



PARTS MANUAL

MODEL EMP 255ic & EMP 320ic



Valid for: serial nos. 730-xxx-xxxx, 735-xxx-xxxx

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EU DECLARATION OF CONFORMITY

According to
The Low Voltage Directive 2014/35/EU, entering into force 20 April 2016
The EMC Directive 2014/30/EU, entering into force 20 April 2016
The RoHS Directive 2011/65/EU, entering into force 2 January 2013

Type of equipment
Welding power source

Type designation

LMP 320ic, from serial number 730 xxx xxxx (2017 w30)
EMP 255ic, from serial number 735 xxx xxxx (2017 w35)

Brand name or trade mark
ESAB

Manufacturer or his authorised representative established within the EEA

Name, address, and telephone No:

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The following harmonised standard in force within the EEA has been used in the design:

EN 60974-1:2012, Arc Welding Equipment – Part 1: Welding Power Sources
EN 60974-5:2013, Arc Welding Equipment – Part 5: Wire Feeders
EN 60974-10:2014, A1:2015 Arc Welding Equipment – Part 10: Electromagnetic Compatibility (EMC) requirements

Additional information:

Restrictive use, Class A equipment, intended for use in local on other than residential

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above.

Date

Gothenburg

2018-02-27

Signature

Pedro Muniz

Position

Standard Equipment Director

CE 2018

This PARTS MANUAL is written for the ESAB Welder models EMP 255ic and EMP 320ic. The Part # for each of these welders is given here. Individual Parts/Assemblies are given in this manual.

| Part # | Product Name |
|---------------|---------------------|
| 0700 300 992 | EMP 255ic |
| 0700 300 991 | EMP 320ic |
| | |

Spare parts are to be ordered through the nearest ESAB agency. Indicate type of unit, serial number, product name, and part numbers according to a spare parts list.

WARNING

Maintenance and repair work should be performed by an experienced person, and electrical work only by a trained electrician. Use only recommended spare parts.

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HOUSING PARTS

SECTION 1

HOUSING PARTS

1.1 HOUSING PARTS

Table 1-1. Housing Parts

| Item | Part # | Description | Qty |
|-------------|---------------|-----------------------------------|------------|
| 1 | 0558 102 537 | Hinge | 1 |
| 2 | 0558 102 538 | Door pull & latch | 1 |
| 3 | 0464 651 880 | Side door, spool side (EMP 255ic) | 1 |
| | 0464 651 881 | Side door, spool side (EMP 320ic) | |
| 4 | 0558 102 544 | Side frame, spool side | 1 |
| 5 | 0558 102 399 | Handle | 4 |
| 6 | 0558 102 545 | Foot (With 2× M6x20 screw) | 2 |
| 7 | 0558 102 547 | Side door, power side | 1 |
| 8 | 0558 102 546 | Side frame, power side | 1 |

HOUSING PARTS

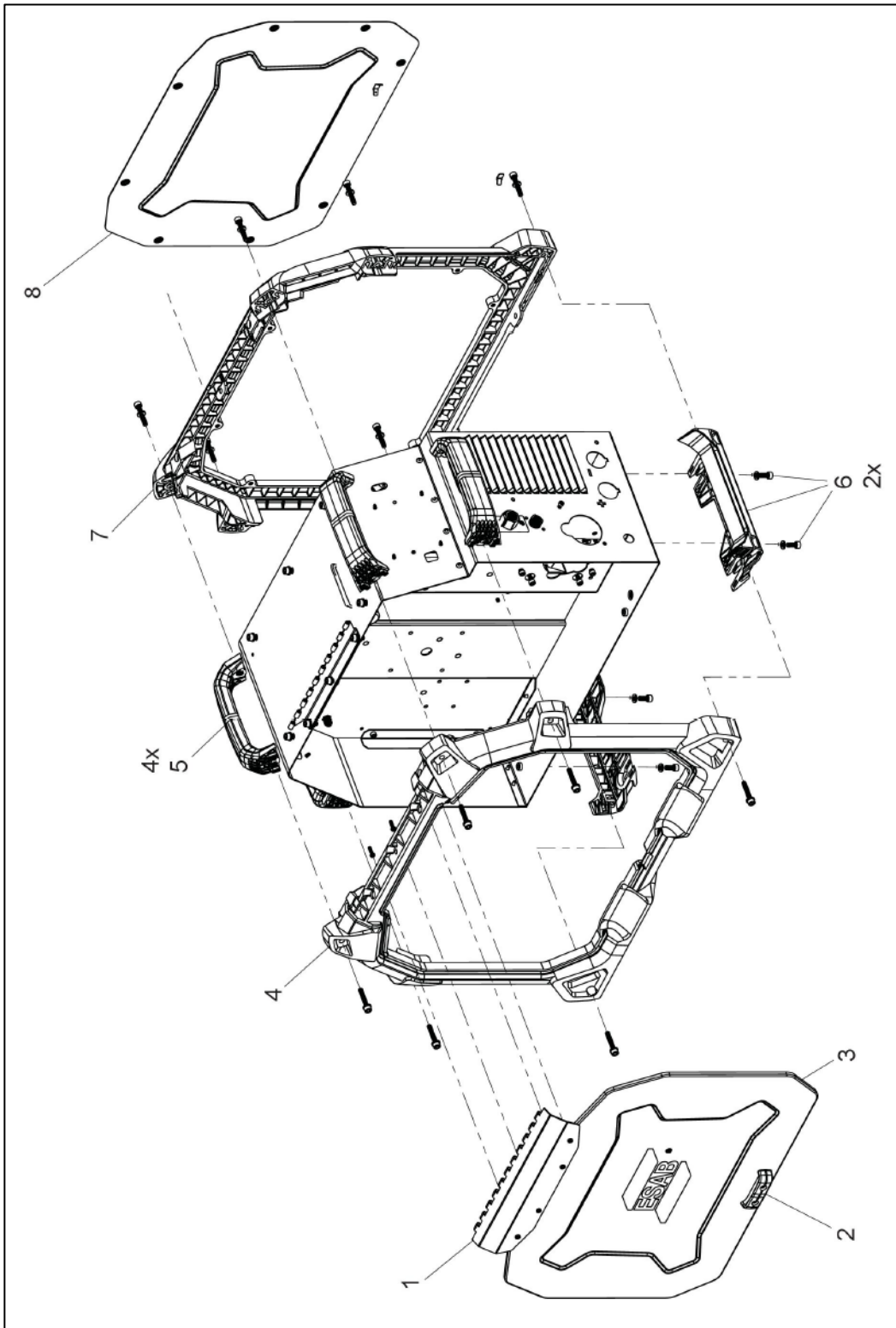


Figure 1-1. Housing

CONNECTION PARTS

SECTION 2

CONNECTION PARTS

2.1 CONNECTION PARTS

Table 2-1. Connection Parts

| Item | Part # | Description | Qty |
|-------------|---------------|--|------------|
| 1 | 0558 102 521 | Brake hub kit | 1 |
| 2 | 0464 620 880 | MIG gas solenoid system | 1 |
| 3 | 0464 621 880 | TIG/Spool gun gas solenoid system | 1 |
| 4 | 0558 102 525 | Bracket, gas solenoid mounting | 1 |
| 5 | 0464 622 880 | Gas inlet/outlet, bulkhead fitting | 2 |
| 6 | 0464 637 880 | Gas inlet/outlet, bulkhead fitting - BSP | 1 |
| 7 | 0464 646 880 | Power switch | 1 |
| 8 | 0464 639 880 | Fan Bracket assembly | 1 |
| 9 | 0558 102 527 | Female OKC connector | 2 |
| 10 | 0558 102 593 | Polarity change cable & male OKC connector | 1 |
| 11 | 0464 640 880 | Wire drive assembly, Euro connector | 1 |
| 12 | 0558 102 530 | 8 pin female remote receptacle and harness | 1 |

CONNECTION PARTS

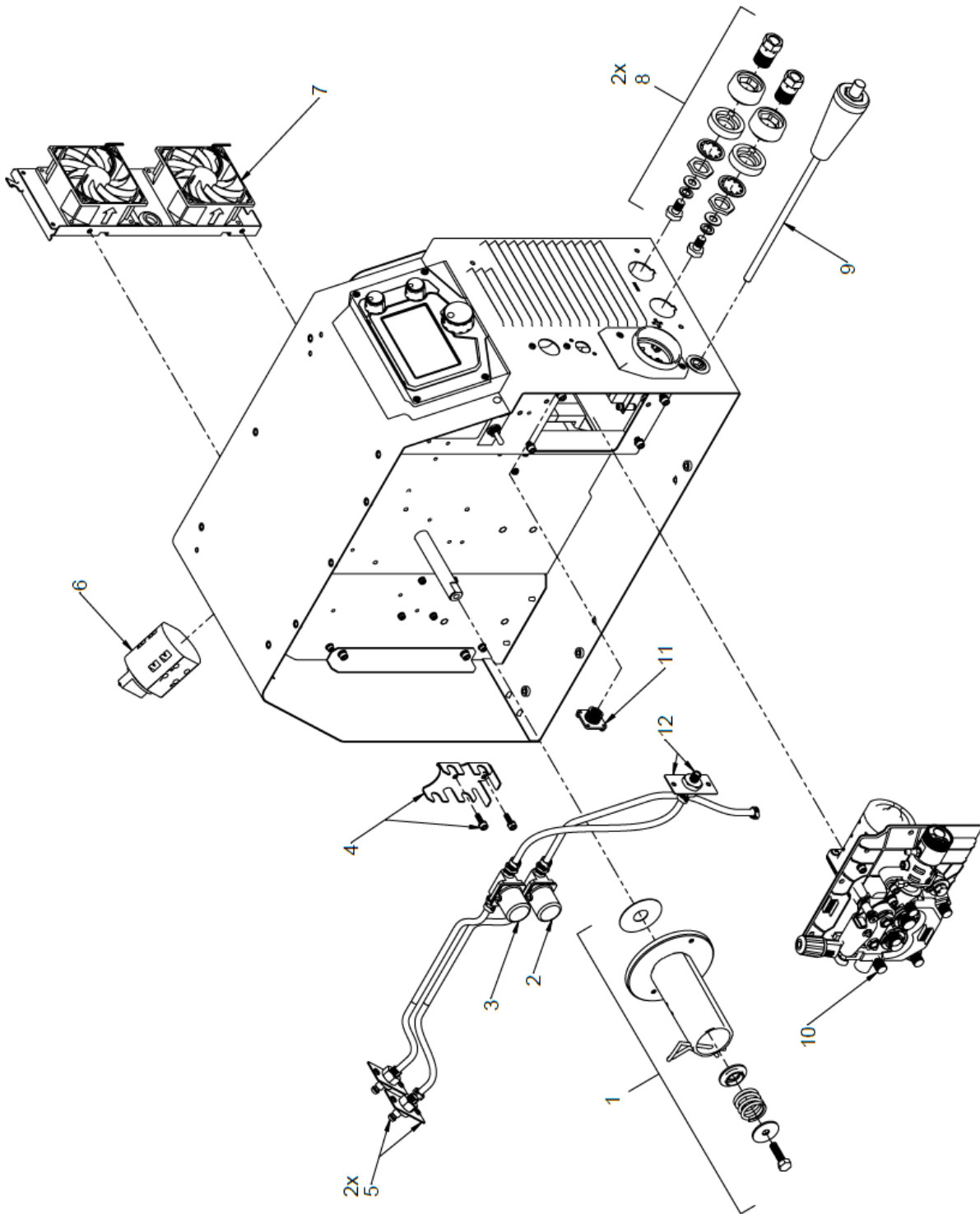


Figure 2-1. Connections

USER-INTERFACE PARTS

SECTION 3

USER-INTERFACE PARTS

3.1 USER-INTERFACE PARTS

Table 3-1. User-Interface Parts

EMP 255ic

| Item | Part # | Description | Qty |
|-------------|---------------|--------------------------|------------|
| 1 | 0464 649 880 | User interface complete | 1 |
| 2 | 0558 102 438 | Replaceable display lens | 1 |
| 3 | 0558 102 423 | Encoder for small knob | 2 |
| 4 | 0558 102 424 | Encoder for large knob | 1 |
| 5 | 0558 102 440 | Knob, small | 2 |
| 6 | 0558 102 441 | Knob, large | 1 |
| 7 | 0464 647 880 | Lens assembly kit | 1 |

EMP 320ic

| Item | Part # | Description | Qty |
|-------------|---------------|--------------------------|------------|
| 1 | 0464 650 880 | User interface complete | 1 |
| 2 | 0558 102 438 | Replaceable display lens | 1 |
| 3 | 0558 102 423 | Encoder for small knob | 2 |
| 4 | 0558 102 424 | Encoder for large knob | 1 |
| 5 | 0558 102 440 | Knob, small | 2 |
| 6 | 0558 102 441 | Knob, large | 1 |
| 7 | 0646 648 880 | Lens assembly kit | 1 |

USER-INTERFACE PARTS

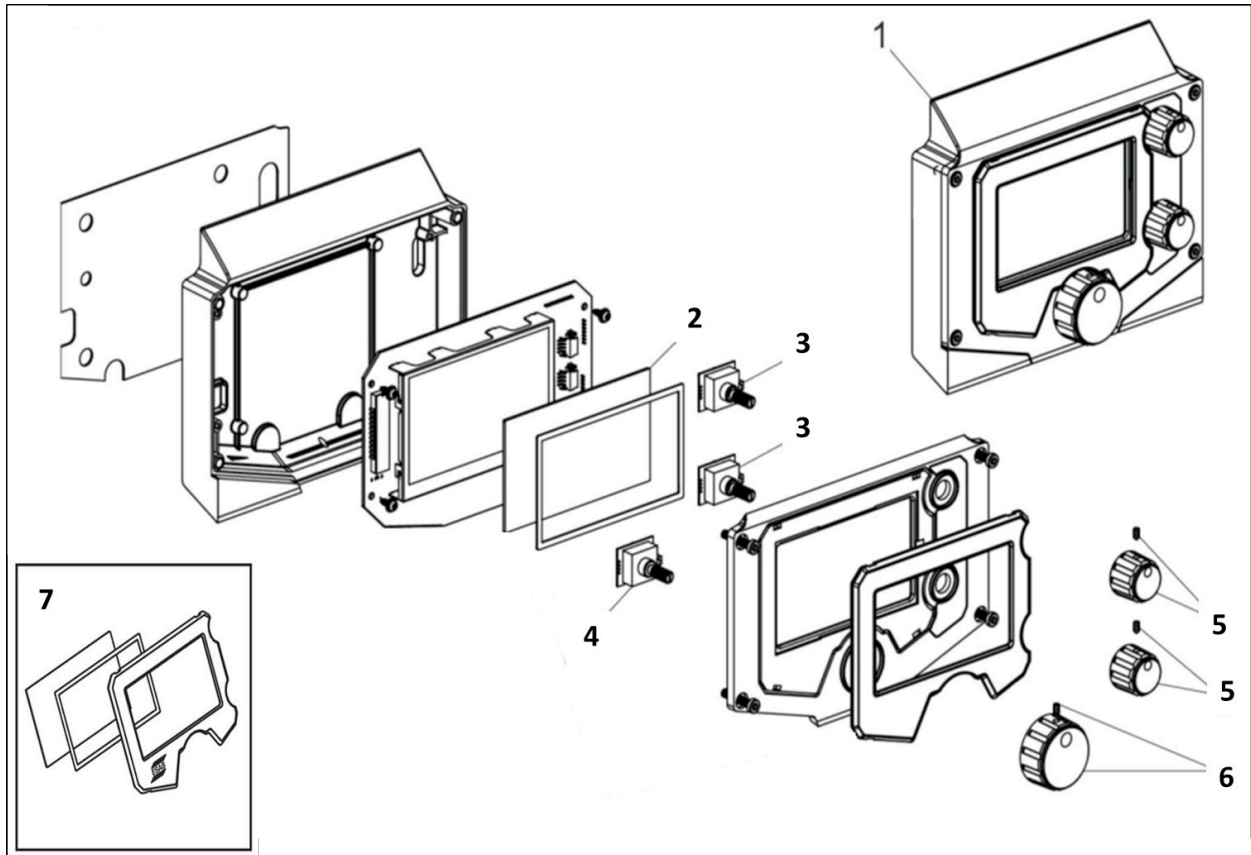


Figure 3-1. User-Interface

CONTROL/POWER-MODULE PARTS

SECTION 4

CONTROL/POWER MODULE PARTS

4.1 CONTROL/POWER MODULES PARTS

Table 4-1. Control/Power Modules Parts

| Item | Part # | Description | Qty |
|-------------|---------------|----------------------------|------------|
| 1 | 0558 102 607 | Control PCB | 1 |
| 2 | 0464 643 880 | Main Power Board Assembly | 1 |
| 3 | 0558 102 595 | Output Inductor | 1 |
| 4 | 0558 102 596 | Output Diode Assembly | 1 |
| 5 | 0464 644 880 | Main Transformer | 1 |
| 6 | 0464 642 880 | IPS Board Assembly | 1 |
| 7 | 0558 102 438 | Strain relief, mains cable | 1 |
| 8 | 0464 645 880 | Mains Cable | 1 |
| 9 | 0464 641 880 | EMI Filter Board Assembly | 1 |

CONTROL/POWER-MODULE PARTS

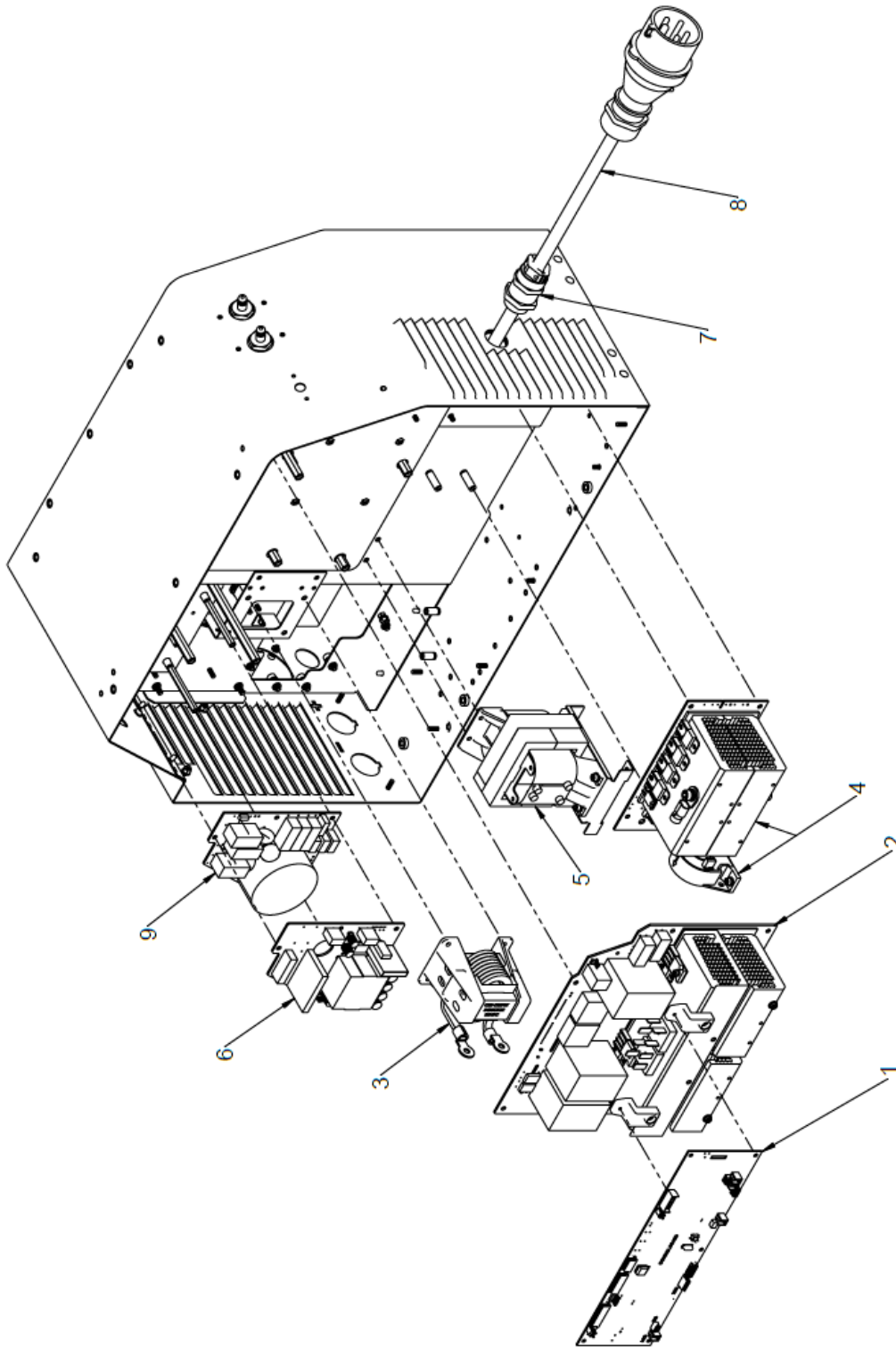


Figure 4-1. Control Modules

WIRE-FEED ASSEMBLY PARTS

SECTION 5

WIRE-FEED ASSEMBLY PARTS

5.1 WIRE-FEED ASSEMBLY PARTS

Table 5-1. Wire-Feed Assembly Parts

| Item | Part # | DESCRIPTION | Qty |
|------|--|---------------------------------|-----|
| 1 | 0558102591 | PRESSURE ROLLER ASSEMBLY | 1 |
| 2 | 0558102592 | TENSION ADJUSTMENT ASSEMBLY | 1 |
| 3 | 0558102608 | CENTER WIRE-GUIDE TUBE | 1 |
| 4 | (SEE Error! Reference source not found. BELOW) | OUTPUT WIRE-GUIDE TUBE | 1 |
| 5 | 0558102609 | MOTOR-GEAR SHAFT WOODRUFF KEY | 1 |
| 6 | 0558102597 | INLET QUAD WF | 1 |
| 7 | 0558102605 | DRIVEN GEAR ASSEMBLY | 1 |
| 8 | 0558102606 | DRIVE GEAR ASSEMBLY | 1 |
| 9 | (SEE Error! Reference source not found. BELOW) | WIRE-FEED ROLLERS | 1 |
| 10 | 0558102600 | WASHER FLAT M4 LARGE OD | 1 |
| 11 | 0558102601 | THUMB SCREW M4 X 10 X 8 KNURLED | 1 |
| 12 | 0558102602 | THUMB SCREW M4 X 10 KNURLED | 1 |
| 13 | 055810603 | QUAD WF COVER | 2 |
| 14 | 0558102604 | THUMB SCREW M5 X 14 KNURLED | 2 |

Table 5-2. PART # 17 Wire-Feed Rollers: Available Sizes for Models 255ic or 320ic

| ITEM # | PART # | DESCRIPTION (Values = Wire Diameter) | COMMENT |
|--|------------|--|-----------------------|
| FEED ROLLERS FOR ALL WIRES EXCEPT ALUMINUM | | | |
| 1 | 0369557003 | ROLLER, .040 (1.0) - .045 (1.2), V-SOLID | DEFAULT* |
| 2 | 0369557002 | ROLLER, .030 (.8) - .040 (1.0), V-SOLID | ACCESSORY** |
| 3 | 0369557001 | ROLLER, .024 (.6) - .030 (.8), V-SOLID | OPTIONAL FOR PURCHASE |
| 4 | 0369557013 | ROLLER, .052 (1.4) - .062 (1.6), V-SOLID | OPTIONAL FOR PURCHASE |
| FEED ROLLERS FOR ALUMINUM WIRE | | | |
| 5 | 0369557006 | ROLLER, .040 (1.0) - .045 (1.2), ALUM (U-GROOVE) | OPTIONAL FOR PURCHASE |
| 6 | 0369557011 | ROLLER, .030 (0.8) - .040 (1.0), ALUM (U-GROOVE) | OPTIONAL FOR PURCHASE |
| * DEFAULT (size included in package) | | | |
| ** ACCESSORY (included with each model 255 or 320 unit.) | | | |

WIRE-FEED ASSEMBLY PARTS

Table 5-3. Output & Center Wire-Guide Tube: Available Sizes for Models 255ic or 320ic

| ITEM # | PART # | DESCRIPTION (Values = Inner Diameter (ID) of Tubes) | COMMENT |
|---|---------------|--|-----------------------|
| OUTPUT WIRE-GUIDE TUBES EXCEPT FOR ALUMINUM WIRE | | | |
| 1 | 0464652880 | TUBE, WIRE GUIDE .040 (1.0) - .045 (1.2), V-SOLID | DEFAULT* |
| 2 | 0464653880 | TUBE, WIRE GUIDE .030 (.8) - .040 (1.0), V-SOLID | ACCESSORY** |
| 3 | 0464657880 | TUBE, WIRE GUIDE .024 (.6), V-SOLID | OPTIONAL FOR PURCHASE |
| 4 | 0464658880 | TUBE, WIRE GUIDE .052 (1.4) - .062 (1.6), V-SOLID | OPTIONAL FOR PURCHASE |
| OUTPUT WIRE-GUIDE TUBES FOR ALUMINUM WIRE | | | |
| 5 | 0464659880 | TUBE, WIRE GUIDE .040 (1.0), ALUM | OPTIONAL FOR PURCHASE |
| 6 | 0464660880 | TUBE, WIRE GUIDE .045 (1.2), ALUM | OPTIONAL FOR PURCHASE |
| 7 | 0464661880 | TUBE, WIRE GUIDE .052 (1.4) - .062 (1.6), ALUM | OPTIONAL FOR PURCHASE |
| * DEFAULT (size included in package) | | | |
| ** ACCESSORY (optional size included with each model 255 or 320 unit) | | | |

WIRE-FEED ASSEMBLY PARTS

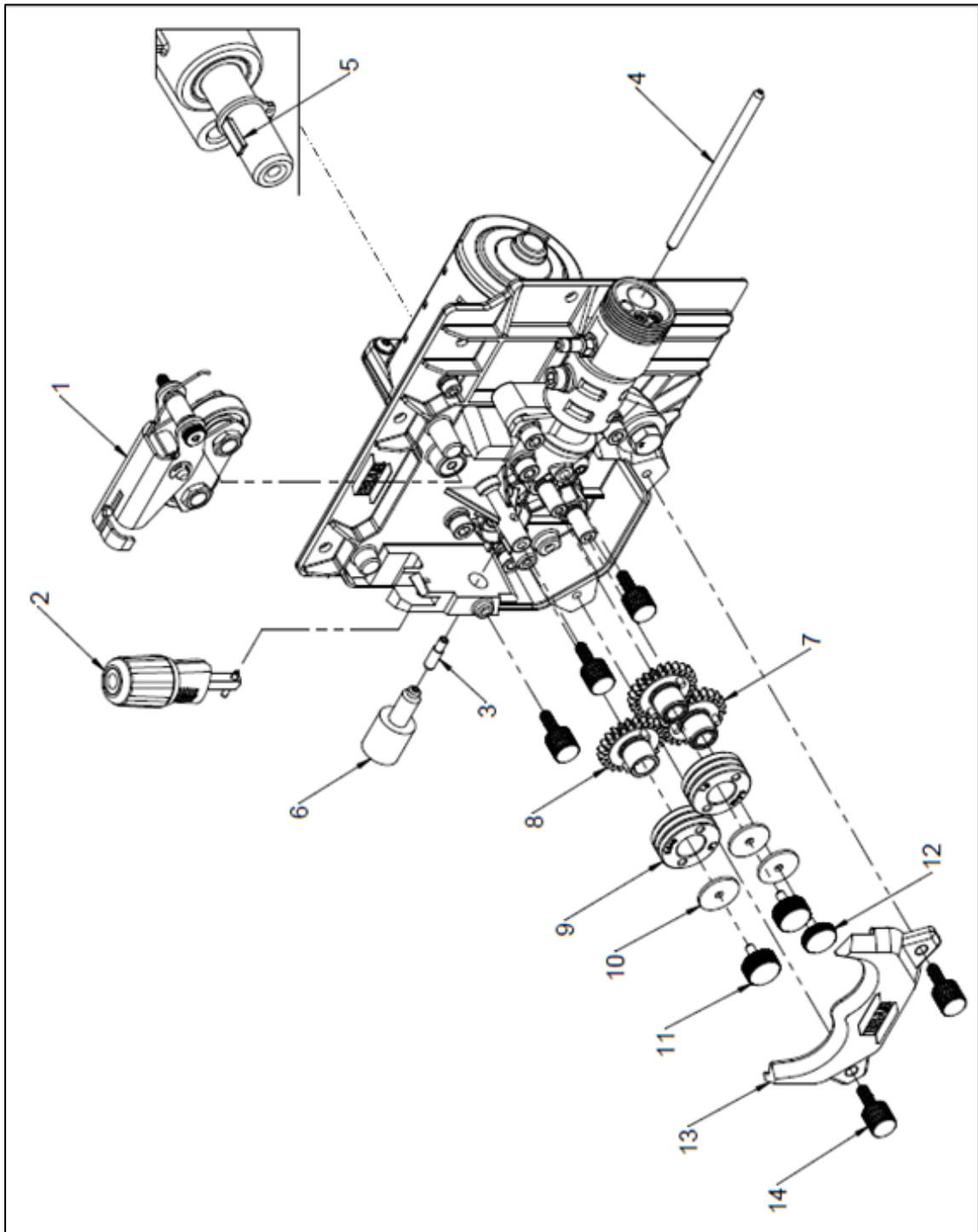


Figure 5-1. Wire-Feed Assembly

WIRE-FEED ASSEMBLY PARTS

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