

IMPROVED ACCUMULATOR RELIABILITY



PRODUCT ALL SEAKEEPER MODELS

PURPOSE

To communicate that the reliability of the accumulators provided with each Seakeeper Stabilizer has dramatically increased due to improved brake system design and component quality.

DESCRIPTION

Seakeeper stabilizers are equipped with hydraulic accumulators on the brake manifolds. Ongoing improvements to the quality and design of the Brake System have resulted in heightened reliability. The Brake System is a closed, factory-pressurized system, and any Low Brake Pressure Alarm indicates a low hydraulic pressure condition resulting from one or more causes listed below.

1. Leaking Hydraulic fluid from the Brake Manifold, Manifold components such as the pressure switch or solenoid valve
2. Leaking brake cylinder fittings or seals
3. Failed accumulator (loss of nitrogen pressure)

Service interventions performed on Seakeeper stabilizers with early-generation accumulators resulted in more confirmed failures. A failure of the accumulator bladder or nitrogen charge port often caused the low brake pressure condition.

Since 2019, Seakeeper has integrated better quality and designed accumulators into production across various models. This significant upgrade underscores Seakeeper's commitment to quality and reliability. The company has conducted numerous tests on this improved generation of Accumulators, which were replaced during warranty service interventions. The results showed that over 90% of the accumulators were not defective and in good working order.

Furthermore, the ongoing improvements to the design and operation of the Brake System have not only enhanced its performance but also reduced the overall impact and duty cycle on the accumulators. This has significantly extended their expected life, demonstrating the system's efficiency and cost-effectiveness.

Seakeeper will require proof of accumulator failure prior to authorizing any orders for accumulators under warranty. The dealer will need to provide pictures of a brake pressure gauge showing initial pressure, picture of the ruptured accumulator bladder, and any other information indicating an accumulator failure.

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SEAKEEPER RECOMMENDED MAINTENANCE SCHEDULE

Seakeeper stabilizers are designed to require minimal maintenance since most of the critical components operate in a sealed enclosure, protected from the corrosive moisture involved in life on the water. Outside the sphere, the closed loop hydraulic and cooling circuits should be inspected and serviced periodically.

Historically, we have included the accumulators in the Maintenance Plan with an inspection at 1000 RUN hours or annually and replacement (as needed) at 2000 RUN hours. The accumulator inspection reference has been removed and replaced with a Hydraulic Manifold Component Inspection. Replacement, like other critical components, should be approached as needed.

The Inspection is an essential part of annual scheduled maintenance to ensure there are no Hydraulic leaks, physical damage, or other apparent imperfections that may lead to failure or reduced effectiveness of any Hydraulic Manifold Components.

The system is equipped with an operational alarm that serves as a key indicator of poor stabilization performance. It is designed to notify the user if the hydraulic pressure drops to a level that could compromise the system's performance. The alarm will be triggered when the system's hydraulic pressure is at or near the pressure switch set point shown in [Attachment 1](#). In such cases, routine inspection and troubleshooting steps should be taken to identify the cause of the low-pressure condition.

Maintaining the Hydraulic brake pressure within acceptable limits is crucial for ensuring the system's optimal performance. Using the Seakeeper Hydraulic Brake Service Tool Kit or stand-alone gauge, the hydraulic brake pressure can be checked to determine if the pressure is within the acceptable range. A pressure reading of $\pm 10\%$ or more from factory charge pressure recommendations may be acceptable. For more information on charge pressures and expected variance due to temperature, refer to [Attachment 2](#). The Alarm threshold for pressure switches is set to accommodate pressure fluctuations due to temperatures and still allow regular operation.

In the absence of hydraulic leaks and active low-pressure alarms, pressurizing the system to its factory setting without replacing accumulators is recommended.

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REFERENCE DOCUMENTS

1. [TB 90554 - Accumulator Reference Guide](#)
2. [TB 90426 - Seakeeper-Scheduled-Maintenance-Plan](#)

ATTACHMENT 1 – BRAKE PRESSURE / ALARM THRESHOLD

BRAKE PRESSURE / ALARM THRESHOLD							
MODEL (Serial #)	Manifold Type	CHARGE PRESSURE (PSI/BAR)	ALARM THRESHOLD (PSI/BAR)	VALID ALARMS BY MODEL			DRAWING NO.
				CODE 12	CODE 13	CODE 14	
SEAKEEPER 1	Rectified	50/3.44	27/1.86	X			50284
SEAKEEPER 2 (2-0001 – 2-0071)	Rectified	240/16.5	72/5	X			50249
SEAKEEPER 2 (2-0072 to Current)		350/24.1	215 ¹ /14.8	X			
SEAKEEPER 3 (3-0001 to 3-0561)	Rectified	240/16.5	72/5	X			50197
SEAKEEPER 3 (3-0562 to Current)	Rectified	350/24.1	215 ¹ /14.8	X			50249
SEAKEEPER 4/4.5	Rectified	50/3.44	27/1.86	X			50388
SEAKEEPER 5/3DC(EM) (5-0001 to 5-1049)	Bi-directional	240/16.5	72/5			X	10930
SEAKEEPER 6/5 (5-193-1512 to 5-194-1935) (6-0001 to 6-201-1934)	Bi-directional	240/16.5	72/5			X	50216
SEAKEEPER 6/5 (5-201-1969 – 5-234-6408) (6-201-1936 – 6-234-6432)	Rectified	350/24.1	150/10.3	X			50290
SEAKEEPER 6/5 (5-234-6494 – 5-242-6708) (6-234-6433 to Current)			165 ^{1,2} /11.4	X			
SEAKEEPER 9/7HD (9-0001 – 9-201-2838)	Bi-directional	240/16.5	72/5			X	50215
SEAKEEPER 9/7HD (9-201-2839 to Current)	Rectified	350/24.1	230 ¹ /15.9	X			50316
SEAKEEPER 16/12HD(EM) (16-0001 to 16-193-0912)	Bi-directional	240/16.5	72/5	X	X		50250
SEAKEEPER 18/16/12HD	Rectified	350/24.1	200/13.8	X			50298
SEAKEEPER 26/20HD	Bi-directional	240/16.5	72/5	X	X		11067
SEAKEEPER 35/30HD/40	Bi-directional	240/16.5	72/5	X	X		11067

EM = Legacy Discontinued Seakeeper Model

1 ±15 psi

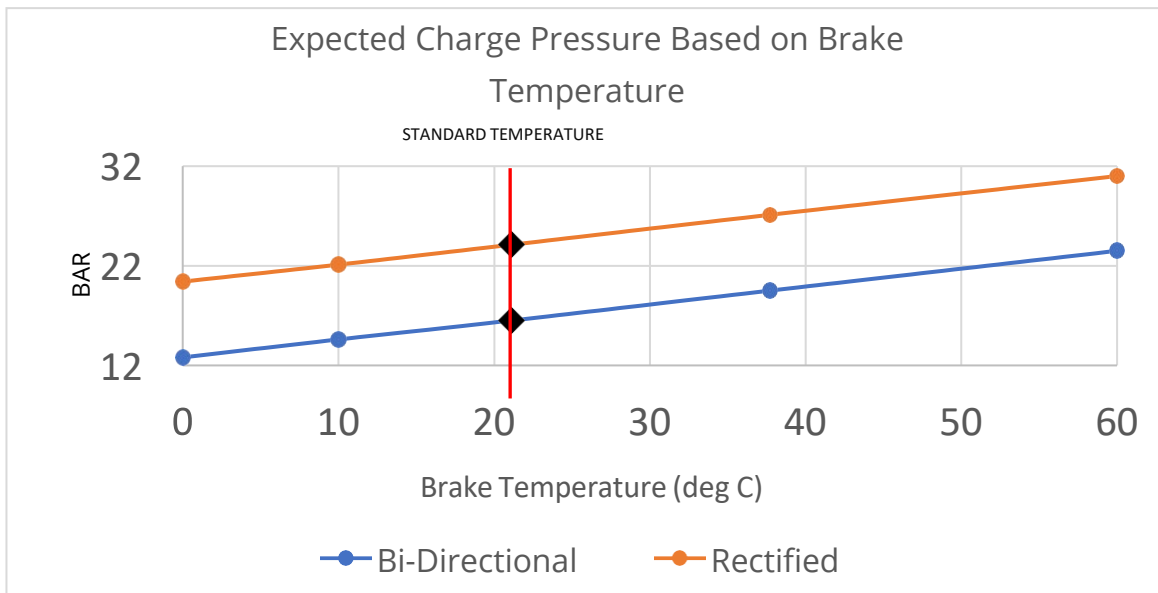
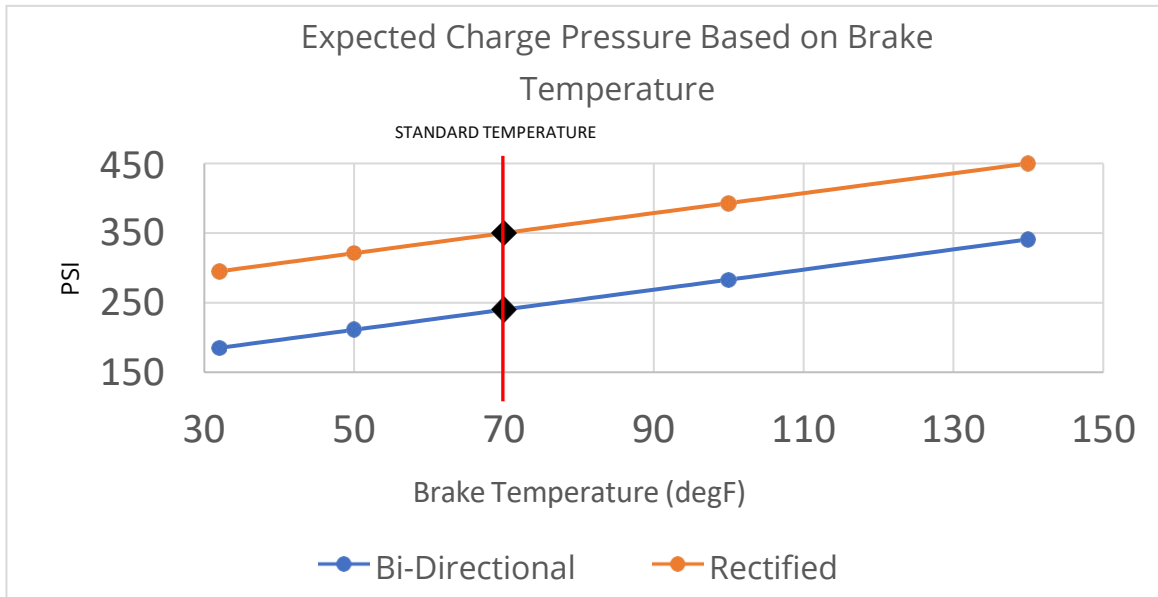
2 pressure switch 50408 is backward compatible to 5/6-1936

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ATTACHMENT 2 – CHARGE PRESSURE BASED ON TEMPERATURE



Revision	Description	Approval	Date
2	Updated low pressure alarm set points. Corrected links. Editorial corrections.	A Patricio	13JUN2023
3	Included Seakeeper 4, 4.5, and 40	A Patricio	09AUG2024