

Wiring Diagrams

Size 018-060

INDEX

Model	Label P/N	Fig.
Volt-Phase (60Hz)		
48NLT018-NMT042 208/230-1	311137-401	1
48NLT048-NHT048 208/230-1	313726-401	2
48NLT060-NHT060 208/230-1	313728-401	3
48NLT036-NHT048 208/230-3	312110-401	4
48NLT060-NHT060 208/230-3	313729-401	5
48NLT036-NHT048 460-3	313775-701	6
48NLT060-NHT060 460-3	313727-401	7

      	Unmarked Terminal Marked Terminal Field Power Wiring Field Control Wiring Chassis Ground Factory Splice Field Splice	LEGEND PV IFM IFMC IFR LS OFM QT ST TRANS IM IR IGN MV P PC PI	Pilot Valve Indoor Fan Motor Indoor Fan Motor Capacitor Indoor Fan Relay Limit Switch Outdoor Fan Motor Quad Terminal Start Thermistor Transformer Inducer Motor Inducer Relay Ignitor Main Valve Pilot Printed Circuit Board Pilot Ignitor
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SEQUENCE OF OPERATION

COOLING—When power is supplied to unit, transformer (TRAN) is energized. If optional crankcase heater is used, heater is also energized.

With room thermostat set to call for cooling and indoor fan set in AUTO. position, sequence of operation is as follows:

On a call for cooling, thermostat makes circuit RY and RG. When room temperature rises, thermostat makes a circuit to R-Y to contactor (C) starting outdoor fan motor (OFM) and compressor (COMP). Circuit R-G is also made which energizes indoor fan relay (IFR) starting indoor fan motor (IFM).

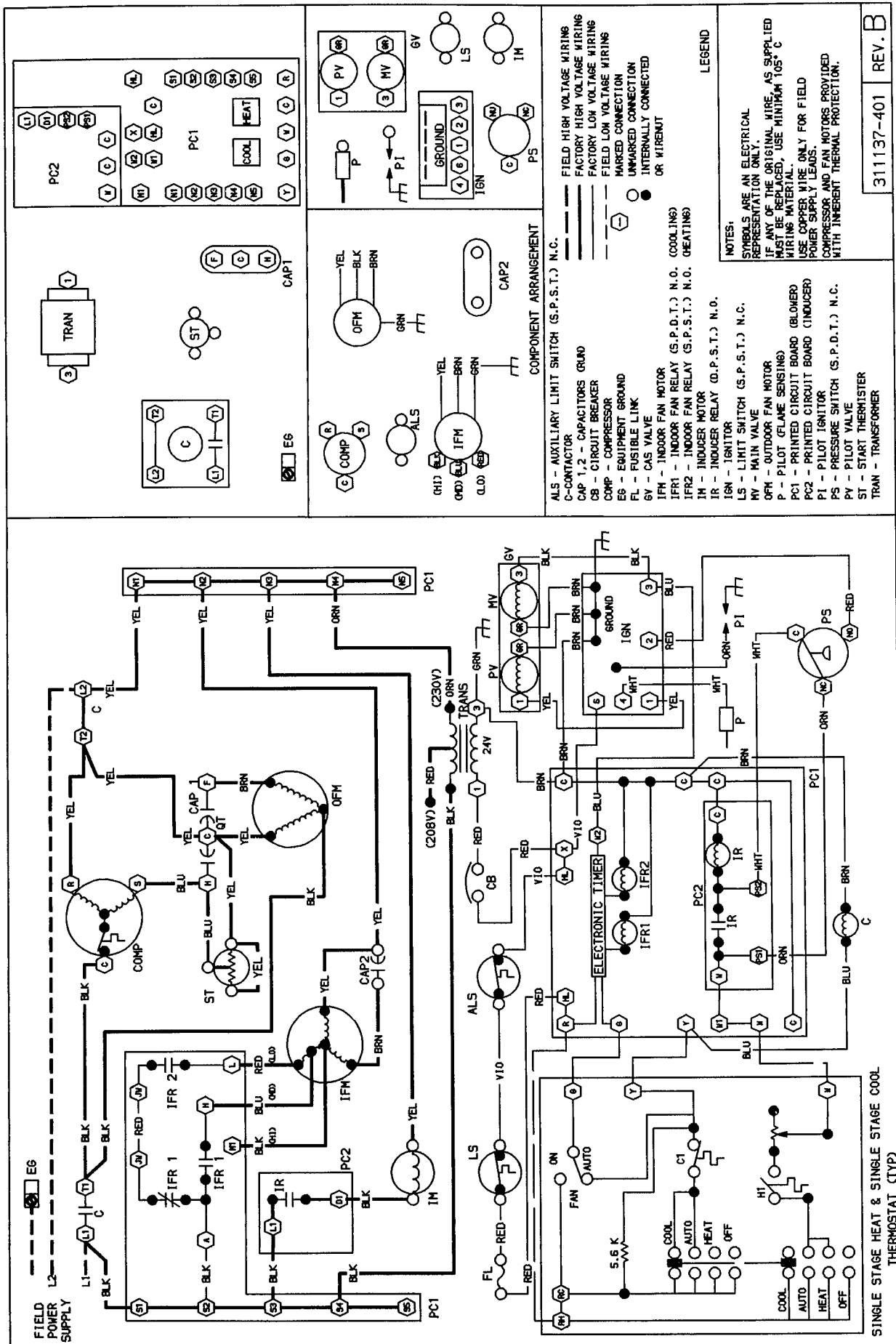
When thermostat is satisfied, contacts open, de-energizing contactor. Compressor and motors stop. After a one minute delay the indoor fan motor stops.

HEATING—With room thermostat set to call for heating and indoor fan set in AUTO. position, sequence of operation is as follows:

Room thermostat calls for heat closing circuit between R and W 24 volt control circuit terminals. Power to the R terminal is supplied through (CB) Circuit Breaker and (LS, ALS and FL) safety switches (PC2), inducer control board is energized which starts the inducer motor (IM). The inducer

motor comes up to speed, the vacuum in the collector box increases, opening the normally closed and closing the normally open contacts of the pressure switch (PS) energizing the circuit to the (IGN) ignition control and the pilot valve (PV). If the flame sensor proves the presence of the pilot flame, the internal switching of the ignition control de-energizes the spark generator and energizes the main gas valve, (MV) and the (IFR2) electronic timer. Gas flows to the main burners and is ignited by the pilot flame. The (PC1) electronic timer will close the (IFR2)) relay between 60 to 90 seconds after the burners are ignited and the blower motor (IFM) will start. When the thermostat is satisfied the (R) and (W) circuit is opened and power is removed from the (PC2) inducer control and the (IGN) ignition module which causes the main gas valve to close instantly and the inducer motor is de-energized. The electronic timer (PC1)) will keep the (IFM) blower motor running an additional 1 to 3 minutes. Then the blower stops and the unit is on standby until another call for heat.

If the pilot fails to light within a 50 second trial for ignition period from the initial call for heat the ignition control (IGN) will lockout the system and prevent further lighting attempts. To reset, open the R-W thermostat circuit for 30 seconds and re-close.



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Fig. 1—Single Phase-208/230V 018040-042100

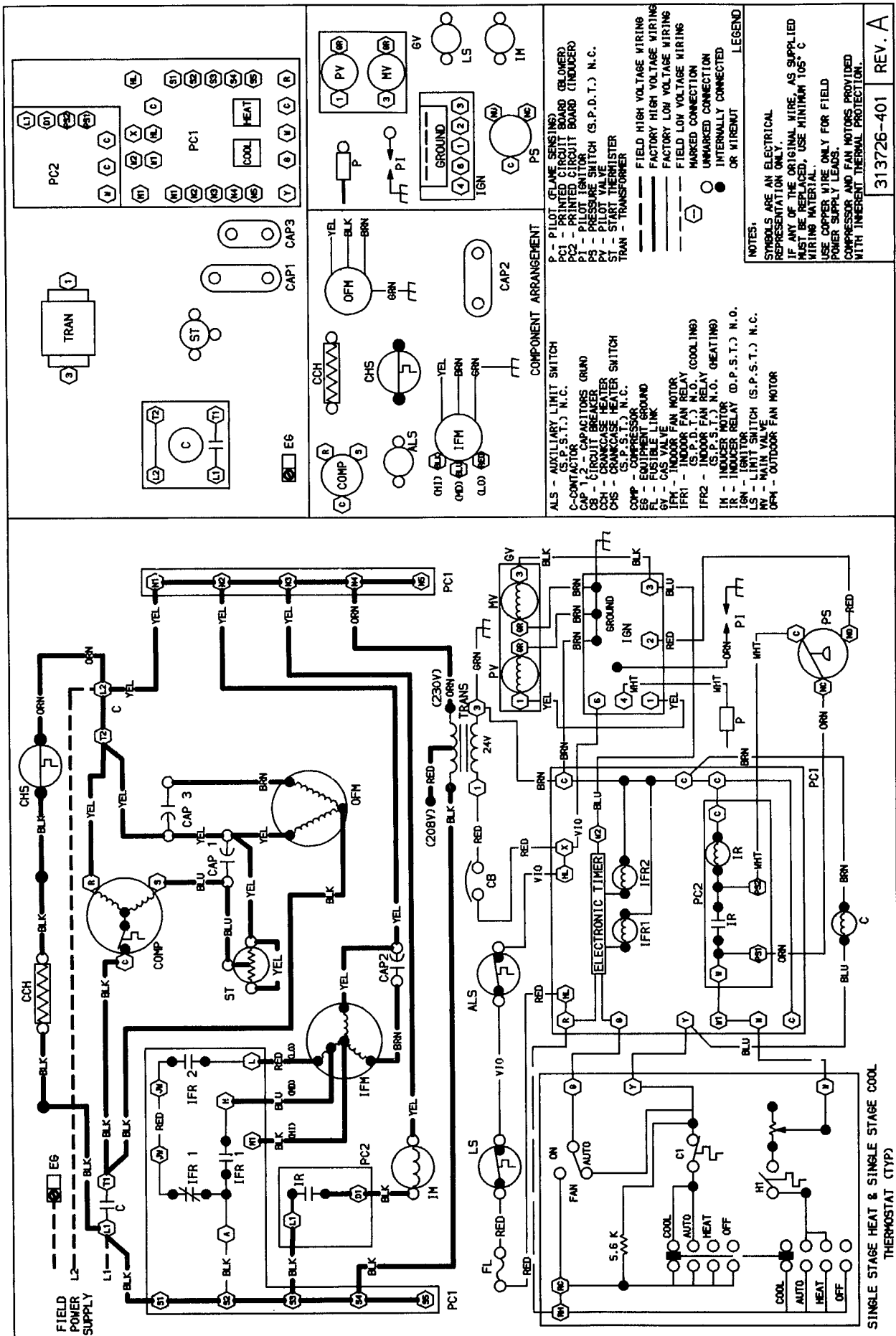


Fig. 2—Single Phase—208/230V 048080-048120

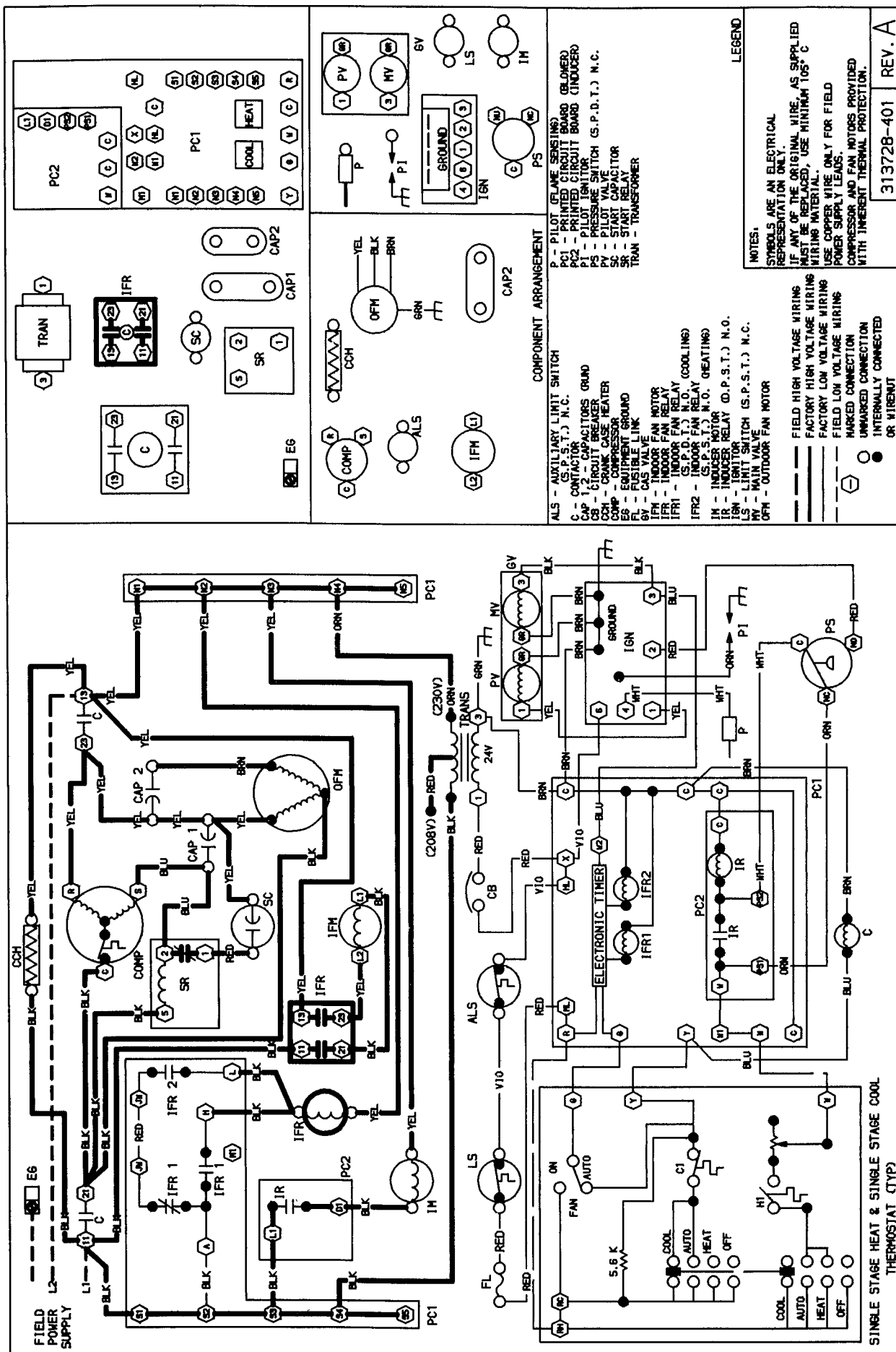


Fig. 3—Single Phase—208/230V 060080-060120



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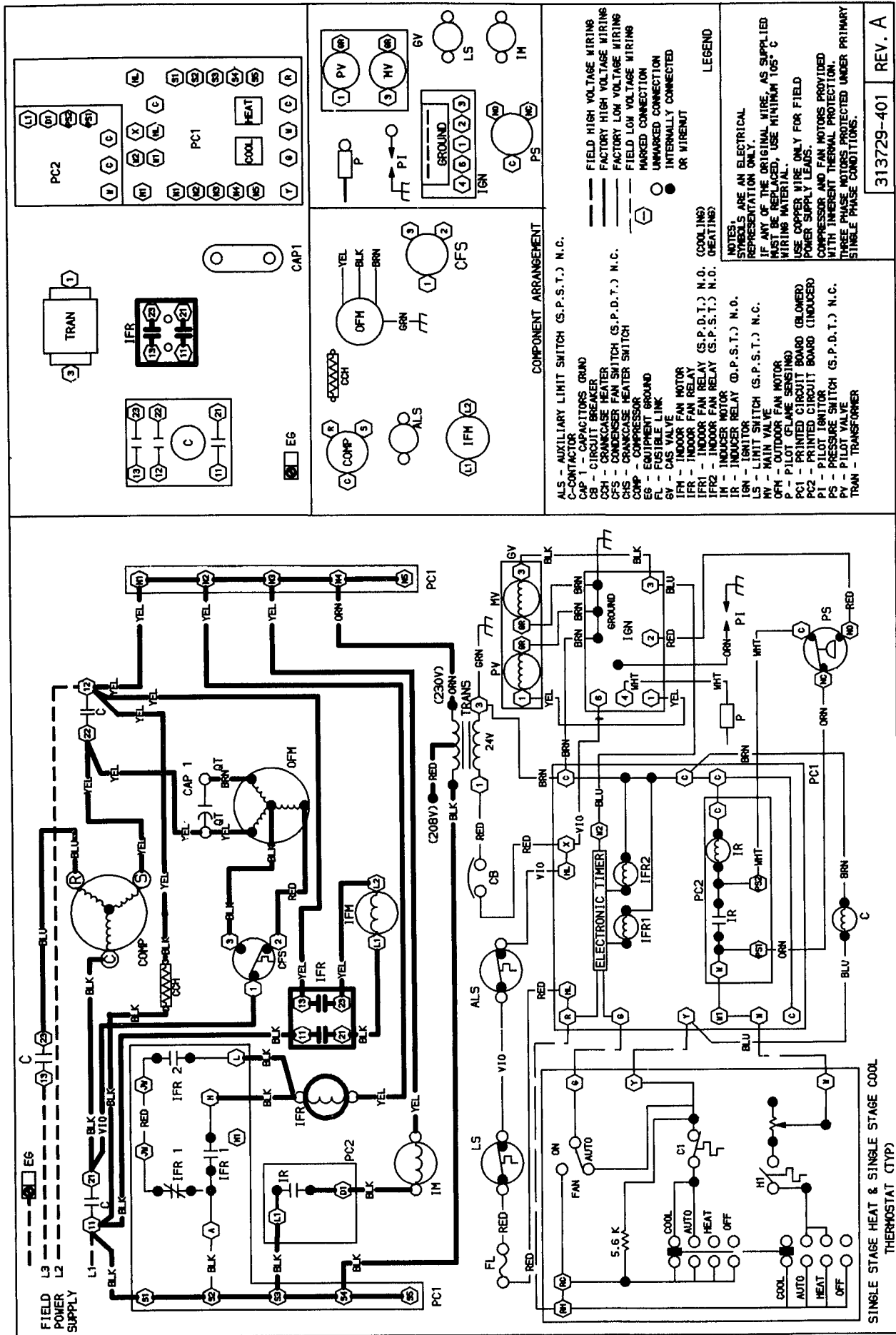


Fig. 5—Three Phase—208/230V 060080-060120



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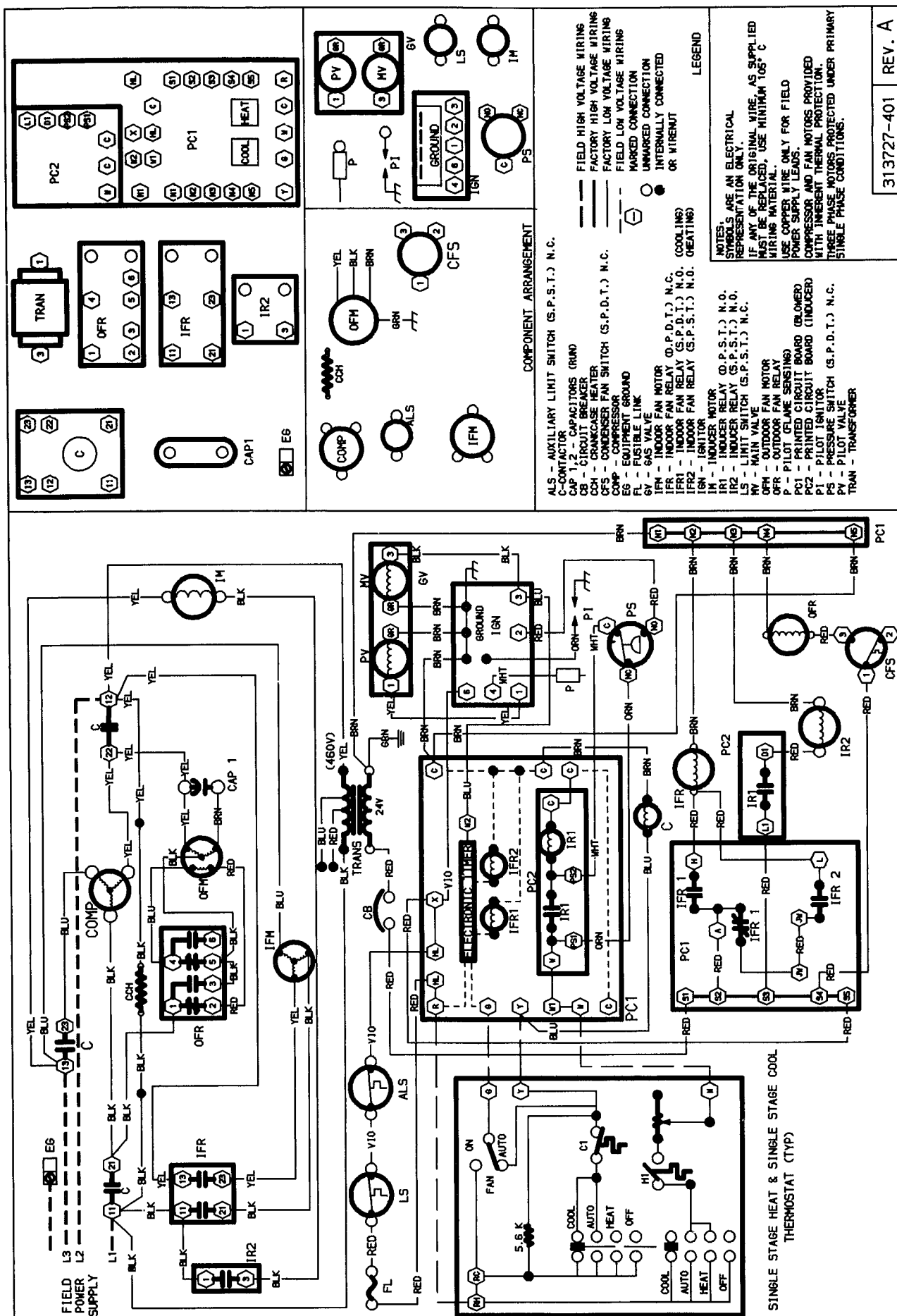


Fig. 7—Three Phase—460V 060080-060120

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