



**CORE POWER
PARTS LIST/OPERATOR'S
MANUAL**

**CP18BVXL
HYDRAULIC POWER UNIT**

MARCH 2023

Part #: 1801795-7

Proposition 65
State of California

Warning !

Engine exhaust and some its constituents are known to the State of California to cause cancer, birth defects, and/or other reproductive harm.

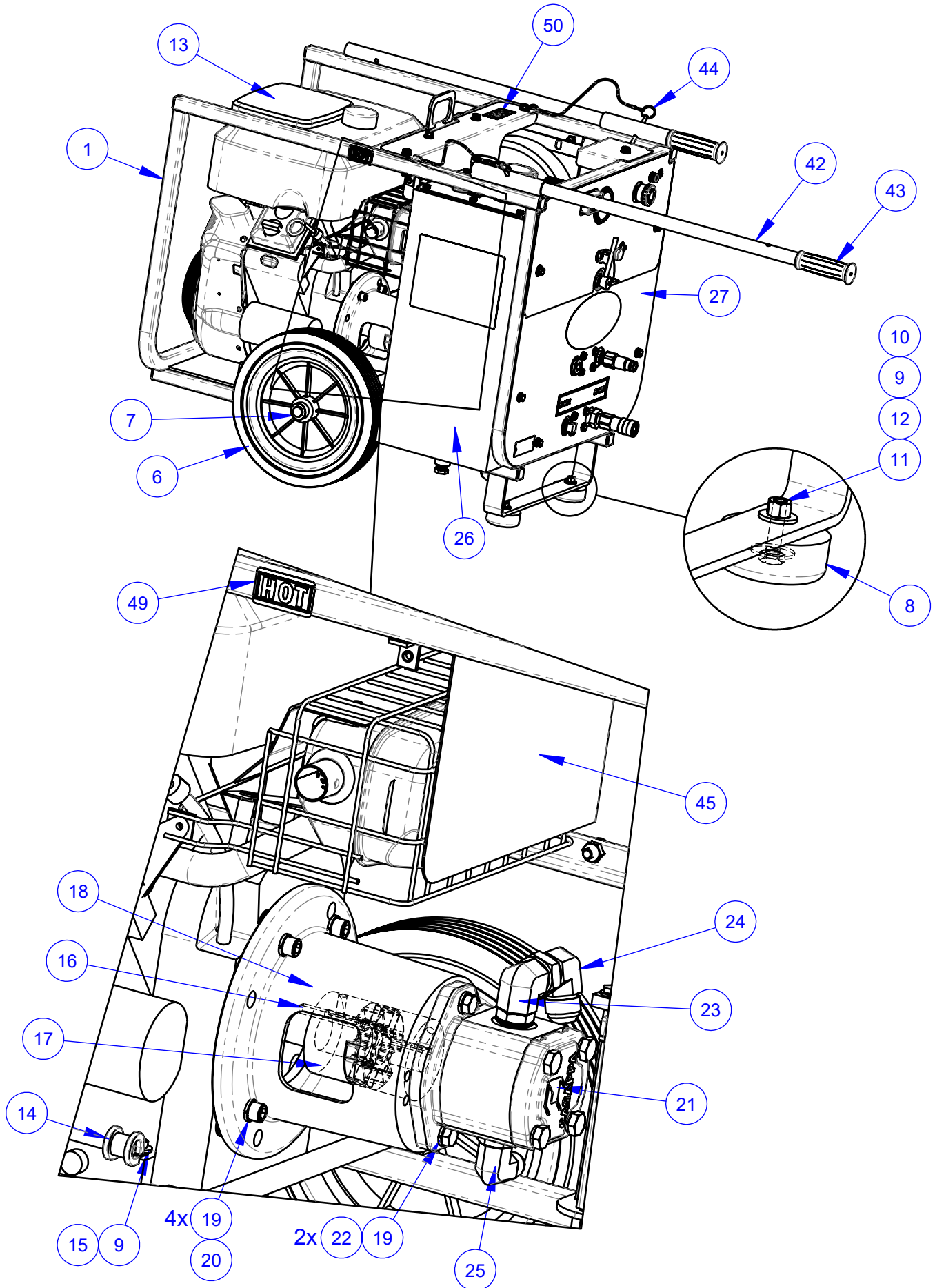
Notification of Spark Arrester Requirement for
State of California

It is a violation of Section 4442 or 4443 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443.

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4641166 CP18BVXL HYDRAULIC POWER SUPPLY

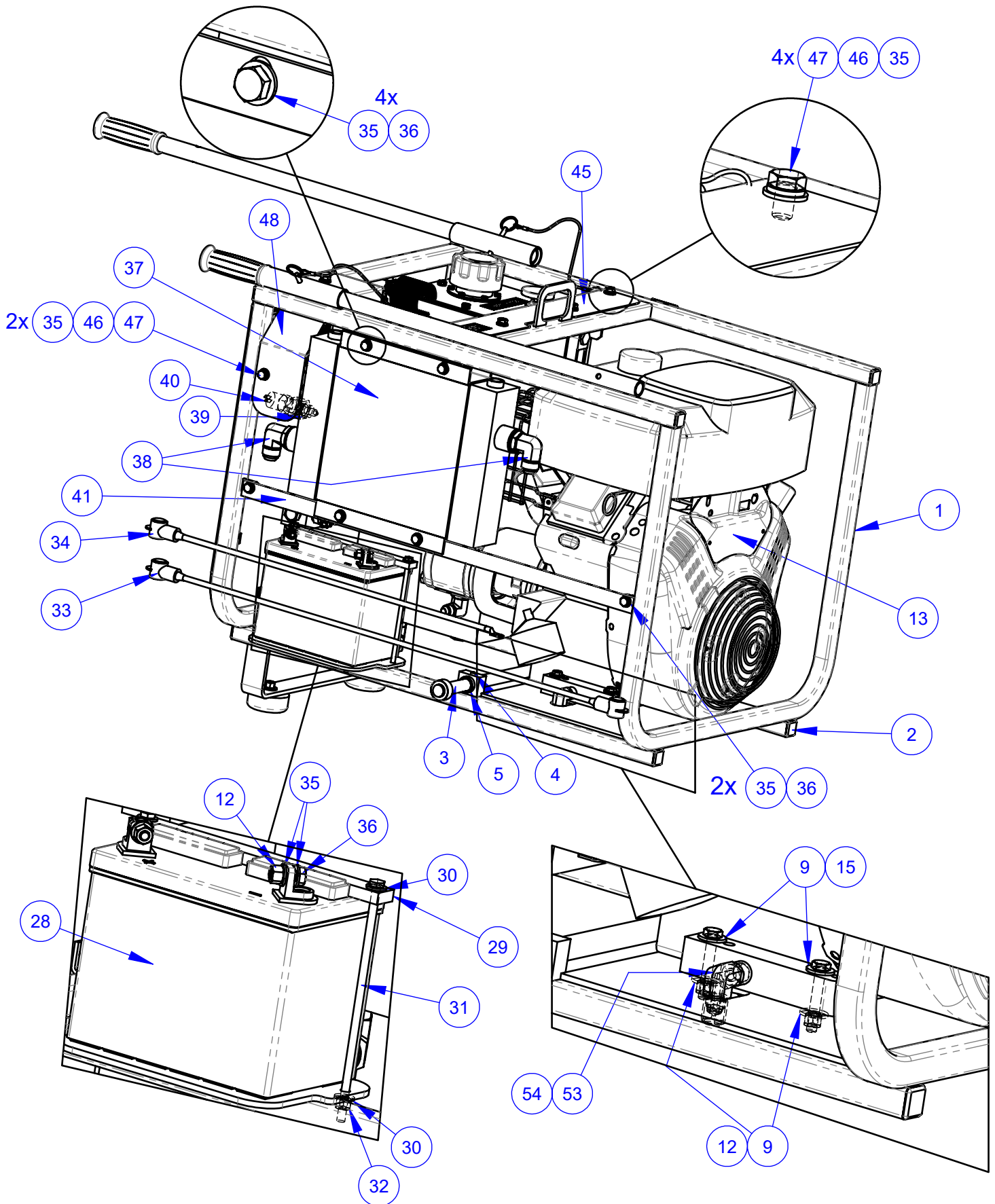


4641166 CP18BVXL HYDRAULIC POWER SUPPLY

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	4641064	1	CP18 Frame Weldment	28	2500584	1	Battery, 12 Volt Group Size U1
2	2500573	8	Plug, 1" Square Tube	29	4646122	1	BatterySupport
3	4641061	1	Axle, 3/4"	30	2900009	4	Flat Washer, 1/4" SAE
4	2900101	2	Set Screw, Soc. Hd., 1/4-20 x 3/8"	31	2901405	2	Cap Screw, Hex Hd., 1/4-20 x 7-1/2"
5	6084025	2	Spacer, 1" x .75" x .275"	32	2900010	2	Lock Nut, 1/4-20 Nylon
6	2400643	2	Wheel, 12 x 2-3/8 x 3/4"	33	4641037	1	Battery Cable Assy., Red
7	2400615	2	Set Collar, 3/4"	34	4641041	1	Battery Cable Assy., Black
8	2501767	2	Rubber Bumper	35	2900022	18	Flat Washer, 5/16" SAE
9	2900567	10	Flat Washer, 5/16" USS	36	2900668	8	Cap Screw, Hex Hd., 5/16-18 x 7/8"
10	2901103	2	Fender Washer, 5/16" x 1"	37	2400318	1	Heat Exchanger, Air/Oil, 12 Volt
11	2900217	2	Cap Screw, Hex Hd., 5/16-18 x 1-1/4"	38	3200400	2	Elbow, 3/4" O-Ring to 3/4" Male JIC
12	2900039	10	Lock Nut, 5/16-18 Nylon	39	3201012	1	1/2" O-ring - 1/2" FPT
13	2601674	1	18HP Briggs W/Elec. Start & Fuel Tank	40	2800697	1	Temperature Switch, 1/2 NPT
14	2501434	1	Hose Clamp, 5/8" x 3/4" Wide	41	4600164	1	Radiator Suport Bar
15	2900494	4	Cap Screw, Hex Hd., 5/16-18 x 2"	42	4641060	2	Handle, 1" Dia.
16	6048134	1	Key, 1/4" Sq. x 2-1/4"	43	2500636	2	Handle Grip
17	2702225	1	Coupling Assembly, 3/4 - 1-1/8"	44	2900278	2	Lanyard with Lock Pin
18	4646010	1	Pump Mount, SAE 2 Bolt	45	4641108	1	Heat Shield
19	2900006	6	Lock Washer, 3/8" Split	46	2900031	6	Lock Washer, 5/16" Split
20	2900724	4	Cap Screw, Soc. Hd., 3/8-16 x 1-1/4"	47	2900958	6	Cap Screw, Hex Hd., 5/16-18 x 1/2"
21	2600663	1	Hydraulic Pump, .69 CI	48	4641109	1	Splash Guard
22	2900005	2	Cap Screw, Hex Hd., 3/8-16 x 1"	49	1800537	1	Label, HOT
23	3201988	1	Elbow, 5/8" O-Ring to 3/4" M. JIC	50	1801707	1	Decal, Caution, Fan
24	3200417	1	Elbow, 3/4" F. JIC to 3/4" M. JIC	51	4647131	1	Hose Kit, CP18-XL
25	3200366	1	Elbow, 5/8" O-Ring to 1/2" Male JIC, 90 Deg.	52	4640125	1	Wire Kit, CP18-XL
26	4641110	1	Hydraulic Tank Assembly, 6 Gallon	53	3201466	1	Elbow, 3/8" M. Pipe to 3/8" M. JIC
27	4641103	1	Panel Assembly, CP18	54	3201496	1	Cap, 3/8" JIC

MUFFLER ONLY IS 2400316

4641166 CP18BVXL HYDRAULIC POWER SUPPLY

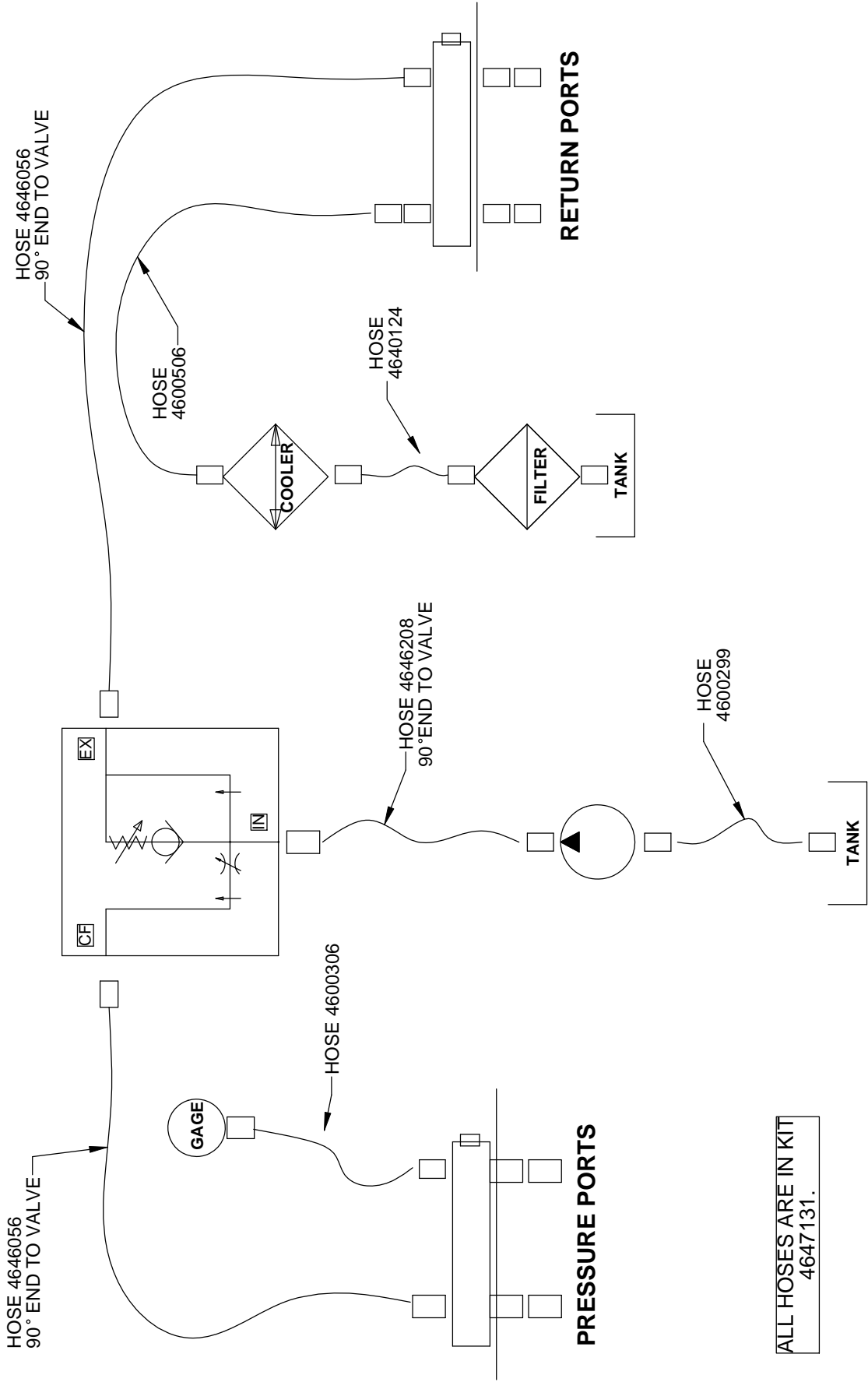


4641166 CP18BVXL HYDRAULIC POWER SUPPLY

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4	2900101	2	Set Screw, Soc. Hd., 1/4-20 x 3/8"	31	2901405	2	Cap Screw, Hex Hd., 1/4-20 x 7-1/2"
5	6084025	2	Spacer, 1" x .75" x .275"	32	2900010	2	Lock Nut, 1/4-20 Nylon
6	2400643	2	Wheel, 12 x 2-3/8 x 3/4"	33	4641037	1	Battery Cable Assy., Red
7	2400615	2	Set Collar, 3/4"	34	4641041	1	Battery Cable Assy., Black
8	2501767	2	Rubber Bumper	35	2900022	18	Flat Washer, 5/16" SAE
9	2900567	10	Flat Washer, 5/16" USS	36	2900668	8	Cap Screw, Hex Hd., 5/16-18 x 7/8"
10	2901103	2	Fender Washer, 5/16" x 1"	37	2400318	1	Heat Exchanger, Air/Oil, 12 Volt
11	2900217	2	Cap Screw, Hex Hd., 5/16-18 x 1-1/4"	38	3200400	2	Elbow, 3/4" O-Ring to 3/4" Male JIC
12	2900039	10	Lock Nut, 5/16-18 Nylon	39	3201012	1	1/2" O-ring - 1/2" FPT
13	2601674	1	18HP Briggs W/Elec. Start & Fuel Tank	40	2800697	1	Temperature Switch, 1/2 NPT
14	2501434	1	Hose Clamp, 5/8" x 3/4" Wide	41	4600164	1	Radiator Suport Bar
15	2900494	4	Cap Screw, Hex Hd., 5/16-18 x 2"	42	4641060	2	Handle, 1" Dia.
16	6048134	1	Key, 1/4" Sq. x 2-1/4"	43	2500636	2	Handle Grip
17	2702225	1	Coupling Assembly, 3/4 - 1-1/8"	44	2900278	2	Lanyard with Lock Pin
18	4646010	1	Pump Mount, SAE 2 Bolt	45	4641108	1	Heat Shield
19	2900006	6	Lock Washer, 3/8" Split	46	2900031	6	Lock Washer, 5/16" Split
20	2900724	4	Cap Screw, Soc. Hd., 3/8-16 x 1-1/4"	47	2900958	6	Cap Screw, Hex Hd., 5/16-18 x 1/2"
21	2600663	1	Hydraulic Pump, .69 CI	48	4641109	1	Splash Guard
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23	3201988	1	Elbow, 5/8" O-Ring to 3/4" M. JIC	50	1801707	1	Decal, Caution, Fan
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27	4641103	1	Panel Assembly, CP18	54	3201496	1	Cap, 3/8" JIC

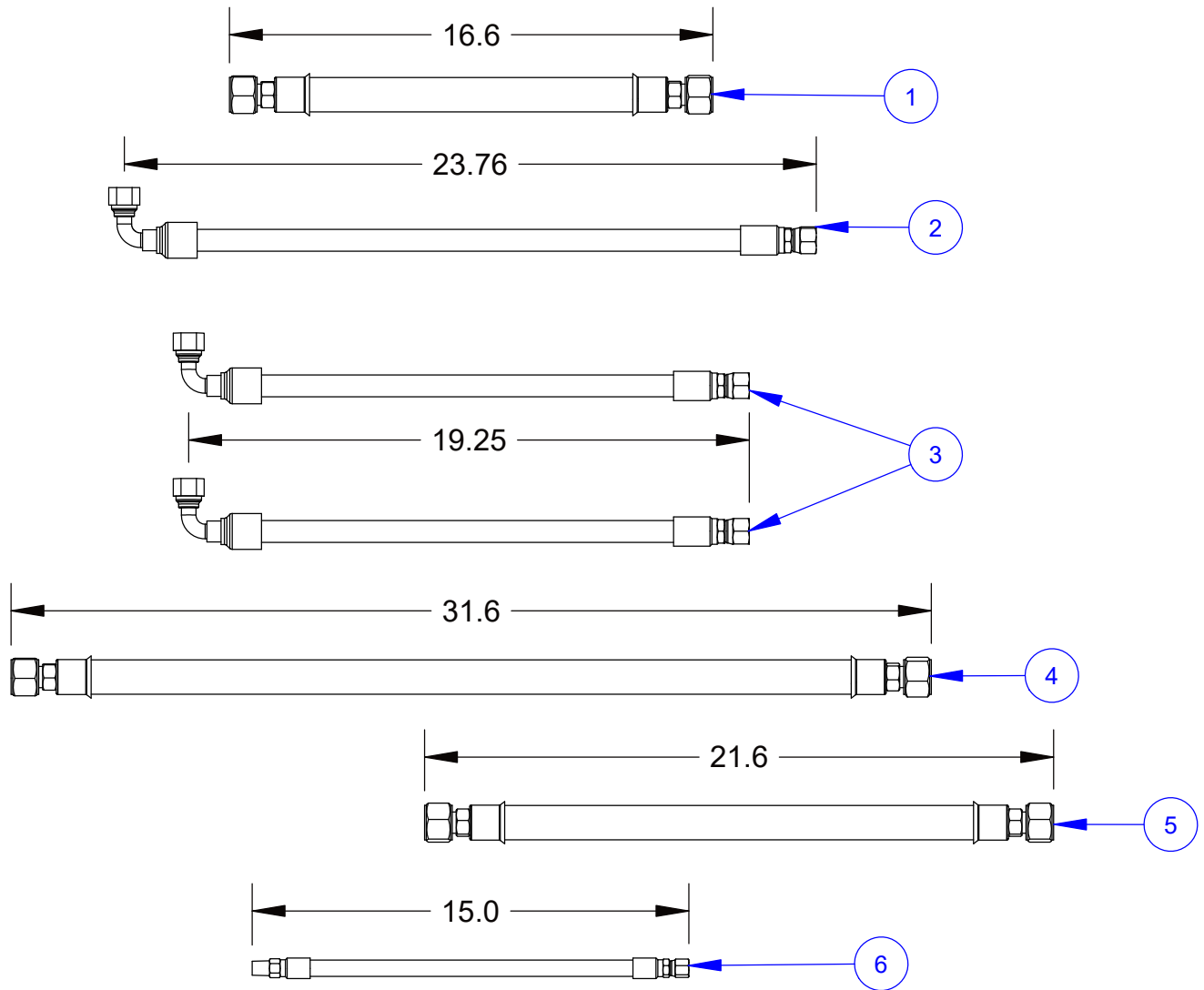
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4641166 CP18BVXL HYDRAULIC SCHEMATIC



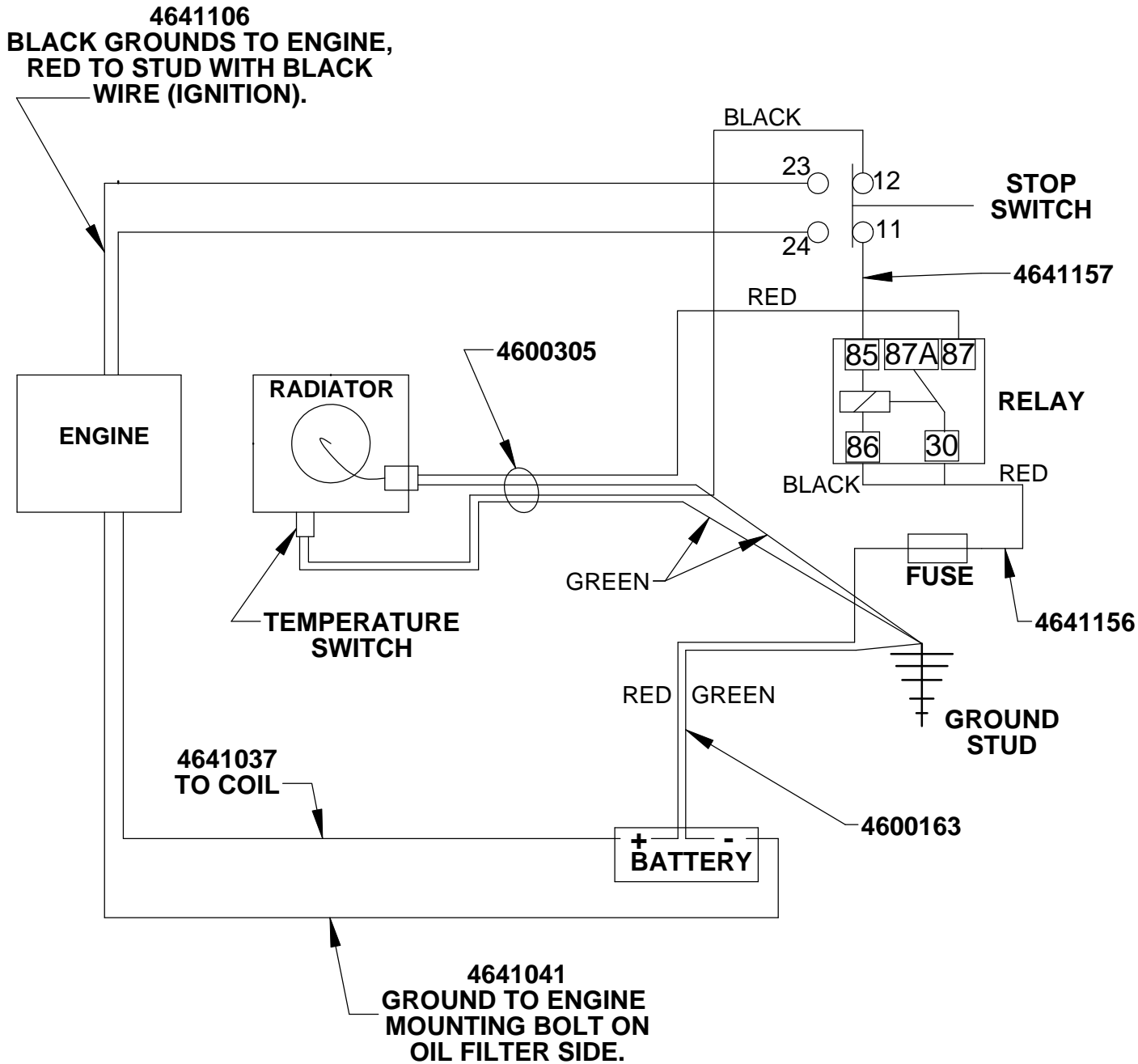
ALL HOSES ARE IN KIT
4647131.

4647131 HOSE KIT, CP18BVXL



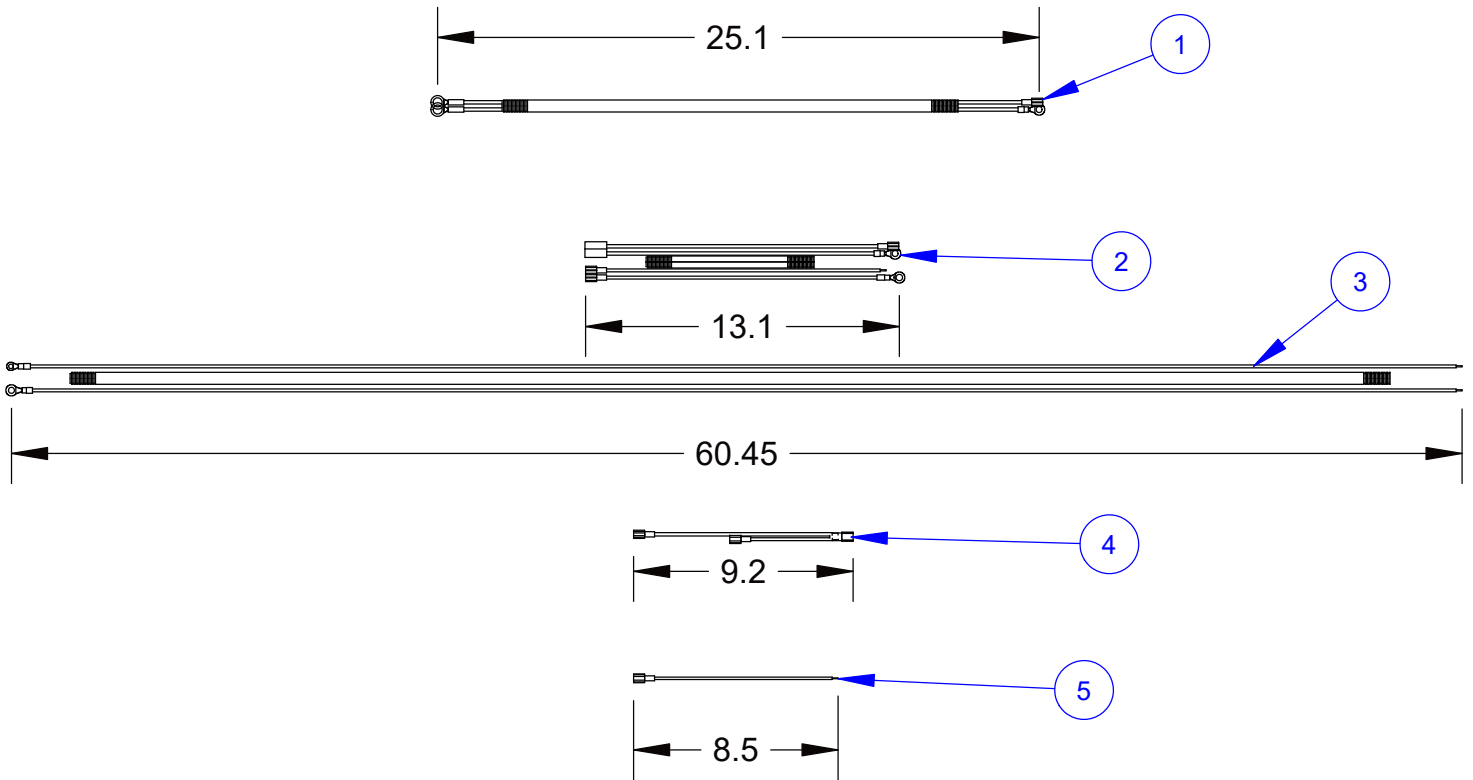
ITEM	PART NO.	QTY.	DESCRIPTION
1	4600299	1	Hose Assembly, 3/4" x 16.6"
	3201989	2	Fitting, 3/4" F.JIC to 3/4" Hose Barb
	3202708	2	Crimp Shell, #12
2	4646208	1	Hose Assembly, 1/2" X 23-3/4"
	3200290	1	Fitting, 1/2" F. JIC to 1/2" Hose Crimp
	3200408	1	Elbow, 1/2" F. JIC to 1/2" Parkrimp 90 deg.
3	4646056	2	Hose Assembly, 1/2" X 19-1/4"
	3200290	1	Fitting, 1/2" F. JIC to 1/2" Hose Crimp
	3200408	1	Elbow, 1/2" F. JIC to 1/2" Parkrimp 90 deg.
4	4600506	1	Hose Assembly, 3/4" x 31.6"
	3201989	2	Fitting, 3/4" F.JIC to 3/4" Hose Barb
	3202708	2	Crimp Shell, #12
5	4640124	1	Hose Assembly, 3/4" x 21.6"
	3201989	2	Fitting, 3/4" F.JIC to 3/4" Hose Barb
	3202708	2	Crimp Shell, #12
6	4600306	1	Hose Assembly, 1/4" x 15"
	3200128	1	Fitting, 1/4" F. JIC to 1/4" Hose Crimp
	3200145	1	1/4 MPT - 1/4 Hose Crimp

4641166 CP18BVXL ELECTRIC SCHEMATIC



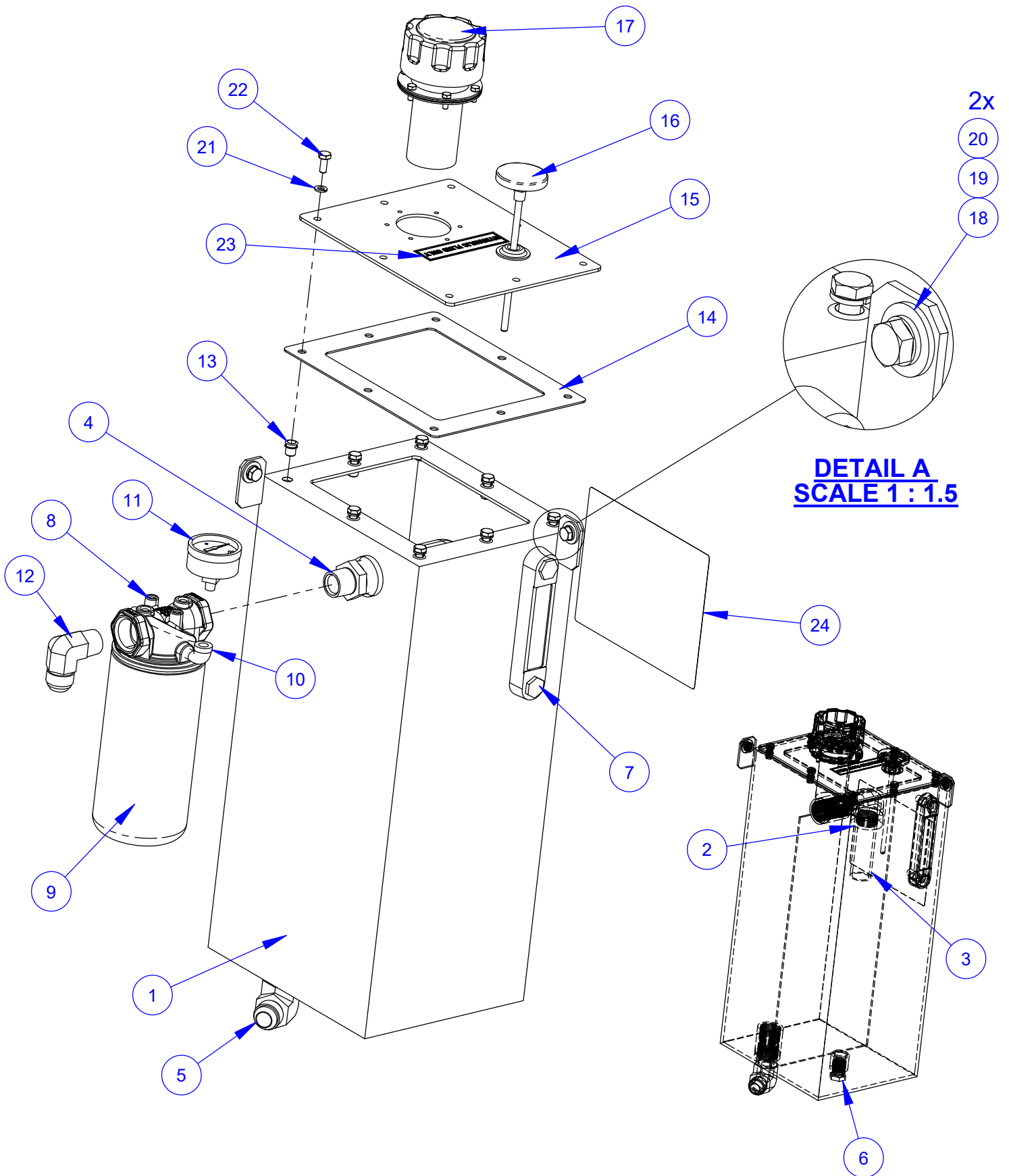
WIRES ARE IN KIT 4640125
(DOES NOT INCLUDE BATTERY CABLES)

4640125 CP18BVXL WIRE KIT



ITEM	PART NO.	QTY.	DESCRIPTION
1	4600163	1	Wire Assy., Red & Grn, 14 Ga.
2	4600305	1	Wire Assy., 4 Wire
3	4641106	1	Wire Assy., Emergency Off, 60-1/2"
4	4641156	1	Wire Assy, Black & Red
5	4641157	1	Wire Assy., 20 Ga., Brn, 8-1/2"

4641110 HYDRAULIC TANK ASSEMBLY

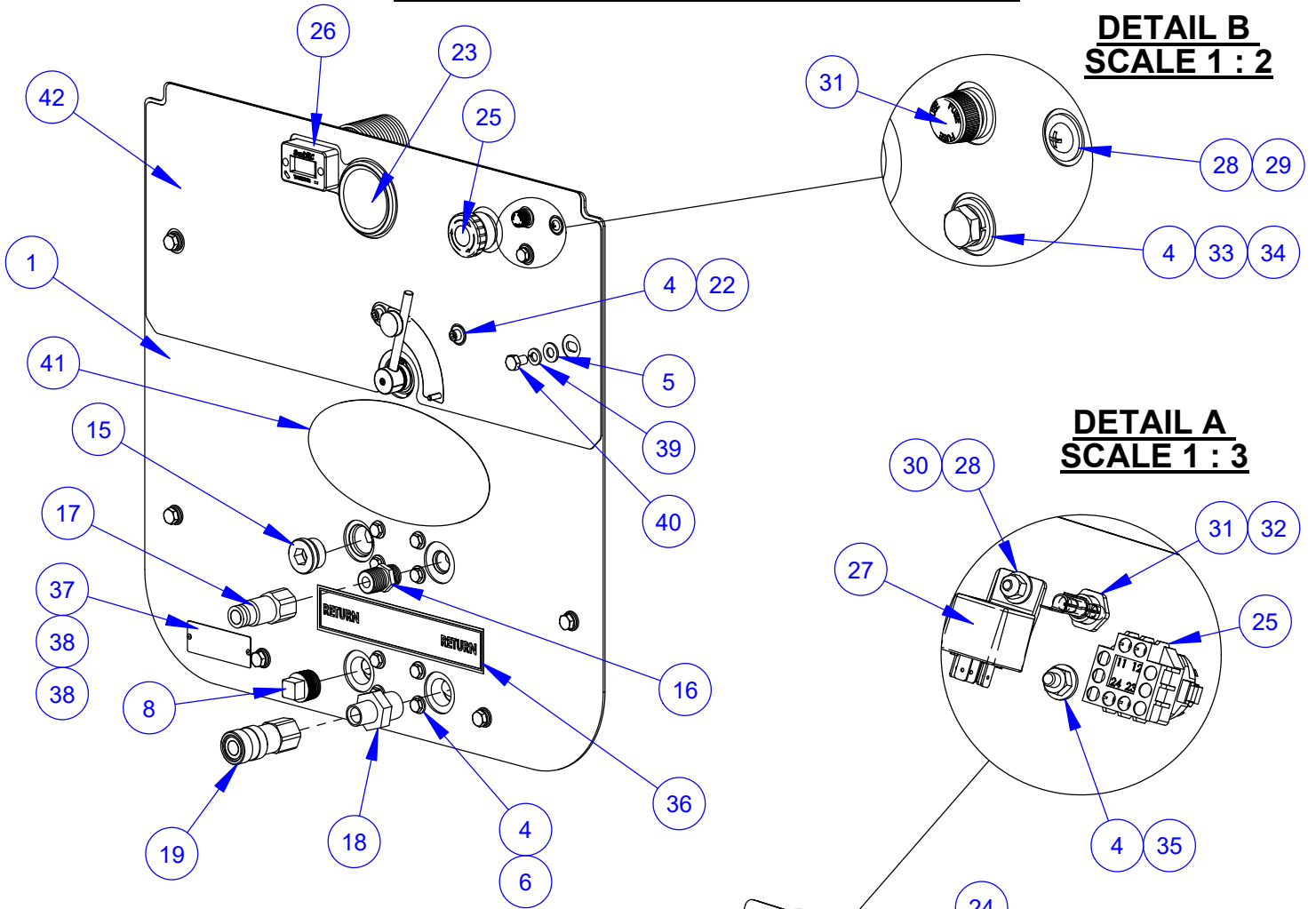


4641110 HYDRAULIC TANK ASSEMBLY

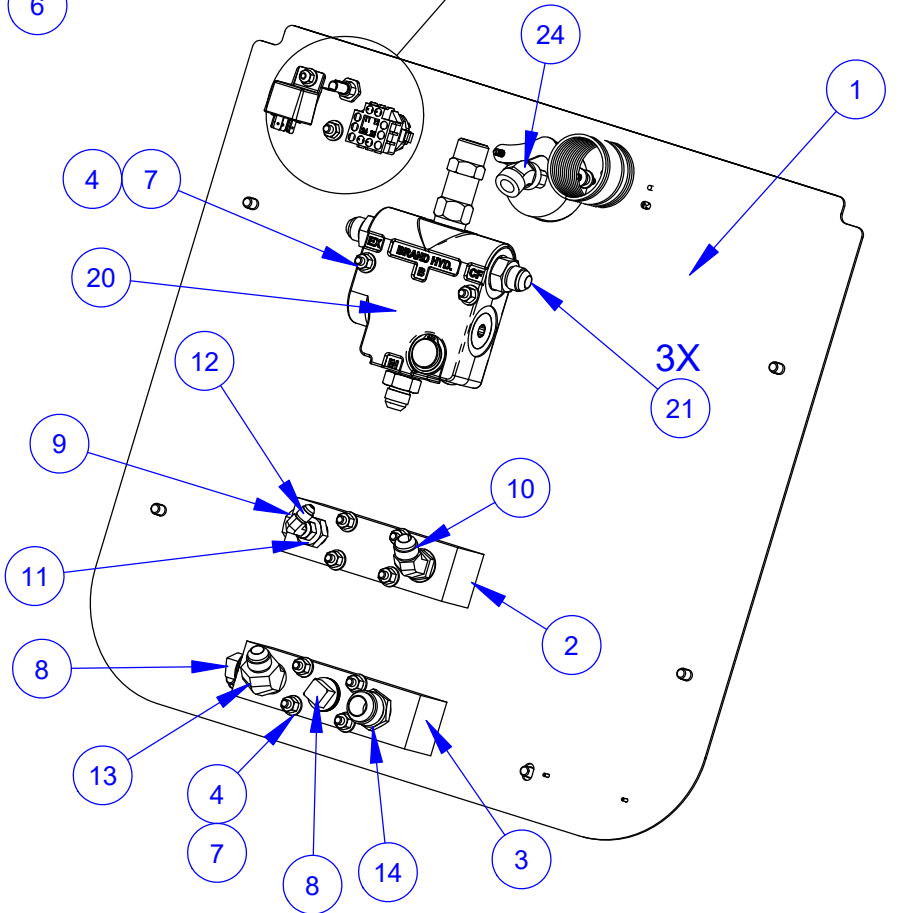
ITEM	PART NO.	QTY.	DESCRIPTION
1	4641058	1	Hydraulic Tank Weldment
2	3200409	1	Street Elbow, 1" NPT
3	3200427	1	Nipple, 1" NPT x 4"
4	3200431	1	Nipple, 1"MPT - 3/4" MPT
5	3200111	1	Elbow, 1" M. Pipe to 3/4" M. JIC
6	3200160	1	Plug, 1/2" NPT
7	2400166	1	Sight Gauge, Liquid Level
8	2703290	1	Filter Head, 3/4" NPT
9	3201175	1	Hydraulic Filter Element
10	3200355	1	1/8" Street Elbow
11	3200502	1	Gauge, Hydraulic Pressure
12	3200086	1	Elbow, 3/4" M. Pipe to 3/4" M. JIC
13	2900441	8	Rivet Nut, 1/4-20 Round
14	4641104	1	Gasket, Hyd Tank
15	4641063	1	Cover, Hydraulic Tank
16	2800459	1	Thermometer, 2", 0 - 200 F
17	2401305	1	Filler/Breather Cap W/Screen
	2900339	6	Cap Screw, Hex Hd., M5-0.8 x 12mm
18	2900567	2	Flat Washer, 5/16" USS
19	2900031	2	Lock Washer, 5/16" Split
20	2900883	2	Cap Screw, Hex Hd., 5/16-18 x 5/8"
21	2900024	8	Lock Washer, 1/4" Split
22	2900023	8	Cap Screw, Hex Hd., 1/4-20 x 5/8"
23	1800535	1	Decal, "Hydraulic Fluid Only"
24	1802756	1	Decal, Core Power CP18

4641103 CP18BVXL PANEL ASSEMBLY

DETAIL B
SCALE 1 : 2



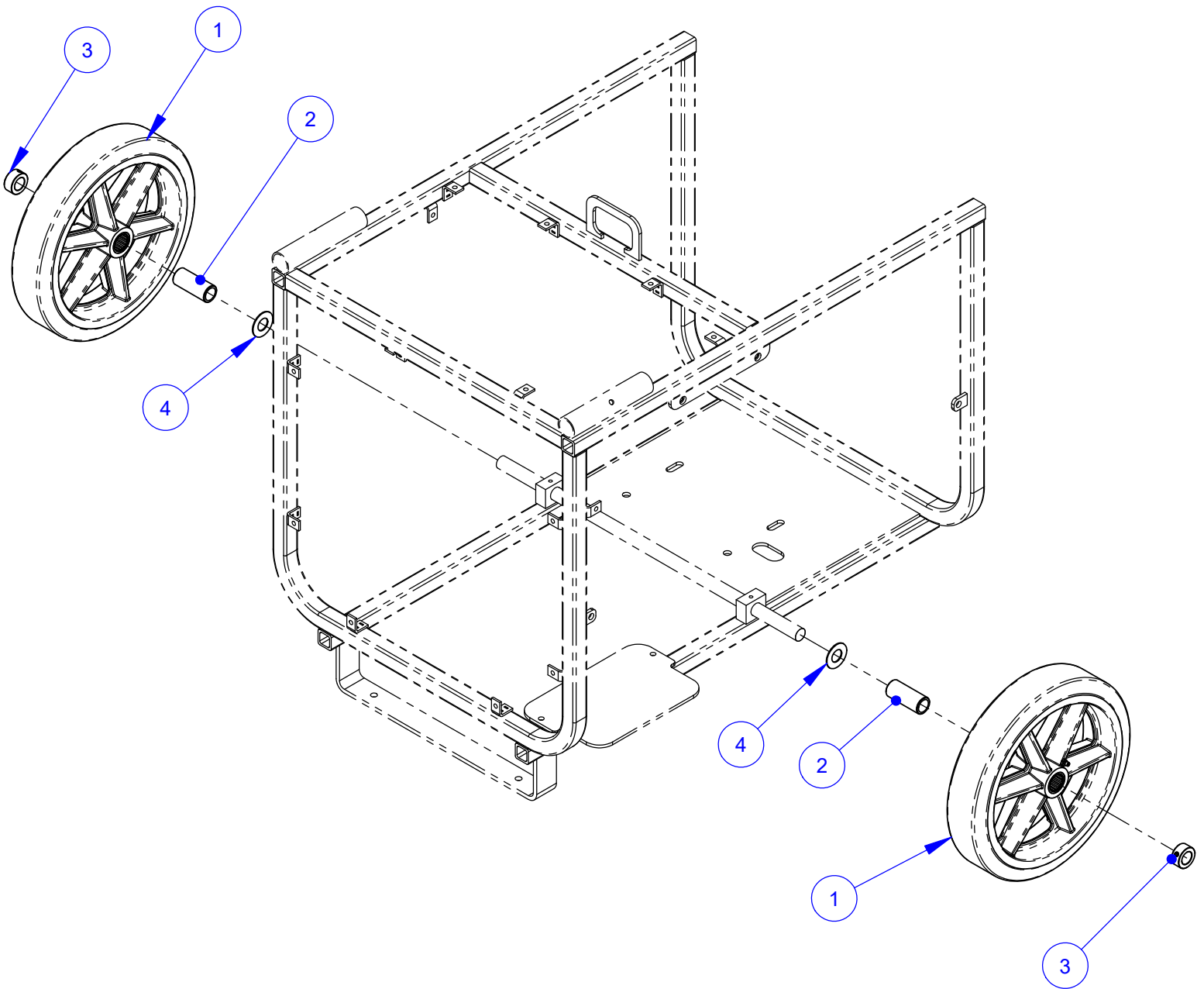
DETAIL A
SCALE 1 : 3



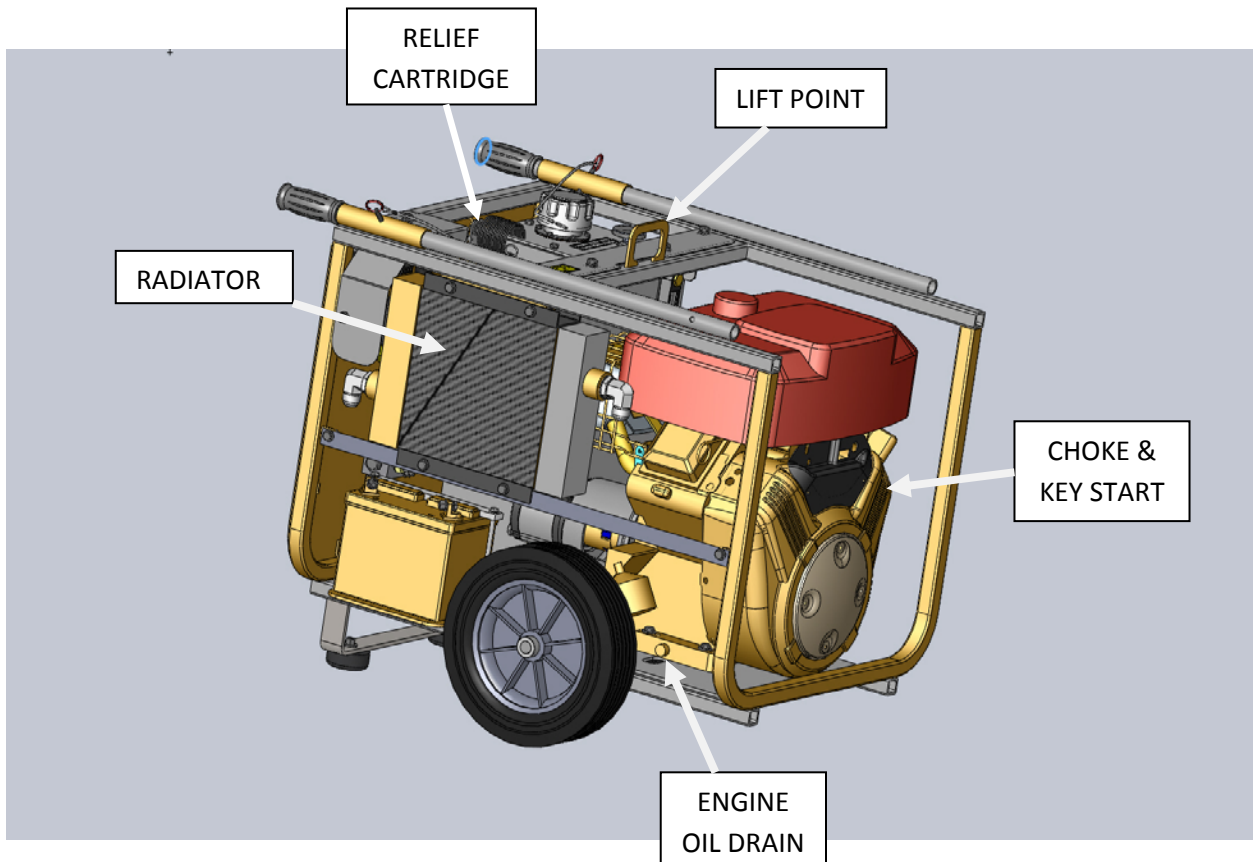
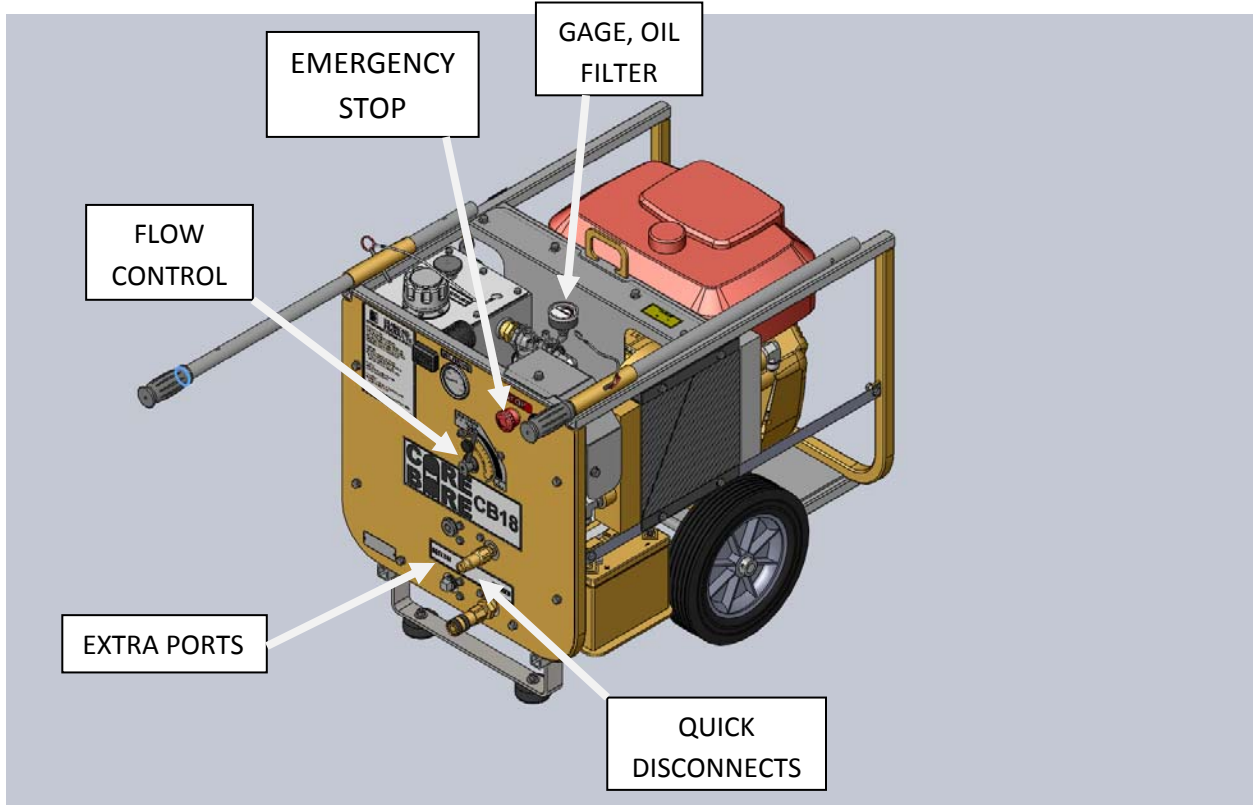
4641103 CP18BVXL PANEL ASSEMBLY

ITEM	PART NO.	QTY.	DESCRIPTION
1	4641062	1	Instrument Panel
2	4646102	1	Manifold, SAE O-Ring
3	4646101	1	Manifold, 3/4 NPT
4	2900009	22	Flat Washer, 1/4" SAE
5	2900022	6	Flat Washer, 5/16" SAE
6	2901001	8	Cap Screw, Hex Hd., 1/4-20 x 2-1/2"
7	2900010	10	Lock Nut, 1/4-20 Nylon
8	3200479	3	Plug, 3/4" NPT Square Head
9	3201434	1	Plug, 1/2" SAE O-Ring Hex
10	3200367	1	Elbow, 1/2" O-Ring to 1/2" Male JIC 45 Deg.
11	3201291	1	Adapter, 1/2"M.O-Ring to 1/4" MJIC
12	3201241	1	Elbow, 1/4" M. JIC to 1/4" F. JIC
13	3200444	1	Elbow, 1/2" M. JIC to 3/4" M. Pipe (45 deg)
14	3200097	1	Adapter, 3/4" M. JIC to 3/4" M. Pipe
15	3201306	1	#12 MOR PLug (3/4" O-Ring)
16	3200371	1	Adaptor, 1/2" MPT to 1/2" O-Ring
17	3200105	1	Nipple, 1/2" Q.D.
18	3200383	1	Nipple, Hex, 3/4" MPT TO 1/2" MPT
19	3200104	1	Coupler, 1/2" Q.D.
20	3201654	1	Valve, Flow Control
21	3200287	3	Adapter, 5/8" O-Ring to 1/2" M. JIC
22	2900245	2	Cap Screw, Soc. Hd., 1/4-20 x 2-5/8"
23	3200250	1	Gauge, Hydraulic, 3000 PSI
24	3200131	1	1/4" FPT, 45 Deg.
25	2801367	1	E-Stop Switch
26	2801502	1	Tach/Hour Meter, W/#6 Screws
27	2800144	1	Relay, 50 Amp Mini
28	2900016	2	Flat Washer, #10 USS
29	2900159	1	Machine Screw, Rd. Hd., #10-24 x 5/8"
30	2900017	1	Lock Nut, #10-24 Nylon
31	2800481	1	Fuse Holder
32	2803014	1	Fuse, 15 Amp, Slo Blow
33	2900024	1	Lock Washer, 1/4" Split
34	2900008	1	Cap Screw, Hex Hd., 1/4-20 x 1"
35	2900125	1	Hex Nut, 1/4-20
36	1800536	1	"Return" Decal
37	1800169	1	Serial Number Plate, US
38	2900053	2	Rivet, 3/32" Dia.
39	2900031	6	Lock Washer, 5/16" Split
40	2900958	6	Cap Screw, Hex Hd., 5/16-18 x 1/2"
41	1802620	1	DP Oval Logo Decal
42	1802763	1	Decal, Control Panel

4641173 WHEEL UPGRADE KIT FOR CP18BVXL



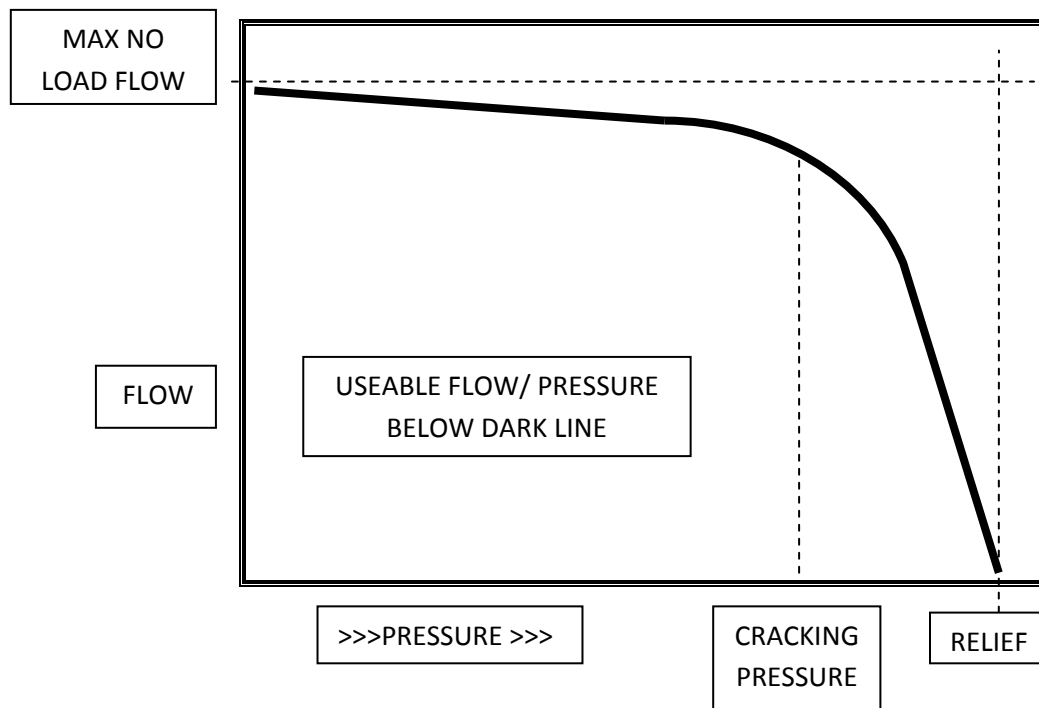
ITEM	PART NO.	QTY.	DESCRIPTION
1	2505179	2	Wheel 12" X 2-3/4" X 1"
2	6011774	2	Bushing, .75 x 1.00 x 2.38L
3	2400615	2	Set Collar, 3/4"
4	2900214	2	Shim Washer 3/4"



CP POWER PACK FLOW AND PRESSURE RATING

CP 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.

Issued August 2011

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 2850 PSI (196.5 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.
- **Never operate the gas power unit in a closed space.** Inhalation of engine exhaust can be fatal.
- 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.
- Keep clear of hot engine exhaust.
- Do not add fuel to the power unit while the power unit is still running or is still hot.
- Do not operate the power unit if a gasoline odor is present.
- Do not use flammable solvents around the power unit engine.
- Do not operate the power unit within 3 ft. (1 meter) of buildings or flammable objects.
- 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.

IMPORTANT: The red stop button at the front panel will immediately stop the engine. Hydraulic pressure and flow will go to zero. This button must be in the out position to start the unit.

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: 11.6 GPM (43.9L/M) at no load, 3900RPM. Flow will decrease as pressure approaches the relief setting and as engine RPM drops under load.

Hydraulic Fluid Tank Capacity: 5-1/2 gallons (20.8Liters)

Hose Couplings: Bruning quick disconnect, 1/2 inch

Relief Pressure: Factory set at 2850 PSI /196.5 Bar (at valve outlet port). Adjustable to 750 PSI. At relief, all flow is to tank and none to tool.

Engine: Briggs & Stratton 18 HP (13.5KW) Net @ 3900 RPM , air-cooled, RPM set to 3900

Fuel tank: 1.9 Gal (7.1L).

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 while the gas engine remains at its most efficient wide-open throttle. This allows a higher operating pressure at all flows. Flow settings: CCW, all flow routed to tank. Flow to tool increases as valve rotates clockwise. 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 2850 psi as the engine may stall. To adjust, the flow control must be set at MAX 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 at 2850 psi and should rarely need adjustment.

Hydraulic Oil Cooler: The power unit is equipped with an oil to air forced air style oil cooler. The radiator fan will come on automatically when the oil temperature reaches ~120F. (49C.) and continue to run until the temperature switch cools, even if the engine is shut off. The fan *will* stop whenever the emergency stop switch is used.

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 (35.5M) total hose length. With 10 GPM and oil at 100 deg. F (37.8C), this could result in a 140 psi (9.6 Bar) pressure loss with 1/2" hose and a 60 psi (4.1 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.

Gas Engine: Make sure that the engine crankcase is filled with oil to the proper level! Refer to your engine manual for oil checking and changing procedures, along with oil specifications, etc.

IMPORTANT: Operating the engine without oil will ruin the engine.

Fuel: Use regular grade unleaded gasoline to fuel the engine. Premium

grade may be used if necessary. Fill the tank when the engine is off and has been allowed to cool. Care should be taken to prevent spilling fuel. **Do not overfill the fuel tank.** Always leave enough space for expansion due to environmental heating.

WARNING: In the event of fuel spillage, do not start the engine or operate any nearby electrical component until the spilled fuel has been removed.

Starting Procedure:

- Set the flow control valve to zero.
- Open the fuel shut off valve at the rear of the engine.
- Be certain the emergency off switch has been pulled out.
- Set choke if necessary (cold engine). Turn key to start and release. Refer to engine manual for details of control functions.
- Let engine warm and gradually open the choke.

DANGER: Exhaust from the gas engine contains carbon monoxide, a poisonous, odorless, invisible gas, which can cause serious illness or death. Do not operate the gas engine where ventilation is restricted. Open windows and doors may not be sufficient to prevent this hazard.

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 ~100F/38C maximum if desired. Cold oil greatly increases pressure loss in hoses and fittings and may affect tool operation.

Maintaining Oil Temperature: To force high oil temperatures down, run the unit

with the flow control set to zero. This unloads the unit yet circulates the oil through the cooling system. The rate of cooling will depend on the ambient temperature.

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.
- Turn the key to the off position.

IMPORTANT: The red emergency stop button at the front panel will immediately stop the engine and radiator fan. Hydraulic pressure and flow will go to zero. This button must be in the out position to start the engine.

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 shunts 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. Dirty connections 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.

- Gas Engine Oil: Change engine oil and filter and perform other routine maintenance as recommended in the engine operation manual.
- 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.

TROUBLESHOOTING

PROBLEM	POSSIBLE SOLUTIONS
Gas engine will not start.	1) Pull out emergency stop button. 2) Open gas line valve at rear of engine. 3) Dead battery? 4) Low engine oil?
Low oil flow.	Check gas engine RPM at tachometer on front panel. Adjust governor to 3900 RPM if required. See engine manual.
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.

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