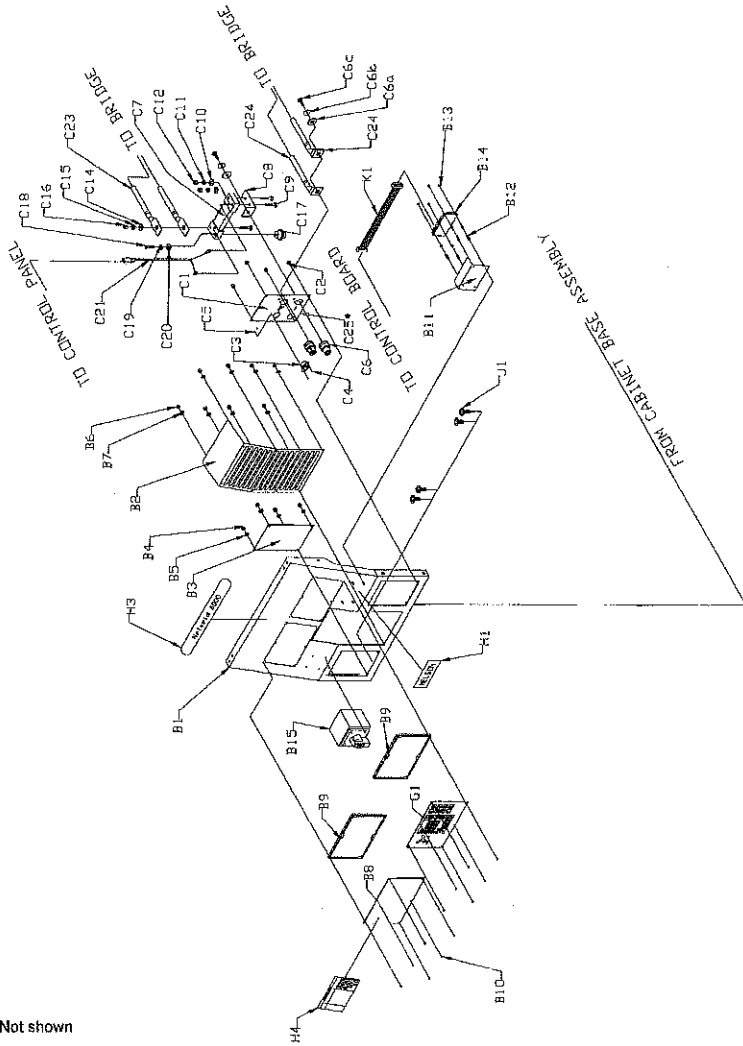


8.0 Diagrams and Parts Lists

8.1 Front Section

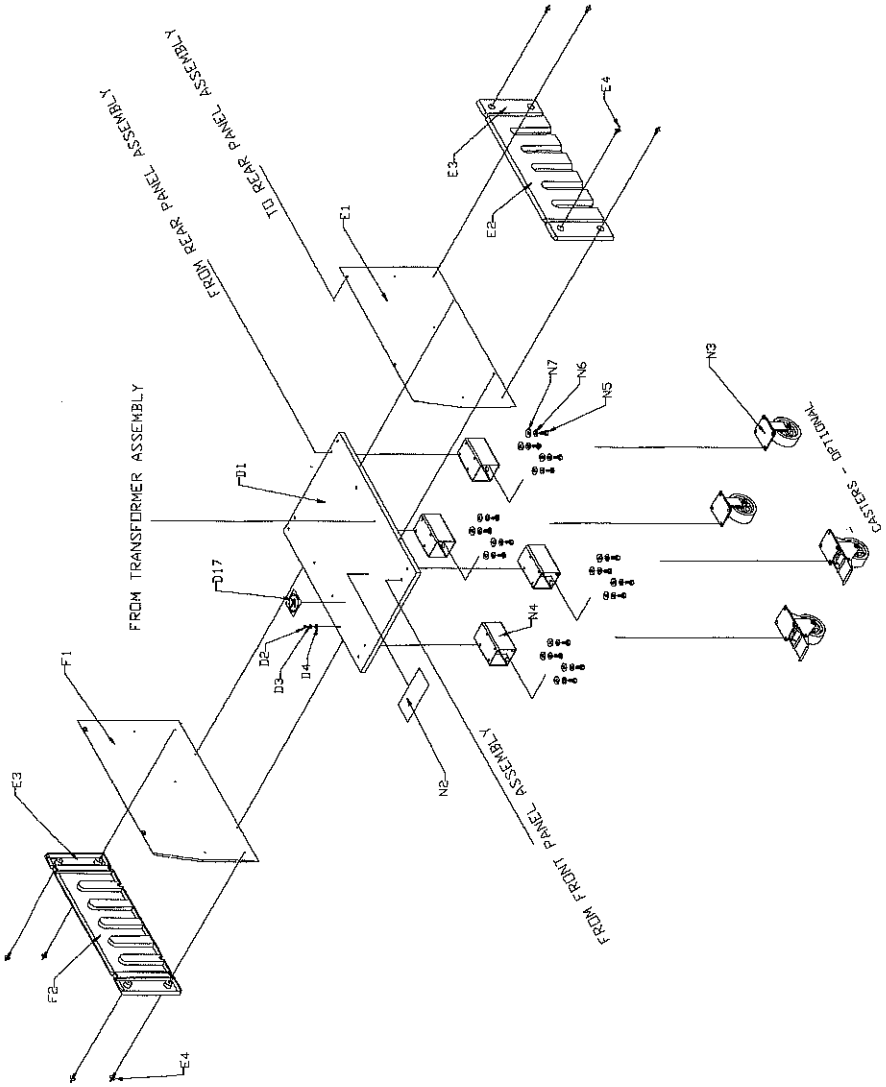


Nelweld Operations and Service Manual

| Label | Description | Quantity | | Part Number |
|-------|---|----------|-------|-------------|
| | | 1 Gun | 2 Gun | |
| B1 | Case front panel, 3000/4000 | 1 | 1 | 750-601-201 |
| B2 | Case front panel, 5000/6000 | 1 | 1 | 750-600-203 |
| B3 | Lower Panel, 3100/4000 | 1 | 1 | 750-601-202 |
| B4 | Lower Panel, 5000/6000 | 1 | 1 | 750-601-204 |
| B5 | Blank output panel, single output units only | 4 | 4 | 750-600-216 |
| B6 | Cover plate mounting hardware, nut M5 keys | 4 | 4 | 524-005-204 |
| B7 | Front lower mounting hardware, washer 5mm flat | 4 | 4 | 524-005-218 |
| B8 | Front lower mounting hardware, washer 5mm flat | 4 | 4 | 524-005-204 |
| B9 | Blank display panel, single output units only | 4 | 4 | 524-005-218 |
| B10 | Display panel a basket | 1 | 1 | 750-600-218 |
| B11 | Display panel mounting hardware, screw M4 x 12 | 12 | 12 | 524-005-219 |
| B12 | Power supply mounting hardware, spacer 6mm x 8mm | 4 | 4 | 729-039-006 |
| B13 | Power supply mounting hardware, nut M5 keys | 8 | 8 | 542-005-208 |
| B14 | Power supply, 20W 47.5V ±12V ±5V | 1 | 1 | 729-011-200 |
| B15 | Switch disconnect, 3000/4000 | 1 | 1 | 709-261-000 |
| | Switch disconnect, 5000/6000, 230/460/575V | 1 | 1 | 709-261-010 |
| | Switch disconnect, 5000/6000, 208/230/460V | 1 | 1 | 709-261-020 |
| C1 | Output panel, 3000 | 1 | 2 | 750-600-201 |
| | Output panel, 4000/5000/6000 | 1 | 2 | 750-600-213 |
| C2 | Front lower mounting hardware, nut M5 keys | 4 | 4 | 524-005-204 |
| | Front lower mounting hardware, washer 5mm flat | 4 | 4 | 524-005-118 |
| C3 | Control cable connector, 3-pin | 1 | 2 | 714-374-004 |
| C4 | Control cable connector mounting hardware, M3 x 1.0 screw | 2 | 4 | 524-005-208 |
| C5 | Control cable connector mounting hardware, nut M3 keys | 2 | 4 | 524-005-208 |
| C6 | Dinse connector, female 500A, 3000 | 2 | 4 | 714-166-000 |
| C7 | Dinse connector, female 600A, 4000/5000/6000 | 2 | 4 | 714-166-100 |
| C8 | Shunt bracket, 3000 | 1 | 1 | 729-097-000 |
| | Shunt bracket, 4000/5000/6000 | 1 | 1 | 750-602-202 |
| C9 | Shunt mounting hardware, screw M10 x 50 | 1 | 1 | 750-600-217 |
| | Shunt mounting hardware, screw M10 x 50 | 2 | 2 | 524-005-211 |
| | Shunt mounting hardware, washer 10mm flat | 2 | 2 | 524-005-147 |
| | Shunt mounting hardware, washer 10mm locking | 2 | 2 | 524-005-083 |
| | Shunt mounting hardware, nut M10 x 15, Hex | 2 | 2 | 524-005-174 |
| | Shunt mounting hardware, M10 x 50 screw | 1 | 1 | 524-005-211 |
| | Shunt mounting hardware, washer 10mm flat | 1 | 1 | 524-005-147 |
| | Shunt mounting hardware, washer 10mm lock | 1 | 1 | 524-005-083 |
| | Shunt mounting hardware, nut M10 x 15, Hex | 1 | 1 | 524-005-174 |
| | Shunt standoff, finished | 1 | 1 | 729-106-000 |
| | Shunt standoff mounting hardware, screw M8 x 38 | 1 | 1 | 542-002-220 |
| | Shunt standoff mounting hardware, washer 8mm spring lock | 1 | 1 | 524-005-082 |
| | Shunt standoff mounting hardware, washer 8mm flat | 1 | 1 | 524-005-183 |
| | Shunt harness, output 1 | 0 | 1 | 723-241-033 |
| | Shunt harness, output 2 | 0 | 1 | 723-241-018 |
| | Weld cable, bridge to shunt, output 1, pos. 3000 | 1 | 1 | 720-544-101 |
| | Weld cable, bridge to shunt, output 1, pos. 4000 | 1 | 1 | 720-544-101 |
| | Weld cable, bridge to shunt, output 1, pos. 5000/6000 | 2 | 2 | 720-544-001 |
| | Weld cable, bridge to shunt, output 2, pos. 3000 | 0 | 1 | 720-544-103 |
| | Weld cable, bridge to shunt, output 2, pos. 4000 | 0 | 1 | 720-544-103 |
| | Weld cable, bridge to shunt, output 2, pos. 5000/6000 | 0 | 2 | 720-544-003 |
| | Weld cable, Dinse to bridge, output 1, neg. 3000 | 1 | 1 | 720-544-102 |
| | Weld cable, Dinse to bridge, output 1, neg. 4000 | 1 | 1 | 720-544-002 |
| | Weld cable, Dinse to bridge, output 1, neg. 5000/6000 | 2 | 2 | 720-544-002 |
| | Weld cable, Dinse to bridge, output 2, neg. 3000 | 0 | 1 | 720-544-104 |
| | Weld cable, Dinse to bridge, output 2, neg. 4000 | 0 | 1 | 720-544-104 |
| | Weld cable, Dinse to bridge, output 2, neg. 5000/6000 | 0 | 2 | 720-544-004 |
| | MS-232 Assembly | 1 | 2 | 721-310-003 |
| G1 | Front panel display | 1 | 2 | 750-591-001 |
| H1 | Front panel display decal | 1 | 2 | 724-569-600 |
| F3 | Nelson Stud Welding nameplate | 1 | 1 | 724-569-007 |
| F4 | Weld data decal | 1 | 1 | 724-569-007 |
| J1 | Case front panel mounting bolt | 4 | 4 | 524-005-218 |
| | DC power supply harness, single run | 1 | 0 | 725-241-000 |
| | DC power supply harness, dual run | 0 | 1 | 723-241-010 |

Nelweld Operations and Service Manual

8.2 Base and Side Cabinet Section

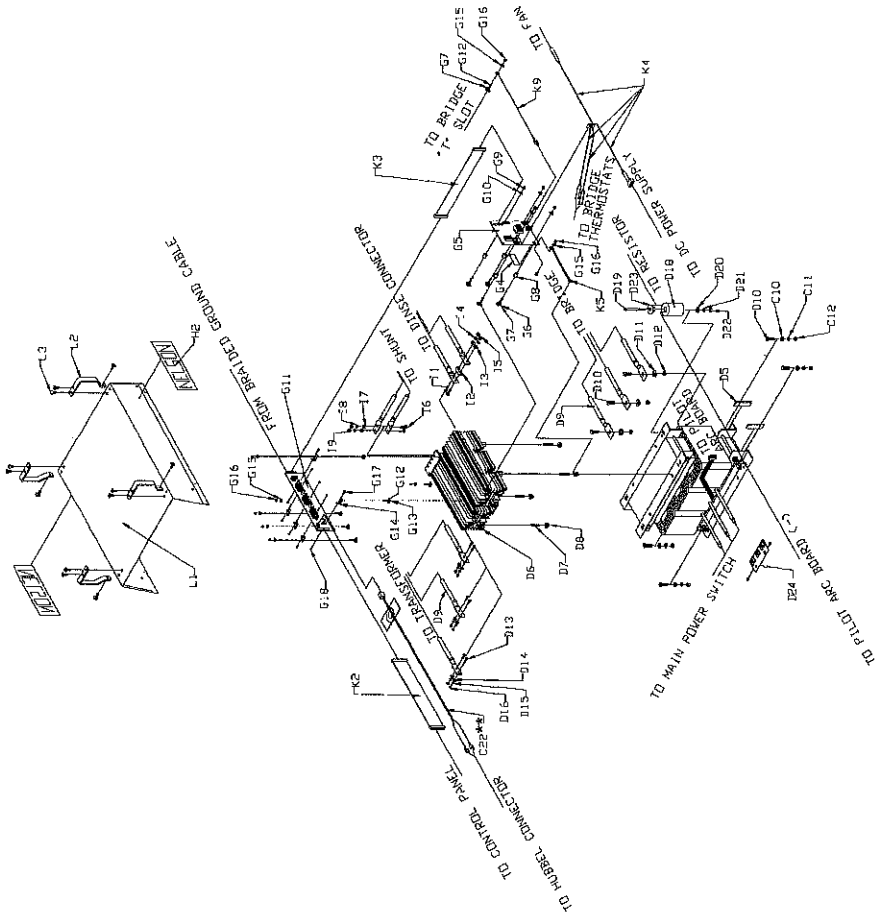


Nelweld Operations and Service Manual

| Label | Description | Quantity | Part Number |
|-------|---|-------------|-------------|
| | | 1 Gun/2 Gun | |
| D1 | Cabinet base panel, 3000/4000 | 1 | 750-601-100 |
| | Cabinet base panel, 5000/6000 | 1 | 750-600-100 |
| D2 | Ground stud connection hardware, nut M8 x 1.25, hex | 1 | 524-005-034 |
| D3 | Ground stud connection hardware, washer 8mm locking | 1 | 524-005-082 |
| D4 | Ground stud connection hardware, washer 8mm flat | 1 | 524-005-143 |
| D17 | Protected earth ground decal | 1 | 724-569-005 |
| E1 | Left side cabinet panel, 3000/4000 | 1 | 750-601-205 |
| | Left side cabinet panel, 5000/6000 | 1 | 750-600-208 |
| E2 | Left side case bumper, 3000/4000 | 1 | 750-601-207 |
| | Left side case bumper, 5000/6000 | 2 | 750-600-212 |
| E3 | Cabinet bumper end cap, 3000/6000 | 8 | 729-028-600 |
| E4 | Side bumper attachment hardware, rivet push-type | 8 | 750-601-206 |
| F1 | Right side cabinet panel, 3000/4000 | 1 | 750-600-209 |
| | Right side cabinet panel, 5000/6000 | 1 | 750-600-207 |
| F2 | Right side cabinet bumper, 3000/4000 | 1 | 750-600-211 |
| | Right side cabinet bumper, 5000/6000 | 1 | 724-569-100 |
| N2 | Voltage selection decal | opt | |
| N3 | Caster kit 6", 3000/4000 | opt | 582-337-900 |
| | Caster kit 8", 5000/6000 | opt | 582-337-901 |
| N4 | Cabinet base leg | 4 | 750-600-201 |
| N5 | Leg attachment hardware, bolt M10 x 20 | 16 | 524-005-145 |
| N6 | Leg attachment hardware, washer 10mm locking | 16 | 524-005-083 |
| N7 | Leg attachment hardware, washer 10mm flat | 16 | 524-005-147 |

Nelweld Operations and Service Manual

8.3 Transformer and Top Cabinet Section



* European units only

** Alternate is used on European units. See parts list.

Nelweld Operations and Service Manual

| Label | Description | Quantity 1 Gun/2 Gun | Part Number | Label | Description | Quantity 1 Gun/2 Gun | Part Number |
|-------|---|-------------------------|-------------|-------|--|-------------------------|-------------|
| C10 | Transformer mounting hardware, washer 10mm flat | 4 | 524-005-147 | G8 | Pilot Arc PCB mounting hardware, spacer | 4 | 550-600-224 |
| C11 | Transformer mounting hardware, washer 10mm locking | 4 | 524-005-038 | G9 | Pilot Arc PCB mounting hardware, nut M5 keys | 4 | 524-005-204 |
| C12 | Transformer mounting hardware, nut M10 x 1.5, Hex | 4 | 524-008-078 | G10 | Pilot Arc PCB mounting hardware, washer 5mm flat | 4 | 524-005-118 |
| C22 | Control connector to SCR Power PCB | 1 | 723-241-007 | G11 | SCR Power PCB | 1 | 750-592-001 |
| C22 | Alternate control connector to SCR Power PCB with filter (on European units only) | 1 | 723-241-026 | G12 | SCR Power PCB mounting hardware, screw M5 x 1.6 | 5 | 524-005-136 |
| D5 | Transformer mounting angle iron | 2 | 729-105-000 | G13 | SCR Power PCB mounting hardware, screw slot adapter | 5 | 750-600-222 |
| D6 | Bridge assembly, 1 output, 3000/4000 | 1 | 750-601-107 | G14 | SCR Power PCB mounting hardware, mounting bracket | 5 | 750-600-225 |
| D6 | Bridge assembly, 2 output, 3000/4000 | 0 | 750-601-108 | G15 | SCR Power PCB mounting hardware, washer M5 female x 20 | 5 | 524-005-217 |
| D7 | Bridge assembly, 1 output, 5000/6000 | 0 | 750-600-107 | G16 | SCR Power PCB mounting hardware, nut M5 keys | 5 | 524-005-204 |
| D7 | Bridge assembly, 2 output, 5000/6000 | 0 | 750-600-108 | G17 | SCR Power PCB mounting hardware, screw M5 x 1.6 | 5 | 524-005-214 |
| D7 | Bridge mounting hardware, screw M8 x 38, 3000/6000 | 4 | 524-002-424 | G18 | SCR Power PCB mounting hardware, nut M5 keys | 5 | 524-005-204 |
| D8 | Bridge mounting hardware, nut M6 x 1 hex | 4 | 524-002-424 | H2 | Desal, Nelson logo | 2 | 724-569-004 |
| D8 | Bridge mounting hardware, nut M8 x 1.25 hex | 4 | 524-001-277 | H1 | Anode lead hardware, single lead, screw M8 x 40, 3000/4000 | 2 | 524-002-126 |
| D9 | Cable, Transformer to Bridges, 3000 | 3 | 726-544-100 | I2 | Anode lead hardware, dual lead, screw M8 x 40, 5000/6000 | 2 | 524-002-532 |
| D10 | Cable mounting hardware, screw M10 x 2.5 | 3 | 726-544-000 | I3 | Dual anode lead mounting hardware, cable lug spacer | 1 | 750-600-223 |
| D10 | Cable mounting hardware, screw M10 x 2.5 | 3 | 524-005-203 | I4 | Single/dual lead mounting hardware, washer 8mm flat | 2 | 524-005-143 |
| D11 | Cable mounting hardware, washer 10mm locking | 3 | 524-005-083 | I5 | Single/dual lead mounting hardware, washer 8mm spring lock | 2 | 524-005-082 |
| D12 | Cable mounting hardware, nut M10 x 1.5 hex | 3 | 524-005-078 | I6 | Single/dual lead mounting hardware, nut M8 hex | 2 | 524-002-213 |
| D13 | Cable mounting hardware, screw M8 x 20 | 6 | 524-002-126 | I7 | Cathode lead hardware, single lead, screw M8 x 40, 3000/4000 | 2 | 524-002-126 |
| D14 | Cable mounting hardware, nut M8 x 1.25 hex | 6 | 524-002-218 | I7 | Cathode lead hardware, dual lead, screw M8 x 40, 5000/6000 | 2 | 524-002-220 |
| D15 | Cable mounting hardware, washer 8mm spring locking | 6 | 524-005-082 | I8 | Single/dual lead mounting hardware, washer 8mm flat | 2 | 524-005-143 |
| D16 | Cable mounting hardware, washer 8mm flat | 6 | 524-005-143 | I9 | Single/dual lead mounting hardware, washer 8mm spring lock | 2 | 524-005-082 |
| D18 | Choke coil | 1 | 700-141-000 | K2 | Cable, 50-pin, SCR Power PCB to Pilot Arc PCB | 1 | 723-241-003 |
| D19 | Choke coil mounting hardware, bolt M10 x 90 hex head | 1 | 524-001-274 | K3 | Cable, 50-pin, SCR Power PCB to Control | 1 | 723-241-003 |
| D20 | Choke coil mounting hardware, washer 10mm flat | 1 | 524-002-021 | K4 | Cable, 50-pin, SCR Power PCB to Pilot Arc PCB | 1 | 723-241-009 |
| D21 | Choke coil mounting hardware, washer 10mm locking | 1 | 524-002-020 | K5 | Cable, pilot arc to ground | 1 | 723-241-015 |
| D23 | Choke coil mounting hardware, nut M10 x 1.5 | 1 | 524-002-019 | K9 | Wiring harness, pilot arc to direct phase | 1 | 750-601-208 |
| D24 | Line Filter (on European units only) | 1 | 524-002-041 | L1 | Cabinet top panel, 3000/4000 | 1 | 750-600-213 |
| G4 | Gap pad, thermally conductive | 1 | 729-106-030 | L2 | Cabinet top panel, 5000/6000 | 1 | 750-600-214 |
| G5 | Pilot Arc PCB | 1 | 750-593-000 | L3 | Lifting handle | 4 | 524-005-207 |
| G6 | Pilot Arc PCB mounting hardware, screw M5 x 3.0 | 4 | 524-005-213 | | | 12 | |
| G7 | Pilot Arc PCB mounting hardware, screw slot adapter | 4 | 750-600-222 | | | | |

709-080-001 (Thermo switch N.O. 37 deg C) for fan
 709-080-002 (Thermo switch N.C. 102 deg C) for SCR overtemp.



Nelweld Operations and Service Manual

| Label | Description | Quantity 1. Gun 2. Gun | Part Number |
|-------|---|---------------------------|-------------|
| A1 | Cabinet rear panel, 3000/4000 | 1 1 | 750-601-203 |
| | Cabinet rear panel, 5000/6000 | 1 1 | 750-609-206 |
| A2 | Plenum, small single fan, 3000 | 1 1 | 750-609-200 |
| | Plenum, large single fan, 4000 | 1 1 | 750-501-204 |
| A3 | Plenum, dual fan, 5000/6000 | 1 1 | 750-600-207 |
| A4 | Plenum assembly hardware, nut M5 keep | 7 7 | 524-005-204 |
| | Plenum assembly hardware, washer 5mm flat | 7 7 | 524-003-118 |
| A5 | Fan, small, 3000 | 1 1 | 729-096-010 |
| | Fan, large, 4000 | 1 1 | 729-096-000 |
| A6 | Fan small, 5000/6000 | 2 2 | 729-096-010 |
| A7 | Wiring harness, 5000/6000 | 1 1 | 723-241-021 |
| | Pilot arc resistor, 2 resistor assembly | 1 0 | 705-001-006 |
| A8 | Pilot arc resistor, 3 resistor assembly | 0 1 | 705-001-006 |
| | Ground braid for SCR Power PCB | 1 2 | 723-241-012 |
| A9 | Grommet, push type | 3 3 | 717-140-002 |
| | Fan mounting hardware, screw, 3000 | 4 4 | 524-001-273 |
| A10 | Fan mounting hardware, screw, 4000 | 4 4 | 524-001-272 |
| | Fan mounting hardware, screw, 5000/6000 | 4 4 | 524-001-273 |
| | Fan mounting hardware, washer, 3000 | 4 4 | 524-002-123 |
| A11 | Fan mounting hardware, washer, 4000 | 4 4 | 524-002-031 |
| | Fan mounting hardware, washer, 5000/6000 | 4 4 | 524-002-123 |
| J1 | C-ss rear panel, mounting bolt | 4 4 | 524-005-218 |