000®	NMEA standard for marine electronics and wiring related to CAN bus.
PFD	Personal Flotation Device
RPM	Revolutions Per Minute
STBD	Starboard (right when facing forward)
SW	Switch
WOT	Wide Open Throttle

NOTE: Some abbreviations not listed here may be found in their respective sections.

iDock Overview

The new *Evinrude iDock* system is used on twin engine installations for both single and second station configurations.

The *Evinrude iDock* system consists of a pressure sensor module, hydraulic steering helm, hydraulic hoses, hydraulic fluid, an electronic joystick control, network wiring, a manifold control module, and a hydraulic steering manifold assembly on each outboard.

The control module monitors and controls the steering system. The *EMM* monitors the control module, stores fault codes and activates the engine monitor should a fault code be generated.

As the steering wheel is turned hydraulic fluid in the helm begins moving through the steering system.

The pressure sensor module broadcasts the hydraulic pressure on both helm lines.

The control module also monitors the steering position sensor. As the outboard approaches the steering system stop, the control module turns OFF the steering pump to maximize system efficiency.

When the joystick is activated, the mode valve locks out hydraulic fluid from the helm enabling the joystick to control direction.

Joystick inputs control operation of the direction valve. The direction valve reverses the flow of hydraulic fluid through the steering manifold, depending on joystick inputs, and turn the outboards to port or starboard.

Component Installation

Components

IMPORTANT: Strictly adhere to the compass safe distance for the joystick and the pressure sensor module. if the compass safe distance is ignored, the reading on the compass will be inaccurate due to the interference of the magnetic field created by the pressure sensor module and the joystick.

iDock Rigging Kit - P/N 5010582

P/N	Description	Quantity
764161	BACKBONE CABLE 6 FT	2
587178	CABLE-EXTENSION 4 FT	2
770304	HOSE, HYD STEER 4 FT	2
587172	HUB 6 PORT	1
769949	HUB, NMEA 2000	1
587230	Y-HARNESS	2
5010371	KIT, JOYSTICK RIGGING	1
324956	*WASHER	4
359214	*NUT, FLANGE - 10-24	4
587408	*CABLE ASSY, POWER AND CAN	1
360939	*DECAL, iDOCK	1
5010224	*JOYSTICK CONTROL ASSEMBLY	
5010632	PRESSURE SENSOR KIT	1
355965	*FITTING, ELBOW	2
361102	*CLAMP, PRESSURE SENSOR	2
361148	*SCREW, PRESSURE SENSOR	2
587451	*PRESSURE SENSOR MODULE	1
764806	*TEFLON SEALER STICK	1
360394	iDock INSTALLATION GUIDE	1
361817	iDock USER'S GUIDE	1

Alignment Valve, P/N 5010646

P/N	Description	Quantity
5010672	ALIGNMENT VALVE	1
358192	FITTING, 37 DEGREE	1
361315	TEE FITTING, 3/8	1

Second Station Joystick Kit, P/N 5010815

P/N	Description	Quantity
587172	HUB 6 PORT	1
769949	HUB, NMEA 2000	1
587230	Y-HARNESS	1
5010371	KIT, JOYSTICK RIGGING	1
769958	CABLE 2 FT. EXTENSION	

Hydraulic Hose Options

IMPORTANT: Hydraulic hose lengths may vary depending on application.

Hydraulic Hose Requirements:

3X - *Evinrude* 1000 PSI Hydraulic Hoses (sizes will vary depending on installation)

- Additional 1000 PSI Hydraulic Hoses required for installations using an autopilot system (sizes will vary depending on installation).

2X - *Evinrude* 3000 PSI Hydraulic Hoses (sizes will vary depending on installation)

1000 PSI Hoses	
P/N	**Description**
5009496	Steering Hose, 18 inch
770304	Steering Hose 4 Ft.
770306	Steering Hose 6 Ft.
770308	Steering Hose 8 Ft.
770310	Steering Hose 10 Ft.
770312	Steering Hose 12 Ft.
770314	Steering Hose 14 Ft.
770316	Steering Hose 16 Ft.
770318	Steering Hose 18 Ft.
770320	Steering Hose 20 Ft.
770322	Steering Hose 22 Ft.
770324	Steering Hose 24 Ft.
770326	Steering Hose 26 Ft.
770328	Steering Hose 28 Ft.
770330	Steering Hose 30 Ft.

3000 PSI Hoses	
P/N	**Description**
768204	Hydraulic Hose Kit - 4’ (1.22 M)
768206	Hydraulic Hose Kit - 6’ (1.82 M)
768208	Hydraulic Hose Kit - 8’ (2.44 M)
768210	Hydraulic Hose Kit - 10’ (3.04 M)
768212	Hydraulic Hose Kit - 12’ (3.66 M)
768214	Hydraulic Hose Kit - 14’ (4.26 M)
768216	Hydraulic Hose Kit - 16’ (4.88 M)
768218	Hydraulic Hose Kit - 18’ (5.48 M)
768220	Hydraulic Hose Kit - 20’ (6.10 M)
768222	Hydraulic Hose Kit - 22’ (6.70 M)
768224	Hydraulic Hose Kit - 24’ (7.32 M)

The following components are required for purging the steering system:

2X - Seastar Hydraulic Fluid HA5430 – 1 qt. (0.9 l), P/N 770891

2X - Steering Lock Tool, P/N 357717

The following component is NOT required yet highly recommended for purging the steering system:

1X - Seastar Optimus Power Purge Tool

Review each of the components. Consider each components location and mounting restrictions.

Verify the harness connections can be made without violating any restrictions. Determine if additional harnesses or cables are required.

Identify where components will be installed on the vessel. Harness length will determine the choice of component locations. Verify the correct harness lengths are available for installation.

IMPORTANT: Use the Mounting Templates at the back of this document. Mount all of the components in serviceable dry locations. Excessive vibrations or heat can damage the components.

OPTIONAL: Some auto pilot installations will require two additional tees, P/N 361315.

iDock Engine Models

HP	Model Number	Shaft Length (in)	Gearcase		Midsection and Steering
			Style	Gear Ratio	
150	C150AXHAA	25	SLX	12:26 (0.46) (2.16:1)	iDock
150	C150AXCAA	25	SLX Counter Rotation	12:26 (0.46) (2.16:1)	iDock
200	C200AXAA	25	SLX	12:26 (0.46) (2.16:1)	iDock
200	C200AXCAA	25	SLX Counter Rotation	12:26 (0.46) (2.16:1)	iDock
200	E200AXHAG	25	SLX	13.24/0.542/1.85:1	iDock
200	E200AXCAG	25	SLX Counter Rotation	13.24/0.542/1.85:1	iDock
250	E250AXHAG	25	SLX	13.24/0.542/1.85:1	iDock
250	E250AXCAG	25	SLX Counter Rotation	13.24/0.542/1.85:1	iDock
250	E250AZAG	30	SLX	13.24/0.542/1.85:1	iDock
250	E250AZCAG	30	SLX Counter Rotation	13.24/0.542/1.85:1	iDock
300	E300AXCAG	25	SLX Counter Rotation	13.24/0.542/1.85:1	iDock
300	E300AXUAG	25	SLX	13.24/0.542/1.85:1	iDock
300	E300AZCAG	30	SLX Counter Rotation	13.24/0.542/1.85:1	iDock
300	E300AZUAG	30	SLX	13.24/0.542/1.85:1	iDock

See model list in front of electronic Parts Catalog for updated model lists.

Engine Installation

When installing *iDock*, it is required there is one counter rotation engine and one standard rotation engine. It is required to mount the counter rotation engine on the port side of the transom and the standard rotation engine on the starboard side of the transom. Be sure to use the appropriate prop shaft length for the specific transom of the vessel.

Install the outboards according to the instructions in the **Installation and Predelivery Guide**.

⚠ WARNING

When installing the *Evinrude iDock system*, it is REQUIRED there is one counter rotation outboard and one standard rotation outboard. It is REQUIRED to mount the counter rotation outboard on the port side of the transom and the standard rotation outboard on the starboard side of the transom.

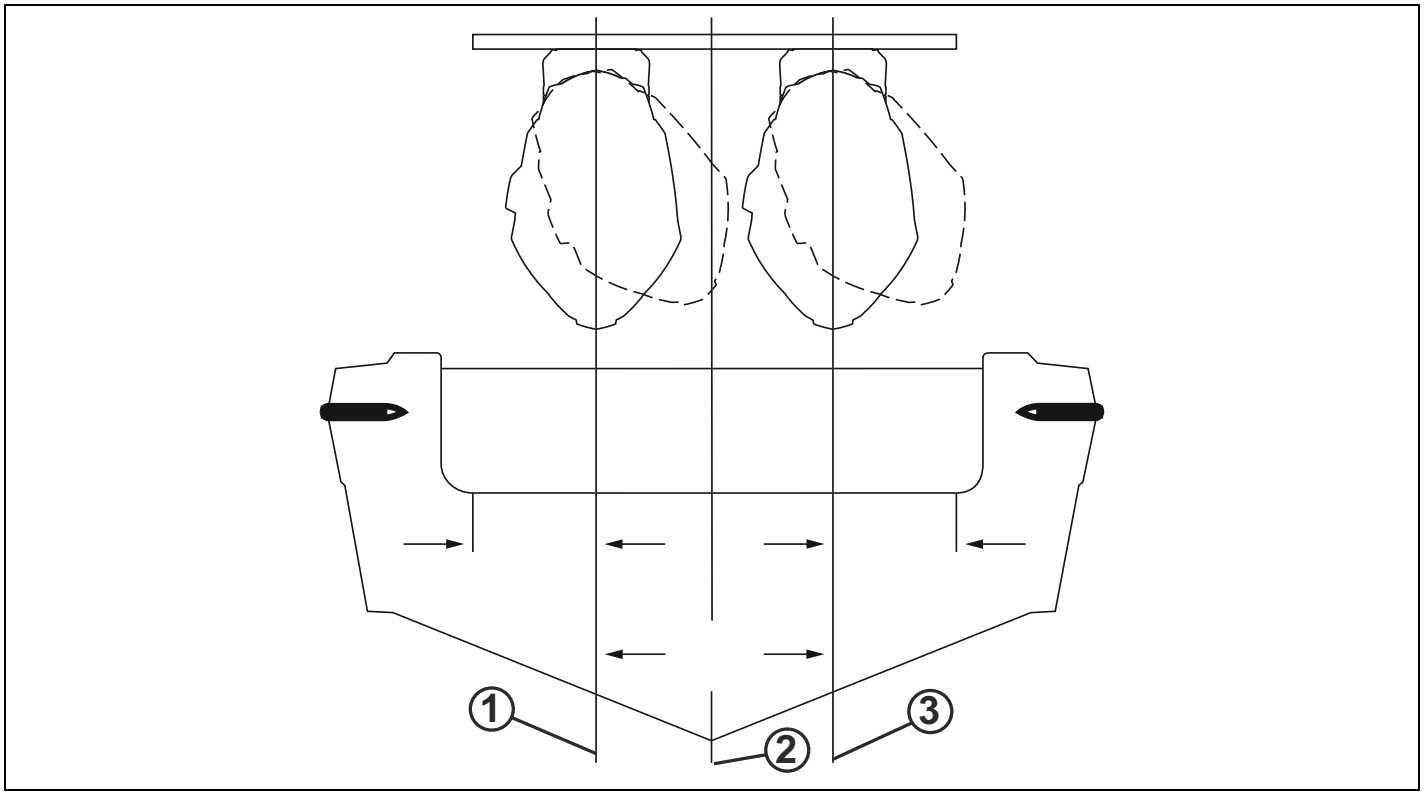
Mount the 74° V6 outboard using a minimum of a 28 inch centerline.

Mount the 66° V6 outboard using a minimum of a 27.5 inch centerline.

Failure to follow these requirements can result in a loss of steering resulting in engine damage, serious personal injury or even death.

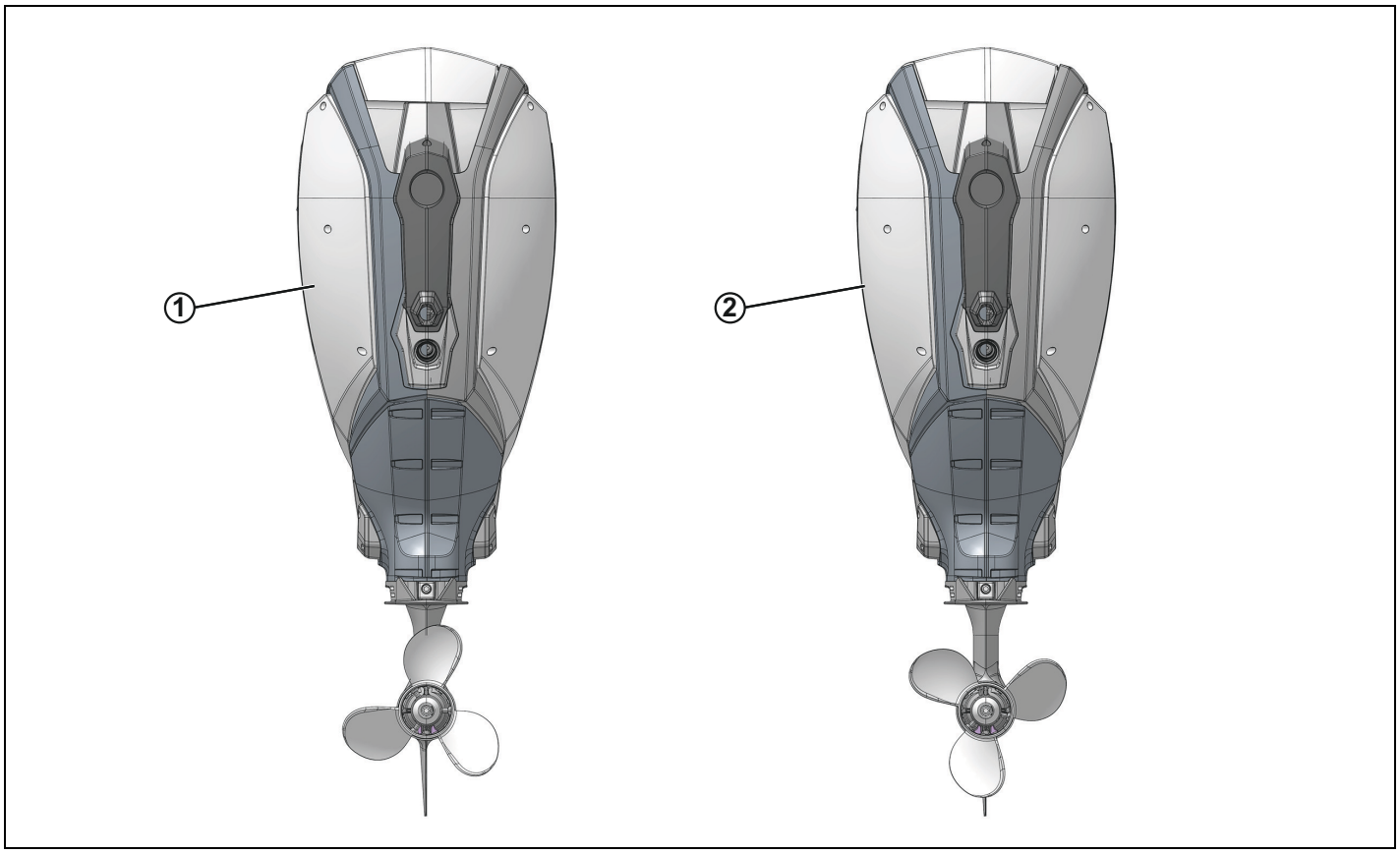
EXAMPLE: 27.5 in. (698.5 mm) dual outboard spacing would result in two outboard centerlines, each 13.75 (349.25 mm) from the hull centerline.

This is to ensure the outboards do not contact one another at all steering and trim angles.



1. *PORT Centerline*
2. *Hull Centerline*
3. *STARBOARD Centerline*

Outboard Rigging Configuration:



1. *Port Counter-Rotation Engine*
2. *Starboard Standard Rotation Engine*

Propeller Selection and Outboard Setup

Propeller selection, trim angle, and engine or jackplate height can strongly affect boat performance while docking. Three blade propellers, which generally have greater reverse thrust, will improve docking performance. While docking, engine height and trim angle should be set so that the minimum amount of reverse thrust impacts the hull.

Gauge Installation

The *Evinrude iDock* System requires a gauge that supports *Evinrude iDock* fault code notifications. Mount the gauge in an unobstructed area where notifications can be seen by the operator during operation.

4.3” CTS

Joystick Installation

Plan the installation of the Joystick Assembly carefully. Select an appropriate location based on the boat configuration.

IMPORTANT: The compass safe distance for the joystick is 27.56 in. (0.7 m).

Use the mounting template at the back of this document for proper installation.

IMPORTANT: The mounting location must be strong enough to provide rigid support. Strengthen the mounting surface as necessary.

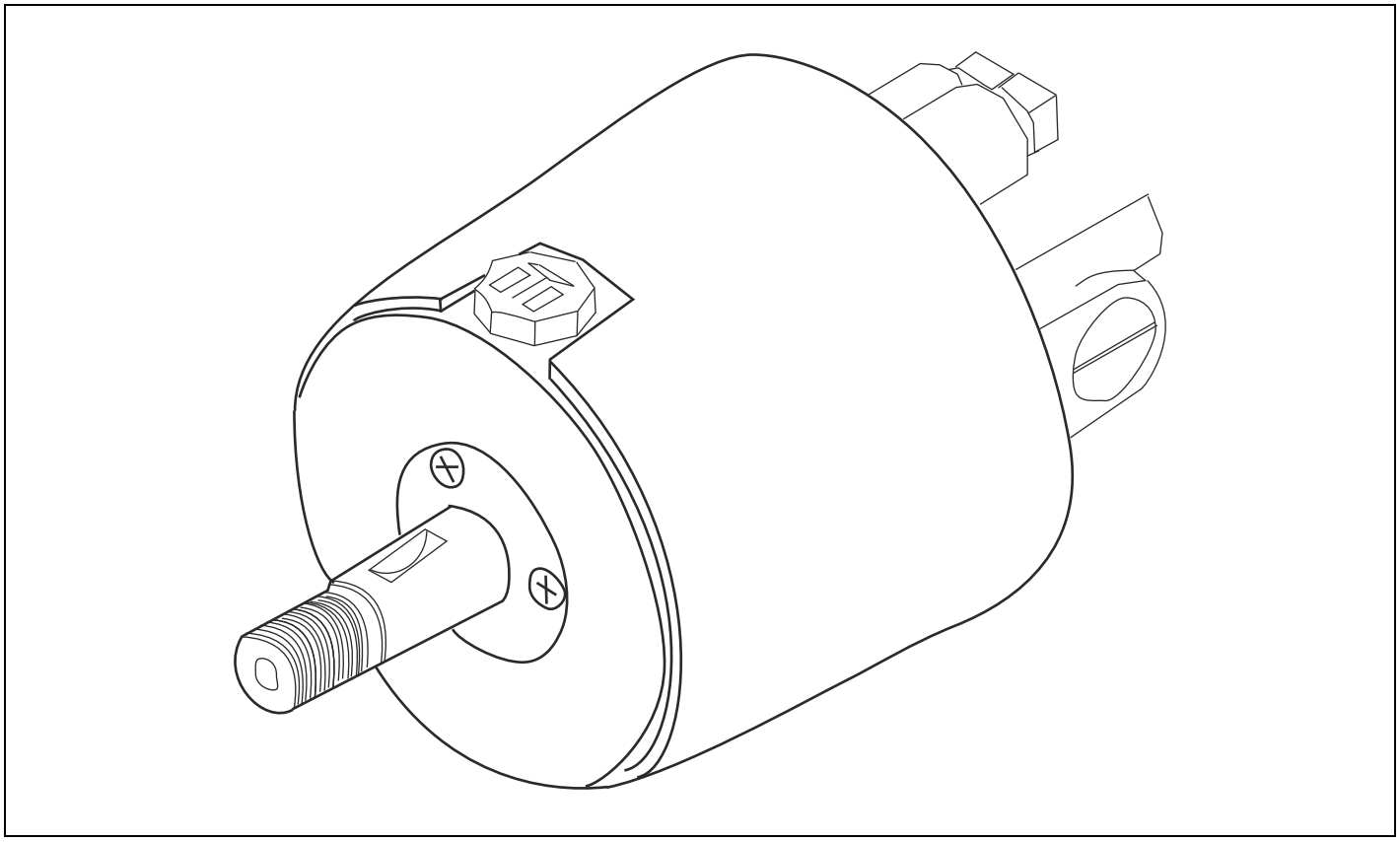
Use tie straps to relieve any strain on the joystick harnesses.

JOYSTICK

Hydraulic Helm Installation

Use the instructions included with the helm for mounting details.

IMPORTANT: Do NOT use a helm that is rated for more than 1000 PSI for the pressure relief.



HELM

Recommended Helm Chart

Standard Series Helm Chart							
		Displacement		Pressure Relief		Mount Type	Helm P/N
Helms		in^3/rev	cc/rev	psi	kPa		
SeaStar	1.4	1.4	23.0	1000	6895	Front	HH5269
SeaStar	1.4	1.4	23.0	1000	6895	Rear	HH5260
SeaStar	Classic Tilt	1.4	23.0	1000	6895	Tilt	HH6544
Ultraflex	UP25 F	1.5	25.0	1000	6895	Front	39618 R
Ultraflex	UP25 T	1.5	25.0	1000	6895	Tilt	40803 T
Mavimare	GM2-MRA01	1.7	27.0	1000	6895	Front	GM2-MRA01
SeaStar	1.7	1.7	27.8	1000	6895	Front	HH5271
SeaStar	1.7	1.7	27.8	1000	6895	Rear	HH5261
SeaStar	Classic Tilt	1.7	27.8	1000	6895	Tilt	HH6541
SeaStar	Sport Plus Tilt	1.7	27.8	1000	6895	Tilt	HH6491
Ultraflex	UP28 F	1.7	28.0	1000	6895	Front	39443 F
Ultraflex	UP28 T	1.7	28.0	1000	6895	Tilt	39445 K
Ultraflex	UP28 R	1.7	28.0	1000	6895	Rear	39970 F
Hydrive	401	1.7	28.0	1000	6895	Front	401
Hydrive	501	1.7	28.0	1000	6895	Front	501
Hydrive	402	2.0	32.8	1000	6895	Front	402
Mavimare	GM2-MRA03	2.0	32.0	1000	6895	Front	GM2-MRA03
SeaStar	2	2.0	32.8	1000	6895	Front	HH5273
SeaStar	2	2.0	32.8	1000	6895	Rear	HH5263
SeaStar	Classic Tilt	2.0	32.8	1000	6895	Tilt	HH6543
SeaStar	Sport Plus Tilt	2.0	32.8	1000	6895	Tilt	HH6445
Ultraflex	UP33 F	2.0	33.0	1000	6895	Front	39422 X
Ultraflex	UP33 T	2.0	33.0	1000	6895	Tilt	39446 M
Ultraflex	UP33 R	2.0	33.0	1000	6895	Rear	39969 X
Mavimare	GM2-MRA04	2.4	32.0	1000	6895	Front	GM2-MRA03
SeaStar	2.4	2.4	39.3	1000	6895	Front	HH5272
SeaStar	2.4	2.4	39.3	1000	6895	Rear	HH5262
SeaStar	Classic Tilt	2.4	39.3	1000	6895	Tilt	HH6542
SeaStar	Sport Plus Tilt	2.4	39.3	1000	6895	Tilt	HH6492
Ultraflex	UP39 F	2.4	39.0	1000	6895	Front	39415 A
Ultraflex	UP39 T	2.4	39.0	1000	6895	Tilt	39447 P
Ultraflex	UP39 R	2.4	39.0	1000	6895	Rear	39444 H
Ultraflex	UP45 F	2.7	45.0	1000	6895	Front	41276 B
Ultraflex	UP45 T	2.7	45.0	1000	6895	Tilt	41277 D
Ultraflex	UP45 R	2.7	45.0	1000	6895	Rear	41278 F

Alignment Valve Installation

Apply Pipe Thread Sealant onto the threads of the fittings that attach to the alignment valve.

Install the high and low pressure fittings onto the Alignment Valve according to the image below.

1. *High pressure Alignment Valve fitting installation location*
2. *Low pressure Alignment Valve fitting installation location*

Mount the Alignment Valve in a convenient location near the rear of the vessel using the included Alignment Valve hardware kit.

ALIGNMENT VALVE

Pressure Sensor Module Installation

Mount the Pressure Sensor Module in a convenient location. Use the included hardware to mount the Pressure Sensor Module.

Pressure Sensor Module can be mounted in any orientation.

IMPORTANT: The compass safe distance for the Pressure Sensor Module is 2.0 in. (0.05 m).

IMPORTANT: The pressure sensor module cannot be more than 48 in (1.21 m) away from the helm.

IMPORTANT: Use the fasteners included with the hardware kit to ensure proper mounting has been achieved.

1. *Screws*
2. *Straps*

iDock Wiring Diagram

Install the network and electrical systems according to the diagram at the back of this manual.

IMPORTANT: When installing the network and electrical systems it is a requirement to use a Dual Binnacle Rigging kit.

NOTE: It is not BRP approved to install just an *iDock* joystick at a second station. When installing a second station *iDock* joystick, it is required that an *ICON II* DTM Remote Control, helm and START/STOP switch/ emergency STOP switch are present at the second station.

Hydraulics Installation

⚠ WARNING

Use hydraulic hoses capable of at least 3000 PSI for the high pressure side of the *iDock* system.

Failure to use hydraulic hoses with at least a 3000 PSI rating or incorrect installation of hydraulic hoses can result in loss of steering control, possibly resulting in property damage, injury, or death.

⚠ WARNING

Only use standard hydraulic hoses on the low pressure side of the *iDock* system.

Failure to use the proper hydraulic hoses or incorrect installation of hydraulic hoses can result in loss of steering control, possibly resulting in property damage, injury, or death.

Consider the following when planning your hose routing and determining the required lengths:
- Route hoses in an area where they can be easily inspected for wear on a regular basis.
- Use labels to identify hose ends for the pumps and the engines. Attach the labels to the hoses BEFORE routing the hoses in the boat. Place all labels so they can be easily read after the installation is complete.

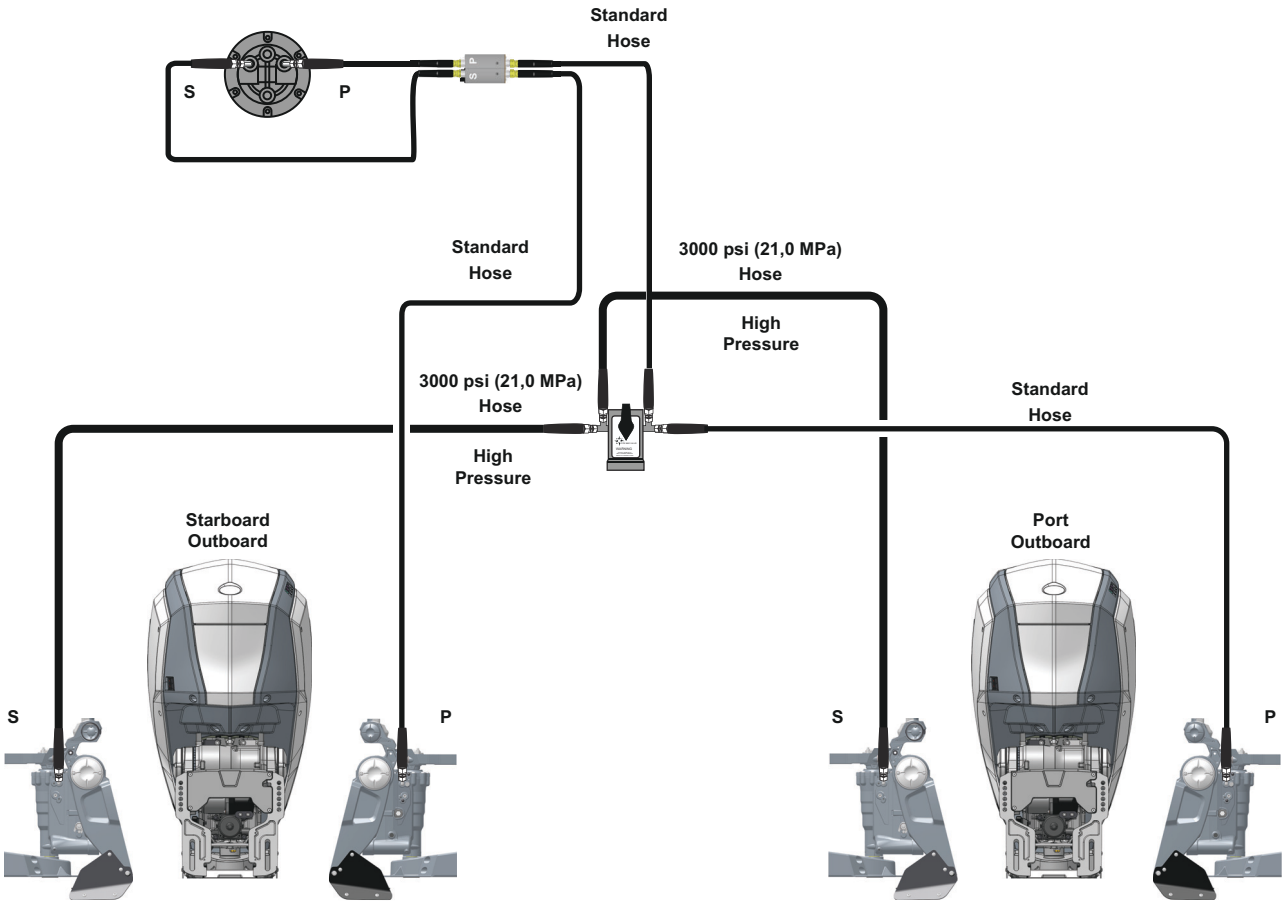
IMPORTANT: Labels for hydraulic hoses are not provided by BRP.

- Do not remove protective caps until the hoses have been routed and are ready to be connected.
- Ensure there is sufficient hose length to allow full, uninterrupted steering motion through all of the trim and tilt ranges.
- Do not bend hoses tighter than a 3.5 in. (89 mm) radius. Be sure the hoses do not kink in any areas.
- Secure hoses in 1ft. (31 cm) or smaller increments along their routing path. Always route hoses through rigid rigging tubes. Refer to the correct Installation and Pre-delivery Guide for hydraulic hose installation procedures.
- Do not install any pipe sealant onto the “hose” side of a fitting.
- Protect the hydraulic hoses from damage at all times.
- Do not install hoses in an area where they will be exposed to high heat, such as engine manifolds or engine compartments.
- Do not route the hoses in highly corrosive areas such as battery compartments. Do not route the hoses near electrical connections as a fluid leak could cause damage to the electrical system.
- Mount the Pressure Sensor Module using the hardware included with the Pressure Sensor Module. Do NOT suspend the Pressure Sensor Module from the hydraulic hoses.

Hydraulic Hose Routing Diagram

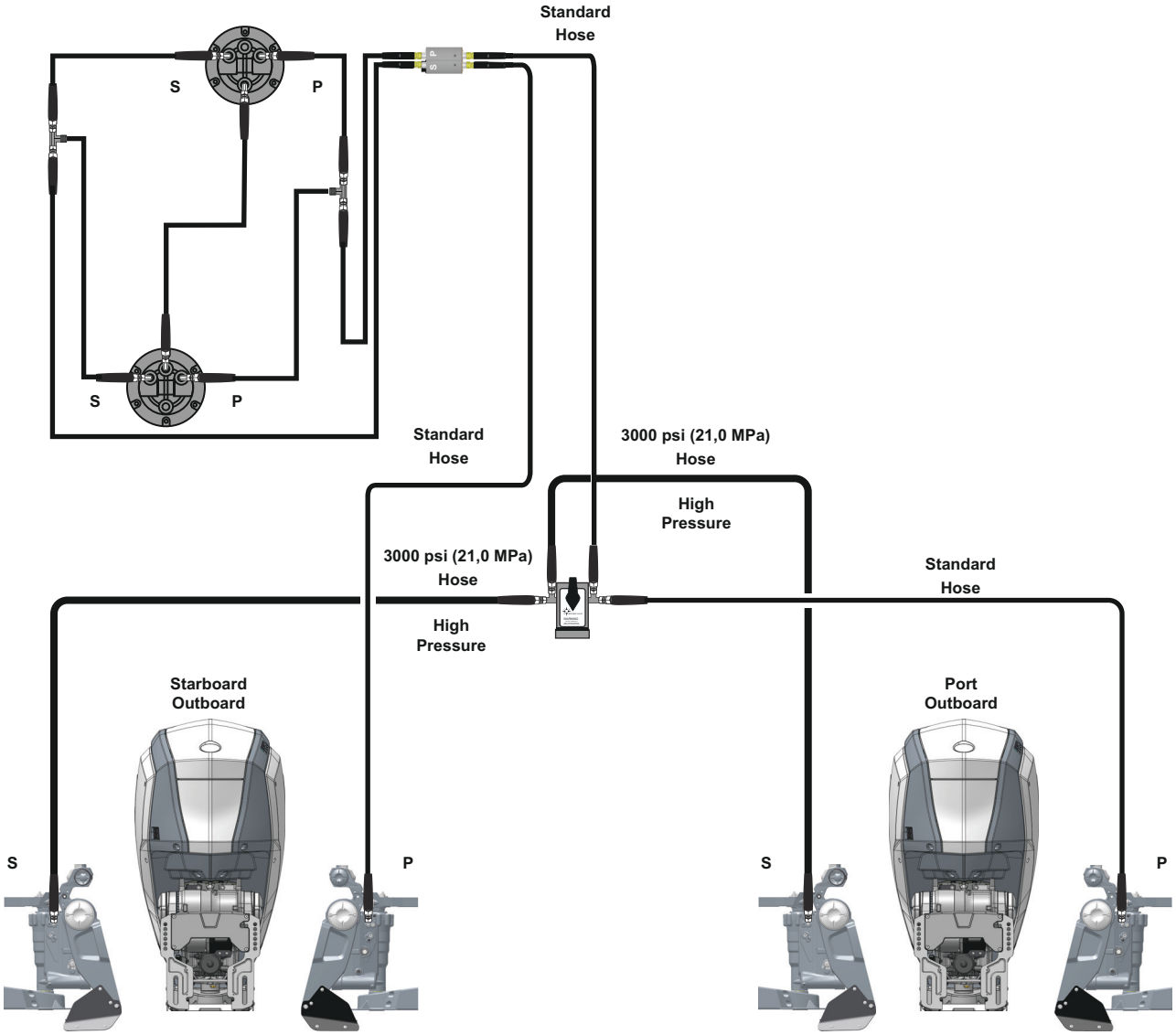
2 Engine 1 Station

iDock System Steering Hose Diagram
1 Station
2 Engines:
2 iDock Equipped Outboards:
1Standard Rotation & 1 Counter Rotation



2 Engine 2 Station

iDock System Steering Hose Diagram
2 Station
2 Engines:
2 iDock Equipped Outboards:
1Standard Rotation & 1 Counter Rotation



2 Engine 1 Station Equipped With Autopilot

IMPORTANT: Auto pilot systems are approved for use with the *Evinrude iDock* system. Follow the manufacturer's instructions when installing the auto-pilot system.

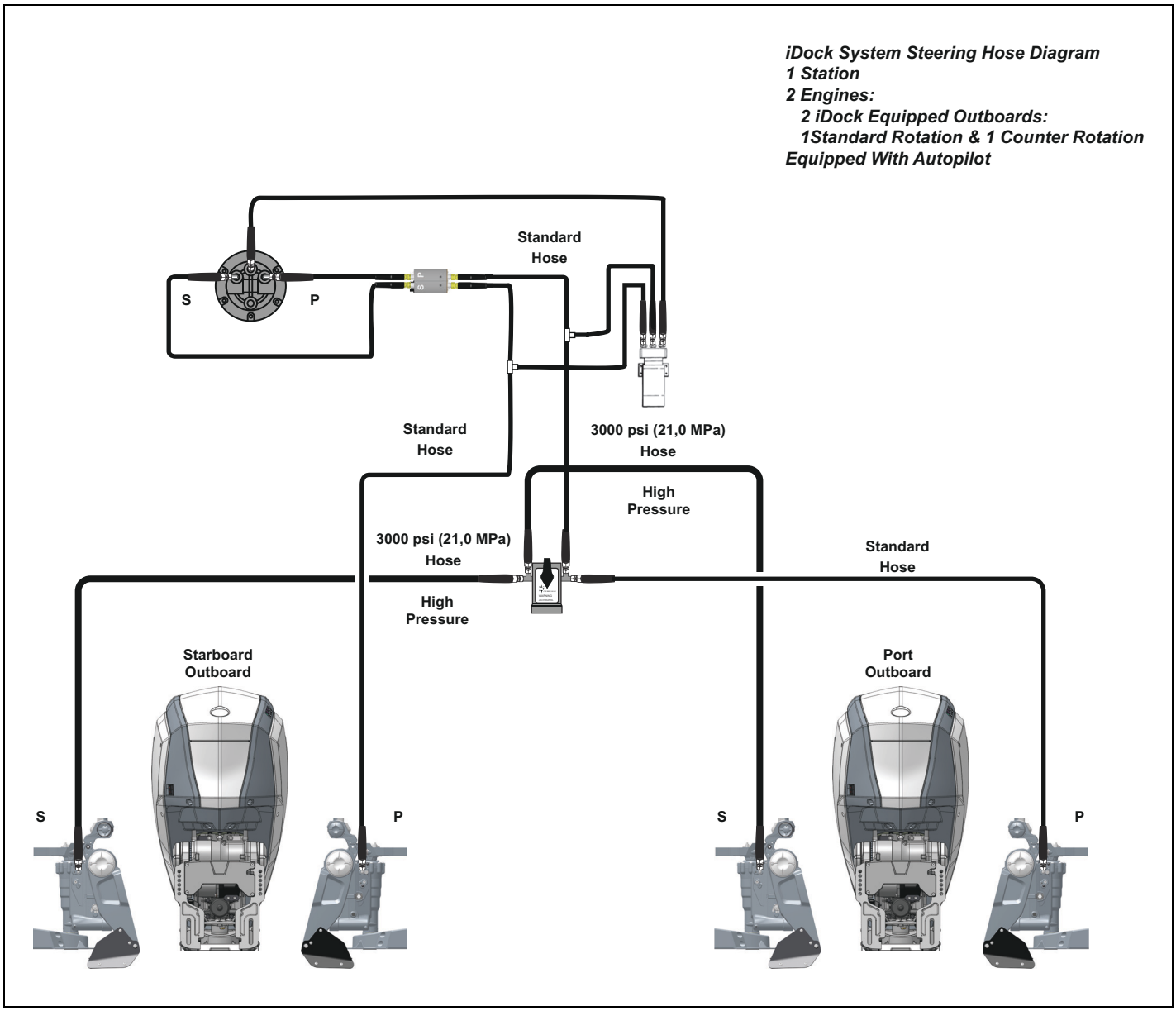
IMPORTANT: If using an autopilot system with the *Evinrude iDock* system, plumb the autopilot pump between the Pressure Sensor Module and the Alignment Valve as seen in the image below.

IMPORTANT: The auto-pilot system must be disabled when the *Evinrude iDock* system is in use.

IMPORTANT: Do not use rudder feedback systems. It is recommended to use an auto-pilot system that is sized for an 8.9 cu. in. cylinder.

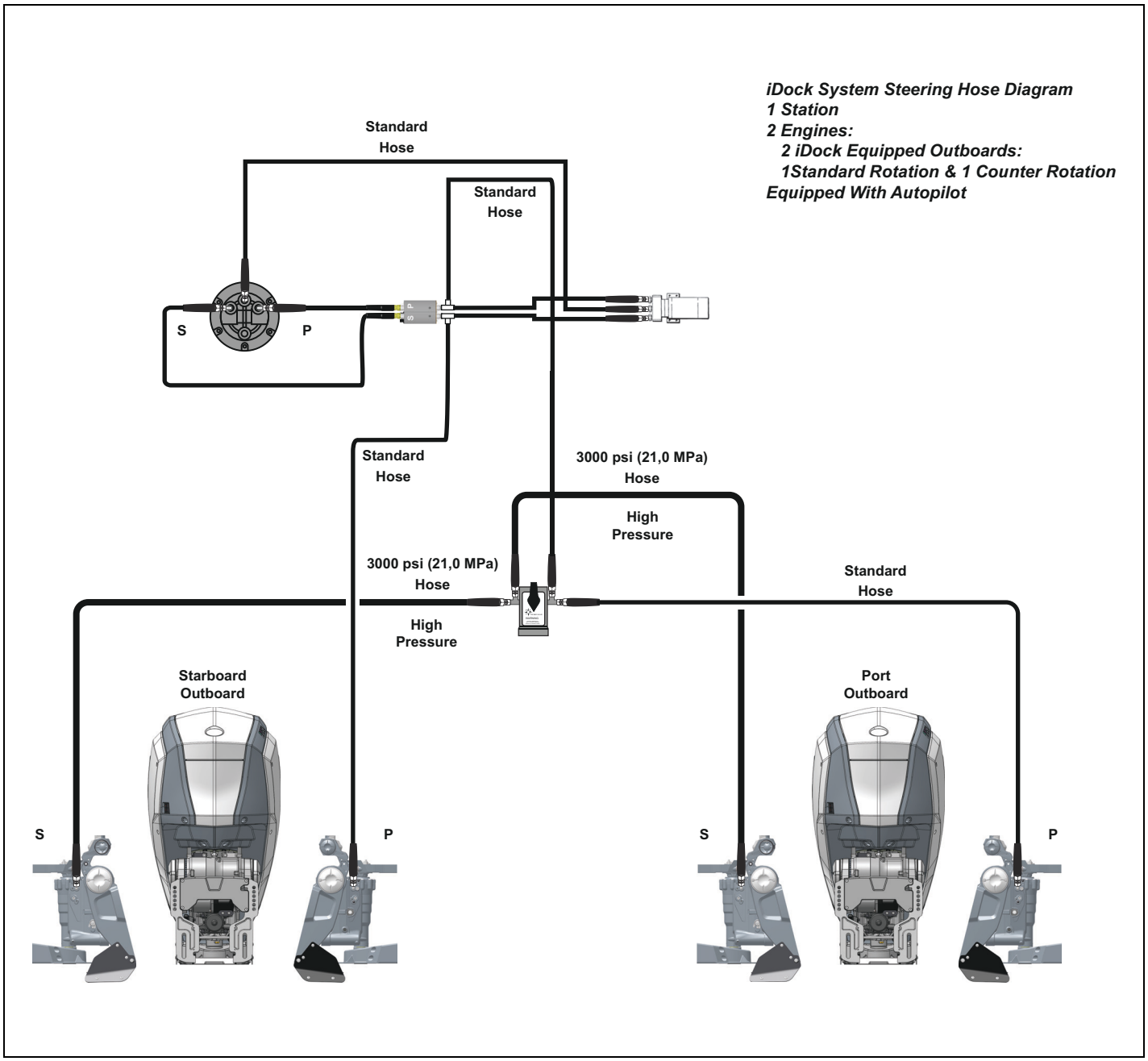
Option 1 - Tees Located Between Hoses

IMPORTANT: This rigging requires five additional hydraulic hoses and two additional tees. These tees are 9/16 - 24 UNEF-2A 3-Way. These tees are NOT supplied by BRP.



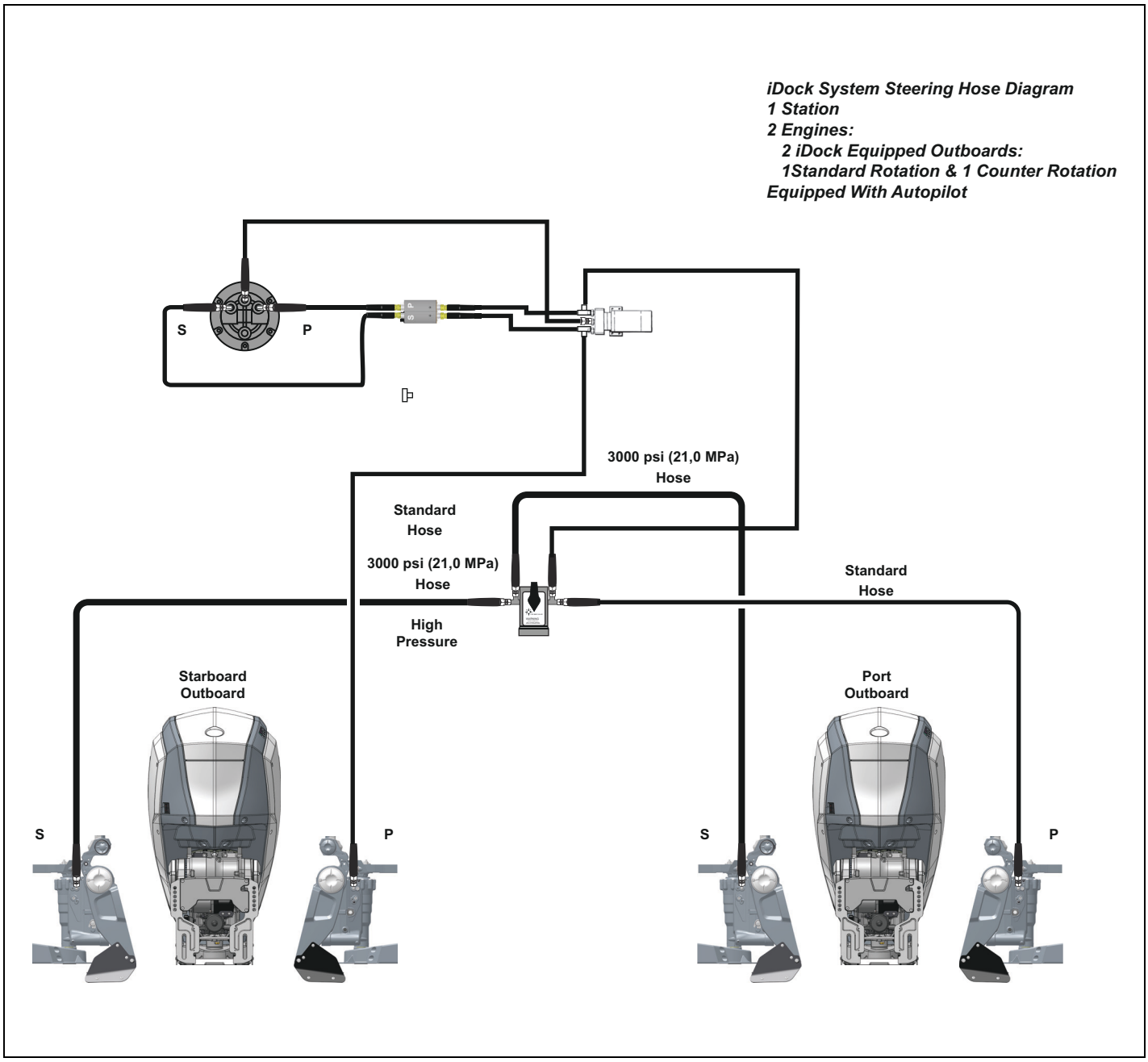
Option 2 - Tees Off Of Pressure Sensor Module

IMPORTANT: This rigging requires three additional hydraulic hoses and two additional tees, P/N 361315.

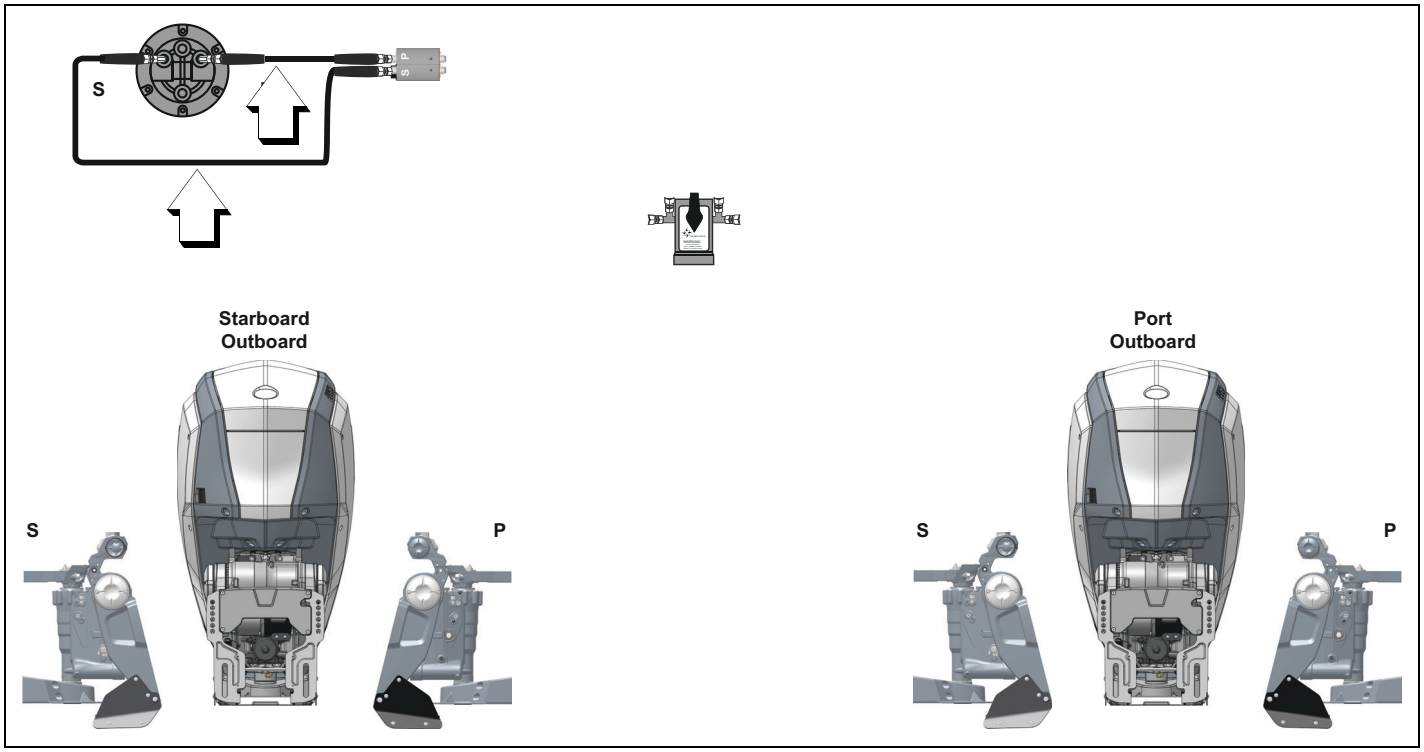


Option 3 - Tees Off Of Auto-Pilot Pump

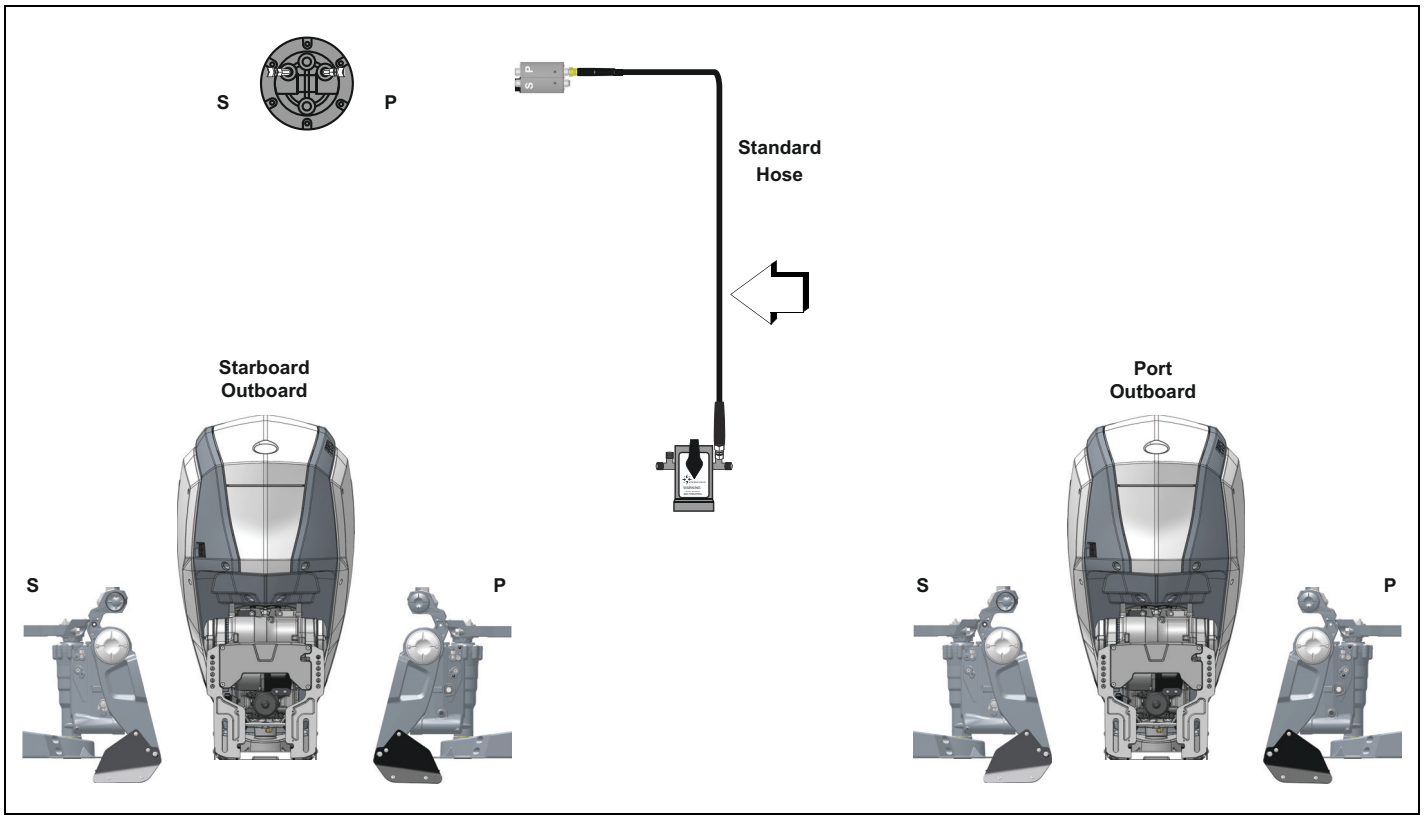
IMPORTANT: This rigging requires three additional hydraulic hoses and two additional tees, P/N 361315, can be used if the auto-pilot threads are 1/4-18 NPTF.



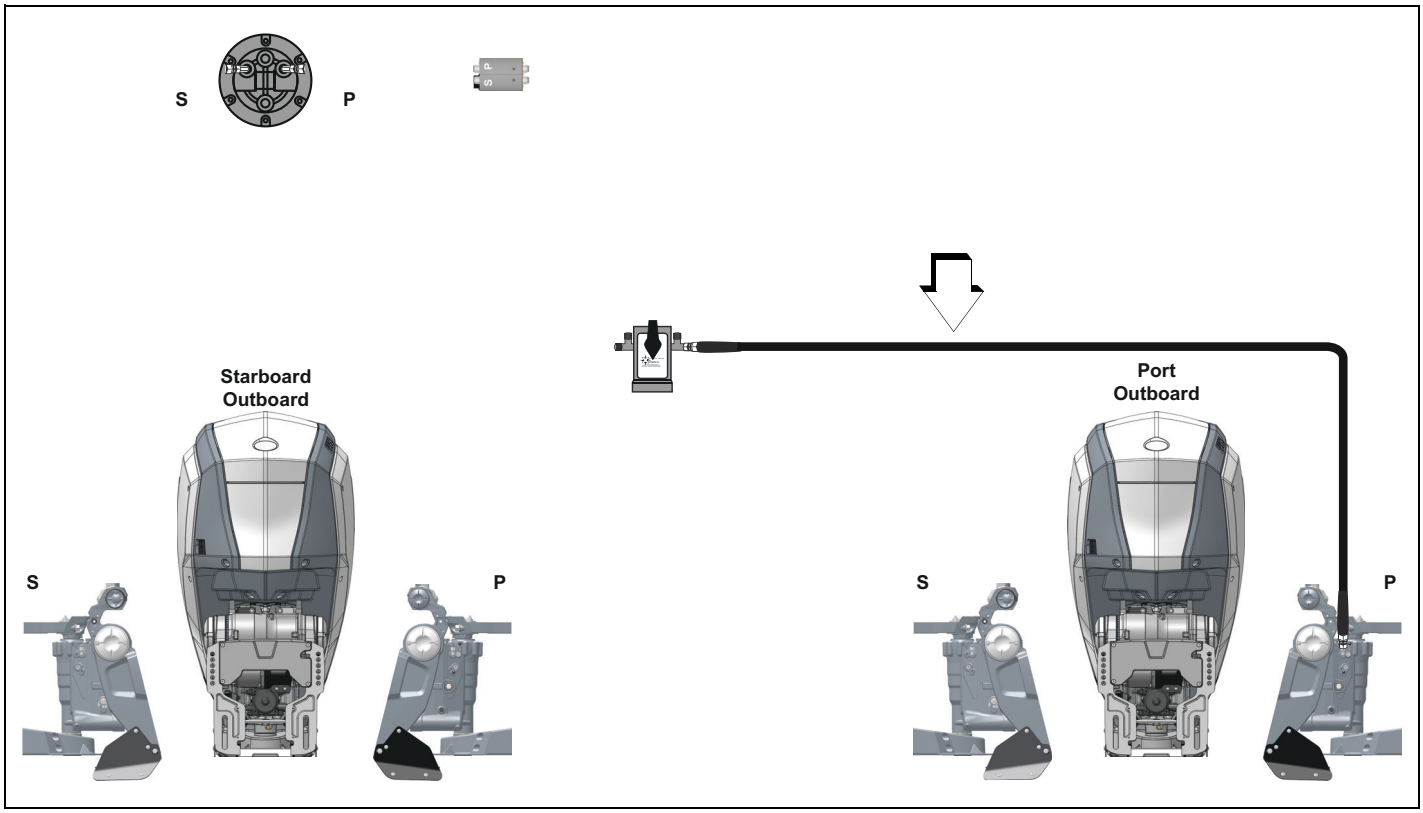
Connect the 4’ 1000 PSI hydraulic hoses supplied in Rigging Kit, P/N 5010582, to the port and starboard side of the helm and to the proper ports on the Pressure Sensor Module Assembly.



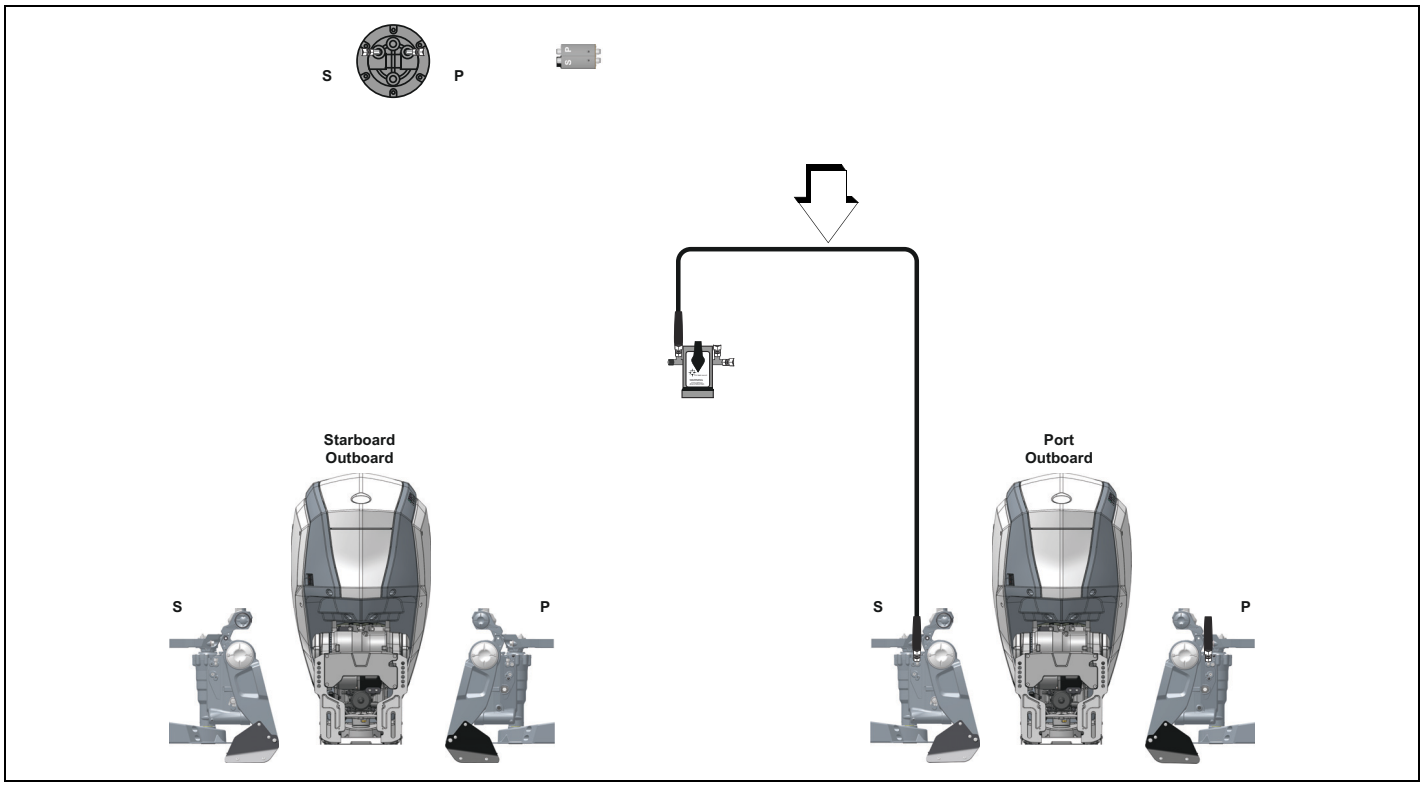
Connect a 1000 PSI hydraulic hose from the Pressure Sensor Assembly to the Alignment Valve.



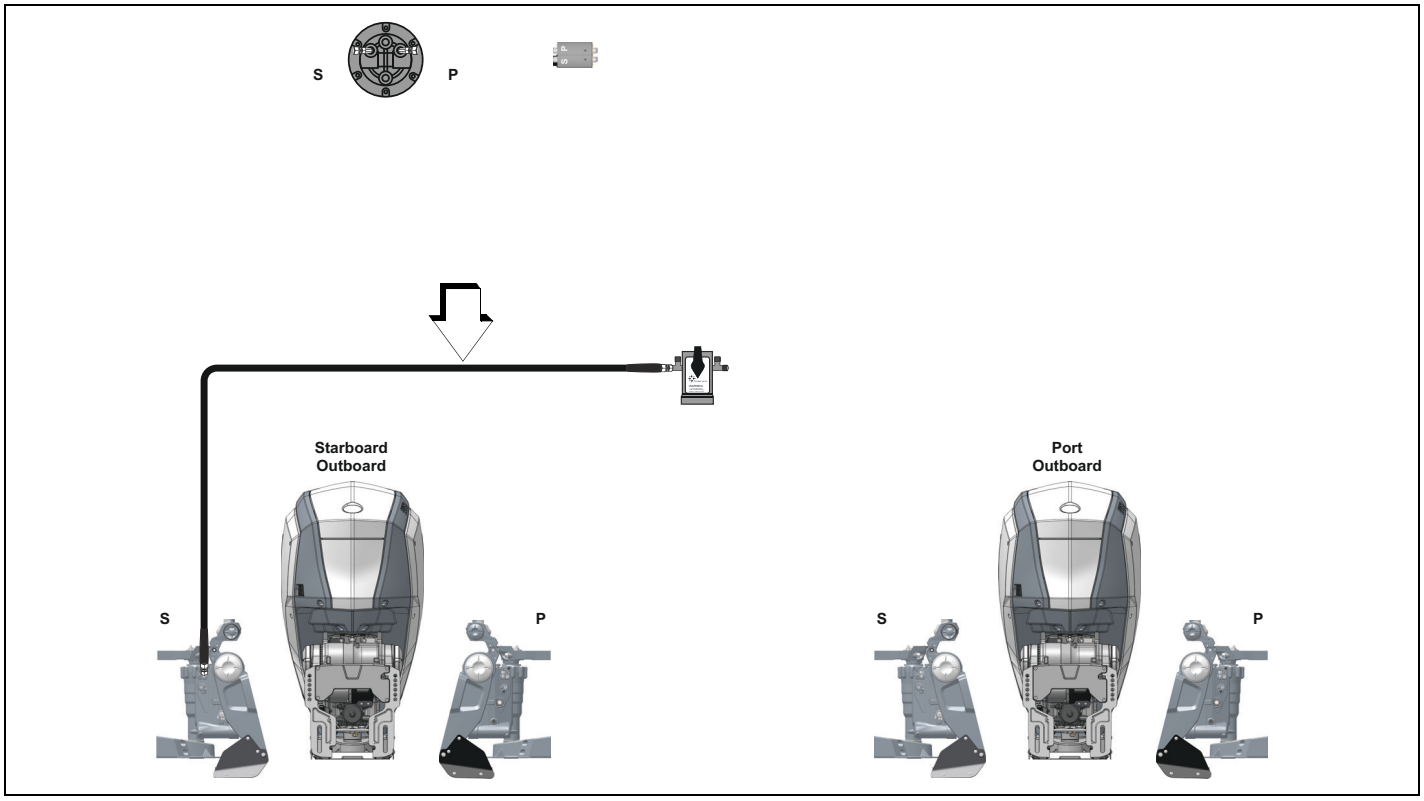
Connect a 1000 PSI hydraulic hose from the Alignment Valve to the port side of the port engine.



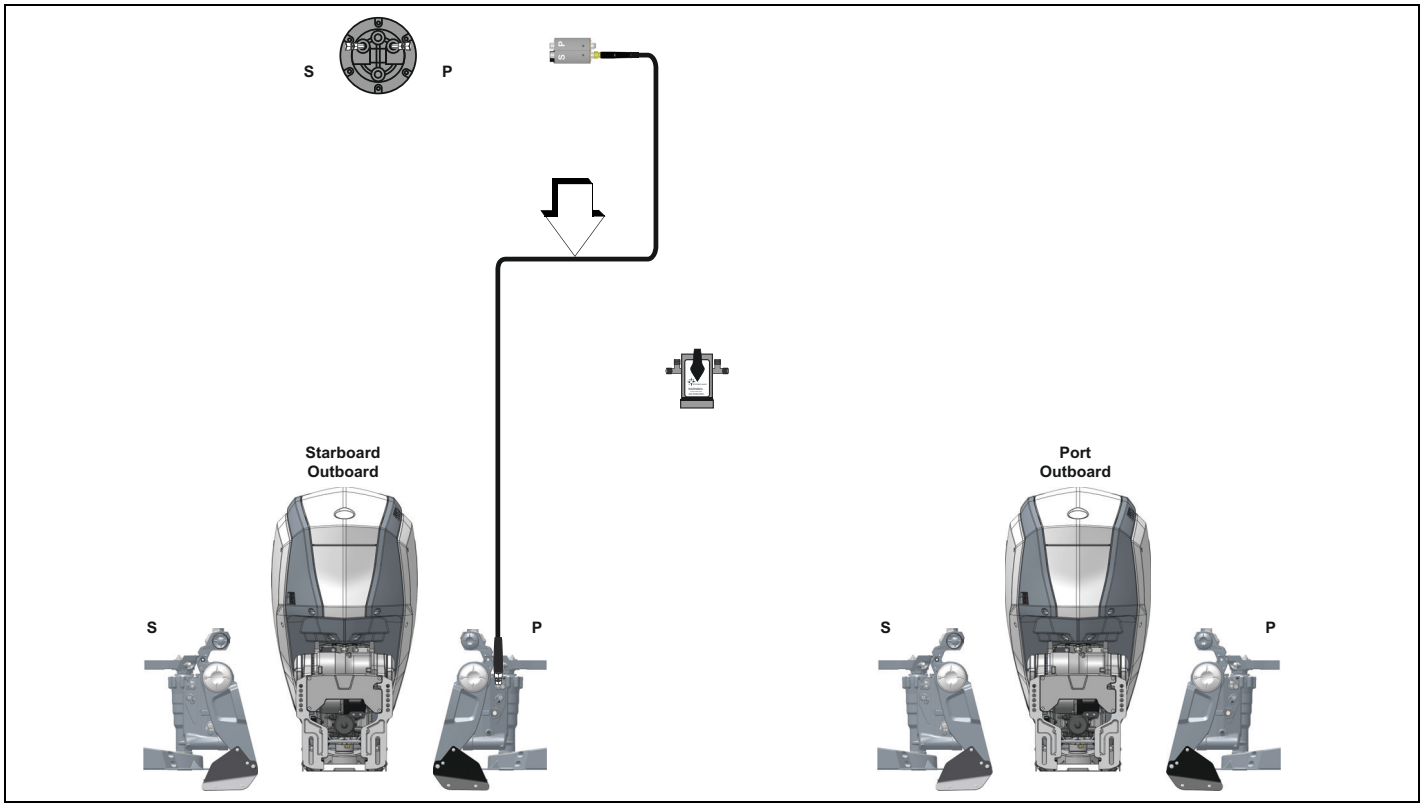
Connect a high pressure (rated for 3000 PSI) hydraulic hose from the Alignment Valve to the starboard side of the port engine. Torque the hose fittings to 13 ft. lbs. (18 N·m).



Connect a high pressure (rated for 3000 PSI) hydraulic hose from the Alignment Valve to the starboard side of the starboard engine. Torque the hose fittings to 13 ft. lbs. (18 N·m).



Connect a 1000 PSI hydraulic hose from the Steering Pressure Sensor to the port side of the starboard engine.



iDock Bleeding Procedure

Verify all components are installed properly prior to performing the *iDock* bleeding procedure.

NOTICE
Bleed the system one outboard at a time.

IMPORTANT: If the vessel is equipped with auto-pilot, the auto-pilot system must be bled at the same time as the starboard outboard.

IMPORTANT: Be sure the boat is level on all planes before starting the bleeding procedure.

IMPORTANT: Make sure the engine is trimmed to the full DOWN position before beginning this procedure. Air will NOT bleed completely from the steering system if the engine is even slightly trimmed up.

IMPORTANT: The bleeding procedure shown in this manual is for the procedure to be conducted using a *SeaStar Power Purge*.

IMPORTANT: The bleeding procedure must be performed with the key in the OFF position. Performing the bleeding procedure with the key in the ON position may cause a code 12 to become active when entering joystick mode.

Required components:

2X - Steering Lock Tool, P/N 357717 (one for each outboard)

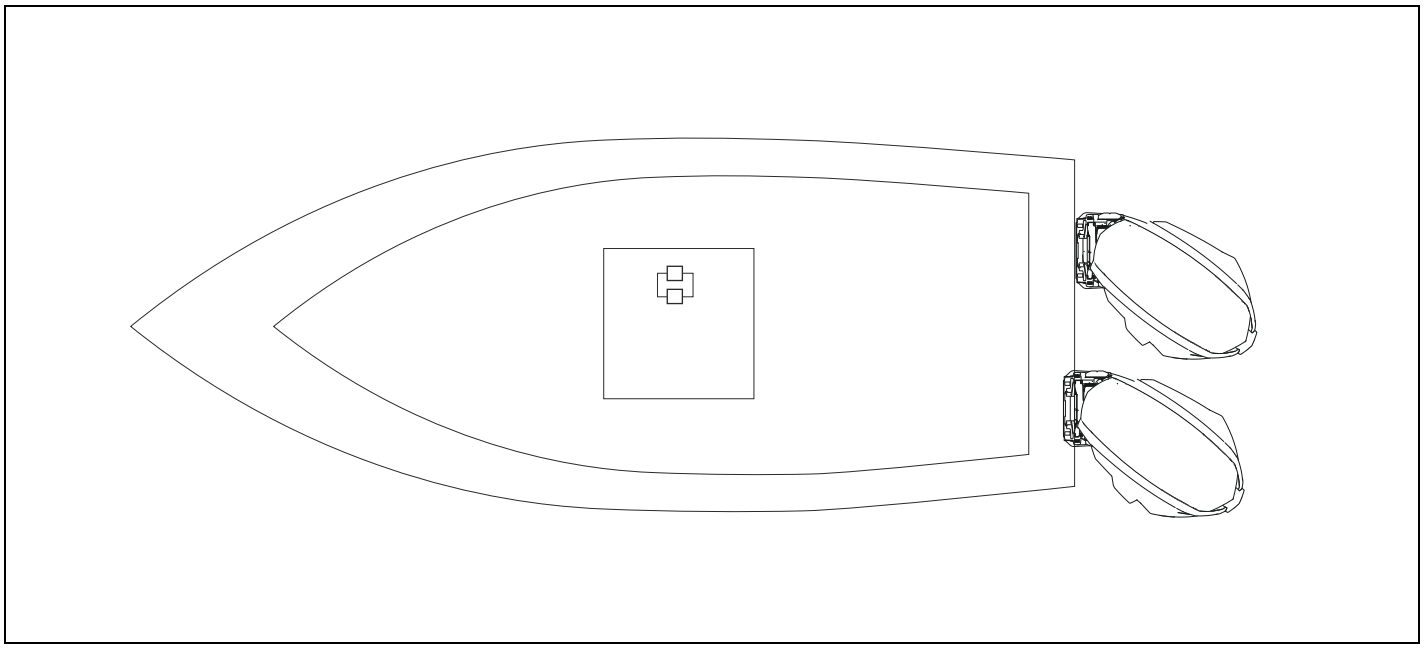
Recommended Components:

1X - *Seastar Power Purge*

1X - 1/4” Drive - 1/2” Crows Foot

Open both bleeder screws on each engine and lightly seat them.

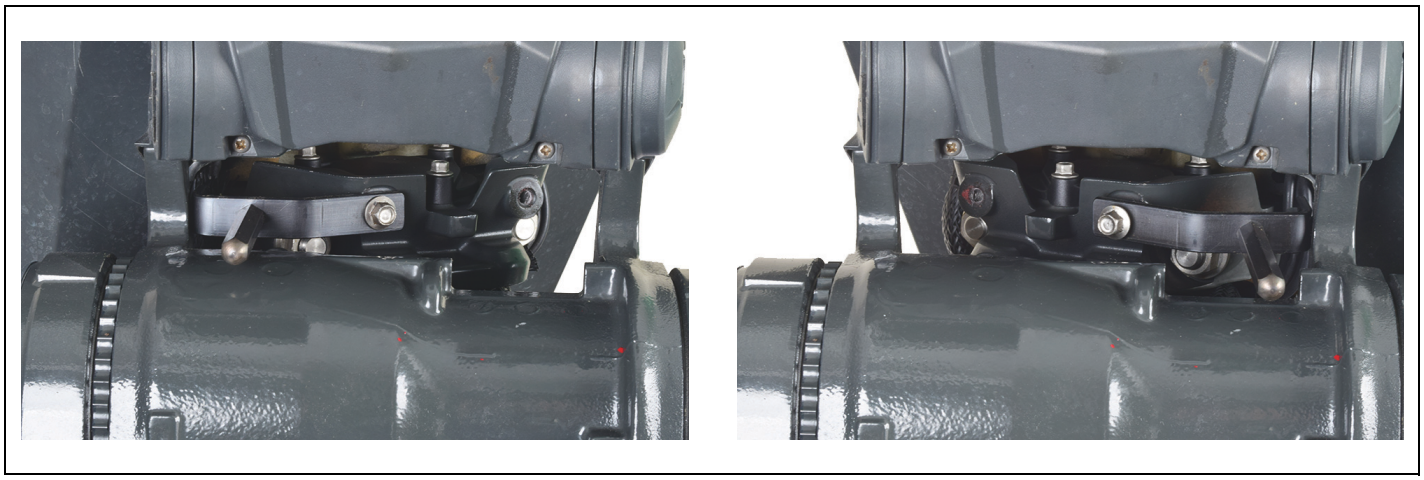
Turn both engines to port lock.



Install one Steering Lock Tool, P/N 357717, onto each outboard to hold the outboards in a full port turn.

NOTE: This step may require an assistant to hold the outboard.

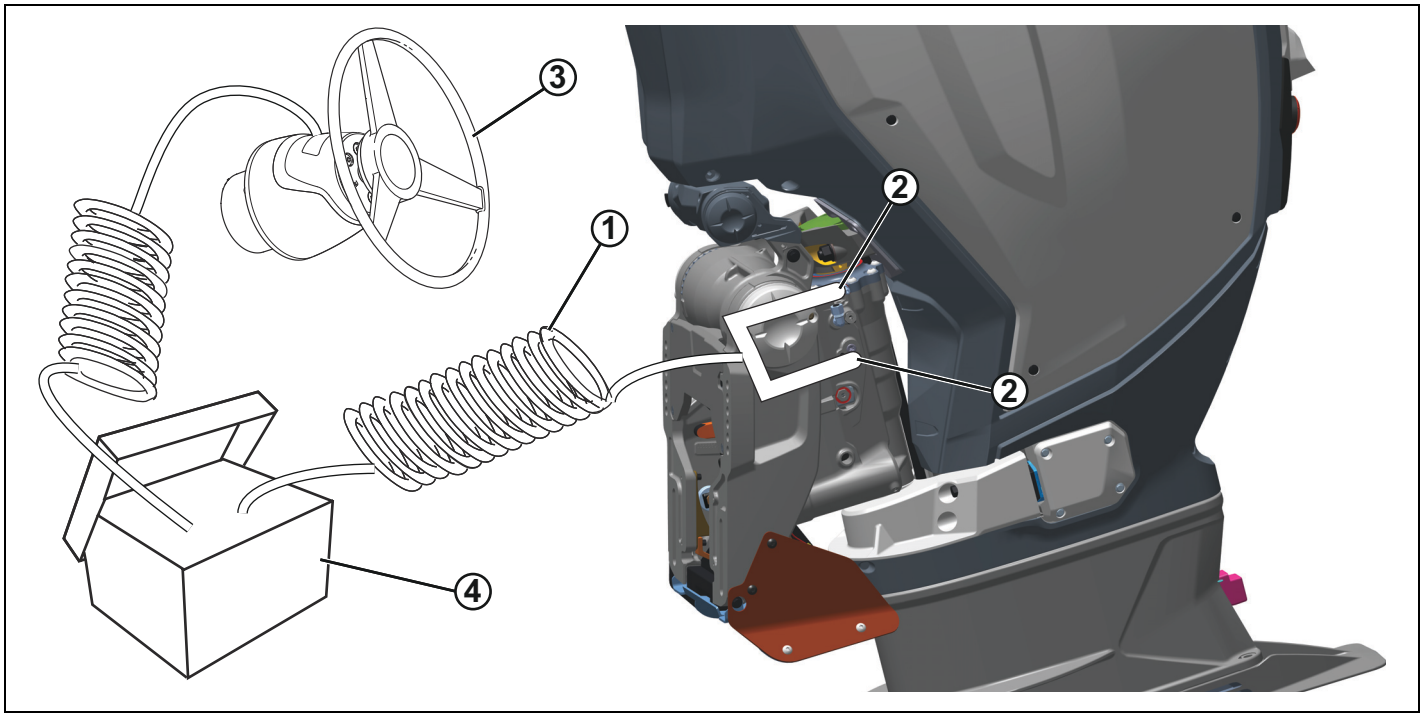
Use the shipping bracket screw to attach the long end of the tool to the steering arm. Attach the short end of the tool to the stern bracket using the provided nut and washer.



STEERING LOCK TOOL, P/N 357717, INSTALLED

Remove the two black caps from the purge fittings on each outboard.

Connect the purge hose to the helm and the starboard outboard.



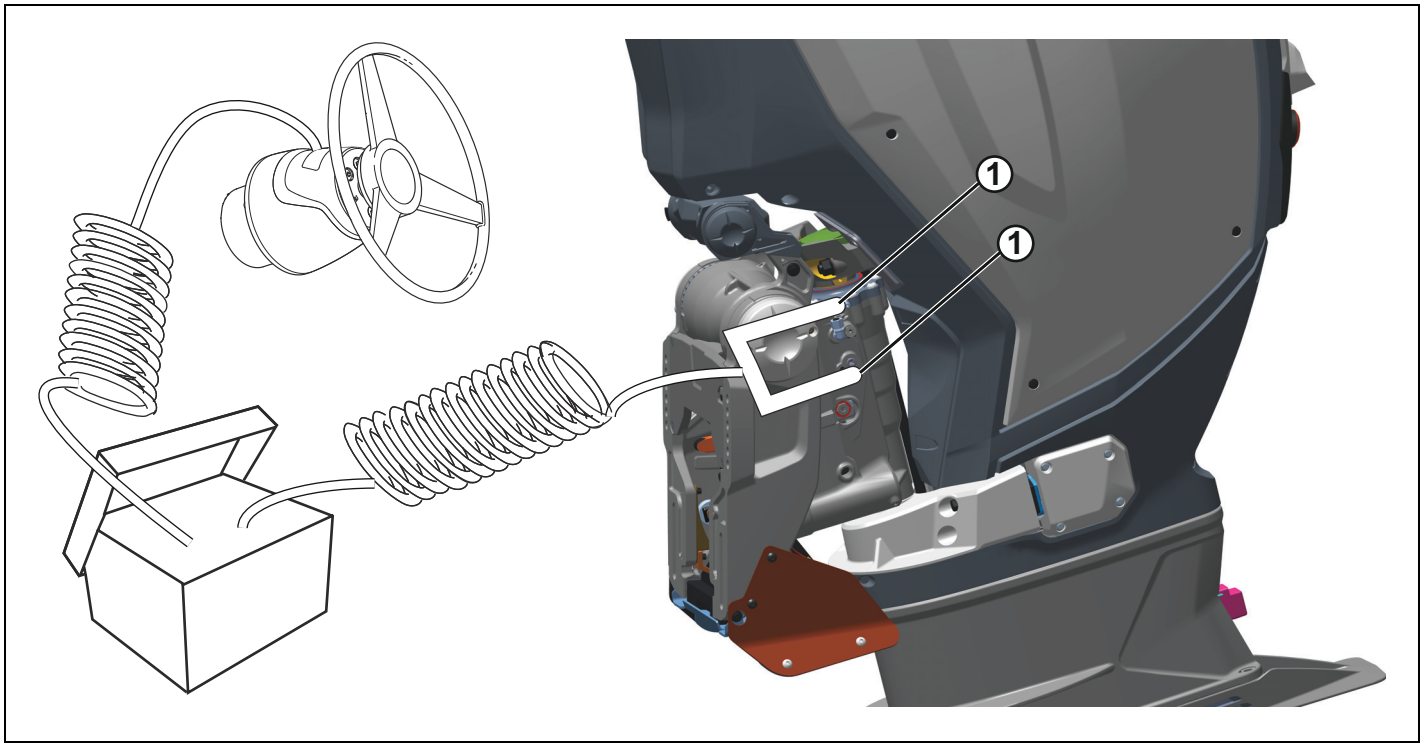
1. *Purge hose*
2. *Purge fitting locations*
3. *Helm*
4. *SeaStar Power Purge*

Turn the handle on the Alignment Valve until it is perpendicular with the valve to open the Alignment Valve.

1. *Alignment Valve open*

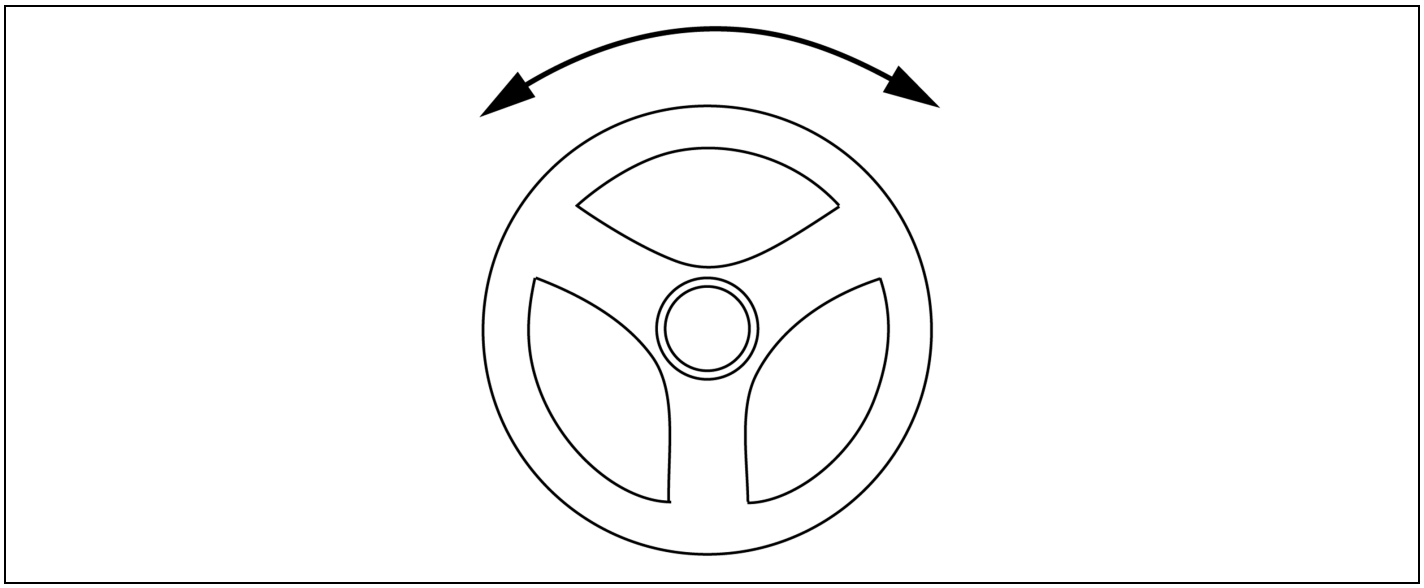
Open both bleeder screws on the starboard engine.

NOTE: A 1/4” Drive - 1/2” Crows Foot will ease this process.



1. Bleeder screws

Turn the *SeaStar Power Purge* ON and turn the helm to both full port for 10 seconds and full starboard for 10 seconds. Repeat this procedure until no bubbles are seen in the bleed hoses of the *SeaStar Power Purge*.



Close the bleeder screws on the starboard engine.

NOTE: A 1/4” Drive - 1/2” Crows Foot will ease this process.

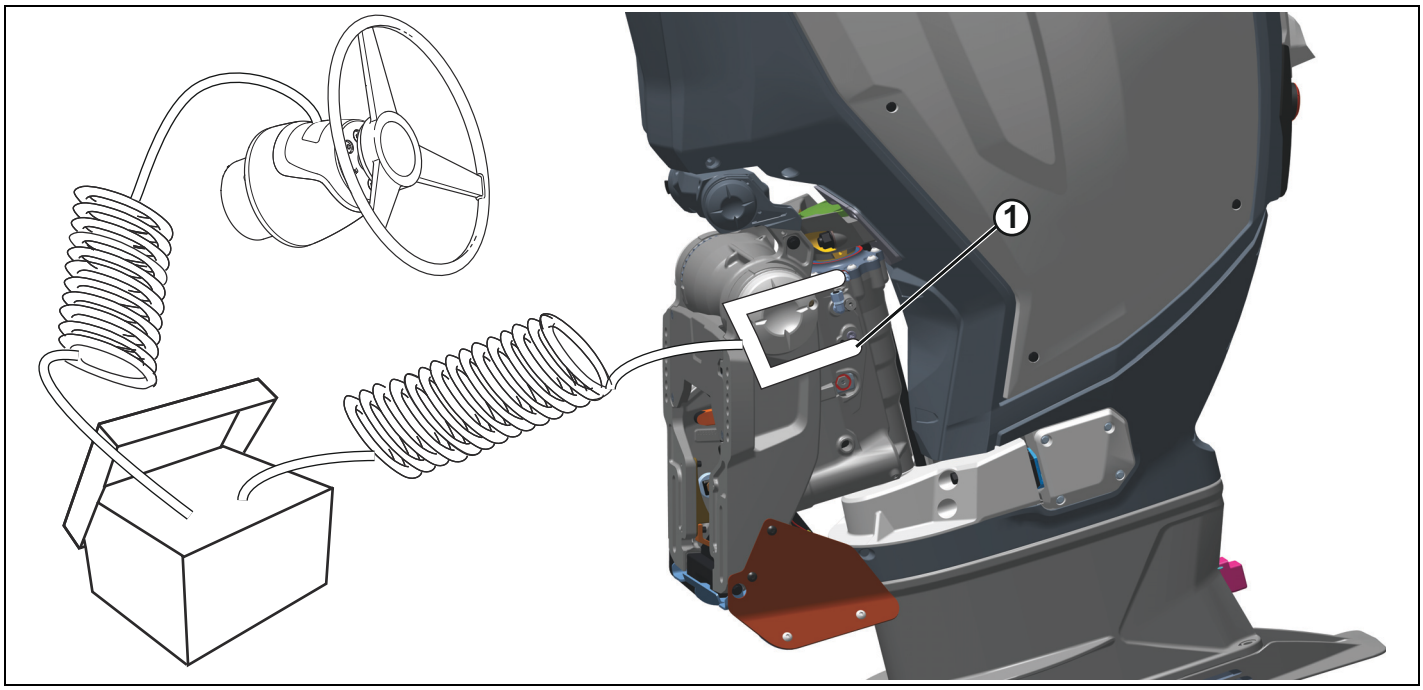
Turn OFF the *SeaStar Power Purge*.

Disconnect the *SeaStar Power Purge* hoses and move the hoses to the port engine.

Turn ON the *SeaStar Power Purge*.

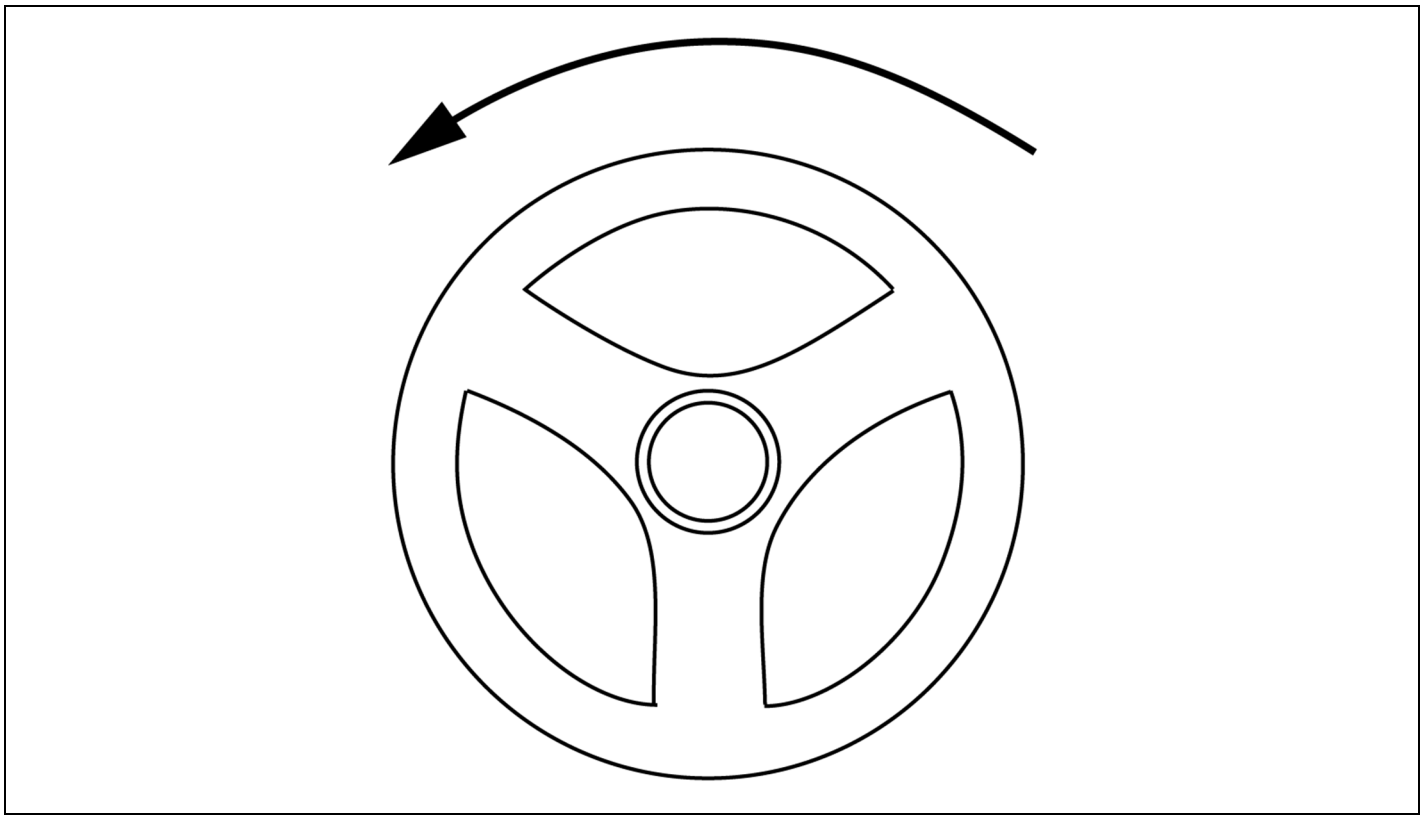
Open the lower bleeder screw on the port engine.

NOTE: A 1/4” Drive - 1/2” Crows Foot will ease this process.



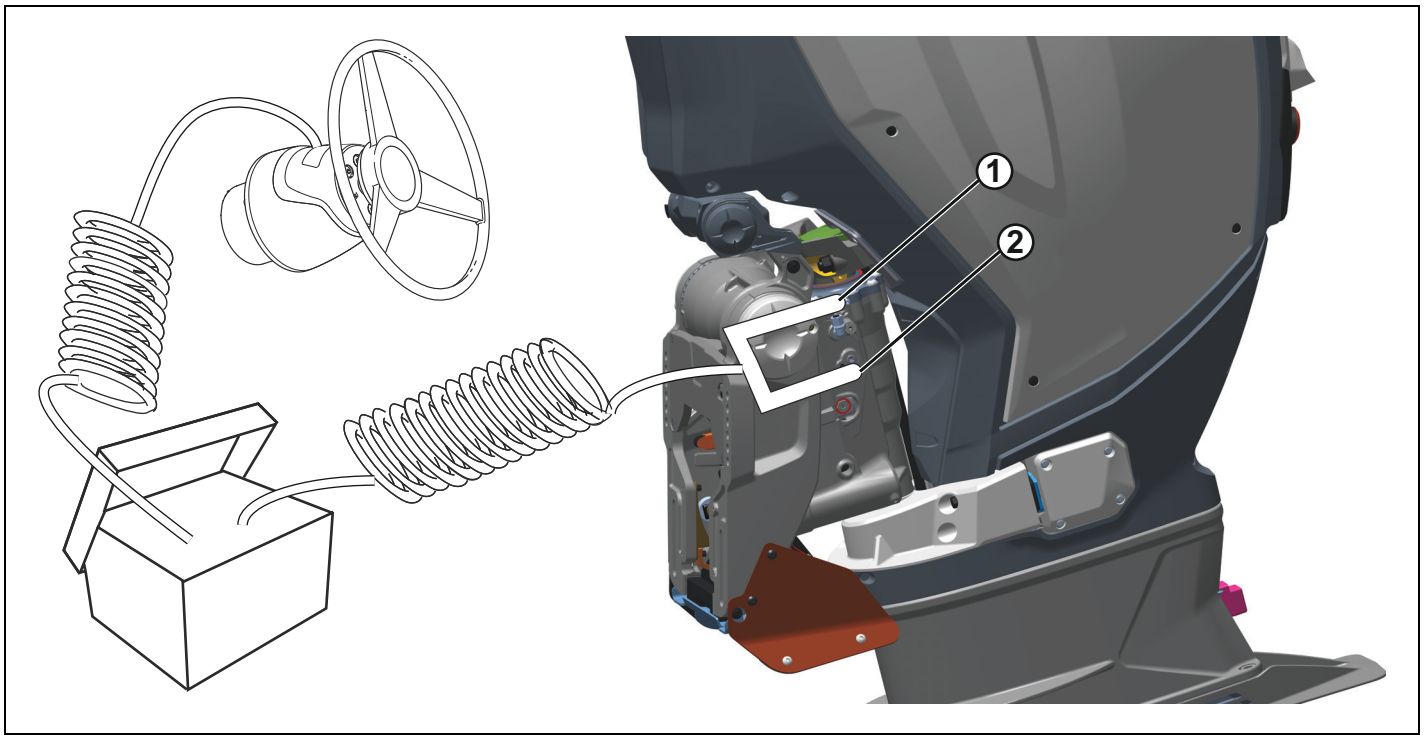
1. Lower bleeder screw

Turn the helm ONLY to port until there are no air bubbles seen in the *SeaStar Power Purge* hoses.



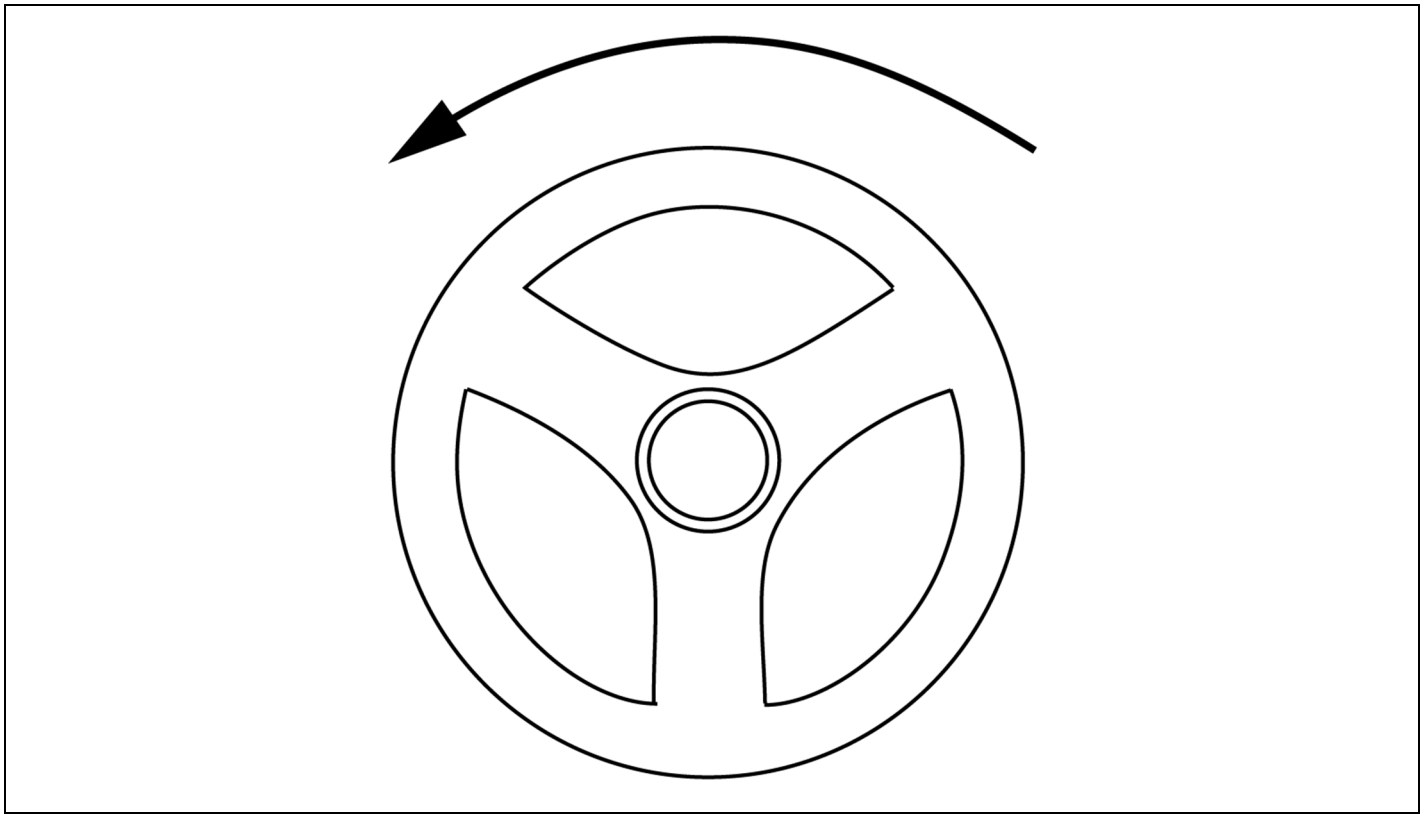
Close the lower bleeder screw on the port engine and open the upper bleeder screw.

NOTE: A 1/4” Drive - 1/2” Crows Foot will ease this process.



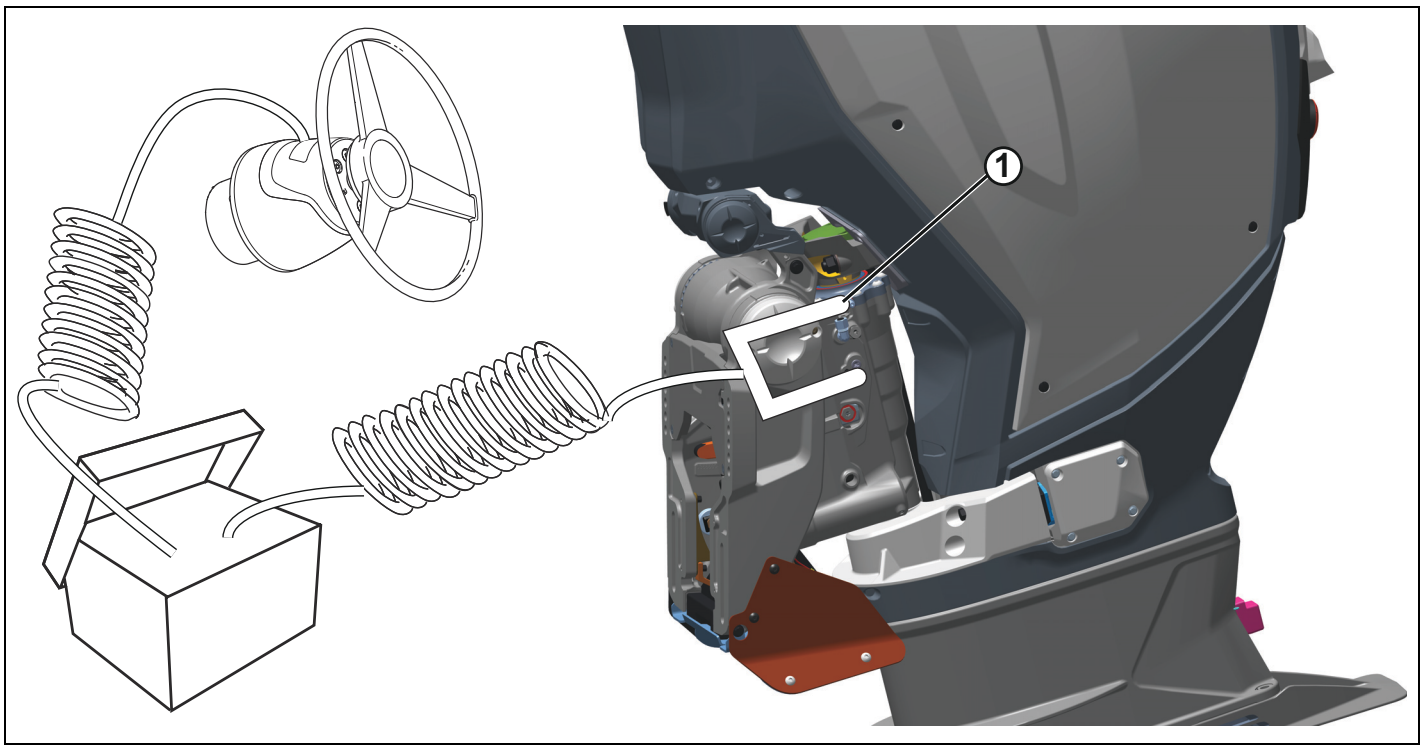
1. *Upper bleeder screw*
2. *Lower bleeder screw*

Turn the helm ONLY to port until there are no air bubbles observed in the *SeaStar Power Purge* hoses.



Close the upper bleeder screw on the port engine.

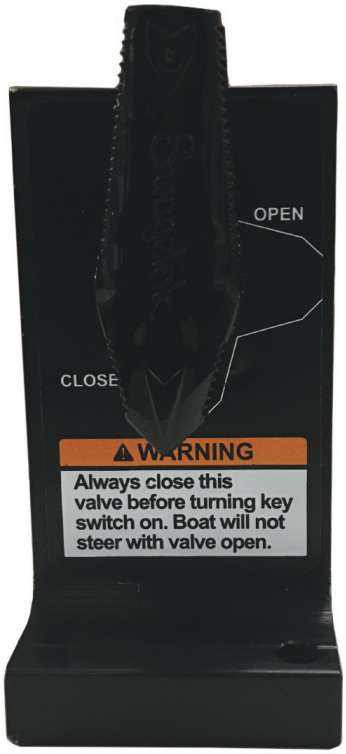
NOTE: A 1/4” Drive - 1/2” Crows Foot will ease this process.



1. Upper bleeder screw

Turn OFF the SeaStar Power Purge.

Close the Alignment Valve by turning the valve handle to the vertical position.



Remove the *SeaStar Power Purge* hoses from the helm and the port outboard.

Remove the Steering Lock Tools from both the port and starboard outboards.

Install the two black caps onto the purge fittings on each outboard.

Repeat the bleeding procedure as necessary to ensure the hydraulic system is free of all air before water testing the vessel. Refer to the Evinrude E-TEC G2 Installation and Pre-Delivery Guide for the procedure to check for air in the hydraulic steering system.

Tie Bar and Steering Lock Kit Installation

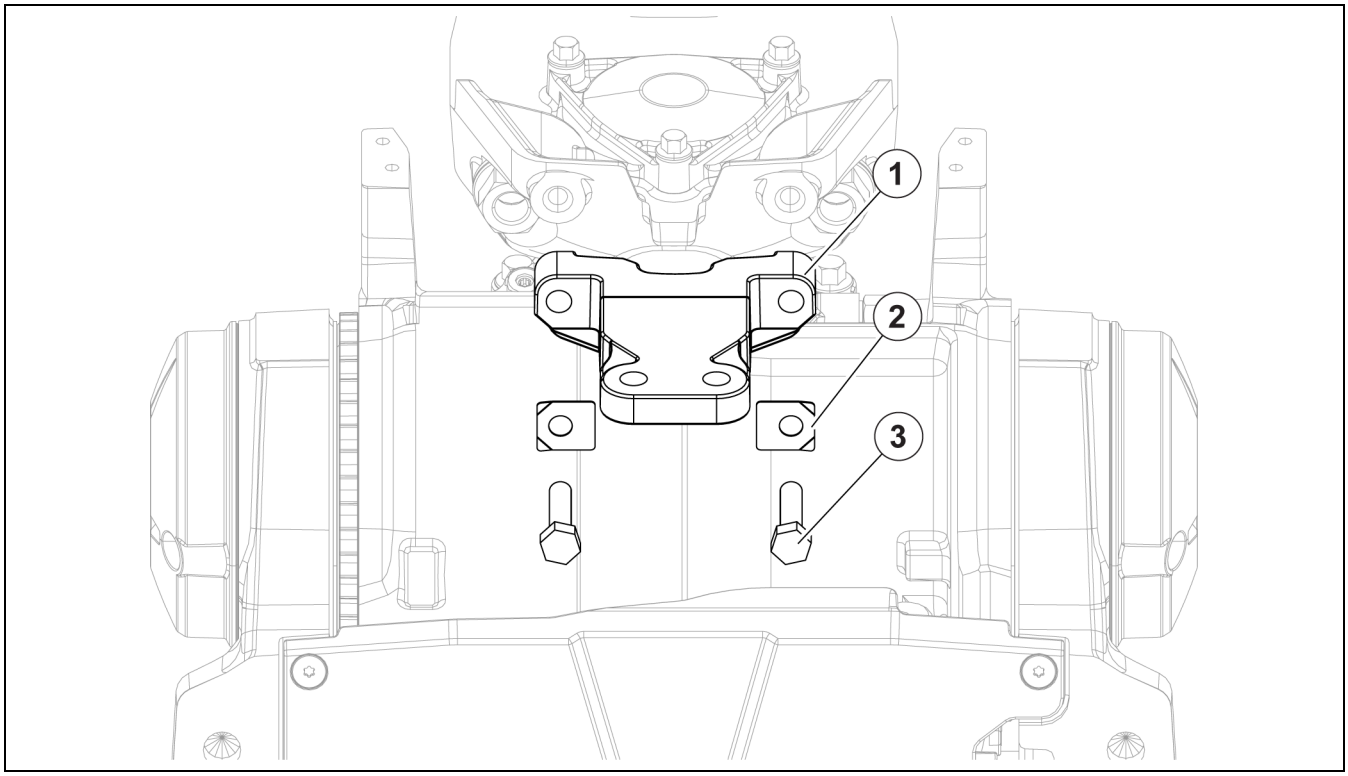
⚠ WARNING

Always remove this steering lock device before turning the key switch ON. Engine will not steer with this device in place.

NOTICE

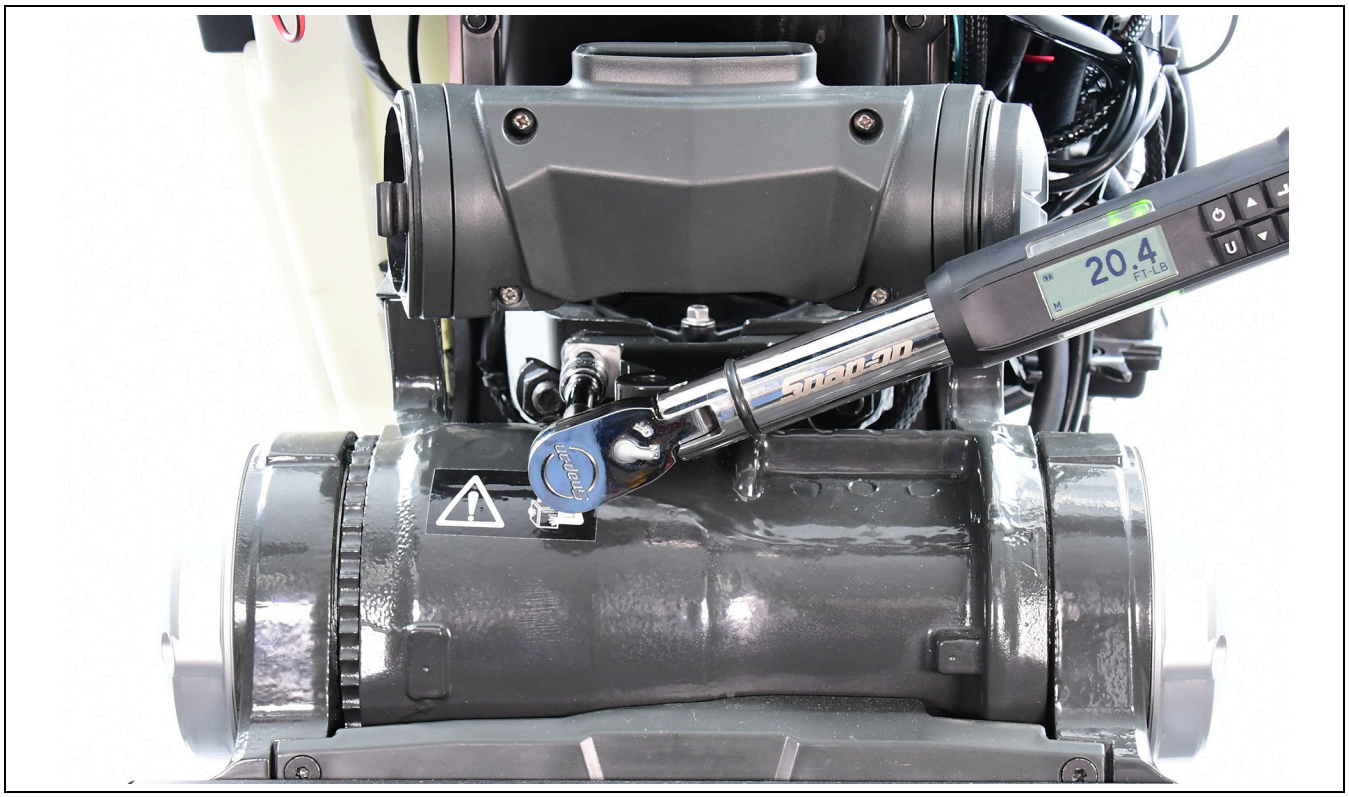
Failure to remove this steering lock device before turning the key switch ON can result in damage to the steering lock device if the steering wheel is turned while the system is powered.

Install the tie bar bracket, P/N 357685, on the outboard with two locking tab washers, P/N 357825, and two M8 x 35 screws, P/N 357884. Make sure the locking tab washers are oriented as shown.

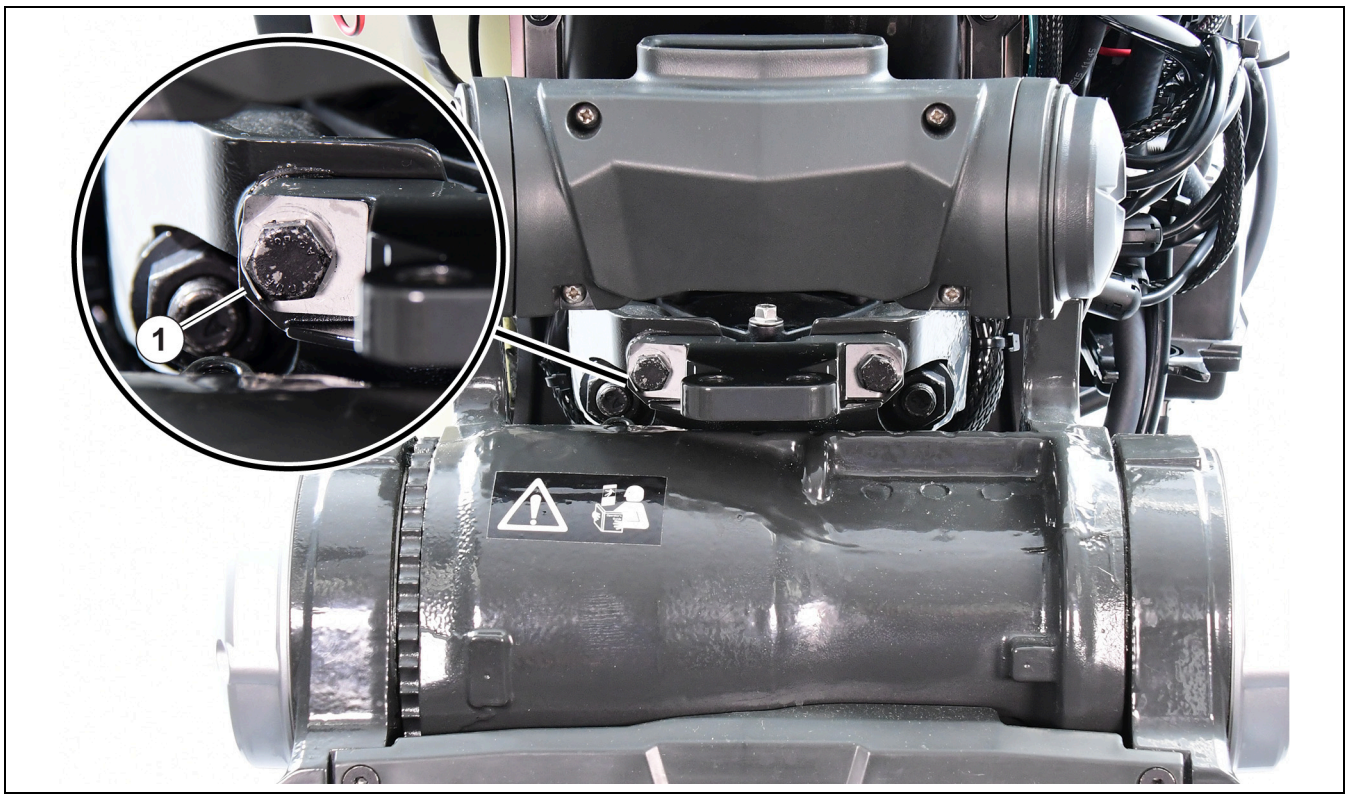


1. *Tie bar bracket, P/N 357685*
2. *Locking tab washers, P/N 357825*
3. *Screws, M8 x 35, P/N 357884*

Tighten the screws to a torque of 18.0 to 20.5 ft.lbs. (24.5 to 28 N·m).



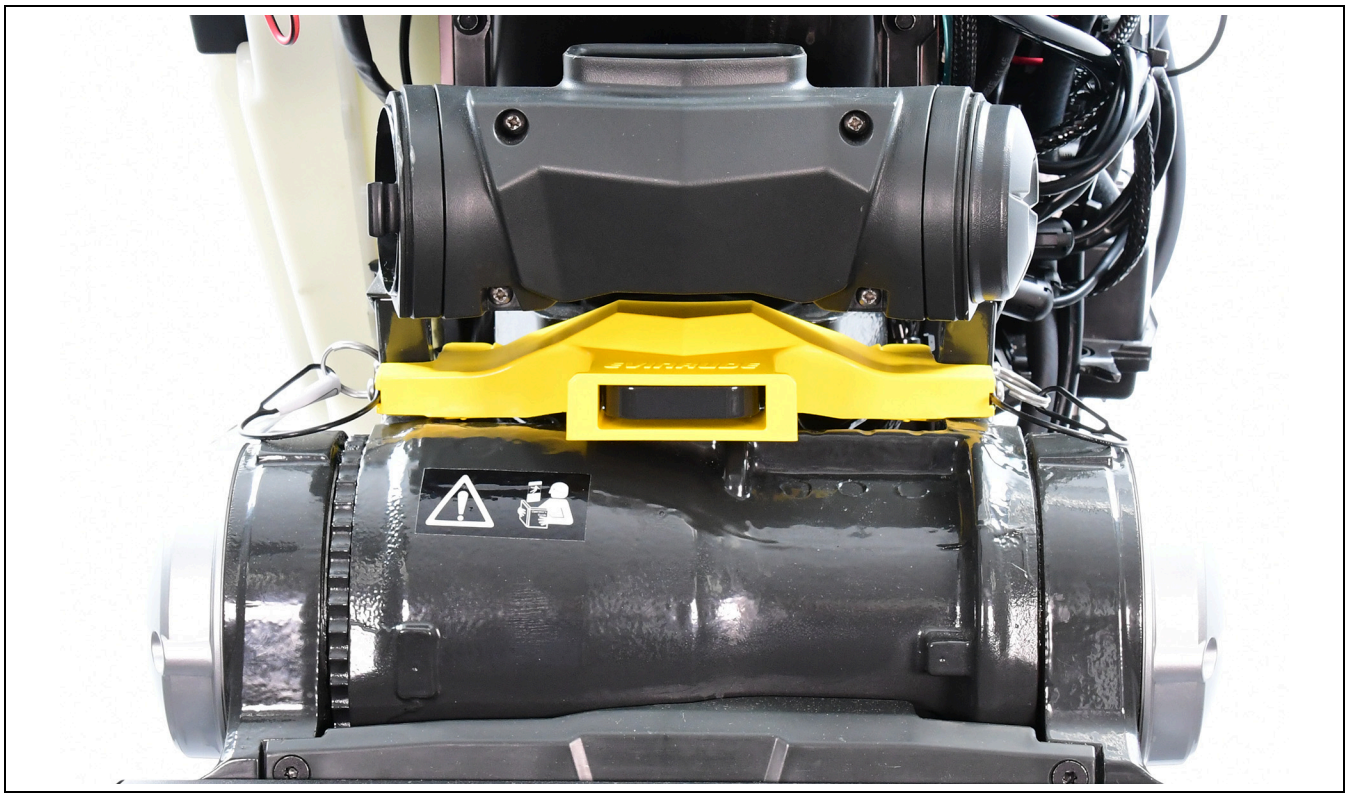
Use a punch to bend one tab of each washer into the hex of each screw.



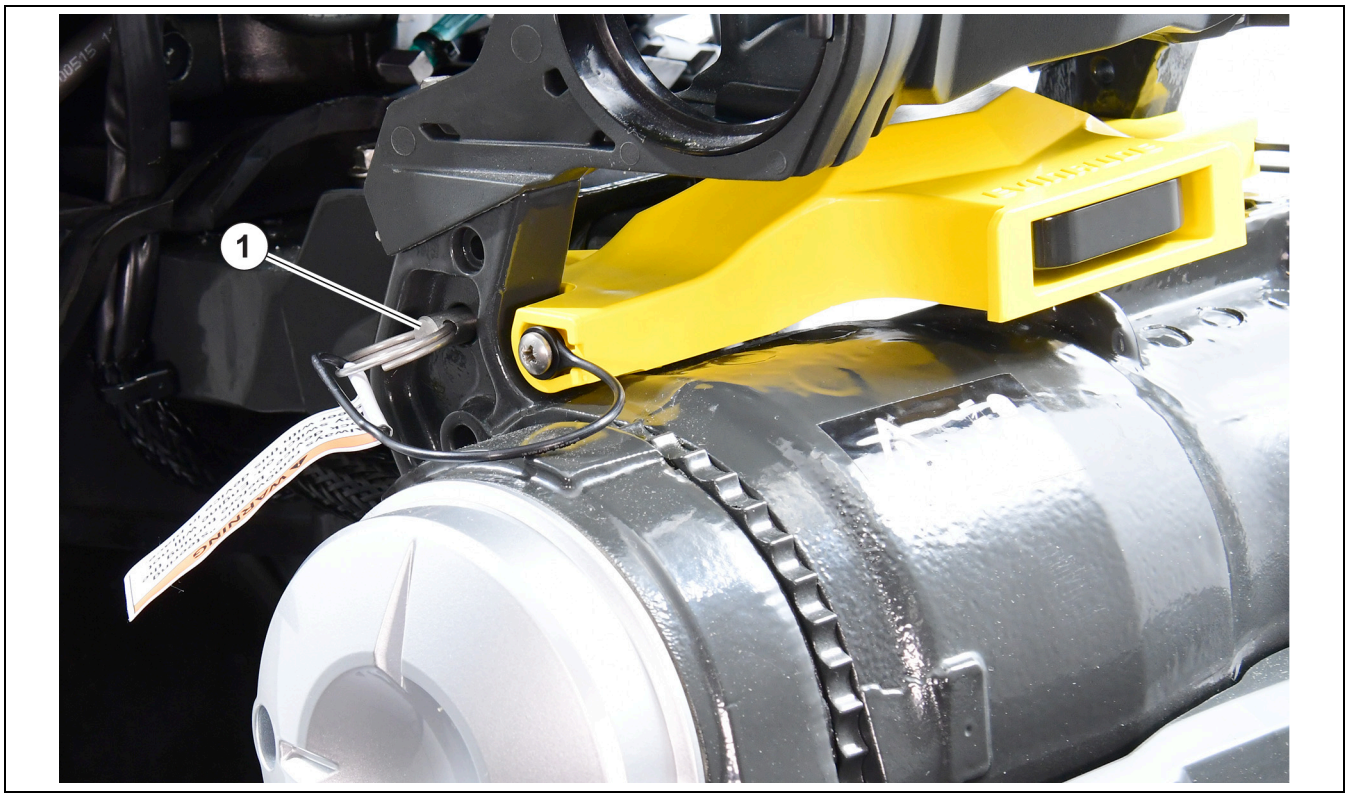
1. Tab bent into hex of screw

If needed, steer the outboard to center. Slide the steering lock device over the bracket as shown.

NOTE: The alignment valve may need to be opened to allow both engines to be centered.



Install two quick release pins through the holes on each side of the stern bracket.



1. Quick release pin (STARBOARD side shown)

Remove the quick release pins and the steering lock device BEFORE turning the key switch ON.

iDock Configuration Process

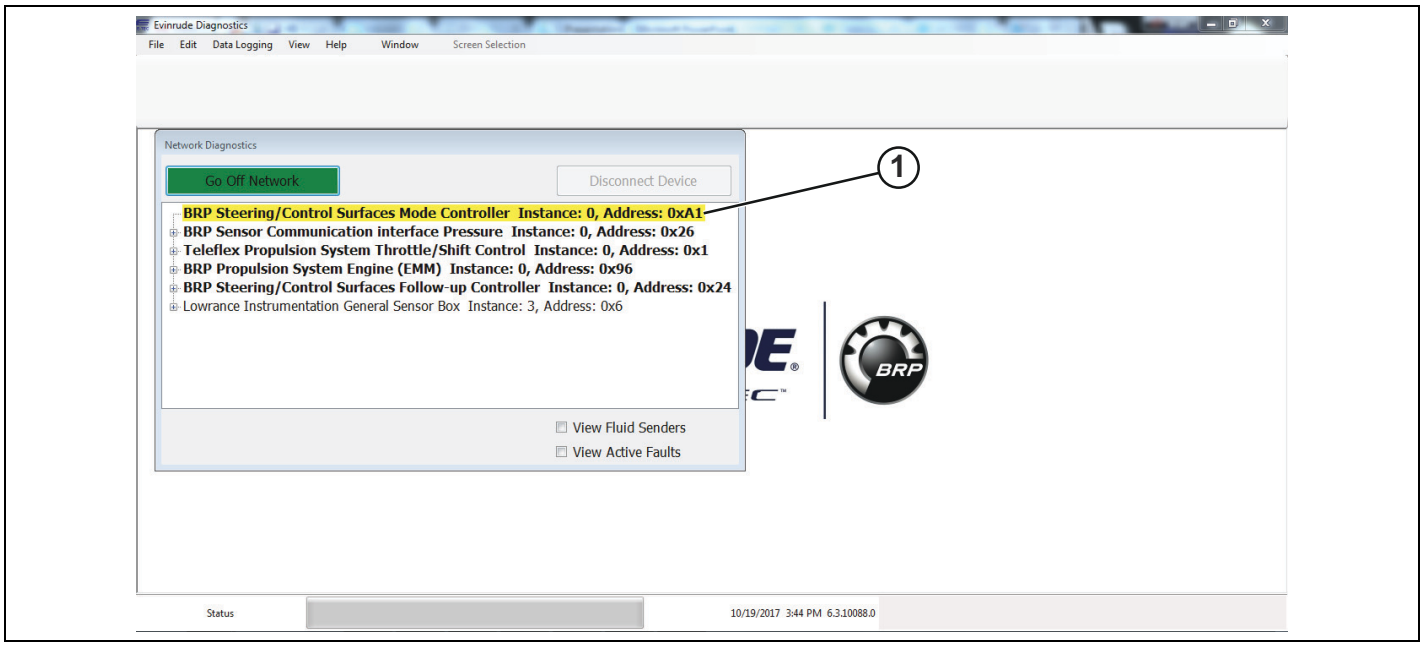
Connect the vessel to a laptop equipped with the latest version of *Evinrude Diagnostics 6* software.

Turn the key switch to the ON position.

IMPORTANT: Code 8 will become active and an audible alarm may sound if a warning horn is connected. Disregard this as there is not a file in the joystick at this point.

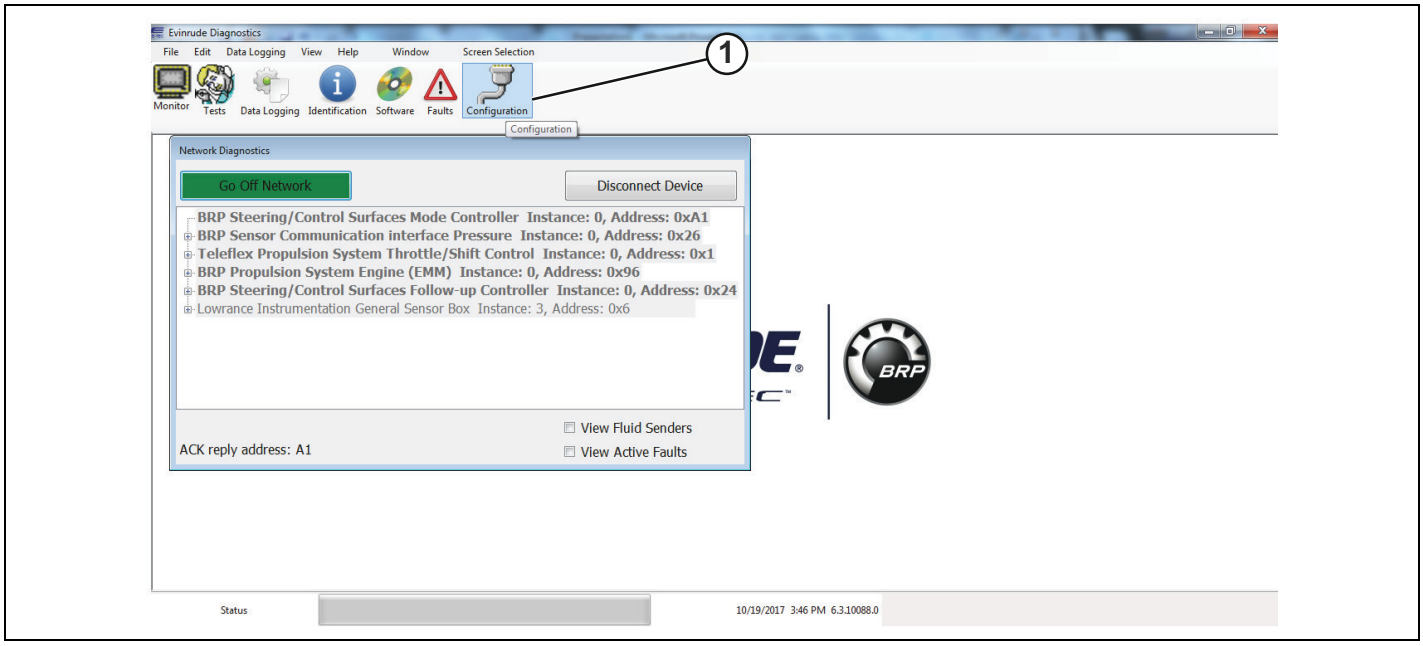
Go on the network.

Choose the *BRP Steering/Control Surfaces Mode Controller* instance 0 to communicate with the port outboard mode controller.



1. BRP Steering/Control Surfaces Follow-Up Controller

Select the *Configuration* icon at the top of the screen and use the *iDock Manifold Controller Config* Screen to set the different aspects of the mode controller.



1. Configuration icon

Fill in the following fields within this screen:

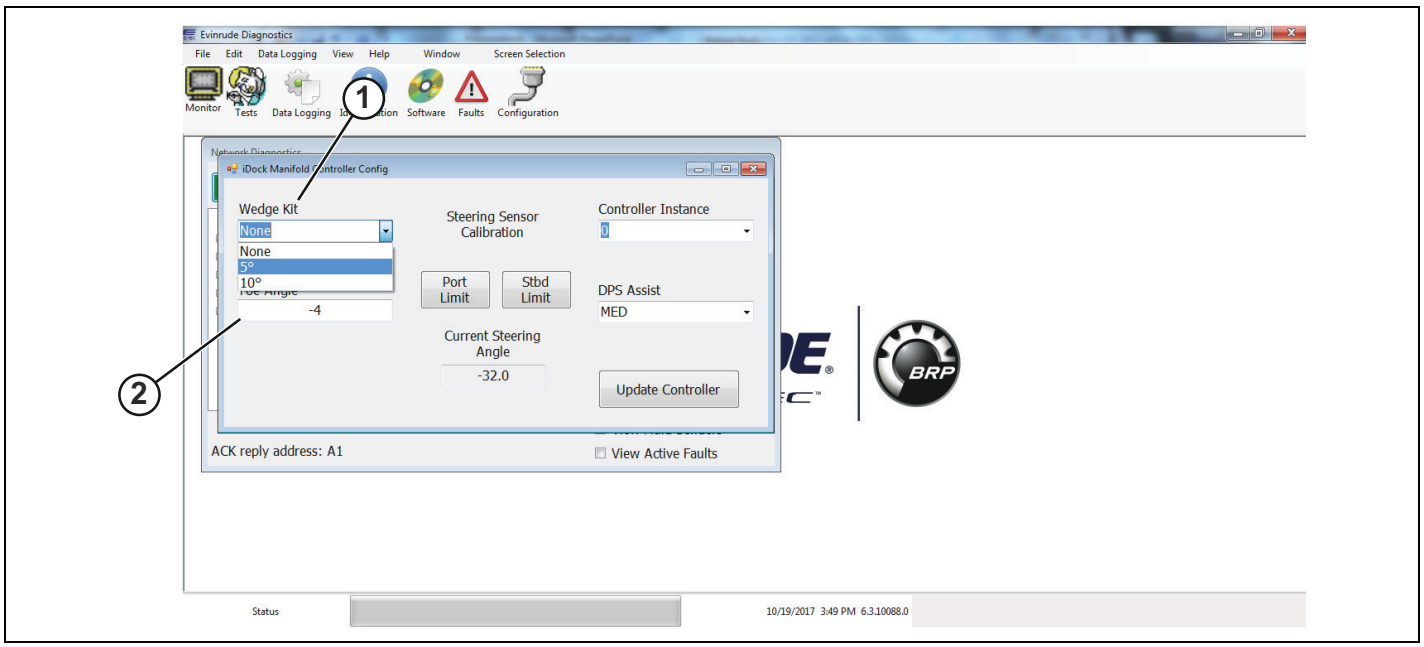
- Wedge Kit - use the drop down to make the proper choice

IMPORTANT: Only use this option if the vessel is equipped with a wedge kit. 10° is the maximum allowed for a wedge kit when using the *Evinrude iDock* system.

IMPORTANT: If this option is used, be sure the same option is used for the configuration of the starboard outboard manifold controller and the configuration of the joystick.

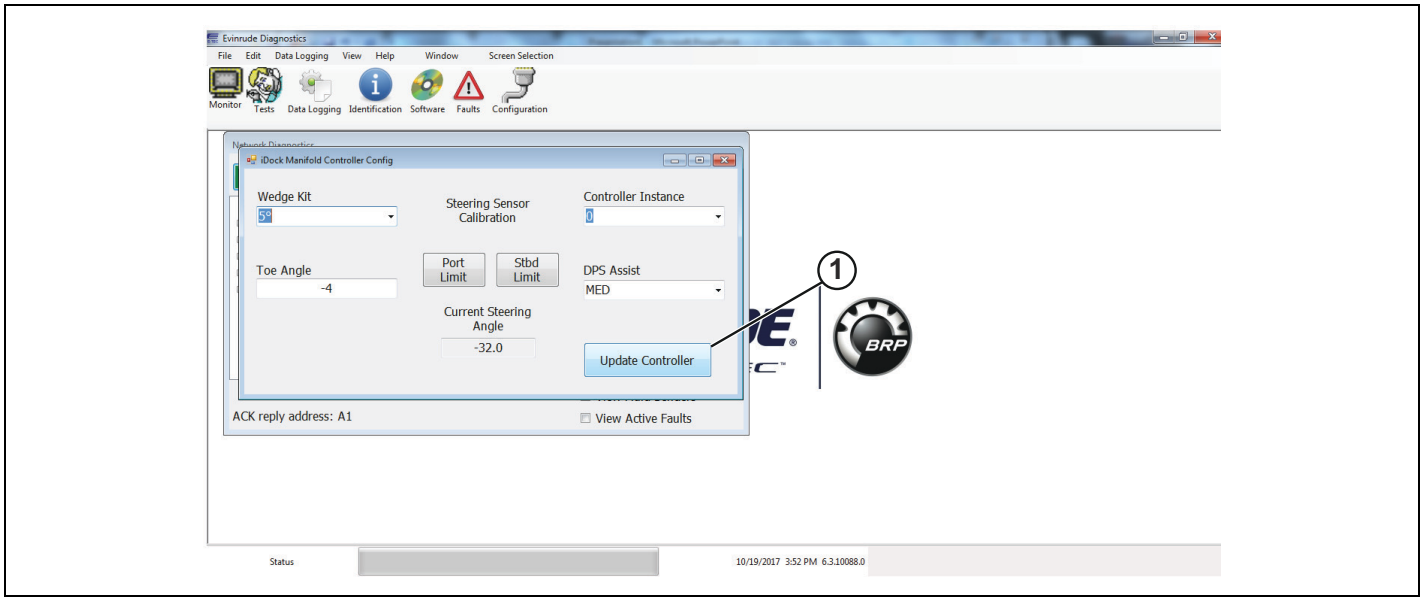
- Toe Angle can be set in the configuration screen. The range for toe angle is -5° / +5° per engine. A negative number is used for toe in while a positive number is used for toe out. Adjust the toe angle as needed based on the hull configuration of the vessel.

IMPORTANT: If toe angle is adjusted, be sure the same setting is used for the configuration of the starboard outboard manifold controller and the configuration of the joystick.



1. *Wedge kit drop down*
2. *Toe angle field*

Click the *Update Controller* box when the fields are completed.



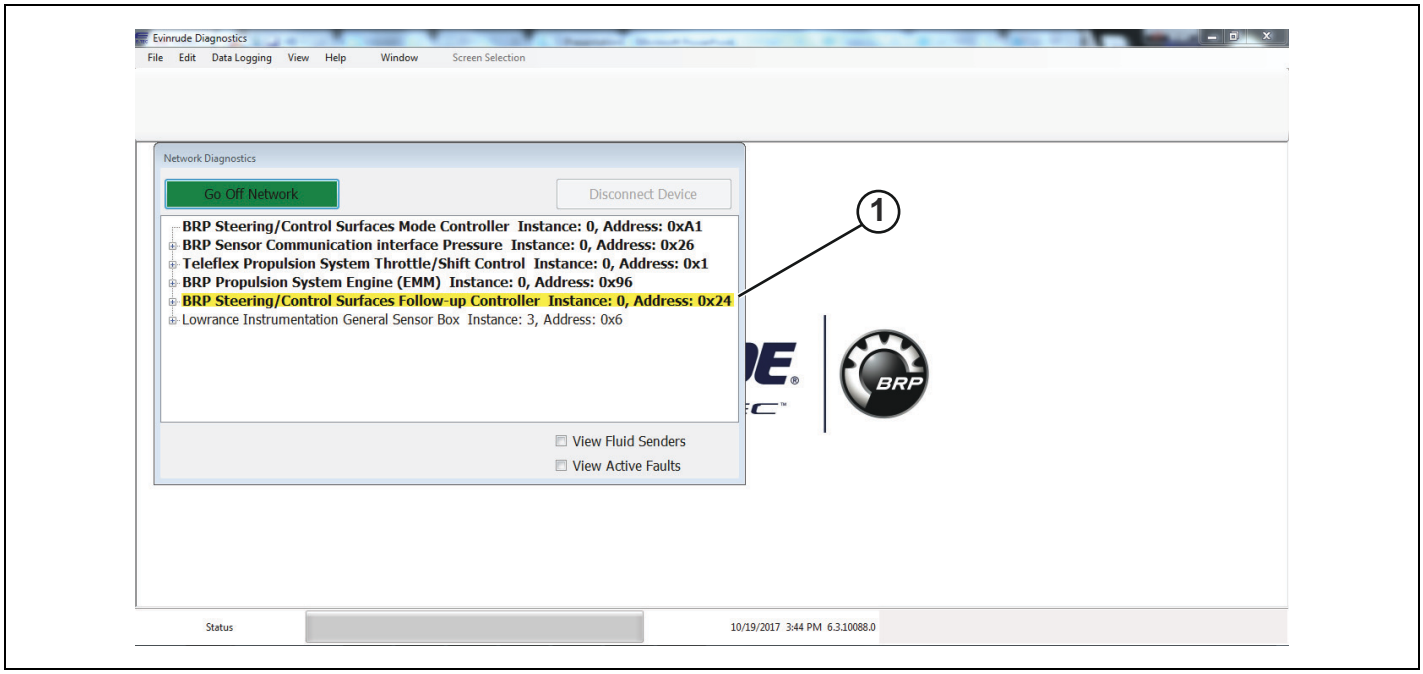
1. *Update Controller box*

Repeat these steps, however, connect to the *BRP Steering/Control Surfaces Mode Controller* instance 1 to communicate with the starboard outboard mode controller.

IMPORTANT: If the wedge kit degrees have to be set, make sure they are set to the same setting as the port outboard.

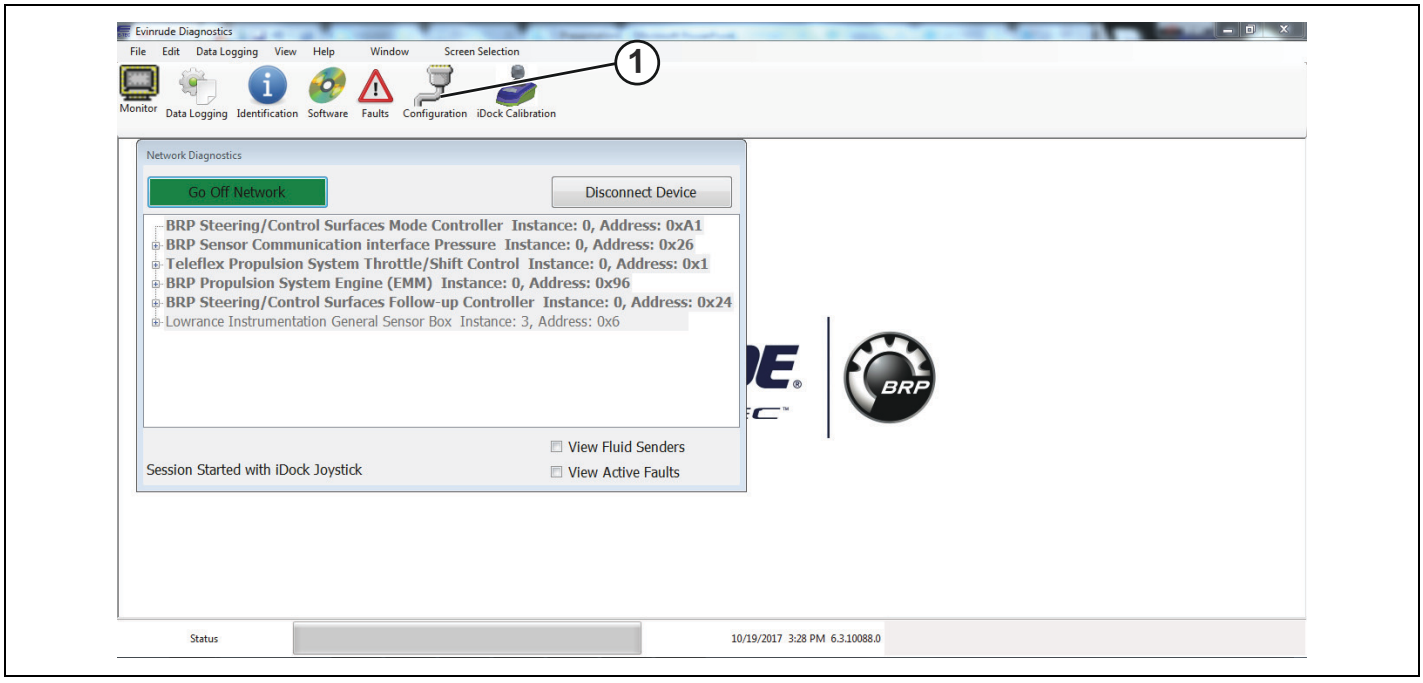
Click the *Disconnect Device* button.

Click the *BRP Steering/Control Follow-up Controller Instance 0* to communicate with the joystick and start the joystick calibration process.



1. *BRP Steering/Control Follow-up Controller Instance 0*

Click the *Configuration* icon at the top of the screen to set the different configuration aspects of the joystick.



1. *Configuration icon*

Fill in the following fields within this screen:

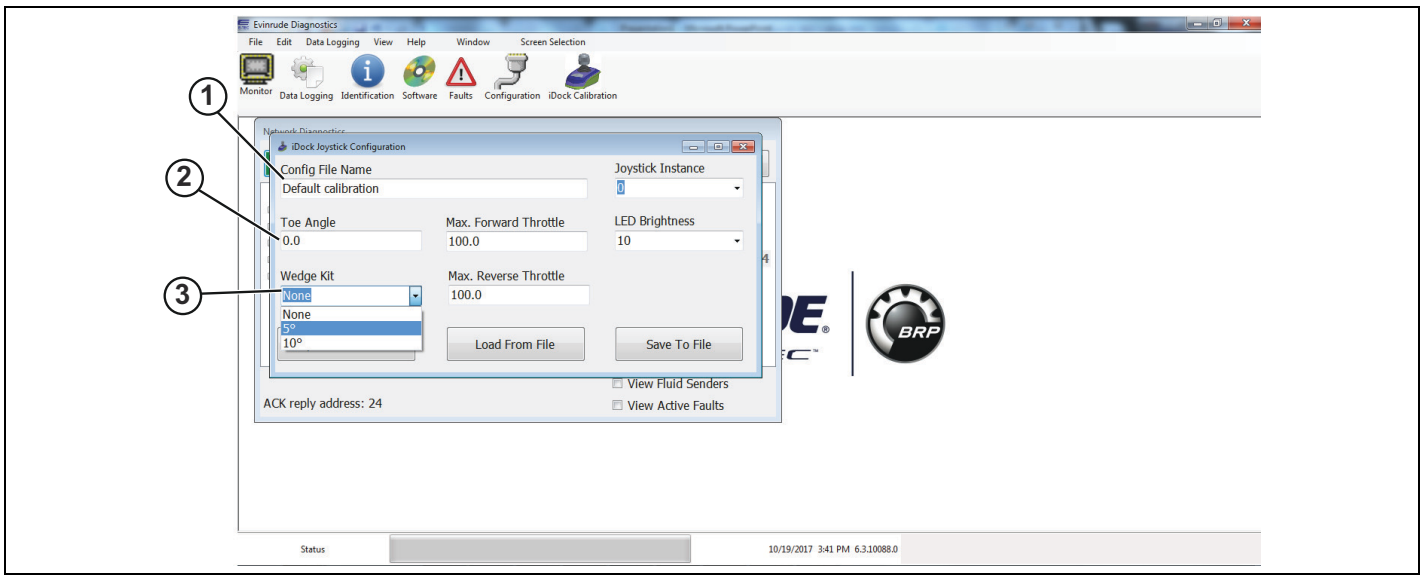
- File name (if desired)
- Wedge Kit - use the drop down to make the proper choice

IMPORTANT: Only use this option if the vessel is equipped with a wedge kit. 10° is the maximum allowed for a wedge kit when using the *Evinrude iDock* system.

IMPORTANT: If this option is used, be sure the same option that was used for the configuration of the port and starboard outboard mode controllers.

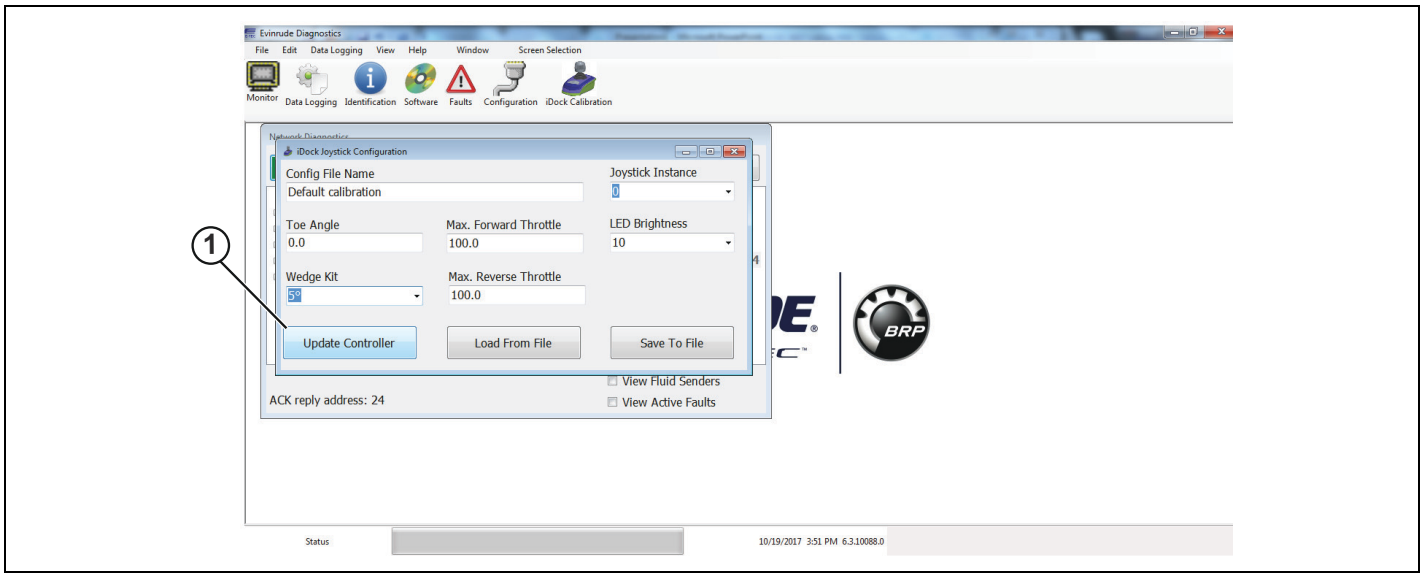
- Toe Angle can be set in the configuration screen. The range for toe angle is -5° / +5° per engine. A negative number is used for toe in while a positive number is used for toe out. Adjust the toe angle as needed based on the hull configuration of the vessel.

IMPORTANT: If toe angle is adjusted, be sure the same setting is used for the configuration of the port outboard and starboard manifold controllers.



1. *File name field*
2. *Toe angle field*
3. *Wedge kit field*

Click the Update Controller box when the different fields have been completed.



1. *Update Controller box*

Load From File Option

If the vessel has already been calibrated and the calibration points were properly saved, a file containing the calibration points will be available to load at this point.

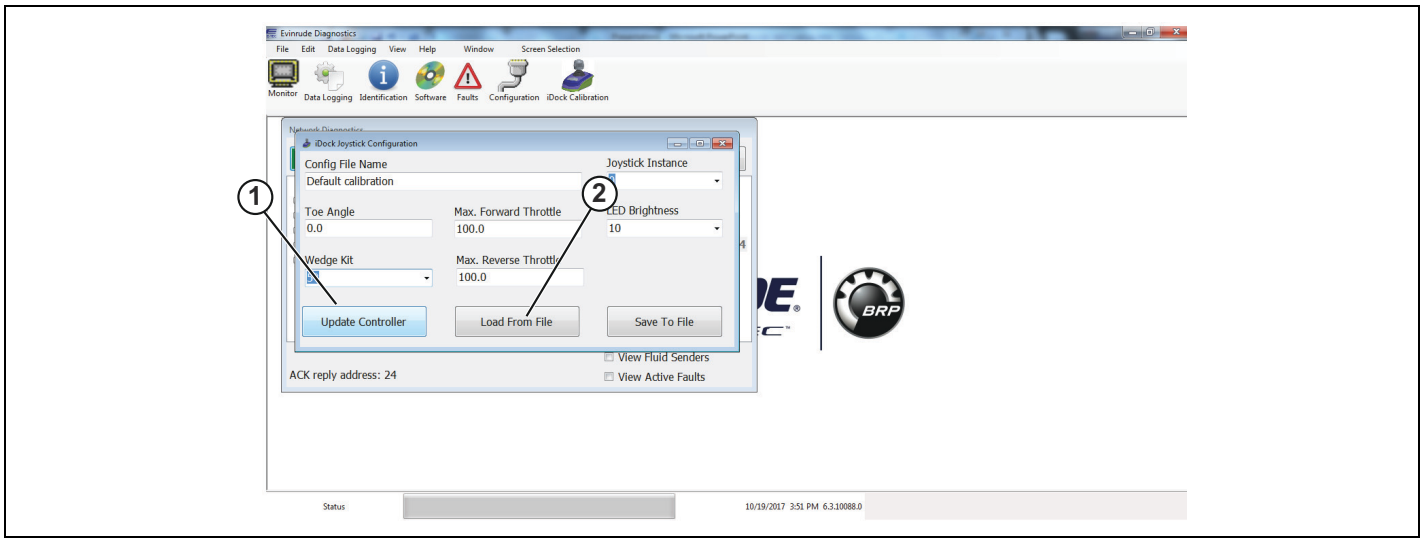
Click the *Load From File* box.

Navigate to and select the file that should be loaded into the joystick.

Click the *Open* button or double click on the file to load the file to the joystick.

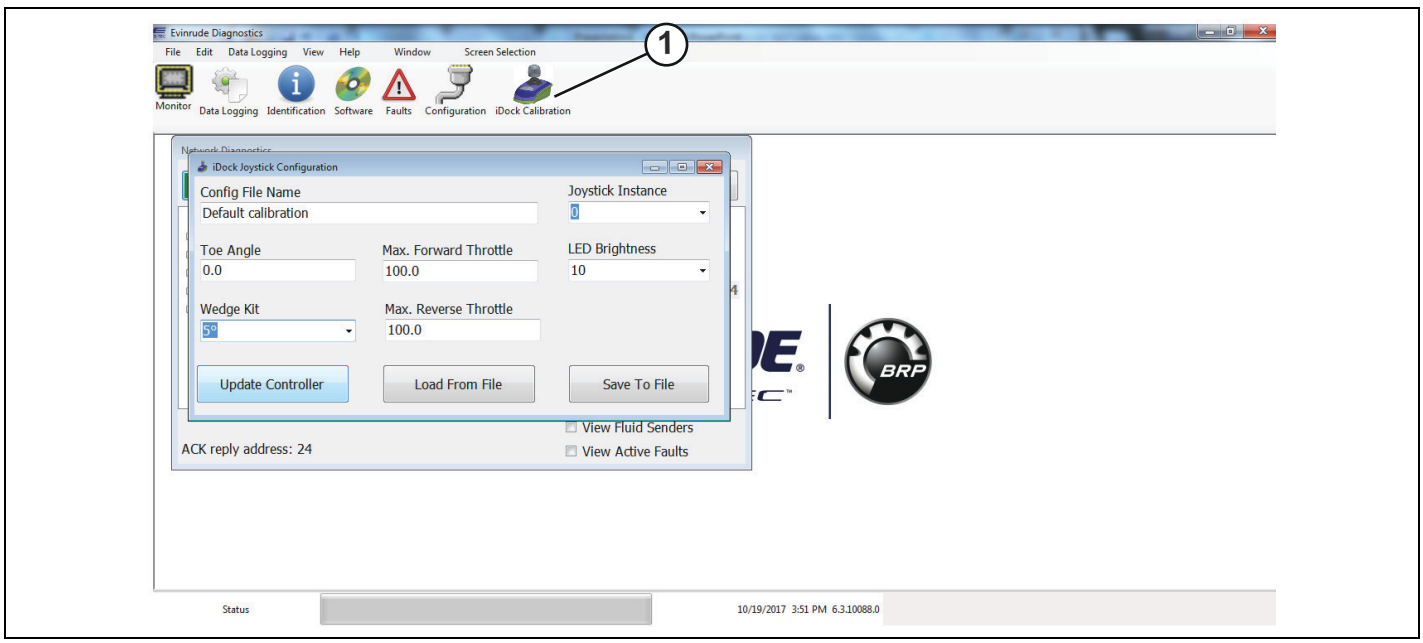
When the file has been successfully loaded, click the *Update Controller* box to save the settings.

If this process has been completed, it is not necessary to perform the calibration process unless changes to the different calibration points are necessary.



1. *Update Controller box*
2. *Load From File box*

Click the *iDock Calibration* icon at the top of the screen to access the calibration screens and start the calibration process.



1. *iDock Calibration icon*

iDock Calibration Procedure

⚠ WARNING

Improper installation can result in loss of steering control and severe personal injury. Check that proper installation of the iDock System has been achieved before conducting any sea trial or before starting the calibration procedure.

⚠ CAUTION

It is recommended to practice using the joystick in all operating ranges before starting the calibration procedure. Improper use of the joystick can result in machine damage or personal injury.

NOTICE

On boats where the engines violate the edges of the vessel when turned, be sure to have enough room around the docks so the engines do not hit the dock.

IMPORTANT: Perform the calibration procedure on a calm day. If the water is rough or if it is extremely windy, the calibration points will be incorrect in calm weather conditions.

IMPORTANT: Prior to starting the *Evinrude iDock* Calibration procedure, select the correct propellers based on the information found in the ***Evinrude E-TEC G2*** **Installation and Pre-Delivery Guide**.

IMPORTANT: In strong currents or extremely windy conditions, the joystick may not be able to overcome the yaw of the boat. If this happens, stop the movement of the boat, realign the vessel, and continue docking.

IMPORTANT: All calibrations and corrections during this procedure will be based off of the movements of the bow of the boat. If any other part of the boat is used for reference during the calibration procedure, the calibration will be incorrect and will need to be repeated.

Calibration Using *Evinrude Diagnostics* Software

IMPORTANT: The calibration procedure must be performed when the vessel is on the water.

Connect the vessel to a laptop equipped with the latest version of *Evinrude Diagnostics 6* software.

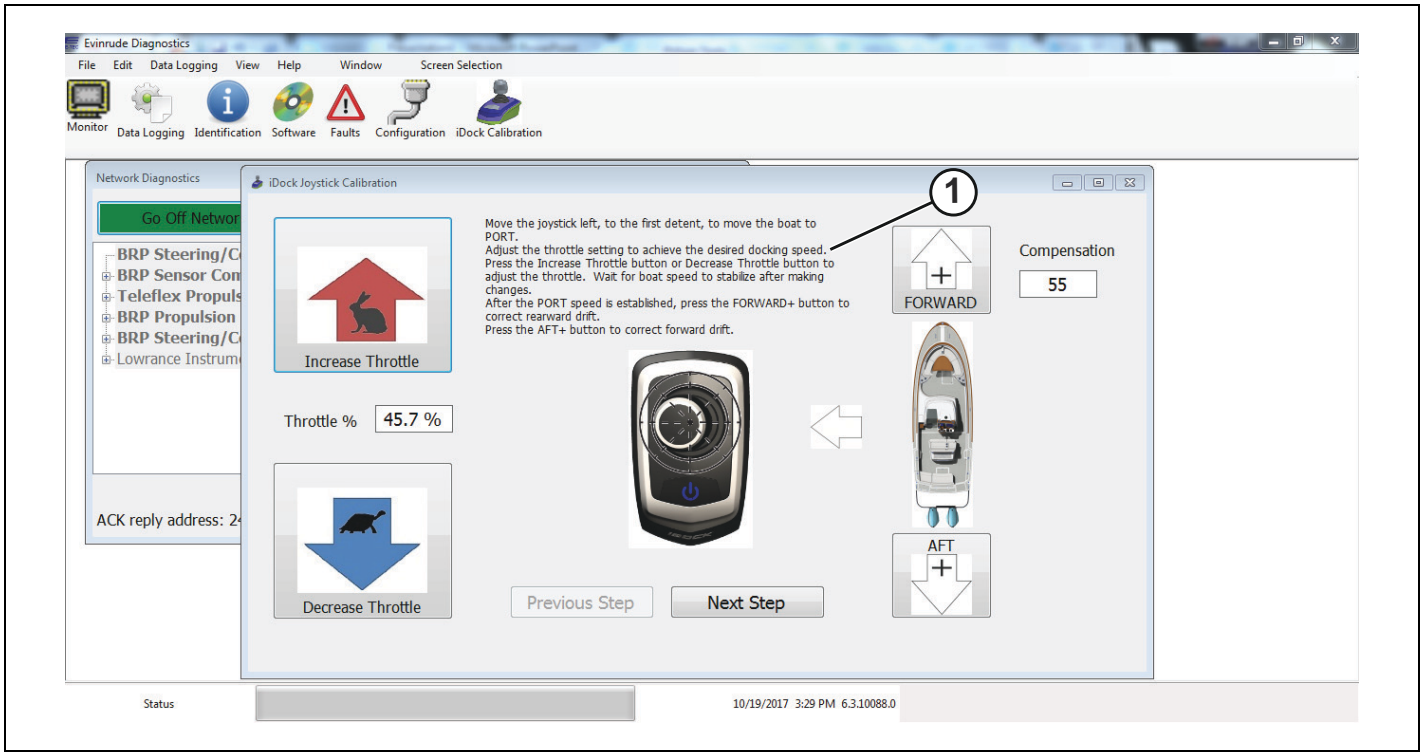
Start both engines.

Turn the joystick ON by pushing the power button.

NOTE: When the joystick is ON the power button will be illuminated in blue.

Open the *Evinrude Diagnostics* software program.

Follow the directions at the top of the screen as shown in the image below.

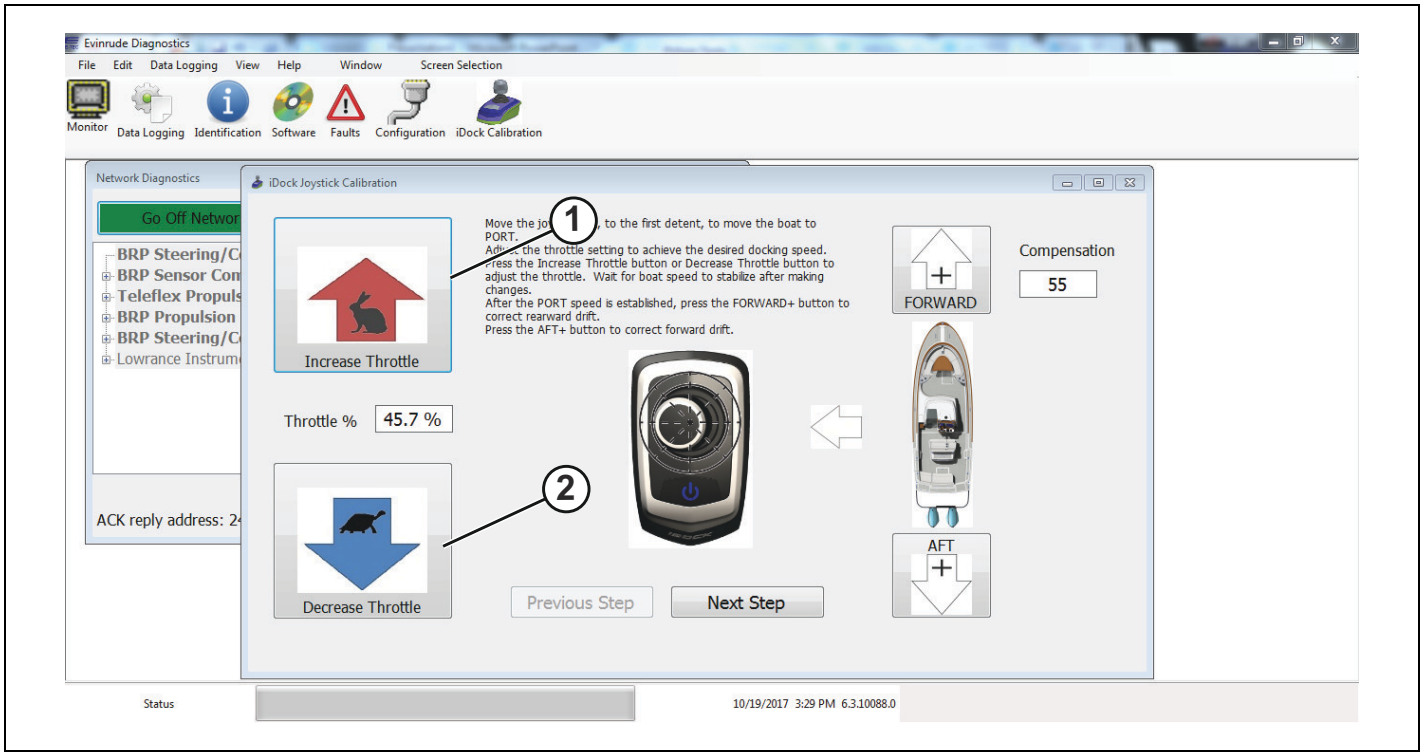


1. Directions at top of screen

Move the joystick to the left, to the first detent, to move the boat in a lateral port direction.

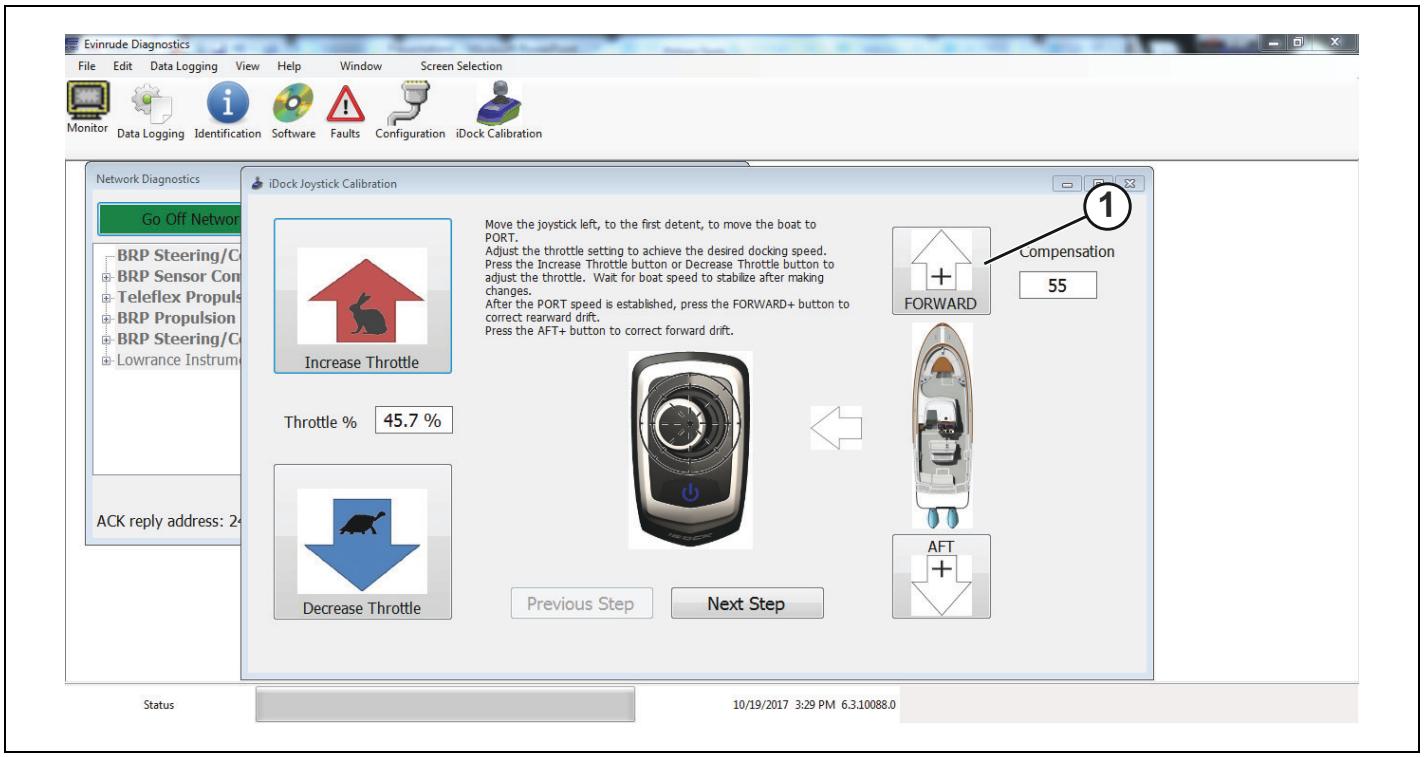
While holding the joystick left, use the *Increase throttle* and *Decrease throttle* buttons to set the desired port speed.

IMPORTANT: Be sure to let the boat speed stabilize while determining the desired port speed.



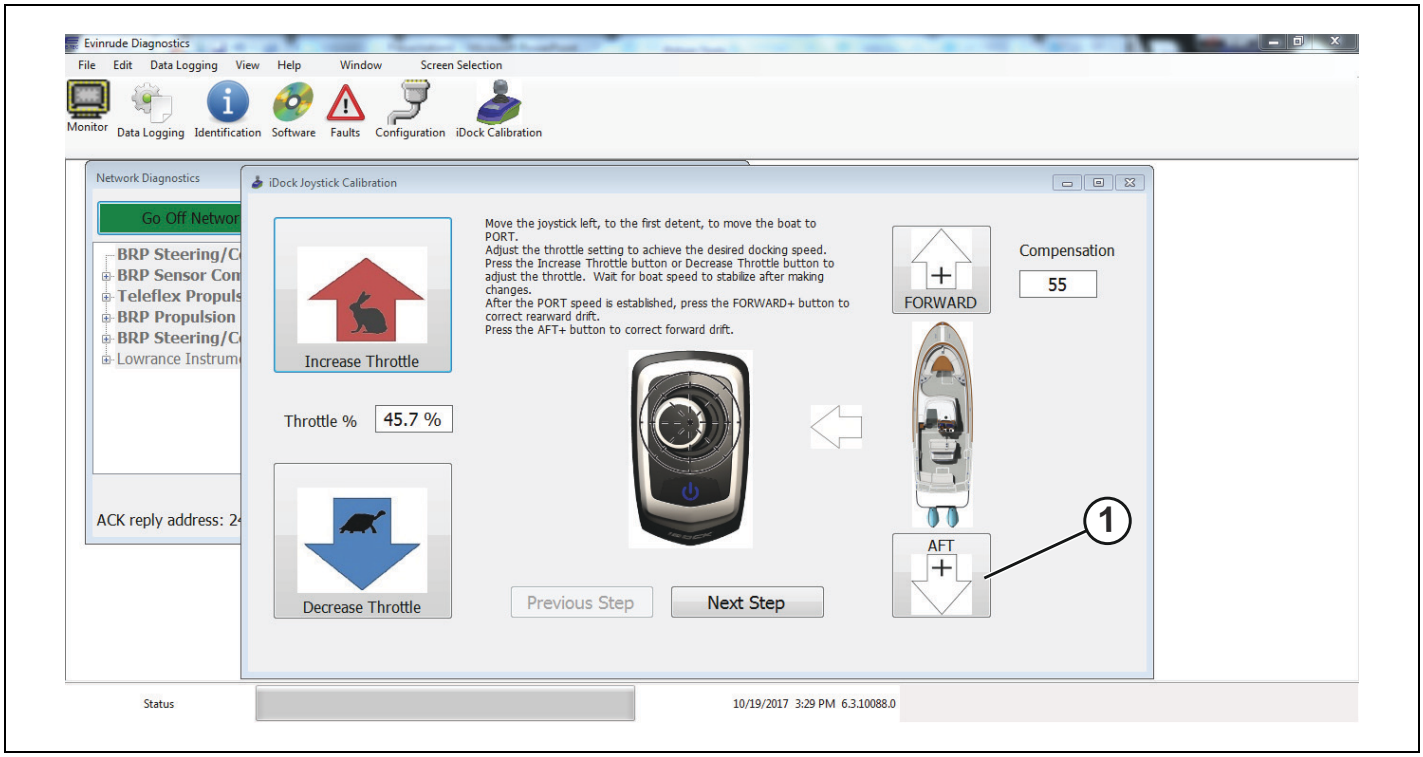
1. *Increase throttle*
2. *Decrease throttle*

If the vessel starts to move in an aft direction while holding the joystick left, correct the action by clicking the *FORWARD+* button until there is a true port movement of the vessel.



1. *FORWARD+ button*

If the vessel starts to move in a forward direction while holding the joystick left, correct the action by clicking the *AFT+* button until a true port movement of the vessel has been achieved.



1. AFT+ button

When a true port movement and a desirable throttle range has been achieved, click the *Next Step* box to continue the calibration procedure.

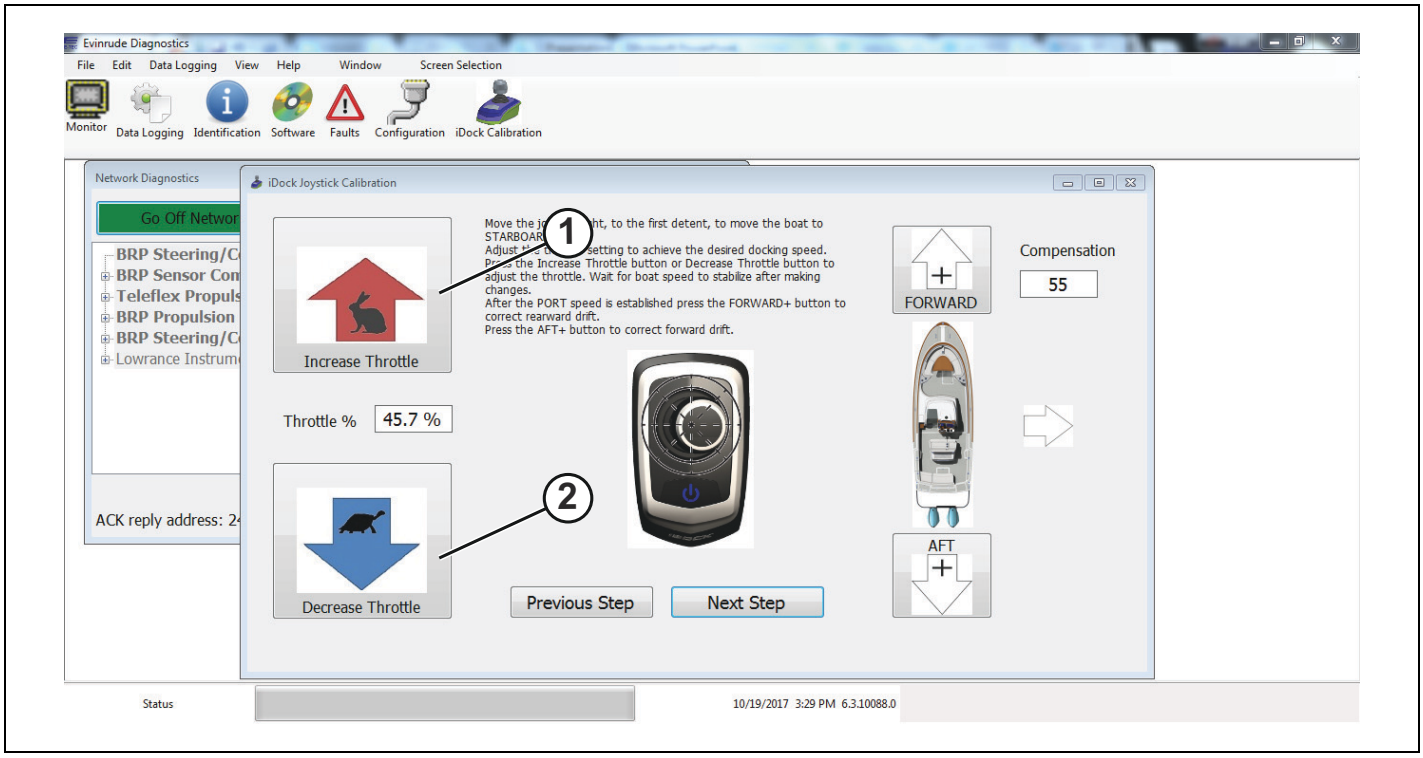
1. Next Step button

Follow the directions at the top of the screen as shown in the image below.

1. Directions at top of screen

Move the joystick to the right, to the first detent, to move the boat in a starboard direction.

While holding the joystick right, use the *Increase Throttle* and *Decrease Throttle* buttons to set the desired starboard speed.

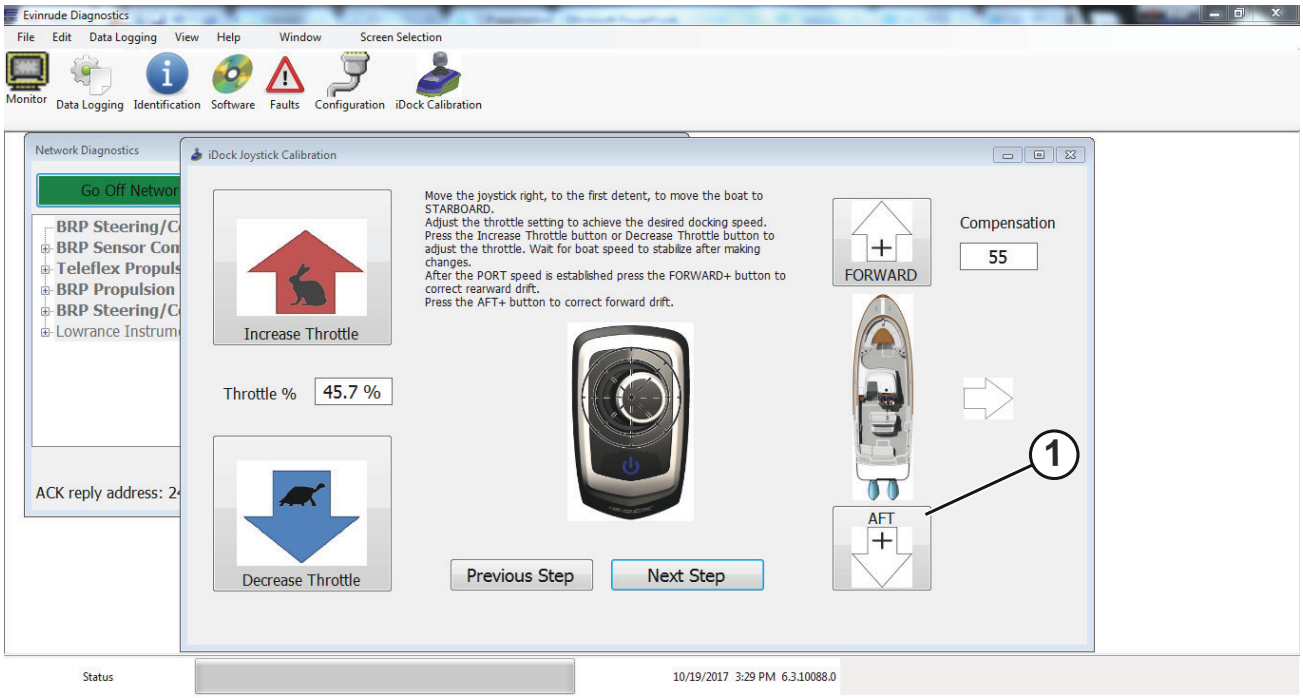


1. *Increase throttle*
2. *Decrease throttle*

If the vessel starts to move in an aft direction while holding the joystick right, correct the action by clicking the *FORWARD+* button until there is a true starboard movement of the vessel.

1. *FORWARD+ button*

If the vessel starts to move forward while holding the joystick right, correct the action by clicking the *AFT+* button until a true starboard movement of the vessel has been achieved.



1. *AFT+ button*

When a true starboard movement and a desirable throttle range has been achieved, click the *Next Step* box to continue the calibration procedure.

1. *Next Step button*

Follow the directions at the top of the screen as shown in the image below.

1. Directions at top of screen

Move the joystick to full port or full starboard.

Press the *Increase Throttle* button or the *Decrease Throttle* button until a desirable compensation speed is reached.

NOTE: This calibration procedure is to set the compensation speed when in high wind or strong current conditions.

IMPORTANT: Be sure to let the boat speed stabilize while determining the desired port or starboard compensation speed.

1. *Increase Throttle button*
2. *Decrease Throttle button*

If the vessel starts to move in an aft direction while holding the joystick full left or right, correct the action by clicking the *FORWARD+* button until there is a true port or starboard movement of the vessel.

1. *FORWARD+ button*

If the vessel starts to move forward while holding the joystick full left or right, correct the action by clicking the *AFT+* button until a true port or starboard movement of the vessel has been achieved.

1. *AFT+ button*

Click the *Next Step* button when a desired throttle range and true port and starboard movements have been achieved.

1. *Next Step button*

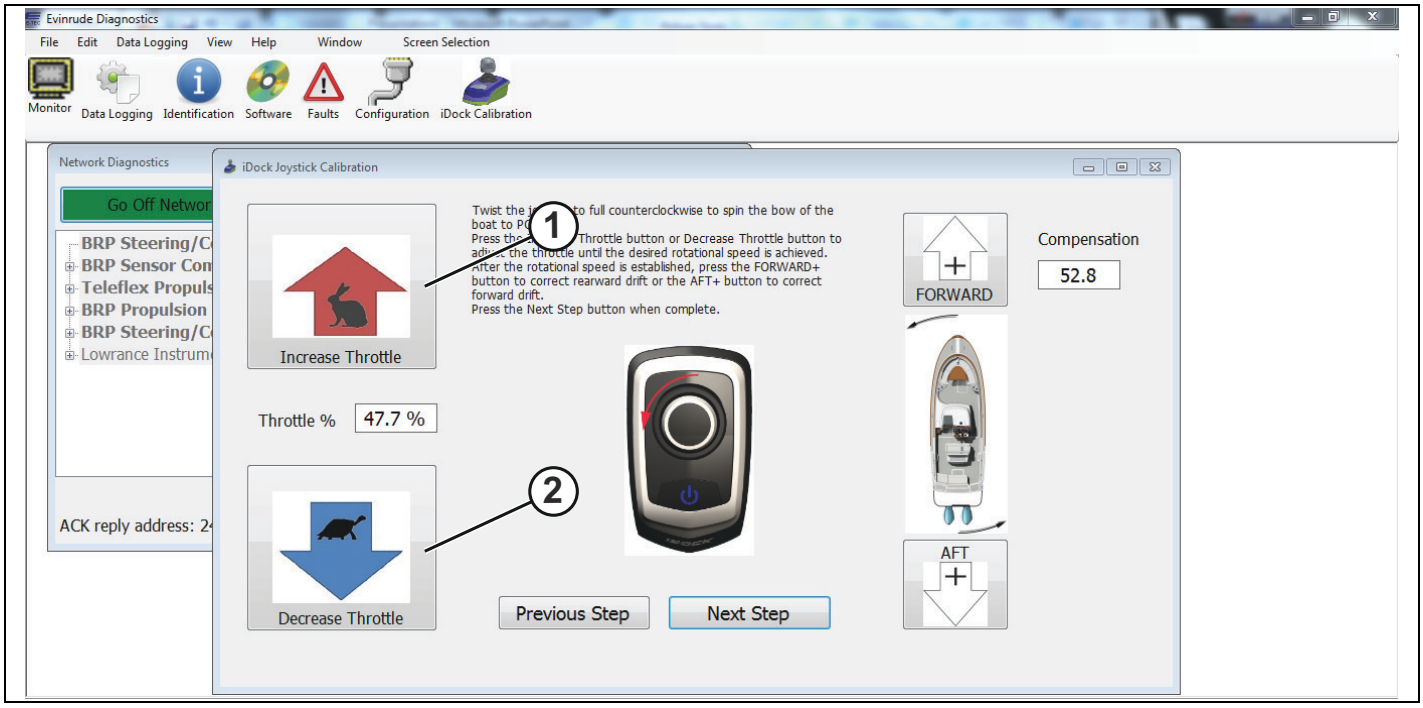
Follow the directions at the top of the screen as seen in the image below..

1. Directions at the top of the screen

Twist the joystick counterclockwise to spin the bow of the boat to port.

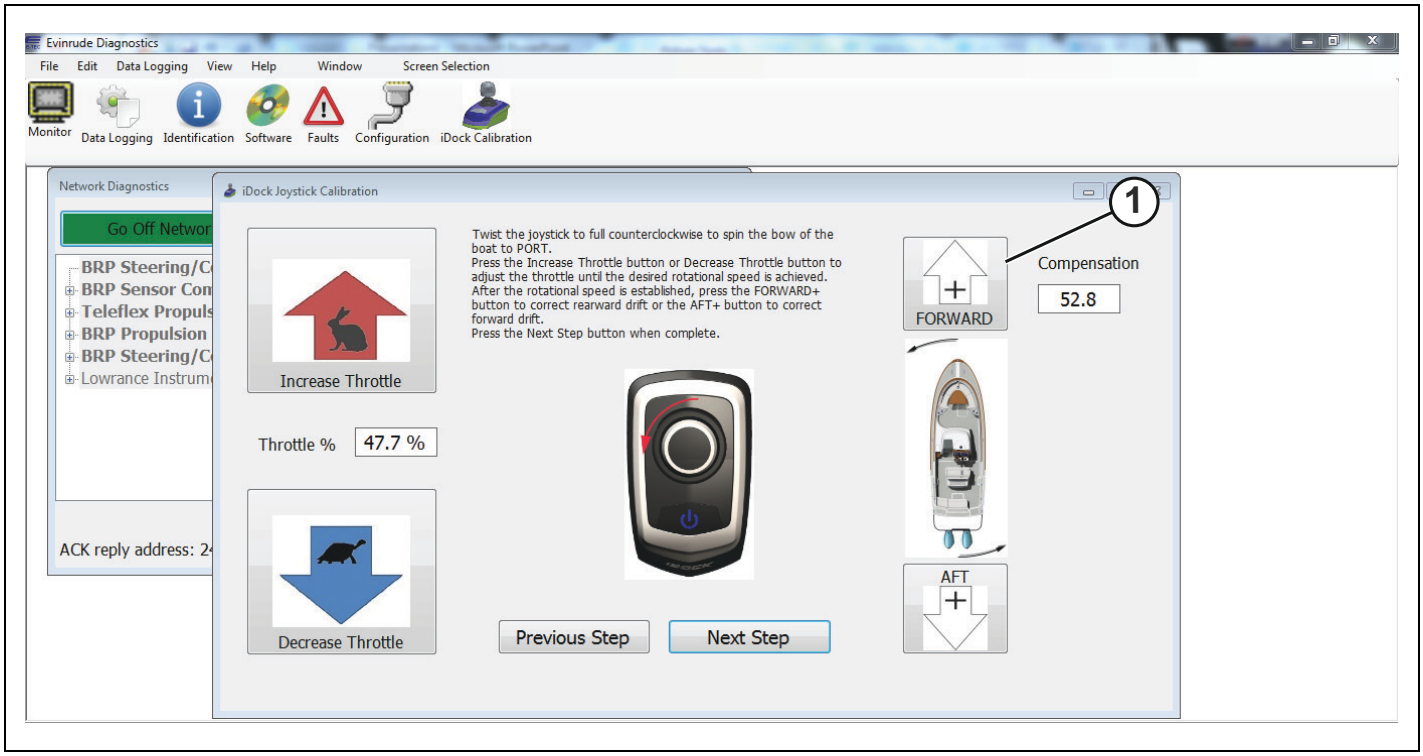
Press the *Increase Throttle* button or the *Decrease Throttle* button until a desirable port spin speed is reached.

IMPORTANT: Be sure to let the boat speed stabilize while determining the desired port speed.



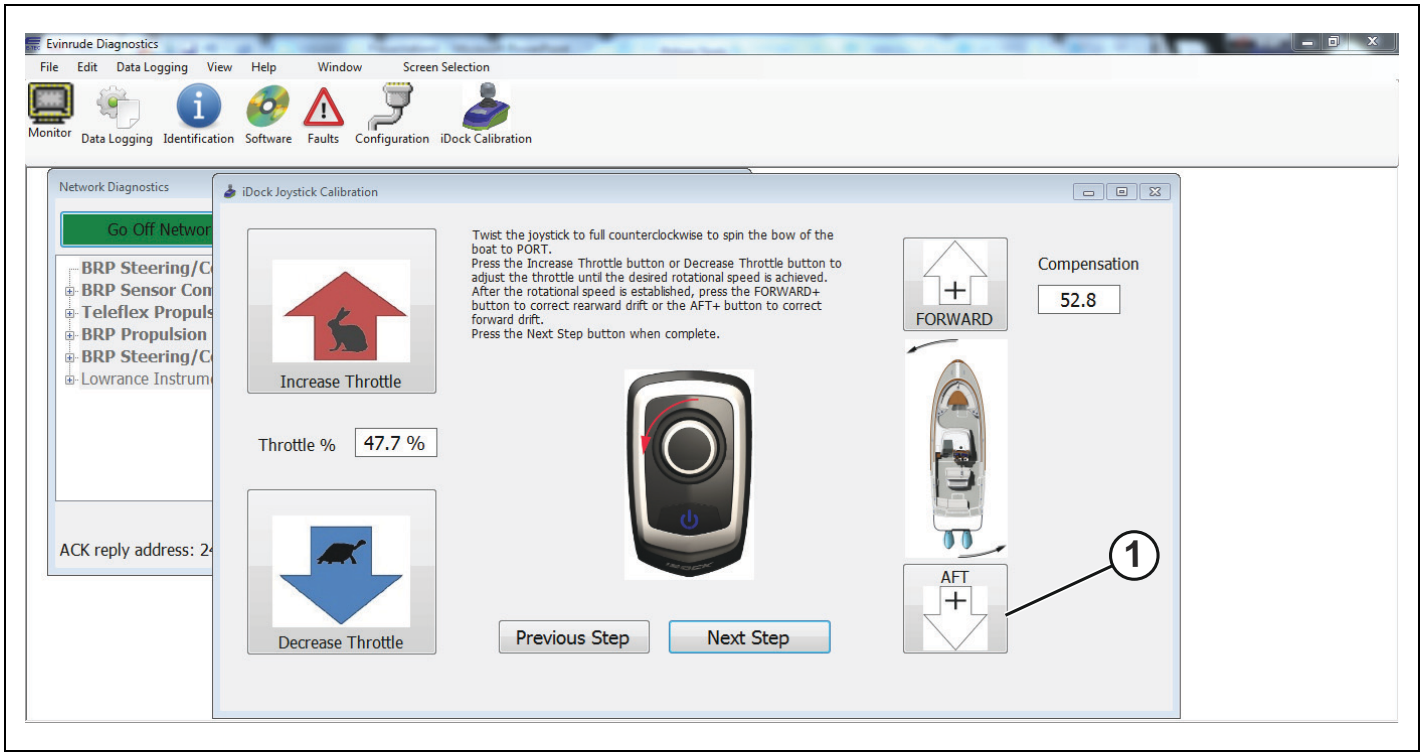
1. *Increase Throttle button*
2. *Decrease Throttle button*

If the vessel starts to move in an aft direction while twisting the joystick counterclockwise, correct the action by clicking the *FORWARD+* button until a true port spin of the vessel is achieved.



1. *FORWARD+ button*

If the vessel starts to move forward while twisting the joystick counterclockwise, correct the action by clicking the *AFT+* button until a true port a true port spin of the vessel is achieved.

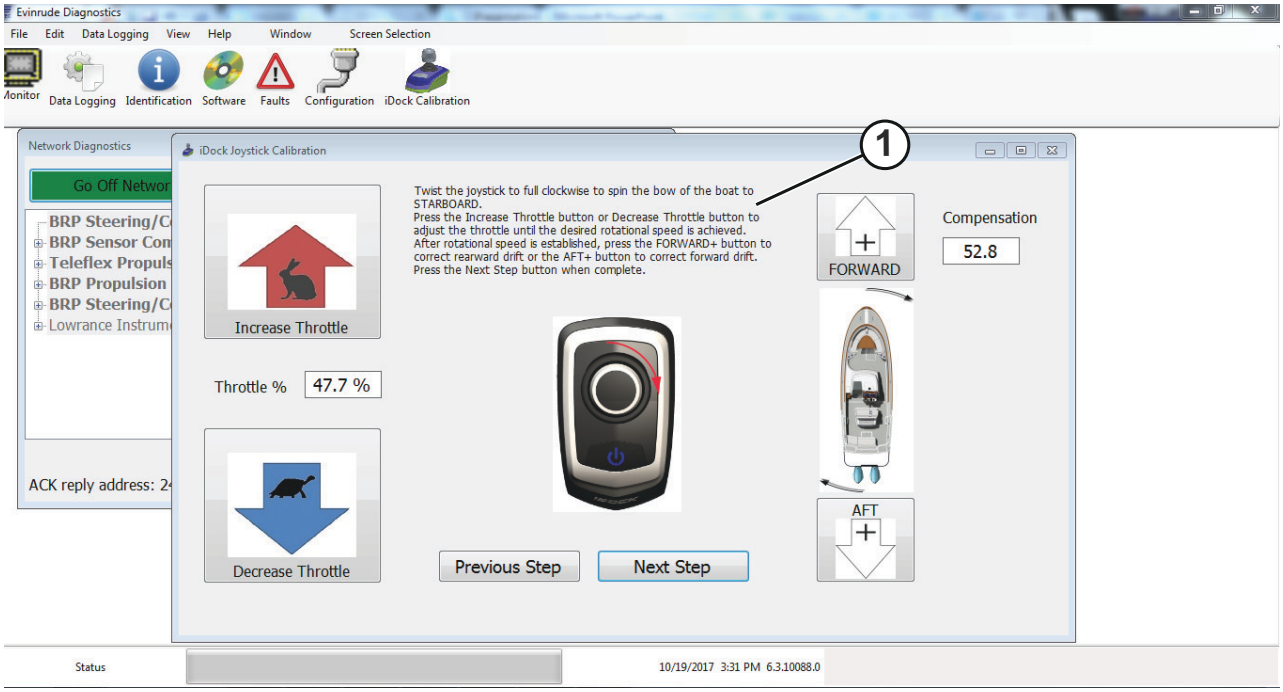


1. AFT+ button

When a desirable throttle range and a true port spin of the vessel has been achieved, press the *Next Step* button.

1. Next Step button

Follow the directions at the top of the screen as shown in the image below.



1. Directions at top of screen

Twist the joystick clockwise to spin the bow of the boat to starboard.

While twisting the joystick clockwise, use the *Increase Throttle* and *Decrease Throttle* buttons to set the desired starboard spin speed.

1. *Increase throttle*
2. *Decrease throttle*

If the vessel starts to move in an aft direction while twisting the joystick clockwise, correct the action by clicking the *FORWARD* + button until there is a true starboard spin of the vessel.

1. *FORWARD+ button*

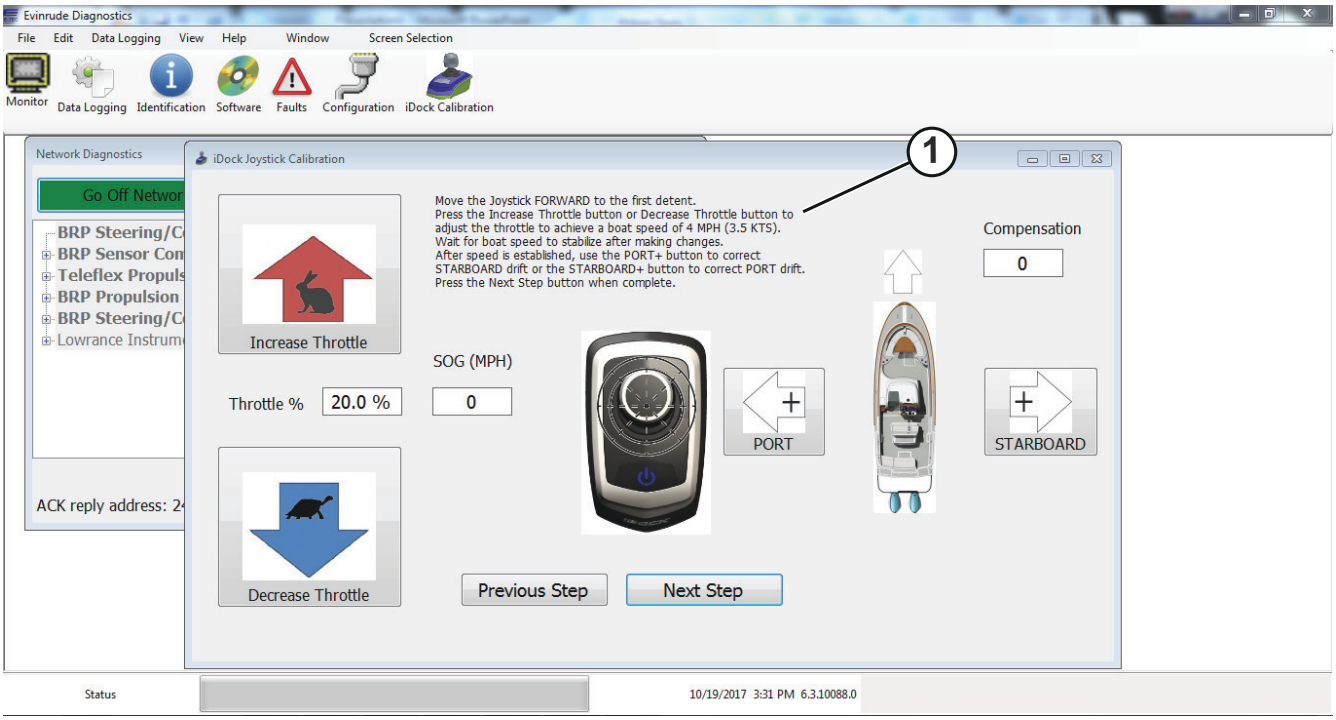
If the vessel starts to move forward while twisting the joystick clockwise, correct the action by clicking the *AFT+* button until there is a true starboard spin of the vessel.

1. AFT + button

When a true starboard spin and a desirable throttle range have been achieved, click the *Next Step* box to continue the calibration procedure.

1. Next Step button

Follow the directions at the top of the screen as shown in the image below.

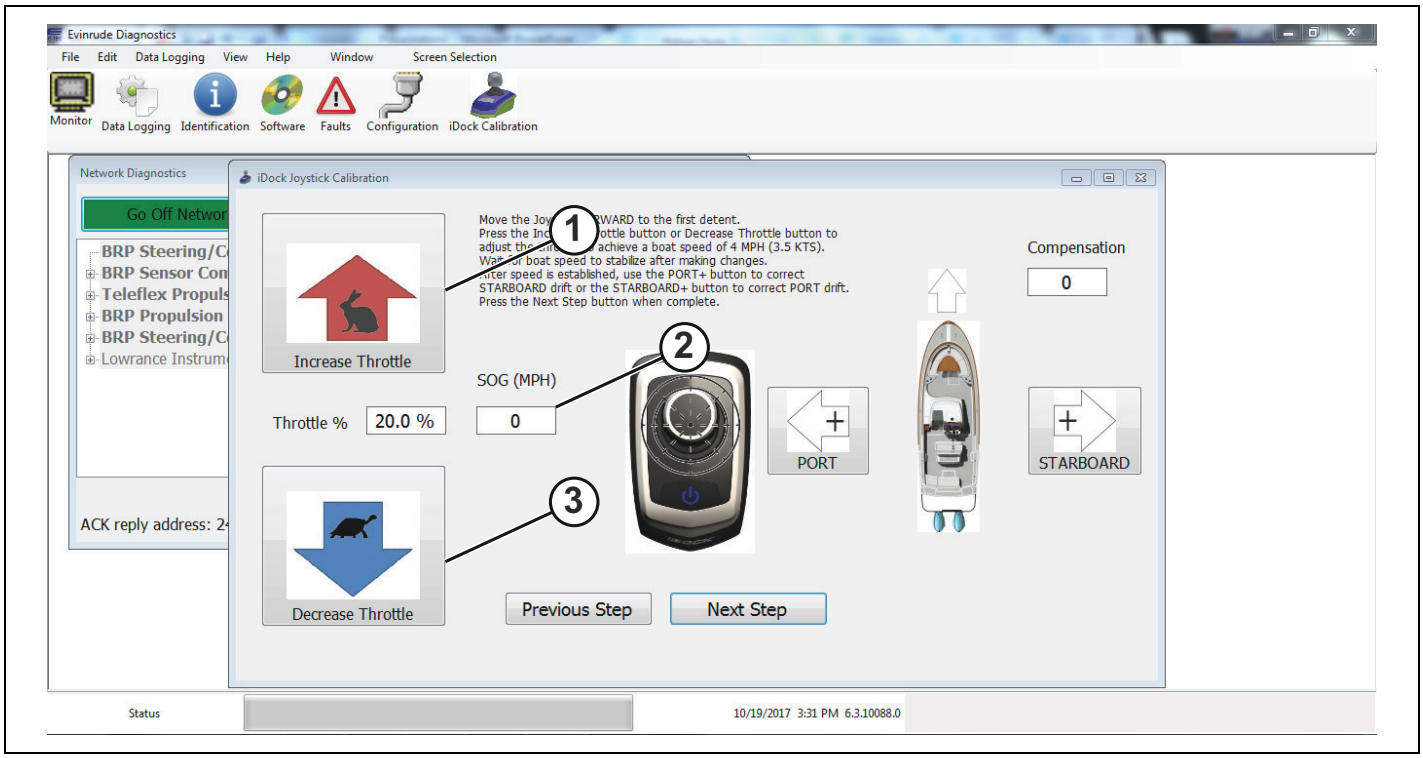


1. Directions at top of screen

Move the joystick forward to the first detent.

Use the *Increase Throttle* and *Decrease Throttle* buttons to adjust the throttle until the boat reaches a speed of 4 MPH (3.5 KTS). Watch the *Speed Over Ground (SOG (MPH))* box to ensure the vessel reaches 4 MPH (3.5 KTS).

IMPORTANT: Be sure to let the boat speed stabilize after making any changes.



1. *Increase Throttle button*
2. *Speed Over Ground (SOG) box*
3. *Decrease Throttle button*

After the proper speed has been achieved, push the joystick forward to the first detent. If the vessel starts to drift to starboard, use the *PORT+* button to correct the movement until a true forward movement of the vessel has been achieved.

1. PORT+ button

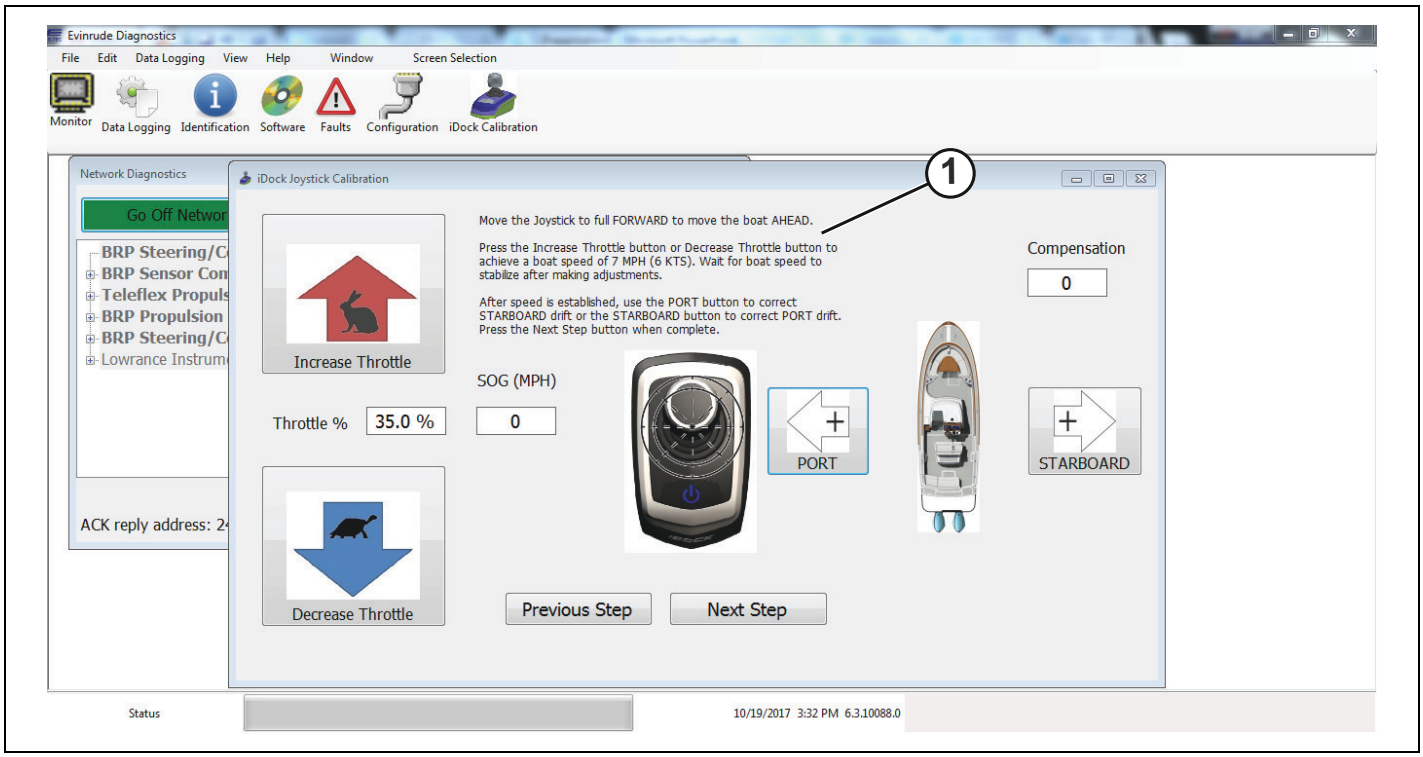
If the vessel starts to drift to port, use the *STARBOARD+* button to correct the movement until a true forward movement of the vessel has been achieved.

1. STARBOARD+ button

When the 4 MPH (3.5 KTS) speed and a true forward movement of the vessel has been achieved, press the *Next Step* button to continue the calibration process.

1. *Next Step button*

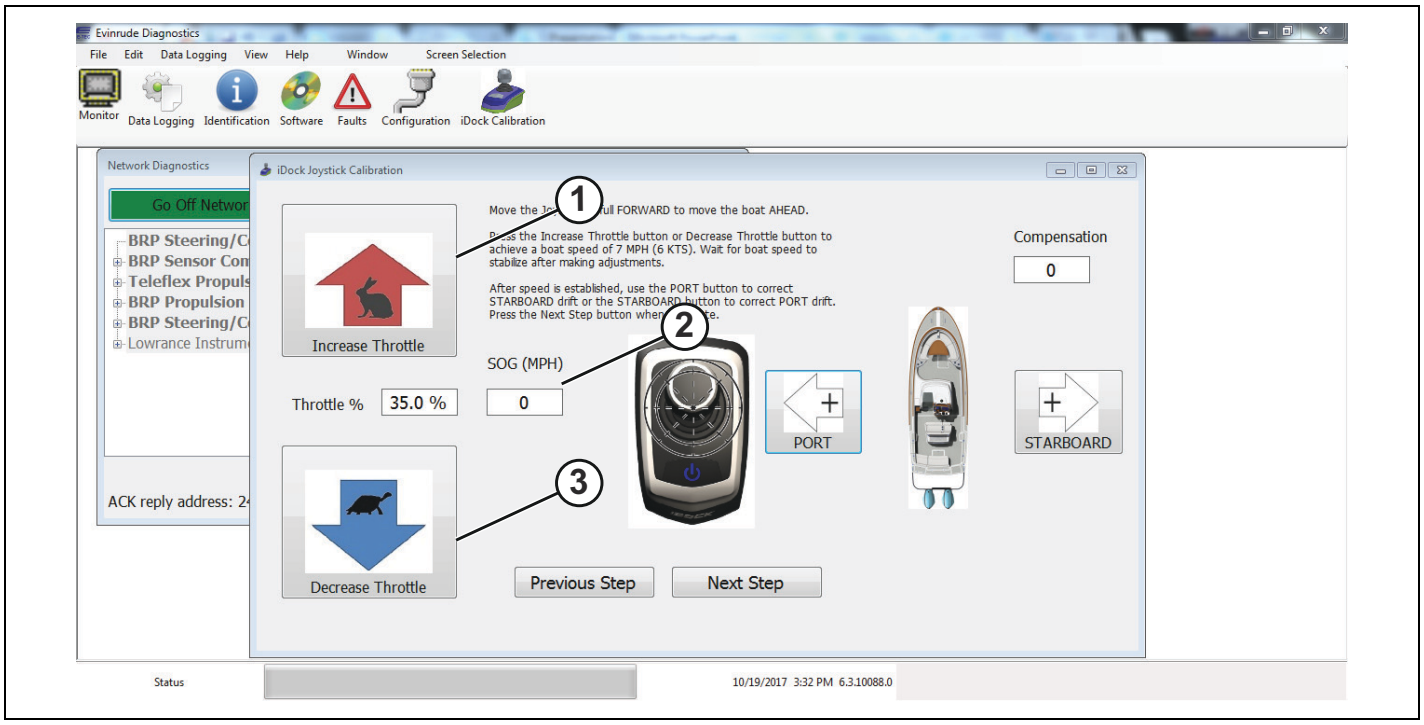
Follow the directions at the top of the screen as shown in the image below.



1. *Directions at top of screen*

Push the joystick to full forward to move the boat to forward until the vessel reaches 7 MPH (6 KTS). Use the *Increase Throttle* button and *Decrease Throttle* button to achieve the 7 MPH speed. Watch the *SOG (MPH)* box to ensure the proper speed has been achieved.

IMPORTANT: Be sure to let the boat speed stabilize after making any changes.



1. *Increase Throttle button*
2. *SOG (MPH) box*
3. *Decrease Throttle button*

After the 7 MPH (6 KTS) speed has been achieved push the joystick full forward. If the vessel drifts to starboard when pushing the joystick full forward, press the *PORT+* button until a true forward movement has been achieved.

1. *PORT+ button*

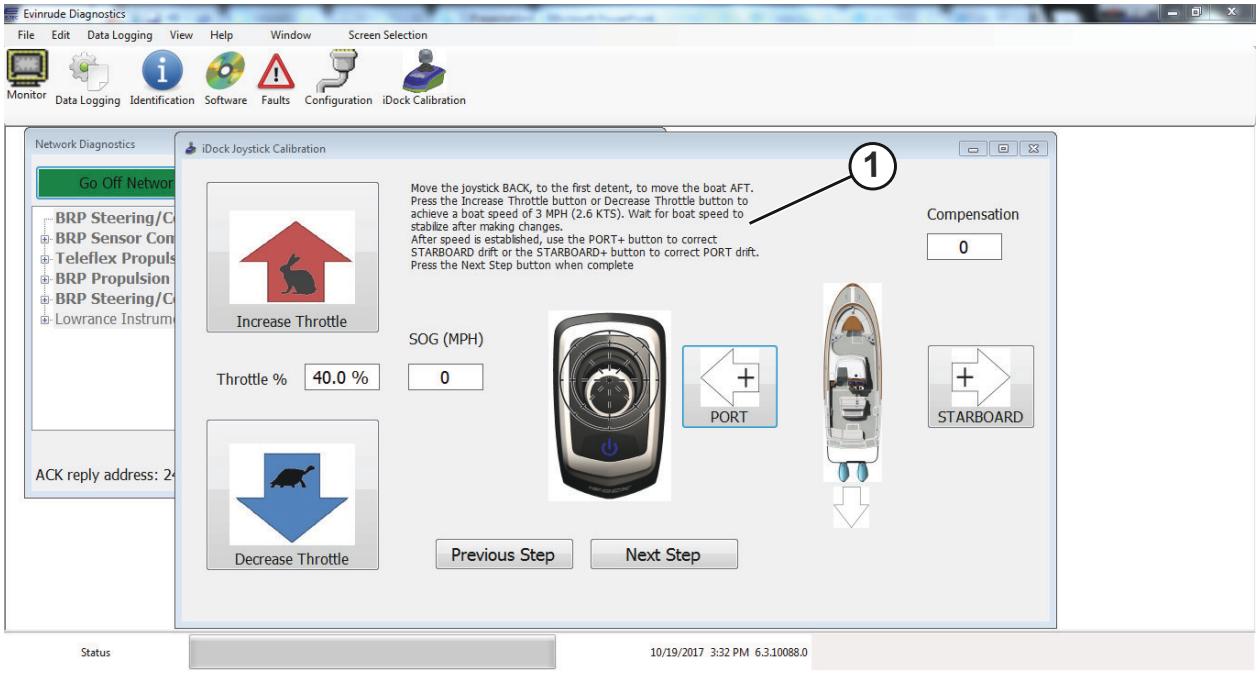
If the vessel drifts to port when pushing the joystick full forward, press the STARBOARD+ button until a true forward movement has been achieved.

1. STARBOARD+ button

When the 7 MPH (6 KTS) speed and true forward movement of the vessel has been achieved, press the Next Step button to continue the calibration process.

1. Next Step button

Follow the directions at the top of the screen as seen in the image below.

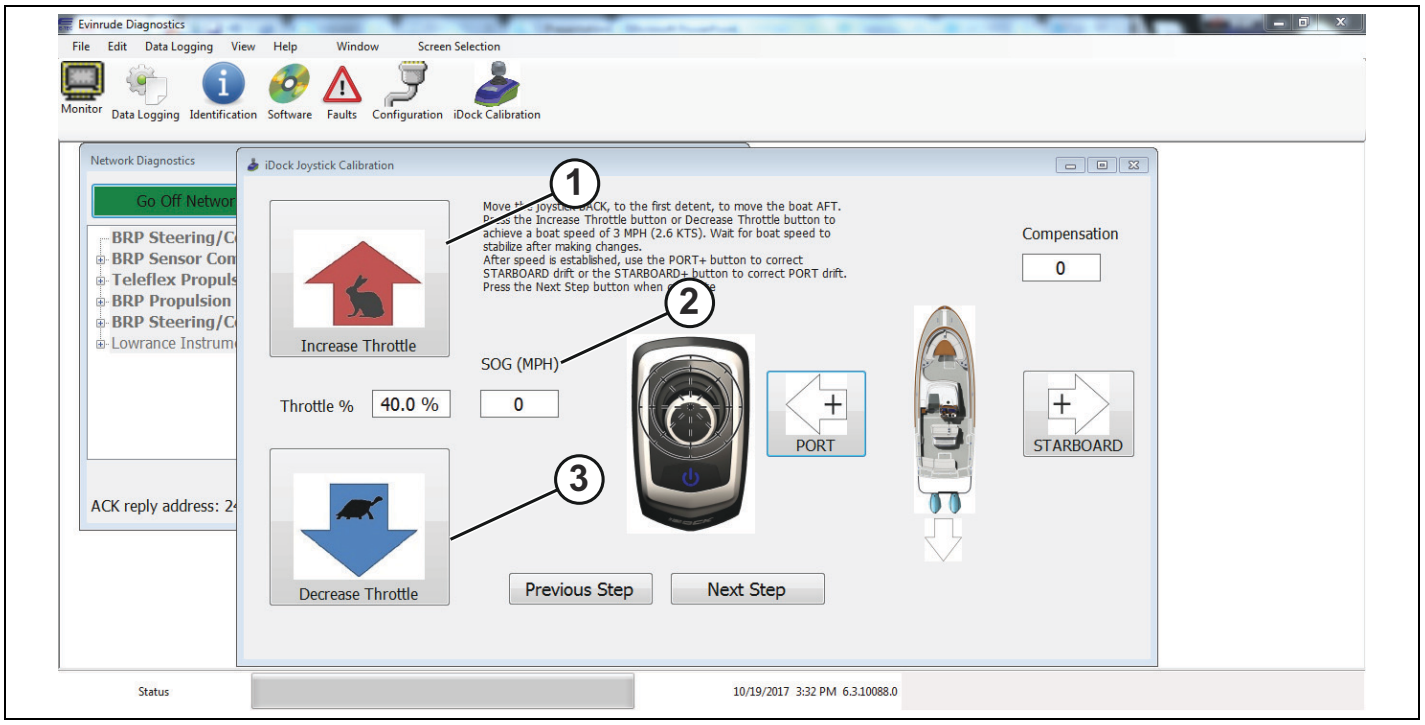


1. Directions at the top of the screen

Move the joystick back, to the first detent, to move the vessel to AFT.

Press the Increase Throttle button or the Decrease Throttle button until the vessel achieves a speed of 3 MPH (2.6 KTS). Watch the SOG (MPH) box to ensure the proper vessel speed has been achieved during this calibration step.

IMPORTANT: Be sure to let the boat speed stabilize after making any changes.



1. *Increase Throttle button*
2. *SOG (MPH) box*
3. *Decrease Throttle button*

When pushing the joystick back, if the vessel starts to drift to starboard, press the *PORT+* button to correct the movement.

1. *PORT+ button*

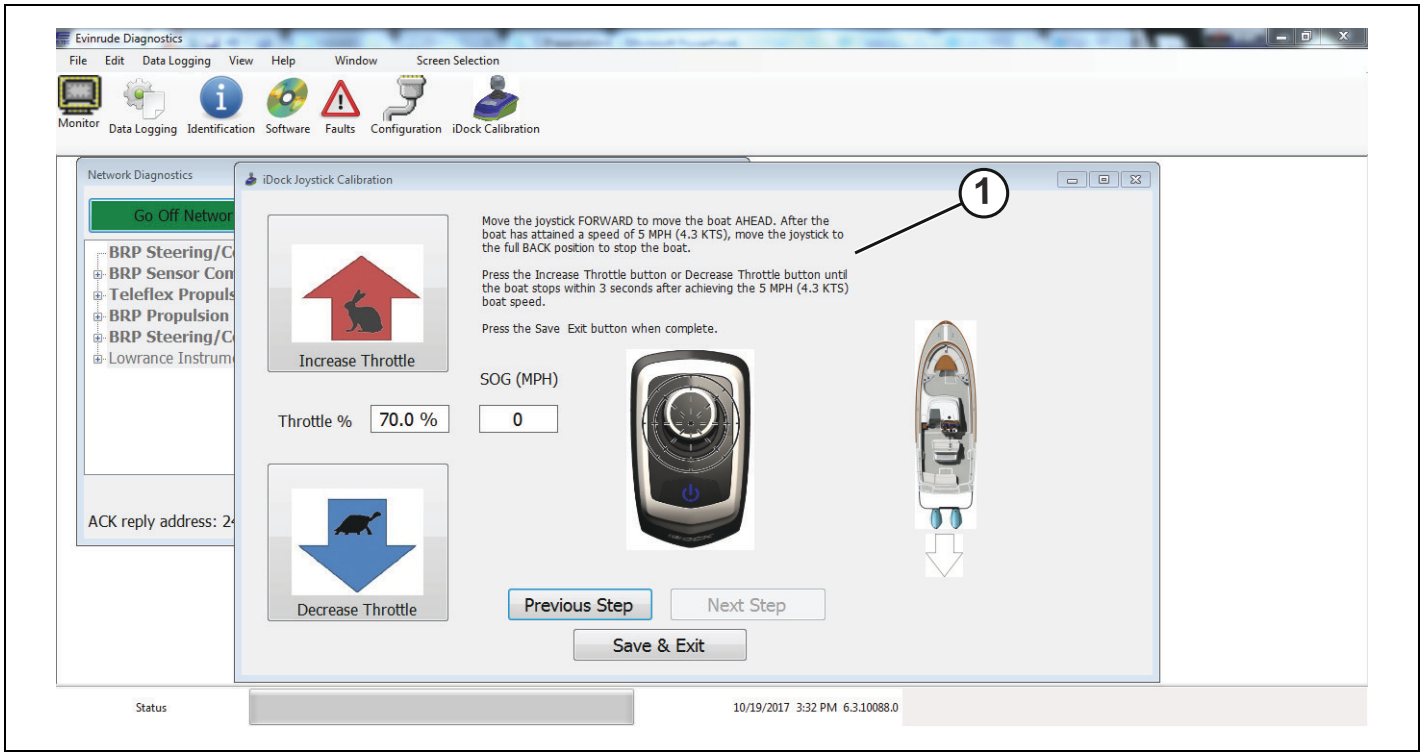
When pushing the joystick back, if the vessel starts to drift to port, press the *STARBOARD+* button to correct the movement.

1. STARBOARD+ button

When the proper rearward speed and true rearward movement of the vessel has been achieved, press the Next Step button to continue the calibration process.

1. Next Step button

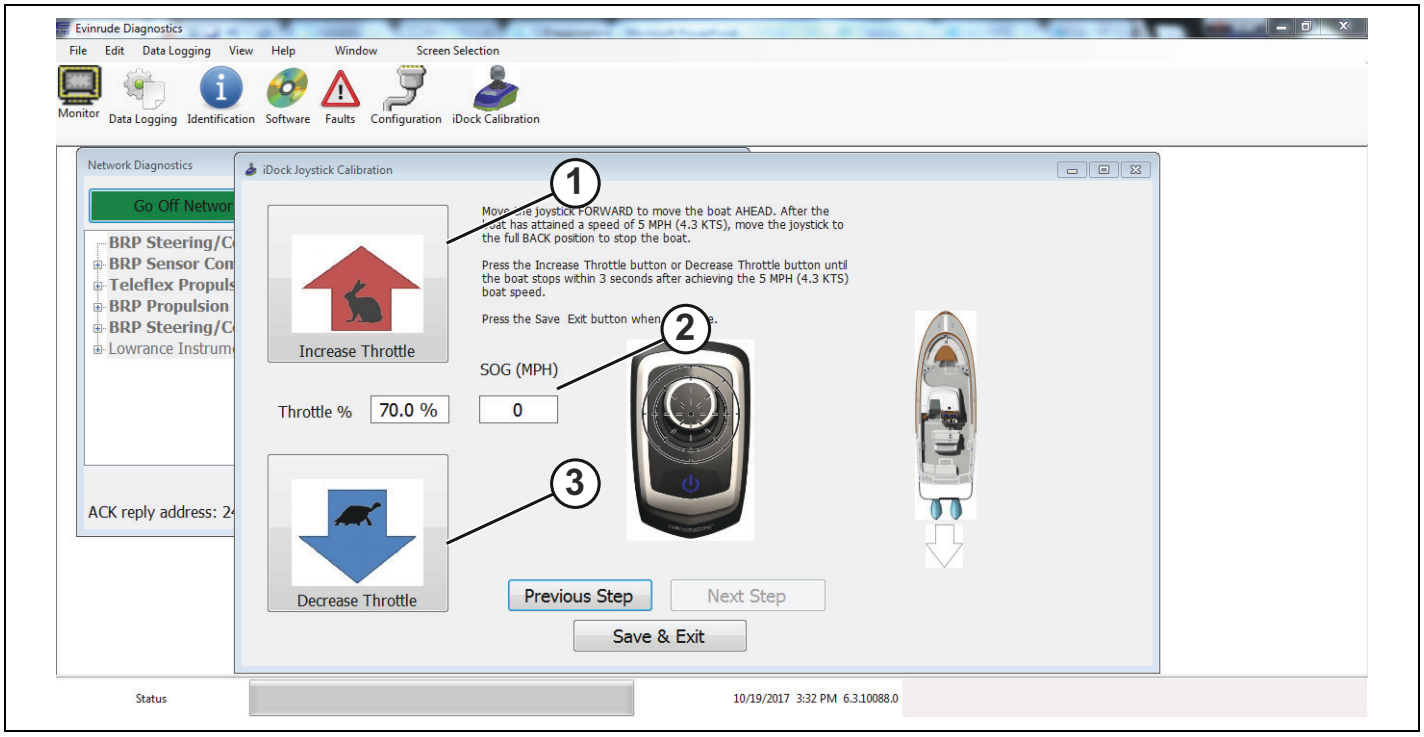
Follow the directions at the top of the screen as seen in the image below.



1. Directions at the top of the screen

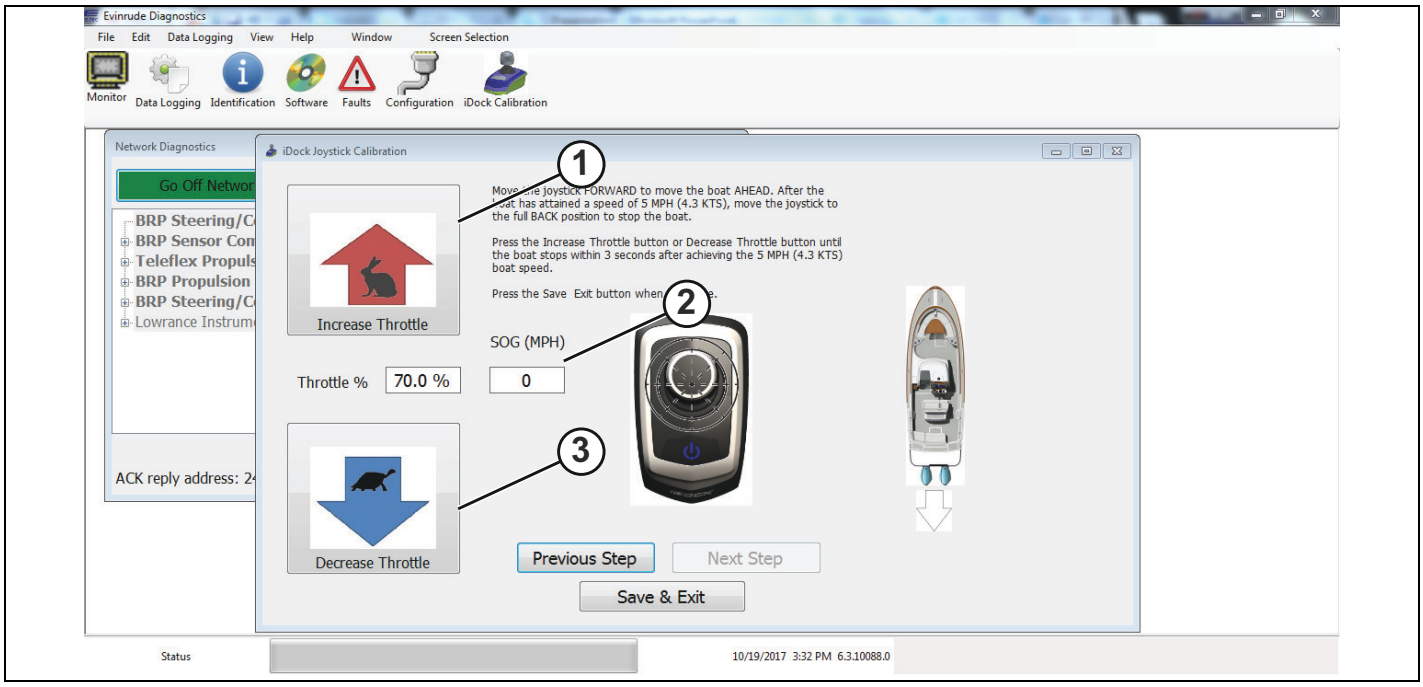
Move the joystick forward, to the first detent, to move the vessel forward.

While pushing the joystick forward, watch the *SOG (MPH)* box until the vessel reaches a speed of 5 MPH (4.3 KTS).



1. *Increase Throttle button*
2. *SOG (MPH) box*
3. *Decrease Throttle button*

When the 5 MPH (4.3 KTS) vessel speed has been achieved, pull back on the joystick until the vessel comes to a complete stop. Use the *Increase Throttle* and *Decrease Throttle* buttons to make speed adjustments until the vessel comes to a complete stop within 3 seconds after achieving the 5 MPH (4.3 KTS) speed. Watch the SOG (MPH) box to ensure the proper vessel speed is achieved before pulling back on the joystick.



1. *Increase Throttle button*
2. *SOG (MPH) box*
3. *Decrease Throttle button*

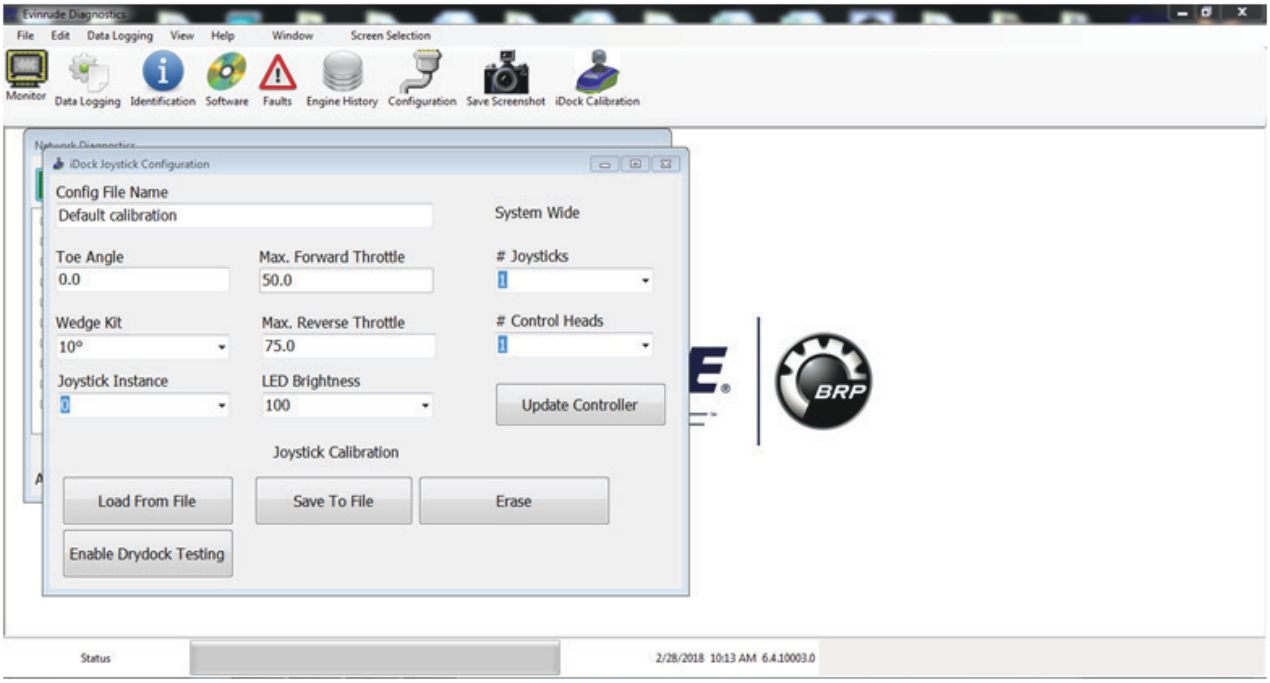
When the proper stopping speed has been achieved, press the Save & Exit button to complete the calibration process.

If a calibration step needs to be repeated, press the Previous Step button to reach and repeat the different calibration screens.

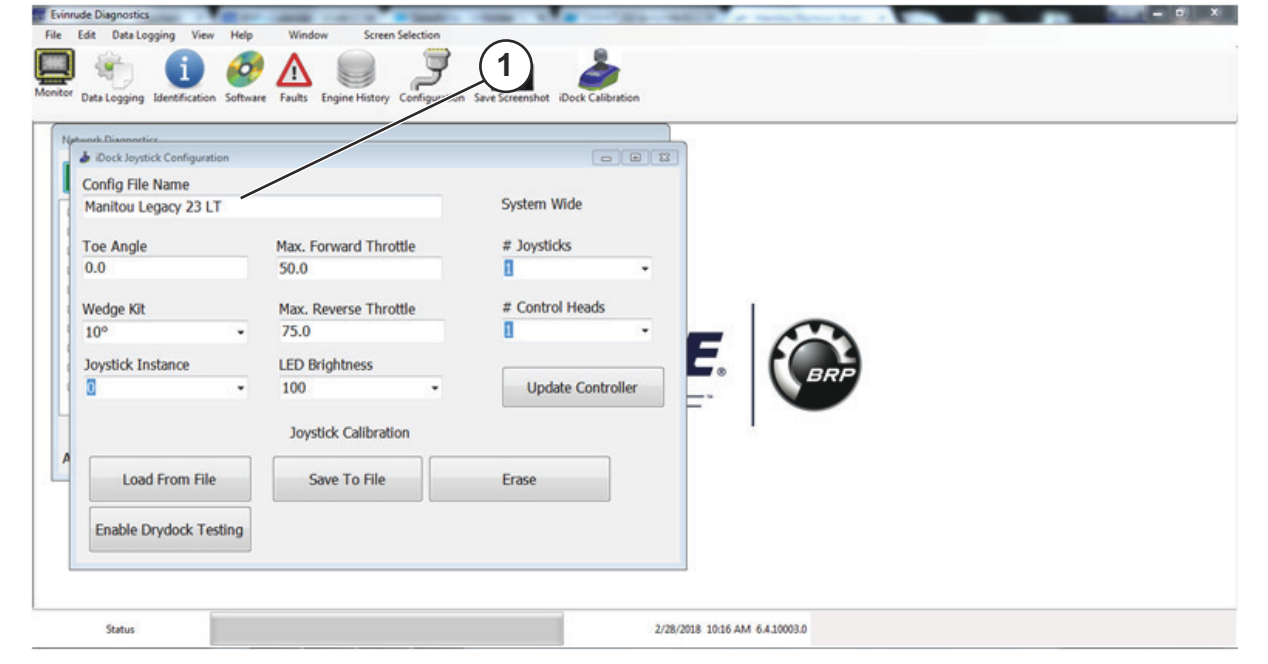
1. *Save & Exit button*
2. *Previous Step button*

Saving A Calibration File

While still on the BUS and connected to the Surface Follow Up Controller Instance 0, navigate to the iDock Joystick Configuration screen.

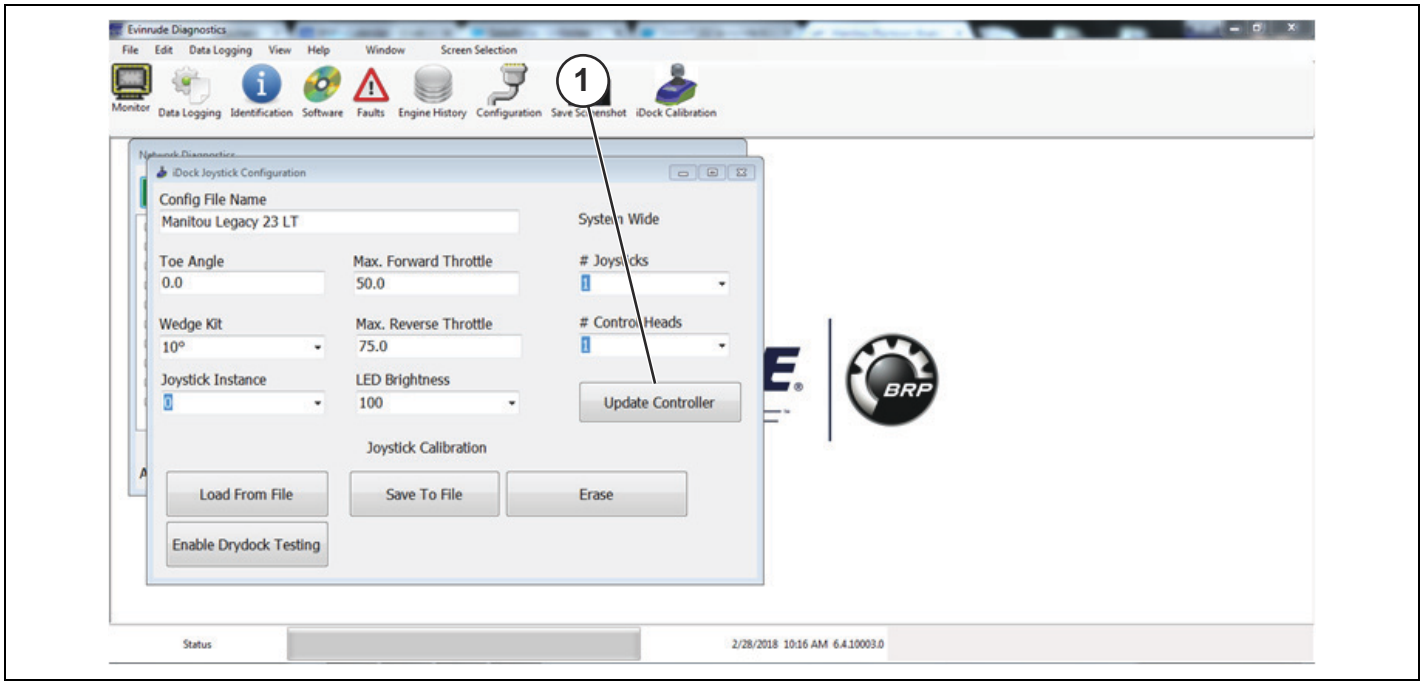


Click on the Config File Name field and replace the name with a description of the boat.



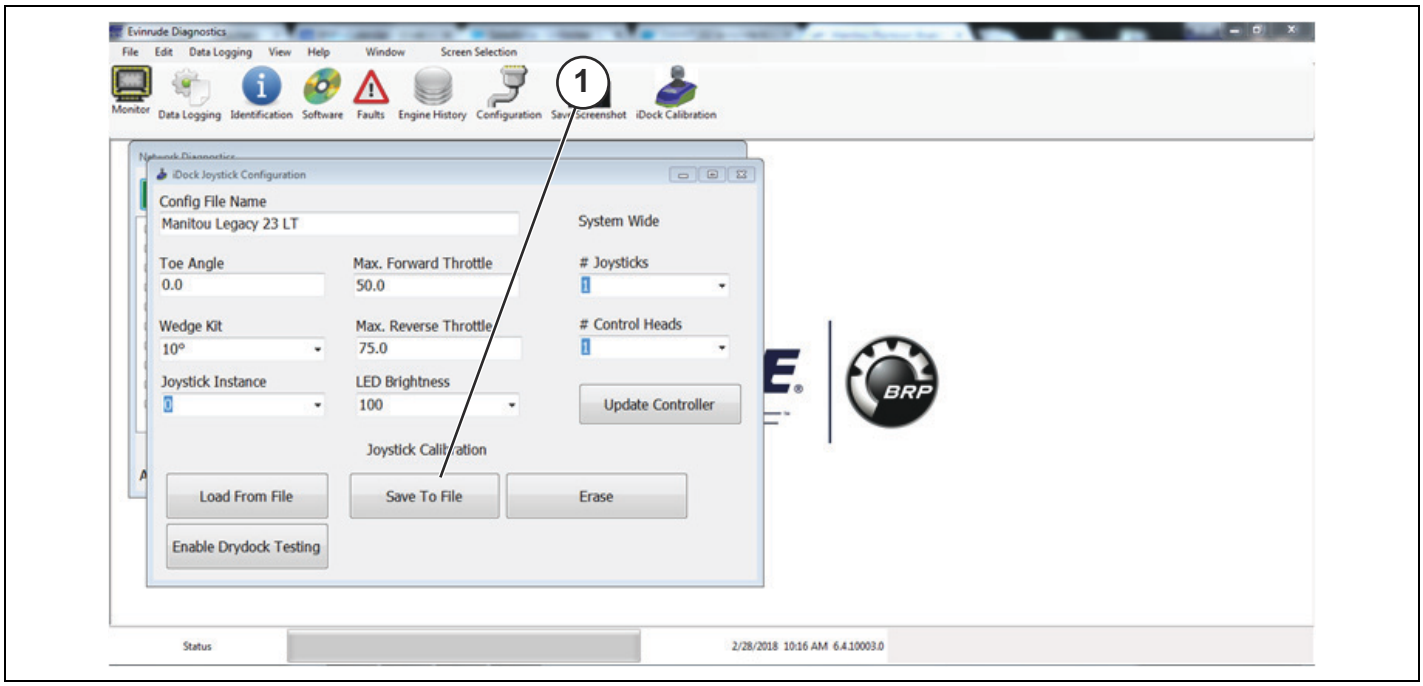
1. *Name replaced in Config Field*

Select Update Controller.



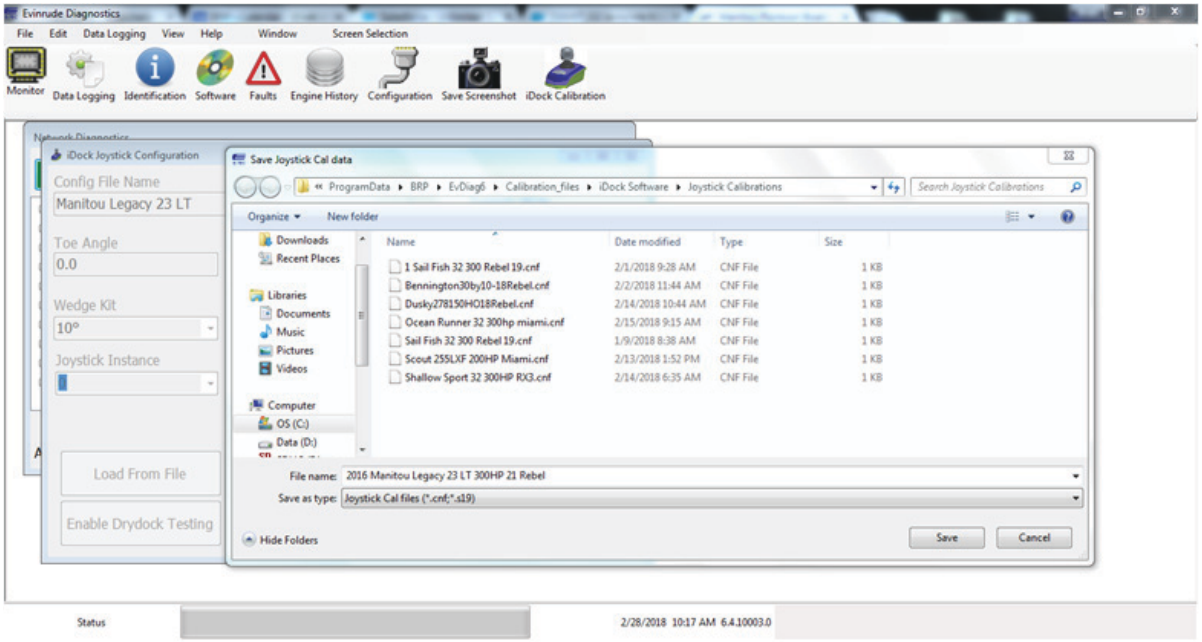
1. Update Controller

Select Save to File.



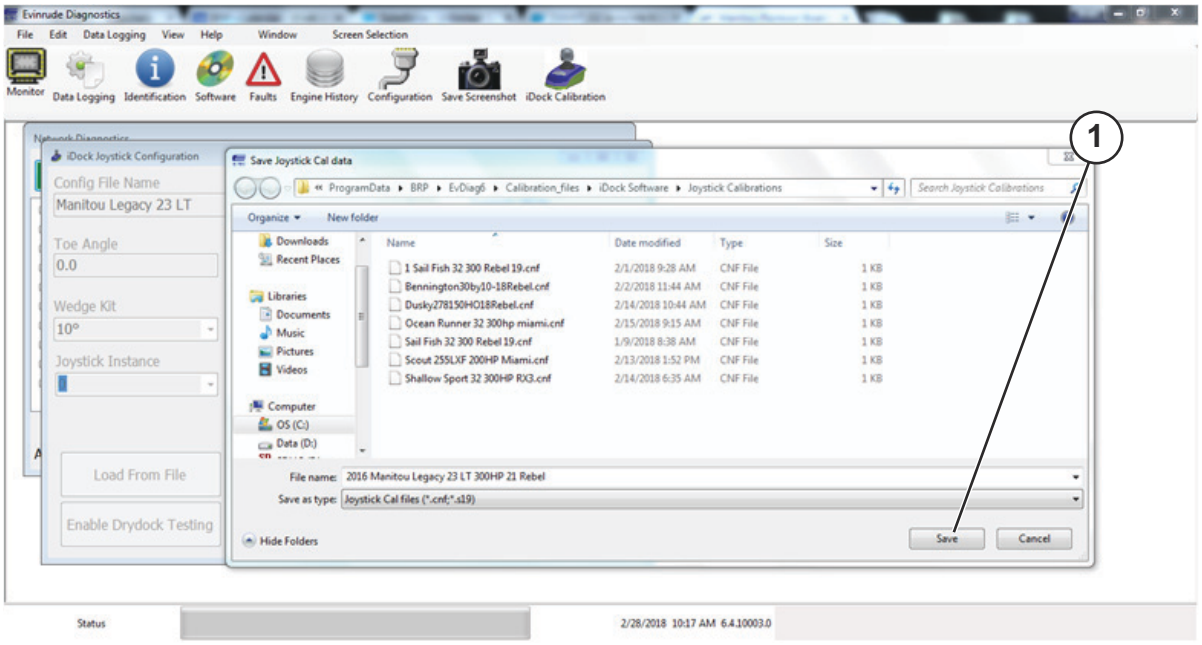
1. Save to File

When Save to File is selected the following pop-up screen will appear.



In the file name, the description should be the Year, Boat Model, Engine Horsepower and name of Propeller and Pitch of Propeller.

Click Save.

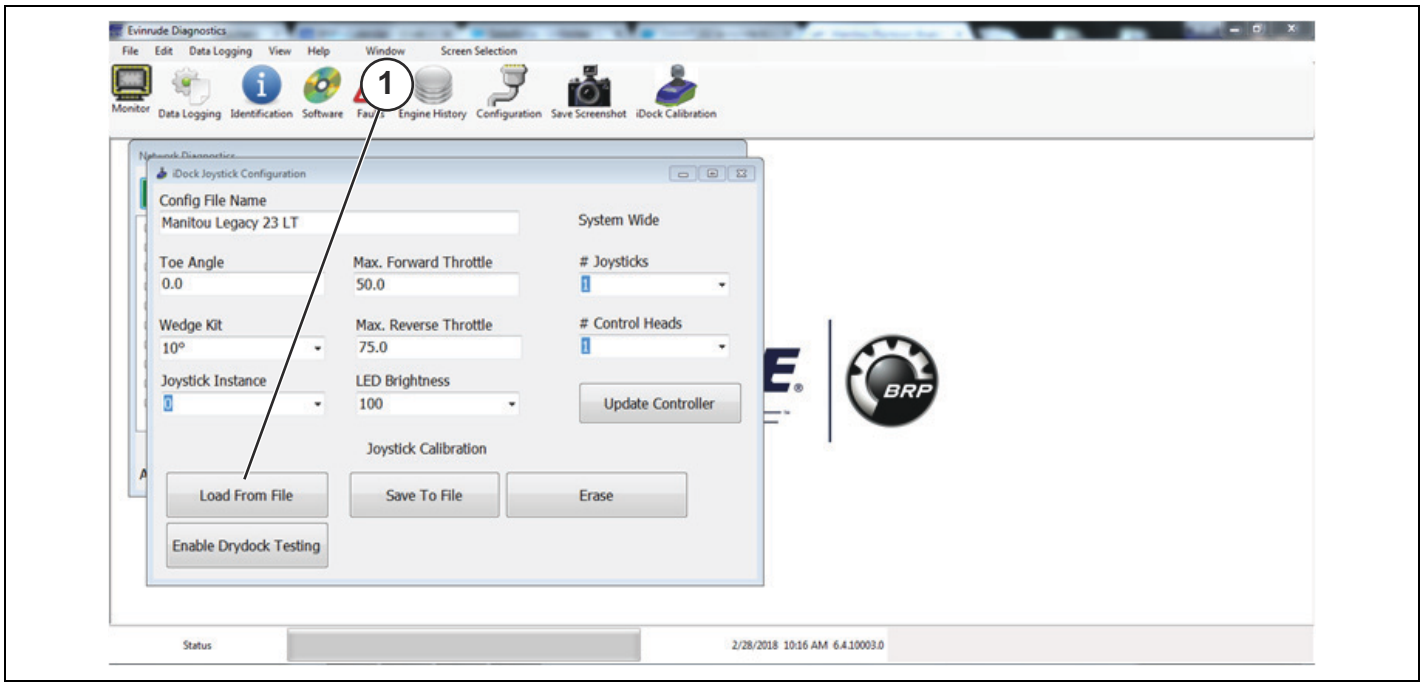


1. Save

Loading A Calibration File

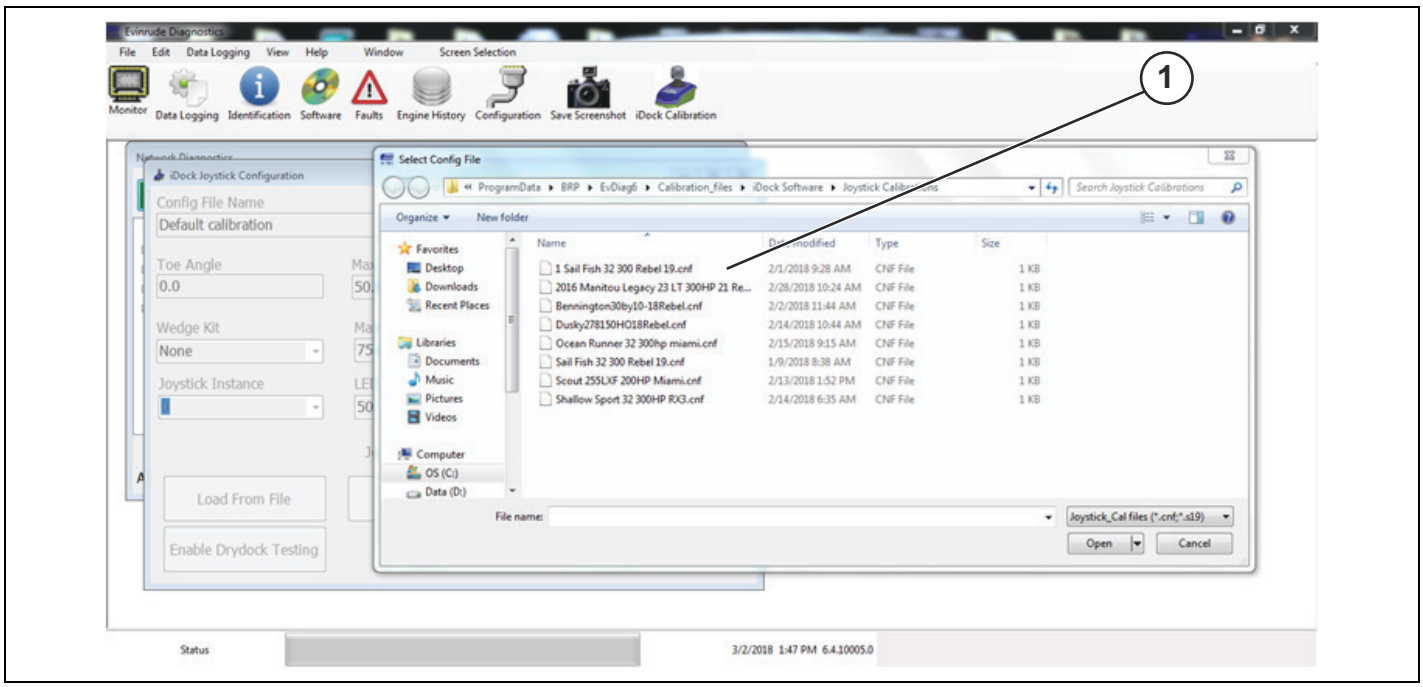
While still on the BUS and connected to the Surfaces Follow Up Controller Instance 0, navigate to the iDock Joystick Configuration screen.

Select Load From File



1. *Load Form File*

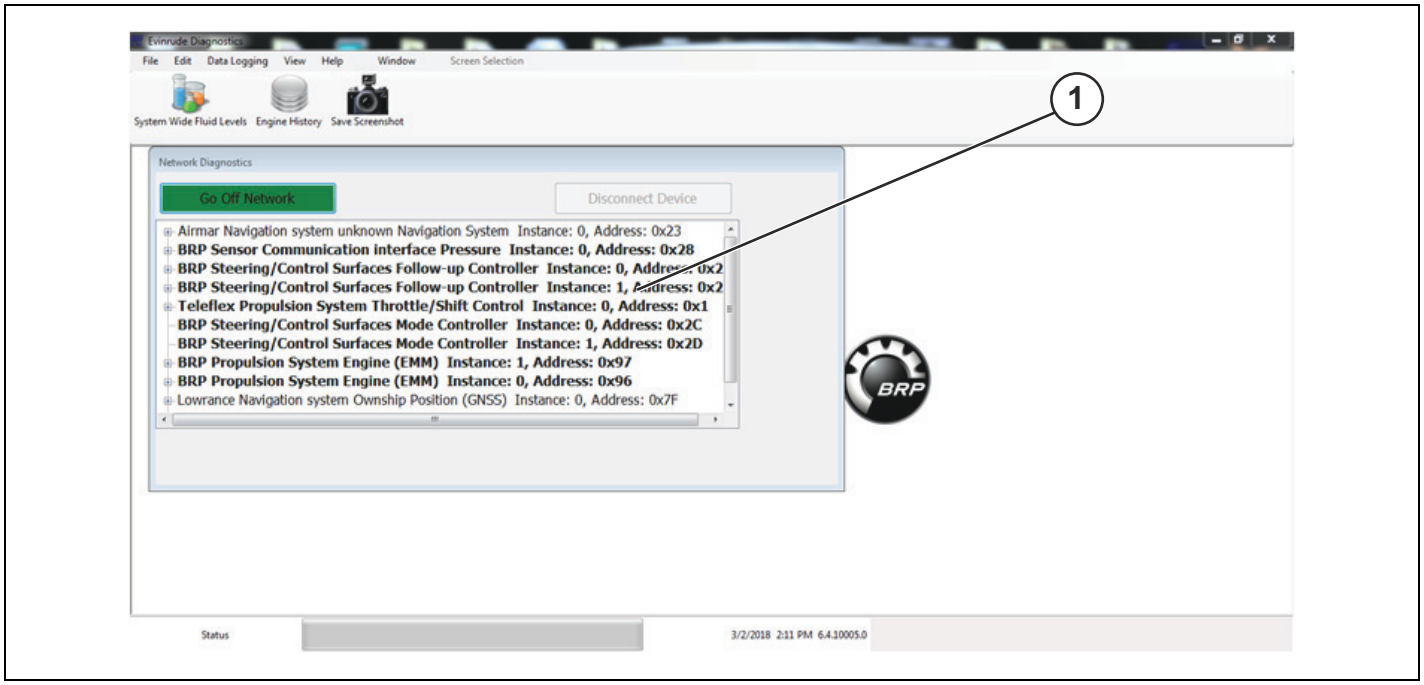
Select the appropriate file for your model if available from the list.



1. *List of available files*

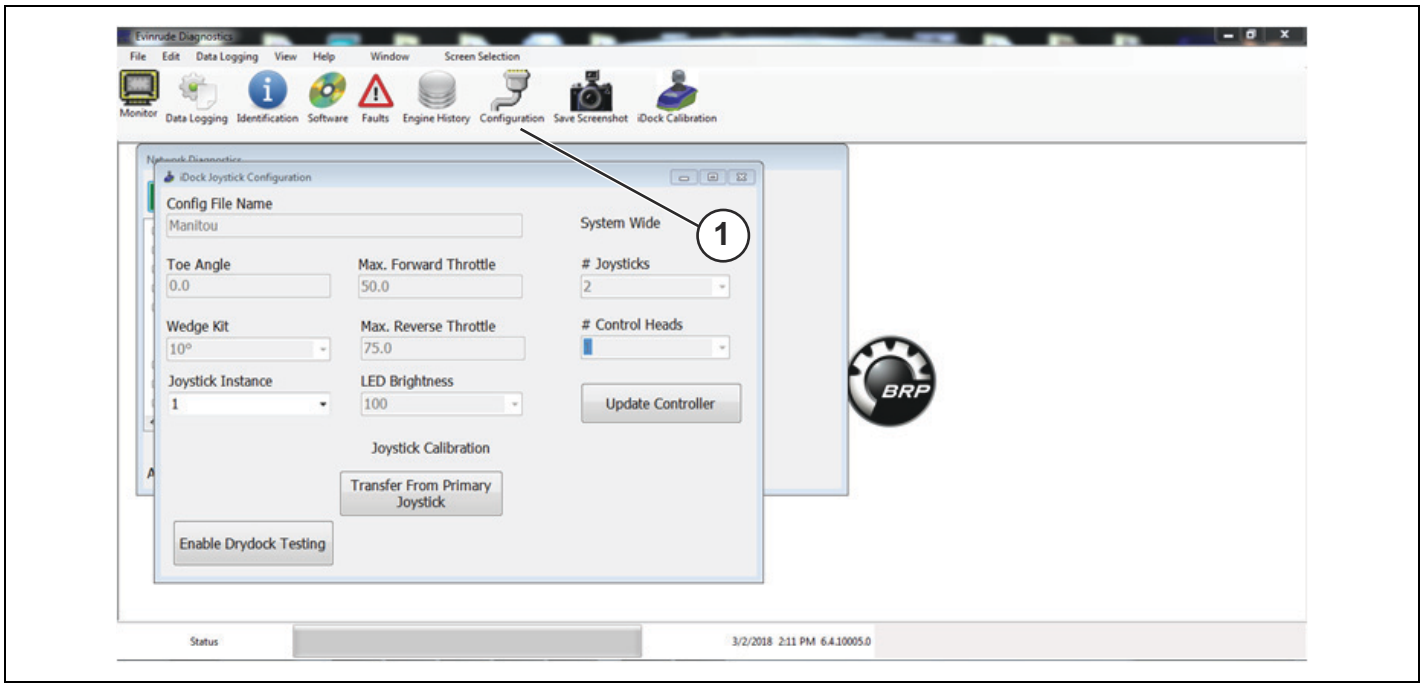
Second Station Joystick Setup

Disconnect from the BUS and connect to Surfaces Follow Up Controller Instance 1.



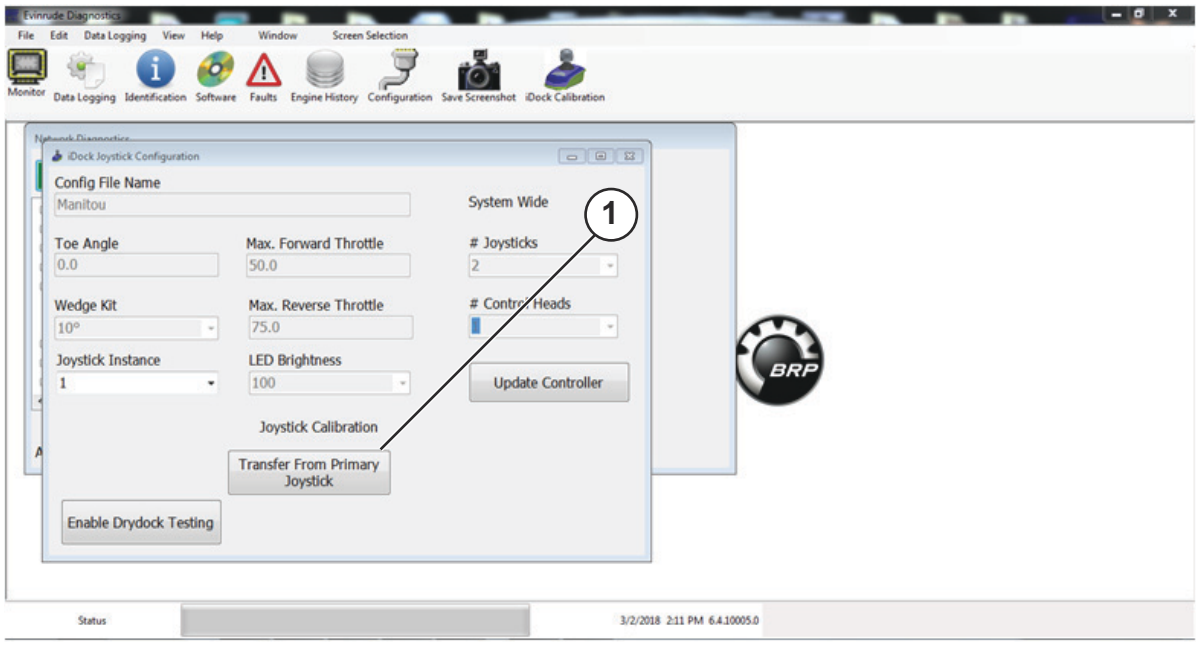
1. *Surfaces Follow Up Controller Instance 1*

Click Configuration at the top of the screen.



1. *Configuration*

Click Transfer From Primary Joystick to load the calibration file into the second station joystick.



1. *Transfer From Primary Joystick*

Water Test

⚠ WARNING

Improper installation can result in loss of steering control and severe personal injury. Ensure proper installation of the *iDock* System has been achieved before conducting any sea trial or before starting the calibration procedure.

⚠ CAUTION

It is recommended to practice using the joystick in all operating ranges before starting the calibration procedure. Improper use of the joystick can result in machine damage or personal injury.

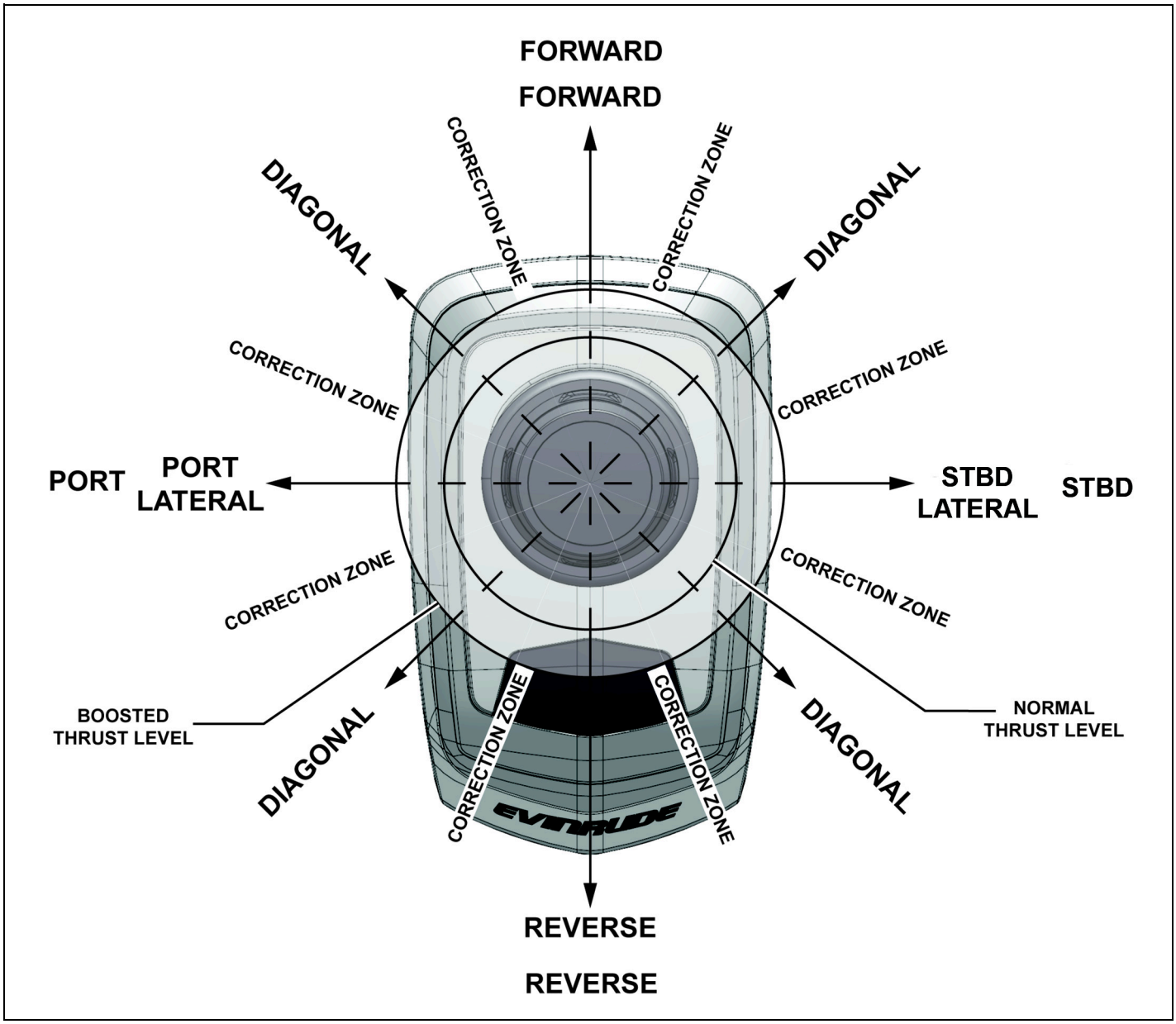
NOTICE

On boats where the engines violate the edges of the vessel when turned, be sure to have enough room around the docks so the engines do not hit the dock.

IMPORTANT: In strong currents or extremely windy conditions, the joystick may not be able to overcome the yaw of the boat. If this happens, stop the movement of the boat, realign the vessel, and continue docking.

Test the docking of the vessel in all possible directions to ensure the proper settings have been achieved. If the settings have not been achieved or are not desirable in any direction, repeat the calibration process.

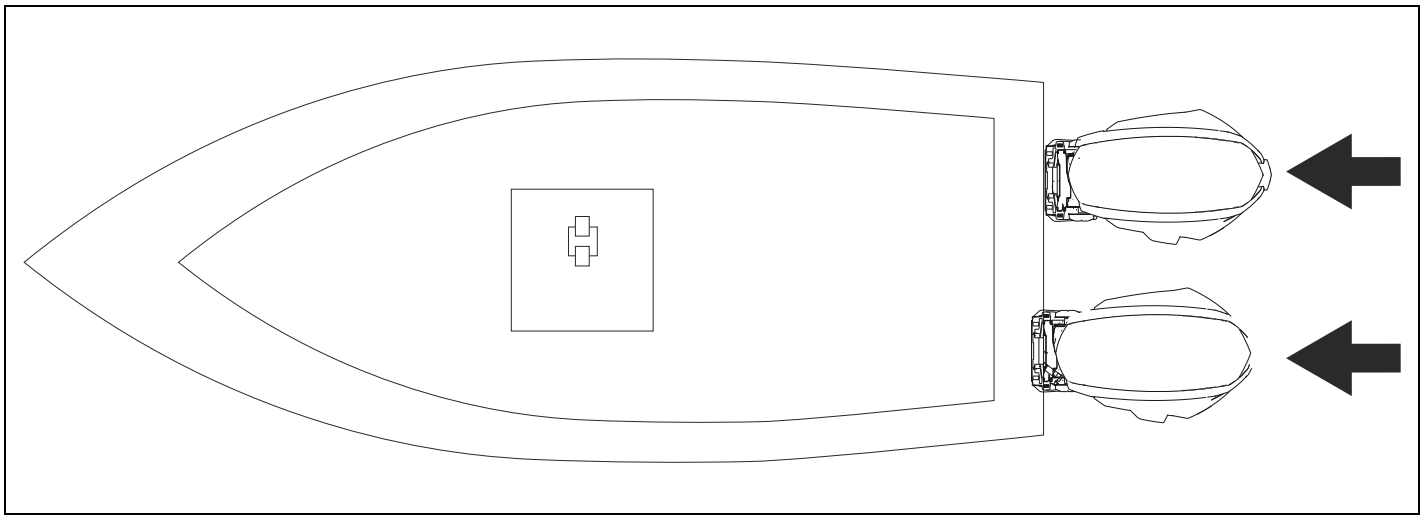
Refer to the image below for the operating ranges of the joystick before starting any joystick testing.



Forward

Place the throttle lever into the NEUTRAL position. Press the power button on the joystick. The power button will be illuminated in blue when power is applied. To move the boat forward, push the joystick slightly forward.

When the joystick is pushed forward, both the port and the starboard engines will apply forward thrust.



To increase the movement, push the joystick harder (past the detent) in the forward direction.

To turn the boat to port while moving the boat forward, twist the joystick counterclockwise.

To turn the boat to starboard while moving forward, twist the joystick clockwise.

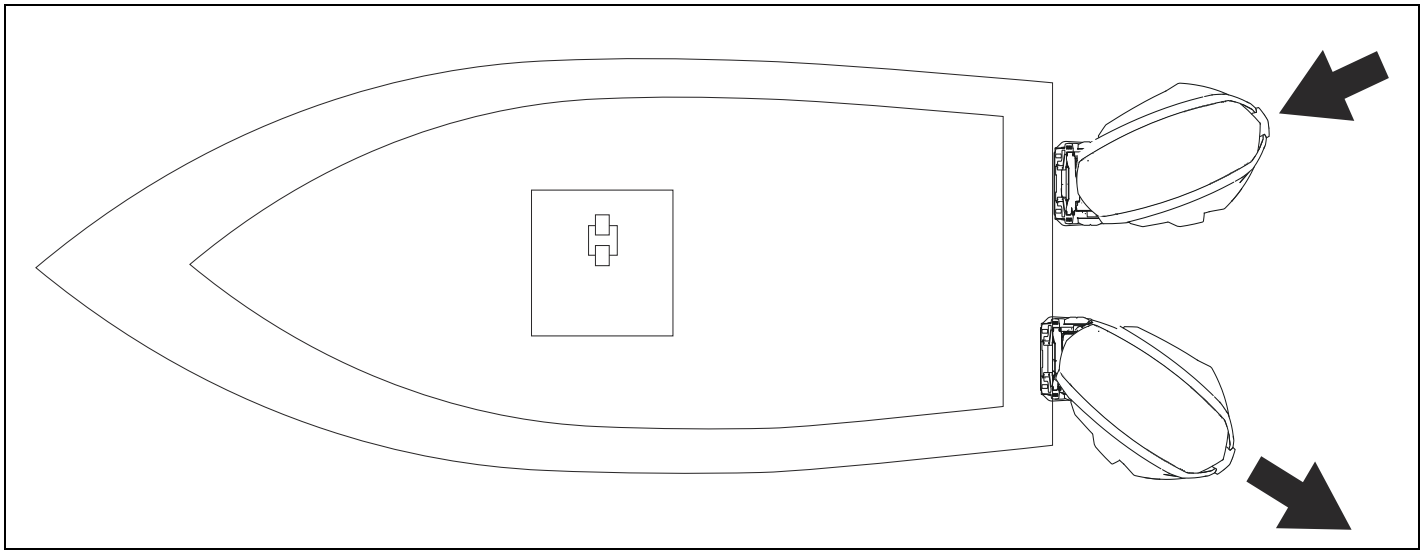
To correct for over steering, twist the joystick in the opposite direction.

Ensure the vessel responds properly to these joystick movements.

Port

Place the throttle lever into the NEUTRAL position. Press the power button on the joystick. The power button will become illuminated in blue when power is applied. To move the boat to port, push the joystick slightly to the left.

When the joystick is pushed to port, the port engine will provide forward thrust while the starboard engine will provide reverse thrust to walk the boat to port.



To increase the movement, push the joystick harder (past the detent) in the port/left direction.

To move the boat forward while moving to port, push the joystick forward.

To move the boat aft while moving to port, push the joystick aft.

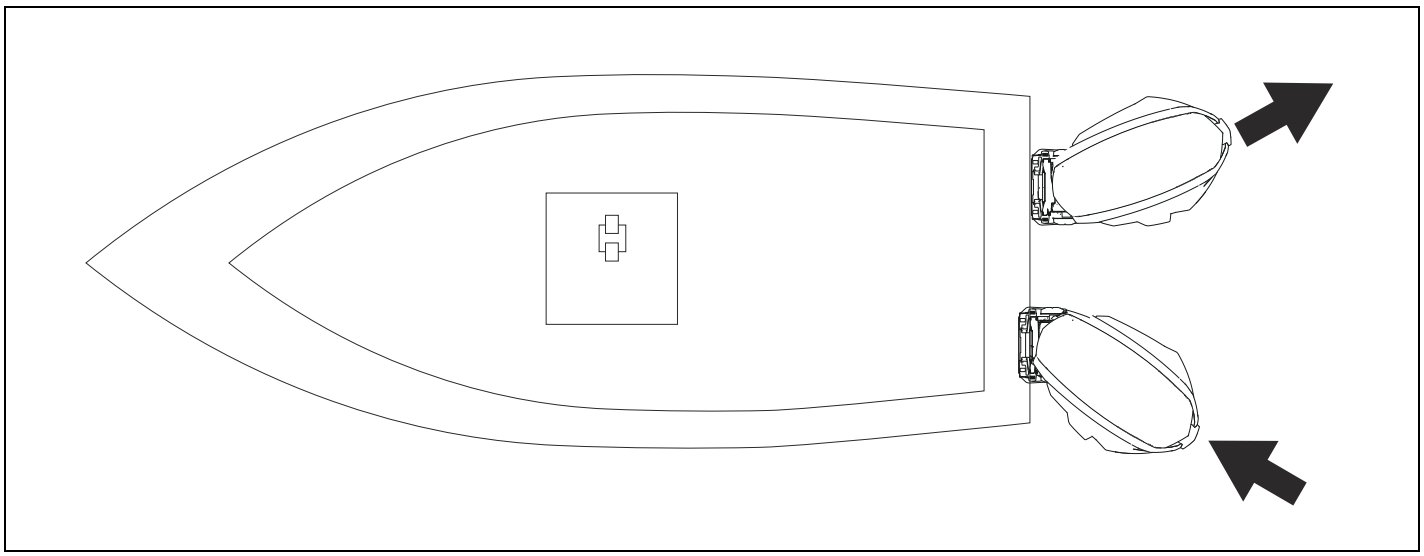
To correct for over steering, let go of the joystick to allow the joystick to return to the center position or push the joystick right.

Ensure the vessel responds properly to these joystick movements.

Starboard

Place the throttle lever into the NEUTRAL position. Press the power button on the joystick. The power button will be illuminated when power is applied. To move the boat to starboard, push the joystick slightly right.

When the joystick is pushed to starboard, the port engine will provide reverse thrust while the starboard engine will provide forward thrust to walk the boat starboard.



To increase the movement, push the joystick harder (past the detent) in the starboard/right direction.

To move the boat forward while moving the boat to starboard, push the joystick forward.

To move the boat aft while moving in a starboard direction, push the joystick aft.

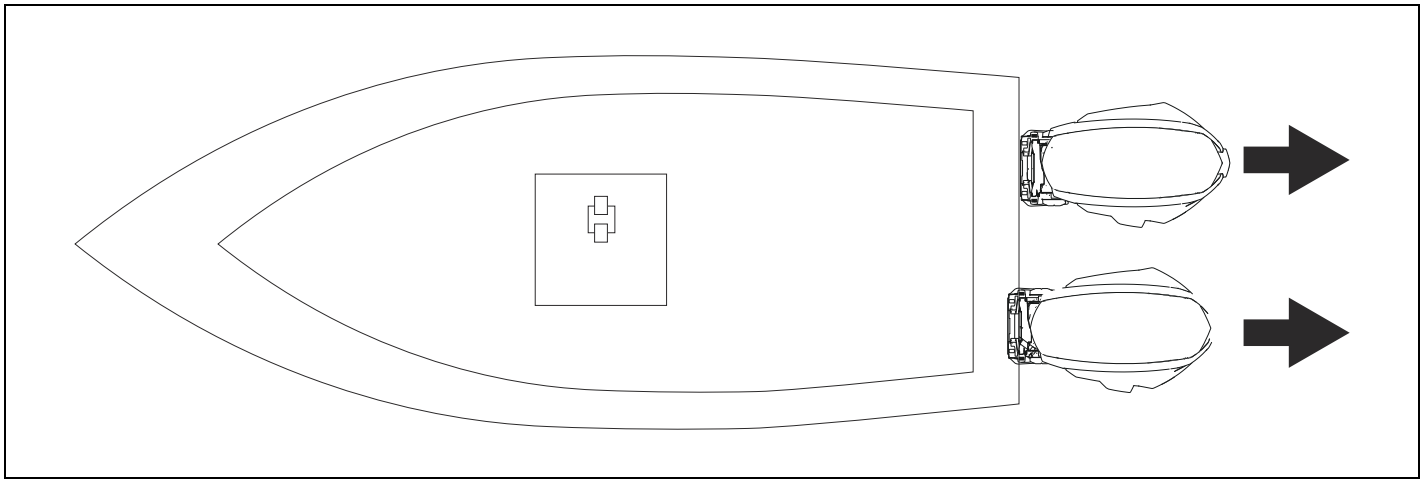
To correct for over steering, let go of the joystick to allow the joystick to return to the center position or push the joystick right.

Ensure the vessel responds properly to these joystick movements.

Aft

Place the throttle lever into the NEUTRAL position. Press the power button on the joystick. The power button will be illuminated in blue when power is applied. To move the boat aft, push the joystick slightly backwards.

When the joystick is pushed aft, both the port and starboard engines will provide reverse thrust to move the vessel aft.



To increase the movement, push the joystick harder (past the detent) in the aft direction.

To turn the boat to port while moving the boat aft, twist the joystick counterclockwise.

To turn the boat to starboard while moving aft, twist the joystick clockwise.

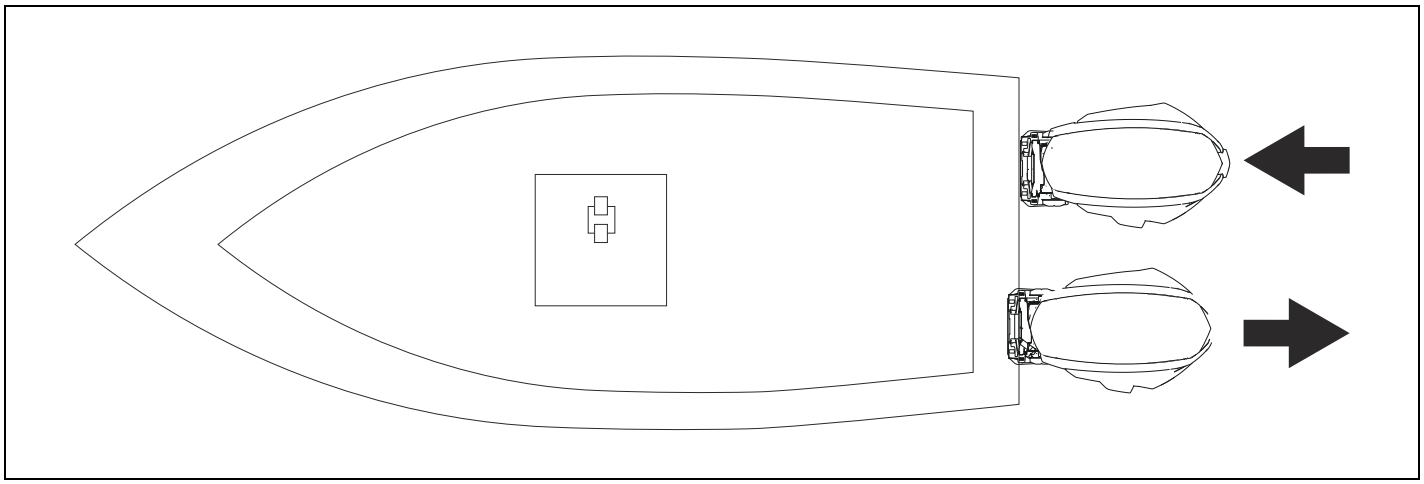
To correct for over steering aft, let go of the joystick to allow the joystick to return to the center position or push the joystick forward.

Ensure the vessel responds properly to these joystick movements.

Port Spin

Place the throttle lever into the NEUTRAL position. Press the power button on the joystick. The power button will be illuminated in blue when power is applied. To move the vessel in a port spin, twist the joystick in a counterclockwise motion.

When the joystick is turned counterclockwise, the port engine will provide reverse thrust and the starboard engine will provide forward thrust to spin the boat to port.



To increase the movement, twist the joystick further counterclockwise.

To move the boat forward while in a port spin, move the joystick forward.

To move the boat aft while in a port spin, move the joystick aft.

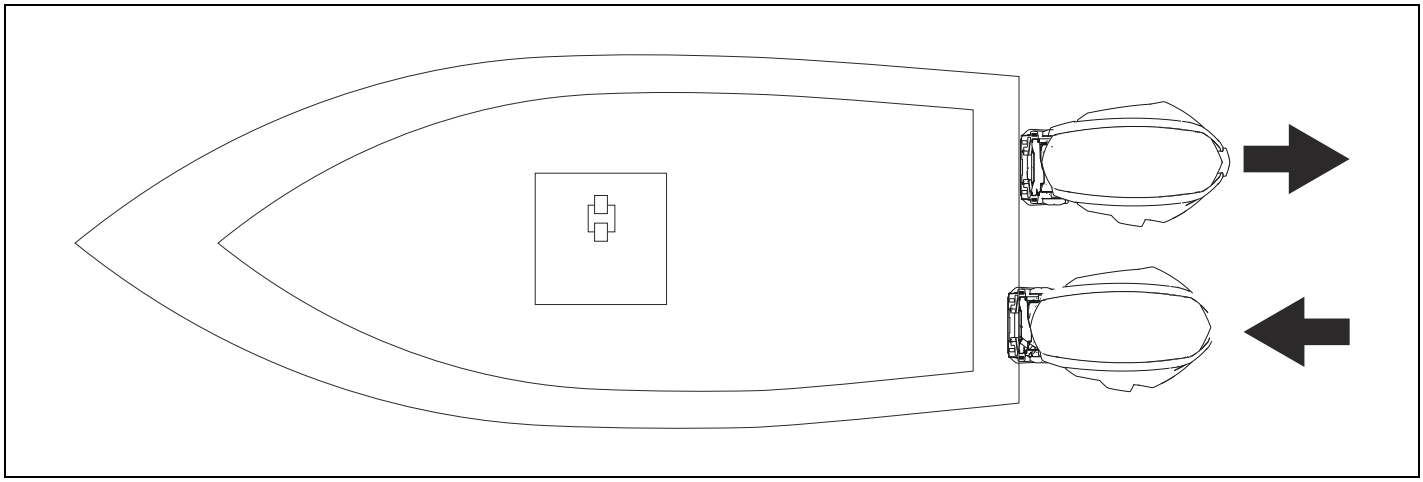
To correct for over steering in a port spin, let go of the joystick to allow the joystick to return to the center position or twist the joystick clockwise.

Ensure the vessel responds properly to these joystick movements.

Starboard Spin

Place the throttle lever into the NEUTRAL position. Press the power button on the joystick. The power button will be illuminated in blue when power is applied. To move the vessel in a starboard spin, twist the joystick in a clockwise motion.

When the joystick is turned clockwise, the port engine will provide forward thrust while the starboard engine will provide reverse thrust to spin the vessel starboard.



To increase the movement, twist the joystick further clockwise.

To move the boat forward while in a starboard spin, move the joystick forward.

To move the boat aft while in a starboard spin, move the joystick aft.

To correct for over steering in a starboard spin, let go of the joystick to allow the joystick to return to the center position or twist the joystick counterclockwise.

Ensure the vessel responds properly to these joystick movements.

Inspection

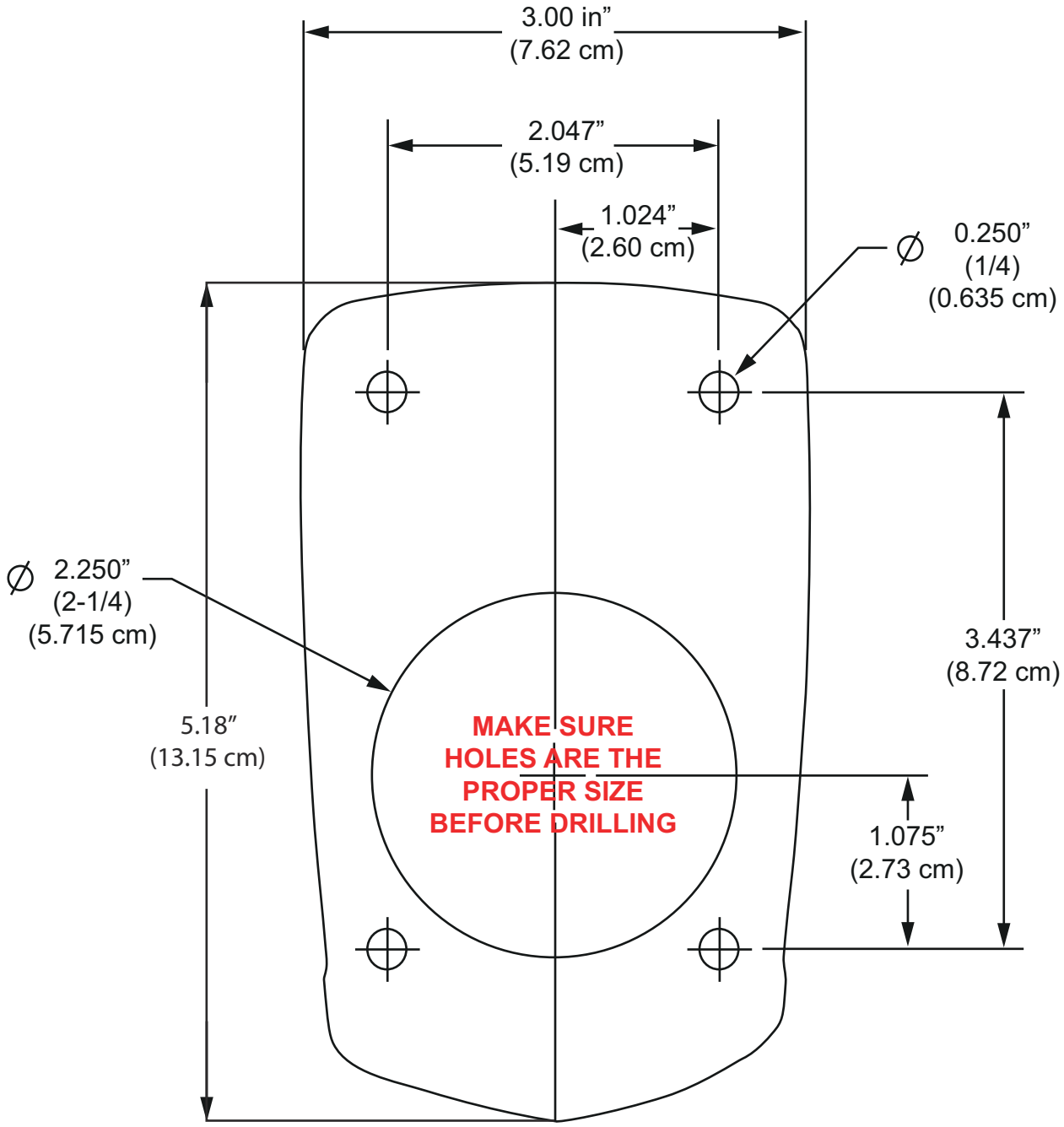
Inspect the vessel for any fluid leaks. If leaks are found, repair immediately and perform the puring process explained in this manual.

Ensure all hydraulic hoses are routed properly and there are no kinks in any hoses. If any problems are found, repair immediately.

Inspect all of the electrical connections. Ensure all electrical connections are tight and there are no kinked or broken wires. If problems are found, repair immediately.

Joystick Drill Template

Be sure printer settings are set to 100% when printing this template.



www.brp.com

SKI-DOO® SEA-DOO® CAN-AM®
LYNX® EVINRUDE® ROTAX®

Revision B