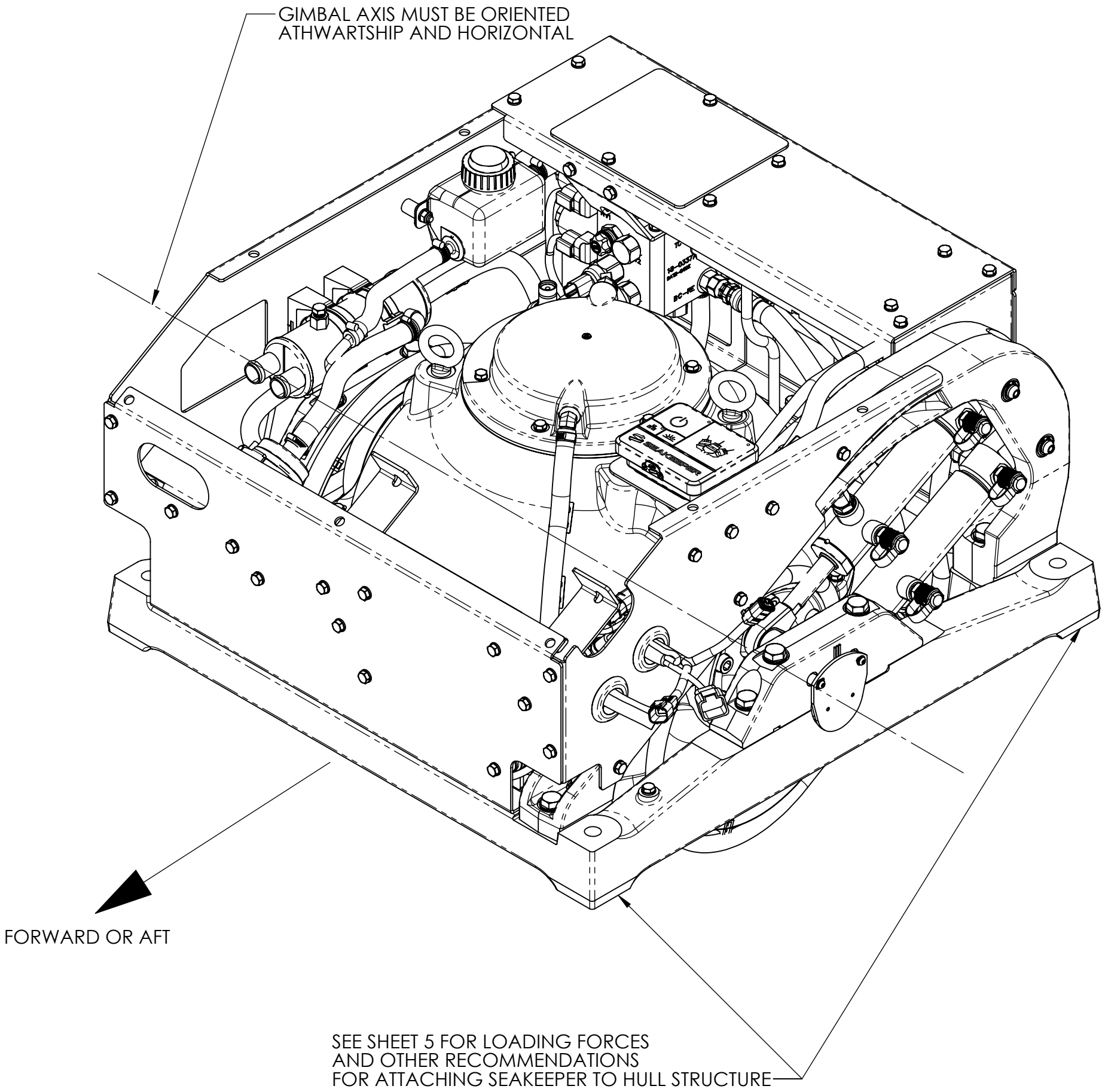
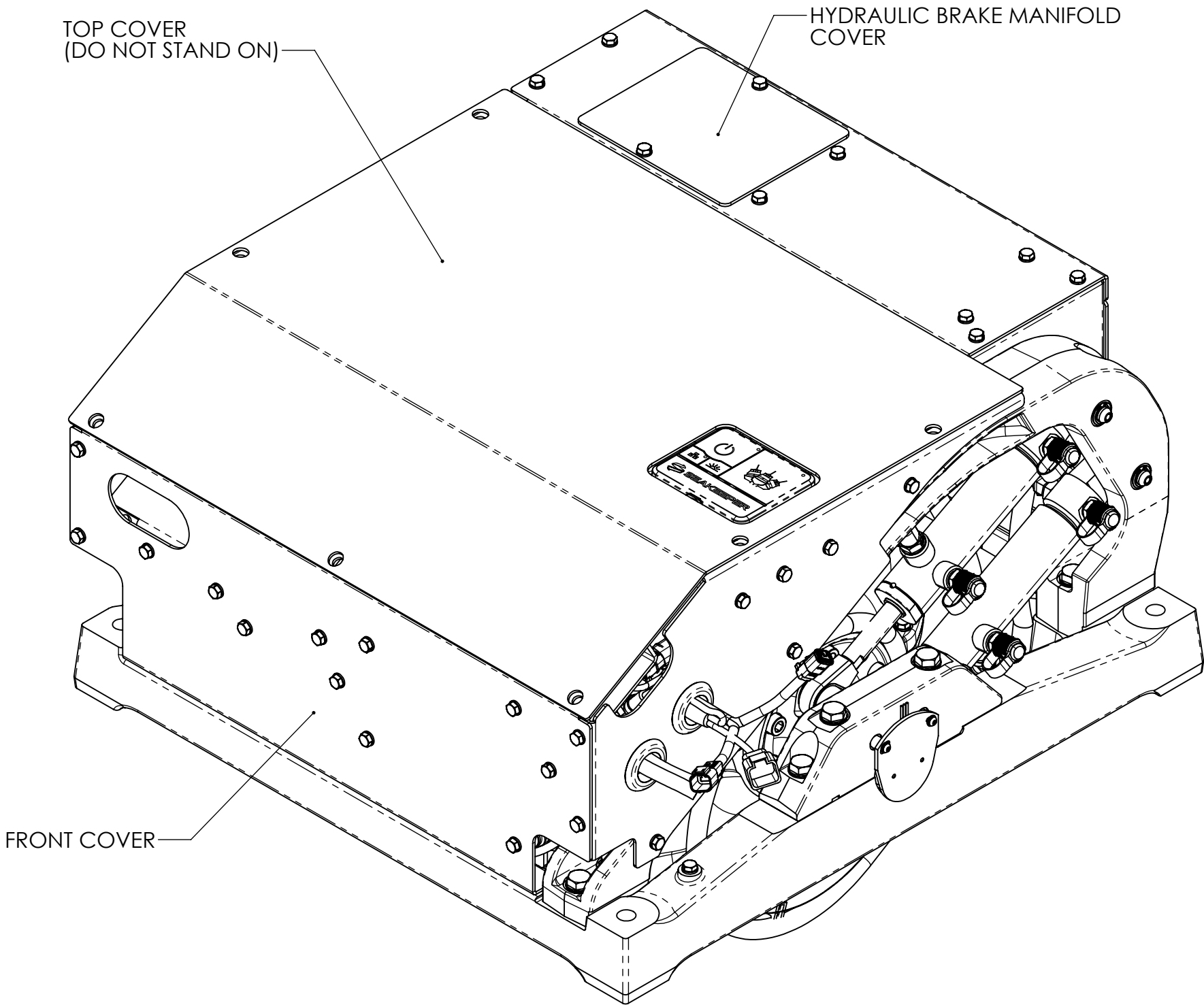


NOTES:

- SEE REFERENCES 1 THROUGH 5 FOR RELATED INSTALLATION AND ELECTRICAL/ELECTRONIC AND COOLING CIRCUIT DRAWINGS.
- SEAKEEPER 2 ASSEMBLY WEIGHT = 414 LBS (188 KG).
- RAW WATER COOLING REQUIREMENT IS 8 LPM (2 GPM) MINIMUM AND 23 LPM (6 GPM) MAXIMUM CONTINUOUS FLOW. PROVIDED CONNECTIONS ARE 19mm(3/4") HOSE BARB. USE OF RAW WATER STRAINER IS REQUIRED.
- TWO LIFTING EYEBOLTS(M8-1.25 X 16MM THREAD LG) ARE PROVIDED ON THE TOP OF THE SEAKEEPER SPHERE FOR USE WITH A CHAIN/SPREADER BAR; TOP COVER MUST BE REMOVED TO ACCESS LIFTING EYES.
- THE SEAKEEPER MUST BE INSTALLED AFT OF AMIDSHIP TO MINIMIZE HIGH ACCELERATION LOADING DUE TO HULL/WAVE IMPACTS DURING OPERATION AT HIGH SPEED OR IN LARGE WAVES. SEAKEEPER DOES NOT NEED TO BE MOUNTED TO CENTERLINE OF KEEL. SEAKEEPER SUPPORT STRUCTURE MUST BE PARALLEL TO VESSEL WATERLINE, WITH UP TO 2 DEGREES OF ALLOWANCE FOR TRIM.
- SEAKEEPER MAY BE INSTALLED FACING FORWARD OR AFT AS SHOWN. SEAKEEPER ORIENTATION SHOULD BE SELECTED TO PROVIDE THE MOST ACCESSIBILITY FOR FUTURE SERVICE AND MAINTENANCE. INSTALLATION, START-UP, AND OPERATION IS THE SAME REGARDLESS OF THE SEAKEEPER ORIENTATION.
- WHEN INSTALLING, SEAKEEPER RECOMMENDS USING A BOLT HOLE LOCATION FIXTURE P/N 90473 AVAILABLE FROM SEAKEEPER. THIS FIXTURE WILL PROPERLY SPACE AND LOCATE HOLES TO BE DRILLED IN HULL STRUCTURE FOR BOLT-IN OF SEAKEEPER FOUNDATION.
- REFER TO 90590, SEAKEEPER 2 GENERIC INSTALLATION GUIDE FOR DETAILED INSTALLATION ARRANGEMENTS.

3			2		1		
REV NO.	ECN NO.	ZONE	DESCRIPTION		DATE	DRAWN	APPRVD.
1	---		RELEASED FOR PRODUCTION		18JAN2018	---	BEN
2	0906	5-C3, 5-C7	CHANGED PLATING FOR M14-2.0 BOLT FROM AL-ZN TO Zn-Ni, ADDED THRU-BOLT INSTALLATION INSTRUCTIONS, REMOVED SHEET 5 TRANSVERSE AND LOGITUDINAL BEAM INSTALLATION, ADDED ENVELOPE DIMENSIONS TO SHEET 2, UPDATED VIEWS WITH CONNECTBOX		28JUL2021	TMD	ZGY
3	0906	D5, 5-A1	REMOVED CONNECTBOX COMPONENTS. SHT1 ADDED ALLOWANCE FOR TRIM TO NOTE 5. SHT5 REMOVED GASKET FROM BLIND BOLT VIEW AND CHANGED MAX FIBERGLASS THICKNESS TO 6.86MM.		29AUG2022	RMF	DMF
4	1059	A7, D6, D8, F8, 3-D6, 3-F2, 3-F7, 5-D3	UPDATED VIEWS WITH CONNECTBOX. UPDATED NOTES AND DESCRIPTIONS TO REPLACE "GYRO" WITH "SEAKEEPER". DESCRIPTION CHANGE FROM "BOLT-IN KIT" TO "BLIND-HOLE KIT". REPLACED 90438- 5" DISPLAY MOUNTING WITH 90558 CONNECTBOX MOUNTING DOC AND ADDED 90590-INSTULATION GUIDE TO REF TABLE. ADDED LIFTING EYEBOLT THREAD SPEC TO NOTE 4. CORRECTED INSTALLATION FIXTURE KIT P/N TO 90473. REQUIRED AFT CLEARANCE INCREASED FROM 2" TO 4". ADDED CLEARANCE NOTES.		10MAR2023	RMF	DMF
5	1114	3-A7	CHANGED LIFTING EYEBOLTS AND VACUUM VALVE PORT ORIENTATION.		03NOV2023	RMF	AP



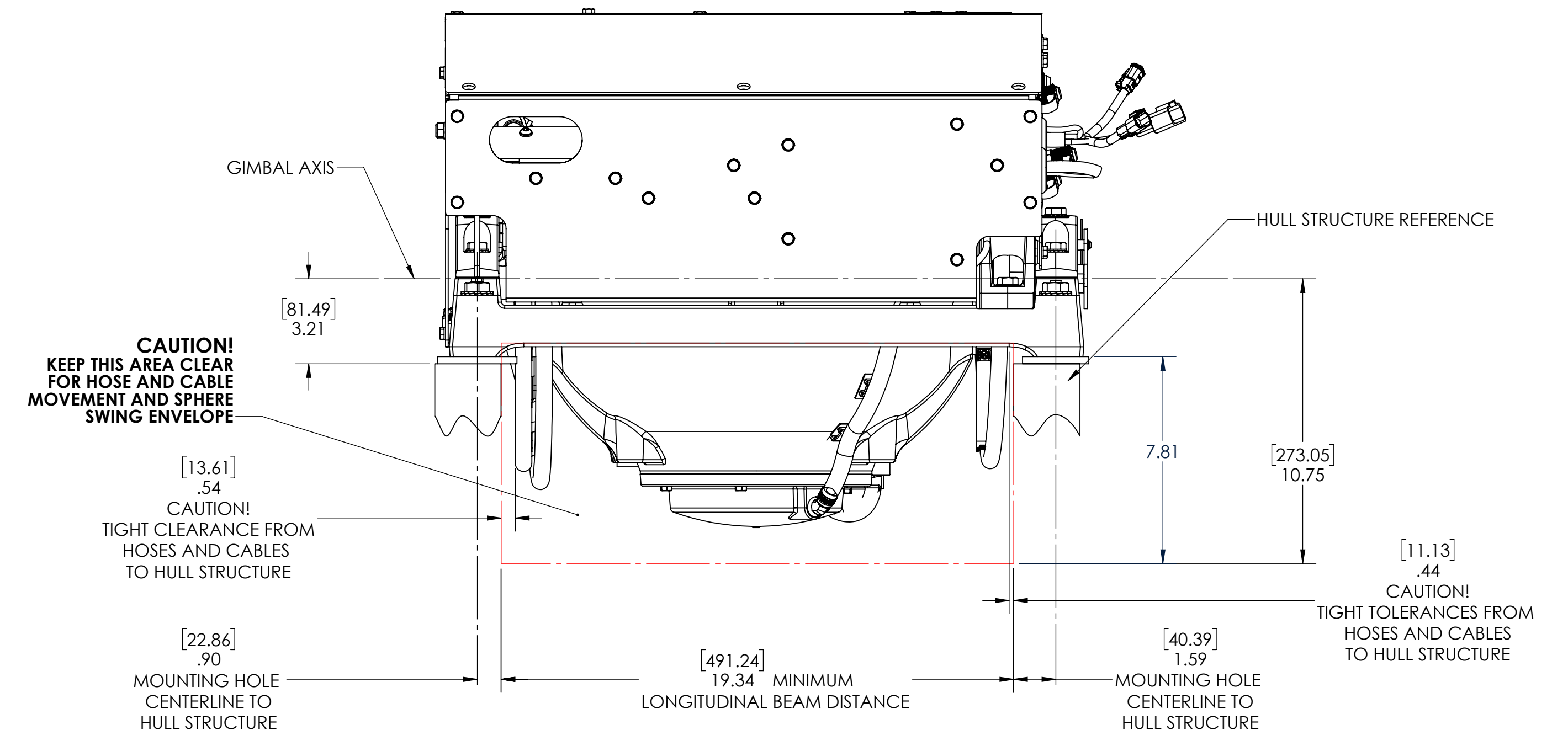
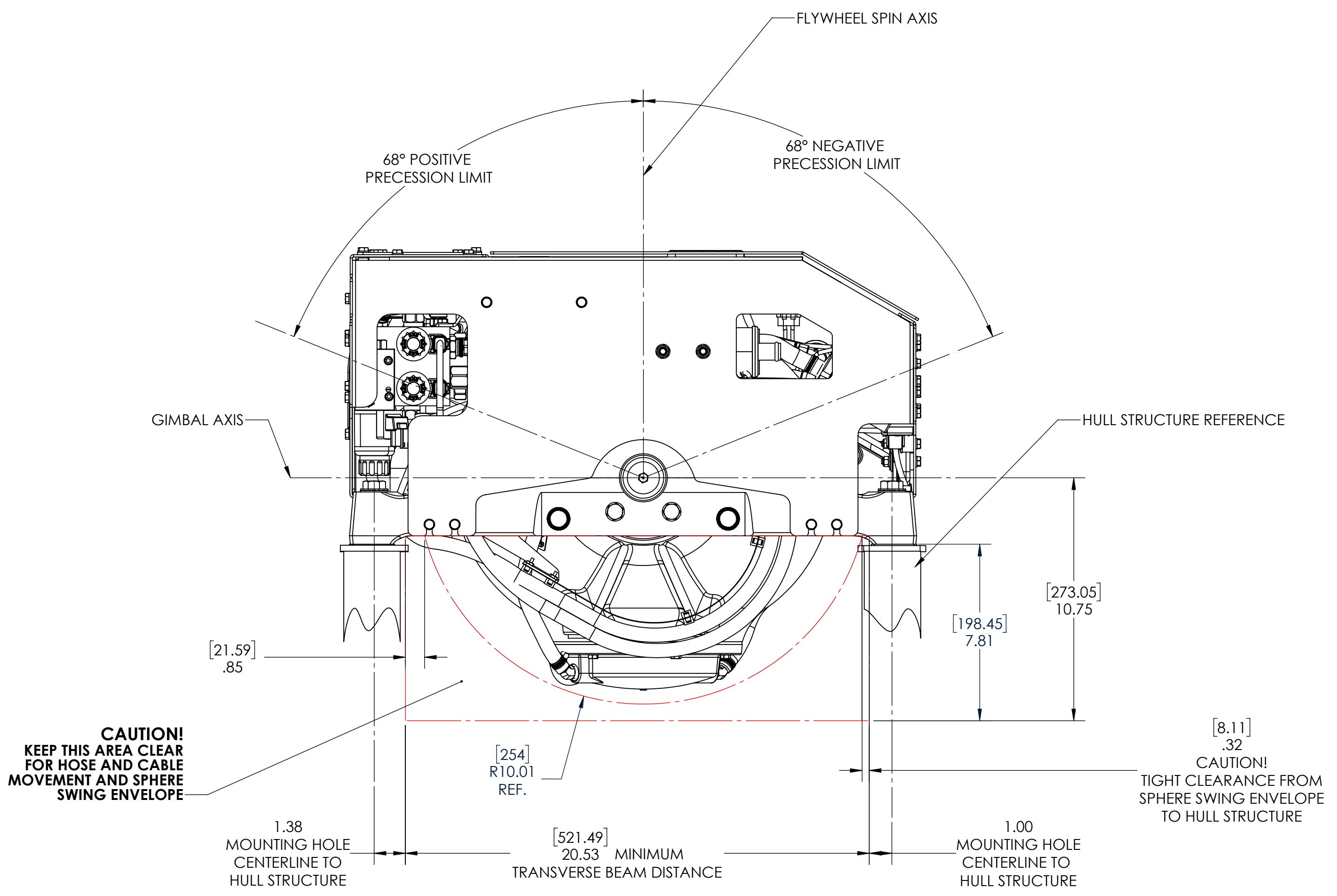
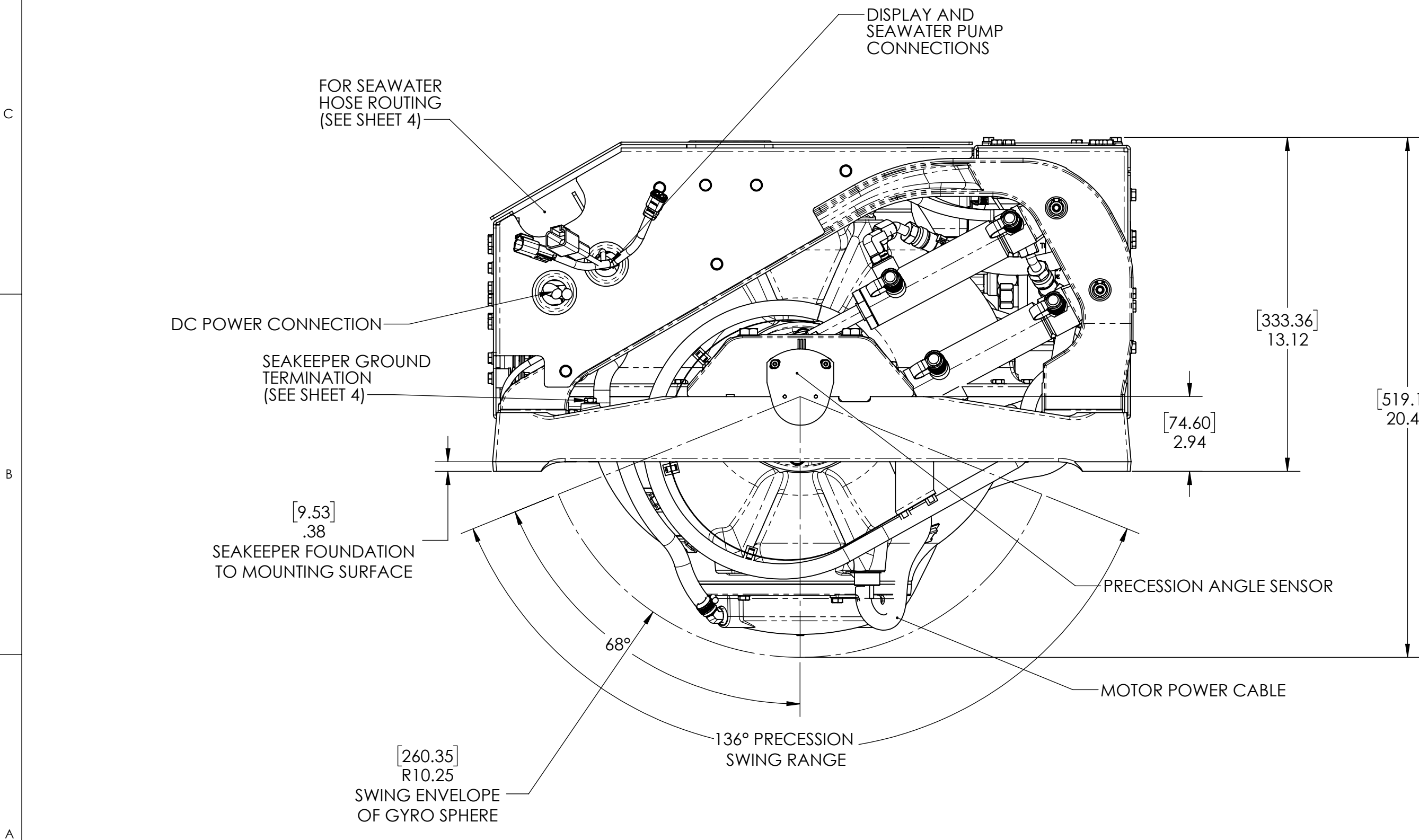
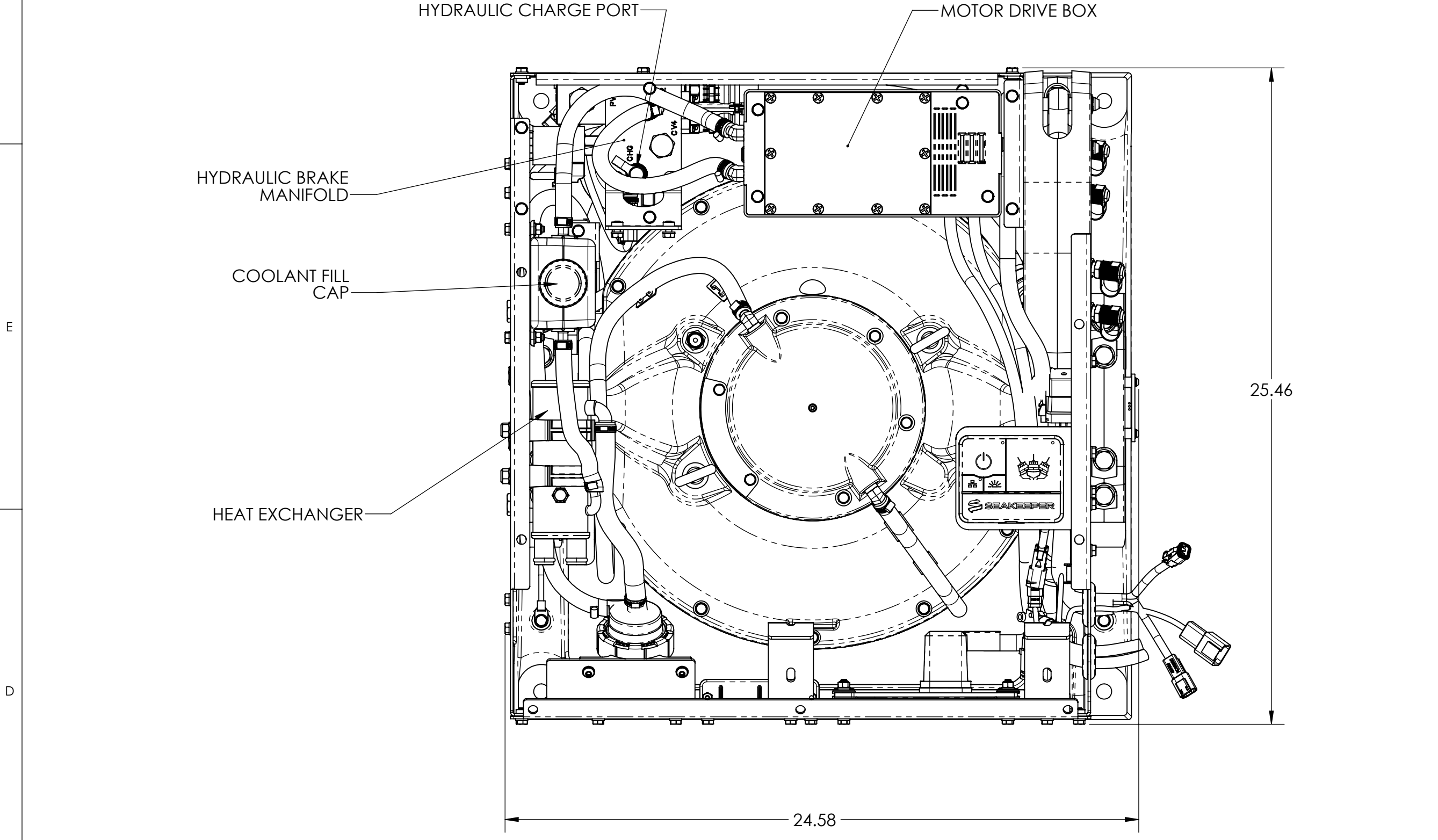
REF.	DWG. NO.	DWG. TITLE
1	90490	SEAKEEPER 2 COOLING WATER SCHEMATIC
2	90470	SEAKEEPER 2 CABLE BLOCK DIAGRAM
3	90558	CONNECTBOX HELM MOUNTING KIT
4	90474	SEAKEEPER 2 BLIND-HOLE KIT
5	90488	SEAKEEPER 2 INSTALLATION MANUAL
6	90590	SEAKEEPER 2 GENERIC INSTALLATION GUIDE

SHEET 2: SEAKEEPER ENVELOPE
SHEET 3: LIFTING DETAILS, SERVICE CLEARANCES, AND BOLT PATTERN
SHEET 4: SEAWATER HOSE CONNECTIONS
SHEET 5: GYROSCOPIC LOADS FOR HULL STRUCTURE DESIGN AND RECOMMENDED HULL STRUCTURES/MOUNTING

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SEAKEEPER INCORPORATED. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SEAKEEPER IS PROHIBITED. THIS DRAWING SUPERSEDES ALL OTHER FILE FORMAT TYPES UNLESS OTHERWISE SPECIFIED DO NOT SCALE DRAWING	3rd ANGLE PROJECTION 		 Seakeeper Inc. 45310 Abell House Lane, Suite 350 California, MD 20619 DESCRIPTION: SEAKEEPER 2 BOLT-IN INSTALLATION DETAILS	
	WEIGHT - LBS : ---			
	MATERIAL: ---			
DRAWING NO: 90487	REV NO: 5 SCALE: 1:8 SHEET NO: 1 OF 5			

8 7 6 5 4 3 2 1

F E D C B A



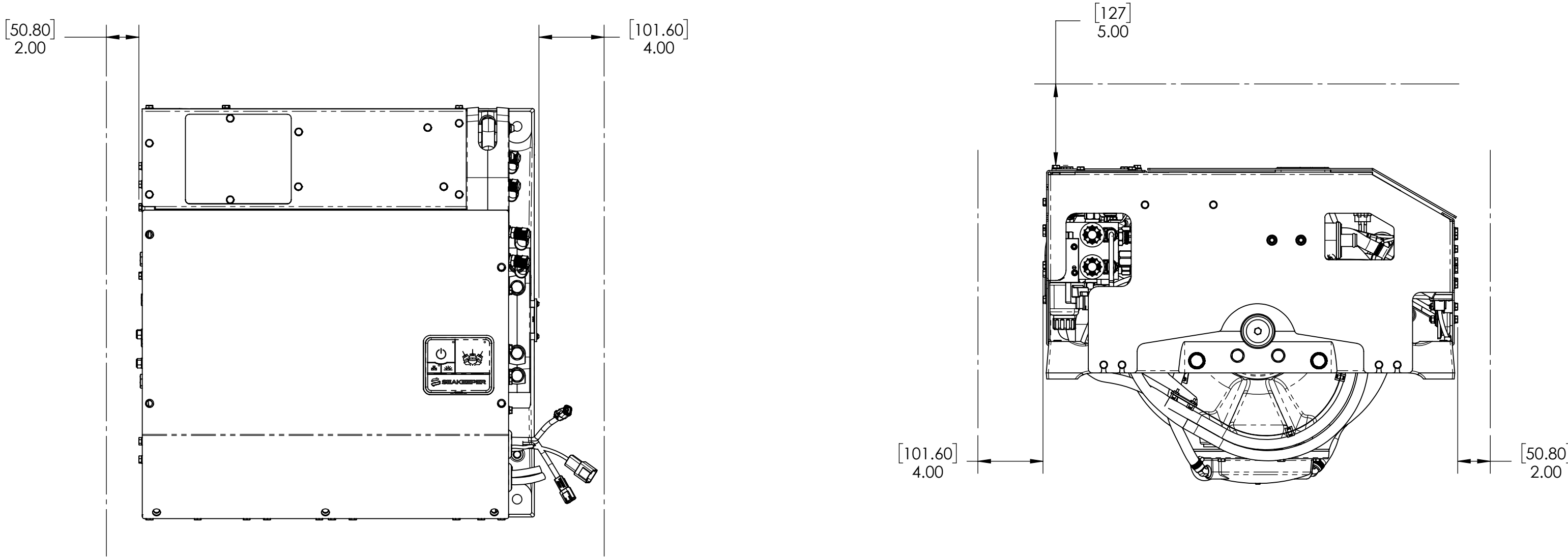
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SEAKEEPER INCORPORATED. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SEAKEEPER IS PROHIBITED. THIS DRAWING SUPERSEDES ALL OTHER FILE FORMAT TYPES UNLESS OTHERWISE SPECIFIED DO NOT SCALE DRAWING	3rd ANGLE PROJECTION 	 SEAKEEPER Seakeeper Inc. 45310 Abell House Lane, Suite 350 California, MD 20619	
	WEIGHT - LBS : ---		
	MATERIAL: ---		
	DESCRIPTION: SEAKEEPER 2 BOLT-IN INSTALLATION DETAILS		
DRAWING NO: 90487	REV NO: 5	SCALE: 1:8	SHEET NO: 2 OF 5

8 7 6 5 4 3 2 1

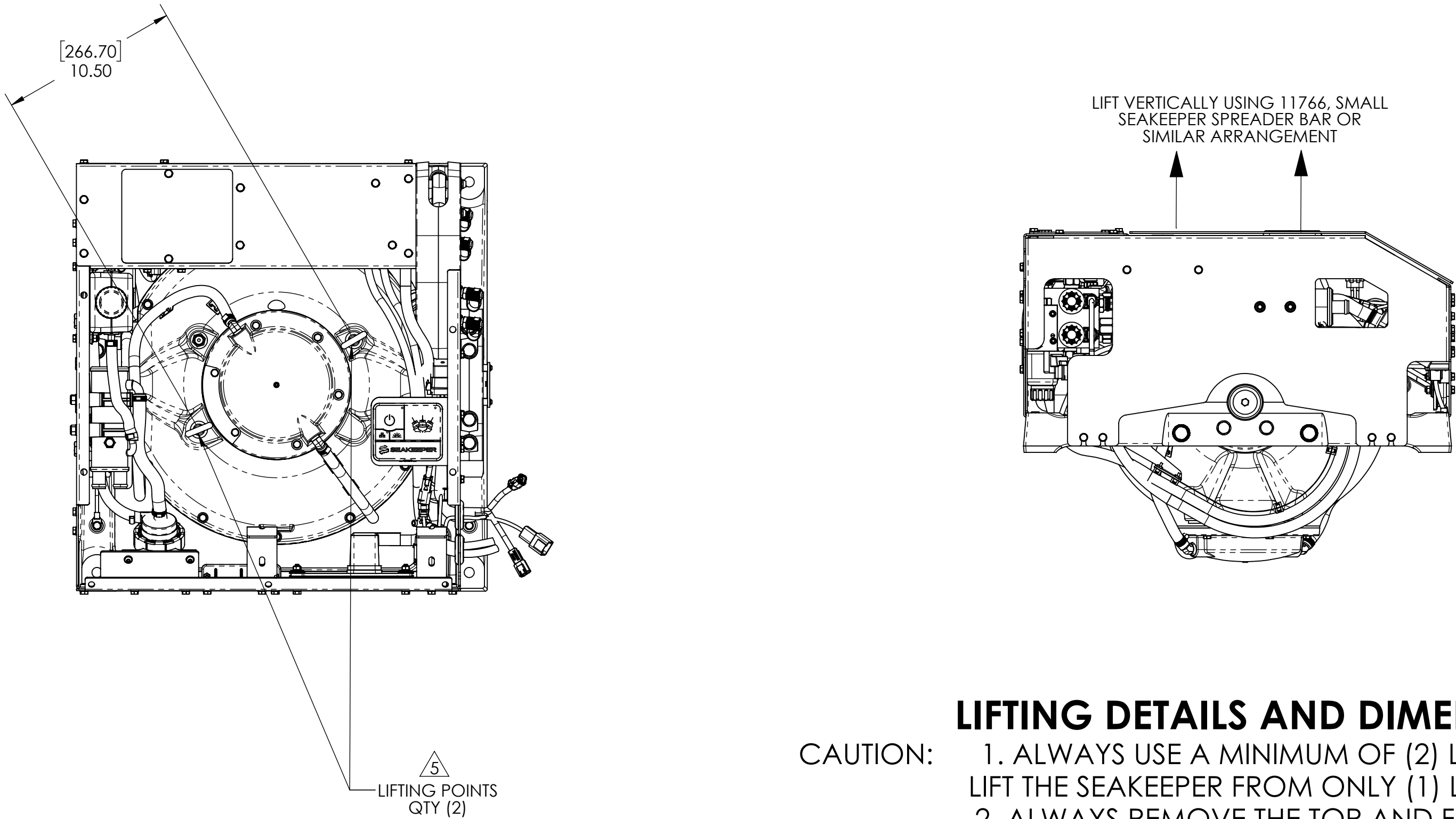
CLEARANCE REQUIREMENTS NOTES:

1. THE MINIMUM SERVICE CLEARANCES ARE BASED ON THE SIZE OF SERVICEABLE COMPONENTS AND TOOLS REQUIRED TO REMOVAL AND REPLACEMENT OF THESE COMPONENTS. THE CLEARANCES DO NOT CONSIDER HOW THE TECHNICIAN WILL BE POSITIONED FOR ACCESS TO THESE AREAS. ACCESS FOR A TECHNICIAN MUST BE CONSIDERED BY THE INSTALLER.
2. THE CLEARANCE AND ACCESS REQUIREMENTS DO NOT NEED TO BE PERMANENT AND CAN BE PROVIDED VIA HATCHES, REMOVABLE PANELS, OR OTHER TEMPORARY MEANS WHERE APPLICABLE.
3. THE DESIGNER / INSTALLER SHOULD CONSIDER ALL OF THESE FACTORS FOR SERVICEABILITY WHEN DEFINING THE INSTALLATION ARRANGEMENT.

VIEWS SHOWING REQUIRED CLEARANCES AROUND SEAKEEPER



TOP DOWN ACCESS MUST BE INCORPORATED INTO THE INSTALLATION DESIGN TO ALLOW FOR ADEQUATE REGULAR MAINTENANCE, SERVICE, AND REPAIR OF COMPONENTS



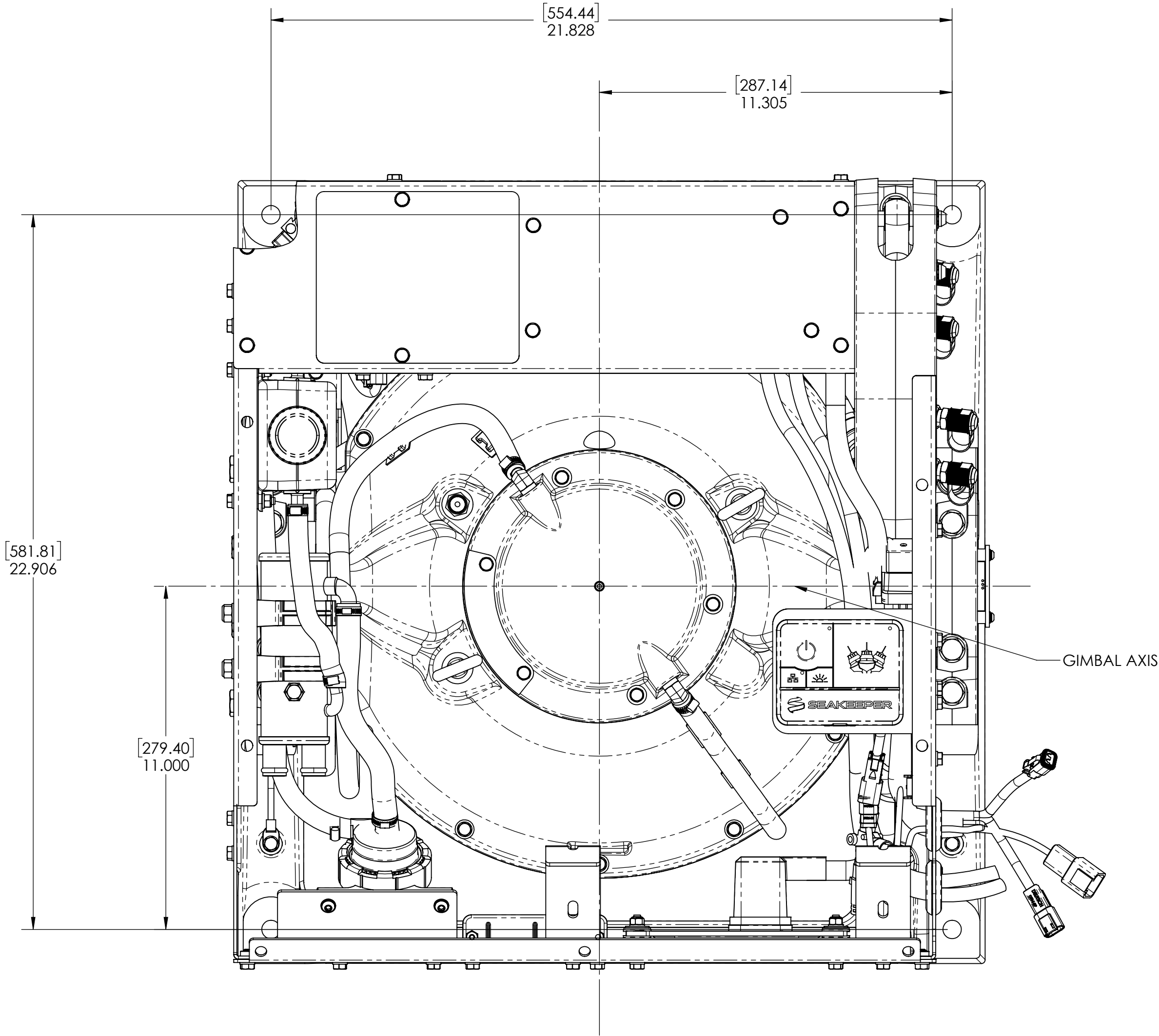
LIFTING DETAILS AND DIMENSIONS

- CAUTION:
1. ALWAYS USE A MINIMUM OF (2) LIFTING POINTS, NEVER LIFT THE SEAKEEPER FROM ONLY (1) LIFT POINT
 2. ALWAYS REMOVE THE TOP AND FACE COVER PANELS BEFORE LIFTING SEAKEEPER

MOUNTING BOLT PATTERN/DETAILS

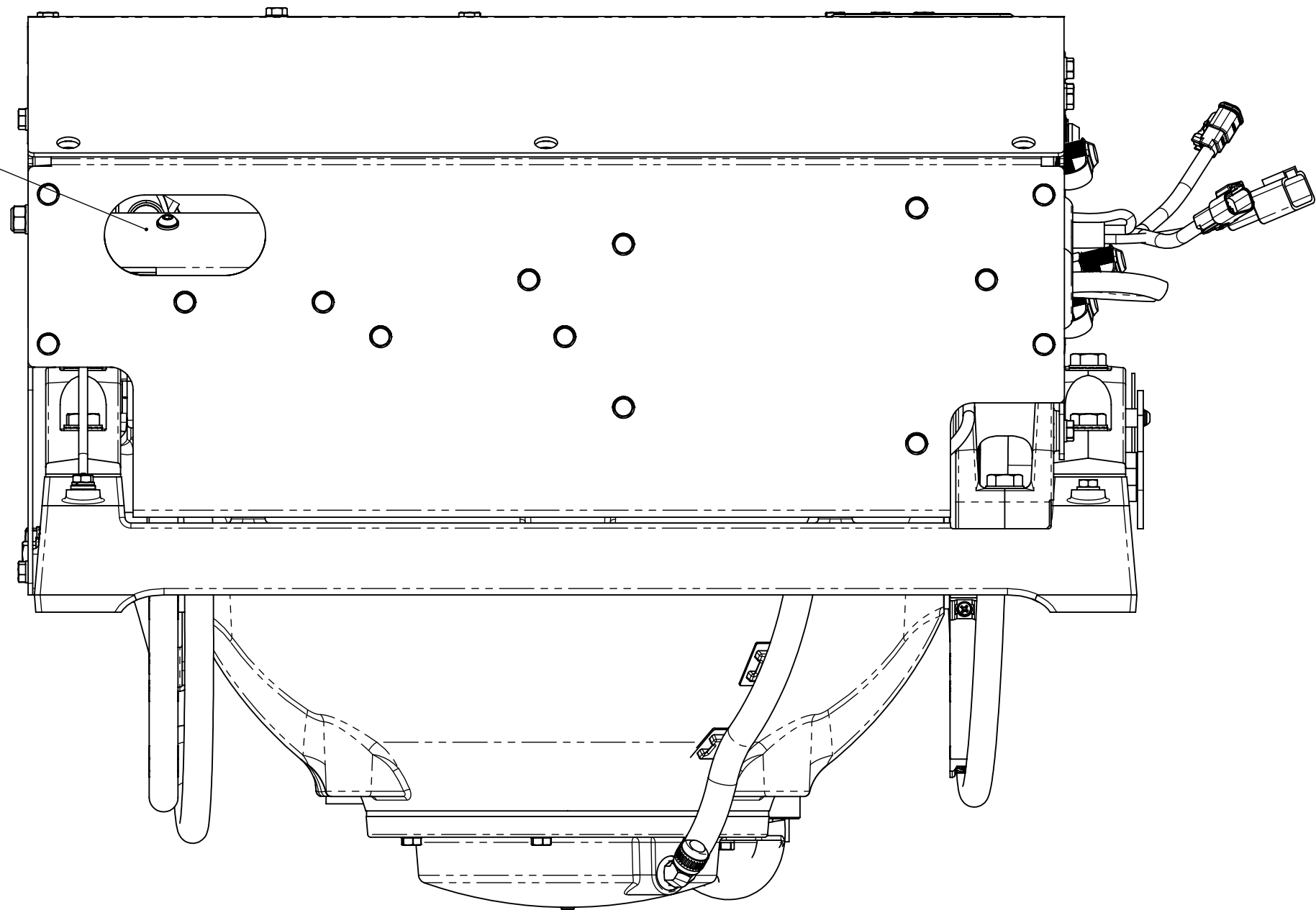
IF SIDE ACCESS IS NOT AVAILABLE TO THE MOUNTING BOLTS; THE MANIFOLD, TOP, AND FACE COVER PANELS MAY BE REMOVED. AN INSTALLATION FIXTURE IS AVAILABLE TO TRANSFER THE SEAKEEPER 2 BOLT PATTERN ON TO THE HULL STRUCTURE. (SEAKEEPER 2 INSTALLATION FIXTURE KIT P/N: 90473)

SEE SHEET 2 FOR HULL STRUCTURE CLEARANCE REQUIREMENTS

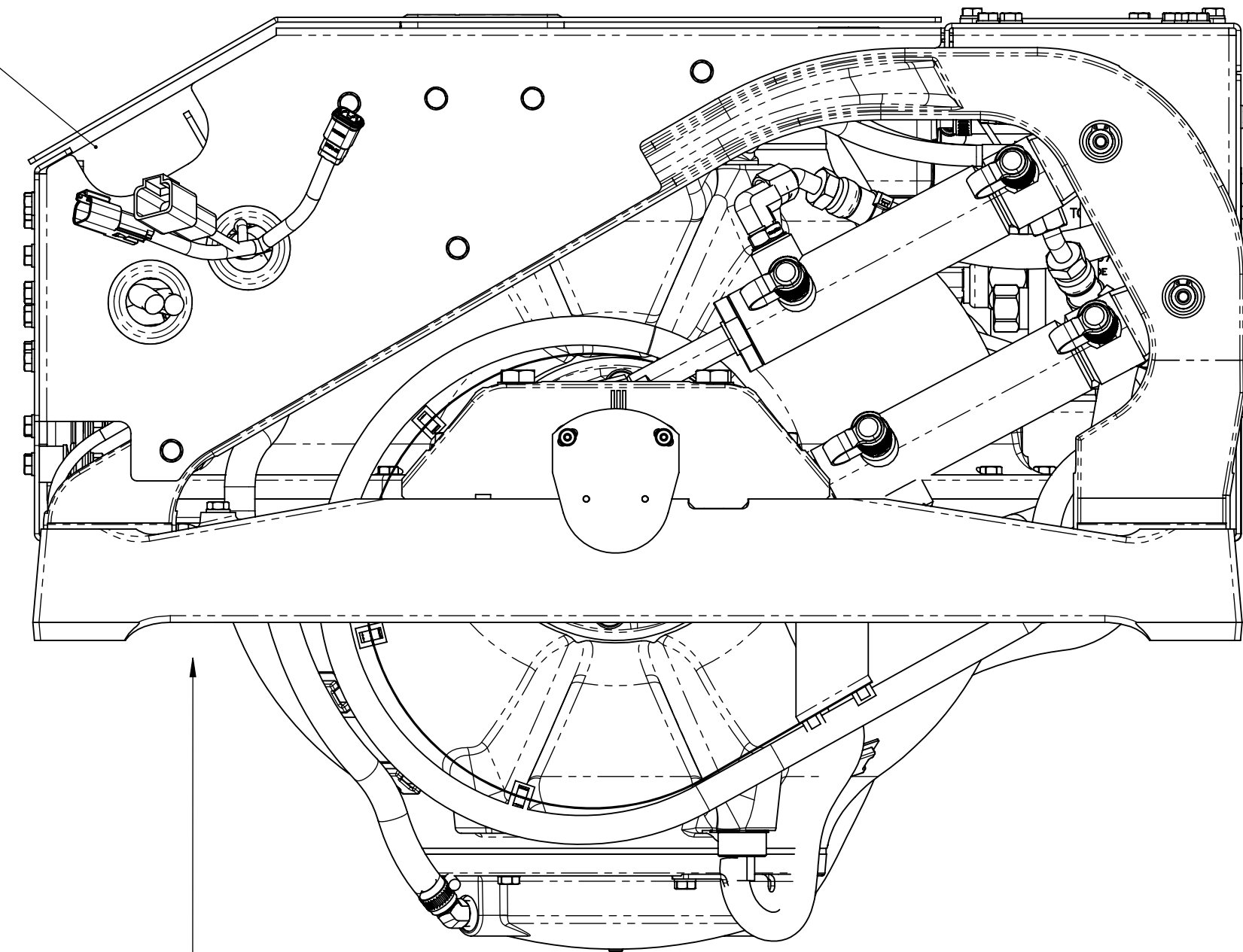


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SEAWATER ROUTING
OPTION 1

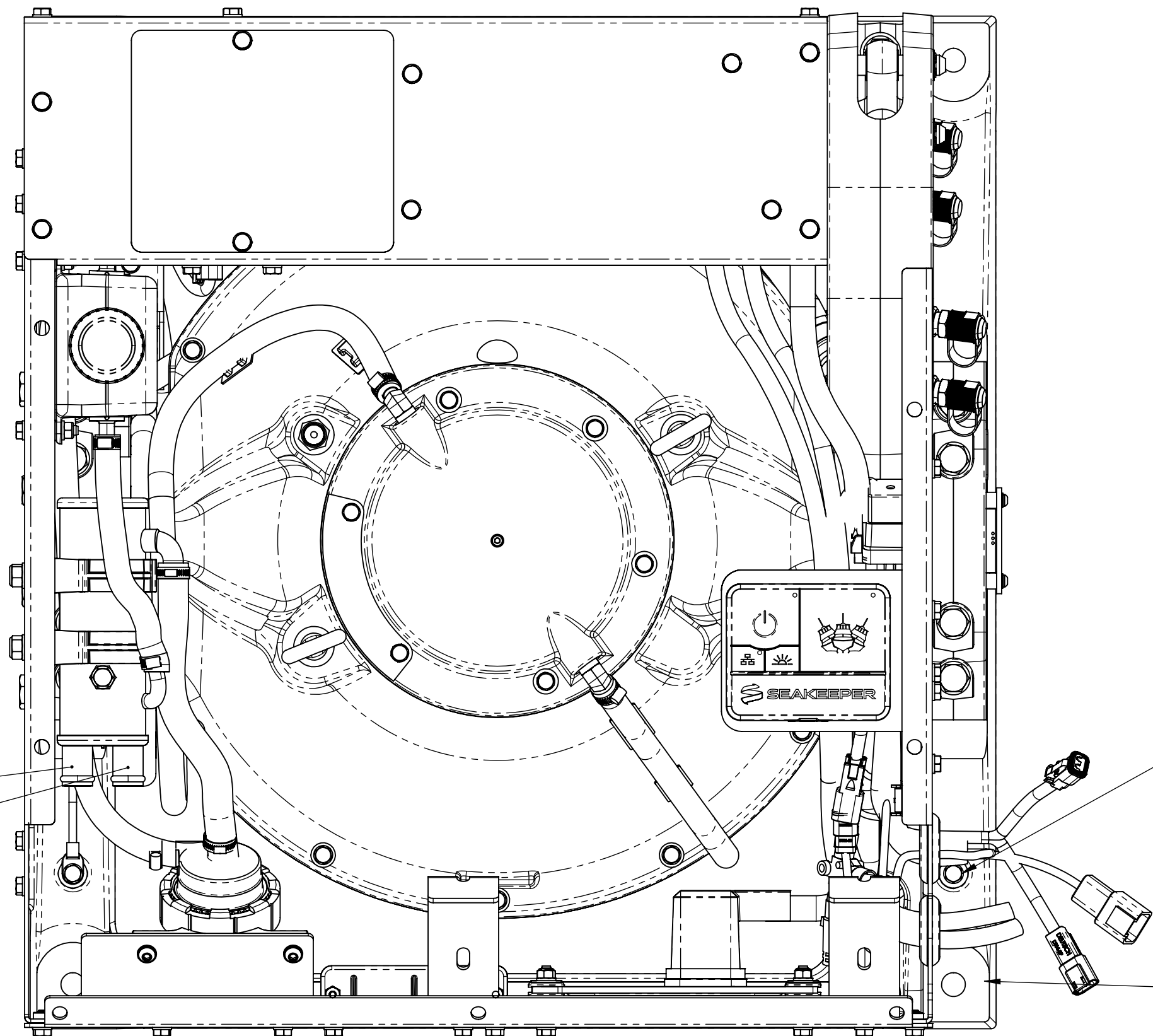


SEAWATER ROUTING
OPTION 2



X
DO NOT
ROUTE SEAWATER HOSES
FROM BOTTOM

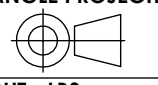
SEAWATER IN
SEAWATER OUT



NOTE
M6-1.0 GROUND TERMINATION POINT.
INSTALLER IS RESPONSIBLE FOR PROPERLY
GROUNDING SEAKEEPER TO VESSEL.

SEAWATER ROUTING
OPTION 2

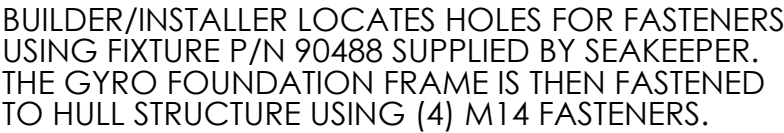
- NOTES:
- 1) SEAWATER HOSE CONNECTIONS ARE 3/4 INCH HOSE BARB FITTINGS.
 - 2) THERE ARE 2 HOSE ROUTING OPTIONS RECOMMENDED. USE THE ROUTING THAT WORKS BEST FOR EACH INSTALLATION.
 - 3) DO NOT ROUTE HOSES UP FROM BOTTOM, FROM UNDERNEATH SEAKEEPER FOUNDATION.

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	WEIGHT - LBS : ---	DESCRIPTION: SEAKEEPER 2 BOLT-IN INSTALLATION DETAILS	
THIS DRAWING SUPERSEDES ALL OTHER FILE FORMAT TYPES UNLESS OTHERWISE SPECIFIED DO NOT SCALE DRAWING	MATERIAL: ---	DRAWING NO: 90487	REV NO: 5 SCALE: 1:8 SHEET NO: 4 OF 5

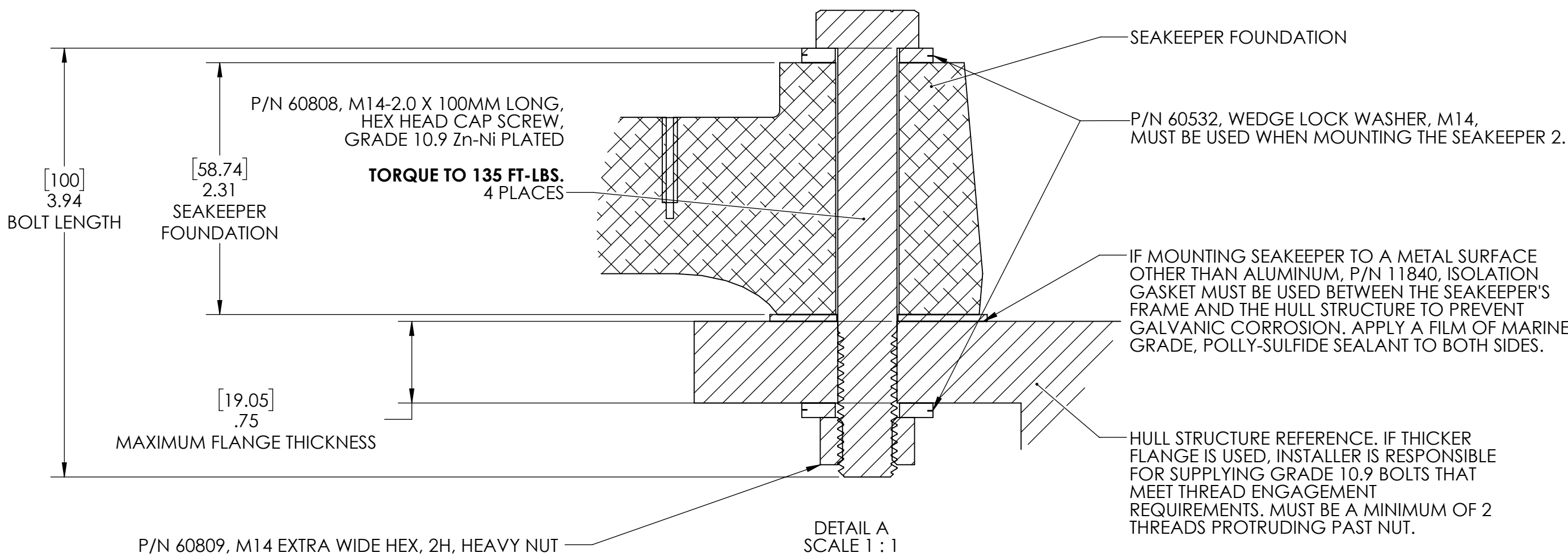
IF THE SKEAKEEPER FOUNDATION IS BOLTED TO A NON-ALUMINUM, METAL HULL STRUCTURE AN ISOLATION GASKET MUST BE USED BETWEEN THE ALUMINUM FRAME AND THE HULL STRUCTURE SURFACE. SKEAKEEPER ISOLATION GASKETS ARE INCLUDED IN THE SKEAKEEPER 2 BOLT-IN KIT. THE BOLTING SURFACE OF THE HULL STRUCTURE MUST BE FLAT SO THAT THE 4 CONTACT POINTS OF THE SKEAKEEPER FRAME ARE TOUCHING THE HULL STRUCTURE SIMULTANEOUSLY WITH NO NOTICEABLE ROCKING. THE BOAT BUILDER OR SKEAKEEPER INSTALLER IS RESPONSIBLE TO DESIGN AND BUILD A HULL STRUCTURE THAT WILL ENSURE A FLAT BOLT SURFACE AS TO AVOID ANY INDUCED STRESSES INTO THE FRAME CASTING ONCE BOLTED DOWN. SKEAKEEPER RECOMMENDS A SURFACE FLATNESS WITHIN 1.5 MILLIMETERS.

VERTICAL FORCE (F_z) = 1459 lbs (6.49 kN)
LONGITUDINAL FORCE (F_x) = 963 lbs (4.3 kN)
LATERAL FORCE (F_y) = 100 lbs (0.45 kN)

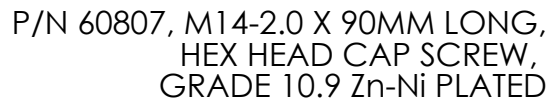
THE BOAT BUILDER OR THE SEAKEEPER INSTALLER IS RESPONSIBLE FOR DESIGNING THE HULL STRUCTURE TO WHICH THE SEAKEEPER IS ATTACHED TO ACCOMMODATE THE ABOVE FORCES AND MOMENTS PLUS A REASONABLE FACTOR OF SAFETY. SEAKEEPER SUGGESTS A SAFETY FACTOR OF 3.0 (YIELDING A SAFETY MARGIN OF 2.0). THIS FACTOR OF SAFETY MAY NEED TO BE INCREASED DEPENDING ON THE OPERATIONAL PROFILE OF THE VESSEL IN WHICH THE SEAKEEPER IS TO BE INSTALLED.



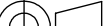
USE P/N 90636, SEAKEEPER 2 THRU-BOLT KIT



USE P/N 90474, SEAKEEPER 2 BLIND-HOLE KIT



DETAIL B
SCALE 1 : 1

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	WEIGHT - LBS : ---	
	MATERIAL: ---	DRAWING NO: 90487
		REV NO: 5 SCALE: 1:8 SHEET NO: 5 OF 5