CERTISAFE™
by Kasco®

RM-150 FLOOR MOUNT

Assembly & Installation Manual

NSF Certified to NSF/ANSI/CAN 61 & 372

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QUESTIONS?

715.262.4488

kascomarine.com | sales@kascomarine.com

SAFETY FIRST

IMPORTANT: PLEASE READ THIS MANUAL AND SAVE FOR FUTURE REFERENCE

WARNINGS:

Moving Machinery   Shock Hazard

- Under NO circumstances should anyone enter the water with the mixer connected or in operation.

- Running the unit out of water will create a dangerous situation and damage the seals.

- NEVER lift the unit by the power cord. If you need to remove the mixer, use the installation or mount apparatus.

- The unit must be connected to a GFCI-protected circuit.

- Comply with local and national wiring standards during any electrical service disconnect.

- Consult a qualified professional for electrical installation.

- Use all Personal Protective Equipment necessary for safe ingress, installation, and egress from the work site.

- Refer to applicable national and local laws and standards to facilitate the safe installation of a CertiSafe Tank Mixer. These may include but are not limited to OSHA, CCOHS, and other regulations related to:
    - Working over or near water
    - Fall protection systems
    - Falling object protection systems
    - Electrical standards
    - Illumination
    - Ventilation

- Installation of CertiSafe™ Tank Mixers requires entry into environments that pose potential hazards, such as those described in section 1910.146 of OSHA's Occupational Safety and Health Standards for Permit-required confined spaces. As such:
    - Observe any applicable pre-entry measures required by the entry supervisor.
    - Only those authorized via the permit system in place at the installation site should participate in installation.
    - Any authorized entrant should be accompanied by at least one authorized attendant to monitor conditions inside and outside the permit spaces during installation.
    - Prior to installation, be aware of all potential fall, trip, and atmospheric hazards in the permit space, both before and after an entrance cover is removed.

PRODUCT & INSTALLATION OVERVIEW

Featuring durable stainless steel, Kasco's RM-150 Floor Mount positions CertiSafe™ Tank Mixers securely within the tank for effective water movement. This manual will provide instructions for mounting a CertiSafe™ unit using the RM-150 and installing the entire assembly within the tank.

- Read these instructions thoroughly prior to installation.
- Contact your CertiSafe™ representative for specific recommendations as necessary.
- The cord grip and cable support equipment described here are supplied with the mixer unit.
- Be aware of clearance between the mixer assembly and any fixed objects within the tank, including ladders, ensuring that there is enough room for the CertiSafe™ unit to function correctly and avoid damage to any protective coatings.
- Please consult your CertiSafe™ sales representative for mixer mount placement, retrieval, and inspection requirements.

Minimum Tank Hatch Width for RM-150 Installation

	Square Hatch	Round Hatch
2 Legs Pivoted	17"	18"
1 Leg Pivoted	21"	22"
No Legs Pivoted	24"	25"

NOTE Some parts will arrive pre-assembled from Kasco; however, all assembly steps are listed for reference.

SUGGESTED TOOLS AND SUPPLIES
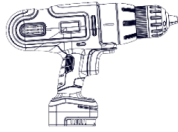
Electric or cordless drill

3/8" drill bit

1/2" socket wrench
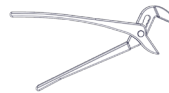
9mm wrench
7/16" wrench
1/2" wrench

Half-round metal file

Pan to catch shavings

1/8" Allen wrench

Side cutter

Adjustable pliers

Included supplies:

- 1-3/8" hole saw
- Silicone sealant

PARTS INCLUDED LIST

Assembly	Item	Description	Qty	Part No.
Base	A	CertiSafe™ mixer base pivoting leg	3	997260
	B	5/16" serrated flange screw	6	566206
	C	5/16" nylon locknut	6	566202
	D	1/4" shoulder screw	2	451110
	E	1/4" flat washer	4	566208
	F	1/4" nylon locknut	2	566212
Retrieval Chain & Cable Attachment	G	Long retrieval chain - 50 ft.	1	636382
	H	Top connecting link	1	636342
	I	Bottom connecting link	1	636342
	J	Short retrieval chain	1	636381
	K	Extension spring	1	997202
	L	1/4" nylon locknut	1	566212
	M	Clamp ring	1	997204
	N	1/4" split lock washer	1	840537
	O	1/4" hex head bolt	1	451130
	P	Zip ties	12	415038
	Q	Cotter Pin	3	997261
	R	Snap Hook	3	636346
	S	5 Links Chain	3	636385
Tank Penetration	T	Hex nut	3	919245
	U	Washer	1	919235
	V	Sealing gasket	1	919240
	W	Tank penetration base	1	919225
	X	Relief hanger	1	919230
		for use with Cord AWG		
Ships with CertiSafe™ Mixer	Y	Cord grip	14-16 AWG	1	997210
			12 AWG		997211
			10 AWG		997212
	Z	Reducing Adapter*	10AWG	1	919251
	AA	Cable support	10 AWG	1	997220
			12-16 AWG		997221

* Not pictured

PARTS INCLUDED ILLUSTRATION

Tank roof

BASE ASSEMBLY

1. Assemble the three mixer base legs loosely to each other using six 5/16" flanged screws (B) and 5/16" nylon locknuts (C).
2. Place the mixing unit upside down on the foam packing from the mixer unit box, if available.
3. Slide the loosely assembled mixer base ring over the inverted mixer unit.
4. Make sure the leg with the clamp ring (M) affixed is in line with the clamp on the mixer cage.
5. Position the mixer base ring approximately 3 inches from the mixer unit cage. Tighten the six 5/16" screws (B) to nuts (C) in order to secure base assembly to the mixer.
6. Clip all three of the 5 link chains (S) to the bottom cage using the snap hooks (R). This will ensure the cotter pins (Q) do not get lost.

1
B
C

M

2

4
Maintain alignment
M
Cage clamp

3

6
R
S
Q

5
3 inches
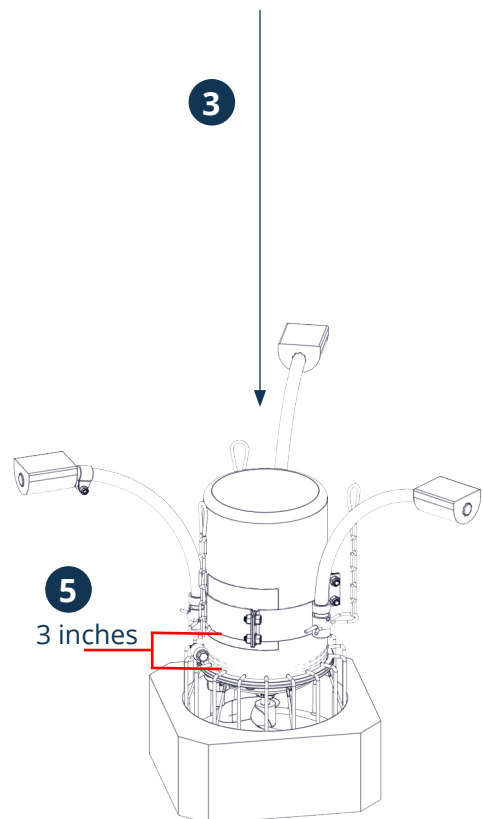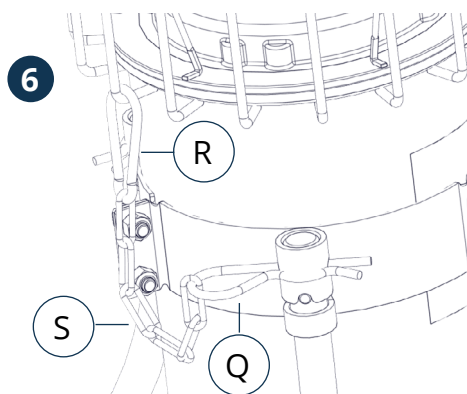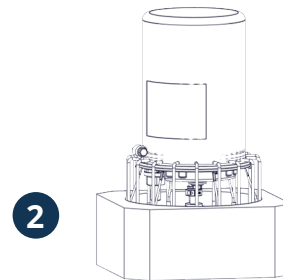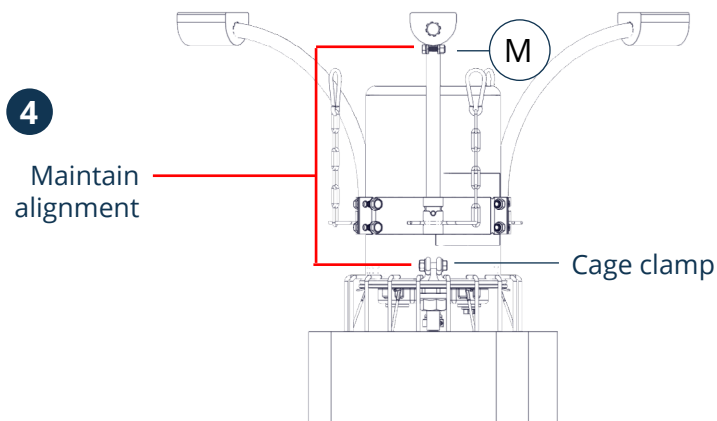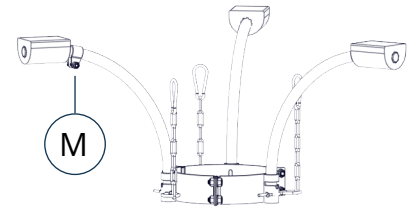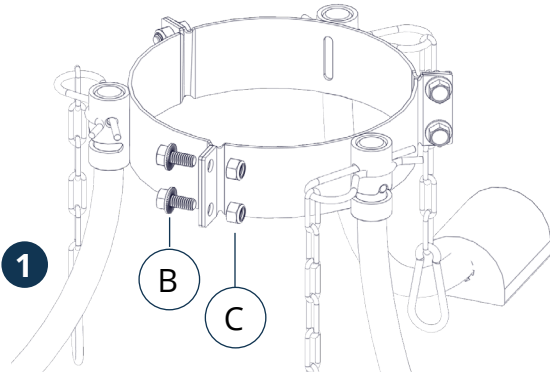
RETRIEVAL CHAIN ATTACHMENT - MIXER SIDE

1. Place the unit upright on the legs of the base assembly.
2. Insert each end link of the short retrieval chain (J) into a tab slot on the cage top ring.
3. Fasten the short retrieval chain to the cage using two 1/4" shoulder bolts (D), 1/4" flat washers (E), and 1/4" nylon locknuts (F).
4. Remove the hex head bolt (O), 1/4" split lock washer (N), and 1/4" nylon locknut (L) from the clamp ring (M).
5. Align the loop of the extension spring with the holes in the clamp ring and replace the hardware to attach the spring to the mount.
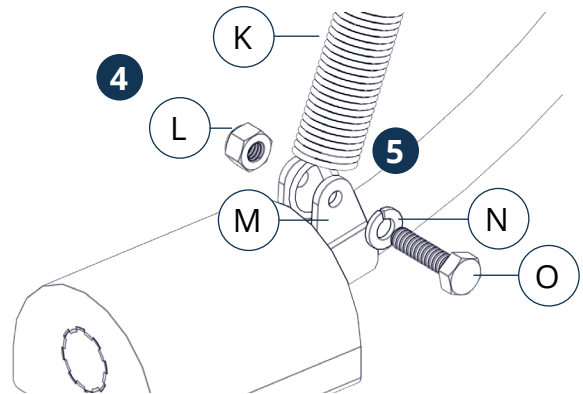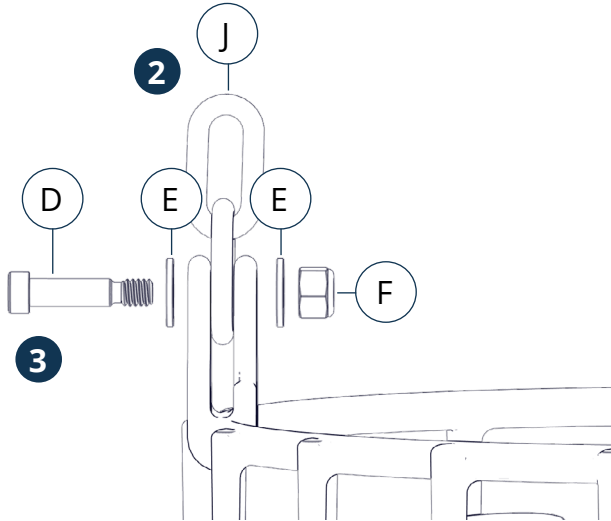
6. Find the center link of the short retrieval chain (J) and attach the bottom connecting link (I).
7. Now attach the bottom connecting link (I) to the top loop of the spring (K).
8. Finally, attach the first link of the long retrieval chain (G) to the bottom connecting link (I).
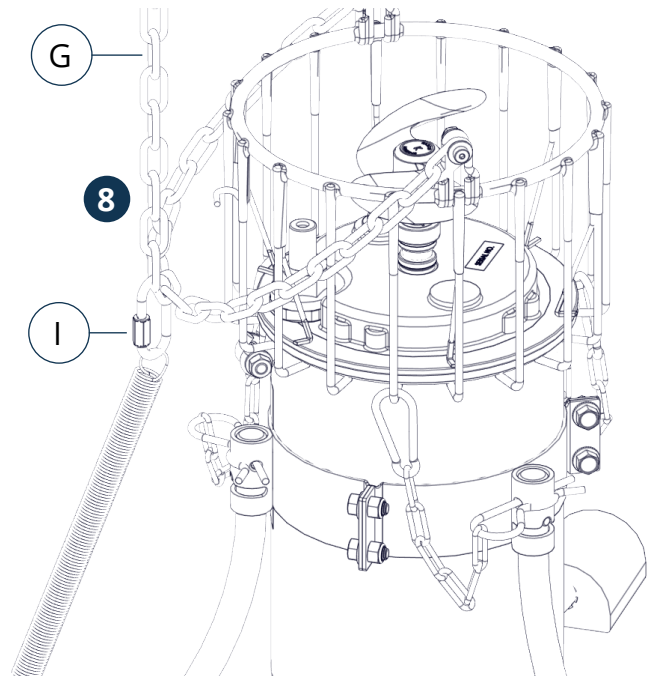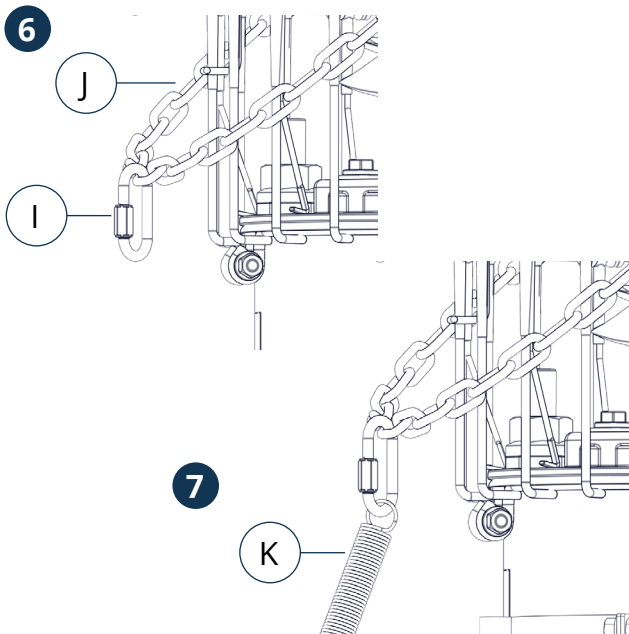
SWIVEL LEG INSTRUCTIONS

1. Remove cotter pin (Q) from leg assembly.
2. Pull the leg down until it moves freely from side to side.
3. Rotate leg to the left or right until it is positioned out of the way.
4. Lower mixer into the tank.
5. Swivel the leg back to the center, push leg up, and reinsert cotter pin (Q).

Minimum Tank Hatch Width for RM-150 Installation

	Square Hatch	Round Hatch
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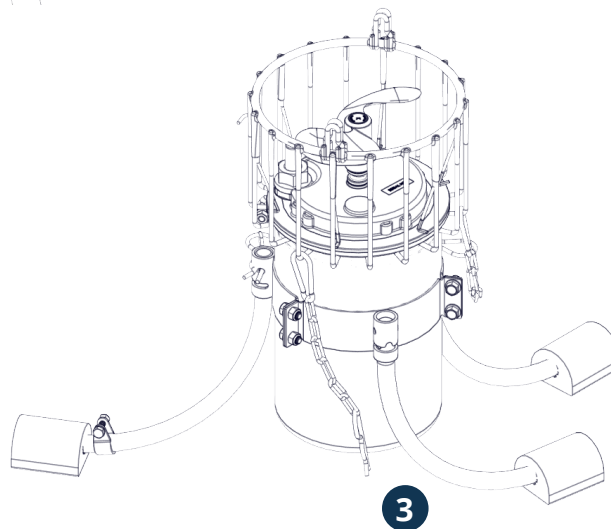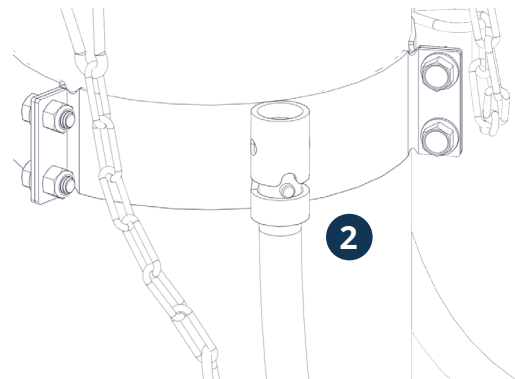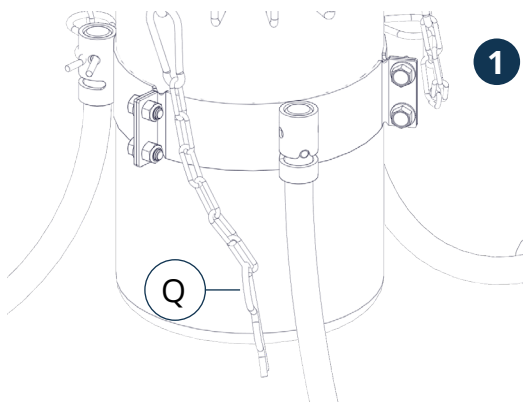
CORD ATTACHMENT - MIXER SIDE

1. Use zip ties (P) to attach the power cable first to the cage and then to the long retrieval chain. Ensure there is enough gathered slack in the cable so that when the assembled unit is lowered into the tank, its weight is on the chain and not the cable.
2. Continue to fasten the power cable to the long retrieval chain using zip ties at intervals of approximately 4 feet.

Slack in cable before installation

P

No tension on power cable while lowering

1

P

2

P
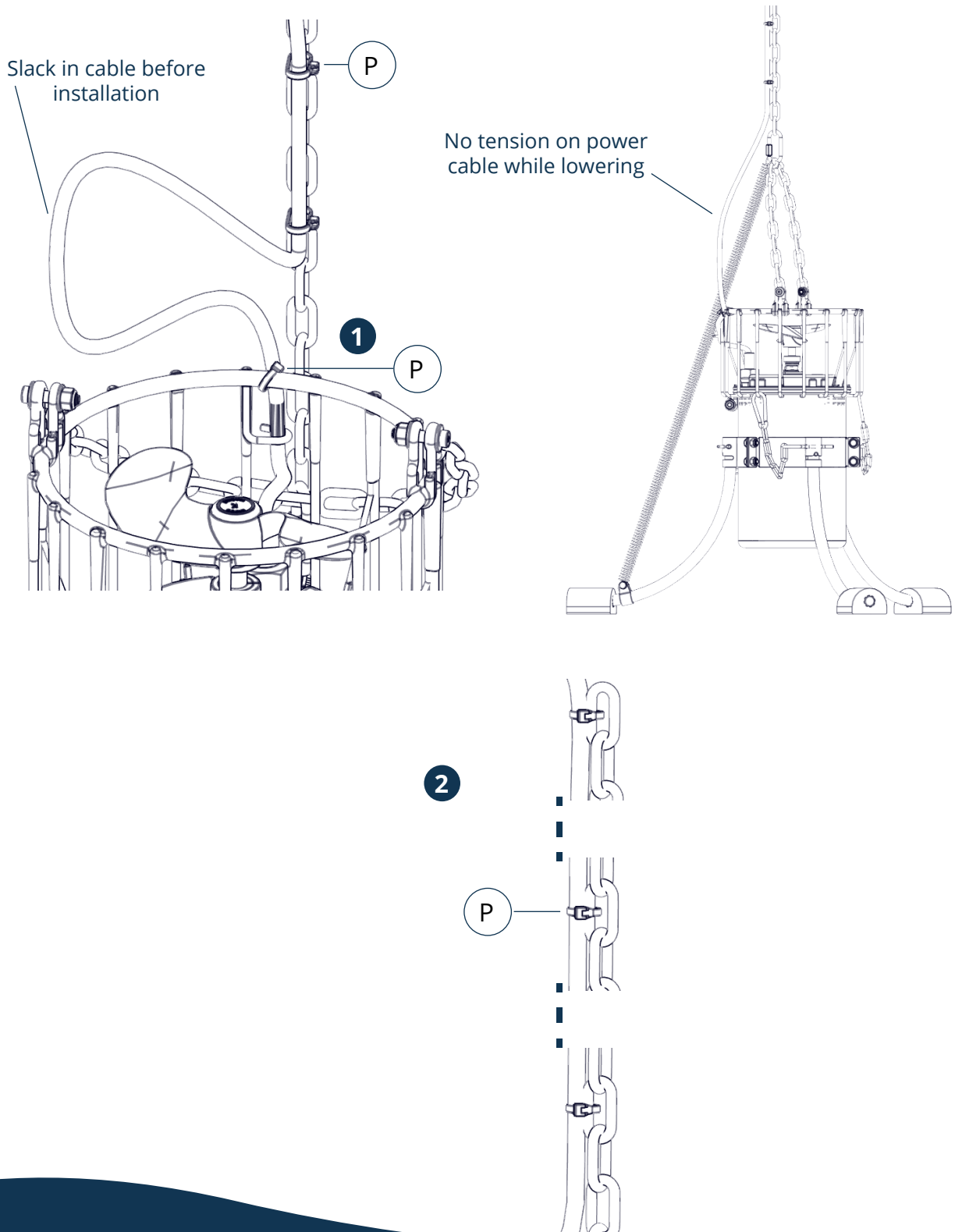
TANK PENETRATION

NOTE
- The <u>maximum</u> tank roof thickness accommodated by the tank penetration parts included is 1-1/4".
- Suggested measurements are based on a 24" square access hatch.

1. Use the provided hole saw to drill a 1-3/8" clearance hole through the tank at a location conveniently reached from the tank hatch. This is for the tank penetration base (W).
2. Deburr both sides of the hole.

Ø 1-3/8"

Tank hatch center point

3. Fit the sealing gasket (V) and then the washer (U) and a hex nut (T) over the tank penetration base.

3

T

U

V
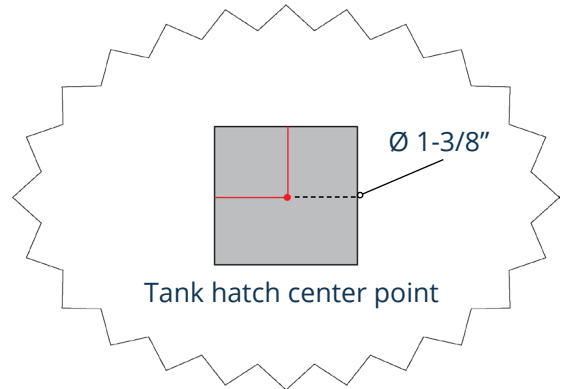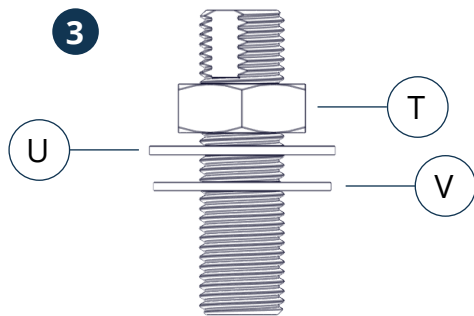
4. Pass the tank penetration base (W) through the tank roof.

4

Tank roof
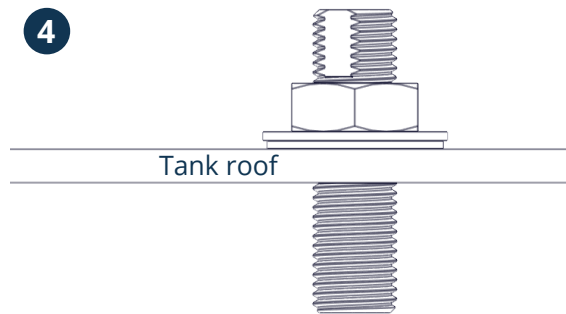
5. Inside the tank, fit the relief hanger (X) and a hex nut (T) onto the tank penetration base.

5

Tank roof

T

X
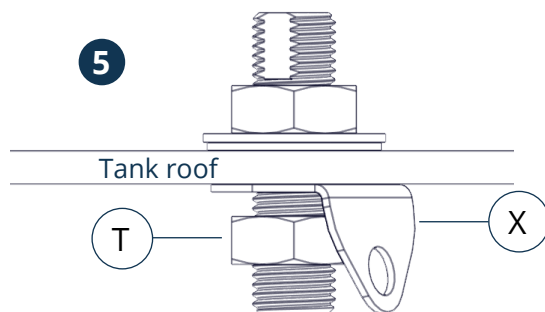
6. Pass power cord through cable support (AA) and then tank penetration base (W).

W

AA

6
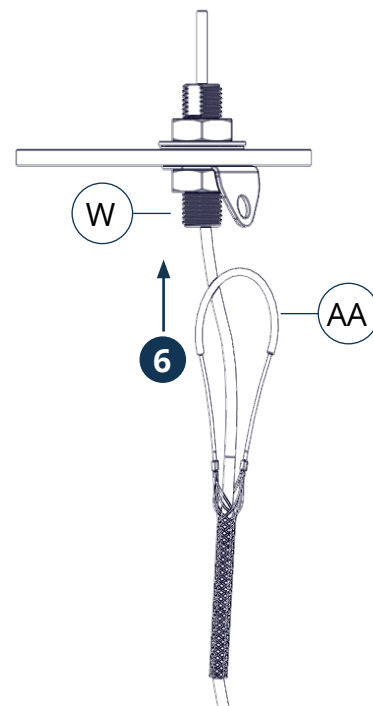
TANK PENETRATION (CONT.)

7. Thread the cord grip (Y) onto the tank penetration base. Leave cord grip loose.

Y

7

Tank roof
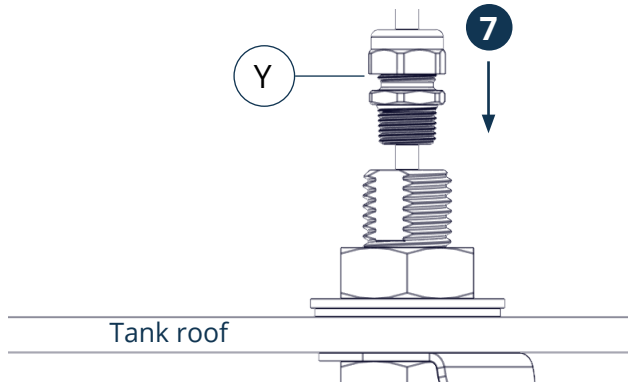
8. Secure the top connecting link (H) to the relief hanger.
9. Attach the cable support (AA) to the top connecting link and tighten the link.

Tank roof

8

H

9

AA
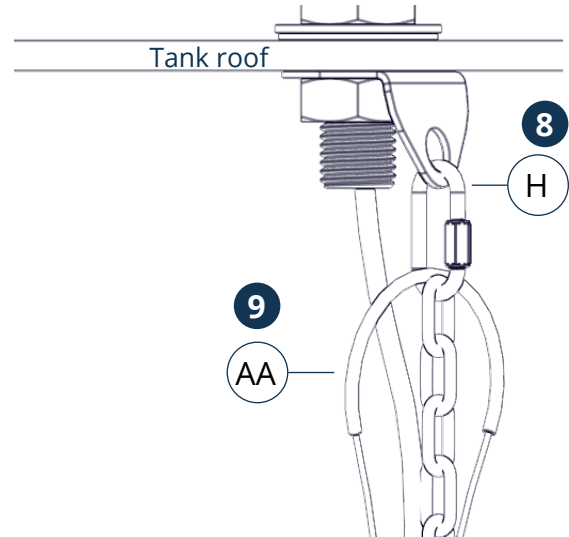
10. Tighten cord grip (Y) around the cord.

10

11. Use provided silicone sealant to caulk around the outside of the tank penetration for watertight fit.

NOTE

If you are installing a junction box or enclosure, place it over the tank penetration base before adding the cord grip. The box should sit on top of the hex nut.

Fit another hex nut (T) onto the tank penetration base, inside the enclosure and then add the cord grip (Y).

Y

T
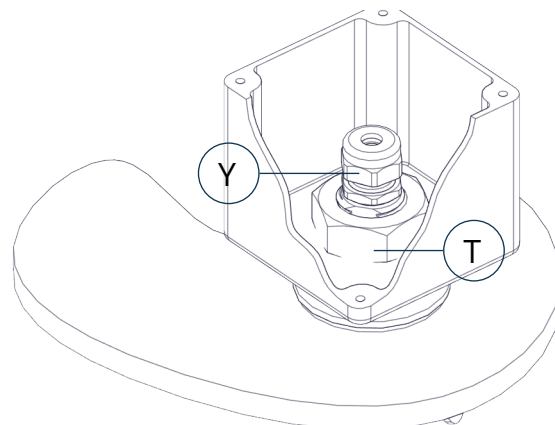
ASSEMBLED UNIT INSTALLATION

With the mount, retrieval chain, and cord affixed to the mixer and the tank roof penetration complete, the entire assembled unit is ready for installation.

1. As a **precaution against dropping the chain**, attach the last link of the long retrieval chain (G) to the top connecting link (H) prior to lowering the CertiSafe™ unit into the tank.
2. Hold both the long retrieval chain and the power cable while lowering the unit until the mixer is positioned on properly on the tank floor.
3. Remove excess slack from the long retrieval chain (G) without adding tension by:
   • Carefully removing the long retrieval chain from the top connecting link.
   • Pulling up any excess chain.
   • Reattaching the long retrieval chain to the top connecting link, allowing any excess chain to fall slack.
   • Coil excess chain and tie with wire.
4. Attach the cable support (AA) to the top connecting link (H).
5. Tighten the connecting link.
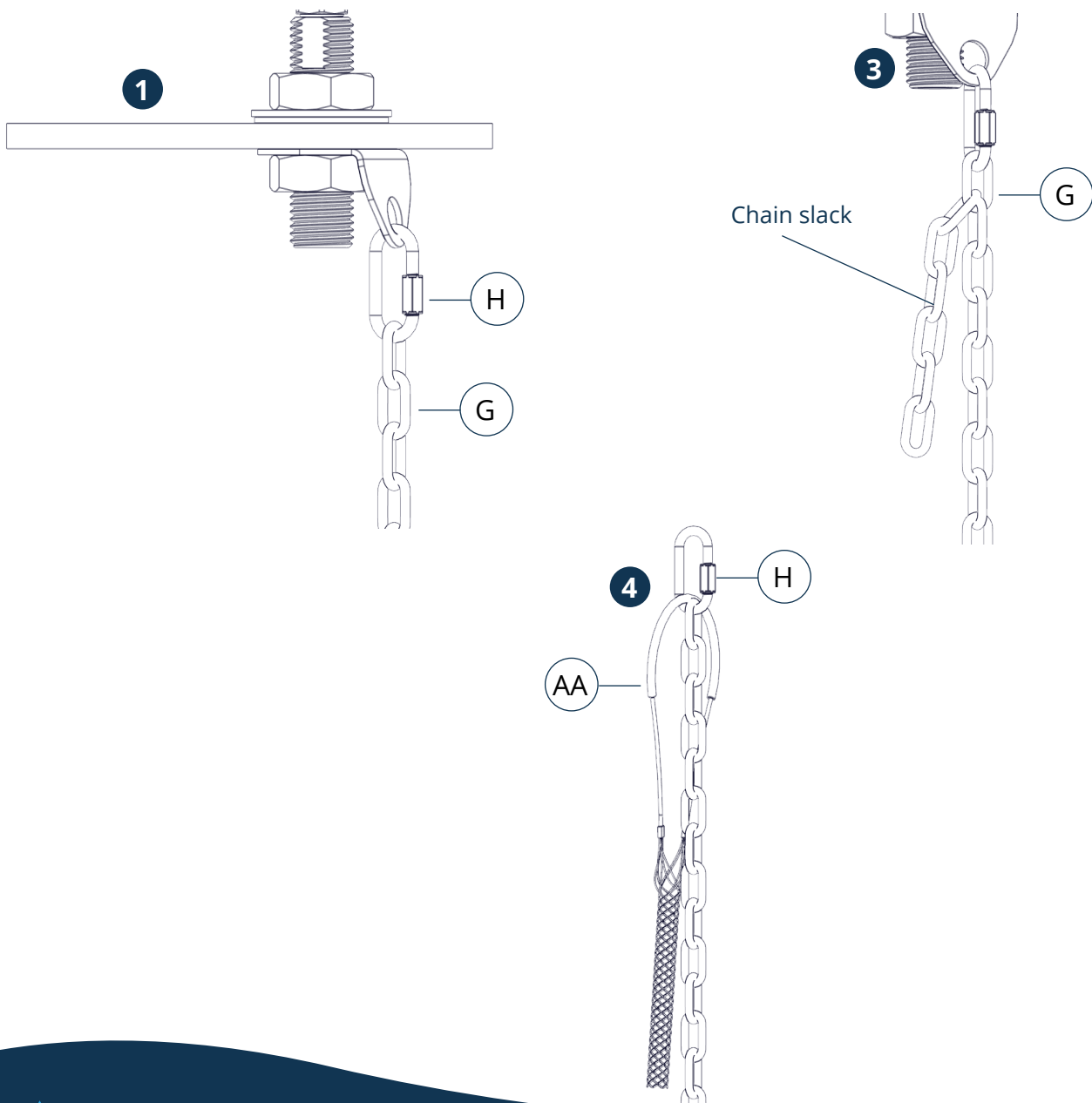
MIXER MAINTENANCE RECOMMENDATIONS

⚠️ **IMPORTANT: disconnect electrical power prior to any maintenance or servicing!**

GFCI

GFCI (Ground Fault Circuit Interrupter) is a safety feature that can alert you to problems with the mixer. It is important to test the GFCI upon installation, after each re-installation, and regularly thereafter to ensure consistent operation. If you experience repeat interruptions, disconnect and remove the equipment. Inspect the power cord and unit (mixer) for damage. If no damage is apparent, please contact your Kasco distributor or representative for further instruction.

Observation

- Monitor the operating mixer for any reduction or variation in performance.
- Inspect the mixer annually and clean as needed to allow for heat dissipation and to verify that the propeller is clean and free of nicks.
- Inspect the power cable annually for damage or abrasion and replace as necessary.
- Regularly clean all external rotating parts and examine them for wear.
- If you note a deficiency in performance, remove the equipment from service and inspect for any damage or failure. If you observe any canister leakage during annual inspection, send the mixer to Kasco's factory for service and repair.

Cleaning

The stainless-steel motor housing needs to be kept clean in order to allow heat to effectively dissipate.

Seal and Oil Replacement

- Replacing the seal and changing the oil every 3-5 years will add reliability and longevity to the mixer.
- Seal replacement and all other repair services should be performed by Kasco Marine.

Electrical Troubleshooting

- If a unit fails to operate, you can use a series of simple checks to determine the general cause.
- Once you've located the fault, please contact your distributor for information on how to proceed with repair.

Is the GFCI Tripped?	1. If yes, reset the GFCI and check operation. 2. If the GFCI continues to trip, disconnect the unit in the panel and reset the GFCI. • If the GFCI doesn't trip, the fault lies in the unit or its cord. • If the GFCI continues to trip, the fault lies in the control panel power source.
Is the cord damaged?	With the power off, perform a visual inspection of the power cord. If there is visible damage, contact your distributor for repair options.
What happens with an alternate power source?	If the power cord and unit appear to be in good condition, safely plug it into an alternate GFCI-protected power source. • If the unit starts and runs, fault lies in the control panel or power source. • If the alternate GFCI continues to trip, fault lies in the unit or cord.

CERTISAFE

MIXER WARRANTY

Kasco offers a standard 3-year warranty with the following models:

- 2400C61
- 3400C61 / 3400HC61
- 4400C61 / 4400HC61
- 8400C61

At the time of purchase, a 5-year warranty is available for packages including Advanced model control panels.

Warranty must be purchased at the same time as the mixer package. (Mixer package consists of the mixer, mount, and control panel.)

Control panel MUST have GFCI protection.

Kasco® Marine, Inc. warrants this CertiSafe™ mixing system to be free from defects in material or workmanship under appropriate use and service. The Kasco Marine, Inc. obligation under this warranty is limited to replacing or repairing, without charge, proven defective part while within the warranty period. Customer shall pay shipping charges for returning the unit to Kasco.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED. IN NO EVENT WILL KASCO MARINE, INC. BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES.

Warranty is void if:

- The mixer is not maintained according to the recommendations supplied in this manual.
- The mixer is returned for repair without the power cord.
- The unit, control box, or power cord are altered in any way from original shipment.
- The power cord is nicked or cut.
- The mixer is damaged by unauthorized service

Warranty Claim Procedure

Warranty period is established by the original receipt. For efficient service, please register the unit online at: kascomarine.com/warranty-registration.

Once warranty coverage has been established, you may send the unit to Kasco for evaluation and repair:

Kasco Marine, Inc.
800 Deere Rd.
Prescott, WI 54021
Attn: Repairs

NOTE Kasco only accepts complete assemblies for warranty repair. We must receive the power cord and all other components with the motor as originally assembled. Kasco will bill the customer to replace any missing parts necessary for repair. It is not necessary to return the control panel, mount, or other parts with the motor assembly, unless specifically requested by a Kasco representative.

Please attach a repair form with the shipment. The repair form must include a name, physical address (for return delivery of the repaired unit), daytime phone number, and an e-mail address for correspondence regarding the warranty claim.

Any expedited shipping method for the return of the unit is at the customer's expense. Kasco Marine will return units repaired under warranty at our expense via ground freight within the continental United States.

NON-WARRANTY REPAIRS

You can often repair failed equipment at a lower cost than replacement. Kasco Marine estimates repairs at the request of the customer. This request should include a daytime phone number and e-mail address.

Estimate options are as follows:

• Kasco contacts the customer with a repair total after we evaluate the unit, but before we perform the work quoted.

• Customer pre-approves repair of the unit if costs are below a stated dollar amount. Example: "Please repair if total is under $150.00 before shipping charges."

Kasco will recycle any unit we receive for estimate but which the customer declines to repair, unless the customer specifies otherwise. If the customer would like the product returned, Kasco will return the unit to the condition in which we received it, and we will ship it at the customer's expense.

Billing

Contact Kasco to arrange payment for any non-warranty repairs. We will request payment information upon customer approval of the estimate.

CONTACT US

Kasco Marine
800 Deere Road
Prescott, WI 54021

715.262.4488

kascomarine.com | sales@kascomarine.com

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& 372

CERTISAFE

REPAIR CONTACT FORM

- Kasco requires that all equipment sent for repair <u>MUST</u> be accompanied by this form and marked to Repairs attention.
- Unit should be cleaned before shipping.
- Kasco is <u>NOT</u> responsible for shipping damage accrued in return shipment.
- It is the responsibility of the customer to ship and pay freight to Kasco.

Kasco Marine
800 Deere Road
Prescott, WI 54021
Attn: Repairs

Note: Contact information should be that of the person or company to contact for repair information.

Company name		
	First name	Last name
Contact name		
	Street	
	City	
Address	State	
	ZIP code	
	Primary	Alternate
Phone number		
Email address		
Preferred method of contact (circle one)	Phone Email	
Purchase order number		
	Serial Number	Cord Length
Additional product information		
Information for Repair Technician		
Was this unit used in a chemical treatment or wastewater application? (circle one)	Yes No	
Additional notes		