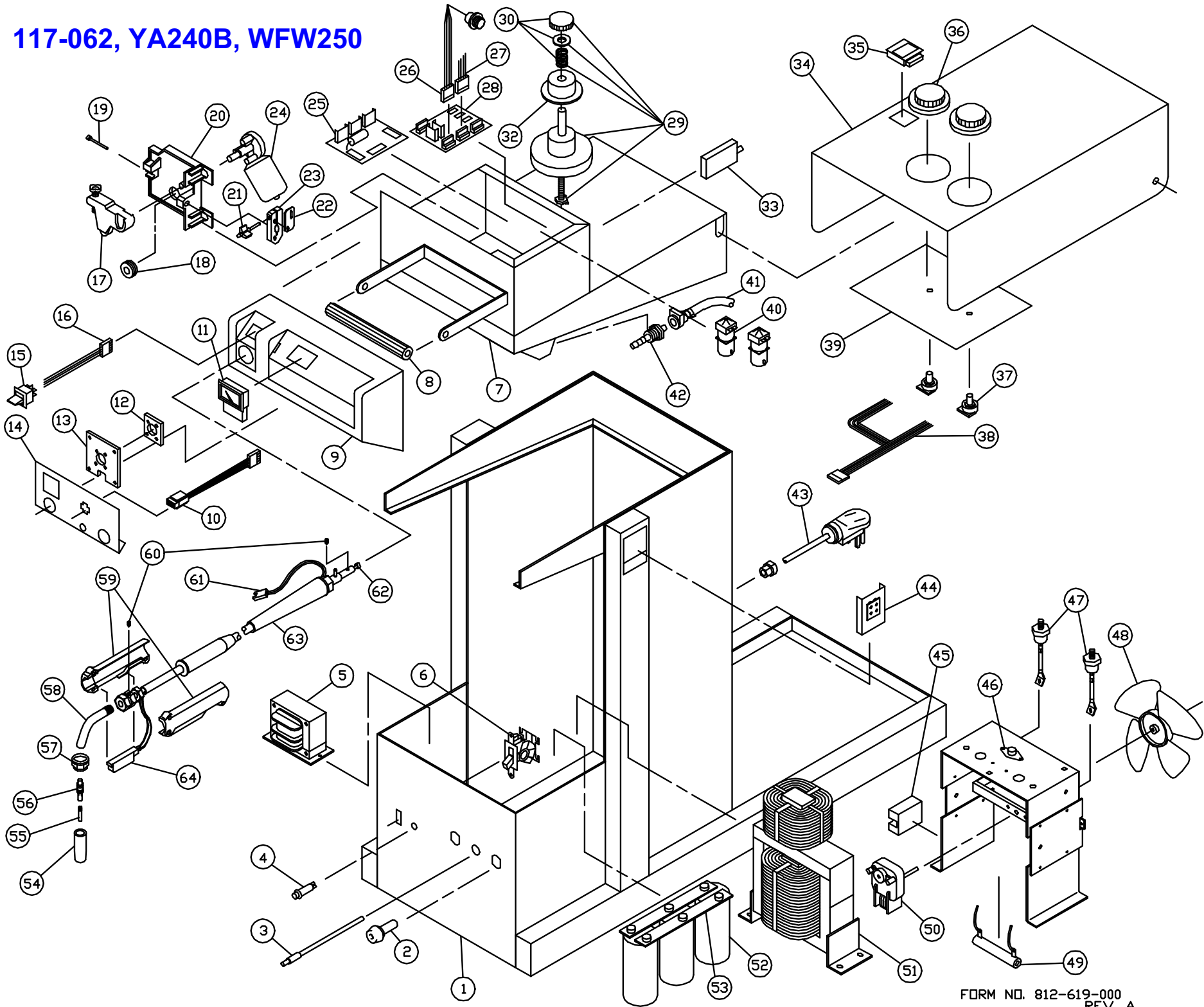


117-062, YA240B, WFW250



117-062, YA240B, WFW250

| Item | Lincoln Stock # | Customer # | Description |
|------|-----------------|-----------------------------|---|
| 1 | NLA | 410-595-050 | Front panel |
| 2 | 312-045-666 | 312-045-666 | Receptacle assy. |
| 3 | | 238-206-666 | Polarity jumper cable |
| 4 | | 245-095-666 | Power light |
| 5 | | 880-233-888, 880-041-888 | Control Transformer, 230Vac to 24Vac, 6 amp |
| 6 | 216-010-666 | 216-010-666 | Power switch |
| 7 | NLA | 312-157-666 | Undercarriage |
| 8 | NLA | 247-161-666 | Handle |
| 9 | NLA | 312-156-666 | Plastic nose w/labels |
| 10 | | 880-298-666 | Spool Gun harness |
| 11 | | 247-128-666 | Voltmeter |
| 12 | | 253-133-666 | Spool Gun fitting |
| 13 | | 512-154-666 | Insulator |
| 14 | NLA | 410-713-666 | Gun mounting panel |
| 15 | | 246-301-000 | Paddle switch, gun selector |
| 16 | | 880-297-666 | Gun selector harness |
| 17 | Included w/ #20 | 880-111-666 | Tension arm |
| 18 | 310-122-500 | 4323 | Drive roller, 0.024 / 0.030 / 0.035 |
| | 541-276-666 | 33805005 | Drive roller, 0.040 / 0.045 |
| | | 310-154-000 | Drive roller 0.045 serrated |
| | 860-616-002 | 4324, 43240 | Aluminium drive roller |
| 19 | Included w/ #20 | 239-208-000 | Inlet guide tube |
| 20 | 880-130-666 | 880-130-666 | Drive base assembly with arm |
| 21 | 246-326-000 | 246-326-000 | Gun connector knob |
| 22 | | 412-464-000 | Copper jumper |
| 23 | 412-465-666 | 412-465-666 | Gun connector block |
| 24 | 216-089-666 | 216-089-666 | Drive Motor w/gearbox |
| 25 | 880-113-666 | 880-292-008 | Main Circuit Board |
| 26 | | 880-300-666 | Harness w/ umbilical socket |
| 27 | | 880-299-666 | Harness, solenoids |
| 28 | | 880-295-666 | Spool gun pcb |
| 29 | 312-066-666 | 312-066-000 | Tensioner assy. |
| 30 | Included w/ #29 | 246-363-000 | Tension knob |
| 32 | 312-110-666 | 541-083-000 | Spindle adapter |
| 33 | | 246-365-000, 246-142-666 | Circuit breaker (5a) for drive motor |
| 34 | NLA | 880-357-666 | Hood w/latch & labels |
| 35 | NLA | 312-042-666 | Latch |
| 36 | | 246-285-666 | Knob, 2.5" dia. |
| 37 | Included w/ #38 | 246-120-666 | Potentiometer Only |
| 38 | 880-052-666 | 860-936-666 | Heat / Wire Speed harness w/potentiometers |
| 39 | NLA | 410-516-026 | Drive box cover |
| 40 | 246-086-666 | 246-086-666 | Gas solenoid, 24Vdc |
| 41 | | 880-293-666 | Gas hose assy. |

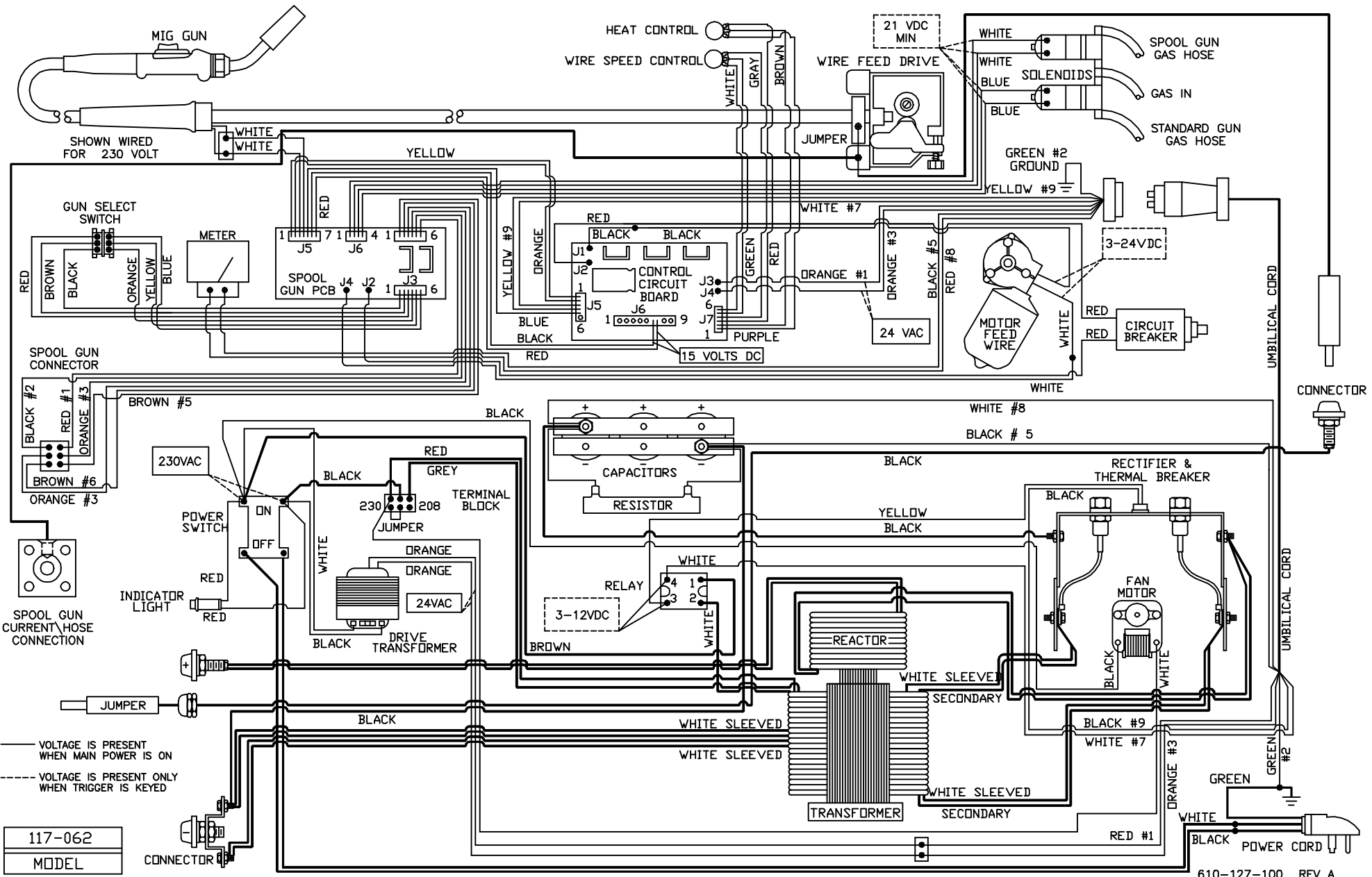
| Model | Primary Input | Input Plug | Duty Cycle at Rated Output |
|---------|-------------------|------------|----------------------------|
| 117-062 | 208/230V, 44A/40A | 50A | 60% |

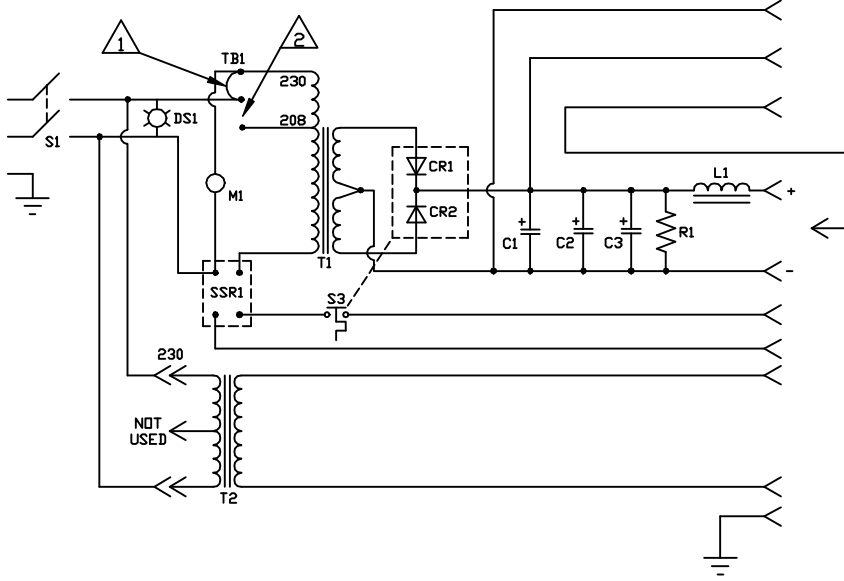
| Item | Lincoln Stock # | Customer # | Description |
|------|-----------------|---|---|
| 42 | | 253-134-666 | Quick coupler |
| 43 | S13699-8 | 248-178-666, 248-289-000 | Power Cord, 8/3, 8.5' w #10 Spade(2) & #10 Ring Term. |
| 44 | | 860-832-666 | Drive head lock assy. |
| 45 | 216-062-666 | 216-062-000 | Triac Relay, 75 amp |
| 46 | 216-053-666 | 216-053-000 | Thermostat |
| 47 | 244-070-666 | 244-070-666 | Diode |
| 48 | 316-010-000 | 316-010-000 | Fan blade |
| 49 | | 880-158-666 | Bleeder Resistor |
| 50 | 216-099-666 | 216-085-666 | Fan motor |
| 51 | | 880-040-008 | Main weld transformer |
| 52 | 213-018-666 | 213-018-666 | Capacitor, 45,000mf, 45Vdc |
| 53 | NLA | 412-202-666 | Bus bar |
| 54 | KP21T-50 | 43480, 334-203-300, KP1942-1, M15578 | Steel welding nozzle |
| | KP21T-62 | 43300, 334-210-300, KP1942-3 | Aluminum welding nozzle |
| | KP21-62-FAS | 43290, 334-211-300, KP1956-1, M15577 | Spot welding nozzle |
| 55 | KP11-25, KH710 | 43090, 334-159-300, KP2039-1B1, M15522 | 0.025 Contact Tips |
| | KP11-30, KH711 | 43100, 334-160-300, KP2039-2B1, M15523 | 0.030 Contact Tips |
| | KP11-35, KH712 | 43110, 334-161-300, KP2039-3B1, M15524 | 0.035 Contact Tips |
| | KP11-45, KH713 | 43390, 334-202-300, KP2039-4B1, M57242 | 0.045 Contact Tips |
| 56 | 334-363-000 | 334-251-000 | Gas diffuser |
| 57 | | 334-302-000 | Handle cap (250-86c) |
| 58 | 334-252-000 | 334-252-000 | Conductor tube |
| 59 | | 334-254-000 | Gun handle case (90206) |
| 60 | S11604-51 | 084-019-000 | Set screw #8-32 x 1/8" |
| 61 | | 860-744-000 | Gun wire harness |
| 62 | KP44-3545-15 | 334-375-000, 4370 | Steel liner |
| | KP42N-3545-15 | 334-376-000, 4368 | Teflon liner |
| 63 | 238-393-000 | 238-393-000 | Complete gun assy 12', less tip & nozzle |
| | 238-296-666 | 238-296-666 | Complete gun assy 15' less tip & nozzle |
| 64 | 334-255-000 | 334-255-000 | Trigger |

Not Shown

| | | | |
|----|-------------|-------------------|----------------------------------|
| 65 | | 512-046-000 | Rubber mat |
| 66 | | 413-035-666 | Axle |
| 67 | | 413-047-666 | Rear wheels |
| 68 | | 413-041-666 | Front caster |
| 69 | | 4208 | Helmet |
| 70 | | 410-260-666 | Chain |
| 71 | | 238-009-500, 4007 | Ground cable w/plug & clamp, 12' |
| 72 | 239-292-666 | 239-010-102 | Ground Clamp |
| 73 | 334-303-001 | 334-286-666 | Gas regulator |
| 74 | | 312-051-000 | Parts tray |
| 75 | | 880-308-100 | Umbilical cord, 20 ft. |
| 76 | | 334-232-500 | Dust cover |

| Rated Output | Voltage Settings | Agency Listing | Max Output |
|--------------|------------------|----------------|------------|
| 225 amps | Infinite | CSA | 250 amps |





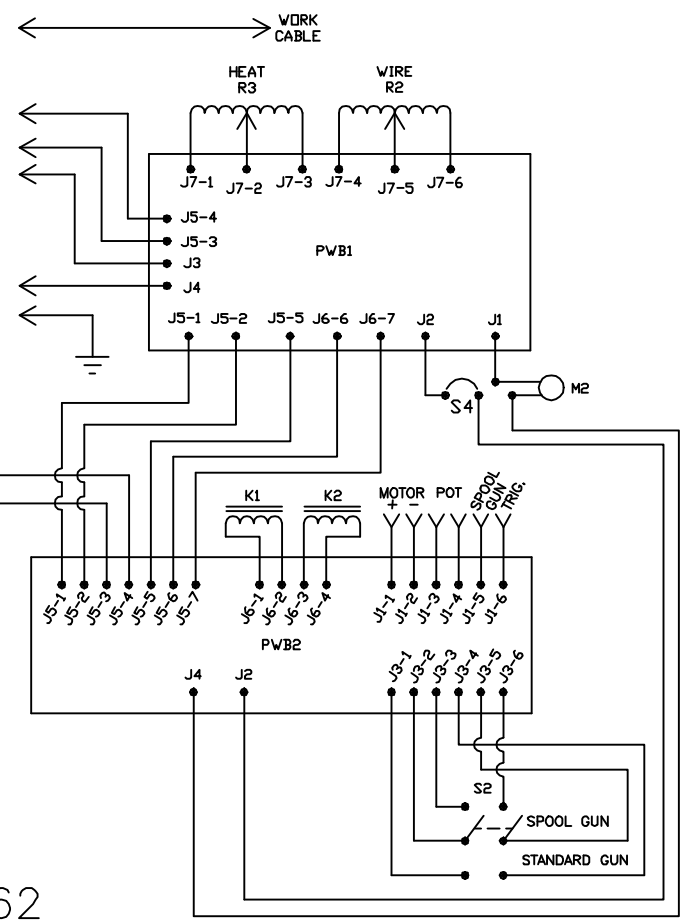
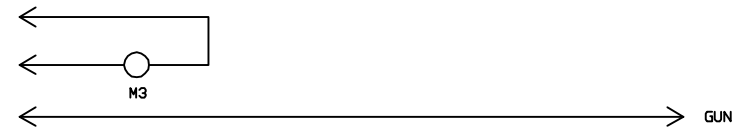
POWER PACK

NOTES:

- 1 SHOWN WIRED FOR 230 VOLT OPERATION.
- 2 FOR 208 VOLT OPERATION, MOVE JUMPER TO THIS POSITION.

| SYM | DESCRIPTION |
|----------|---------------------------------------|
| C1,C2,C3 | CAPACITOR 45,000 MFD 45V |
| CR1,CR2 | DIODE 250 AMP 300V |
| DS1 | INDICATOR LIGHT 230 VAC |
| K1,K2 | GAS SOLENOID N.C. 18-24 VDC |
| L1 | REACTOR 250 AMP |
| M1 | FAN MOTOR 240V |
| M2 | WIRE FEED DRIVE MOTOR 5-24 VDC |
| M3 | WELDING VOLTAGE METER |
| PWB1 | CONTROL CIRCUIT BOARD |
| PWB2 | SPOOL GUN CIRCUIT BOARD |
| R1 | RESISTOR 12.5 OHM 100W |
| R2 | POTENTIOMETER WIRE SPEED 5K 1/2W |
| R3 | POTENTIOMETER HEAT CONTROL 5K 1/2W |
| S1 | POWER SWITCH 230V 60A |
| S2 | STANDARD GUN/SPOOL GUN SWITCH |
| S3 | THERMAL BREAKER L-175 |
| S4 | CIRCUIT BREAKER 230V 5A |
| SSR1 | SOLID STATE RELAY 70A |
| T1 | MAIN TRANSFORMER |
| T2 | CONTROL TRANSFORMER 230 VAC TO 24 VAC |
| TB1 | TERMINAL BLOCK 208/230V |

MODEL 117-062

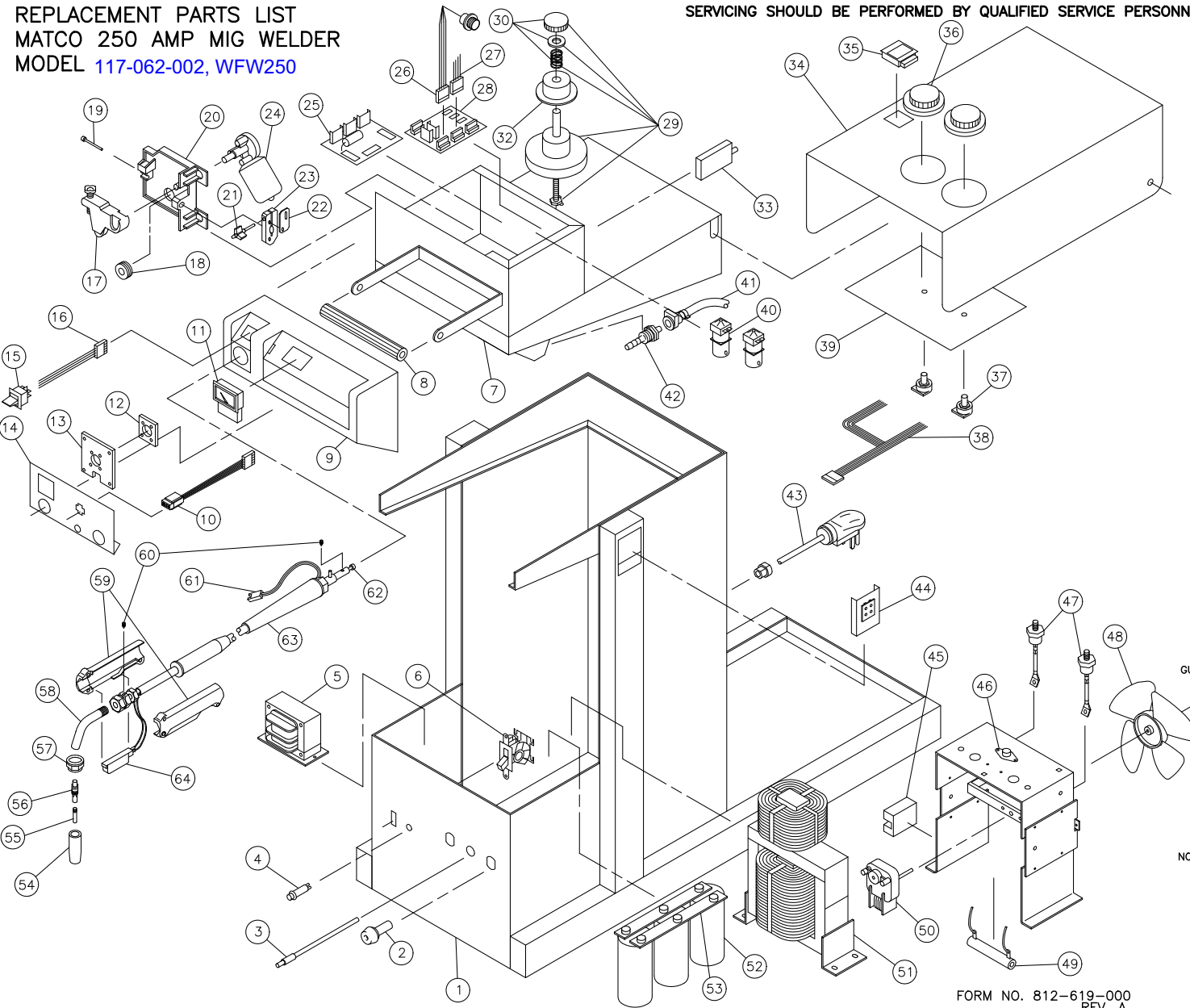


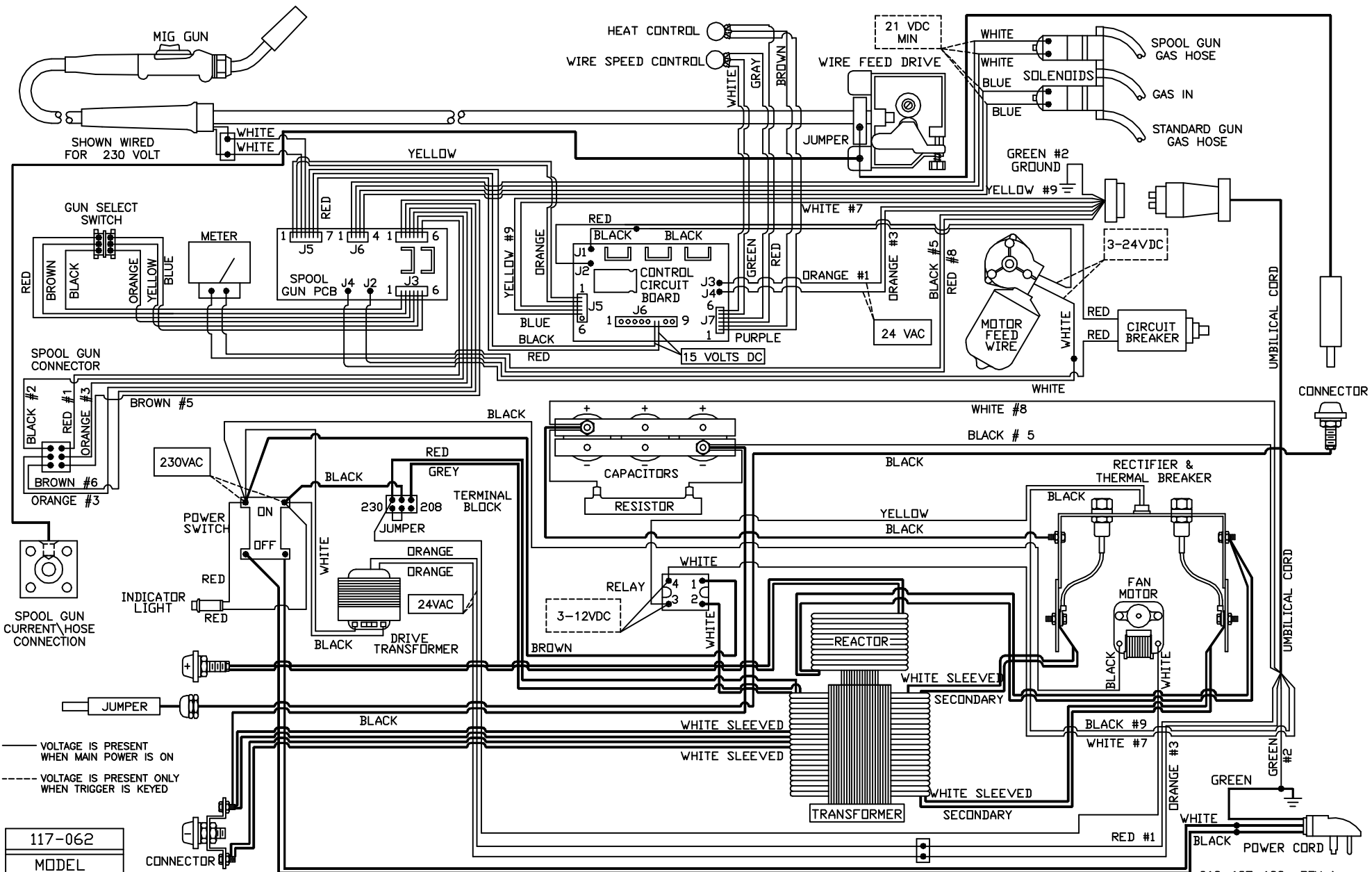
HEAD

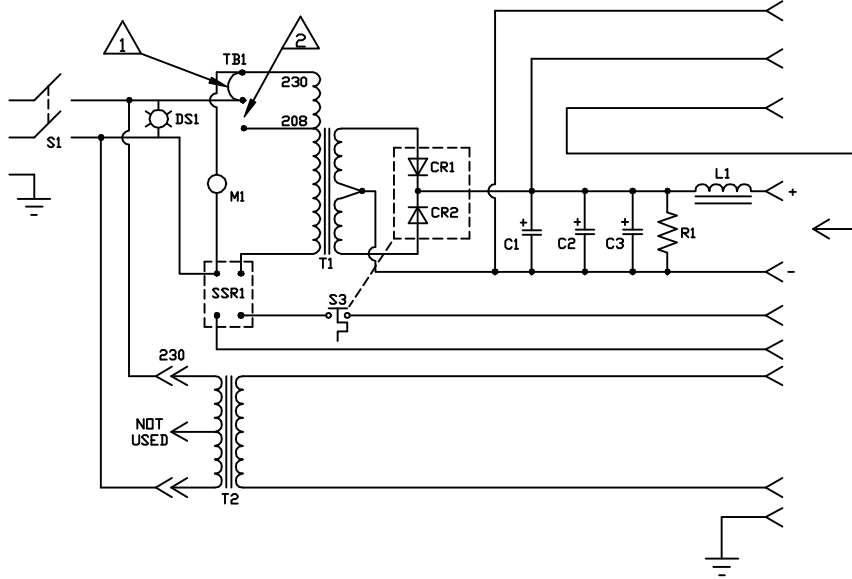
REPLACEMENT PARTS LIST
 MATCO 250 AMP MIG WELDER
 MODEL 117-062-002, WFW250

SERVICING SHOULD BE PERFORMED BY QUALIFIED SERVICE PERSONNEL.

| ITEM | PART NO. | DESCRIPTION |
|------------|-------------|---|
| 1 | 410-595-050 | FRONT PANEL |
| 2 | 312-045-666 | RECEPTACLE ASSEMBLY |
| 3 | 238-206-666 | POLARITY JUMPER CABLE |
| 4 | 245-095-666 | POWER LIGHT |
| 5 | 880-233-888 | DRIVE TRANSFORMER |
| 6 | 216-010-666 | POWER SWITCH |
| 7 | 312-157-666 | UNDER CARRIAGE |
| 8 | 246-161-666 | HANDLE |
| 9 | 312-156-166 | PLASTIC NOSE W/LABELS |
| 10 | 880-298-666 | HARNES, SPOOL GUN |
| 11 | 247-128-666 | VOLTMETER |
| 12 | 253-133-666 | SPOOL GUN FITTING |
| 13 | 512-154-666 | INSULATOR |
| 14 | 410-713-666 | GUN MOUNTING PANEL |
| 15 | 246-301-666 | PADLE SWITCH, GUN SELECTOR |
| 16 | 880-297-666 | HARNES, GUN SELECTOR |
| 17 | 880-111-666 | DRIVE TENSIONER ASSEMBLY |
| 18 | 4323 | DRIVE ROLLER (.024/.030/.035) |
| | 4347 | .045 SERRATED |
| | 4324 | URETHANE ROLLER |
| 19 | 239-123-666 | INLET GUIDE TUBE |
| 20 | 880-130-666 | DRIVE BASE ASSEMBLY |
| 21 | 246-326-666 | GUN CONNECTOR KNOB |
| 22 | 412-464-666 | COPPER JUMPER |
| 23 | 412-465-666 | GUN CONNECTOR |
| 24 | 216-089-666 | DRIVE MOTOR |
| 25 | 880-113-666 | MAIN PCB |
| 26 | 880-300-666 | HARNES, W/ UMBILICAL SOCKET |
| 27 | 880-299-666 | HARNES, SOLENOIDS |
| 28 | 880-295-666 | SPOOL GUN PCB |
| 29 | 312-066-666 | BOLT, SPINDLE, SPRING,WASHER AND TENSIONER KNOB |
| 30 | 246-363-666 | TENSIONER KNOB, WASHER AND SPRING |
| 32 | 312-110-666 | SPOOL ADAPTOR |
| 33 | 246-142-666 | BREAKER (WIRE FEED MOTOR) |
| 34 | 880-357-666 | HOOD W/LATCH & LABELS |
| 35 | 312-042-666 | SLIDE LATCH |
| 36 | 246-285-666 | KNOB 2.5" DIA |
| 37 | 246-120-666 | POTENTIOMETER ONLY |
| 38 | 860-936-666 | HARNES /POTS (HEAT & SPEED) |
| 39 | 410-516-026 | DRIVE BOX COVER |
| 40 | 246-212-666 | GAS SOLENOID VALVE |
| 41 | 880-293-666 | GAS HOSE ASSEMBLY |
| 42 | 953-134-666 | QUICK COUPLER |
| 43 | 248-178-666 | POWER CORD W/STRAIN RELIEF |
| 44 | 860-832-666 | DRIVE HEAD LOCK ASSEMBLY |
| 45 | 216-062-666 | TRIAC RELAY |
| 46 | 216-053-666 | THERMOSTAT |
| 47 | 244-070-666 | DIODE |
| 48 | 316-010-666 | FAN BLADE |
| 49 | 880-158-666 | BLEEDER RESISTOR |
| 50 | 216-099-666 | FAN MOTOR |
| 51 | 880-050-888 | TRANSFORMER (WELDING) |
| 52 | 213-018-666 | CAPACITOR |
| 53 | 412-202-666 | BUS BAR: FLAT |
| GUN PARTS: | | |
| 54 | 4328 | NOZZLES: STEEL (TAPERED) |
| | 4329 | SPOT (NOTCHED) |
| 55 | 4309 | TIPS: 0.024 CONTACT TIPS (6) |
| | 4310 | 0.030 CONTACT TIPS (6) |
| | 4311 | 0.035 CONTACT TIPS (6) |
| | 4339 | 0.045 CONTACT TIPS (6) |
| 56 | 334-363-000 | GAS DIFFUSER |
| 57 | 334-302-000 | HANDLE CAP |
| 58 | 334-232-000 | CONDUCTOR TUBE |
| 59 | 334-254-000 | HANDLE CASE |
| 60 | 084-019-000 | SET SCREW #8-32-1/8" (2) |
| 61 | 860-744-000 | GUN WIRING HARNES |
| 62 | 4367 | STEEL LINER: .016-.045 WIRE |
| | 4368 | PLASTIC FOR ALUM |
| 63 | 4365 | 12" HEAVY DUTY GUN ASSY |
| 64 | 334-255-000 | TRIGGER ASSEMBLY |
| NOT SHOWN: | | |
| 65 | 512-046-666 | RUBBER MAT |
| 66 | 413-035-666 | AXLE W/HUBS AND PINS |
| 67 | 413-047-666 | WHEEL W/HUB |
| 68 | 413-041-666 | CASTOR W/HARDWARE |
| 69 | 4208 | HELMET |
| 70 | 410-260-666 | TANK CHAIN |
| 71 | 4007 | GROUND CABLE |
| 72 | 239-010-102 | GROUND CLAMP |
| 73 | 334-286-666 | REGULATOR |
| 74 | 312-051-000 | PARTS TRAY |
| OPTIONS: | | |
| 75 | 880-308-100 | UMBILICAL CORD 20 FT |
| 76 | 334-232-500 | DUST COVERS: CLEAR |





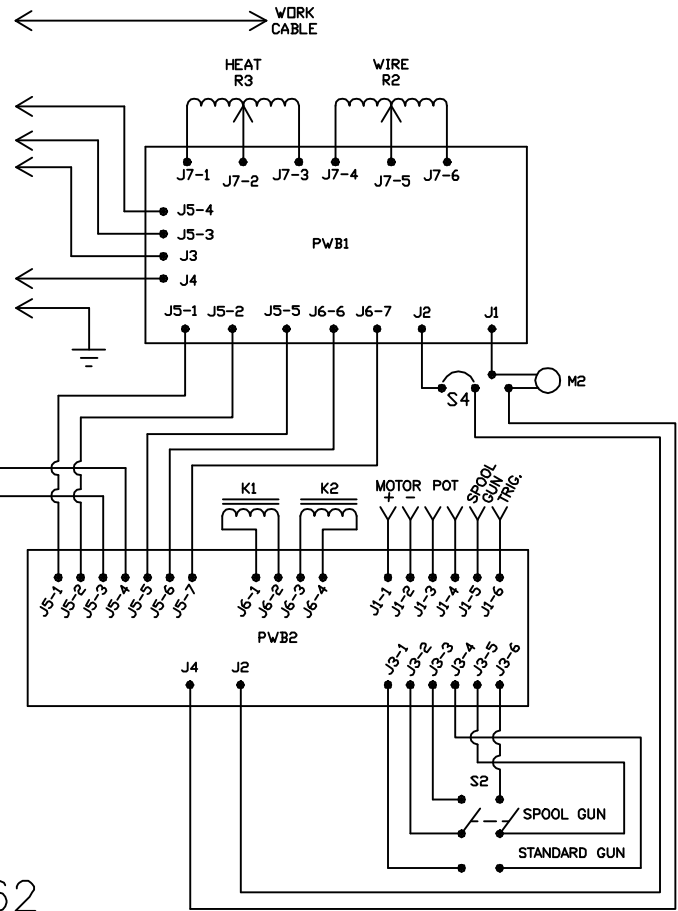


POWER PACK

NOTES:

- ① SHOWN WIRED FOR 230 VOLT OPERATION.
- ② FOR 208 VOLT OPERATION, MOVE JUMPER TO THIS POSITION.

| SYM | DESCRIPTION |
|----------|---------------------------------------|
| C1,C2,C3 | CAPACITOR 45,000 MFD 45V |
| CR1,CR2 | DIODE 250 AMP 300V |
| DS1 | INDICATOR LIGHT 230 VAC |
| K1,K2 | GAS SOLENOID N.C. 18-24 VDC |
| L1 | REACTOR 250 AMP |
| M1 | FAN MOTOR 240V |
| M2 | WIRE FEED DRIVE MOTOR 5-24 VDC |
| M3 | WELDING VOLTAGE METER |
| PWB1 | CONTROL CIRCUIT BOARD |
| PWB2 | SPOOL GUN CIRCUIT BOARD |
| R1 | RESISTOR 12.5 OHM 100W |
| R2 | POTENTIOMETER WIRE SPEED 5K 1/2W |
| R3 | POTENTIOMETER HEAT CONTROL 5K 1/2W |
| S1 | POWER SWITCH 230V 60A |
| S2 | STANDARD GUN/SPOOL GUN SWITCH |
| S3 | THERMAL BREAKER L-175 |
| S4 | CIRCUIT BREAKER 230V 5A |
| SSR1 | SOLID STATE RELAY 70A |
| T1 | MAIN TRANSFORMER |
| T2 | CONTROL TRANSFORMER 230 VAC TO 24 VAC |
| TB1 | TERMINAL BLOCK 208/230V |



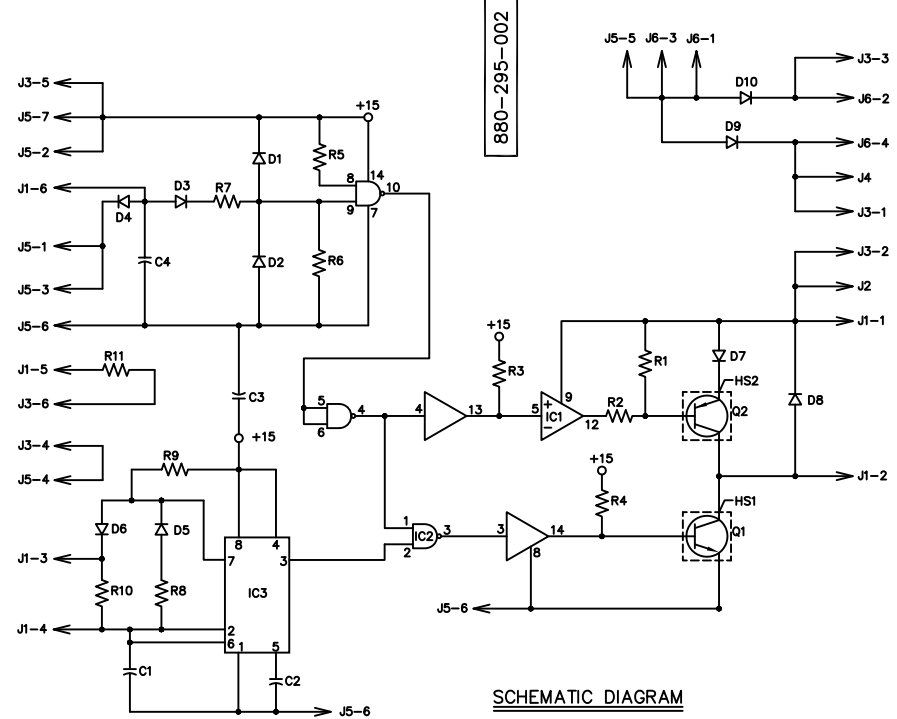
HEAD

MODEL 117-062

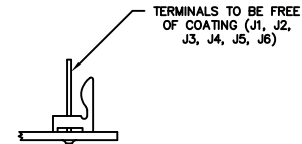
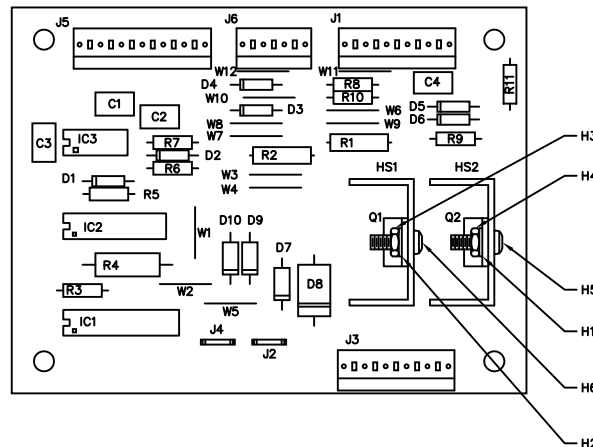
| LIST OF COMPONENTS | |
|--------------------|--|
| SYM | DESCRIPTION |
| C1 | CAPACITOR, .022 μ F, 50 V, METALIZED POLYESTER, 5% |
| C2 | CAPACITOR, .01 μ F, 50 V, METALIZED POLYESTER, 5% |
| C3 | CAPACITOR, 1 μ F, 50 V, METALIZED POLYESTER, 5% |
| C4 | CAPACITOR, 1 μ F, 50 V, METALIZED POLYESTER, 5% |
| D1 | DIODE, SIGNAL, 1N914/1N4148 |
| D2 | DIODE, SIGNAL, 1N914/1N4148 |
| D3 | DIODE, SIGNAL, 1N914/1N4148 |
| D4 | DIODE, SIGNAL, 1N914/1N4148 |
| D5 | DIODE, SIGNAL, 1N914/1N4148 |
| D6 | DIODE, SIGNAL, 1N914/1N4148 |
| D7 | DIODE, 1 AMP, 400 PRV, 1N4004 |
| D8 | DIODE, 3 AMP, 400 PRV, FAST RECOVERY, MR854 |
| D9 | DIODE, 1 AMP, 100 PRV, FAST RECOVERY, 1N4934 |
| D10 | DIODE, 1 AMP, 100 PRV, FAST RECOVERY, 1N4934 |
| H1 | #4 INTERNAL TOOTH LOCKWASHER, SS |
| H2 | #4 INTERNAL TOOTH LOCKWASHER, SS |
| H3 | #4-40 HEX NUT, SS |
| H4 | #4-40 HEX NUT, SS |
| H5 | #4-40 x 3/8" PPH, SS |
| H6 | #4-40 x 3/8" PPH, SS |
| H7 | .0001 OZ. DC-340 GREASE HEAT CONDUCTIVE HIGHTEMP WHITE |
| H8 | .0010 OZ. CONFORMAL COATING |
| HS1 | HEAT SINK, AAVID P/N 5930B-TT |
| HS2 | HEAT SINK, AAVID P/N 5930B-TT |
| IC1 | INTEGRATED CIRCUIT, DRIVER ULN2004A REF: MOTOROLA |
| IC2 | INTEGRATED CIRCUIT, QUAD-NAND GATE CD4093BEX |
| IC3 | INTEGRATED CIRCUIT, TIMER NE555P TEXAS INST. ONLY |
| J1 | CONNECTOR, AMP .156 SL SERIES, 6 POS 640388-6 |
| J2 | TERMINAL, .250 x .032, MALE FASTON, PCB MOUNT, TINNED |
| J3 | CONNECTOR, AMP .156 SL SERIES, 6 POS 640388-6 |
| J4 | TERMINAL, .250 x .032, MALE FASTON, PCB MOUNT, TINNED |
| J5 | CONNECTOR, AMP .156 SL SERIES, 7 POS 640388-7 |
| J6 | CONNECTOR, AMP .156 SL SERIES, 4 POS 640388-4 |
| PCB 1 | PRINTED CIRCUIT BOARD (880-295-002) |
| Q1 | TRANSISTOR, NPN, 10 AMP, 100V, TIP147 |
| Q2 | TRANSISTOR, PNP, 10 AMP, 100V, TIP147 |
| R1 | RESISTOR, 1K, 1/2 W, 5% |
| R2 | RESISTOR, 1K, 1/2 W, 5% |
| R3 | RESISTOR, 10K, 1/4 W, 5% |
| R4 | RESISTOR, 330 OHM, 1 W, 5% |
| R5 | RESISTOR, 10K, 1/4 W, 5% |
| R6 | RESISTOR, 10K, 1/4 W, 5% |
| R7 | RESISTOR, 1K, 1/4 W, 5% |
| R8 | RESISTOR, 261K, 1/4 W, 1% |
| R9 | RESISTOR, 15K, 1/4 W, 1% |
| R10 | RESISTOR, 200K, 1/4 W, 5% |
| R11 | RESISTOR, 47 OHM, 1/4 W, 5% |
| W1 | WIRE, 22 GA., SOLID TINNED COPPER |
| W2 | WIRE, 22 GA., SOLID TINNED COPPER |
| W3 | WIRE, 22 GA., SOLID TINNED COPPER |
| W4 | WIRE, 22 GA., SOLID TINNED COPPER |
| W5 | WIRE, 22 GA., SOLID TINNED COPPER |
| W6 | WIRE, 22 GA., SOLID TINNED COPPER |
| W7 | WIRE, 22 GA., SOLID TINNED COPPER |
| W8 | WIRE, 22 GA., SOLID TINNED COPPER |
| W9 | WIRE, 22 GA., SOLID TINNED COPPER |
| W10 | WIRE, 22 GA., SOLID TINNED COPPER |
| W11 | WIRE, 22 GA., SOLID TINNED COPPER |
| W12 | WIRE, 22 GA., SOLID TINNED COPPER |

NOTES:

- ALL COMPONENT SUBSTITUTIONS MUST BE ENGINEERING APPROVED BY CENTURY MFG. CO.
- SOLDERING & GENERAL WORKMANSHIP SHALL COMPLY WITH IPC-CM-770B.
- TO BE SHIPPED IN STATIC-RESISTANT BAG.
- REMOVE REVISION LEVEL MARK ON BOARD THAT CORRESPONDS TO CURRENT REVISION.
- LAST REFERENCE DESIGNATION USED: C4, D10, H8, HS2, IC3, J6, Q2, R11, W12.
- ALL COMPONENT LEADS TO BE TRIMMED TO .125 MAX FROM SURFACE OF FOIL.
- MUST BE CONFORMAL COATED (H8) PER QPC#98050
 MATERIAL THICKNESS
 DOW CORNING 1-2577 .002-.006
 HUMISEAL 1A27 .002-.004
- MAINTAIN .062 MIN CLEARANCE BETWEEN TERMINALS & COMPONENTS.
- APPLY THERMAL GREASE (H7) TO TRANSISTORS BEFORE MOUNTING TO HEATSINKS.



SCHEMATIC DIAGRAM



| | | | | | | |
|-------------------------------|--|----------------|--|---------------------------------|----------|------|
| DO NOT SCALE UNLESS SPECIFIED | | CENTURY MFG CO | | ECN 18450 | 4-15-99 | JLC |
| DIMENSIONS ARE IN INCHES | | DATE: 12-7-92 | | SYM | REVISION | DATE |
| TOLERANCES UNLESS SPECIFIED | | DWG BY: CEA | | 8231 PENN AVE SO MPLS, MN 55431 | | |
| 3 PLD DEC: ±.015 | | ENG CHK | | 4-16-99 | | |
| 2 PLD DEC: ±.03 | | ENG APPY: DAP | | MATERIAL NO | | |
| ANGLES: ±0.5° | | APPV | | DATE | | |
| THIRD ANGLE PROJECTION | | SCALE: 2:1 | | NO. 12873 | | |
| TITLE: PCB ASSEMBLY | | PAGE: 1 of 6 | | DWG NO. 880-295-002 | | |