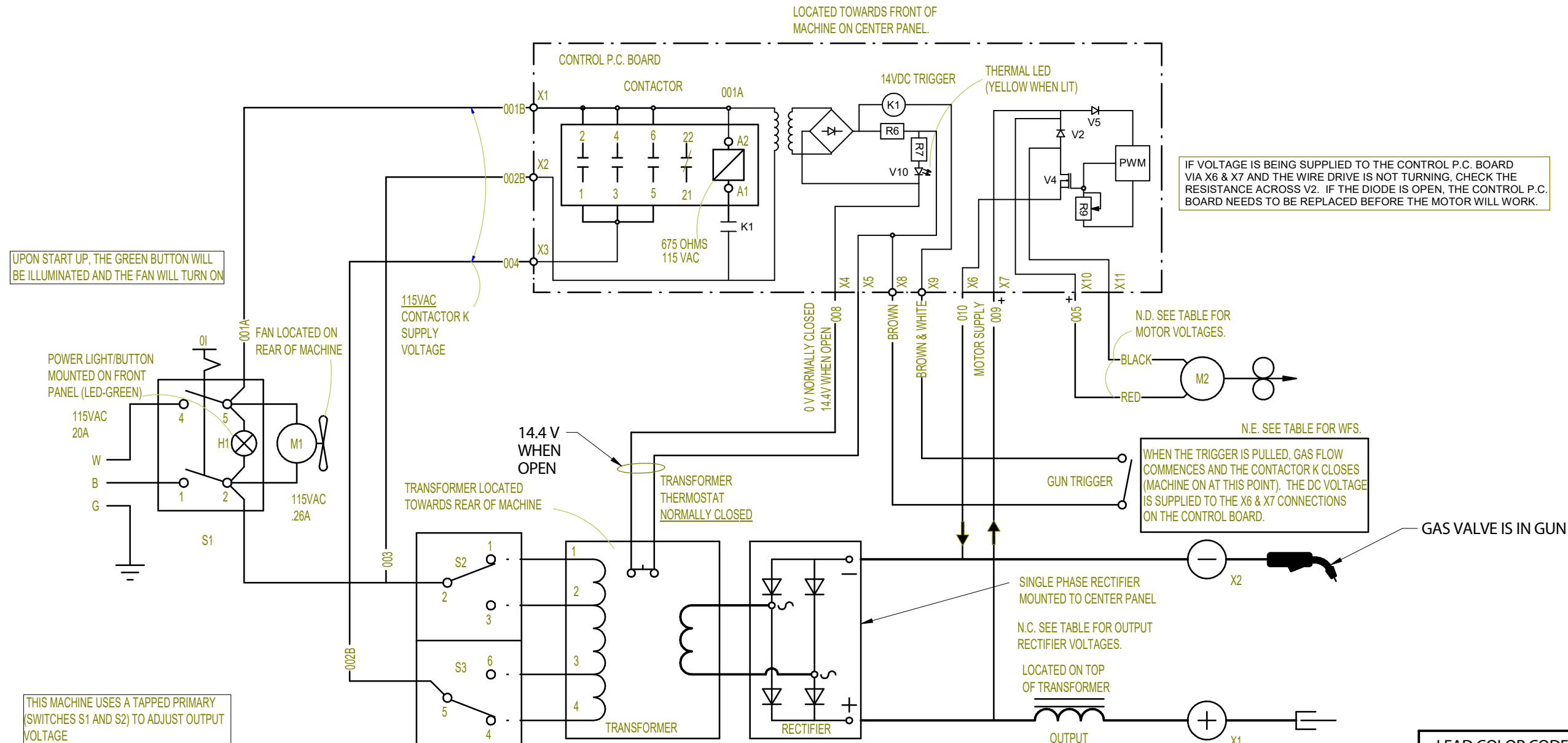


BESTER FCAW WELDER MACHINE SCHEMATIC M20136-1 REV: A



UPON START UP, THE GREEN BUTTON WILL BE ILLUMINATED AND THE FAN WILL TURN ON

THIS MACHINE USES A TAPPED PRIMARY (SWITCHES S1 AND S2) TO ADJUST OUTPUT VOLTAGE

HEAT SWITCHES ARE MOUNTED ON FRONT PANEL NEXT TO POWER SWITCH

HEAT SWITCH SHOWN IN HIGH - 2 POSITION
N.A. SEE TABLE FOR SWITCH CONNECTIONS

N.B. SEE TABLE FOR TRANSFORMER OUT VOLTAGES

* MINIMUM SETTING IS DEFINED AS THE LIGHTEST SPRING FORCE THAT WILL FEED WIRE WITHOUT RESULTING IN SLIPPAGE AT THE DRIVE ROLLS

** VALUES MAY VARY FROM VALUES IN THE CHART DEPENDING ON THE METHOD OR WFS MEASUREMENT AND WIRE FEEDER SETUP. FRICTIONAL DRAG RESULTING FROM WIRE FEED TENSION SETTING, CONDITION OF LINER, KINKS OR LOOPS IN GUN CABLE OR WIRE FEED SPEED METER WILL AFFECT THE WFS VALUE.

IF VOLTAGE IS BEING SUPPLIED TO THE CONTROL P.C. BOARD VIA X6 & X7 AND THE WIRE DRIVE IS NOT TURNING, CHECK THE RESISTANCE ACROSS V2. IF THE DIODE IS OPEN, THE CONTROL P.C. BOARD NEEDS TO BE REPLACED BEFORE THE MOTOR WILL WORK.

WHEN THE TRIGGER IS PULLED, GAS FLOW COMMENCES AND THE CONTACTOR K CLOSES (MACHINE ON AT THIS POINT). THE DC VOLTAGE IS SUPPLIED TO THE X6 & X7 CONNECTIONS ON THE CONTROL BOARD.

N.A.		N.B.		N.C.		N.D.		N.E. **	
		VOLTAGES WERE TAKEN AT MAXIMUM POTENTIOMETER SETTING				WIRE FEED SPEED RANGE IN INCHES PER MINUTE			
HEAT SETTINGS	SWITCH S2 AND S3 CONNECTIONS	CONNECTION - OUT OF TRANSFORMER (RMS VALUES)	CONNECTION - OUT OF RECTIFIER (RMS VALUES)	DISCONNECTED FROM RECTIFIER (RMS VALUES)	VOLTAGE INTO WIRE DRIVE MOTOR	TENSION ARM AT MINIMUM SETTING *	TENSION ARM AT RECOMMENDED SETTING		
HIGH	2	32VAC	31.56VDC	39VDC	19.31VDC	450-500	375-425		
	5-4								
HIGH	1	28.45VAC	27.85VDC	34.5VDC	16.64VDC	350-400	250-300		
	5-6								
LOW	2	25.52VAC	24.8VDC	30.75VDC	14.47VDC	300-340	250-300		
	5-4								
LOW	1	23.14VAC	22.35VDC	27.85VDC	12.58VDC	250-300	220-240		
	5-6								

LISTED VOLTAGES REFLECT AN INPUT VOLTAGE OF 120.9 VAC

LEAD COLOR CODE:
 B-BLACK
 G-GREEN
 O-ORANGE
 R-RED
 U-BLUE
 W-WHITE
 Y-YELLOW

LABELS:
 COMMON
 FRAME GROUND
 EARTH GROUND

COMPONENT VALUE UNITS:
 CAPACITOR: MFD/VOLTS
 RESISTOR: OHMS/WATTS

CONNECTOR PIN NUMBERS:
 EX. 12 PIN CONNECTOR

VIEW OF CONNECTOR ON PC BOARD