

SEAKEEPER ANNUAL INSPECTION



PRODUCT SEAKEEPER SERIES MODELS

PURPOSE

This bulletin identifies specific areas to visually check for scheduled maintenance of Seakeeper stabilizers. This procedure does NOT direct the opening of the brake systems for inspection.

REFERENCES

- [TB-90426 – Seakeeper Scheduled Maintenance Plan – Recreational](#)
- Appropriate [Operation Manual](#) for Seakeeper

PRECAUTIONS

1. **PERSONNEL INJURY MAY RESULT** if Seakeeper is NOT locked and flywheel at zero RPM before removing covers or accessing unit for service.
2. **PERSONNEL INJURY MAY RESULT** if attempting to perform maintenance on Seakeeper without removing flywheel motor power (AC or high-current DC power) for minimum of 10 minutes prior to maintenance due to remote start capabilities.
3. **PERSONNEL CRUSHING HAZARD EXISTS** when working near operating Seakeeper when in UNLOCKED/SEA mode.

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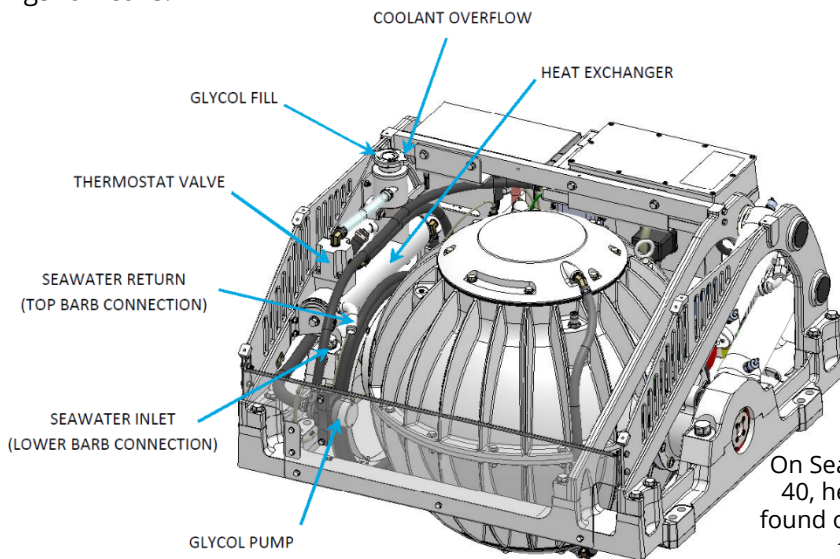
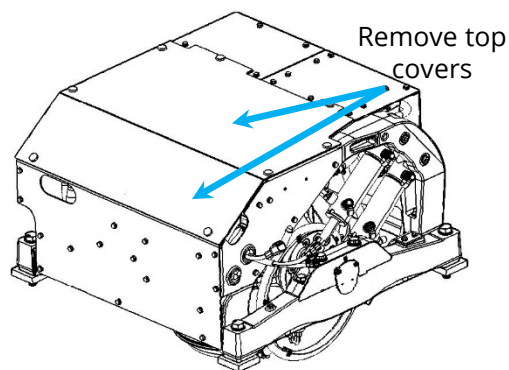
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PROCEDURE

COOLING SYSTEM CHECKS

WARNING!
PERSONNEL SHOCK HAZARD EXISTS WHEN FLYWHEEL ROTATING OR POWER ALIGNED TO SEAKEEPER.

1. **OPEN / TURN OFF** AC or high current DC power breaker to Seakeeper.
2. **ENSURE** flywheel at zero RPM at display / MFD app.
3. **REMOVE** top covers from Seakeeper to access system components for annual inspection.
4. **VISUALLY INSPECT** heat exchanger and all hose fittings for leaks.



On Seakeeper 26, 35, & 40, heat exchanger is found on left-rear side of foundation

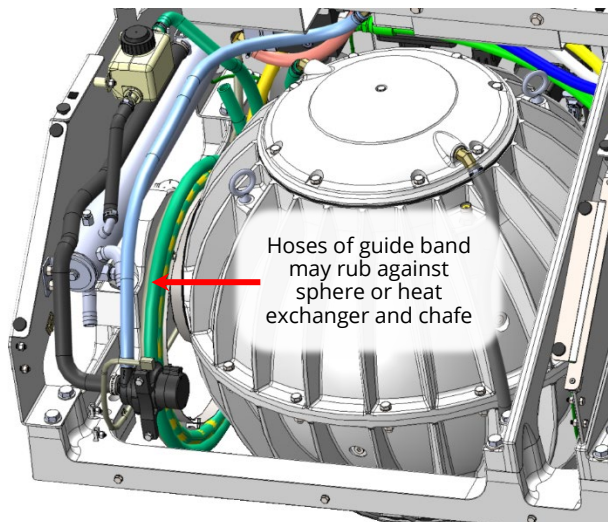
5. **VISUALLY INSPECT** heat exchanger for severe corrosion.

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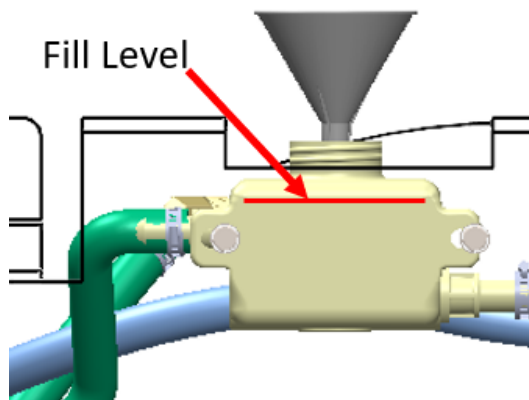
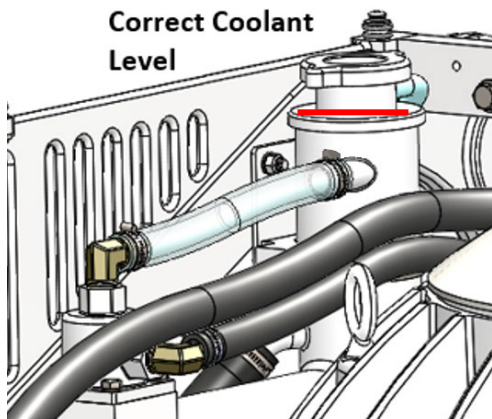


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- 6. **VISUALLY INSPECT** all cooling hoses and fittings for damage / chafing. (Chafing can occur on hoses routed over the flexible guide bands around the gimbal shaft of the enclosure sphere)
- 7. **INSPECT** bilge area under Seakeeper for indication of coolant leaks.
- 8. **IF** leaks, corrosion, or damage / chafing discovered, **THEN CONTACT** local Seakeeper dealer for repair / replacement. (Visit <https://www.seakeeper.com/find-us/> to find a dealer)



- 9. **VERIFY** glycol coolant level in reservoir at bottom of fill neck.



- a. **FILL** reservoir, as necessary, with 50/50 ethylene glycol and distilled water mixture to level shown in images above.
- 10. **CLEAN / DESCALE** seawater / raw water side of heat exchanger with commercially available descaler (i.e., Barnacle Buster or similar).

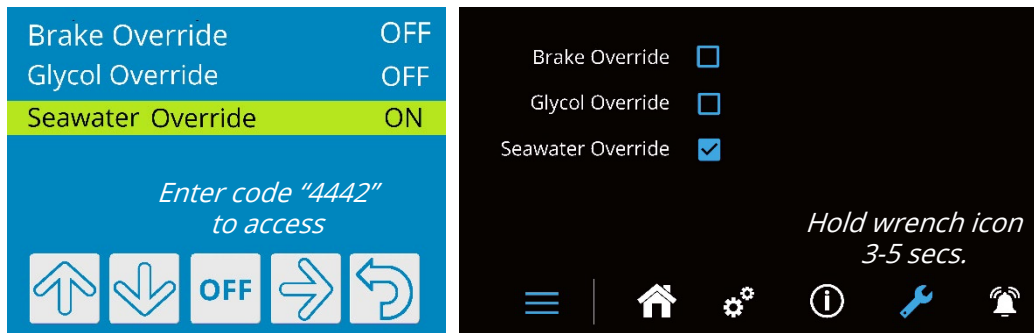
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11. **PERFORM** flow measurement of seawater pump as follows:

- a. **ENSURE** power aligned to Seakeeper and seawater pump.
- b. **ACTIVATE** seawater override.



- c. **IF** Seakeeper NOT equipped with direct reading flow meter, **THEN:**
 - i. **DIVERT** discharge of seawater pump into a bucket.
 - ii. **MEASURE** time to fill a known volume **AND CONVERT** to gallons per minute or liters per minute.
- d. **COMPARE** flowrate to range specified in appropriate model [Operation Manual](#) Specifications section.

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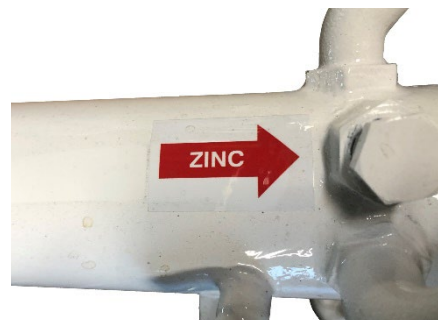
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12. For Seakeeper models listed in table, **PERFORM** following:

Seakeeper Model	Serial Range	No. Zincs	Zinc Anode Length
Seakeeper 3DC (EM)*	3DC-0001 - 3DC-0296	2	3/4 in. (1/4 NPT) P/N 40143
Seakeeper 5 (EM)*	5-0001 - 5-0296	2	
Seakeeper 9*	9-0001 - 9-1513	2	
Seakeeper 26*	26-0001 - 26-0101	1	
Seakeeper 35*	35-0001 - 35-0104	1	
Seakeeper 16 (EM)	16-0001 - 16-0916	1	1-1/2 in. (1/2 in. dia., 3/8 NPT) P/N 40430
Seakeeper 18 / 16	18/16-0001 to Current	1	
Seakeeper 5 (EM)	5-0297 - 5-1049	2	1-1/4 in. (1/2 in. dia., 3/8 NPT) P/N 40446
Seakeeper 6 / 5	ALL	2	
Seakeeper 9	9-1514 to Current	1	
Seakeeper 26	26-0102 to Current	2	
Seakeeper 35	35-0105 to Current	2	

* If heat exchanger has been replaced, the 1-1/4 anode may be used. Check before ordering new anodes.

- a. **CLOSE** seawater pump inlet seacock valve.
- b. **REMOVE** zinc anodes of Seakeeper heat exchanger with wrench.
- c. **REPLACE** anodes with greater than 50% erosion.
- d. **REOPEN** seacock valve.



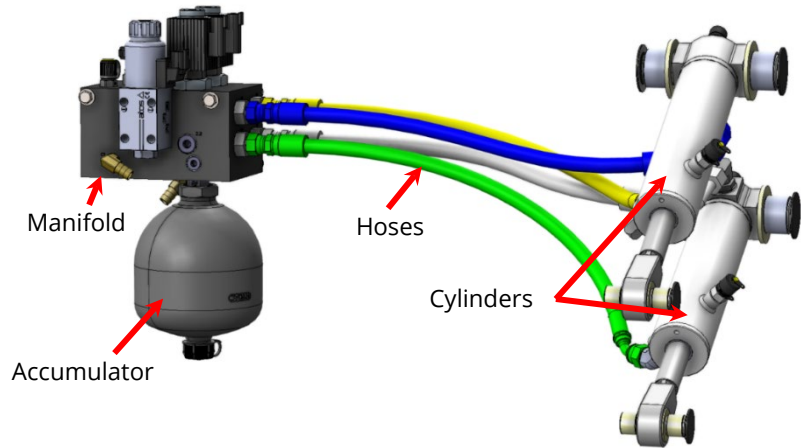
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PRODUCT SEAKEEPER SERIES MODELS

BRAKE SYSTEM CHECKS

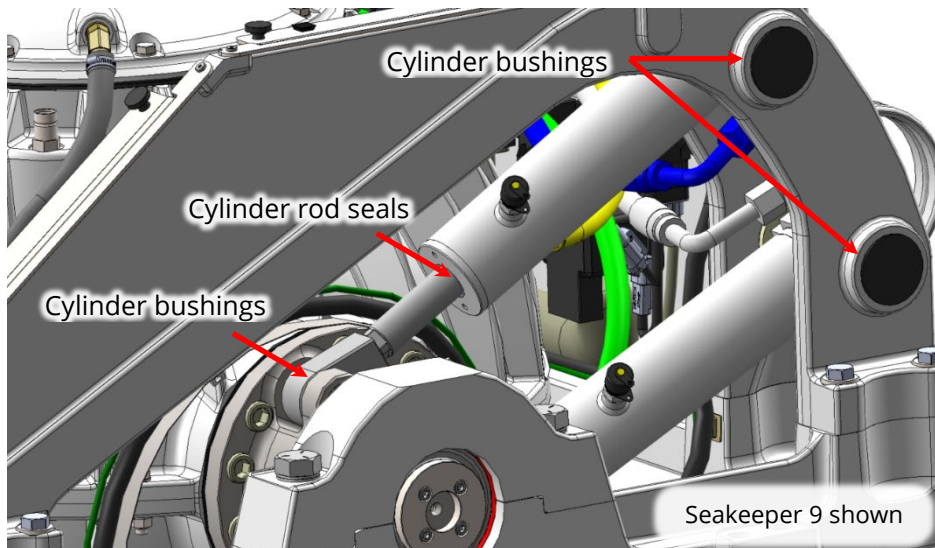
1. **VISUALLY INSPECT** brake system hose and manifold fittings for leaks.
2. **VISUALLY INSPECT** brake system hoses for damage.



NOTE:

Some oil residue under rod seals on bottom of cylinders is normal but any drips showing below cylinders should be investigated. Significant leaks may result in low brake pressure alarm condition.

3. **VISUALLY INSPECT** area under brake cylinders for indication of leakage from cylinder rod seals.



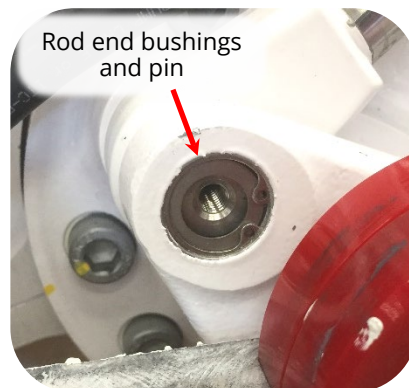
4. **IF** any hose damage or leakage found from brake fittings or seals, **THEN CONTACT** local Seakeeper dealer for repair / replacement. (Visit <https://www.seakeeper.com/find-us/> to find a dealer)

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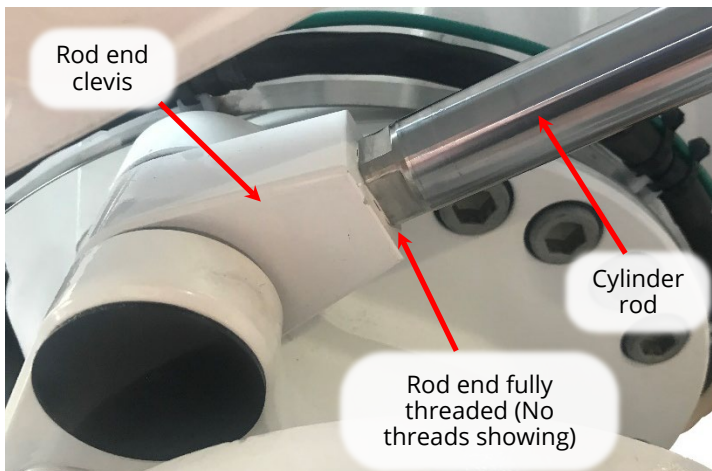
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NOTE:
Cylinder rod ends have a pin and bushings to allow freedom of movement. Brake pins are held in rod ends by a retainer and washer. Excessive corrosion may lead to failure of retainer.



Rod end bushings and pin
Gimbal cover and pin cover removed for clarity

- 5. **VISUALLY INSPECT** brake cylinder rod ends for excessive corrosion.
- 6. **VISUALLY INSPECT** brake cylinder rods fully threaded into clevises.



- 7. **VISUALLY INSPECT** areas beneath front and rear cylinder bushings for brown powder residue (evidence of bushing failure).
- 8. **VISUALLY INSPECT** gimbal shaft fasteners not loose and torque marks aligned, if provided.
- 9. **IF** excessive corrosion at rod ends, exposed threads of cylinder rod at clevis, evidence of bushing failure, or loose fasteners, **THEN CONTACT** local Seakeeper dealer for repair / replacement.
(Visit <https://www.seakeeper.com/find-us/> to find a dealer)



Yellow torque marks shown. Fastener on left has loosened, visually above gimbal surface

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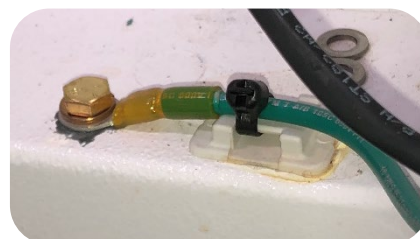
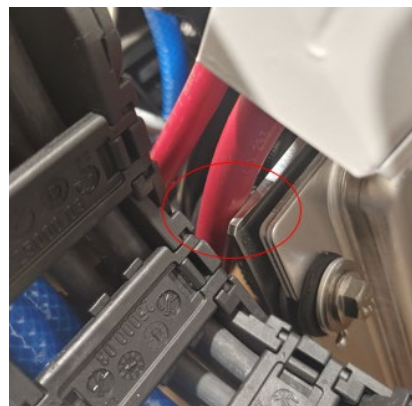
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ELECTRICAL SYSTEM CHECKS

The Seakeeper wire harness is like that found in automobile engine compartments. Each connector has a minimum of two wedge tabs to securely lock the connector in position.

Ground cables run from the motor drive, heat exchanger and some spheres to the foundation. The foundation has a separate ground cable to the vessel ground or bonding bus.

1. **VISUALLY INSPECT** cables and wire harness along Seakeeper frame and on sphere guide bands for damage or chafing.
 - a. **APPLY** cable ties to lightly chafed cables / wiring, if possible, to keep from rubbing.
2. **IF** cables / wiring found with excessive damage or chafing, **THEN CONTACT** local Seakeeper dealer for repair / replacement.
(Visit <https://www.seakeeper.com/find-us/> to find a dealer)
3. **VISUALLY INSPECT** electrical connectors securely fastened.
 - a. **RECONNECT** any discovered loose connectors.
4. **VISUALLY INSPECT** green ground cables for excessive corrosion at lugs.
 - a. **IF** corrosion found on ground lug, **THEN:**
 - i. **REMOVE** cable **AND CLEAN** cable lugs and ground screw with wire brush.
 - ii. **RECONNECT** ground cable.
 - iii. **APPLY** corrosion prevention compound on ground lugs with acid brush to minimize further corrosion.



Example of heat exchanger ground cable to foundation



Motor drive ground connection

Acceptable corrosion prevention compounds include:

- Ideal Industries Noalox® Anti-Oxidant Compound
- Gardner Bender GB® Ox-Gard® Anti-Oxidant Compound
- Thomas & Betts CP8-TB Kopr-Shield® Compound
- Jet-Lube SS-30™ Pure Copper High Temperature Anti-Seize & Gasket Compound

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ENCLOSURE SPHERE & FOUNDATION

Several factors can result in heavy corrosion on a Seakeeper: environmental issues such as poor ventilation in the space, seawater spray during boating operations, galvanic problems, and chemical or mechanical disruption of painted surfaces that exposes susceptible metals. Seakeeper recommends freshwater rinse of units exposed to seawater spray to minimize surface corrosion (See [How to Care for Your Seakeeper](#) article).

Seakeeper 26 and 35 models use foundation isolation clevises with urethane bushings. Failure of the bushings would transmit noise into the vessel hull during Seakeeper operation.

1. **VISUALLY INSPECT** enclosure sphere, foundation frame, and associated hardware for corrosion.
2. **IF** Seakeeper surfaces found with excessive corrosion or corrosion damage, **THEN CONTACT** local Seakeeper dealer for refurbishment.
(Visit <https://www.seakeeper.com/find-us/> to find a dealer)

NOTE:

Appropriate primer and topcoat paint systems include:

- Primer: Awlgrip S9001
- Topcoat (Awlcraft 20000, Snow White): Awlgrip F8063

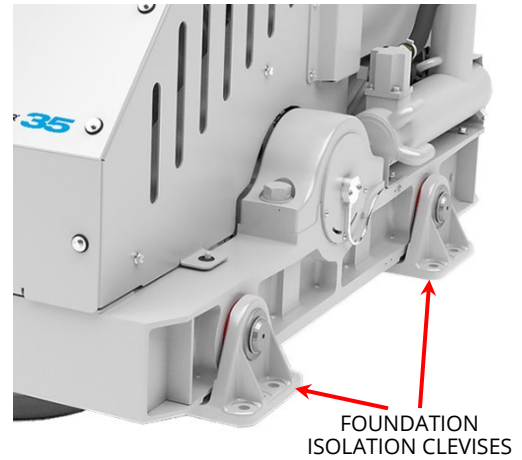
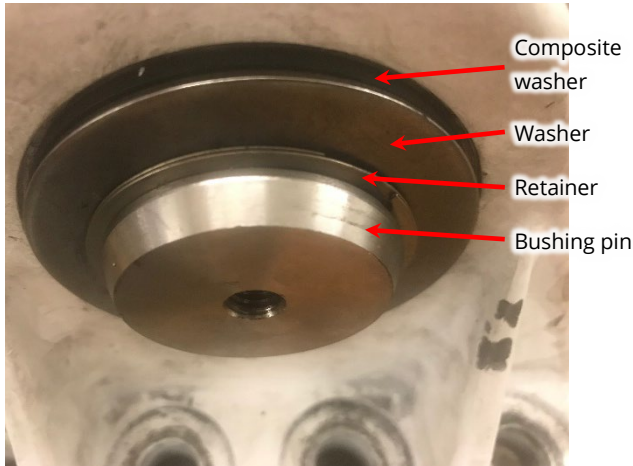
3. **IF** loose paint found on Seakeeper frame or enclosure sphere, **THEN:**
 - a. **REMOVE** loose paint back to bare metal.
 - b. **APPLY** appropriate primer and topcoat paint system to seal bare metal.
4. **VISUALLY INSPECT** foundation mounting hardware for excessive corrosion and loose fasteners.
 - a. **IF** excessive corrosion found, **THEN CLEAN** excess corrosion from fasteners.
5. **IF** Loose mounting fasteners found, **THEN CONTACT** local Seakeeper dealer for survey of foundation and installation.
(Visit <https://www.seakeeper.com/find-us/> to find a dealer)

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6. **IF** Seakeeper 26 or 35 model, **THEN VISUALLY INSPECT** foundation isolation clevises for pin retainers installed on both ends of pins.



7. **IF** foundation isolation pin retainers missing, **THEN DISCONTINUE** use of Seakeeper **AND CONTACT** local Seakeeper dealer immediately for repair.
(Visit <https://www.seakeeper.com/find-us/> to find a dealer)

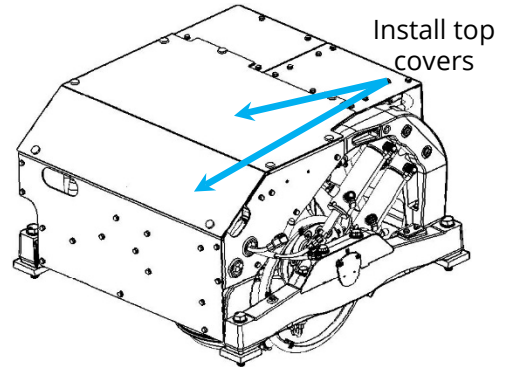
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RESTORE SEAKEEPER FOR OPERATION

1. **CLOSE / TURN ON** AC or high current DC power breaker to Seakeeper.



2. **INSTALL** top covers to Seakeeper.

***** **END** *****

Revision	Description	Approval	Date
1	Initial release.	A Patricio	28FEB2023
2	Added additional checks from Annual Maintenance Schedule. Added manuals reference.	A Patricio	22JUN2023