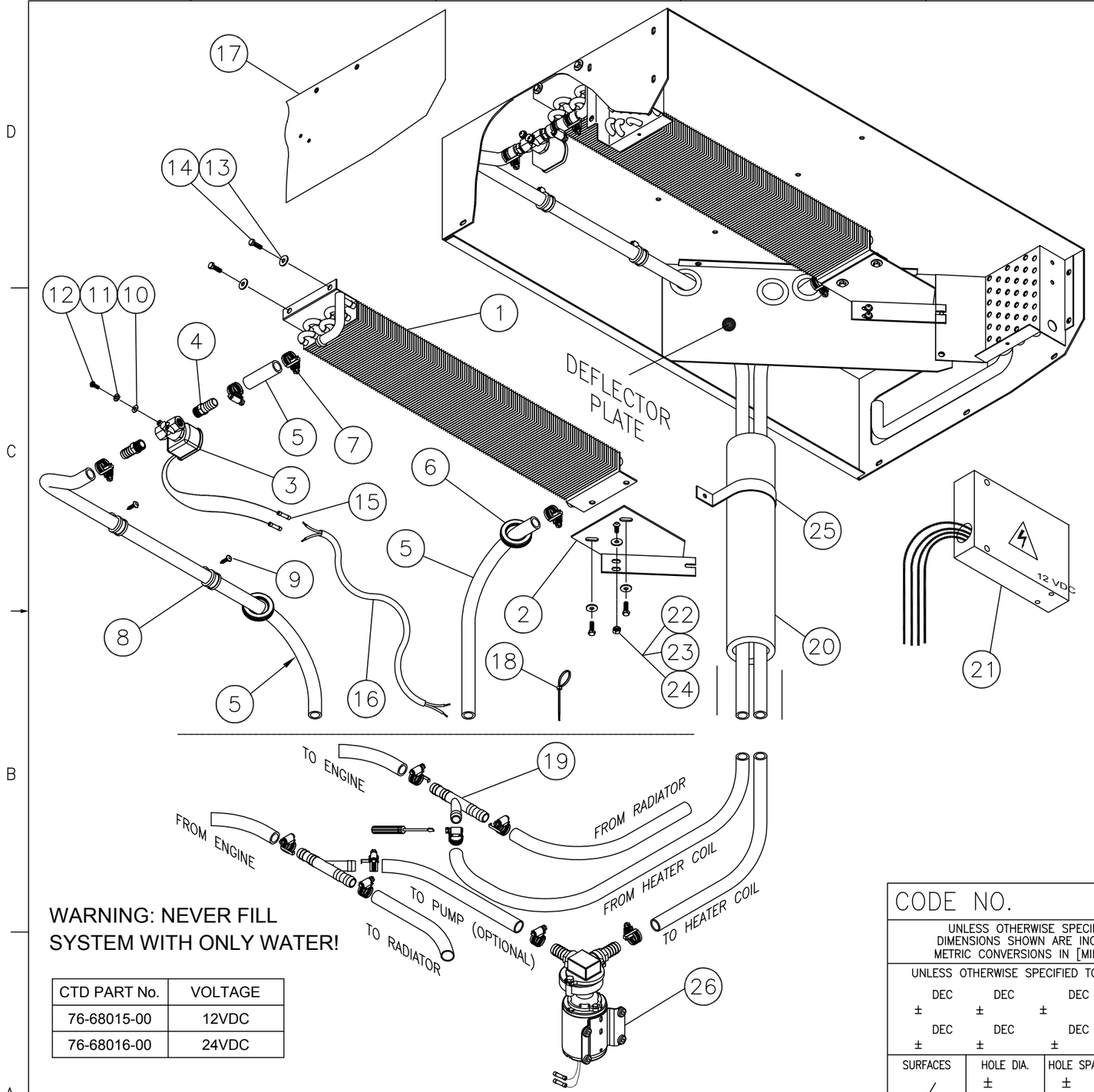

WARNING: NEVER FILL SYSTEM WITH ONLY WATER!

CTD PART No.	VOLTAGE
76-68015-00	12VDC
76-68016-00	24VDC

Water Heat Kit Installation Procedure INTEGRA 30S

1. Verify that all pieces on Heat Kit check list are in the box.
2. Turn off engine and allow to cool. Drain cooling system of all fluid.
3. Remove drain pan and fan blade from evaporator casing.
4. Loosen two bolts which hold the evaporator coil to the deflector plate.
5. Remove two small bolts which fasten the injector to the deflector plate (if injector is present).
6. Slide in the water coil bracket (ITEM 2) between the evaporator coil and deflector positioning the slot on the lower evaporator bolt. See illustration.
7. Align the water coil bracket holes with the injector holes and fasten with two bolts (ITEMS 22,23,24).
8. Cut out template drawing (ITEM 17) from sheet 3 and position it on the outside of the evaporator casing and drill four holes as described on the template.
9. Place water coil (ITEM 1) on top of water coil bracket and secure it with supplied bolts (ITEMS 13,14) using the two holes in the casing first. Fasten the water coil to the bracket using supplied bolts.
10. Cut a 2 1/2" length of water hose (ITEM 5)and push it onto the water coil header next to the casing. Unravel heater hose and cut into two equal lengths.
11. Insert the two (2) brass barbed fittings (ITEM 4) into the water solenoid valve (ITEM 3) and tighten with two wrenches.
12. Push the water valve assembly onto the short water hose. Verify the coolant flow direction. Tighten hose connection using two stainless steel hose clamps supplied (ITEM 7).
13. Fasten the water valve assembly to the casing with the two 10-24 UNC screws provided (ITEMS 10,11,12).
14. Remove the two knock outs from deflector plate. Install two diaphragm grommets Ø45mm in the resulting holes.
15. Pierce the grommets with a sharp object such as screwdriver or awl. Force the water hose through the grommet closest to the front of the truck and connect it to the water valve assembly using a stainless steel hose clamp.
16. Fasten water hose to the casing with hose clamps (ITEMS 8,9) to prevent it from rubbing on the mounting bolts or being damaged by the fan blade.
17. Force the other water hose through the last grommet and tighten the water hose to the water coil header with a stainless steel hose clamp.
18. Cut a hole Ø2 1/2" [75mm] in the truck floor aligned with the cut out of the drain pan
19. Pass the two water hoses through the neoprene insulating cover (ITEM 20) and trim off excess neoprene.
20. Run heater hoses from floor hole to engine compartment. Splice engine coolant hoses and insert nylon "Y" fitting (ITEM 19).
21. Fasten neoprene insulating cover to truck wall using saddle clips (ITEM 25).
22. Cut heater hoses to length, push onto "Y" fittings and tighten with stainless steel hose clamps.
23. Attach loose heater hose to truck chassis with cushioned hose clips (ITEM 8). Keep heater hose away from sharp edges and engine exhaust system.
24. Drill a small hole in the truck box to pass the water solenoid valve wiring (ITEM 16) from the evaporator section to the condenser section. (OMIT THIS STEP IF INSTALLING AN ELECTRIC HEATING KIT).
25. Complete electrical connections (ITEM 21), see electrical diagram on sheet 4.
26. Using nylon cable ties (ITEM 18), gather and secure all loose wiring.
27. Refill truck radiator with engine coolant. ***NEVER*** fill system with only water, this will damage the heater coil due to expanding ice inside the coil when using this unit in cooling mode.
28. Vent air from inside the heating coil by loosening the hose clamp of the heating coil and manually pressurizing the radiator. Once all of the air is purged tighten all hose clamps.
29. Turn on the engine and try the refrigeration unit in heating mode, verify that there are no coolant leaks anywhere.
30. After the system is functioning normally, proceeded to patching the holes in the floor and wall with an exterior sealant (not supplied).
31. **OPTIONAL:** splice input heater hose and install water pump (ITEM 26) using stainless steel hose clamps (ITEM 7). Fasten water pump to truck body and connect wiring to the corresponding terminals on the water heat relay.

SYM	DESCRIPTION OF CHANGE	DATE	BY	CHK'D	APP'D	AUTH NO.

CODE NO.

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

UNLESS OTHERWISE SPECIFIED TOLERANCES ON:

DEC ± DEC ± DEC ± ANG ±
DEC ± DEC ± DEC ±

SURFACES	HOLE DIA.	HOLE SPACING	HOLE LOC
√AA	±	±	±

DIMENSIONS IN (PARENTHESIS) ARE REFERENCE

APPLIED FINISH

WEIGHT _____ MFG/PURCH _____

CAD SYSTEM: AUTOCAD

THIRD ANGLE PROJECTION

MATERIAL SEE PARTS LIST

AUTH NO. 717715GN

ENGINEERING	MANUFACTURING
PACKAGING	ELEC ENGR / RELIAB ENGR

DR	I.B.	07/21/97
CHK'D	I.B.	08/11/97

UNITED TECHNOLOGIES CARRIER TRANSICOLD

TEMPCON
Subsidiary of
CARRIER CORPORATION
340 Marie Curie,
Vaudreuil, (Quebec) Canada
J7V-5V5

TITLE
INSTALLATION, HEATING
WATER COMPONENTS

SIZE	DRAWING NO.	REV
B	98-68006 SHEET 1 OF 4	—

NEXT DRAWING | SCALE NTS

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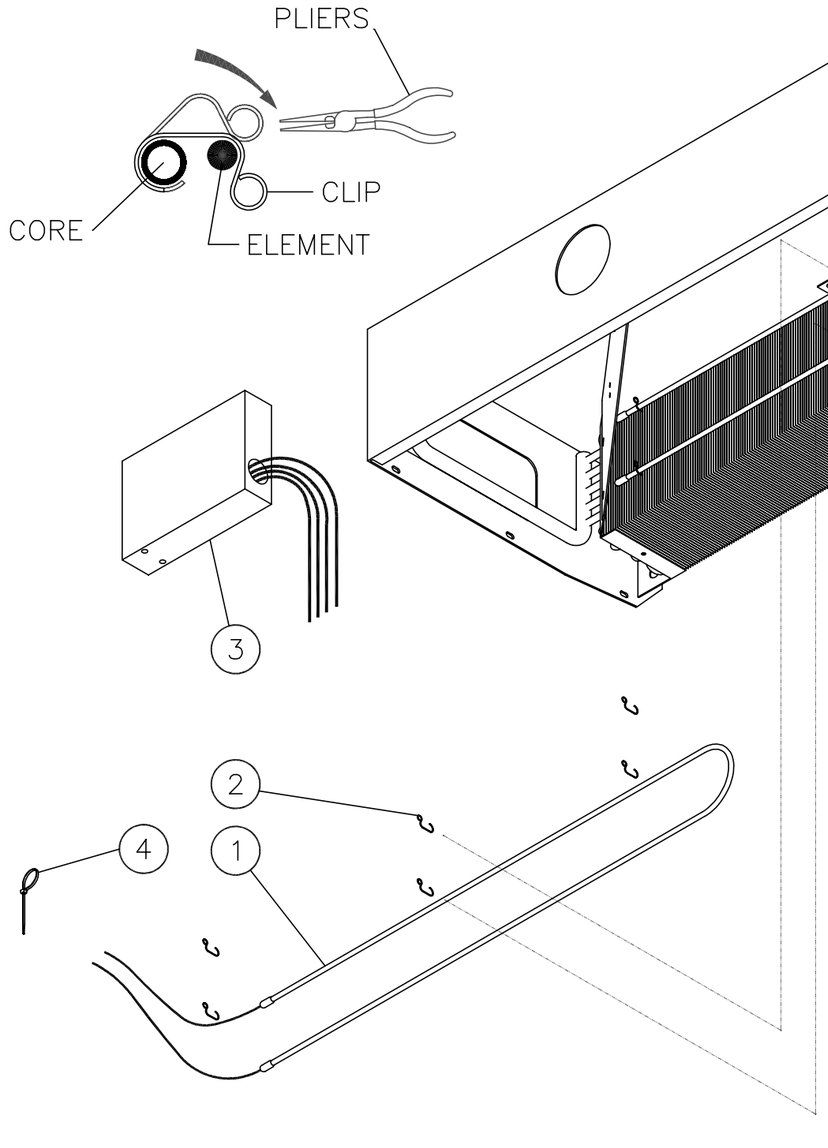

ELECTRIC HEAT INSTALLATION

1. Disconnect the unit from all power sources.
2. Remove drain pan and fan blade form evaporator section.
3. If a water heat kit is previously installed on this unit, disconnect wires leading to water solenoid valve and water pump (optional), remove all wires connecting the water heat relay to the condenser electric box. These components come with the new electric heat assembly.
4. Using protective gloves, secure the heater element (ITEM 1) to the inside of the evaporator coil using the fixation hooks (ITEM 2) as shown. Long nose pliers are recommended for an easy installation.
5. Mount the electric box (ITEM 3)on the front wall close to the evaporator.
6. Pass the heater element wires through the middle grommet of the deflector plate inside the evaporator.
7. Remove condenser cab, then pass the heating wiring harness through the truck wall.
8. Remove electrical box cover from the condenser section.
9. Finish all electrical connections using diagrams on sheet 4
   a) Remove wire MCa1 from terminal A1 on stby motor contactor.
   b) Connect wire 41 to wire MCa1.
   c) Connect wire 42 to terminal A1 on stby motor contactor.
   d) Connect wire L1 to motor contactor input terminal 1.
   e) Connect wire L2 to motor contactor input terminal 3.
   f) Connect green & yellow ground wire to the condenser frame next to electrical box behind standby compressor.
   g) Connect wires 64 & 65 to heater element.
   h) Connect wire 3 to PC12-3 on PCB.
   i) Connect wire 109 to PC12-6 on PCB.
   j) Connect wire 15 to standby terminal on PCB.
   k) Connect wire 4 to battery terminal on PCB.
   l) Connect wires 28 & GND to water solenoid.
   m) Connect wires P & GND to water pump (optional).
10. Close electric box, gather and secure all loose wiring with cable ties (ITEM 4).
11. Return condenser cab to the frame.
12. Return fan blade and drain pan to the evaporator.
13. Connect power sources and test unit in heating mode.
14. Patch any holes created during installation with an exterior sealant (not included).

CTD PART No.	VOLTAGE	WATTAGE
76-68010-00	115VAC	1000W
76-68011-00	220VAC	1000W
76-68012-00	380VAC	1000W

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√AA	±	±	±

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CAD SYSTEM: AUTOCAD

THIRD ANGLE PROJECTION

MATERIAL SEE PARTS LIST

AUTH NO. 717715GN

ENGINEERING	MANUFACTURING

PACKAGING	ELEC ENGR	RELIAB ENGR

DR	I.B.	07/21/97
CHK'D	I.B.	08/11/97

UNITED TECHNOLOGIES CARRIER TRANSICOLD

TEMPCON Subsidiary of CARRIER CORPORATION 340 Marie Curie, Vaudreuil, (Quebec) Canada J7V-5V5

TITLE

INSTALLATION, HEATING ELECTRIC COMPONENTS

SIZE	DRAWING NO.	REV
B	98-68006 SHEET 2 OF 4	—

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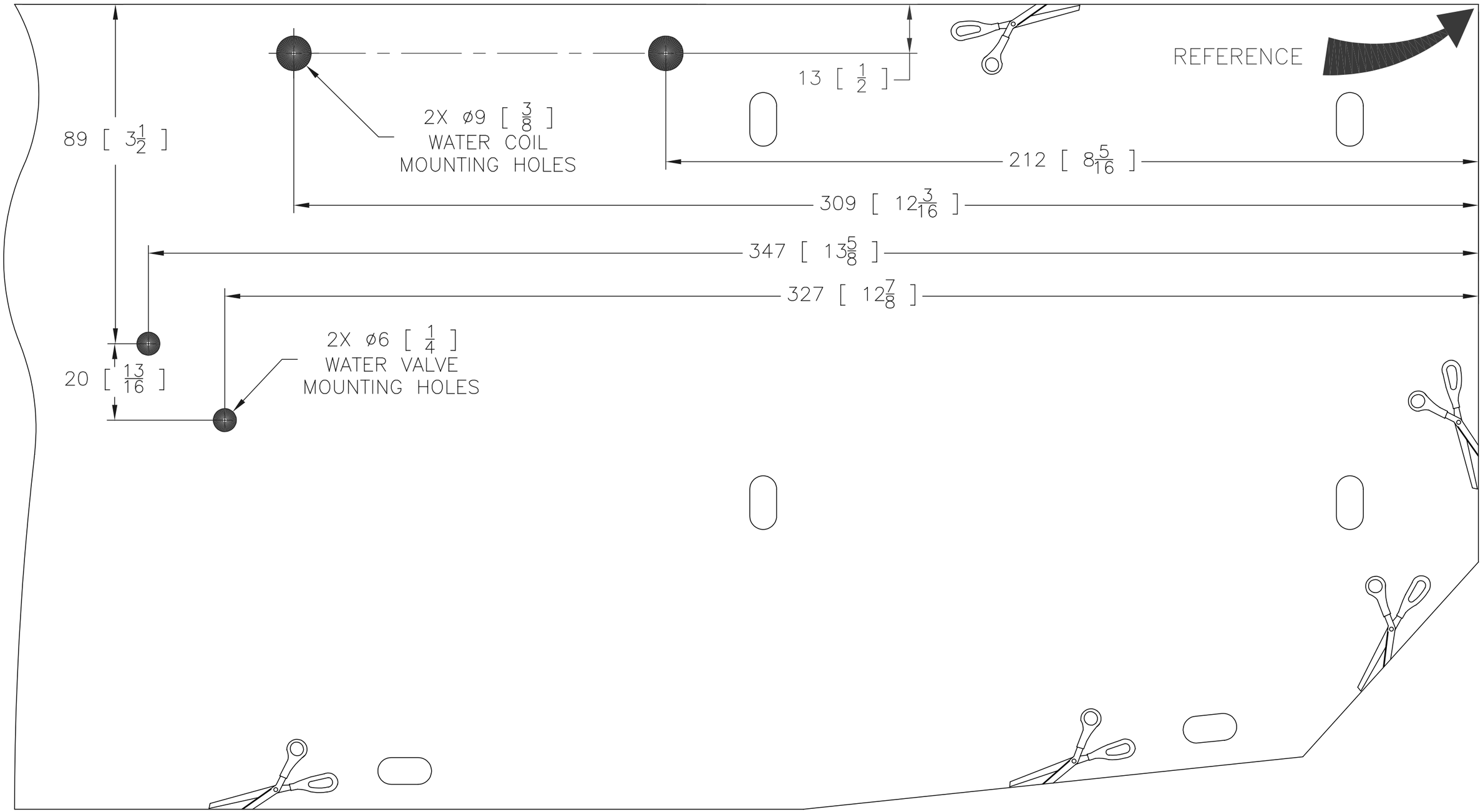
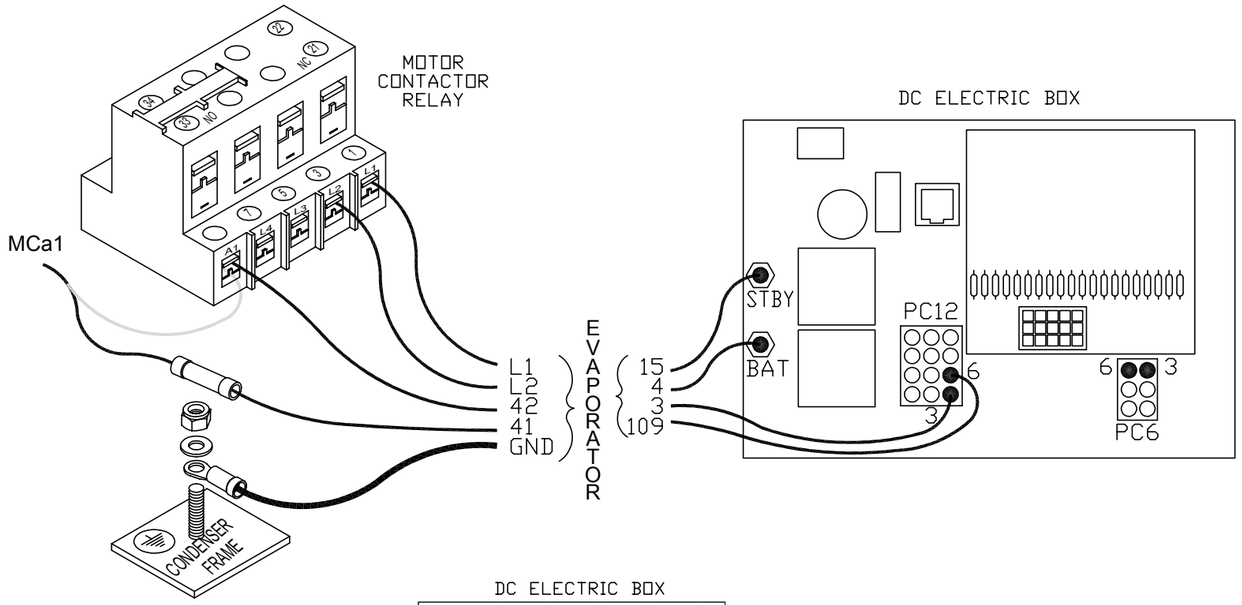


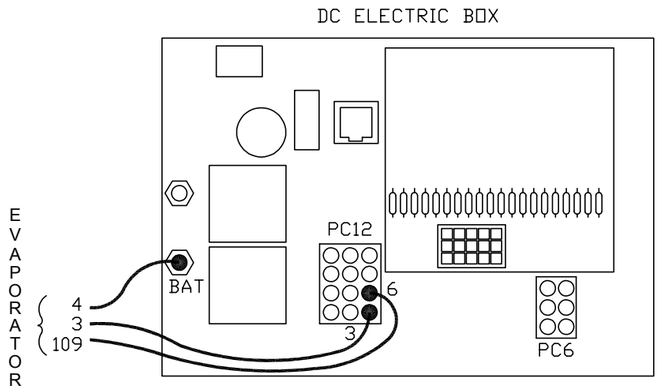
UNITED TECHNOLOGIES CARRIER TRANSICOLD	TEMPCON Subsidiary of CARRIER CORPORATION 340 Marie Curie, Vaudreuil, (Quebec) Canada J7V-5V5	TITLE: INSTALLATION, HEATING WATER HEAT TEMPLATE	
DRAWN BY: I.B.	DATE: 07/21/97	SIZE: B	DRAWING NO.: 98-68006 SHEET 3 OF 4 — REV: —
CHECKED BY	DATE	AUTH NO.: 717715GN	SCALE: FULL

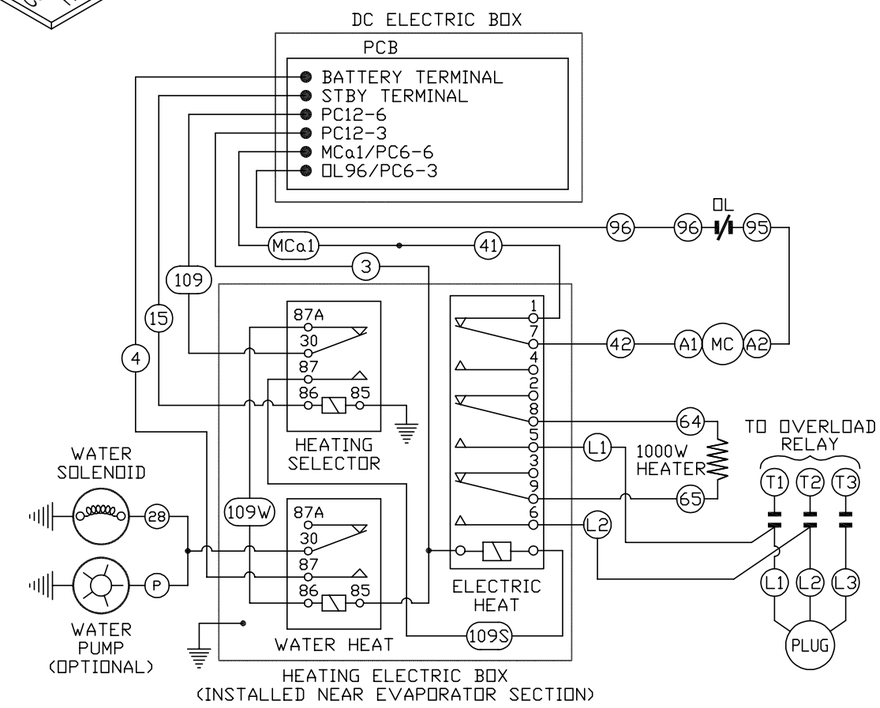
DWG. FILE NAME 98-68006

DWG NO 98-68006

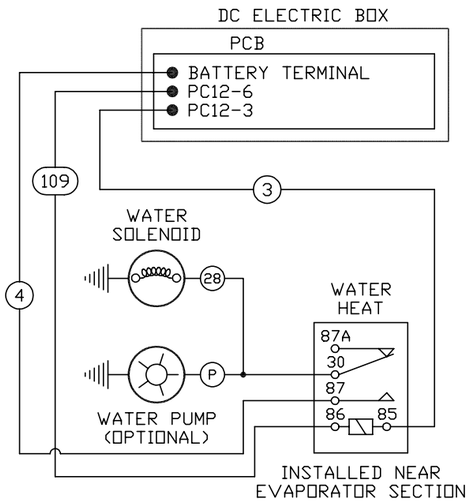
(JUL 97)







WATER & ELECTRIC HEAT



WATER HEAT ONLY

NOTE:
BEFORE INSTALLING AN ELECTRIC HEATING SYSTEM REMOVE
THE EXISTING WATER HEAT WIRING FIRST IF ALREADY PRESENT.

SYM	DESCRIPTION OF CHANGE	DATE	BY	CHK'D	APP'D	AUTH NO.

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SURFACES	HOLE DIA.	HOLE SPACING	HOLE LOC
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WEIGHT _____ MFG/PURCH _____

CAD SYSTEM: AUTOCAD

THIRD ANGLE PROJECTION

MATERIAL
SEE PARTS LIST

AUTH NO. 717715GN

ENGINEERING	MANUFACTURING
PACKAGING	ELEC ENGR	RELIAB ENGR

DR	
I.B.	07/21/97
CHK'D	
I.B.	11/08/97

UNITED TECHNOLOGIES CARRIER TRANSICOLD

TEMPCON
Subsidiary of
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J7V-5V5

TITLE
INSTALLATION, HEATING WIRING SCHEMATIC

SIZE	DRAWING NO.	REV
B	98-68006 SHEET 4 OF 4	—

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