Jastram B Model Actuators are double-acting equal displacement cylinders, which are directly connected to a tiller. When the B Model is actuated it moves the tiller, which in turn moves the rudder.

The actuator sizing is primarily dependent on the maximum rudder torque required. Once the required rudder torque is known the appropriate actuator size can be selected.

Calculating the rudder torque is complex. An incorrect calculation can result in failure of the steering system. Torque calculations should be confirmed by a naval architect or designer. For more information on actuator sizing please contact your local Jastram distributor.

Type Approved Product; see details on back page
Items to note on small steering systems:
- Double Acting Relieving and Bypass (DARBs) valves are suggested to protect the steering gear
- Header tanks or autofill valves are suggested to prevent the introduction of air or the loss of steering due to low oil levels
- A system pressure of around 500 PSI (35 BAR) is suggested for manual steering systems
- Shut off valves are suggested at each component in the hydraulic circuit
- Tube or pipe sizing is based on the helm pump information; see Jastram H Model Helm Pump Cutsheet for details

Jastram Actuators require the following items for installation:
- Tiller bolts
- Hoses

Jastram Actuators are serviceable. Standard seal kits are available and should be changed regularly:
- JA-950002-1, B-38 seal kit
- JA-950003-1, B-50 seal kit
- JA-950004-1, B-76 seal kit

### Recommended Oils:
Hydrocarbon based oils ISO grade 32, are recommended for use with the Jastram system.

**WARNING:** DO NOT USE TRANSMISSION OIL OR BRAKE FLUID

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### Basic Manual Hydraulic Steering System

### JA Model B Model Geometry

#### Recommended Oils:
Hydrocarbon based oils ISO grade 32, are recommended for use with the Jastram system.

**WARNING:** DO NOT USE TRANSMISSION OIL OR BRAKE FLUID

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### Actuator & Helm Pump Sizes

<table>
<thead>
<tr>
<th>Part Number</th>
<th>B Model</th>
<th>Qty</th>
<th>Displacement</th>
<th>In³</th>
<th>cm³</th>
<th>Model</th>
<th>Turns</th>
<th>Lbs-Ft</th>
<th>N-M</th>
<th>In</th>
<th>mm</th>
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<tr>
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<td>B-38-120</td>
<td>1</td>
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<td>142</td>
<td>112</td>
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<td>530</td>
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</table>

### Actuator Torque Rating
- The torque rating is determined at 1000 PSI (69 BAR) and 35°, maximum rudder angle 37°.
- The maximum rudder stock diameter is determined at 1000 PSI (69 BAR) and 35°, 37°.

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### Jastram Actuators are serviceable.
- Standard seal kits are available and should be changed regularly.
- JA-950002-1, B-38 seal kit
- JA-950003-1, B-50 seal kit
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### JA Model B Model Geometry

#### Torque Rating
- The torque rating is determined at 1000 PSI (69 BAR) and 35°, maximum rudder angle 37°.
- The maximum rudder stock diameter is determined at 1000 PSI (69 BAR) and 35°, 37°.

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### Actuator Torque Rating
- The torque rating is determined at 1000 PSI (69 BAR) and 35°, maximum rudder angle 37°.
- The maximum rudder stock diameter is determined at 1000 PSI (69 BAR) and 35°, 37°.
items to note on installation:

To ensure SAFE and EFFICIENT operation the steering gear must be installed under the following conditions:

• Tiller is properly clamped and keyed to the rudder stock. Clearance between key and keyway is not excessive
• Rod end bolts (shipyard supply) clamping the actuator rod end to the tiller are US grade 5 or equivalent and secured with a lock nut
• Suitable bearing support is provided for the rudder stock
• Rudder stock can turn without excessive friction
• Tiller and actuator can swing freely without obstruction from hoses and piping
• Bleed fittings are positioned at the top of the actuator
• Ensure all air is bled out of the hydraulic circuit before use
• Trunnion housing is secured by 4 mounting bolts US grade 5 or equivalent (shipyard supply), to the supporting base
• Supporting base is capable of withstanding the rudder torque transmitted through the steering gear
• Actuator and tiller are mounted on the same horizontal plane Rod end side, which is embossed with the word “TOP”, must face up
• Actuators are installed to the manufacturer’s specified geometry

Jastram B Model Actuators are ABS Type Approved for Marine Application - Commercial Steering Gears.

Data is subject to change without notice.