

6005 Hose Caddy Power Pak



PARTS AND MAINTENANCE MANUAL 2019 Edition

TR-OPT-HC6.5-PWRPK-02



Table of Contents

Hose Caddy Power Pak	3
Warranty Policy	4
When Applying Liquid Manure	5
Safety Precautions	6
Safety Decals	8
Parts Section	11
Required Maintenance	28
Useful Information	30





Hose Caddy Power Pak

We would like to thank you for purchasing your new **Cadman Hose Caddy Power Pak**. You have purchased a product of superior quality that will serve your needs for a long time provided you follow this manual and the safety procedures contained herein.



Figure 1 - Cadman 6005 Hose Caddy Power Pak

<u>BEFORE</u> operating your new Cadman Hose Caddy Power Pak, inspect the machine for any damage or parts which may have come loose during shipping. REPORT ANY DAMAGE TO CADMAN POWER EQUIPMENT LIMITED OR YOUR LOCAL DEALER IMMEDIATELY!



Warranty Policy

CADMAN POWER EQUIPMENT LIMITED warrants that each machine it manufactures shall be free from defects in materials and workmanship. The terms of this warranty are as follows:

- All components manufactured by **CADMAN POWER EQUIPMENT LIMITED** shall be warranted for a period of one (1) year from the date of delivery, with the exception of the frame and hose drum structures which shall be warranted for a period of three (3) years.
- CADMAN POWER EQUIPMENT LIMITED makes no warranty whatsoever with regard to tires, engines, and other trade accessories used on its equipment. The customer shall rely solely on the warranties offered (if any) by the respective manufacturer of these trade accessories.

The sole obligation to **CADMAN POWER EQUIPMENT LIMITED** under this warranty is limited to the repair or replacement of any part it manufactured. This is limited to those components which, in the judgment of **CADMAN POWER EQUIPMENT LIMITED**, failed under normal, proper use and maintenance due to defective materials or workmanship. All freight charges incurred shall be the sole responsibility of the customer.

CADMAN POWER EQUIPMENT LIMITED and its dealers (who are neither authorized nor qualified to undertake any obligations on behalf of CADMAN POWER EQUIPMENT LIMITED) DO NOT, under any circumstances, accept any responsibility for any losses or costs incurred due to parts failure and/or delays during the parts replacement process.

This warranty will be considered void if any alterations or modifications have been made to the machine without the express written consent of **CADMAN POWER EQUIPMENT LIMITED** outlining the nature and the extent of such modifications. **CADMAN POWER EQUIPMENT LIMITED** will not provide any warranty express or implied to any overdue accounts.

CADMAN POWER EQUIPMENT LIMITED, whose policy is one of continuous improvement, reserves the right to change specifications and designs without notice or incurring obligation.

The warranties expressed herein are non-transferable and replace any other warranties, either written or verbal, which may have been given or implied.



TR-OPT-HC6.5-PWRPK

Parts and Maintenance Manual - 6005

When Applying Liquid Manure

Environmental concerns appear to be driving legislative agendas in many agricultural areas across the continent. Current and pending laws in many agricultural regions of North America are changing the ways in which the agricultural community is expected to manage their liquid animal waste products.

These changes in legislation typically target two main issues, run-off prevention during and after application and soil nutrient loading.

Run-off seems to be the largest concern with regard to nutrient application. Run-off may result from several different factors, most of which are controllable. These factors include exceeding the soil intake rate, nutrient application on steep grades, high application amounts, leaking mainline fittings and seals, sudden rainfall during or immediately after application, and ground frost, etc. Constant watch must be kept and immediate action taken, where necessary, to prevent run-off from occurring.

Soil nutrient loading depends on a number of variables. Some of these variables (though certainly not all) are soil type, the type of crop being grown in the irrigated area, application timing, and nutrient value of the material being applied (nutrient value should be assessed at the time of application as it can change throughout the year), etc.

Soil type will determine the intake rate at which liquid may be applied. Cultivation of the field just prior to application can improve the intake rate of some soils.

Great potential benefit lies in using the nutritional value of the manure being applied to replace some or all of the traditional chemical fertilizer used. Application timing and amount are important considerations. Soil analysis taken prior to planting and during the growth periods of the crop will help determine if there is room for further application amounts to be added prior to crop maturity. A total management plan should include provisions to end the crop season without surplus residual nutrients remaining. These excess nutrients typically end up in the ground water supply. Local colleges, universities and agricultural extension services are often a good source of information. They can usually help you determine an application program that prevents soil nutrient overload due to excessive application.

Cadman Power Equipment Limited cannot possibly provide up-to-date recommendations with regard to the legal obligations you must deal with in your particular area. However, as a manufacturer of equipment used in nutrient application (liquid manure, milk house run-off, etc.), we feel it necessary to make you aware that the municipal, regional and state governing bodies in your area may have recently enacted new legislation or revised existing legislation with regard to nutrient handling practices and procedures.

It is your responsibility to make yourself aware of and abide by the current legislation in your area. Please take the time to contact your local agricultural representative to obtain the latest information regarding legal handling and application of manure.

TR-OPT-HC6.5-PWRPK

Parts and Maintenance Manual – 6005



Safety Precautions

Please take the time to read and understand this manual to avoid errors and unnecessary risks. If you have any questions or concerns, please contact **CADMAN POWER EQUIPMENT LIMITED** or your local dealer/distributor.

FAILURE TO FOLLOW ALL SAFETY INSTRUCTIONS CAN RESULT IN DEATH OR SERIOUS INJURY FOR YOU AND/OR ANY SPECTATORS.

- **DO NOT** move or operate this machine until you have read and understand the instructions in this manual.
- **NEVER** allow untrained persons to operate this machine.
- DO NOT attempt to service this machine while it is in operation.
- MAKE CERTAIN that all mechanical and hydraulic tension has been released before attempting any service on the machine.
- **CHECK** all fasteners (nuts and bolts) regularly for tightness.
- PERFORM REQUIRED MAINTENANCE as prescribed and/or as necessary to keep this machine in safe operating condition.
- KEEP ALL SPECTATORS at a safe distance.
- **REMAIN CLEAR** of all high-pressure supply lines, especially when first pressurizing the system.
- DO NOT remove or alter any shielding on this machine.
- **BE CERTAIN** that the machine is on stable ground prior to unwinding the hose.
- KEEP CLEAR of all moving parts.
- NEVER tow this machine at speeds in excess of the reel speed and be certain
 that the tow vehicle has adequate braking capacity to maintain safe control at all
 times.
- NEVER tow this machine while the hose is loaded with fluid.
- **BE AWARE** of any obstacles (ex. mail boxes, fence posts, vehicles, other equipment, or people) that you may encounter while transporting the machine.
- REGULAR INSPECTION of your pipe/hose couplings, tubing and gaskets should be part of your typical set-up routine. Any defective parts MUST be replaced or repaired before the machine is put into service.
- REEL MUST BE FREE OF OBSTRUCTIONS while operating this machine.
- ENGINE THROTTLE MUST NOT EXCEED 3,000 RPM at any time during operation.



- REEL MUST BE IN NEUTRAL POSITION PRIOR TO PULLING HOSE. Failure to do so could tip the machine over, causing damage and/or injury to equipment/persons.
- **DO NOT** operate the remote functions while driving. Operation of the remote and equipment should be done by a passenger and only when it is safe to do so.



This symbol, the <u>safety-alert symbol</u>, indicates a hazard. When you come across the safety-alert symbol in this manual, make sure you fully understand and abide by the given instructions or warnings.



Safety Decals

Cadman Power Equipment Limited has determined the potential hazards on your Hose Caddy and has labeled the machine accordingly. The safety decals on this machine are there to warn operators of potential hazards. Each safety decal on this machine contains a Signal Word Panel which shows the degree of hazard. Definitions of the Signal Words are as noted below.



Figure 2 - Danger Decal

img-00340-A

DANGER - an immediate, hazardous situation which, if not avoided, <u>WILL</u>
 RESULT IN DEATH OR SERIOUS INJURY.



Figure 3 - Warning Decal

img-00340-B

• WARNING - a potentially hazardous situation which, if not heeded, could result in death or serious injury. This includes hazards that are exposed when guards are removed.



Figure 4 - Caution Decal

img-00340-C

- **CAUTION** a potentially hazardous situation which, if precaution is not taken, may result in minor or moderate injury.
 - All safety decals must be in good condition (clean, clear, and easy to read).

Page 8 of 30



- Replace any decals that are not in good condition.
- Replace any missing decals; it is important to double check that all labels are on your machine, especially if you have modified your machine or have had your machine serviced.



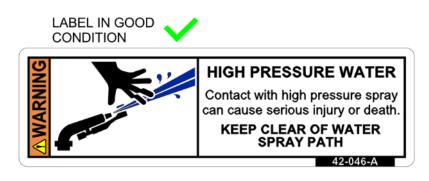


Figure 5 - Replace Decals

img-00131-B



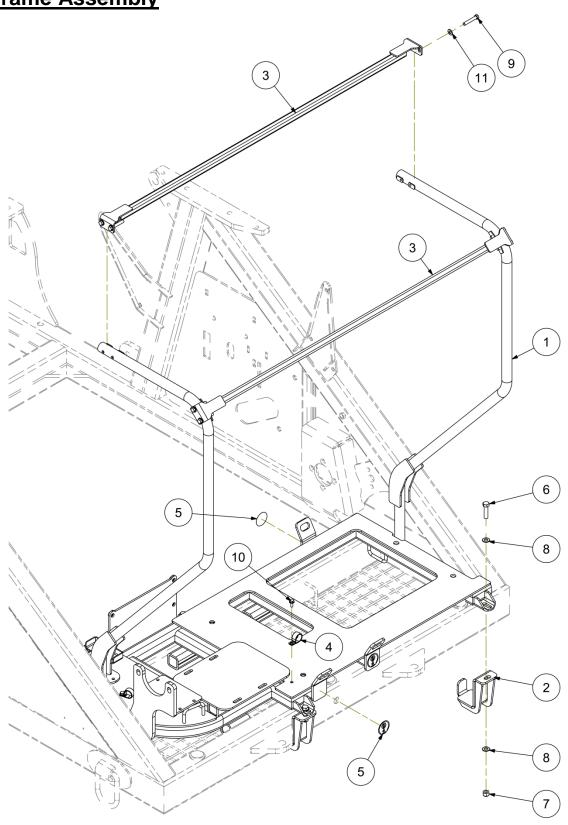


Parts Section

Frame Assembly	12
Engine Assembly	14
Fuel Tank	16
Control Panel	18
Hydraulic Tank	20
Hydraulic Pump	22
Valve Assemblies	24
Valve Assemblies Continued	26



Frame Assembly



Page 12 of 30

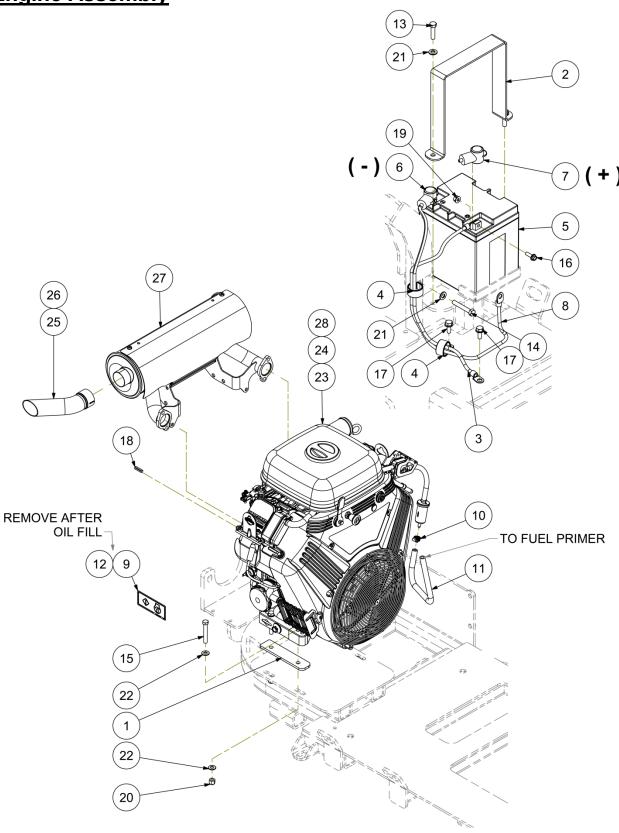


Frame Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY
1	POWER PACK FRAME WELDMENT	38-634-100	1
2	FRAME HOLD DOWN WELDMENT	38-757-100	4
3	REEL GUARD WELDMENT	38-760-300	2
4	P-CLAMP - 1.00	40-904	2
5	LABEL - LIFT POINT	42-LBL-120	4
6	BOLT GR.8 - 1/2-13 X 2.00	89-BLT-05013X200	4
7	NUT LOCK GR.8 - 1/2-13	89-NUT-LOC050-13	4
8	WASHER SAE GR.8 - 1/2	89-WSR-SAE050	8
9	BOLT - 3/8-16 X 2 1/4	90-BLT-03816X225	8
10	BOLT FLANGE - 5/16-18 X 3/4	90-BLT-F03118X075	2
11	WASHER SAE - 3/8	90-WSR-SAE038	8



Engine Assembly



Page 14 of 30

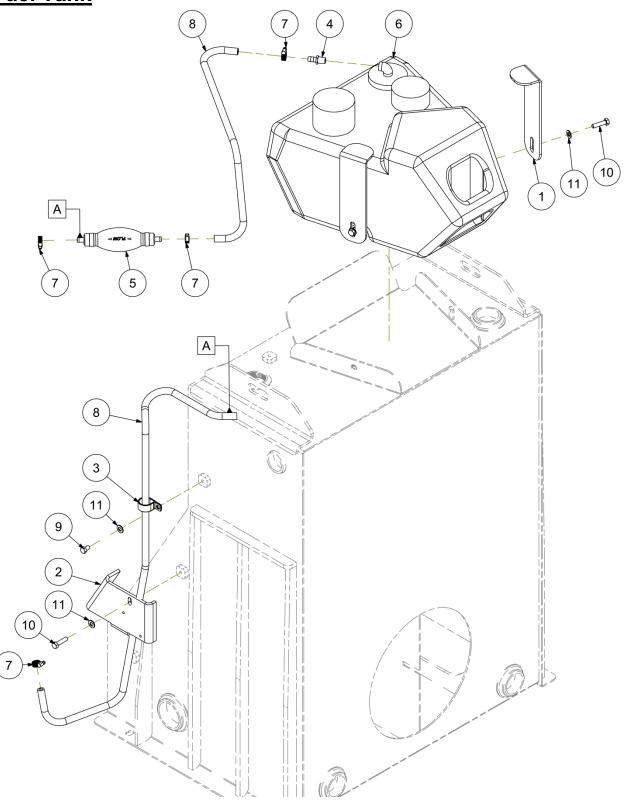


Engine Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY
1	ENGINE MOUNT	35-672-001	2
2	HOLD DOWN - BATTERY	35-863	1
3	BATTERY CABLE - 4 GA X 25 IN.	40-318-25	1
4	P-CLAMP - 1.00	40-904	2
5	BATTERY - DRIVE	42-309	1
6	BATTERY BOOT - BLACK 18-10G	42-315	1
7	BATTERY BOOT - RED 18-10G	42-316	1
8	STATER CABLE - 4 GA. RED 30.00	42-ELC-150	1
9	LABEL - ENGINE OIL PRE-START LUB	42-LBL-149	1
10	CLAMP GEAR - 5/16-5/8 (MH4)	50-025	1
11	FUEL LINE - 5/16 NEOPRENE	50-038	1
12	OIL - DURON UHP 10 W 40	85-LUB-OIL/10W40	3
13	BOLT - 5/16-18 X 1 1/4	90-BLT-03118X125	2
14	BOLT - 5/16-18 X 2.00	90-BLT-03118X200	1
15	BOLT - 3/8-16 X 2 1/2	90-BLT-03816X250	4
16	BOLT FLANGE - 1/4-20 X 3/4	90-BLT-F02520X075	2
17	BOLT FLANGE - 5/16-18 X 3/4	90-BLT-F03118X075	2
18	KEY STEP - 1/4 X 3/16	90-KEY-ST025X019	1
19	NUT FLANGE - 1/4-20 SERRATED	90-NUT-F025-20	2
20	NUT LOCK - 3/8-16	90-NUT-LOC038-16	4
21	WASHER SAE - 5/16	90-WSR-SAE031	3
22	WASHER SAE - 3/8	90-WSR-SAE038	8
23	BRIGGS AND STRATTON 35HP	BV-ENG-35HP	1
24	B & S CONNECTION HARNESS	BV-PRT-809967	1
25	BRIGGS MUFFLER EXTENSION	BV-PRT-841557	1
26	B & S MUFFLER CLAMP	BV-PRT-841692	1
27	BRIGGS MUFFLER 35HP	BV-PRT-843906	1
28	B&S SPARK SCREEN ARRESTOR	BV-PRT-8428589	1



Fuel Tank



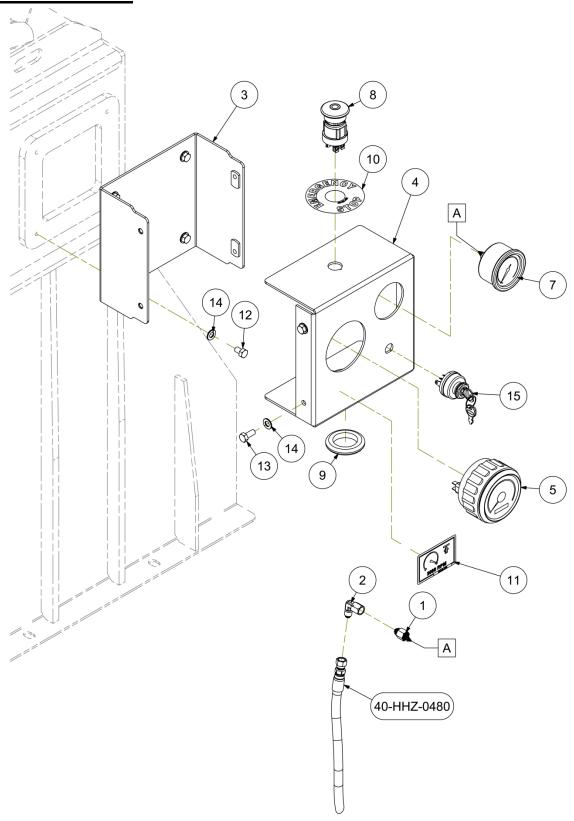


Fuel Tank

ITEM	DESCRIPTION	PART NUMBER	QTY
1	TIE DOWN - FUEL TANK	38-753-001	2
2	PLATE - DIVERTOR MOUNT	38-759-002-A	1
3	P-CLAMP - 1.00	40-904	1
4	ADAPTER - 1/4 NPT-M X 3/8 BARB	41-BFF-025X038	1
5	PRIMER BULB - 3/8	42-740	1
6	FUEL TANK - 6 US GAL BOW	42-741	1
7	CLAMP GEAR - 5/16-5/8 (MH4)	50-025	4
8	FUEL LINE - 5/16 NEOPRENE	50-038	7
9	BOLT - 5/16-18 X 1/2	90-BLT-03118X050	2
10	BOLT - 5/16-18 X 1 1/4	90-BLT-03118X125	3
11	WASHER SAE - 5/16	90-WSR-SAE031	5



Control Panel



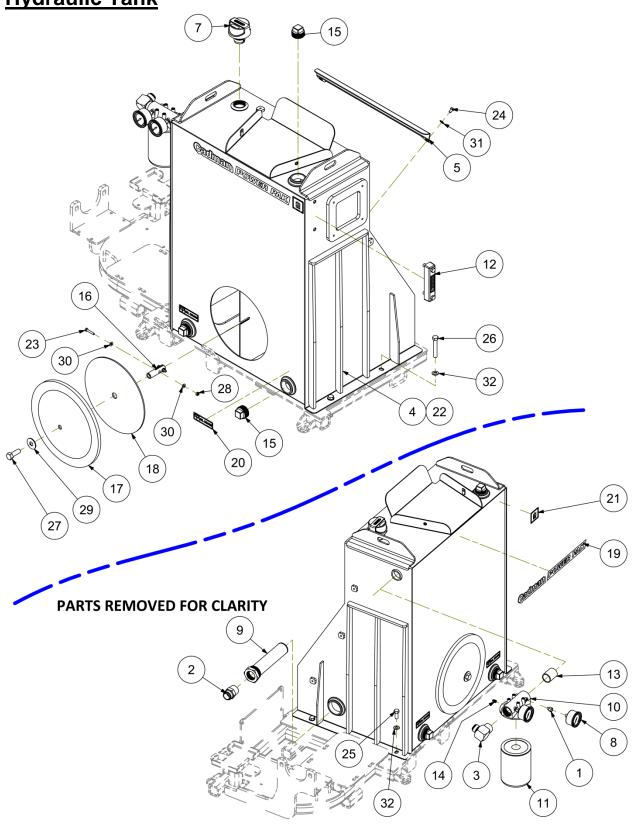


Control Panel

ITEM	DESCRIPTION	PART NUMBER	QTY
1	ADPATER - 04 JICM X 04 NPTF	25-WHD-5255X4	1
2	ELBOW - 04 JICM X 4 JICFSW X 90	25-WHD-5506X4	1
3	CONTROL PANEL BASE WELDMENT	38-755-100	1
4	CONTROL PANEL COVER WELDMENT	38-756-100	1
5	VDO 0-4000 RPM TACH/HOURMETER	40-580	1
6	HYDRAULIC HOSE - 1/4 X 93.5	40-HHZ-0480	1
7	GAUGE - 0-5000 PSI 2 1/2 HYD	40-HYD-014	1
8	SWITCH - EMERGENCY STOP	42-268	1
9	GROMMET - 1.5 ID X 2.38 OD X 3/8	42-569	1
10	LABEL - EMERGENCY STOP	42-LBL-002	1
11	LABEL - MAX 3000 RPM	42-LBL-146	1
12	BOLT - 5/16-18 X 1/2	90-BLT-03118X050	4
13	BOLT - 5/16-18 X 3/4	90-BLT-03118X075	4
14	WASHER SAE - 5/16	90-WSR-SAE031	8
15	BRIGGS AND STRATTON KEY SWITCH	BV-PRT-493625	1



Hydraulic Tank



Page 20 of 30



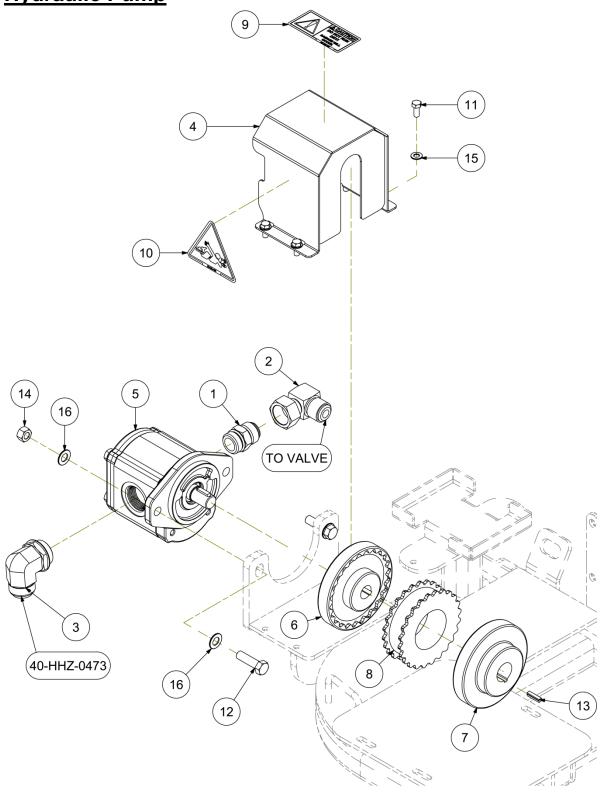
Hydraulic Tank

ITEM	DESCRIPTION	PART NUMBER	QTY
1	REDUCER - 04 NPTF X 02 NPTM	25-WHD-3209X4X2	2
2	ADAPTER - 20 JICM X 20 NPTM	25-WHD-5205X20	1
3	ELBOW - 16 JICM X 20 NPTM X 90	25-WHD-5405X16X20	1
4	HYDRAULIC TANK WELDMENT 75 GAL	38-635-100	1
5	PLATE - CONTROL PANEL WIRE GUARD	38-761-001	1
6	BREATHER - ANTI SPLASH	40-HYD-001	1
7	GAUGE - 0-5000 PSI 2 1/2" HYD	40-HYD-014	2
8	SUCTION STRAINER 60 MESH 2 NPT	40-HYD-109	1
9	HYD OIL FILTER 30 GPM 10 MICRON	40-HYD-110	1
10	ELEMENT - FILTER	40-HYD-110-ELEMENT	1
11	HYDTANK LEVEL GAUGE - 5" w/TEMP	40-HYD-LG5	1
12	NIPPLE - 1 1/4 NPT X 2 GALV	40-NPT-NPL125X200G	1
13	PLUG - 1/8 NPT GALV	40-NPT-PLG013G	2
14	PLUG - 1 1/2" NPT GALVANIZED	40-NPT-PLG150G	3
15	BAFFLE ADAPTER	42-966-BAFFLE	1
16	TANK CLEANOUT COVER 14"	42-966-COVER	1
17	LIP GASKET 14"	42-966-GASKET	1
18	DECAL - MINI POWERPACK	42-DCL-016	1
19	LABEL - OIL DRAIN	42-LBL-039	2
20	LABEL - HYDRAULIC OIL FILL POINT	42-LBL-147	1
21	HYDRAULIC OIL - HYDREX AW-32	85-LUB-OIL/AW-32	410
22	BOLT - 1/4-20 X 1 1/2	90-BLT-02520X150	2
23	BOLT - 5/16-18 X 1/2	90-BLT-03118X050	3
24	BOLT - 1/2-13 X 1 1/4	90-BLT-05013X125	2
25	BOLT - 1/2-13 X 3.00	90-BLT-05013X325	2
26	BOLT - 5/8-11 X 1 3/4	90-BLT-06311X175	1
27	NUT LOCK - 1/4-20	90-NUT-LOC025-20	2
28	WASHER FLAT - 5/8 NYLON WHITE	90-WSR-FLT063NYLON	1
29	WASHER SAE - 1/4	90-WSR-SAE025	4
30	WASHER SAE - 5/16	90-WSR-SAE031	3
31	WASHER SAE - 1/2	90-WSR-SAE050	4

Page 21 of 30



Hydraulic Pump



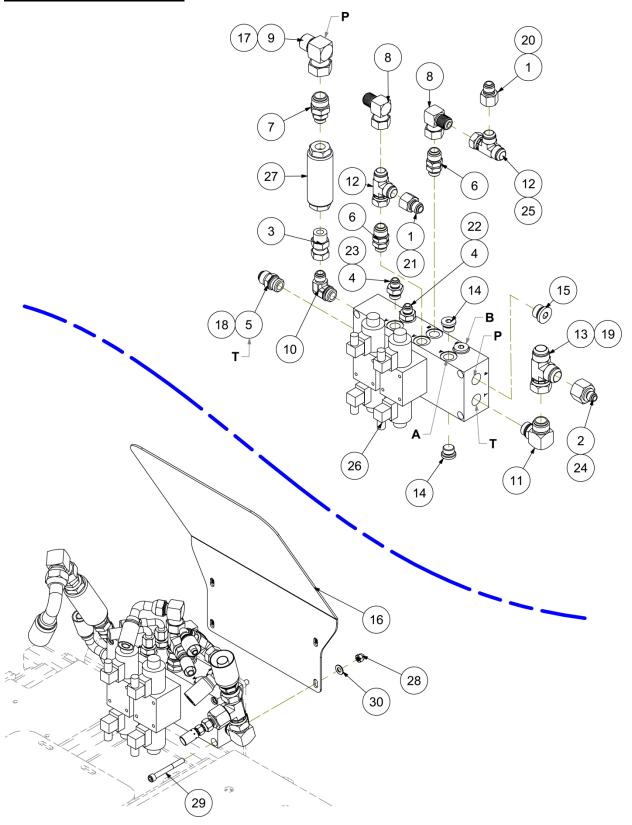


Hydraulic Pump

ITEM	DESCRIPTION	PART NUMBER	QTY
1	ADAPTER - 16 JICM X 16 SAEM	25-WHD-5315X16	1
2	ELBOW - 16 JICM X 16 JICFSW90	25-WHD-5506X16	1
3	ELBOW - 24 JICM X 24 SAE90	25-WHD-5515X20	1
4	PUMP COUPLING GUARD WELDMENT	38-758-100-A	1
5	PUMP - HYD 25 GPM GEAR 3000RPM	40-HYD-117	1
6	FLEX CPL SIZE 8 WITH 7/8 BORE	42-964-088	1
7	FLEX CPL SIZE 8 WITH 1.125 BORE	42-964-113	1
8	FLEX COUPLING SIZE 8 ELEMENT	42-964-ELE	1
9	LABEL - DO NOT RUN DRY	42-LBL-057	1
10	LABEL - ROTATING HAZARD	42-LBL-130	1
11	BOLT - 5/16-18 X 3/4	90-BLT-03118X075	4
12	BOLT - 1/2-13 X 1 3/4	90-BLT-05013X175	2
13	KEY STEP - 1/4 X 3/16	90-KEY-ST025X019	1
14	NUT HEX - 1/2-13	90-NUT-HEX050-13	2
15	WASHER SAE - 5/16	90-WSR-SAE031	4
16	WASHER SAE - 1/2	90-WSR-SAE050	4



Valve Assemblies



Page 24 of 30



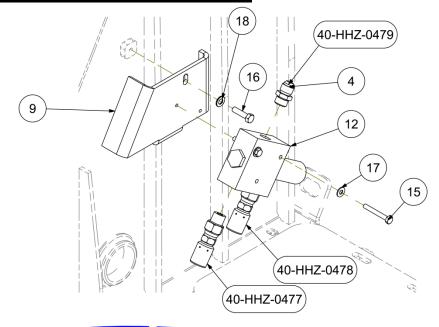
Valve Assemblies

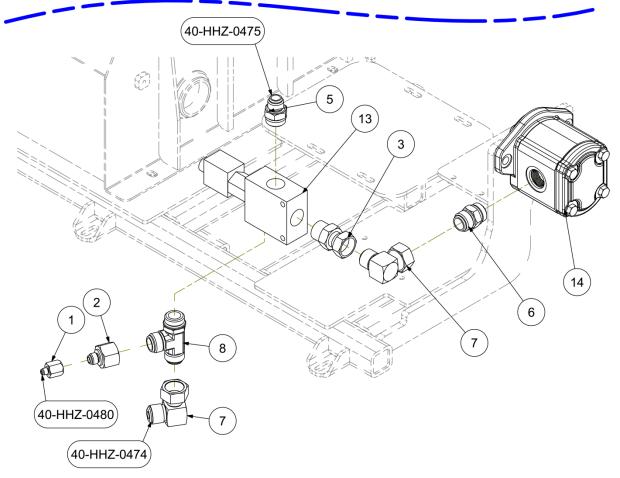
ITEM	DESCRIPTION	PART NUMBER	QTY
1	REDUCER - 12 JICF X 10 JICM	25-WHD-5015X12X10	2
2	REDUCER - 16 JICF X 08 JICM	25-WHD-5015X16X8	1
3	ADAPTER - 12 JICF X 12 SAEM STR	25-WHD-5216X12	1
4	ADAPTER - 08 JICM X 10 SAEM	25-WHD-5315X8x10	2
5	ADAPTER - 12 JICM X 12 SAEM	25-WHD-5315X12	1
6	ADAPTER - 12 JICM X 10 SAEM	25-WHD-5315X12X10	2
7	ADAPTER - 12 JICM X 10 SAEM	25-WHD-5315X16X10	1
8	ELBOW - 12 JICM X 12 JICF X 90	25-WHD-5506X12	2
9	ELBOW - 16 JICM X 16 JICFSW90	25-WHD-5506X16	1
10	ELBOW - 10 JICM X 12 SAEM X 90	25-WHD-5515X10X12	1
11	ELBOW - 16 JICM X 12 SAEM X 90	25-WHD-5515X16X12	1
12	RUN TEE - 12 JIC W/SWIVEL	25-WHD-5706X12	2
13	RUN TEE - 16 JIC W/SWIVEL	25-WHD-5706X16	1
14	PLUG - 10 SAE	25-WHD-7238X10	8
15	PLUG - 12 SAE	25-WHD-7238X12	1
16	PLATE - HYD MANIFOLD GUARD	38-637-001	1
17	HYDRAULIC HOSE - 1.00 X 7.00	40-HHZ-0474	1
18	HYDRAULIC HOSE - 1.00 X 12.00	40-HHZ-0475	1
19	HYDRAULIC HOSE - 1.00 X 27.00	40-HHZ-0476	1
20	HYDRAULIC HOSE - 1/2 X 6.00	40-HHZ-0477	1
21	HYDRAULIC HOSE - 1/2 X 8.00	40-HHZ-0478	1
22	HYDRAULIC HOSE - 3/8 X 62 1/2	40-HHZ-0481	1
23	HYDRAULIC HOSE - 3/8 X 41.00	40-HHZ-0482	1
24	HYDRAULIC HOSE - 3/8 X 73 1/2	40-HHZ-0483	1
25	HYDAULIC HOSE - 3/4 X 82 1/2	40-HHZ-0484	2
26	HYD MANIFOLD WITH REMOTE CONTROL	40-HYD-113	1
27	FILTER IN-LINE HIGH PRESSURE	40-HYD-114	1
28	NUT ACORN - 3/8-16	90-NUT-ACN038-16	4
29	SHCS - 3/8-16 X 3 1/4	90-SCR-SH03816X325	4
30	WASHER SAE - 3/8	90-WSR-SAE038	4
31	HYDRAULIC SCHEMATIC - PWRPK	TR-OPT-HC6.5- PWRPK_HYD_SCHEM	1

Page 25 of 30



Valve Assemblies Continued







Valve Assemblies Continued

ITEM	DESCRIPTION	PART NUMBER	QTY
1	REDUCER - 08 JICF X 04 JICM	25-WHD-5015X8X4	1
2	REDUCER - 16 JICF X 08 JICM	25-WHD-5015X16X8	1
3	ADAPTER - 16 JICF X 16 SAEMSW	25-WHD-5216X16X16	1
4	ADAPTER - 08 SAEM X 08 JICM	25-WHD-5315X8	1
5	ADAPTER - 12 JICM X 16 SAEM	25-WHD-5315X12X16	1
6	ADAPTER - 16 JICM X 16 SAEM	25-WHD-5315X16	1
7	ELBOW - 16 JICM X 16 JICFSW90	25-WHD-5506X16	2
8	RUN TEE - 16JIC X 16JIC X 16SAE	25-WHD-5716X16	1
9	PLATE - DIVERTOR MOUNT	38-759-002-A	1
10	HYDRAULIC HOSE - 1/2 X 6.00	40-HHZ-0477	1
11	HYDRAULIC HOSE - 1/2 X 8.00	40-HHZ-0478	1
12	DIVERTOR VALVE	40-HYD-115	1
13	ELC FLOW CTRL ALUM MANIFOLD	40-HYD-116	1
14	PUMP - HYD 25 GPM GEAR 3000RPM	40-HYD-117	1
15	BOLT - 1/4-20 X 2.00	90-BLT-02520X200	2
16	BOLT - 5/16-18 X 1 1/4	90-BLT-03118X125	1
17	WASHER SAE - 1/4	90-WSR-SAE025	2
18	WASHER SAE - 5/16	90-WSR-SAE031	1



Required Maintenance

To make sure your 6005 Power Pack Option performs as intended it is important to follow the maintenance schedule in this manual.



Maintenance must be done only when the unit is shut down and is in a non-loaded condition. This means that all mechanical and hydraulic tension has been released from the traveller.

Performing maintenance on the unit during operation may result in serious injury and/or death to operators

Daily Check

Please follow the daily requirement to maintain this unit

ITEM	PROCEDURE
Check engine oil level	10-W-40 for general use. Refer to Vanguard engine manual for details if you need a different oil to match your operating conditions
Clean Power Pack	Ensure that there is no debris on the unit and it is generally clean. Ensure the muffler and controls are clean.
Hydraulic Oil Level	Check the hydraulic oil level to maintain proper performance using HYDREX AW-32.

First 100 hours or Annually

ITEM	PROCEDURE
Change Engine Oil	10-W-40 for general use. Refer to Vanguard engine manual for details if you need a different oil to match your operating conditions
Replace Engine Oil Filter	Ensure that there is no debris on the unit and it is generally clean. Ensure the muffler and controls are clean.
Service Engine Air Filter Clean Pre-cleaner	Refer to Vanguard engine manual for details
Replace Hydraulic Oil Filter (First Time)	Replace the hydraulic filter to maintain clean oil and prevent future issues.



Every 250 Hours or Annually

ITEM	PROCEDURE
Replace Hydraulic Oil Filter	Replace the hydraulic filter to maintain clean oil and prevent future issues.
Perform Engine Maintenance	Refer to Vanguard engine manual for details

Every 500 to 600 Hours or Annually

ITEM	PROCEDURE
Replace Hydraulic Oil Clean Tank	Clean the hydraulic tank and replace the hydraulic oil to maintain proper performance using HYDREX AW-32.
Replace Hydraulic Oil Filter	Replace the hydraulic filter to maintain clean oil and prevent future issues.
Perform Engine Maintenance	Refer to Vanguard engine manual for details

Before Start Up After Long Term Storage

ITEM	PROCEDURE
Review Operator's Manual	Review this manual to verify how to operate the traveller safely. This will reduce the chance of user injury and equipment damage.
Complete Daily Check Routine	Perform a daily check routine prior to using this equipment.



Failing to review the operator's manual and/or inspecting the unit after long term storage may result in incorrect unit operation and/or not performing maintenance on items that may require repair. This may result in serious injury and/or death to operators and/or spectators. This may also damage the traveller

Page 29 of 30



Useful Information

LENGTH

1 FOOT	= 12 = 0.3048	Inches Meter	1 METER	= 39.37 = 3.2808	Inches Feet
1 ROD	= 198 = 16.5 = 5.5 = 5.029	Inches Feet Yards Meters	1 MILE	= 5280 = 1760 = 320 = 1609	Feet Yards Rods Meters

<u>AREA</u>

1 SQUARE FOOT	= 144 = 0.0929	Square Inches Square Meters
1 SQUARE YARD	= 1296 = 0.8361	Square Inches Square Meters
1 SQUARE METER	= 1550 = 10.764	Square Inches Square Feet
1 ACRE	= 43560 = 4047 = 0.4047	Square Feet Square Meters Hectare
1 HECTARE	= 107639 = 10000 = 2.47105	Square Feet Square Meters Acres
1 SQUARE MILE	= 640 = 259	Acres Hectares

VOLUME

<u> </u>		
1 GALLON (US)	= 0.8327 = 231 = 0.1337 = 8.345	Imperial Gallons Cubic Inches Cubic Feet Pounds
1 CUBIC FOOT	= 1728 = 7.48 = 62.4 = 28.32	Cubic Inches Gallons (US) Pounds Liters
1 ACRE INCH	= 27154 = 254	Gallons (US) Cubic Meters / Hectare
AREA OF A CIRCLE		= Diameter x Diameter x 0.7854
CYLINDER VOLUME (US GAL.)		= Diameter (ft.) x Diameter (ft.) x Length (ft.) x

5.8752