MPU-2425

Hydrostatic

OPERATIONS AND MAINTENANCE MANUAL

TABLE OF CONTENTS

MPU-2425

OPERATIONS

AND

MAINTENANCE MANUAL

_____

CUSTOMER

_____

SERIAL NUMBER

_____

DATE SHIPPED

SECTION I

GENERAL DESCRIPTION
MPU-2425

The MPU-2425 is operated by a propane-powered 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 does not allow the blade to lift or ride over well-adhered surface coating material, thus lifting the off the floor coating.

After layers of carpet or laminates are removed the machine can be connected to a grinder or slicer attachment to either clean up adhesives or remove stubborn coatings.

SECTION II

SPECIFICATIONS

Weight	**2100 lbs**
Removable weight	**1218 lbs**
Fuel capacity	**33 lb liquid propane**
Hydraulic fluid capacity	**8 gallons**
Auxiliary output	**12 gallons @ 2250 psi**
Travel speed	**240 ft per minute**
Engine	**25 HP Kohler Command**
Maximum engine RPM	**3450**
Minimum length	**53 1/2"**
Width	**24 1/2"**
Additional weight package	**400 lbs**

SAFETY

WARNING

CARBON MONOXIDE

can cause severe nausea, fainting or death.

Do not operate engine in closed or confined area without proper ventilation.

Before operating the MPU-2425 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 1-405-601-3739.

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 MPU-2425 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 when the machine is unoccupied by the operator. Serious bodily injury may result if arms are 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 MPU-2425 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 1-405-601-3739 for free replacement prior to operating the machinery.
18. The MPU-2425 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 MPU-2425 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 a 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 MPU-2425, it is recommended to use a low bed tilt trailer. This procedure insures the wheels do not leave a stable surface.
25. All MPU-2425 operators must 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 1-405-601-3739 for an appointment.

SECTION IV

Instruments and Controls

View # 1

Top view of MPU-2425 machine

View # 2

Left side view of MPU-2425 machine

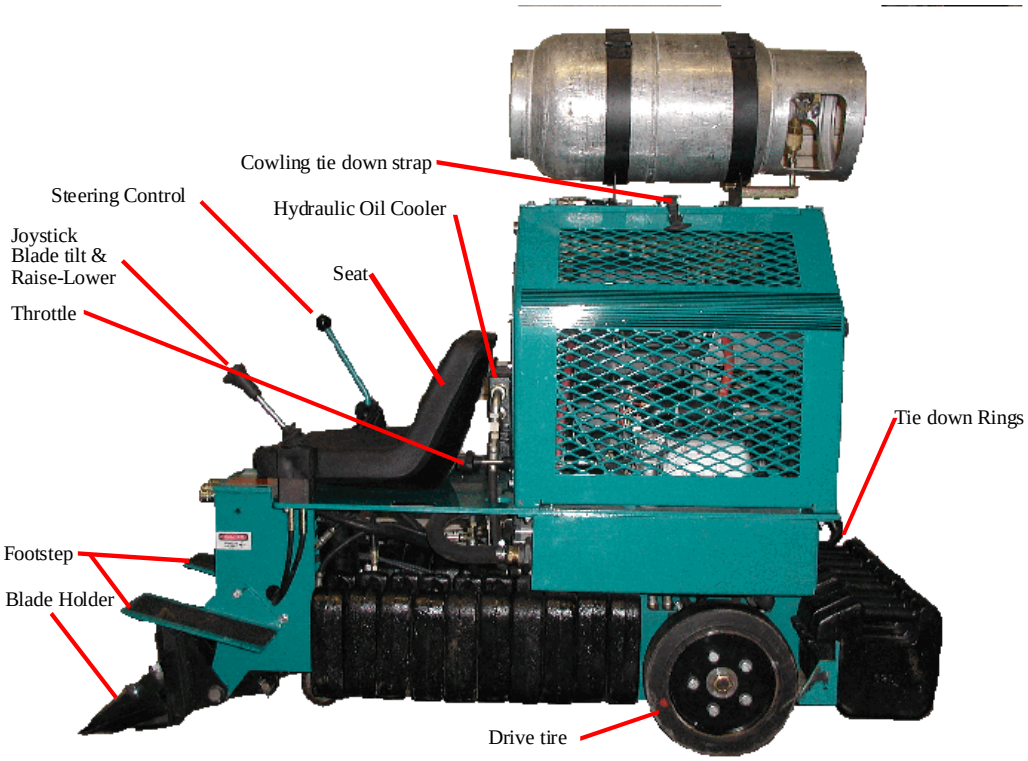
View #3

Right side view of MPU-2425 machine

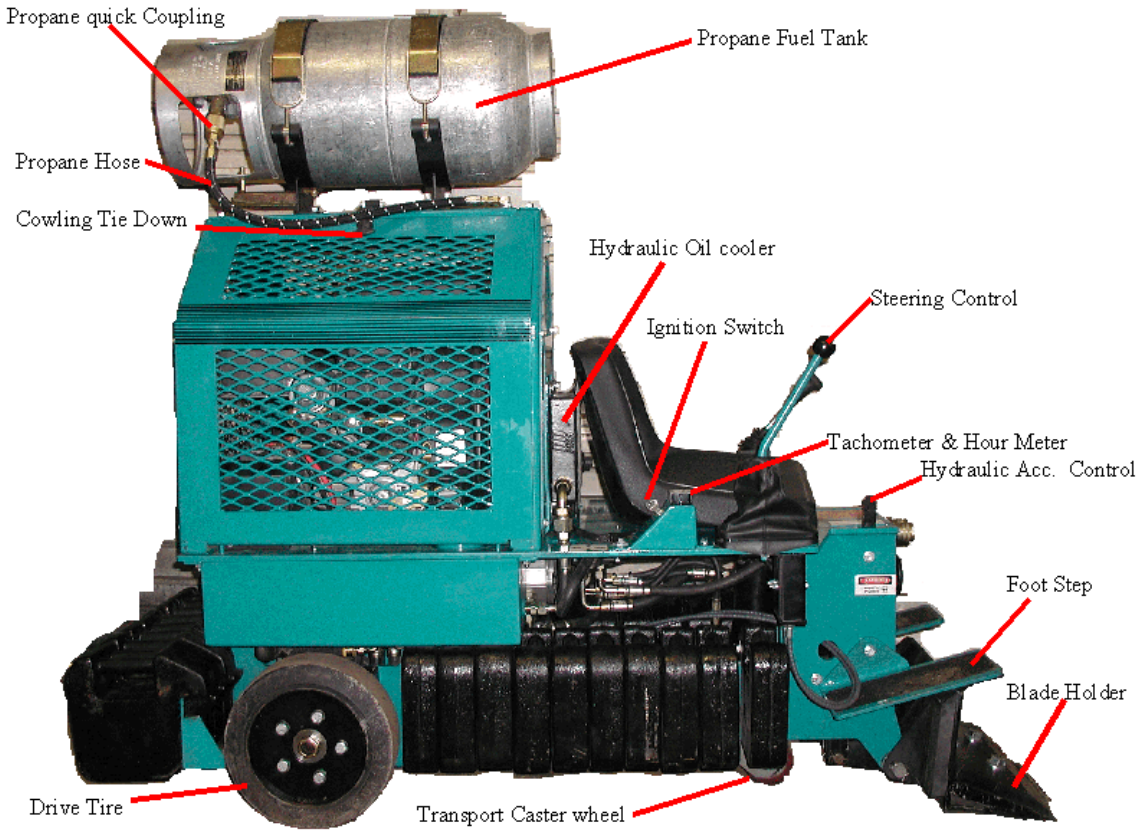
View #4

Front view of MPU-2425 machine

VIEW #2
LEFT SIDE DETAIL



VIEW #3
RIGHT SIDE DETAIL



SECTION V
MPU-2425
START-UP AND BREAK-IN

The MPU-2425 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 MPU-2425 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 call 1-405-601-3739.
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 V for Machinery Operation.

NEW MACHINE BREAK-IN

Since the MPU-2425 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 MPU-2425.

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.

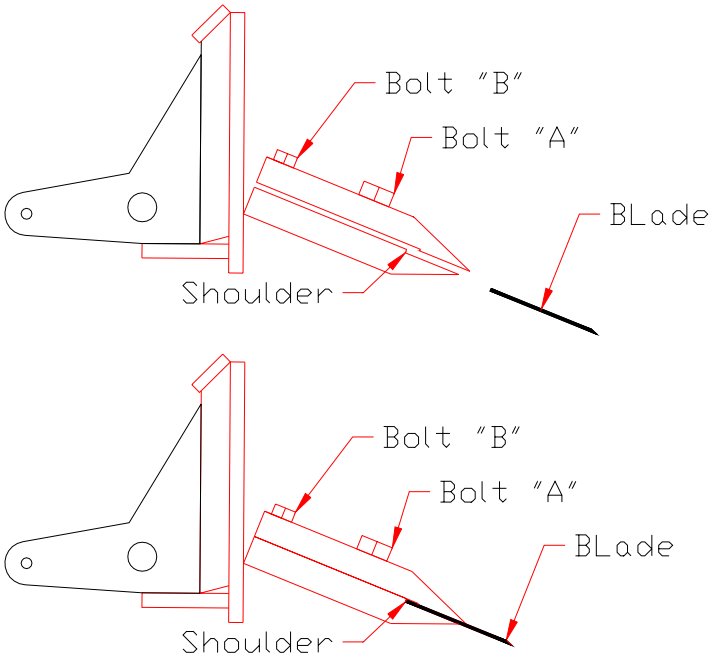
7. The transport caster should not be in contact with the floor while scraping. It will lift off the floor when blade is lowered. Caster contact with the floor while scraping will negatively affect scraper productivity and steering.

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.

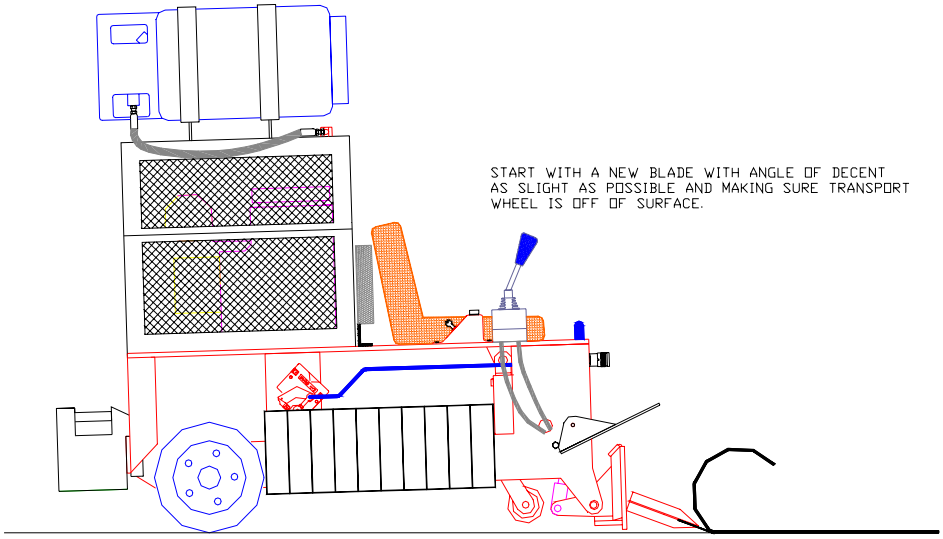
See illustration of correct scraping procedures.

BLADE INSTALLATION

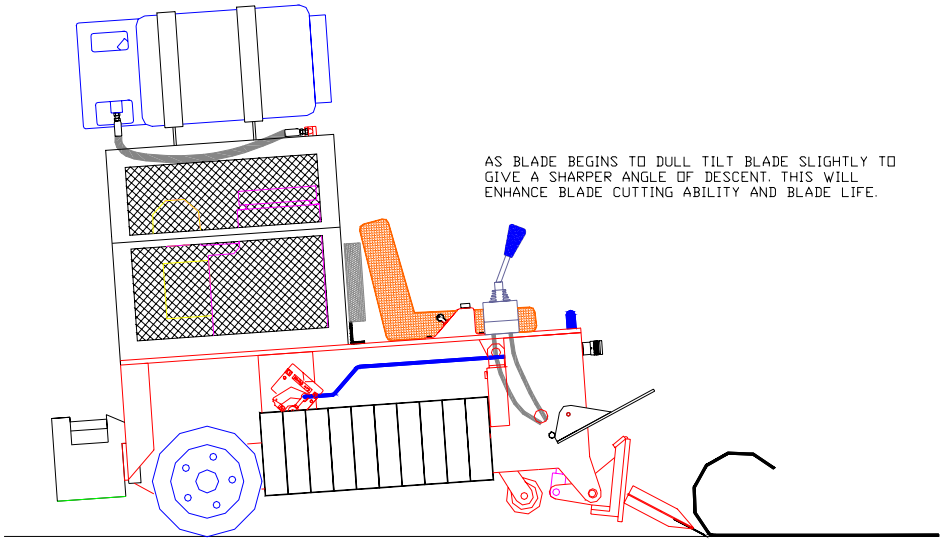
Loosen bolt "A" until blade will fit into jaws
Place blade into Jaws until against shoulder
Hand tighten bolt "A"
Wrench tighten bolt "B"



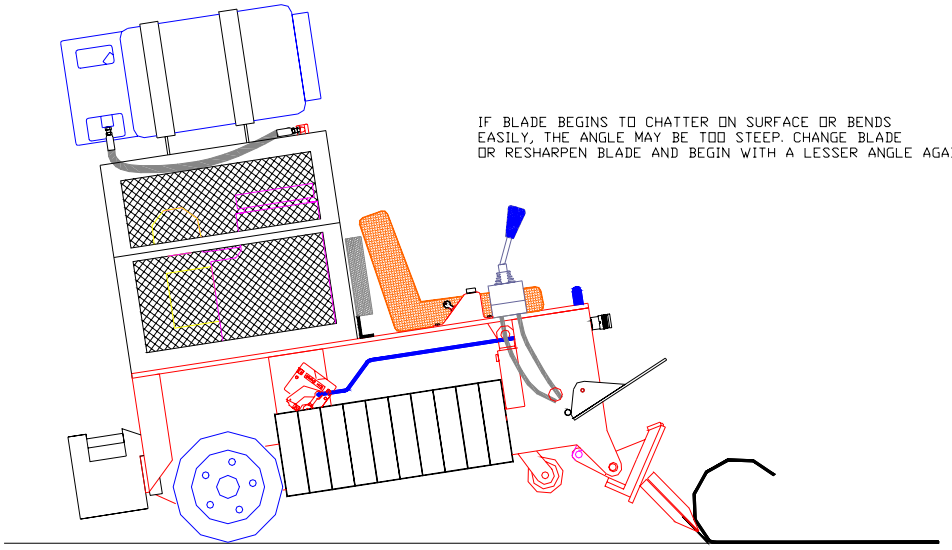
BLADE POSITIONING



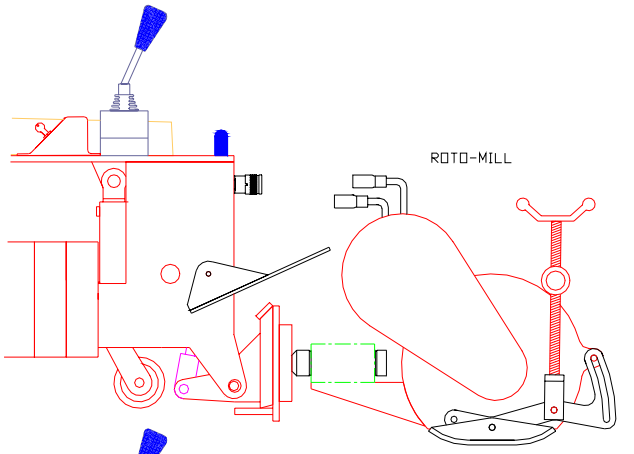
START WITH A NEW BLADE WITH ANGLE OF DECENT AS SLIGHT AS POSSIBLE AND MAKING SURE TRANSPORT WHEEL IS OFF OF SURFACE.

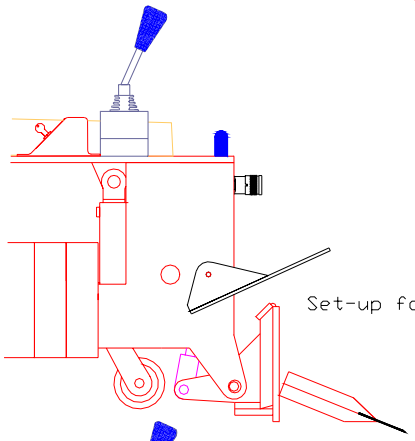


AS BLADE BEGINS TO DULL TILT BLADE SLIGHTLY TO GIVE A SHARPER ANGLE OF DESCENT. THIS WILL ENHANCE BLADE CUTTING ABILITY AND BLADE LIFE.

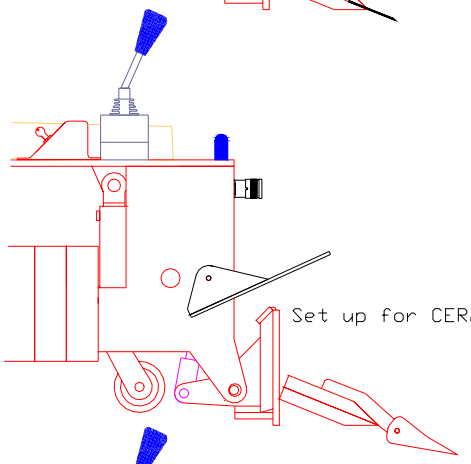


IF BLADE BEGINS TO CHATTER ON SURFACE OR BENDS EASILY, THE ANGLE MAY BE TOO STEEP. CHANGE BLADE OR RESHARPEN BLADE AND BEGIN WITH A LESSER ANGLE AGAIN.

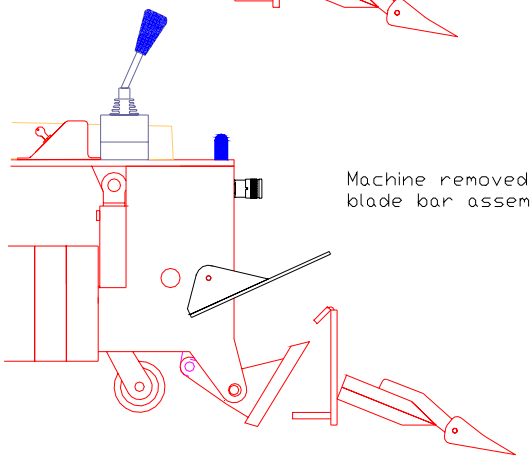




Set-up for TILE and CARPET



Set up for CERAMIC TILE



Machine removed from
blade bar assembly

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**

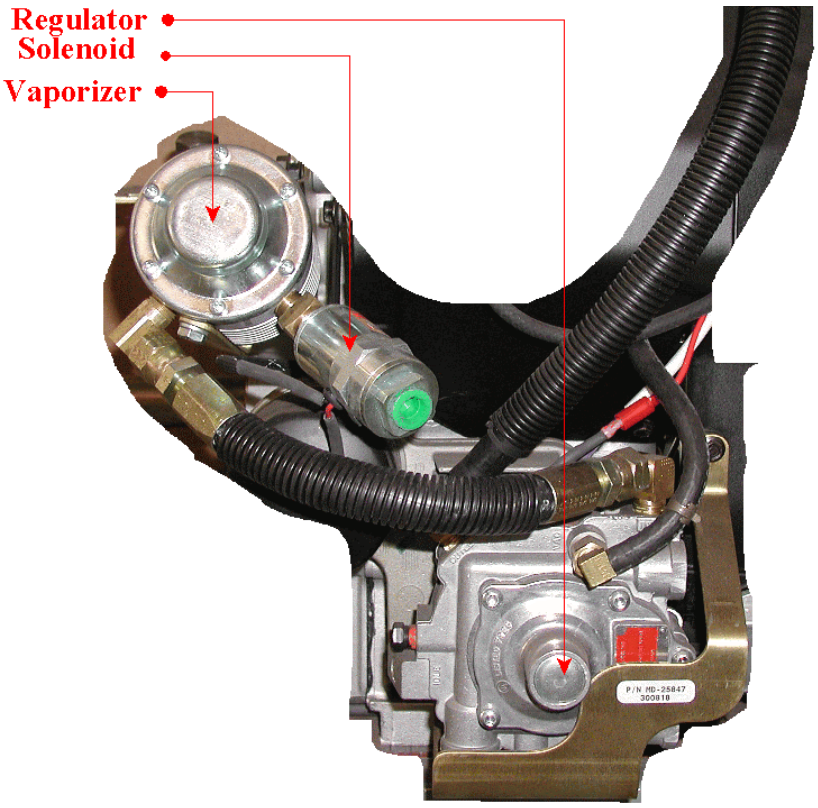
2. 400 HR MAINTAINANCE

- **CHANGE HYDRAULIC OIL WITH:**
  MOBILE DTE –15M
  MOBILE 424 TRACTOR OIL
  SUNOCO 2105
  USE APPROXIMATLY 8 GAL
- **CHANGE HYDRAULIC OIL FILTER**

SECTION VIII

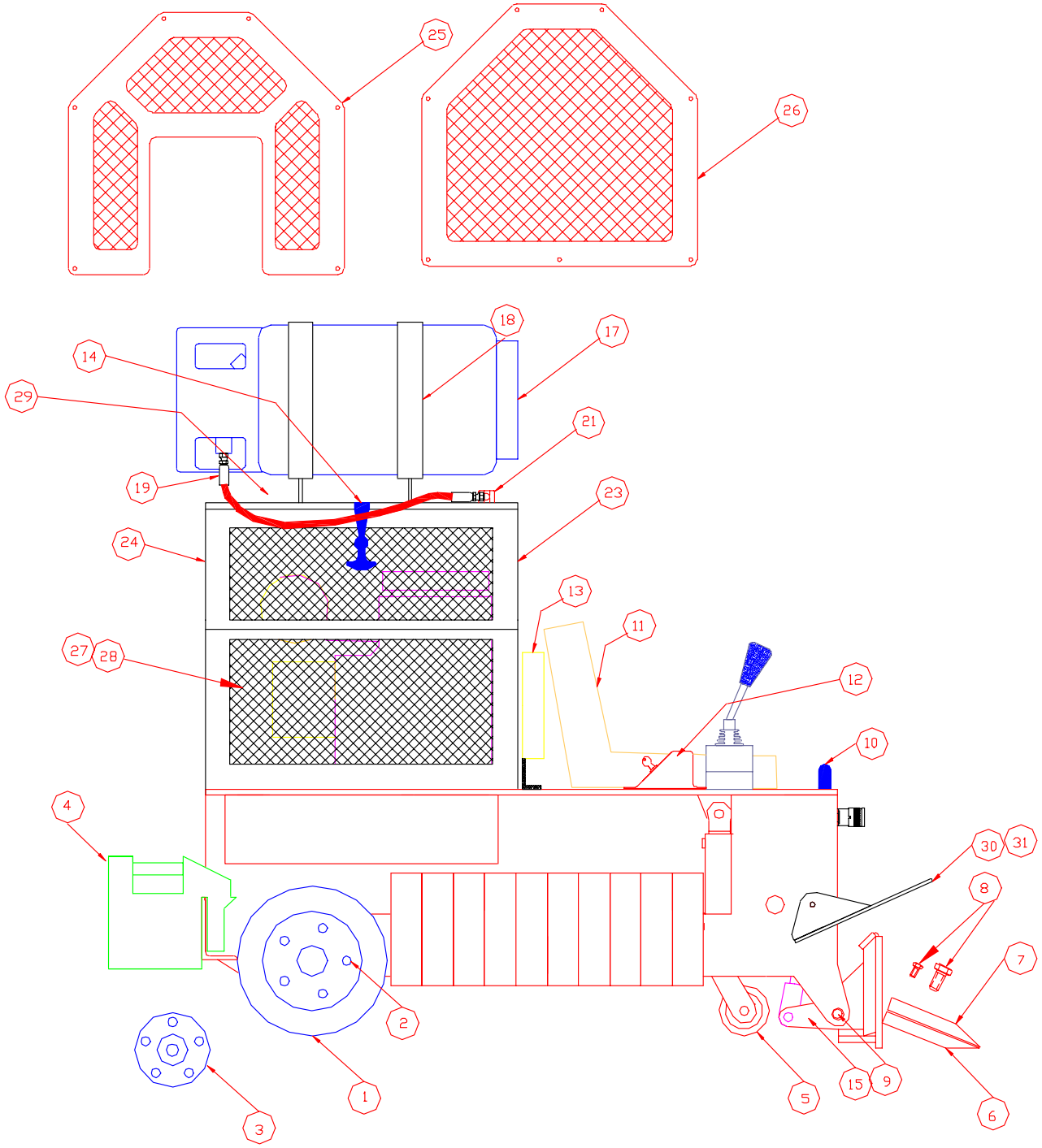
ENGINE COMPONENTS LIST

KEY	DESCRIPTION	QTY	PART NUMBER
1	ENGINE	1	EN-001
2	PTO SHAFT	1	EN-002
3	FAN BACK PLATE	1	EN-003
4	FAN	1	EN-004
5	FAN FRONT PLATE	1	EN-005
6	HEX BOLT 3/8-16 1”	1	EN-006
7	FLAT WASHER	1	EN-007
8	LOCK WASHER	1	EN-008
9	ENGINE MOUNT BOLTS	4	EN-009
10	ENGINE AIR CLEANER	1	EN-010
11	ENGINE AIR PRE-CLEANER	1	EN-011
12	ENGINE OIL FILTER	1	EN-012
13	ENGINE SPARK PLUGS	2	EN-013
14	OIL DRAIN HOSE ASSEMBLY	1	EN-014
15	EXHAUST PURIFIER	1	EN-015
16	IGNITION SWITCH	1	EN-016
17	IGNITION WIRING	1	EN-017
18	ENGINE SPEC# 68506 AIR CLEANER	1	EN-018
19	ENGINE SPEC# 68506 PRE-CLEANER	1	EN-019
20	ENGINE SPEC# 68506 AIR CLEANER COMPLETE ASSEMBLY	1	EN-020
21	ENGINE STARTER	1	EN-021
22	EXHAUST MANIFOLD GASKET	2	EN-022
23	IDLER PULLEY	1	EN-023
24	3 PUMP DRIVE BELTS	1	EN-024
25	IGNITION COIL	2	EN-025
26	ENGINE SHIM	1	EN-028
27	DIODE KIT	1	EN-029
28	PROPANE REGULATOR (50E)	1	EN-030
29	PROPANE REGULATOR (T-60)	1	EN-031
30	PROPANE VAPORIZER	1	EN-032
31	PROPANE SOLENOID	1	EN-033
32			


Regulator
Solenoid
Vaporizer

SECTION IX
FRAME AND COWLINGS

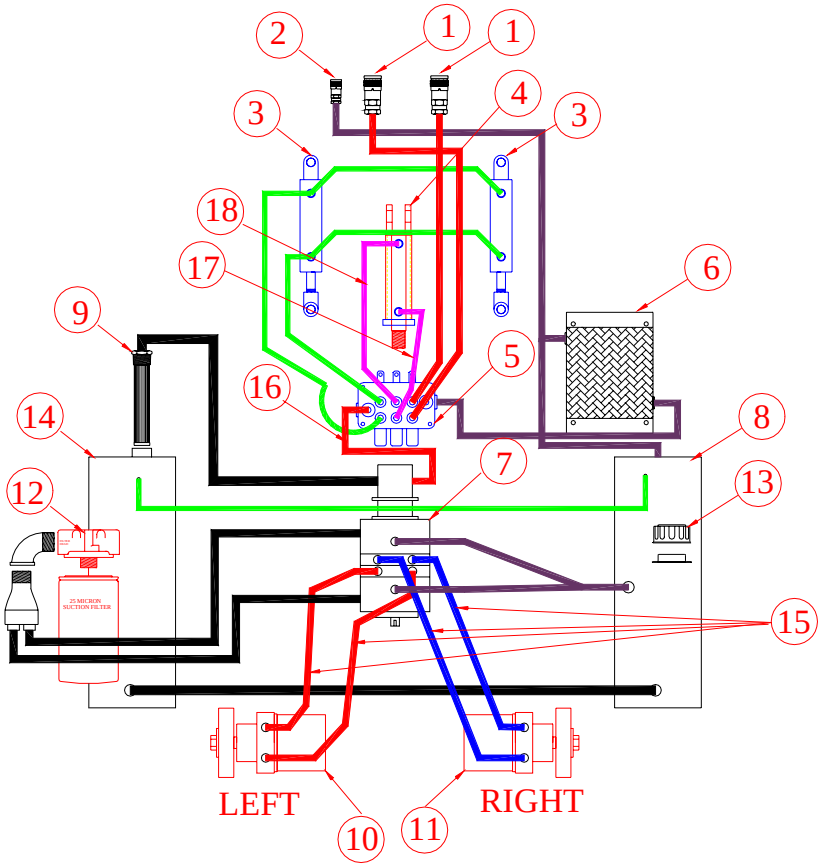
KEY	DESCRIPTION	QTY	PART NUMBER
1.	TIRES	2	FC-001
2.	LUG BOLTS	10	FC-002
3.	WHEEL HUB	2	FC-003
4.	WEIGHTS	29	FC-004
5.	CASTER	1	FC-005
6.	BLADE BAR ASSY	1	FC-006
7.	BLADE BAR TOP	1	FC-007
8.	BLADE BAR BOLTS	2	FC-008
9.	BLADE BAR PINS	2	FC-009
10.	CUTTER SPEED HANDLE	1	FC-010
11.	SEAT	1	FC-015
12.	IGNITION SWITCH MOUNT	1	FC-016
13.	OIL COOLER	1	FC-011
14.	RUBBER TIE DOWN	2	FC-018
15.	ATTACHMENT BAR	1	FC-019
16.	D-RING	1	FC-020
17.	PROPANE TANK	1	FC-021
18.	PROPANE TANK MOUNT	1	FC-022
19.	PROPANE HOSE UPPER	1	FC-023
20.	PROPANE HOSE LOWER	1	FC-024
21.	PROPANE BULKHEAD	1	FC-025
22.	HYDROSTATIC VALVE	1	FC-026
23.	FRONT COWL	1	FC-027
24.	BACK COWL	1	FC-028
25.	FRONT COWL COVER	1	FC-029
26.	BACK COWL COVER	1	FC-030
27.	LEFT COWL	1	FC-031
28.	RIGHT COWL	1	FC-032
29.	TOP COWL	1	FC-033
30.	LEFT FOOT STEP	1	FC-034
31.	RIGHT FOOT STEP	1	FC-035
32.	8” BLADE BAR ASSY	1	FC-036
33.	8” BLADE BAR TOP ONLY	1	FC-037
34.	GENERAL PURPOSE TIRE	2	FC-038
35.	THROTTLE CABLE	1	FC-039
36.	CASTER WHEEL ONLY	1	FC-040
37.	OIL COOLER MOUNT	1	FC-041
38.	IGNITION KEYS	1	FC-042
39.	24” BLADE BAR ASSY	1	FC-043
40.	WHEEL MOTOR NUT	2	FC-045
41.	WHEEL MOTOR KEY	2	FC-046
42.	REAR TIE DOWN RING	2	FC-047
43.	SIDE COWLING LATCHES	4	FC-048


25
26
18
17
14
29
21
19
23
24
13
11
27
28
12
10
4
30
31
8
7
2
1
3
5
15
9
6

SECTION X

Hydraulic components parts list

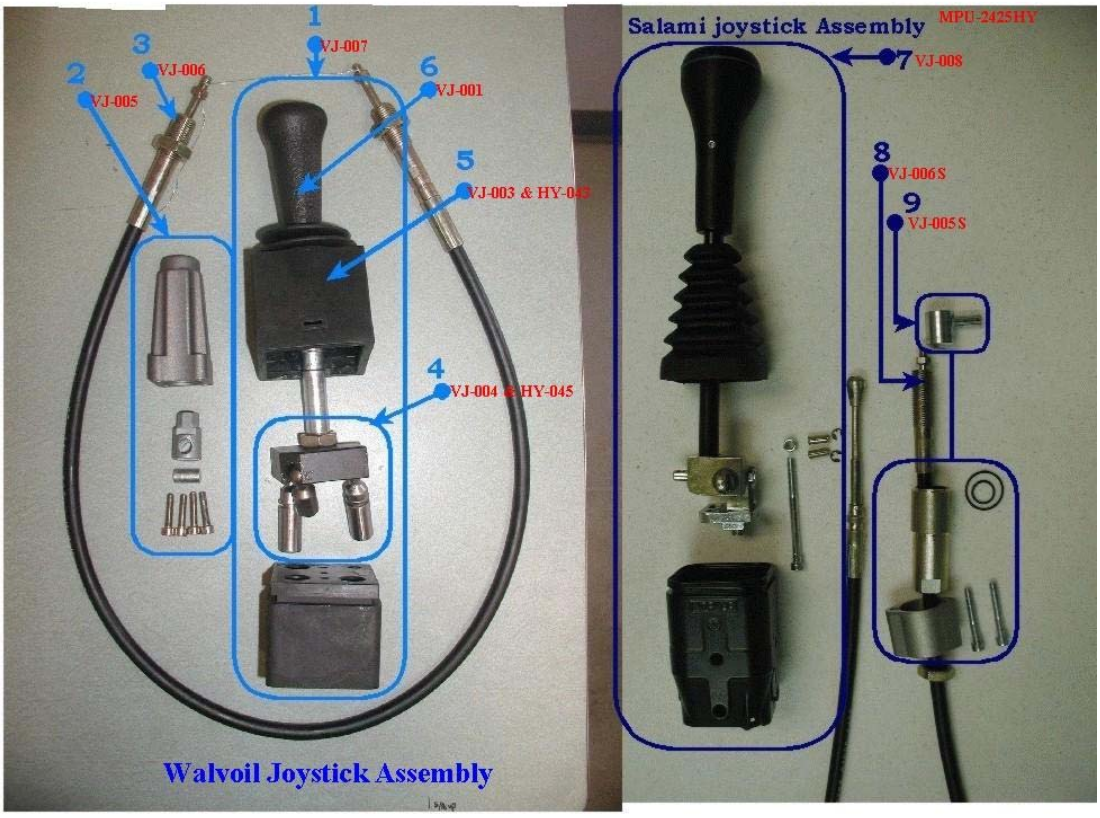
KEY	DESCRIPTION	QTY	PART NUMBER
1	QUICK COUPLING	2	HY-008
2	¼” QUICK COUPLING	1	HY-040
3	TILT CYLINDER	2	HY-010
4	LIFT CYLINDER	1	HY-041
5	3 SPOOL VALVE	1	HY-042
6	HYDRAULIC OIL COOLER	1	HY-043
7	HYDROSTAT ASSEMBLY	1	HY-044
8	RIGHT TANK	1	HY-045
9	LEFT TANK	1	HY-046
10	LEFT DRIVE MOTOR	1	HY-003
11	RIGHT DRIVE MOTOR	1	HY-004
12	SUCTION FILTER	1	HY-047
13	OIL FILL CAP	1	HY-048
14	SUCTION STRAINER	1	HY-049
15	WHEEL MOTOR HOSE	4	HC-001
16	VALVE PRESSURE HOSE	1	HC-002
17	LOWER LIFT HOSE	1	HC-003
18	UPPER LIFT HOSE	1	HC-004



Hydraulic Components Parts List

SECTION XI
VALVE JOYSTICK ASSEMBLY AND CABLES

KEY	DESCRIPTION	QTY	PART NUMBER
1.	Walvoil Valve Joystick Assembly	1	VJ-007
2.	Walvoil Bell Housing	1	VJ-005
3.	Walvoil Valve Joystick Cable	2	VJ-006
4.	Walvoil Valve Joystick Repair Kit	1	VJ-004
5.	Walvoil Boot	1	VJ-003
6.	Walvoil Joystick Handle Only	1	VJ-001
7.	Salami Joystick Assembly	1	VJ-008
8.	Salami Cable Assembly	1	VJ-006S
9.	Salami Bell Housing	1	VJ-005S



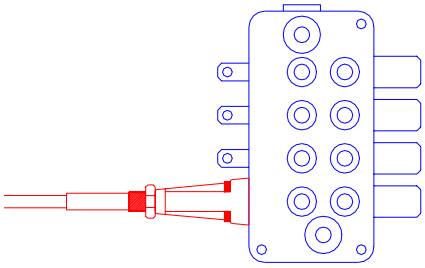
SECTION XIII

STEERING JOYSTICK ASSEMBLY AND CABLES

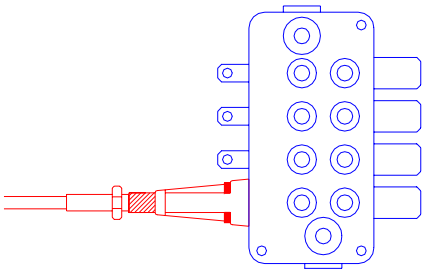
KEY	DESCRIPTION	QTY	PART NUMBER
1.	BALL KNOB	1	SJ-001
2.	HANDLE	1	SJ-002
3.	BOOT	1	SJ-003
4.	CONTROL ARM	1	SJ-004
5.	BASE	1	SJ-005
6.	¼”-28 ROD END	4	SJ-006
7.	10-32 ROD END W/STUD	2	SJ-007
8.	TRUNION MOUNT	2	SJ-008
9.	10-32 ROD END	2	SJ-009
10.	CONTROL CABLE LEFT	1	SJ-010
11.	CONTROL CABLE RIGHT	1	SJ-011
12.	CABLE MOUNT REAR	1	SJ-012
13.	CABLE MOUNT FRONT	1	SJ-013
14.	DOUBLE CABLE MOUNT	1	SJ-014
15.	BOOT CLAMP	1	SJ-015

Procedures for cable removal

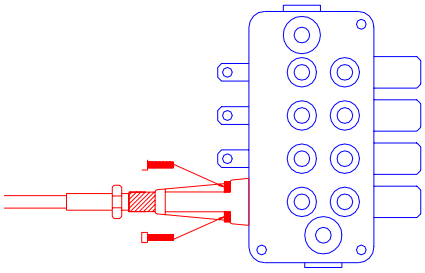
STEP 1



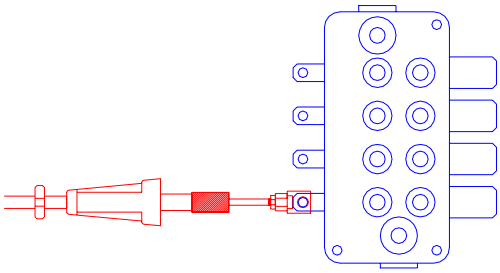
STEP 2



STEP 3



STEP 4



STEP 5

After removing cable assembly the lock pin needs to be tapped out lightly with a small punch. After reassembly the adjustment of the joystick handle is done by screwing the bell adapter in or out. It will take a few trial connections to achieve desired position.
You will need a 4MM allen wrench and a ball end screw driver type is preferred, and a 15/16" wrench for the jam nut.