

SMALL WIRE FEEDER WELDERS MACHINE SCHEMATIC M21240 REV: E

Two versions of INPUTS
 180A units: 208/230v retail and industrial
 (NEMA) 6-50 plug, 20 amps normal (use 40 super lag)

208/230v retail and industrial require no reconnect of input.
 But, at 208v input, the output is derated to 17.6vdc rated loading.

Same switch for all machines
 Different cord and plug for both voltage 208 and 230 input = 25A / 250VAC

125A and 140A units: 120v retail and industrial
 (NEMA) 5-15 plug, 20 amps

CONTROL P.C. BOARD
 PRIMARY SIDE

CONTROL P.C. BOARD
 SECONDARY SIDE

Schematic: G8981

Top Front (lays flat)

Different case front and nameplate from retail to industrial versions.
 Industrial version has aluminum extruded lifting handle and a plastic case back attached to the rear sheet metal back.

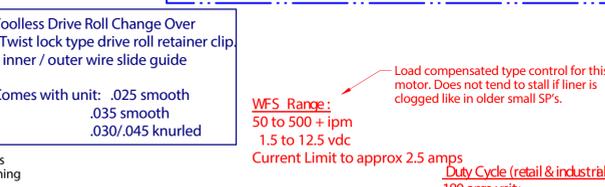
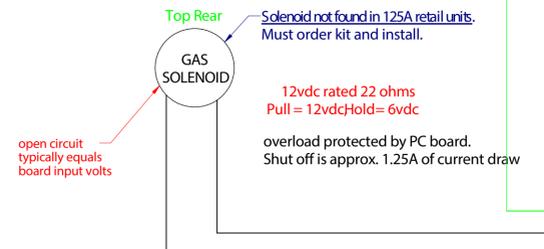
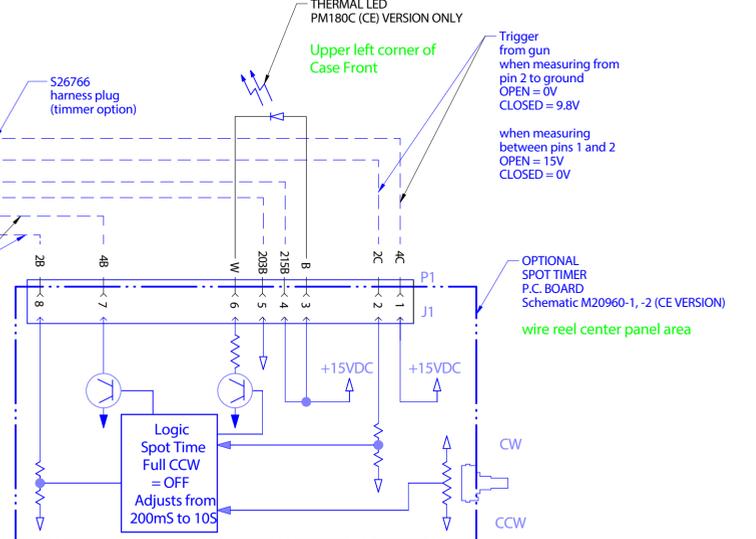
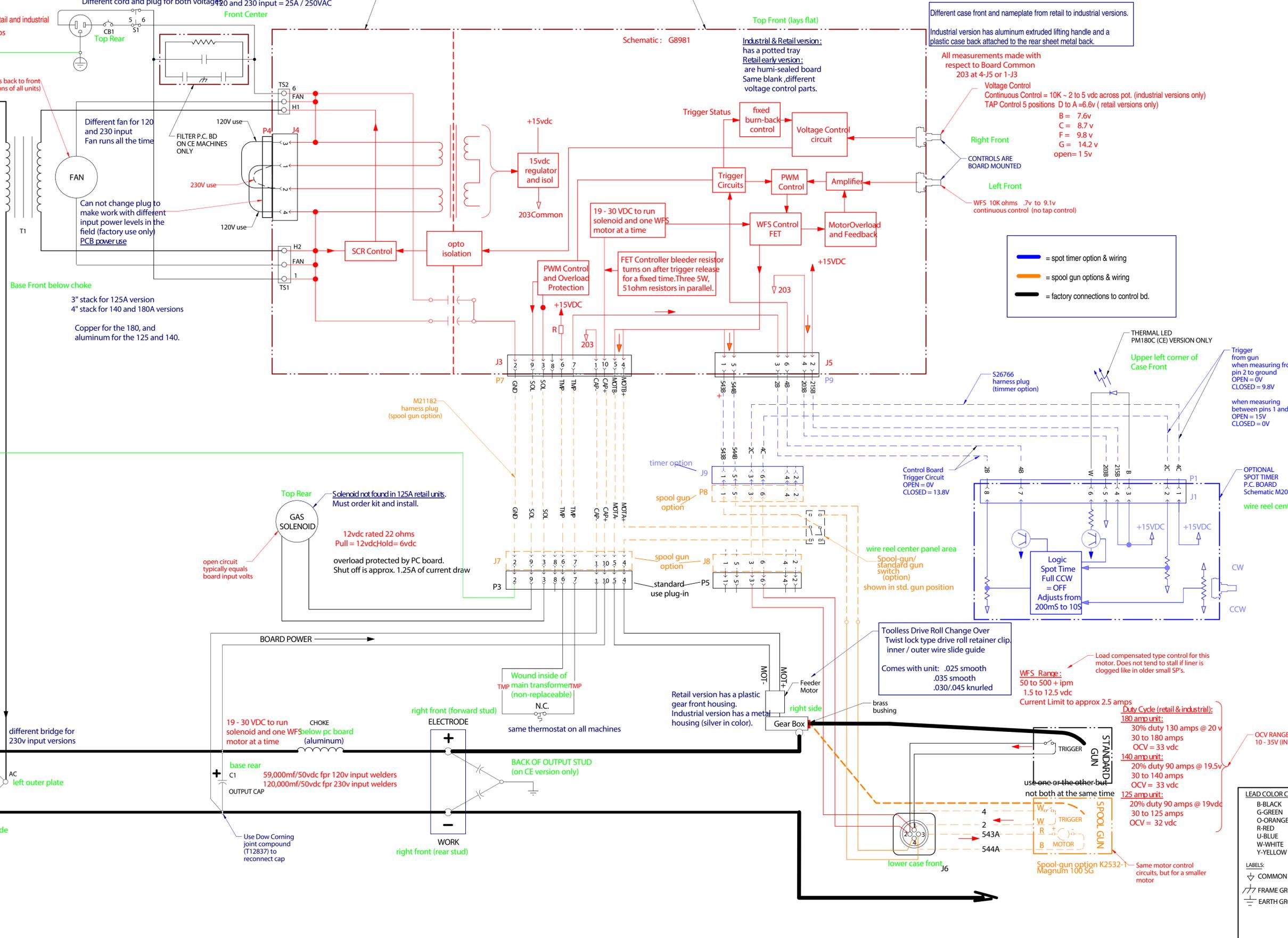
All measurements made with respect to Board Common 203 at 4-J5 or 1-J3

Voltage Control
 Continuous Control = 10K - 2 to 5 vdc across pot. (industrial versions only)
 TAP Control 5 positions D to A = 6.6v (retail versions only)

B = 7.6v
 C = 8.7v
 F = 9.8v
 G = 14.2v
 open = 15v

Legend:

- Blue line = spot timer option & wiring
- Orange line = spool gun options & wiring
- Black line = factory connections to control bd.



WFS Range:
 50 to 500 + ipm
 1.5 to 12.5 vdc
 Current Limit to approx 2.5 amps

Duty Cycle (retail & industrial):

180 amp unit:
 30% duty 130 amps @ 20v
 30 to 180 amps
 OCV = 33 vdc

140 amp unit:
 20% duty 90 amps @ 19.5v
 30 to 140 amps
 OCV = 33 vdc

125 amp unit:
 20% duty 90 amps @ 19vdc
 30 to 125 amps
 OCV = 32 vdc

OCV RANGE
 10 - 35v (INPUT VOLTAGE DEPENDENT)

LEAD COLOR CODE:	COMPONENT VALUE UNITS:
B-BLACK	CAPACITOR: MFD/VOLTS
G-GREEN	RESISTOR: OHMS/WATTS
O-ORANGE	
R-RED	CONNECTOR PIN NUMBERS:
U-BLUE	EX. 12 PIN CONNECTOR
W-WHITE	1 2 3 4 5 6
Y-YELLOW	7 8 9 10 11 12
LABELS:	LATCH
COMMON	VIEW OF CONNECTOR ON PCB BOARD
FRAME GROUND	
EARTH GROUND	