



HYDRAULIC POWER UNIT
PARTS LIST & OPERATOR'S
MANUAL

MODEL
CB20E-XL

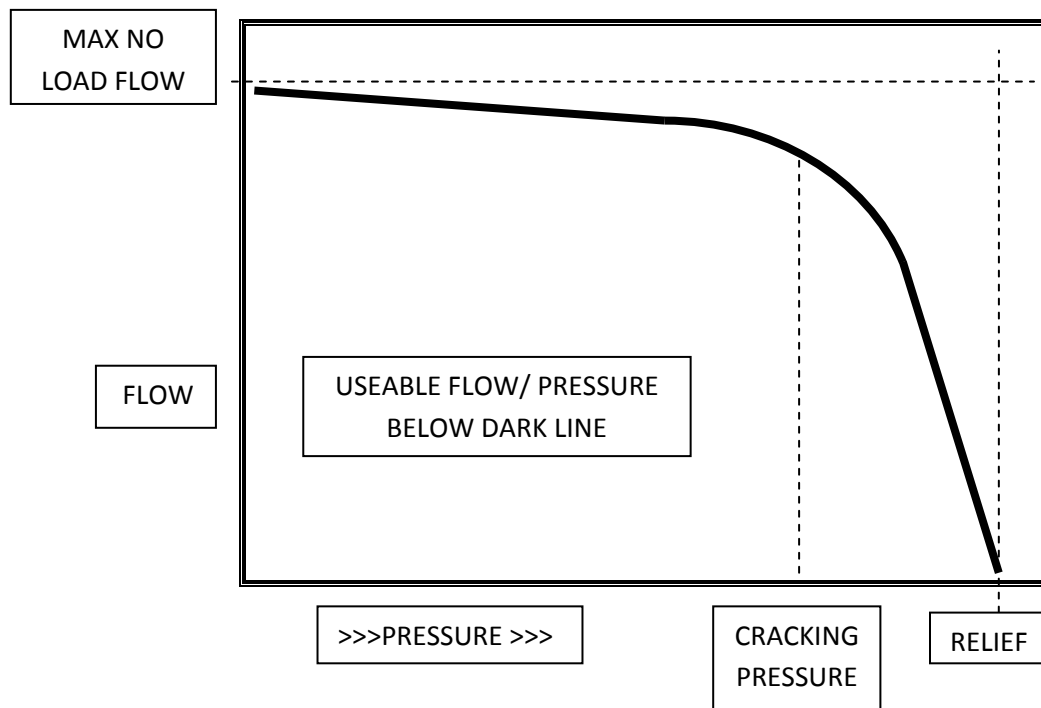
November 2016

Part #1801372

CB POWER PACK FLOW AND PRESSURE RATING

CB POWER PACK MODEL	MAXIMUM <u>NO</u> <u>LOAD</u> FLOW GPM/LPM	RELIEF SETTING PSI/BAR
15 Electric	12.75 / 48.2	2100 / 145
18 Briggs Vanguard	11.6 / 43.9	2850 / 196.5
20 Electric	14.9 / 56.4	2400 / 165.5
21 Honda	14.1 / 53.2	2600 / 179.3
30 Electric	20.4 / 77.2	2300 / 158.6
35 Briggs Vanguard	17.2 / 65.1	3000 / 206.9

Maximum no load flow is based on pump and motor manufacturer's specifications for pump displacement and no load RPM. Relief is set to insure gas engines cannot reach their stall torque and electric motors will not exceed the recommended current limit.

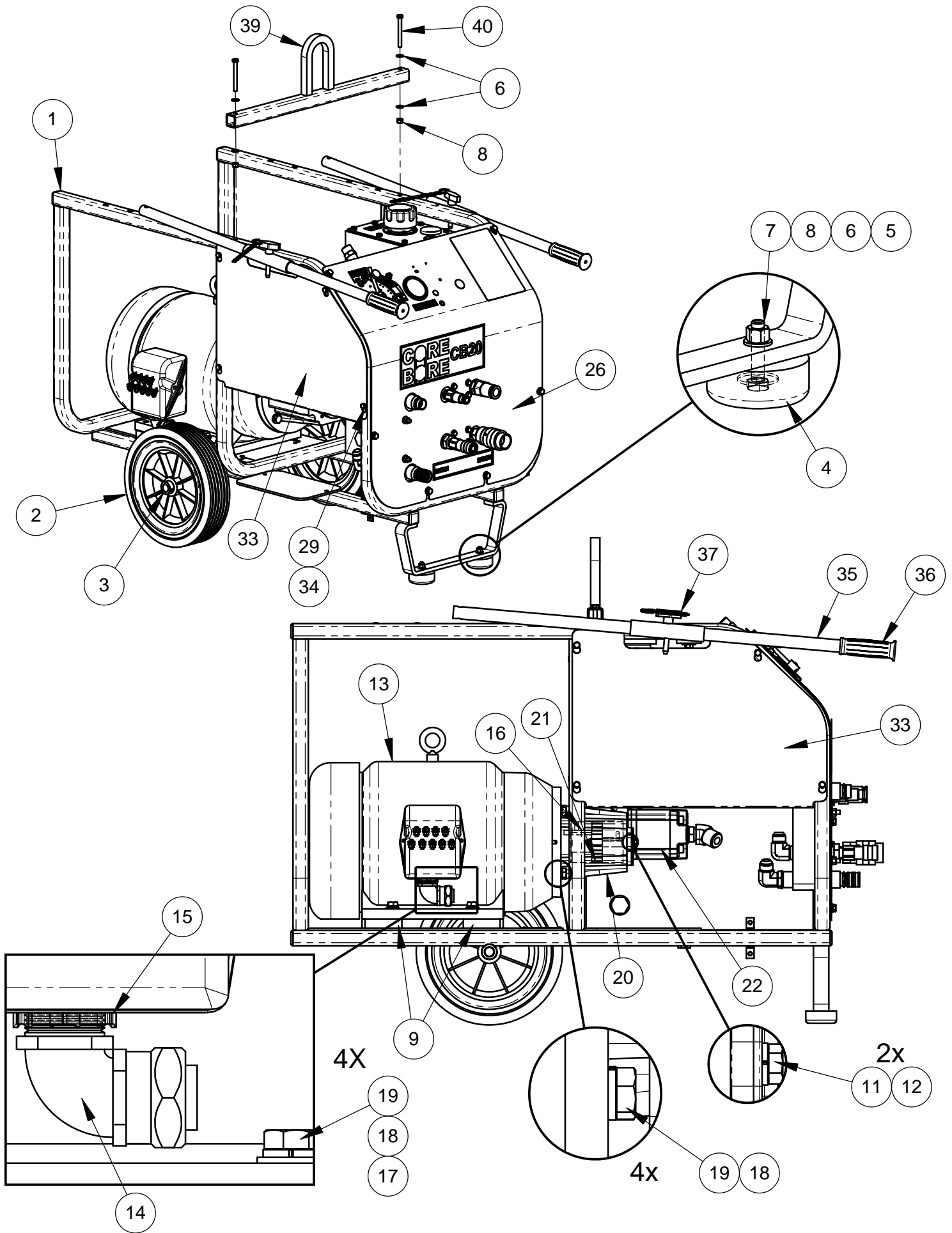


Flow decreases as engine/motor RPM drops under load. Relief valves begin to open and shunt flow to tank at 75-80% of the relief setting (cracking pressure). This further reduces flow to the tool. At relief, all flow is directed to tank.

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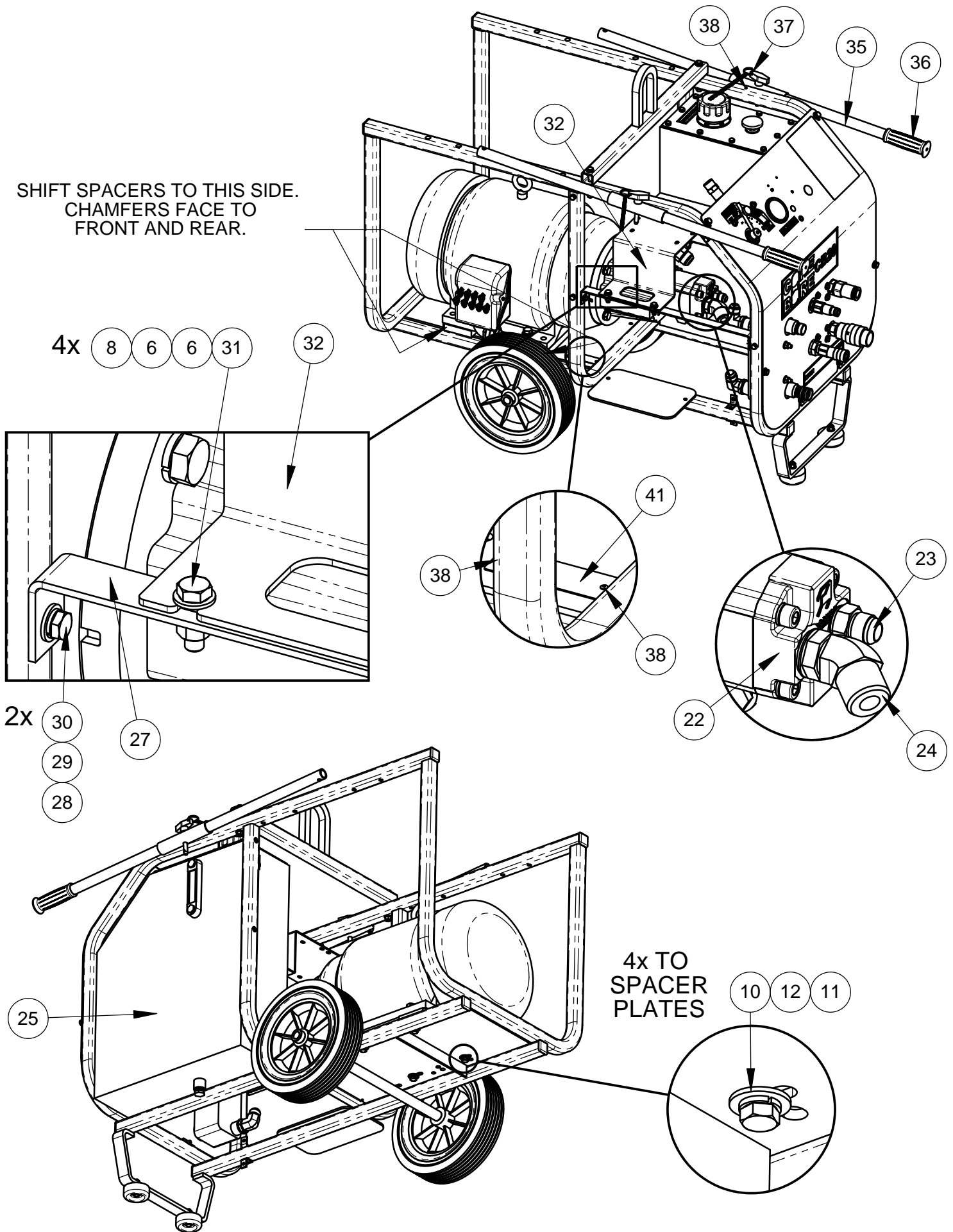
4646175 CB20 HYDRAULIC POWER SUPPLY 230/460 VOLT



4646175 CB20 HYDRAULIC POWER SUPPLY 230/460 VOLT

BOM Table			
ITEM	PART NO.	QTY.	DESCRIPTION
1	4646156	1	CB-XL Frame Assembly
2	2400643	2	Wheel, 12 x 2-5/8 x 3/4"
3	2400615	2	Set Collar, 3/4"
4	2501767	2	Rubber Bumper
5	2901103	2	Fender Washer, 5/16" x 1"
6	2900022	14	Flat Washer, 5/16" SAE
7	2900508	2	Cap Screw, Hex Hd., 5/16-18 x 1-1/2"
8	2900039	8	Lock Nut, 5/16-18 Nylon
9	4646172	2	Spacer Plate, CB20
10	2900473	4	Flat Washer, 3/8" USS
11	2900005	6	Cap Screw, Hex Hd., 3/8-16 x 1"
12	2900006	6	Lock Washer, 3/8" Split
13	4645005	1	Elec. Motor, 20HP, Short Shaft, W/Terminals
14	2800312	1	Connector, 1" Sealtite Elbow
15	2800193	1	Lock Nut, 1"
16	6047959	1	Key, 3/8" Sq. x 2-1/4"
17	2900058	4	Flat Washer, 1/2" SAE
18	2900084	8	Lock Washer, 1/2" Split
19	2900499	8	Cap Screw, Hex Hd., 1/2-13 x 1-1/2"
20	2400309	1	Pump Mount
21	2400167	1	Coupling Assembly, 1-5/8 - 3/4"
22	2600569	1	Pump, 1.0 CI, 2 Bolt SAE
23	3202079	1	5/8" O-Ring - 5/8" MJIC
24	3201881	1	1" MJIC - 3/4" MOR, 45 Deg.
25	4646173	1	Hydraulic Tank Assembly
26	4646171	1	Panel Assembly, CB20
27	4646035	1	Fuel Tank Support
28	2900009	2	Flat Washer, 1/4" SAE
29	2900024	6	Lock Washer, 1/4" Split
30	2900008	2	Cap Screw, Hex Hd., 1/4-20 x 1"
31	2900138	4	Cap Screw, Hex Hd., 5/16-18 x 1"
32	4641098	1	Starter Box Platform
33	4646049	1	Side Panel
34	2900144	4	Cap Screw, Hex Hd., 1/4-20 x 3/4"
35	4646006	2	Handle
36	2500636	2	Handle Grip
37	2900257	2	Lock Pin, T Handle, 3/8"
38	2900053	4	Rivet, 3/32" Dia.
39	4646003	1	Lifting Bar
40	2900248	2	Cap Screw, Hex Hd., 5/16-18 x 3"
41	1800169	1	Serial Number Plate, US
42	4646180	1	Hose Kit, CB20XL, CB35XL

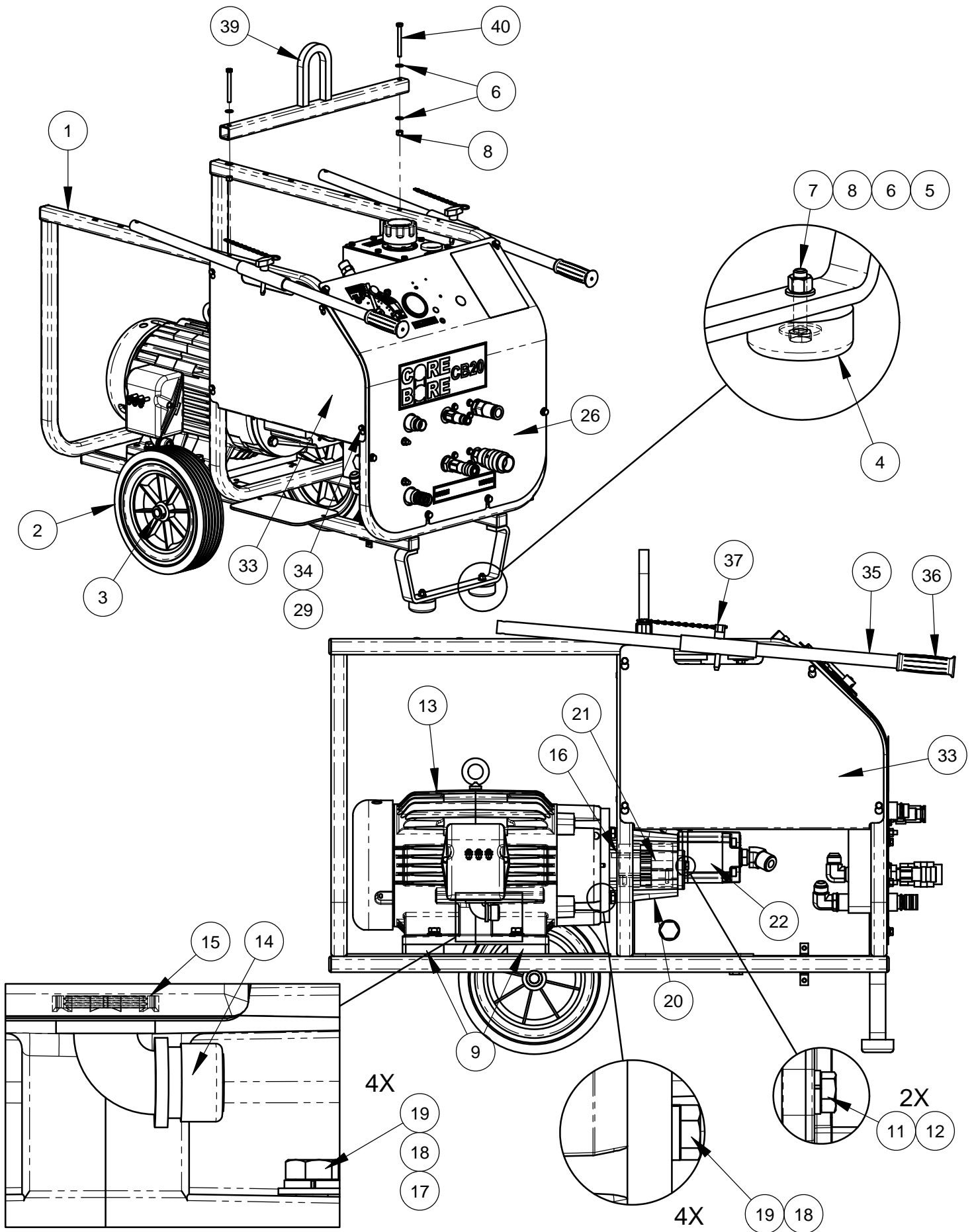
4646175 CB20 HYDRAULIC POWER SUPPLY 230/460 VOLT



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6	2900022	14	Flat Washer, 5/16" SAE
7	2900508	2	Cap Screw, Hex Hd., 5/16-18 x 1-1/2"
8	2900039	8	Lock Nut, 5/16-18 Nylon
9	4646172	2	Spacer Plate, CB20
10	2900473	4	Flat Washer, 3/8" USS
11	2900005	6	Cap Screw, Hex Hd., 3/8-16 x 1"
12	2900006	6	Lock Washer, 3/8" Split
13	4645005	1	Elec. Motor, 20HP, Short Shaft, W/Terminals
14	2800312	1	Connector, 1" Sealtite Elbow
15	2800193	1	Lock Nut, 1"
16	6047959	1	Key, 3/8" Sq. x 2-1/4"
17	2900058	4	Flat Washer, 1/2" SAE
18	2900084	8	Lock Washer, 1/2" Split
19	2900499	8	Cap Screw, Hex Hd., 1/2-13 x 1-1/2"
20	2400309	1	Pump Mount
21	2400167	1	Coupling Assembly, 1-5/8 - 3/4"
22	2600569	1	Pump, 1.0 CI, 2 Bolt SAE
23	3202079	1	5/8" O-Ring - 5/8" MJIC
24	3201881	1	1" MJIC - 3/4" MOR, 45 Deg.
25	4646173	1	Hydraulic Tank Assembly
26	4646171	1	Panel Assembly, CB20
27	4646035	1	Fuel Tank Support
28	2900009	2	Flat Washer, 1/4" SAE
29	2900024	6	Lock Washer, 1/4" Split
30	2900008	2	Cap Screw, Hex Hd., 1/4-20 x 1"
31	2900138	4	Cap Screw, Hex Hd., 5/16-18 x 1"
32	4641098	1	Starter Box Platform
33	4646049	1	Side Panel
34	2900144	4	Cap Screw, Hex Hd., 1/4-20 x 3/4"
35	4646006	2	Handle
36	2500636	2	Handle Grip
37	2900257	2	Lock Pin, T Handle, 3/8"
38	2900053	4	Rivet, 3/32" Dia.
39	4646003	1	Lifting Bar
40	2900248	2	Cap Screw, Hex Hd., 5/16-18 x 3"
41	1800169	1	Serial Number Plate, US
42	4646180	1	Hose Kit, CB20XL, CB35XL

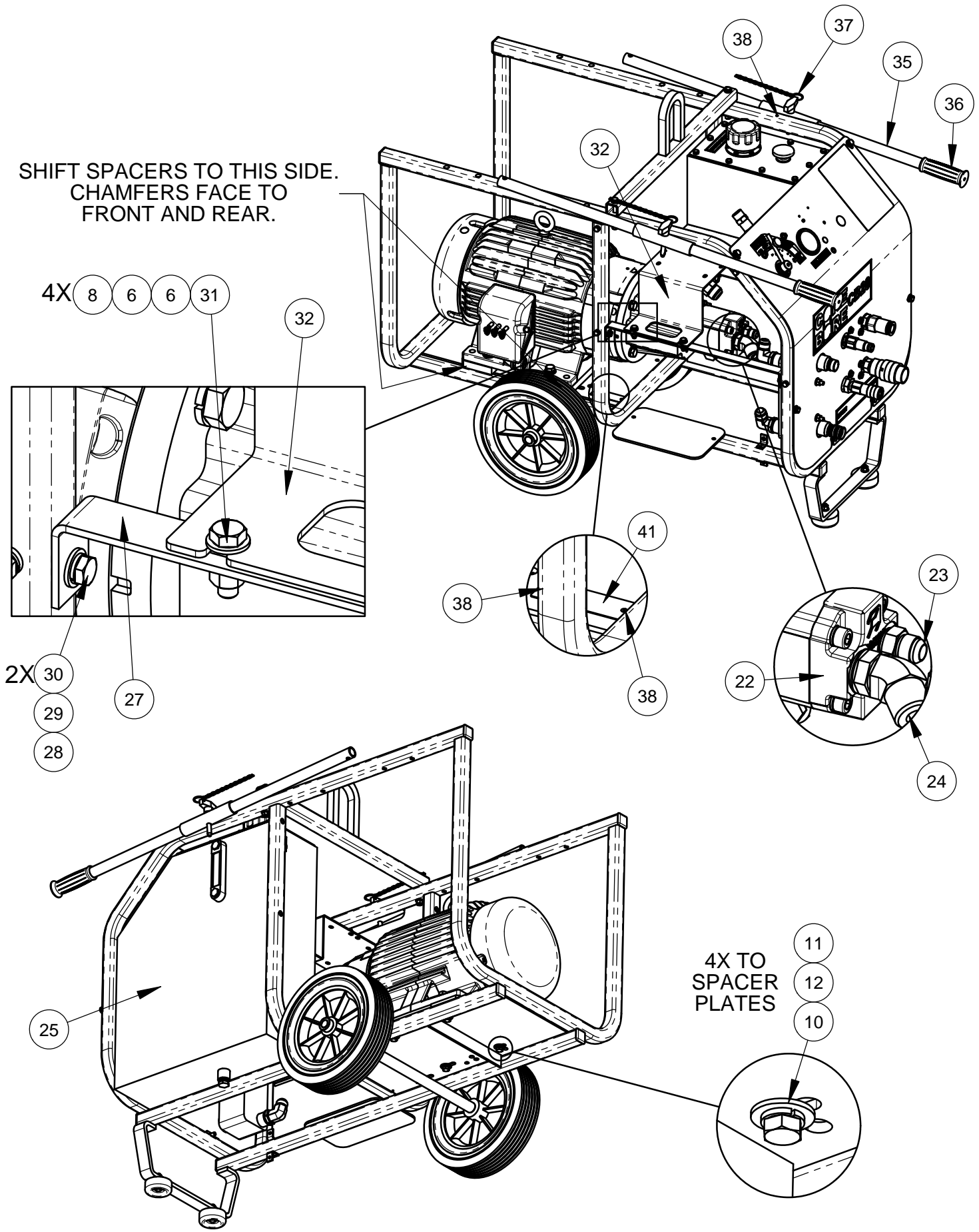
4646183 CB 20 HYDRAULIC POWER SUPPLY 190/380 VOLT



4646183 CB20 HYDRAULIC POWER SUPPLY 190/380 VOLT

ITEM	PART NO.	QTY.	DESCRIPTION
1	4646156	1	CB-XL Frame Assembly
2	2400643	2	Wheel, 12 x 2-5/8 x 3/4"
3	2400615	2	Set Collar, 3/4"
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6	2900022	14	Flat Washer, 5/16" SAE
7	2900508	2	Cap Screw, Hex Hd., 5/16-18 x 1-1/2"
8	2900039	8	Lock Nut, 5/16-18 Nylon
9	4646172	2	Spacer Plate, CB20
10	2900473	4	Flat Washer, 3/8" USS
11	2900005	6	Cap Screw, Hex Hd., 3/8-16 x 1"
12	2900006	6	Lock Washer, 3/8" Split
13	4646186	1	Elec. Motor, 20HP, Short Shaft, W/Terminals
14	2800695	1	Cord Grip, 5/8-3/4", 90 Deg.
15	2800193	1	Lock Nut, 1"
16	6047959	1	Key, 3/8" Sq. x 2-1/4"
17	2900058	4	Flat Washer, 1/2" SAE
18	2900084	8	Lock Washer, 1/2" Split
19	2900499	8	Cap Screw, Hex Hd., 1/2-13 x 1-1/2"
20	2400309	1	Pump Mount
21	2400167	1	Coupling Assembly, 1-5/8 - 3/4"
22	2600569	1	Pump, 1.0 CI, 2 Bolt SAE
23	3202079	1	5/8" O-Ring - 5/8" MJIC
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26	4646171	1	Panel Assembly, CB20
27	4646035	1	Fuel Tank Support
28	2900009	2	Flat Washer, 1/4" SAE
29	2900024	6	Lock Washer, 1/4" Split
30	2900008	2	Cap Screw, Hex Hd., 1/4-20 x 1"
31	2900138	4	Cap Screw, Hex Hd., 5/16-18 x 1"
32	4641098	1	Starter Box Platform
33	4646049	1	Side Panel
34	2900144	4	Cap Screw, Hex Hd., 1/4-20 x 3/4"
35	4646006	2	Handle
36	2500636	2	Handle Grip
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38	2900053	4	Rivet, 3/32" Dia.
39	4646003	1	Lifting Bar
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41	1800169	1	Serial Number Plate, US
42	4646180	1	Hose Kit, CB20XL, CB35XL

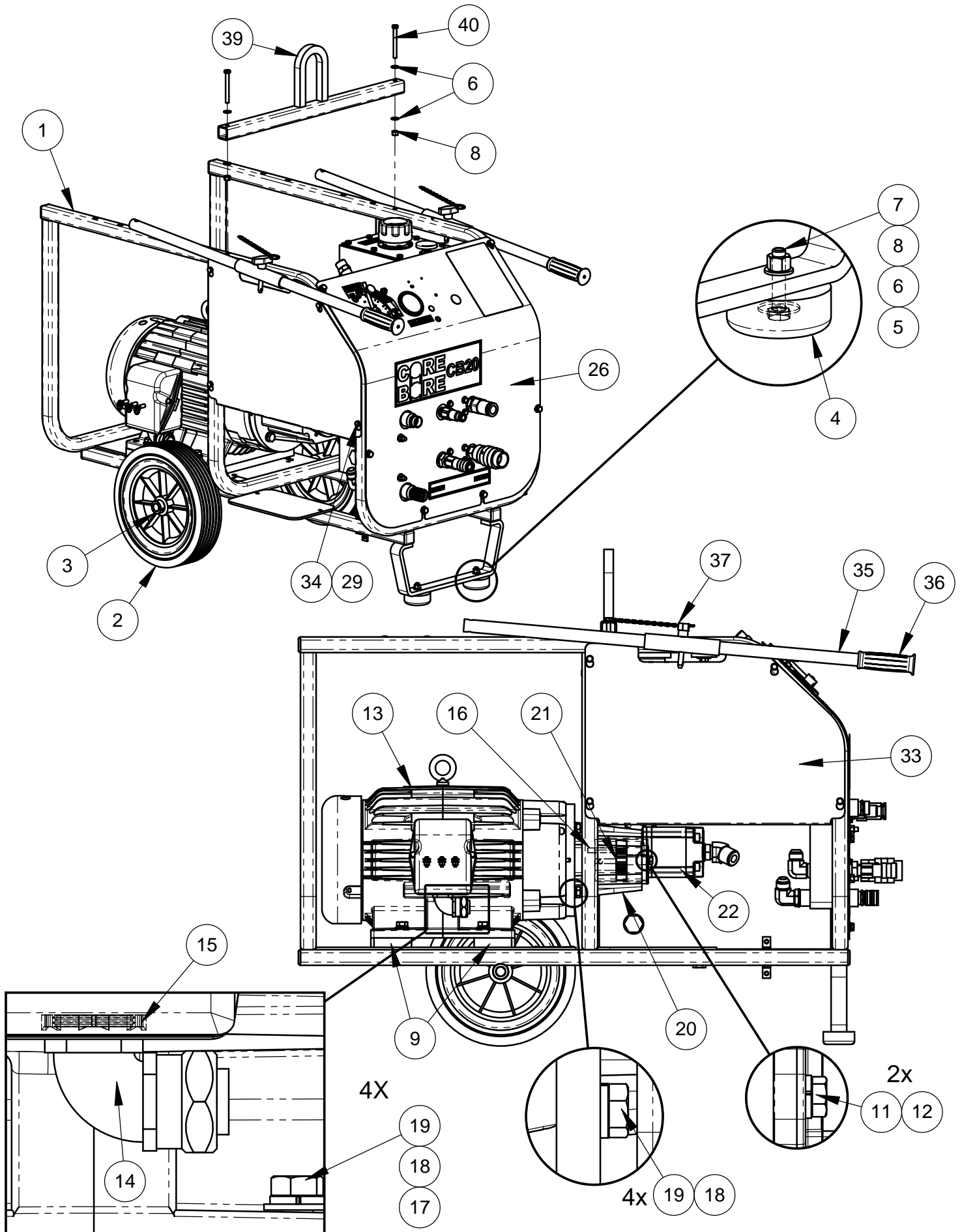
4646183 CB20 HYDRAULIC POWER SUPPLY 190/380 VOLT



4646183 CB20 HYDRAULIC POWER SUPPLY 190/380 VOLT

ITEM	PART NO.	QTY.	DESCRIPTION
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5	2901103	2	Fender Washer, 5/16" x 1"
6	2900022	14	Flat Washer, 5/16" SAE
7	2900508	2	Cap Screw, Hex Hd., 5/16-18 x 1-1/2"
8	2900039	8	Lock Nut, 5/16-18 Nylon
9	4646172	2	Spacer Plate, CB20
10	2900473	4	Flat Washer, 3/8" USS
11	2900005	6	Cap Screw, Hex Hd., 3/8-16 x 1"
12	2900006	6	Lock Washer, 3/8" Split
13	4646186	1	Elec. Motor, 20HP, Short Shaft, W/Terminals
14	2800695	1	Cord Grip, 5/8-3/4", 90 Deg.
15	2800193	1	Lock Nut, 1"
16	6047959	1	Key, 3/8" Sq. x 2-1/4"
17	2900058	4	Flat Washer, 1/2" SAE
18	2900084	8	Lock Washer, 1/2" Split
19	2900499	8	Cap Screw, Hex Hd., 1/2-13 x 1-1/2"
20	2400309	1	Pump Mount
21	2400167	1	Coupling Assembly, 1-5/8 - 3/4"
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23	3202079	1	5/8" O-Ring - 5/8" MJIC
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29	2900024	6	Lock Washer, 1/4" Split
30	2900008	2	Cap Screw, Hex Hd., 1/4-20 x 1"
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39	4646003	1	Lifting Bar
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41	1800169	1	Serial Number Plate, US
42	4646180	1	Hose Kit, CB20XL, CB35XL

4646178 CB20 HYDRAULIC POWER SUPPLY 575 VOLT

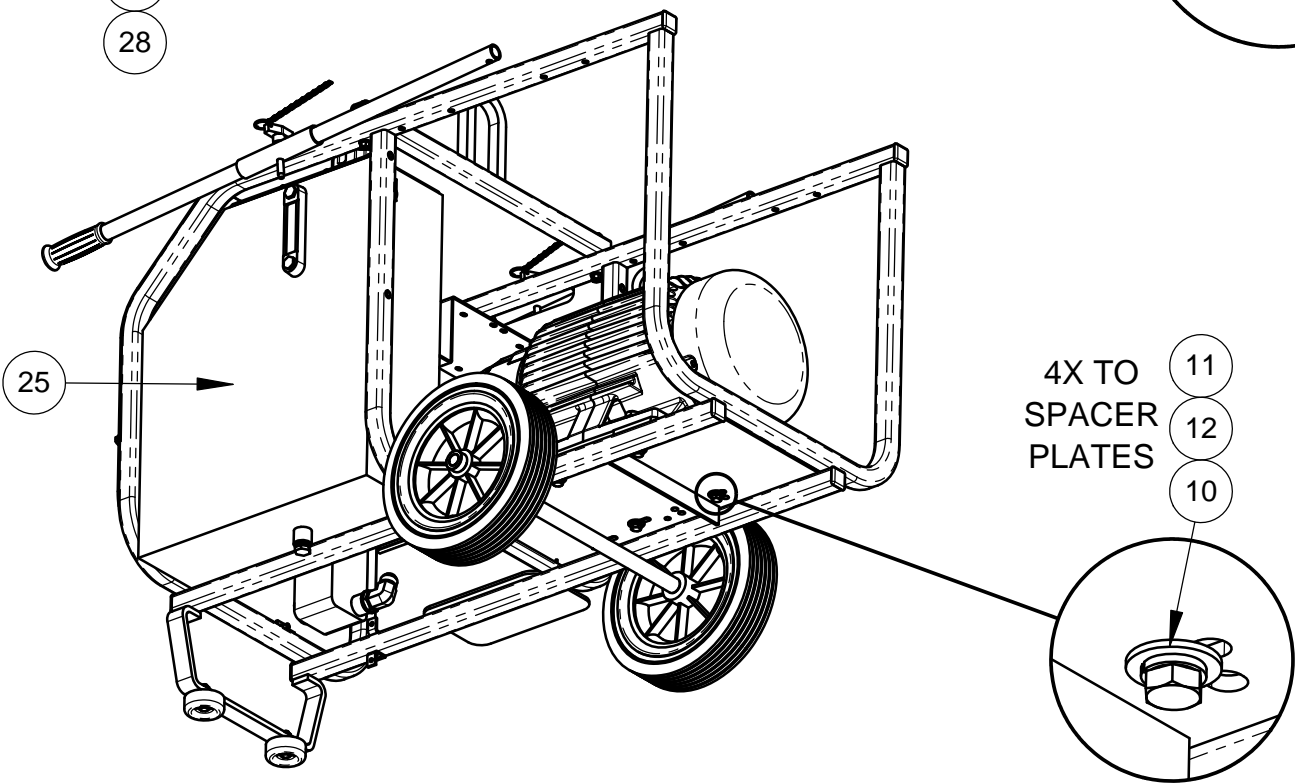
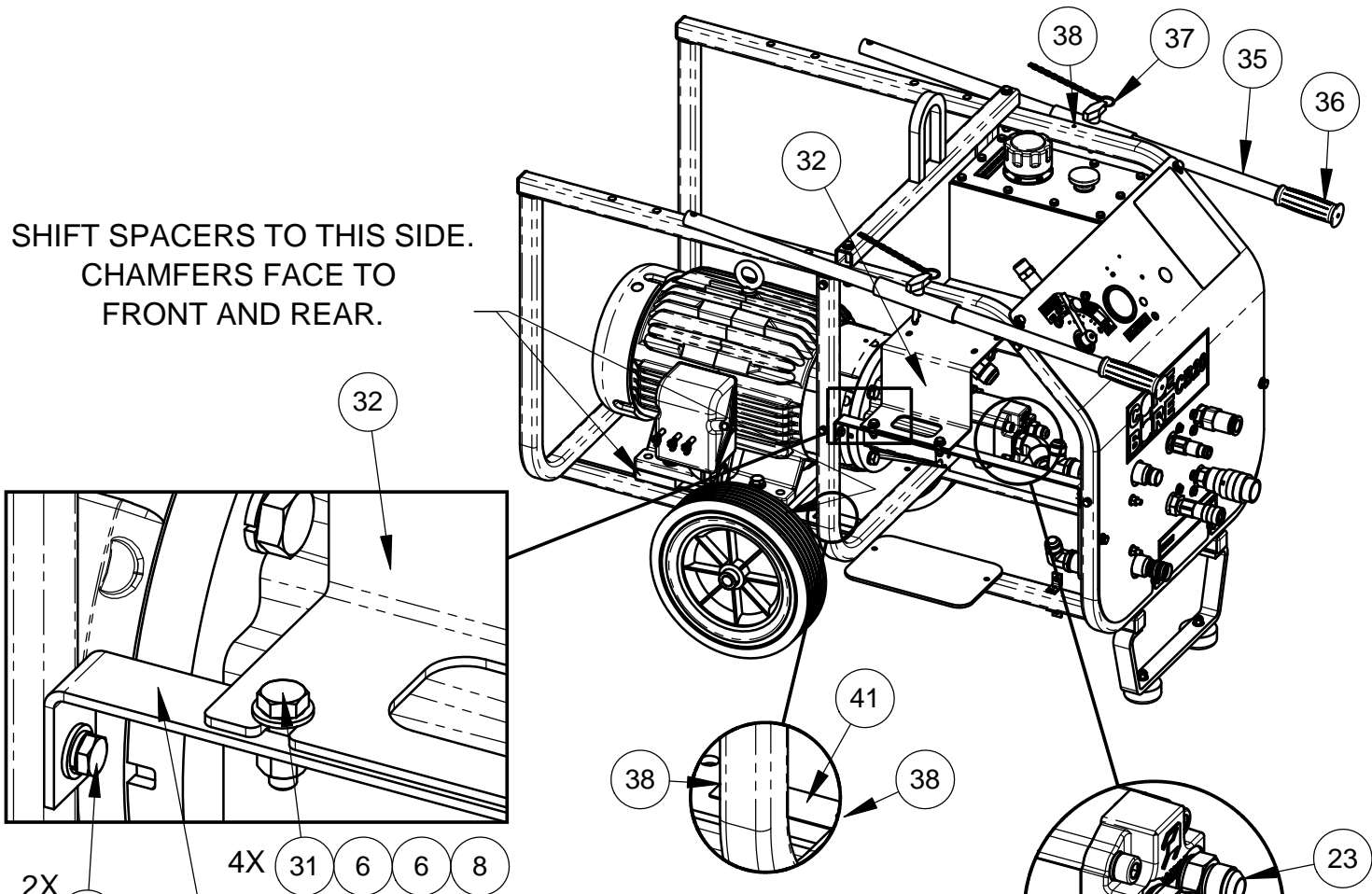


4646178 CB20 HYDRAULIC POWER SUPPLY 575 VOLT

ITEM	PART NO.	QTY.	DESCRIPTION
1	4646156	1	CB-XL Frame Assembly
2	2400643	2	Wheel, 12 x 2-5/8 x 3/4"
3	2400615	2	Set Collar, 3/4"
4	2501767	2	Rubber Bumper
5	2901103	2	Fender Washer, 5/16" x 1"
6	2900022	14	Flat Washer, 5/16" SAE
7	2900508	2	Cap Screw, Hex Hd., 5/16-18 x 1-1/2"
8	2900039	8	Lock Nut, 5/16-18 Nylon
9	4646172	2	Spacer Plate, CB20
10	2900473	4	Flat Washer, 3/8" USS
11	2900005	6	Cap Screw, Hex Hd., 3/8-16 x 1"
12	2900006	6	Lock Washer, 3/8" Split
13	4645025	1	Electric Motor, 20HP, W/ Terminals
14	2800312	1	Connector, 1" Sealtite Elbow
15	2800193	1	Lock Nut, 1"
16	6047959	1	Key, 3/8" Sq. x 2-1/4"
17	2900058	4	Flat Washer, 1/2" SAE
18	2900084	8	Lock Washer, 1/2" Split
19	2900499	8	Cap Screw, Hex Hd., 1/2-13 x 1-1/2"
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23	3202079	1	5/8" O-Ring - 5/8" MJIC
24	3201881	1	1" MJIC - 3/4" MOR, 45 Deg.
25	4646173	1	Hydraulic Tank Assembly
26	4646171	1	Panel Assembly, CB20
27	4646035	1	Fuel Tank Support
28	2900009	2	Flat Washer, 1/4" SAE
29	2900024	6	Lock Washer, 1/4" Split
30	2900008	2	Cap Screw, Hex Hd., 1/4-20 x 1"
31	2900138	4	Cap Screw, Hex Hd., 5/16-18 x 1"
32	4641098	1	Starter Box Platform
33	4646049	1	Side Panel
34	2900144	4	Cap Screw, Hex Hd., 1/4-20 x 3/4"
35	4646006	2	Handle
36	2500636	2	Handle Grip
37	2900257	2	Lock Pin, T Handle, 3/8"
38	2900053	4	Rivet, 3/32" Dia.
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41	1800169	1	Serial Number Plate, US
42	4646180	1	Hose Kit, CB20XL, CB35XL

4646178 CB20 HYDRAULIC POWER SUPPLY 575 VOLT

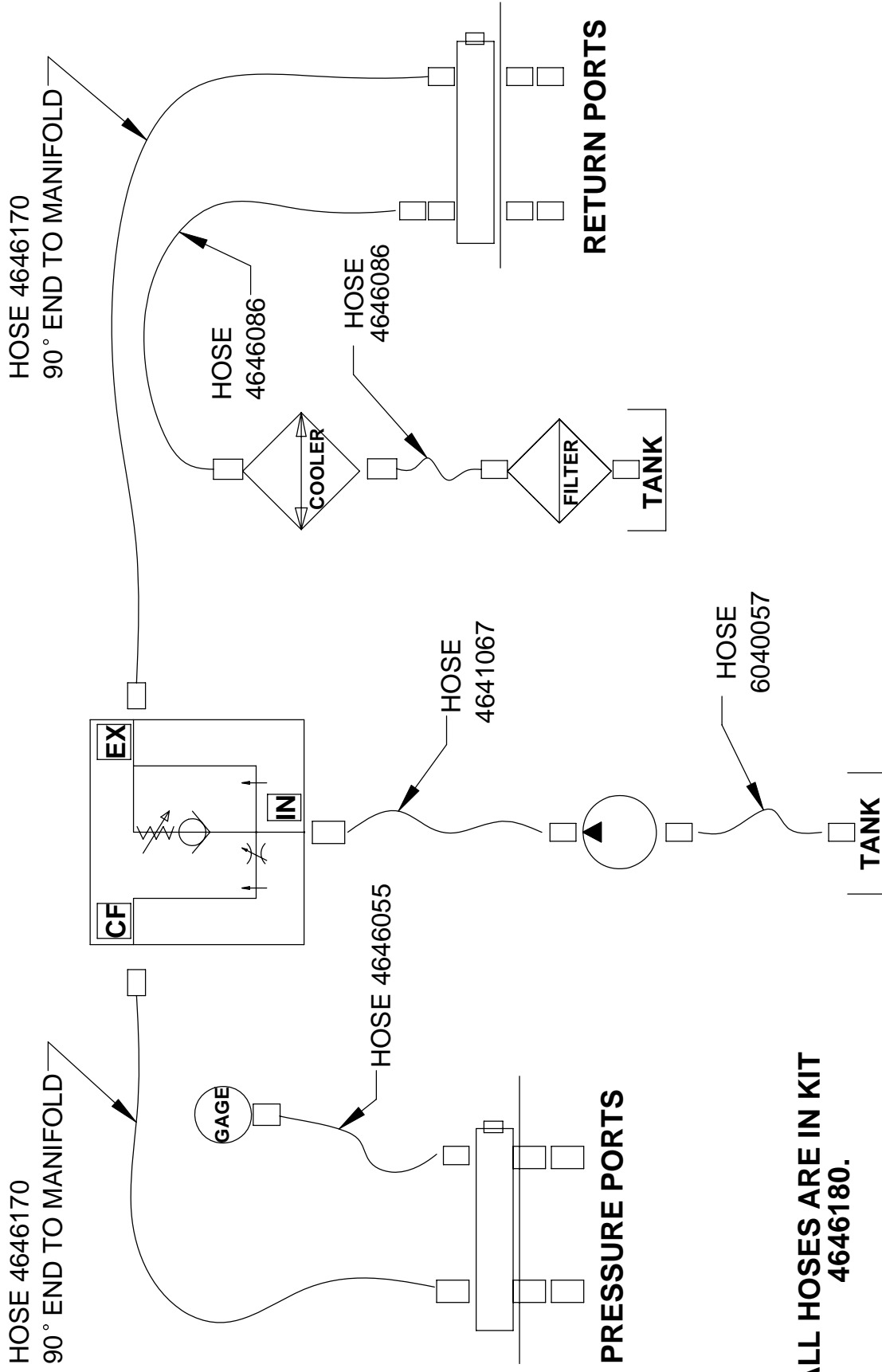
SHIFT SPACERS TO THIS SIDE.
CHAMFERS FACE TO
FRONT AND REAR.



4646178 CB20 HYDRAULIC POWER SUPPLY 575 VOLT

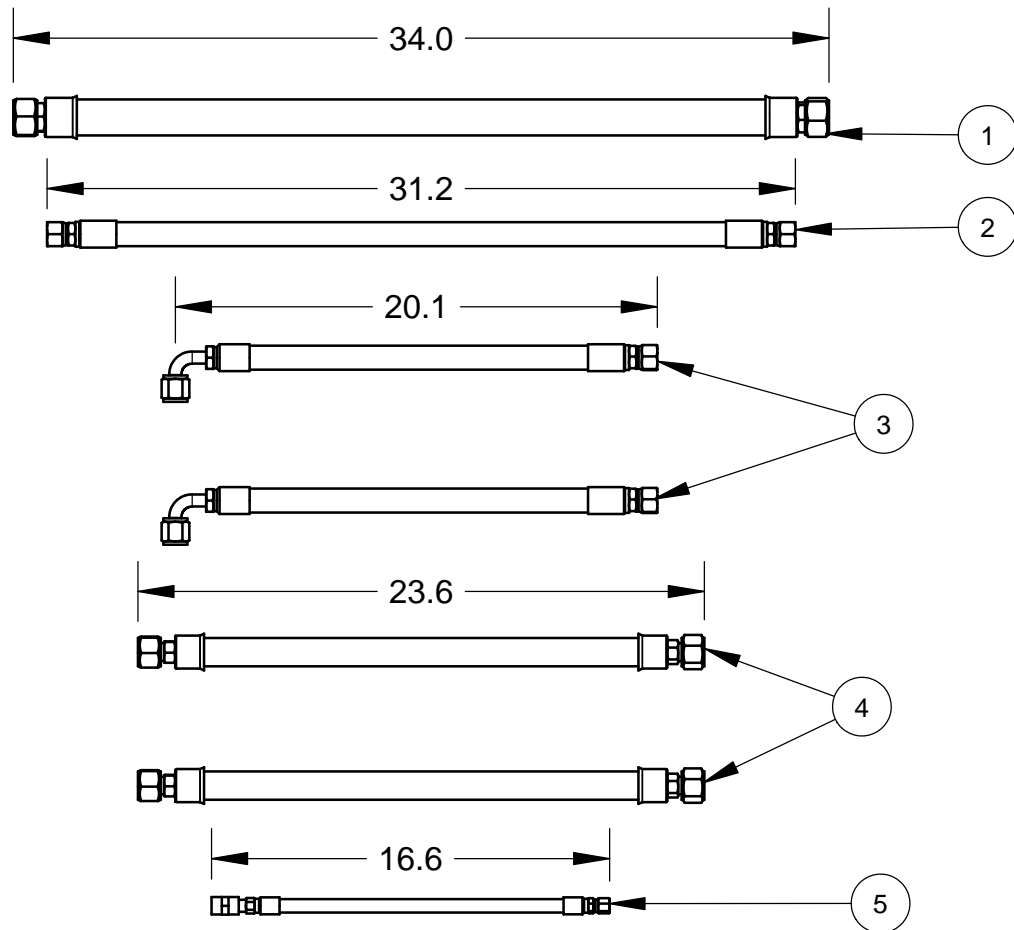
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7	2900508	2	Cap Screw, Hex Hd., 5/16-18 x 1-1/2"
8	2900039	8	Lock Nut, 5/16-18 Nylon
9	4646172	2	Spacer Plate, CB20
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11	2900005	6	Cap Screw, Hex Hd., 3/8-16 x 1"
12	2900006	6	Lock Washer, 3/8" Split
13	4645025	1	Electric Motor, 20HP, W/ Terminals
14	2800312	1	Connector, 1" Sealtite Elbow
15	2800193	1	Lock Nut, 1"
16	6047959	1	Key, 3/8" Sq. x 2-1/4"
17	2900058	4	Flat Washer, 1/2" SAE
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39	4646003	1	Lifting Bar
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41	1800169	1	Serial Number Plate, US
42	4646180	1	Hose Kit, CB20XL, CB35XL

CB20 HYDRAULIC SCHEMATIC



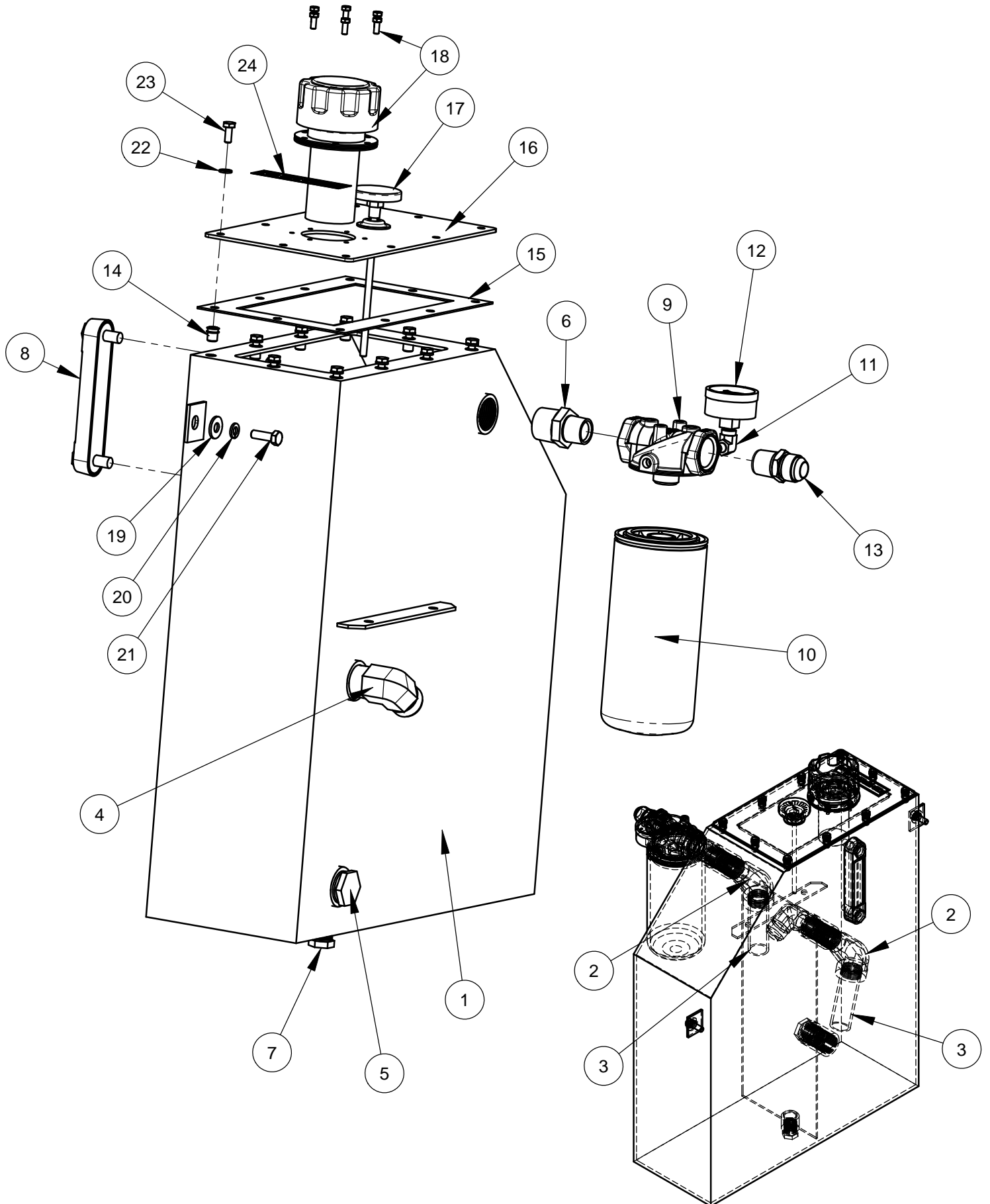
**ALL HOSES ARE IN KIT
4646180.**

4646180 CB20XL HOSE KIT

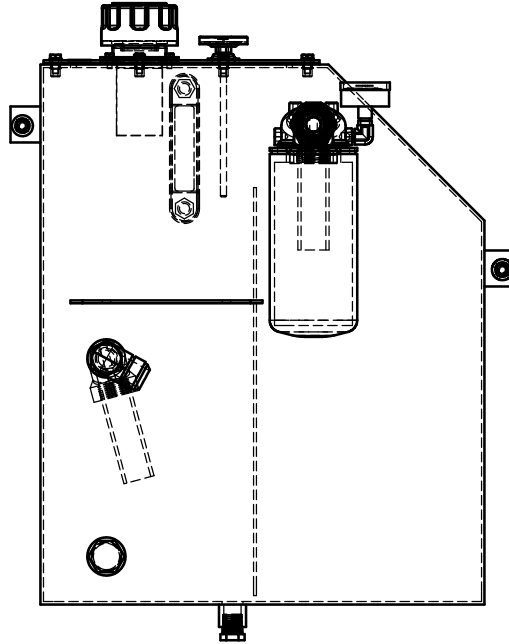


ITEM	PART NO.	QTY.	DESCRIPTION
1	6040057	1	Hose Assy., 1 x 34"
	3202317	2	Fitting, 1" FJIC to 1" Hose Barb
	3205619	2	Crimp Shell, #16
2	4641067	1	Hose Assy., 5/8" x 31-1/4"
	3202075	2	5/8"FJICS x 5/8" Parkrimp Hose End Fitting
3	4646170	2	Hose Assy., 5/8" x 20"
	3201883	1	5/8" FJIC Parkrimp, 90 Deg.
	3202075	1	5/8"FJICS x 5/8" Parkrimp Hose End Fitting
4	4646086	2	Hose Assembly, 3/4" x 23.6"
	3201989	2	Fitting, 3/4" F.JIC to 3/4" Hose Barb
	3202708	2	Crimp Shell, #12
5	4646055	1	Hose Assembly, 1/4" x 16.6"
	3200128	1	Fitting, 1/4" F. JIC to 1/4" Hose Crimp
	3200145	1	1/4 MPT - 1/4 Hose Crimp
	3201110	1	Coupling, 1/4" NPT

4646173 HYDRAULIC TANK ASSEMBLY



4646173 HYDRAULIC TANK ASSEMBLY

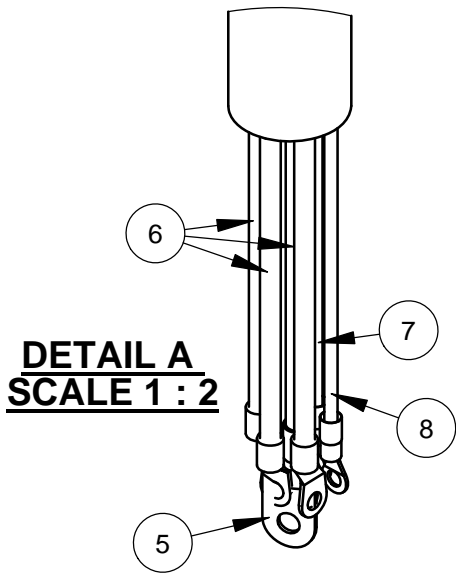
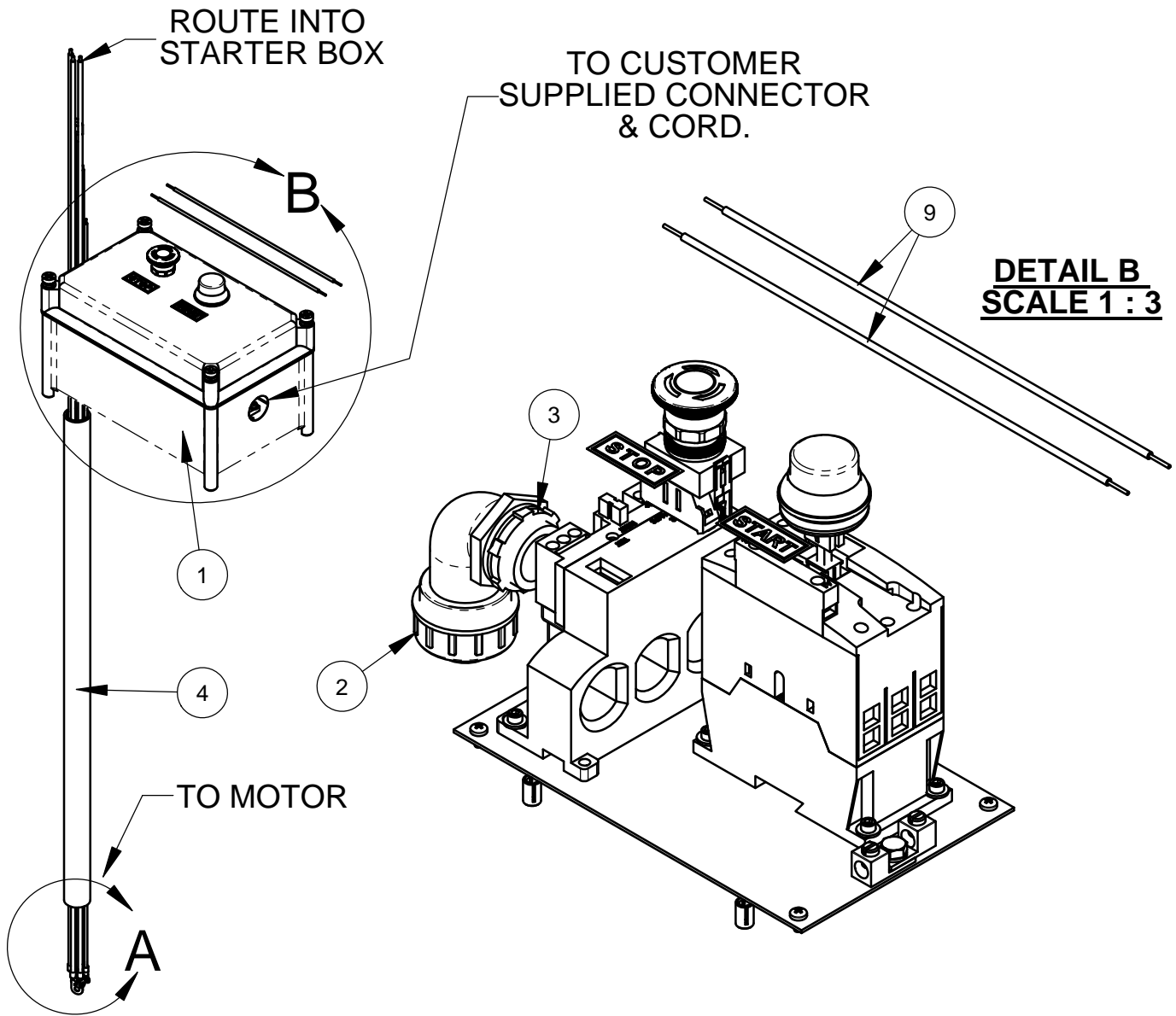


ITEM	PART NO.	QTY.	DESCRIPTION
1	4640120	1	Hydraulic Tank Weldment
2	3200409	2	Street Elbow, 1" NPT
3	3200427	2	Nipple, 1" NPT x 4", Schedule 40
4	3200289	1	Elbow, 1" M. Pipe to 1" M. JIC
5	3200288	1	Plug, 1" NPT
6	3200431	1	Nipple, 1"MPT - 3/4" MPT
7	3200160	1	Plug, 1/2-14 NPT
8	2400166	1	Sight Gauge, Liquid Level
9	2703290	1	Filter Head, 3/4" NPT
10	3201175	1	Hydraulic Filter Element
11	3200156	1	Street Elbow, 1/8" NPT
12	3200502	1	Gauge, Hydraulic Pressure
13	3200097	1	Adapter, 3/4" M. JIC to 3/4" M. Pipe
14	2900441	10	Rivet Nut, 1/4-20 Round
15	4646083	1	Gasket, Hyd Tank
16	4640121	1	Cover, Hydraulic Tank
17	2800459	1	Thermometer, 2", 0 - 200 F
18	2401305	1	Filler/Breather Cap (Top Mount)
	2900339	6	Cap Screw, Hex Hd., M5 x 12mm
19	2900567	2	Flat Washer, 5/16" USS
20	2900031	2	Lock Washer, 5/16" Split
21	2900138	2	Cap Screw, Hex Hd., 5/16-18 x 1"
22	2900024	10	Lock Washer, 1/4" Split
23	2900023	10	Cap Screw, Hex Hd., 1/4-20 x 5/8"
24	1800535	1	Decal, "Hydraulic Fluid Only"

4646171 CB20 XL PANEL ASSEMBLY

ITEM	PART NO.	QTY.	DESCRIPTION
1	4646141	1	Instrument Panel
2	2900022	8	Flat Washer, 5/16" SAE
3	2900031	6	Lock Washer, 5/16" Split
4	2900138	6	Cap Screw, Hex Hd., 5/16-18 x 1"
5	4646102	1	Manifold, SAE O-Ring
6	4646101	1	Manifold, 3/4 NPT
7	2900009	20	Flat Washer, 1/4" SAE
8	2901001	8	Cap Screw, Hex Hd., 1/4-20 x 2-1/2"
9	2900010	10	Lock Nut, 1/4-20 Nylon
10	3200479	2	Plug, 3/4" NPT Square Head
11	3201434	1	Plug, 1/2" SAE O-Ring Hex
12	3205671	1	1/2" O-Ring - 5/8" MJIC, 90 Deg.
13	3201291	1	Adapter, 1/2"M.O-Ring to 1/4" MJIC
14	3200097	1	Adapter, 3/4" M. JIC to 3/4" M. Pipe
15	3200417	1	Elbow, 3/4" F. JIC to 3/4" M. JIC
16	3200082	1	5/8" MJIC TO 3/4" MPT
17	3200330	1	Adapter, 3/4" M. Pipe to 3/4" O-Ring
18	3200371	1	Adaptor, 1/2" MPT to 1/2" O-Ring
19	3200105	1	Nipple, 1/2" Q.D.
20	3200101	1	Nipple, 3/4" Quick Disconnect
21	3200137	1	Hex Nipple, 3/4" NPT
22	3200383	1	Nipple, Hex, 3/4" MPT TO 1/2" MPT
23	3200100	1	Coupler, 3/4" Quick Disconnect
24	3200104	1	Coupler, 1/2" Q.D.
25	2400307	1	Heat Exchanger
26	2900303	2	Lock Nut, M8-1.25 Nylon Insert
27	3200400	2	Elbow, 3/4" O-Ring to 3/4" Male JIC
28	3201654	1	Valve, Flow Control
29	3202061	3	Fitting, 5/8" MORB x 5/8" MJIC x 90 DEG
30	2900245	2	Cap Screw, Soc. Hd., 1/4-20 x 2-5/8"
31	3200250	1	Gauge, Hydraulic, 3000 PSI
32	2500549	1	Plug, 7/8" Hole
33	2500204	1	Plug, 1/2" Hole
34	2503749	1	Plug, 5/16" Hole (Tapered)
35	3201659	2	Fitting, 3/4" M. Pipe to 3/4" M. Garden
36	3200177	1	Fitting, 3/4" F. Garden Union Swivel
37	1800536	1	"Return" Decal
38	1800941	1	Decal, Hydraulic Power Supply
39	1800531	1	"Hyd. Pressure" Decal
40	1801849	1	Decal, CB20 Flow Control
41	1801367	1	Decal, Core Bore CB20

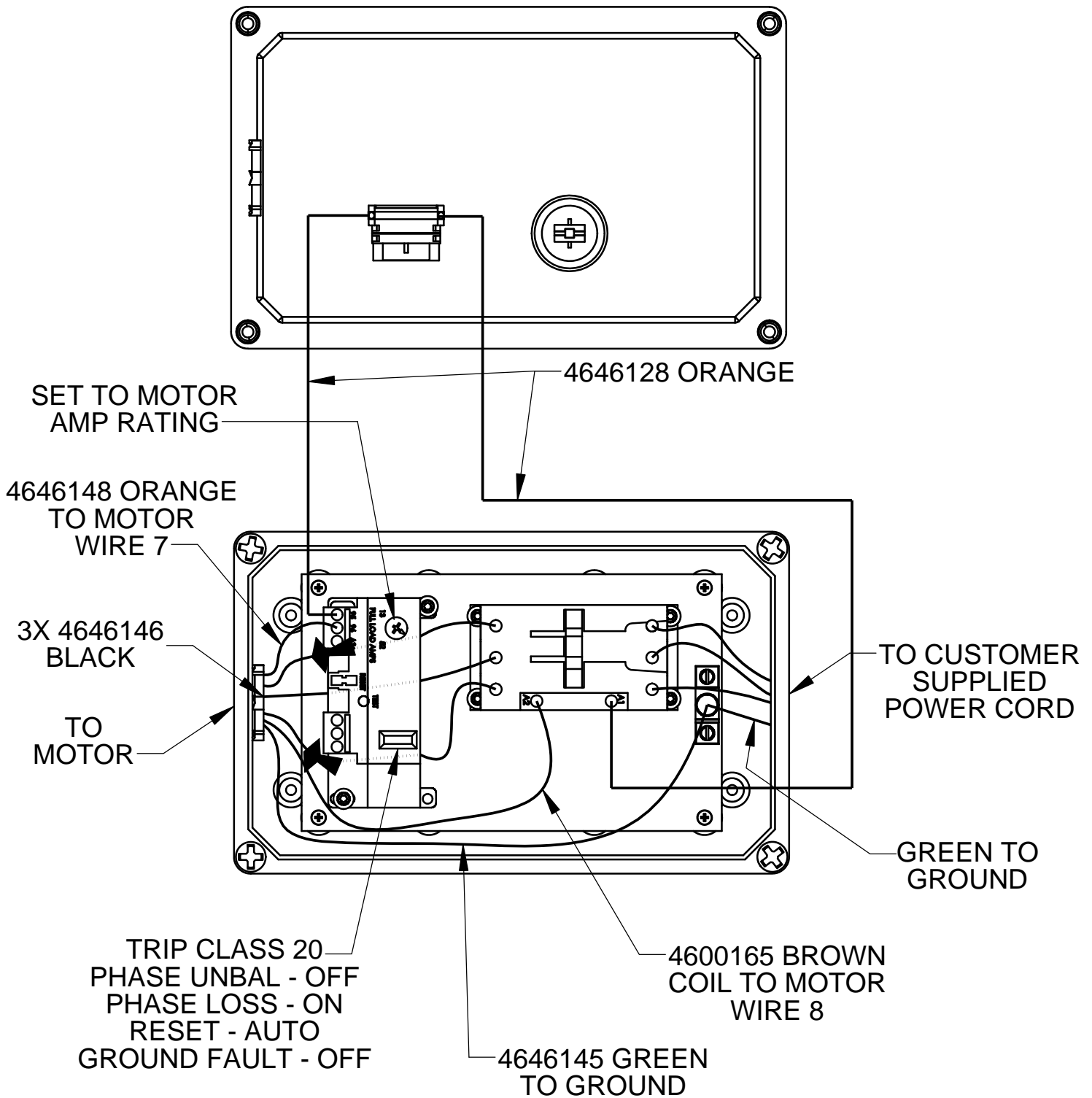
4646032 STARTER BOX ASSEMBLY 208 - 460 VOLT



ITEM	PART NO.	QTY.	DESCRIPTION
1	4600276	1	Starter Box, 230-460V
2	2800898	1	Connector, 1", Sealtite, 90 Deg.
3	2800193	1	Lock Nut, 1"
4	4646144	1	Conduit, Seal Tite, 1" x 29"
5	4646145	1	Wire Assy., 6 Gage, Green, 50"
6	4646146	3	Wire Assy., 8 Gage, Black, 55"
7	4600165	1	Wire Assy., 14 Gage, Brown, 48-1/2"
8	4646148	1	Wire Assy., 14 Gage, Orange, 45"
9	4646128	2	Wire, 14 Gage, Orange, 12"

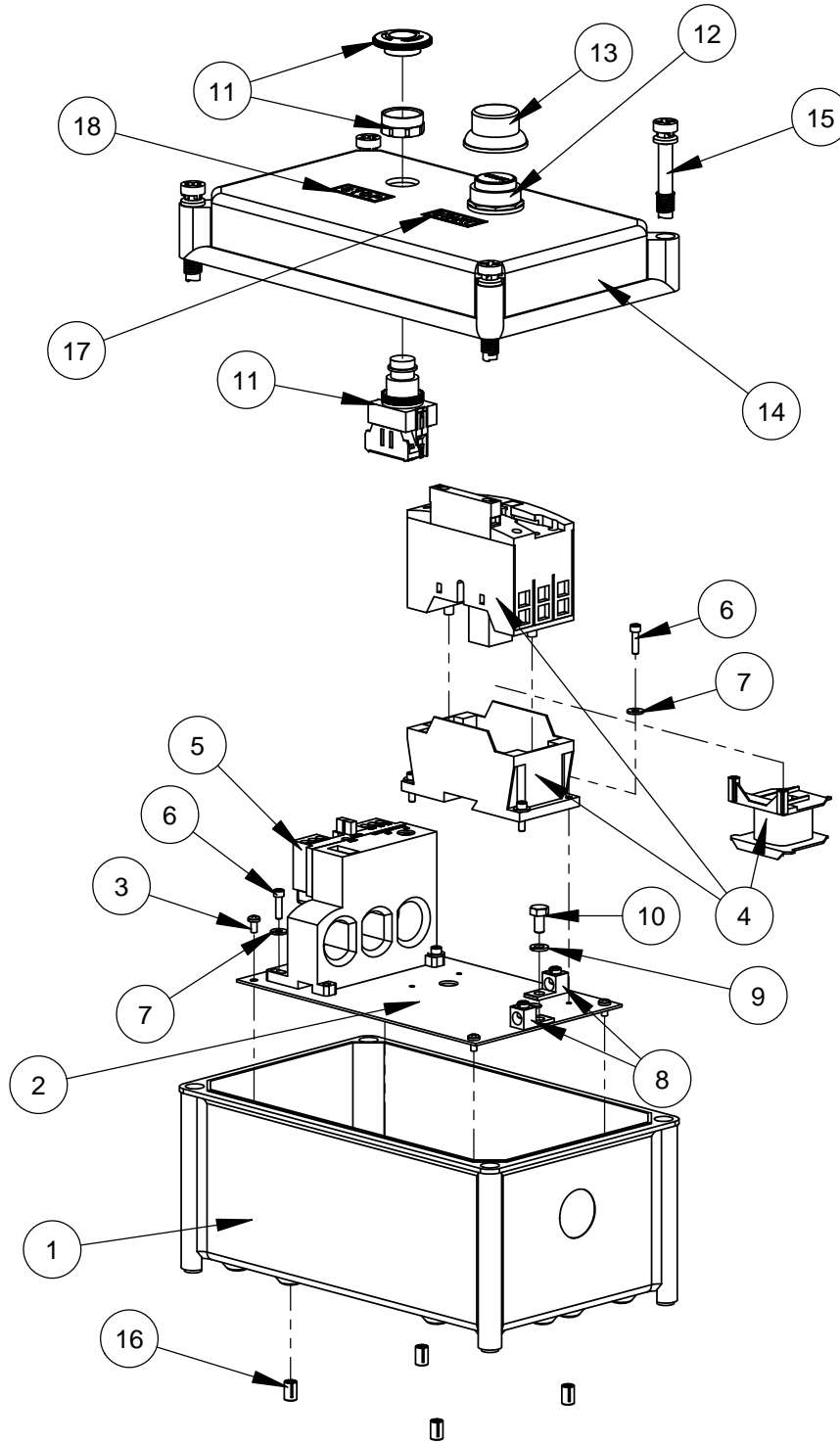
4646032 STARTER BOX ASSEMBLY 208 - 460 VOLT

SEE ALSO SCHEMATIC ON MOTOR NAME PLATE.



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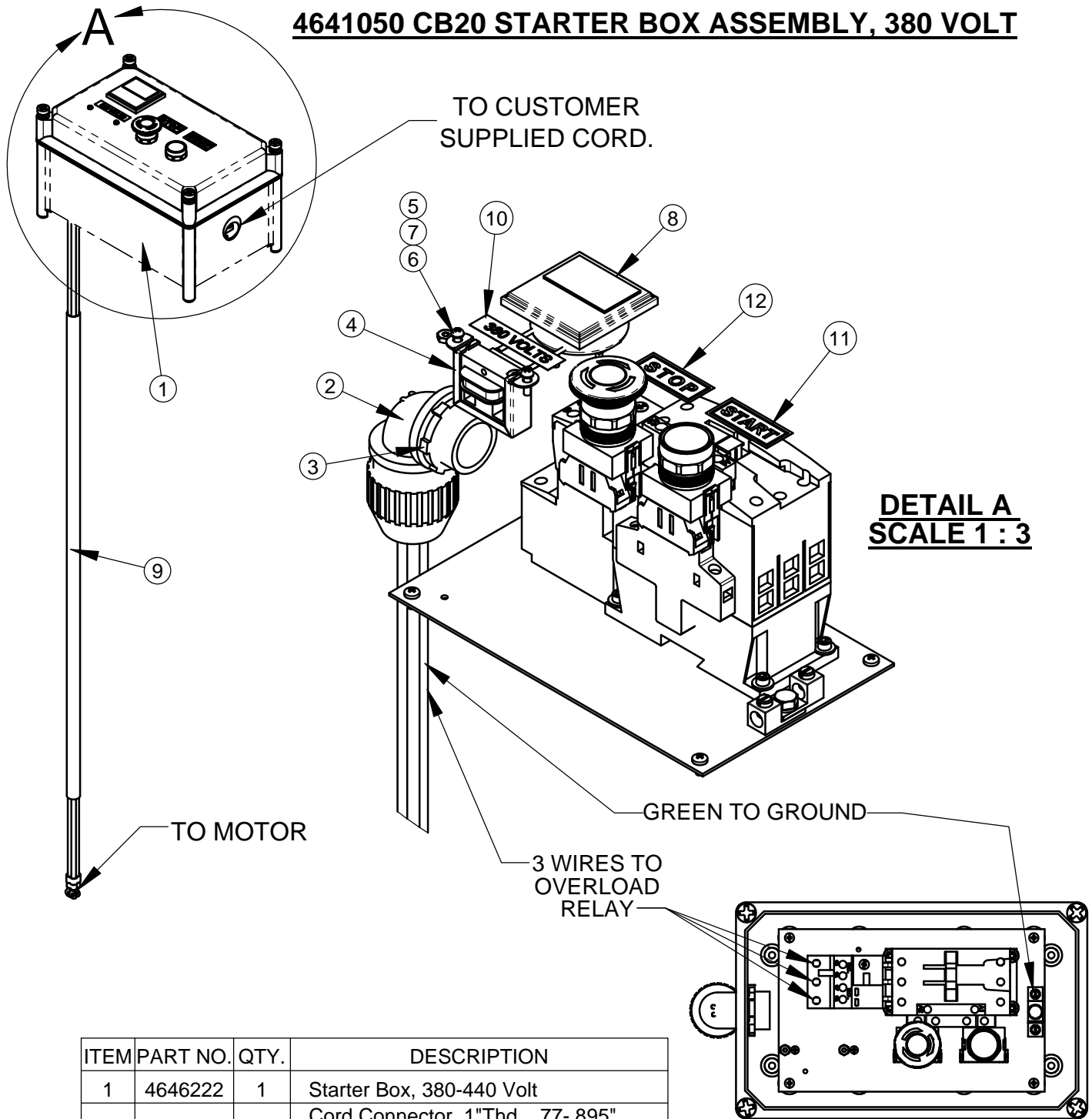
4600276 STARTER BOX 230 - 460 VOLT



ITEM	PART NO.	QTY.	DESCRIPTION
1	6040300G	1	Electrical Box Base
2	6040598	1	Sub-plate
3	2900676	4	Machine Screw, Pan Hd., M4-0.7 x 8mm
4	2801704	1	Contactor, 220-240V (includes coil)
	2801265	1	Replacement Coil, 220-240V
5	2800899	1	Overload Relay, 13-52 Amp
6	2901827	6	Cap Screw, Soc. Hd., #8-32 x 5/8"
7	2901437	6	Flat Washer, #10
8	2800315	2	Grounding Lug
9	2900024	1	Lock Washer, 1/4" Split

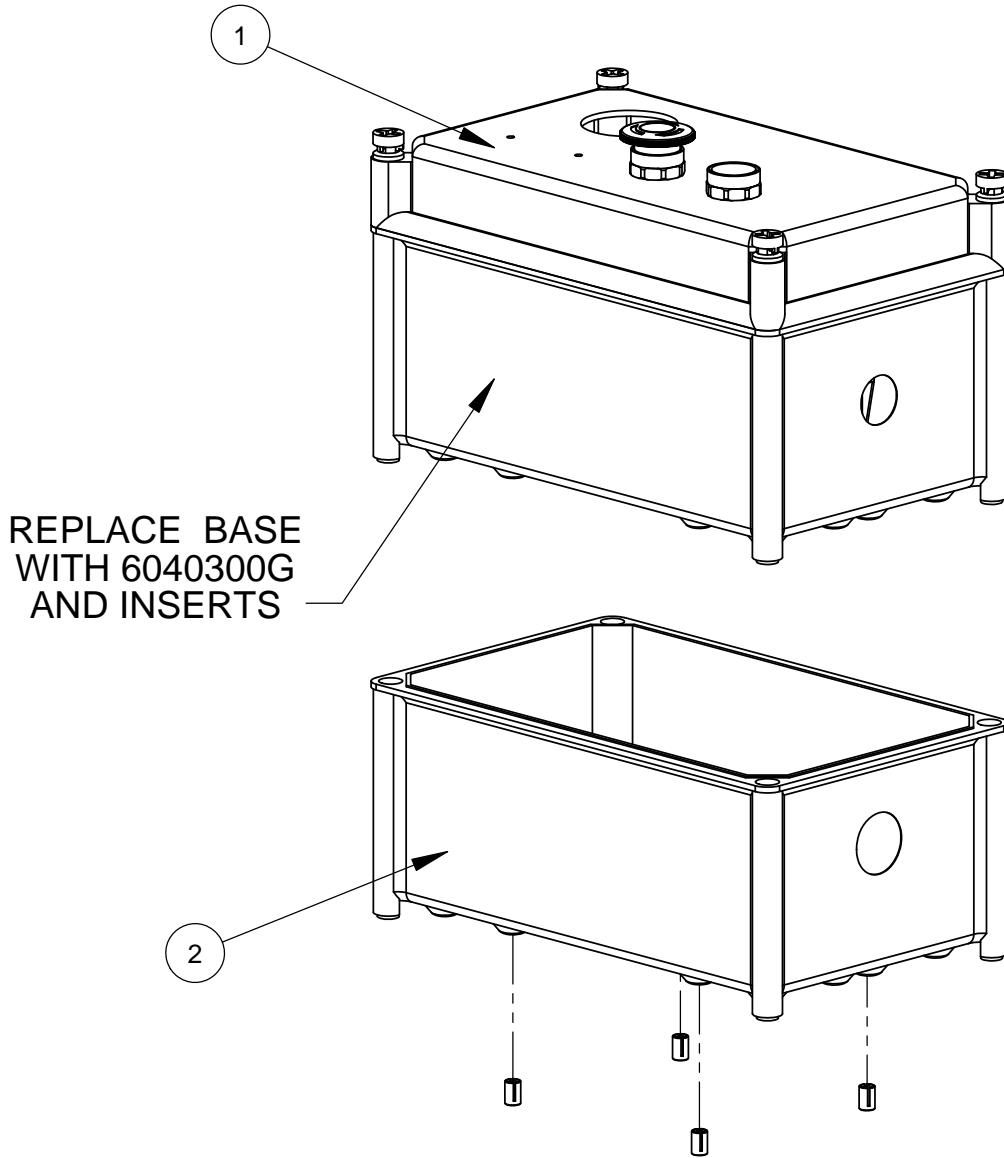
ITEM	PART NO.	QTY.	DESCRIPTION
10	2901891	1	Cap Screw, Hex Hd., 1/4-28 x 1/2"
11	2801636	1	E-Stop Switch, 600V, NC
12	4600166	1	Start Switch
13	2800222	1	Clear Protective Boot
14	6048339	1	Cover, Electric Box, 2 Hole
15	2701414	4	Fastener, Electrical Box Top
16	2901332	4	1/4-20 Threaded Insert
17	1801638	1	Decal, Start
18	1801639	1	Decal, Stop

4641050 CB20 STARTER BOX ASSEMBLY, 380 VOLT



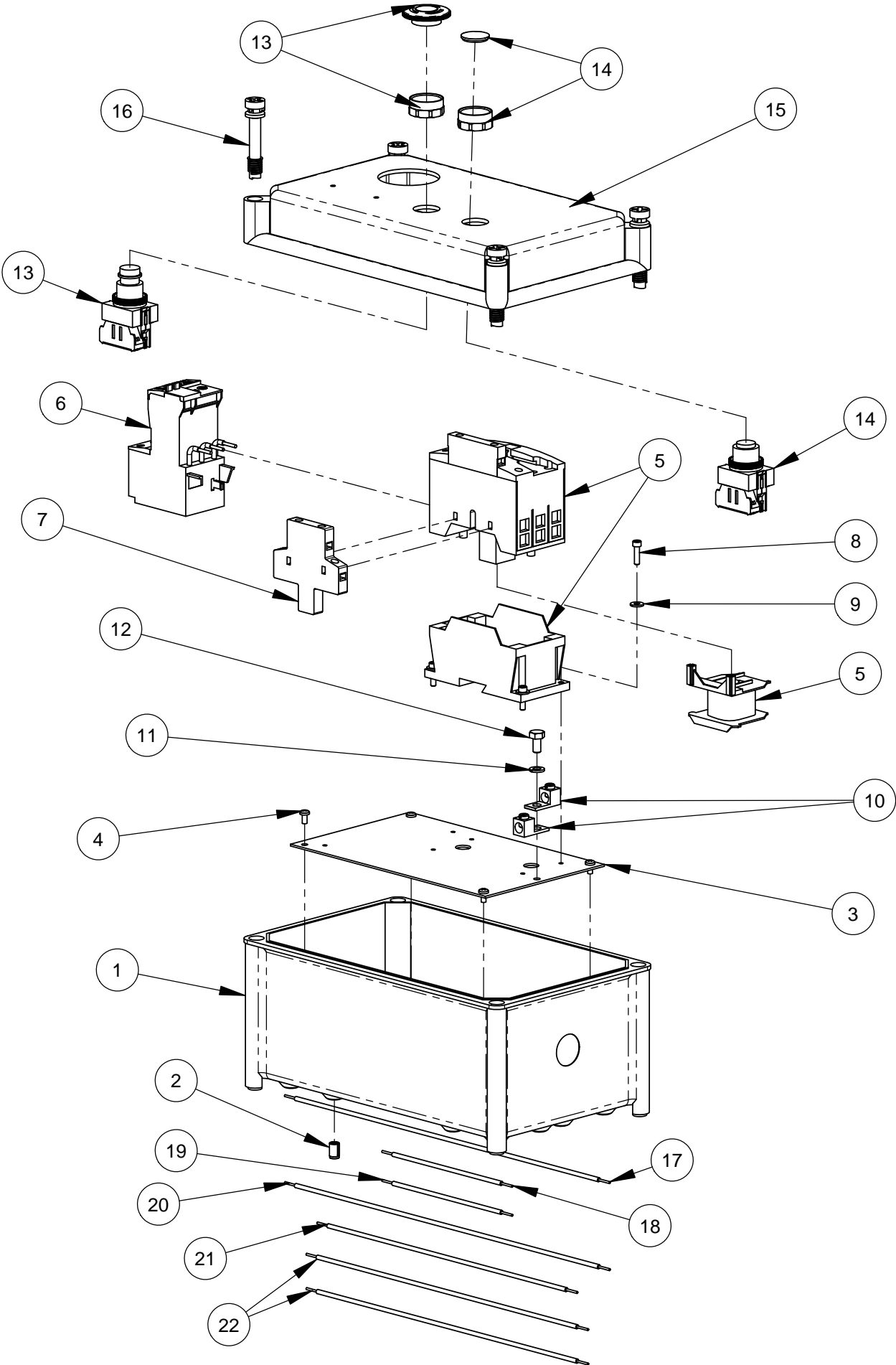
ITEM	PART NO.	QTY.	DESCRIPTION
1	4646222	1	Starter Box, 380-440 Volt
2	2800897	1	Cord Connector, 1"Thd., .77-.895" Cord, 90 Deg.
3	2800193	1	Lock Nut, 1"
4	2800085	1	AC Current Transformer
5	2900092	2	Lock Washer, #6 Split
6	2900090	2	Machine Screw, Rd. Hd., #6-32 x 1/2"
7	2900091	2	Hex Nut, #6-32
8	2800253	1	Amp Meter w/ Bracket, 0-40 AC
9	4645035	1	Cable Assy., 8 Ga., 4 Wire x 50"
10	1801067	1	Voltage Label, 380V
11	1801638	1	Decal, Start
12	1801639	1	Decal, Stop

4646222 STARTER BOX, 380 - 440 VOLT

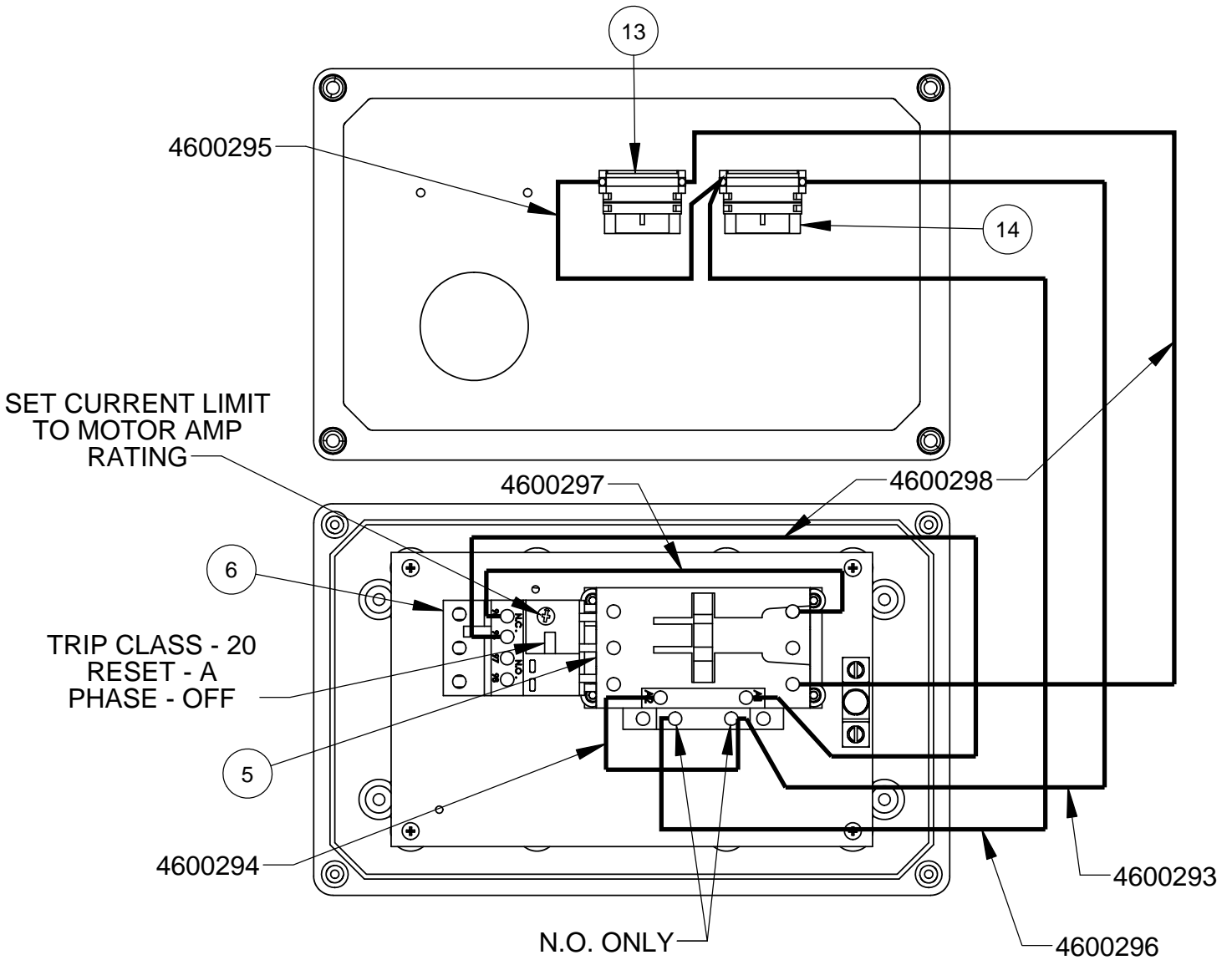


ITEM	PART NO.	QTY.	DESCRIPTION
1	2801269	1	Starter Box, 380-440V
2	6040300G	1	Electrical Box Base
3	2901332	4	1/4-20 Threaded Insert

2801269 STARTER BOX, 380-440 VOLT

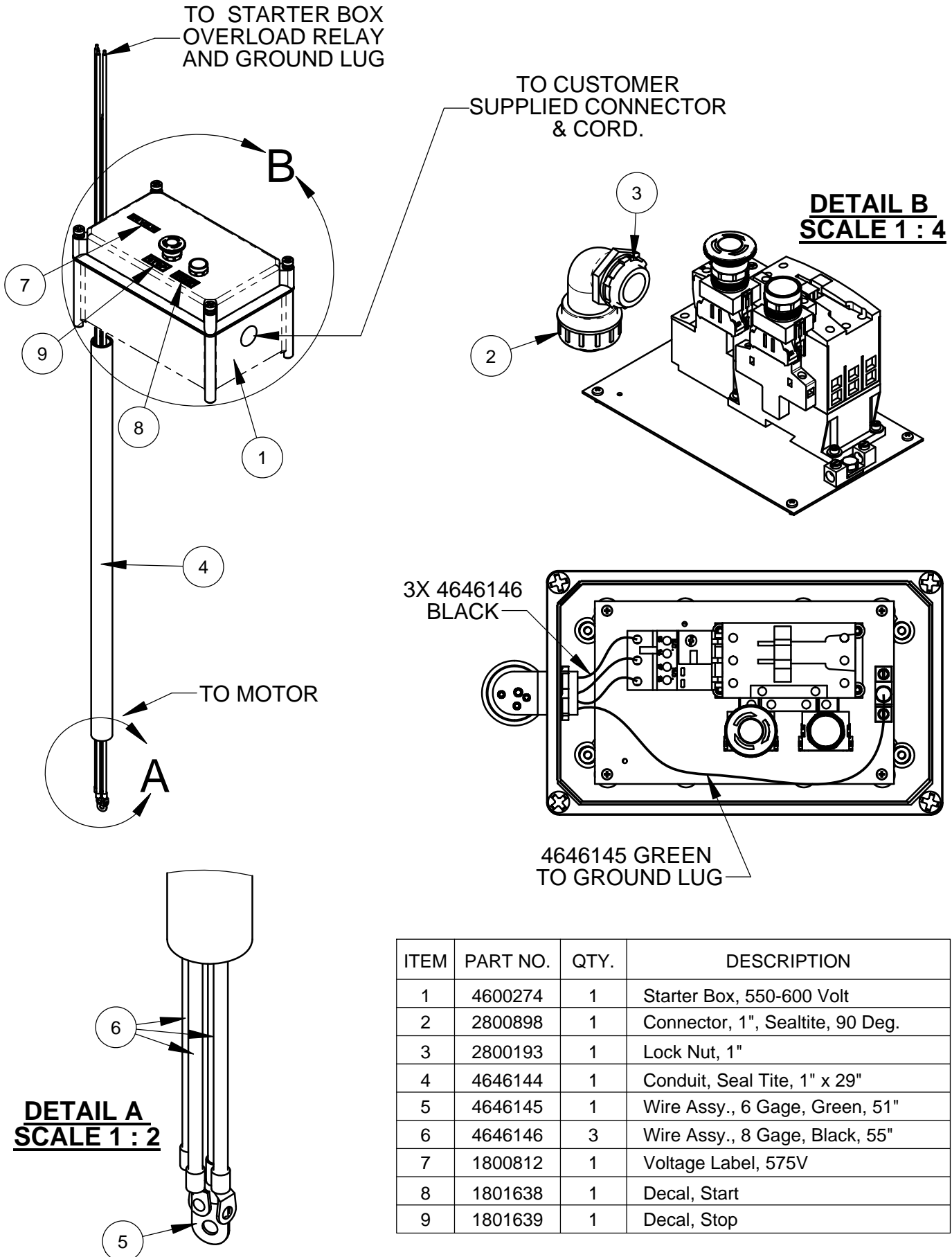


2801269 STARTER BOX, 380-440 VOLT



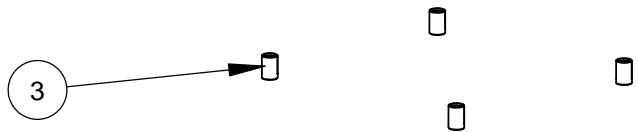
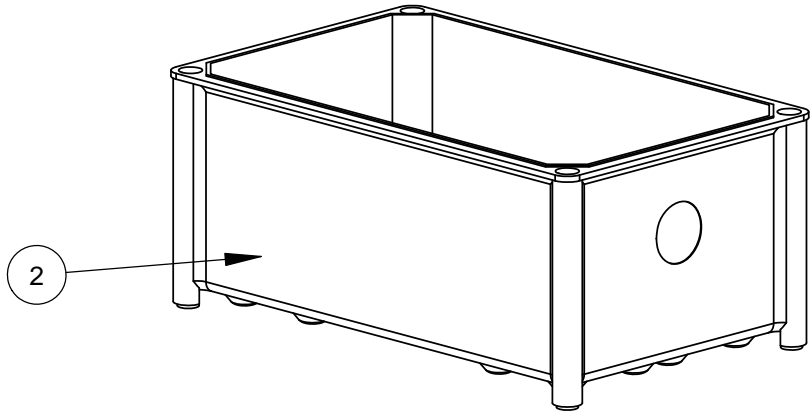
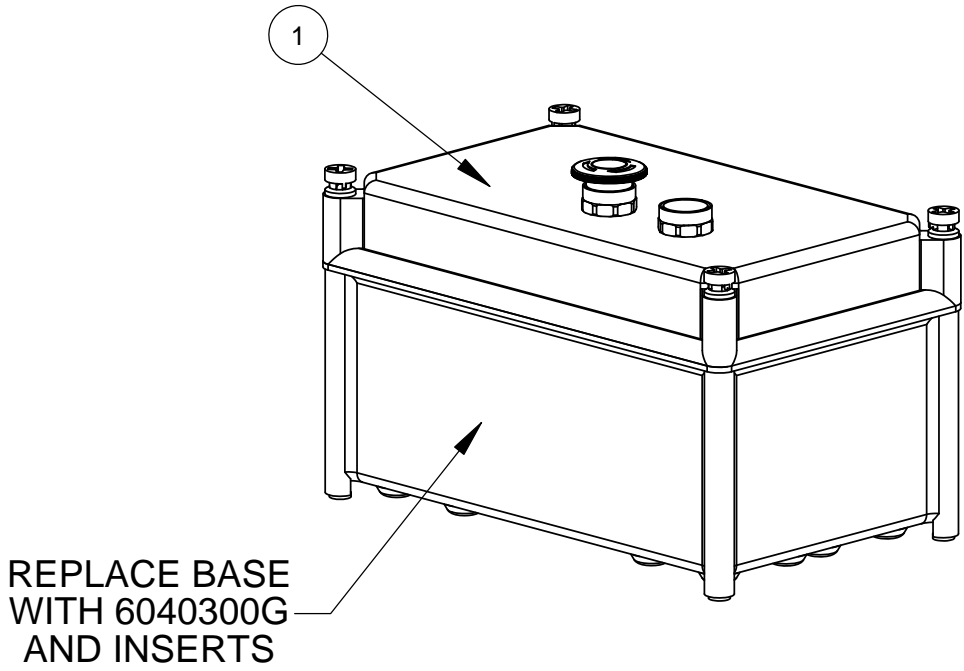
ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	6040300D	1	Starter Box Base	11	2900024	1	Lock Washer, 1/4" Split
2	2901588	4	M6-1.0 Threaded Insert	12	2901891	1	Cap Screw, Hex Hd., 1/4-28 x 1/2"
3	6040598	1	Sub-plate	13	2801636	1	E-Stop Switch, 600V, NC
4	2900676	4	Machine Screw, Pan Hd., M4-0.7 x 8mm	14	2801639	1	Pushbutton, N.O., 600V
5	2801708	1	Contactor, 380-440V (includes coil)	15	6048293	1	Starter Box Cover
	2801268	1	Replacement Coil, 380-440V	16	2701414	4	Fastener, Electrical Box Top
6	2801699	1	Overload Relay, 9-45 AMP	17	4600293	1	Wire, 14 Gage, Yellow, 15"
7	2801676	1	Auxiliary Contacts, 1NO-NC	18	4600294	1	Wire, 14 Gage, Yellow, 6"
8	2901827	4	Cap Screw, Soc. Hd., #8-32 x 5/8"	19	4600295	1	Wire, 14 Gage, Black, 6"
9	2901437	4	Flat Washer, #10	20	4600296	1	Wire, 14 Gage, Black, 15"
10	2800315	2	Grounding Lug	21	4600297	1	Wire, 14 Gage, Red, 12"
				22	4600298	2	Wire, 14 Gage, Red, 13"

4646074 STARTER BOX ASSEMBLY, 550-600 VOLT



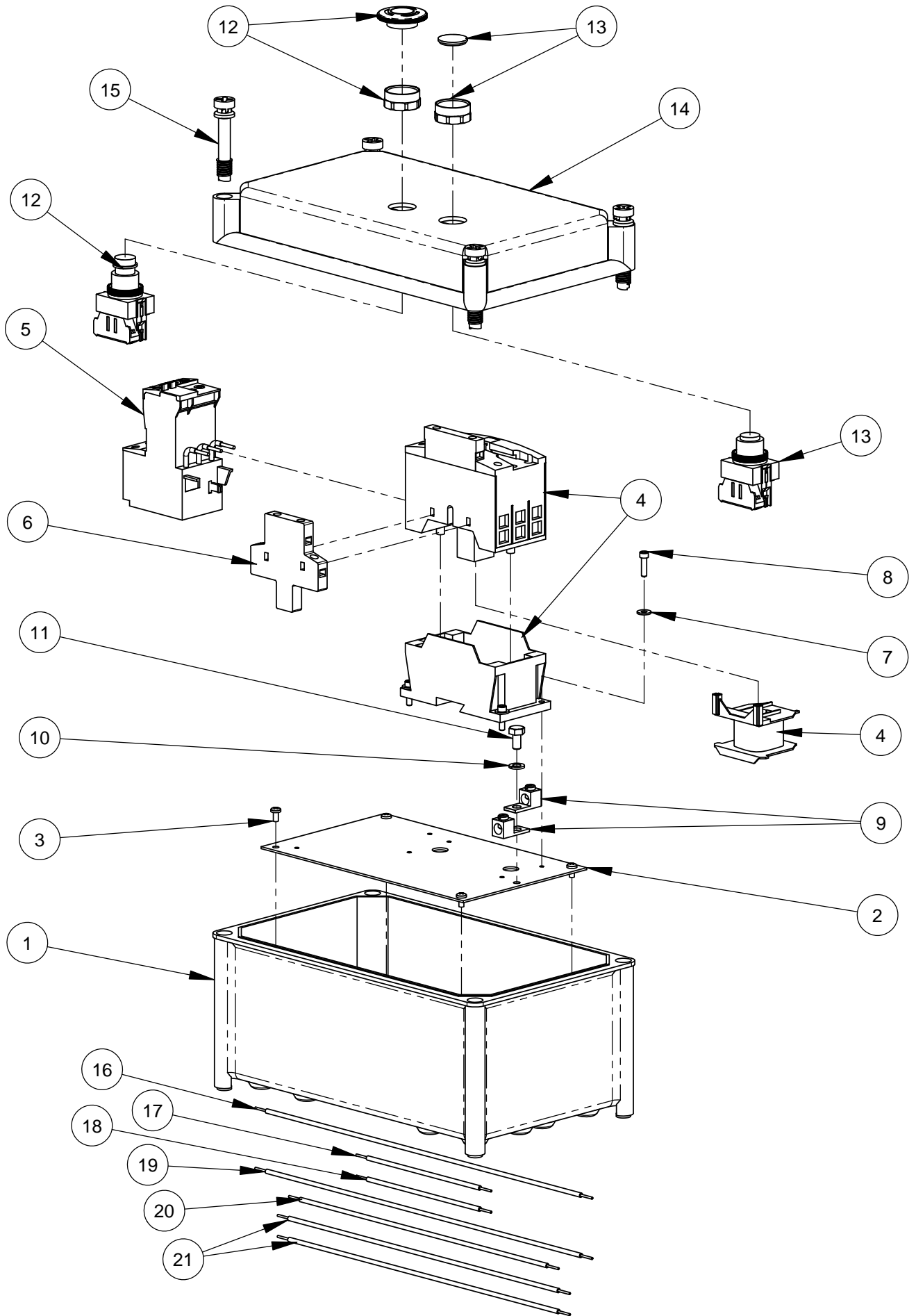
ITEM	PART NO.	QTY.	DESCRIPTION
1	4600274	1	Starter Box, 550-600 Volt
2	2800898	1	Connector, 1", SealTite, 90 Deg.
3	2800193	1	Lock Nut, 1"
4	4646144	1	Conduit, Seal Tite, 1" x 29"
5	4646145	1	Wire Assy., 6 Gage, Green, 51"
6	4646146	3	Wire Assy., 8 Gage, Black, 55"
7	1800812	1	Voltage Label, 575V
8	1801638	1	Decal, Start
9	1801639	1	Decal, Stop

4600274 STARTER BOX, 550-600 VOLT

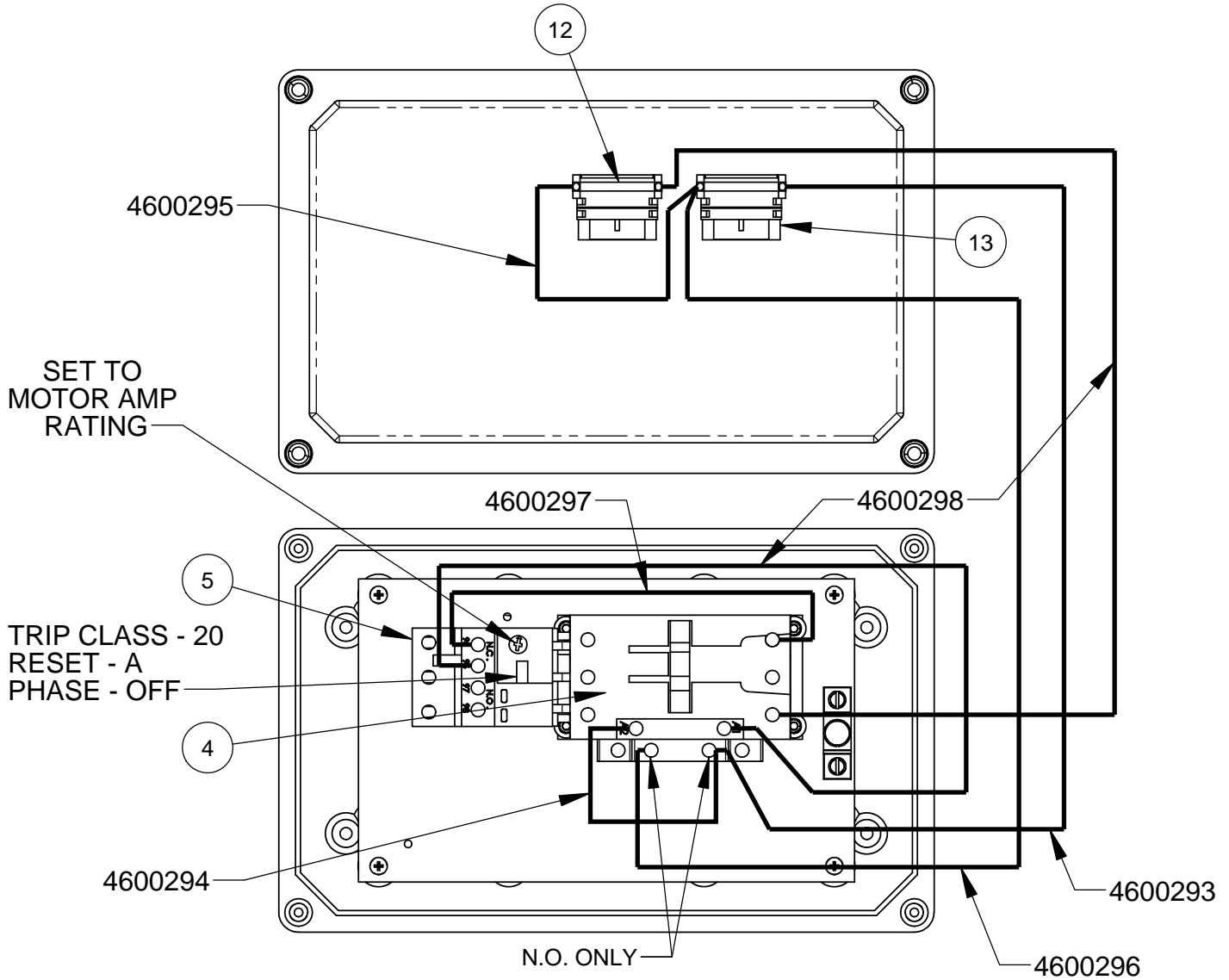


ITEM	PART NO.	QTY.	DESCRIPTION
1	2801033	1	Starter Box, 550-600V
2	6040300G	1	Electrical Box Base
3	2901332	4	1/4-20 Threaded Insert

2801033 STARTER BOX, 550-600 VOLT

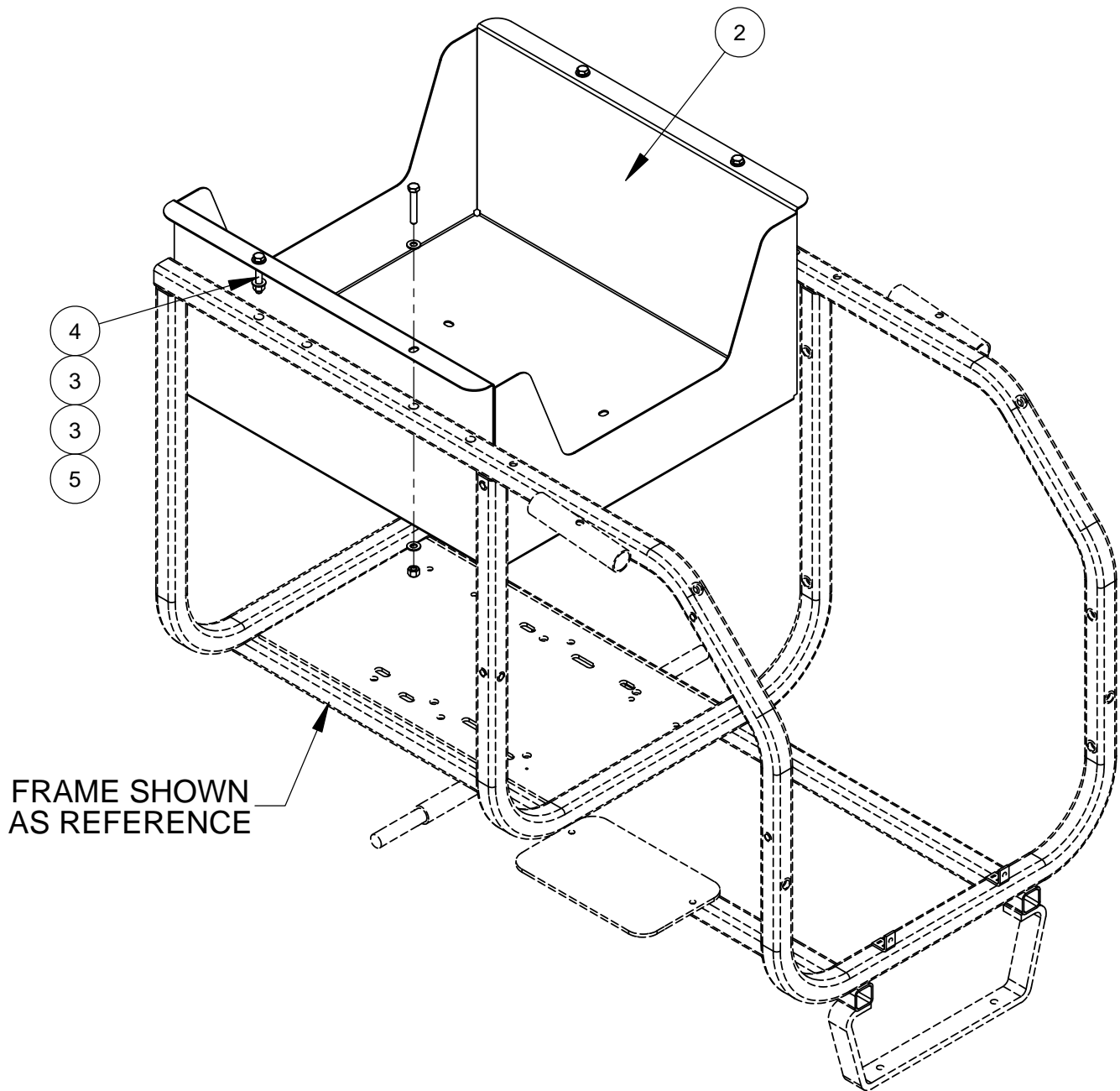


2801033 STARTER BOX, 550-600 VOLT



ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	2702419	1	Electrical Box (Base)	11	2901891	1	Cap Screw, Hex Hd., 1/4-28 x 1/2"
2	6040598	1	Sub-plate	12	2801636	1	E-Stop Switch, 600V, NC
3	2900676	4	Machine Screw, Pan Hd., M4-0.7 x 8mm	13	2801639	1	Pushbutton, N.O., 600V
4	2801709	1	Contactor, 550-600V (includes coil)	14	6048296	1	Electric Box Cover, 2 Hole
	2801267	1	Replacement Coil, 550-600V	15	2701414	4	Fastener, Electrical Box Top
5	2801699	1	Overload Relay, 9-45 AMP	16	4600293	1	Wire, 14 Gage, Yellow, 15"
6	2801676	1	Auxiliary Contacts, 1NO-NC	17	4600294	1	Wire, 14 Gage, Yellow, 6"
7	2901437	4	Flat Washer, #10	18	4600295	1	Wire, 14 Gage, Black, 6"
8	2901827	4	Cap Screw, Soc. Hd., #8-32 x 5/8"	19	4600296	1	Wire, 14 Gage, Black, 15"
9	2800315	2	Grounding Lug	20	4600297	1	Wire, 14 Gage, Red, 12"
10	2900024	1	Lock Washer, 1/4" Split	21	4600298	2	Wire, 14 Gage, Red, 13"

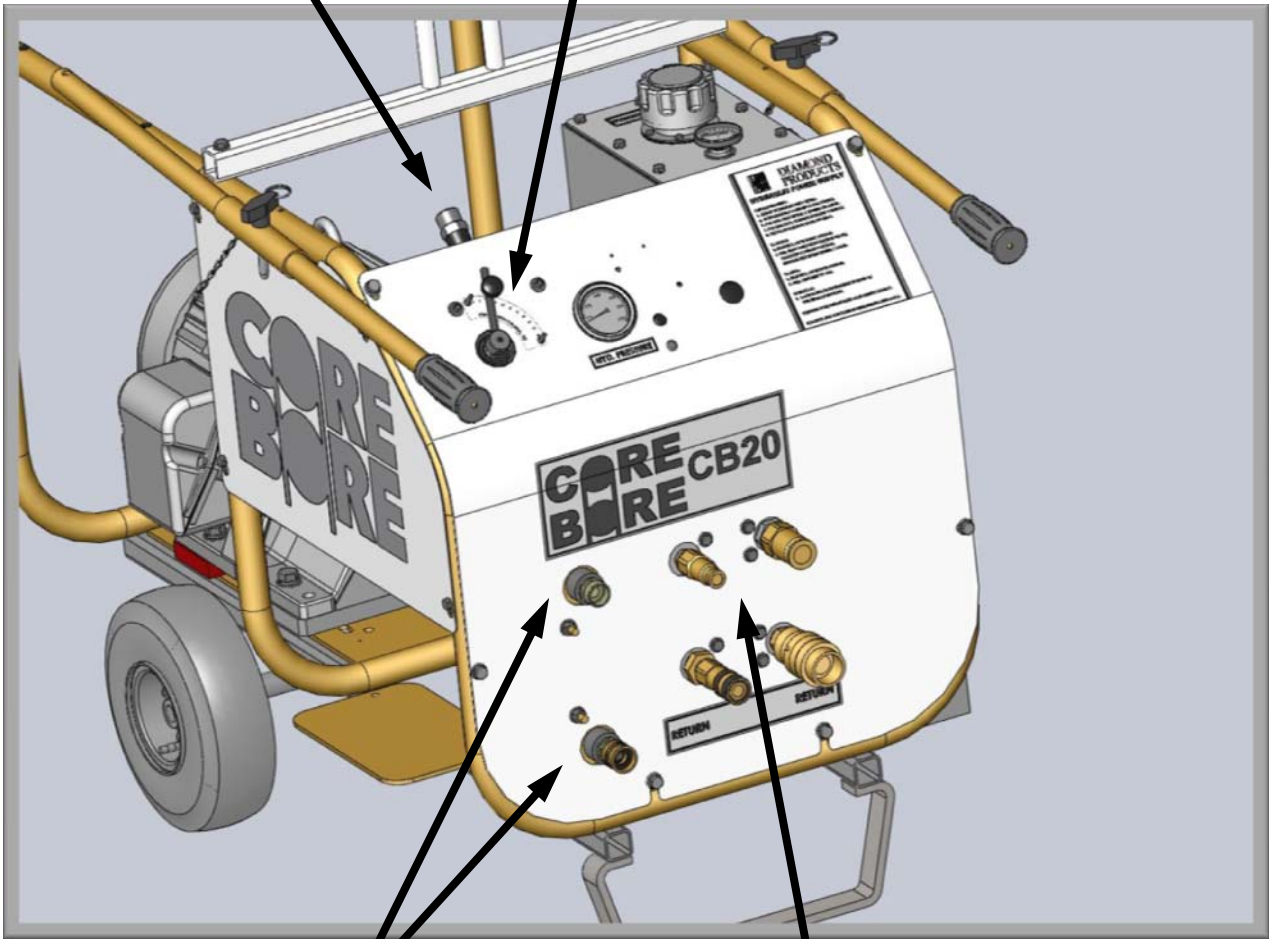
4400262 TOOL TRAY OPTION, ELECTRIC UNITS



ITEM	PART NO.	QTY.	DESCRIPTION
1	4646156	1	CB-XL Frame Assembly
2	4400207	1	Tool Tray
3	2900022	8	Flat Washer, 5/16" SAE
4	2900494	4	Cap Screw, Hex Hd., 5/16-18 x 2"
5	2900039	4	Lock Nut, 5/16-18 Nylon

RELIEF
CARTRIDGE

FLOW
CONTROL



WATER
CONNECTIONS

QUICK
DISCONNECTS

GENERAL SAFETY PRECAUTIONS

WARNING: Do not operate power unit without reading this entire manual and the engine operation manual first. Keep manuals with power unit at all times for reference.

This manual describes the operating procedures, care, maintenance, adjustments, and safety precautions for proper use of this machine. This equipment is intended for industrial applications by experienced operators. It is to be operated in conformance with applicable federal, state, and local codes or regulations pertaining to safety, air pollution, noise, etc.

Tool operators and maintenance personnel must always comply with the safety precautions given in this manual and on the stickers and tags attached to the equipment.

These safety precautions are given for your safety. Review them carefully before operating the tool and before performing general maintenance or repairs.

Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations.

In addition to this manual, read and understand safety and operating instructions in the Engine Operation Manual furnished with the Power Unit in addition to this manual.

- Establish a training program for all operators to ensure safe operation.
- Do not operate the power unit unless thoroughly trained or under the supervision of an instructor.
- Do not inspect or clean the power unit while it is running.
- Always use hoses and fittings rated at a minimum 2500 p.s.i. (172 bar) with a 4 to 1 safety factor for pressure lines.
- Be sure all hose connections are tight.
- Make sure all hoses are connected for correct flow direction to and from the tool being used.
- Do not inspect hoses and fittings for leaks by using bare hands. "Pin-hole" pressure leaks can penetrate the skin.
- Do not operate a damaged or improperly adjusted power unit.
- Never wear loose clothing that can get entangled in the working parts of the power unit.
- Keep all parts of your body away from the working parts of the power unit.
- Always wear appropriate safety equipment such as goggles, ear protection, head protection and safety shoes. Certain tools used in conjunction with the power unit may require other safety equipment such as breathing filters.

- Do not operate the power unit if a gasoline odor is present.
- Do not use flammable solvents around the power unit motor.
- Allow the engine to cool before storing the unit in an enclosed area.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.

DANGER: Improper use or alteration of this equipment may be extremely hazardous.

SAFETY SYMBOLS

Safety symbols are used to emphasize actions which could result in a life-threatening situation, bodily injury, or damage to equipment.

Always observe safety symbols. They are included for your safety and for the protection of the tool.

! DANGER !

This safety symbol may appear on the tool. It is used to alert the operator of an action that could place him/her or others in a life threatening situation.

!WARNING: !

This safety symbol appears in these instructions to identify an action that could cause bodily injury to the operator or to other threatening situation.

! IMPORTANT !

This safety symbol appears in these instructions to identify an action or condition that could result in damage to the tool or other equipment.

DESCRIPTION AND SPECIFICATIONS

Pump: Gear, pump rotation is clockwise (motor is CCW).

Maximum GPM: 15 GPM (56.7L/M) 230/460/575 Volt
12.5 GPM (47.5L/M) 380 Volt

Hydraulic Fluid Tank Capacity: 11 gallons (41.6Liters)

Hose Couplings: Bruning quick disconnect, 3/4 inch & 1/2 inch

Relief Pressure: Factory set at 2400 PSI /165.5 Bar (at valve outlet port). Adjustable to 750 PSI, Current limited to 2400 psi.

Motor: Baldor 20 hp, 3450 RPM, 3 Phase, 60 Hz, C-Face, 230/460/575 Volt.
Baldor 20 hp, 2920 RPM, 3 Phase, 50 Hz, C-Face, 380 Volt.

This unit is compatible with most hydraulically driven sawing and drilling components. The system may not be compatible with components of some manufacturers.

The power unit was inspected and operated before shipment and should not require any additional adjustments prior to its initial use.

Hydraulic Fluid: The reservoir of the hydraulic power unit must be full prior to start-up. The use of high quality petroleum based hydraulic oil with the following properties is recommended:

- Anti-wear
- Low foaming
- Rust and oxidation inhibitors
- Wide temperature range
- Fluid viscosity: 8-1000 Centistokes (52-4600 SUS). The unit is shipped with an ISO 46 Viscosity grade (8Cs/52SUS @ 212F/100C and 46Cs/210SUS @ 104F/40C).

The oil must be kept free of contamination to avoid damage to system components. The strainer in the fill cap must always be in place when adding oil. Quick disconnects must be cleaned before connections are made.

Control Valve: The pressure compensated flow control valve on this unit allows full flow control

Flow settings are: 0-2, all flow routed to tank; 2-10, adjustable range.

Relief pressure can be adjusted by removing the cap at the top of the main control and using an Allen wrench to adjust

the relief cartridge. The relief can be set as low as 750 psi; do not exceed 2400 psi. To adjust, the flow control must be set at 10 and no tool should be attached. This will force all flow over relief. Securely replace the cap as oil seepage will occur through the relief cartridge. The relief is factory set and should rarely need adjustment.

Hydraulic Oil Cooler: The power unit is equipped with a brazed plate style oil cooler. Water should be passed through the cooler before being used for dust control or blade & bit cooling. Some tools will automatically shut off water flow when not actively cutting, drilling, etc. This may result in higher oil temperatures if the power unit continues to run without cooling water.

IMPORTANT: If there is a risk of frost the water must be drained from the cooler to prevent damage by freezing.

HOSES: Large diameters and short lengths are preferred and offer the highest system efficiency. If one is operating 50 ft (15.2M) from the power source, there is also a 50 ft (15.2M) return for a 100 ft (30.5M) total hose length. With 15 GPM and oil at 100 deg. F (37.8C), this could result in a 400 psi (27.5 Bar) pressure loss with ½” hose and a 140 psi (9.6 Bar) loss with 5/8” hose. Pressure loss will change dramatically with oil temperature.

OPERATING INSTRUCTIONS

Operator Responsibilities

It is the operator’s responsibility to use this unit and any attached tools under safe working conditions and to follow proper safety procedures for themselves, co-workers, observers, and the public at large. The operator must be aware of the machine’s capabilities and limitations and follow the safety precautions in each section of this manual. Periodic maintenance is required, in accordance with the instructions herein, to promote safe and reliable operations.

WARNING: Keep bystanders out of the immediate work area.

Wear approved:

- Safety glasses
- Ear protection
- Hard hat
- Gloves
- Safety shoes
- Any other protective equipment required for compliance with standard safety practices or federal, state, and local codes and regulations

Hose Connections: It is best to connect the hoses to the unit before starting as even very low residual pressure can make hose installation more difficult. Push couplings together until you hear it click. Turn locking ring of coupling to the secured position.

Starting Procedure:

- Be certain the unit is plugged into the proper voltage.
- Set the flow control valve to zero.
- Be certain the stop button has been pulled out.
- Press the start button on top of the starter box.

Heating Cold Oil: Forcing the oil over relief will quickly increase the oil temperature. With no tool connected to the unit, move the valve setting toward 10. This will force an increasing percentage of oil over relief. Heat cold oil to room temperature or ~100F/38C maximum. Cold oil greatly increases pressure loss in hoses and fittings and may affect tool operation.

Maintaining Oil Temperature: With an ample water supply and the radiator, it is unlikely overheating will be an issue except in the most extreme ambient temperatures. To force high oil temperatures down, run the unit with the flow control set to zero. This unloads the unit yet circulates oil through the cooling system. The rate of cooling will depend on the ambient temperature and how much water is being passed through the cooler.

Some control valves at the external tool may create backpressure and heat even when off. It is best to set the flow control to zero or shut the power unit down to avoid heating and conserve energy.

IMPORTANT: Monitor the thermometer at the top of the hydraulic tank. Maximum recommended oil temperature is 180 degrees Fahrenheit (82 deg C).

Shutting Down:

- Shift the flow control valve to zero to unload the system.
- Press the stop button on top of the starter box.

OPERATING DRIVEN EQUIPMENT

The operator must know the hydraulic requirements and limitations of the driven equipment and the appropriate adjustments must be made on the controls. The introduction of other control devices may cause system heating or may render the system inoperative.

IMPORTANT: This power unit is equipped with a positive displacement gear pump. All tools must be equipped with a control valve that allows flow directly to return ports when not in use. Blocking oil flow or abruptly disconnecting the tool can send flow over relief and potentially overheat the system.

Instructions supplied with the driven equipment must be followed to ensure correct connection and operation of each individual piece of equipment. Equipment supplied by Diamond Products will be capable of being connected correctly and will be compatible with this power unit, providing neither has been modified from original factory configuration. With equipment of other manufacturers, it will be necessary to determine the following:

- Correct direction of flow through the equipment.
- Correct pressure and flow required by the equipment.
- Compatibility of any valves or circuitry and quick disconnects. Some hand-held equipment uses a trigger control, which is operated frequently. These valves must be of the open center type for correct operation.

IMPORTANT: The quick disconnects must be clean when connecting hoses and devices. Failure to thoroughly clean may result in contamination and premature failure of system or tool components.

MAINTENANCE INSTRUCTIONS

- Oil Filter: change the filter when indicated by the gage at the filter.
- Oil Change: establishing an oil analysis program is the preferred method of determining oil condition and when to change it. If the oil is kept clean, dry, and operated at moderate temperatures, it can last for several years. With no analysis program an oil change every 200 hours is recommended. See the section Hydraulic Fluid for specifications. A ½" pipe thread oil drain port is at the bottom of the hydraulic tank.
- Inspect hoses, couplings, and fittings daily for leaks, tighten as required. Clean quick disconnects frequently. Replace any leaking or defective components immediately.
- Check hydraulic oil level daily. Fill tank to upper end of sight tube with unit off.
- Grease the wheel bearings annually.

TROUBLESHOOTING

PROBLEM	POSSIBLE SOLUTIONS
Motor will not start.	1) Pull out stop button on starter box. 2) Press Reset button on starter box. 3) Confirm proper voltage.
Running with no flow.	The motor may be running backwards. Reverse any two of the 3 power wires coming into the starter box.
System builds high pressure with flow control valve set to zero.	Contamination may have plugged an orifice in the CF port of the flow valve. Detach the valve from the front panel and remove the fitting from the CF port. A .015" orifice should be visible at the bottom of the port. Push a fine wire through the orifice and re-install.

Keep this manual and the engine manual readily available at all times for reference.

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EQUIPMENT AND PARTS WARRANTY

Diamond Products warrants all equipment manufactured by it against defects in workmanship or materials for a period of one (1) year from the date of shipment to Customer.

The responsibility of Diamond Products under this Warranty is limited to replacement or repair of defective parts at Diamond Products' Elyria, Ohio factory, or at a point designated by it, of such parts as shall appear to us upon inspection at such parts, to have been defective in material or workmanship, with expense for transportation and labor borne by Customer.

In no event shall Diamond Products be liable for consequential or incidental damages arising out of the failure of any Product to operate properly.

Integral units such as engines, electric motors, batteries, transmissions, etc., are excluded from this Warranty and are subject to the prime manufacturer's warranty.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND ALL SUCH OTHER WARRANTIES ARE HEREBY DISCLAIMED.



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