ANCHOR SYSTEMS (INTERNATIONAL) LTD

20-30L Hydraulic Power Pack

OPERATING INSTRUCTIONS AND TECHNICAL INFORMATION

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Power Pack

These instructions give safety and operations information regarding the use of a trailer mounted Hydraulic Power Pack supplied by Anchor Systems (International) Ltd. They contain the relevant information for products:

PRODUCT CODE	DESCRIPTION	PRESSURE	FLOW
46913	Midipac Assembly	140 Bar	20-30 Lpm

To ensure optimum results when operating this equipment it is very important to read this manual carefully, the information will prepare you to do a better, safer job.

Before operating the machine you should familiarise yourself with the instructions in this manual. Incorrect use can lead to damage which is not covered by the Warranty Conditions. This may create a dangerous situation or lead to unsatisfactory results.

These operating instructions MUST always be made available to the person or persons operating this equipment. To assist in the ordering of spares, or other communications with our company, the serial number of the relevant equipment supplied, has been recorded below for your information.

Model No:-

Serial No:-

Date of Delivery:-

Contents

Information

Your Hydraulic Power Pack has been individually built with great emphasis on quality, strength and simplicity of design and with routine care will give many years of trouble free operation.

The following instructions have been written to cover the machine. Care should be taken to ensure that you are referring to the correct section of your machine before carrying out any adjustments, or when ordering spare parts.

Like all mechanical products, regular cleaning, lubrication and maintenance will ensure a longer trouble free life. These instructions make no attempt to go beyond routine maintenance, and it is strongly advised that you contact your dealer should any major repairs become necessary.

Use only genuine service parts; non genuine parts may not meet standards required for safe and satisfactory operation.

Observe all safety information in the manual and on decals fitted to the machine and power unit.

SAFETY INSTRUCTIONS:

1. Read and understand this operator's manual prior to operating the machine and keep it in a convenient place for future reference.
2. Keep untrained personnel away from the machine whilst it is in operation.
3. Do not operate machine with any panels removed.
4. Beware, pressured hydraulic oil can be very dangerous and can penetrate the skin - TAKE THE UTMOST CARE.
5. Keep hands, feet and loose clothing away from moving parts.
6. Always switch off the machine before making any adjustments or when carrying out lubrication and servicing.
7. Keep all nuts, bolts and fasteners tightened.
8. Check machine regularly for damaged or worn parts.

NOTE: PLEASE TAKE NOTICE OF ALL WARNING DECALS RELATING TO YOUR MACHINE

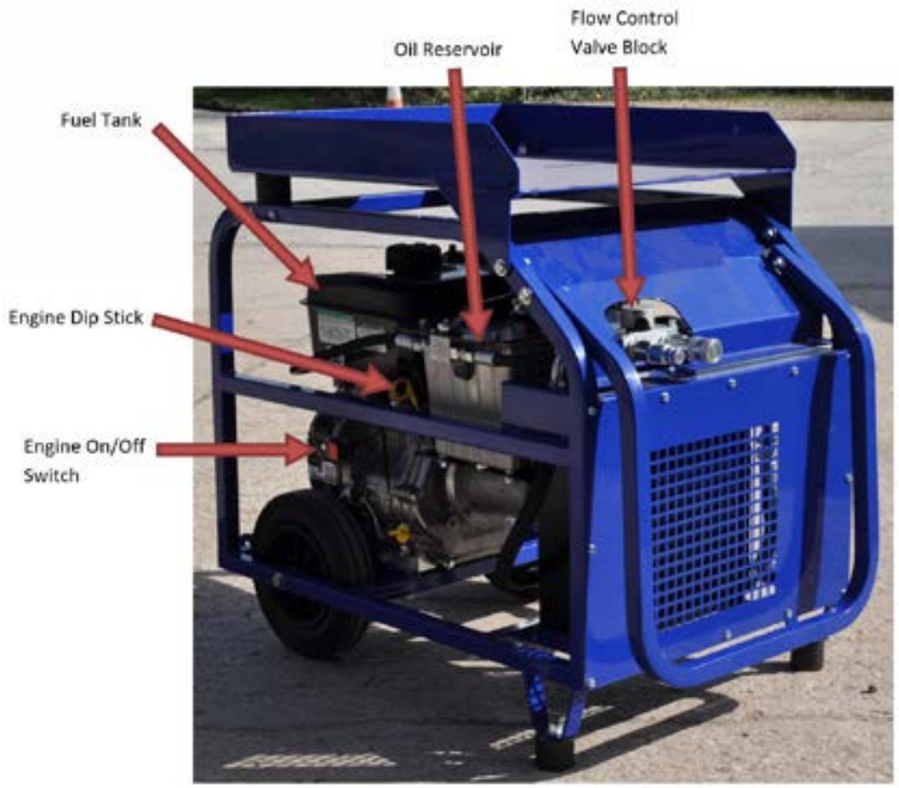
Daily Check Items

For further details on location and service parts see Routine Maintenance.

1. Check the hydraulic hoses are connected to the Hydraulic Power Pack and the hoses are not perished or leaking.
2. Check oil cooler fan for obstruction.
3. Check engine oil level. (0.82-0.95L)
4. Check fuel level.
5. Check hydraulic oil level.

The power pack uses **HLP 32 Grade Hydraulic Mineral Oil.**

Hydraulic Power Pack



Power Pack Operation

The safe operation of this equipment is the responsibility of the operator.

PRE-OPERATION CHECK LIST

1. Keep bystanders away from the machine.
2. Ensure you are aware of the environment you are working in; including overhead cable, underground installations etc.
3. Observe all safety instructions and warnings.

OPERATION

1. Ensure the hydraulic hoses are connected to both the powerpack and attachment.
2. Turn the valve block lever to the OFF position when starting and stopping the engine.
3. Turn the switch to the ON position to allow the engine to start.
4. Ensure the auto throttle is NOT locked in HIGH.
5. Pull the pull-cord to start the engine.
6. Turn the flow control valve to ON.
7. Check the oil level in the reservoir (if using new and empty hoses) and fill up if needed.

Figure 1 – Operation 1

Power Pack Operation

Figure 2 – Auto-Throttle and Pull Cord

Figure 3 - Flow Control Valve Block (OFF)

Power Pack Operation

Figure 4 - Engine On-Off Switch

Figure 5 - Oil Level Gauge

Oil Flow Control

The Midipac has an auto-throttle function which will increase the engine output as demand for oil pressure increases. The Midipac can operate in two modes: 20 Litres a minute; and 30 Litres a minute. To switch between 20 and 30Lpm, operate the flow selector handle on the oil reservoir lid.

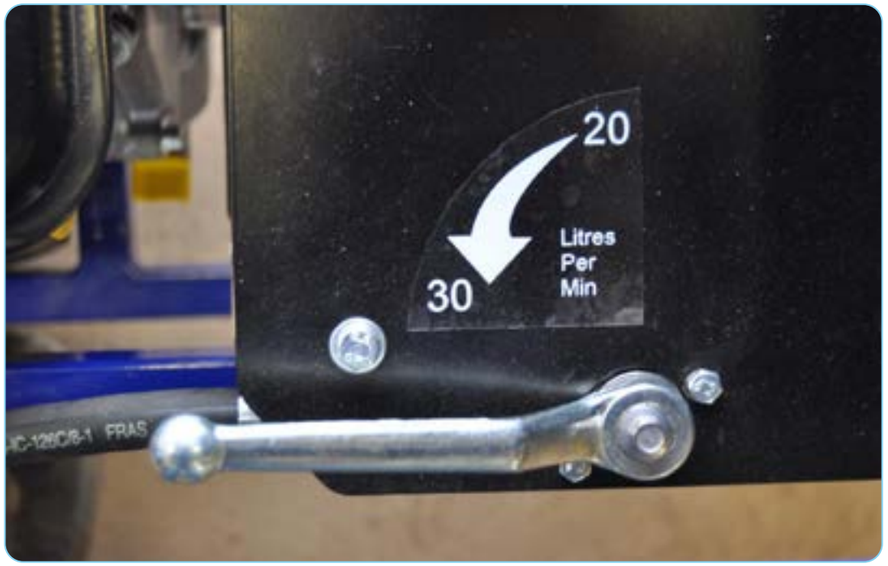


**Figure 6 –
Flow Selector Handle**

When in 30 Lpm mode the engine will automatically rev up to prevent stalling as the pressure requirements increase.

The auto-throttle can also be locked in HIGH mode. This is done by pulling the throttle contact plate forward and placing the 'R clip' into the nearest hole to the throttle arm.

**Figure 7 -
Throttle Lock**

General Precautions

WARNING: Failure to follow these general safety precautions may lead to a serious accident.

SAFETY RULES

- Only trained and qualified personnel or personnel authorised by the company (or superior) can operate and maintain the machine.
- Follow all safety rules, prohibitions, precautions, procedures, and instructions when operating or performing maintenance on the machine and pay careful attention to safety.
- Operating the machine when you are not in good physical condition reduces the power of judgment needed to avoid danger and leads to accidents.
- People in the following conditions should not operate the machine.
    - People who cannot operate normally because they are ill or suffering from the effects of medication.
    - People who have been drinking
    - Pregnant women

SAFETY FEATURES

- Be sure that all guards and covers are in their proper position. Have guards and covers repaired if damaged.
- Improper use of safety features could result in serious bodily injury or death.

PERSONAL PROTECTION

- Avoid loose clothing, towels, jewellery, and loose long hair. They can catch on controls or in moving parts and cause injury or death.
- Also, do not wear oily clothes; they can easily catch fire.
- Wear a hard hat, safety glasses, non-slip safety shoes and gloves when operating or maintaining the machine.

UNAUTHORISED MODIFICATION

- Any modifications made without authorisation from Anchor Systems (International) Ltd can adversely affect the performance of the machine and they may also create hazards.
- Before making a modification, consult Anchor Systems (International) Ltd. Anchor Systems (International) Ltd will not be responsible for any injury or damage caused by any unauthorised modification.

The safe operation of this rig is the responsibility of the operator, who should be familiar with the principles of pile installation, the power unit, and all safety practices before starting operations.

Operating Safety

For safe use, ensure all these points are followed:

- Always operate the machine when on level and stable ground.
- All outriggers should be deployed to ensure machine stability.
- Ensure all operators are wearing the required PPE.
- All operators should be familiarly with the machine controls and operating procedure.
- All workforce should be clear of the machine when in operation.
- Do not block the radiator grills or exhaust pipe.
- Do not put any hands or foreign objects into the machine.
- Keep feet and hands clear when operating the machine.

TURNING OFF

- Turn the flow control valve to OFF
- If the auto throttle is locked in HIGH, unlock it
- Turn the engine cut off switch OFF

Routine Maintenance

Engine - refer to Vanguard 6.5 operator's manual for service intervals.

Oil Dipstick - located at the right side of the engine

Hydraulic return filter- Located on the left of the power pack.

Hydraulic Oil Reservoir - Oil suction filler is inside the oil reservoir. Oil level sight gauge is located on the right side of the reservoir, oil level must be checked on a weekly basis. The power pack uses **HLP 32 Grade Hydraulic Mineral Oil.**

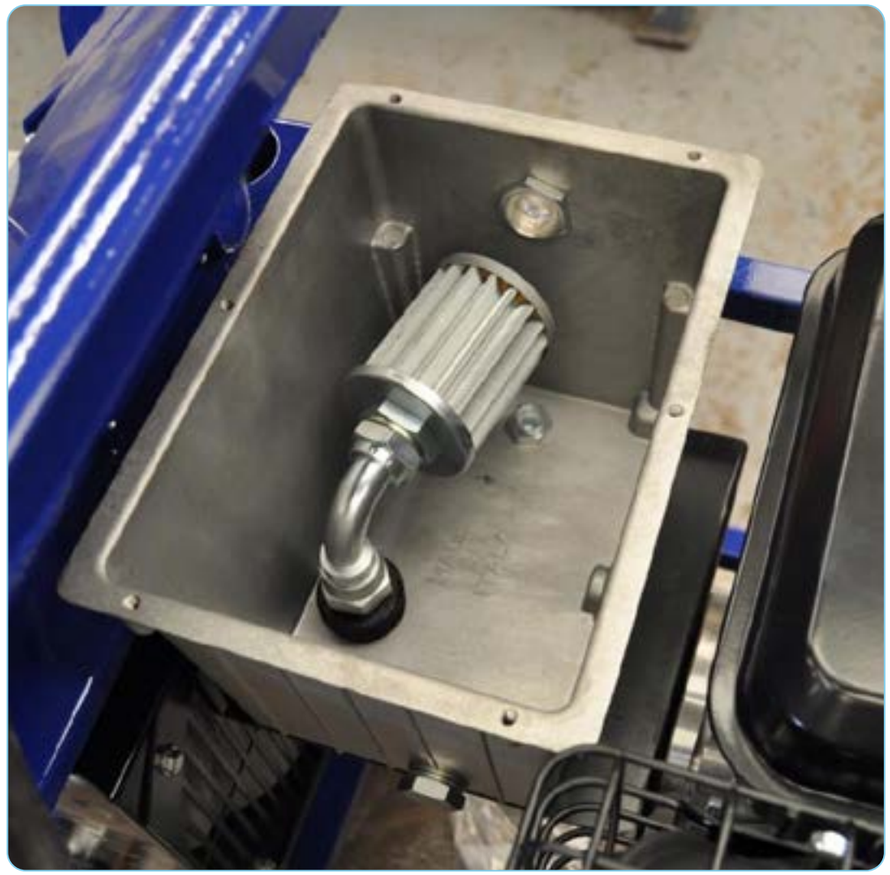


Figure 8 - Oil Suction Filter

Routine Maintenance

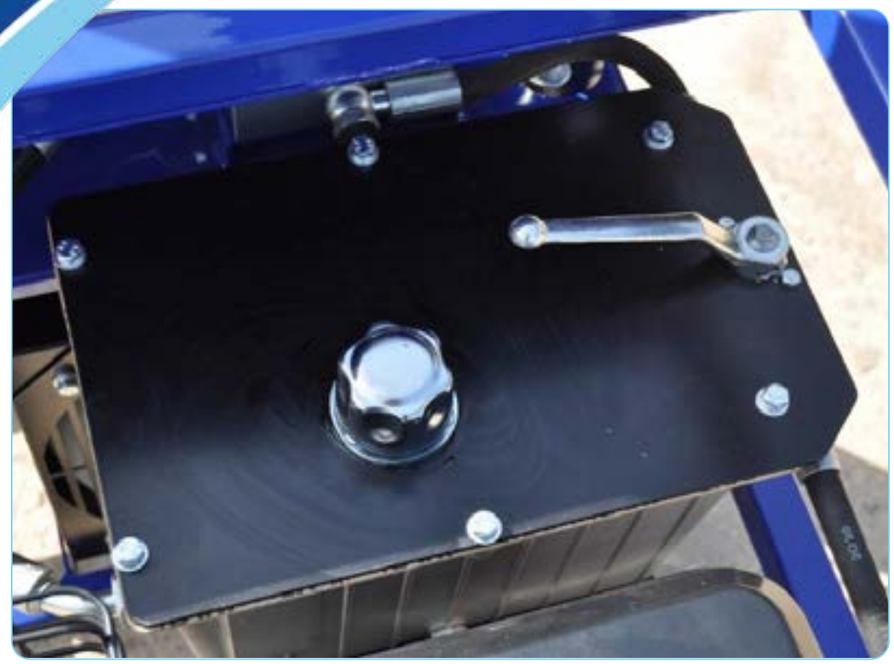


Figure 9 -
Oil Filler Breather

Figure 10 -
Fuel Filler

Service Information

SERVICE SCHEDULE

The service schedule of machine items is as follows:

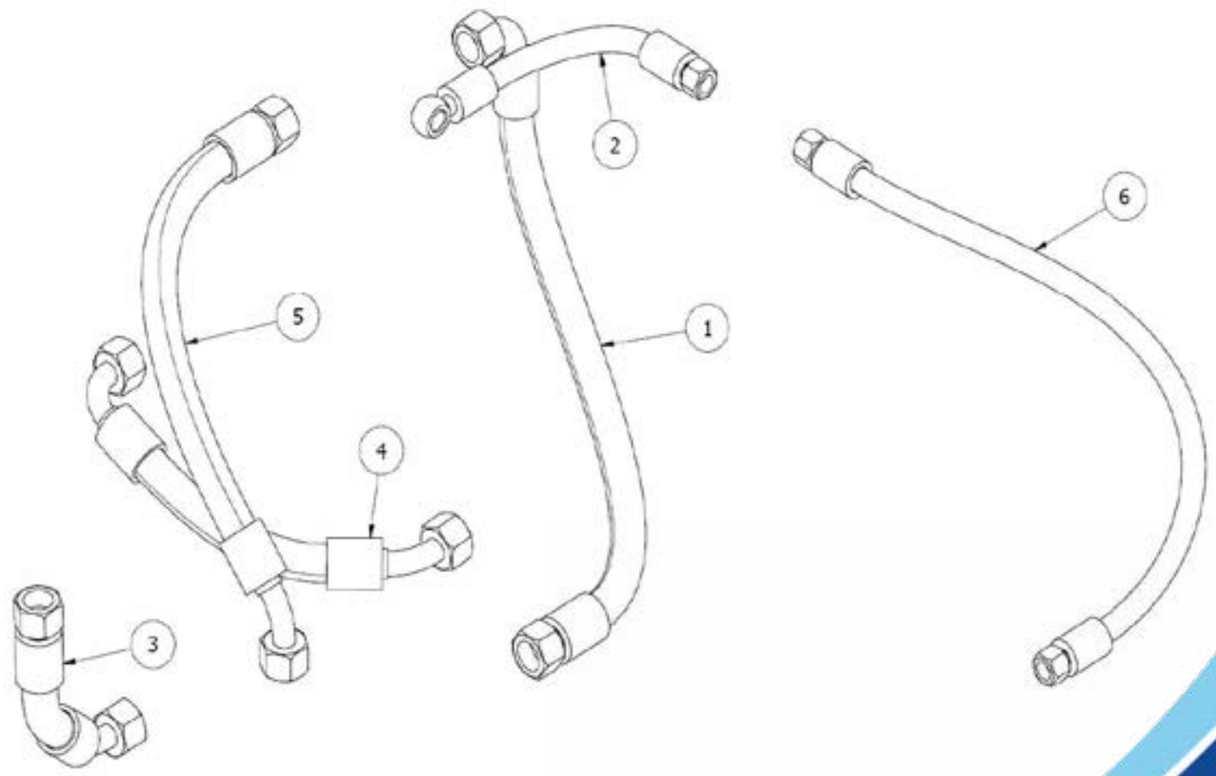
SERVICE ITEM		SERVICE INTERVAL			
		10 Hours Daily	50 Hours Weekly	500 Hours 6 Months	1000 Hours Annually
ENGINE	Oil Level	Check			
	Oil Leaks	Check			
	Fuel Filter			Change	
	Oil and Filter			Change	
	All Hoses			Check	
	Radiator			Clean	
	Air Cleaner Inner Element				Change
HYDRAULIC	Hydraulic Oil	Check			Change
	Hydraulic Oil Suction Filter			Change	
	Hydraulic Oil Return Filter				
OTHER	Fuel	Check			
	Bolts		Check		

Troubleshooting

SYMPTOM	POSSIBLE CAUSE	ACTION
Won't Start	Engine cut off switch set to OFF	Turn switch to ON
Hard to Start	Fuel blockage	Replace filter
	Choke is open	Close choke while starting
	Valve block is in the ON position	Turn the valve to the OFF position
	Low fuel	Fill up
	Auto throttle locked to high mode	Enable auto throttle
Engine stalling	Hydraulic load too high	Check auto throttle position
	Low fuel	Check fuel level
Excessive Oil Temperature	Low oil	Check dipstick and top up
Oil leaks	Loose Fittings	Tighten Up Fittings
	Leaky Connections	Reseal or check Configuration
	Damaged hose	Replace hose

Spare Parts - Hydraulics

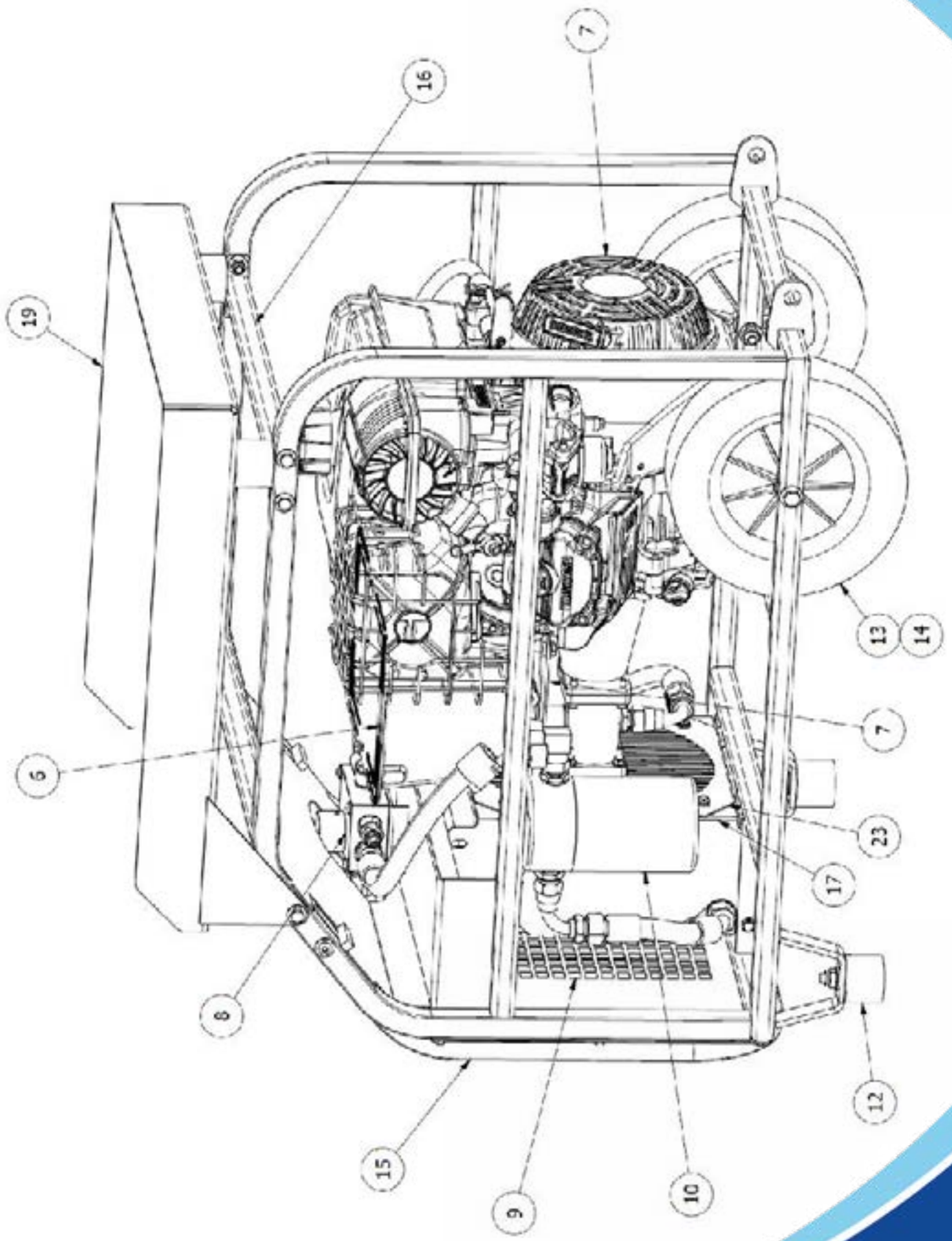
CODE		DESCRIPTION	
46885		HYDRAULIC ASSEMBLY	
NO.	CODE	DESCRIPTION	QUANTITY
1	46886	Hose 1	1
2	46892	Hose 2	1
3	46893	Hose 3	1
4	46894	Hose 4	1
5	46897	Hose 5	1
6	49743	Hose 6	1



Spare Parts - Power Pack

CODE		DESCRIPTION	
49050		POWER PACK ASSEMBLY	
NO.	CODE	DESCRIPTION	QUANTITY
1	46835	Tank Mounting Plate	1
2	11885	Fan Blade	1
3	11886	Oil Cooler	1
4	46901	Fan Retainer	1
5	46861	Fan Adaptor	1
6	46888	Midipac Reservoir Assembly	1
7	46889	Midipac Engine Assembly	1
8	46890	Mani Valve Boss Assembly	1
9	46828	Cooler Guard Panel	1
10	11876	Element Filter	1
11	11875	Inline Filter	1
12	11871	Midipac Bonded Foot	2
13	11870	Midipac Wheel	2
14	48663	Midipac Axle	2
15	49252	Power Pack Handle WA	1
16	49747	Frame Beam 8 WA	1
17	48063	Fan Cowl WA	1
18	48482	Fan Spacer	1
19	49749	Tray WA	1
20	11871	Midipac Bonded Foot	2
21	49612	Switch Plate	1
22	12474	Switch	1
23	49815	Fan Cowl Mesh	1

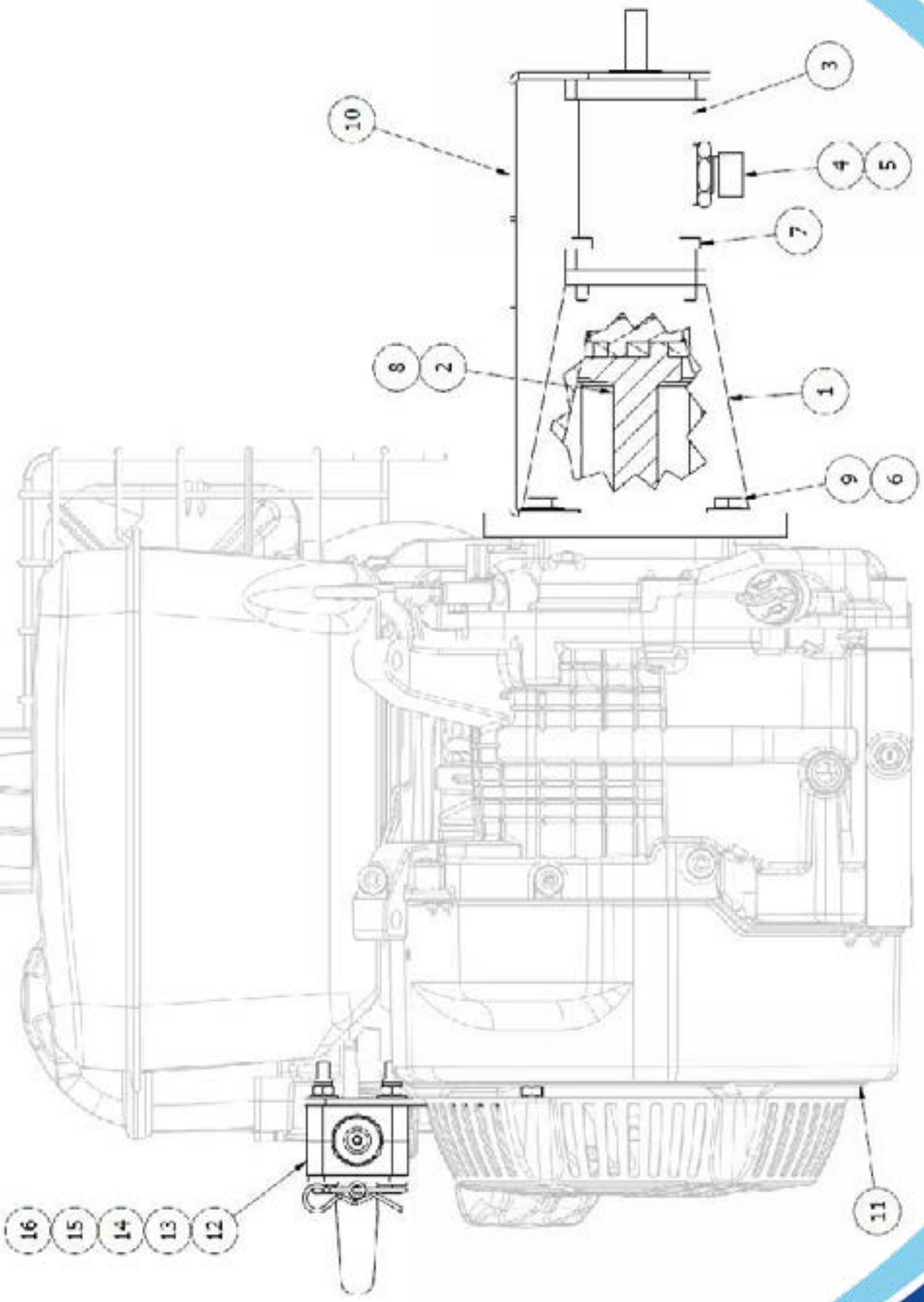
Spare Parts - Power Pack



Spare Parts - Engine

CODE		DESCRIPTION	
46889		POWER PACK ENGINE ASSEMBLY	
NO.	CODE	DESCRIPTION	QUANTITY
1	11883	Bell Housing	1
2	11882	Flexible Coupling	1
3	11884	Pump	1
4	01097	Adaptor	1
5	2182	Seal	1
6	02977	Washer M8 (Form C)	4
7	08017	Bolt Cap M6 x 25	4
8	11893	Key	1
9	12481	Bolt Hex 5/16" UNF x 1"	2
10	46835	Tank Mounting Plate	1
11	12441	Engine	1
12	49600	Auto Throttle Assembly	1
13	02350	Washer M6 (Form C)	3
14	02515	Washer Spring M6	1
15	02475	Bolt Set M6 x 16	1
16	11046	Nut Full M6	1

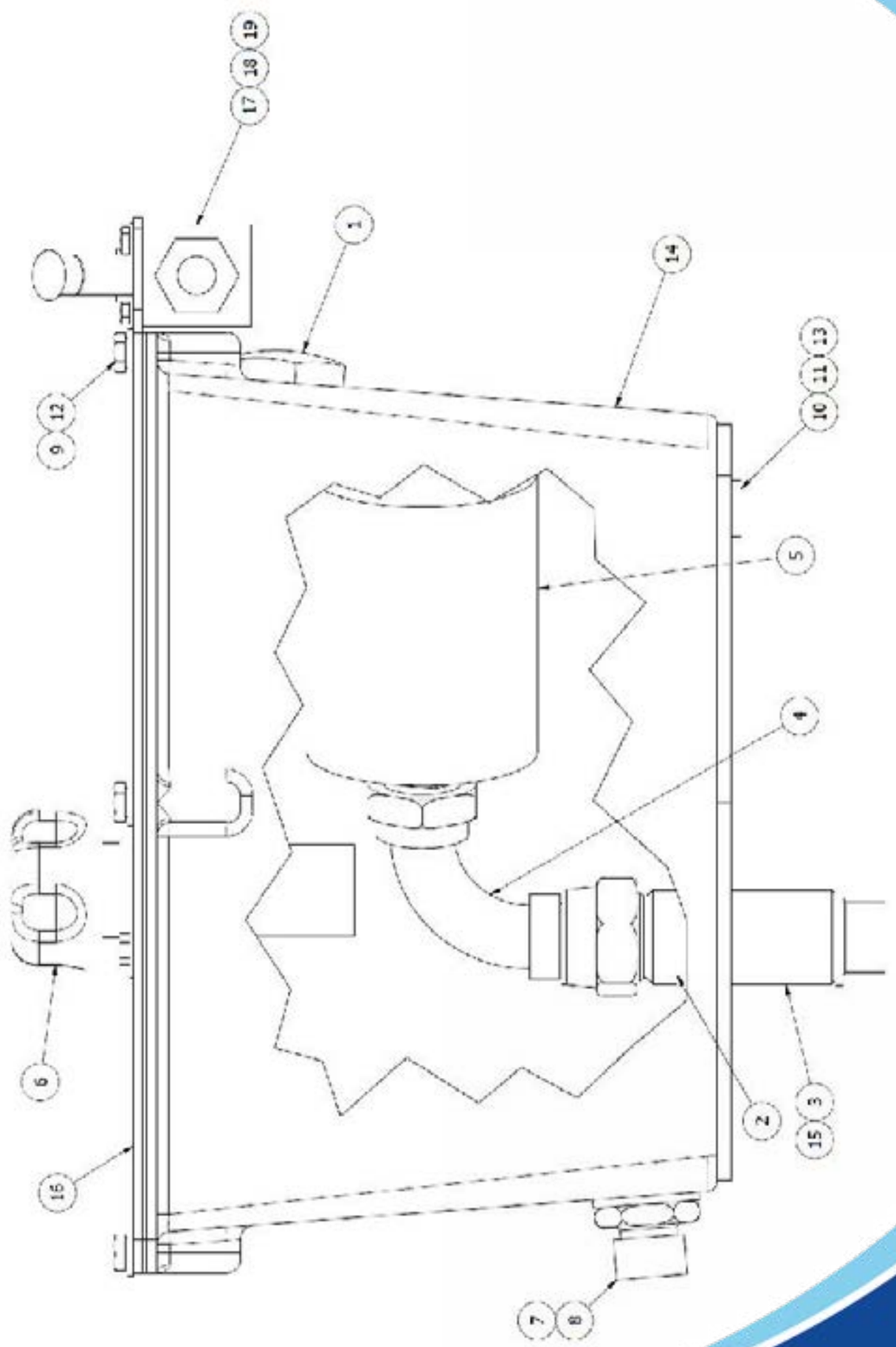
Spare Parts - Engine



Spare Parts - Reservoir

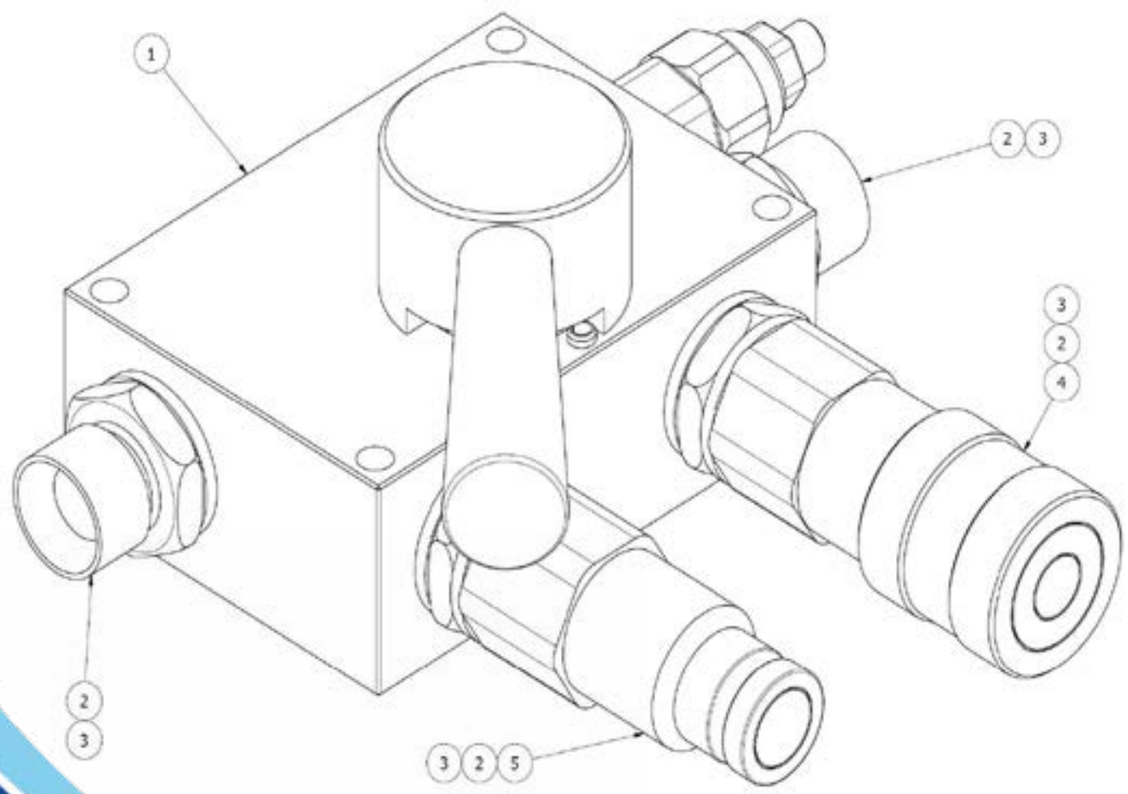
CODE		DESCRIPTION	
46888		RESERVOIR ASSEMBLY	
NO.	CODE	DESCRIPTION	QUANTITY
1	11877	Oil Level Gauge	1
2	11890	Return Bush	1
3	46848	Midipac Suction Adaptor	1
4	01126	Elbow 012 SW MF BSP	1
5	rh447	Suction Strainer	1
6	11874	Breather Filler w/strainer	1
7	2276	Seal Bonded 010	1
8	01097	Adaptor 008 MM BSP	1
9	02350	Washer M6 (Form C)	6
10	01812	Seal Bonded 006	1
11	01677	Plug 006	1
12	02475	Bolt Set M6 x 16	6
13	04919	3/8" Lock Nut	1
14	48067	Oil Reservoir	1
15	02182	Seal Bonded 008	1
16	46836	Tank Lid	1
17	11894	Top Mounted Valve	1
18	09585	Bolt Hex M4 x 20	2
19	09266	Washer M4 (Form C)	2

Spare Parts - Reservoir



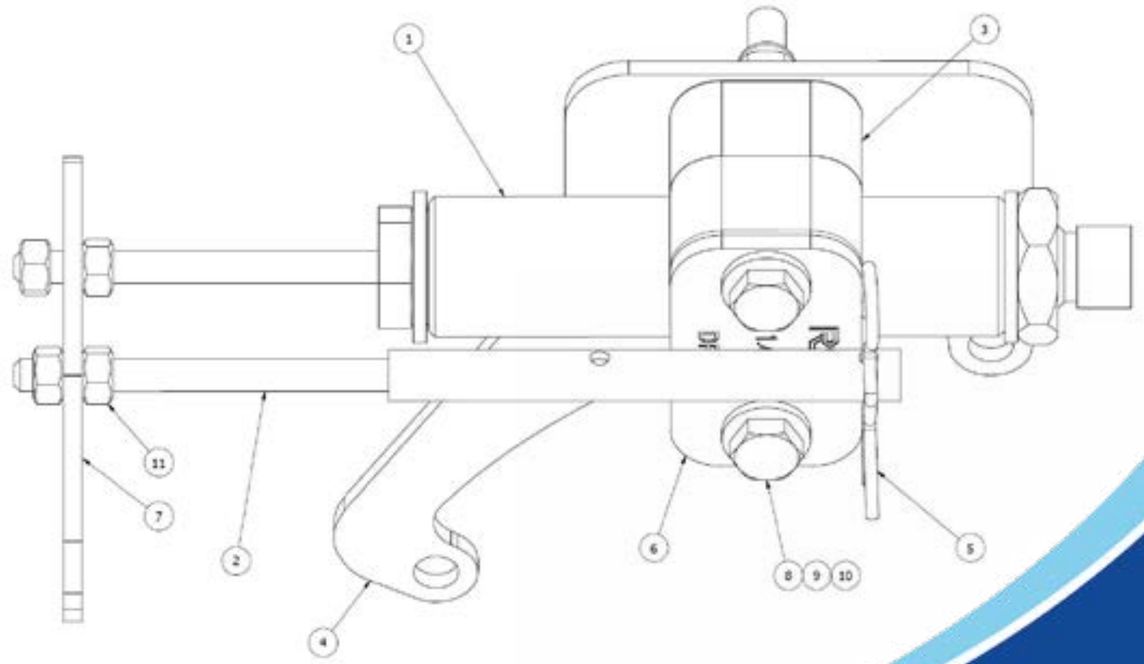
Spare Parts - Main Valve

CODE		DESCRIPTION	
46890		MAIN VALVE ASSEMBLY	
NO.	CODE	DESCRIPTION	QUANTITY
1	46867	Main Valve Assembly	1
2	01097	Adaptor 008 MM BSP	4
3	2182	Seal Bonded 008	6
4	09191	QR FF 1/2" F	1
5	09206	QR FF 1/2" M	1



Spare Parts - Auto Throttle

CODE		DESCRIPTION	
49600		AUTO THROTTLE ASSEMBLY	
NO.	CODE	DESCRIPTION	QUANTITY
1	48666	Throttle Ram Assembly	1
2	49532	Throttle Locking Rod	1
3	04275	Stauff Clamp Single M022	1
4	46839	P.O.B. Bracket	1
5	02798	Clip R M002	1
6	49601	Throttle Lock Tube WA	1
7	49531	Throttle Pushing Plate	1
8	02350	Washer M6 (Form C)	6
9	02513	Nut Nyloc M6	2
10	02347	Bolt Hex M6 x 60	2
11	12263	Nut Full M5	2



End Of Life

When the machine reaches the end of its useable lifetime it is important that the independent elements of the machine are reused, recycled, or disposed of suitably.

COMPONENT	WHAT TO DO?
Metals	All metals should be recycled with an appropriate scrap metal merchant, preferable sorted into metal type.
Electronics	All electrical components should be recycled at an appropriate facility according to the WEEE Directive and Regulations 2013
Oils	Oil waste is classed as Hazardous and therefore must be stored separately and according to legal regulations (that differ dependent on country). It must be disposed of be a suitable Waste Oil collection company.
Hydraulic Hoses	Hydraulic hoses should be drained of oil, metal ends removed and then recycled with a suitable specialist recycling company. Metal ends can be sent to metal recycling centres.
Plastics	All plastics should be sorted into recyclable and no recyclable and then either sent to suitable recycling facilities or landfill.

Risk Assessment – Operation Of Power Pack 20- 30l

SECTION 1: ASSESSMENT INFORMATION

ASSESSMENT DATE	17/03/2020
ACTIVITY / ITEM / AREA	Operation of Power Pack 20-30L
PERSON AT RISK	Installation Operative and others in the work area
TOTAL NUMBER OF PEOPLE AT RISK	1+
RESPONSIBLE PERSON	Machine Operative, Installation Operative
ASSESSOR	Sebastian Ulrik

SECTION 2: LIKELIHOOD/SEVERITY OF INJURY

	SIGNIFICANT RISKS	LIKELIHOOD	SEVERITY	RESIDUAL
1.	Manual handling	2	2	4
2.	Burns	2	1	2
3.	Injury caused by rotation	1	2	2

LIKELIHOOD		SEVERITY				
		MINOR	SERIOUS	MAJOR	FATALITY	MULTIPLE
		1	2	3	4	5
Rare	1	1	2	3	4	5
Unlikely	2	2	4	6	8	10
Moderate	3	3	6	9	12	15
Likely	4	4	8	12	16	20
Certain	5	5	10	15	20	25

Low Risk	Moderate Risk	Significant Risk	High Risk

Likelihood X Severity = Residual Risk

Section 3: Control Measures

1. Appropriate PPE is worn including hard hat, safety glasses, gloves and high-visibility clothing as a minimum. Ear protection may be required when operating or working in close proximity to the power pack.
2. Machine Operatives will maintain a line of sight with the machine at all times.
3. Operators will ensure that all unauthorised persons are kept away from the work area, by bounding off the area if practicable.
4. The gearbox will be operated in a controlled manner to avoid potentially hazardous practises.
5. Installation Operatives will familiarise themselves with the layout of the work area, will avoid working in poor or incomplete excavations and report any hazardous ground conditions to the Site Manager.
6. All operators to be trained in machine use and safety prior to operation.
7. All hand tools will be kept in good order and only used for their design purpose. Faulty/broken/worn items will be replaced.
8. Operators are to be in possession of, have read and understood the machine and operation instruction manual.
9. Prestart check carried out and any faults reported immediately.
10. Keep away from the engine exhaust while or after engine has been running, for reasonable amount of time.

FURTHER ACTION REQUIRED:

NO FURTHER ACTION REQUIRED

Prepared By
Anchor Systems (International) Ltd

In Pictures

ANCHOR SYSTEMS (INTERNATIONAL) LTD

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