

DOMETIC SEASTAR MEGA JACKPLATES



EN SeaStar Mega Jackplate, Wide and Standard

Installation and User Manual — Book 92

Thank you for choosing a SeaStar Mega Jackplate. You have chosen a state of the art system that will provide years of effortless and trouble free steering performance.

About this Book

This book contains:

- the user's manual for the SeaStar Mega Jackplate for outboard powered boats.
- installation instructions for the SeaStar Mega Jackplate.

This book must be delivered to the owner when installation is complete.

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1 Important Safety Information

Safe operation of a SeaStar Mega Jackplate depends on proper installation and maintenance of the system, as well as the operator's safe judgment, boating knowledge, and expertise.

The installer and operator must read and understand the safety requirements in this section before installing or using the jackplate. If you have any questions about safe installation or operation of this system, contact Dometic. Please don't guess.

1.1 Explanation of symbols

The symbols below are used throughout this publication to alert you to potential hazards involved with the operation and installation of this product. Observe these warnings and notices carefully. The safety alerts alone cannot eliminate hazards; strict compliance with any special instructions during installation, operation, and maintenance, along with common sense operation, are important measures to prevent hazardous situations.



DANGER!

Safety instruction: Indicates a hazardous situation that, if not avoided, will result in death or serious injury.



WARNING!

Safety instruction: Indicates a hazardous situation that, if not avoided, could result in death or serious injury.



CAUTION!

Safety instruction: Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.



NOTICE!

Indicates a situation that, if not avoided, can result in property damage.



NOTE

Supplementary information for operating the product.

1.2 Safe operation



WARNING!

The safety information below is intended to inform you of hazards that may be present when operating a boat equipped with a SeaStar Mega Jackplate. Read and understand this information.

General

- Read and understand this manual, and any other documentation provided with your steering system.
- Know and obey all applicable federal, state, and municipal laws and regulations that govern boating in your area. Dometic recommends all boat operators take a boating safety course.
- Never operate a boat while under the influence of drugs or alcohol.

Before every use

- Perform the system inspection as described in section 2.6.
- Make sure this manual is on your boat. It contains important safety information that you may need in the event of a system fault while on the water.



WARNING!

Do not operate the boat if any component is not in proper working order. It may result in a loss of steering control, which could lead to a collision and/or ejection from the boat, causing property damage, personal injury, and/or death.

During use

- Wear a Coast Guard-approved personal flotation device (PFD).
- Attach the engine shut-off lanyard to your PFD.
- Do not allow anyone not familiar with the controls (steering, shift/throttle) to operate the boat.



CAUTION!

Damage to outboard will occur if proper water pressure is not maintained while the boat is under way. Raising the outboard too high will result in a water pressure drop and overheating of your outboard engine will occur. Proper water pressure must be maintained at all times during operation of the outboard.



WARNING!

Do not attempt to steer with the engine at full tilt. Damage to the Jackplate(s) and/or steering components could occur.

After use

- Rinse off the SeaStar Mega Jackplate thoroughly, using only fresh, clean water at low pressure. Never use high-pressure water from a hose nozzle or pressure washer.

- Do not use acetone, or cleaners containing ammonia, acids, or any other corrosive ingredients, on any jackplate components.
- Some products formulated for cleaning fiberglass hulls are known to aggressively corrode stainless steel shafts. If using a hull cleaner, avoid overspray on to the jackplate. Rinse off any overspray immediately with fresh, clean water.

1.3 Safety considerations for installers



WARNING!

A SeaStar Mega Jackplate must be installed by an authorized dealer or OEM boat builder.

Before installation

- Read and understand this manual, and any other manuals supplied with this system.
- Ensure you have all the required components on hand before you start.
- Do not use a wheel-mounted trim switch with coiled cord. The cord can wrap around the steering wheel shaft and inhibit steering.



WARNING!

For SeaStar Mega Jackplates, the maximum supported horsepower is 600 hp.

During installation

- Install components as instructed in this manual. Some component parts and kits may contain additional installation instructions – refer also to those instructions.
- Do not substitute any component of the system. Dometic parts are rigorously engineered and tested to ensure system integrity. Substitution of components may compromise safety, performance, and reliability.
- If an instruction is unclear, contradictory, or you are otherwise unsure how to proceed, do not guess. Contact Dometic Marine technical support.

After installation

- Perform the system inspection and interference checks described in section 2.6.
- Correct any interference issues before handing the boat to the owner.



WARNING!

Failure to comply with these instructions may result in a loss of steering control, which could lead to a collision and/or ejection from the boat, causing property, and/or propulsion damage, personal injury, and/or death.

1.4 Safety decals

The SeaStar Mega Jackplate is shipped with a decals that warn of safety hazards and contain some instructional information. In the event a decal has been damaged, or is otherwise illegible, the decals are reproduced here.

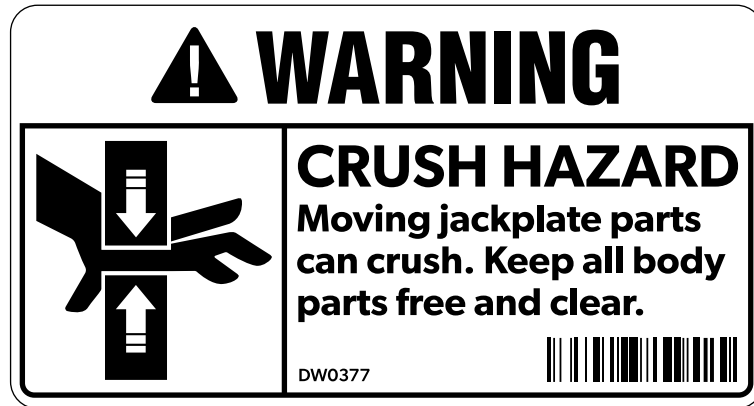


Figure 1-1. Safety decals.

1.5 Trailering and storage

1. The SeaStar Mega Jackplate will maintain position during operation and short term storage, however it should not be relied on to provide long term support over extended storage or trailering conditions.
2. During storage or trailering, the outboard motor must be positioned in the lowest vertical position and/or at a trim position angle which will not allow interference as defined in section 2.6.



WARNING!

The SeaStar Mega Jackplate is a hydraulic system and must not be relied on to maintain position over a long term. Trailer locks and other safety methods must be used.

2 Installation



WARNING!

Failure to adhere to these instructions may result in loss of boat control, leading to possible ejection from vessel causing property damage, personal injury and/or death.

Before proceeding with the installation, read these instructions thoroughly. Dometic cannot accept responsibility for installations where instructions have not been followed, where substitute parts have been used, or where modifications have been made to our products.

2.1 Parts and tools

If you have questions or feel that you can not properly install this hydraulic SeaStar Mega Jackplate, stop immediately and call Dometic technical support at 604-248-3858.

Included parts

1. Mega Jackplate
2. Relay Wiring Harness
3. Rocker Switch
4. Gauge Kit
5. 3 x Spade Terminals
6. Book 92 — SeaStar Mega Jackplate Manual

Other tools, equipment

- Floor crane/Overhead hoist
- Torque wrench
- Outboard engine lifting eye
- Mounting screws for relays
- Engine mounting hardware (As supplied/recommended by engine manufacturer.)



WARNING!

Always use the 6 sets of mounting hardware for installation of the SeaStar Mega Jackplate to the transom. Follow engine manufacturers guide for installation of outboard engines.

Other connection hardware (not supplied):

- Marine sealant suitable for below waterline use.

Mega Jackplate to transom connection:

- Stainless steel outboard engine bolts supplied by or approved by the engine manufacturer.
- Stainless steel washers supplied by or approved by the engine manufacturer.
- Stainless steel nuts with nylon locking elements supplied by or approved by the engine manufacturer.

Outboard engine to Mega Jackplate connection:

- Stainless steel outboard engine bolts supplied by or approved by the engine manufacturer.
- Stainless steel washers supplied by or approved by the engine manufacturer.
- Stainless steel nuts with nylon locking elements supplied by or approved by the engine manufacturer.



WARNING!

Use the engine manufacturer’s recommend fasteners to mount the engine to the Mega Jackplate.



WARNING!

If the outboard engine manufacturer has supplied installation instructions, those guidelines must be followed during installation.



NOTICE!

The use of a transom stiffener for the top bolts on the transom side of the jackplate-to-transom connection is recommended.



WARNING!

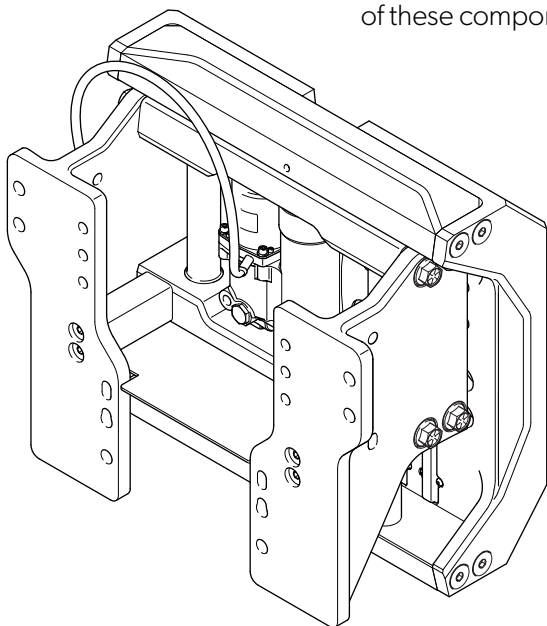
Check the outboard engine manufacturer’s instructions carefully for specifications regarding connection hardware. Ensure the outboard engine manufacturer’s requirements are followed.



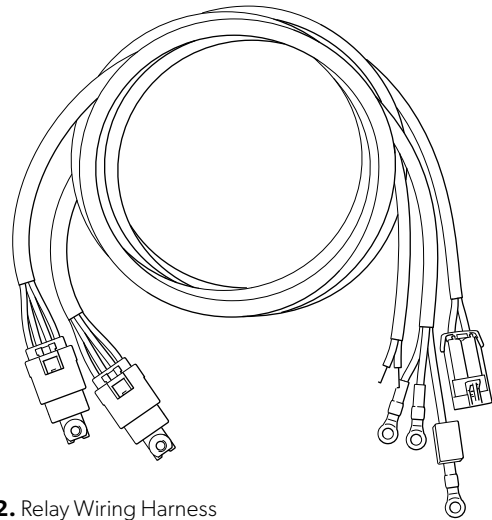
NOTICE!

Refer to ABYC TH-12 standard “Transom crushing at bolt location” for guidelines on mounting the Jackplate to the transom.

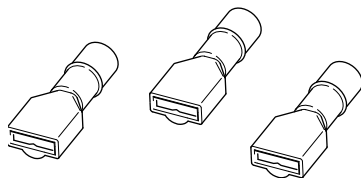
The following parts are included with your Mega Jackplate product. If any of these components are missing, contact your dealer or Dometic.



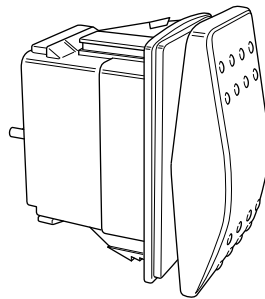
1. SeaStar Mega Jackplate



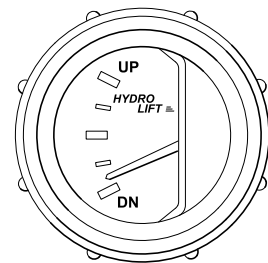
2. Relay Wiring Harness



3. Spade Terminals (Female)



4. Rocker Switch



5. Gauge Kit

Figure 2-1. Included parts.

2.2 Mount Mega Jackplate to boat



NOTICE!

The following procedure outlines the process of first mounting the Jackplate on the boat, followed by installing the engine to the Jackplate. If desired, the Jackplate can first be installed on the engine, followed by installation on the boat. The order of installation may be altered but individual steps must be followed and all warnings and cautions must be followed.

1. Prior to mounting the Mega Jackplate to the transom, insert the engine bolts into the engine side of the Mega Jackplate. Use the 1/2" or 5/8" SAE washer (not supplied).
2. Using connection hardware supplied by or approved by the outboard engine manufacturer, mount the Mega Jackplate to the transom.

INSERT ENGINE BOLTS
AND WASHERS (NOT
SUPPLIED) PRIOR TO
MOUNTING JACKPLATE
TO TRANSOM

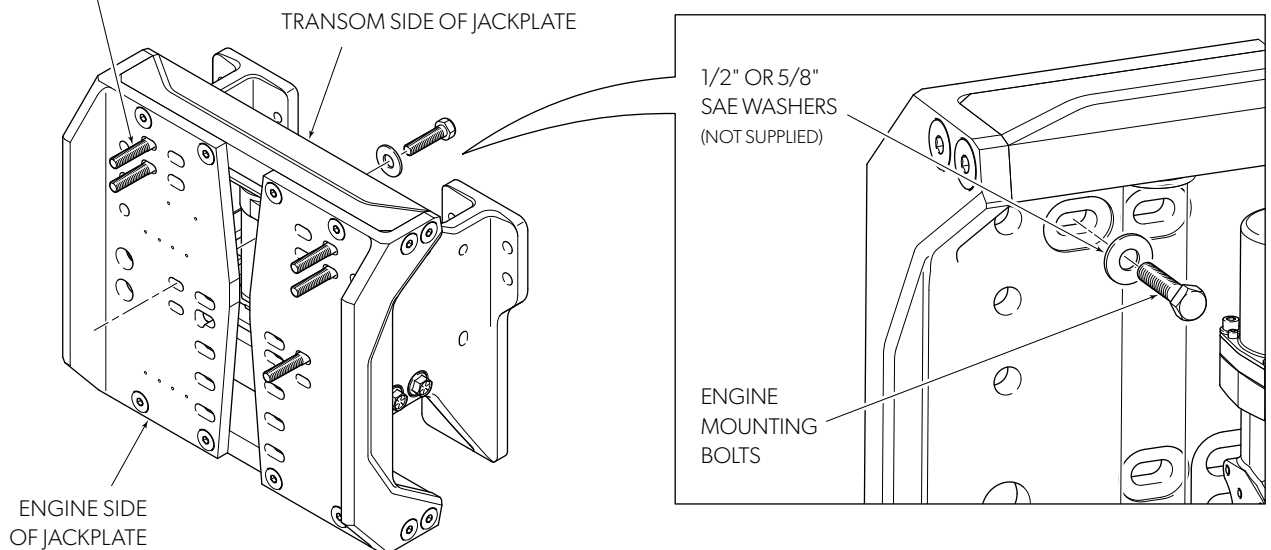


Figure 2-2. Engine bolt insertion.



NOTICE!

Temporary connection of the harness will allow you to actuate the Mega Jackplate. This may assist in the installation of the engine bolts. See section 2.3.



NOTE

In the wide models, lifting the Jackplate to the fully raised position will allow for mounting fasteners to pass through the engine brackets prior to engine installation.



WARNING!

Depending on mounting configuration, and to ensure proper clearance and bolt preload; 1/2" ID x 1.25" OD or 5/8" ID x 1.50" OD washers must be used with the engine mounting bolts. Follow engine manufacturer's recommendations for correct fasteners for your specific mounting configuration.

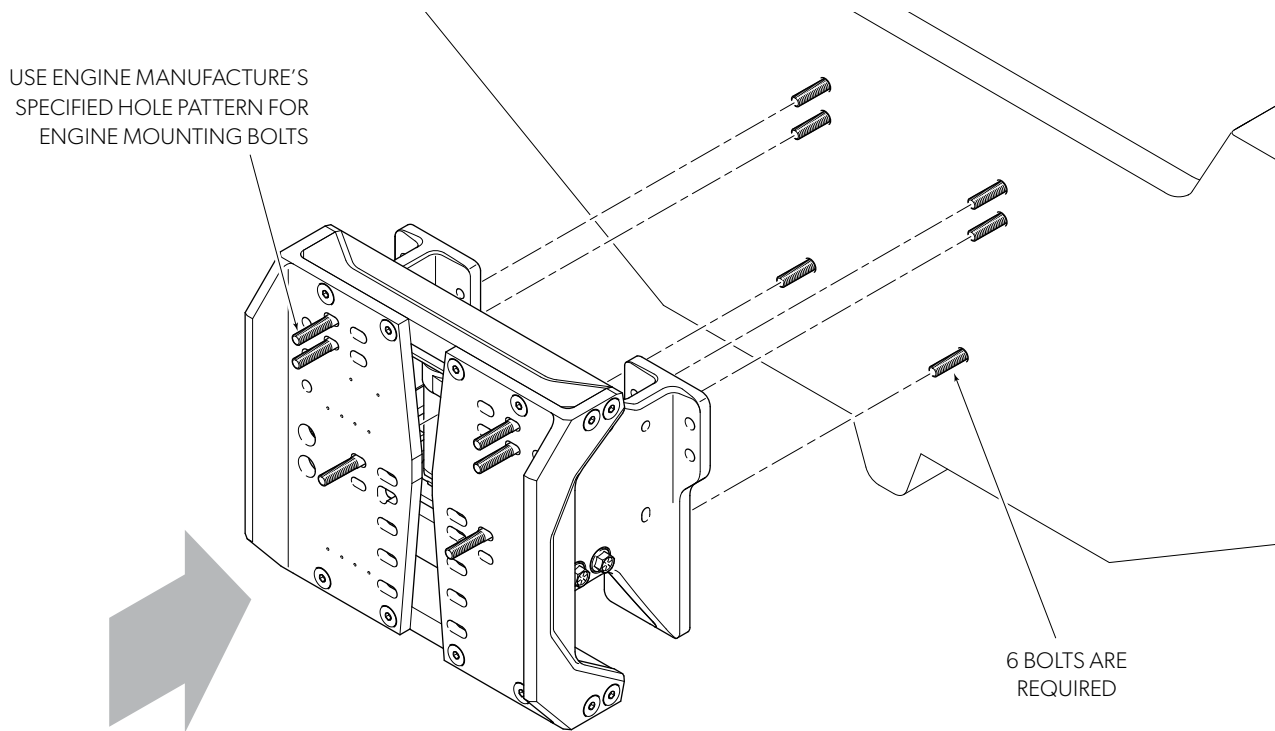


Figure 2-3. Mega Jackplate to transom connection.

3. Seal all holes in the transom with an appropriate marine sealant.



WARNING!

Crush hazard. Moving Jackplate parts can crush. Keep all body parts free and clear when actuating the Mega Jackplate.

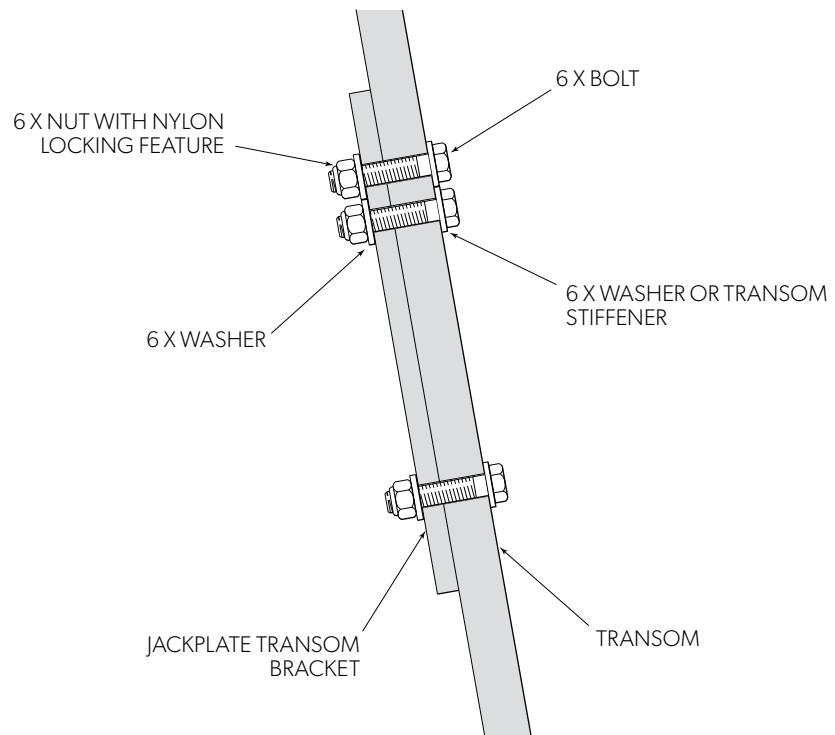


Figure 2-4. Standard Mega Jackplate to transom connection.

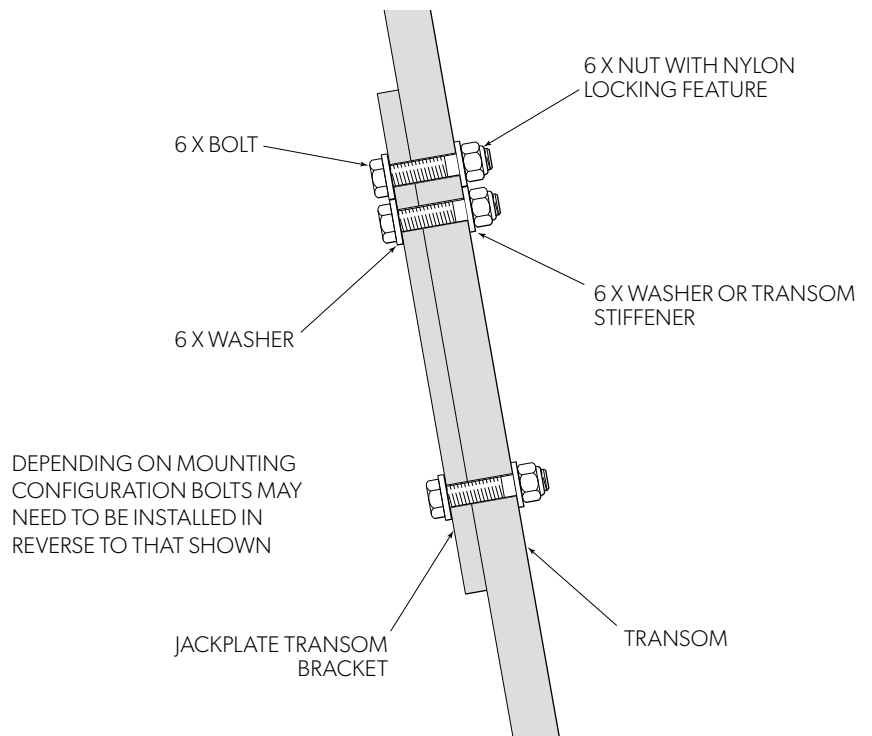


Figure 2-5. Wide Mega Jackplate to transom connection.



WARNING!

Use of non-approved bolts and washers may lead to separation of engine from boat.



WARNING!

Follow the outboard engine manufacturer's recommendations for tightening torque.



NOTE

In some cases mounting hardware will be required/allow to pass from inside boat shown and some configuration will require/allow fasteners to be placed through jackplate first and nuts/washers inside transom.

4. Using a torque wrench, tighten the nuts to the manufacturer's recommended torque.

Record the torque values here for future reference.

_____ ft-lbs. _____ Nm.

2.2.1 Engine lift per setback — Standard Mega Jackplate

With jackplate in fully lowered position there is a prebuilt lift of 2.7" from the top transom bolts to top engine bolts. On a 12° transom, the actual engine lift to water level changes as a function of a setback. See figure 2-6 below.

Example: Engine lift is 0.590" to horizontal on a 10" setback when placed on 12° transom.

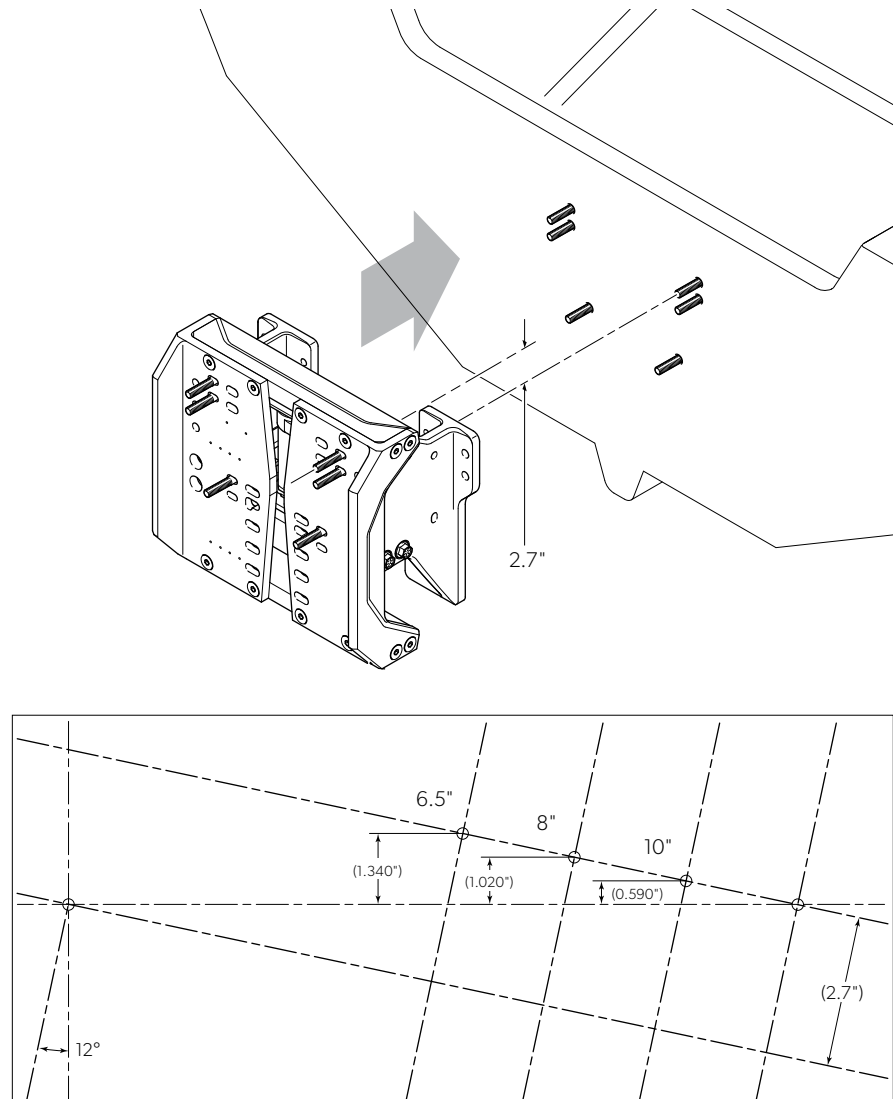


Figure 2-6. Engine lift per setback — Standard (OMC) Mega Jackplate. Not to scale.

2.2.2 Engine lift per setback — Wide Mega Jackplate

With jackplate in fully lowered position there is a prebuilt lift of 1.5" from the top transom bolts to top engine bolts. On a 12° transom, the actual engine lift to water level changes as a function of a setback. See figure 2-7 below.

Example: Engine lift is -0.610" to horizontal on a 10" setback when placed on 12° transom.

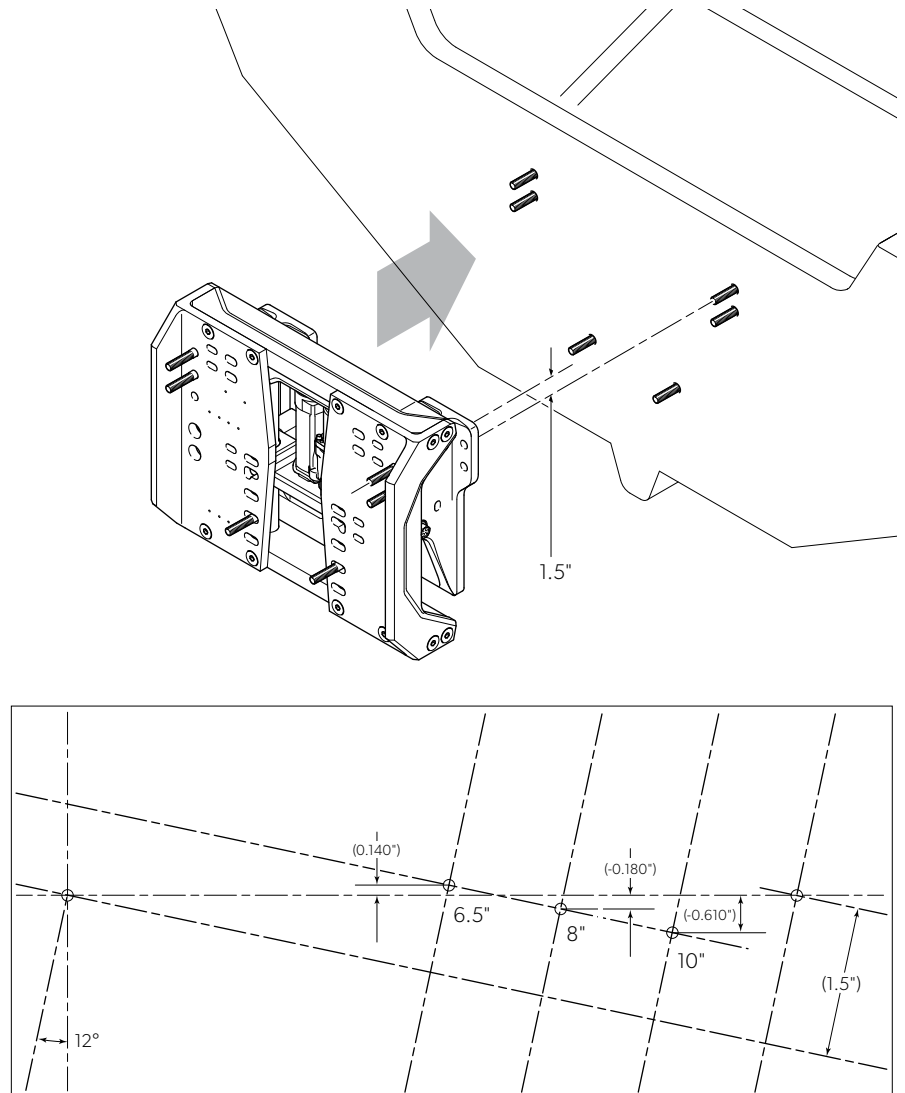


Figure 2-7. Engine lift per setback — Wide (Mercury) Mega Jackplate. Not to scale.

2.3 Install relay wiring harness



CAUTION!

Before operating the Mega Jackplate, check mounting bolt clearances. Ensure harness has proper strain relief, shift and throttle cables, electrical lines, tiebars, fuel hoses, and all other equipment is clear of the Jackplate to avoid damage/pinching/chafing when the unit is moved up or down.

1. Find a dry and accessible place to mount the Relay Wiring Harness. Use the mounting holes on the relay brackets to secure the harness to the boat.

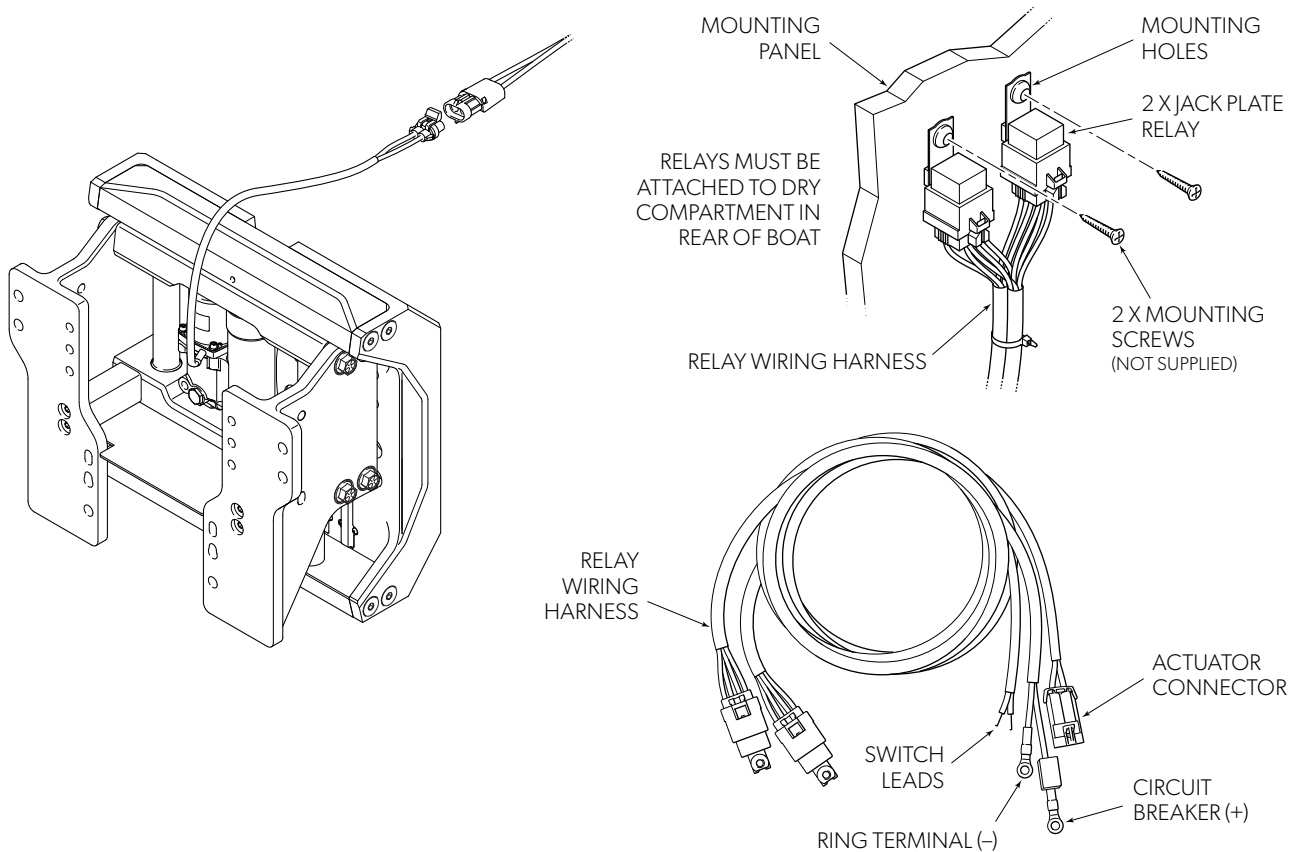


Figure 2-8. Relay wiring harness installation and connections.

2. Attach the ring terminal from the circuit breaker to a 12V positive (+) post on the outboard engine battery.

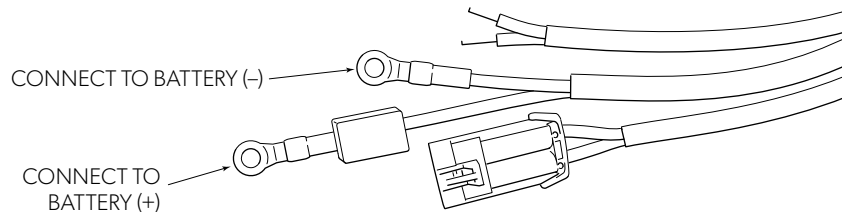


Figure 2-9. Battery connections.

3. Attach the black ring terminal to a negative (-) post on the same battery as step 2.

2.4 Install rocker switch

1. Cut an appropriate rectangular opening in the dashboard or console panel where the rocker switch is to be mounted.

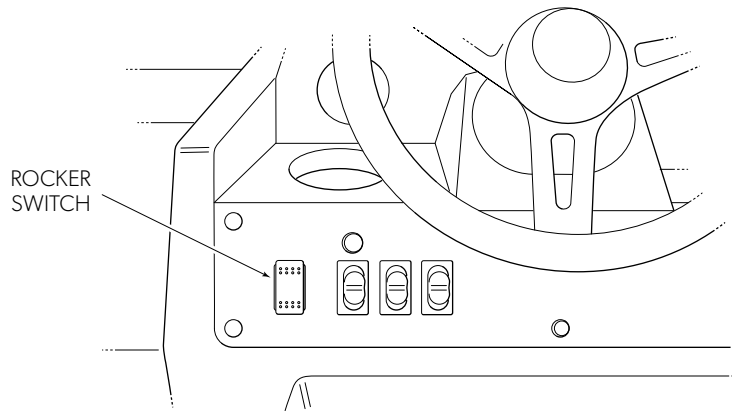


Figure 2-11. Rocker switch on dash.



NOTICE!

Position the rocker switch so that it is within easy reach of the operator.



NOTICE!

The switch leads from the relay wiring harness may not be long enough to reach the rocker switch position on the dashboard or console. In this case the leads will need to be extended.



CAUTION!

Any additional wire spliced to the Relay Wiring Harness must be marine grade and meet SAE J1128.



CAUTION!

Any wire from a 12V(+) source must be protected with an appropriate fuse or circuit breaker.

2. Route the switch leads from the relay wiring harness to the hole in the dashboard.
3. Terminate the end of the switch leads with the supplied spade terminals.
4. Route a fused (10A) 16AWG wire from a 12V (+) position on the fuse panel or from the battery and terminate with a supplied spade terminal.
5. Attach the wires to the spades on the back of the rocker switch. The wire from the 12V (+) source should attach to the CENTER spade on the rocker switch.
6. Do not seat the switch into the dash until after the rest of the installation is complete and you have confirmed the Jackplate direction is consistent with the switch direction.

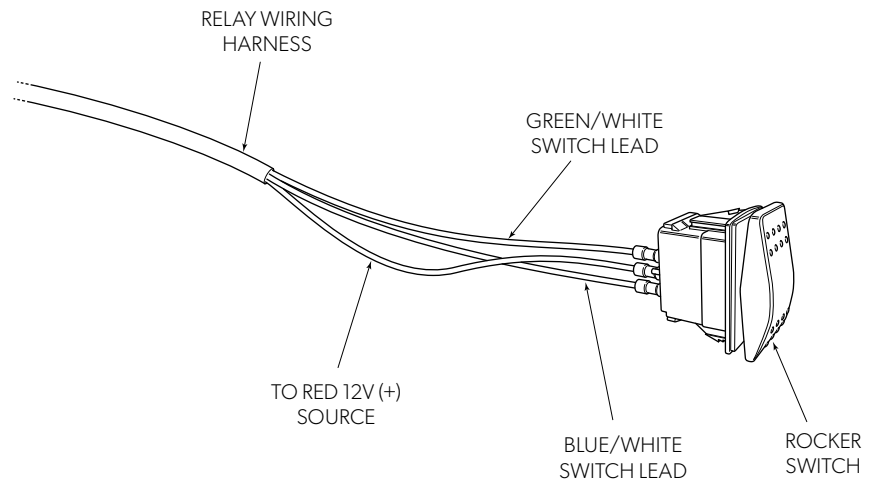


Figure 2-12. Rocker switch connections.



NOTICE!

If the Jackplate actuation direction is inconsistent with the rocker switch direction, swap the positions of the green/white and blue/white wires on the switch spades.



CAUTION!

Ensure the harness has proper strain relief and is routed to avoid damage/pinching/chafing.

2.5 Mount outboard to Mega Jackplate



NOTICE!

Jackplate position can be extended or retracted during installation to improve tool access to mounting hardware.

1. Using an appropriate hoist and lifting eye, lift the outboard into place.
2. Select the hole set on your outboard engine that will best suit the boat and application.
3. Move the engine forward on the hoist while feeding the bolts into the mounting holes.
4. Install the washers and nuts and tighten. Ensure approved bolts, nuts and washers are used. See section 2.1.
5. Using a torque wrench, tighten to engine manufacturer's recommended value for installation on Mega Jackplate.



WARNING!

All engine mounting hardware must conform to the standards specified in section 2.1.

**WARNING!**

Crush hazard. Moving jackplate parts can crush. Keep all body parts free and clear when actuating the Mega Jackplate.

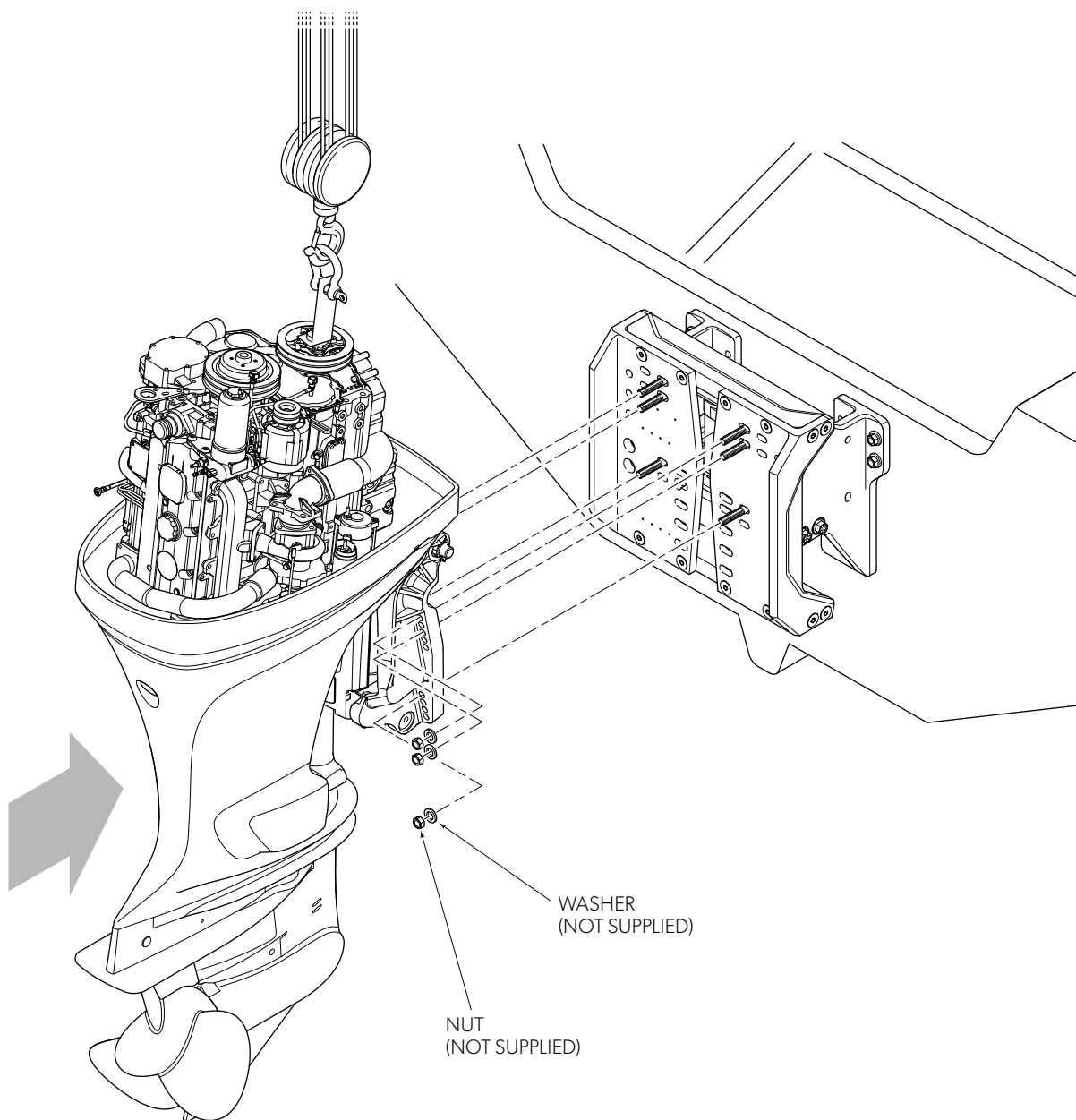


Figure 2-13. Outboard installation.

**WARNING!**

The maximum supported horsepower for a SeaStar Mega Jackplate is 600 HP.

**CAUTION!**

Perform the clearance checks prior to water testing. See section 2.6.

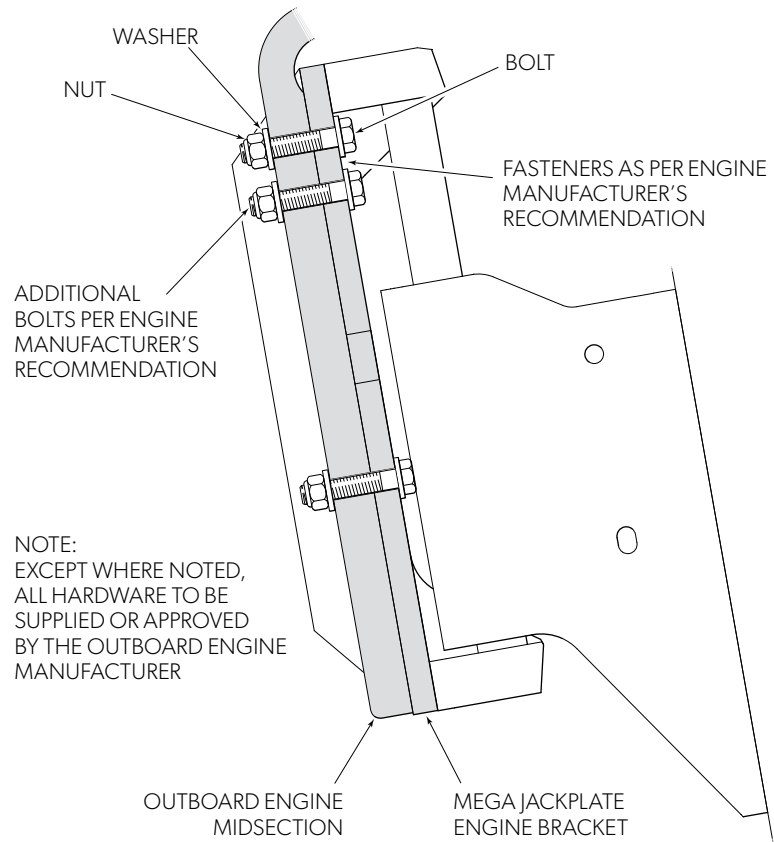


Figure 2-14. Outboard engine to Jackplate connection.

2.6 Clearance checks



WARNING!

Mega Jackplate clearance checks must be completed after installation and before use. Failure to adhere to this warning may result in the loss of vessel control, leading to possible ejection from vessel causing property damage, personal injury and/or death.

1. Starting with the Jackplate at its lowest position, verify full steering travel through the entire trim range.
2. At the full down position, with the steering at center, carefully tilt the engine and verify that no interference occurs as the outboard engine is tilted. Check for interference between the SeaStar Jackplate and the steering cylinder(s), tiebars, steering hoses, outboard engine, engine hoses or any other components.
3. If any interference exists, action must be taken to do one of the following:
 - a. Add a tilt limiter device to the outboard engine and ensure it is set to prevent the engine from reaching a position where interference is possible.
 - b. Move the engine up to a higher set of mounting bolt holes.



WARNING!

Interference with any object must be corrected prior to use.

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3 Maintenance and Troubleshooting

3.1 Maintenance schedule



WARNING!

Any work being performed with this system must be completed by a qualified mechanic with a working knowledge of the system.

After first use and every 100 hours or 6 months thereafter (whichever comes first).

1. Ensure the transom bolts and engine bolts are torqued to their recommended values.
2. Inspect the Jackplate(s) for damage, cracks, wear and binding. Inspect the Jackplate brackets, guide rods, actuator shaft and actuator shaft seal. Check for leaking components.
3. Inspect electrical cables for damage.



CAUTION!

Do not operate boat if any component is not in proper working condition.

3.2 Troubleshooting guide

Most problems with a SeaStar Mega Jackplate usually occur when an instruction is not followed, and usually show up immediately on power up. Listed below are the most common faults you'll encounter, along with their most likely causes.

FAULT	CAUSE	SOLUTION
1. Unit leaks down over short period of time.	Internal fluid bypass.	Actuate Mega Jackplate several times in extend and retract direction.
2. Unit fails to reach limit of extension or retraction or binds at an angle near limit of travel.	Mechanical interference with other components.	Check for interference between moving components including: mounting fasteners, steering system, loose parts, tools, etc.
3. Unit operates slowly or erratically during extend or retract.	Low supply voltage.	Check supply voltage. Voltage at actuator leads must be between 10.5 and 14 V.

FAULT

4. Does not run in either direction.

CAUSE

Dead or low battery.

Tripped circuit breaker.

Tripped motor thermal breaker.

Faulty electrical connection.

Faulty relay.

Mechanical interference with other components.

SOLUTION

Check supply voltage. Voltage at actuator leads must be between 10.5 and 14 V.

Check continuity across circuit breaker near positive battery terminal. If the breaker is manually-resettable, press reset button. If the breaker does not have a button, it will automatically reset after it cools down.

Allow motor to cool down to reset automatically.

Check for continuity in all harness wires and connections in harness, including: battery connection, circuit breaker, harness wires, switch wires, switch wire fuse. Check function of switch for continuity. Replace faulty connections if necessary.

Check for correct function of relays on harness. On activation of the switch in either direction, there should be an audible click in the relay and continuity across relay lines when switching. Replace faulty relay if necessary.

Check for interference between moving components including: mounting fasteners, steering system, loose parts, tools, etc.

5. Does not run in one direction.

Faulty relay.

Check for correct function of relays on harness. On activation of the switch in either direction, there should be an audible click in the relay and continuity across relay lines when switching. Replace faulty relay if necessary.

6. Height gauge operates erratically.

Low battery voltage.

Check battery voltage. A minimum of 10.5V must be provided to the SmartStick sensor for correct operation. Charge battery if necessary.

4 Warranty

4.1 2-Year limited warranty

The SeaStar Solutions® warrants its products to be free from defects in materials and workmanship for a period of two years from the date of original retail purchase, provided, however, the warranty period for SeaStar Solutions® products used commercially or in any rental or other income producing activity shall be as follows:

- Ninety days from the date of original purchase for mechanical and electrical products; and
- One year from the date of original purchase for hydraulic products.

We will provide replacement product without charge for any SeaStar Solutions® product covered by this warranty, which is returned (freight prepaid) within the warranty period to the dealer from whom such products were purchased, or to us at the appropriate address. In any such case, SeaStar Solutions® products found to be defective and covered by this warranty will be replaced or repaired at SeaStar Solutions® option, and returned to the customer.

SeaStar Solutions® sole responsibility under this warranty is limited to the repair or replacement of product which is, in SeaStar Solutions® opinion, defective. SeaStar Solutions® is not responsible for charges connected with the removal of such product or re-installation of replacement or repaired parts.

We will have no obligations under this warranty for any product which:

- has been improperly installed;
- has been used in an installation other than as recommended in our installation or operation instructions or specifications;
- has failed or has been damaged due to an accident or abnormal operation including racing, misuse or alterations outside our factory;
- has been repaired or modified by entities other than SeaStar Solutions®;
- has been used on an engine/boat combination where the engine horsepower exceeds the rating established by the boat manufacturer;
- has been used with other product(s) which, in SeaStar Solutions® opinion, are incompatible with the SeaStar Solutions® product.

THE EXPRESS WARRANTY SET FORTH ABOVE IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SEASTAR SOLUTIONS® EMPLOYEES OR REPRESENTATIVES' ORAL OR OTHER WRITTEN STATEMENTS DO NOT CONSTITUTE WARRANTIES, SHALL NOT BE RELIED UPON BY CUSTOMER, AND ARE NOT A PART OF THE WARRANTY STATED HEREIN. THIS WARRANTY WILL BE THE CUSTOMER'S EXCLUSIVE REMEDY. IN NO EVENT WILL SEASTAR SOLUTIONS® BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY RELATING TO THE PRODUCTS. Some states do not allow limitations on an implied warranty, or the exclusion of incidental or consequential damages, so the above exclusions may not apply to you. You may also have other rights which vary from state to state.

If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

SeaStar Solutions® products returned under this warranty must be tagged with the customer's name, street address, and phone number to ensure proper handling, and returned freight prepaid to the selling dealer or to the appropriate SeaStar Solutions® manufacturing facility.

4.2 Return goods procedure

Contact our warranty department at Marine.Warranty@dometic.com for instructions.

4.3 Technical support

Phone: 604.248.3858

email: seastar@dometic.com

Hours: Monday to Friday 05:00 – 15:30 PST

4.4 Authorized service centers and distributors

For a current listing of all our authorized service centers and distributors please visit our website: www.dometic.com

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