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› Sierra SeaStar HH6191-3 Sport Tilt Helm Instruction Manual

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Model: HH6191-3

INTRODUCTION AND OVERVIEW

The SeaStar HH6191-3 Sport Tilt Helm is a hydraulic steering component designed for marine applications. It is engineered for efficiency, safety, and reliability in single and multi-outboard engine configurations up to 350 HP (700 HP combined for counter-rotating twins), suitable for speeds up to 60 MPH. This helm features a superior design with precision manufacturing and rigid quality control, ensuring ease of installation and maintenance. It meets ABYC and NMMA certification standards.

This manual provides essential information for the proper installation, operation, and maintenance of your SeaStar HH6191-3 Sport Tilt Helm. Please read all instructions carefully before proceeding with installation or use.

KEY FEATURES

- 48 degrees of tilt articulation with 5 positive lock positions for comfortable steering.
- Factory-installed lubrication ensures smooth operation and feel.
- Compact helm design with a 4-7/16 inch footprint.
- Equipped with positionable Stainless Steel O-Ring Boss (ORB) fittings.
- Features a soft rubber boot.
- Allows for convenient front-of-dash fill.
- Can be retrofitted into an old SeaStar 4.5 inch hole cutout.
- Provides approximately 4.2 turns lock-to-lock in typical single-cylinder outboard applications.

Features of SeaStar Helm Pumps

- 1 Helm rotor supported by three roller bearings.
- 2 Ball bearing piston race.
- 3 Field replaceable shaft seal.
- 4 -5 ORB ports.
- 5 Built-in lock valve for positive rudder lock.
- 6 Patented bleed tubes.
- 7 Internal air pocket eliminates oil expansion overflow.
- 8 Integral relief valve.

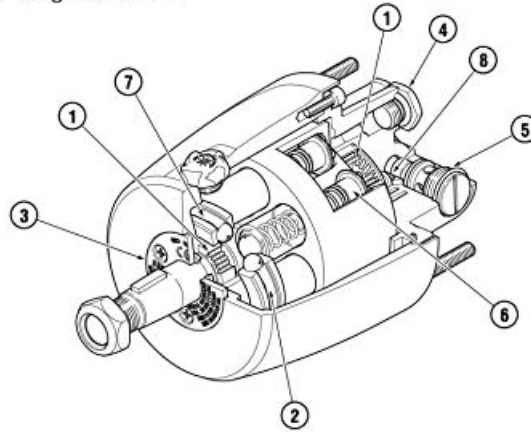


Figure 1: Internal Features of SeaStar Helm Pumps. This diagram illustrates key internal components: 1. Helm rotor supported by three roller bearings, 2. Ball bearing piston race, 3. Field replaceable shaft seal, 4. -5 ORB ports, 5. Built-in lock valve for positive rudder lock, 6. Patented bleed tubes, 7. Internal air pocket eliminates oil expansion overflow, 8. Integral relief valve.

SETUP AND INSTALLATION

Proper installation is crucial for the safe and effective operation of your SeaStar hydraulic steering system. It is recommended that installation be performed by a qualified marine technician.

System Selection

When selecting a hydraulic steering system for your boat, consider the engine horsepower and boat type. The chart below provides guidance for optimum performance and maximum rating based on engine horsepower. For specific recommendations, consult with your marine dealer or SeaStar Solutions Technical Support.

Optimum Performance Chart

How can we help?

When researching a hydraulic steering system for your boat there are several systems to choose from. The chart noted below will assist with selecting the proper system. It is recommended that boats with high steering loads (pontoons, bass boats and larger HP four stroke engines) use the SeaStar/SeaStar PRO Steering. Doing so will reduce the steering effort due to the fact that the SeaStar Steering Systems provide more output power, resulting in lower steering effort. If you are unsure of what system to choose, consult with your marine dealer, or SeaStar Solutions Technical Support.

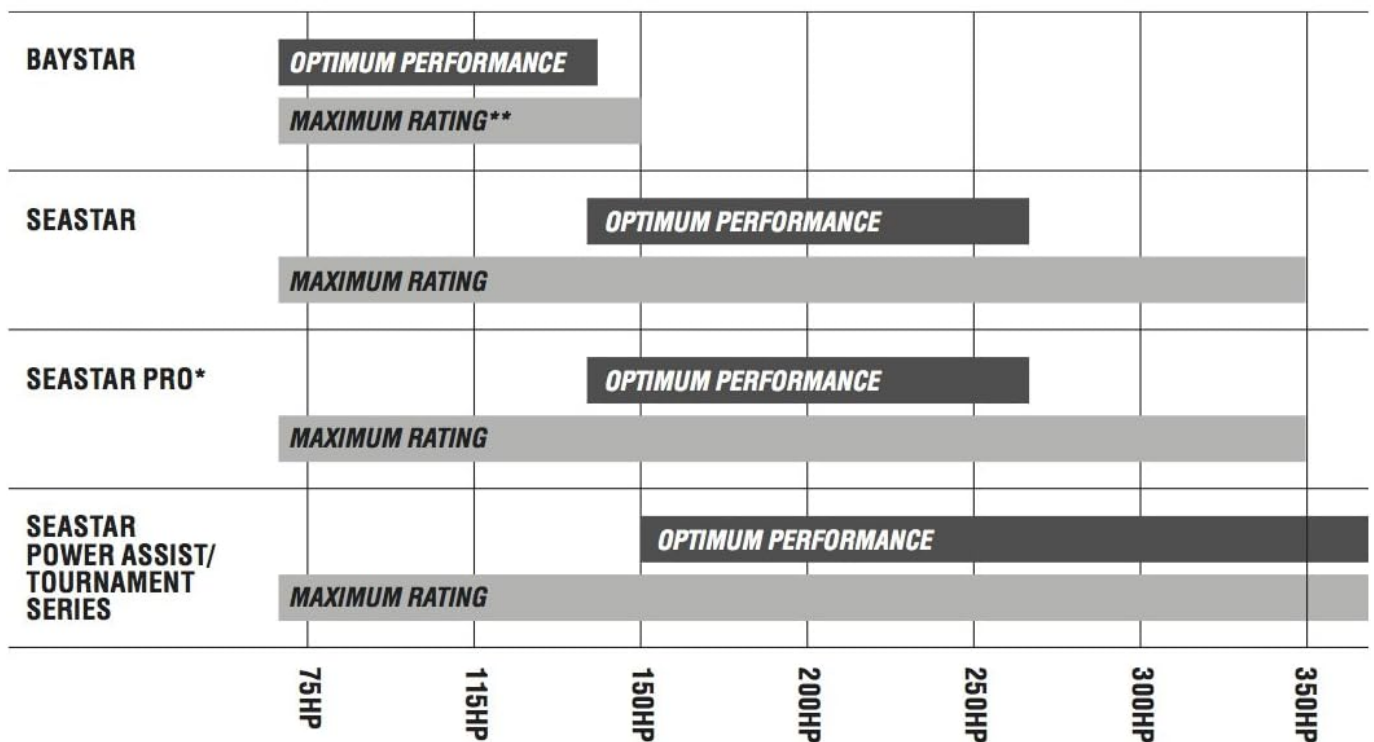


Chart based on 'Optimum Comfort'

* Ideal for single engine, high speed boats, such as bass boats.

** High performance 150HP engines, such as Mercury Optimax should use SeaStar.

Figure 2: Optimum Performance Chart. This chart assists in selecting the appropriate SeaStar hydraulic steering system based on engine horsepower, categorizing systems like BayStar, SeaStar, SeaStar PRO, and SeaStar Power Assist/Tournament Series. It indicates optimum performance and maximum rating ranges for various HP levels, from 75HP to 350HP. The chart is based on 'Optimum Comfort' and notes that it is ideal for single engine, high speed boats such as bass boats. High performance 150HP engines, such as Mercury Optimax, should use SeaStar.

Important Installation Notes:

- **WARNING:** Do NOT attempt to install an NPT pipe fitting into a -3 helm hose fitting port. Doing so will lead to irreparable damage to the helm and could compromise steering control.
- Ensure all connections are secure and properly torqued according to the detailed installation guide (not included in this manual, refer to the full product manual).
- Use only SeaStar hydraulic fluid and SeaStar hydraulic hoses for installation to ensure system integrity and maintain warranty validity.

OPERATING INSTRUCTIONS

Once properly installed and bled, the SeaStar HH6191-3 Sport Tilt Helm provides smooth and responsive steering control. Familiarize yourself with the feel of the hydraulic system before operating your vessel at speed.

- **Steering Control:** The helm offers approximately 4.2 turns lock-to-lock for full rudder movement in typical single-cylinder outboard applications.
- **Tilt Function:** Adjust the steering wheel angle using the tilt mechanism, which features 48 degrees of articulation and 5 positive lock positions. This allows for ergonomic comfort for various operators and driving positions.
- **No Feedback Steering:** The hydraulic system inherently provides "no feedback" steering, meaning engine torque and propeller forces are not transmitted back to the steering wheel, reducing operator fatigue.

MAINTENANCE

Regular maintenance ensures the longevity and reliable performance of your SeaStar HH6191-3 Sport Tilt Helm.

- **Fluid Level Check:** Periodically check the hydraulic fluid level through the front-of-dash fill port. Maintain the fluid level as specified in the full product manual.
- **Fluid Type:** Always use genuine SeaStar hydraulic fluid. Use of non-certified fluids may damage the system and void the warranty.
- **Hose Inspection:** Regularly inspect all hydraulic hoses for signs of wear, leaks, or damage. Replace any compromised hoses immediately with genuine SeaStar hydraulic hoses.
- **Bleeding the System:** If air enters the system (indicated by spongy steering or excessive turns lock-to-lock), the system must be properly bled. Refer to the comprehensive SeaStar hydraulic steering manual for detailed bleeding procedures.
- **General Cleaning:** Keep the helm and surrounding area clean and free of debris.

TROUBLESHOOTING

This section addresses common issues you might encounter with your SeaStar hydraulic steering system.

Problem	Possible Cause	Solution
Spongy or soft steering	Air in the hydraulic system.	Bleed the hydraulic system thoroughly. Refer to the full SeaStar manual for detailed instructions.
Excessive turns lock-to-lock	Low hydraulic fluid level or air in the system.	Check fluid level and top up with SeaStar hydraulic fluid. Bleed the system if necessary.
Fluid leakage	Loose fittings, damaged hoses, or damaged seals.	Inspect all fittings and hoses. Tighten loose fittings. Replace damaged hoses or contact a qualified technician for seal replacement.
Steering wheel stiff or difficult to turn	Insufficient lubrication, internal helm issue, or obstruction.	Ensure proper lubrication. If problem persists, contact a qualified marine technician.
Helm damaged by incorrect fitting	Attempted installation of NPT pipe fitting into -3 helm hose port.	This damage is irreparable. The helm unit must be replaced. Always use correct SeaStar fittings.

If you encounter issues not listed here or if troubleshooting steps do not resolve the problem, contact SeaStar Solutions Technical Support or a certified marine technician.

SPECIFICATIONS

Attribute	Detail
Model Name	SEASTAR TILT HELM SPORT 1.7
Part Number	HH6191-3
Brand	Sierra (Manufacturer: SeaStar)
Item Weight	14.2 pounds (6.44 kg)
Item Dimensions (LxWxH)	11 x 10 x 6 inches (27.94 x 25.4 x 15.24 cm)
Package Dimensions (LxWxH)	11.2 x 9.9 x 5.8 inches (28.45 x 25.15 x 14.73 cm)
Material	Blend
Country of Origin	Canada
Tilt Articulation	48 Degrees
Lock Positions	5 Positive Lock Positions
Turns Lock-to-Lock	Approx. 4.2 (single cylinder outboard)
Max Engine HP	350 HP (single), 700 HP (combined for counter-rotating twins)
Max Speed	Up to 60 MPH
Certifications	Meets ABYC and NMMA standards

WARRANTY INFORMATION

SeaStar products are backed by a **two-year recreational user warranty** against manufacturing defects. This warranty covers defects in materials and workmanship under normal recreational use.

Important: The use of non-certified products (e.g., non-SeaStar hydraulic fluid or hoses) to install or maintain SeaStar products may void this warranty and could lead to loss of steering control. Always use genuine SeaStar components and fluids.

For full warranty terms and conditions, please refer to the official SeaStar Solutions warranty documentation or contact customer support.

SUPPORT

For technical assistance, installation guidance, or troubleshooting support, please contact SeaStar Solutions directly or consult with a certified marine dealer.

- **Online Resources:** Visit the official SeaStar Solutions website for comprehensive manuals, FAQs, and product information.
- **Authorized Dealers:** Locate an authorized SeaStar dealer near you for professional service and genuine parts.
- **Customer Service:** Refer to your product packaging or the SeaStar Solutions website for current customer service contact information.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question