Thermostatic mixing valve service report sheets

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PaperA short summary of this paper18 Full PDFs related to this paperDownloadPDF Pack Transcript 48TJ016-028 Single-Package Rooftop Units Electric Cooling/Gas Heating Installation, Start-Up and Service Instructions CONTENTS Page SAFETY CONSIDERATIONS ........ l INSTALLATION .......
                               . 2 • ROOF CURB • ALTERNATE UNIT SUPPORT Step 2 -- Rig and Place Unit ...... 9 Step 6 -- Trap Condensate Drain .....
                                              .. 15 • MOTORMASTER® I CONTROL INSTALLATION • MOTORMASTER V CONTROL INSTALLATION Step 13- Adjust Factory-Installed Options ..... 17 • PREMIERLINK TM CONTROL • ENTHALPY SWITCH/RECEIVER • OUTDOOR ENTHALPY CONTROL • DIFFERENTIALENTHALPY CONTROL •
.... CL-I SAFETY precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply. Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for unbrazing
operations. Have fire extinguishers available for all brazing operations on unit, turn off main power switch to unit. Electrical shock could cause personal injury. 1. Improper inst dlation, adjustment, alteration, service, or maintenance can cause property & image, personal injury, or loss of life
 Refer to the User's Information Manual provided with this unit for more details. 2. Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any electrical switch, or use any phone in your building. 3.
IMMEDIATELY call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions. 4. czfll the fire Disconnect gas piping hom unit when pressure greater than 0.5 psig. Pressures greater than 0.5 psig will cause gas valve damage resulting in haz udous condition. If gas valve is subjected to pressure greater than 0.5 psig. Pressures greater than 0.5 psig will cause gas valve damage resulting in haz udous condition. If gas valve is subjected to pressure greater than 0.5 psig.
0.5 psig, it must be replaced before use. When pressure testing field-supplied gas piping at pressures of 0.5 psig or less, a unit connected to such piping must be isolated by closing the manual gas valve(s). CONSIDERATIONS its. If limits are exceeded, the units will automatically lock the compressor out of operation. Manu_d reset will IMPORTANT:
Units have high ambient operating limbe required to restgu-tthe compressor. Installation and selwicing of air-conditioning equipment can be hazardous due to system pressure and electric d components. Only trained and qualified service personnel should install, repail or service ai-conditioning equipment.
maintenance functions of cleaning coils and filters and replacing filters. All other operations should be performed by trained service personnel. When working on ai>conditioning equipment, observe Manufacturer If you cannot reach your gas supplier, department. reserves the right to discontinue, or change at any time, specifications Catalog No. 04-
53480009-01 Printed in U,S.A, or designs Form 48TJ-22SI without notice and without incurring obligations. Pg 1 3-06 Replaces: 48TJ-21SI I ] INSTALLATION Step 2 -- Inspect unit for transportation dmnage. If & mage is found, file claim with transportation agency. Step 1 -- Provide Unit Support ROOF CURB -- Assemble and install accessory roof
curb or horizont da&tpter roof curb in accordance with instructions shipped with this accessory. See Fig. 1 and 2. Install insulation, cant strips, roofing, and counter flashing as shown. Ductwork can be installed to roof curb or horizontal adapter roof 
unit drain to function properly. Unit leveling tolerance is + 1/1( in. per linear fl in any direction. Refer to Accessory Roof Curb or Horizontal A& pter Roof Curb is used, unit may be installed on class A, B, or C roof covering
material. IMPORTANT: The gasketing of the unit to the roof curb or adapter roof curb or adapter cannot be used, install unit
on a noncombustible surface. Support unit with sleepers, using unit curb support area. If sleepers cannot be used, support long sides of unit with a minimum of 3 equally spaced 4-in. x 4-in. pads on each side. Rig and Place Unit -- Do not diop unit; keep upright. Use spreader bras over unit to prevent sling or cable & image. Rollers may be used to move
unit across a roof. Level by using unit frame as a refelence; leveling tolerance is +1/1 in. per linear fl in any direction. See Fig. 3 for additionfl information. Unit operating weight is shown in Table 1. Four lifting holes are provided in ends of unit base rails as shown in Fig. 3. Refer to rigging instructions on unit. POSITIONINGMaintain clearance, per
Fig. 4 and 5, around and above unit to provide minimum distance from combustible materials, proper airflow, and service access. Do not install unit in an indoor location. Do not locate unit air inlets near exhaust vents or other sources of contminated all: For proper unit operation, adequate combustion and ventilation air must be provided in
 accordance with Section 5.3 (Air for Combustion and Ventilation) of the National Fuel Gas Code, ANSI Z223.1 (American National Stan vater from Ix) cate mechanical diaft system flue assembly at least 4 ft from any opening through which combustion
products could enter the building, and at least 4 ft from any adjacent building. When unit is located adjacent to public walkways, flue assembly must be at least 7 ft above grade. ROOF MOUNT-bution requirements. Table 1. Check building codes for weight distriUnit operating weight is shown in histructions continued on page 9. 25% VENT AIR/
ECONOMIZER HOOD BLOCK-OFFJ PAN i I A,R OUT HORIZONTALSUPPLY/ CURB TRANSITION DUCT (CRRFCURB013A00) FULLY INSULATED SUPPLY PLENUM 14-3/4 1 1/2 # DENSITY, STICK PINNED & GLUED NOTE: CRRFCURB013A00 is a fully factory preassembled horizontal adapter and includes an insulated transition duct. The
pressure drop through the adapter curb is negligible. For horizontal return applications: The power exhaust and barometric relief dampers must be installed in the return air duct. 12" WIDE STANDING-SEAM PANELS ACCESSORY PACKAGE NO. CRRFCURB013A00 Fig. 1 -- Horizontal Supply/Return CURB HEIGHT 1'-11" (584 Adapter Installation
 DESCRIPTION Pre-Assembled, Roof Curb, Horizontal Adapter PKG. NO. REF. DESCRIPTION HEIGHT CRRFCURBOIOAOO 1"- 2" (305) Standard Curb for Units Requiring CRRFCURBO12AOO 2'- 0" (610) Side Supply and Return Curb for High Installation High Installation S'-I0 I/2" = I
PLAN VIEW NO-E5 1, ROOF CURB ACCESSORY IS SHIPPED DISASSEMBLED. 2. IN5ULATED PANEL5 1 THICK NEOPRENE COATED I-I/2 LS DENSITY 3. DIMEN510N5 iN () ARE IN MILLIMETER5, 4. I:zZ > DIRECTION OF AIR FLOW 5, ROOFCURB= IS GA (VAO3-SS) 5TL, 6. A 90 DEGREE ELBOW MUST BE INBTALLEO ON THE SUPPLY
DUCT WORK BELOW THE UNIT DIGCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS. --OUTLINEGPUN,T OF ROOF CURB NOTE iBOHPRi 5UPPL IBECT. G' (REF SUPPLY OPENING) TO PREVENT BUILD-UP IN SECTION, UNIT 5'-9" (1753) THE THE HAZARD DRAIN CAN OF PAN ONL V STAGNANT
OF THE BE i AND = CSMPRES50R 1 AS SHOWN. 1 A_)R KEEP POWER _-o-s (132) THIS AREA (GAS ENTRY CLEAR FOR CONDENSER FOR GAS (310) DUCT TO I ENSi AND FIR D ROOFTOPS) i END COMPRESSOR J B_L 3/s" DIMEN510N5 ATTACH ROOF (degPees ond ir/chetO CURB (578) UNIT LEVELING _Fro_ edge OF uniL ////_ TOLERANCES
(421) RETURN _ 5'-7 1116" (1703A SUPPLY _* q(14s7I"-6 _ , _0" _2 I/2 (CRRFCURBOI2AO0 ONLY) (64) (CRRFCURBOI2AO0 ONLY) (5'-7 1110" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t t 05) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t 15) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t 15) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t 15) _ RIGGINGHOOK UNIT BASE RAIL SEE "DETAIL A" 3'-7 112" (t 15) _ RIGGINGHOOK UNIT BASE R
A' NOTES: 1. Dimensions in () are in millimeters. 2. Refer to Fig. 4 and 5 for unit operating weights. 3. Remove boards at ends of unit and runners prior to rigging, 4. Rig by inserting hooks into unit base rails as shown. Use corner post from packaging damage, Use bumper boards for spreader bars on all units. 5. Weights do not include optional
economizer, Add 90 Ib (41 kg) for economizer weight, 6. Weights given are for aluminum evaporator and condenser coil plate fins. All panels must be in place when rigging. UNIT 48TJ DIMENSIONS MAXIMUM SHIPPING WEIGHT A B Ib kg R-in. mm 016 1775 805 6-111 2121 3-5 1041 020 1875 850 6-111 2121 3-3 024 1985 900 6-111
2121 3-2 985 028 2135 988 6-111_ 2121 3-2 985 Fig. 3 -- Rigging Details 991 to protect coil from UNIT STD UNIT WEIGHT Ib kg CORNER D DIM A DIM
B DIM C kg ft-in, mm if-in, mm if-in, mm ft-in, mm ft-in, mm 438 199 3-5 1041 1-10 559 472 214 3-3 991 3-7 1092 1-8 508 Ib NOTES: 1. Refer to print for roof curb only. 6. Minimum clearance: • Rear:
T-O" (2134) for coil removal. This dimension can be reduced to 4'-0" (1219) for conditions permit coil removal from the top. • 4'-0" (1219) for proper condenser coil airflow. • Front: 4'-0" (1219) for control box access. • Right side: 4'-0" (1219) for proper operation of
damper and power exhaust if so equipped. • Top: 6'-0" (1829) to assure proper condenser fan operation. • Bottom: 14" (356) to combustible surfaces (when not using curb). • Control box side: 3"-6" (1067) to block or concrete walls, or other grounded surfaces. • Local codes or
jurisdiction may prevail. 7. With the exception of clearance for the condenser coil and the damper/ power exhaust as stated in Note #6, a removable fence or barricade requires no clearance. 8. Dimensions are from outside of corner post. Allow 0'-s/l " (8) on each side for top cover drip edge. L 0"11 CORNER CS 3" S iT6) 0 B 3 //8" t791 3/8" OIA
CONCENTRIC K.O. (35) TOP LEFT 5/I CORNER (3031 r[LTERS ACCESSFAR S]OE SIDE 3 9 (lt43} VIEW Z-Z BAROMETRIC RELIEF/POWER (ACCESSORY ONLY) iS1) FRONT SECTION Fig. 4- Base Unit Dimensions; 48TJ016,020 A+A EXHAUST UNIT BTD UNIT WEIGHT Ib kg ECONOMIZER WEIGHT Ib kg CORNER A Ib kg CORNER B Ib kg
CORNER C Ib kg 48TJD, TJF024 1850 839 90 41 443 201 406 184 476 216 48TJ D, TJF028 2000 907 90 41 471 214 428 194 526 239 CORNER D DIM A DIM B DIM C kg ft-in, mm ft-i
are in millimeters • 3. _ TYPICAL 4 CORNERS Center of Gravity. 4. E_ Direction of airflow • 5. Ductwork to be attached to accessory roof curb only. 6. Minimum clearance: • Rear: 7'-0" (2134) for coil removal • This dimension can be reduced to 4'-0" (1219) if conditions permit coil removal from the top. • 4'-0" (1219) to combustible surfaces, all four
sides (includes between units). • Left side: 4'-0" (1219) for proper condenser fan operation of damper and power exhaust if so equipped. • Top: 6"-0" (1219) for control box access • Right side: 4'-0" (1219) for proper condenser fan operation of damper and power exhaust if so equipped. • Top: 6"-0" (1219) for proper condenser fan operation of damper and power exhaust if so equipped. • Top: 6"-0" (1219) for proper condenser fan operation of damper and power exhaust if so equipped. • Top: 6"-0" (1219) for proper condenser fan operation of damper and power exhaust if so equipped.
curb). • Control box side: 3'-0 _ "(914) to ungrounded surfaces • Local codes or jurisdiction may prevail • 7. With the exception of clearance for the condenser coil and the damper/ power exhaust as stated in Note #6, a removable fence or
barricade requires no clearance * 8. Dimensions are from outside of corner post. Allow O'-S/16" (8) on each side for top cover drip edge. 1 OIA I-_o, 11 IJ,,o 13031 L£rT 3'11 t12002 HOLĒ COHRER 6 (20Z)_ trg2 SIDE 1/4' (51 I SECTION Fig. 5 -- Base Unit Dimensions; 48TJ024,028 A-A Table 1 -- Physical Data 016D/F UNIT 48TJ 208/230, 460 v I 15
1650 90 200 NOMINAL CAPACITY (tons) OPERATING WEIGHT (Ib) Economizer Roof Curb COMPRESSOR Quantity,,,Model (Ckt 1, Ckt 2) Number of Refrigerant Circuits Oil (oz) (Ckt 1, Ckt 2) Stages of Capacity Control (%) REFRIGERANT TYPE Expansion Device Operating Charge (Ib-oz) 10-5 COIL 20 1850 90 200 25 2000 90 200 1...SM120, 1
  SM110 2 110,110 52/48 1...SM161, 1 ..SM120 2 112, 110 56/44 11-5 2...17 21.7 16-3 I 21-0 14-8 3 ..15 I 3...15 21.7 21.7 Propeller Type 10,400 9300 13,700 3...22 3...22 2...30 V2...1050 V2. 1050 I ..,1075 1100 1100 3400 Cross-Hatched 3/8-in. Copper Tubes, Aluminum Copper Plate Fins, Face Split Rows...Fins/in. Total Face Area (sq ft)
 EVAPORATOR FAN Quantity...Size (in.) Type Drive Nominal Cfm Motor Hp Motor Hp Motor Hp Motor Hp Motor Hp Motor Shaft Diameter (in.) Fan Pulley Pitch Diameter (in.) Fan Pulley Pitch Diameter Belt, Quantity...Type...Length I 17.5 2...17
Maximum Continuous Bhp Motor Frame Size Nominal Rpm High/Low Fan r/s Range (in,) (in.) Pulley Center Line Distance (in.) Speed Change per Full Turn of Movable Pulley Maximum Full Turns From Closed Position Factory Speed Setting (rpm) at Pulled/lin.t Static Low-Medium High Static Static Static Low-Medium High Static S
Medium High Static Static Low-Medium High Static Static Low-Medium
--- 18 1800 90 200 15-4 Cross-Hatched 3/8-in. Copper Tubes, Aluminum Lanced, Aluminum Pre-Coated, or Copper Plate Fins Rows...Fins/in. Total Face Area (sq ft) CONDENSER FAN Nominal Cfm Quantity,...Diameter (in.) Motor Hp...Rpm Watts Input (Total) EVAPORATOR COIL Bhp TXV 028D/F 10-13 I 15-2I 2 Fan Shaft Diameter 024D/F Scroll 1
  ...SM120, 1_.SR*782AE 2 110, 72 60/40 R-22 TXV 2_.SR*942AE 2 90, 90 50/50 c,rcu,t,* Circuit 1 uses the lower portion of evaporator coils; and Circuit 2 uses the upper portion of both coils. tRollout switch is manual reset. Ballout switch is manual reset.
1550 4.3/5,3 7& 6,4 13/16 1,...BX...,45 13.5-15.5 44 5 3.5 1296 -13/16 17.5 17.5 3...15 I 3_.15 Centrifugal Type 2...12 x 12 Belt Belt 7200 8000 5 7.5 1745 1745 8.7 [208/230,575 5.90 9.5 [460 v] 184T 213T 910-1095 1069-1287 Ball 1550 4.9/5.9 4.9/5.9 1V8 9,4 8,0 17/16 1.-BX,...50 1.-BX-.48 13.3-14.8 37 34 5 3.5 1002 1178 17/16 I 4...15 21.7
12,500 2...30 1 ...1075 3400 Lanced or I v] 17.5 4 .15 2. 12x12 Belt 10,000 10 1740 10.2 [208/230, 575 v] 11,8 [460 v] 215T 1002-1225 1193-1458 Ball 1550 4,9/5.9 4,9/5.9 4,9/5.9 4,9/5.9 4,9/5.9 4,9/5.9 18/s 8.0 6,4 17/16 2..,BX,..50 2..,BX,..50 2..,BX,..47 14.6-15,4 36 45 5 3.5 1120 1328 5
3.5 1182 1470 17/16 17/16 **The 48TJ028 units requires 2-in. industrial-grade filters capable of handling face velocities of up to 625 ft/min (such as American Air Filter no. 5700 or equivalent). NOTE: The 48TJ016-028 on the suction side. units have a low-pressure switch (standard) located Table 1 -- Physical Data (cont) UNIT 48TJ FURNACE
SECTION Rollout Switch Cutout Temp (F)t Burner Orifice Diameter (in....drill size) Natural Gas Thermostat Heat Anticipator Setting (amps) 208/230, 575 Stage 1 Stage 2 460 v Stage 2 460 v Stage 3 460
Connection Size (in.-FPT) HIGH-PRESSURE SWITCH (psig) Cutout Reset (Auto) LOW-PRESSURE SWITCH (psig) Cutout Reset (Auto) FREEZE PROTECTION THERMOSTAT Opens Closes OUTDOOR-AIR INLET SCREENS Quantity...Size (in.) 016D/F 024D/F 028D/F 190 190 190 0.1285-.30/0.136-.29 0.1285-.30/0.136-.29 0.98 0.44 0.80
0.44\ 172,000/225,000\ 230,000/300,000\ 81\ 15-45/20-50\ 3/4\ ---\ 206,000/270,000\ 81\ 15-45/20-50\ 3.3\ 1\ 3/4\ 426\ 320\ 27\ 44\ (F)\ 30-+5\ 45-+5\ Cleanable\ 2...20\ x\ 25\ x\ 1\ 1...20\ x\ 20\ x\ 1\ Throwaway**\ 4\ .20\ x\ 20\ x\ 2\ 4...16\ x\ 20\ x\ 2\ V2\ Hp,
208/230-460 LEGEND Bhp TXV 0.98 0.44 0.80 0.44 206,000/270,000 275,000/360,000 81 15-45/20-50 3.3 1 3/4 3.3 1 RETURN-AIR FILTERS Quantity.,. Size (in.) POWER EXHAUST 0.1285.-30/0.136-.29 0.98 0.44 0.80 0.44 Brake Horsepower Thermostatic Expansion Valve *Circuit 1 uses the lower portion of condenser coil and lower portion of
evaporator coils; and Circuit 2 uses the upper portion of both coils. tRollout switch is manual reset. v Motor Direct Drive, Propeller-Fan (Factory-Wired for 460 v) **The 48TJ028 units requires 2-in. industrial-grade filters capable of handling face velocities of up to 625 ft/min (such as American Air Filter no. 5700 or equivalent). NOTE: The 48TJ016-028
on the suction side. units have a low-pressure switch (standard) located Step 3 -- Field Fabricate Ductwork, joints, and roof openings with counter flashing and mastic in accordance with applicable
codes. Ducts passing through an unconditioned sulated and covered with a vapor barrie]; Step 4 -- space must be in- and roof CUlb Install Flue Hood and Wind -- Unit basepans. HEAT Baffle -- Flue hood and wind baffle is then installed
over the flue hood. NOTE: When properly installed, flue hood will line up with combustion fan housing. See Fig. 10. Step 6 -- Trap Condensate Make Unit Duct connections are shown in Fig. 6. Field-fabricated concentric ductwork may
be connected as shown in Fig. 7 and 8. Attach all ductwork to roof curb Step 5 -- Drain -- See Fig, 11 for drain location. One 3/4-in. diameter and 2-in. x 3/4-in. diameter and 2-in. x 3/4-in. diameter pipe nipple, coupled to standard 3/4-in. diameter elbows, provide a
straight path down through hole in unit base rails (see Fig. 12). A trap at least 4-in. deep must be used. I'-O1 24"MIN. SEE NOTE / BAFFLE [_AIR OUT NOTE: Dimensions A, A', and B' are obtained from field-supplied ceiling diffuser. Shaded area
MOUNTING HOLES Air Distribution Fig. 9 -- Flue Hood Location INDUCED MOTOR Step 7 -- Orifice Change -- This unit is factory assembled for heating operation using natural gas at an elevation DRAFT from sea level to 2000 ft. This unit uses orifice type LH32RFnnn, where "nnn" indicates the orifice size based on drill size diameter in thousands of
an inch. HIGH ELEVATION (Above 2000 ft) -- Use accessory high altitude kit when inst dling this unit at an elewation of 2000 to 7000 ft. For elevations above 7000 ft, refer to Table 2 to identify the correct orifices from your local Carrier
dealel: Follow instructions in accessory Installation Instructions to install the correct orifices. Table 2 -- Altitude ELEVATION (ft) COMBUSTION FAN HOUSING Fig. 10- MAIN BURNER SECTION Fan Housing Location Compensation*
NATURAL GAS ORIFICE]- Low Heat 30 30 31 31 31 32 32 33 35 High Heat 29 29 30 30 30 30 31 31 31 32 *As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes. Includes a 4% input reduction per each 1000 ft. 1-Orifices available through your Carrier
dealer. Table 3 -- Orifice Quantity UNIT 3/4" FPT DRAIN CONNECTION ORIFICE QUANTITY 48TJD016 5 48TJF024, 48TJF024, 48TJF026, 48TJF026, 48TJF026, 48TJF027, 48TJF028, 4
For elevations above 7000 ft, refer to Table 4 to identify the correct orifices from your loc fl Carrier dealel: Follow instructions in accessory Installation Instructions to inst dl the correct orifices. 1-3/8" DRAIN HOLE Fig. 11 -- Condensate
Drain Details (48TJ016 Shown) Table 4 -- LP Gas Conversion* ELEVATION (ft) 0-1,999 2,000 3,000 4,000 5,000 6,000 7,000 8,000 0,000 10,000 3/4 -IN. FPT DRAIN CONNECTION . (FIELD-SUPPLIED) NIPPLE Fig. 12- Condensate LP GAS ORIFICE]" 36 37 38
38 39 40 41 41 42 43 *As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes. Includes a 4% input reduction per each 1000 ft. 1-Orifices available through your Carrier dealer. Drain Piping Details 10 Tlansformer no. 1 is wired for 230-v unit. If 208/230-v unit is
to be run with 208-v power supply, the transformer must be rewired as follows: Step 8 -- Install Gas Piping -- Unit is equipped for use with natured gas. Installation must conform with loc d building codes or. in the absence of loc d codes, with the National Fuel Gas Code, ANSI Z223.1. 1. Remove Install field-supplied manu d gas shutoff valve with a
Ih-in. NPT pressme tap for test gage connection at unit. Field gas piping must include sediment trap and union. See Fig. 13. Do not pressure test gas supply while connected to unit. Always disconnect union before servicing. Exceeding maximum manifold pressure may cause explosion and injury. I FIELD CONTROL WIRING -- Install a Carrier-
approved accessory thermostat assembly according to installation instructions included with accessory. Ix)cate thermostat assembly on a solid interior wall in the conditioned space to sense average temperature. FT'I GAS Route thermostat assembly on a solid interior wall in the conditioned space to sense average temperature.
than no. 18 AWG cannot be directly connected at the thermostat and will require a junction box and splice at the thermostat. _ o& Recap both wires. Unit failure as a result of operation on improper line voltage or excessive phase imbalance constitutes abuse and may cause &Lmage to electrical components. MANUAL SHUTOFF UNIT 4. Operating
wire. Be certain unused wires ale capped. Failure to do so may & mage the transformers. tion must not be less than 5.5 in. wg or greater than IMPORTANT: Natural gas pressure at unit gas connec13.5 in. wg. (FIELD SUPPLIED) ___ cap fiom red (208 v) wire. 2. 3. •---- SEDIMENTTRAP Set heat anticipator settings as follows: Fig. 13 -- Field Gas Piping
Step 9 -- Make Electrical Connections wiring must comply with NEC and W1 W2 0.98 0.80 0.44 0.44 Settings may be changed slightly to provide a greater degree of comfort for a particuku installation. FIELD POWER SUPPLYUnit is factory wiled for voltage shown on nameplate. When inst_dling units, provide a disconnect per NEC (National Electrical
Association) to protect against fire and electric shock. GND ] ----- LEGEND Equipment Ground National Electrical Code Terminal Block NOTE: The maximum wire size for TB1 is 2/0. Fig. 14- Field wiring must comply with NEC and local requirements. 11 Field Power Wiring
amp disconnect switch. Refer to the applicable disconnect wMng diagram. THERMOSTAT Lu cc To prevent breakage during shipping, the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and packaged inside the unit control box. Install the disconnect handle and shaft are shipped and 
control box door and remove the handle and shaft from shipping location. 2. Ix osen the Allen bolt is located on the square hole and is used to hold the shaft into position. Close the control box dool: 6
handle must be in the OFF position to open the control box dool: z a_cc o_o_Z_, m I cc m Z Fig. 15 -- Field Control Thermostat Wiring UNIT lO0 BLK, WIRING YEL. 6T3 4T2 2T1 LOAD 3L2 1L1 LINE BLU. I AMP [ NON_:EPDOWDEIRsCONNE_T_-- I Insert the disconnect shaft into the squae hole on the disconnect switch. The end of the shaft is
specially cut and the shaft can only be inserted in the correct orientation. 4. 5. q m ASSEMBLY __ OA: ';_; T2E j FIELD POWER SUPPLY NOTE: The disconnect takes the place of TB-1 as shown on the unit wiring diagram label
Fused Disconnect Wiring Table 5 -- Electrical Data NOMINAL VOLTAGE UNIT 48TJ (3Ph, 60Hz) 208/230 016 (15 Tons) RLA LRA RLA LRA Q_ Hp FLA(ea) 190 3 0.5 1.7 5.0 15.8/15.8 460 414 508 16.2 130 10.2 90 3 0.5 0.8 3.7 4.8 575 518 632 10.2 75 10.2 75 3 0.5 0.8 3.7 4.8 575 518 632 10.2 75 10.2 75 3 0.5 0.8 3.0 3.9 187 253 33 237 23 184 3 0.5 1.7 5.0 15.8/15.8 460 414 508 16.2 130 10.2 90 3 0.5 0.8 3.7 4.8 575 518 632 10.2 75 10.2 75 3 0.5 0.8 3.0 3.9 187 253 33 237 23 184 3 0.5 1.7 5.0 15.8/15.8 460 414 508 16.2 130 10.2 90 3 0.5 0.8 3.7 4.8 575 518 632 10.2 75 10.2 75 3 0.5 0.8 3.0 3.9 187 253 33 237 23 184 3 0.5 1.7 5.0 15.8/15.8 460 414 508 16.2 130 10.2 90 3 0.5 0.8 3.7 4.8 575 518 632 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.2 75 10.
70 70 2.1 4.8 0.57 0.57 44 46 80 50 0.87 0.57 134/134 138/138 178/175 175/175 4.6 18.8 0,30 66 80 2.3 6.0 0.30 0.57 68 55 90 70 2.1 4.8 0.57 57 70 14.6 Example: Supply voltage is 460-3-60. Full Load Amps Heating, Air Conditioning and Refrigeration Indoor (Evaporator) Fan Motor Locked Rotor Amps Minimum Circuit Amps Maximum Overcurrent
 Protection National Electrical Code Outdoor (Condenser) Fan Motor Rated Load Amps A B C ( AB = 452 \text{ v} BC = 464 \text{ v} AB = 452 \text{ v} 
IFM 25.6 208/230 028 (28 Tons) Max OFM 253 208/230 024 (20 Tons) Min COMPRESSOR No. 1 No, 2 187 208/230 020 (18 Tons) VOLTAGE RANGE = 1.53% This amount of phase imbalance allowable 2%. I max voltage deviation from average voltage average voltage average voltage 13 is satisfactory as it is below the maximum 2%, contact your Iflocal utility.
company immediately.is more than IMPORTANT: the electric supply voltage phase imbalance II Step 10 -ments Make Outdoor-Air DAMPER -- All units (except those equipped with a factory-inst dled economizer) have a manual outdoor-air &tmper to provide
ventilation ail: Damper can be preset to admit up to 25% outdoor air into return-tdr compartment. To adjust, loosen secunng screws and move &tmper to desired setting, then retighten screws to secure dmnper (see Fig. 17). 25% ADJUSTABLE AIR DAMPER / F[ ER PACKAGEAN[ HOOD COMPONENTS ol /I \ ÷I o / BASE UNIT / RETURN-AIRFILTE]
ACCESS PANEL Fig. 18- g Outdoor-Air Hood Component Location PANEL SECURING SCREWS Fig. 17 -- Standard 25% Outdoor-Air IMPORTANT: If the unit is equipped with the optional EconoMiSerIV. move the outdoor air temperature sensor prior to installing the outdoor air hood.
See the Optional EconoMiSerIV and EconoMiSerIV and EconoMiSerIV is used, all electrical connections have been made and adjusted at the factoly. Assemble and install hood in the field. 3. 4. 5. 6. 7. 8. Seal Strip Location BAFFLE / NOTE
The hood top panel, upper and lower filter retainel , hood drain pan, baffle (size 024 and 028), and filter support bracket me secured opposite the condenser end of the unit. The screens, hood side panels, remaining section of tilter support bracket, seal strip, and hmdware are in a package located inside the return-air filter access panel (Fig. 18). 1.
Attach seal strip to upper filter retainer. See Fig. 19. 2. PAN Hood \ LOWER FILTER RETAINER Assemble hood top panel, side panels, upper filter retainer and support bracket to unit. See Fig. 20. Leave screws loose on size 024 and 028 units. Slide bafile (size 024 and 028) behind lower filter
retainer and tighten screws. Ix_osen sheet metal screws for top panel of base unit located above outdoor-air inlet opening, and remove screws for hood side panels located on the sides of the outdoor-air inlet opening. Match notches in hood top panel fange and unit. Tighten screws. Hold above outdoor-air inlet opening.
hood side panel flanges flat against unit, and install screws removed in Step 5. HOOD SIDE PANELS (2) BAFFLE . (024 TO 028 ONLY) LOWER FILTER RETAINER FILTER SUPPORT BRACKET Insert outdoor-air inlet screens and spacer in channel created by lower filter retainer and filter support bracket. HOOD DRAIN PAN UPPER FILTER
no. 1 while outdoor fans no. 2 and 3 are sequenced off by the Accessory 0 ° F Low Ambient Kit. Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Ix_w Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Kit -- Inst_dl the Accessory 0 ° F Din' Ambient Ki
existing motor mount with the new motor mount provided with accessory. Tran. fiwmer (460 and 575-v Units [email protected]) -- On 460 and 575-v Units [email protected]) -- On 460 and 575-v Units [email protected] -- On 460 and 575-v Units [em
left of the control box. The control should be mounted on the inside of the panel, vertically, with leads protruding from bottom of extrusion. field-installed accessories. Refer to the accessories. Refer to the accessories. Refer to the accessories installation instructions included with each accessory. MOTORMASTER® I CONTROL INSTALLATION (48TJ016,020 UNITS) Install Field-Fabricated Wind Bafflest
-- Wind baffles must be field-fabricated for all units to ensure proper cooling cycle operation at low ambient temperatures. See Fig. 21 for baffles to unit. Screws should be 1/4-in. diameter and 5/8-in. long. Drill
\ 3/4"(19)0-\P)--' = ffYP) ""-'--I " 15" (381) 1 -4i----,i SENSOR LOCATION (254) (TYP) "1" (25) MIN \$0 \cdot 0 \cdot 1 \cdot 0 \cdot 2 \cdot 1 \cdot 0 \cdot 2 \cdo
sensors are located on the eighth hairpin up from the bottom. Fig. 22 -- Motormaster 15 I Sensor Locations MOTORMASTER® V CONTROL INSTALLATION (48TJ024,028 UNITS) Install Field-Fabricated Wind Baflles -- Wind baflles must be field-fabricated for all units to ensure proper cooling cycle operation at low ambient temperatures. See Fig. 21
for baffle details. Use 20-gage, galvanized sheet metal, or similar corrosion-resistant metal for baffles. Use field-supplied screws to attach baffles to unit. Screws should be 1/4-in, diameter and 5/8-in. long. Drill required screws to attach baffles to unit. Screws should be 1/4-in, diameter and 5/8-in. long. Drill required screws to attach baffles.
electrical components, use lecommended screw sizes only. Use cme when & 'illing holes. B 13B Install Motormaster V Control stends the Motormaster V Control stends the
operating range of air-conditioning systems and permits operation at lower outdoor ambient temperatures. The minimum operate are: mnbient temperatures Unit 40 000 o at which the unit will TO MOTOR(S) TEMPERATURE Standard o TO PRESSURE TRANSDUCER OPERATING Unit with Low Ambient 25 Kit Fig. 23 -- Motormaster LIMITS -- F° 1
temperature of -20 IF. The control regulates the speed of 3-phase fan motors that gue compatible with the control. These motors me factory installed. ITEM DESCRIPTION 48TJ024,028 UNIT V control per instructions CRLOWAMB015A00 460 VOLTAGE 575 CR LOWAMB016A00 Table 7 -- Applicable See Table 6 for the Motormaster V control accessory
package usage. Table 7 shows applicable voltages and motors. Replacement of motor or fan blade IS NOT REQUIRED ON CURRENT PRODUCTION UNITS since the control is required. Inst_dl the Motormaster with accessory. I 208/230 VOLTAGE 208/230-3-60 480-3-60 575
3-60 supplied 16 CRLOWAMB017A00 Voltages and Motors COMPATIBLE MOTOR HD52AK654 HD52AK6
 opening end) in its shipping position. Remove the sensor for installation. Re-position the sensor in the flange of the supply-air opening or in the supply air duct (as required by local codes). Drill or punch a l/2-in, hole in the flange or duct. Use two field-supplied, self-drilling screws to secme the sensor probe in a horizontal orientation. PREMIERLINK
TM CONTROL -- The PrelnierLink controller is available as a special order from the facto U and is compatible with the Ctmier Comfort Network® (CCN) system. This control is designed to allow usel the access and ability to change factoly-defined settings, thus expanding the function of the standard unit control board. Carrier's diagnostic stan&ud
(occupied/unoccupied). No sensors are supplied with the field-mounted PremierLink control. The factou-installed PremierLink control includes only the supply-tfir temperature (OAT) sensor and the outdoor air temperature (OAT) sensor and the outdoor air temperature (OAT) sensor as standmd. An indoor air quality (CO2) sensor and the outdoor air temperature (OAT) sensor as temperature (OAT) sensor and the outdoor air temperature (OAT) sensor and the outdoor air temperature (OAT) sensor as temperature (OAT) sensor and the outdoor air temperature (OAT) sensor as temperature (OAT) sensor and the outdoor air temperature (OAT) sensor as temperature (OA
to Fig. 25 for PremierLink controller wiring. The PremierLink control may be mounted in the control panel or an men below the control panel. NOTE: The sensor must be mounted in the dischmge airstream downstream of the control panel.
Outdoor Air Temperature (OAT) Sensor -- When the unit is supplied and wired. Install the Indoor Air Quality (CO2) Sensor -optional indoor air quality (CO2) Sensor according turer specifications. A sepmate field-supplied transformer must be used
to power the CO2 sensor Wire the CO2 sensor Wire the CO2 sensor to the PremierLink controller version 1.3 and later is shipped in Sensor mode. If used with a thermostat
the PremierLink controller must be configured to Thermostat mode. Install the Supply Air Temperature (SAT) sensor -- When the unit is supplied and wired. The wiring is muted from the PlemierLink control over the control box,
TH:I COMP SAFETY (Y1) "J_ FIRE SHUTDOWN SUPPLY PAN STATUS (W1) "'_[1 NOT USED (W2) ""I"13 ENTHALPY H; I (Y2) _ STATUS (ENTH) i ] • I _o_ i ea /...]_ttol I._o'1 I 80%, economizer will go to minimum position for 3 minutes or until SAT > 68 IF. First stage of mechanical cooling will be energized. Integrator resets. Economizer opens
again and controls to current SASP after stage one on for 90 seconds. With YI and Y2 energized economizer will go to minimum position for 3 minutes or until SAT > 68 E If compressor one is on then second stage of mechanical cooling will be
energized. Otherwise the first stage will be energized. Integrator resets. Economizer opens again and controls to SASP after stage one on for 90 seconds. Routine • • 3 (OAT > 68) Economizer is opened 100%. Compressors 1 and 2 are cycled based on YI and Y2 using minimum on and off times and watching the supply air temperature as compared to
SATLOI and SATLO2 set points. If optiomd power exhaust is installed, as the outdoor-air &tmper opens and closes, the power exhaust fans will be energized and deenergized. If field-installed accessory CO2 sensors me connected to the PremierLink control, a PID-controlled demand ventilation strategy will begin to operate. As the CO2 level in the
zone increases above the CO2 set point, the minimum position of the & mper will be increased proportionally. As the COZ level decreases because of the increase in fresh air, the outdoor-air &tmper will be proportionally closed. HEATING, UNITS WITH ECONOMISER2, PREMIERLINK CONTROL AND A THERMOSTAT -- When the thermostat calls for
heating, terminal Wl is energized. The PremierLink control will move the economizer damper to the minimum position if there is a call for WI without G In order to prevent thermostat from short cycling, the unit is locked into the heating mode for at least 10 minutes when WI is energized. The induced-di'aft motor is
 then energized and the burner ignition sequence begins. The PremierLink control will use the following information determine if free cooling is available: Indoor fan has been on for at least 30 seconds. The SPT. SAT. and OAT inputs must be LOW (may be
 delay unless G is still maintained. Pre-cooling occurs when the is no call fi m the thermostat except G Pre-cooling is defined as the economizer modulates to provide 70 F supply air COOLING, UNITS WITH ECONOMISER2, PREMIERLINK CONTROL AND A ROOM SENSOR -- When free cooling is not available, the compressors will be controlled by
the PremierLink controller using a PID Enor reduction as indicated by Fig. 46. When free cooling is available the PremierLink control the compressors and economizer to provide a supplyair temperature to provide a supply and the supply and the supply as a supply 
based on OAT. The PremierLink controller will use the following information to determine if free cooling is available: • Indoor fan has been on for at least 30 seconds. • The SPT. SAT. and OAT inputs must be less than SPT. • Enthalpy must be LOW (may be jumpered if and enthalpy sensor
is not available). • Economizer position is NOT forced. The 3 routines ;ue based on OAT where: SASP = Supply Air Set Point PID = Proportional Integral Routine 1 (OAT < DXCTLO) YI energized (SATLOI + 3). Y2 energized (SATLO2 + 3). • • • • If free cooling can be used as determined from the appropriate changeover
command (switch, diy bulb, enthalpy curve, differential dry bulb, or differential dry bulb, or differential enthalpy), a call for cooling (YI closes at the thermostat) will cause the control to modulate the &tmpeLs open to maintain the supply air temperature set point at 50 to 55 E As the supply-air temperature diops below the set point range of 50 to 55 E the control will
minimum position. When the indoor fan is off. the economizer dmnper is fully closed. COOLING. UNITS WITH ECONOMISER2, PREMIERLINK TM CONTROL AND A THERMOSTAT -- When free cooling is not available, the compressoLs will be controlled by the PremierLink control in response to the YI and Y2 inputs from the thermostat. = Dilect
 Expansion • • Damper movement from full closed to liftly open (or vice veLsa) will take between 11/2 and 21/: minutes. DXCTLO Routine 2 (DXCTLO • economizer maintains a SASP = when free cooling is available, the outdoor-air damper is positioned through the use of a Proportional Integral (PID) control process to
when HSI is deenergized. When HSI is energized and the burner ignition sequence begins. On units equipped for two stages of heat, when additional heat is needed, HS2 is energized and the high-fire solenoid on the main gas valve (MGV) is energized. When the space condition is satisfied and HSI is
deenergized the IFM stops after a 45-second time-off delay unless in the occupied mode. The fan will run continuously in the occupied mode as lequired by nafiomd energy and fiesh air standards. The high space set point is used for DX (direct expansion) cooling control, while the economizer space set point is a c:dculated value between the heating
and cooling set points. The economizer set point will always be at least one degree below the cooling set point is achieved. The compressors may be used for initial cooling set point will modulate cooling set point is achieved. The compressors may be used for initial cooling set point will modulate cooling set point is achieved. The compressors may be used for initial cooling set point is achieved. The compressors may be used for initial cooling set point is achieved.
 the economizer using an enor reduction calculation to hold the space temperature between the heating and cooling set points. See Fig. 47. conditions If the PremierLink controller detemfines that heat stages are required, the economizer dalnper will be moved to minimum position if occupied and closed if unoccupied. Staging should be as follows:
When outdoor-air temperature conditions require the economizer to close for a compressor stage-up sequence, the economizer to reset to zero after the stage-up sequence is completed. This prevents the supply-tOT temperature from & opining too quickly and creating a freeze condition that would make the compressor turn off
prematurely. The controller uses the following economizer cooling: If all of the above conditions m'e met, the number of heat stages is c_dculated; otherwise the required number of heat stages is c_dculated; otherwise the required number of heat stages will be set to 0. TEMPERATURE CONTROL to determine w Enthalpyis Low SAT reading is available OAT reading is available OAT reading is available OAT.
recalculated every 30 seconds. 68J TIME NOTE: PremierLink control performs smart staging of 2 stages of DX cooling and up to 3 stages of heat. If an optional power exhaust is inst:dled, as the outdoor-air dmnper opens and closes, the power exhaust fans will be energized and deenergized. Fig. 46 -- DX Cooling Temperature Control Example If field-
 installed accessory CO2 sensors are connected to the PlemierLink control, a PID-controlled demand ventilation strategy will begin to operate. As the CO2 level in the zone increases above the CO2 set point, the minimum position of the dmnper will be increased proportionally. As the CO2 level decreases because of the increase in fresh all: the
                                               portionally closed. HEATING. UNIT WITH ECONOMI$ER2, PREMIERLINK CONTROL AND A ROOM SENSOR -- Every 40 seconds the controller will calculate the required heat stages (maximum of 3) to maintain supply air temperature (SAT) if the following qualifying conditions are met: • Indoor fan has been on for
least 30 seconds. • COOL mode is not active. • OCCUPIED, TEMRCOMPENSATED START or HEAT mode is active. • SAT reading is available. • Fire shutdown mode is not active. TEMPERATURE W QZ QZ W Q_ W W 75 73 741_ " 72 ........ 71 t _ 704 ....... 69 09 CONTROL 68 J /j _ .....
                        . TEMPERATURE -- - HEAT TIME Fig. 47 -- Economizer Temperature Control Example 38 SETPOINT SERVICE aluminum, pro-coated, copper/copper or E-coated coils be cleaned with the Totaline environmentally sound coil cleaner as described below. Coil cleaning should be part of the unit's regulatly scheduled maintenance
procedures to ensure long life of the coil. Failure to clean the coils may result in reduced durability in the environment. Avoid the use of: • Coil brighteners • Acid cleaning prior to painting • High pressure washers • Poor quality water for cleaning before performing service or maintenance operations on unit, turn off main power switch to unit and
install lockout tag on disconnect switch. Electrical shock could cause personal injury. Cleaning- Inspect unit interior at beginning of each heating and cooling season and as operating conditions require (see Fig. 48). Remove unit top panel and/or side panels for access to unit interior Totaline environmentally sound coil cleaner is non-flammable,
hypoallergenic, nonbacterial, and a USDA accepted biodegradable agent that will not harm the coil or surrounding components such as electrical wiring, painted metal surfaces, or insulation. Use of non-recommended coil cleaners is strongly discouraged since coil and unit durability could be affected. COIL MAINTENANCE AND CLEANING
RECOMMENDATION -- Routine cleaning of coil surfaces is essential to maintain proper operation of the unit. Elimination of the unit. The following maintenance and cleaning procedures are recommended as part of the routine maintenance
activities to extend the life of the coil. INDUCED DRAFT MOTOR INTEGRATED GAS UNIT CONTROLLER (HIDDEN) VIEW PORT Totaline Environmentally Sound Equipment • 21/2 gallon garden sprayer • Water rinse with low velocity Coil Cleaner Al)l)lRz_tion spray nozzle CONTROL BOX ACCESS PANEL Harsh chemicals, household bleach or acid
or basic cleaners should not be used to clean outdoor or indoor coils of any kind. These cleaners can be very difficult to rinse out of the coil and can accelerate corrosion at the fin/tube interface where dissimilar materials are in contact. If there is dirt below the surface of the coil, use the Totaline environmentally sound coil cleaner as described above.
ilGC FAULT High velocity water fi'om a pressure washeL garden hose, or compressed air should never be used to clean a coil. The force of the water or air jet will bend the fin edges and increase airside pressure drop. Reduced unit performance or nuisance unit shutdown may occm: \ COMBUSTION FAN HOUSING MAIN BURNER SECTION FLUE
BOX COVER Totaline Environmentally Instructions MAIN GAS VALVE Sound Coil Cleaner Al)l)fi{zaion 1. Proper eye protection such as safety glasses is recommended during mixing and application. 2. Remove all surface Loaded
Fibers -- Surface loaded fibers or dirt should be removed with a vacuum cleaner is not available, a soft non-metallic bristle brush may be used. In either case, the tool should be removed with a vacuum cleaner is not available, a soft non-metallic bristle brush may be used. In either case, the tool should be removed with a vacuum cleaner is not available, a soft non-metallic bristle brush may be used. In either case, the tool should be removed with a vacuum cleaner is not available, a soft non-metallic bristle brush may be used. In either case, the tool should be removed with a vacuum cleaner is not available, a soft non-metallic bristle brush may be used. In either case, the tool should be removed with a vacuum cleaner is not available, a soft non-metallic bristle brush may be used. In either case, the tool should be removed with a vacuum cleaner is not available, a soft non-metallic bristle brush may be used. In either case, the tool should be removed with a vacuum cleaner is not available, a soft non-metallic bristle brush may be used.
the tool is applied across the fins. NOTE: Use of a water stream, such as a garden hose, against a surface loaded fibeL'smust be completely removed prior to using low velocity clean water nnse. 3. Thoroughly wet finned surfaces with clean
water and a low velocity garden hose, being careful not to bend fins. 4. Mix Totaline environmentally sound coil cleaner in a 2V2 gallon gmden sprayer according to the instructions included with the cleanel: The optimum solution temperature is 100E NOTE: Do NOT USE water in excess of 130 F. as the enzymatic activity will be destroyed. 5.
Thoroughly apply Totaline environmentally sound coil clean water rinse is veU beneficial for coils that am applied in coastal or industrial environments. HoweveL it is very important that the water rinse is made with veq low
velocity water stream to avoid damaging the fin edges. Monthly cleaning as described below is recommended. 6. Hold garden sprayer nozzle close to finned areas and apply cleaner with a vertical, up-and-down motion. Avoid spraying in horizontal pattern to minimize potential for fin damage. 7. Ensure cleaner thoroughly penetrates deep into finned
gueas. 8. Interior and exterior finned meas must be thoroughly cleaned round coil cleaner is essential to extend the life of coils. This cleaner is available from Cmrier Replacement parts division as part number P902-0301 for a one gallon containel; and pmt number
1X)02-0305 for a 5 gallon containel: It is recommended that all coils, including stan&trd 9. Finned surfaces should remain wet with cleaning solution for 10 minutes at a feetength of the standard of the sta
ch_uged with the correct amount of oil at the factory. Conventional white oil (Sontext 200LT) is used. White oil is compatible with 3GS oil, and 3GS oil may be used if the addition of oil at the factory. Conventional white oil (Sontext 200LT) is used. When a compressor is
exchanged in the field it is possible that a major portion of the oil from the replaced compressor may still be in the system. While this will not affect the reliability of the replaced compressor may still be in the system. While this will not affect the reliability of the replaced compressor may still be in the system. While this will not affect the reliability of the replaced compressor may still be in the system.
the inlet of the compressor: The compressor should then be mn for 10 minutes, shut down, and the access valve opened until no oil flows. This should be repeated twice to make sure the proper oil level has been achieved. 11. Thoroughly rinse dl surfaces with low velocity clean water using downward rinsing motion of water spray nozzle. Protect tins
from & mage from the spray nozzle. CONDENSATE DRAINCheck and clean each year at sttut of cooling season. In wintel, keep &ains and traps dry. During periods of low outdoor temperatures, add anti-freeze solution to the drain to prevent freeze up. Follow_dl precautions on anti-freeze labeling. FILTERS -- Clean or replace at start of each heating
and cooling season, or more often if operating conditions require, Refer to Table 1 for type and size, OUTDOOR-AIR INLET SCREENS -- Clean screens with steam or hot water and a mild detergent. Do not use throwaway filteL's in place of screens, See Table 1 for guantity and size, FAN SHAFT BEARINGS -- For size 0.16 units, bearings are
permanently lubricated. No field lubrication is required. For size 020-028 units, lubricate bearing grease. Extended grease line is provided for far side fan bearing (opposite drive side). Typical lubricates bearing grease. Extended grease line is provided for far side fan bearing (opposite drive side).
or blockage due to corrosion or other causes. Observe the main burner flames. Refer to Main BurneLs section on 43. FLUE GAS PASSAGEWAYS -- The flue collector box and heat exchanger cells may be inspected by removing heat exchanger access panel (see Fig. 4 and 5), flue box cover, and main burner assembly. Refer to Main Burners section on
page 43 for burner removal sequence. If cleaning is required, remove heat exchanger baffles and clean tubes with a wire brush. MANUFACTURER LUBRICANT Texaco Mobil Sunoco Texaco *Preferred Use caution with ceramic heat exchanger baffles. When inst dling retaining clip, be sure the center leg of the clip extends inward toward baffle. See
Fig. 49. Regal AFB-2* Mobilplex EP No. 1 Prestige 42 Multifak 2 lubricant because it contains rust and evaporator (Fig. 50-52) -
shown in Table 1. Fan Performance Adjustment Fan motor pulleys are factory set for speed To change fan speeds: 1. Shut off unit power supply. CLIP_ 2. / HEAT EXCHANGER TUBES NOTE: One baffle and clip will be in each upper tube of the heat exchanger. Fig. 49 -- Removing Heat Exchanger Ceramic Baffles and Clips COMBUSTION-AIR
BLOWER -- Clean periodically to assure proper airflow and heating season, inspect blower wheel bi-monthly to determine proper cleaning frequency. a. Size 016 Only: Loosen belt by loosening carriage nuts holding motor mount assembly to fan
scroll side plates (A and B). b. Size 020-028 Only: Loosen nuts on the 2 carriage bolts in the motor mounting base. Install jacking bolt and plate under motor to top of slide and remove belt. Secure motor in this position by tightening the nuts on the carriage bolts.
3. Loosen movable-pulley 4. Screw movable flange to increase speed and away from fixed flange to decrease speed and away flange from fixed flange to decrease speed and away flange flan
access panel. Shine a flashlight into opening to inspect wheel assembly will slide up and out of the fan housing. Remove the blower wheel from the motor shaft and clean with a detergent
or solvent. Replace motor and wheel assembly. 5. Set movable flange at netuest keyway of pulley hub and tighten setscrew. (See Table 1 for speed change for each full turn of pulleys: 1. Loosen fan pulley setscrews. 40 2. Slide fan
pulley dong fan shaft. 3. Make angular alignment mounting plate. by loosening motor from Evaporator 48TJ016 UNITS Fan Service and Replacement (See Fig. 51) MOTOR PULLEY j, NOTE: To lemove belts only. follow Steps 1-6. 1. Remove filter and supply-air section panels. 2. Remove unit top panel. 3. Loosen carriage nuts A and B holding motor
mount assembly to fan scroll side plates. 4. Loosen screw C. 5. Rotate motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly to fan scroll side plates. 4. Loosen screw C. 5. Rotate motor mount assembly back past original position toward evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor up through top of unit. assembly back past original position toward evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil. 8. Remove motor mount assembly (with motor attached) as far as possible away from evaporator coil.
10. Reverse above procedure to leinstall motol: 11. Check and adjust belt tension as necessary. UNIT TOP PANEL D A MOTOR FAN PULLEY 48TJ020-028 UNITS (See Fig. 52) -- The 48TJ020-028 units use a fan motor mounting system that features a slide-out motor mounting plate. To replace or service the motor, slide out the bracket. 1. Remove the
evaporator-fan access panel and the heating control access panel. 2. Remove the center post (located between the evaporator fan and heating control access panels) and all screws securing it. 3. Loosen nuts on the 2 carriage bolts in the motor mounting base. 4. 5. 6. 7. 8. FAN SCROLL SIDE PLATES Using jacking bolt under motor base, raise motor
to top of slide and remove belt. Secure motor in this position by tightening the nuts on the cturiage bolts. Remove the belt drive. DRAIN CONNECTION Fig. 51 -- 48TJ016 Evaporator-Fan Motor Adjustment Remove jacking bolt and tapped jacking bolt an
Remove the 3 screws from the end of the motor support channel that interfere with the motor slide path. FAN PULLEY SECOND BELT ON 10 HP MOTOR ONLY BELT, STRAIGHTEDGE PARALLEL WITH BELT PULLEY MUST MOTOR PULLEY SLIDING MOTOR PLATE ENSURE PROPER CLEARANCE BETWEEN BELT(_AND FAN .SUPPORT NOTCH
MOTOR PLATE MOVABLE FLANGES PULLEY \ MOTOR AND FAN SHAFTS MUST BE PARALLEL \ -JACKING MOTOR SUPPORT CHANNEL JACKING BOLT NOTE: A 31/2-in. bolt and threaded plate are included in the installer's packet. They should be added to the motor support channel below the motor mounting plate to aid in raising the motor.
The plate part number is 50DP503842. The adjustment bolt is 3/8-16 x 13/4 in. LG. FIXED FLANGE SINGLE-GROOVE Fig. 52 -- 48TJ020-028 Evaporator-Fan Motor Section Fig. 50 -- Evaporator-Fan Motor Fig. 
mounting bolts. 11. Remove the motol: 12. To inst;dl the new motor, revel.se Steps 1-11. Belt Tension Adjustment -- GTAC II; Module 5; Charging, Recovery. Recycling, and Reclamation section for chguging methods and procedures. Unit panels must be in place when unit is operating during chguging procedure. NOTE: Do not use recycled
contaminants. To adjust belt tension: 3. 4. Move motor mounting plate up or down for proper belt tension (1/2 in. deflection with one finger). Size 020-028 Units: Adjustment 48TJ01 (7,020 UNITS (Fig. 53) 1. Shut off unit power supply. 2. Remove access panel(s) closest to the fan to be adjusted. 3. Ix)osen fan hub setscrews. 4. Adjust fan height on
shaft using a strtdghtedge across the fan orifice. 5. 6. Tighten setscrews and replace panel(s). Turn on unit powec 48TJ024,028 UNITS placed NOTE: Indoor-air cfm must be within normal operating of unit. All outdoor fans must be operating. 5. MOISTUREMISER TM SYSTEM CHARGING -- The system charge for units with the MoistureMiSer option
is greater than that of the standard unit done. The chtuge for units with this option is indicated on the unit nameplate & awing. To chm:ge systems using the MoistureMiSer dehumidification package, fully evacuate, recover, and re-chtuge the system to the nameplate specified charge level. To check or adjust refrigerant charge on systems using the
Moisture MiSer dehumidification package, charge per the standard subcooler MUST be deenergized to use the chalqing chmts. The charts reference a liquid pressure (psig) and temperature at a point between the condenser coil and the subcooler coil. A tap is provided on the unit to measure liquid pressure entering the
subcooler (leaving the condenser). Tighten setscrews and replace rubber hubcap to prevent hub from rusting to motor shaft. Fill hub recess with permagum if robber hubcap is missing. Power failure -- Dampers have a spring return. In event of power failure, dampers will return to fully closed position until power is restored. Do not [email protected]
ol)eraw economizer mo ol Refrigerant Charge listed on unit nameplate -- Amount of refligerant charge is and in Table 1. Refer to Carrier f range The TXV (thermostatic expansion valve) is set to maintain between 15 and 20 degrees of supefl]eat at the compressors. The valves are factory set and should not require re-adjustment. (Fig. 54) 1. Shut off
unit power supply. 2. Remove fan top-grille assembly and loosen fan hub screws. 3. Adjust fan heigN on unit, using a straightedge placed across the Nn orifice. 4. contain LOW CHARGE COOLING -- Using cooling charging chart (see Fig. 55), add or remove refrigerant until conditions of the chart are met. Note that charging chart (see Fig. 55), add or remove refrigerant until conditions of the chart are met. Note that charging chart (see Fig. 55), add or remove refrigerant until conditions of the chart are met. Note that charging charging chart (see Fig. 55), add or remove refrigerant until conditions of the chart are met. Note that charging chargi
those nominally used. An accurate pressure gage and temperaturesensing device is required. Charging is accomplished by ensuring the proper amount of liquid line pressure gage. Connect temperature sensing device to the liquid line ne; uthe liquid line service valve and
insulate it so that outdoor ambient temperature and pressure reading. TO USE THE COOLING CHARGING CHART -- Use the above temperature and pressure readings, and find the intersection point on chart is above line, add refrigerant. If intel.section point on chart is above line, and find the intersection point on chart is above line, and find the intersection point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant. If intel.section point on chart is above line, and refrigerant.
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recover some of the charge. Recheck suction pressure as charge is adjusted. Turn motor jacking bolt to move motor mounting plate up or down for propel belt tension (3/8 in. deflection at midspan with one finger [9 lb force]). Tighten nuts. Adjust bolts and nut on mounting plate to secure motor in fixed position. Condenser-Fan as it may NO CHARGE

-- Use standard evacuating techniques. After ewtcuating system, weigh in the specified amount of refrigerant (refer to Table 1). 1. Loosen fan motor bolts. 2. a Size 016 Units: b. refrigerant BOTH CIRCUITS ALL OUTDOOR FANS MUST BE OPERATING = N 140, 12°1 I I 'Abd HAR'G'E'I AB'Ot/& CORV'E Illll Fan Adjustment, Illlll 48TJ016,020 LU 60 III I III I IJZI"I4Eb6&& &.'ARGE, FBELow CURVE IIIIIIIL/III III 11 III RAIN SHIELD 50 100 150 200 LIQUID PRESSURE Fig. 53 -- Condenser IllIIIII Adjustment, 48TJ024,028 42 Cooling 250 300 350 AT LIQUID VALVE (PSIG) Charging Chart 400 Protective Gas Valve Adjustment NATURAL GASThe gas valve ()pens and closes sponse to the thermostat or limit control. When power is supplied to valve terminals m;dn v_dve opens to its preset position. The regular (3.3 in. wg). factory setting To adjust regulator: 1. Set thermostat 2. 3. 4. 5. 6. 7. 8. is stamped COMPRESSOR in re- on the v; dve body at setting for no call for heat. Turn main gas valve to OFF position. Remove l/s-in, pipe plug from manifold or gas v; dve pressure tap connection. Install a suitable pressure tap connection. Set then manifold or gas v; dve pressure tap connection. Install a suitable pressure tap connection. Set the pressure tap connection are tap connection. Set the notation of the call for heat. Crankcase Heater -- Only the 48TJ028 unit and units with optional MoistureMiSer TM dehumidification system are equipped with a 70-watt crankcase heater to prevent absorption of liquid refrigerant by oil in the crankcase heater to prevent absorption of liquid refrigerant by oil in the crankcase when the compressor is idle. is not energized. Remove screw cap covering regulator adjustment sclew (see Fig. 56). Turn adjustment screw clockwise to increase pressure or counterclockwise to increase pressure or counterclockwise to increase pressure or counterclockwise to increase pressure. Once desired pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established, set thermostat setting for no call for heat, turn off main gas valve, remove pressure is established. plug and screw cap. I Fig. 56 -- Gas Valve burners are 1. Shut off (field-supplied) manual main gas v; dve. 2. Shut off power to unit. 3. Remove unit control box access panel, burner section access panel, and center post (see Fig. 4 and 5). 4. Disconnect gas piping from gas valve inlet. 5. Remove wires from gas valve. 6. Remove wires from rollout switch. 7. 8. 9. Remove sensor wire and ignitor cable from [GC board. Remove 2 screws securing manifold bracket to basepan. Remove 2 screws that hold the burner assembly out of unit. CLEANING AND ADJUSTMENT 1. Remove burner Burner Removal 2. 3. rack from unit as described section above. Relief Devices -- All units have relief devices to protect against damage from excessive pressures (i.e., fire). These devices protect the high and low side. Control Circuit, 24-7--This control Circuit is protected against overcurrent by a 3.2 amp circuit breaker. If it trips, determine cause of trouble before resetting. See Fig. 58 and 59 for typical wiring diagram and component; urangement. in Main Inspect burners, and if dirty, remove burners from rack. Using a soft brush, clean burner on rack. 6. Reinstall burner rock as described Filter Drier- Replace exposed to atmosphere. whenever energize the crankcase heaters for 24 houLs before stmtIMPORTANT: After a prolonged shutdown or servicing, ing the compressors, the cooling lockout (CLO) will lock the compressors off. To reset, manually move the thermostat setting, EVAPORATOR-FAN MOTOR PROTECTION -- A manual reset, calibrated trip, magnetic circuit bleaker protects against overcurrent. Do not bypass connections or increase the size of the breaker to correct trouble. Determine the cause and correct it before resetting the breakel: CONDENSER-FAN MOTOR PROTECTION -- Each condenser-fan motor is internally protected against overtemperature. HIGH-PRESSURE AND LOW-PRESSURE SWITCHES -If either switch trips, or if the compressor overtemperature switch activates, that refrigerant circuit will be automatically locked out by the CLO. To reset, manually move the thermostat setting. FREEZE PROTECTION THERMOSTAT (FPT) -- An FPT is located on the top and bottom of the evaporator coil. They detect frost build-up and turn off the compressor lockout. REGULATOR ..----"ADJUSTMENT SCREW (REMOVE COVER) -- For all applications, main factory set and should require no adjustment. MAIN BURNER REMOVAL Replacement Parts parts may request. be obtained Diagnostic above. refrigerant system PROTECTION Phase Protection -- On 48TJ016 and 020 units, the phase monitor relay (PMR) will monitor the sequence of the 3-phase electric d system to provide phase reversal protection. The PMR will also monitor the 3-phase device. Overcurrent -- Each compressor has internal line break motor protection, except the circuit no. 1 on the 48TJ028 units. Compressor no. 1 on the 48TJ028 units. uses an electronic module, located with the compressor junction box, to provide motor protection. This electronic module interrupts the control line and causes the compressor to switch off. DI and C2, the Main Burners Devices IGC Control has LEDs for diagnostic section on page 48. is 43 -- A complete list of replacement from any Carrier distributor upon LEDs-- purposes. The IGC bom'd Refer to Troubleshooting I Optional Hinged Access Doors -- When the optional service package is ordered or the if the hinged access doors option is ordered, the unit will be provided with external and internal hinged access dool to facilitate service. Two internal access door is shipped with 2 sheet metal screws door (on the left) is secured by 2 small 1/4 turn latches with folding bail-type handles. This door must be opened prior to opening the drive access dool: The &ive access door is shipped with 2 sheet metal screws holding the door closed. Upon initial opening of the dooL these screws may be removed and discarded. The door is then held shut by the filter access door, which closes over it. Four external hinged access doors have one latch.) A single door is provided for filter and drive access. One door is provided for control box access door is interlocked with the non-fused disconnect which must be in the OFF position to open the dool: Two doors are provided for access to the compressor compartment. SEE "C" I I, @ • @ @ @ @ I I 48TJD016 I, @ I I o(o Io I @ @ I @ I 48TJD020-028 AND 48TJF016 o o @ @ @ 48TJ F020-028 SPARK GAP .120" TO .140" 1 DETAIL "C" Fig. 57 -- Spark Gap 44 Adjustment RK IAP .181" @ SCHEMATIC L B CAP CAP2gff gg£ OrMZ o IFC A TO % -- -- ORN ... 4 I I I ,

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