1.0 INSTALLATION OF THIS REFRIGERATION UNIT MUST BE PERFORMED BY A QUALIFIED TECHNICIAN.

2.0 SAFETY:
2.1 PERSONAL PROTECTIVE EQUIPMENT (PPE): BEFORE INSTALLING THIS REFRIGERATION UNIT, ALWAYS USE APPROPRIATE TOOLS THAT ARE IN GOOD WORKING CONDITION AND WEAR PERSONAL PROTECTIVE EQUIPMENT CONCLUDING, BUT NOT LIMITED TO THE ITEMS SHOWN BELOW:

2.2 RISKS: BE AWARE OF YOUR ENVIRONMENT AND SURROUNDINGS. FOLLOW ALL LOCK OUT / TAG OUT PROCEDURES ON INSTALLATION PROCEDURES IN THE INSTALLATION HANDBOOK. WHEN INSTALLING THE UNIT ITSELF. MAKE SURE ALL TOOLS AND EQUIPMENT ARE APPROPRIATE FOR THE JOB BEING COMPLETED, AND ARE IN GOOD CONDITION.

2.3 UNIT HANDLING: UNIT LIFTING SPREADER BAR TO BE SUPPLIED BY THE INSTALLER. CENTER OF GRAVITY AND UNIT WEIGHTS ARE PROVIDED ON THE FOLLOWING PAGES.

3.0 BATTERY:
3.1 IN ORDER TO AVOID POTENTIAL ELECTRICAL CHARGING SYSTEM PROBLEMS, IT IS CARRIER TRANSICOLD'S RECOMMENDATION THAT EACH SUPRA TRUCK REFRIGERATION UNIT BE INSTALLED WITH ITS OWN INDIVIDUAL BATTERY BOX IF NECESSARY. THE ELECTRIC SYSTEM UNIT'S ELECTRICAL SHOULDN'T BE CALLED OUT FROM THE TRUCK'S ELECTRICAL SYSTEM, AND BATTERY BOX ASSEMBLIES ARE AVAILABLE THROUGH THE PURCHASED PARTS GROUP (PPG).

3.2 THESE UNITS ARE DESIGNED FOR 12 VOLT DC BATTERIES, NEGATIVE GROUND ONLY. RECOMMENDED BATTERY TO BE A GROUP 31 BATTERY AS FOLLOWS:

A. VENT LOCATION: SIDE VENT.
B. AMPERAGE RATING: MINIMUM 700 COLD STARTING AMPS @ 0°F [-18°C] & MINIMUM 545 COLD STARTING AMPS @ -20°F [-29°C]

3.3 BEFORE PERFORMING ANY WELDING ON THE CHASSIS, DISCONNECT THE BATTERY CABLE FROM THE UNIT AND THE VEHICLE AS WELL. DISCONNECT ALL OTHER ELECTRICAL CONNECTIONS SUCH AS THE ELECTRONIC SYSTEM (MICROPROCESSOR).

INSTALLATION:
4.0 THE TRUCK BODY STRUCTURE MUST BE EVALUATED BY THE BODY MANUFACTURER TO DETERMINE ITS ABILITY TO WITHSTAND THE IMPOSED LOADS OVER ITS SERVICE LIFE. THESE GUIDELINES DO NOT CONVEY ENDORSEMENT OR WARRANTY BY CARRIER TRANSICOLD FOR THE STRUCTURAL INTEGRITY OF THE TRUCK BODY.

5.0 ROUTE ALL FUEL LINES AND ELECTRICAL CABLES / HARNESSES IN THE FOLLOWING MANNERS:
- LOW VOLTAGE HARNESSES MAY BE PASSED THROUGH METAL OR PLASTIC CONDUIT. MAKE SURE TO PROTECT WIRES FROM CHAFING.
- THRU BELT SPACE CLAMPED IN SUCH A MANNER AS TO PREVENT PHYSICAL DAMAGE.
- KEEP THE POSITIVE CABLE SEPARATE FROM ALL OTHER LINES.
- AVOID ALL SHARP EDGES THAT COULD SUBMINE HOSES AND WIRES.
- FOR FUEL LINES AND UNIT DRAIN HOSES: USE SUFFICIENT BEND RADII WHICH WILL ALLOW PROPER FLUID MOVEMENT AND FLOWING.

SEE SEPARATE PARTS LIST
1.0 ALL DIMENSIONS SHOWN ARE INCHES. WITH METRIC CONVERSIONS IN MILLIMETERS.

2.0 A= EXHAUST PIPE

3.0 B= OIL DRAIN EXTENSION

NOTES:

TOTAL DIMENSIONS SHOWN ARE INCHES WITH METRIC CONVERSIONS IN MILLIMETERS.

WEIGHT INCLUDES WATER, OIL, REFRIGERANT, ET AL. (WEIGHT INCLUDES WATER, OIL, REFRIGERANT, ET AL.)

NOTE 2.0 A SEE NOTE 2.0

NOTE 3.0 B SEE NOTE 3.0

UNIT DIMENSIONAL DATA - 950-MAT
1.0 WORKING FROM THE INSIDE OF THE TRUCK BODY, APPLY SEALANT AROUND EACH MOUNTING HOLE. INSTALL THE 4 TEE-BOLTS (ITEM 45) INTO 4 MOUNTING HOLES USING SELF-TAPPING SCREWS (ITEM 26). MAKE CERTAIN ALL OF THE ABOVE ITEMS ARE SECURED TO THE INTERNAL STRUCTURAL MEMBERS OF THE BODY.

2.0 WORKING FROM THE OUTSIDE OF THE TRUCK BODY, APPLY SEALANT AROUND EACH TEE-BOLT HOLE. MAKE CERTAIN THE THREADS OF EACH TEE-BOLT (ITEM 45) REMAIN CLEAN AND FREE OF SEALANT. FAILURE TO KEEP THREADS CLEAN WILL AFFECT UNIT MOUNTING TORQUE VALUES.

3.0 ADJUST (CUT) EACH TEE-BOLT (ITEM 45)  SEE SHEET 2.

4.0 PREPARE THE UNIT FOR INSTALLATION:

4.1 TO AVOID DAMAGE TO THE UNIT DOORS, AND TO GAIN BETTER ACCESS FOR MOUNTING THE UNIT, REMOVE THE DOORS AS SHOWN.

4.2 STEAM SPOT WELDED SLOTS TO THE UNIT USING THE LIFTING HOLES / SLOTS SHOWN. MAKE CERTAIN THE APPROPRIATE HOLES OR SLOTS IS BEING USED FOR EACH OF THE DIFFERENT UNIT MODELS.

UNIT LIFTING HOLE / SLOT SIZES AND BODY PREPARATION

- INITIAL RELEASE 27 FEB 17 MGC 71N0211P17

DO NOT USE LIFTING SLOT LOCATED TOWARDS THE FRONT OF UNIT FOR SUPER 950 MULTI-TEMP MODELS.

WHEN REMOVING UNIT FROM PALLET, LIFT UNIT FROM UNDERNEATH.
BODY PREPARATION AND UNIT INSTALLATION

1. INSTALL UNIT

FOR FUEL LINE ROUTING
SEE SHEETS 10 & 11.

2. INSTALL UNIT MOUNTING HARDWARE

CLEARANCE: ALLOW SUFFICIENT CLEARANCE FOR CAB BODY MOVEMENT AND TILT CAB SWING RADIUS.

3. INSTALL MUFFLER PIPE EXTENSION

DO NOT ALLOW THE EXHAUST PIPE TO TOUCH THE TRUCK BODY.

TORQUE TO 60 FT-LBS [81 Nm]

IMPORATANT: UNLES COMPANY SPECIFIED, DIMENSIONS ARE IN INCHES WITH METRIC CONVERSIONS IN MILLIMETERS.
CAR COMMAND INSTALLATION


NOTE: THE CAR COMMAND IS NOT WATERPROOF, AND SHOULD BE IN A MOISTURE FREE ENVIRONMENT.

2.0 ROUTE THE GREY CAB COMMAND CABLE FROM THE CONTROL BOX TO THE INSIDE OF THE CAB.

3.0 ROUTE THE CONNECTION INTO THE TRUCK BODY. MAKE SURE NOT TO DAMAGE THE CONNECTOR OR CABLE. MOST TRUCKS WILL ALREADY HAVE A PASS-THRU LOCATION WITH A GROMMET THAT THE CABLE CAN BE FED THROUGH. REFERENCE 5.0 ON SHEET 1 FOR CABLE ROUTING.

ROUTE THE CAB COMMAND CABLE WITH THE STANDBY CABLE. SEE 2.0 AND SHEET 9.

4.0 REMOVE THE FRONT COVER OF THE CAB COMMAND BY PULLING OUTWARD ON THE TWO LOWER TABS. ROTATE THE COVER UP TO REMOVE. RETAIN THE COVER FOR LATER RE-ASSEMBLY.

5.0 INSERT ONE KEY IN SLOTS LOCATED ON EACH SIDE OF THE ASSEMBLY TO UNLOCK THE CAR COMMAND MODULE FROM THE "DIN" MOUNTING BRACKET.

6.0 USE EVEN PRESSURE TO REMOVE MODULE FROM THE BRACKET.

7.0 THIS STEP IS ONLY REQUIRED FOR MOUNTING THE MODULE IN A "DIN" LOCATION. IF USING OPTIONAL MOUNTING, SKIP TO STEP 13 ON SHEET 7. MAKE SURE THE LOCKING TABS ON BOTH SIDES OF THE "DIN" MOUNTING BRACKET ARE BENT INWARD TO 15 DEGREES.


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"DIN" MOUNT

8.0 INSERT THE "DIN" MOUNTING BRACKET INTO THE DASH OPENING.

9.0 MAKE SURE THE BRACKET IS FLUSH WITH THE DASH OPENING AND SECURE THE BRACKET INTO PLACE BY BENDING AS MANY OF THE TABS AS POSSIBLE. DO NOT BEND THE CAB COMMAND LOCKING TABS ON THE RIGHT OR LEFT SIDE.

OPTIONAL MOUNTING

13.0 WHEN CHOSING AN ALTERNATE MOUNTING LOCATION, MAKE CERTAIN THE CAB COMMAND IS ROUTED IN A MANNER THAT PROTECTS THE CABLE FROM DAMAGE. MAKE CERTAIN THE CAB COMMAND WILL BE IN AN ACCESSIBLE LOCATION AND THE LOCATION DOES NOT ALLOW THE SWITCH TO BE ACCIDENTALLY TURNED OFF.

14.0 INSTALL MOUNTING BRACKET "A" WITH SELF TAPPING SCREWS (ITEM 26) OR WITH SELF SUPPLIED LOOSE HARDWARE. MAKE CERTAIN THE HARDWARE WILL NOT CHAFE, CUT THROUGH OR NICK ANY WIRING.

15.0 REMOVE THE "DIN" MOUNTING BRACKET FROM THE CAB COMMAND MODULE. REFER TO STEPS 4.0 THRU 6.0 ON SHEET 6

16.0 ASSEMBLE MOUNTING BRACKET "B" TO THE BACK SIDE OF THE MODULE AS SHOWN. MAKE CERTAIN THE TWO CLIPS ON EACH END OF THE MODULE ARE ENGAGED INTO THE BRACKET.

17.0 PLUG THE CAB COMMAND CABLE INTO THE BACK OF THE MODULE, AND MAKE THE FINAL ASSEMBLY AS SHOWN. RE-INSTALL CAB COMMAND FACE PLATE. PLACE THE DECAL (ITEM 95) IN A LOCATION NEAR THE CAB COMMAND.

18.0 ROUTE THE CABLES UNDERNEATH THE DASH AND THROUGH THE "DIN" OPENING.

19.0 PLUG THE CAB COMMAND CABLES INTO THE BACK OF THE CAB COMMAND AND INSERT THE CAB COMMAND INTO THE "DIN" BRACKET. MAKE CERTAIN THE CAB COMMAND LOCKS INTO PLACE. STORE THE REMOVAL KEYS IN A SECURE LOCATION IN CASE REMOVAL IS NECESSARY.

20.0 INSERT THE "DIN" MOUNTING BRACKET INTO THE DASH OPENING. MAKE SURE THE BRACKET IS FLUSH WITH THE DASH OPENING, AND SECURE THE BRACKET INTO PLACE BY BENDING AS MANY OF THE TABS AS POSSIBLE. DO NOT BEND THE CAB COMMAND LOCKING TABS ON THE RIGHT OR LEFT SIDE.

21.0 ROUTE THE CABLES UNDERNEATH THE DASH AND THROUGH THE "DIN" OPENING.

22.0 PLUG THE CAB COMMAND CABLES INTO THE BACK OF THE CAB COMMAND AND INSERT THE CAB COMMAND INTO THE "DIN" BRACKET. MAKE CERTAIN THE CAB COMMAND LOCKS INTO PLACE. STORE THE REMOVAL KEYS IN A SECURE LOCATION IN CASE REMOVAL IS NECESSARY.

23.0 RE-INSTALL CAB COMMAND FACE PLATE. PLACE THE DECAL (ITEM 95) IN A LOCATION NEAR THE CAB COMMAND.

24.0 PLUG THE CAB COMMAND CABLE INTO THE BACK OF THE MODULE, AND MAKE THE FINAL ASSEMBLY AS SHOWN. RE-INSTALL CAB COMMAND FACE PLATE. PLACE THE DECAL (ITEM 95) IN A LOCATION NEAR THE CAB COMMAND.
NOTE:
1.0 SELF TAPPING SCREWS (ITEM 26) MUST BE INSTALLED INTO A STRUCTURAL FRAME MEMBER OF THE REFRIGERATION BODY. IF A STRUCTURAL MEMBER IS NOT LOCATED UNDERNEATH THE OUTER TRUCK SKIN, USE SUPPLIED RIVET (ITEM 43).
2.0 IF USING RIVETS (ITEM 43), LOCATE THE DESIRED POSITION OF THE CLAMP(S) AND DRILL HOLE(S) USING A 3/16" DIAMETER DRILL BIT.

FOR CLAMP LOCATIONS THAT DO NOT FALL OVER A FRAME MEMBER OF THE BODY, REFER TO NOTES 1.0 AND 2.0

FUEL LINES, BATTERY & CURBSIDE DRAIN TUBE

CHECK FOR PROPER MOUNTING OF THE UNIT FRAME

MAINTAIN 4.00 [101.6]
MINIMUM LENGTH FROM THE EDGE OF THE UNIT FRAME

8.00 MIN.
[203.2]

12.00
[304.8]

INSTALL ITEM 26, SELF-TAPPING SCREWS INTO FRAME MEMBER OF BODY. SEE NOTE 1.0

SEE SHEETS 10 & 11 FOR FUEL LINE ROUTINGS
SEE SHEET 13 FOR BATTERY CONNECTIONS
FOR CLAMP LOCATIONS THAT DO NOT FALL OVER A FRAME MEMBER OF THE BODY, REFER TO NOTES 1.0 AND 2.0

POSITIVE BATTERY CABLE & MICRO
POSITIVE WIRE
NEGATIVE BATTERY CABLE, FUEL SUPPLY, FUEL RETURN & FUEL PUMP CABLE
NOTES:
1. Self-tapping screws (item 26) must be installed into a structural frame member of the refrigeration body. If a structural member is not located underneath the outer skin, use supplied rivet (item 43).
2. If using rivets, locate the desired position of the clamp(s) and drill holes using a 3/16" diameter drill bit.
3. Secure the standby cable and cab command cable with clamps and self-tapping screws (item 26), see clamp (item 33) for the standby cable, and clamp (item 78) for the cab command cable. See sheet 6.

STANDBY PLUG & CAB COMMAND CABLE

STANDBY PLUG MOUNTING

INSTALLATION INSTRUCTION
1. FUEL PICK-UP TUBE INSTALLATION

A. DETERMINE THE DESIRED LOCATION FOR THE PICK-UP TUBES ON THE FUEL TANK. MAKE CERTAIN THAT THE LOCATION ADHERES TO THE FOLLOWING:
   - LOCATION WILL ALLOW FOR THE FUEL LINE CONNECTIONS
   - LOCATION DOES NOT INTERFERE WITH ANY OTHER CONNECTION(S), APPARATUS, INTERNAL BAFFLE, FUEL LEVEL GAUGE OR OBSTRUCTION.

B. REFER TO THE HOLES PATTERN VIEW AND LAYOUT THE HOLES IN THE LOCATION DETERMINED FROM STEP A. THEN CENTER PUNCH THE THREE HOLE CENTERS. CAUTION: TAKE PRECAUTIONS TO MINIMIZE OR ELIMINATE METAL CHIPS AND SHAVINGS FROM FALLING INTO THE FUEL TANK, SUCH AS USE OF A MAGNET AND/OR GREASE.

C. USING A 1/2" DRILL BIT, DRILL THE TWO OUTSIDE 1/2" HOLES FIRST.

D. USING A 1-1/4" HOLE SAW, DRILL THE REMAINING HOLE IN THE CENTER.

E. MEASURE THE DEPTH OF THE FUEL TANK. MODIFY THE LENGTH OF THE TUBES SO THEY ARE APPROXIMATELY 1.00" [25.4 mm] ABOVE THE BOTTOM OF THE TANK.

F. SLIDE ALL MOUNTING HARDWARE OVER THE CURVED PORTION OF THE TUBES AS FAR FORWARD AS POSSIBLE. INSERT THE TUBES INTO THE TANK OPENING, AND SLIDE THE LARGE BACK-UP WASHER SO IT FALLS THROUGH THE SLOT FORMED BY THE TWO 1/2" HOLES.

G. WITH THE BACK-UP WASHER FULLY IN THE TANK, LIFT THE TUBE ASSEMBLY UP UNTIL IT STOPS. SLIDE ALL REMAINING HARDWARE DOWN TOWARDS THE THREADED BUSHING.


CAUTION: CLEAN ALL METAL PARTICLES, GREASE, OIL, AND RESIDUE FROM THE AREA TO PROVIDE A CLEAN SEALING SURFACE. DO NOT APPLY ANY ADHESIVES OR SEALANTS.

1.00 MIN. [25.4]

FUEL TANK

BACK-UP WASHER

SEALING WASHER

WASHER

NUT

TANK VIEW

FUEL RETURN & SUPPLY TUBES IN TANK MUST NOT EXCEED 3/4" O.D. MAX. & BE NO CLOSER THAN 1.50" MIN. FROM INSIDE BOTTOM OF TANK & BE NO MORE THAN 1.50" MAX. FROM BOTTOM OF TANK.
1. Determine the desired location for the fuel pump by using the following criteria:
   - Fuel pump to be mounted vertically and as close as possible to the fuel tank.
   - Fuel pump not to be installed more than 30 inches (762 mm) above fuel lines in the fuel tank.
   - Allow clearance for removal of filter element as noted in diagram below.

2. An optional fuel pump mounting bracket is included. The bracket can be mounted vertically or horizontally as needed using loose hardware. Make certain to mount the fuel pump vertically.

3. Mount the fuel pump and make the fuel pump harness connection. Verify the wire orientations and correct if necessary.

4. Position the fuel pump harness above the fuel lines and secure the harness with items 26 & 28.

5. Route and secure the fuel lines with items 26, 28 & 29.

FUEL PUMP MOUNTING BRACKET

Fuel pump mounting options

FUEL PUMP MOUNTING BRACKET (OPTIONAL)

FUEL PUMP MOUNTING OPTIONS
STEP 1
Locate the hardware supplied with the bottom panel. Use bolts and the large nickel washers to secure the unit doors. Do not overtighten hardware.

Important
Make certain there is no chafing of electrical and fuel lines against edges or surfaces.

STEP 2
Install the bottom panel by using the clips located on the backside to secure the panel to the unit. Use bolts and the small nickel washers to secure the bottom panel. Make certain there is no chafing of electrical lines against edges or surfaces.

Bottom Panel Mounting

Top Panel (Optional) Mounting

Items are shown for reference purposes only. - (Supplied with Top Grille Kit, Optional)
INSTRUCTIONS FOR BATTERY CABLE TERMINALS & MICRO POSITIVE FUSE

1.0 Make certain the unit has no electrical power attached (AC or DC), and the unit is disabled. Apply lock out / tag out procedure.

2.0 Refer to Sheet 1 for battery and battery box information.

3.0 Cut the cables to the desired length.
   - Carefully strip each wire. Do not cut through or nick individual strands of wire.
   - Take caution there are no loose or stray wire strands when crimping wires.

4.0 Battery cables: Strip each battery cable 1/2". Install terminal and crimp.

5.0 Micro Positive (MP+) cable: Strip wire 1/4". Slip the heat shrink (Item 17) onto the wire. Install wire to butt splice of Item 19. Compress, and heat shrink Item 17 over the center of the splice.

6.0 Install the positive battery cable on the battery first with the micro positive on top. Then install the negative battery cable.

7.0 Coat terminals with grease or similar material to prevent corrosion.

BATTERY CABLE & MP+ CABLE TERMINATION

- Initial Release 27 Feb 17 MGC 71N0211P17

FILL-IN THE INFORMATION REQUIRED ON THE DECAL AND PLACE INSIDE DOOR JAM.