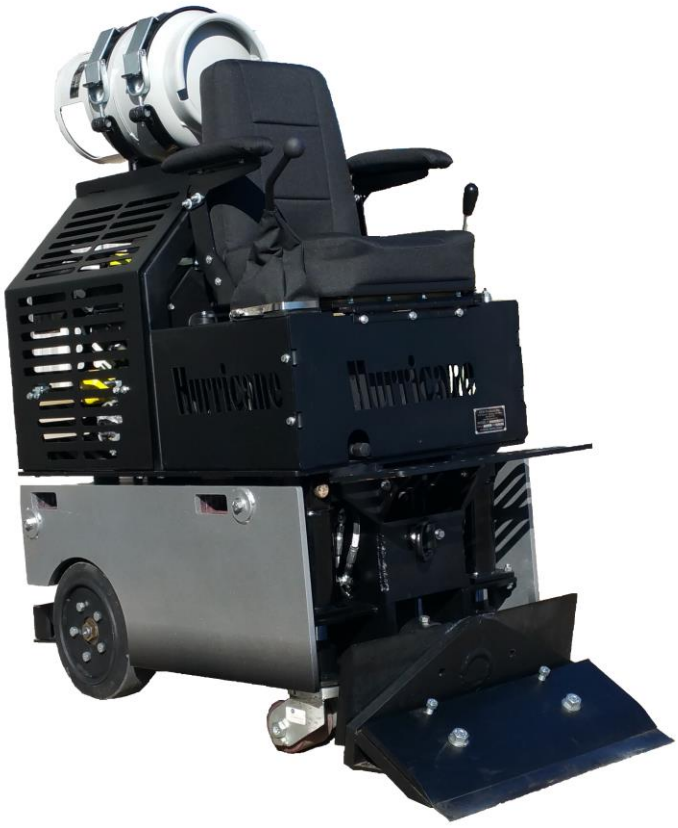
HURRICANE

EFI PROPANE RIDE-ON FLOOR SCRAPER

Rev 02.2017



OPERATIONS AND MAINTENANCE MANUAL
MUST BE READ BEFORE OPERATING SCRAPER

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HURRICANE

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SECTION I

GENERAL DESCRIPTION
Hurricane

The *Hurricane* is powered by a Kohler propane-fueled engine, driving a tandem hydrostatic pump system, creating a (skid-steer) zero turn radius drive train. Surface covering and coatings are removed by lowering a weighted blade onto the surface and moving forward under a high torque drive system. The surface coating is removed by a flexible sharpened blade conforming to the floor surface, with the weight of the machine holding the blade firmly to the floor. The weight keeps the blade on the substrate thus lifting off the floor coating.

SPECIFICATIONS

Weight	**2750 lbs**
Removable weight	**1500 lbs**
Height with Propane Tank	**58 inches**
Width	**25 inches**
Length with blade holder	**51 inches**
Length without blade holder	**41 inches**
Engine	**25 Hp Kohler (EFI)**
Max Ground Speed	**440 ft per min.**
Torque per Wheel	**1000 ft. lbs.**
Fuel capacity	**20 lb vapor propane bottle**
Hydraulic fluid capacity	**4 gallons**



SAFETY

WARNING

CARBON MONOXIDE can cause severe nausea, fainting or death. Do not operate engine in closed or confined area without proper ventilation.

SECTION III
SAFETY AND PRECAUTIONS

Before operating the **Hurricane** please read the entire operation and safety manual with complete understanding of the safety section. If you have any questions on safety and precautions please call 1-888-636-7763.

There are several advantages to an effective safety program which include: lower operating costs, lower workman compensations, less work time lost, high employee morale, and less problems. No one can work safely without knowing what precautions to take to insure personal safety. Operators must know what equipment to wear, which job practices are safe and which are not, and must be aware of what hazards are possible in the work area. A regular schedule of Preventive Maintenance on your equipment is the best protection against unpleasant surprises that slow production and sometimes result in injuries. Here are a few suggested safety tips.

1. The first step before any maintenance or inspection takes place should be to stop the engine and disconnect the battery terminals.
2. Wear proper eye and ear protection and heavy duty work gloves at all times.
3. Practice good Preventive Maintenance.
4. Practice good housekeeping.
5. Allow the **Hurricane** to come to a complete stop, turn off engine, and chock rear wheels before performing any maintenance procedures.
6. Replace worn parts when necessary.
7. Do not reach into blade or control arm areas while machine is in operation.
8. Do not attempt to open any access door until the machine has come to a complete stop and the engine and propane is turned off.
9. Be sure all electrical inspections or changes are done by a qualified electrician.
10. Loose surface coating can cause dangerous footing. Always be alert and careful.
11. After replacing parts be sure all tools used are removed from the machine. Be sure all bolts and nuts are tightened. The loose connection of a rotating part could cause the part to fly off with explosive force, causing serious damage to the equipment and possible injury to the operator.
12. Always lower blade to the ground before getting off the machine. Serious bodily injury may result if blade is not in the lowered position when not occupied.
13. Never allow unauthorized personnel or the general public into the work area.
14. The work area should be barricaded off to adequately keep all untrained persons out of the work site. If an unauthorized person enters the work area, stop the machine immediately and do not restart the machinery until they have left the work area.
15. Always allow a 200-foot buffer safety zone around all surface preparation activity.
16. Always run the **Hurricane** in a well-ventilated area, with an approved OSHA air-monitoring system in place at all times.
17. Read and obey all safety labels placed on the machinery at all times. If safety labels have been destroyed or removed call 1-888-636-7763 for free replacement prior to operating the machinery.
18. The **Hurricane** is **not a toy.** All operators must be over 18 years of age and must have read and reviewed the safety and procedures manual before operating the machinery.
19. The **Hurricane** is designed for surface preparation *ONLY*. It is not intended for towing, pushing or any other procedure not described in this manual.
20. Propane systems should be checked and documented twice yearly by a certified propane professional for leaks or damaged parts. If a propane leak is detected leave the machine immediately and seek assistance from propane professional. Do not use or restart machinery until it is determined safe.

21. Horseplay and or high speed cornering is not allowed with this machine and could cause rollover resulting in injury or death.
22. No smoking or open flame is allowed while machinery is running or within 50 feet of the machine.
23. Operator must be sober and not under the influence of drugs or medication and under full control of all bodily senses while operating this or any machinery.
24. When transporting the **Hurricane**, it is recommended to use a low bed tilt trailer. This procedure insures the wheels do not leave a stable surface.
25. All **Hurricane** operators should receive safety training before performing any functions with the machine. OEM Products offers a free 8- hour safety, maintenance and orientation seminar at its facility in Oklahoma City, OK. New owners and operators are advised to call 1-888-636-7763 for an appointment.

SECTION IV

Instruments and Controls

View # 1

Top view of Hurricane machine

View # 2

Left side view of Hurricane machine

View #3

Right side view of Hurricane machine

View #4

Front view of Hurricane machine

View #1 Top View



VIEW #2
LEFT SIDE DETAIL



VIEW #3
RIGHT SIDE DETAIL



SECTION V
Hurricane
START-UP AND BREAK-IN

The **Hurricane** has been safety tested and run at our factory prior to shipping. All fluid levels have been topped off; however, no propane has been added to the tanks for safety shipment purposes. Before running the **Hurricane** please check the following items that may have shifted or changed during shipping.

1. Raise engine covers and check oil level.
2. Check air cleaner filter element for snug fit.
3. All battery cable connections are snug.
4. Inspect for major hydraulic oil leaks. Snug hydraulic fittings using two wrenches. Use caution not to over tighten.
5. Fill propane tank.
6. Mount propane bottle in brackets, be sure bracket alignment pin corresponds with alignment slot on bottle.
7. Attach propane hose to liquid side of bottle by attaching to the handle valve. Snug fit the female connector attached to hose and slowly turn valve on. You should hear gas briefly enter the propane hose. Immediately check for propane leaks with soapy water solution. If leak persists after retightening the knurled female connector: **STOP**, turn off the bottle at valve and seek assistance from certified propane professional. Serious damage and or an explosion could occur.
8. Check lug bolts for tightness, torque 85-100 lbs.
9. Return all engine guards to proper position.
10. You are now ready to start the engine.
11. Crank the engine by turning the key in the on position. The engine will crank for 3 to 5 seconds while the propane enter the carburetor. If the engine does not start, turn the key off, wait 1 minute and try again. If again unsuccessful, check propane valve to be sure it is open. If still unsuccessful turn off propane valve and seek assistance or cal1-888-636-7763l.
12. Once the engine is warming and running, and the operator is safely in the seat, the machine can be driven.

Please turn to Section VI for Machinery Operation.

NEW MACHINE BREAK-IN

Since the Hurricane is a very low maintenance and user-friendly machine, the only break-in is for the Kohler engine. Please refer to the owners manual, included is the manual and the maintenance schedule found inside the air cleaner plastic cover supplied
by Kohler.

SECTION VI
MACHINERY OPERATION

Before reading the machinery operation section, new operators should familiarize themselves with the 3 diagrams depicting the TOP, LEFT, and RIGHT views of machine. These drawings show the activation of all moving parts of the Hurricane.

1. To move the machine: Using the right hand, slowly move the shifter lever in the desired direction. Forward and left moves the machine to the left, backward and Right reverses the machine to the right. It is just that simple to drive. Speed is controlled by amount of movement on the joy stick and also by moving travel Speed lever.
2. The left joystick lever is used to position the blade to the surface. Moving the lever forward and backward moves the blade up and down. Left and right movement changes the blade pitch.

3. Throttle control is on the left side of the seat, taking the unit from idle to 3400 RPM. The most optimum speed is 2600 to 3200 RPM. To change RPM of engine turn throttle knob clockwise to lower RPM and counterclockwise to raise RPM.

4. A cooling fan will run behind the seat when engine is running to keep hydraulic oil cool.

5. Hydraulic reservoir is accessed by removing right cowling and removing fill cap.

6. To change scraping blades: Stop engine. Loosen the set bolt at the rear of the Blade holder block using a ¾" open-end wrench. Slide the dull blade out and Insert a new blade up against the shim stop. Retighten the set bolt and raise the control arms to remove wooden block. Lower control arms and resume scraping.
   The large 1 1'8" blade holder bolt should not need to be more that hand tight.
   With a little practice you should be able to change blades in 15 seconds. Dull blades can be resharpened and reused many times.

SEE DRAWING OF BLADE CHANGE PROCEDURE

3. Operators should lower the blade by pressing the left hand lever forward each time they get off the machine. This safety practice eliminates possible bodily injury from lowering the blade by unauthorized operators.

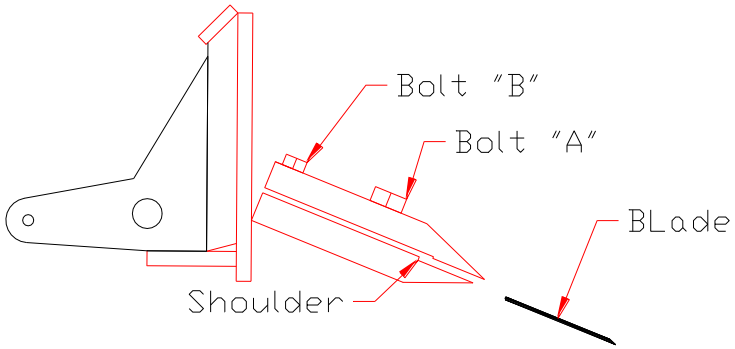
7. The transport caster should not be in contact with the floor while scraping. It will lift off the floor when blade is lowered. Caster contact with the floor while scraping will negatively affect scraper productivity and steering.

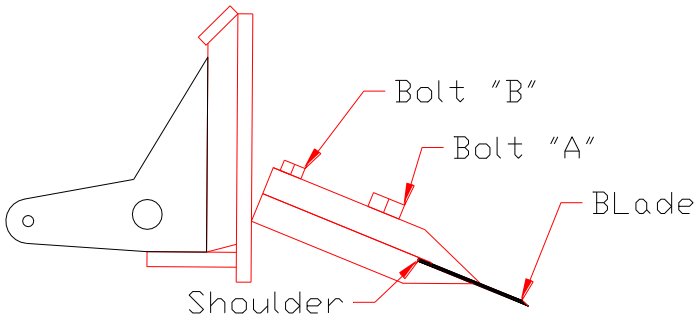
4. Do not transport machine with front of machine off the surface of floor higher than 1/2" or irreparable damage to lift cylinder will result.

See illustration of correct scraping procedures.

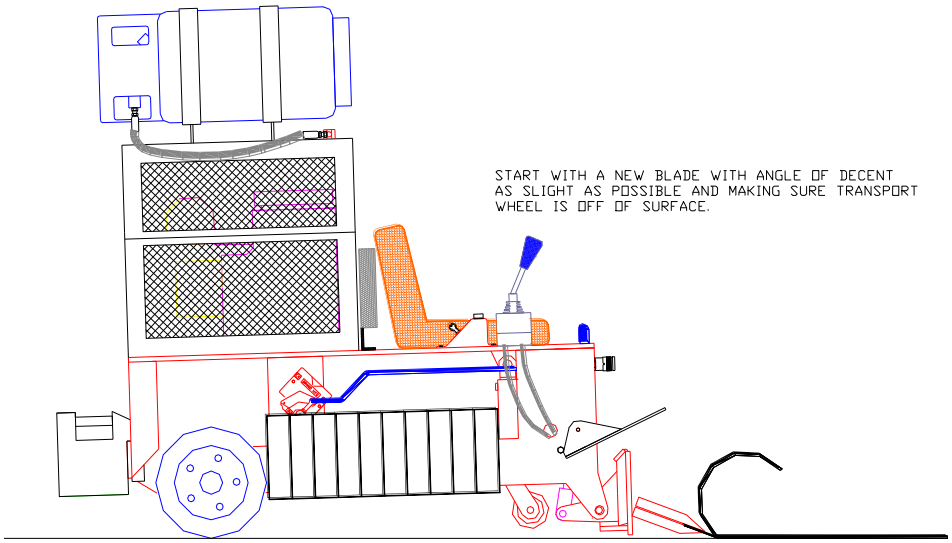
BLADE INSTALLATION

Loosen bolt "A" until blade will fit into jaws
Place blade into Jaws until against shoulder
Hand tighten bolt "A"
Wrench tighten bolt "B"

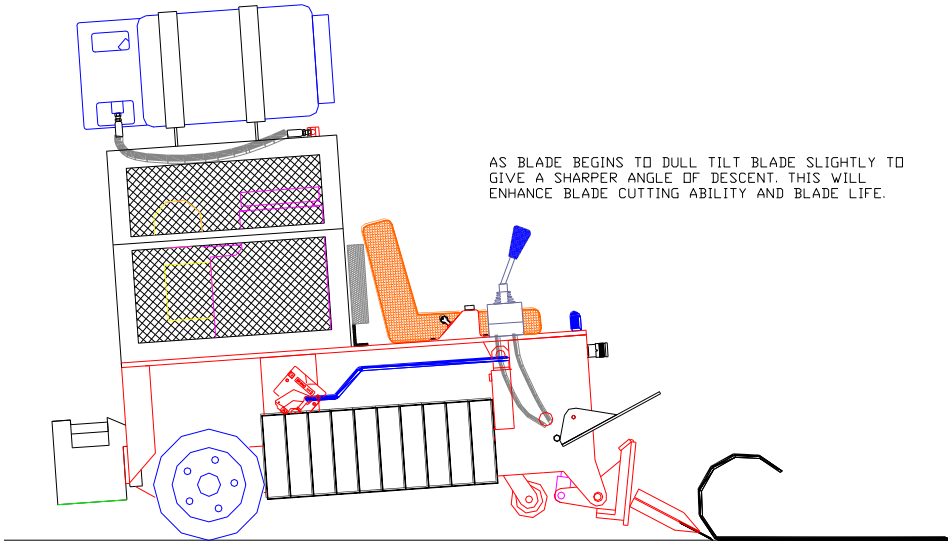




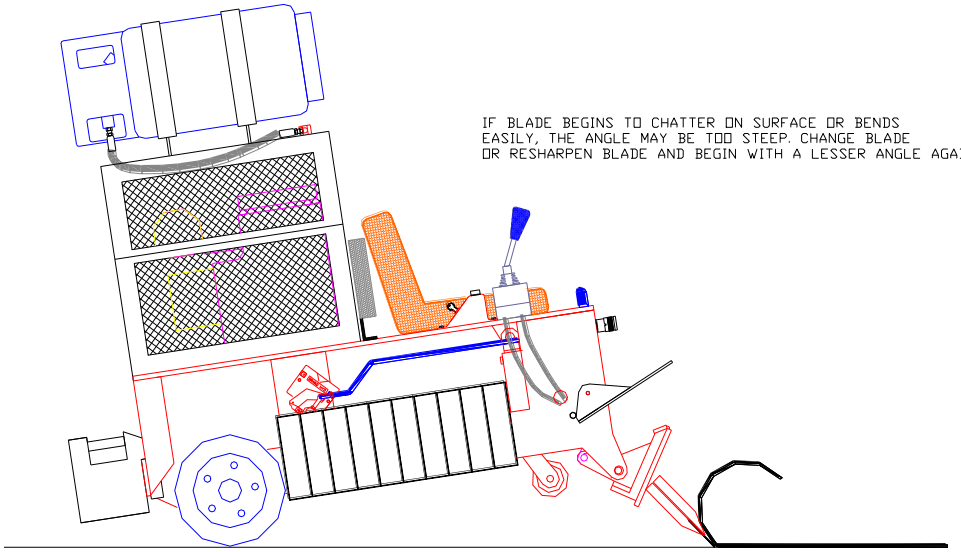
BLADE POSITIONING



START WITH A NEW BLADE WITH ANGLE OF DECENT AS SLIGHT AS POSSIBLE AND MAKING SURE TRANSPORT WHEEL IS OFF OF SURFACE.



AS BLADE BEGINS TO DULL TILT BLADE SLIGHTLY TO GIVE A SHARPER ANGLE OF DESCENT. THIS WILL ENHANCE BLADE CUTTING ABILITY AND BLADE LIFE.



IF BLADE BEGINS TO CHATTER ON SURFACE OR BENDS EASILY, THE ANGLE MAY BE TOO STEEP. CHANGE BLADE OR RESHARPEN BLADE AND BEGIN WITH A LESSER ANGLE AGAIN.

SECTION VII

Preventative Maintenance

FOLLOW KOHLER SUGGESTED SCHEDULE FOR ENGINE MAINTAINANCE

1. DAILY MAINTENANCE

- CHECK HYDRAULIC OIL
- INSPECT FOR HYDRAULIC OIL LEAKS
- INSPECT FOR PROPANE SYSTEM LEAKS
- SERVICE ENGINE AIR CLEANER
- RETORQUE WHEEL LUG BOLTS

1. 100 HR MAINTENANCE

- GREASE CASTER BEARINGS
- INSPECT ALL BOLTS AND NUTS AND TIGHTEN IF NEEDED

2. 400 HR MAINTAINANCE

- CHANGE HYDRAULIC OIL WITH: FULL SYNTHETIC 15W-50 OR 15W-40 MOTOR OIL
- CHANGE HYDRAULIC OIL FILTER

SECTION VIII

ENGINE COMPONENTS LIST

DESCRIPTION	QTY	PART NUMBER
ENGINE – Kohler Propane EFI	1	HUE-002
THROTTLE LINKAGE ASSEMBY	1	HUE-005
FLYWHEEL FAN	1	HUE-006
ENGINE MOUNT BOLTS	4	HUE-009
ENGINE AIR CLEANER	1	HUE-010
ENGINE OIL FILTER	1	EN-012
ENGINE SPARK PLUGS	2	HUE-013
OIL DRAIN HOSE ASSEMBLY	1	HUE-014
EXHAUST PURIFIER	1	HUE-015
IGNITION SWITCH	1	HUE-016
IGNITION WIRING	1	HUE-017
ENGINE STARTER	1	HUE-021
EXHAUST MANIFOLD GASKET	2	HUE-022
IDLER PULLEY	1	HUE-023
PUMP DRIVE BELTS SET OF 3	1	HUE-024
IGNITION COIL	2	HUE-025

ENGINE SPACERS	4	HUE-028
DIODE KIT	1	HUE-027
COVER, AIR CLEANER (no knob)		HUE-029
LOAD BLOCK		HUE-030
PROPANE REGULATOR	1	HUE-031
TANK, PROPANE VAPOR	1	LIP-001
QD BUSHING 3/4”	1	HUE-038
WIRE HARNESS	1	HUE-039
HOSE, UPPER PROPANE		HUE-040
HOSE, LOWER PROPANE		HUE-041
BULKHEAD, PROPANE		HUE-042
MOUNT, PROPANE		HUE-043
QUICK COUPLER, PROPANE		HUE-044
RELIEF VALVE, ¼” HYDROSTATIC		HUE-045
MUFFLER BRACKET	1	HUE-047
HEAD GASKET	1	HUE-048
KNOB KIT FOR AIR CLEANER	1	HUE-049
CABLE, BATTERY POSITIVE	1	HUE-050
CABLE, BATTERY NEGATIVE	1	HUE-051
O-RING, VALVE COVER	1	HUE-052
BLOWER HOUSING CLEANOUT COVER		HUE-053
MOUNT, THROTTLE CABLE TO ENGINE		HUE-054
FIRE SLEEVE, THROTTLE CABLE		HUE-055
HEAT SHIELD, THROTTLE CABLE		HUE-056
HURRICANE TENSIONING SYSTEM		HUE-057
GAUGE, OIL PRESSURE		HUE-063

SECTION IX
FRAME AND COWLINGS

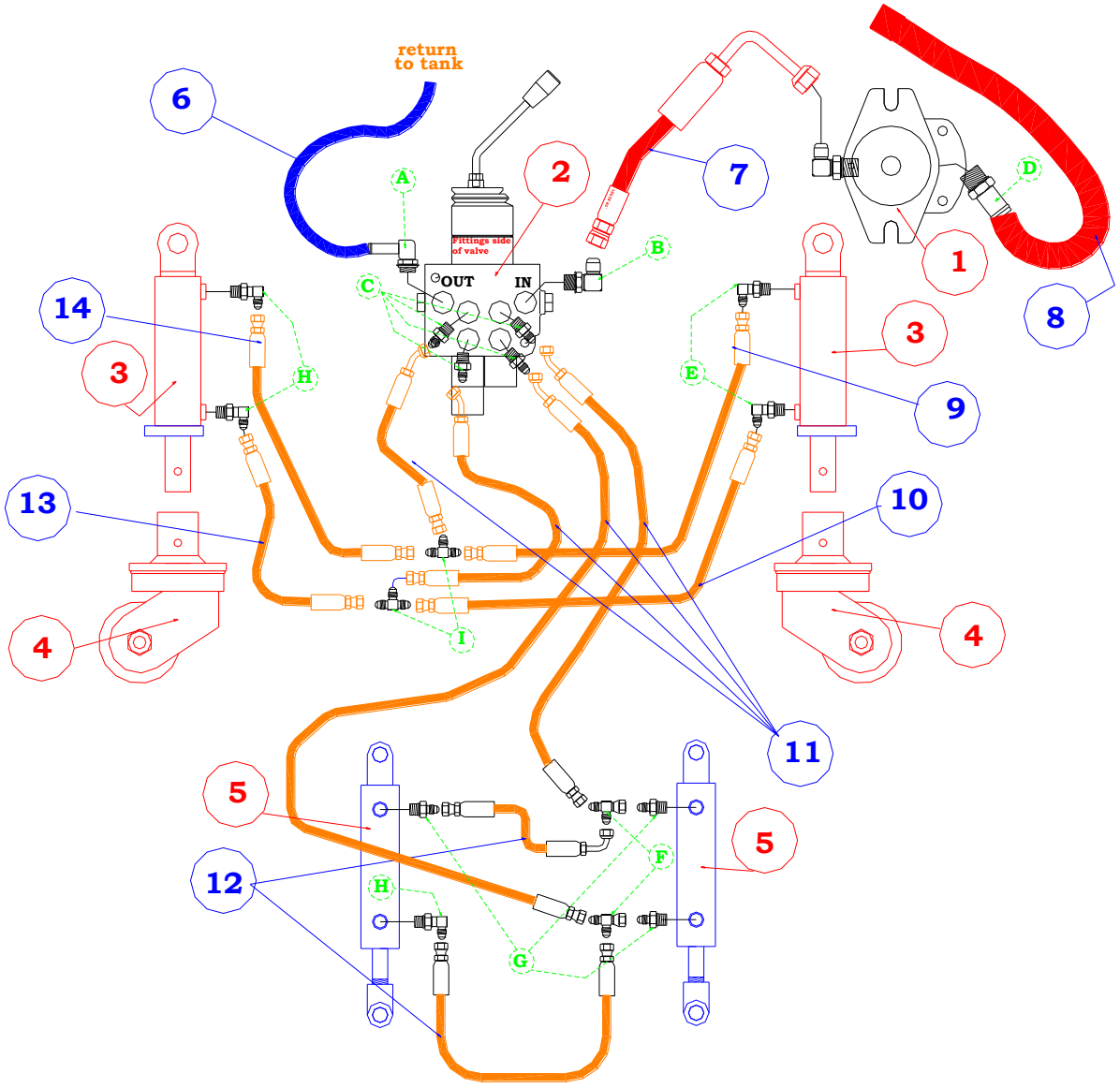
KEY	DESCRIPTION	QTY	PART NUMBER
1.	TIRES (NON-MARKING)	2	HFC-001
2.	TIRES, BLACK	2	HFC-001B
3.	LUG BOLTS	10	HFC-002
4.	WHEEL HUB	2	HFC-003
5.	WEIGHTS	28	HFC-004
6.	CASTER (COMPLETE WITH SLEEVE WELDED ON)	2	HFC-005
7.	24” BLADE BAR ASSEMBLY	1	HFC-006
8.	PIN, LIFT CYLINDER W/COTTER PIN	2	HFC-007
9.	PIN, TILT CYLINDER W/ COTTER PIN	4	HFC-008
10.	BLADE BAR PIVOT PINS	2	HFC-009
11.	SEAT MOUNT PLATE	1	HFC-015
12.	SEAT PLATE HINGE	1	HFC-016
13.	ATTACHMENT BAR WITH PIVOT SLEEVE	1	HFC-019
14.	D-RING	2	HFC-020
15.	FRONT COWLING	1	HFC-027

16.	REAR COWLING	1	HFC-028
17.	BACK COWLING COVER	1	HFC-030
18.	LEFT COWLING	1	HFC-031
19.	RIGHT COWLING	1	HFC-032
20.	TOP COWLING	1	HFC-033
21.	BLADE BAR TOP (24")	1	HFC-034
22.	HURRICANE FOOT STEP	1	HFC-035
23.	8" BLADE BAR ASSY	1	HFC-036
24.	8" BLADE BAR TOP ONLY	1	HFC-037
25.	WHEEL ONLY, CASTER WITH BEARINGS	2	HFC-040
26.	OIL COOLER MOUNT	1	HFC-041
27.	IGNITION KEYS	1	HFC-042
28.	WHEEL MOTOR AXLE NUT	2	HFC-045
29.	SIDE COWLING LATCHES	4	HFC-048
30.	BATTERY	1	HFC-063
31.	TACHOMETER	1	HFC-070
32.	COWLING, LEFT INSTRUMENT PANEL	1	HFC-074
33.	COWLING, RIGHT INSTRUMENT PANEL	1	HFC-075

SECTION X

Hydraulic components parts list

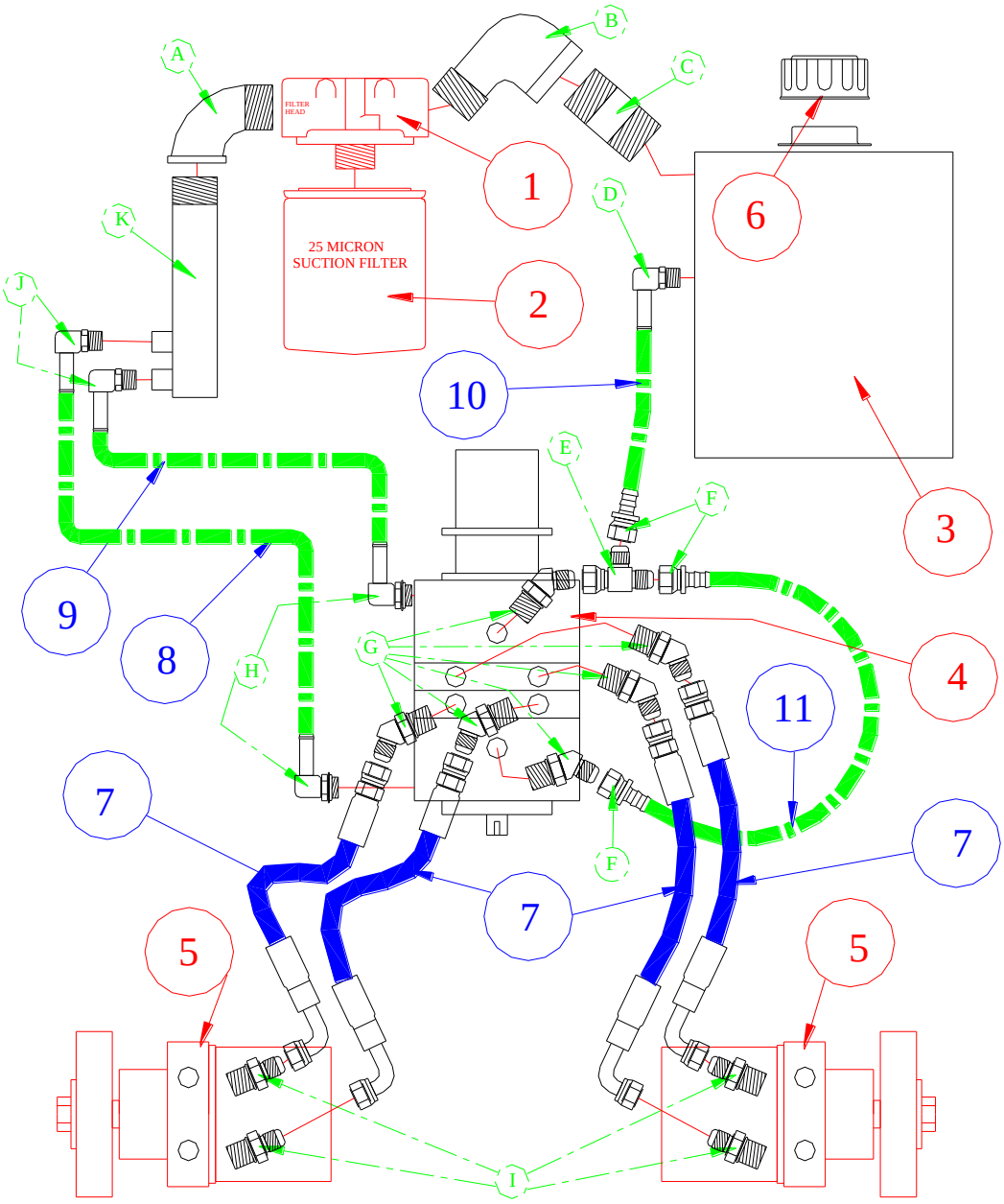
KEY	DESCRIPTION	QTY	PART NUMBER
1	GEAR PUMP	1	HUH-001
	HOSE KIT	1	HUH-005
2	JOYSTICK VALVE	1	HUH-042
3	LIFT CYLINDER	2	HUH-041
4	CASTER	2	HFC-005
5	TILT CYLINDER	2	HUH-010
6	RETURN HOSE	1	HUH-020
7	MP PRESSURE HOSE	1	HUH-002
8	SUCTION HOSE	1	HUH-021
9	RT UPPER LIFT CYLINDER HOSE	1	HUH-004
10	RT LOWER LIFT CYLINDER HOSE	1	HUH-003
11	LIFT CYLINDER SUPPLY HOSE	4	HUH-022
12	TILT CYLINDER CROSSOVER HOSE	2	HUH-023
13	LFT LOWER LIFT CYLINDER HOSE	1	HUH-003
14	LFT UPPER LIFT CYLINDER HOSE	1	HUH-004


return
to tank
6
2
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Fittings side
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SECTION X

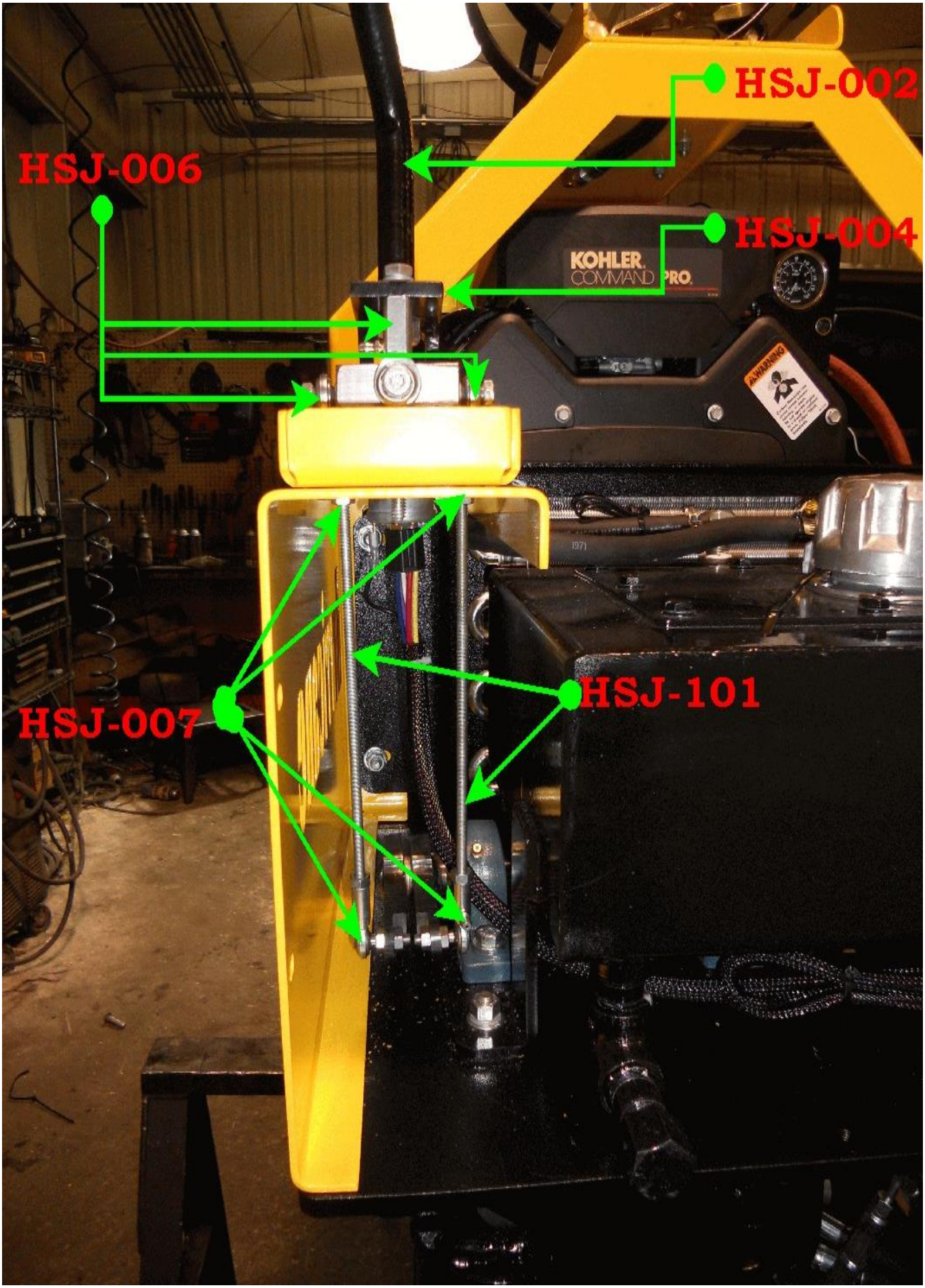
Hydrostat components parts list

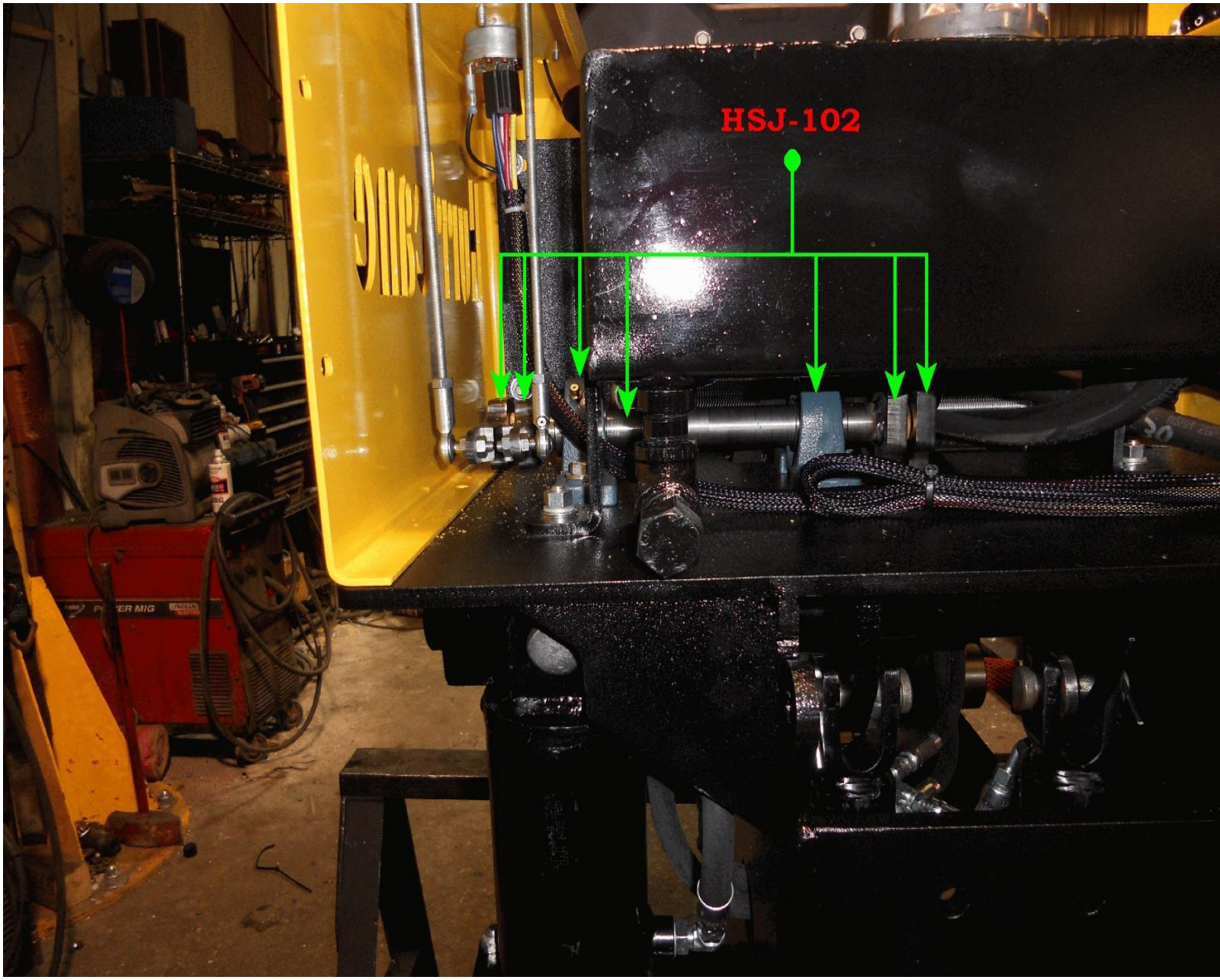
KEY	DESCRIPTION	QTY	PART NUMBER
1	FILTER HEAD	1	HUH-043B
2	FILTER ELEMENT	1	HUH-044B
3	TANK	1	HUH-045
4	HYDROSTAT ASSEMBLY	1	HUH-046HG
5	WHEEL MOTOR	2	HUH-047
6	FILLER CAP	1	HUH-048
7	WHEEL MOTOR HOSE (RIGHT)	2	HUH16-003
7	WHEEL MOTOR HOSE (LEFT)	2	HUH16-004
8	½” PUSH LOC	1	HUH-050
9	½” PUSH LOC	1	HUH-050
10	½” PUSH LOC	1	HUH-050
11	½” PUSH LOC	1	HUH-050
	SHAFT, TG WHEEL MOTOR SHAFT		HUH-068
	O-RING SEAL – GEAR PUMP FACE		HUH-069
	SEAL KIT FOR LIFT CYLINDER	2	HUH-071
	PISTON FOR LIFT CYLINDER	2	HUH-076

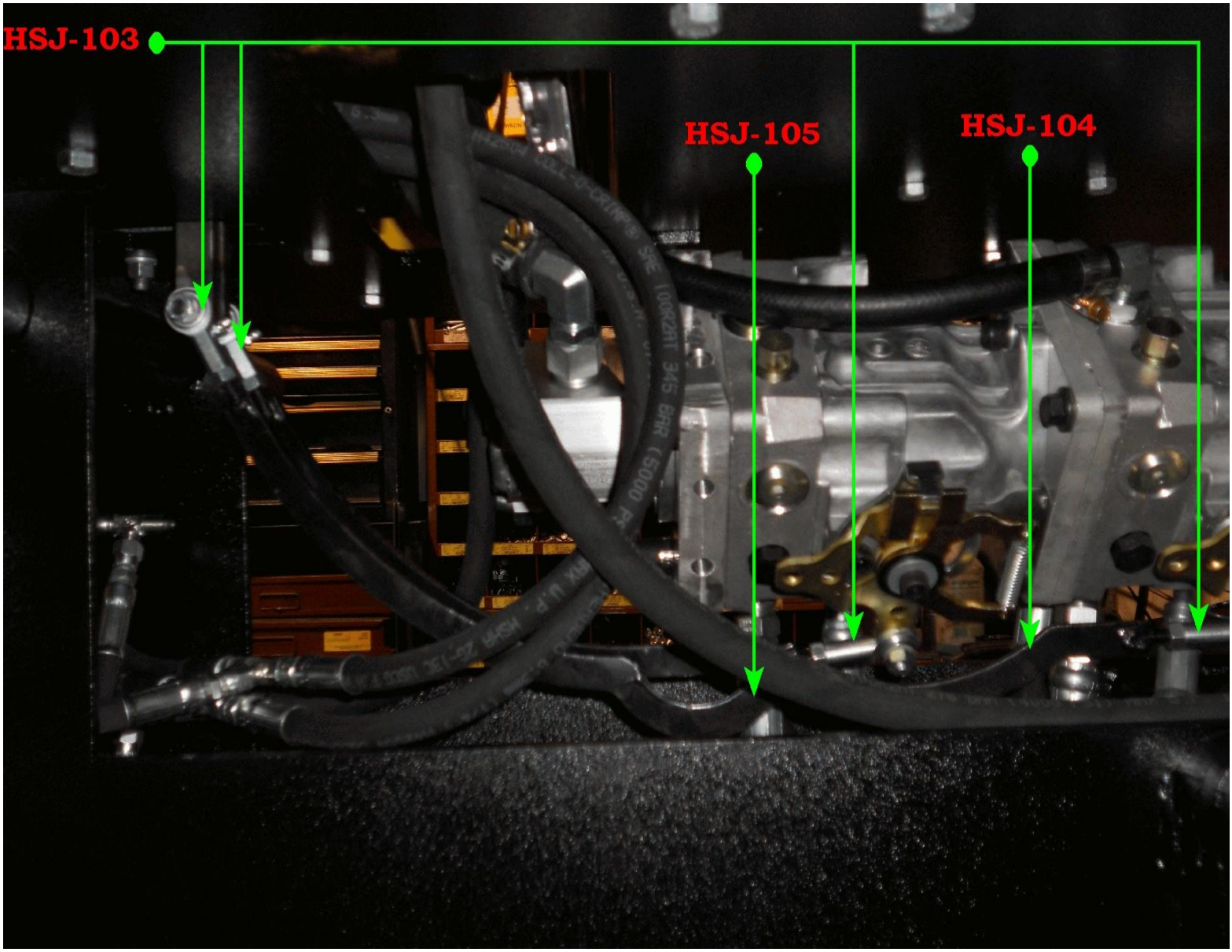

A
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10
11
FILTER HEAD
25 MICRON SUCTION FILTER
LEFT
RIGHT

SECTION XIII
STEERING JOYSTICK ASSEMBLY

KEY	DESCRIPTION	QTY	PART NUMBER
1.	BALL KNOB	1	HSJ-001
2.	HANDLE, SHIFTER	1	HSJ-002
3.	BOOT, JOYSTICK	1	HSJ-003
4.	FORK, SHIFTER	1	HSJ-004
5.	SHIFTER BLOCK	1	HSJ-005
6.	ROD END, ¼" MALE LEFT HAND W/STUD	2	HSJ-122
7.	ROD END, ¼" MALE RIGHT HAND W/STUD	2	HSJ-123
8.	TAPPED LINKAGE ROD 9"	2	HSJ-107


HSJ-002
HSJ-006
HSJ-004
KOHLER
COMMAND PRO
HSJ-101
HSJ-007


HSJ-102


HSJ-103
HSJ-105
HSJ-104