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READ ALL NOTES PRIOR TO INSTALLATION

PART NO.	DESCRIPTION	WEIGHT	DIM A	DIM B	DIM C
98-02439-00	VECTOR 1850-1950 MONO-TEMP	930 KG	832 [32.8]	962 [37.9]	172 [6.8]
98-02439-01	VECTOR 1850-1950 MULTI-TEMP	955 KG			
98-02439-02	VECTOR 1850-1950 DIESEL ONLY	927 KG			
98-02439-03	VECTOR 1850-1950 STAND-BY ONLY	637 KG	-	-	-
98-02439-04	VECTOR 1550 (1850 Z)	739 KG	1210 [47.6]	944 [37.2]	172 [6.8]

TIME ESTIMATED FOR INSTALLATION OF UNIT ALONE: 3.0 HRS

- 1.0 THE TRAILER STRUCTURE MUST BE EVALUATED BY THE TRAILER MANUFACTURER TO DETERMINE ITS ABILITY TO WITHSTAND THE LOADS IMPOSED BY THE UNIT OVER ITS SERVICE LIFE. CARRIER TRANSICOLD DOES NOT CONVEY ANY ENDORSEMENT OR WARRANTY FOR THE TRAILER'S STRUCTURAL INTEGRITY.

WEIGHT: SEE CHART (BATTERY INCLUDED)

- 2.0 UNIT MOUNTING SURFACES OF THE TRAILER THAT CONTACT THE UNIT MOUNTING  
PADS MUST BE UNI-PLANAR TO WITHIN  $\begin{matrix} 3\text{mm} \\ [0.12] \end{matrix}$  TO PREVENT DISTORTION OF  
THE UNIT AND/OR TRAILER.

- 3.0 TRAILER SURFACES THAT CONTACT THE UNIT MOUNTING GASKET SHOULD NOT PROTRUDE MORE THAN  $5^{mm}$   $[0.19]$  ABOVE THE PLANE DEFINED BY THE MOUNTING PAD SURFACES TO ENSURE PROPER AIR SEAL.

- 4.0 ALL DIMENSIONS SHOWN ARE MILLIMETERS, WITH IMPERIAL CONVERSIONS IN [INCHES].

- 5.0 APPLY SERVICE DECAL (ITEM 125) TO UNIT IN LOCATION THAT IS CONVENIENT FOR IT TO BE SEEN AND READ.

-  6.0 EVAP FAN GRILLS MUST STAY IN PLACE EVEN WHEN AIR DUCT COLLECTORS ARE MOUNTED BY THE BODYBUILDER.

-  7.0 WARNING ABOUT REMOTE EVAPORATOR CONNECTION. SEE SHEET 8.

- 8.0 WARNING: SPECIAL CARE IS REQUIRED WHEN RECLAIMING R452A PRIOR TO BRAZING WORK.REFER TO SERVICE PROCEDURE.

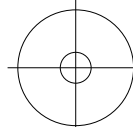
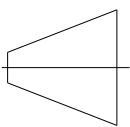
- 9.0 SEE SHEET 9 FOR TXV SUPER HEAT ADJUSTMENT PROCEDURE IF REQUIRED  
ON 2 OR 3 COMPARTMENT REMOTE EVAPORATORS.

CONTENTS	SHEET
GENERAL INFORMATION	1
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MULTI-TEMP REMOTE TXV SETTINGS	9
ACCESSORIES CONNECTION TO BATTERY GUARD	10
BATTERY GUARD LOGIC	11

SEE SEPARATE PARTS LIST

R	UPDATED SHEET INDEX. SEE SHEETS 5, 6 & 8.	18 DEC 2018	LT-AP			72E0068P18
P	UPDATED SHEET INDEX. SEE SHEETS 9 & 10. ADDED SHEET 11.	01 FEB 2016	LT-GRS			72E0072P15
N	ADDED NOTES 8.0 & 9.0; SEE SHTS 8,9, & NEW SHT. 10	27OCT2015	RS			72N0046P15
M	ADDED NOTE 7.0. UPDATED SHEET INDEX. SEE SHEET 8.	06 MAY 15	LT-PT			72E0035P15
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.

FIRST ANGLE  
PROJECTION



UNLESS OTHERWISE SPECIFIED ALL  
DIMENSIONS SHOWN ARE IN MILLIMETERS,  
WITH IMPERIAL CONVERSIONS IN INCHES

TITL

# INSTALLATION INSTRUCTIONS

## NDP33L (EURO)

DRAWING NO

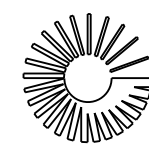
98-02439

SHEET 1 OF 11

REV

1

DRAWING CLASSIFICATION: US



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76520 Boos France  
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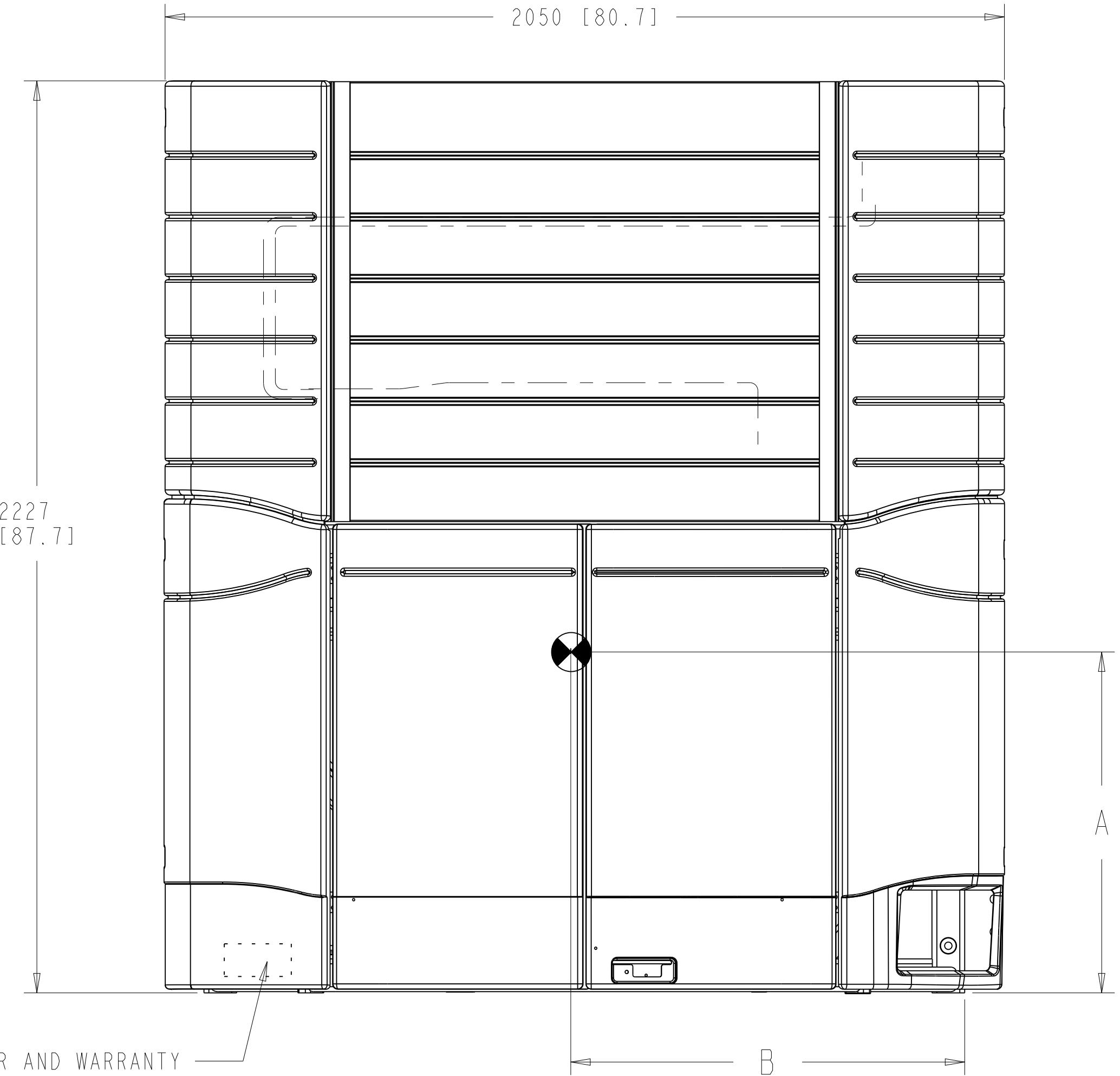
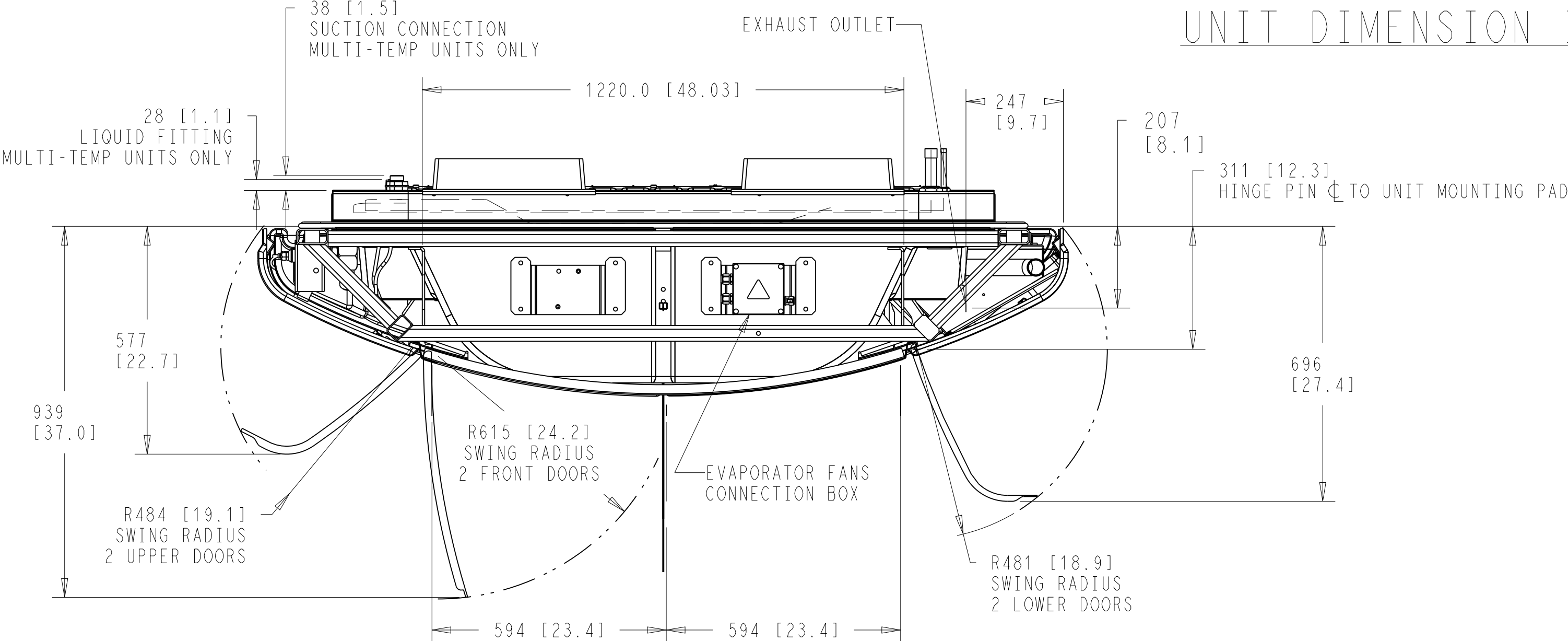
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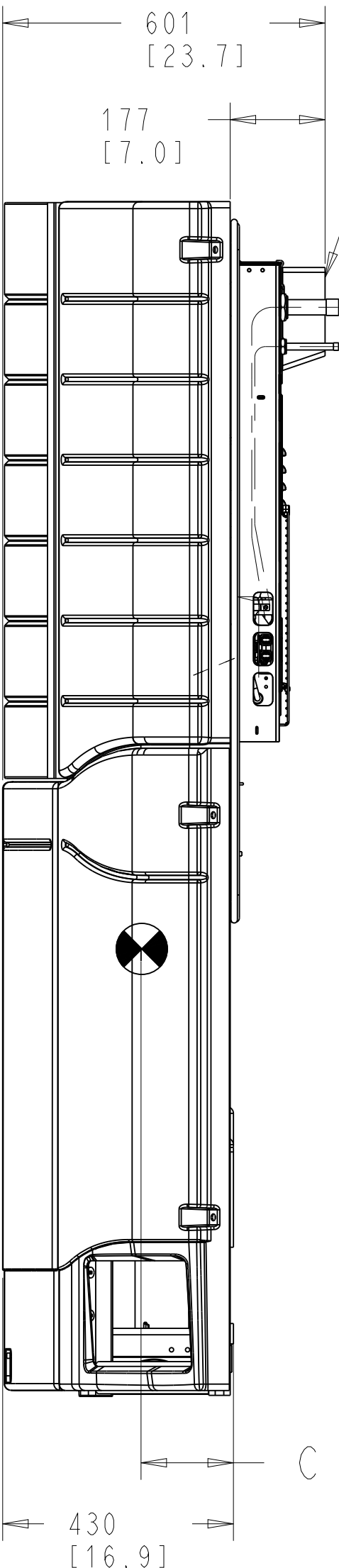
⚠ FOR SERVICE ACCESS, DO NOT LIMIT OPENING OF UPPER DOORS WITH BUMPER.

⊗ — UNIT CENTER OF GRAVITY

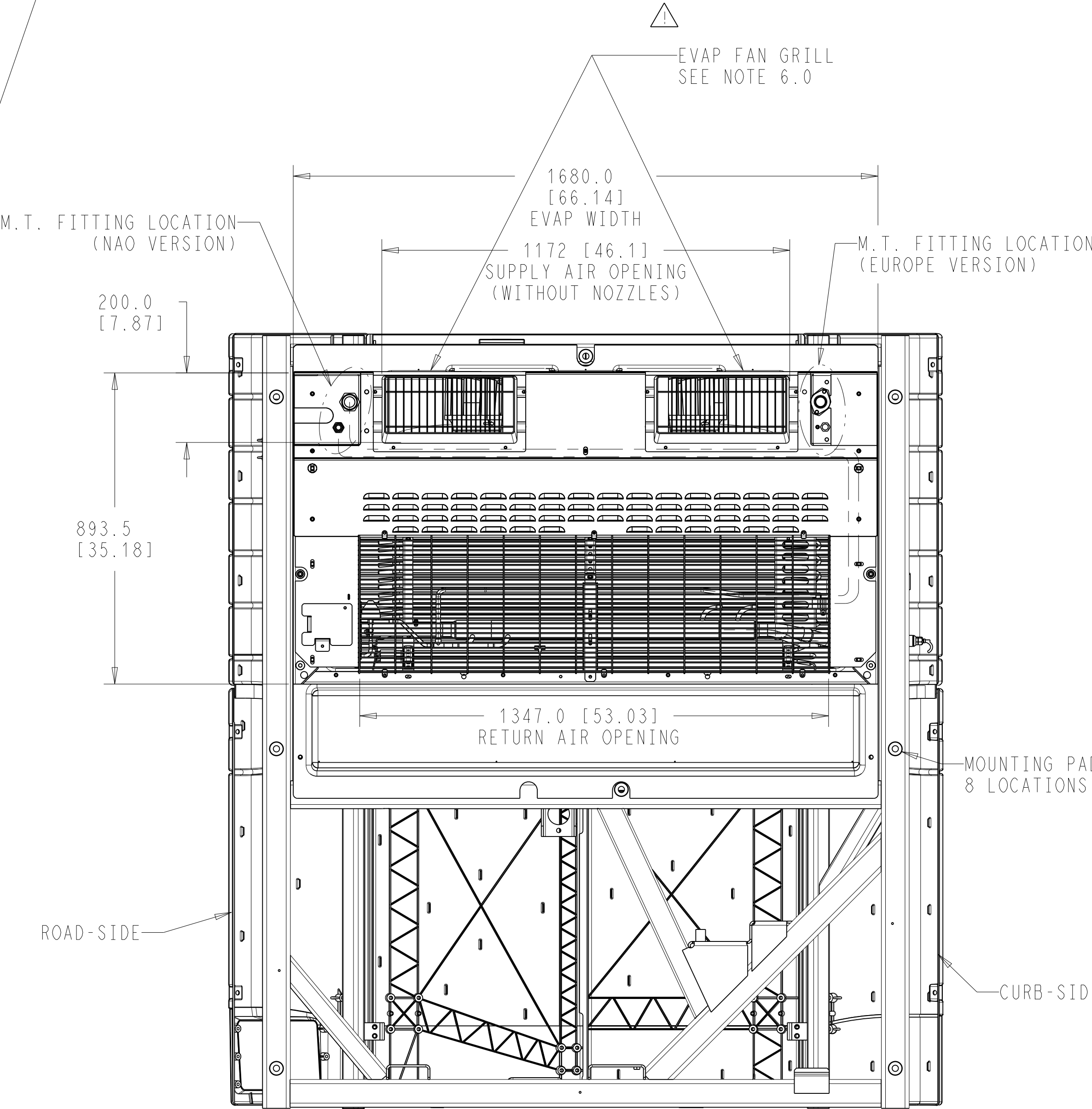
UNIT DIMENSION INFORMATION



SERIAL NUMBER AND WARRANTY  
INFORMATION LOCATED IN THIS  
AREA ON FRONT OF FRAME ASSEMBLY

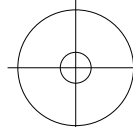
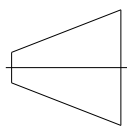


H NOZZLES NOT DELIVERED ON SERIAL PRODUCTION UNIT.  
SUPPLY IN FIELD OPTION KIT FOR BODYBUILDER  
INSTALLATION WITHOUT AIR DUCT.



H	ADDED NOTE FOR NOZZLES.	03 SEP12	B.BOMBARD			72E0040P12
E	ADDED NOTES AND DIMENSIONS	08 DEC 10	B.BOMBARD	---	---	72E0068P10
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.

FIRST ANGLE  
PROJECTION



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TITLE

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NDP33L (EURO)

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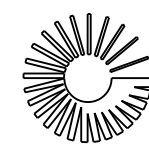
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SHEET 2 OF 11

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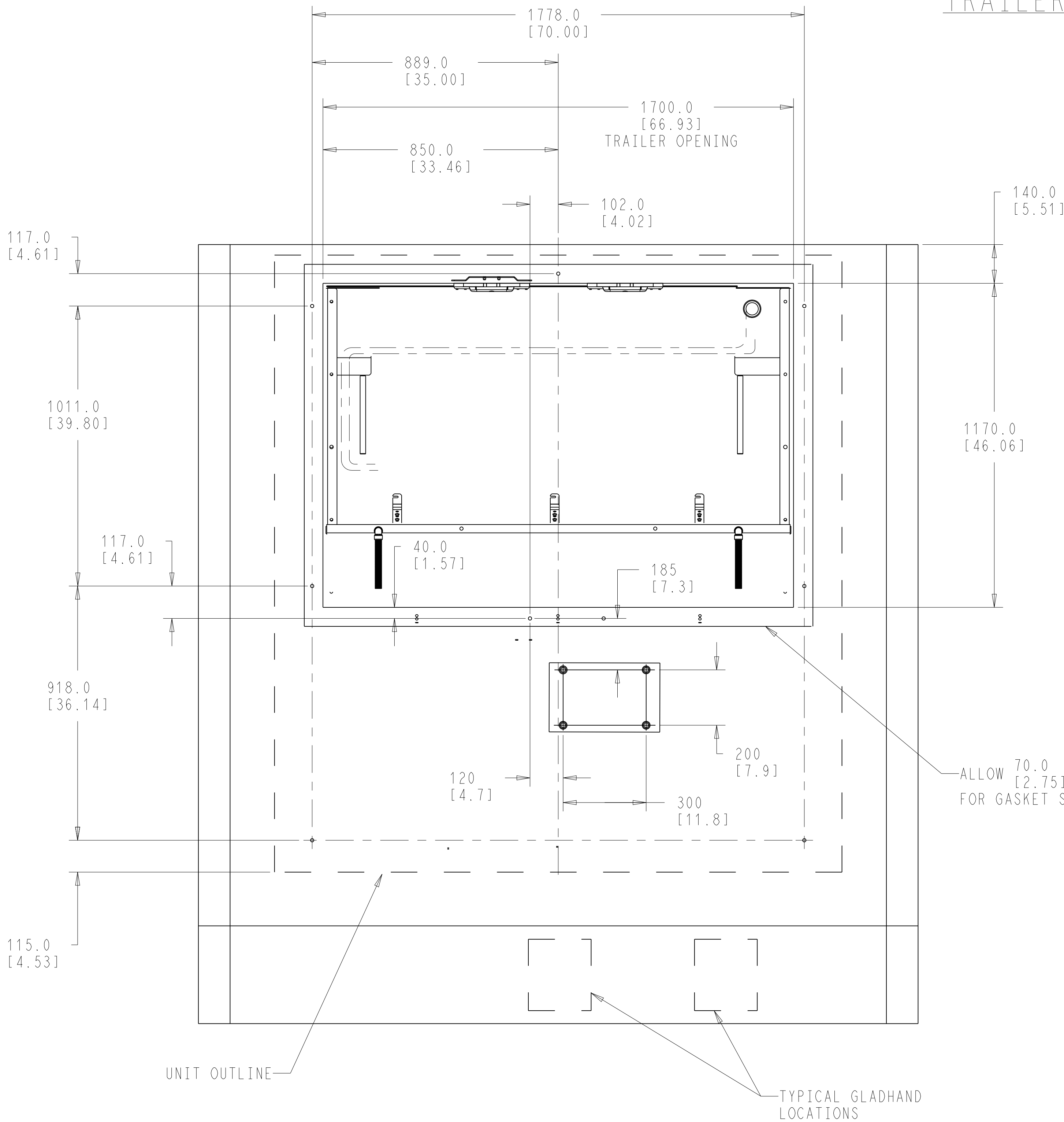
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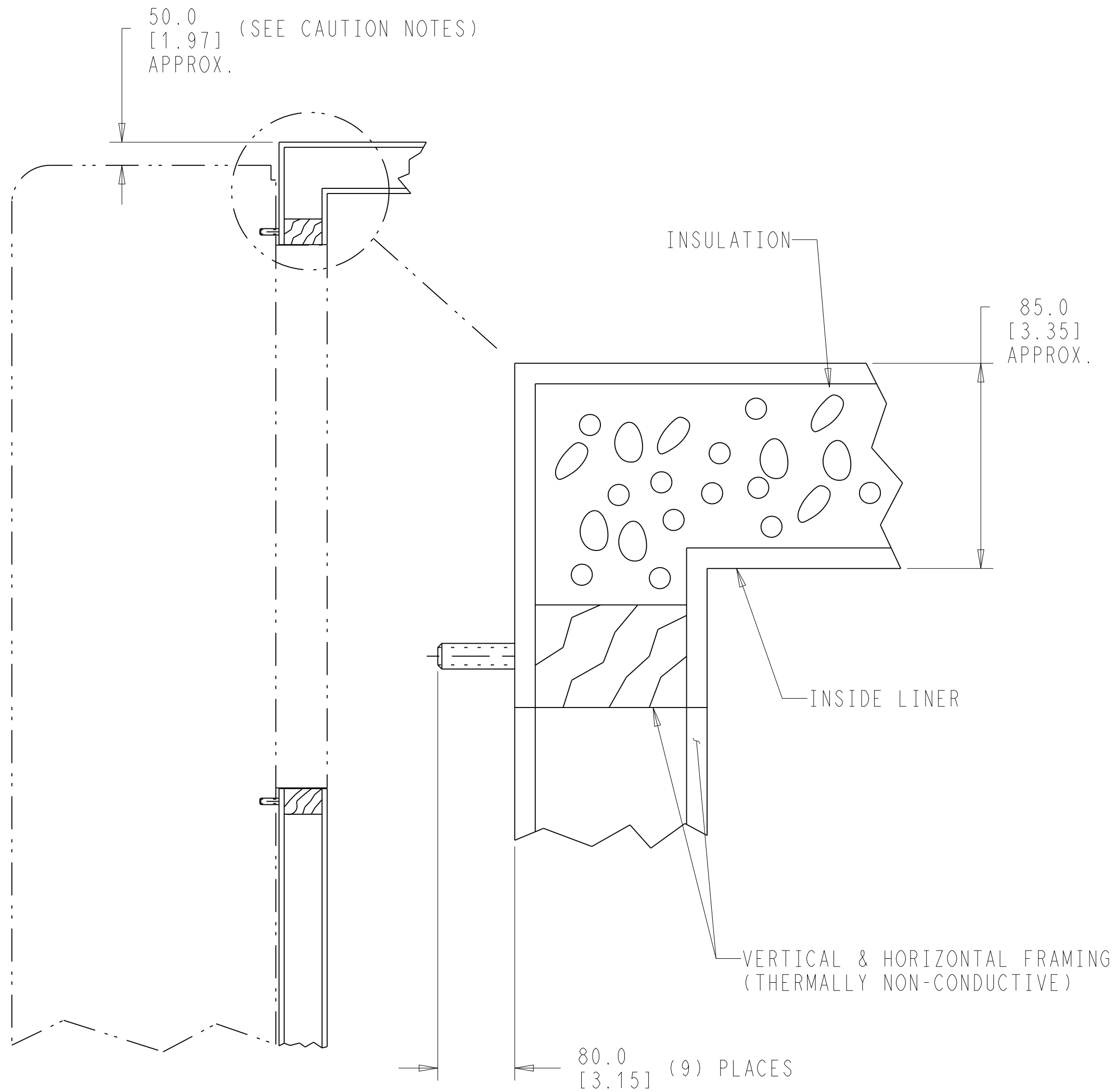
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TRAILER BODY PREPARATION



ALLOW 70.0 [2.75] SPACE AROUND TRAILER OPENING  
FOR GASKET SEALING. (SEE CAUTION NOTES)

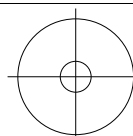
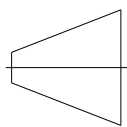


CAUTION: UNIT MOUNTING SURFACES OF TRAILER THAT CONTACT THE UNIT MOUNTING  
PADS MUST BE UNI-PLANER TO WITHIN 3.0mm [0.12] TO PREVENT DISTORTION  
OF UNIT AND/OR TRAILER.

CAUTION: TRAILER SURFACES THAT CONTACT THE UNIT MOUNTING GASKET SHOULD  
NOT PROTRUDE MORE THAN 5.0mm [0.19] ABOVE THE PLANE DEFINED BY THE  
MOUNTING PAD SURFACES TO ENSURE PROPER AIR SEAL.

L	UPDATE NOTES	12 DEC 14	H.C			72E0106P14
F	UPDATE FRONT VIEW	25 NOV 10	B.BOMBARD	---	---	---
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.

FIRST ANGLE  
PROJECTION



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TITLE

INSTALLATION INSTRUCTIONS  
NDP33L (EURO)

DRAWING NO.

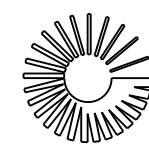
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SHEET 3 OF 11

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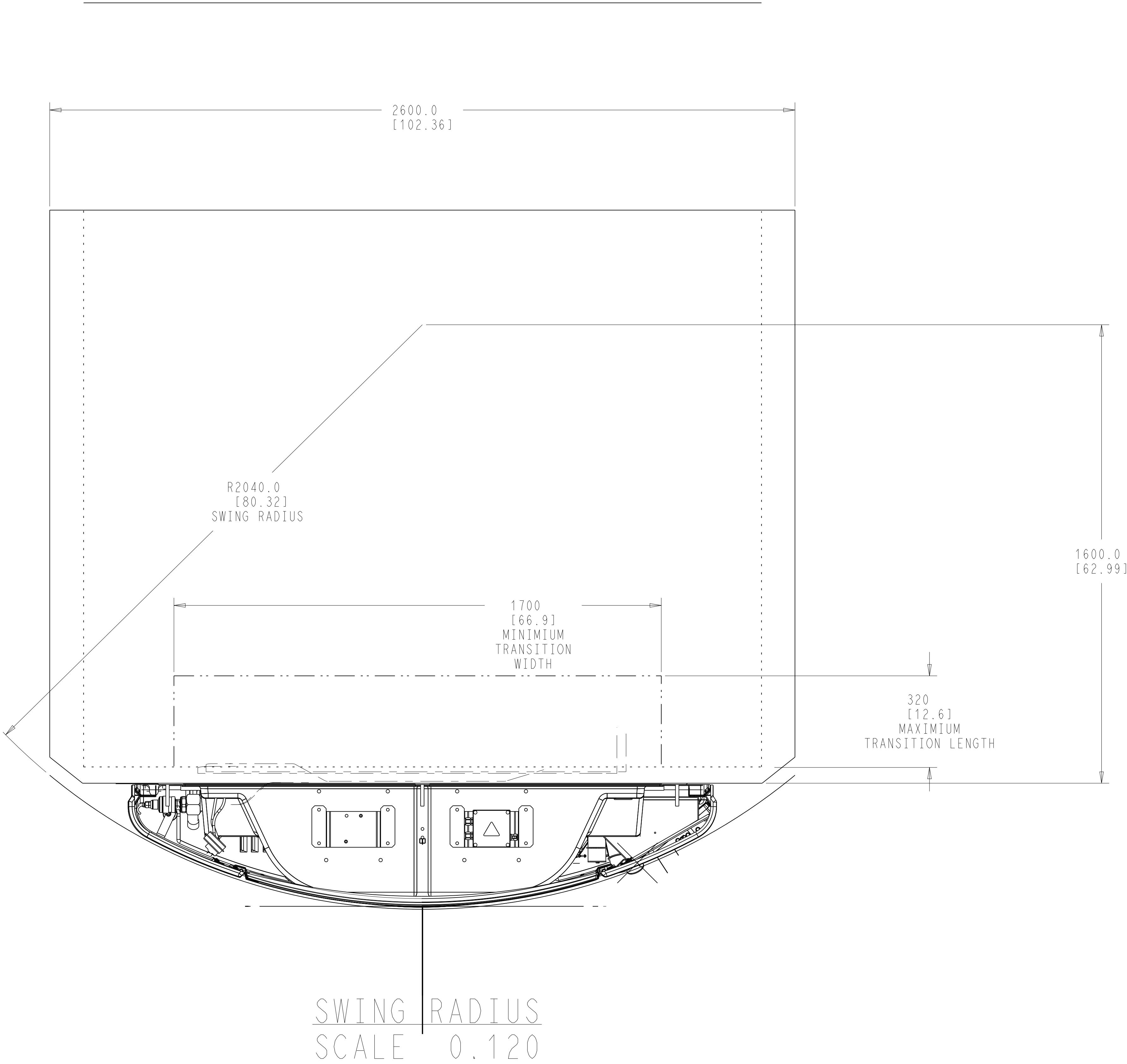


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A	INITIAL RELEASE	03 26 04	MFM	---	---	72N056GN01	FIRST ANGLE PROJECTION		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, WITH IMPERIAL CONVERSIONS IN [INCHES]	TITLE	INSTALLATION INSTRUCTIONS NDP33L (EURO)	DRAWING NO.	98-02439	REV	A
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.							SHEET 4 OF 11		



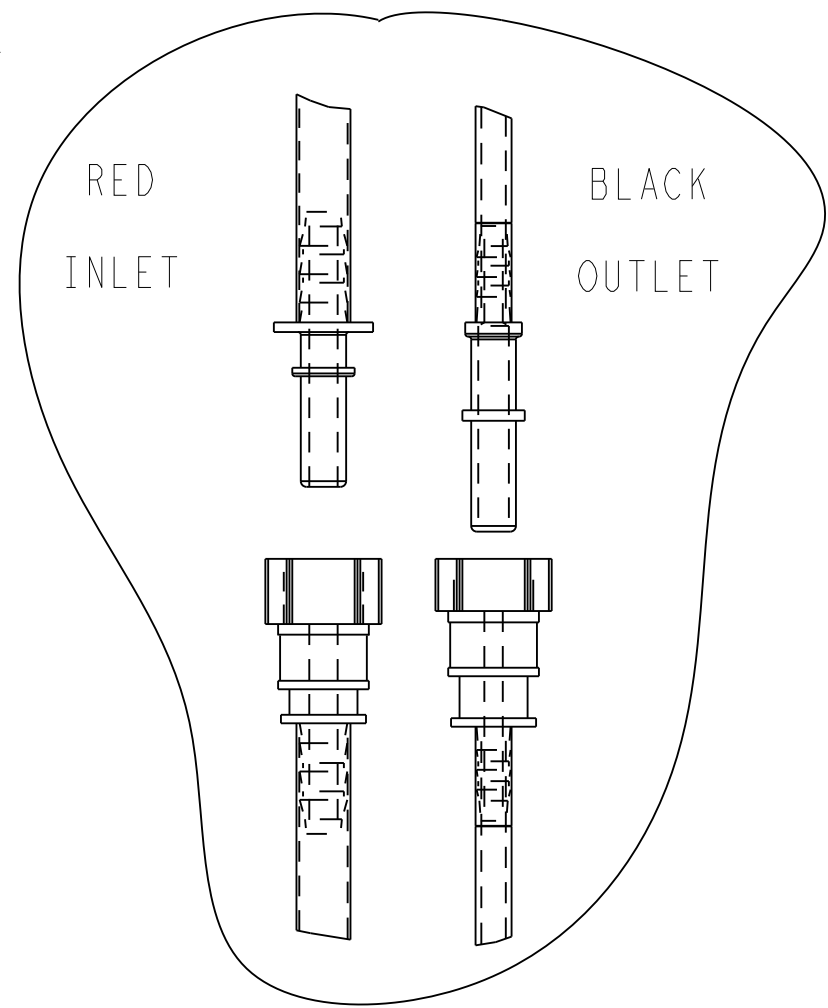
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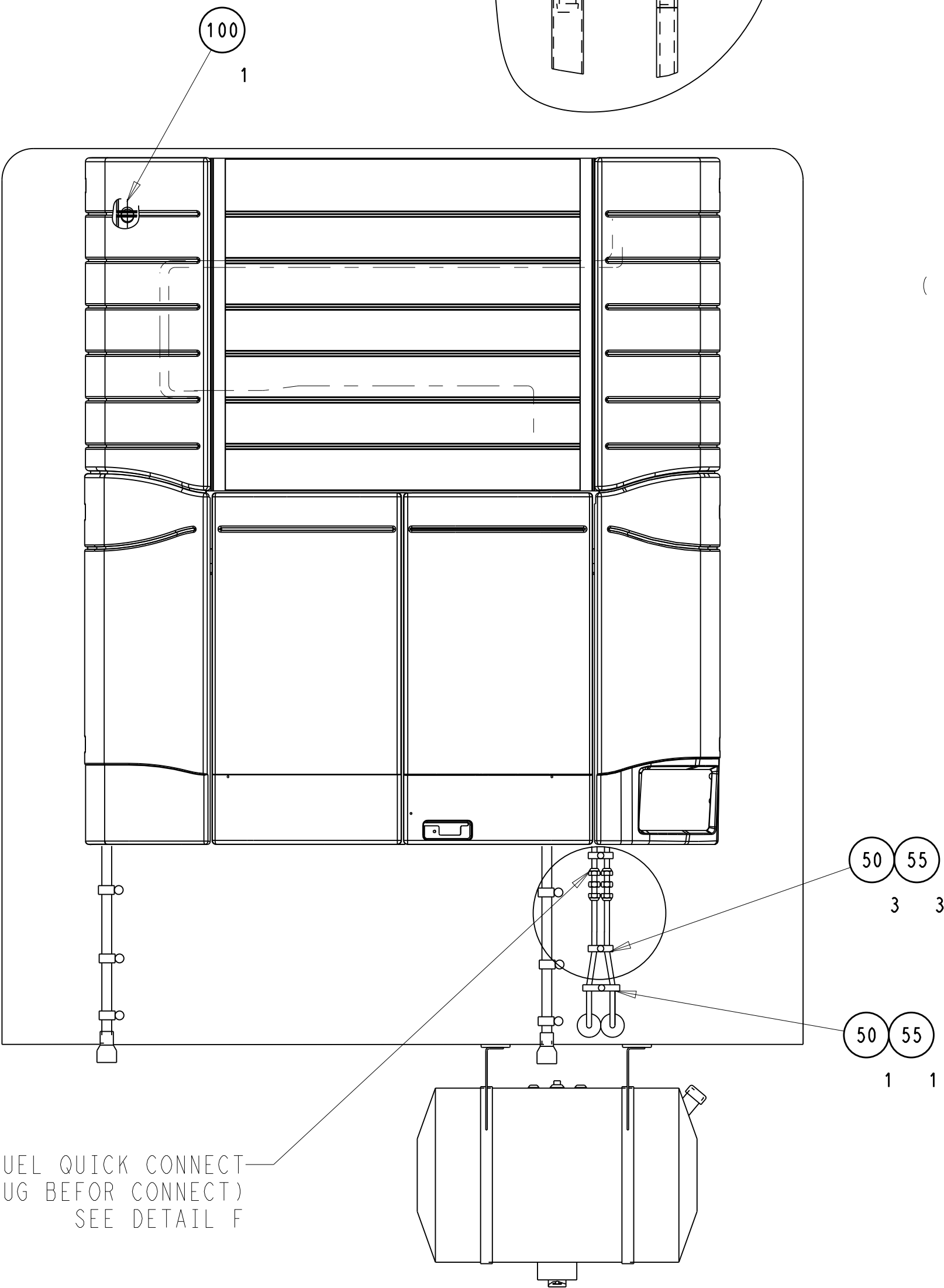
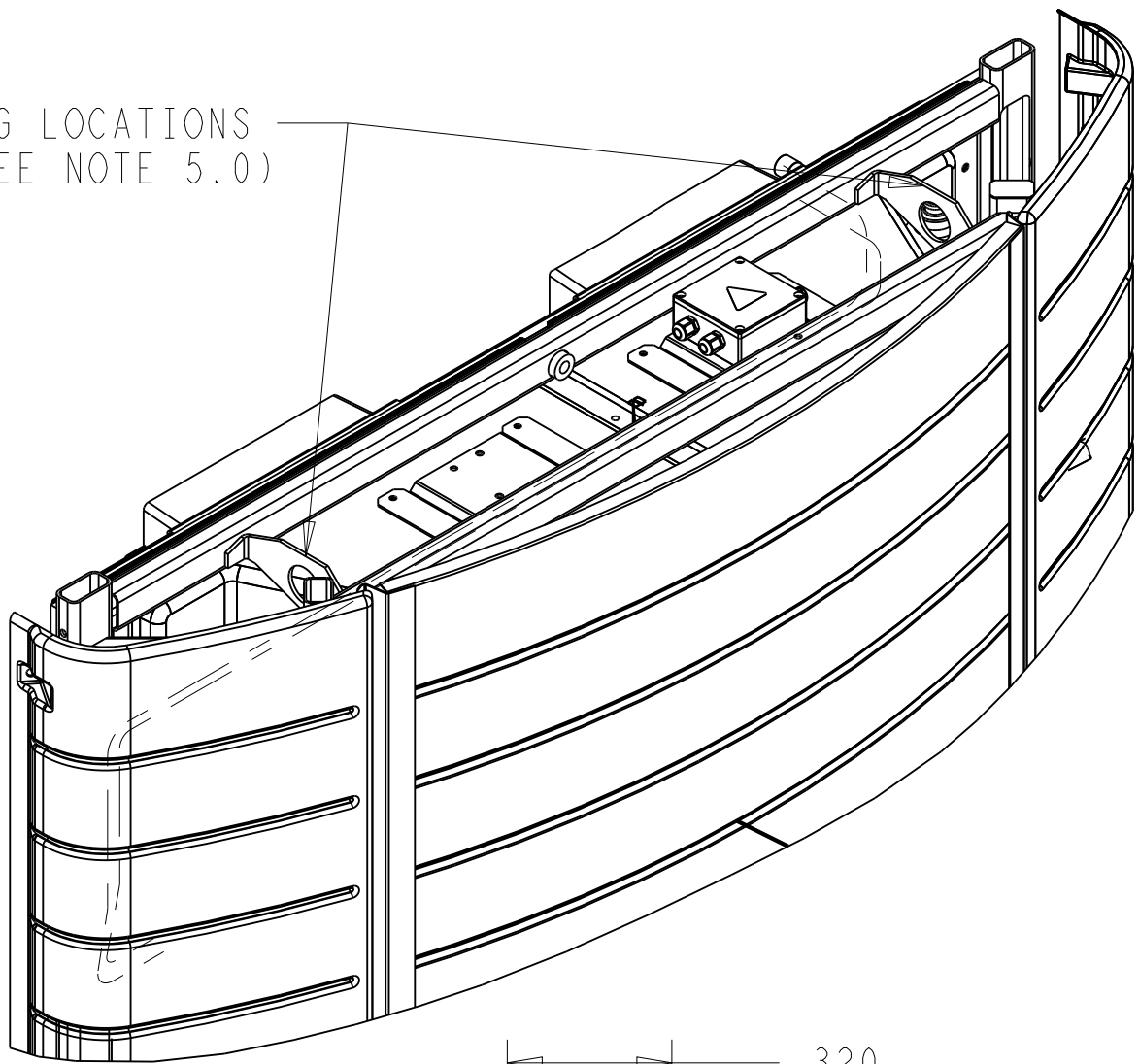
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NOTE: BULKHEAD AND AIR CHUTE SHOWN ARE OPTIONAL FEATURES.  
FOR BEST AIR CIRCULATION AND PRODUCT PROTECTION,  
CARRIER TRANSICOLD HIGHLY RECOMMENDS THE USE OF  
BULKHEADS AND AIR CHUTES. CONTACT YOUR DEALER OR  
CARRIER TRANSICOLD FOR RECOMMENDATIONS.

DETAIL F  
(QUICK-CONNECT)



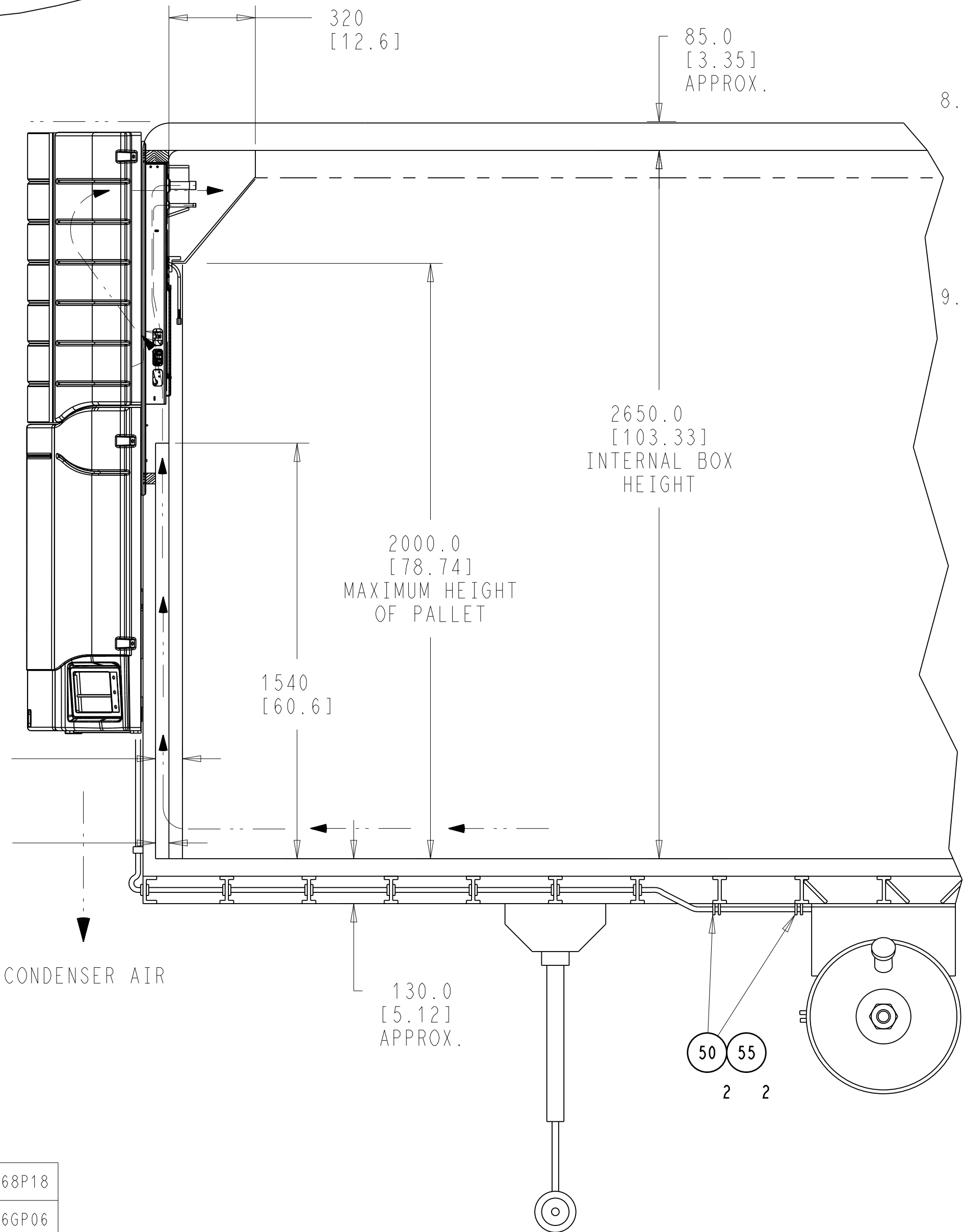
UNIT LIFTING LOCATIONS  
(SEE NOTE 5.0)



CONDENSER AIR  
( FRONT FACE ONLY)

100  
[3.9]  
SEE NOTE 9

50  
[2.0]  
RECESSED WALL  
(OPTIONAL)



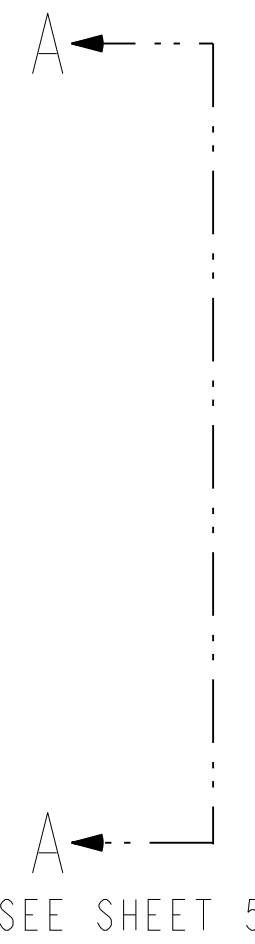
PREPARE UNIT FOR INSTALLATION:

- 1.0 PREPARE THE BODY TO RECEIVE THE UNIT. SEE SHEET 3 FOR DIMENSIONS OF EVAPORATOR OPENING AND MOUNTING STUD LOCATIONS.
- 2.0 REMOVE WIRE TIES HOLDING DEFROST DRAIN HOSES, COOLANT OVERFLOW TUBE AND FUEL LINES. PLACE LINES WHERE THEY WILL NOT BE CAUGHT BETWEEN THE UNIT FRAME AND THE TRAILER WALL. ORIGINAL MANUFACTURING FUEL LINE ROUTING AND FITTING POINTS INSIDE THE UNIT MUST NOT BE MODIFIED
- 3.0 TO ALLOW ACCESS TO MOUNTING STUD LOCATIONS ON UNIT, OPEN FRONT AND SIDE DOORS AND LIFT UP ON SIDE GRILLES.
- 4.0 IF UNIT HAS BEEN SUPPLIED WITH BATTERY, CONNECT BATTERY CABLES.
- 5.0 INSTALL HEAT SHIELD ON FRONT OF TRAILER USING RIVETS AS SHOWN ON SHEET 3.
- 6.0 PREPARE THE UNIT FOR LIFTING:  
STANDING ON A LADDER OR WORK-STAND, HOOK LIFTING APPARATUS (USING LIFTING BAR ONLY WITH SUFFICIENT CAPACITY TO SUPPORT UNIT AND BATTERY) THROUGH THE LIFTING EYES. LIFT POINT SHOULD BE CENTERED OVER THE UNIT.

UNIT INSTALLATION:

- 7.0 RAISE THE UNIT AND INSTALL IN THE BODY OPENING. ENSURE THAT ALL EIGHT STUDS ARE FULLY ENGAGED IN THE UNIT FRAME. PLACE WASHER (ITEM 30) AND LOCK-NUT (ITEM 15) IN EACH OF THE 8 STUDS (NOTE: THE LOWER CENTER STUDS MUST BE ACCESSED FROM THE FRONT OF THE UNIT). SNUG THE NUTS, THEN EVENLY TIGHTEN ALL NINE TO 81.6Nm [60.0ftlb] USING A TORQUE WRENCH. REMOVE LIFTING APPARATUS. IN CASE OF USING ELECTRONIC OR PNEUMATIC TIGHTENING DEVICES, MINIMAL SPEED SETTING IS RECOMMENDED.
- 8.0 DRAIN LINES SUPPLIED WITH REEFER UNIT, CUT TO SUIT (DO NOT KINK OR OTHERWISE CLOSE DOWN TUBE I.D.). ROUTE DEFROST DRAIN HOSES DOWN THE FRONT OF THE TRAILER AND CLAMP TO FRONT WALL OF TRAILER USING 3 CLAMPS AND 3 THREAD FORMING SCREWS FOR EACH DRAIN HOSE. CUT HOSE TO PROPER LENGTH APPROXIMATELY 76.0 [3.00] ABOVE 5<sup>th</sup>-WHEEL PLATE).
- 9.0 FOR BEST AIR CIRCULATION AND PRODUCT PROTECTION, CARRIER TRANSICOLD HIGHLY RECOMMENDS THE USE OF BULKHEADS AND AIR CHUTES. 100mm [3.94"] CLEARANCE IS REQUIRED BETWEEN THE INSIDE FRONT WALL OF THE TRAILER AND THE INSIDE SURFACE OF THE BULKHEAD. WHEN INSTALLING AN AIR CHUTE, THE FOLLOWING STEPS ARE TO BE TAKEN: 1) REMOVE THE EXISTING NOZZLES FROM THE OUTLET OF THE UNIT. 2) CONSTRUCT A TRANSITION DUCT, PER SHEETS 4 & 5. THIS TRANSITION DUCT SHOULD BE A MINIMUM OF 1700mm [66.9"] WIDE AND SHOULD BE SEALED TO THE OUTLET OF THE UNIT. THE OUTLET OF THE TRANSITION IS CONNECTED DIRECTLY TO THE AIR CHUTE WHICH SHOULD EXTEND THE ENTIRE WIDTH OF THE OUTLET. A SINGLE CHUTE APPLICATION IS RECOMMENDED.

NOTES CONTINUED ON NEXT SHEET



R	UPDATED NOTES 2.0 & 7.0	18 DEC 2018	LT-AP			72E0068P18
C	ITEMS 15, 25 & 30 WAS REPLACED BY ITEM 100	21 MAR 06	H.C			72E026GP06
B	UPDATE WATER EVACUATION POSITION	07-APR-05	H.C.			72E027GP05
A	INITIAL RELEASE	03/26/04	MFM			72N056GN01
1	PRELIMINARY RELEASE	04 DEC 07	B.BOMBARD	---	---	---
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.

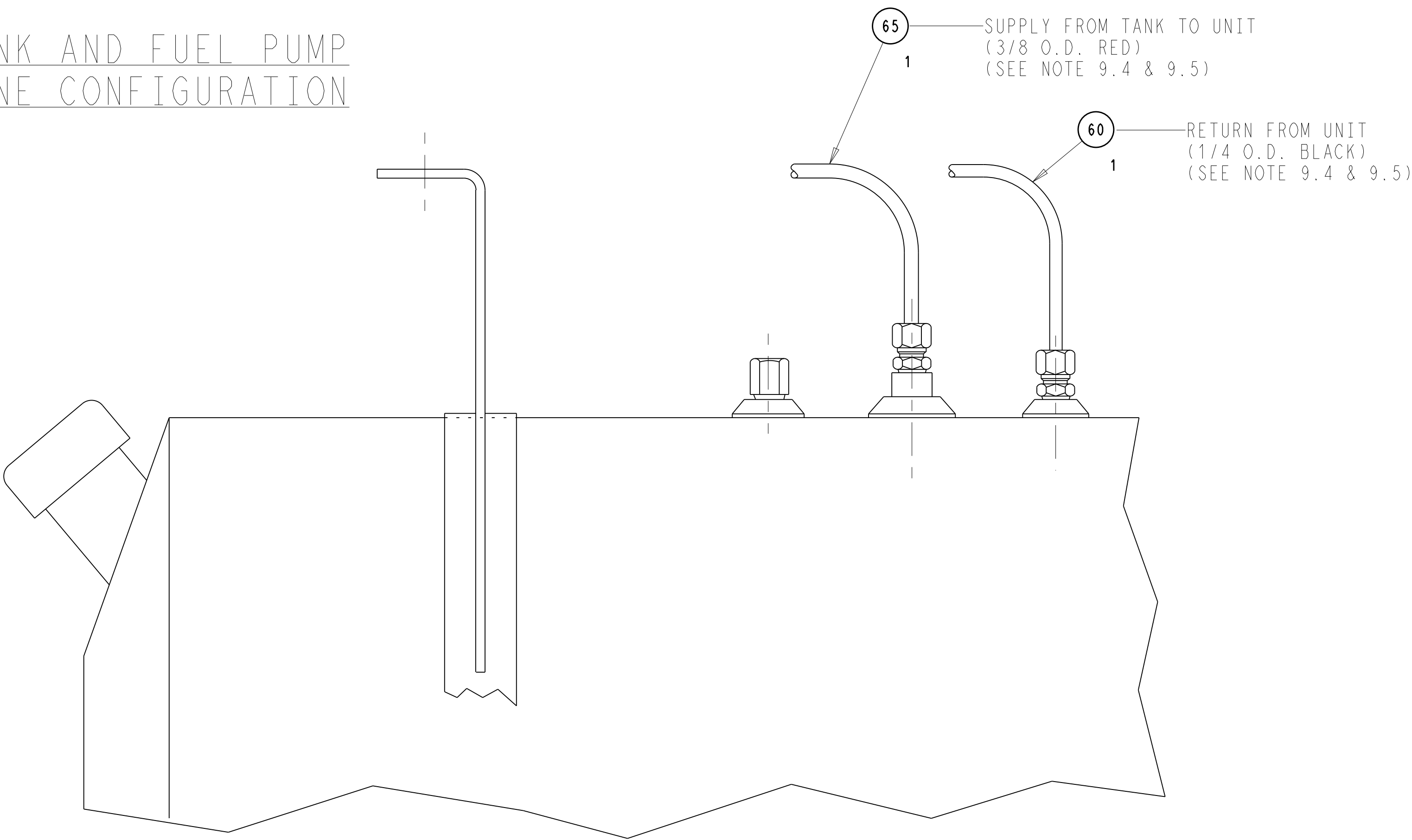


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TANK AND FUEL PUMP  
LINE CONFIGURATION



NOTES CONTINUED FROM PREVIOUS SHEET

FUEL TANK INSTALLATION:

9.0 FUEL TANKS INSTALLED IN ACCORDANCE WITH THESE GUIDELINES WILL  
PROVIDE ADEQUATE SUPPORT IN NORMAL SERVICE ENVIRONMENTS INCLUDING  
PIGGYBACK APPLICATIONS.

9.1 FUEL TANK SUPPORT STRAPS MUST ATTACH TO THREE CROSS MEMBERS.

9.2 FUEL TANK SUPPORT STRAPS WILL INTERFACE WITH THREE CROSS  
MEMBERS IF THEY ARE ON 12-INCH CENTERS. CROSS MEMBERS ON  
15-INCH CENTERS WILL REQUIRE A STRUCTURAL STEEL CHANNEL TO  
SPAN THEM. THIS CHANNEL IS NOT SUPPLIED BY CARRIER TRANSICOLD.

9.3 FUEL TANK SHOULD BE CENTERED BETWEEN FUEL TANK STRAPS  $\pm 38.1$   
[1.50]

9.4 FOR MAXIMUM MECHANICAL OR ELECTRICAL FUEL PUMP PERFORMANCE:

- 9.4.1 MINIMIZE FUEL LINE LENGTH.
- 9.4.2 MINIMIZE NUMBER OF CONNECTORS AND UNIONS.
- 9.4.3 NEVER USE ELBOW FITTINGS.

9.5 WHEN INSTALLING FLEXIBLE TUBE INTO THE TANK, PASS THE TUBES,  
BOTH SUPPLY & RETURN, THROUGH THE COMPRESSION FITTINGS AND PUSH  
TUBES TO THE BOTTOM OF THE TANK. WHEN THE TUBES REACH THE  
BOTTOM OF THE TANK, PULL THEM BACK UP APPROXIMATELY  $25.4$   
[1.00], THEN TIGHTEN THE COMPRESSION NUT.

BOLT/THREAD	TORQUE (NEWTON-METER)	TORQUE (FT-LB)
1/4-20	12.2	9.03
3/8-24	40.8	30.09
1/2-13	81.6	60.19
(EXCEPT AS NOTED)		(EXCEPT AS NOTED)

11.0 EACH INSTALLATION KIT CONTAINS SUFFICIENT CLAMPS FOR FUEL LINE  
ROUTING AND SECUREMENT. THE INSTALLER MAY ROUTE FUEL LINES THRU  
CONDUIT,  $19.1$   
[0.75] MINIMUM, (CONDUIT NOT FURNISHED AS PART OF  
INSTALLATION KIT).

Ⓡ 12.0 USE PIPE SEALANT ON ALL PIPE CONNECTIONS AND FUEL LEVEL GAUGE  
(NOT FURNISHED AS PART OF INSTALLATION KIT)

AFTER INSTALLATION:

13.0 PERFORM PRE-DELIVERY INSPECTION (ITEM 70). COPIES OF COMPLETED  
CHECKLIST SHOULD BE SUPPLIED TO SELLING DEALER & CUSTOMER.

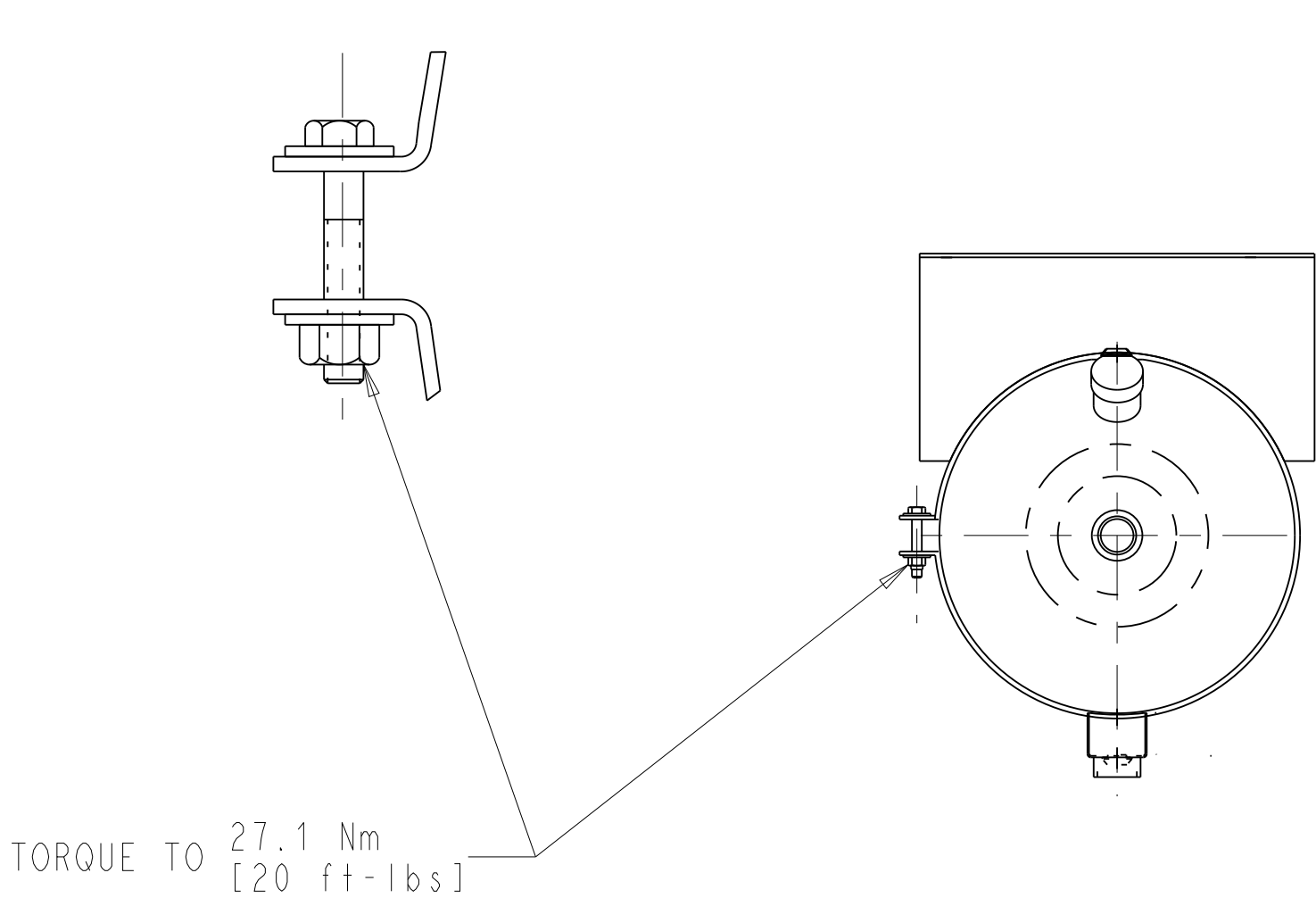
14.0 OPERATE UNIT IN CONTINUOUS RUN (MANUAL) MODE FOR A MINIMUM OF 8  
HOURS (12 HOURS PREFERRED). PERFORM FINAL INSPECTION ON UNIT.

UNITS SUPPLIED WITH BATTERY INSTALLED

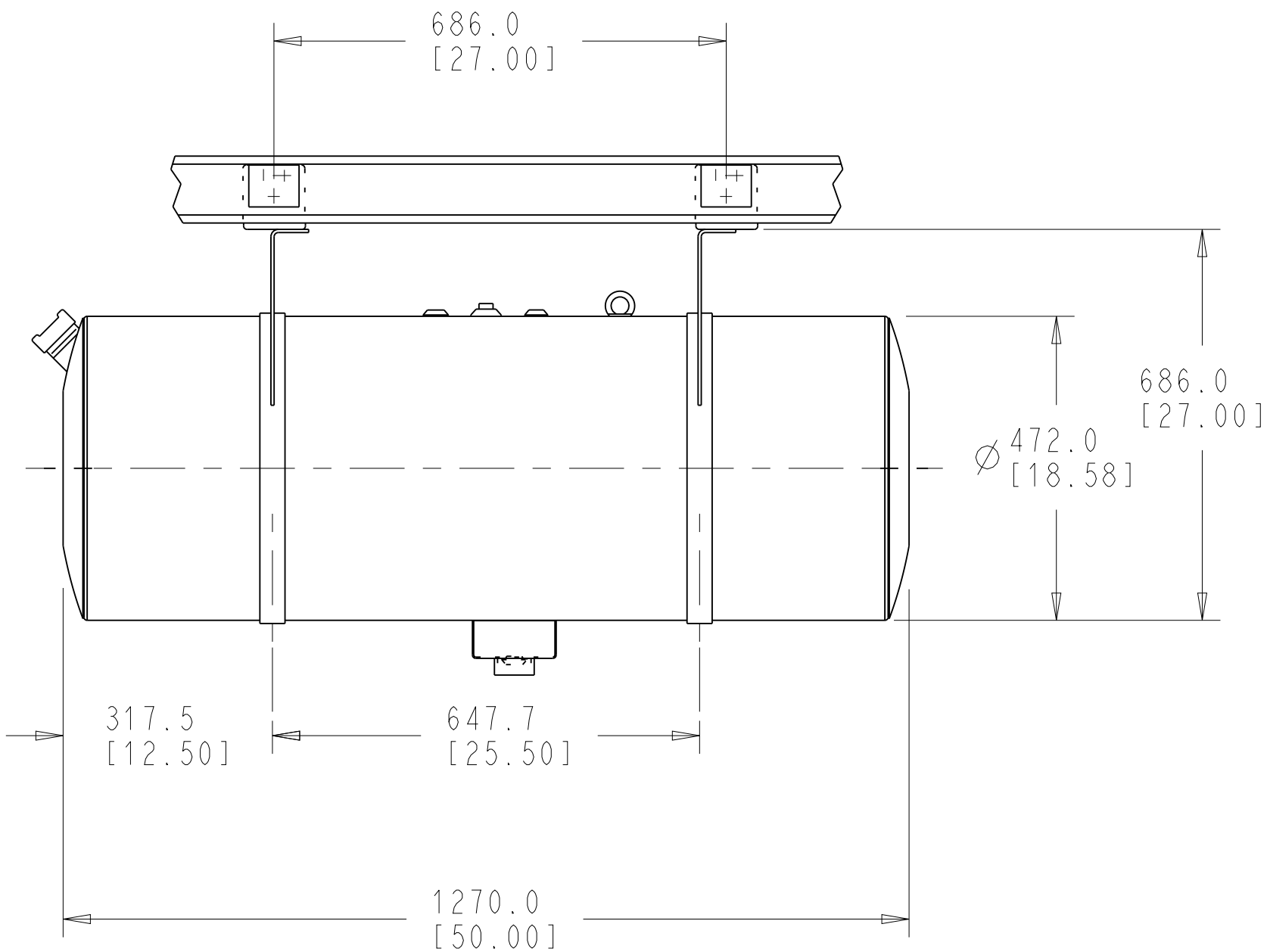
15.0 CUT WIRE TIE(S) THAY HOLD CABLES TO UNIT FRAME.

16.0 CONNECT RED BATTERY CABLE TO THE POSITIVE (+) BATTERY TERMINAL;  
CONNECTOR BLACK CABLE TO NEGATIVE (-) BATTERY TERMINAL (USE OF  
CORROSION IN HIBITOR IS RECOMMENDED).

17.0 POSITION TERMINAL COVERS SUPPLIED WITH CABLES OVER TERMINALS.



50 GALLON TANK

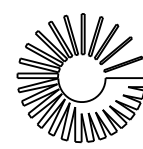


VIEW A-A  
(NOT TO SCALE)  
FROM SHEET 4

R	UPDATED NOTE 12.0	18 DEC 2018	LT-AP			72E0068P18	FIRST ANGLE PROJECTION		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, WITH IMPERIAL CONVERSIONS IN [INCHES]	TITLE INSTALLATION INSTRUCTIONS NDP33L (EURO)	DRAWING NO. 98-02439 SHEET 6 OF 11	REV R
A	INITIAL RELEASE	03 26 04	MFM	---	---	72N056GN01						
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.						

DRAWING CLASSIFICATION: US





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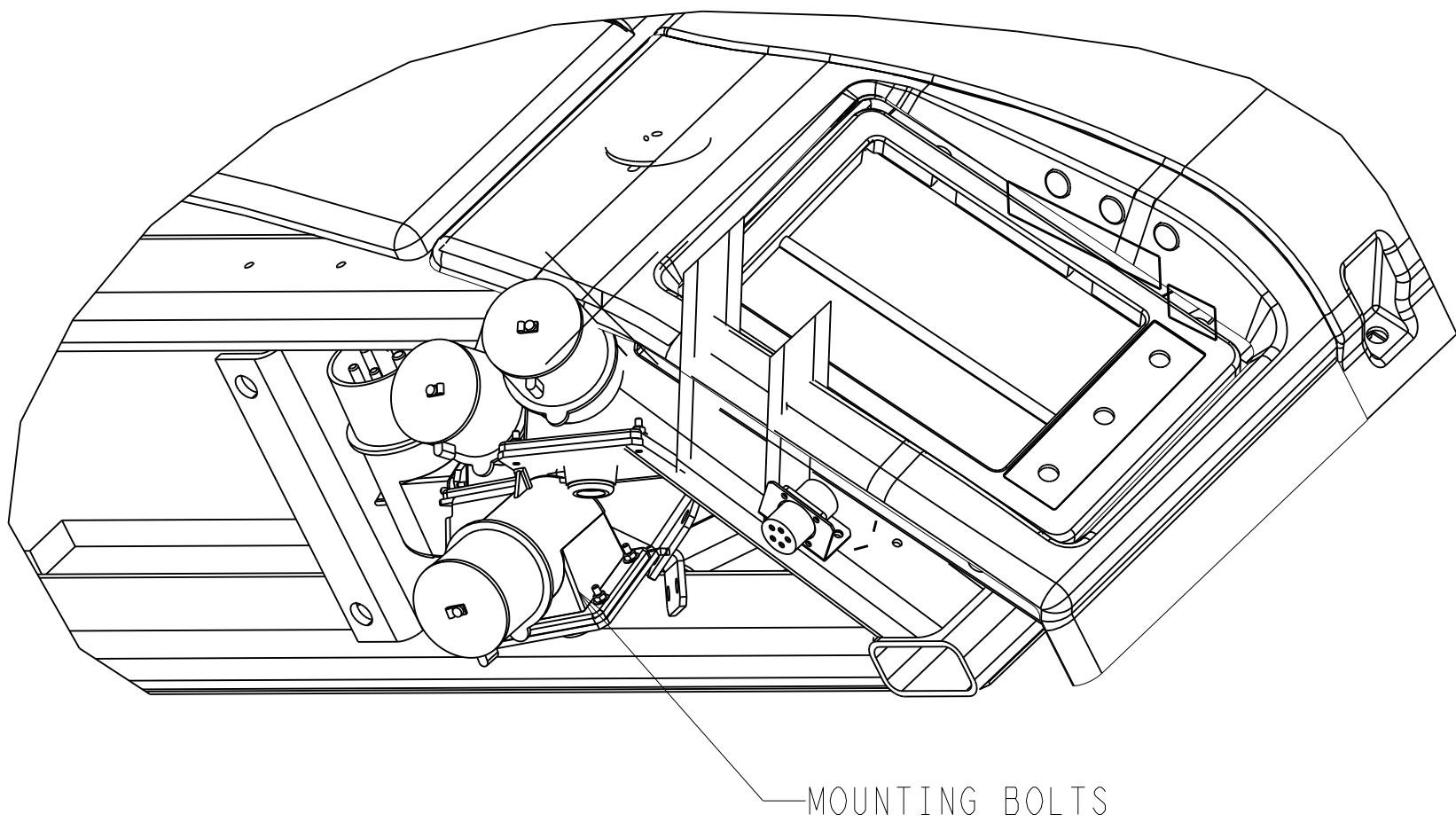
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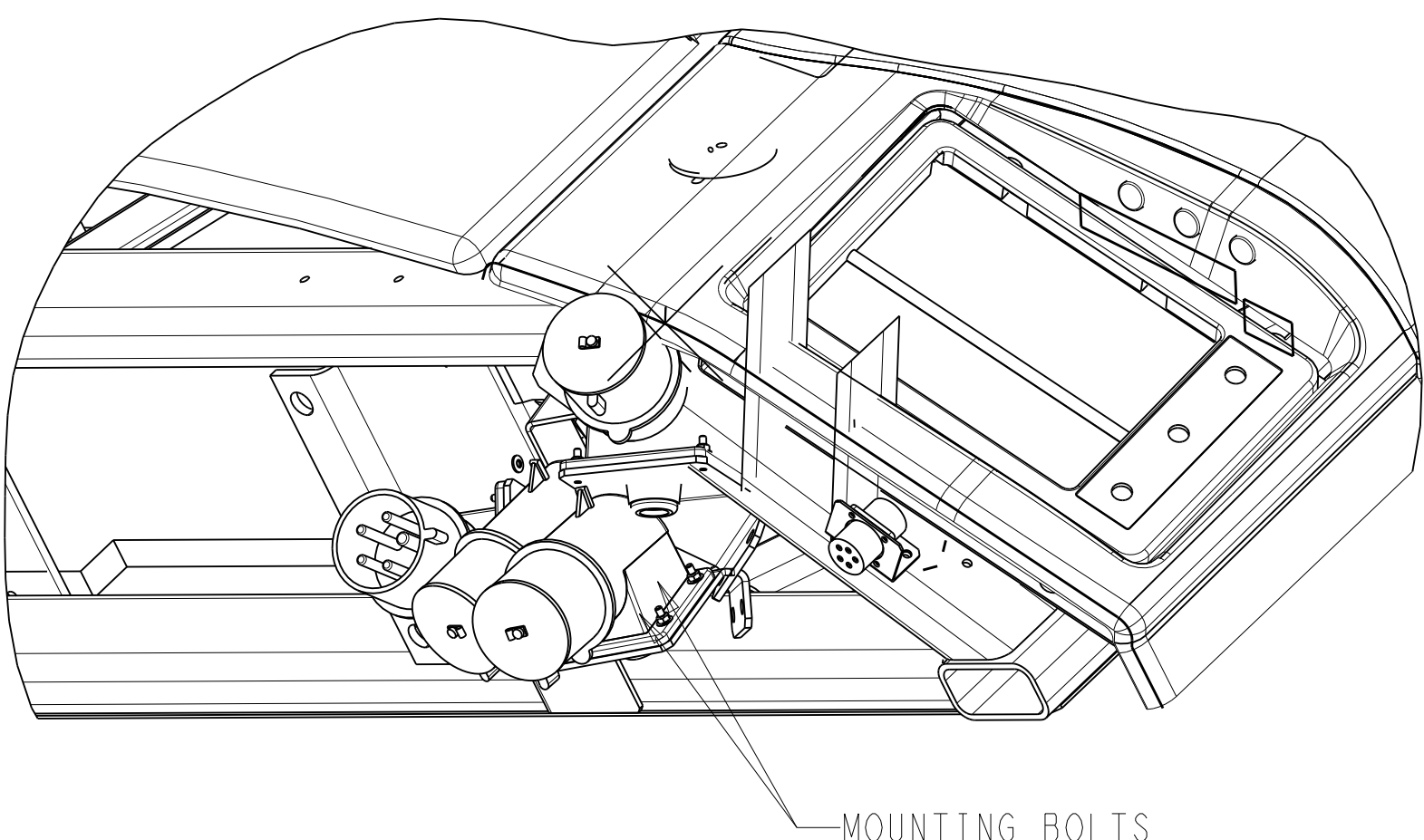
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STANDBY PLUG INSTALLATION

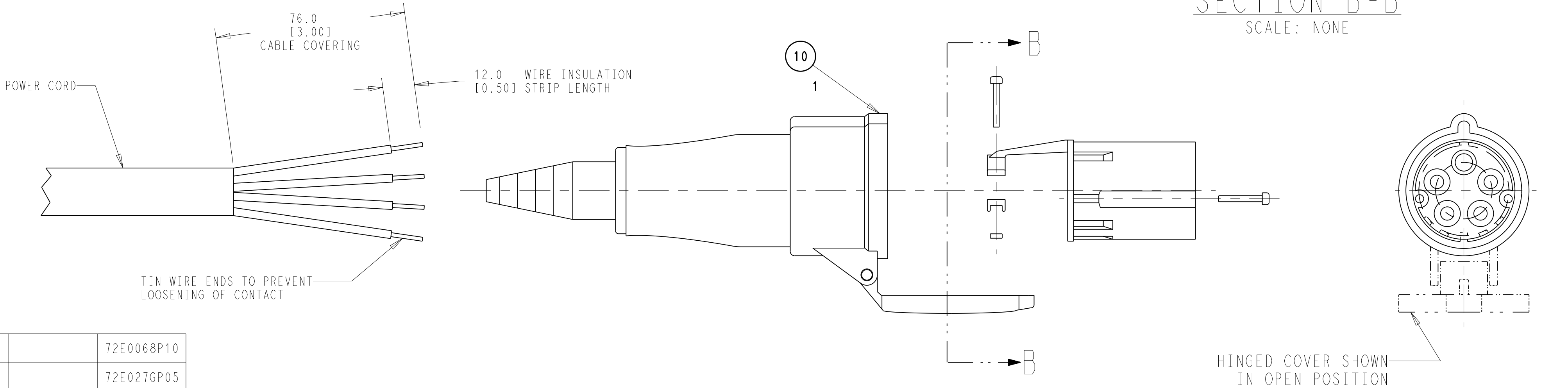
PLUG IN "UP" POSITION



PLUG IN "DOWN" POSITION



PLUG IN VERTICAL POSITION

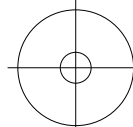
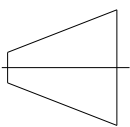


MAKE CONNECTIONS TO PLUG AS SHOWN

1. STRIP POWER CORD INSULATION BACK 76.0mm.
2. CUT AWAY ANY PROTECTION PACKING FROM WIRES.
3. STRIP INSULATION OF WIRES BACK APPROXIMATELY 12.0mm.
4. TIN ENDS OF WIRE WITH ROSIN CORE (ELECTRICAL) SOLDER TO PREVENT FRAYING AND LOOSENING OF CONNECTION.
5. INSERT WIRE ENDS INTO THE PLUG AS SHOWN IN DRAWING. IT IS IMPORTANT THAT THE GREEN WIRE IS CONNECTED TO THE SAFETY GROUND CONNECTION (MARKED GREEN) AT THE TOP OF THE PLUG.
6. TIGHTEN CONNECTORS SECURELY AND ASSEMBLE THE PLUG.
7. STANDBY PLUG WILL BE SECURED IN "UP" POSITION BY FACTORY. TO ROTATE PLUG TO "DOWN" POSITION, LOOSEN (2) M6 BOLTS SECURING STANDBE PLATE. PLUG AND PLATE ASSEMBLY WILL ROTATE APPROX. 35° DOWN. RE-TIGHTEN (2) M6 BOLTS TO SECURE PLATE IN "DOWN" POSITION. BE SURE COVER IS IN PLACE WHEN PLUG IS NOT IN USE.  
IF REQUIRED, THE PLUG MAY ALSO BE PERMANENTLY SECURED IN A VERTICAL ORIENTATION. REMOVE THE 2 (M6) MOUNTING BOLTS AND RE-INSTALL THE PLATE USING THE 2 ADDITIONAL HOLES DIRECTLY ABOVE THE PLUG.
8. WHEN TESTING THE OPERATION OF THE UNIT IN STANDBY MODE, ENSURE THAT THE ROTATION OF THE MOTORS ARE CORRECT. IF THE ROTATION IS NOT CORRECT, REVERSE THE CONNECTION OF ANY TWO OF THE THREE PHASE WIRES. "DO NOT REVERSE ANY WIRE WITH THE GREEN SAFETY GROUND."

E	UPDATED PLUG IN POSITIONS.	09 SEPT 10	B.BOMBARD			72E0068P10
B	CHNAGE VIEW "VERTICAL PH3 POSITION"	07-APR-05	H.C			72E027GP05
A	INITIAL RELEASE	03/26/04	MFM			72N056GN01
1	PRELIMINARY RELEASE	04 DEC 07	B.BOMBARD	---	---	---
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.

FIRST ANGLE  
PROJECTION



UNLESS OTHERWISE SPECIFIED ALL  
DIMENSIONS SHOWN ARE IN MILLIMETERS,  
WITH IMPERIAL CONVERSIONS IN [INCHES]

TITLE

INSTALLATION INSTRUCTIONS  
NDP33L (EURO)

DRAWING NO.

98-02439

SHEET 7 OF 11

REV

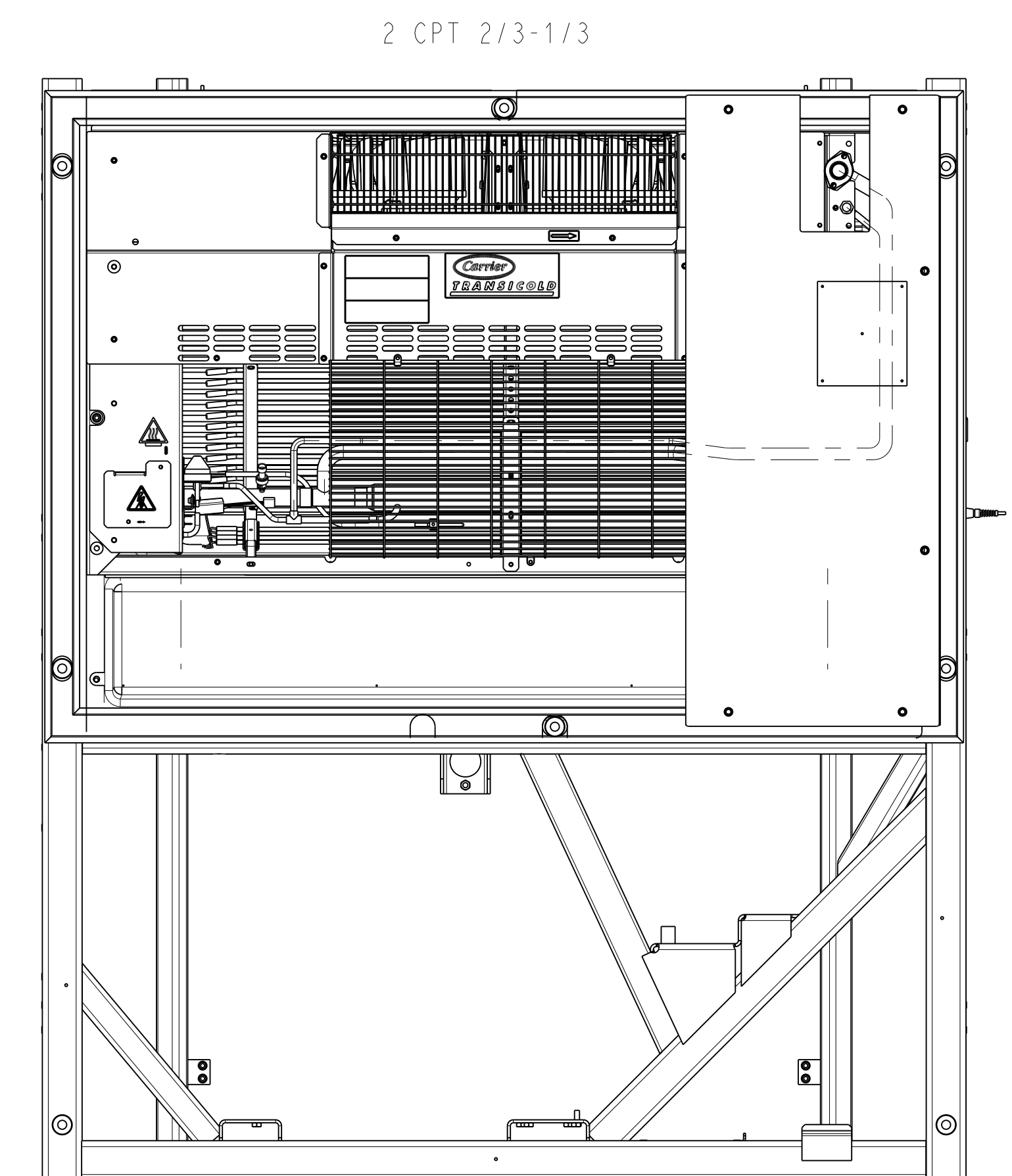
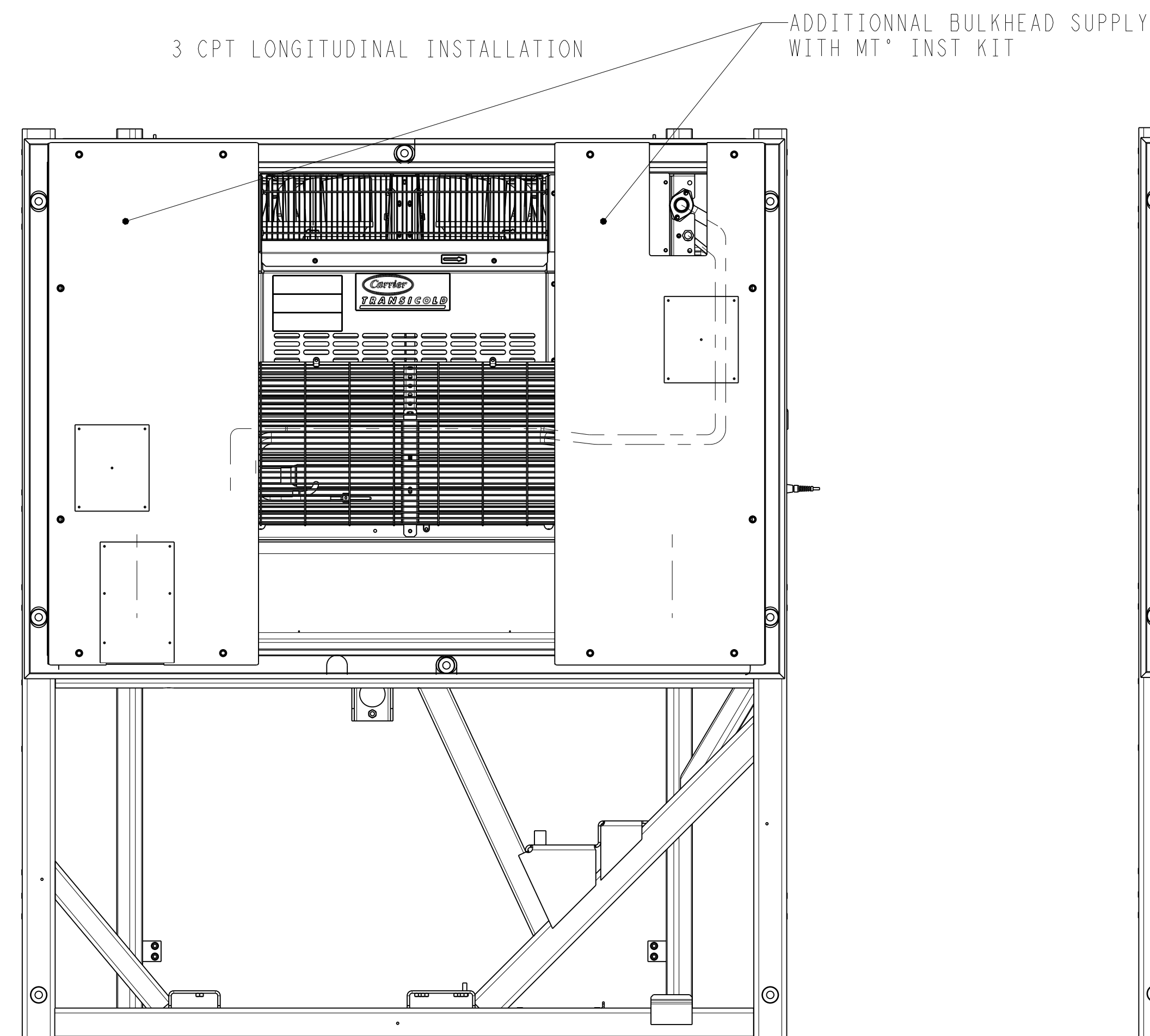
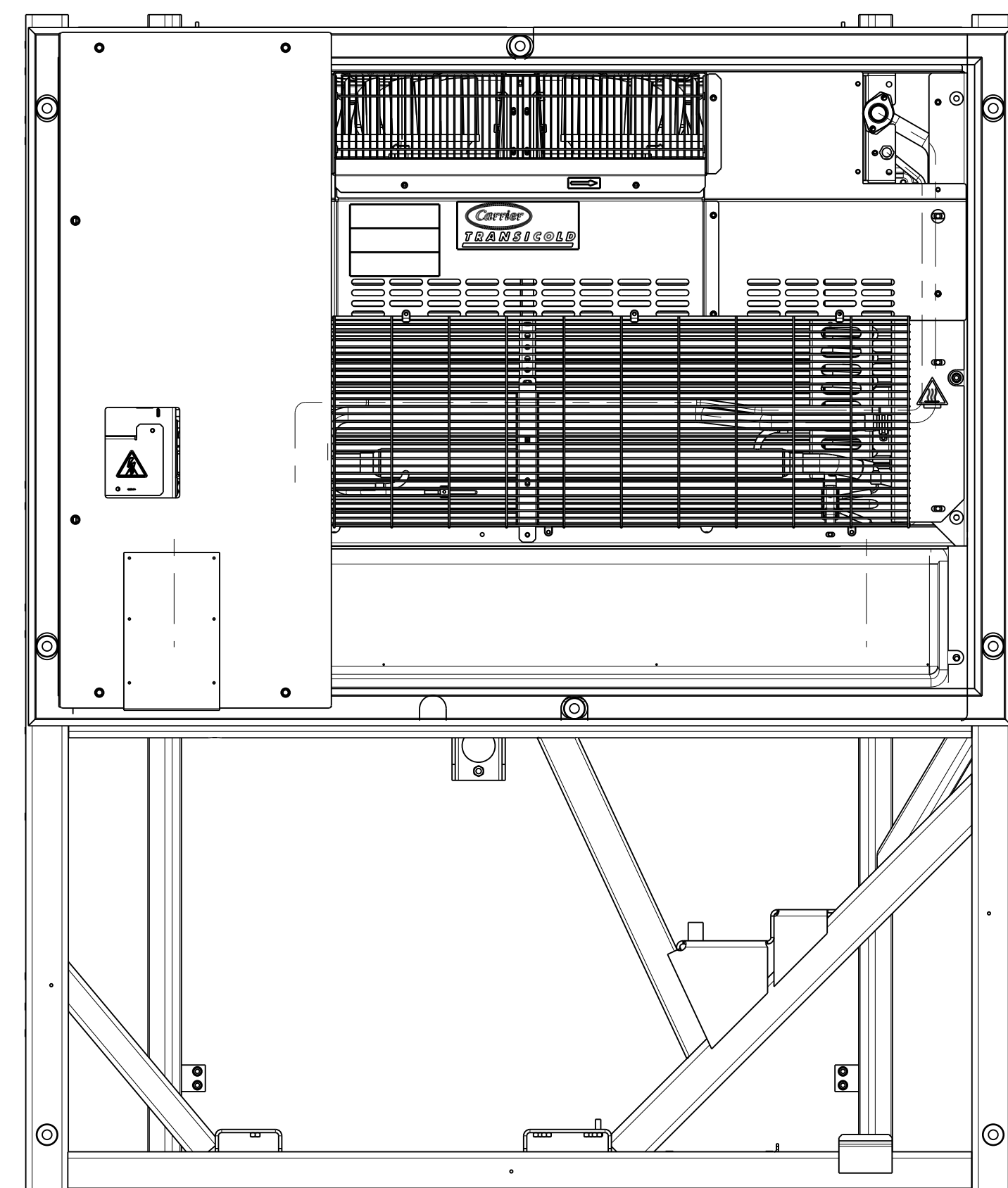
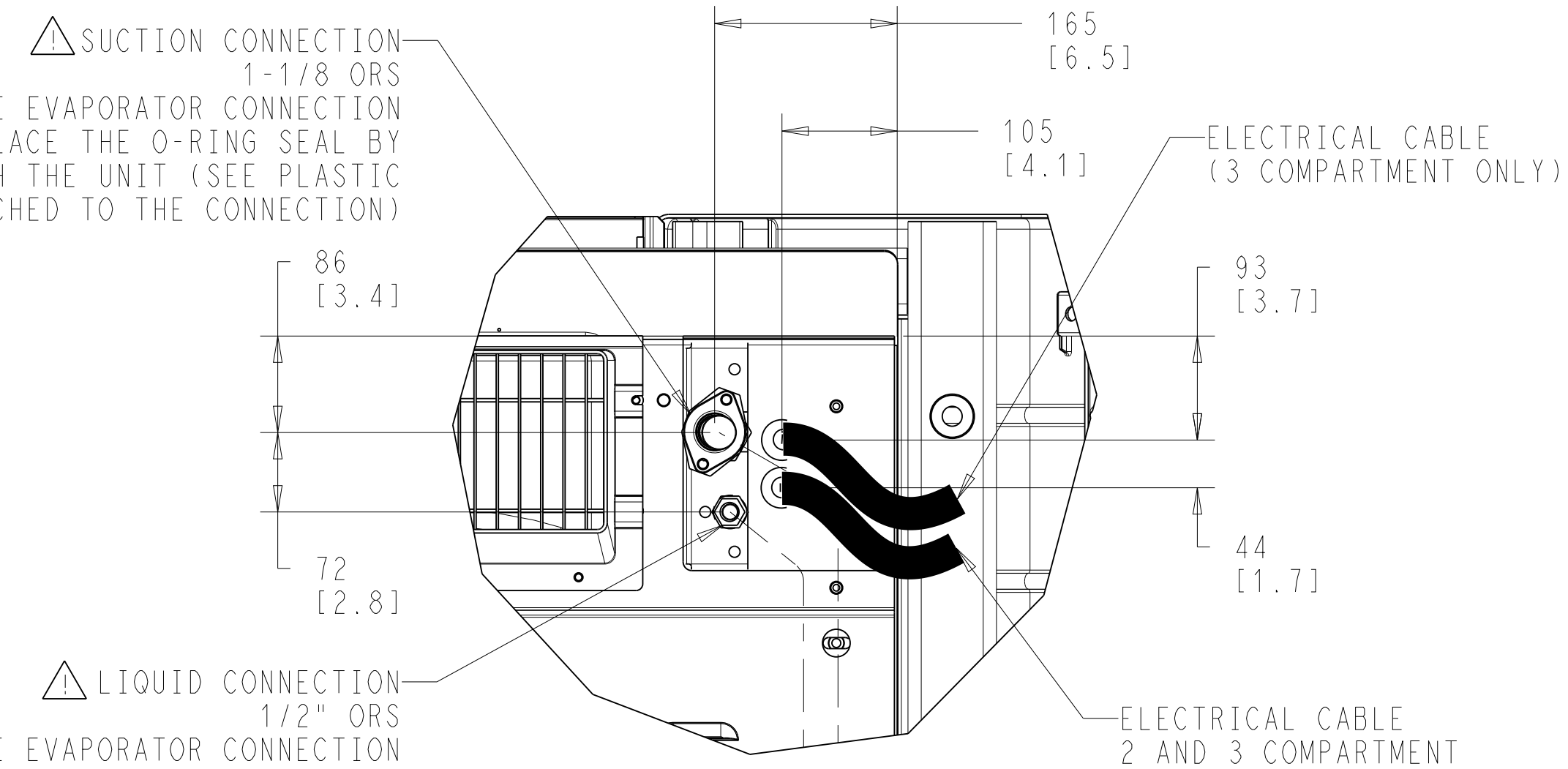
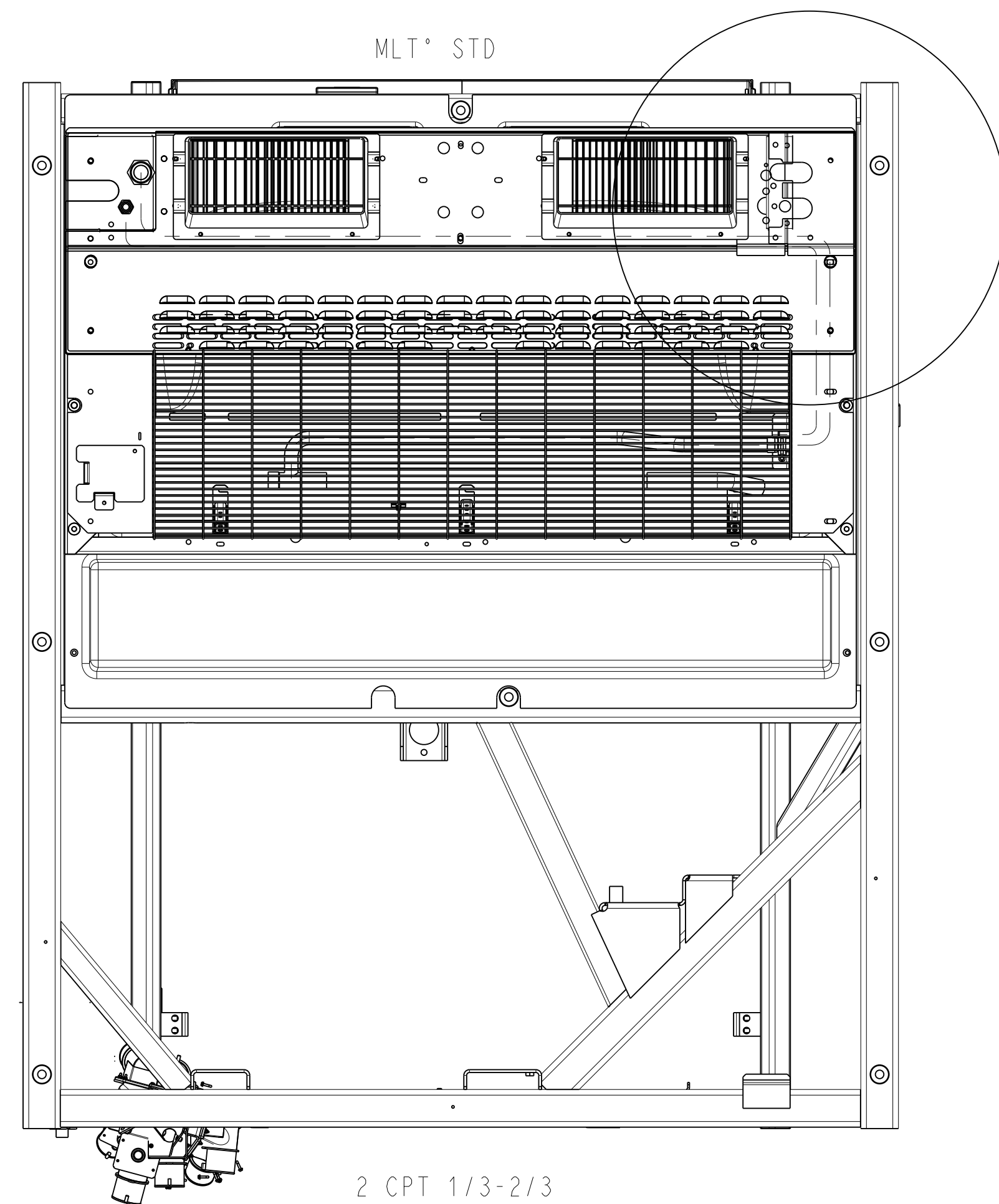
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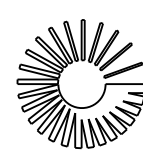
# MULTI-TEMP SYSTEM CONFIGURATIONS (-01)

IN REFERENCE TO NOTE 7.0 (SEE SHEET 1)

IN SERVICE MODE CHECK EVAPORATOR PRESSURE ON DISPLAY BEFORE  
OPENING THE SUCTION AND LIQUID CONNECTION.  
THE PRESSURE MUST BE BELOW 0 BAR.  
IF NOT PROCEED TO PUT THE REFRIGERANT IN THE RECEIVER.







MULTI-TEMP REMOTE EVAPORATOR TXV SUPERHEAT ADJUSTMENT PROCEDURE

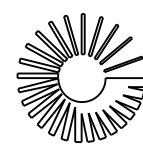
IMPORTANT: BEFORE PERFORMING SUPERHEAT ADJUSTMENT CHECK THE FOLLOWING:

- ASSURE PROPER REFRIGERANT CHARGE LEVEL (SYSTEM)
- CHECK BULKHEAD MINIMUM DISTANCE REQUIRED BETWEEN EVAPORATOR OUTLET AND THE BULKHEAD (1000 mm FOR 700/1100 EVAPORATOR MODELS AND 1500 mm FOR 2000 EVAPORATOR MODELS.

REMOTE EVAPORATOR SUPERHEAT SETTING IS CRITICAL TO PROPER UNIT OPERATION AND RELIABILITY. IN ORDER TO HAVE OPTIMUM PERFORMANCE FROM BOTH THE REMOTE EVAPORATOR AND THE HOST UNIT, THE SUPERHEAT MUST BE PROPERLY SET. FOLLOW THESE SIMPLE STEPS TO SET AND ADJUST REMOTE EVAPORATOR SUPERHEAT:

1. PLACE A THERMOCOUPLE AS CLOSE AS ONE CAN GET TO THE TXV SENSING BULB, LOCATED ON THE SUCTION LINE. TO DO THAT, ONE HAS TO OPEN THE PRESTITE TAPE AROUND THE TXV SENSING BULB AREA. IN ORDER TO HAVE ACCURATE READING FROM THE THERMOCOUPLE, IT SHOULD BE INSTALLED ON THE COPPER TUBING NEXT TO THE SENSING BULB, AND IT SHOULD BE POSITIONED AT 5 OR 7 O'CLOCK. ALSO, IT SHOULD BE SECURED WITH A PIECE OF ELECTRICAL TAPE ABOUT THE SIZE OF 1/2 IN SQUARE. THE PRESTITE TAPE INSULATION MUST BE PLACED BACK ON AND SECURED WITH A STRAP CLAMP.
2. CONNECT A SUCTION PRESSURE GAUGE TO THE FLARE FITTING WITH SCHRADER VALVE.
3. TURN OFF THE HOST UNIT EVAPORATOR COIL AND IN CASE OF 3 COMPARTMENTS, TURN OFF THE EVAPORATOR THAT IS NOT TO BE ADJUSTED. SET REMOTE EVAPORATOR COMPARTMENT AT -18°C (0°F) TO KEEP HOST UNIT OPERATING IN HIGH SPEED. MAINTAIN THE REMOTE EVAPORATOR COMPARTMENT TEMPERATURE AS CLOSELY AS POSSIBLE TO 2°C (35°F). TO ACHIEVE THIS, ONE CAN ARRANGE THE BULKHEAD AND OPEN THE TRAILER DOOR SLIGHTLY IF IT IS NEEDED, UNTIL TEMPERATURE IS STABLE. REMEMBER, OPENING THE TRAILER DOOR FOR AN EXTENDED PERIOD OF TIME WILL ALLOW MOISTURE INSIDE THE TRAILER AND FROST THE EVAPORATOR COIL, WHICH WILL MAKE THE SUPERHEAT UNSTABLE.
4. TAKE AT LEAST 10 READINGS OF THERMOCOUPLE DURING A 15 MINUTE PERIOD WHEN THE REMOTE EVAPORATOR COMPARTMENT TEMPERATURE IS AROUND 2°C (35°F). IT IS NORMAL TO SEE THE THERMOCOUPLE READING VARY. IT COULD BE DUE TO THE COMPARTMENT TEMPERATURE NOT CONTROLLED CONSISTENTLY AT 2°C (35°F). USE THE AVERAGE OF 10 READINGS AS THE TXV BULB TEMPERATURE. READ SUCTION PRESSURE FROM THE PRESSURE GAUGE.
5. USING A PRESSURE-TEMPERATURE (P/T) CHART FOR R404A/R452A REFRIGERANT, CONVERT THE SUCTION PRESSURE TO TEMPERATURE. THE AVERAGE BULB TEMPERATURE MINUS THE SUCTION TEMPERATURE EQUALS THE OPERATING SUPERHEAT. (IN CASE OF R-404A UNITS, READ TEMPERATURE ON MANIFOLD GAUGE).
- Ⓟ 6. THE ABOVE INSTRUCTED PROCEDURE SHOULD PRODUCE ABOUT 8°-9°C (15-17°F) OF SUPERHEAT. IF NOT, ONE NEEDS TO ADJUST THE TXV.
- Ⓟ 7. ONE COMPLETE TURN OF 360 DEGREE WILL GENERATE APPROXIMATELY 7°C (13°F) OF SUPERHEAT. TO DECREASE SUPERHEAT, TURN THE SCREW COUNTER-CLOCKWISE; TO INCREASE SUPERHEAT, TURN IT CLOCKWISE. AFTER ADJUSTMENT IS COMPLETED, PLEASE REPEAT STEP #5.
8. READ COMPRESSOR SUCTION TEMPERATURE AND PRESSURE FROM THE MICROPROCESSOR. CONVERT THE SUCTION PRESSURE TO TEMPERATURE USING THE R404A/R452A P/T CHART. SUCTION TEMPERATURE MINUS THE CONVERTED TEMPERATURE EQUALS SUCTION SUPERHEAT. AS AN ADDITIONAL VERIFICATION, SUCTION SUPERHEAT SHOULD BE BETWEEN 21°-32°C (70-90 °F).
9. FOR FINAL VERIFICATION, CONTINUE TO PULLDOWN THE REMOTE EVAPORATOR COMPARTMENT TEMPERATURE TO -29°C (-20 °F.) TAKE ANOTHER 10 READINGS OF THERMOCOUPLE DURING A 15 MINUTE PERIOD. USE THE AVERAGE OF 10 READINGS AS THE TXV BULB TEMPERATURE. READ SUCTION PRESSURE FROM THE PRESSURE GAUGE.
- Ⓟ 10. THE REMOTE EVAPORATOR SUPERHEAT SHOULD BE ABOUT 4°-5°C (7-9°F) WHEN THE COMPARTMENT TEMPERATURE IS AT -20°C (-4 °F). TO PREVENT FLOODING THE HOST UNIT COMPRESSOR.

P	UPDATED NOTES 6, 7 & 10. REMOVED NOTE 11.	01 FEB 2016	LT-GRS	---	---	72E0072P15	FIRST ANGLE PROJECTION		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, WITH IMPERIAL CONVERSIONS IN (INCHES)	TITLE  INSTALLATION INSTRUCTIONS NDP33L (EURO)	DRAWING NO.  98-02439 SHEET 9 OF 11	REV  P
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.						



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## ④ CONNECTION OF ACCESSORIES TO THE BATTERY GUARD

④ LES OPTIONS TELLES QUE ENREGISTREUR DE TEMPERATURE, SYSTEME DE LOCALISATION PAR GPS, SONT SUSCEPTIBLES DE DECHARGER LA BATTERIE PENDANT L'ARRET DU GROUPE. ET DOIVENT ETRE RACCORDEES AU MODULE DE PROTECTION

RACCORDEMENT DE L'(DES) OPTION(S) AU FAISCEAU DE SORTIE DU MODULE DE PROTECTION BATTERIE.

A) SOUS LE COFFRET ELECTRIQUE, RETIRER LA GAINE THERMO-RETRACTABLE A L'EXTREMITÉ DES FILS DE SORTIE BLANCS ET VERTS (OPT1+/OPT1-) POUR L'OPTION 1 A RACCORDER.

④ B) DENUDER CHAQUE FIL DEL'OPTION #1 ET FILS OPT1+ & OPT1-DU MODULE DE PROTECTION BATTERIE SUR 7MM.

C) SERTIR LES MANCHONS FOURNIS (INCLUS DANS LE COFFRET ELECTRIQUE) AVEC LE FAISCEAU DE SORTIE ET LES FILS D'ALIMENTATION DE L'OPTION 1.

D) RETRACTER L'ISOLANT THERMO RETRACTABLE EXTERIEUR DE CHAQUE MANCHON SERTI A L'AIDE D'UN DECAPEUR THERMIQUE BUSE

④ E) BRANCHER LE FUSIBLE \* (VOIR SCHEMA CI-DESSOUS) FOURNI AVEC L'OPTION 1 SUR LA CARTE DU MODULE DE PROTECTION BATTERIE A L'INTERIEUR DU COFFRET.

④ F) IDEM POUR LES AUTRES OPTIONS A CONNECTER (#2 & #3)

④ OPTIONS AS TEMPERATURE RECORDER, GPS TRACKING SYSTEM, MAY DISCHARGE THE BATTERY WHEN THE UNIT IS OFF AND MUST BE CONNECTED TO THE BATTERY GUARD

CONNECT THE OPTION(S) TO THE OUTPUT HARNESS OF THE BATTERY GUARD:

A) UNDER THE CONTROL BOX, REMOVE THE HEAT SHRINK SLEEVE AT THE ENDS OF THE WHITE AND GREEN WIRES (OPT1 + /OPT1-) TO CONNECT THE FIRST OPTION

④ B) STRIP EACH WIRE OF THE OPTION#1 AND THE WIRES OF THE BATTERY GUARD (OPT 1+ & OPT1-) BY 7MM

C) CRIMP THE BUTT SPLICES (INCLUDED IN THE CONTROL BOX): THE + WIRE OF THE OPTION 1 WITH THE WHITE (OPT1+) OF THE BATTERY GUARD AND THE - WIRE OF THE OPTION 1 WITH THE GREEN WIRE (OPT1-) OF THE BATTERY GUARD.

D) HEAT THE HEAT SHRINK SLEEVE USING A HEAT GUN

④ E) USING THE ORIGINAL FUSE \* DELIVERED WITH THE OPTION#1(ACCESSORY) INSTALL THIS INTO THE BATTERY GUARD PCB INSIDE THE CONTROL BOX AS SHOWN BELOW.

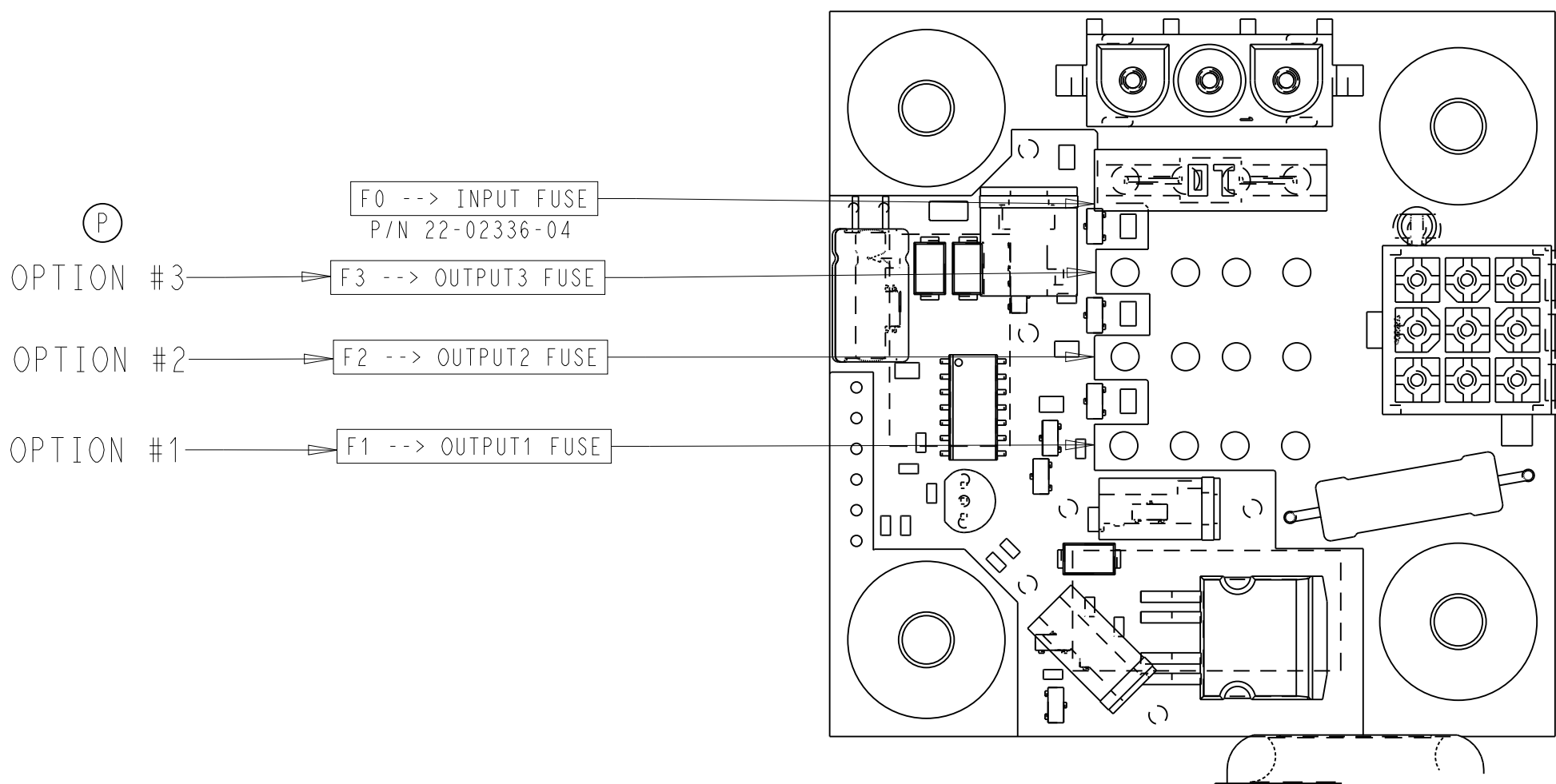
F) FOLLOW THE SAME PROCEDURE WHEN INSTALLING OPTION #2 AND #3



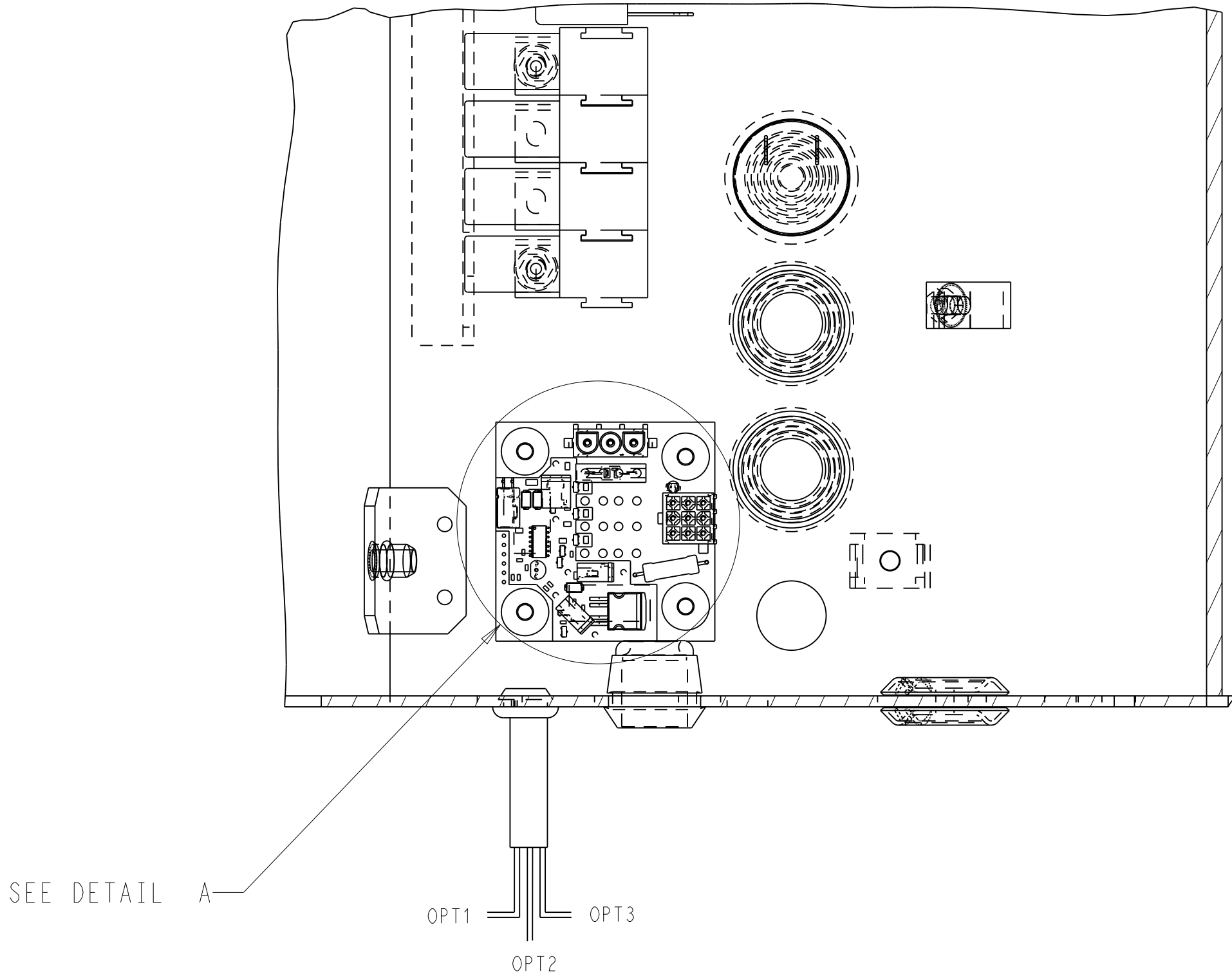
IMPORTANT : LE COURANT MAXI ADMISSIBLE POUR L'ENSEMBLE DES OPTIONS EST DE 2A.  
TOUTES LES OPTIONS DOIVENT ETRE RACCORDEES AU MODULE DE PROTECTION BATTERIE AFIN DE PRESERVER LA BATTERIE CONTRE LES DECHARGES PROFONDES.  
[IMPORTANT : THE MAX. ADMISSIBLE CURRENT FOR ALL THE OPTIONS IS 2A.  
ALL OPTIONS MUST BE CONNECTED TO THE BATTERY GUARD OUTPUT TO PREVENT ANY DEEP DISCHARGE OF THE BATTERY.]

④ (\*): LA VALEUR DU FUSIBLE EN SORTIE DEPEND DU  
COURANT MAX. DE L'OPTION ET DU DIAMETRE DE FIL\*\*  
THE OUTPUT FUSE RATING DEPENDS ON THE MAX. CURRENT  
OF THE OPTION AND OF THE WIRE SECTION\*\*

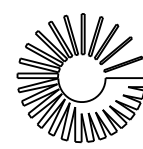
④ (\*\*\*) 0.75 mm<sup>2</sup> - VALEUR MAX DE FUSIBLE RECOMMENDEE: 3A  
MAX. RECOMMENDED OUTPUT FUSE RATING: 3A



DETAIL A  
SCALE 2.000



P	UPDATED NOTES.	01 FEB 2016	LT-GRS	---	---	72E0072P15	FIRST ANGLE PROJECTION		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, WITH IMPERIAL CONVERSIONS IN [INCHES]	TITLE	INSTALLATION INSTRUCTIONS NDP33L (EURO)	DRAWING NO.	98-02439	REV	P
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BATTERY GUARD LOGIC

LED ON = OPTION IS CONNECTED  
LED OFF = OPTION IS DISCONNECTED  
LED BLINKING = OPTION IS GOING TO BE DISCONNECTED

IF THE REFRIGERATION UNIT IS ON, ALL OPTIONS ARE SUPPLIED AND CANNOT BE DISCONNECTED WHATEVER THE BATTERY VOLTAGE IS,  
EXCEPT IF THE BATTERY GUARD IS RUNNING OUT OF RANGE (IF UBAT > 17V OR IOUT > 2A)  
WHEN THE REFRIGERATION UNIT IS OFF. IF UBAT < UDISCONNECTION. FOR MORE THAN 2 MIN, THEN THE OPTION ARE DISCONNECTED. (LED IS OFF)  
IF UBAT > URECONNECTION FOR MORE THAN 1 MIN THEN THE LOAD IS RECONNECTED. (LED IS ON)  
IF THE BATTERY GUARD IS RUNNING OUT OF THE RANGE OR IF UBAT > 17V OR IOUT > 2A FOR MORE THAN 1 MINUTE THEN  
THE OPTIONS ARE DISCONNECTED AND THE LED IS OFF. BACK TO NORMAL OPERATING MODE. IF UBAT < 17V AFTER 3 MIN  
THE LED IS ON WHEN THE LOAD OPTION IS CONNECTED. BLINKING BEFORE DISCONNECTION AND OFF AFTER DISCONNECTION.  
THE LED IS QUICKLY BLINKING WHEN THE BATTERY GUARD IS RUNNING OUT OF RANGE.

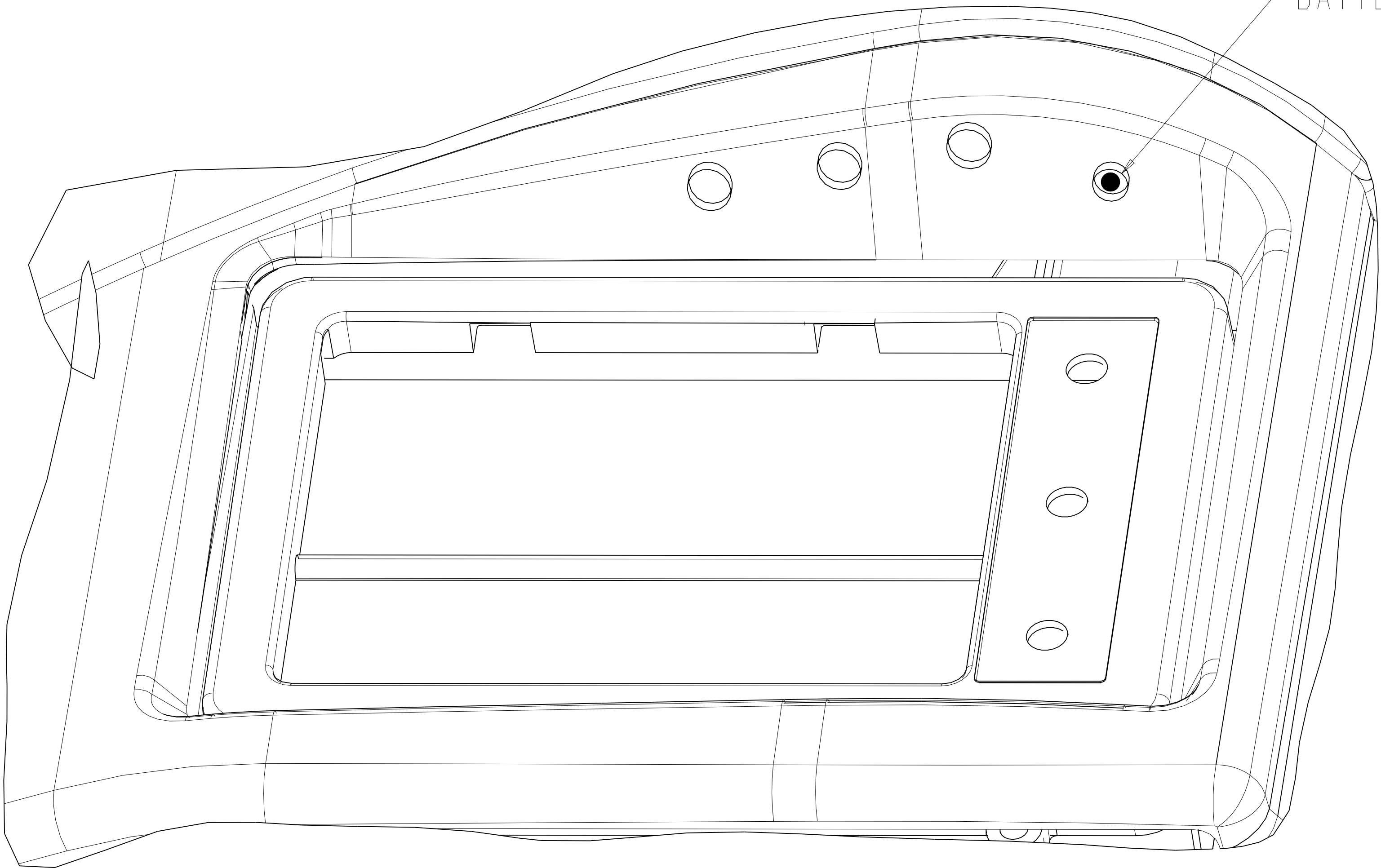
ELECTRICAL CHARACTERISTICS:

MAX. VOLTAGE FOR MORE THAN 1 MINUTE: 17V  
MAX. CURRENT FOR MORE THAN 1 MINUTE: 2A

MAX. TOTAL CURRENT FOR LESS THAN 1 MINUTE: 9A  
MAX. CURRENT PER OPTION FOR LESS THAN 1 MINUTE: 4A

MAX POWER CONSUMPTION OF THE BATTERY GUARD WHEN LOAD IS CONNECTED: 5mA MAX  
MAX POWER CONSUMPTION OF THE BATTERY GUARD WHEN THE LOAD IS DISCONNECTED: 1mA MAX  
MAX LED POWER CONSUMPTION: 30 mA

BATTERY GUARD LED FOR THE OPTIONS



SCALE 1.000

P	ADDED THIS SHEET.	01 FEB 2016	LT-GRS	---	---	72E0072P15	FIRST ANGLE PROJECTION		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, WITH IMPERIAL CONVERSIONS IN [INCHES]	TITLE	INSTALLATION INSTRUCTIONS NDP33L (EURO)	DRAWING NO.	98-02439	REV	P
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.							SHEET 11 OF 11		