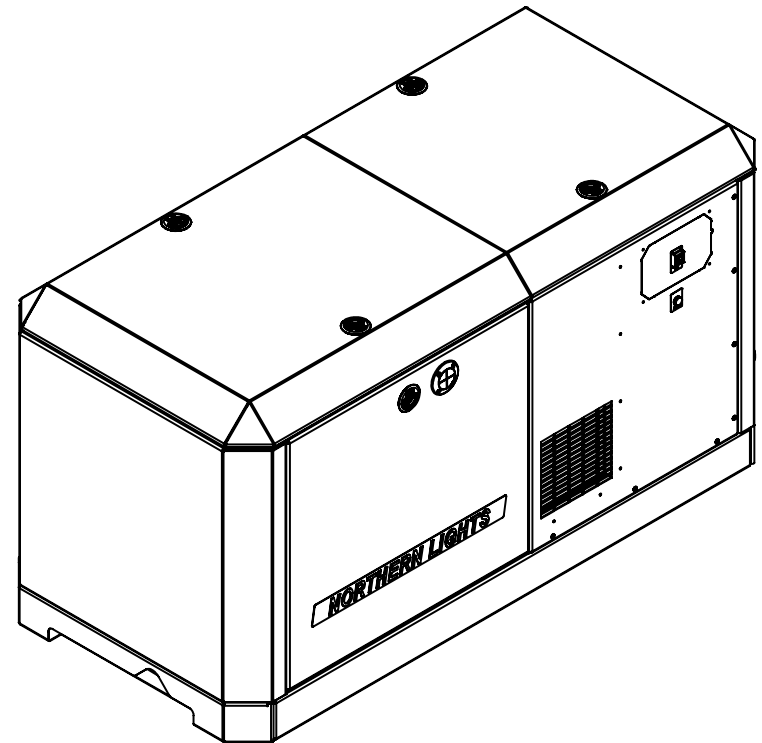
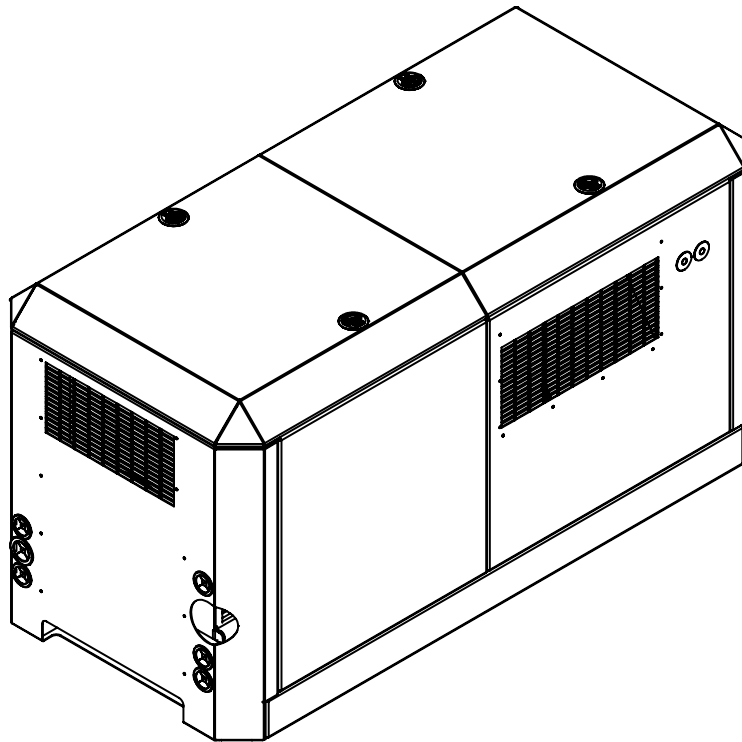




M944TG

GEM Series Sound Enclosure Assembly Instructions



Northern Lights

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LIT NO.: L831 7/20

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M944TG GEM Sound Enclosure

ITEM #	DESCRIPTION	NLI P/N	QTY	NOTES
1.	Lower intake duct assembly	06-71272	1	
2.	Rear panel assembly	06-71202	1	
3.	Service side valence assembly	06-71206	1	
4.	Non-service side valence assembly	06-71207	1	
5.	Front valence assembly	06-71213	1	
6.	Service side aft panel assembly	06-71217	1	
7.	Non-service side aft panel assembly	06-71212	1	
8.	Non-service side fwd panel assembly	06-71211	1	
9.	Front panel assembly	06-71201	1	
10.	Seal bar assembly	06-71271	1	
11.	Service side fwd panel assembly	06-71208	1	
12.	Top aft panel assembly	06-71204	1	
13.	Top fwd panel assembly	06-71203	1	
14.	Sound shield wire harness	22-71227	1	
15.	M8 button head screw	12-00118	10	
16.	5/16-18 Phillips head screw	12-00119	6	
17.	5/16 lock washer	15-09204	16	
18.	1-1/4" ID grommet	00-70146	2	

SPECIFICATIONS

Enclosure:

Length (OA)	60.1 in (1527 mm)
Width	28.7 in (729 mm)
Height	32.0 in (813 mm)
Assembled height on base frame:	32.0 in (813 mm)
Assembled weight w/o sub-base (est):	164 lbs (74 kg)

Prior to assembly, inspect all components for damage. Report any damage to the shipping company. Check the packing list in the back of this manual to be sure all parts are included.

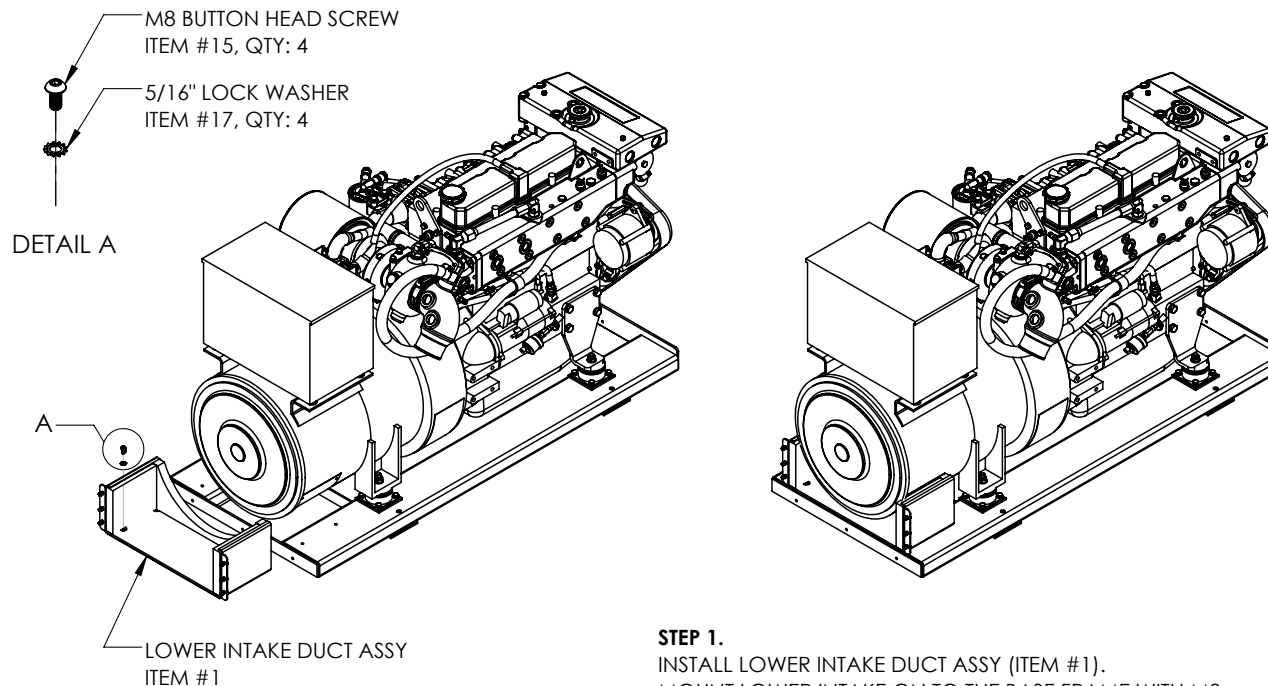
Note: The generator set features a single point lifting eye. However, the generator may still possess original factory lifting points, which will need to be loosened and rotated down, until they are below the highest point on the engine. Be sure to retighten those bolts before moving on.

Select a mounting location in accordance with the guidelines in the IM100 Installation Manual. The generator set must typically be mounted on a rigid, flat surface above a strong structure, such as vessel's stringers, to minimize vibration transference to the hull.

Note that the generator set is designed for single service side. When viewed from the rear, the left hand side is the service side, and should be exposed for easy maintenance access.

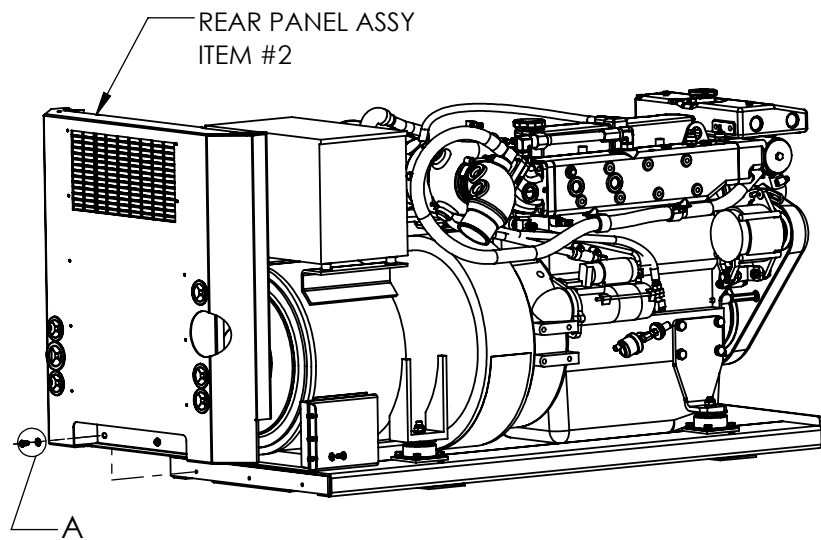
Install the generator set in the vessel as near to a level attitude as possible. Ensure that the enclosure's right hand side and rear at the recommended distances (6 inches recommended, 4 inches minimum) from the vessel's bulkheads.

AVOID POSITIONING THE ENCLOSURE INTO CORNERS WITH OVERHEAD BLOCKED TO REDUCE CHANCE OF INTAKE/EXHAUST AIR RECIRCULATION OUTSIDE THE SHIELD



STEP 1.

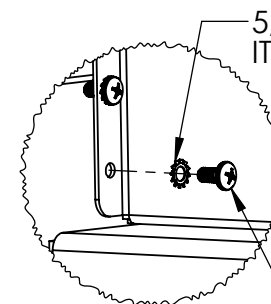
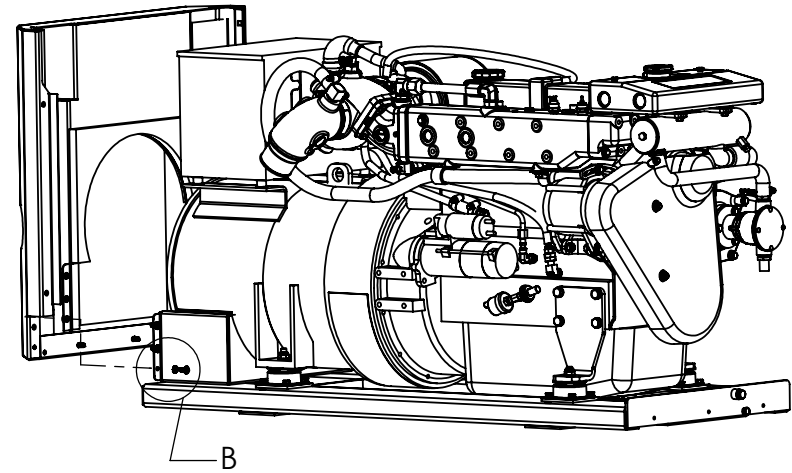
INSTALL LOWER INTAKE DUCT ASSY (ITEM #1).
MOUNT LOWER INTAKE ON TO THE BASE FRAME WITH M8
BUTTON HEAD SCREW AND 5/16 LOCK WASHER. USE 5mm
HEX WRENCH AND TIGHTEN WITH HAND TOOLS ONLY.



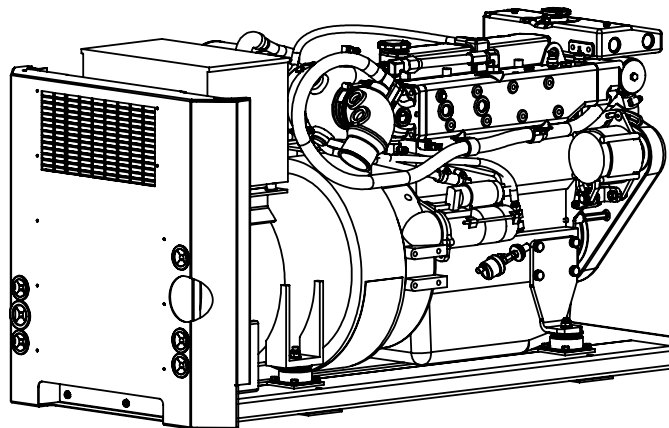
M8 BUTTON HEAD SCREWS
ITEM #15, QTY: 3



5/16" LOCK WASHER
ITEM #17, QTY: 3



DETAIL B

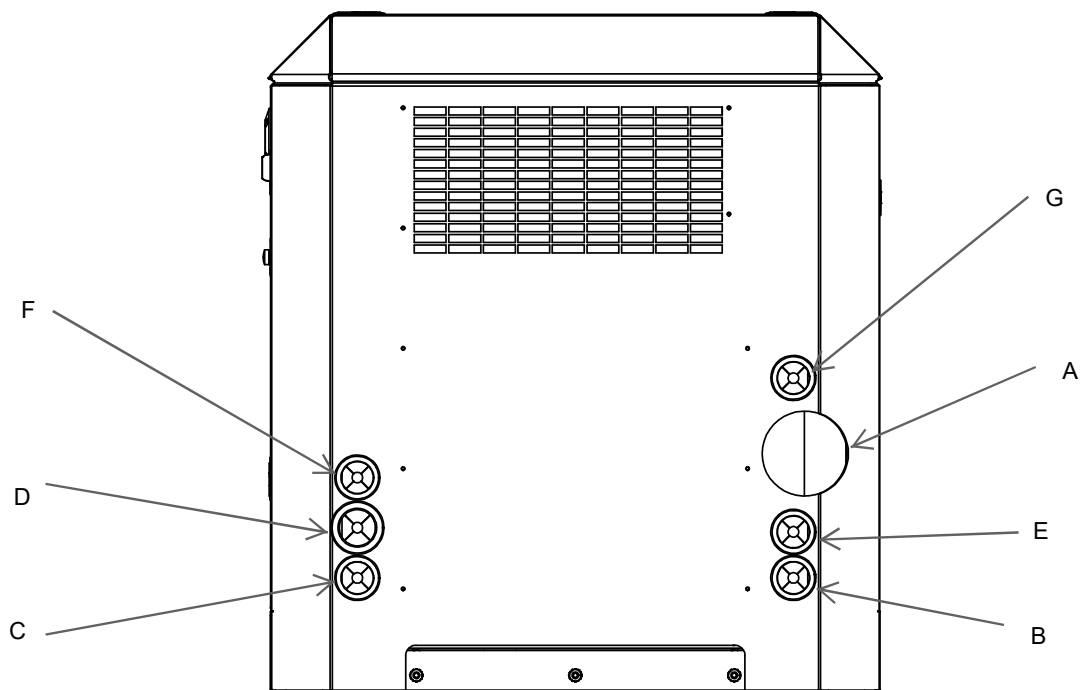


STEP 2.

INSTALL REAR PANEL ASSY (ITEM #2).

1. MOUNT REAR PANEL TO BASE FRAME WITH M8 BUTTON HEAD SCREW AND 5/16 LOCK WASHER. USE 5mm HEX WRENCH, TIGHTEN WITH HAND TOOLS ONLY.
2. SECURE LOWER INTAKE DUCT TO REAR PANEL WITH 5/16-18 PAN HEAD SCREW AND 5/16 LOCK WASHER. USE PHILLIPS HEAD SCREW DRIVER AND DO NOT OVER-TIGHTEN.

GENERATOR CONNECTION SHOWN ON PAGE 4



GENERATOR CONNECTIONS

Install connections for exhaust, AC power leads, DC control panel leads, battery and water inlet through holes in the rear panel as shown and described below:

A- Connect the exhaust elbow of the diesel engine to the exhaust system of the vessel.

B- Connect the sea water pump to the vessel's water inlet. Pass a 3/4" ID hose from the vessel's sea water strainer through hole B to the sea water pump inlet fitting.

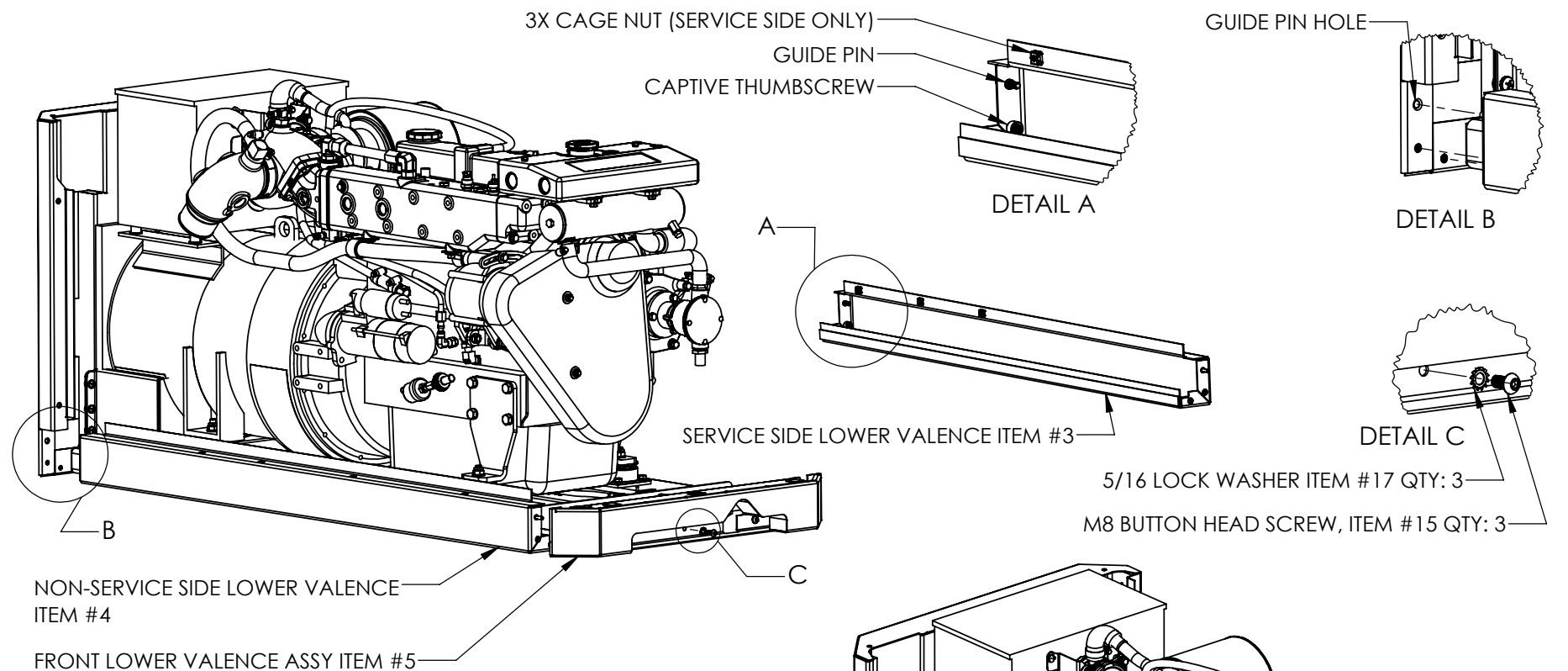
C- Connect the vessel's fuel supply and fuel return to the generator set through hole C. Fuel connections are located at the fuel manifold on the base frame of the generator's left hand side. Size will be 1/4" NPT or 5/16" JIC-37T depending on year of manufacture. Use Coast Guard-approved rubber hose only.

D- Connect the DC control panel harness to the genset engine harness plug through hole D.

E- Connect the 12 volt battery leads to the generator set through hole E.

F- Connect the AC output leads from the generator junction box to the vessel's power distribution panel through hole F.

G- "OPTIONAL" This port is used for water outlet in KEEL COOLED applications.



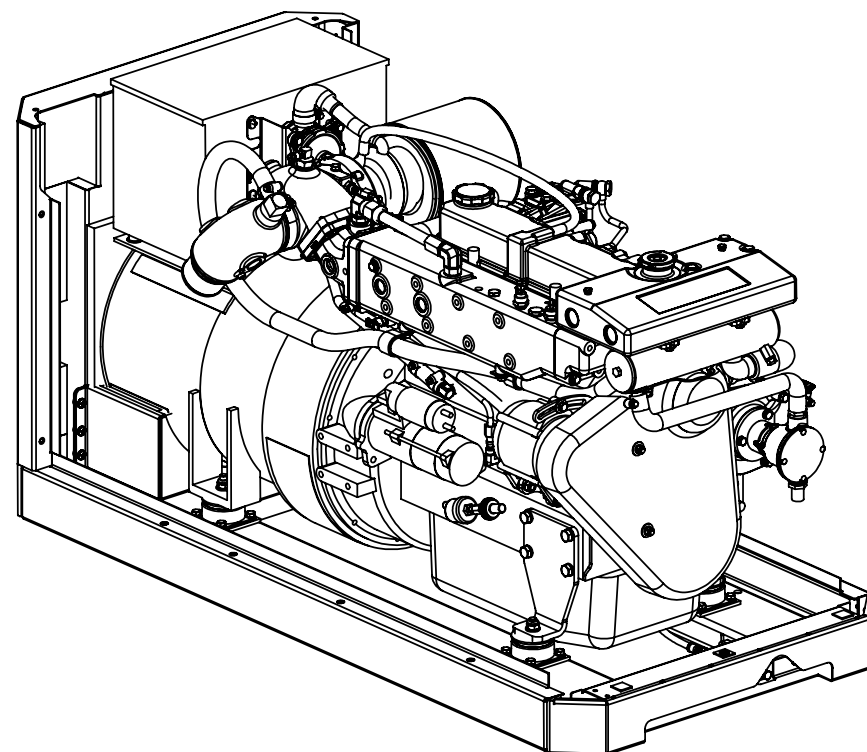
STEP 3.

INSTALL SIDE VALENCE ASSEMBLIES (ITEM #3 AND 4).
ALIGN GUIDE PIN TO CORRESPONDING HOLES IN THE REAR
PANEL. USE CAPTIVE THUMBSCREWS TO SECURE TO REAR PANEL.
MAY USE LONG PHILLIPS TYPE SCREW DRIVER FOR REACH ASSIST.

STEP 4.

INSTALL THE FRONT VALENCE PANEL ASSY (ITEM #5).

1. ALIGN GUIDE PINS OF BOTH SIDE VALENCES TO GUIDE PIN HOLES IN THE FRONT VALENCE ASSY. CONNECT THE FRONT AND SIDE VALENCES WITH THE CAPTIVE THUMBSCREWS.
2. SECURE THE FRONT VALENCE ASSY TO THE BASE FRAME WITH M8 BUTTON HEAD SCREWS AND 5/16 LOCK WASHERS. USE A 5mm HEX KEY AND TIGHTEN WITH HAND TOOLS ONLY.

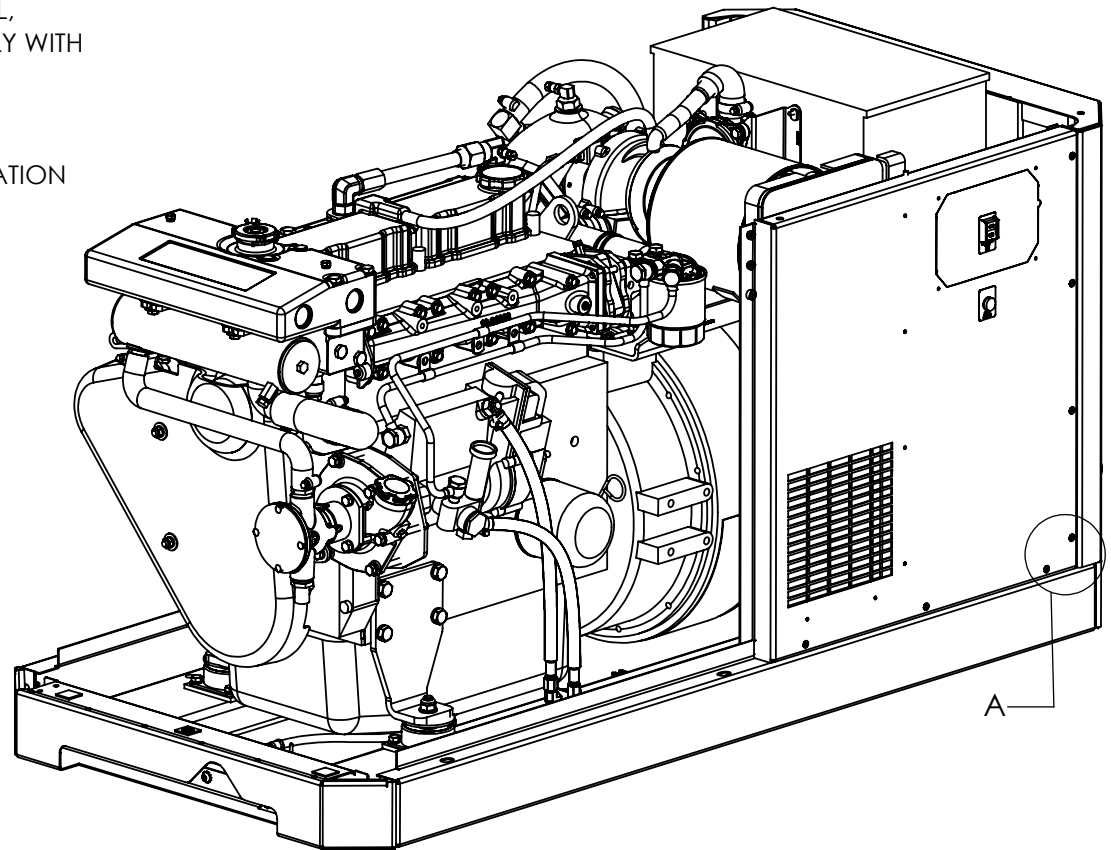
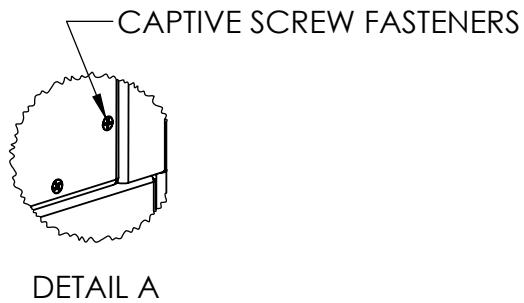


STEP 5.

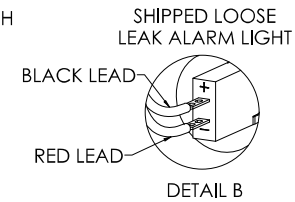
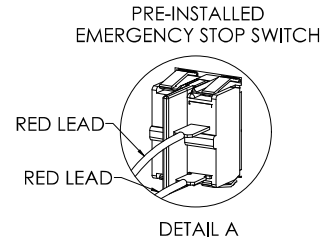
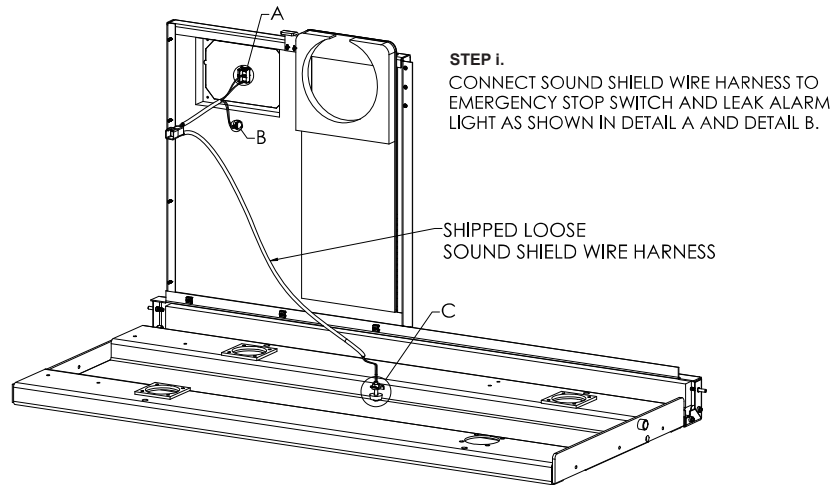
INSTALL SERVICE SIDE AFT PANEL ASSY (ITEM #6).
POSITION PANEL IN PLACE AS SHOWN AND FINGER START THE
CAPTIVE SCREWS. USING A PHILIPS TYPE SCREWDRIVER PROGRESSIVELY
TIGHTEN ALL SCREWS IN ALTERNATING ORDER (ONE VERTICAL,
ONE HORIZONTAL, ETC) UNTIL FULLY ENGAGED. TIGHTEN ONLY WITH
FIRM HAND PRESSURE, DO NOT OVERTIGHTEN.

NOTES:

SEE NEXT PAGE FOR E-STOP AND LEAK ALARM LIGHT INSTALLATION
AND CONNECTIONS.

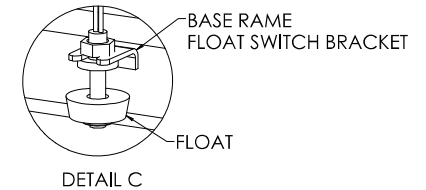


SOUND SHIELD WIRE HARNESS INSTALLATION

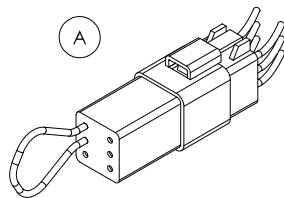


NOTES:
LEAK ALARM LIGHT WILL NOT OPERATE IF POLARITY IS SWITCHED.
APPEARANCE MAY VARY.

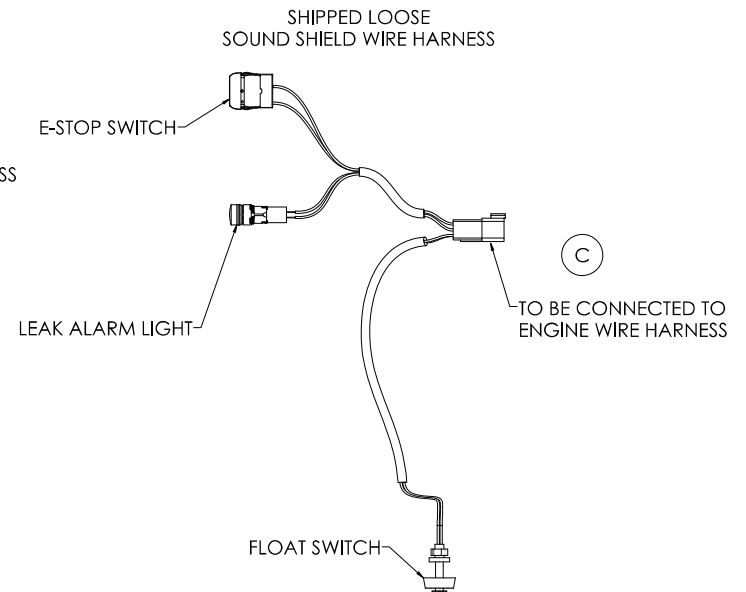
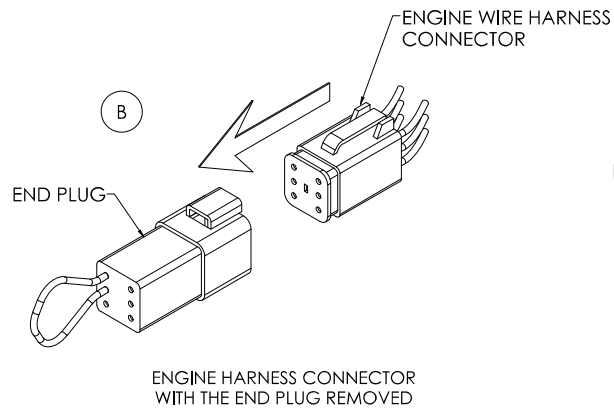
STEP ii.
INSTALL FLOAT SWITCH TO THE CORRESPONDING BRACKET ON THE BASE FRAME. BE SURE TO CHECK THE LEAK ALARM LIGHT BY LIFTING UP THE FLOAT AFTER GENERATOR SET IS CONNECTED TO STARTER BATTERY.

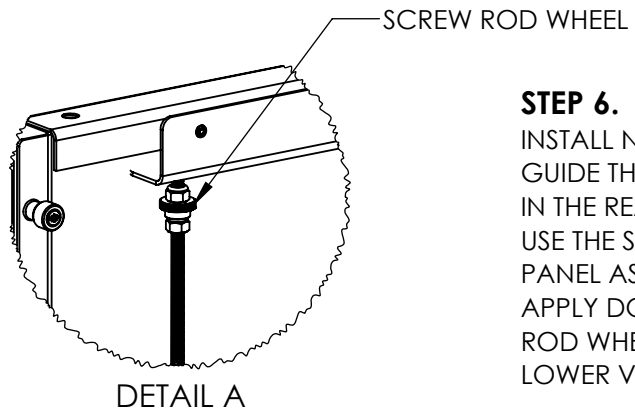


STEP iii.
A. LOCATE AND IDENTIFY THE ENGINE WIRE HARNESS.
B. REMOVE THE ENGINE WIRE HARNESS END PLUG.
C. CONNECT SOUND SHIELD WIRE HARNESS TO THE ENGINE WIRE HARNESS.

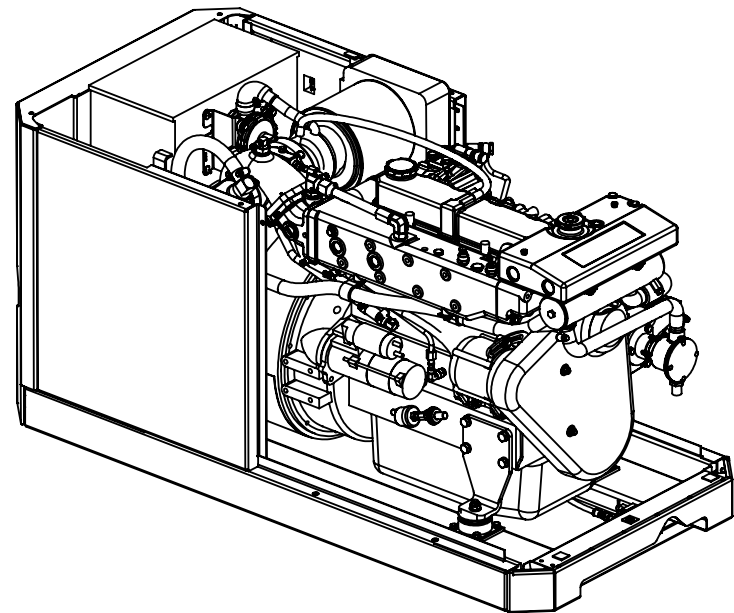
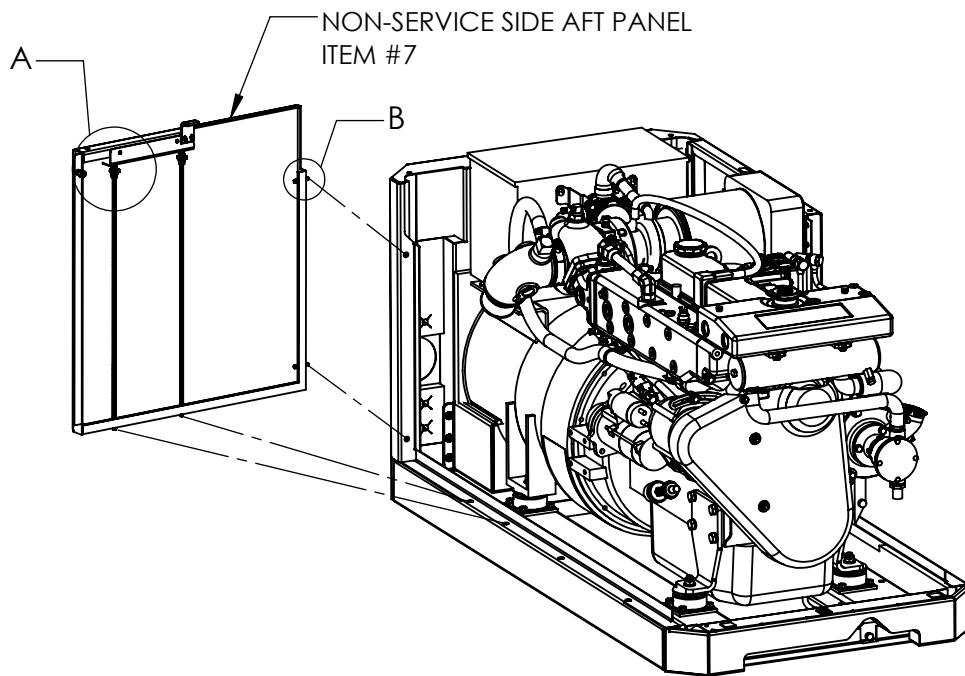
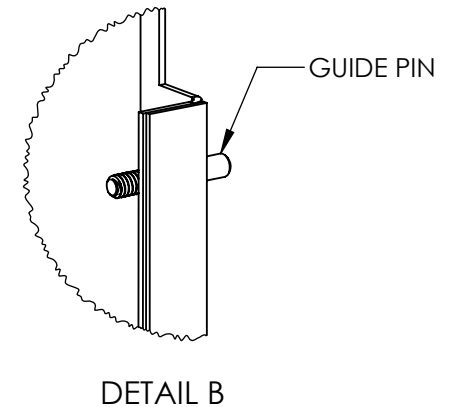


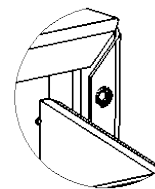
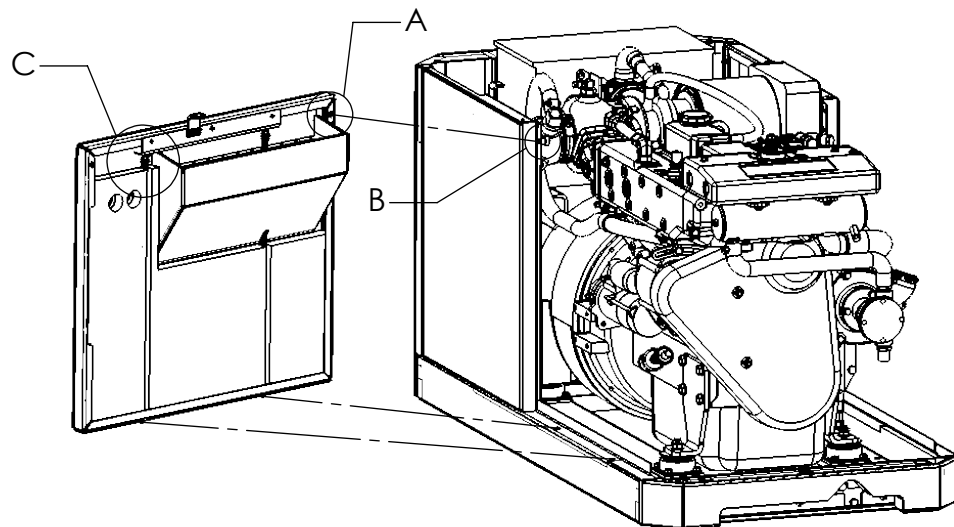
STANDARD ENGINE HARNESS CONNECTOR WITH PRE-INSTALLED END PLUG



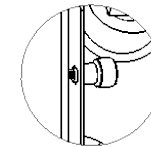
**STEP 6.**

INSTALL NON-SERVICE SIDE AFT PANEL ASSY (ITEM #7).
 GUIDE THE PINS (DETAIL B) TO CORRESPONDING HOLES
 IN THE REAR PANEL.
 USE THE SCREW ROD WHEELS (DETAIL A) TO ATTACH THE
 PANEL ASSY TO THE LOWER SIDE VALENCIE.
 APPLY DOWNWARD PRESSURE AS YOU TURN THE SCREW
 ROD WHEELS TO ENGAGE THE CAPTIVE NUTS INSIDE THE
 LOWER VALENCIE.

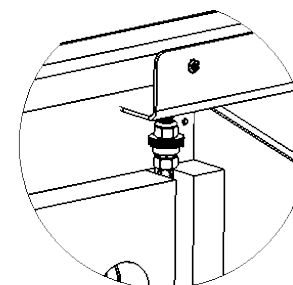




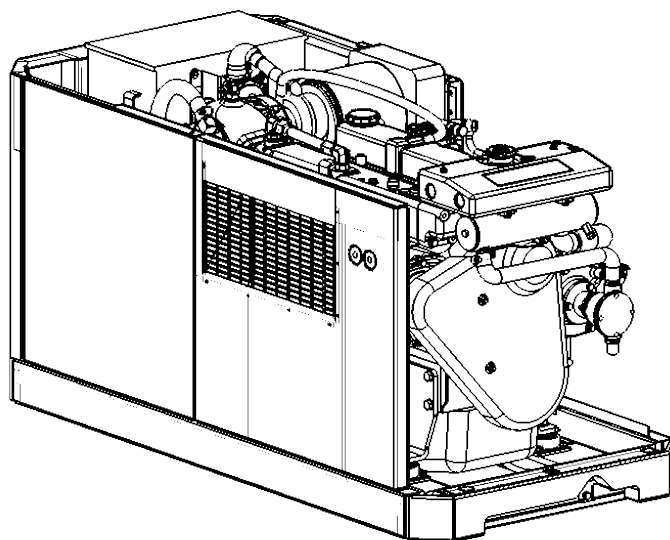
DETAIL A



DETAIL B



DETAIL C



STEP 7.

INSTALL NON-SERVICE SIDE FWD PANEL ASSY (ITEM #8).

1. USE THUMBSCREW (DETAIL B) TO SECURE THE NON-SERVICE SIDE FWD PANEL ASSY (DETAIL A) TO THE NON-SERVICE SIDE AFT PANEL.
2. USE THE SCREW ROD WHEELS (DETAIL C) TO SECURE THE NON-SERVICE SIDE FWD PANEL TO THE LOWER SIDE VALENCE. APPLY DOWNWARD PRESSURE AS YOU TURN THE SCREW ROD WHEEL TO ENGAGE THE CAPTIVE NUTS INSIDE THE LOWER VALENCE.

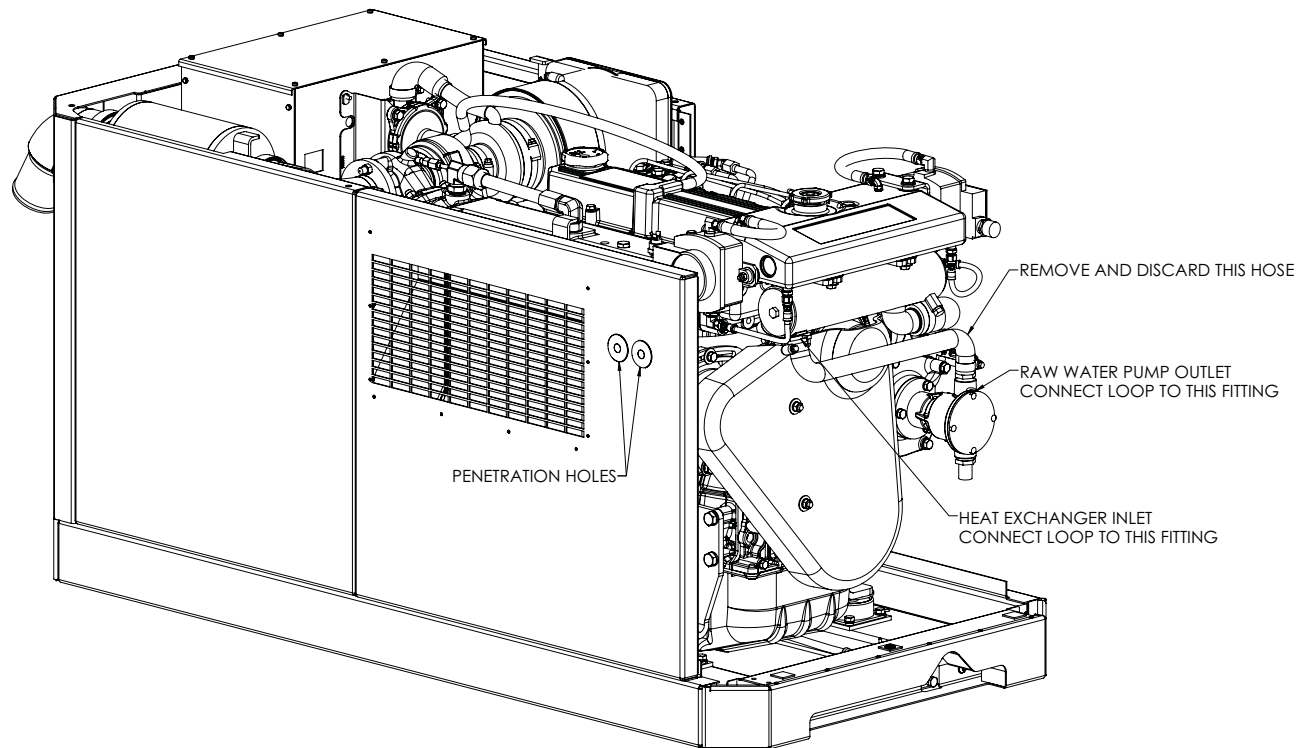
FOR APPLICATIONS WITH A SIPHON BREAK

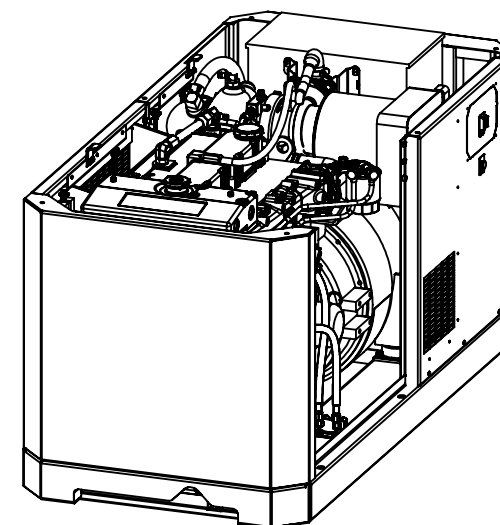
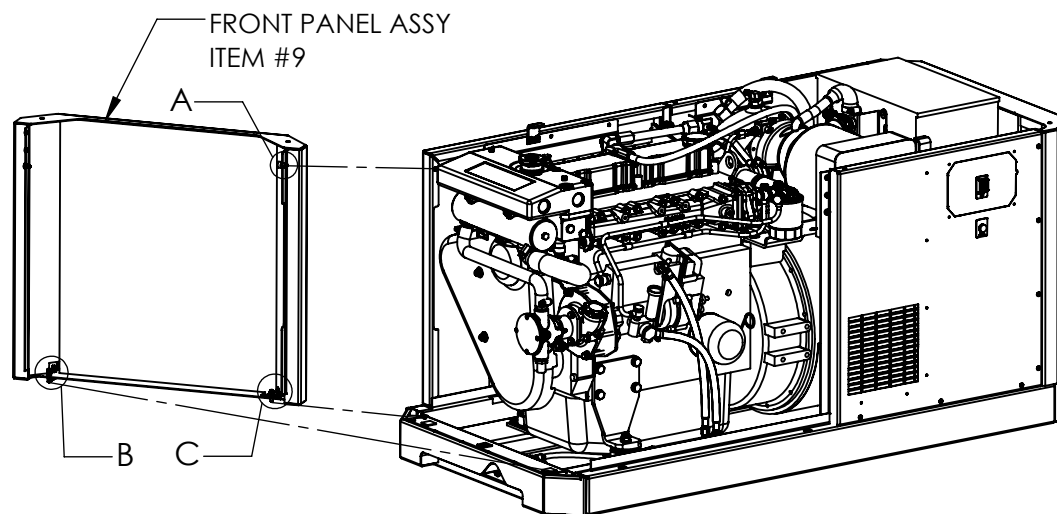
Reference the plumbing diagram in the mounting and exhaust sections of the IM1000 installation manual.

Remove the white plastic hole plugs by pushing them out from the inside and replace with the two rubber grommets provided (ITEM#18).

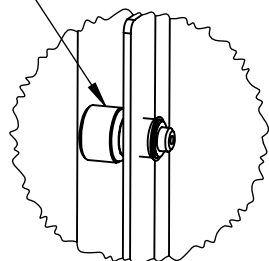
GENERATOR SETS WITH WET EXHAUST THAT ARE INSTALLED NEAR OR BELOW THE VESSEL'S WATER LINE MUST USE A SIPHON BREAK TO PREVENT BACKFLOW OF WATER INTO THE ENGINE. THIS BACKFLOW CAN RUIN AN ENGINE AND POSSIBLY SINK THE VESSEL.

1. Disconnect the hose from seawater pump output. Install two lengths of 3/4" hose. The hoses must be of adequate length to allow mounting of a siphon break, a minimum of 12 inches above the vessel's loaded water line.
2. Pass the hoses through the provided penetration holes.
3. For more information, see the "Exhaust" section of the IM1000. Installation Manual is included with the generator set.



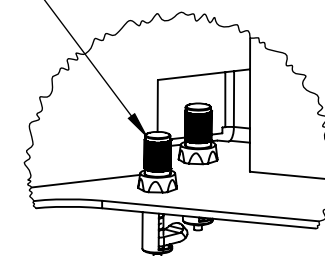


CAPTIVE THUMB SCREW

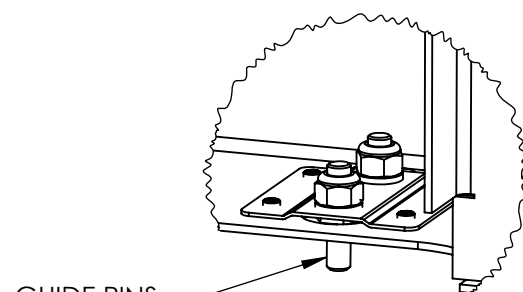


DETAIL A

COMPRESSION THUMB SCREW LATCH



DETAIL B

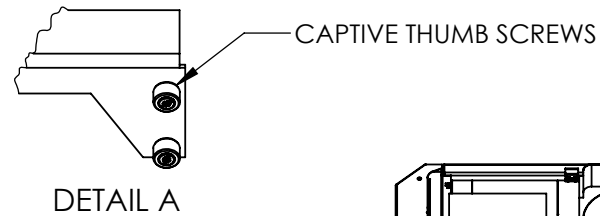
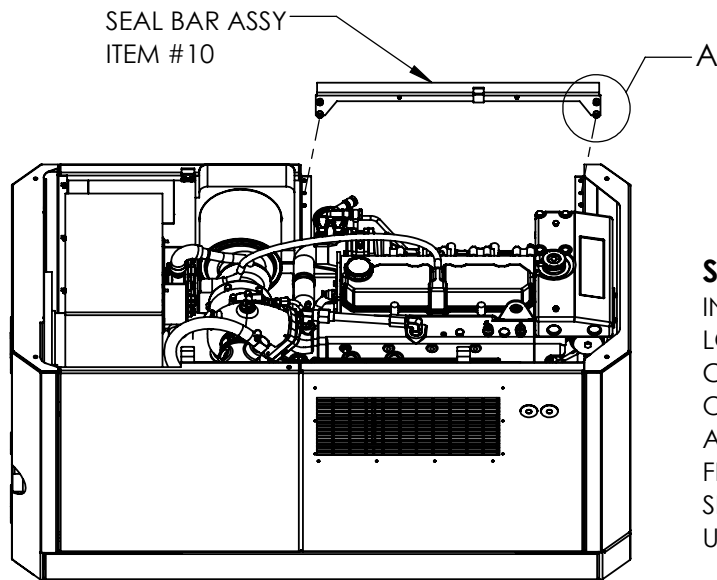


GUIDE PINS
DETAIL C

STEP 8.

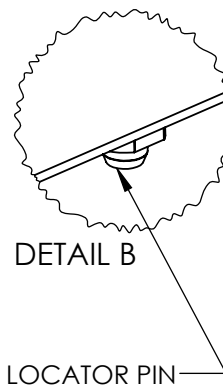
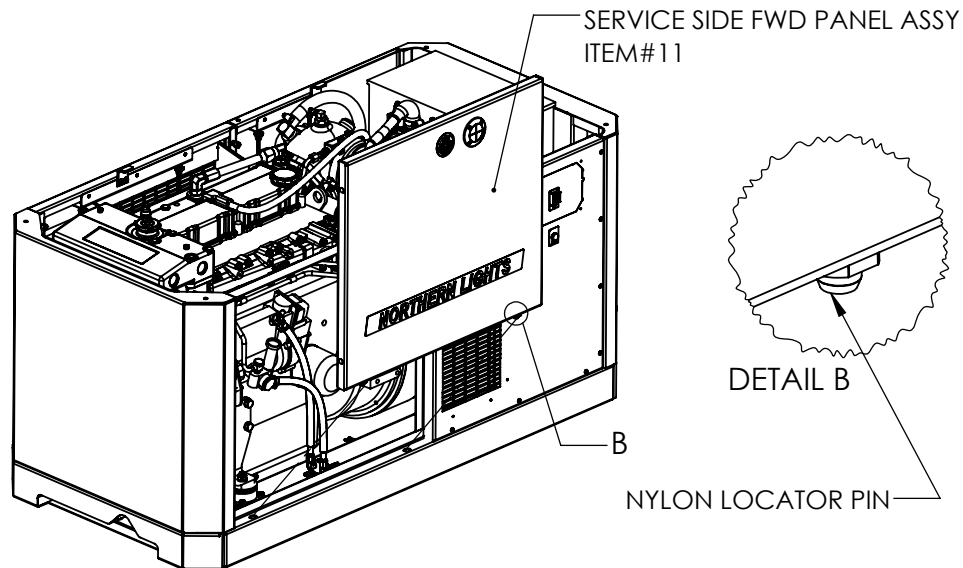
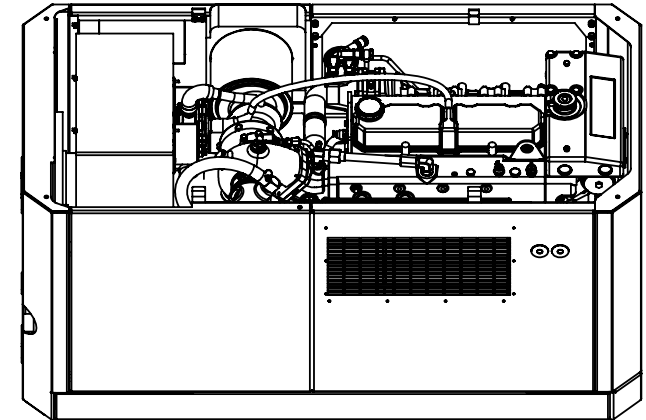
INSTALL FRONT PANEL ASSY (ITEM #9).

1. BEFORE PLACING FRONT PANEL ASSY IN POSITION, TWIST COMPRESSION THUMB SCREW LATCH (DETAIL B) IN COUNTER-CLOCKWISE DIRECTION SO THAT THE PAWL POINTS FORWARD, IN FULLY LOWERED POSITION.
GUIDE PINS (DETAIL C) TO CORRESPONDING HOLES IN THE FRONT LOWER VALENCE.
2. WHEN POSITIONED, TURN COMPRESSION THUMB SCREW LATCHES IN CLOCK-WISE DIRECTION TO ENGAGE, UNTIL TIGHT WITH FIRM FINGER PRESSURE.
3. NOW ENGAGE CAPTIVE THUMB SCREW (DETAIL A) TO CORRESPONDING HOLE IN NON-SERVICE SIDE FWD PANEL TO SECURE. FIRM BUT NOT OVER TIGHT.



STEP 9.

INSTALL SEAL BAR ASSY (ITEM #10.)
LOCATE SEAL BAR ASSEY TO THEIR
CORRESPONDING CAPTIVE NUT HOLES
ON THE FRONT PANEL ASSY FLANGE
AND THE SERVICE SIDE AFT PANEL ASSY
FLANGES.
SECURE WITH CAPTIVE THUMB SCREWS
UNTIL FIRM BUT NOT OVER TIGHT.

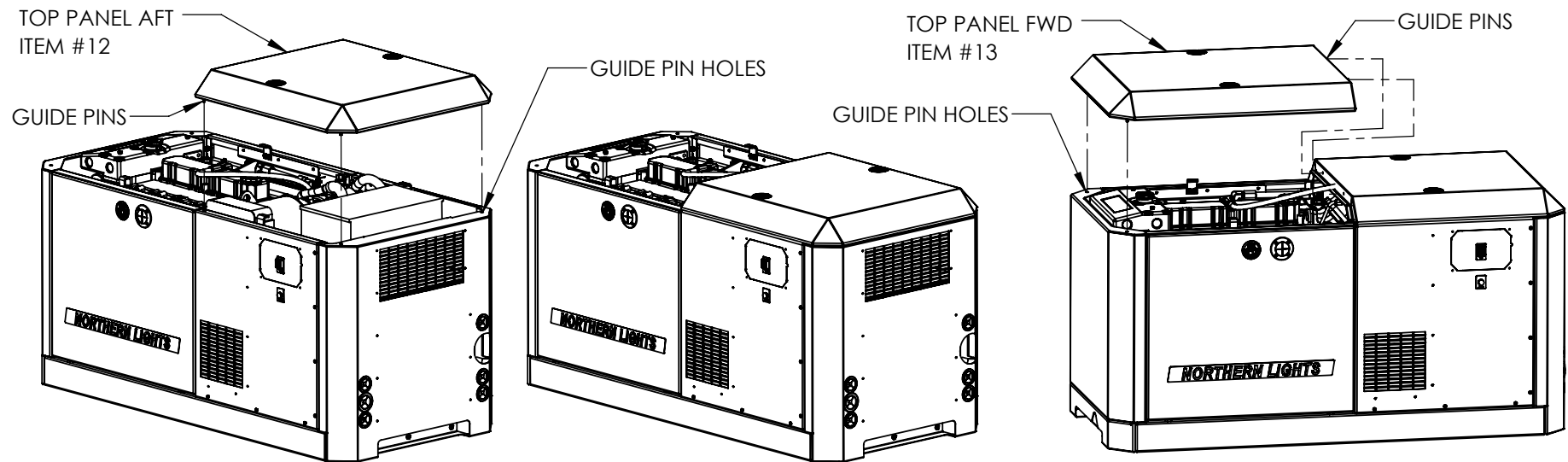


STEP 10.

INSTALL SERVICE SIDE FWD PANEL ASSY (ITEM #11).
GUIDE NYLON LOCATING PINS (DETAIL B) TO SLOTS
IN LOWER SIDE VALENCE PANEL.
ENGAGE THE RING LATCH BY LIFTING RING LEVER OUT
AND TWIST A HALF-TURN SO IT FOLDS DOWN FLUSH AGAIN.
YOU WILL FEEL A CERTAIN AMOUNT OF RESISTANCE AS YOU
DO, WHICH MEANS THE LATCH IS ENGAGING.
NORMAL LATCH OPERATION AFTERWARDS ONLY REQUIRES
A QUARTER TURN TO RELEASE AND RE-ENGAGE THE PANEL.

NOTE:

LATCHES ARE FACTORY PRE-SET BUT OCCASIONALLY
REQUIRE SOME ADJUSTMENT. REFER TO LATCH ADJUSTMENT
PAGE FOR DETAIL.
LATCHES ARE INSTALLED IN FULLY OPEN POSITION FROM
FACTORY, SO LATCH RING IS BACKWARDS WHEN PACKED,
AND LATCH PAWL IS POINTING TO THE CENTER OF THE PANEL.



STEP 11.

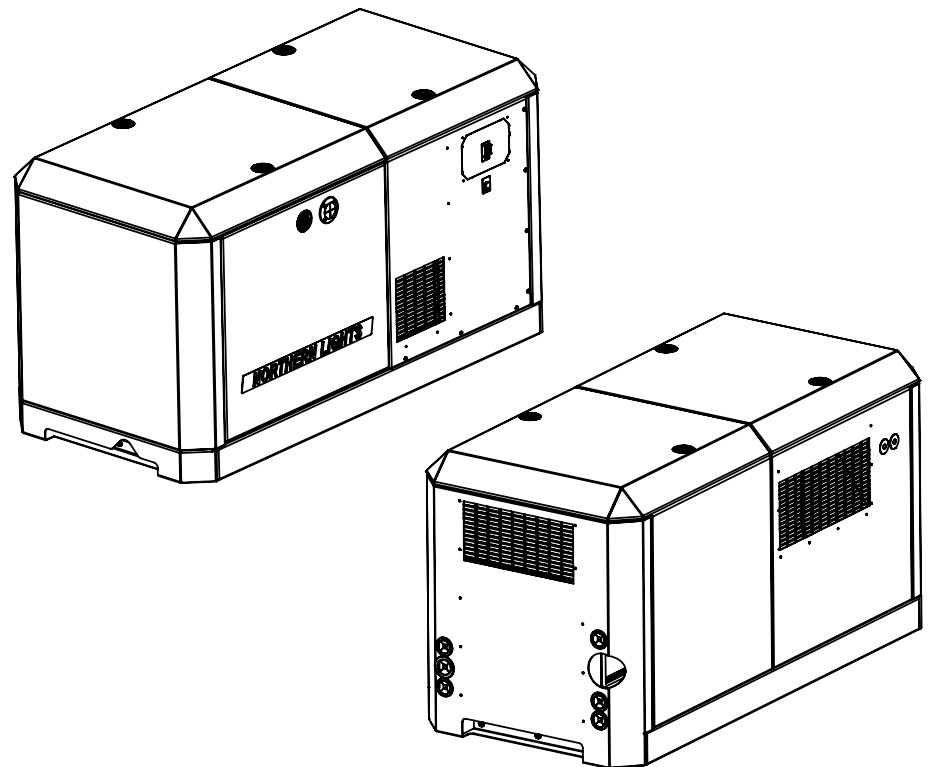
INSTALL TOP AFT AND FWD PANEL ASSY (ITEM# 12 AND 13).

1. GUIDE PINS ON TOP AFT PANEL ASSY TO THE CORRESPONDING HOLES ON TOP OF THE REAR AND SIDE PANEL ASSOYS. LIFT RING LATCH LEVER AND TWIST A HALF TURN AND FOLD DOWN FLUSH AGAIN. YOU WILL FEEL A CERTAIN AMOUNT OF RESISTANCE AS YOU DO, WHICH MEANS THE LATCH IS ENGAGING. NORMAL LATCH OPERATION AFTERWARDS ONLY REQUIRES A QUARTER TURN TO RELEASE AND RE-ENGAGE THE PANEL.
2. TO INSTALL THE TOP FWD PANEL ASSY, NOTE THE PINS AT THE REAR OF THE TOP FWD PANEL, GUIDE THESE PINS INTO CORRESPONDING HOLES IN THE FRONT OF THE TOP AFT PANEL. LATCH OPERATION IS THE SAME AS THE TOP FWD PANEL.

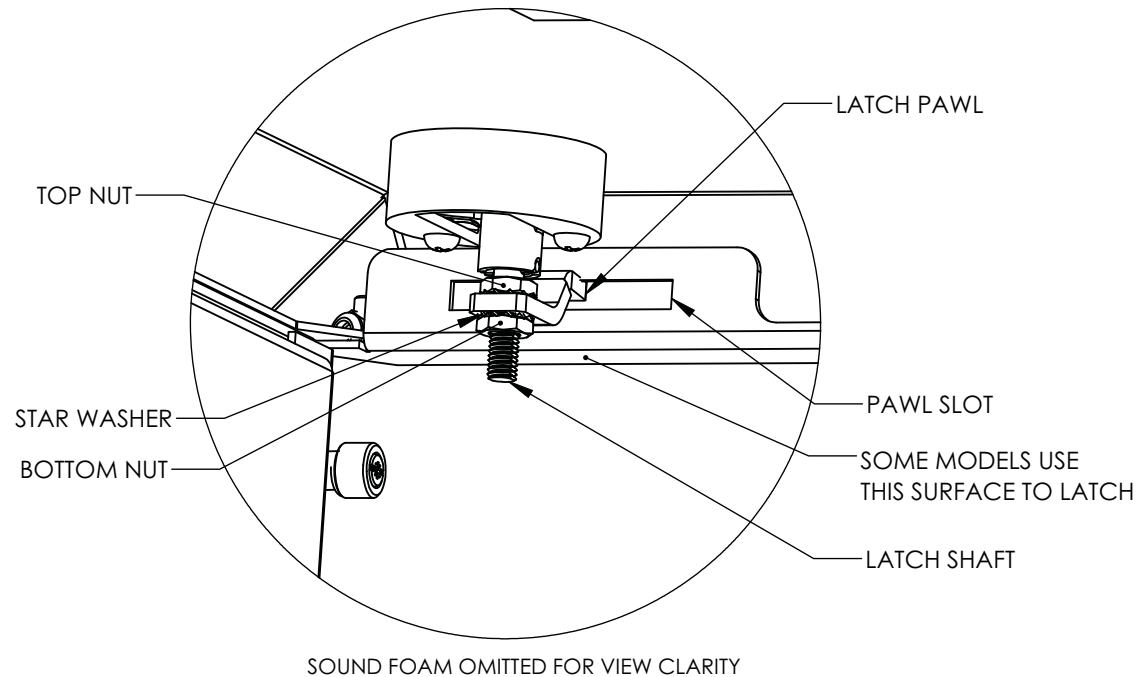
NOTE:

THE RING LATCHES ARE FACTORY PRE-SET BUT OCCASIONALLY REQUIRE SOME ADJUSTMENT. REFER TO THE LATCH ADJUSTMENT PAGE FOR DETAIL.

LATCHES ARE INSTALLED IN FULLY OPEN POSITION FROM FACTORY SO LATCH RING IS BACKWARDS WHEN PACKED, AND LATCH PAWL IS POINTING TO THE CENTER OF THE PANEL.



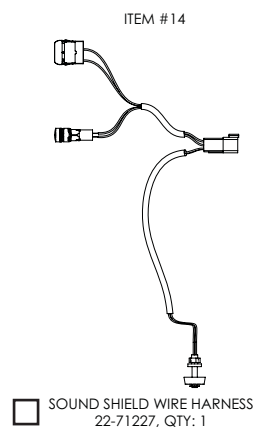
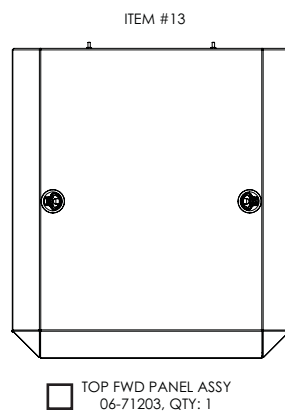
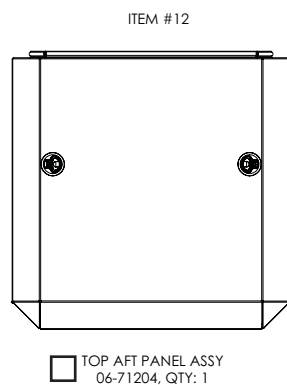
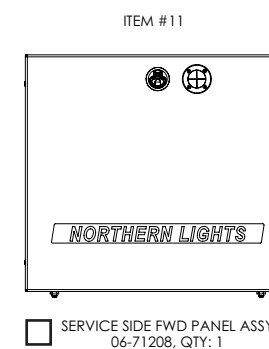
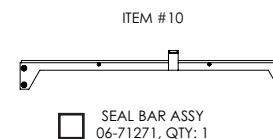
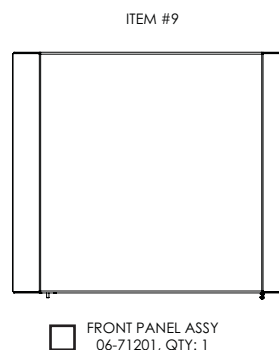
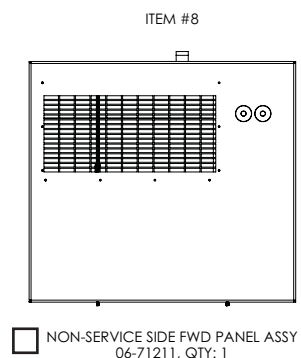
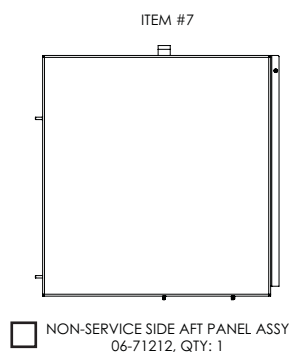
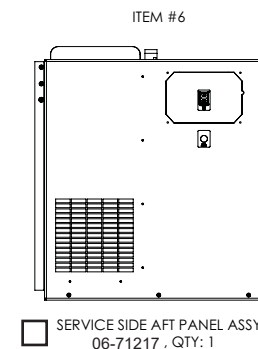
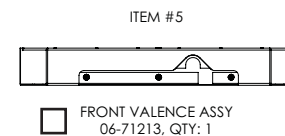
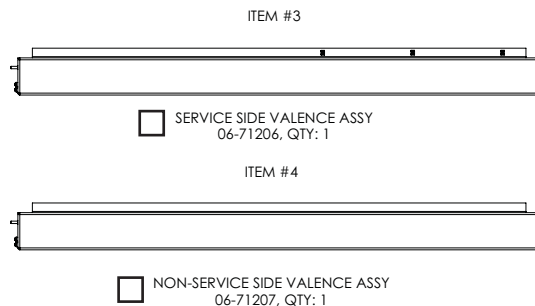
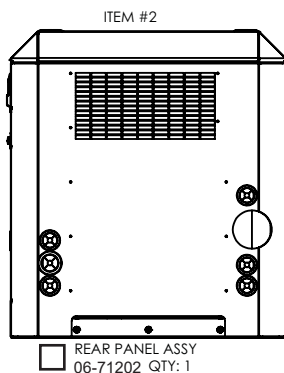
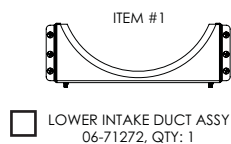
RING LATCH GRIP ADJUSTMENT INSTRUCTIONS



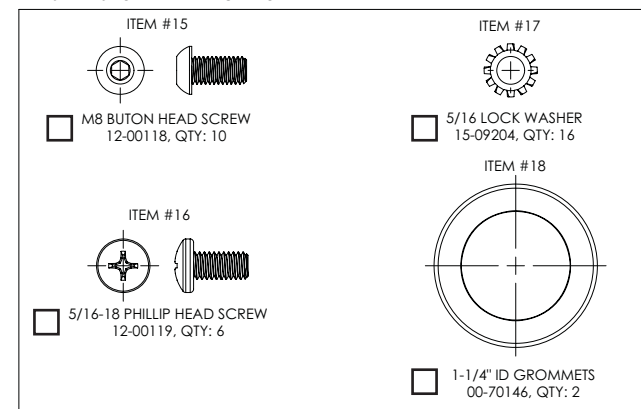
ALL LATCHES ARE PRE-ADJUSTED FROM FACTORY. IN THE EVENT A LATCH REQUIRES ADJUSTMENT, FOLLOW THESE STEPS:

1. NOTE THE INTERFERENCE, OR REASON WHY THE LATCH PAWL WILL NOT ENGAGE THE PAWL SLOT. IF PAWL HITS SLOT BRACKET OR SHELF IT MUST BE MOVED TO ALLOW PAWL TO ROTATE INSIDE SLOT.
2. LATCH PAWL SHOULD OPERATE WITHIN SLOT FREELY WHEN LATCH HANDLE ROTATES ON REMOVAL.
3. WITH LATCH IN CLOSED POSITION, (LATCH PAWL POINTING TOWARDS SLOT, LOOSEN THE BOTTOM NUT. TURN TOP NUT TO CHANGE POSITION OF PAWL AND THEN RE-TIGHTEN THE BOTTOM NUT. ENSURE THE NUT IS FULLY TIGHT BEFORE OPERATING THE LATCH.
4. AN IDEAL LATCH CONDITION IS WHEN THE PAWL SWINGS INTO POSITION ON CLOSING, PULLS UP AND ENGAGES THE TOP OF THE SLOT WITH INCREASING RESISTANCE. WHEN THE LATCH RING IS FULLY DEPRESSED THERE SHOULD BE FIRM COMPRESSION OF PANEL PERIMETER SEAL.
5. IF YOU CAN LIFT UP A CORNER OF THE TOP PANEL AND SEE A SPACE, THE LATCH IS NOT TIGHT ENOUGH.

PACKING LIST



ITEMS IN THIS BOX ARE ENLARGED FOR DETAIL



Packed By : _____

Date : _____