

ACCESSORY ITEMS

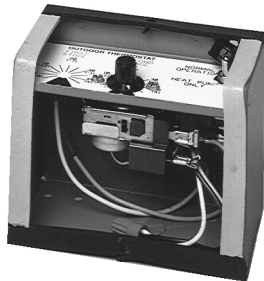
FOSSIL FUEL KITS



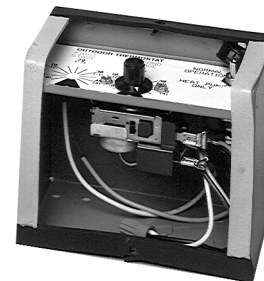
RXPF- SERIES



**Model
RXPF-F01**



**Model
RXPF-F02**



RXPF Fossil Fuel Kits

The Rheem® RXPF Fossil Fuel Kits are intended to be used where the heat pump may provide heat at a lower cost than oil, natural gas or L.P. gas within a certain outdoor temperature range. The kit permits the heat pump to operate at temperatures (usually from 30°F to 35°F and above) where the heat pump is most efficient. For the colder periods, the heating will be provided by a standard furnace which has approximately the same efficiency at all temperatures.

The RXPF Fossil Fuel Kits are for use with Rheem Heat Pumps and most fossil-fueled warm air furnaces. They operate by turning the heat pump off at a pre-determined outdoor temperature permitting the furnace to heat as demanded by the wall thermostat. When the outdoor temperature warms up, it will lock out the furnace and let the heat pump do the heating.

RXPF-F01

- Heat Pump Operation when Outdoor Air Temperature is above set point.
- Gas Furnace Operation when Outdoor Air Temperature is below set point. ("Heat" Blower Speed)
- Indoor Thermostat set to "Heat" Outdoor Thermostat Set to "Heat Pump Only", only the Heat Pump Operates.
- Indoor Thermostat Set to "Emer", only the Furnace Operates on 1st Stage.
- Defrost, Furnace cycles on when supply air temp. drops to 95°F, Cycles Off when supply air temp. reaches 110°F. Blower runs in cooling speed.

Contents for RXPF-F01:

- Plenum Switch Assy. (AS-52048-03)
- Outdoor Thermostat (41-20874-01)
- Wiring Diagram Thermostat (90-20873-03)
- Booklet Remote Heat Pump (92-21779-08)
- Installation Instructions (92-20871-23)

A plenum switch is employed that will, during heat pump defrost, turn the furnace on as required to prevent cold drafts.

The set point of the kit is adjustable. The recommended set point should be that temperature at which the heat pump will just provide 100% of the heating requirements.

When used with a recommended thermostat, the emergency heat feature easily allows conversion to 100% fossil fuel heat should the heat pump fail, for any reason. Also, the heat pump only switch on the kit allows 100% use of the heat pump if for any reason the fossil fuel heat should fail (such as component failure or lack of fossil fuel).

RXPF-F02

- Meets Tennessee Valley Authority (T.V.A.) requirements (No connection to "E" on Indoor Thermostat).
- 1st Stage, Heat Pump Operates.
- 2nd Stage, Furnace Operates, Heat Pump Shuts Off.
- Indoor Thermostat Set to "Emer" Furnace Operates on 1st Stage (Optional).
- Defrost, Furnace cycles on when supply air temp. drops to 95°F, cycles off when supply air temp. reaches 110°F. Blower in Cooling Speed (for TVA, in Defrost 2nd Stage "On" has no effect).

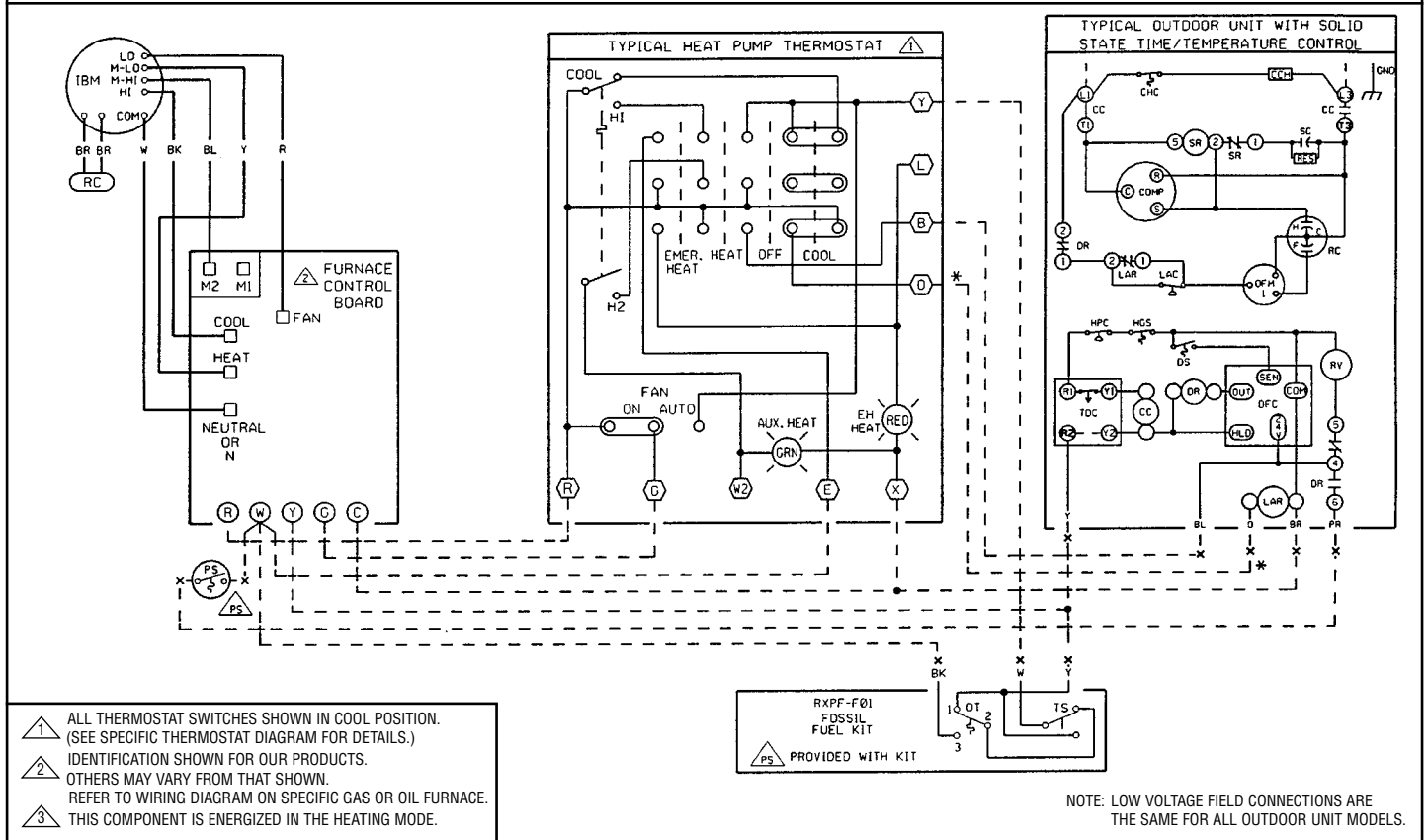
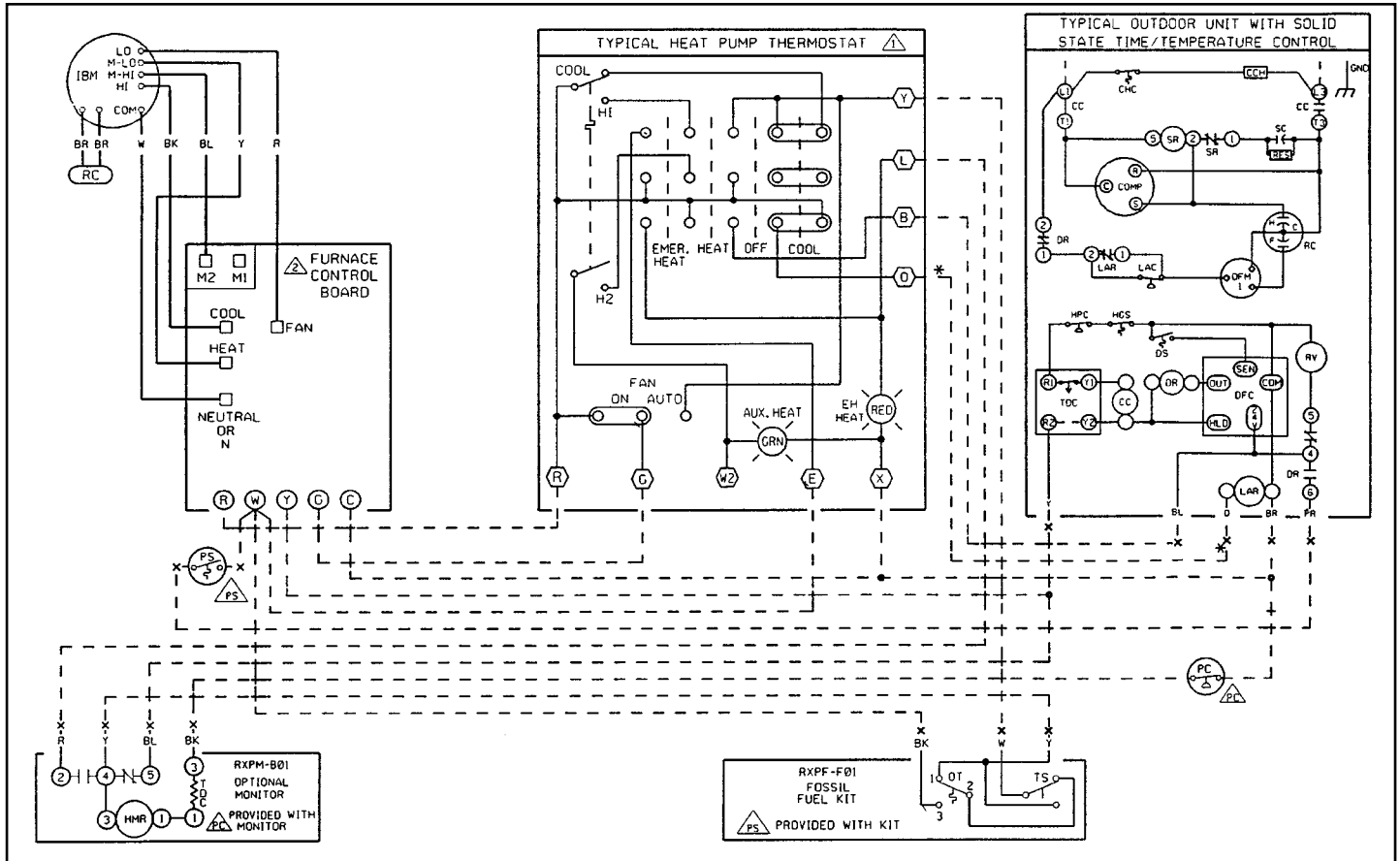
Contents for RXPF-F02:

- Interface Wiring Board (62-24102-01)
- Plenum Switch Assy. (AS-52048-03)
- Outdoor Thermostat (41-20874-01)
- Wiring Diagram Thermostat (90-20873-03)
- Booklet Remote Heat Pump (92-21779-08)
- Installation Instructions (92-20871-23)

During transition between heat pump and gas furnace (directed by the Outdoor Thermostat set point or thermostat staging), blower is "off". Furnace runs through normal sequence timings.

CAUTION: Before installing any heat pump system with an existing furnace be sure that the duct system, blower and blower motor will provide the air required for the heat pump. The heat pump will not work satisfactorily with low air flows across the indoor coil.

WIRING DIAGRAM FOR RXPF-F01 WITH TIME-TEMPERATURE CONTROL



- ① ALL THERMOSTAT SWITCHES SHOWN IN COOL POSITION. (SEE SPECIFIC THERMOSTAT DIAGRAM FOR DETAILS.)
- ② IDENTIFICATION SHOWN FOR OUR PRODUCTS. OTHERS MAY VARY FROM THAT SHOWN. REFER TO WIRING DIAGRAM ON SPECIFIC GAS OR OIL FURNACE.
- ③ THIS COMPONENT IS ENERGIZED IN THE HEATING MODE.

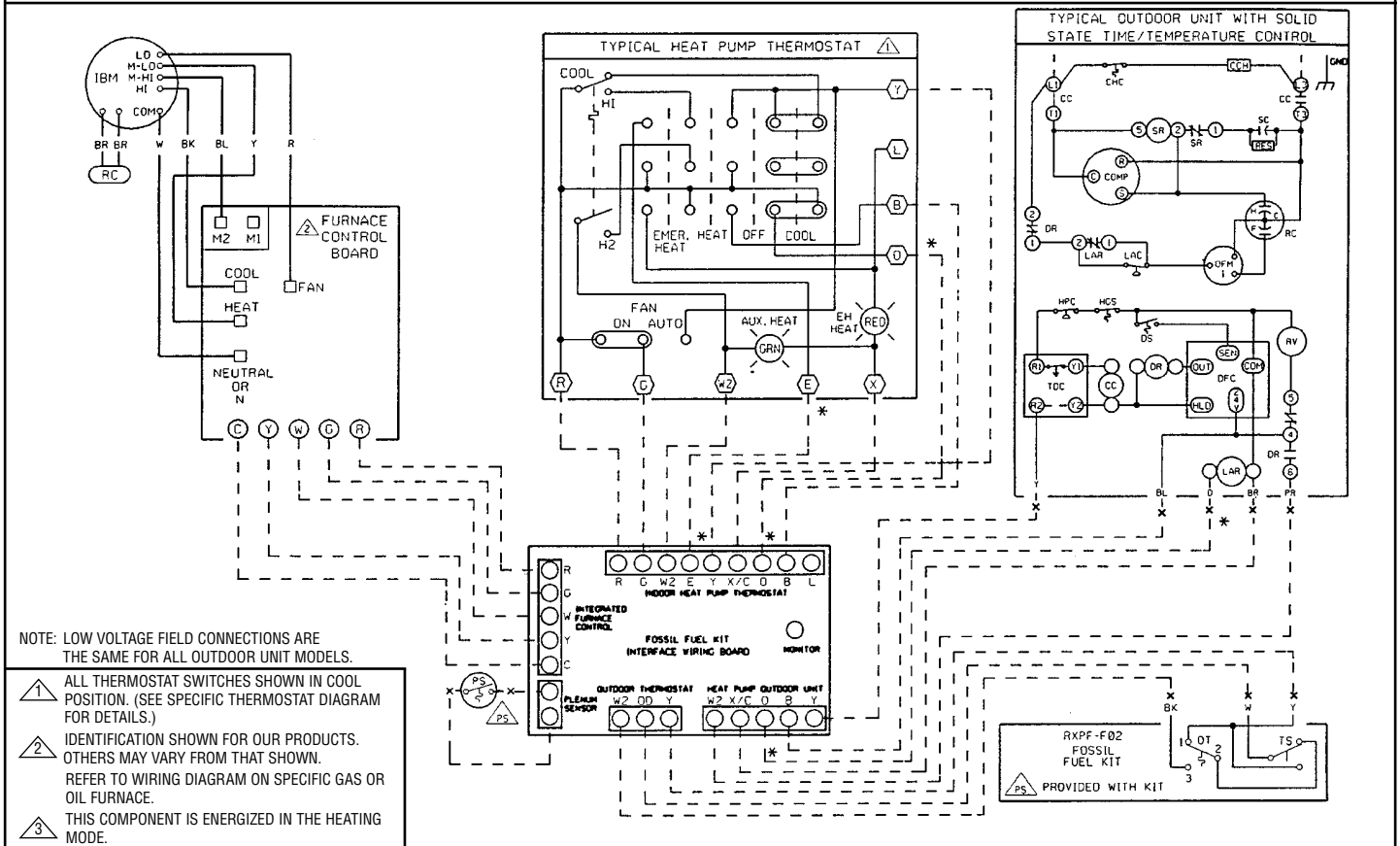
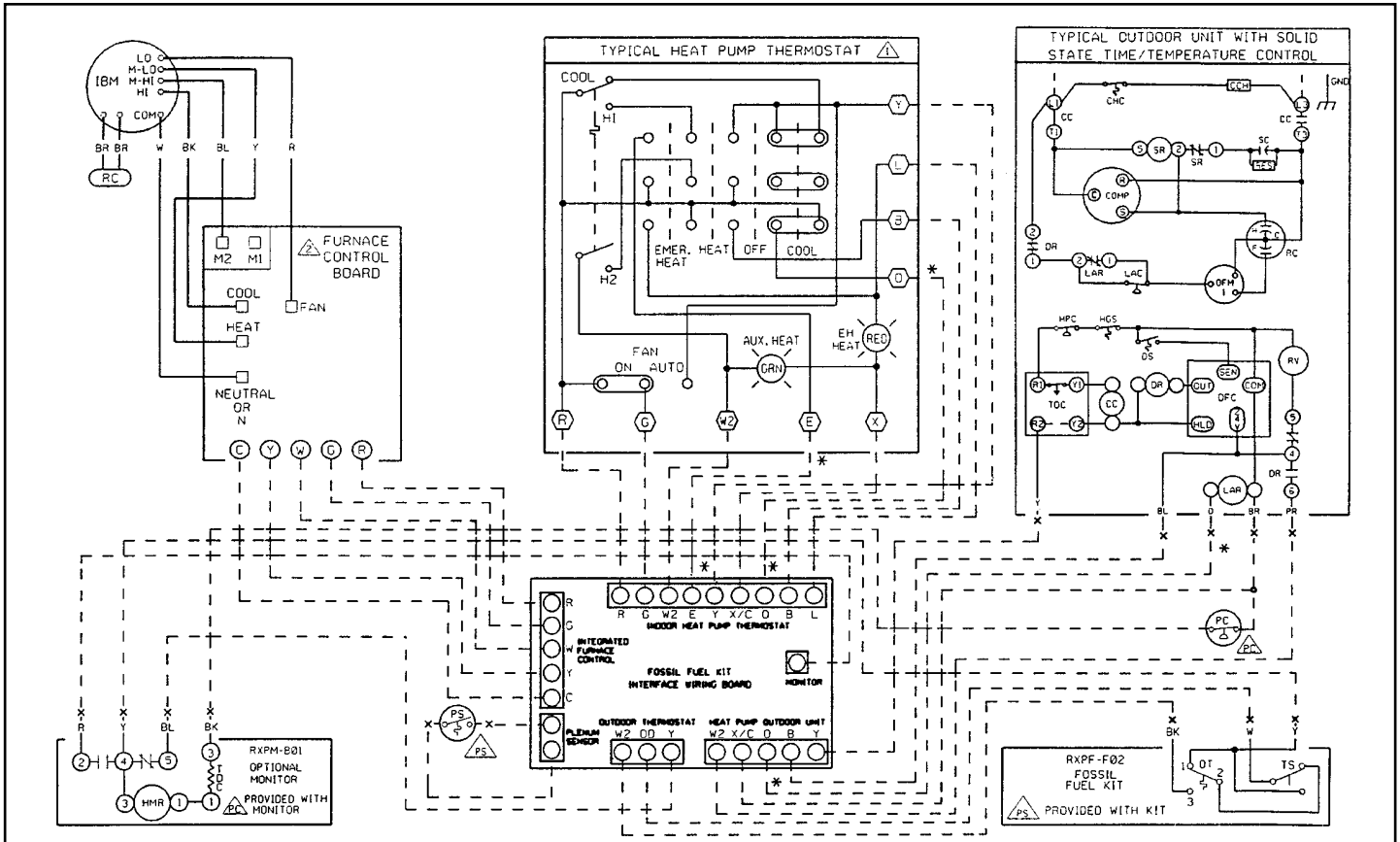
NOTE: LOW VOLTAGE FIELD CONNECTIONS ARE THE SAME FOR ALL OUTDOOR UNIT MODELS.

BR	BLOWER RELAY	DR	DEFROST RELAY	LAC	LOW AMB. COOLING CONTROL (OPT)	RV	REVERSING VALVE
CC	COMPRESSOR CONTACTOR	DS	DEFROST COIL SENSOR	LAR	LOW AMBIENT RELAY (OPT)	SC	START CAPACITOR (OPT)
CCH	CRANKCASE HEATER (OPT)	FU	FUSE	OFM	OUTDOOR FAN MOTOR	SR	START RELAY (OPT)
CHC	CRANKCASE HEATER CONTROL (OPT)	GV	GAS VALVE	OT	OUTDOOR THERMOSTAT (OPT)	TDC	TIME DELAY CONTROL (OPT)
COMP	COMPRESSOR	HGS	HOT GAS SENSOR (OPT)	PC	PRESSURE CONTROL (OPT)	TS	TOGGLE SWITCH
CT	CONTROL TRANSFORMER	HMR	HEAT MONITOR RELAY (OPT)	PS	PLENUM SENSOR	X	WIRE NUT
DAS	DEFROST AMBIENT SENSOR	HPC	HIGH PRESSURE CONTROL	RC	RUN CAPACITOR	*	OPTIONAL
DFC	DEFROST CONTROL	IBM	INDOOR BLOWER MOTOR				

WIRE CODE			
FACTORY WIRING	—————		
FIELD WIRING	- - - - -		
WIRE COLOR CODE			
BK	BLACK	PU	PURPLE
BU	BLUE	RD	RED
BR	BROWN	WH	WHITE
GR	GREEN	YL	YELLOW
OR	ORANGE		

90-21780-18-00

WIRING DIAGRAM FOR RXPF-F02 WITH TIME-TEMPERATURE CONTROL



NOTE: LOW VOLTAGE FIELD CONNECTIONS ARE THE SAME FOR ALL OUTDOOR UNIT MODELS.

1 ALL THERMOSTAT SWITCHES SHOWN IN COOL POSITION. (SEE SPECIFIC THERMOSTAT DIAGRAM FOR DETAILS.)

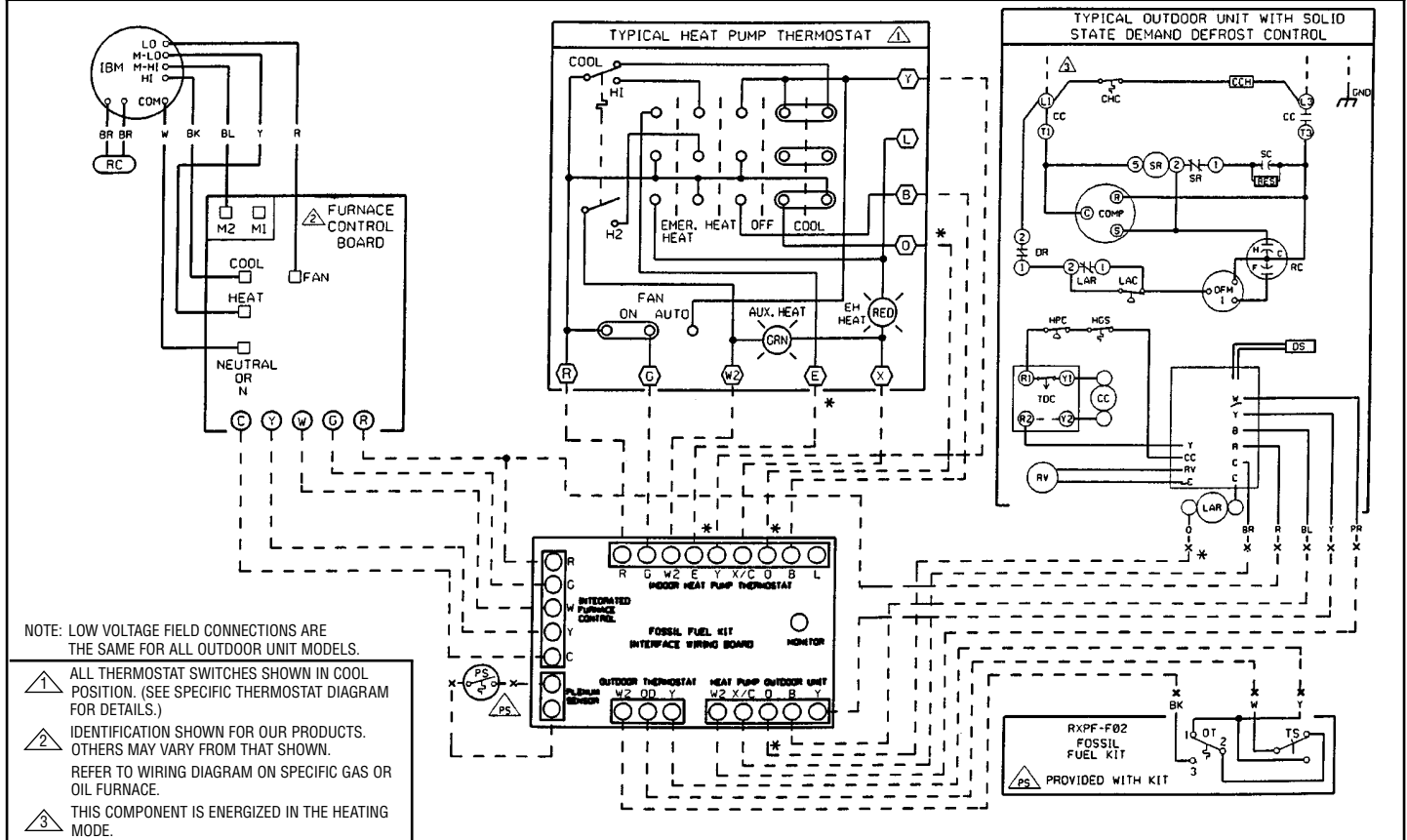
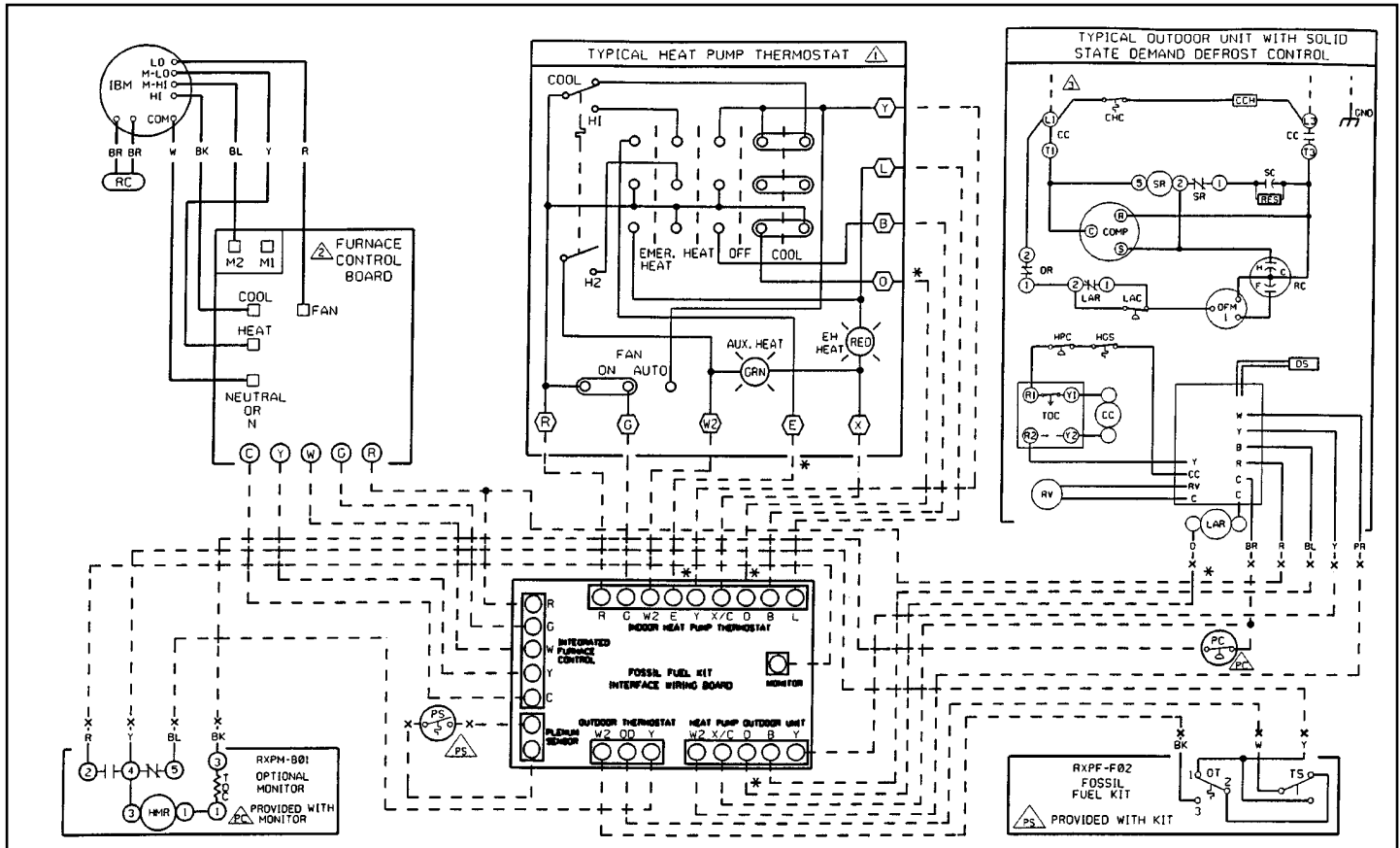
2 IDENTIFICATION SHOWN FOR OUR PRODUCTS. OTHERS MAY VARY FROM THAT SHOWN. REFER TO WIRING DIAGRAM ON SPECIFIC GAS OR OIL FURNACE.

3 THIS COMPONENT IS ENERGIZED IN THE HEATING MODE.

BR	BLOWER RELAY	DR	DEFROST RELAY	LAC	LOW AMB. COOLING CONTROL (OPT)	RV	REVERSING VALVE
CC	COMPRESSOR CONTACTOR	DS	DEFROST COIL SENSOR	LAR	LOW AMBIENT RELAY (OPT)	SC	START CAPACITOR (OPT)
CCH	CRANKCASE HEATER (OPT)	FU	FUSE	OFM	OUTDOOR FAN MOTOR	SR	START RELAY (OPT)
CHC	CRANKCASE HEATER CONTROL (OPT)	GV	GAS VALVE	OT	OUTDOOR THERMOSTAT (OPT)	TDC	TIME DELAY CONTROL (OPT)
COMP	COMPRESSOR	HGS	HOT GAS SENSOR (OPT)	PC	PRESSURE CONTROL (OPT)	TS	TOGGLE SWITCH
CT	CONTROL TRANSFORMER	HMR	HEAT MONITOR RELAY (OPT)	PS	PLENUM SENSOR	X	WIRE NUT
DAS	DEFROST AMBIENT SENSOR	HPC	HIGH PRESSURE CONTROL	RC	RUN CAPACITOR	*	OPTIONAL
DFC	DEFROST CONTROL	IBM	INDOOR BLOWER MOTOR				

WIRE CODE			
FACTORY WIRING	—————		
FIELD WIRING	- - - - -		
WIRE COLOR CODE			
BK	BLACK	PU	PURPLE
BU	BLUE	RD	RED
BR	BROWN	WH	WHITE
GR	GREEN	YL	YELLOW
OR	ORANGE		

WIRING DIAGRAM FOR RXPF-F02 WITH DEMAND DEFROST CONTROL



NOTE: LOW VOLTAGE FIELD CONNECTIONS ARE THE SAME FOR ALL OUTDOOR UNIT MODELS.

- ① ALL THERMOSTAT SWITCHES SHOWN IN COOL POSITION. (SEE SPECIFIC THERMOSTAT DIAGRAM FOR DETAILS.)
- ② IDENTIFICATION SHOWN FOR OUR PRODUCTS. OTHERS MAY VARY FROM THAT SHOWN. REFER TO WIRING DIAGRAM ON SPECIFIC GAS OR OIL FURNACE.
- ③ THIS COMPONENT IS ENERGIZED IN THE HEATING MODE.

BR BLOWER RELAY	DR DEFROST RELAY	LAC LOW AMB. COOLING CONTROL (OPT)	RV REVERSING VALVE
CC COMPRESSOR CONTACTOR	DS DEFROST COIL SENSOR	LAR LOW AMBIENT RELAY (OPT)	SC START CAPACITOR (OPT)
CCH CRANKCASE HEATER (OPT)	FU FUSE	OFM OUTDOOR FAN MOTOR	SR START RELAY (OPT)
CHC CRANKCASE HEATER CONTROL (OPT)	GV GAS VALVE	OT OUTDOOR THERMOSTAT (OPT)	TDC TIME DELAY CONTROL (OPT)
COMP COMPRESSOR	HGS HOT GAS SENSOR (OPT)	PC PRESSURE CONTROL (OPT)	TS TOGGLE SWITCH
CT CONTROL TRANSFORMER	HMR HEAT MONITOR RELAY (OPT)	PS PLENUM SENSOR	X WIRE NUT
DAS DEFROST AMBIENT SENSOR	HPC HIGH PRESSURE CONTROL	RC RUN CAPACITOR	* OPTIONAL
DFC DEFROST CONTROL	IBM INDOOR BLOWER MOTOR		

WIRE CODE	
FACTORY WIRING —————	
FIELD WIRING - - - - -	
WIRE COLOR CODE	
BK BLACK	PU PURPLE
BU BLUE	RD RED
BR BROWN	WH WHITE
GR GREEN	YL YELLOW
OR ORANGE	

90-21780-30

Fossil Fuel Kit Application

FURNACE	FOSSIL FUEL KIT
RGPK RGLK FGVJ FGPJ	RGDG RGPH RGLH RGVH
RGDJ RGVJ RGLJ FGDJ FGLJ	
	<i>For Fuel Codes—DC, DF, DG, DH</i> RXPF-F01 RXPF-F02 (TVA)
	<i>For All Other Fuel Codes</i> RXPF-E01
RGRA	RXPF-F01 RXPF-F02 (TVA)
RGSA/RGTA	RXPF-F01 RXPF-F02 (TVA)
RONC	RXPF-C01 OR RXPF-D02
ROBC	RXPF-C01 OR RXPF-D02
ROUC	RXPF-C01 OR RXPF-D02

- (1) An RXPF-C01 or RXPF-E01 kit may be converted to an RXPF-F01 kit by rewiring according to the RXPF-F01 wiring diagram.
 (2) RXPF-C01 to be used in conjunction with heat pumps utilizing time/temp defrost boards.
 (3) RXPF-D02 to be used in conjunction with heat pumps utilizing demand defrost boards.

1.0 Product Description

The Fossil Fuel Kit (FFK) Interface Wiring Board (IWB) provides a common low-voltage wiring terminal for a Heat Pump system which uses the Heat Pump as the primary heat source and a Gas Furnace for the secondary heat source (a.k.a. the "Dual Fuel" system). The IWB provides functional control of the system by routing low-voltage thermostat outputs to the desired input of the Heat Pump Outdoor Unit, the Integrated Furnace Control (IFC), and the Outdoor Thermostat and/or isolating inputs that are not desired.

2.0 Function Definitions

2.1 Emergency Heat

Setting the indoor thermostat such that the gas furnace is the primary heat source and the heat pump is locked out.

2.2 Auxiliary Heat

The secondary heat source is energized by the system controls when the primary heat source is not sufficient (the primary heat source is locked out).

2.3 Second-Stage Heat

The secondary heat source is energized by second stage of a two-stage indoor thermostat (the primary heat source is locked out).

2.4 Back-Up Heat

The secondary heat source is energized by the outdoor thermostat or outdoor condensing unit control system.

2.5 Balance Point

Outdoor temperature below which the secondary heat source is preferred over the primary heat source. (May be determined by heating capacity, comfort, efficiency and/or economy.)

2.6 Defrost

A function of the Heat Pump Control System which causes the Heat Pump to temporarily function in the air conditioning mode during a heating cycle in order to pump heated refrigerant to the outdoor condensing unit; during this period, the operation of the Gas Furnace is controlled by the plenum sensor for "back-up" heat to ensure warm airflow indoors.

3.0 Function Specifications

3.1 Emergency Heat

Controlled by switch settings on the indoor thermostat. Wired to the "E" terminal (indoor thermostat) on the FFK IWB.

3.2 Auxiliary Heat

Controlled by: (1) the indoor thermostat, (2) the outdoor thermostat, and/or (3) the Heat Pump control system. Wired to the three "W2" terminals (indoor thermostat, outdoor thermostat, and heat pump outdoor unit) on the FFK IWB.

3.3 Second-Stage Heat

Auxiliary Heat controlled by the indoor thermostat {3.2 (1)}. Wired to "W2" on the indoor thermostat.

3.4 Back-Up Heat

Auxiliary Heat controlled by the outdoor thermostat {3.2 (2)} or the heat pump outdoor unit control system {3.2 (3)}. Wired to "W2" on the outdoor thermostat and "W2" on the heat pump outdoor unit respectively.

3.5 Balance Point

The temperature setting of the outdoor thermostat (Range: -10°F to +50°F). Above this setting, the heat pump is the primary heat source. Below this setting, the gas furnace is the primary heat source. The first-stage heat demand signal from the indoor thermostat in output through the "OD" terminal to the outdoor thermostat and the signal is routed back from the outdoor thermostat to either "W2" (outdoor temperature is below the set point) or "Y" (outdoor temperature is above the set point).

3.6 Defrost

The heat pump outdoor unit control system runs the outdoor unit in the air-conditioning mode and outputs a signal for "back-up" heat through the "W2" terminal.

4.0 System Operation

4.1 Call for Heat

- The system receives a demand for heat from the indoor thermostat. ("Y" and "B")
 "B" is energized when the indoor thermostat is set to "HEAT"
 "Y" is energized when the indoor thermostat first stage makes a demand for heat
- "B" is routed directly to the outdoor unit for the heat pump heating control system (usually the reversing valve).
- "Y" is routed through the outdoor thermostat:
 "Y" is energized above the outdoor thermostat set point. (to outdoor unit and IFC)
 "W2" is energized below the outdoor thermostat set point. (to "W" on the IFC)

4.2 Call for Second-Stage Heat

- The system receives a thermostat demand for second-stage heat. ("W2", "Y" and "B")
- "W2" is routed to the furnace control and the "Y" circuit is de-energized by the FFK IWB.

4.3 Call for Defrost

- The system receives back-up heat demand from the outdoor unit control ("W2" and "Y")
- The second-stage heat circuit from the indoor thermostat is de-energized by the FFK IWB.
- "W2" from the outdoor unit is routed through the Plenum Sensor to "W" on the IFC.
- The Plenum Sensor energizes "W" on the IFC to provide back-up heat -OR-
- The Plenum Sensor de-energizes "W" on the IFC to control the temperature of the indoor coil.
- The "Y" circuit remains energized on the IFC.

4.4 Call for Emergency Heat

- The indoor thermostat routes all heat demands to the IFC. ("E" and "W2")
 Note: This circuit connection is optional and this function is not allowed by some local codes.

4.5 Call for Cool

- The system receives a demand for cooling from the indoor thermostat. ("O" and "Y" -or- "Y" + "G")
 "Y" is energized (outdoor unit and IFC) when the indoor thermostat makes a demand for cool.
 "O" is energized when the indoor thermostat is set to "COOL".
- "O" is routed directly to the outdoor unit for the heat pump cooling control system (usually the "Low-Ambient" relay or alternate reversing valve control system).

4.6 Call for Fan-On

- The system receives a demand for continuous fan from the indoor thermostat. ("G")
- The "G" circuit is energized on the IFC.