CONDUX INTERNATIONAL

Hydraulic Power Unit

USER & SAFETY MANUAL

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Introduction

This manual presents installation, operation, and maintenance information for Condux Hydraulic Power Units

One of the following tags are attached to the hydraulic power unit to identify the model number, serial number, and other important information.

Condux reserves the right to make changes at any time without notice and without incurring any obligation.

The Hydraulic Power Unit is designed to provide hydraulic flow and pressure for the operation of H.T.M.A. type I, II, hydraulic tools.

The power units are all equipped with air-to-oil coolers with suction fan mounted to the power shaft on the engine.

The fuel and hydraulic systems are self-contained with the required reservoir, filtration, and level indicators.

CAUTION: DO NOT USE CLOSED-CENTER TOOLS WITH THIS POWER UNIT

Features

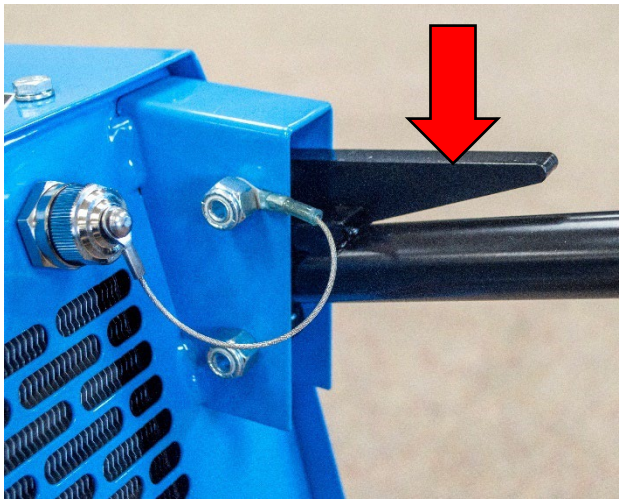
The main features of the power unit are as follows:

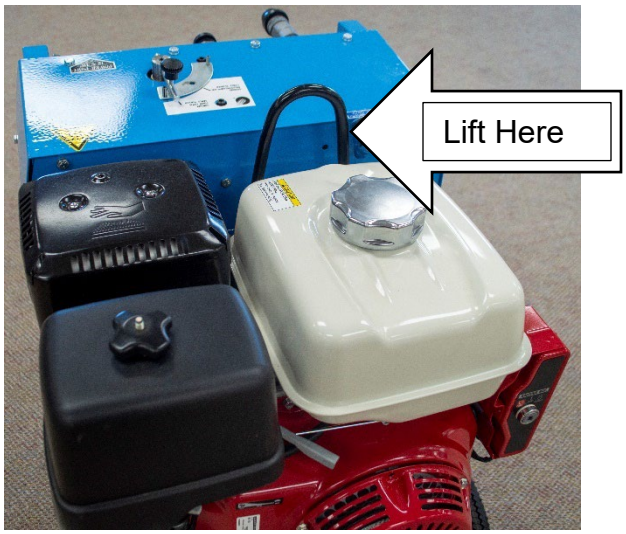
Standard unit is a wheeled style frame	
Length	67.3 cm (26.5 in.)
Width	50.8 cm (20 in.)
Height	69.8 cm (27.5 in.)
Weight	114.3 kg (252 lbs.)
Upper Ambient Operating Temp	40° C (104° F)
Lower Ambient Operating Temp	-20°C (-4° F)

The power unit comes with a GX390 Honda Engine.

See the engine manual supplied with the power unit for recommended fuel and fuel restrictions.

The standard wheeled power unit is equipped with a collapsible handle, which locks in place with a latch, (below left) and a lifting point for a crane hook. (below right)





Safety Summary

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 tool and hoses.

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

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

General Safety Precautions

Condux Hydraulic Power Units are designed to provide safe and dependable service if operated according to the instructions provided in this manual. Read and understand this manual and any stickers attached to the power unit before operating. Failure to do so could result in personal injury or equipment damage.

Turn power unit off and depressurize the hydraulic system before locating oil leaks. Depressurize any hoses and tools connected to the power unit before disconnecting them or inspecting them for leaks. Pressurized oil can penetrate the skin and cause severe injuries or death. Seek medical attention for any puncture wounds caused by oil.

The power unit features a 12-volt battery for starting. Improper use or care of the battery can result in serious personal injury or property damage.

WARNING: The battery is a DANGER/POISON hazard. The battery contains Sulfuric Acid and can cause severe burns.

Avoid contact with skin, eyes or clothing. Keep out of reach of children. If battery acid contacts the skin, flush immediately with water.

If acid is swallowed, drink a large amount of water or milk. Followed by milk of magnesia, beaten egg, or vegetable oil. Seek medical help immediately.

If acid contacts the eye, flush with water for 15 minutes. Get prompt medical attention.

The battery produces explosive gases, keep sparks, flame and cigarettes away. Change battery in a well-ventilated area. Always wear safety goggles when working with battery.

Do not short circuit battery, severe fumes and fire can result.

Use care when handling battery to prevent damage to casing. Battery contains toxic materials. If case is damaged, avoid contact with the contents. Neutralize acid spills with baking soda and water solution.

Dispose of damaged or used batteries in a responsible manner, check with local requirements for proper disposal methods.

Disconnect the battery before maintenance of any electrical components. Remove the ground (negative) cable first and the positive cable second. Reverse procedure for connecting battery.

Always check the battery for danger or handling instructions.

Use care when adding fuel to the engine. Gasoline is highly flammable and explosive, and you can be burned or seriously injured when refueling. Stop the engine and keep heat, sparks and flame away. Refuel only outdoors. Wipe up spills immediately. See the engine manual supplied with the power unit for proper fueling procedure.

Always disconnect the battery and remove the spark plug from the engine when performing repairs. Never start the power unit with missing guards or removed access panels. Severe personnel injury can occur if components are ejected from the unit or if a person comes in contact with moving parts.

Check the rules and regulations at your location. The rules may include employer’s work safety program. Regulations may identify hazards such as working around utility supply lines or hazardous slopes.

Read and understand any manuals for additional or optional equipment, which may be shipped with the power unit.

Warning and Caution Statements

Warning and Caution statements have been strategically placed throughout the text, prior to operating or maintenance procedures, practices, or conditions, considered essential to protection of personnel or equipment and property.

WARNING: HIGHLIGHTS AN ESSENTIAL OPERATING OR MAINTENANCE PROCEDURE, PRACTICE, CONDITION STATEMENT, ETC. WHICH IF NOT

STRICTLY OBSERVED, COULD RESULT IN INJURY TO, OR DEATH OF, PERSONNEL OR LONG-TERM HEALTH HAZARDS.

CAUTION: HIGHLIGHTS AN ESSENTIAL OPERATING OR MAINTENANCE PROCEDURE, PRACTICE, CONDITION STATEMENT, ETC. WHICH IF NOT STRICTLY OBSERVED, COULD RESULT IN DAMAGE TO, OR DESTRUCTION OF, EQUIPMENT OR LOSS OF MISSION EFFECTIVENESS.

Training Requirements

Operator training should consist of information found in this manual for the hydraulic power unit. In addition, the operator must receive instructions both through demonstrations and verbally with the tools or applications in which the power unit is going to be used. The new operator must start in an area without bystanders and use all controls until able to fully operate the power unit under the conditions for the work area.

Installation Instructions

Upon receiving your hydraulic power unit, promptly remove it from the shipping container. Always keep top side of container up. Inspect unit for damage which may have incurred during shipping and report it to carrier for claim.

Engine Preparation

CAUTION: READ AND UNDERSTAND ENGINE MANUAL WHICH IS PROVIDED IN ADDITION TO THE CONDUX MANUAL BEFORE STARTING THE POWER UNIT.

CAUTION: ALWAYS CHECK ENGINE OIL BEFORE STARTING POWER UNIT.

Make sure engine oil is at the “FULL” mark on the dipstick.

See engine manual for recommended oil and checking procedures.

NOTE: Clean up oil and fuel spills immediately. Do not over fill fluids.

Hydraulic Power Unit Preparation

CAUTION: CHECK OIL RESERVOIR BEFORE OPERATING THE POWER UNIT. OPERATING THE POWER UNIT WITH LOW OIL RESERVOIR CAN CAUSE PUMP DAMAMAGE.

Check hydraulic fluid level by looking at sight pipe located on top of the oil reservoir. Proper oil level is indicated when the center section of the sight pipe is dark. To add hydraulic fluid remove filter cap on top of reservoir, replace when finished. Reservoir capacity is 18.9 LTR (5.0 gal) do not overfill fluids, clean up oil spills immediately. Only hydraulic fluids meeting the specifications located below are recommended for use with Condux hydraulic power units.

Viscosity (Fluid Thickness)	
Metric	USA
10° C 95 Centistokes	50° F 450 SSU Max
38° C 27-42 C.S.	100° F 130-200 SSU
60° C 16.5 C.S, Min.	140° F 85 SSU Min.

Pour Point	-10 F/23 C Minimum (for cold startup)
Viscosity Index	(ASTM D 2220) 140 Minimum
Demulsibility	(ASTM D-1401) 30 Minutes Maximum
Flash Point	(ASTM D-92) 340 F/171 C Minimum
Rust Inhibition	(ASTM D-665 A & B) Pass
Oxidation	(ASTM D943) 1000 Hours Minimum
Pump Wear Test	(ASTM D2882) 60 mg Maximum

The following fluids work well over a wide temperature range at startup, allow moisture to settle out, and resist biological growth likely in cool operating hydraulic circuits. These fluids are recommended by Condux. Other fluids that meet or exceed the specifications of these fluids may also be used.

Type	**Hydraulic fluid**
Chevron	“Clarity” AW 15032
Exxon	“Univis” J 32
Mobil	D.T.E. 13 M
Gulf	“Harmony” AW-HVI-150-32
Shell	“Tellus T” 32
Texaco	“Rando” HDZ 32
Union	“Unax” AW-WR-32
Amsoil	AWH 15032
Sunvis	Low Pour H/032-product code 19300

Fill the fuel reservoir to a level just below the bottom of the filter tube. Always use clean gasoline as recommended in the engine manual. Do not overfill fluids, clean up oil and fuel spills immediately.

Adjustments

The pressure relief is set at the factory and must not be readjusted. DO NOT change governor setting or tamper with governor components, which may increase the governed engine speed.

WARNING: OPERATING THE POWER UNIT AT EXCESSIVE SPEEDS INCREASE THE DANGER OF PERSONAL INJURY.

Hose Requirements

The hydraulic power unit is easily moved close to the job site. It is not often necessary or advisable to use long hoses. All hoses must have an oil resistant inner surface and an abrasion resistant outer surface. Each hose must have male pipe ends for most application. Longer hoses can be used when necessary, but can affect the operation of the tool due to resistance in the hose.

If small diameter or long hoses are used, or if restrictive fittings are connected to the supply and return ports, the pressure required, to push the fluid through the system and back to the tank will be higher. This will reduce tool power.

The pressure and return hose are connected to the control block. A ½-inch male pipe hose end can be connected, to H.T.M.A. flat-nosed quick-disconnect couplings.

The left port of the control block is the pressure (oil out) fitting. A male H.T.M.A. quick-disconnect coupling (without lock ring) must be connected to this port.

Two hoses are required to complete the circuit, each hose should have a male coupler on one end and a female coupler on the opposite. See diagram on page 8 for hose routing.

***Important – Oil should always flow from the male coupler through the female coupler.**

The right port is the return port. A female H.T.M.A. quick-disconnect coupling should be connected to this port.

NOTE: The pressure increase in uncoupled hoses left in the sun may make them difficult to connect. When possible after use, connect the free ends of the operating hoses together.

Hose Types

Hydraulic hose types authorized for use are as follows:

1. Labeled and certified non-conductive
2. Wire braided (conductive)

3. Fabric braided (not certified or labeled nonconductive)

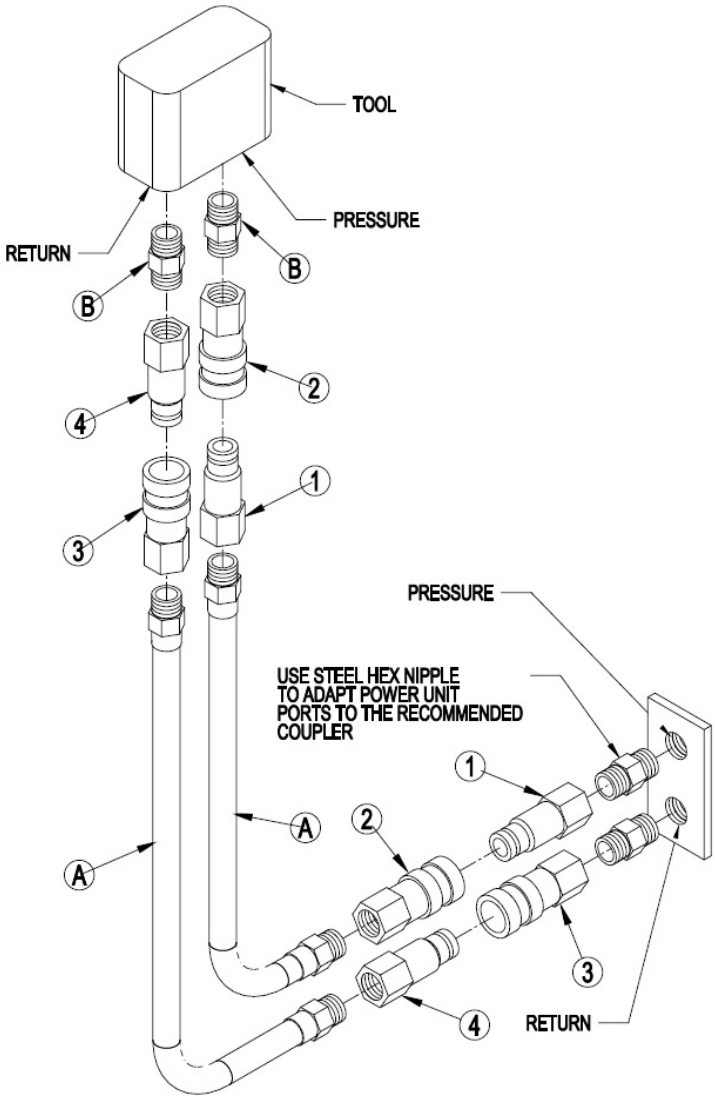
Hose 1: Listed above is the only hose authorized for use near electrical conductors.

Hoses 2 and 3: Listed above are conductive and must never be used near electrical conductors.

HYDRAULIC HOSE RECOMMENDATIONS								
FLOW PER CIRCUIT		**LENGTH EACH HOSE**		**USE**	**INSIDE DIAMETER**		**SAE SPEC HOSE (WIRE BRAID)**	**SAE SPEC HOSE (FIBER BRAID)**
GPM	**LPM**	**Feet**	**Meters**		**Inch**	**MM**		
5 to 8	19 to 30	To 50	To 15	Both	1/2	13	SAE 100R1-8	SAE 100R7-8
5 to 8	19 to 30	51-100	15 to 30	Both	5/8	16	SAE 100R2-10	SAE 100R8-10
5 to 8	19 to 30	100-300	30 to 90	Pressure Return	5/8 3/4	16 19	SAE 100R2-10 SAE 100R1-12	SAE 100R8-10 SAE 100R7-12
9 to 12	34 to 45	To 50	To 15	Both	5/8	16	SAE 100R2-10	SAE 100R8-10
9 to 12	34 to 45	51-100	15 to 30	Pressure Return	5/8 3/4	16 19	SAE 100R2-10 SAE 100R1-12	SAE 100R8-10 SAE 100R7-12
9 to 12	34 to 45	100-200	30 to 60	Pressure Return	3/4 1	19 25.4	SAE 100R2-12 SAE 100R1-16	SAE 100R8-12 SAE 100R7-16

Hose Pressure Rating

The rated working pressure of the hydraulic hose must be at least 175 bar (2500 PSI.)



FOR SINGLE CIRCUIT FLOWS UP TO 10 GPM plumb hose and tool as illustrated above. Numbers are represented below as paragraph numbers.

1. H.T.M.A. 3/8-inch Male Quick Acting Coupler with ½-inch NPT thread.
2. H.T.M.A. 3/8-inch Female Quick Acting Coupler with ½-inch NPT thread.

   At the tool this may be H.T.M.A. 3/8-inch Female Quick Acting Coupler with 3/8-inch NPT thread.
3. H.T.M.A. 3/8-INCH Female Quick Acting Coupler with ½-inch NPT thread.
4. H.T.M.A. 3/8-inch Male Quick Acting Coupler with ½-inch NPT thread.

   At the tool this may be 3/8-inch Male Quick Acting Coupler with 3/8-inch NPT thread.

   a. Refer to the table above for hose recommendations.

b. Use adapters with threads that match tool port.

Tool Connecting Procedures

Inspect hose for cuts, crushing, leaks, or abrasion which may be a safety hazard or reduce fluid flows.

WARNING: DO NOT ATTEMPT TO LOCATE HYDRAULIC LEAKS BY FEELING AROUND HOSES AND FITTING WITH HANDS. “PIN-HOLE” LEAKS CAN PENETRATE THE SKIN.

Stop the engine before connecting tools or hoses to the power unit and when switching tools or hoses. Turn the hydraulic on/off valve to the off position before starting the engine. Make sure all hoses are connected for correct flow direction to and from the tool being used. When routing hose in the work area, position them where personnel will not be at risk of tripping over them or where vehicles can run over the hoses. Do not lay hose over sharp projects.

WARNING: PRESSURIZED FLUID ESCAPING FROM A DAMAGED HOSE CAN PENETRATE THE SKIN AND BE INJECTED IN THE BODY CAUSING INJURY OR DEATH.

CAUTION: DO NOT PULL ON HOSES TO DRAG POWER UNIT.

Work Area Safety Precautions

- Never operate the power unit in a closed space. Inhalation of engine exhaust can be fatal.
- Keep clear of hot exhaust.
- Do not use hydraulic power units in potentially explosive atmospheres such as near wastewater drains or landfill sites.
- Do not operate if flammable gases or vapors are present.
- Keep the power unit at least 1meter (3.3 ft) away from buildings, obstructions, and flammable objects. Do not aim engine exhaust at materials that could catch fire.
- Allow the engine to cool before storing the power unit in an enclosed space.
- Hydraulic power units must not be located below overhead gantries, power lines, or walkways where there might be a risk of falling objects.
- Provide ambient light intensity of 200 Lux for working indoors or outdoors particularly if working at night.

- Always wear appropriate safety equipment such as goggles, ear protection, and foot protection.
- Operate only tools which fit into the specifications prescribed in the introduction of this manual.
- Do not stand on power unit.

Operating Instructions

Description of Power Unit

The Condux Hydraulic Power Unit has been designed for the purpose of supplying hydraulic fluid under pressure to power hydraulic hand tools. The standard engine is a Honda 13 hp. See the features section of this manual for specifications. See the technical manuals supplied by the engine manufacturer included with this power unit for detailed technical specifications.

Condux Hydraulic Power Units have been designed for use outdoors. Power units should not be operated under wet conditions, or at ambient operating temperatures, outside the recommended temperature range of -20° C to 40° C. (-4° F to 104° F).

CAUTION: DO NOT USE CLOSED-CENTER TOOLS WITH THIS POWER UNIT.

During operation, the engine may bog, run at lower rpm, when under load. As the tool being used is loaded, meets with increased resistance, the pressure required to operate the tool increases. The increased pressure adds load to the pump which loads the engine, thereby reducing the RPMS. As a result, the flow will drop as pressure increases. The hydraulic system has a pressure limiter set at 148 BAR (2150 PSI) which diverts the flow back to the tank until the pressure drops below 148 BAR (2150 PSI.)

Tools with higher flow and, or pressure requirements will not operate at their full potential if used with the hydraulic power unit. Tools with lower flow and or pressure requirements may be damaged if used with this power unit.

The engine throttle and the hydraulic system relief valve are preset at the factory and must not be altered for any reason without consulting Condux. Any alterations approved by Condux can only be performed by personnel qualified to maintain hydraulic systems.

Tools which are commonly used with the hydraulic power unit are as follows:

- Fiber Optic Puller
- GS 400

Do not use the power unit with close-center tools, tools which do not allow the oil to return to the power unit when not activated. Do not use in jacking operations.

Do not use to activate cylinders without an inline open-center control system. Do not operate without a return oil hose.

If there are any doubts whether your tool can be used with the power unit please contact the service department at Condux. Condux accepts NO responsibility for machines that are used for any purpose other than the intended purpose as specified in the operating instructions or approved directly by Condux.

Controls and Graphics

WARNING: FAILURE TO FOLLOW THE PROCEDURES LISTED IN THE ENGINE'S OWNER'S MANUAL COULD RESULT IN PERSONAL INJURY OR EQUIPMENT DAMAGE.

Refer to the engine owner's manual for explanation of controls and symbols located on the engine.

The following decals are placed on the power unit to aid in its operation and maintenance. The operator should locate and understand them before using this power unit.

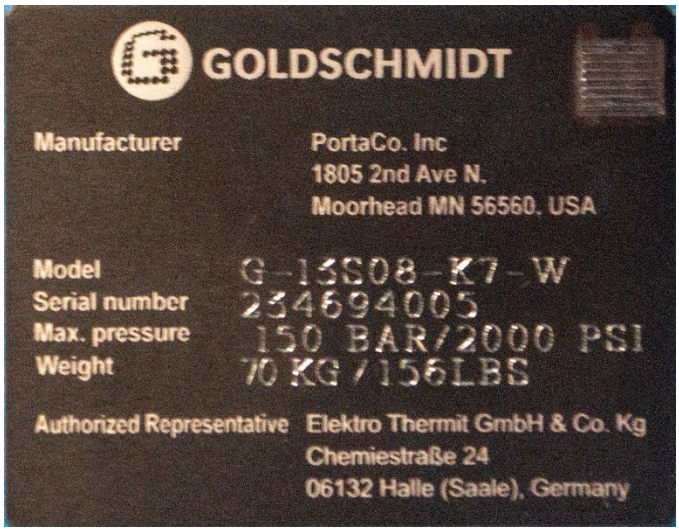
A caution fan decal advises operators of an area, which contains a potential hazard if guards are not properly in position. (see below)

The hydraulic oil reservoir is marked with a hydraulic oil decal (below left) and there is a hydraulic oil drain decal indicating the tank's drain plug (below right)

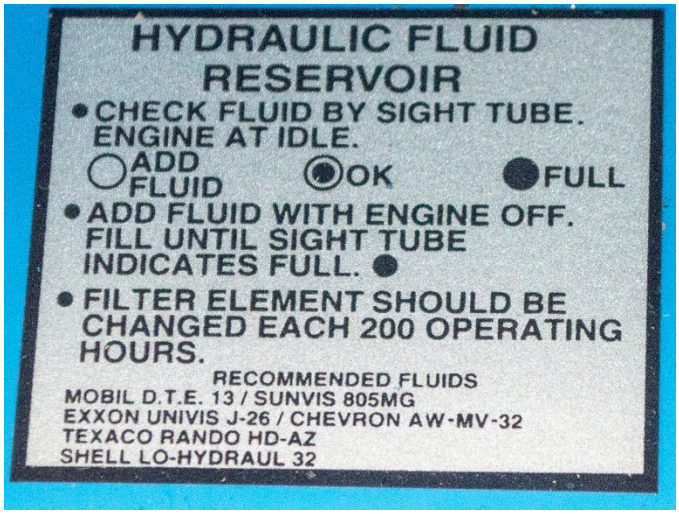
The hydraulic work ports are labeled respectively as to their function with a decal (see below). The left port is return and is equipped with a female quick coupler. The right port is pressure and is equipped with a male quick coupler.

The hydraulic circuit on the power unit is controlled with a volume control lever. Orientation recommendations are indicated by the decal on the knob (see below).

A serial number decal is attached to the power unit on the back side of the fuel tank. The serial number tag displays the manufacturer's address and phone number in addition to the unit's model number, serial number, and other technical specifications (see below).



The hydraulic fluid reservoir decal (see below) is located on the hydraulic tank next to the filter. The hydraulic fluid reservoir decal tells when fluid should be added by looking in the sight tube when the engine is at idle.



The caution do not touch hot surface decal is located on the top of the hood next to the engine (see below).

Before Start Up

Check engine oil level, and engine air filter. Refer to the engine manual for proper procedures when checking, filling, cleaning, or replace any engine components and fluids.

Check the hydraulic oil reservoir level. Add oils as required to raise level to full mark. Use only hydraulic fluids recommended in this manual. Drain reservoir and change the filter every 300 hrs. or yearly, whichever is more frequent. Hydraulic reservoir holds 18.9 liters (5 gallons) and is drained by removing a plug under the tank.

Check that the fuel level is at an adequate level before starting engine.

Before using the power unit, inspect the oil cooler grill for blocking or contamination. The power units must be free of leaves, dirt, oil, and other contaminants, which may inhibit cooling or create a fire hazard. Use compressed air or a pressure washer to keep unit clean.

Check that the battery terminals are clean and free from any objects, which could cause the battery to short out which, could lead to fire or explosion. Replace worn or damaged straps.

Check that fasteners and fittings are tight, and tighten any fittings, which may develop a leak or fasteners that may become loose immediately. Hydraulic hoses and couples should be inspected for wear, cracking, or fatigue prior to starting the engine.

WARNING: NEVER INSPECT PRESSUREIZED HOSES, COUPLERS, OR FITTINGS WITH HANDS OR AT CLOSE DISTANCES. PRESSURIZE FLUID CAN PUNCTURE THE SKIN AND INJECT OIL INTO THE BODY RESULTING IN DEATH.

Do not use hoses, couples, or fittings which are damaged, replace them immediately.

The section Work Area Safety Precautions of this manual for additional safety procedures.

Positioning the Power Unit

The power unit can be pushed around the work site and be positioned close to the work being done. To lock the handle in position lift handle until latches automatically catch on stops at each end of handle, shown in the Features section. To lower the handle, lift up on both latches at the same time and let the handle drop down.

The power unit can also be positioned by using a crane. The power unit has a lifting point so it can be loaded easily or positioned at the work site with a crane, shown in the Features section.

Place the hydraulic power unit on a level surface with no greater than a 20-degree slope to prevent fuel spillage and power unit movement.

WARNING: PLACING THE HYDRAULIC POWER UNIT ON EXCESSIVE SLOPES OR UNSTABLE GROUND COULD CAUSE THE UNIT TO ROLL OR TIP DAMAGING THE POWER UNIT OR ENDANGERING WORKERS.

Locate hydraulic power unit in well-lit area with a minimum ambient light intensity of 200 lux weather indoors or outdoors, particularly at night. Keep the power unit at least 1 meter (3.3ft) away from buildings, obstructions, and flammable objects. Do not aim engine exhaust at materials that could catch fire.

To reduce operator exposure to noise, place the power unit as far away from workers as the hoses will allow while maintaining enough length to safely operate the tool being used. Point the hydraulic power unit exhaust away from the work area. Avoid placing the power unit in small, enclosed areas or along walls which can amplify the noise levels.

When placed on a hard surface, such as concrete or asphalt, place a rubber mat under the power unit to prevent the metal foot from vibrating on the surface.

Always wear adequate hearing protection when using the hydraulic power unit.

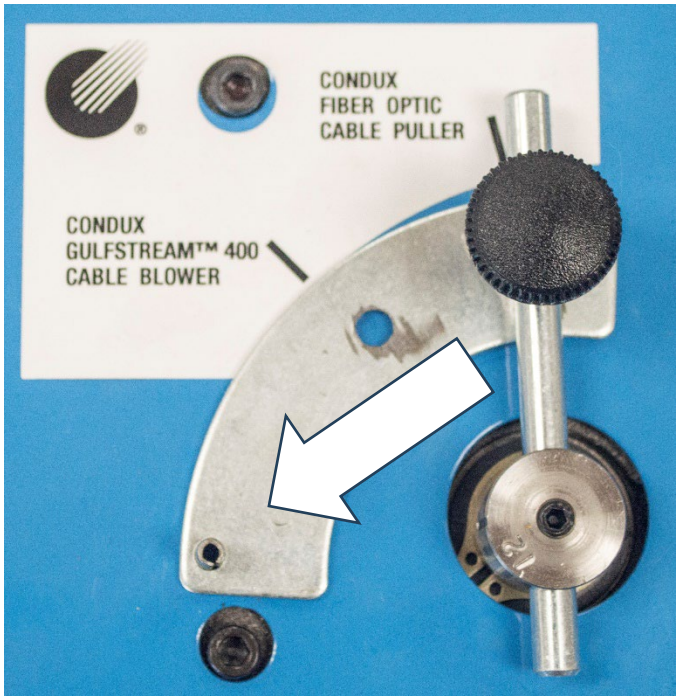
Start Up

Observe all safety precautions found throughout this manual and the included engine manual.

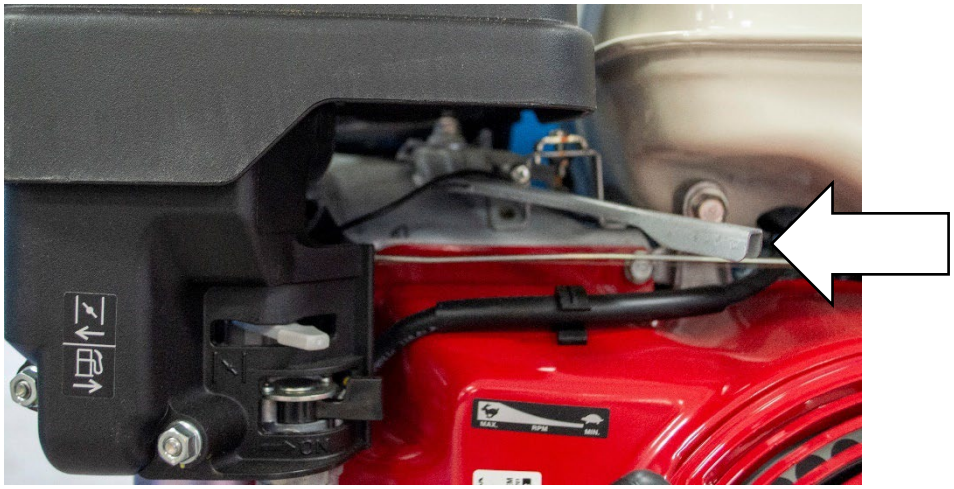
1. Connect the hoses to the tool and then to the power unit.

NOTE: Clean ends of couplers before connecting to prevent system contamination.

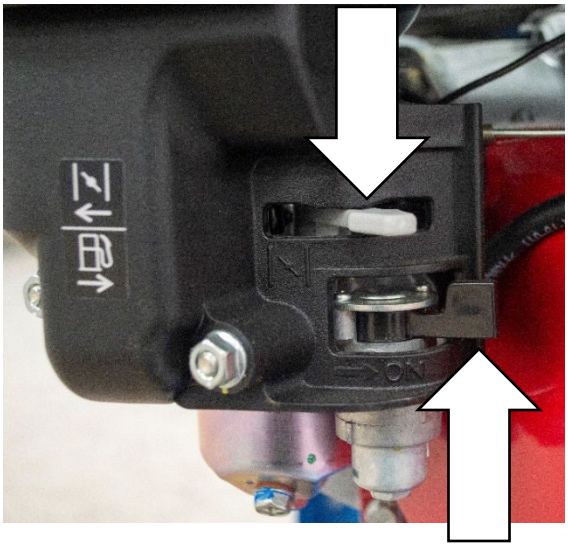
2. With the control lever all the way down (counterclockwise), the power unit will start easier and idle more smoothly.



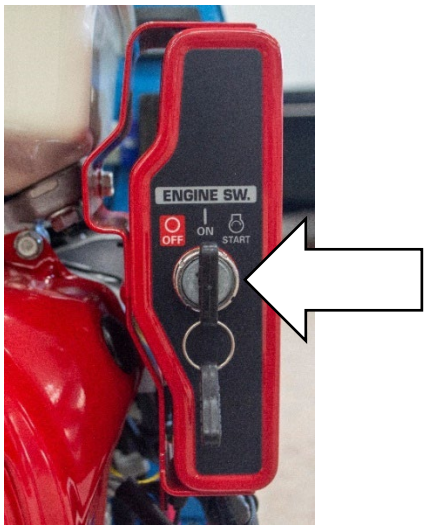
3. To start the engine, slide the throttle lever to the left slightly. (see below)



4. Slide the choke lever completely to the left (below top). Make sure the fuel petcock lever is moved to the right (below bottom).



5. Turn the ignition key to start the engine and then slide the choke lever to the right until the engine idles smoothly (see below).



6. Set the Hydraulic valve control to the setting for the Condux product you're using.

***Important – Make sure the control valve is in the OFF position before connecting or disconnecting hoses to the tool.**

Tools used with the power unit must be designed for operation with open-center systems.

Shutdown

Normal Shutdown

1. Observe all safety precautions.
2. Rotate hydraulic control valves to the “OFF” position.
3. Slide the throttle lever to the idle position.
4. Allow engine to idle for 2 to 3 minutes; then turn ignition “OFF”, rotate counterclockwise.
5. Disconnect the hoses from the power unit pressure hose first. Then disconnect hoses from the tool. When possible after use, connect the free ends of the operating hoses together. The pressure increase in uncoupled hoses left in the sun may make them difficult to connect.
6. Allow the hydraulic power unit to cool down before enclosing in a small area for transportation or storage.

Emergency Shutdown

In the event of an emergency, immediately set the ignition switch to “OFF”.

Cold Weather Operation

Hydraulic fluids are thicker in cold weather; therefore, run the engine at low idle long enough to bring the fluid temperature up to minimum of 10°C/50° F or until the hydraulic tank feels warm.

In cold weather, a cover over the cooler will allow faster warm-up.

Hot Weather Operation

In hot weather, hydraulic oil can become hot enough to degrade tool performance and increase pump and tool wear.

- Hydraulic oil should be kept below 180° F.
- Regularly operating machine with a hydraulic oil temperature over 140° F will result in more rapid degradation of hydraulic oil and more frequent oil and filter changes are recommended.
- It is recommended during hot weather that engine rpm and oil volume control valve be set only high enough for smooth engine and tool operation. Operating the unit with higher than needed throttle positions and volume can heat the oil excessively and lead to degradation of tool performance.

- To quickly cool hydraulic oil temperature, run the unit with the oil volume control lever positioned fully counterclockwise, this unloads the unit and still allows oil flow through the cooler. If the tool is still connected, rotating the oil volume control lever slightly clockwise until a slight pressure increase is noticed on the gauge will allow a small volume of oil to flow through the tool to help it cool down.

Storage Preparation

To prepare the engine for transportation or storage refer to the engine owner's manual. Remove the ground cable from the battery.

To prepare the hydraulic system for storage fill the hydraulic oil reservoir to the full mark, and check that the fill cap and filter are tight. When removing from storage during a 3 month or longer period, drain the water from the hydraulic oil reservoir, if any condensation has occurred, and replace the hydraulic oil filter, as described in the Maintenance section. This will remove any water which may have condensed in the hydraulic oil reservoir during storage.

Store the hydraulic power unit on a smooth level surface. The power unit should be stored in a cool, dry environment which is not subjected to rapid temperature changes.

Maintenance Instructions

Routine Servicing and Inspections Schedule

Maintenance Schedule (Performed at every indicated month or operating interval, whichever comes first.)

Item	Action	Each Use or 5 hrs	First month or 20 hrs	Every 3 months or 50 hrs	Every 6 months or 100 hrs	Every year or 300 hrs
Engine Oil	Check	X				
	Change		X		X	
Air Cleaner	Check	X				
	Change			X (1)	X*(1)	
	Replace					X**
Spark Plug	Check				X	
	Replace					X
Sediment Cup	Clean				X	
Spark Arrester	Clean				X	
Idle Speed	Adjust					X (2)
Fuel Tank and Filter	Check					X (2)
Fuel Tube	Check	Every 2 years (2)				
Valve Clearance	Check					X (2)
Combustion Chamber	Clean	After every 500 hours (2)				

(1) Service more frequently when used in dusty areas.

(2) These items should be serviced by your Honda servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.

(3) For commercial use, log hours of operation to determine proper maintenance intervals.

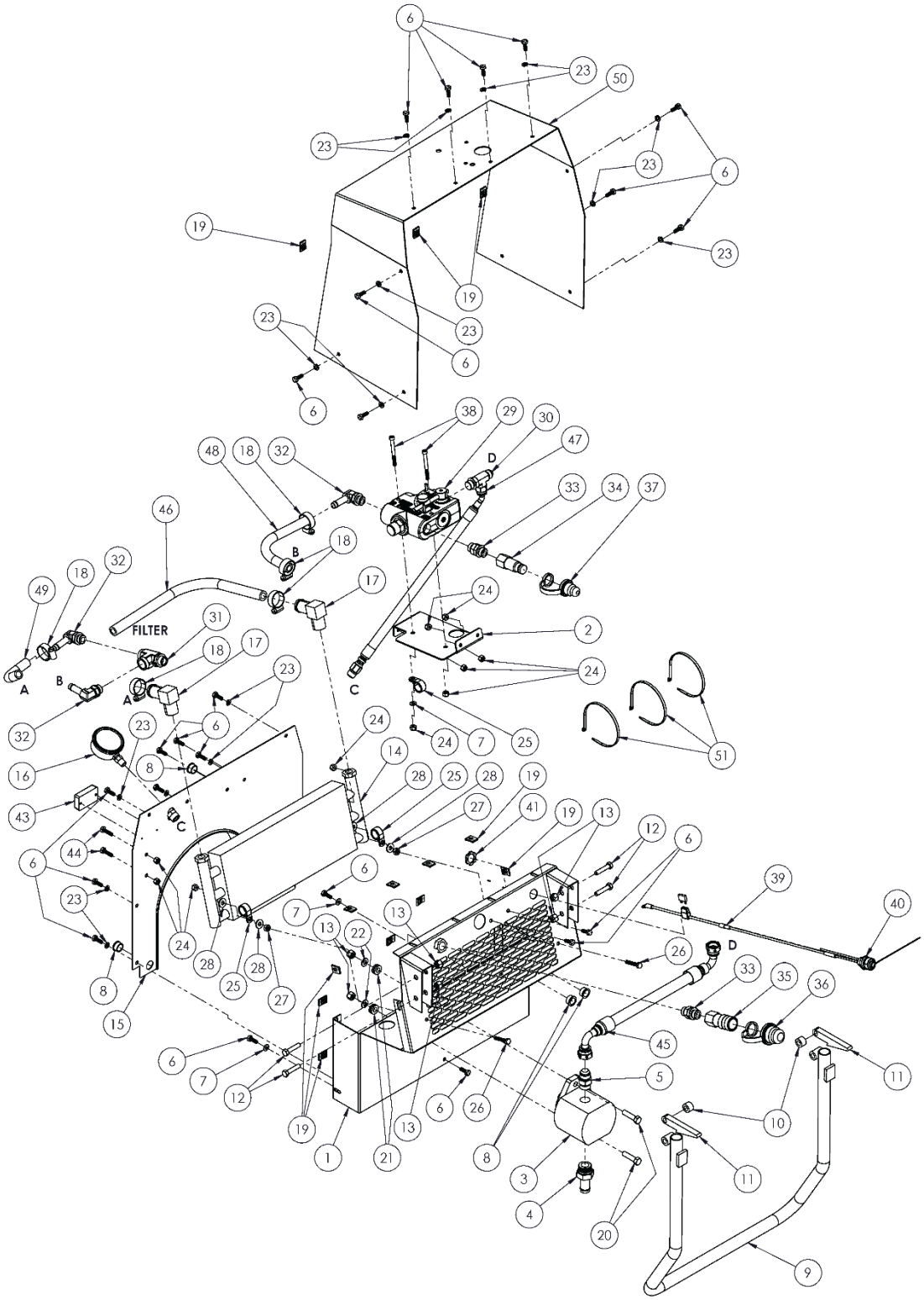
* Internal vent carburetor with dual element type only. Cyclone type every 6 months or 150 hours.

** Replace paper element type only. Cyclone type every 2 years or 600 hours.

CAUTION: USE ONLY GENUINE CONDUX PARTS OR EQUIVALENT. THE USE OF REPLACEMENT PARTS WHICH ARE NOT OF EQUIVALENT QUALITY MAY DAMAGE THE HYDRAULIC POWER UNIT.

WARNING: UNAUTHORIZED MODIFICATIONS TO THE POWER UNIT MAY IMPAIR THE FUNCTION AND/OR SAFETY AND IMPAIR MACHINE LIFE. USE ONLY APPROVED SERVICE PARTS OR ACCESSORIES.

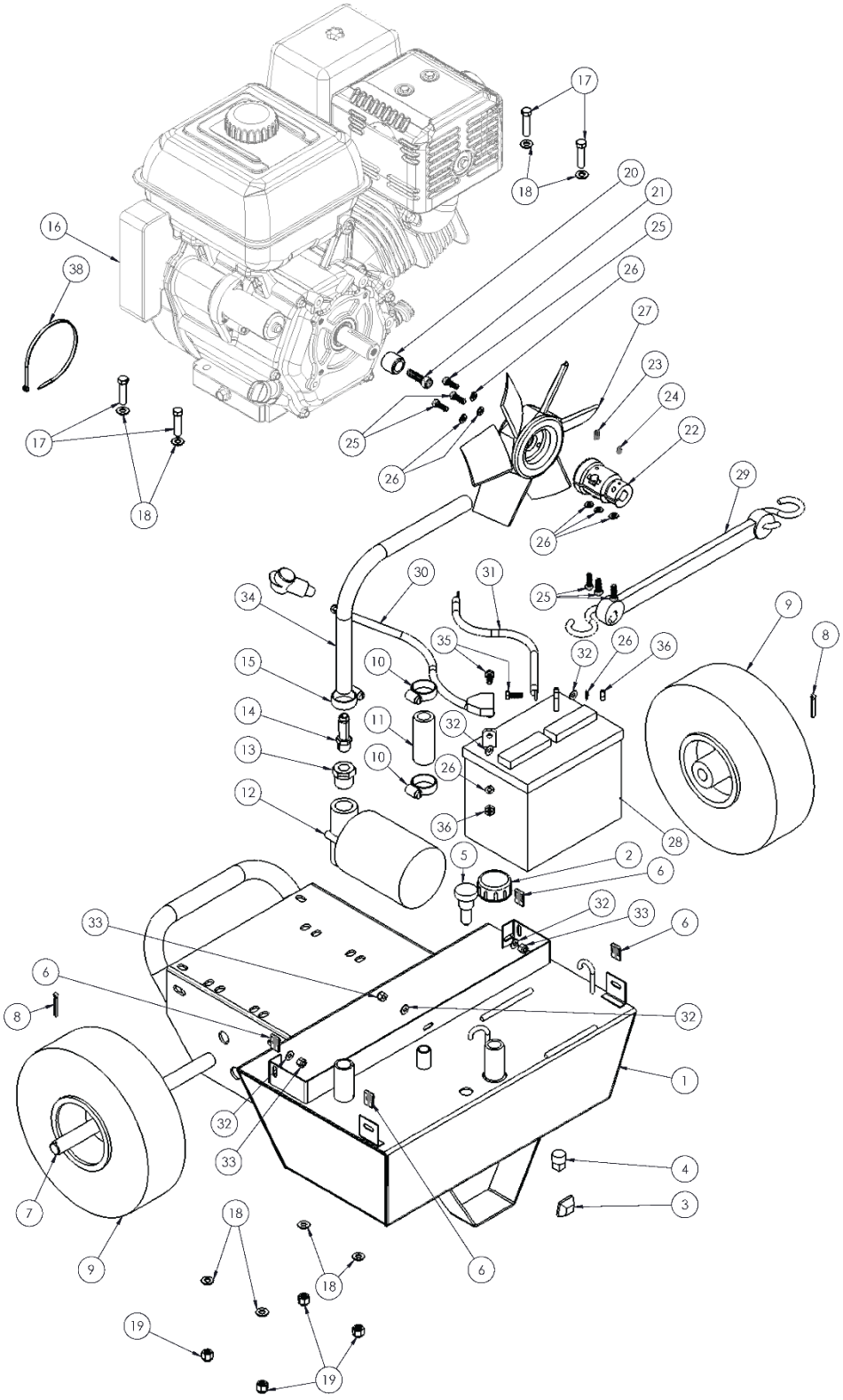
Body Assembly View and Parts List



Item	Condux No.	ID No.	Description	Qty
1	02292351	5950-OOW	GRILL,COMPLETE	1
2		5908-OOD	MOUNT,FLOW VALVE	1
3	02292119	2414-OOP	PUMP, .52CI HYD GEAR	1
4		1505-OOP	ADAPTER,-12BH X -12MORB	1
5		2490-OOP	ADAPTER,-10MORB/-10MJIC	1
6	02289209	1044-OOP	GRADE 5 BOLT, 1/4-20 X 3/4	23
7	02289231	1656-OOP	WASHER,#10 FLAT	3
8		3496-OOP	GROMMET,HOLE	4
9		52-2780-OOW	WELDMENT, HANDLE	1
10		1960-OOD	SPACER, LATCH	2
11		1895-OOD	LATCH, HANDLE	2
12		1042-OOP	BOLT, 3/8-16 X 1-3/4 HH ZC	4
13		1631-OOP	NUT, 3/8-16 HH NE NYLOK	6
14	02291680	2788-OOP	COOLER 14.50 X 6.00	1
15	02292632	5953-OOW	PANEL, REAR	1
16	02290928	2178-OOP	GAUGE, STEM MNT 3000 PSI HYD	1
17	02289221	1444-OOP	ADAPTER, -8BH X -8MNPT 90	2
18	02289220	1416-OOP	CLAMP, HOSE 1/2-1"	5
19	02289201	1041-OOP	NUT,1/4 U	13
20		1078-OOP	BOLT, HEX HEAD 3/8-16 X 1.25	2
21	02292933	5751-OOP	GROMMENT	2
22	02289214	1176-OOP	WASHER, 5/16 FLAT	2
23	02289205	1064-OOP	LOCK WASHER, SPLIT	16
24		1062-OSP	NUT, 1/4-20 NYLOCK	10
25	02289206	1085-OOP	CLAMP, 3/4" "P"	3
26	02289236	2057-OOP	BOLT, 1/4-20 X 1-1/2" TAP	2
27	02289203	1062-OOP	NUT, 1/4-20 HH ZP	2
28	02289208	1099-OOP	1/4" FLAT WASHER	4
29	02292383	5952-OOP	VALVE, FLOW CONTROL	1
30		6959-OOP	ADAPTER, -8MOR X -8MJIC X -8MJIC	1
31		5623-OOP	ADAPTER, -8 ORB TEE	1
32	02289230	1949-OOP	ADAPTER, -8BH X -8MORB 90	3
33		5624-OOP	ADAPTER, UNION -8MORB/-8MORB	2
34		5545-OOP	COUPLER, MALE QUICK	1
35		5544-OOP	COUPLER, FEMALE QUICK	1
36		2512-OOP	COVER, COUPLER FM	1
37		2241-OOP	COVER, COUPLER M	1
38		5956-OOP	BOLT, 1/4-20 X 2-1/2 SHCS	2
39		7723-OOD	HARNESS, G-13 POWER PORT	1
40	02291594	3699-OOP	PLUG, FEMALE STRAIGHT KW	1
41		3701-OOP	NUT, 1/2-14 CONDUIT LOCK	1
42		3698-OOP	CAP, FM CONNECTOR CLOSURE	1

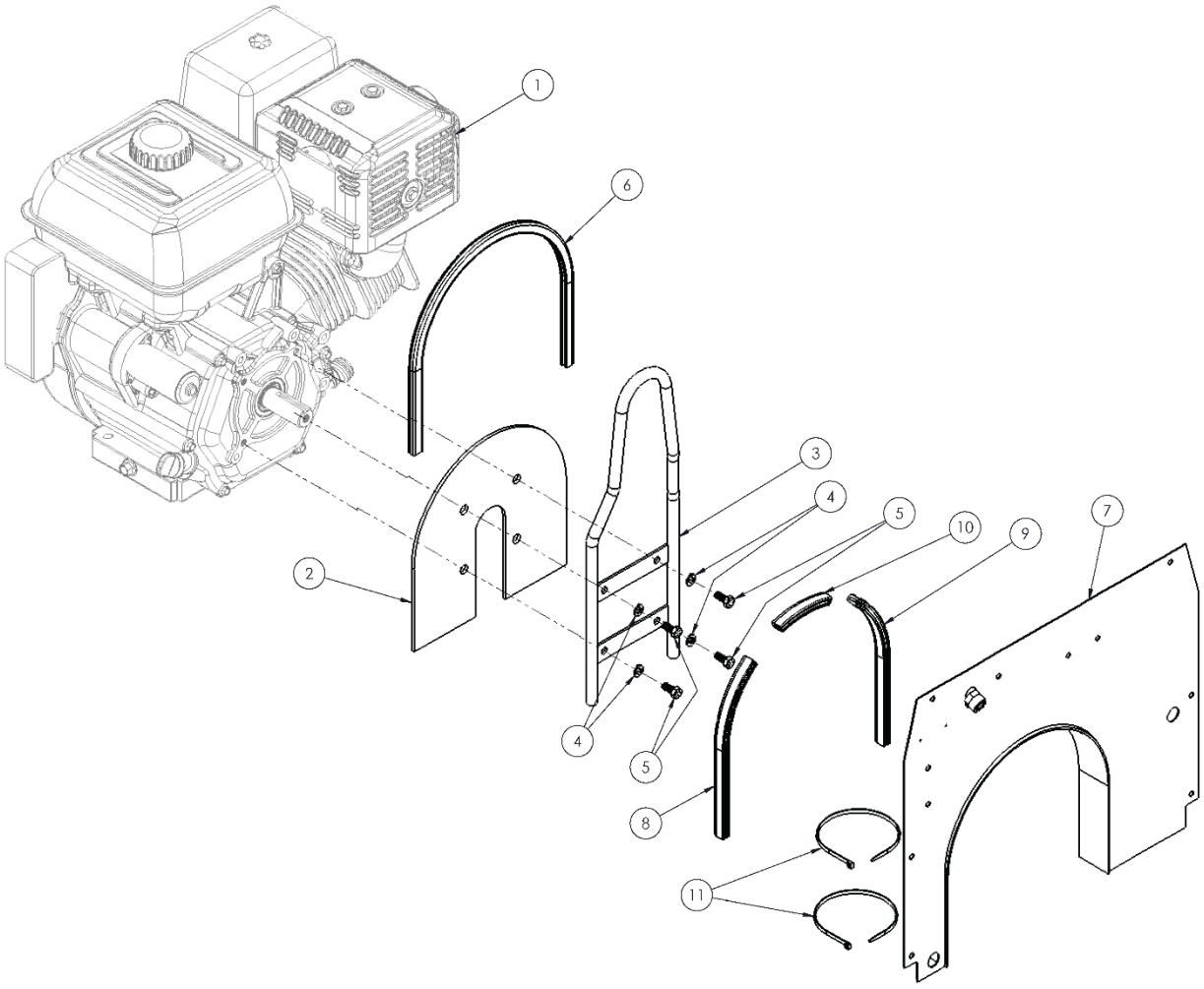
Item	Condux No.	ID No.	Description	Qty
43		7103-OOP	METER, HOUR HONDA	1
44		2304-OOP	GRADE 5 BOLT, 1/4-20 X 1	2
45		6961-OOP	HOSE, 1/2 X 15" -10FMJIC90/-8FMJIC 90	1
46		5965-OOP	HOSE, 1/2 X 27" PUSH ON	1
47		6960-OOP	HOSE, 3/8 X 19" -4MNPTS/-8FMJIC45	1
48		5964-OOP	HOSE, 1/2" X 9-1/2" PUSH ON	1
49		5963-OOP	HOSE, 1/2" X 5-1/4" PUSH ON	1
50	02292633	5967-OOW	HOOD, COMPLETE	1
51		1457-OOP	TIE, NYLON 7"	3

Frame Assembly View and Parts List



Item	Condux No.	ID No.	Description	Qty
1	02291679	52-2784-OOW	FRAME/TANK, WELDMENT	1
2	02290679	2187-OOP	CAP, HYD FILL	1
3		2651-OOP	BUMPER, HOOD	1
4		1048-OOP	PLUG, 1/2"NPT MAGNETIC	1
5		1768-OOD	GAUGE, SIGHT OIL LEVEL	1
6	02289201	1041-OOP	NUT,1/4 U	4
7		2368-OOD	AXLE	1
8	02291212	1080-OOP	PIN, COTTER	2
9		5949-OOP	WHEEL, FOAM FILLED	2
10		1926-OOP	CLAMP, HOSE 1-1/4 MAX	2
11	02291619	2783-OOP	HOSE, 3/4 x 3" HYD SUCTION	1
12	02289361	1013-OOP	HEAD, FILTER	1
12	02289362	1083-OOP	ELEMENT, FILTER	1
13		2796-OOP	ADAPTER, -12MNPT X -6FMNPT BUSHING	1
14	02289237	2531-OOP	ADAPTER, -8BH X -6MNPT	1
15	02289220	1416-OOP	CLAMP, HOSE 1/2-1"	1
16	02292076	2890-OOP	ENGINE, 13HP HONDA	1
17		1042-OOP	BOLT, 3/8-16 X 1-3/4 HH ZC	4
18	02289214	1176-OOP	WASHER, 5/16 FLAT	8
19		1631-OOP	NUT, 3/8-16 HH NE NYLOK	4
20		6906-OOD	SPACER, MOTOR SHAFT	1
21		6907-OOP	BOLT, 3/8-24 X 1-1/4" SHCS	1
22	02291644	5443-OOD	COUPLER, PUMP	1
23	02292388	1486-OOP	SCREW, 1/4-20 Z 1/2 SKT SET	1
24	02292387	4177-OOP	SCREW, 10-32 X 3/8 SKT SET	1
25	02289243	1733-OOP	SOCKET HEAD SCREW, 1/4-20 X 3/4	6
26	02289205	1064-OOP	LOCK WASHER, SPLIT	8
27	02290884	2791-OOP	FAN, 10"	1
28	02290693	5966-OOP	BATTERY, SEALED	1
29		1423-OOP	STRAP, H-3601	1
30	02292133	1930-OOP	CABLE, 6 GA X 44" RED BATTERY	1
31	02292134	1931-OOP	CABLE, 6 GA X 23" BLACK BATTERY	1
32	02289231	1656-OOP	WASHER, #10 FLAT	5
33		1062-OSP	NUT, 1/4-20 NYLOCK	3
34		5965-OOP	HOSE, 1/2 X 27" PUSH ON	1
35	02289202	1044-OOP	GRADE 5 BOLT, 1/4-20 X 3/4	2
36	02289203	1062-OOP	NUT, 1/4-20 HH ZP	2
37		5628-OOP	BOOT, 8-2 GA TRF	1
38		1457-OOP	TIE, NYLON 7"	1

Engine Assembly View and Parts List



Item	Condux No.	ID No.	Description	Qty
1	02292076	2890-OOP	ENGINE, 13HP HONDA	1
2		3612-OOD	GUARD, FAN	1
3		3613-OOW	EYE, PIONEER LIFTING	1
4	02289213	1175-OOP	LOCK WASHER, SPLIT	4
5		4988-OOP	BOLT, 5/16-24 X 3/4 HH ZP GR8	4
6		2498-OOP	TRIM	1
7	02292632	5953-OOW	PANEL, REAR	1
8		7817-OOP-L	TRIM, 1/16 X 10"	1
9		7817-OOP-R	TRIM, 1/16 X 10"	1
10		7818-OOP	TRIM, 1/16 X 3"	1
11		1457-OOP	TIE, NYLON 7"	2

Hydraulic Fluid and Engine Maintenance

WARNING: SHUT OFF ENGINE BEFORE DOING ANY MAINTENANCE. TO PREVENT ACCIDENTAL START-UP, TURN THE IGNITION SWITCH OFF AND DISCONNECT THE NEGATIVE CABLE FROM THE BATTERY TERMINAL.

Engine Lubrication Servicing

Check the engine oil level and change oil and filter as required in the maintenance table of this manual.

When draining oil, place a suitable container under the drain plug and remove plug. Drain engine completely and replace plug.

Engine Fuel Servicing

Empty the sediment bowl every 100 hrs. or yearly.

NOTE: See engine manual for additional service requirements.

NOTE: Dispose of all consumable items (filters, oils…. etc.) in a manner that is compatible with the environment. Condux suggests you take such items in a sealed container to your local service station for reclamation. **DO NOT** throw these items in the trash or pour them on the ground.

Hydraulic Fluid Servicing

Removing Condensation

Once a week (Less often in hot dry weather) take a small sample from the bottom of the hydraulic tank by removing the ½" N.P.T. drain plug. If clear water appears, drain the tank until clean oil starts to show. Always drain tank into a suitable container. If fluid is milky, allow unit to settle for 48 hours before draining.

NOTE: Water in the fluid reduces lubrication and causes premature wear. 1% water in a 140 BAR (2000 PSI) system can cause a 25% increase in wear rate.

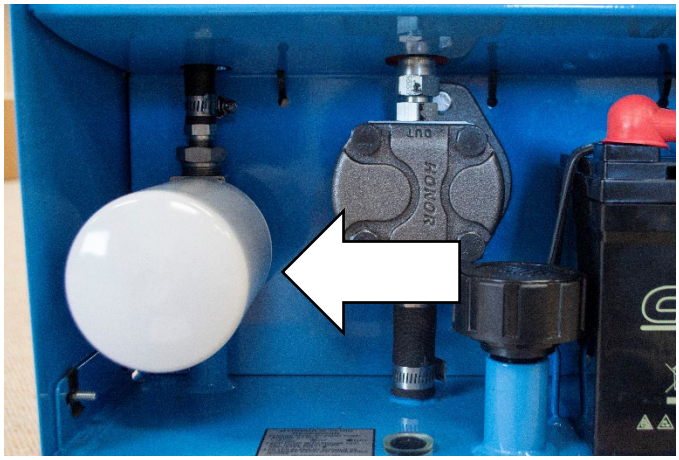
Replace Filter and Fluid

CAUTION: ALWAYS FOLLOW ANY HANDLING PRECAUTIONS PUBLISHED BY THE MANUFACTURES OF THE LUBRICANTS OR HYDRAULIC FLUIDS USED.

- Remove the drain plug on the underside of the hydraulic tank and drain oil into a suitable container. Let reservoir completely drain and reinstall the plug.

- Place the drain pan under the hydraulic oil filter and remove filter. (Fig. 4.3C)
- Apply a film of clean oil to the gasket surface of a new hydraulic oil filter. PN 02289362 (LHA# SPE-15-10).
- Install new filter element and tighten one-half turn after initial gasket contact.
- Fill hydraulic oil reservoir with a fluid recommended in this manual. Fill tank until oil level is just below filler tube. Reservoir capacity is 18.9 liters (5.0 gal.)
- Dispose of oil and filters in a responsible manner, see previous note.

CAUTION: ALWAYS FOLLOW ANY HANDLING PRECAUTIONS PUBLISHED BY THE MANUFACTURES OF THE LUBRICANTS OR HYDRAULIC FLUIDS USED.



- Start engine and allow to run at idle for 3 minutes
- Shut engine off, check oil level and add fluid if required. Do not overfill or fluid may be forced out of hydraulic fill cap when operating unit. To maximize life of the Hydraulic Power Unit all maintenance must be performed in accordance with the manual and the engine manual provided.

CAUTION: ALWAYS CLEAN UP ANY FLUID SPILLS IMMEDIATELY.

Trouble Shooting

In the event of an accident or power unit breakdown, turn the engine ignition key to the “OFF” position. If a hydraulic oil supply hose ruptures or the tool malfunctions, release the trigger on the tool and turn the engine ignition switch to the “OFF” position immediately.

Problem	Cause	Remedy
Engine will not start	Engine Switch “OFF”	Turn engine switch “ON.”
	Engine oil low	Add engine oil if required
	Fuel valve “OFF”	Turn fuel valve “ON”
	Fuel level low	Add fuel
	Fuel not reaching carburetor	Refer to engine manual for proper procedure
	No spark at spark plug	Refer to engine manual for proper procedure
	None of the above	Take the engine to an authorized dealer that represents the manufacturer of the engine your power unit is equipped with.
Engine runs but hydraulic circuit will not drive tools.	Volume control lever setting is counterclockwise or OFF	Turn valve “ON”
	Tool not connected to power unit	Turn valve “OFF,” connect tool, turn valve “ON”
	Hydraulic fluid reservoir low	Check and fill as required
	Damaged couplers or hoses	Check that couplers and hoses are in good condition, replace as required
	Tool hoses incorrectly connected to circuit	Check that hoses connect “pressure” from power unit to pressure inlet of tool, and “Return” at power unit connects to return outlet of tool.
	Relief valve stuck open.	Clear blockage replace if required.
Engine runs but hydraulic circuit will not drive tool	Tool is defective	Repair as necessary
Tool runs too hot	Relief valve set too low	Adjust cracking pressure to 123.2 bar (1800 psi)
	Hoses too small	Size hose as required
	Cooler blocked	Clean hydraulic oil cooler
	Tool Doesn’t meet system specifications	See system specifications
	Closed-center tool in use	Use only open-center tools

Technical Specifications

Maximum flow	30.3 Liters/8.0 GPM
Working pressure	148 BAR/2000 PSI
Maximum pressure	148 BAR/2150 PSI
Length	67.3 cm/26.5 in.
Width	50.8 cm/20 in.
Height	69.8 cm/27.5 in.
Weight	114.3 kg/252 lbs.
Sound level @ idle	80 dB
Sound level @ max speed	92 dB
Fuel tank capacity	6.1 L / 1.61 US gal
See engine manual provided with power unit for more engine specifications.	

Lube Data

See engine manual for additional information.

Engine Lube	
Capacity 1.1L (1.2 US qt)	SAE 30 for 50° F+
	10W-30 for 5°-105° F
	5W-30 for less than 5° F

Hydraulic System

Capacity: 17 qts reservoir

20 qts total system with filter

Type: Viscosity grade 32

Service Replacement Parts

Description	Part No.	Source
Filter Hydraulic Oil 10-micron twist on	1083-OOP	PortaCo Inc.
	SPE-15-10	LHA

Hydraulic Fluid Requirements

Viscosity (Fluid Thickness)

Metric	Imperial
10° C 95 Centistokes	50° F 450 SSU Max
38° C 27-42 C.S.	100° F 130-200 SSU
60° C 16.5 C.S., Min.	140° F 85 SSU Min.

Pour Point	10 F/-23 C Minimum (for cold startup)
Viscosity Index	(ASTM D 2220) 140 Minimum
Demulsibility	(ASTM D-1401) 30 Minutes Maximum
Flash Point	(ASTM D-92) 340 F/171 C Minimum
Rust Inhibition	(ASTM D-665 A & B) Pass
Oxidation	(ASTM D943) 1000 Hours Minimum
Pump West Test	(ASTM D2882) 60 mg Maximum

Recommended Hydraulic Fluids

Type	Hydraulic fluid
Chevron	“Clarity” AW ISO 32
Exxon	“Univis” J 32
Mobil	D.T.E. 13 M
Gulf	“Harmony” AW-HVI-150-32
Shell	“Tellus T” 32
Texaco	Texaco “Rando” HDZ 32
Union	“Unax” AW-WR-32
Amsoil	AWH ISO 32
Sunvis	Low Pour H/032-product code 193000

Hose Requirements; (2) 3/8-inch diameter hose 5-8 meter (15 to 25 feet) long with 175 Bar (2500 psi) minimum rated working pressure.

Coupler recommendation: ½ inch FLAT FACE HTMA couplers rated at 2500 psi working pressure. Threads are to match fittings used on hoses or fittings used as adapters.

Operate Hydraulic Power Unit in well-ventilated areas only. DO NOT operate hydraulic power unit in combustible atmospheres. Remove flammable materials from work area. Operate only within temperature range of –20°C to 40°C (-4°F to 104°F)

Bolt Tightening Torque

Bolt Size	Torque
#10-32	38 in. lbs.
1/4-20	76 in. lbs.
5/16-18	13 ft. lbs.
3/8-16	23 ft. lbs.

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