

MEMBER  
**ABYC**  
Setting Standards for Safer Boating

91

NINETY ONE  
ISO 9001

**BAYSTAR™**

**CAPILANO™**

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# INSTALLATION INSTRUCTIONS

## AND OWNER'S MANUAL

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**SEASTAR™**  
**JACKPLATE**

**SEASTAR™** **X™** **TREME**  
**JACKPLATE**

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Hydraulic Jackplates



SEASTAR  
SOLUTIONS®

 **alpa**  
marine equipment

*Before you do it your way,  
please try it our way*

## 2.2 Mount 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 Jackplate to the transom, insert the engine bolts into the engine side of the Jackplate. Use the 1/2" SAE washers supplied.
- Using connection hardware supplied by or approved by the outboard engine manufacturer, mount the Jackplate to the transom.

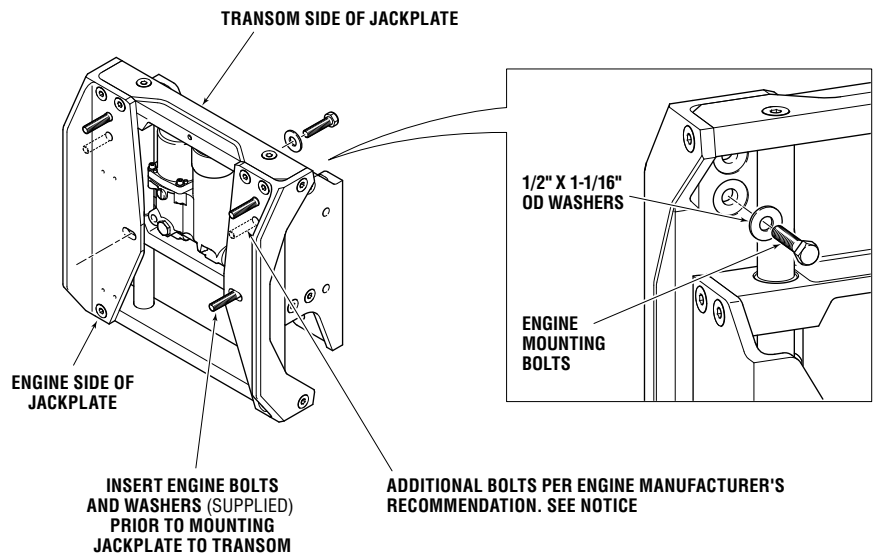


Figure 5. Engine bolt insertion.

### NOTICE

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

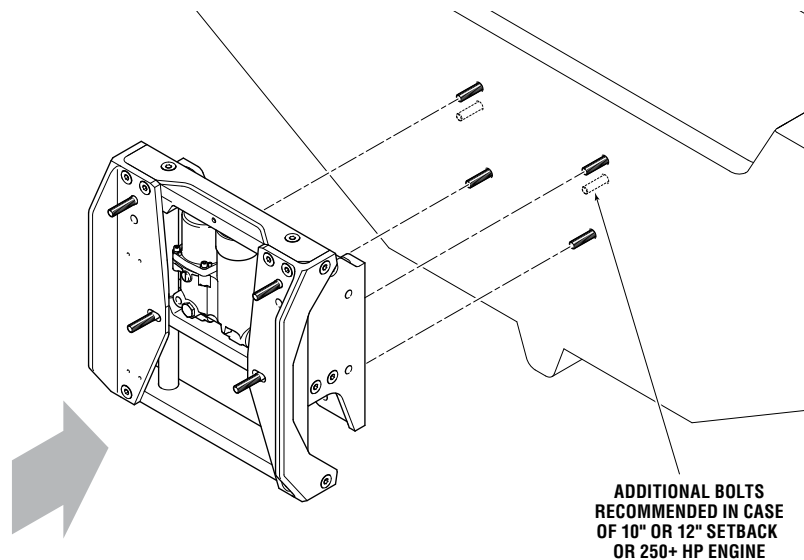
### NOTICE

Six bolts **MUST** be used for mounting engine to Jackplate if recommended by engine manufacturer.

3. If the Jackplate setback is 10 inches or more, or if the outboard engine output is 250 horsepower or more, it is recommended to use 6 mounting bolts at the transom connection. Additional mounting bolts should be used in the upper holes on the Jackplate hole pattern. See figure 8.
4. Seal all holes in the transom with an appropriate marine sealant.

**⚠ WARNING**

**1/2" x 1-1/16" OD SAE must be used with the engine mounting bolts to ensure proper clearance and bolt preload.**



**NOTICE**

At the lowest position, the Jackplate provides a 2-1/2" lift offset between the transom and the engine.

Figure 6. Jackplate to transom connection.

**⚠ WARNING**

**CRUSH HAZARD. Moving Jackplate parts can crush. Keep all body parts free and clear when actuating the Jackplate.**

**⚠ 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.**

**⚠ WARNING**

**The use of 6 mounting bolts is recommended for installations of 10" or 12" setbacks or for outboard engines with output greater than 250 horsepower.**

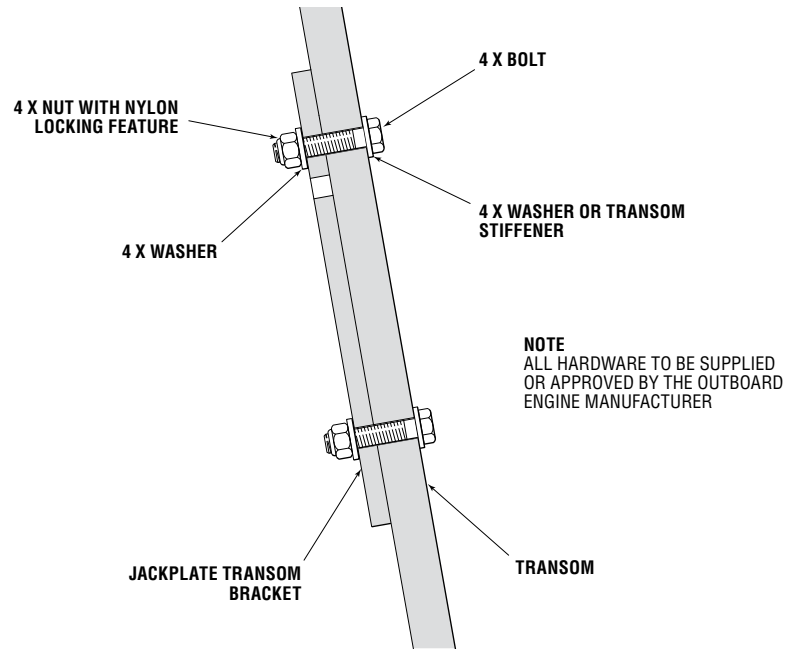


Figure 7. Jackplate to transom connection.

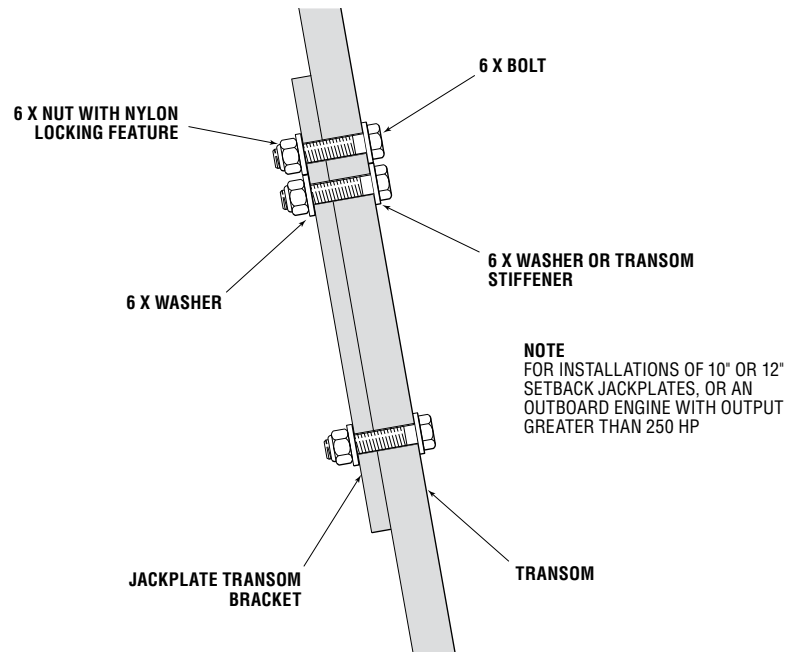


Figure 8. Jackplate to transom connection for 10" or 12" setbacks, or for outboards greater than 250 HP.

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

Record the torque values here for future reference.

\_\_\_\_\_ ft-lbs. \_\_\_\_\_ Nm.

## 2.3 Install Relay Wiring Harness

### ⚠ CAUTION

Before operating the Jackplate, check mounting bolt clearances and ensure that shift and throttle cables, electrical lines, tiebars, fuel hoses, and all other equipment are clear of the Jackplate so they will not be pinched or kinked when the unit is moved up and 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.

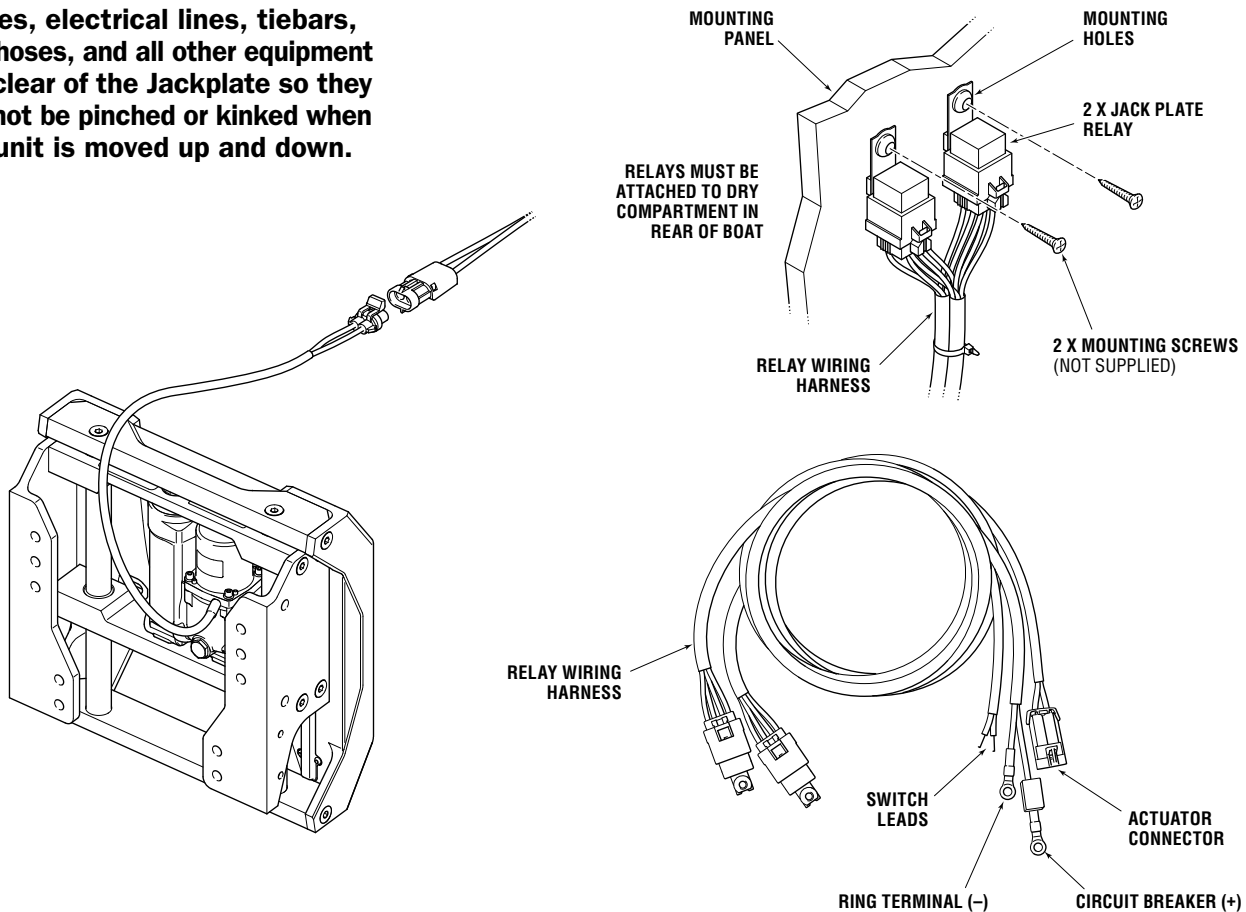


Figure 9. Relay Wiring Harness installation and connections.

### ⚠ CAUTION

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

2. Attach the ring terminal from the circuit breaker to a 12V positive (+) post on the outboard engine battery.
3. Attach the black ring terminal to a negative (-) post on the same battery as step 2.

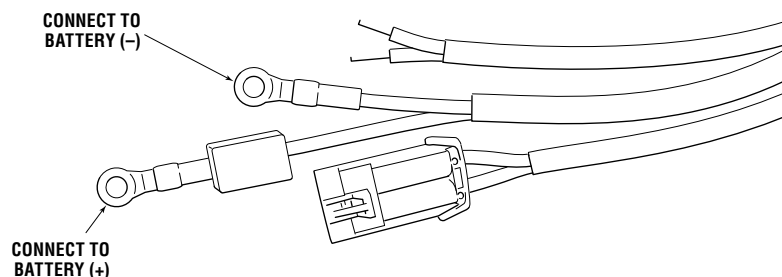


Figure 10. Battery connections.

## Main Wiring Diagram

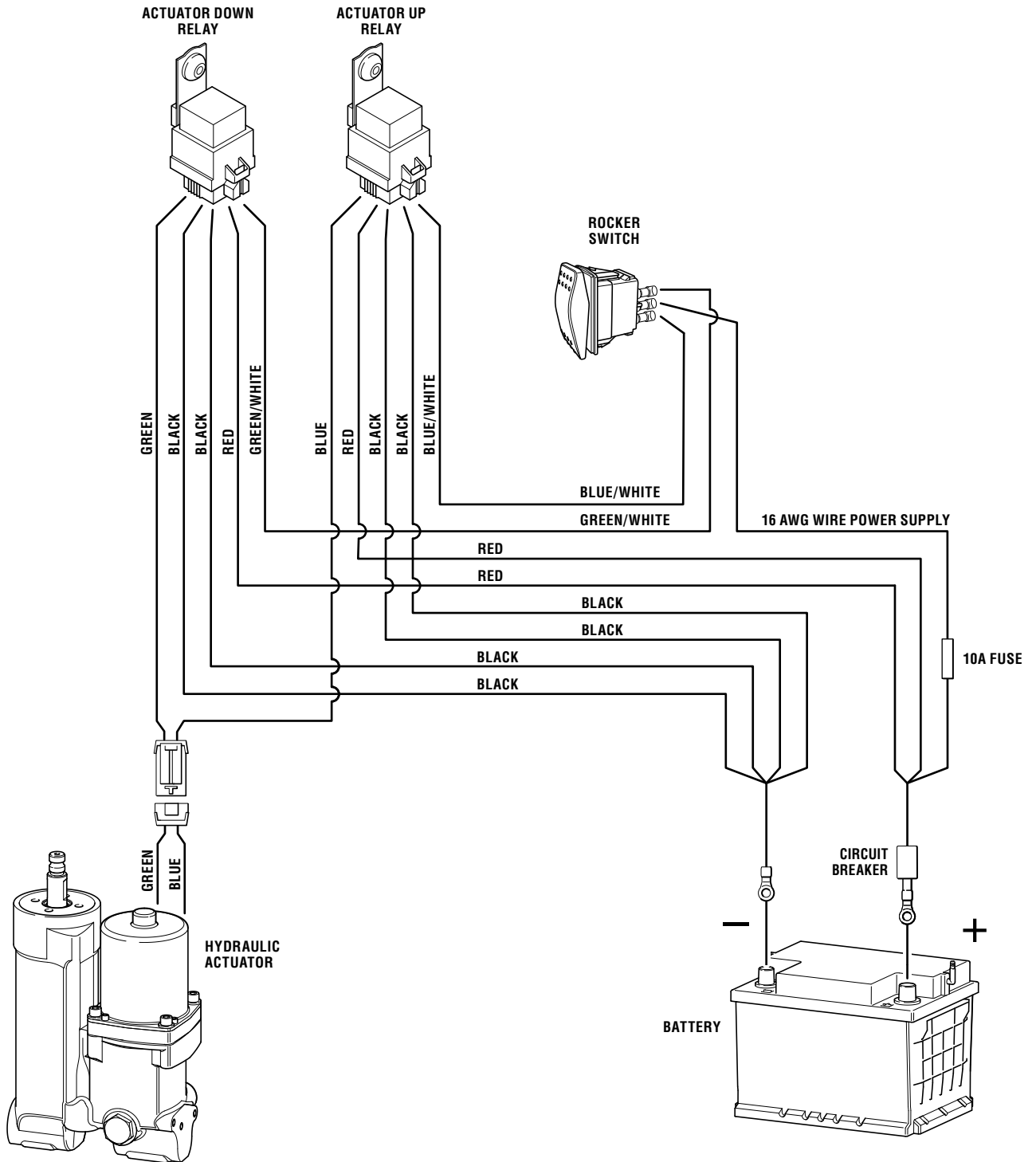


Figure 11. Main Wiring diagram.

## 2.4 Install Rocker Switch

### 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.**

### 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.**

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

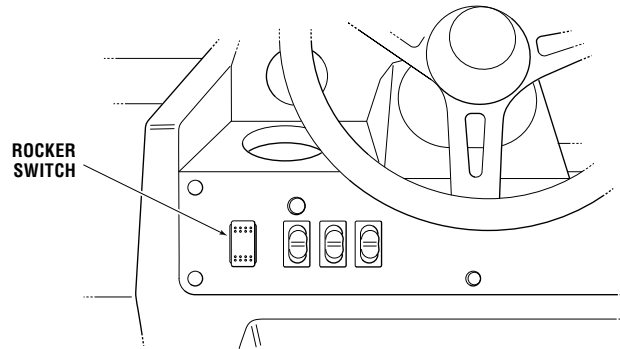


Figure 12. Rocker Switch on dash.

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.

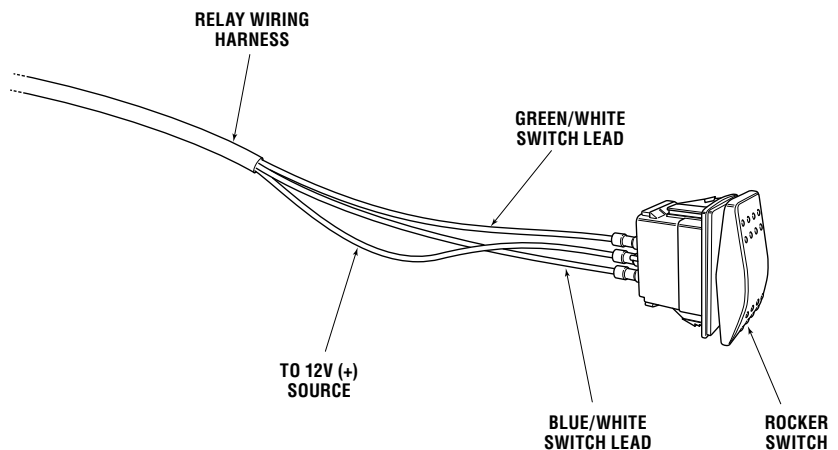


Figure 13. Rocker Switch connections.

## 2.5 Mount Outboard to Jackplate

### NOTICE

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

### ⚠ WARNING

**CRUSH HAZARD.** Moving Jackplate parts can crush. Keep all body parts free and clear when actuating the Jackplate.

### ⚠ WARNING

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

### ⚠ WARNING

For SeaStar Standard Duty Jackplates the **MAXIMUM** supported horsepower is 300 HP.

For SeaStar Xtreme Jackplates the **MAXIMUM** supported horsepower is 400 HP.

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 **90 ft-lbs. (122 Nm)** or to engine manufacturer's recommended value for installation on Jackplate.

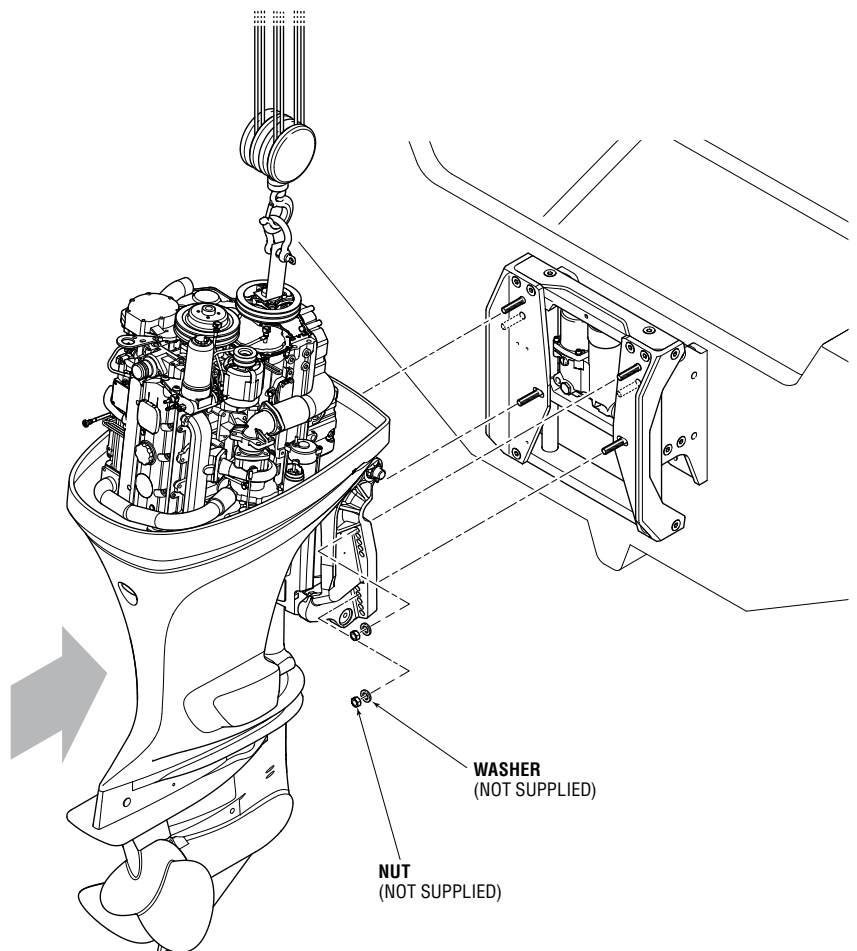


Figure 14. Outboard installation.

### ⚠ CAUTION

**Perform the Clearance Checks prior to water testing. See Section 2.6.**



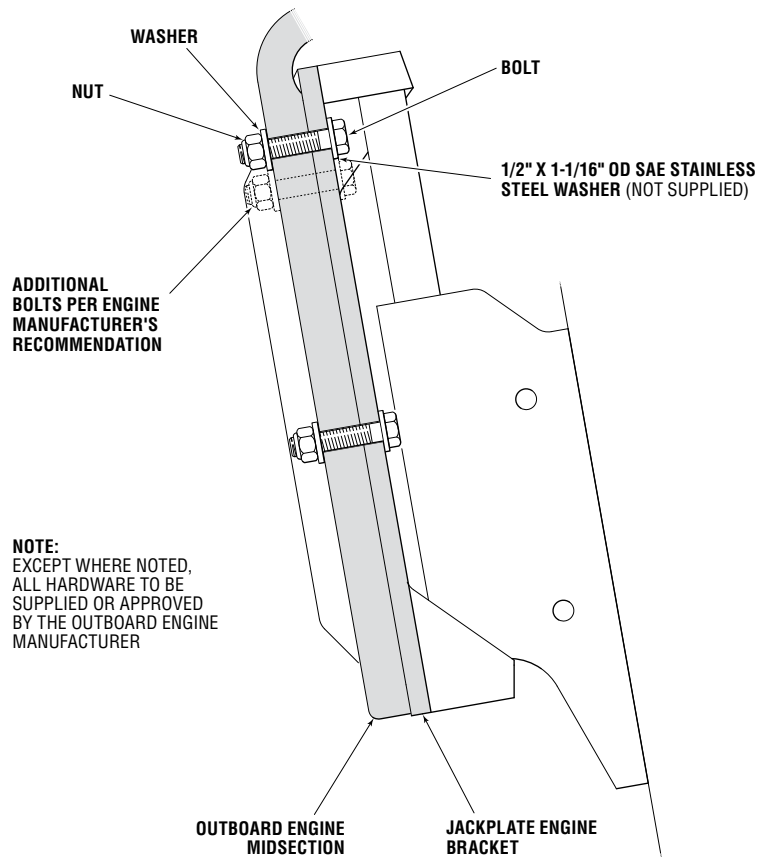


Figure 15. Outboard Engine to Jackplate connection.

## 2.6 Clearance Checks

### ⚠ WARNING

**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.**

FAULT	CAUSE	SOLUTION
<b>1. Unit leaks down over short period of time.</b>	<ul style="list-style-type: none"> <li>Internal fluid bypass.</li> </ul>	<ul style="list-style-type: none"> <li>Actuate Jackplate several times in extend and retract direction.</li> </ul>
<b>2. Unit fails to reach limit of extension or retraction or binds at an angle near limit of travel.</b>	<ul style="list-style-type: none"> <li>Mechanical interference with other components.</li> </ul>	<ul style="list-style-type: none"> <li>Check for interference between moving components including: mounting fasteners, steering system, loose parts, tools, etc.</li> </ul>
<b>3. Unit operates slowly or erratically during extend or retract.</b>	<ul style="list-style-type: none"> <li>Low supply voltage.</li> </ul>	<ul style="list-style-type: none"> <li>Check supply voltage. Voltage at actuator leads must be between 10.5 and 14 V.</li> </ul>
<b>4. Does not run in either direction.</b>	<ul style="list-style-type: none"> <li>Dead or low battery.</li> <li>Tripped circuit breaker.</li> <li>Tripped motor thermal breaker.</li> <li>Faulty electrical connection.</li> <li>Faulty relay.</li> <li>Mechanical interference with other components.</li> </ul>	<ul style="list-style-type: none"> <li>Check supply voltage. Voltage at actuator leads must be between 10.5 and 14 V.</li> <li>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.</li> <li>Allow motor to cool down to reset automatically.</li> <li>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.</li> <li>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.</li> <li>Check for interference between moving components including: mounting fasteners, steering system, loose parts, tools, etc.</li> </ul>



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**6. 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.

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**7. Height gauge operates erratically (SmartStick equipped models only)**

- 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.