NOTES:

1.0 COMPLETE INSTALLATION INCLUDES AND IS NOT LIMITED TO:
   1.1 UNIT INSTALLATION
   1.2 BATTERY INSTALLATION
   1.3 DEFROST LINE ROUTING AND CLAMPING
   1.4 FUEL LINE CONNECTIONS TO UNIT
   1.5 COMPLETION OF PRE-DELIVERY INSPECTION (PDI) PER MODEL
      1.5.1 UNIT PREP AND INITIAL ADJUSTMENTS
      1.5.2 CHECKLIST
      1.5.3 UNIT RUN IN PER PDI CHECKLIST
      1.5.4 WARRANTY REGISTRATION CARD SUBMITTAL

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

WEIGHTS:

VECTOR NDKA REEFER UNIT (WET, LESS BATTERY): 2177 LBS [988 kg]
BATTERY: 80 LBS [36 kg] MAXIMUM

3.0 UNIT MOUNTING SURFACES OF THE TRAILER OR BOXCAR THAT CONTACT THE UNIT MOUNTING PADS MUST BE UNI-PLANAR TO WITHIN 0.13 [3] TO PREVENT DISTORTION OF THE UNIT AND/OR TRAILER.

4.0 TRAILER OR BOXCAR SURFACES THAT CONTACT THE UNIT MOUNTING GASKET SHOULD NOT PROTRUDE MORE THAN 0.19 [5] ABOVE THE PLANE DEFINED BY THE MOUNTING PAD SURFACES TO ENSURE PROPER AIR SEAL.

5.0 ALL DIMENSIONS SHOWN ARE IN INCHES, WITH THE METRIC CONVERSIONS IN [MILLIMETERS].

6.0 PRE-DELIVERY INSPECTION AND WARRANTY REGISTRATION DOCUMENTS ARE SHIPPED WITH UNIT AND ARE LOCATED IN THE SIDE DOOR POCKET WITH UNIT MANUAL AND SCHEMATIC.
THIS DOCUMENT AND THE INFORMATION CONTAINED THEREIN IS PROPRIETARY TO CARRIER CORPORATION AND SHALL NOT BE USED OR DISCLOSED TO OTHERS, IN WHOLE OR IN PART, WITHOUT THE WRITTEN AUTHORIZATION OF CARRIER CORPORATION.

ACCEPTANCE OF CONTRACT DOES NOT CONSTITUTE PART PERFORMANCE OR SUBMISSION OF THESE DRAWINGS OR DOCUMENTS

SYM:

REV

DRAWING NO.

TITLE

Carrier Corporation
Syracuse, New York 13221
P.O. Box 4805
Carrier Transicold Division

THIRD ANGLE PROJECTION

RETURN AIR OPENING

NOTE: USE CURBSIDE MOUNTING LOCATION.
USING ITEM 92 PLUG UNUSED HOLE AFTER INSTALLATION (SEE NOTE 6 ON SHT 5)

SCALE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES WITH METRIC CONVERSIONS IN [MILLIMETERS]

INSTALLATION INSTRUCTIONS

MOUNTING PADS (QTY 9)

REAR VIEW: WITH STANDARD BACK PANELS

REMOTE UNIT LIQUID CONNECTION

0.381-0.387 I.D X 0.38 DP BELL [9.68-9.82] [9.5]

REMOTE UNIT SUCTION CONNECTION

1.132-1.138 I.D X 0.88 DP BELL [28.76-28.90] [22.2]

DETAIL A 2CPT SCALE 0.200
CAUTION: UNIT MOUNTING SURFACES OF TRAILER OR BOXCAR THAT CONTACT THE UNIT MOUNTING PAD MUST BE UNI-PLANAR TO WITHIN 0.013 [3] TO PREVENT DISTORTION OF UNIT AND/OR TRAILER/BOXCAR.

NOTE: USE CURBSIDE MOUNTING LOCATION. PLUG UNUSED HOLE AFTER INSTALLATION.
NOTE: BULKHEAD, AIR CHUTE AND TRANSITION DUCT SHOWN ARE OPTIONAL FEATURES FOR UNIT A110-410. CONSIDERATION AND PRODUCT PROTECTION. CARRIER TRANSICOLD HIGHLY RECOMMENDS THE USE OF BULKHEADS AND TRANSITION DUCTS. CONTACT YOUR DEALER OR CARRIER TRANSICOLD FOR RECOMMENDATIONS.

UNIT INSTALLATION

1.0 PREPARE UNIT FOR INSTALLATION:

1.1 PREPARE THE BODY TO RECEIVE THE UNIT. DIMENSIONS FOR EVAPORATOR OPENING AND MOUNTING STUD LOCATIONS CAN BE FOUND ON SHEET 4 OF THIS DRAWING.

1.2 INSTALL BUTTON PLUGS (ITEM 92) IN UNIT FRAME WHERE MOUNTING STUDS ARE LOCATED AND ADDITIONAL HOLE MUST BE DRILLED.

1.3 ROUTE DEFROST DRAIN HOSES DOWN THE FRONT OF THE TRAILER OR BOXCAR AND CLAMP TO FRONT WALL USING 2 CLAMPS (ITEM 15) AND 2 THREAD FORMING SCREWS (ITEM 30) FOR EACH DRAIN HOSE SUITABLE TO PROPER LENGTH (APPROXIMATELY 2.0FT/0.6M) ABOVE 5TH-WHEEL PLATE ON TRAILER) AND INSTALL HOSES (ITEM 90) ON THE HOSES.

1.4 INSTRUCTIONS FOR FUEL LINE CONNECTION ARE SUPPLIED WITH THE FUEL TANK KIT. INSTRUCTIONS FOR LIGHT BAR INSTALLATION ARE INCLUDED WITH THE LIGHT BAR KIT.

AFTER INSTALLATION

9.0 INSTALL BATTERY ACCORDING TO INSTRUCTIONS ON SHEETS 6 & 7. IF UNIT HAS BEEN SUPPLIED WITH BATTERY, CONNECT BATTERY CABLES ACCORDING TO THE INSTRUCTIONS ON SHEETS 6 & 7.

10.0 PERFORM PRE-DELIVERY INSPECTION. COPIES OF COMPLETED CHECKLIST SHOULD BE SUPPLIED TO SELLING DEALER AND CUSTOMER.

11.0 PERFORM PRE-DELIVERY INSPECTION. COPIES OF COMPLETED CHECKLIST SHOULD BE SUPPLIED TO SELLING DEALER AND CUSTOMER.

12.0 IMPORTANT PRIOR TO FINAL DELIVERY TO CUSTOMER, WARRANTY REGISTRATION MUST BE COMPLETED. ONE COPY SHOULD BE PROVIDED TO THE CUSTOMER AND THE FINAL COPY MUST BE SENT TO CARRIER TRANSICOLD. IN-SERVICE DATE MUST BE STAMPED ON THE UNIT IN THE PROPER LOCATION (SERIAL NUMBER PLATE) TO ACTIVATE WARRANTY COVERAGE.

13.0 OPTIONAL BULKHEAD CONFIGURATION: HOLE PATTERN OR OPEN AREA FOR RETURN AIR FLOW MUST TOTAL AT LEAST 2.75 SQ.FT. OF AIR PASSAGE. HOLE PATTERN OR OPEN AREA MUST NOT BE LOCATED SO THAT CARGO LOADED AGAINST BULKHEAD WILL NOT DESTRUCT AIR FLOW STEMS. (SEE NOTE 11.0) THAT MEET THESE REQUIREMENTS, MAY BE INSTALLED ANYTIME WITH FLOOR.
BATTERY INSTALLATION INSTRUCTIONS

SEE NEXT SHEET FOR PICTORIALS OR REFER TO BATTERY INSTALLATION DOCUMENT IN POLY BAG FASTENED TO FRAME RAIL.

UNITS SUPPLIED WITH BATTERY INSTALLED

1.0  CUT WIRE TIES THAT HOLD BATTERY CABLES TO EACH OTHER.

2.0  CONNECT RED BATTERY CABLE TO THE POSITIVE (+) BATTERY TERMINAL; CONNECT BLACK CABLE TO NEGATIVE (-) BATTERY TERMINAL (USE OF CORROSION INHIBITOR IS RECOMMENDED).

3.0  POSITION TERMINAL COVERS SUPPLIED WITH CABLES OVER TERMINALS.

UNITS SUPPLIED WITHOUT BATTERY INSTALLED

1.0  USE THE FOLLOWING INFORMATION TO CORRECTLY SELECT THE BATTERY PERFORMANCE NEEDED FOR REFRIGERATION UNITS.

- GROUP SIZE: GROUP 31
- VENT LOCATION: SIDE VENT
- VOLTS: 12 VOLTS DC
- AMPERAGE: MINIMUM 700 COLD CRANKING AMPS @ 0°F
  MINIMUM 545 COLD CRANKING AMPS @ -20°F

NOTE: WHEN SELECTING A SPECIFIC BRAND OF BATTERY, ALWAYS ENSURE THAT THE BATTERY CHOSEN IS RATED AT 0°F (0 DEGREES FAHRENHEIT) AND NOT 0°C (0 DEGREES CELSIUS). FAILURE TO USE THE PROPER BATTERY SIZE WILL RESULT IN REDUCED BATTERY LIFE AND A NO-START CONDITION. THE RECOMMENDED MAXIMUM BATTERY WEIGHT IS 80 LBS.

2.0  CUT WIRE TIE HOLDING THESE PARTS TO THE FRAME AND REMOVE PARTS.

PLACE BATTERY IN TRAY WITH POSITIVE (+) TERMINAL TO THE REAR OF THE UNIT (AS SHOWN). CONNECT BATTERY CABLES (THE USE OF A CORROSION INHIBITOR ON THE TERMINALS IS RECOMMENDED); RED CABLE TO POSITIVE (+) TERMINAL, BLACK CABLE TO THE NEGATIVE (-) TERMINAL. CABLES SHOULD BE ROUTED TOWARD THE COMPRESSOR (AS SHOWN). TIGHTEN TERMINAL CONNECTORS SECURELY.

3.0  INSTALL L-BRACKETS AND J-HOOKS AND HOLD-DOWN CHANNEL USING NUTS, PLAIN AND LOCK WASHERS AS SHOWN. SECURELY TIGHTEN THE SCREWS TO PREVENT MOVEMENT OF THE BATTERY.

4.0  POSITION TERMINAL COVERS SUPPLIED WITH CABLES OVER TERMINALS.

UNITS SUPPLIED WITH BATTERY INSTALLED

1.0  CONNECT RED BATTERY CABLE TO THE POSITIVE (+) BATTERY TERMINAL (USE OF CORROSION INHIBITOR IS RECOMMENDED).

2.0  CONNECT BLACK CABLE TO NEGATIVE (-) BATTERY TERMINAL (USE OF CORROSION INHIBITOR IS RECOMMENDED).

3.0  POSITION TERMINAL COVERS SUPPLIED WITH CABLES OVER TERMINALS.

UNITS SUPPLIED WITHOUT BATTERY INSTALLED

1.0  USE THE FOLLOWING INFORMATION TO CORRECTLY SELECT THE BATTERY PERFORMANCE NEEDED FOR REFRIGERATION UNITS.

- GROUP SIZE: GROUP 31
- VENT LOCATION: SIDE VENT
- VOLTS: 12 VOLTS DC
- AMPERAGE: MINIMUM 700 COLD CRANKING AMPS @ 0°F
  MINIMUM 545 COLD CRANKING AMPS @ -20°F

NOTE: WHEN SELECTING A SPECIFIC BRAND OF BATTERY, ALWAYS ENSURE THAT THE BATTERY CHOSEN IS RATED AT 0°F (0 DEGREES FAHRENHEIT) AND NOT 0°C (0 DEGREES CELSIUS). FAILURE TO USE THE PROPER BATTERY SIZE WILL RESULT IN REDUCED BATTERY LIFE AND A NO-START CONDITION. THE RECOMMENDED MAXIMUM BATTERY WEIGHT IS 80 LBS.

2.0  CUT WIRE TIE HOLDING THESE PARTS TO THE FRAME AND REMOVE PARTS.

PLACE BATTERY IN TRAY WITH POSITIVE (+) TERMINAL TO THE REAR OF THE UNIT (AS SHOWN). CONNECT BATTERY CABLES (THE USE OF A CORROSION INHIBITOR ON THE TERMINALS IS RECOMMENDED); RED CABLE TO POSITIVE (+) TERMINAL, BLACK CABLE TO THE NEGATIVE (-) TERMINAL. CABLES SHOULD BE ROUTED TOWARD THE COMPRESSOR (AS SHOWN). TIGHTEN TERMINAL CONNECTORS SECURELY.

3.0  INSTALL L-BRACKETS AND J-HOOKS AND HOLD-DOWN CHANNEL USING NUTS, PLAIN AND LOCK WASHERS AS SHOWN. SECURELY TIGHTEN THE SCREWS TO PREVENT MOVEMENT OF THE BATTERY.

4.0  POSITION TERMINAL COVERS SUPPLIED WITH CABLES OVER TERMINALS.
INSTALL BATTERY INTO UNIT WITH POSITIVE (+) TERMINAL TOWARD THE REAR.

**Battery Installation Procedure for Units Shipped Without Battery:**

1. **NOTICE:** DUE TO DIFFERENT BATTERY MFG. WHEN APPLYING TORQUE TO BATTERY U-BRACKET, MAKE SURE THERE IS NO BATTERY HOUSING DISTORTION OR CRUSHING.
2. WHEN INSTALLING POSITIVE BATTERY CABLE TO BATTERY POST ENSURE THERE IS CLEARANCE BETWEEN THE CABLE AND THE FRAME.
3. WHEN INSTALLING LEFT J-HOOK INTO L-BRACKET ROTATE OPPOSITE OF RIGHT J-HOOK.
4. **BATTERY CABLE ARRANGEMENT.**

**Component List:**

- **Battery**
- **L-Bracket**
- **5/16-18 x 1.00 LG SCR (2 each side)**
- **Torque to 19.0#1.0 FT-LBS**
- **5/16 Lock Washer (2 each side)**
- **5/16 Flat Washer (SMALL O.D. 2 each side)**
- **Right 5/16-18 J Hook (1 each side)**
- **5/16-18 Nut (1 each side)**
  - **Torque to 5.0 MAX FT-LBS**
- **5/16 Lock Washer (1 each side)**
- **5/16 Flat Washer (LARGE O.D. 1 each side)**
- **Negative Terminal (Black) Torque to 19.0#1.0 FT-LBS**
- **Positive Terminal (Red) Torque to 19.0#1.0 FT-LBS**
- **U-Bracket**
- **Battery**
- **Right 5/16-18 J Hook**
- **Left 5/16-18 J Hook**

**SECTION A-A**

**Battery Cable Arrangement**
Electrical Specifications & Minimum Standby Infrastructure for Carrier Transicold Trailer units equipped with Standby

### Operating Voltage

- 460V / 3ph / 60Hz

### Full Load Amp Draw (FLA)

- 22 A

### kVA

- 18.5

### Locked Rotor Amp Draw (LRA)

- 90 A

### Electrical Receptacle (installed on unit)

- IEC IP 67 pin & sleeve, 480V, 30A, 4 wire, 3 pole

### Receptacle p/n

- 22-04166-01

### Phase reversal

- Automatic

### Standby circuit breaker & cordset specifications

- Standby cable type & gauge (min 50' long, up to 75' long): SOOW, 600V, 90C, 10/4 (3ph + G)

- Recommended external circuit breaker: 30A

- Connector p/n: 22-02944-00

### Minimum Requirements for Standby Infrastructure

1. Ensure that the standby power installation is performed by a licensed electrician who is familiar with both local and national electric codes and requirements.
2. Each refrigeration unit must be protected by an individual circuit breaker sized per the appropriate unit electrical specification listed above.
3. A continuous earthing ground conductor must be provided at the plug and through the power cord to the refrigeration unit.
4. Carrier Transicold recommends that customers establish an Assured Equipment Grounding Conductor Program per the National Electric Code (NEC). Per the Assured Equipment Grounding Conductor Program, the NEC calls for all cordsets to be verified for ground continuity and correct wiring on a 3 month basis.
5. A neutral conductor MUST NOT be connected to the refrigeration units. All Carrier Transicold refrigeration units are balanced three phase systems; therefore, the unit only requires three phase wires and a ground conductor.
6. Standby power cordsets between the circuit breaker and the refrigeration unit MUST be constructed from 10/4 SOOW cable. Carrier recommends a minimum cable length of 50 feet to limit maximum fault currents and prevent damage to the power circuits within the unit.

**WARNING:**

BE SURE POWER IS DIS-CONNECTED TO CUSTOMER CABLE

READ ENTIRE SUPPLIER DIRECTIONS SUPPLIED WITH PLUG BEFORE STARTING INSTALLATION.

---

**IMPERIAL INCH FORMAT:**

- UNLESS OTHERWISE SPECIFIED
- DIMENSIONS ARE IN INCHES WITH METRIC CONVERSIONS IN [MILLIMETERS]
**NOTES:**

1. INSTALL (3) MOUNTING ANGLES (ITEM #80) AND (1) MOUNTING ANGLE (ITEM #85) WITH RIVNUTED FLANGE POINTING DOWN. SECURE TO FRAME USING SUPPLIED SCREWS (ITEM #75), KEEPING THE BOTTOM OF THE ANGLES FLUSH AND PARALLEL TO THE BOTTOM OF THE FRAME.

2. SLIDE (5) OPENINGS IN BOTTOM PANEL OVER (5) REAR MOUNTING ANGLES ON THE FRAME AND SECURE BOTTOM PANEL TO OTHER (6) MOUNTING ANGLES USING SUPPLIED SCREWS (ITEM #75) AND WASHERS (ITEM #78).

**OPENING FOR CONDENSATE DRAIN LINE**

**DRAIN LINE OPENING FOR LIFT GATE**

**BATTERY CABLE OPTION**

**OPENING FOR FUEL LINE ROUTING**

**OPENING FOR CONDENSATE DRAIN LINE AND OPTIONAL HARNESS CONNECTORS.**

**BOTTOM PANEL INSTALLATION**

**TORQUE TO 98 IN-LBS**

**TORQUE TO 6-8 FT-LBS**