



OPERATION & PARTS MANUAL

Lubrication Pump 1325G

Pump S/N: FA47850F

Publication No. 050093A

Rev. No. 140625

© Akkerman Inc. 2014
All Rights Reserved

Akkerman Inc. 58256 266th Street Brownsdale, MN 55918
Phone: 507-567-2261 Fax: 507-567-2605 email: akk@akkerman.com

SERVICE • RELIABILITY • INNOVATION

Introduction

This manual contains important safety, operation, maintenance, and parts information for your Akkerman 1325G Lubrication Pump. You must read and understand this manual, the engine operation manual and any additional equipment manuals before you operate and maintain this equipment. Keep this manual with your 1325G Lubrication Pump at all times. Additional copies of this manual may be purchased from the Akkerman Aftermarket Support Department, or downloaded from the Akkerman web site at www.akkerman.com.

The contractor is responsible for the overall safety program on the job site. Use this manual as a part of the safety program.

The use of second rate parts could affect the efficient performance of the 1325G Lubrication Pump. ALWAYS use genuine Akkerman parts.

Understand safety signal words, DANGER, WARNING, CAUTION, SAFETY INSTRUCTIONS, and NOTICE. When you see these words in this manual or on safety decals mounted on your equipment, follow the safety message to avoid personal injury and/or property damage.

⚠ DANGER Indicates an extremely hazardous situation which, if not avoided, WILL result in death or serious injury.

⚠ WARNING Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

⚠ CAUTION Indicates a potentially hazardous situation, which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.

SAFETY INSTRUCTIONS Usually consists of individual messages stating procedures or actions that must be followed for the safe operation of a product.

NOTICE Identifies potential property damage and important installation, operator, or maintenance information.



Akkerman 1325G Lubrication Pump

The 1325G Lubrication Pump is designed for the GBM lubrication system though it can be used in other lubrication applications. In the GBM application, the lubrication pump system assists with lubricating the pilot tubes, casing and augers and product pipe by reducing friction and easing the jacking process.

If you find any errors with this manual or know of ways to improve procedures, please let us know.

Mail your suggestions to:

Akkerman Inc, ATTN: Technical Publications, 58256 266th Street, Brownsdale, MN 55918.

Akkerman Inc. reserves the right to improve its product without notice or obligation.

NOTES

Contents

Safety	1-1	Transporting	7-1
Be Alert For Safety Information	1-1	Transporting Guidelines	7-1
Read Operator's Manual	1-1	Lifting Instructions	7-1
Wear Protective Clothing	1-1	Fuels & Lubricants	8-1
Fluids Under Pressure	1-2	Fuel Specifications	8-1
Beware Of Suspended Loads	1-2	Engine Oil.....	8-2
Using A Pressure Washer Wand	1-2	Jetting Pump Lubricant	8-2
Maintain Battery Safely	1-3	Gear Box Lubricant	8-3
Refueling	1-3	Storing Lubricants	8-3
Avoid Pinch Points	1-3	Periodic Maintenance	9-1
Exposure To Dangerous Chemicals	1-4	Fluids Under Pressure	9-1
Explosive Fuel	1-4	Using A Pressure Washer Wand	9-1
Beware Of Exhaust Fumes	1-4	Avoid Pinch Points	9-1
Fire Prevention	1-5	Maintenance Charts	9-2
Practice Safe Maintenance	1-5	Daily Or Every 10 Hours Of Operation	9-2
Slippery When Wet	1-5	First 5 Hours Of Operation & Every 100 Hours Thereafter	9-3
Unauthorized Welding	1-6	First 50 Hours Of Operation & Every 500 Hours Thereafter	9-4
Regularly Clean & Inspect Equipment	1-6	Weekly Or Every 50 Hours Of Operation ...	9-5
Keep Job Site Clean & Organized	1-6	Every 100 Hours of Operation	9-6
Recycle Waste	1-7	Monthly Or Every 200 Hours Of Operation ...	9-7
Decals	2-1	Every 500 Hours Of Operation	9-8
Terminology	3-1	Maintenance Instructions	9-9
1325G Lubrication Pump	3-1	Daily Or Every 10 Hours Of Operation	9-9
Jetting Assembly	3-2	First 5 Hours & Every 100 Hrs Thereafter ...	9-14
Engine	3-3	First 50 Hours & Every 500 Hrs Thereafter ..	9-16
Pump Shaft Control	3-4	Weekly Or Every 50 Hours Of Operation ..	9-17
Controls & Instruments	4-1	Every 100 Hours of Operation	9-19
Bypass Control	4-1	Monthly Or Every 200 Hours	9-23
Tank Shut Off Valve	4-1	Every 500 Hours Of Operation	9-26
Jetting Volume Control	4-1	Storage	10-1
Pressure Gauge	4-2	Preparing For Storage	10-1
In-Tank Agitator	4-2	Removing From Storage	10-2
Engine Ignition Switch	4-2	Troubleshooting	11-1
Engine Fuel Shutoff	4-3	Specifications	12-1
Engine Choke Control	4-3	Identification Numbers	13-1
Engine Throttle	4-3	Safety Data Sheets	14-1
Pump Shaft Control	4-4	Warranty	15-1
Pre-Start Inspection	5-1	Parts	16-1
Operation	6-1	Introduction	16-1
Operating Guidelines	6-1	Decals	16-2
Jetting Guidelines	6-2	Parts	
Setting Up Lubrication Pump	6-3	Lubrication Pump Final Assembly	16-6
Jetting Circuit Hookup	6-4	Jetting & Lubrication Shaft Control	16-10
Using Shaft Control For Lubrication.....	6-7	PCH Shaft Control Mount Assembly ..	16-11
Starting The Engine	6-8	Operator Controls	16-12
Shutting Down The Engine	6-10	Engine, 14 HP	16-13
Start Up Procedure	6-11	Alphabetical Index	15-1
Daily Shutdown	6-15	Numerical Index	16-1
Mixing Tank	6-17		
Cleaning Tank	6-18		
Cold Weather Protection			
Draining System	6-20		
Using RV Anti-Freeze.....	6-22		

NOTES

Safety

BE ALERT FOR SAFETY INFORMATION

When you see this safety alert symbol on your equipment or in this manual, be alert to the possibility of personal injury or property damage.

Read all safety information.

Keep safety decals clean and in good condition.
Replace missing or damaged safety decals.



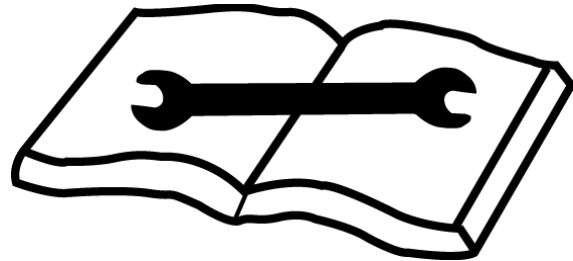
**ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!**

READ OPERATOR'S MANUAL

⚠ WARNING Unsafe operation or maintenance can cause severe injury or death.

Read and understand the Operator's Manual before operating or servicing this equipment.

Any unauthorized modifications will void the warranty.



WEAR PROTECTIVE CLOTHING

Wear OSHA approved protective clothing, such as hard hat, gloves, safety goggles, earmuffs or ear plugs, face shield, and steel-toed boots, when operating and servicing this equipment.

Wear reasonably close fitting clothing and remove jewelry before working on or near this equipment. This will help prevent the danger of catching them in moving parts or controls.



FLUIDS UNDER PRESSURE

⚠ WARNING Escaping fluids under pressure can penetrate your skin causing serious injury.

Release all pressure before performing maintenance or repairs. Never weld near pressurized fluid lines.

DO NOT use your hands to check for leaks. When searching for leaks, use a piece of wood or cardboard.

Contact medical help immediately if any fluid is injected into your skin. A serious infection or reaction can emerge without proper medical treatment.



BEWARE OF SUSPENDED LOADS

⚠ WARNING Suspended loads may fall and cause severe personal injury or death.

If a hydraulic hose, chain, or cable from the boom of a crane or excavator breaks, the boom and/or load can fall instantly.

Do not enter area under or around a load.



USING A PRESSURE WASHER WAND

⚠ WARNING Using the lubrication pump with a pressure washer wand can generate enough fluid pressure and velocity to penetrate skin resulting in serious personal injury.

Contact medical help immediately if fluid is injected into your skin. A serious infection or reaction can emerge without proper medical treatment.

NEVER point the wand towards a person or animal.

Be sure to release pressure after use and before performing maintenance to prevent accidental fluid injection.

Wear safety glasses and gloves, and depending on the wand use, a particle mask may be necessary.



MAINTAIN BATTERY SAFELY

⚠ WARNING Batteries produce explosive gases.

Wear eye protection and protective clothing during battery service.

Keep sparks, flames, and cigarettes away from batteries.

Contact with battery acid can cause severe burns. Flush immediately and thoroughly with clean water. Get medical attention immediately.

Charge a battery only in a well-ventilated area.

Never charge a frozen battery.



REFUELING

⚠ WARNING Fires and explosions can cause serious injury or death.

Handle fuel with care. It is highly flammable.

DO NOT refuel while smoking or when near open flame or sparks.

Always stop engine before refueling.



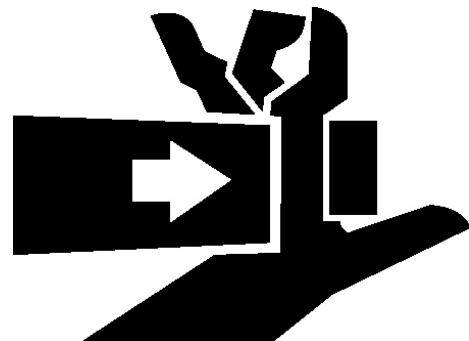
AVOID PINCH POINTS

⚠ WARNING Moving parts or the mishandling of parts can cause severe personal injury.

Keep hands away from moving parts.

Watch your fingers, hands, and legs while equipment is in operation.

Handle parts carefully to avoid crushing and pinch point hazards.

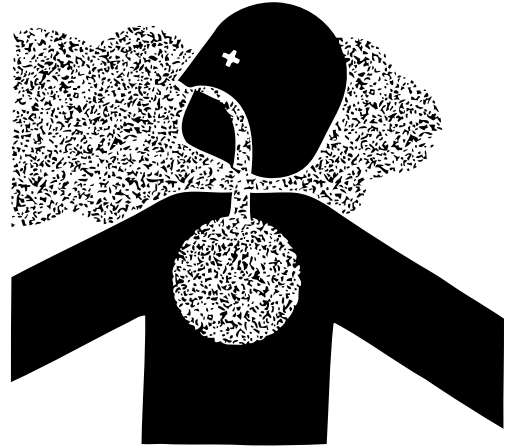


EXPOSURE TO DANGEROUS CHEMICALS

⚠ WARNING Exposure to chemicals may cause serious injury or death.

BEFORE mixing chemicals or other agents in the jetting tank, be sure the area is well ventilated and other personnel removed from the area.

Use proper personal protective equipment per the chemical manufacturer's instructions.



EXPLOSIVE FUEL

⚠ WARNING Explosive fuel can cause fires and severe burns.

Do not fill the fuel tank while the engine is hot or running.

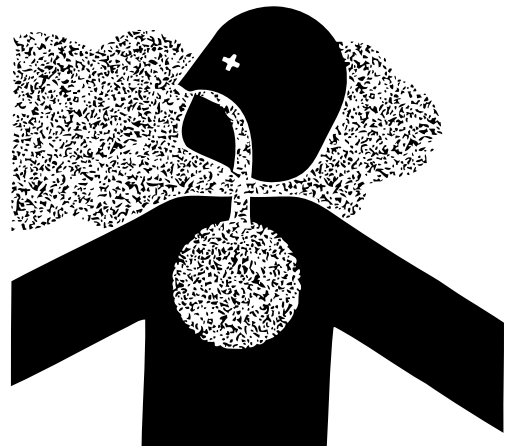
Have a fire extinguisher available at all times. Keep the fire extinguisher fully charged.



BEWARE OF EXHAUST FUMES

⚠ WARNING Exposure to engine exhaust fumes can cause severe injury or death. Always work in a properly ventilated area.

If it is necessary to run an engine in an enclosed area, use the proper equipment to safely remove the exhaust fumes from the working area.



FIRE PREVENTION

⚠ CAUTION Fires can cause injury or property damage.

Keep equipment clean. Remove all debris from equipment.

Have a fire extinguisher available at all times. Keep the fire extinguisher fully charged.



PRACTICE SAFE MAINTENANCE

⚠ WARNING Unexpected movement may cause serious personal injury.

Shutdown engine before performing any maintenance, adjustments, or removing obstructions.

Only trained and qualified personnel should perform any maintenance or repairs.

Keep the area around the equipment clean and dry when performing maintenance.

Do not service the machine while it is in operation.

Replace worn or damaged parts. Remove grease, oil, or debris buildup.



SLIPPERY WHEN WET

⚠ WARNING Slips and falls can cause serious personal injury.

Ensure firm footing in wet or slippery conditions.

Replace skid-resistant material if it is damaged or missing to prevent slips and falls.

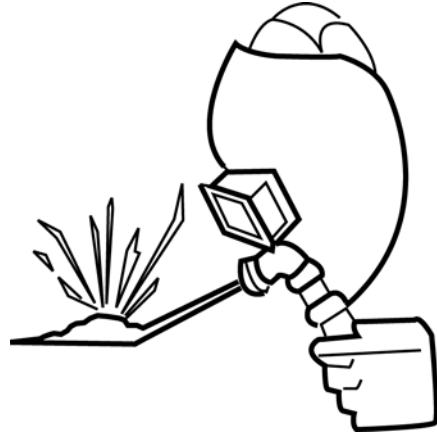
Remove any buildup of grease, oil, or debris.



UNAUTHORIZED WELDING

⚠ WARNING Unauthorized welding can cause structural failure resulting in possible injury or death.

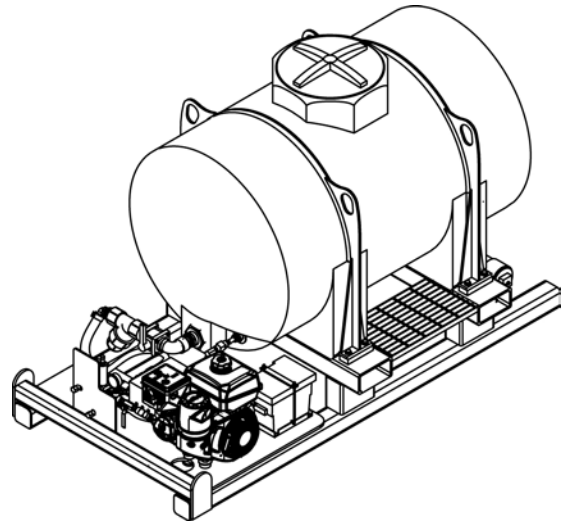
Do not weld on any structural member. Unauthorized welding or repair will void the warranty.



REGULARLY CLEAN AND INSPECT EQUIPMENT

Remove any grease, oil, or debris buildup to avoid potential injury or equipment damage.

Inspect equipment for damage. If damaged, repair or replace immediately.



KEEP JOB SITE CLEAN AND ORGANIZED

⚠ WARNING Tripping can cause serious personal injury.

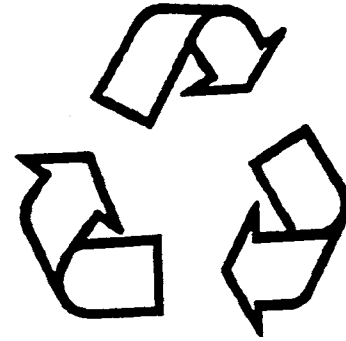
Be sure to keep job site clean and organized.



RECYCLE WASTE

Follow local, state, federal, and international regulations when recycling or disposing of waste. Waste includes fluids/oil, fuel, filters, coolant, and batteries.

Use leakproof containers when draining fluids/oil. Do not pour waste on the ground, down a drain, or into any water source.



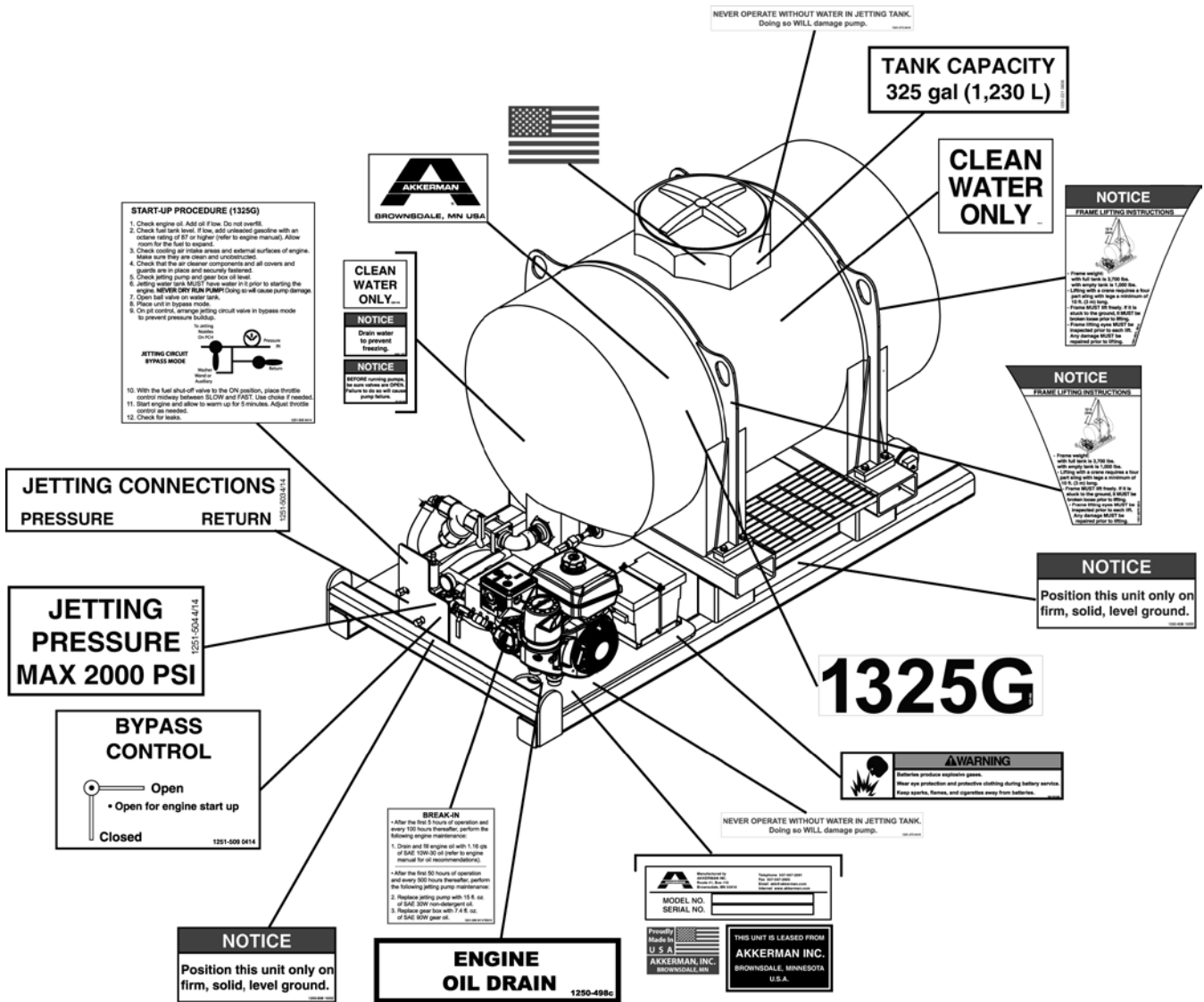
NOTES

Decals

Keep all decals clean and readable. Use soft cloth, water, and a mild soap to clean the decals if they are too dirty to read. DO NOT clean decals with solvent. Solvent can damage them. Replace safety decals immediately if they are damaged, missing, or hard to read.

Serious injury or property damage can occur if safety instructions are not followed. Contact your Akkerman Aftermarket Support representative for free replacement safety decals.

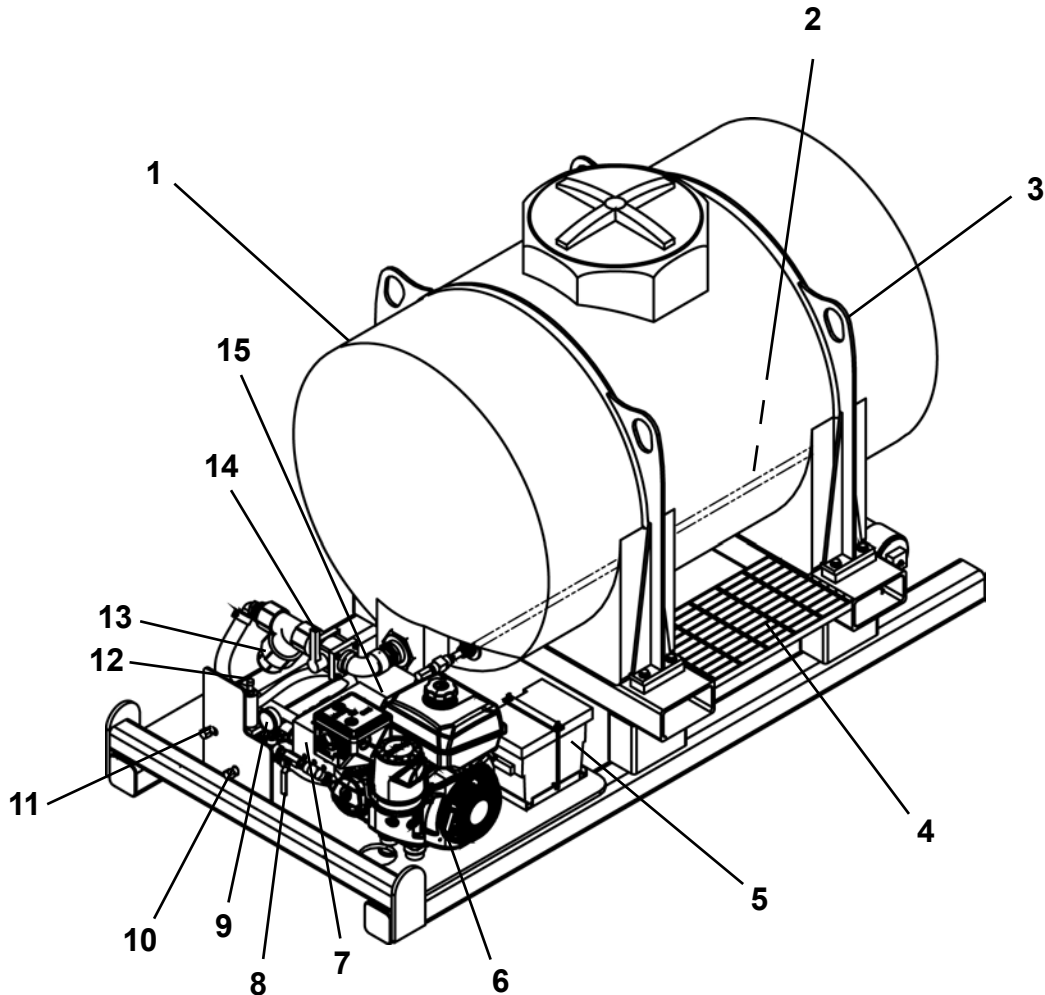
If a part is replaced that has a decal on it, apply a new decal to the replacement part. Before applying a new decal, be sure the surface is clean and dry.



NOTES

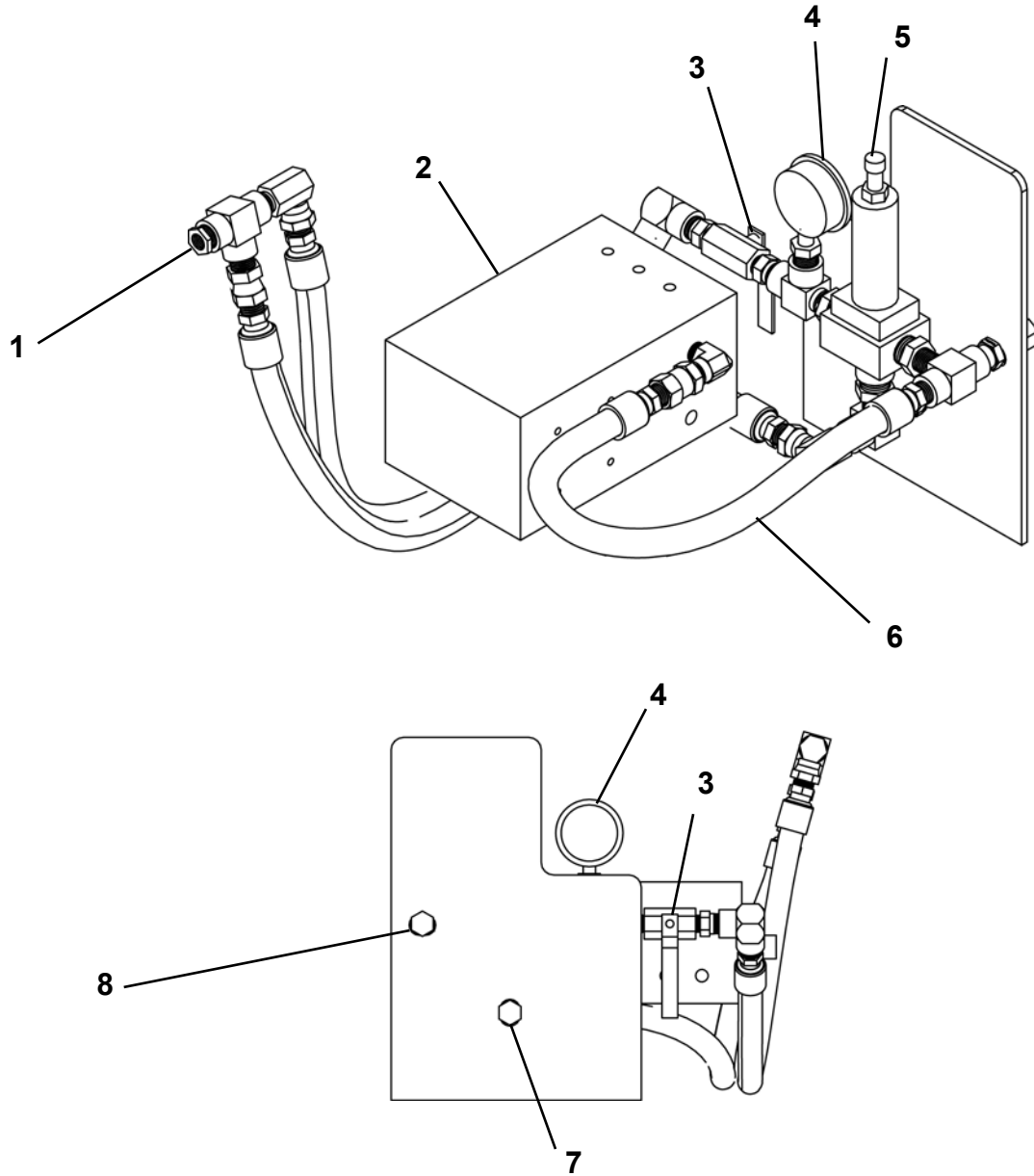
Terminology

1325G LUBRICATION PUMP



- | | |
|------------------------------|---------------------------------|
| 1. Tank (325 gal.) | 10. Jetting Return Connection |
| 2. In-Tank Agitator Assembly | 11. Jetting Pressure Connection |
| 3. Lift Eye | 12. Pressure Relief Valve |
| 4. Step | 13. Strainer & Element |
| 5. Battery | 14. Tank Shut Off Valve |
| 6. Gasoline Engine 14 HP | 15. Gear Box |
| 7. Jetting Pump | |
| 8. Bypass Control Valve | |
| 9. Jetting Pressure Gauge | |

JETTING ASSEMBLY

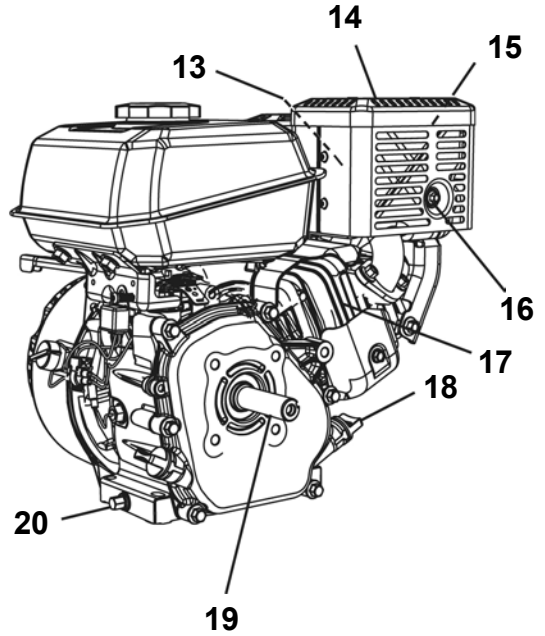
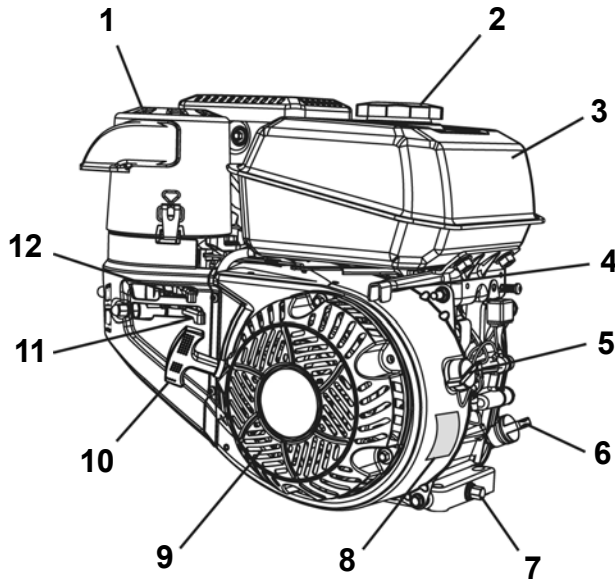


- 1. Return Line Into Tank
- 2. Jetting Pump
- 3. Bypass Valve/Recirculation Valve
- 4. Pressure Gauge 5,000 psi

- 5. Pressure Relief Valve
- 6. High Pressure Out of Pump
- 7. Jetting Return Connection
- 8. Jetting Pressure Connection*

* Jetting Pressure 2,000 psi Maximum

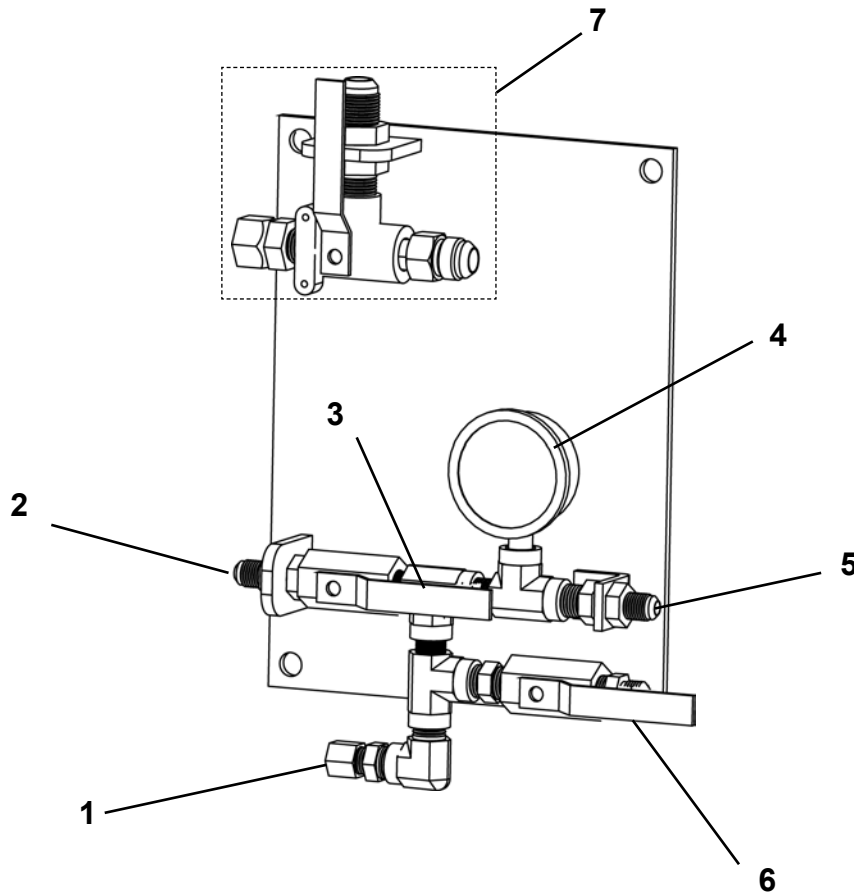
ENGINE



1. Air Cleaner
2. Fuel Tank Cap
3. Fuel Tank
4. Throttle Lever
5. Electric Start Switch
6. Dipstick/Oil Fill
7. Oil Drain Plug
8. Serial & Data Label
9. Grass/Debris Screen
10. Retractable Starter Handle

11. Fuel Shutoff
12. Choke Lever
13. Spark Plug
14. Muffler Shield
15. Muffler
16. Muffler Screen
17. Cooling Fins
18. Dipstick/Oil Fill
19. Drive Shaft
20. Oil Drain Plug

PUMP SHAFT CONTROL



- 1. Washer Wand or Auxiliary Jetting Pressure OUT
- 2. Tooling Jetting Pressure OUT
- 3. Pressure Shutoff Valve

- 4. Pressure Gauge 2000 psi Max.
- 5. Pressure IN
- 6. Return Shutoff Valve
- 7. Lubrication Circuit Control*

* Not used with 1325G; auxiliary lubrication pump required.

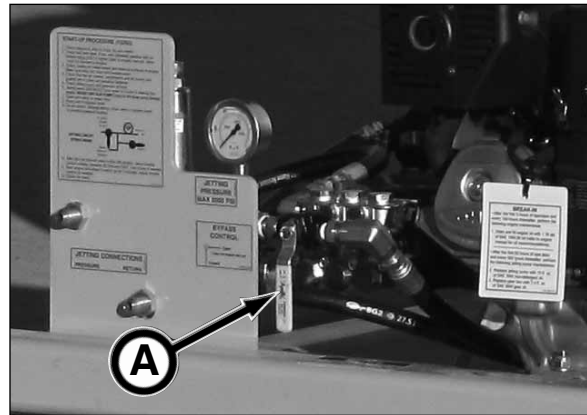
Controls & Instruments

BYPASS CONTROL

The Bypass control (A) is used to regulate the fluid for engine startup, tank recirculation and tooling lubrication.

Before starting lubrication pump, there must be enough water in the tank to cover inlet and the bypass control valve **MUST** be in the open position, otherwise the engine will fail to start.

NOTICE The jetting system operates as soon as the engines starts.



TANK SHUT OFF VALVE

The shut off valve is used to open and close the tank outlet.

NOTICE The tank shut off valve **MUST** be open before starting the 1325G Lubrication Pump. Failure to do so will cause damage to jetting pump.



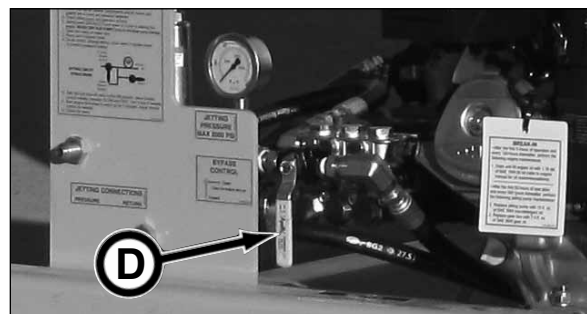
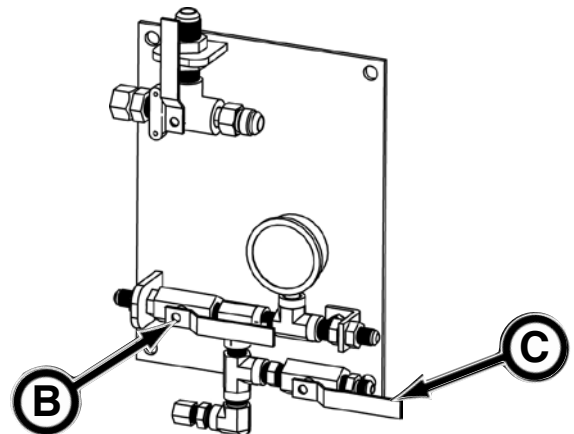
JETTING VOLUME CONTROL

The jetting system operates as soon as the engine starts. Be sure there is enough water in the tank to cover inlet and that the pump control is in bypass mode.

Use the pressure (B) and return (C) shutoff valves on the pump shaft control to adjust the jetting volume.

If needed, use a combination of the bypass control (D) and the valves on the pump shaft control to regulate the jetting volume.

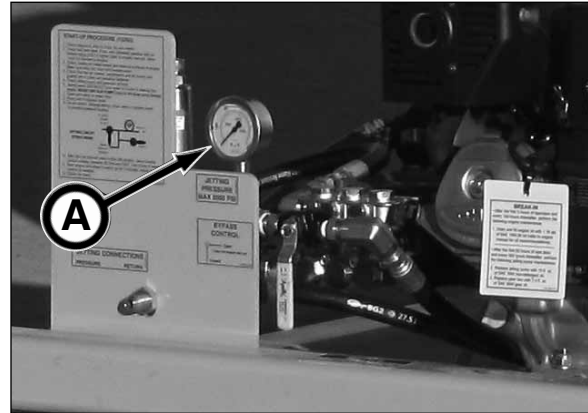
NOTICE Reducing the engine RPM will also reduce the jetting volume.



PRESSURE GAUGE

Use the pressure gauge (A) to monitor the jetting pressures.

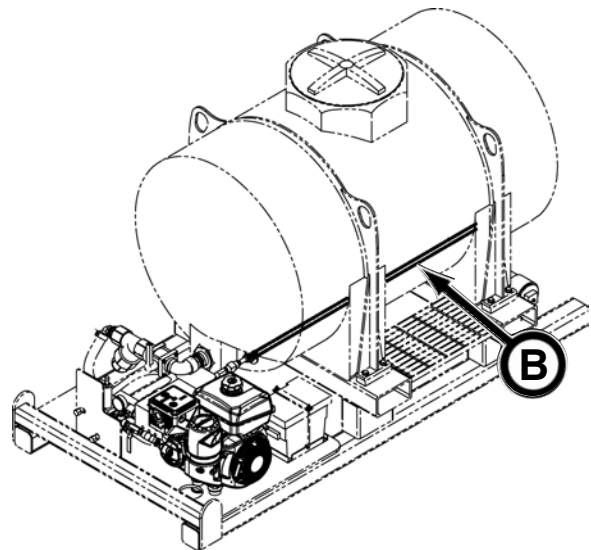
Maximum pressure @ full engine RPM is 2,000 psi (13,790 kPa).



IN-TANK AGITATOR

The in-tank agitator (B) automatically mixes liquid based polymers and prevents fluid settlement while the engine is running.

Before starting lubrication pump, be sure to open the pump bypass control valve.



ENGINE IGNITION SWITCH

NOTICE

For additional engine information, refer to your engine owner's manual.

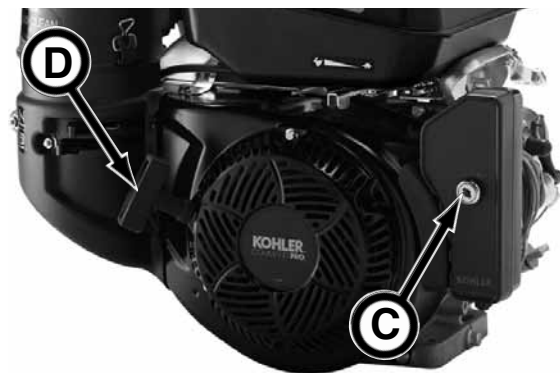
Turn key switch (C) clockwise to START. Release key when engine starts.

Turning the key to OFF will shut down engine.

When lubrication pump operation is complete, be sure key is to the OFF position to prevent drain on the battery.

There is an auxiliary retractable starter (D) if the electronic starter should fail or battery is dead.

Slowly pull starter handle until just past compression, then stop. Return starter handle, pull handle straight out with a firm, smooth and steady motion to start.



ENGINE FUEL SHUTOFF

NOTICE

For additional engine information, refer to your engine owner's manual.

The engine is equipped with a fuel shutoff valve (A). NEVER attempt to run the engine without the fuel shutoff in the ON position.

Operate the shutoff as follows:

- Lever fully towards engine - ON
- Lever fully away from engine - OFF



Engine Fuel Shutoff Shown in Off Position

ENGINE CHOKE CONTROL

NOTICE

For additional engine information, refer to your engine owner's manual.

Using the engine choke control (B) will aid in the starting of the engine by restricting the flow of air to the combustion chamber. This creates a richer fuel-air mixture allowing the fuel inside the cold engine to ignite more easily. Once the engine warms the choke control must be readjusted to allow the engine to run normally.

The choke position for starting will vary depending upon ambient temperature.

Operate the choke control as follows:

- Lever fully towards engine - OFF
- Lever fully away from engine - ON



Engine Choke Control Shown in On Position

ENGINE THROTTLE

NOTICE

For additional engine information, refer to your engine owner's manual.

Use the engine throttle (C) to increase or decrease the engine speed.

Increase Speed:

- Move throttle lever towards rabbit (Fast)

Decrease Speed:

- Move throttle lever towards turtle (Slow)



PUMP SHAFT CONTROL

The shaft control (A) allows the operator to control the jetting from the launch or reception shafts. It is connected directly to the 1325G lubrication pump pressure and return ports.

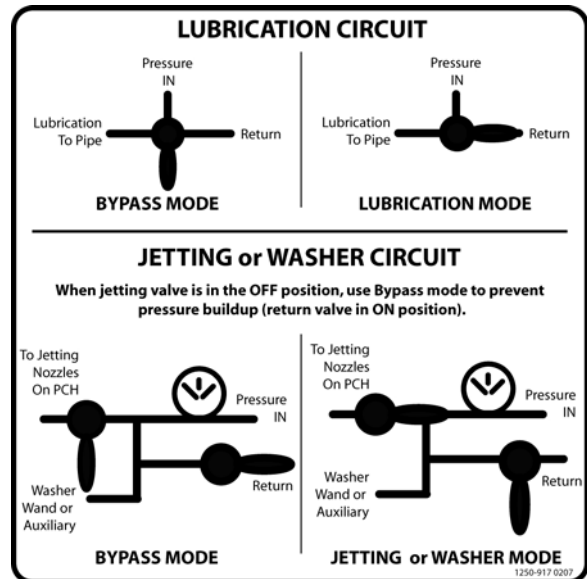
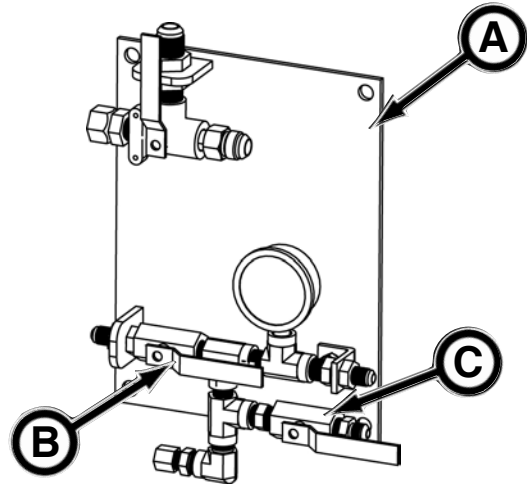
JETTING

The jetting circuit provides jetting/lubrication to:

- jetting nozzles on Powered Cutter Head
- jetting on Powered Reaming Head
- steering head for lubrication to outside of pilot tubes
- pilot tube adapter for lubrication to spoils for reaming head or open cutter head
- washer wand or auxiliary

Use a combination of the jetting circuit ball valves (B and C) to control jetting to component, washer wand or auxiliary (Jetting or Washer Mode), or to tank (Bypass Mode).

NOTICE The washer wand or auxiliary is available in either the Jetting/Washer Mode or Bypass Mode.



Pre-Start Inspection

⚠ WARNING

Do not operate this equipment until you read, study, and understand this manual, the engine owner's manual, and any other equipment manuals that may be used. A daily inspection of the equipment must be performed to prevent severe personal injury or death and equipment damage.

The contractor is fully responsible for the safety of all personnel on the job site. Check with the contractor that all site preparation requirements are in place. Be sure to comply with all MSHA and OSHA regulations, such as: an active safety program is in practice, a confined space permit (if needed) is issued, personal protective equipment is being worn; flammable, combustible, and hazardous materials are properly stored; and a lockout/tagout procedure is in place.

Use the following checklist ✓ as a guide for your daily pre-start inspection.

	1. Follow the MSHA (Mining Safety & Health Administration) and OSHA (Occupational Safety & Health Administration) regulations.
	2. Contractor is responsible for all personnel to wear proper protective equipment on the job site. Replace equipment if defective.
	3. Combustible, toxic and oxygen deficiency detectors MUST be in place, tested, and in proper working condition.
	4. Water must be in jetting tank prior to start up.
	5. Be sure pump shaft control is in Bypass position.
	6. The tank shutoff valve MUST be open prior to starting the pump.
	7. All pump connections must be secure to prevent cavitation.
	8. Clean strainer before operating pump.
	9. USE ONLY CLEAN WATER SOURCE.
	10. Check engine gasoline level. Add as needed.
	11. Check engine crankcase oil level. Add as needed.
	12. Check engine cooling air intake areas and external surfaces of engine. Be sure they are clean and obstructed.
	13. Check engine air cleaner components are in place and securely fastened.
	14. Check jetting pump oil level with sight gauge. Add oil as needed.
	15. Check gear box oil level with sight gauge. Add oil as needed.
	16. Check controls and switches for proper operation. Repair or replace if damaged or worn.
	17. Remove combustible or flammable materials from equipment. Store materials properly.
	18. Inspect equipment for damage. Repair or replace as needed.
	19. Thoroughly clean equipment of mud and dirt.
	20. Be sure all shrouds, covers and guards are in place and securely fastened before operation.
	21. Check for loose or missing hardware. Replace damaged or missing hardware.
	22. Check for worn, loose, or damaged wire connections. Repair or replace wiring connections.
	23. Tighten loose clamps or fittings.
	24. Check for fluid leaks. Repair leak or replace components.
	25. Keep job site clean and organized.

NOTES

Operation

OPERATING GUIDELINES

⚠WARNING Do not operate this equipment until you read, study, and understand this manual, your engine owner's manual and any additional equipment manuals before you operate this equipment. Failure to do so, could result in severe personal injury or death.

1. Before operating, read and understand the Safety, Pre-Start Inspection, and Operation sections.
2. Do not operate this equipment while under the influence of alcohol, drugs, or medication.
3. Follow all Federal, State, and Local safety regulations and procedures.
4. Be sure OSHA prescribed safety protective equipment is being worn by all personnel.
5. Be sure the area is safe for operation. Keep work site clean and orderly.
6. Have a fully charged fire extinguisher on the job site at all times.
7. Position the lubrication pump on level ground. Engine damage from insufficient lubrication will occur if it exceeds the maximum angle of operation (refer to engine owner's manual).
8. Before operating, inspect equipment and conduct repairs as needed.
9. Test air monitoring and ventilation detectors for proper operation. Never enter a tunnel or shaft without combustible gas detectors and oxygen deficient detectors.
10. Never walk or work under any part of the excavator or crane and suspended loads.
11. Do not make any modifications to any Akkerman products. Doing so could cause structural failure and will void the warranty.
12. Check shields and guards. They must be in place and undamaged prior to operation.
13. The tank shutoff valve **MUST** be open and the tank filled with water prior to starting the engine. Failure to do so will cause damage to jetting pumps after prolonged use without water.
14. Check all fluid levels (gasoline tank, engine oil, jetting pump, gear box) before operating.
15. Remove combustible or flammable materials from equipment.
16. Test all controls and switches to make sure they operate properly.
17. Place jetting controls in bypass mode before start up.
18. Eye, ear and respiratory protection **MUST** be worn by operator while filling tanks with chemicals such as wetting agents, polymer, etc.
19. Never dry run or operate pump with tank shutoff valve closed.
20. In cold weather, flush and drain pump and ALL fluid lines to prevent clogging or freezing.
21. If using a pressure washer wand, **NEVER** point the wand towards a person or animal. Also, be sure to release pressure after use and before performing maintenance to prevent accidental fluid injection.
22. If repairs are necessary to equipment, before making repairs, be sure to lockout tagout power source to prevent accidental starting of equipment.
23. If this manual is lost, contact your Akkerman Aftermarket Support Representative for a new manual or download this manual from the Akkerman web site at www.akkerman.com.

JETTING GUIDELINES

The amount of jetting depends on ground conditions. If the spoils consist of a slurry substance, the amount of jetting should be reduced.

Only use jetting when advancing pipe to prevent over excavating.

Control the flow so there is no lubrication flowing out of the pilot tubes in the launch shaft.

Before shutting down lubrication pump, loosening pilot tube joints or adding additional pilot tubes, vent the fluid into a catch pan to relieve pressure and prevent the fluid from entering the inner tube of the pilot tube.

As a guideline, typical usage of lubricant in pilot tube annular space is approximately 1 gal per foot. For example, on a 300 ft drive, approximately 300 gallons will be required.

Use of EZ-Mud[®], Con Det[®] or equivalent can be used in the 1325G Lubrication Pump.

IMPORTANT: NEVER use Bore-Gel[®] or equivalent in the 1325G Lubrication Pump. Clogging will result.



SETTING UP LUBRICATION PUMP

1. Position the 1325G Lubrication Pump on firm, level ground near desired area of use.

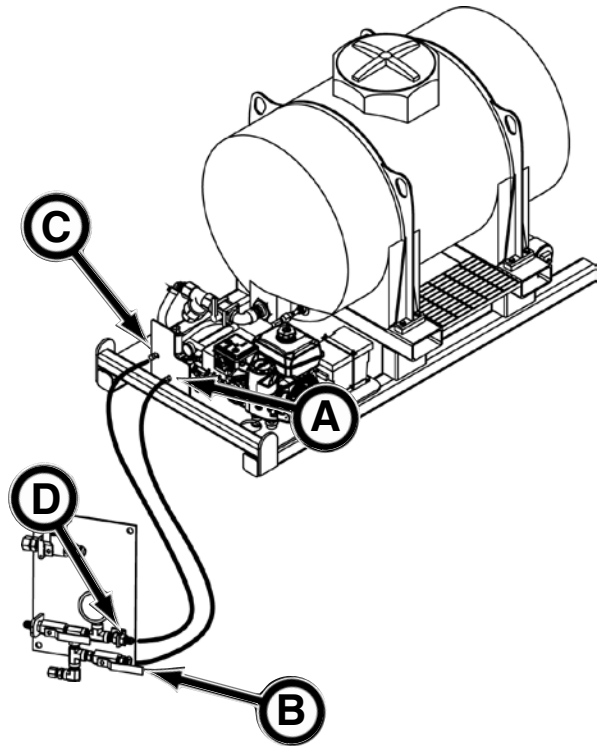
⚠ WARNING Do not position the lubrication pump near the edge of shaft where the ground may be unstable and cause a slide or cave-in. Doing so could cause severe injury or death.



2. Connect the jetting (3/8 in.) hoses to the pump and shaft control as follows:

- a. Connect the jetting hose to pump return connection (A) and jetting return connection (B) on shaft control.
- b. Connect the jetting hose to pump pressure connection (C) and jetting Pressure IN connection (D) on shaft control.

3. Once the jetting hoses are properly connected, proceed to Jetting Circuit Hookup on the next page (in this section).

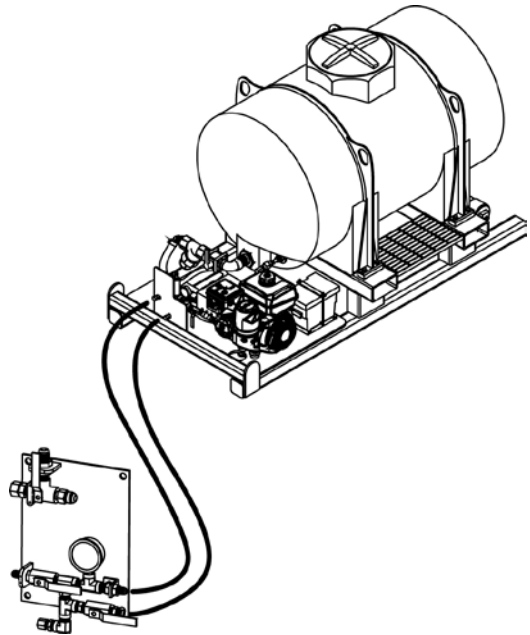


JETTING CIRCUIT HOOKUP

The jetting circuit provides jetting/lubrication to:

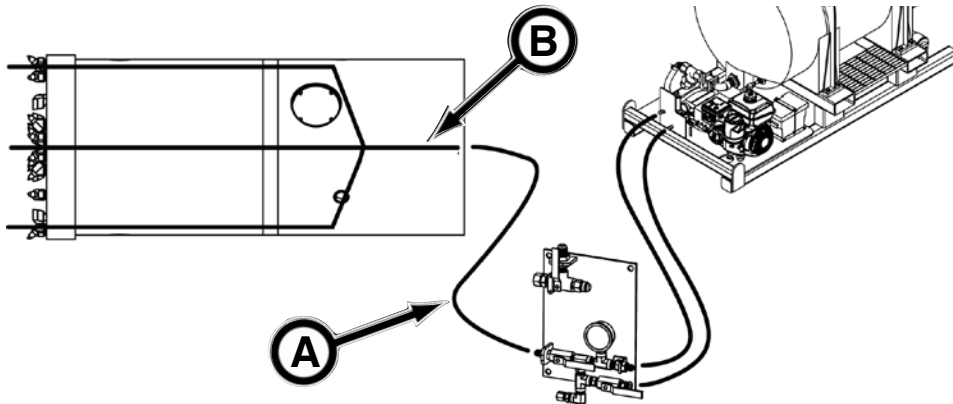
- jetting nozzles on Powered Cutter Head
- jetting on Powered Reaming Head
- steering head for lubrication to outside of pilot tubes
- pilot tube adapter for lubrication to spoils for reaming head or open cutter head
- pilot tube adapter and reaming head for lubricating the outside of the casings
- washer wand or auxiliary

Hookup jetting based on the jetting requirement as follows:



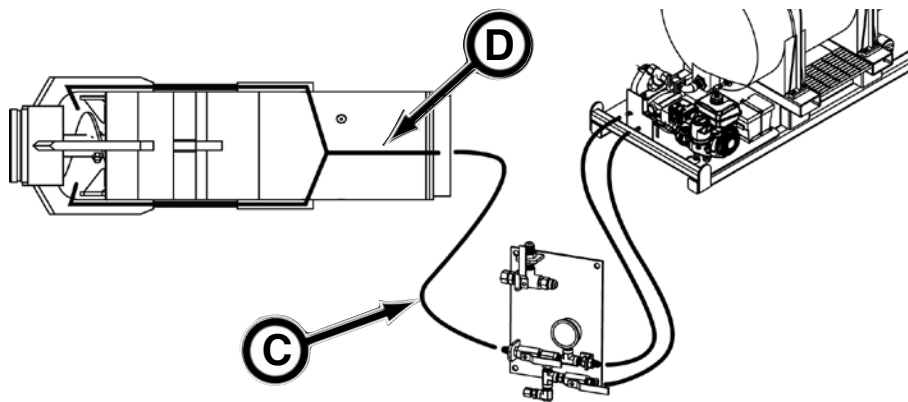
1. Powered Cutter Head Jetting Nozzles

Connect the jetting hose (A) from the shaft control to the jetting hose (B) in the rear of the Powered Cutter Head.



2. Powered Reaming Head Jetting

Connect the jetting hose (C) from the shaft control to the jetting hose (D) in the rear of the Powered Reaming Head in the launch shaft.



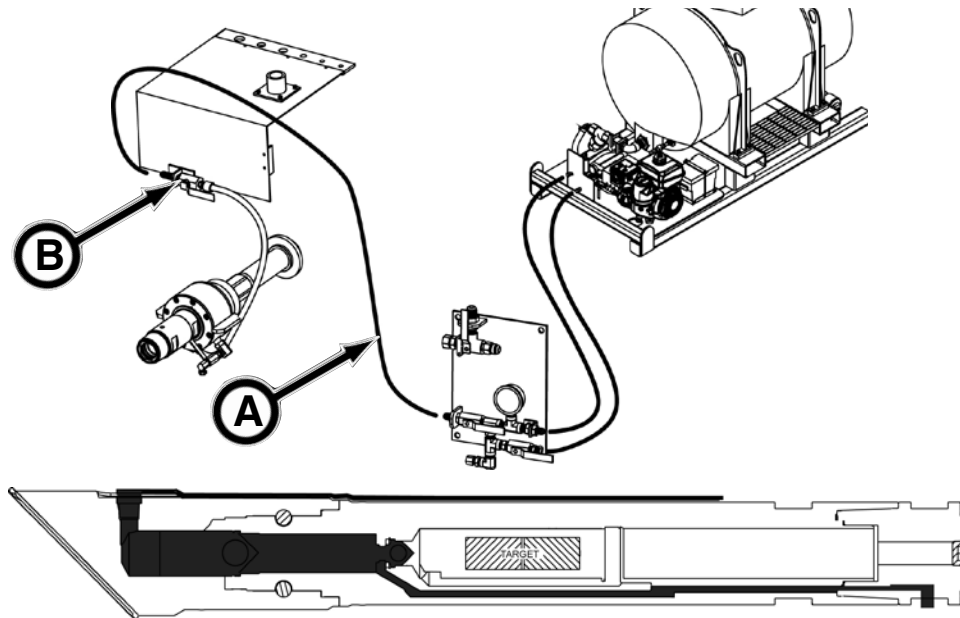
(Continued on next page)

Jetting Circuit Hookup (continued)

3. Lubricating Outside Of Pilot Tubes

Connect the jetting hose (A) from the shaft control to the lube control valve (B) on the GBM. The lube control on the GBM is connected to the drive swivel which allows the lubricant to flow through the dual walled pilot tube annular space and out the steering head port.

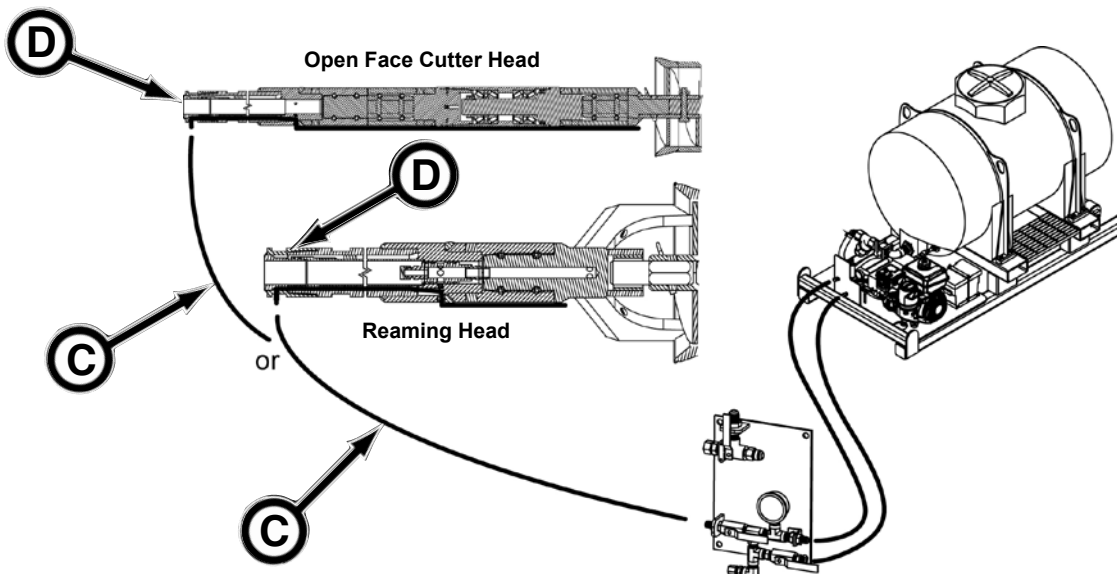
- control the lubrication flow so there is no lubrication flowing out of the pilot tubes in the launch shaft.
- before loosening pilot tube joints, vent the fluid into a catch pan to relieve pressure and prevent the fluid from entering the inner tube of the pilot tube.
- NEVER use Bore Gel or equivalent in annular space of pipe tubes. Clogging of annular space will result.



4. Lubricating Spoils For Reaming Head or Open Cutter Head

Connect the jetting hose (C) from the shaft control to the fluid connector (D) in reception shaft.

- the lubricant flows through the dual walled pilot tubes and out the lubrication port on the pilot tube adapter to lubricate the spoils for the reaming head or open face cutter head.



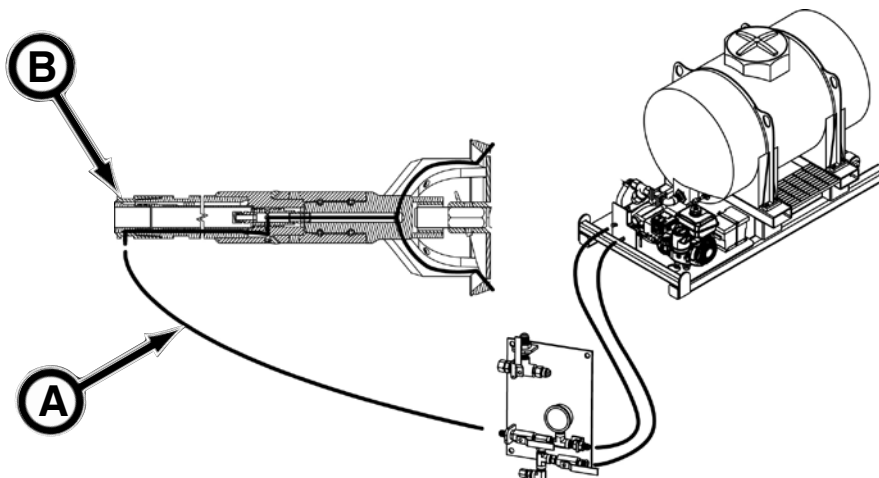
(Continued on next page)

Jetting Circuit Hookup (continued)

5. Lubricating Outside Of Casing With Reaming Head Assembly

Connect the jetting hose (A) from the shaft control to the fluid connector (B) in reception shaft.

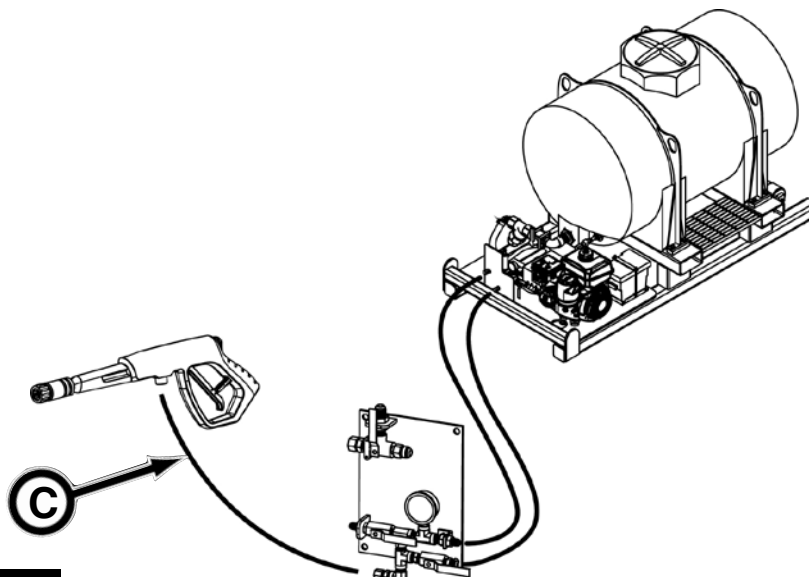
- the lubricant flows through the dual walled pilot tubes, pilot tube adapter, and out the lubrication ports on the reaming head arms to lubricate the outside of casings.



6. Using Pressure Washer Wand or Auxiliary

Connect the jetting hose (C) from the shaft control to the washer wand or other auxiliary device.

- refer to the wand or auxiliary device operation manual for the proper safe operation.



⚠ WARNING Using the jetting pump with a pressure washer wand can generate enough fluid pressure and velocity to penetrate skin resulting in serious personal injury.



Contact medical help immediately if fluid is injected into your skin. A serious infection or reaction can emerge without proper medical treatment.

NEVER point the wand towards a person or animal.

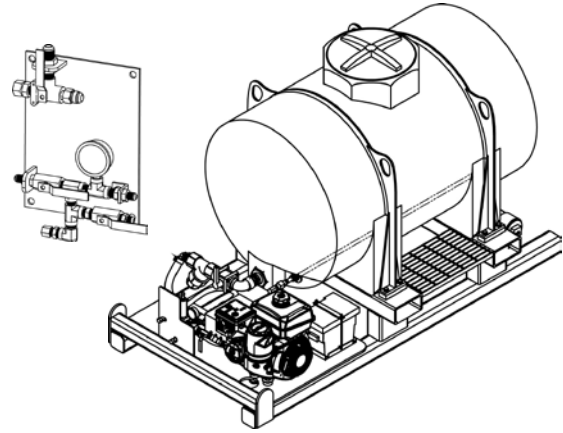
Be sure to release pressure after use and before performing maintenance to prevent accidental fluid injection.

Wear safety glasses and gloves, and depending on the wand use, a particle mask may be necessary.

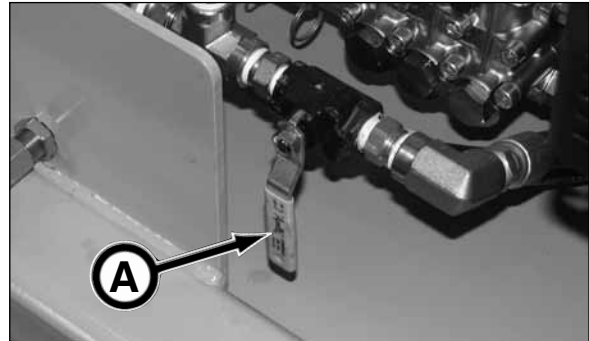
USING SHAFT CONTROL FOR LUBRICATION

Use the ball valve(s) to control the jetting circuit on shaft control as follows:

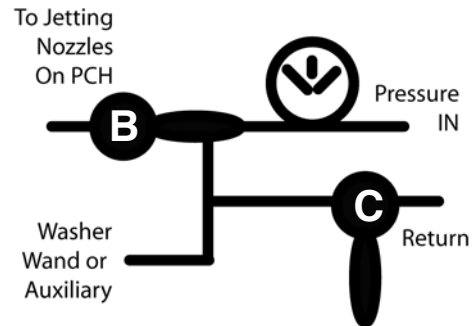
1. Set up Lubrication Pump (refer to Setting Up Lubrication Pump in this section)
2. Hookup jetting circuit to tooling (refer to Jetting Circuit Hookup in this section).
3. Perform start up procedure (refer to Start Up Procedure in this section).



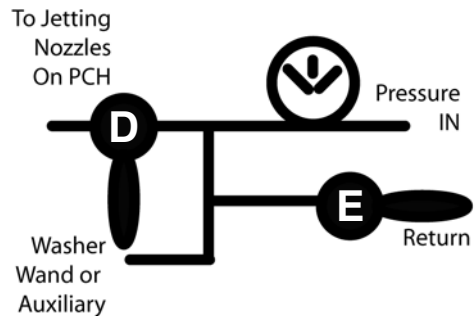
4. Once the engine is started and the fluid is recirculating in tank, move the bypass control (A) to the closed position.



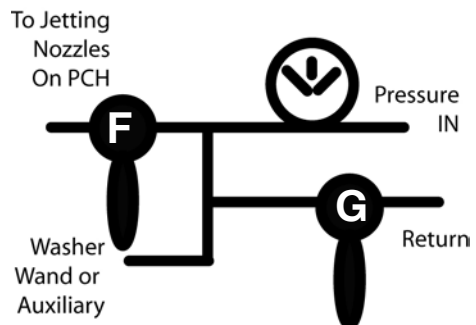
5. Move pump shaft control ball valves (B and C) as shown to lubricate:
 - jetting nozzles on PCH
 - jetting nozzles on PRH
 - steering head for lubrication to outside of pilot tubes
 - pilot tube adapter for lubrication to spoils for reaming head or open cutter head
 - washer wand or auxiliary



6. Move ball valve (D & E) as shown to:
 - Return solution to tank or bypass



7. Move ball valve (F & G) as shown to:
 - use washer wand or other auxiliary device



STARTING THE ENGINE

NOTICE For proper new engine break-in, refer to your engine owner's manual. And for any additional engine information including cold weather starting, refer to your engine Owner's Manual.

NOTICE For additional engine information, refer to your engine Owner's Manual.

1. Visually check the following items. If any leaks are found, shut down the engine and perform repairs as needed.

- Check for engine oil and fuel leaks.
- Check for damaged or missing parts and fasteners.
- Check the electrical harnesses for cracks, abrasions, and damaged or corroded connectors.



2. Move the fuel shutoff valve to the ON position.



3. Move the throttle control midway between the Rabbit (Fast) and Turtle (Slow).



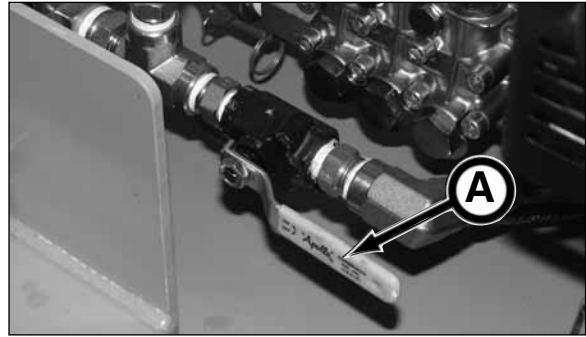
4. For a cold engine, move the choke control to the ON position. A warm engine typically does not require the choke on.

NOTICE The choke position for starting may vary depending upon temperature and other factors. Once engine is running and warm, turn choke control to the OFF position.

(Continued on next page)



5. With water in tank (enough to fill the tank outlet, preventing dry run), place bypass control (A) in bypass mode, otherwise engine will not start.



6. Turn the key switch clockwise to the START position. Release the key as soon as the engine starts. The key switch will return to the ON position.
If starter does not turn engine over, shut off starter immediately. Do not crank engine. Refer to engine manual.



NOTICE Never crank engine continuously for more than 10 seconds, otherwise starter will overheat. Allow a 60 second cool down period between starting attempts.

If using retractable starter, the key switch must be in the ON position before attempting to start. SLOWLY pull starter handle until just past compression and then STOP! Return starter handle and pull firmly with a smooth, steady motion to start engine.



7. Gradually return choke control to OFF position after engine starts and warms up.



8. Adjust throttle control as needed.



SHUTTING DOWN THE ENGINE

1. Reduce engine speed to low idle by moving throttle control to turtle (slow) position.
2. Allow the engine to run at idle for 30 to 60 seconds before shutting down.



3. Turn the key switch to the OFF position and remove key from switch to prevent accidental starting.



4. Move the fuel shutoff valve to the OFF position.



START UP PROCEDURE

Use the following procedure to properly start up the lubrication pump.

1. Check the engine oil. Add oil if necessary using SAE 15W-30 oil (refer to engine manual for oil recommendations). Do not overfill.



2. Check fuel tank level. If low, add unleaded gasoline with an octane rating of 87 or higher (refer to engine manual). Leave room for fuel to expand.



3. Check cooling air intake areas and external surfaces of engine. Be sure they are clean and unobstructed.



4. Check that the air cleaner components and all covers and guards are in place and securely fastened.

NOTICE

Be sure air cleaner cover is positioned to the proper normal operation or cold weather operation position. Running engine in the cold weather operation position in normal conditions can damage the engine.

Normal Operation Position: 35° to 40°F & Above

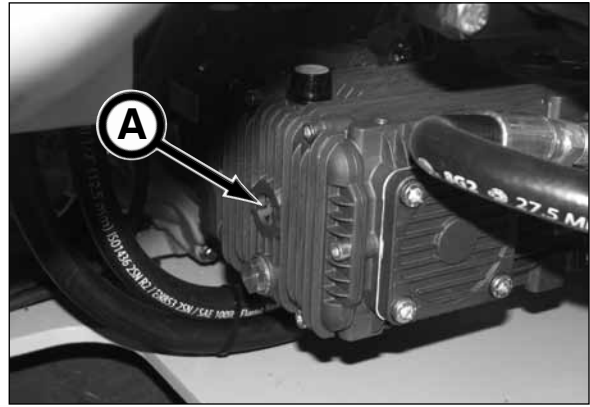
Cold Weather Operation Position:

35° to 40°F & Below

(Continued on next page)



5. Check jetting pump oil level. Oil should be visible on sight gauge (A) or check level on dipstick. Add oil if necessary using SAE 30W non-detergent oil.



6. Check gear box pump oil level. Oil should be visible on sight gauge (B) or check level on dipstick. Add oil if necessary using SAE 90W gear oil.



7. Close tank shut off valve and remove and clean jetting tank strainer.



8. Replace strainer and secure strainer cap.



(Continued on next page)

9. Fill tank with CLEAN water before starting the engine. Replace tank lid securely to prevent foreign objects from entering tank.

NOTICE Once the engine starts, the jetting pump starts immediately.

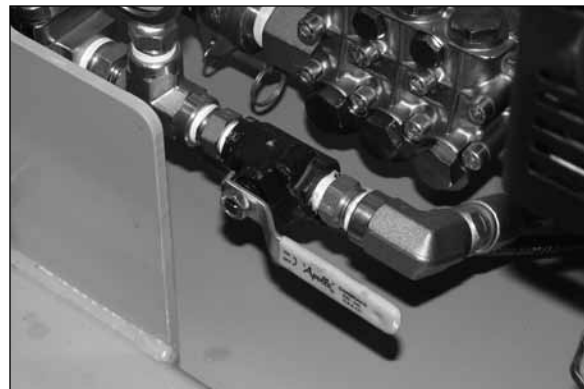


10. Open tank shut off valve .

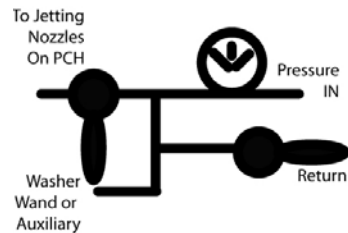
NOTICE NEVER dry run pump. Doing so will result in pump damage.



11. Place lubrication pump in bypass mode. Engine will start only if bypass control is in the open, bypass position.



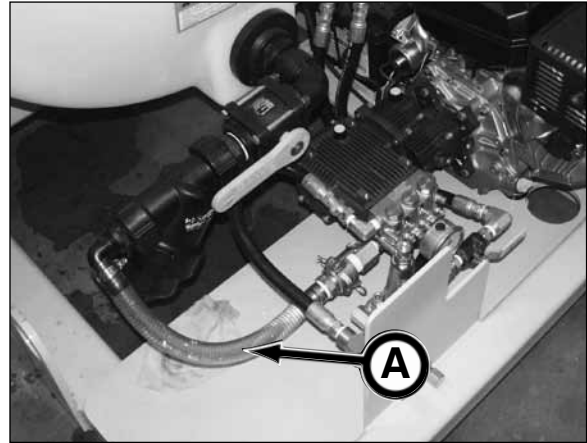
12. If shaft control is hooked to lubrication pump, arrange jetting circuit valve in bypass mode to prevent pressure buildup in tooling.



**JETTING CIRCUIT
BYPASS MODE**

(Continued on next page)

13. Before start up, check to be sure liquid is visible in clear tube (A) from tank to pump. When initially filling tank with liquid, an air lock may result between the tank outlet and the strainer assembly. If this should occur, slowly open stainer assembly cap to release air until liquid is visible in clear tube. DO NOT start engine if there is an air lock. Otherwise pump damage will occur if it operates without liquid for a prolonged period of time.



14. Remove all personnel away from lubrication pump.
15. Start engine (refer to Starting The Engine in this section) and allow engine to warm up for five minutes before applying a load.

NOTICE The engine has a break-in period in the first 5 hours of operation. Refer to the engine owner's manual for more information.



16. Check for leaks.

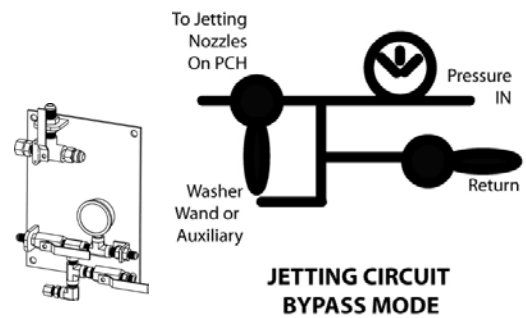


DAILY SHUTDOWN

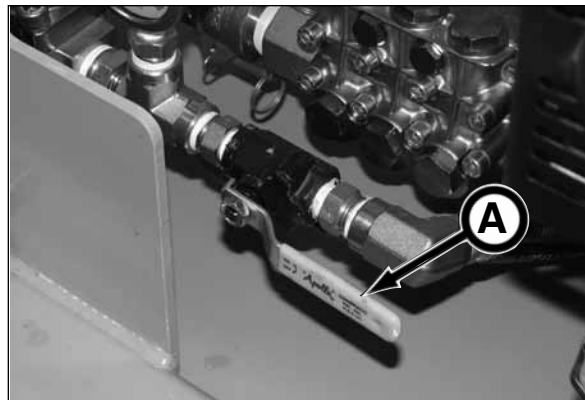
1. Reduce engine speed to low idle by moving throttle control to turtle (slow) position.
2. Allow the engine to run at idle for 30 to 60 seconds before shutting down.



3. On shaft control, arrange jetting circuit valves in bypass mode.



4. Open bypass control valve (A).



5. Shutdown engine. Refer to Shutting Down The Engine in this section.



(Continued on next page)

6. Move the fuel shutoff valve to the OFF position.



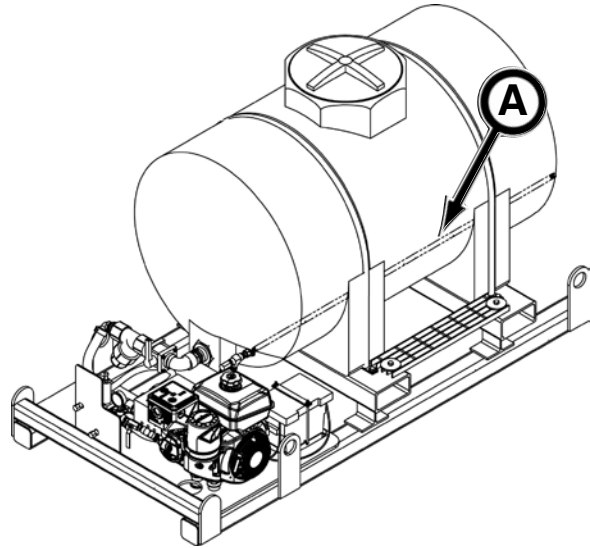
7. Close tank shut off valve on tank.

8. If the potential of freezing weather exists, refer to Cold Weather Protection in this section.



MIXING TANK

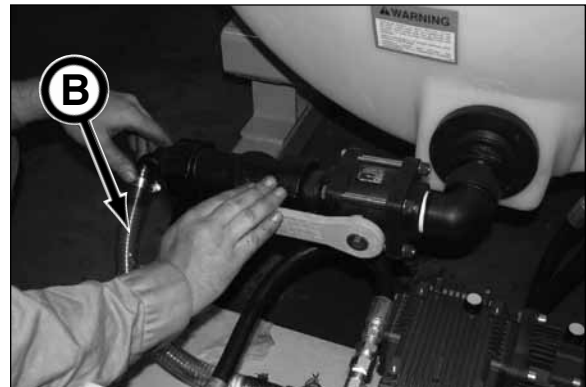
The in-tank agitator (A) automatically mixes liquid based polymers and prevents fluid settlement while the engine is running.



1. Fill water tank.

2. Open tank shut off valve.

NOTICE Be sure fluid is visible in clear tube (B) from tank outlet to jetting pump before starting engine. If not, an air lock is present and must be released by opening stainer assembly cap until fluid flows into clear tube. Otherwise, fluid from tank will not be pumped, causing pump damage when it operates without liquid for a prolonged period of time.



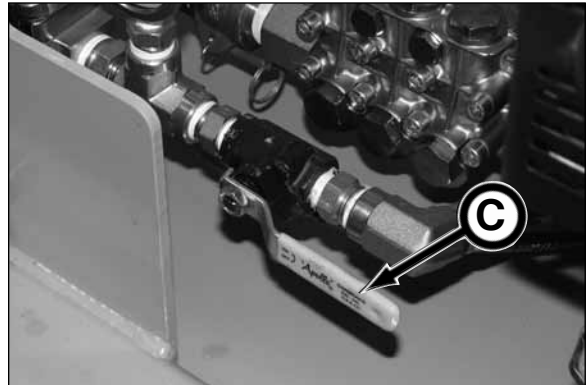
3. Place bypass control (C) in the open, bypass mode.

4. Start engine. Once the engine starts the fluid flows out of tank through jetting pump through the in-tank agitator (A), and then recirculates.

5. Pour EZ-Mud[®], Con Det[®] or equivalent into tank, following instructions on container.

6. Allow time for proper mixing of solution.

7. The tank solution is now available for use. Any return fluid from shaft control circuit will flow through the in-tank agitator resulting in constant solution mixing, while engine is running.



CLEANING TANK

⚠ WARNING Do not allow anyone to enter tank. Tank fumes or becoming accidentally trapped may cause severe injury or death.

1. Fill tank with clean water.



2. Remove strainer.



3. Open tank shut off valve to flush tank with clean water.

NOTICE To help drain tank, CAREFULLY tip pump towards outlet of drain.



(Continued on next page)

4. Once tank is clean and water emptied, close tank shut off valve.
5. Put enough water in tank to cover outlet to prevent accidental dry running of pump.

NOTICE NEVER operate pump without shut off valve open and tank filled with water.



6. Replace strainer.



COLD WEATHER PROTECTION - DRAINING SYSTEM

NOTICE

To prevent damage to pump components in freezing weather, flush and drain pumps and ALL fluid lines. Failure to do so will cause damage to pump components. If using a RV Anti-Freeze solution for cold weather protection, refer to Cold Weather Protection - Using RV Anti-Freeze Solution in this section.



1. Release cam lock hose assembly on the jetting pump.



2. Remove pressure and return hoses (A) or hose caps from pressure and return jetting connections.

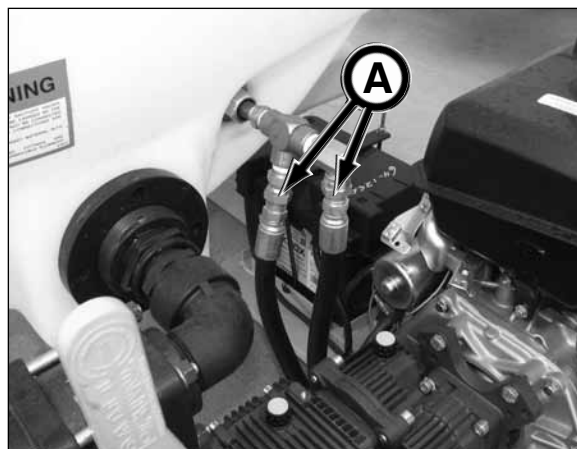


3. Remove strainer.



(Continued on next page)

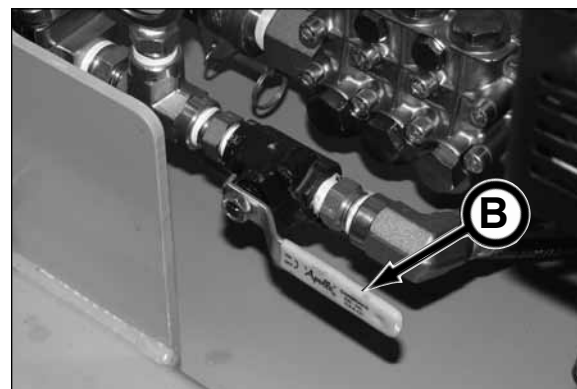
4. Remove both tank return hoses (A).



5. Open tank shut off valve.



6. Open bypass control valve (B).



7. Once all fluid is drained:

- reinstall pump cam lock hose assembly to pump
- reinstall pressure and return hoses or caps on jetting connections
- reinstall strainer and cap
- replace tank return hoses

NOTICE NEVER dry run pump. Doing so will damage pump.



COLD WEATHER PROTECTION - USING RV ANTI-FREEZE SOLUTION

NOTICE Akkerman Inc. recommends draining the system for cold weather protection. If the customer decides to use RV anti-freeze solution for cold weather protection, the customer is responsible for any damages occurred.

NOTICE To prevent component damage in freezing weather, the pump system **MUST** be drained or treated with a RV Anti-Freeze solution.

1. If tank is empty add approximately 4 - 5 gallons (15 - 19 L) of clean water. Proceed to step 3.



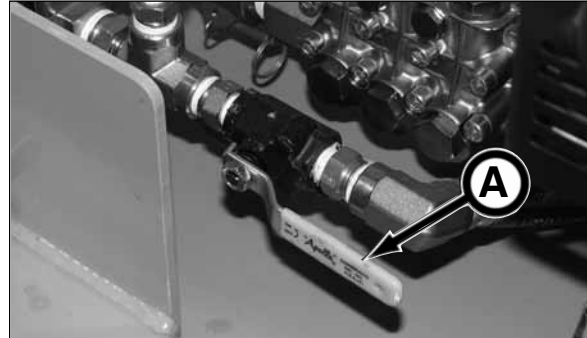
2. If tank is full, drain tank by releasing cam lock hose assembly until 4 - 5 gallons (15 - 19 L) of water is left in tank. Then reinstall cam lock hose assembly to pump. Proceed to step 3.



3. Add 4 - 5 gallons (15 - 19 L) of RV anti-freeze into tank. Be sure there is a 50/50 mixture of liquid to RV anti-freeze in the tank.

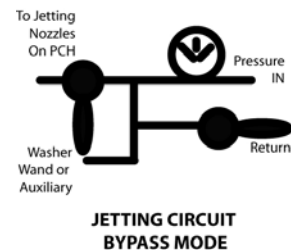
NOTICE Be sure to follow the proper solution instructions on the RV anti-freeze container.

4. Open bypass control valve (A).



5. On shaft control, arrange jetting circuit valves in bypass mode as shown.

NOTICE NEVER dry run pump. Doing so will damage pump.



6. Start engine and cycle pump for at least two minutes to ensure the liquid/RV anti-freeze mixture is pumped through complete jetting system.

7. Shut down engine and refer to engine owner's manual for cold weather protection.



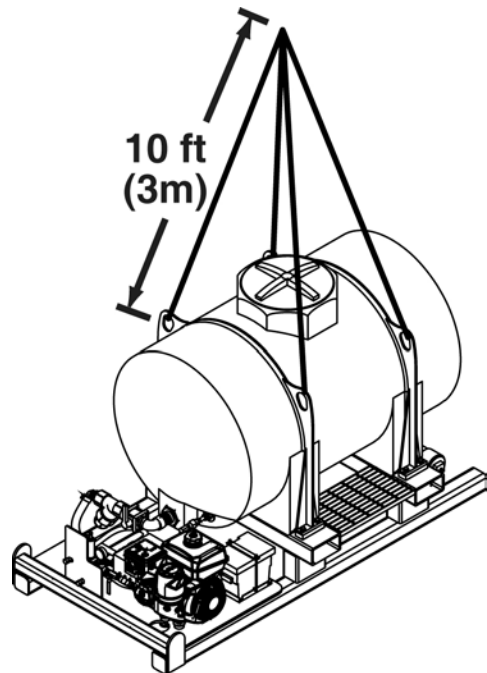
Transporting

TRANSPORTING GUIDELINES

1. Know the local, state, and federal transportation regulations.
2. Obtain required permits for transporting.
3. Remove any obstacles from the trailer floor.
4. Clean debris from equipment.
5. Load and unload on level ground.
6. Securely fasten the 1325G lubrication pump to trailer floor.
7. BEFORE lifting equipment with a hoist or other lifting device, the equipment lifting eyes and sling must be inspected for damage before lifting.
8. Observe the lifting instructions on the equipment.

LIFTING INSTRUCTIONS

- Frame weight:
 - with full tank: 3,700 lbs (1,678 kg)
 - with empty tank: 1,000 lbs (454 kg)
- Lifting with a crane requires a four part sling with legs a minimum of 10 ft (3 m) long.
- Frame **MUST** lift freely. If it is stuck to the ground, it **MUST** be broken loose prior to lifting.
- Frame lifting eyes **MUST** be inspected prior to each lift. Any damage **MUST** be repaired prior to lifting.



Transporting

NOTES

Fuels & Lubricants

NOTICE

Use of inferior fuel or lubricants will affect the efficient performance of your 1325G Lubrication Pump. Always use high quality fuel and lubricants as specified in this section. Refer to the Periodic Maintenance section for proper lubrication quantity, maintenance intervals, and procedures.

NOTICE

For more information on maintaining your fuel and additional fuel specifications, refer to your engine owner's manual.

FUEL SPECIFICATIONS

⚠ WARNING

Gasoline is extremely flammable and its vapors can explode if ignited. Store gasoline only in approved containers, in well ventilated, unoccupied buildings, away from sparks or flames. Spilled fuel could ignite if it comes in contact with hot parts or sparks from ignition. Never use gasoline as a cleaning agent.



The fuel must meet the following requirements:

- Clean, fresh, unleaded gasoline.
- Octane rating of 87 (R+M)/2 or higher.
- In countries using the Research Method, use Research Octane Number (RON) 90 octane minimum.
- Gasoline up to 10% ethyl alcohol, 90% unleaded is acceptable.
- Methyl Tertiary Butyl Ether (MTBE) and unleaded gasoline blend (max 15% MTBE by volume) are approved.
- Other gasoline/alcohol blends including E20 and E85 are not to be used and are not approved. Any failures resulting from use of these fuels will not be warranted.
- Do not add oil to gasoline.
- Do not overfill fuel tank. Leave enough room in tank for fuel to expand.
- Do not use gasoline older than 30 days.
- Effects of old, stale or contaminated fuel are not warrantable.



Fuel tank capacity is 7.7 qt. (7.3 L).



ENGINE OIL

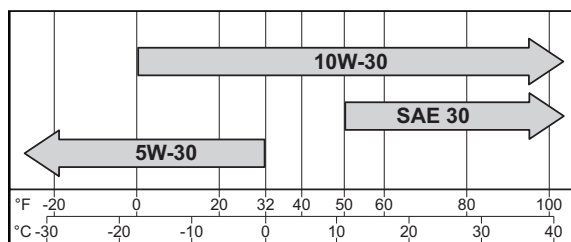
NOTICE For more information on the engine oil specifications, refer to your engine owner's manual.

The engine is filled with SAE 10W30 oil.

Change the oil and filters after the first 5 hours of operation and every 100 hours thereafter with SAE 10W-30 engine oil or other oil viscosity based on the expected air temperature range during the period between oil changes as shown in chart.

Other high quality detergent oils, including synthetic, of API (American Petroleum Institute) service class SJ or higher are acceptable.

The engine oil capacity is approximately 1.16 qt (1 L). Oil level should be within the crosshatches of the dipstick. Do not overfill!



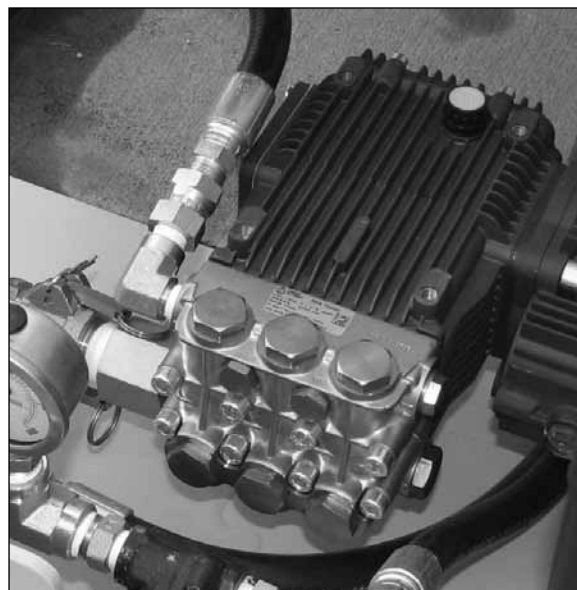
JETTING PUMP LUBRICANT

The jetting pump is filled with SAE 30W non-detergent oil.

Use SAE 30W non-detergent oil.

Change the oil after the first 50 hours of operation and every 500 hours thereafter with SAE 30W non-detergent oil.

The pump reservoir capacity is 15 fl oz. (444 ml). Oil level should be within the notched portion of the dipstick. Do not overfill!



GEAR BOX LUBRICANT

The gear box (A) is filled with SAE 90W gear oil.

Use SAE 90W gear oil.

Change the oil after the first 50 hours of operation and every 500 hours thereafter with SAE 90W gear oil.

The gear box reservoir capacity is 7.4 fl oz. (219 ml). Oil level should be within the notched portion of the dipstick. Do not overfill!



STORING LUBRICANTS

Your equipment can operate at maximum performance only if clean lubricants are used. Use clean containers to handle all lubricants.

Lubricants should be stored in an area protected from dust, moisture, and other contaminants.

All lubricants must be stored at least 100 ft (30.5 m) from the portal, entrance to the tunnel, launch shaft or reception shaft.



NOTES

Periodic Maintenance

⚠ WARNING

Review the Safety section in this manual before performing maintenance. Failure to do so, could cause severe injury or death.

The requirements for maintenance are shown on the maintenance charts in this section. Intervals of maintenance are based on normal operating conditions. If operating under more difficult conditions, use a shorter time interval between maintenance.

FLUIDS UNDER PRESSURE

⚠ WARNING

Escaping fluids under pressure can penetrate your skin causing serious injury.

Release all pressure before performing maintenance or repairs. Never weld near pressurized fluid lines.

DO NOT use your hands to check for leaks. When searching for leaks, use a piece of wood or cardboard.

Contact medical help immediately if any fluid is injected into your skin. A serious infection or reaction can emerge without proper medical treatment.



USING A PRESSURE WASHER WAND

⚠ WARNING

Using the lubrication pump with a pressure washer wand can generate enough fluid pressure and velocity to penetrate skin resulting in serious personal injury.

Contact medical help immediately if fluid is injected into your skin. A serious infection or reaction can emerge without proper medical treatment.

NEVER point the wand towards a person or animal.

Be sure to release pressure after use and before performing maintenance to prevent accidental fluid injection.

Wear safety glasses and gloves, and depending on the wand use, a particle mask may be necessary.



AVOID PINCH POINTS

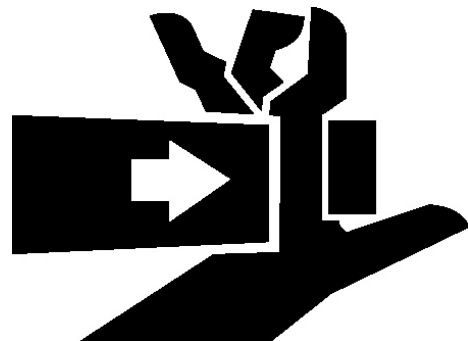
⚠ WARNING

Moving parts or the mishandling of parts can cause severe personal injury.

Keep hands away from moving parts.

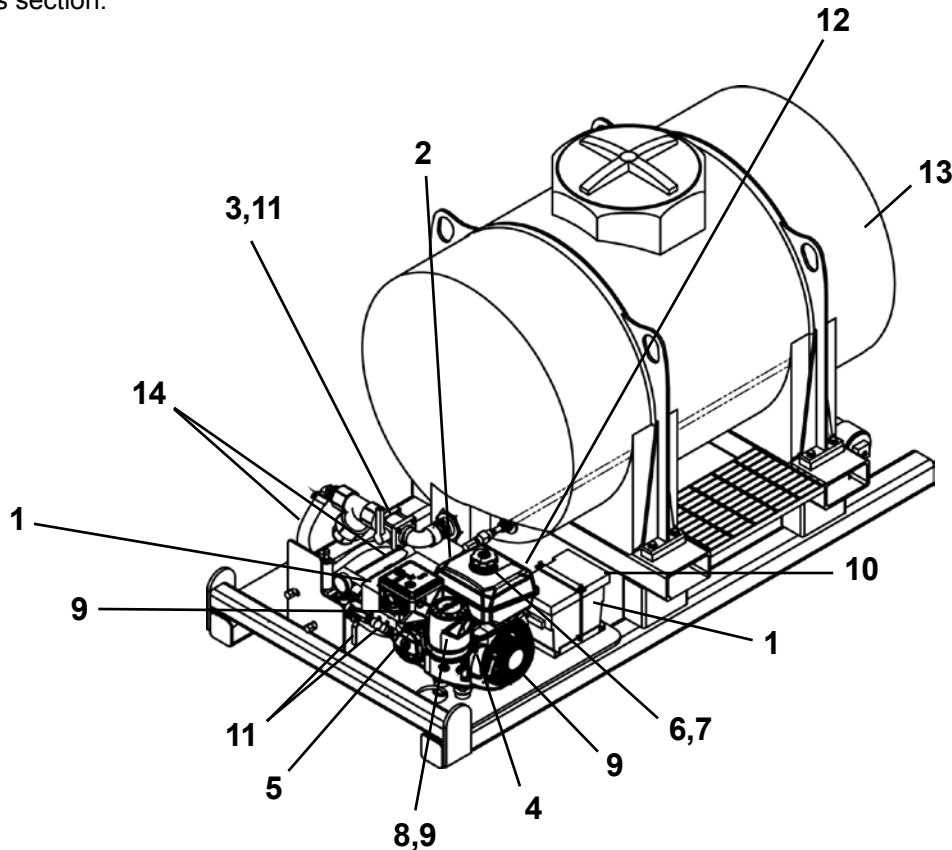
Watch your fingers, hands, and legs while equipment is in operation.

Handle parts carefully to avoid crushing and pinch point hazards.



MAINTENANCE CHARTS

NOTICE Use the item number in the chart to refer to the detailed maintenance instructions later in this section.



*DAILY OR EVERY 10 HOURS OF OPERATION

ITEM	COMPONENT	SERVICE	REQUIREMENT	MATERIAL
1.	Jetting Pump Oil **	Check Oil Level	Add oil as needed.	SAE 30W
2.	Gear Box Oil **	Check Oil Level	Add oil as needed.	SAE 90W
3.	Tank Strainer	Clean	If damaged, replace with new.	
4.	Engine	Inspect	Visually inspect for damage.	
5.	Engine Crankcase***	Check Oil Level	Add oil as needed.	SAE 10W30
6.	Fuel Tank	Check Fuel Level	Add fuel as needed.	See Section 8
7.	Fuel Filter	Clean	Remove any accumulation.	Fuel Filter
8.	Air Cleaner & PreCleaner^	Check	Keep area clean.	
9.	Air Intake & Cooling Areas	Check	Keep areas clean.	
10.	Covers & Guards	Inspect	Replace if damaged.	
11.	Valves & Levers	Inspect	Inspect for proper operation.	
12.	Wiring & Cables	Inspect	If damaged, replace with new.	
13.	Water Tank	Inspect	Repair or replace if damaged.	
14.	Hoses & Tube	Check	Replace if damaged.	
15.	Decals^^	Inspect	If damaged, replace with new.	

* Refer to your engine owner's manual for additional maintenance information.

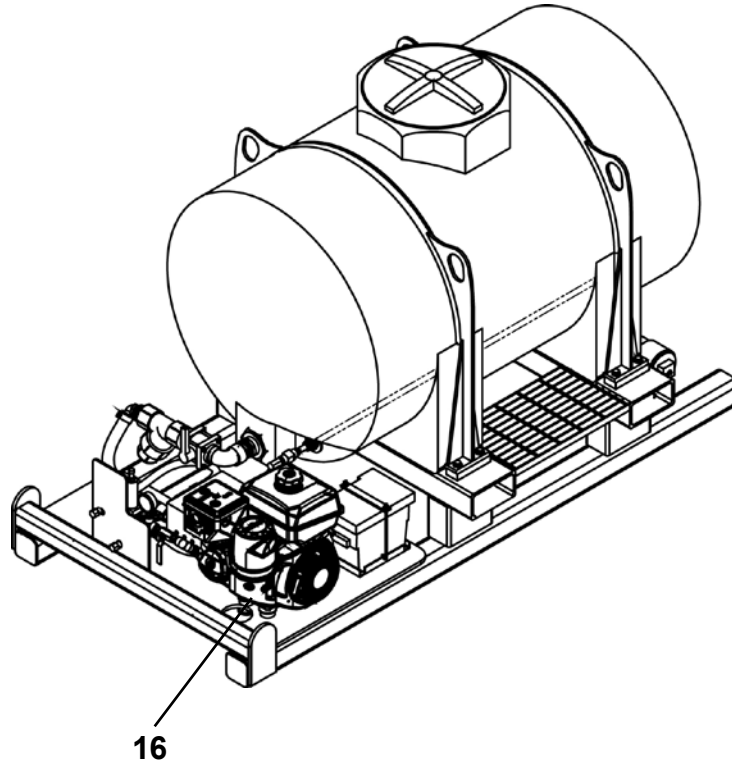
** During break-in period, change the oil in jetting pump and gear box for the first time at 50 hours of operation and every 500 hours thereafter.

*** During engine break-in period, change the oil for the first time at 5 hours of operation & every 100 hours.

^ Perform more frequently under extremely dusty, dirty conditions.

^^ Not Shown

NOTICE Use the item number in the chart to refer to the detailed maintenance instructions later in this section.

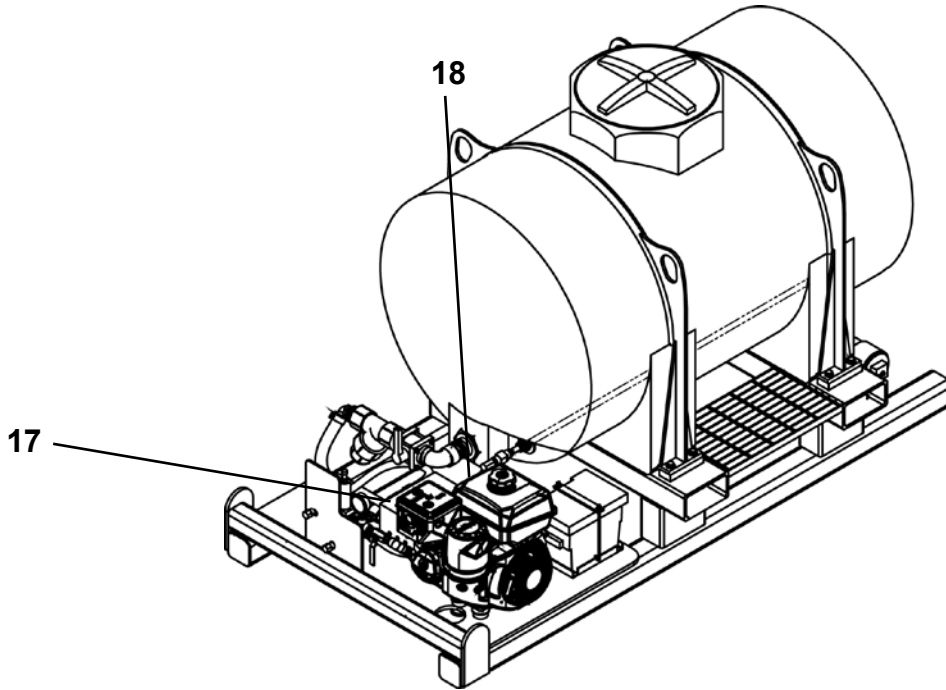


***FIRST 5 HOURS OF OPERATION & EVERY 100 HOURS THEREAFTER**

ITEM	COMPONENT	SERVICE	REQUIREMENT	MATERIAL
16.	Engine Crankcase	Drain & Fill	Replace with new oil.	SAE10W-30

* Refer to your engine operation manual for additional maintenance information.

NOTICE Use the item number in the chart to refer to the detailed maintenance instructions later in this section.



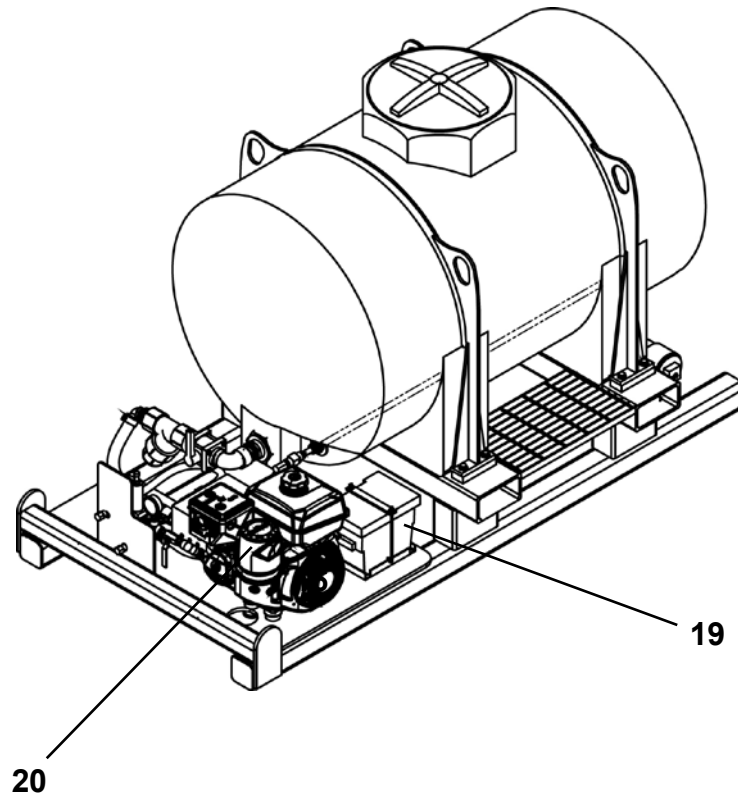
***FIRST 50 HOURS OF OPERATION & EVERY 500 HOURS THEREAFTER**

ITEM	COMPONENT	SERVICE	REQUIREMENT	MATERIAL
17.	Jetting Pump	Drain & Fill	15 fl. oz. (444 ml)	SAE 30W
18.	Gear Box	Drain & Fill	7.4 fl. oz (219 ml)	SAE 90W

* Refer to your engine operation manual for additional maintenance information.

NOTICE

Use the item number in the chart to refer to the detailed maintenance instructions later in this section.



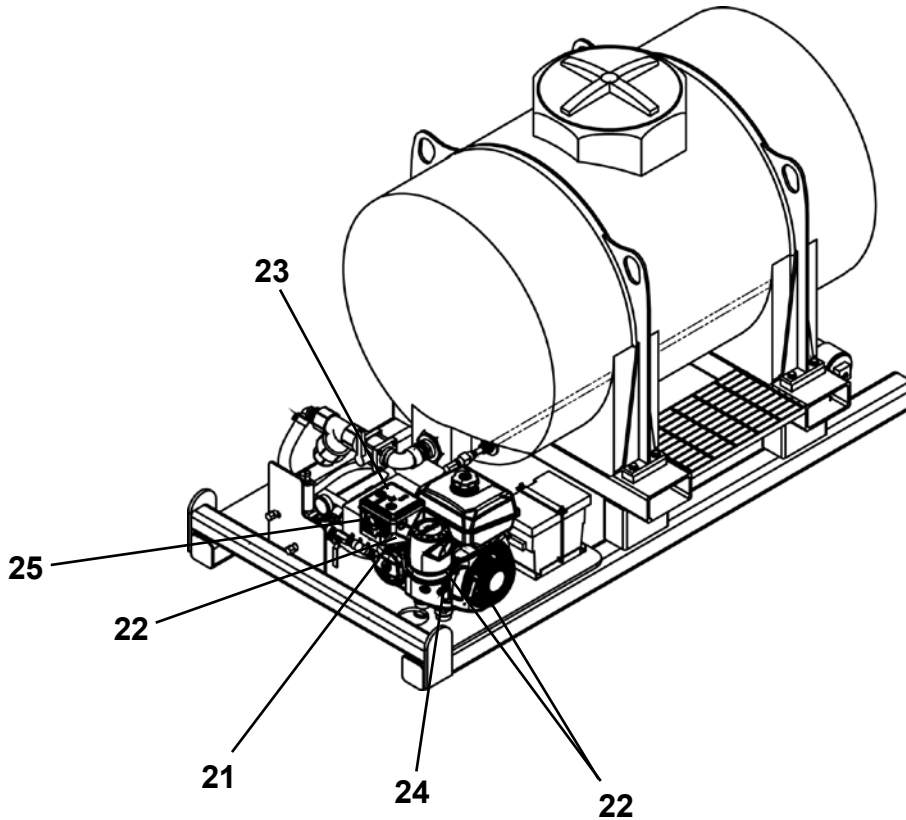
***WEEKLY OR EVERY 50 HOURS OF OPERATION**

ITEM	COMPONENT	SERVICE	REQUIREMENT	MATERIAL
19.	Battery	Check	Check for damage or frayed cables.	Battery/Cable
20.	Precleaner	Clean or replace.		

* Refer to your engine operation manual for additional maintenance information.

NOTICE

Use the item number in the chart to refer to the detailed maintenance instructions later in this section.



***EVERY 100 HOURS OF OPERATON**

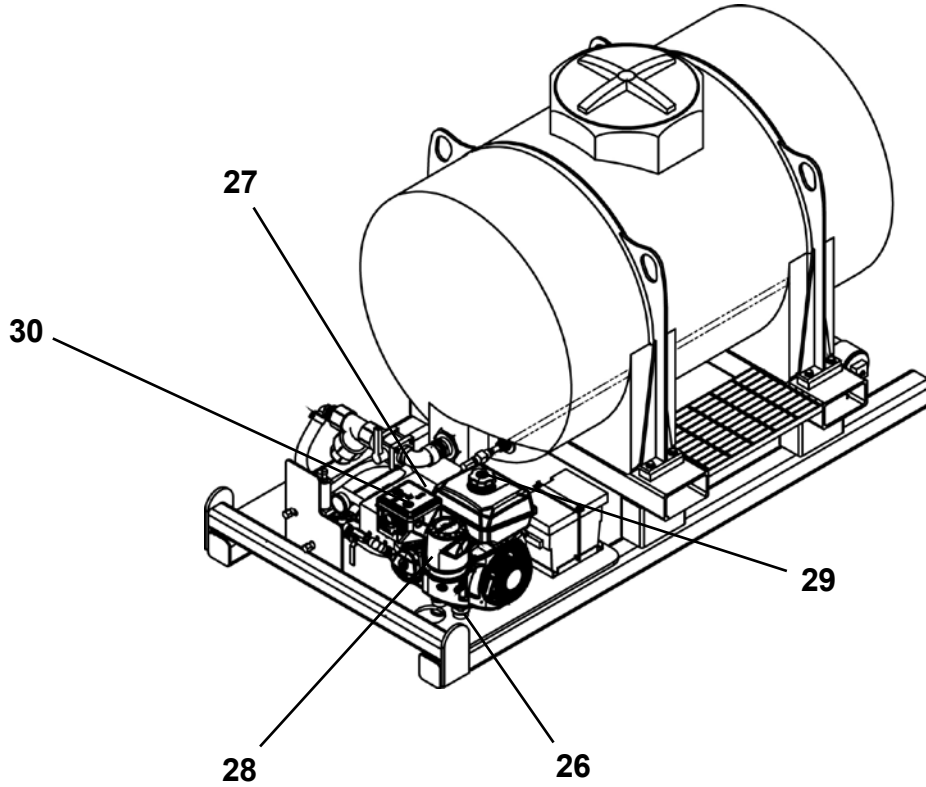
ITEM	COMPONENT	SERVICE	REQUIREMENT	MATERIAL
21.	Engine Crankcase**	Drain & Fill	Replace with new oil.	SAE 10W-30
22.	Air Intake/Cooling Areas	Clean		
23.	Spark Plug	Check Condition	Reset gap or replace with new.	Spark Plug
24.	Fuel Valve	Clean	Clean fuel valve cup of debris.	
25.	Muffler Screen	Clean or Replace		Muffler Screen

* Refer to your engine operation manual for additional maintenance information.

** During engine break-in period, change the oil for the first time at 5 hours of operation and every 100 hours thereafter.

NOTICE

Use the item number in the chart to refer to the detailed maintenance instructions later in this section.



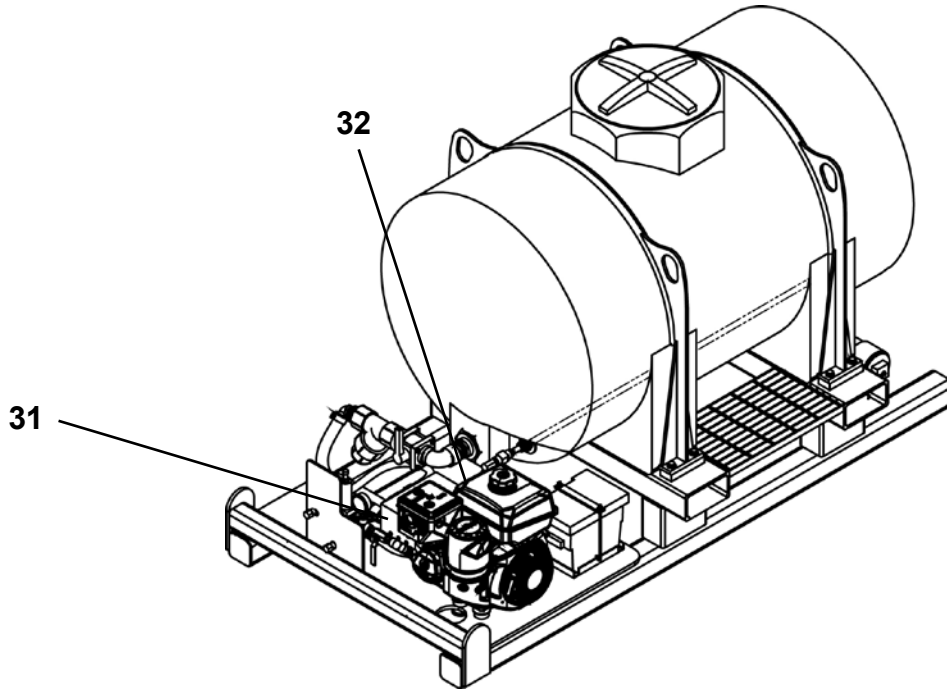
***MONTHLY OR EVERY 200 HOURS OF OPERATION**

ITEM	COMPONENT	SERVICE	REQUIREMENT	MATERIAL
26.	Engine Mtg Bolts	Inspect	If damaged, replace with new.	Element
27.	Pump & Motor Mounting Bolts	Inspect	If damaged, replace with new.	
28.	Air Cleaner	Replace		
29.	Fuel Tank Cap	Inspect		
30.	Engine	Service	Refer to Engine Owner's Manual.	

* Refer to your engine operation manual for additional maintenance information.

NOTICE

Use the item number in the chart to refer to the detailed maintenance instructions later in this section.



***EVERY 500 HOURS OF OPERATION**

ITEM	COMPONENT	SERVICE	REQUIREMENT	MATERIAL
31.	Jetting Pump	Drain & Fill	15 fl. oz. (444 ml)	SAE 30W
32.	Gear Box	Drain & Fill	7.4 fl. oz (219 ml)	SAE 90W

* Refer to your engine operation manual for additional maintenance information.

DAILY OR EVERY 10 HOURS OF OPERATION

NOTICE

Refer to your engine owner's manual for additional maintenance information.

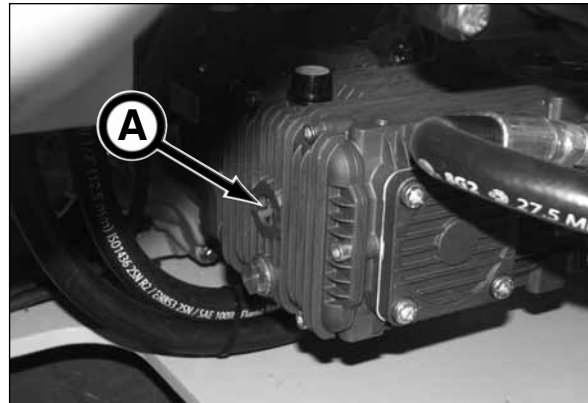
1. CHECK JETTING PUMP OIL RESERVOIR LEVEL

NOTICE

The pump manufacturer recommends to change the pump oil after the first 50 hours of operation and every 500 hours thereafter.

Check jetting pump oil reservoir level using sight glass (A).

If needed, fill with SAE 30W non-detergent oil.



2. CHECK GEAR BOX OIL RESERVOIR LEVEL

NOTICE

The gear box manufacturer recommends to change the gear box oil after the first 50 hours of operation and every 500 hours thereafter.

Check gear box oil reservoir level using sight glass (B).

If needed, fill with SAE 90W gear oil.



3. CLEAN TANK STRAINER

Clean tank strainer with water or other non-abrasive cleaner.

If damaged, replace with new.



4. INSPECT ENGINE

Perform an overall visual inspection of the engine:

- check for engine oil leaks
- check for fuel leaks
- check for damaged or missing parts

If leaks appear or any parts are damaged, repair or replace before operating the engine.



5. CHECK ENGINE CRANKCASE OIL LEVEL

Check engine oil level on dipstick. Do not fill above the top mark on the dipstick.

ALWAYS keep oil level within the crosshatches on dipstick when operating engine. Oil levels anywhere within crosshatches are considered full.

If necessary, add SAE 10W30 engine oil. See Engine Oil in the Fuels & Lubricants section for oil specification.

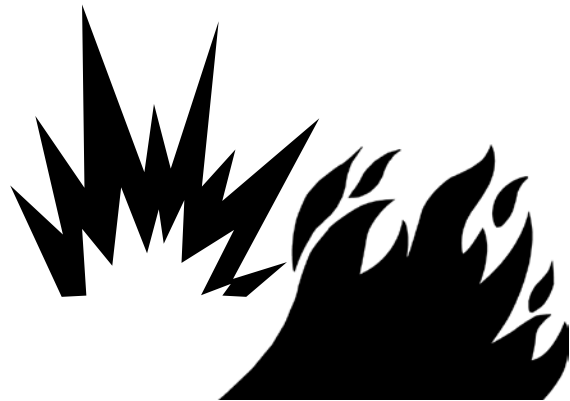
NOTICE After the first 50 hours of operation, replace engine oil.



6. CHECK FUEL TANK LEVEL

⚠ WARNING Gasoline is extremely flammable and explosive. Handle with care. DO NOT refuel while smoking or when near open flame or sparks. Do not fill the fuel tank while the engine is hot or running.

Have a fire extinguisher available at all times. Keep the fire extinguisher fully charged.



1. Shut off engine before refueling.
2. Clean area around the fuel cap.
3. Remove the fuel cap from the fuel tank.
4. Refuel (refer to section 8 for Fuel Specification) until fuel tank is full. Allow room for the fuel to expand. NEVER overfill the fuel tank. Wipe up spills.
5. Replace fuel cap.



7. CLEAN FUEL TANK FILTER

Clean filter of any accumulation as follows:

1. Shut down engine and remove the fuel tank cap and filter.
2. Clean the filter with solvent. Replace if damaged.
3. Wipe the filter and insert it in filler neck.
4. Replace fuel cap.



8. CHECK AIR CLEANER & PRECLEANER ELEMENTS

1. Check the air cleaner and precleaner elements daily or before starting the engine. Check for buildup of dirt and debris around the air cleaner system including the air cleaner cover and base. Keep this area clean.
2. Also check for loose or damaged components. Replace all bent or damaged air cleaner components.



3. Reinstall the air cleaner cover properly by lining up the cover to the normal or cold weather operation position.

Normal Operation Position: 35° to 40°F & Above
Cold Weather Operation Position:
35° to 40°F & Below

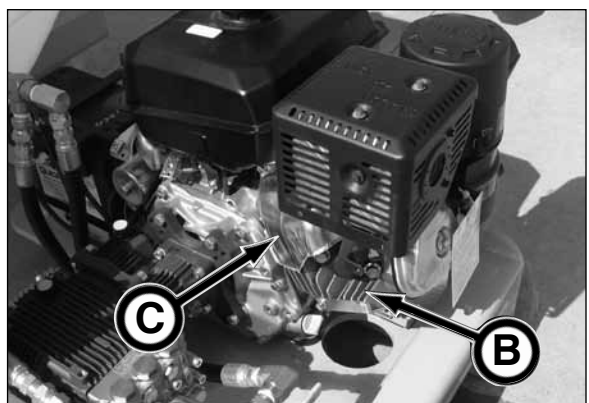
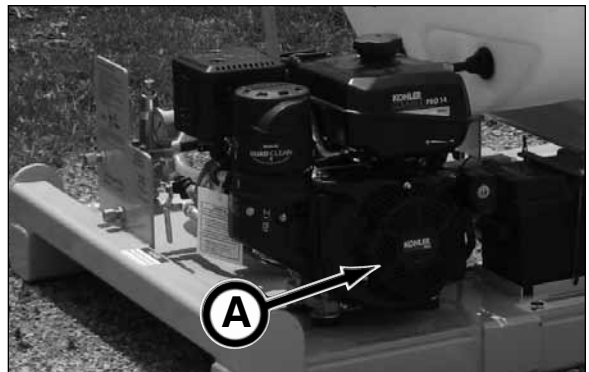
4. Secure air cleaner cover to base with latches and bails.



9. CHECK AIR INTAKE & COOLING AREAS

To ensure proper cooling, be sure the grass screen (A), cooling fins (B), cooling shrouds (C) and other external surfaces of the engine are kept clean at all times.

NOTICE Operating the engine with a blocked grass screen, dirty or plugged cooling fins, and/or cooling shrouds removed, will cause engine damage due to overheating.



10. INSPECT COVERS & GUARDS

Inspect all guards and covers to be sure they are properly mounted in place, and undamaged. Repair or replace as needed. NEVER operate without covers or guards in place.



11. INSPECT VALVES AND LEVERS

Inspect valves and levers for proper operation.
Repair or replace as needed.



12. INSPECT WIRING & CABLES

Inspect wiring and cable for cracking, fraying or other damage. Replace as needed.



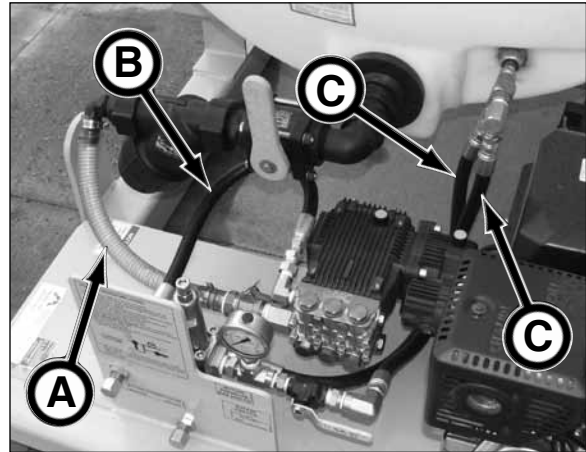
13. INSPECT WATER TANK

Inspect water tank for damage. Repair or replace as needed.



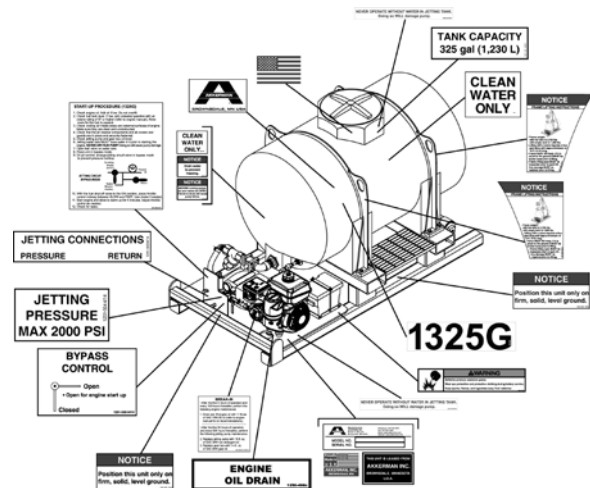
14. INSPECT OUTLET TUBE & PRESSURE & RETURN HOSES

Inspect outlet tube (A), pressure hose (B), and return hoses (C) for cracks, wear or damage. Replace as needed.



15. INSPECT DECALS

Visually inspect all decals so they are clean and readable. Replace decals if they are damaged, missing, or hard to read.



FIRST 5 HOURS OF OPERATION & EVERY 100 HOURS THEREAFTER

NOTICE

Refer to your engine owner's manual for additional maintenance information.

16. CHANGE ENGINE OIL

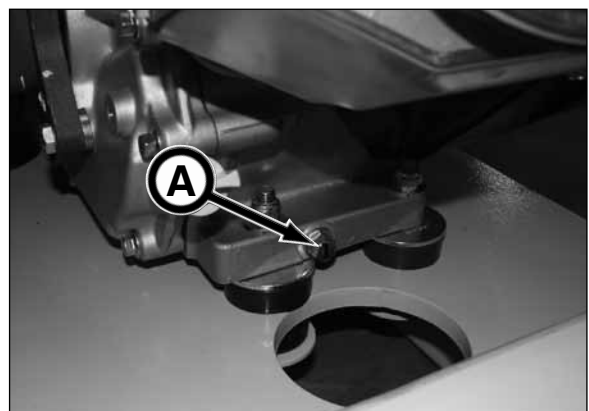
1. Start the engine and run to operating temperature. This will allow oil to drain more easily.
2. Stop the engine.



3. Clean area around the dipstick/fill cap. Remove cap.



4. Clean area around engine oil drain plug (A).
5. Position a properly sized container to collect waste oil.
6. Remove drain plug and drain oil into container. Recycle oil properly.
7. Replace drain plug.



(Continued on next page)

- 8. Fill engine with SAE 10W30 engine oil or other oils specified in the Fuels & Lubricants section. The following fluid capacity is an approximate value. Be sure to check levels after filling. DO NOT OVERFILL.

Oil Capacity approx. 1.16 qt (1 L)

- 9. Install fill cap. Clean up spills.
- 10. Start engine and run until warm for 5 minutes and check for leaks.
- 11. After the engine is warm, shut if off and let it sit for 10 minutes.
- 12. Recheck the engine oil level on dipstick and fill as needed. Oil level should be within the crosshatches of the dipstick. Do not overfill!



- 13. Reinstall dipstick/fill cap.



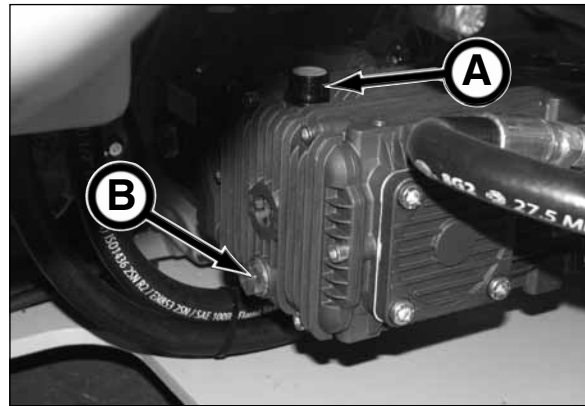
FIRST 50 HOURS OF OPERATION & EVERY 500 HOURS THEREAFTER

NOTICE

Refer to your engine owner's manual for additional maintenance information.

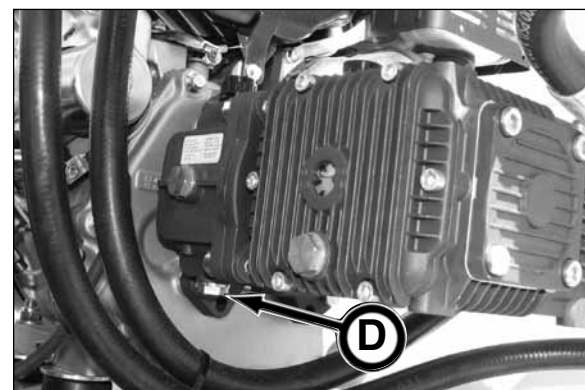
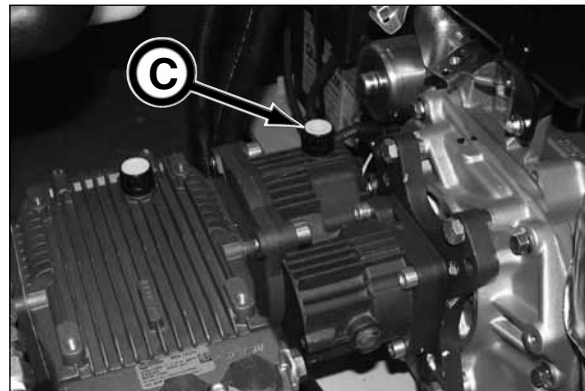
17. DRAIN & FILL JETTING PUMP OIL RESERVOIR

1. Clean area around dipstick/fill cap (A) and drain plug (B).
2. Remove drain plug and drain oil into a catch pan.
3. Replace drain plug.
4. Remove dipstick/fill cap.
5. Fill approximately 15 fl. oz (444 ml) of SAE 30W non-detergent oil.
6. Check oil level using dipstick. Oil level should be within the notched portion of the dipstick. Do not overfill!
7. Reinstall dipstick/fill cap.



18. DRAIN & FILL GEAR BOX OIL RESERVOIR

1. Clean area around dipstick/fill cap (C) and drain plug (D).
2. Remove drain plug and drain oil into a catch pan.
3. Replace drain plug.
4. Remove dipstick/fill cap.
5. Fill approximately 7.4 fl. oz (219 ml) of SAE 90W gear oil.
6. Check oil level using dipstick. Oil level should be within the notched portion of the dipstick. Do not overfill!
7. Reinstall dipstick/fill cap.



WEEKLY OR EVERY 50 HOURS OF OPERATION

NOTICE

Refer to your engine owner's manual for additional maintenance information.

19. CHECK BATTERY

⚠ WARNING

Batteries produce explosive gases.

Wear eye protection and protective clothing during battery service.

Keep sparks, flames, and cigarettes away from batteries.

Contact with battery acid can cause severe burns. Flush immediately and thoroughly with clean water. Get medical attention immediately.

Charge a battery only in a well-ventilated area.

Never charge a frozen battery.



Visually check the battery for damage. If damaged replace with new.

Check battery cables for damage or fraying. If damaged, replace with new.

Be sure cables are secured properly to the battery posts and engine mounts.

Inspect battery mount and battery box for damage. If damaged or if parts are missing, replace with new.



20. CLEAN PRECLEANER

Clean the precleaner every 50 hours of operation and more often under extremely dusty or dirty conditions.

1. Clean area around the air cleaner assembly and cover. Then remove the air cleaner cover.



2. Remove the precleaner from the air cleaner element.

3. Wash the precleaner in warm water with a mild detergent.

4. Rinse the precleaner thoroughly until all traces of detergent are eliminated.

5. Squeeze out excess water, though DO NOT WRING otherwise damage will result to precleaner.



6. Allow precleaner to dry.

7. Reinstall the precleaner over the air cleaner element.

NOTICE If precleaner is worn, torn or damaged, replace with new.



8. Slide the precleaner/air cleaner element onto the air cleaner base.

9. Reinstall and secure the air cleaner cover to base at the proper normal operation or cold weather operation position.

Normal Operation Position: 35° to 40°F & Above

Cold Weather Operation Position:

35° to 40°F & Below



EVERY 100 HOURS OF OPERATION

NOTICE

Refer to your engine owner's manual for additional maintenance information.

21. CHANGE ENGINE OIL

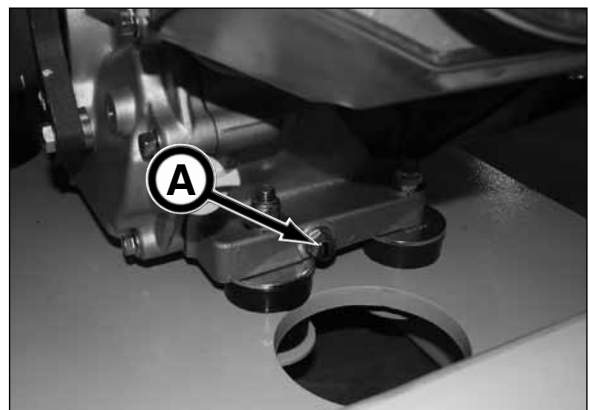
1. Start the engine and run to operating temperature. This will allow oil to drain more easily.
2. Stop the engine.



3. Clean area around the dipstick/fill cap. Remove cap.



4. Clean area around engine oil drain plug (A).
5. Position a properly sized container to collect waste oil.
6. Remove drain plug and drain oil into container. Recycle oil properly.
7. Replace drain plug.



(Continued on next page)

8. Fill engine with SAE 10W30 engine oil or other oils specified in the Fuels & Lubricants section. The following fluid capacity is an approximate value. Be sure to check levels after filling. DO NOT OVERFILL.

Oil Capacity approx. 1.16 qt (1 L)

9. Install fill cap. Clean up spills.
10. Start engine and run until warm for 5 minutes and check for leaks.
11. After the engine is warm, shut if off and let it sit for 10 minutes.
12. Recheck the engine oil level on dipstick and fill as needed. Oil level should be within the crosshatches of the dipstick. Do not overfill!



13. Reinstall dipstick/fill cap.

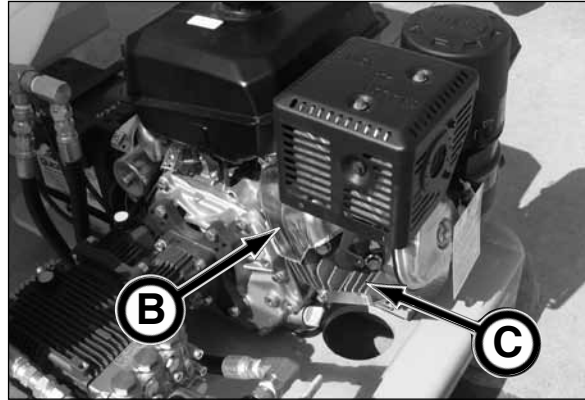
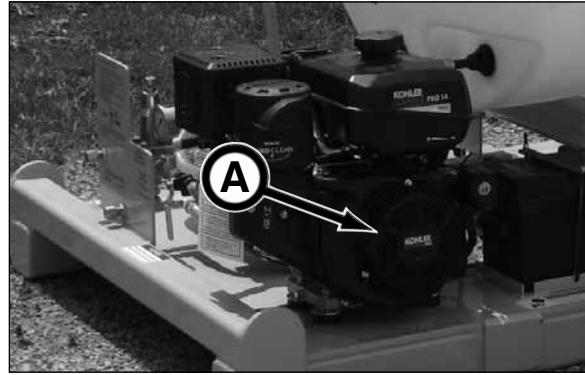


22. CLEAN AIR INTAKE/COOLING AREAS

NOTICE Refer to your engine owner's manual for additional maintenance information.

1. Remove blower housing (A) and other cooling shrouds (B) and clean as necessary.
2. Clean the cooling fins (C) and external surfaces as necessary. Be sure to reinstall the cooling shrouds and blower housing,

NOTICE Operating the engine with a blocked grass screen, dirty or plugged cooling fins, and/or cooling shrouds removed, will cause engine damage due to overheating.



23. CHECK SPARK PLUG

Remove the spark plug, check condition and reset the gap or replace with a new plug as necessary. Refer to your engine owner's manual for spark plug maintenance instructions.

Ignition System

This engine is equipped with a dependable electronic magneto ignition system. Other than periodically checking/replacing the spark plug, no maintenance or adjustments are necessary or possible with this system.

In the event starting problems should occur which are not corrected by replacing the spark plug, see your Kohler Engine Service Center for trouble analysis.

Check Spark Plug

Annually or every 100 hours of operation, remove the spark plug, check condition, and reset the gap or replace with a new plug as necessary. The original spark plug is a Champion® RC12YC, the Kohler equivalent is Kohler Part No. 12 132 02-S or for RFI Kohler Part No. 25 132 14-S. Equivalent alternate brand plugs can also be used.

1. Before removing the spark plug, clean the area around the base of the plug to keep dirt and debris out of the engine.

2. Remove the plug and check its condition. Replace the plug if worn or reuse is questionable.

NOTE: Do not clean the spark plug in a machine using abrasive grit. Some grit could remain in the spark plug and enter the engine causing extensive wear and damage.

3. Check the gap using a wire feeler gauge. Adjust the gap to 0.76 mm (0.030 in.) by carefully bending the ground electrode. See Figure 27.
4. Reinstall the spark plug into the cylinder head. Torque the spark plug to 20 Nm (14 ft. lb.).

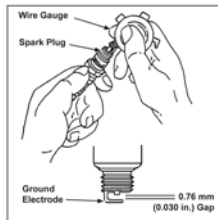


Figure 27. Servicing Spark Plug.



24. CLEAN FUEL VALVE CUP

Clean fuel valve cup of any accumulated debris. If the screen becomes clogged or damaged, replace with new. Refer to your engine owner's manual for fuel valve maintenance instructions.

Fuel Valve

Engines are equipped with a fuel valve and integral screen filter located at the inlet of the carburetor. It controls and filters fuel flow from the tank to the carburetor.

Every 100 hours of operation clean fuel valve cup of any accumulated debris. If the screen becomes clogged or damaged replace it.



1. Stop the engine.
2. Remove the securing hardware and the carburetor cover panel. See Figure 29.
3. Turn the fuel valve lever to the "OFF" position.
4. Remove the fuel valve cup. See Figure 30.
5. Clean the fuel valve cup with solvent and wipe it oil.
6. Check the O-ring, replace if damaged. Check the screen for blockage or damage, replace if necessary. The new screen must be located on the pick-up tube as shown in Figure 31.
7. Place the O-ring on the screen followed by the fuel valve cup. Rotate the fuel valve cup until it is finger tight. Turn with a wrench 1/2 to 3/4 full turn. See Figure 31.
8. Turn the fuel valve to the "ON" position and check for leaks. If fuel valve cup leaks repeat step 6 and 7.
9. Tighten the tank cap securely.
10. Reinstall the carburetor cover panel securing with hardware removed in step 2.

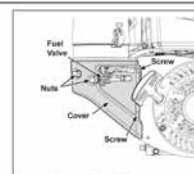


Figure 29. Carburetor Cover Panel.

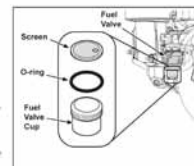


Figure 30. Fuel Valve Cup, O-ring, and Screen.

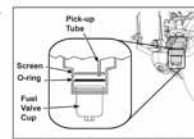


Figure 31. Pick-up Tube and Screen Orientation.

25. CLEAN MUFFLER SCREEN

Remove and clean or replace the muffler screen.
Refer to your engine owner's manual for muffler screen maintenance instructions.

Muffler Screen

Engines are equipped with a muffler screen for operational and environmental safety.

Every 100 hours of operation, remove and clean or replace the muffler screen following the instructions below.



WARNING

Hot Parts can cause severe burns.
Do not touch engine while operating or just after stopping.

1. Remove the securing hardware and the muffler screen. See Figure 32.
2. Clean the carbon deposits out of the screen using a wire brush.
3. Check the muffler screen, replace if damaged.
4. Reinstall the muffler screen, securing with the hardware previously removed.

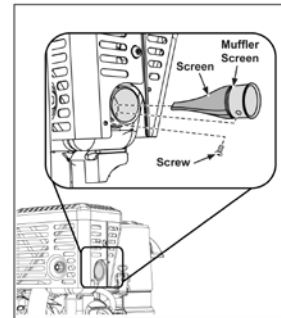


Figure 32. Muffler screen.

MONTHLY OR EVERY 200 HOURS OF OPERATION

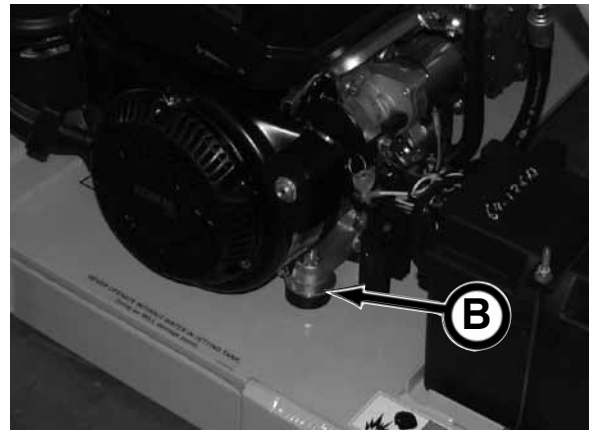
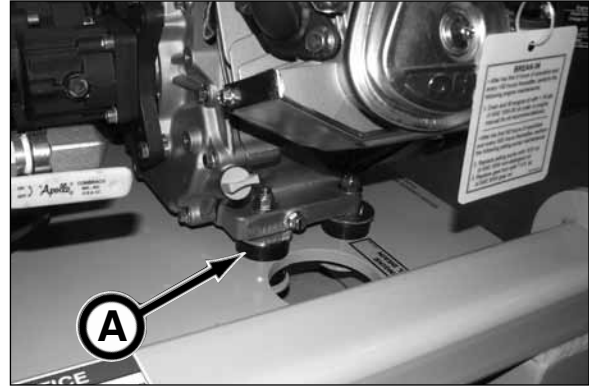
NOTICE

Refer to your engine operation manual for additional maintenance information.

26. INSPECT ENGINE MOUNTS

Visually inspect the front (A) and rear (B) engine mounts for loose hardware or damaged parts.

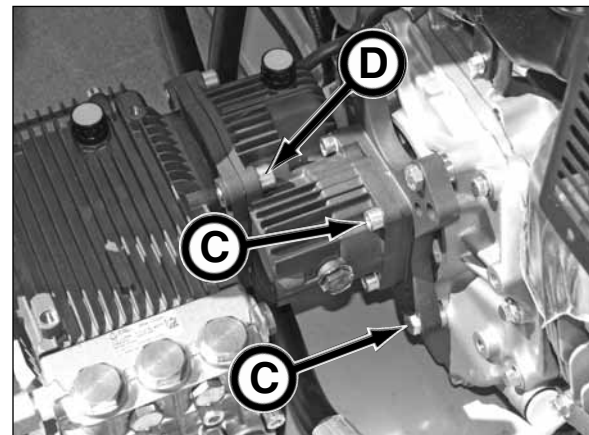
Tighten all loose hardware and replace defective parts.



27. INSPECT PUMP & GEAR BOX MOUNTING BOLTS

Visually inspect pump (C) and gear box (D) mounting bolts for loose hardware or damaged parts.

Tighten all loose hardware and replace defective parts.



28. REPLACE AIR CLEANER FILTER ELEMENT

Every 200 hours or more often under extremely dusty or dirty conditions, replace the air cleaner filter element.

1. Clean area around the air cleaner assembly and cover.
2. Remove air cleaner cover.



3. Separate the precleaner from the filter element. Dispose of element properly. If necessary, clean the precleaner (refer to 20. Clean Precleaner in this section).

NOTICE DO NOT wash the paper filter element. Doing so will damage the filter.



4. Thoroughly clean air cleaner base and air cleaner cover. Check base and cover for damage or improper fit. Replace as needed. Replace all bent or damaged air cleaner components.



5. Slide a clean pre-cleaner over the new filter element and position properly on air cleaner base.



(Continued on next page)

6. Reinstall the air cleaner cover to base at the proper normal operation or cold weather operation position.

Normal Operation Position: 35° to 40°F & Above

Cold Weather Operation Position:

35° to 40°F & Below



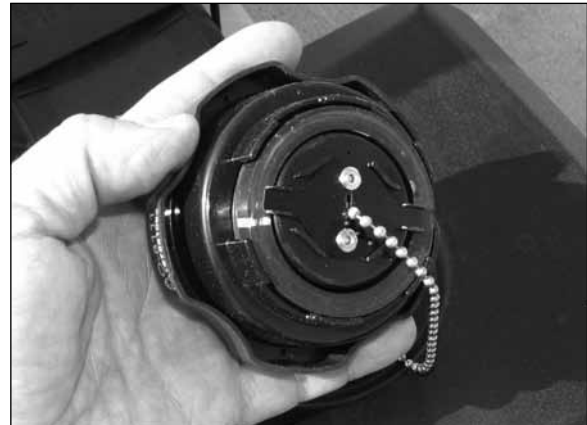
7. Secure the cover to the housing with the two latches.



29. INSPECT & CLEAN FUEL TANK CAP

Inspect cap for damage. If cap is damaged, replace with new.

Remove cap and clean any debris or dirt from cap body.



30. SERVICE ENGINE

Refer to your engine's owner's manual for servicing engine, valve clearance, starter motor drive and decarbonizing combustion chamber.



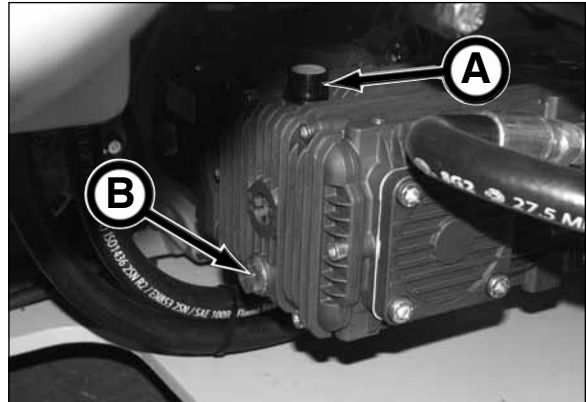
EVERY 500 HOURS OF OPERATION

NOTICE

Refer to your engine operation manual for additional maintenance information.

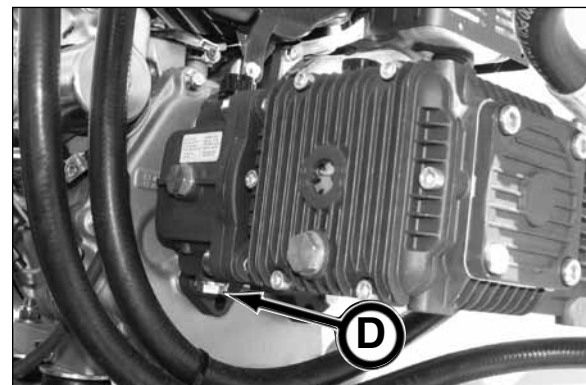
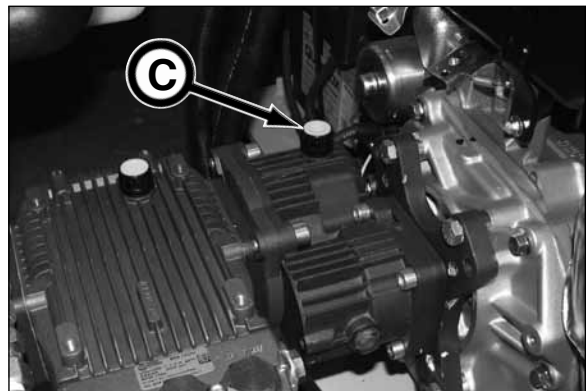
31. DRAIN & FILL JETTING PUMP OIL RESERVOIR

1. Clean area around dipstick/fill cap (A) and drain plug (B).
2. Remove drain plug and drain oil into a catch pan.
3. Replace drain plug.
4. Remove dipstick/fill cap.
5. Fill approximately 15 fl. oz (444 ml) of SAE 30W non-detergent oil.
6. Check oil level using dipstick. Oil level should be within the notched portion of the dipstick. Do not overfill!
7. Reinstall dipstick/fill cap.



32. DRAIN & FILL GEAR BOX OIL RESERVOIR

1. Clean area around dipstick/fill cap (C) and drain plug (D).
2. Remove drain plug (B) and drain oil into a catch pan.
3. Replace drain plug.
4. Remove dipstick/fill cap.
5. Fill approximately 7.4 fl. oz (219 ml) of SAE 90W gear oil.
6. Check oil level using dipstick. Oil level should be within the notched portion of the dipstick. Do not overfill!
7. Reinstall dipstick/fill cap.



Storage

PREPARING FOR STORAGE

1. Repair worn or damaged parts.
2. Wash all equipment and tank thoroughly.
3. Drain tank. Flush and drain pump and all fluid lines to prevent clogging or freezing during storage.
4. Drain engine oil and refill engine with oil specified in Fuels & Lubrication section.
5. If engine will be out of service for 2 months or more:
 - completely empty fuel system (run engine until the tank and system are empty) OR add fuel treatment to fuel tank and run engine for 2 - 3 minutes to get stabilized fuel in fuel system.
 - Change oil. Remove spark plug and pour about 1 oz of engine oil into cylinder. Replace spark plug and crank engine slowly to distribute oil.
6. Clean air cleaner.
7. Restart engine and operate machine long enough to warm the oil. Check for leaks after machine warms up.
8. Remove battery (negative cable first) and store it in a cool, dry place. Remove corrosion from cables and battery case. Use baking soda to neutralize acid. Place battery on wood (not concrete) and connect a small trickle charger to it to maintain charge; or charge battery every 30 days it is in storage, if necessary.
9. Repaint equipment where necessary.
10. Wipe up lube spills. Dispose of rags and trash properly.
11. Store equipment in a clean, dry, ventilated location.
12. If the engine to be stored for a long period of time, refer to your engine owner's manual.

REMOVING FROM STORAGE

1. Clean equipment thoroughly.
2. Check to make sure all decals are clean and readable.
3. Check condition of wires and cables. Repair or replace as necessary.
4. Charge battery and install it.
5. Check for leaks. Repair or replace as necessary.
6. Check jetting tank strainer. Clean as needed. If damaged, replace with new.
7. Check condition of all hoses and connections. Tighten, repair or replace with new as needed.
8. Check oil levels in jetting pump, gear box and engine crankcase. Add oil if necessary.
9. Fill tank with clean water.
10. Refer to your engine owner's manual on how to restore engine to service.
11. Review this Operator's Manual.

Troubleshooting

NOTICE

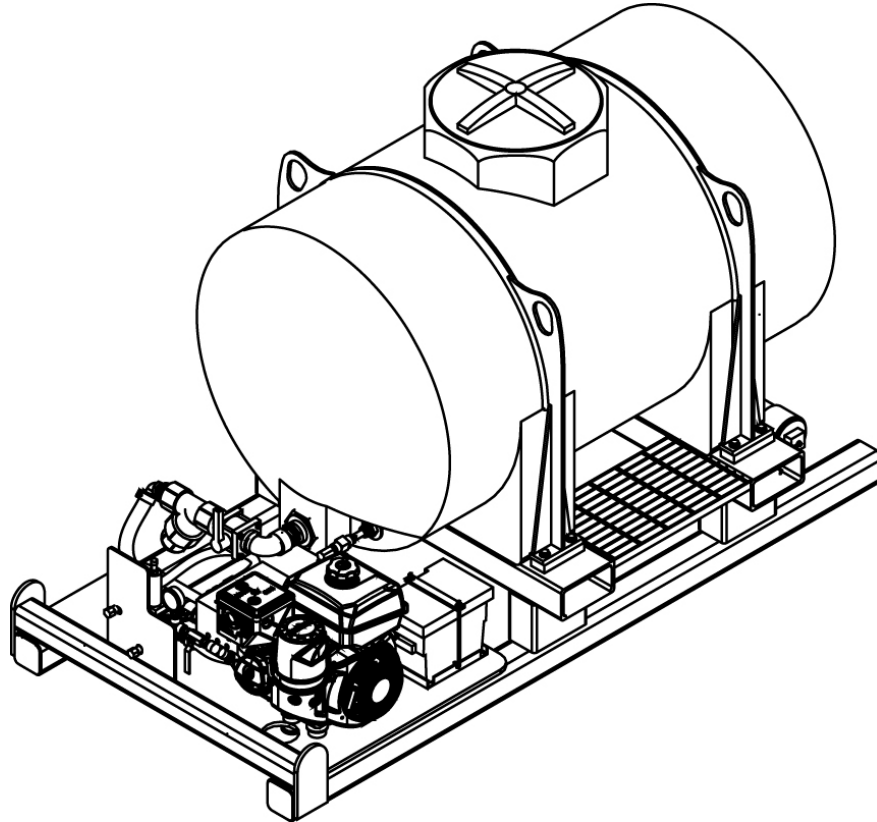
For additional engine troubleshooting information, refer to your engine owner's manual.

Problem	Cause	Solution
Engine does not start.	Fuel shutoff is in the OFF position.	Move fuel shutoff in ON position.
	No fuel or improper fuel in fuel tank.	Fill fuel tank.
	Jetting control not in bypass.	Move control to bypass mode.
	Low oil level.	Add oil to engine crankcase.
	Engine overloaded.	Release load.
	Dirty air cleaner.	Replace air cleaner.
	Air cleaner cover in incorrect operation position.	35°-40°F & below- Cold weather 35°-40°F & Above- Normal
	If engine still does not start, contact your Akkerman Aftermarket Support Representative.	
Cannot reach maximum pressure on jetting pump.	Relief valve is not set properly.	Adjust relief to 2000 psi max.
	Jetting circuit in bypass mode.	Reset to jetting/washer mode.
	If max. pressure still cannot be reached, contact your Akkerman Aftermarket Support Representative.	
Jetting pump pulsating.	Air in water supply.	Add more water in jetting tank and check pump inlet connections.
	Dirty strainer.	Clean strainer.
	Cam lock not engaged.	Be sure cam lock is fully engaged.
	If jetting pump continues to pulsate, contact your Akkerman Aftermarket Support Representative.	
No water discharge out of jetting pump.	No water in tank.	Fill tank.
	Ball valve on tank closed.	Open tank ball valve.
	Strainer plugged.	Clean strainer.
	Inlet hose damaged.	Replace hose.
	Air lock between tank and strainer.	Release air lock by loosening strainer until fluid flows.
	If no water still does not discharge out of jetting pump, contact your Akkerman Aftermarket Support Representative.	

NOTES

Specifications

LUBRICATION PUMP



Dimensions:

Height 58 in. (1,473 mm)
 Width 46.5 in. (1,181 mm)
 Length 88.25 in. (2,242 mm)
 Weight (empty tank) 1,000 lbs. (454 kg)
 (full tank) 3,700 lbs. (1,678 kg)

Power Unit:

Gasoline Engine @ 3,600 rpm 14 HP (10.4 kW)

Fluid Capacities

Fuel Tank 7.7 qt. (7.3 L)
 Jetting Tank 325 gal (1,230 L)
 Engine Oil* 1.16 qt (1 L)
 Jetting Pump** 15 oz. (444 ml)
 Gear Box** 7.4 oz. 219 ml

* Oil level must be within the crosshatch marks of the dipstick.

** Oil level must be within the notched portion of the dipstick.

Drive System Direct Drive

Pump Unit

Jetting Pump:

Pump Flow (Max.) 7 gpm (26.5 L/min)
 Speed (Max.) 1,750 rpm
 Pressure Rating (Max.) ..2,000 psi (13,790 kPa)

Agitator In-tank

NOTES

Identification Numbers

Model and serial numbers are required when ordering parts or requesting service information. Record your model and serial numbers below.

LUBRICATION PUMP

Model Number _____

Serial Number _____



NOTES

Safety Data Sheets

The Federal Occupational, Safety, and Health Administration (OSHA) Standard 29 CFR 1910.1200, require that specific safety data sheets (SDS) be available to employees before operating this equipment. This may include information on substances contained in this equipment such as fuel and gear lubricant.

Akkerman Inc. will provide, at no cost, SDS which apply to its product line. Simply contact your Akkerman Aftermarket Support representative for a copy.

To ensure a prompt response to your SDS request, include your return address (including zip or postal code) and the equipment's model numbers and serial numbers with your request.

NOTES

Warranty

Akkerman Inc. warrants that all equipment manufactured by it be free from defects due to workmanship or material under normal use and service for a period of 90 days. This warranty does not apply to normal wear items such as cutter teeth, filters, etc. Akkerman Inc. does not warrant the fitness of its equipment for a particular purpose or application.

Warranty

NOTES

Parts

Contents

Introduction	16-1
Decals	16-2
1325G - Left View	16-2
2325D - Right View	16-3
Jetting & Lubrication Pump Shaft Control	16-4
Parts	16-6
Lubrication Pump Final Assembly, 1325G, FA47850F	16-6
Jetting & Lubrication Shaft Control, A43749A	16-10
PCH Shaft Control Mount Assembly, A43758A	16-11
Operator Controls	16-12
Engine, 14 HP, P0125-146.....	16-13

INTRODUCTION

This parts manual contains assembly illustrations of the Akkerman 1325G Lubrication Pump. The illustrations in this manual are intended to show typical construction of various parts. In some instances, the details of parts illustrated may not exactly represent their actual appearance, but will help to identify parts performing the same functions.

LOCATING PARTS

This parts manual is organized to help you locate parts information quickly. An Alphabetical Index, Section 17, is provided to determine the page number of the assembly a part is used. If the part number is known, the Numerical Index, Section 18, can also be utilized to find the page number of the assembly.

USE GENUINE AKKERMAN PARTS

The use of second-rate parts could affect the efficient performance of the Lubrication Pump. ALWAYS use genuine Akkerman parts.

PARTS ORDERING

To order fast, accurate, and reliable parts service, call (800) 533-0386, (507) 567-2261, or fax (507) 567-2720, and provide the following information.

1. Model Number
2. Serial Number
3. Part Number, Description, and Quantity
4. Shipping Preference

MEASUREMENTS

The unit of measure in this manual is in inches unless indicated otherwise.

HARDWARE SPECIFICATION

All Akkerman products are assembled with SAE Grade 8 bolts, nuts, and washers. ALWAYS use matched fastener hardware when replacing or repairing the unit.

If you find any errors with this manual or have any suggestions for improvement, please let us know.

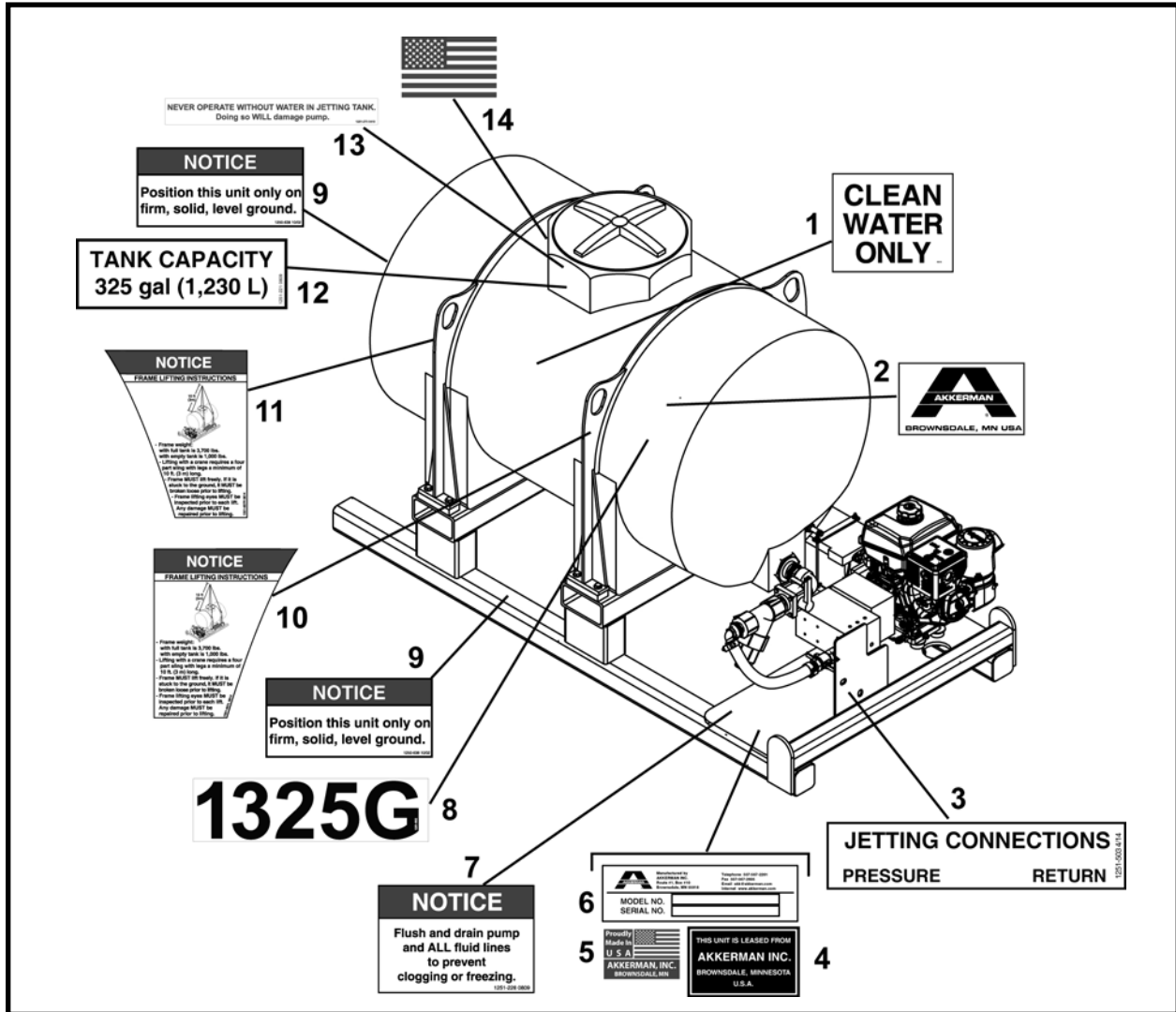
Mail your suggestions to:

Akkerman Inc, ATTN: Technical Publications, 58256 266th Street, Brownsdale, MN 55918.

Akkerman Inc. reserves the right to improve its product without notice or obligation.

LUBRICATION PUMP DECALS - LEFT VIEW

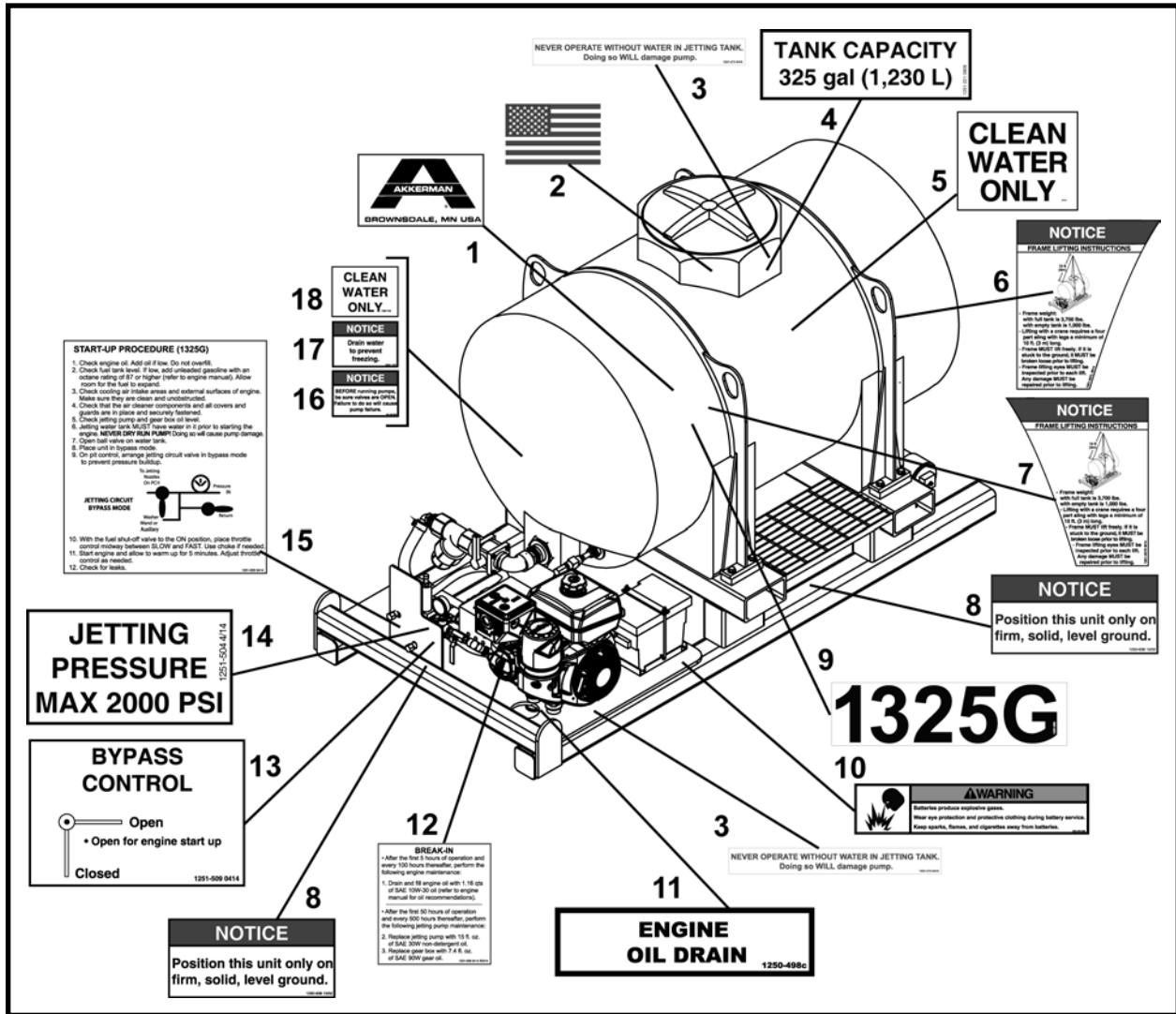
1325G



ITEM	QTY	PART NO.	DESCRIPTION
1	1	1250-742	DECAL, Clean Water Only
2	1	1251-246	DECAL, Akkerman, Large
3	1	1251-503	DECAL, Jetting Connections
4	1	1250-098	DECAL, Lease (Used on Leased Equipment)
5	1	1250-544	DECAL, Made in USA
6	1	REF	PLATE, Serial Number
7	1	1251-228	DECAL, Notice Flush Pump & Lines
8	1	1251-502	DECAL, Model 1325G
9	2	1250-638	DECAL, Notice Position Level Ground
10	1	1251-517L	DECAL, Notice Lifting Instructions - Left
11	1	1251-517R	DECAL, Notice Lifting Instructions - Right
12	1	1251-221	DECAL, Tank Capacity 325 gal
13	1	1251-273	DECAL, Never Operate Without Water
14	1	1250-558	DECAL, USA Flag Small

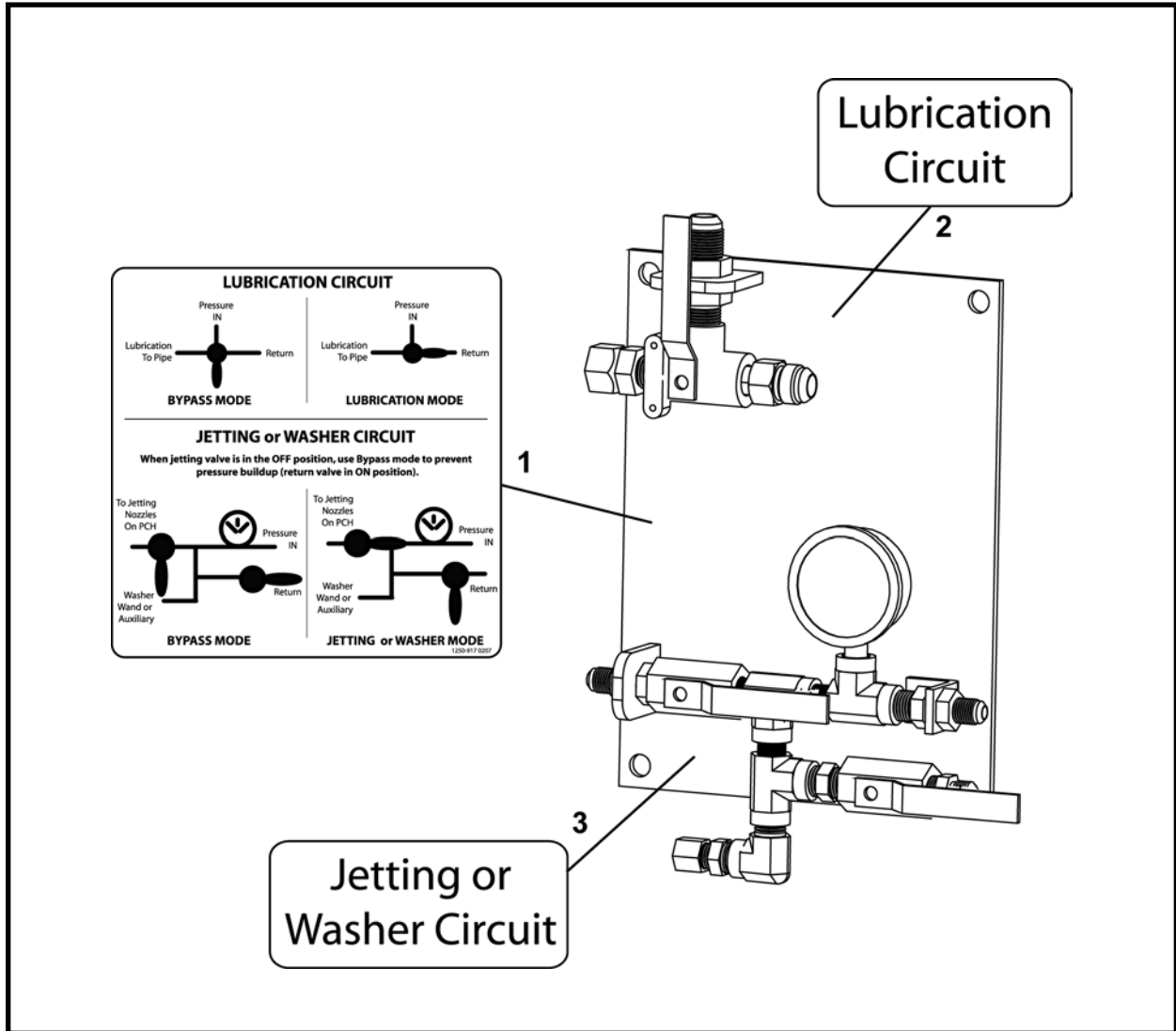
LUBRICATION PUMP DECALS - RIGHT VIEW

1325G



ITEM	QTY	PART NO.	DESCRIPTION
1	1	1251-246	DECAL, Akkerman, Large
2	1	1250-558	DECAL, USA Flag Small
3	2	1251-273	DECAL, Never Operate Without Water
4	1	1251-221	DECAL, Tank Capacity 325 gal
5	1	1250-742	DECAL, Clean Water Only
6	1	1251-517L	DECAL, Notice Lifting Instructions - Left
7	1	1251-517R	DECAL, Notice Lifting Instructions - Right
8	2	1250-638	DECAL, Notice Position Level Ground
9	1	1251-502	DECAL, Model 1325G
10	1	1251-016	DECAL, Warning Battery Explosive
11	1	1250-498c	DECAL, Engine Oil Drain
12	1	1251-506	DECAL, Break-In
13	1	1251-509	DECAL, Bypass Control
14	1	1251-504	DECAL, Jetting Pressure 2000 PSI Max
15	1	1251-505	DECAL, Start-Up Procedure
16	1	1251-023	DECAL, Notice Open Valves
17	1	A3000-1	DECAL, Notice Drain Water
18	1	1250-743	DECAL, Clean Water Only

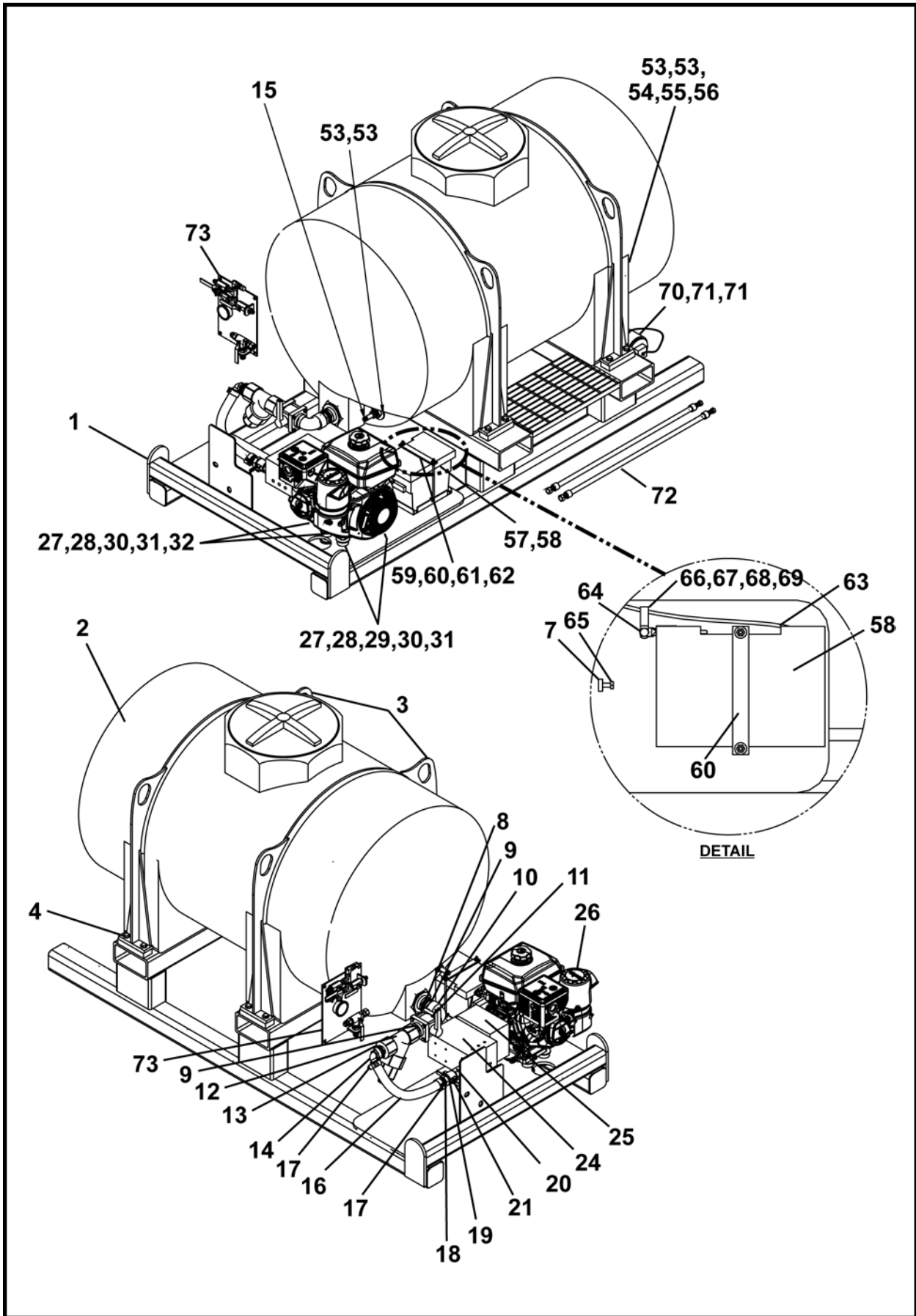
JETTING & LUBRICATION PUMP SHAFT CONTROL DECALS



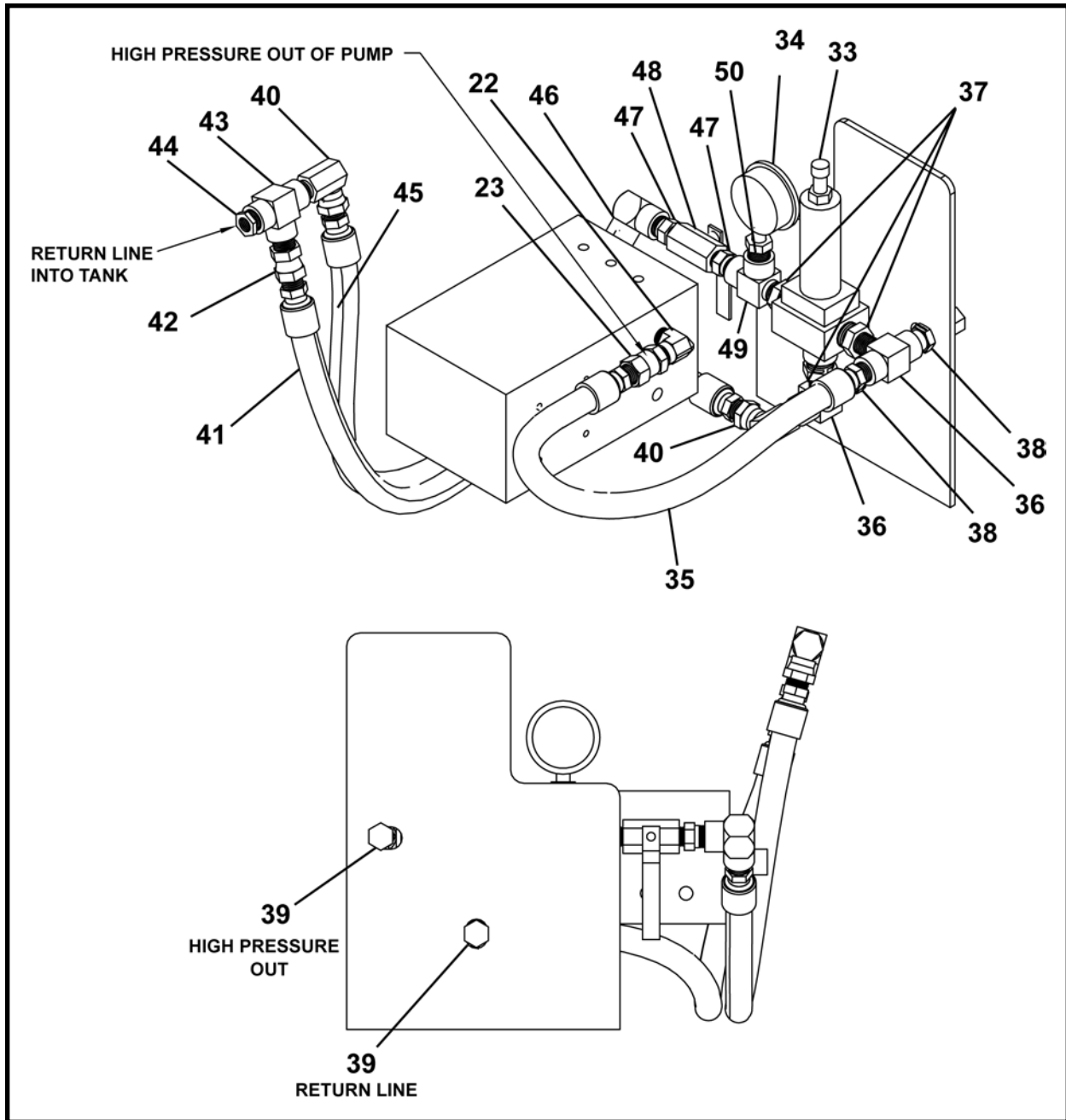
ITEM	QTY	PART NO.	DESCRIPTION
1	1	1250-917a	DECAL, Lubrication-Jetting-Washer Control
2	1	1250-917b	DECAL, Lubrication Circuit
3	1	1250-917c	DECAL, Jetting Or Washer Circuit

NOTES

1325G LUBRICATION PUMP FINAL ASSEMBLY, FA47850F



1325G LUBRICATION PUMP FINAL ASSEMBLY, FA47850F



ITEM	QTY	PART NO.	DESCRIPTION
0	1	FA47850F	1325G LUBRICATION PUMP ASSEMBLY
1	1	A47833A	SKID, Pump
2	1	P0258-003	TANK, 325 Gallon
3	2	A47891A	LIFT EYE
4	8	P0001-08-005	BOLT, Hex1/2 UNC x 1.25
5	8	P0040-008	WASHER, Hardened Flat 1/2
6	0.47 QT	P0126-004	OIL, SAE 30W
7	1	A47874P	MOUNT, Voltage Regulator
8	1	P0258-004	REDUCER, 2 MNPT x 1.5 FNPT REDUCER
9	2	P0258-005	NIPPLE, 1 1/2"
10	1	P0258-018	ELBOW, 1-1/2 NPT ELBOW
11	1	P0258-006	VALVE, 1 1/2" FPT x 1.5

(Continued on next page)

1325G LUBRICATION PUMP FINAL ASSEMBLY, FA47850F

ITEM	QTY	PART NO.	DESCRIPTION
12	1	P0258-012	ASSEMBLY, Strainer Line 1-1/2
13	1	P0258-013	BUSHING, Reducer 1-1/2 MPT x 1 FPT
14	1	P0258-015	HOSE SHANK, 1 MPT x 1 90 Deg.
15	1	A47876A	TUBE, Mixing - In-Line Agitator
16	16 LI	P0201-238	HOSE, Suction 1
17	2	P0201-299	CLAMP
18	1	P0423-124	ADAPTER, Hose 1 NPT-M x 1
19	1	P0100-024	PLUG 1
20	1	P0300-824	FITTING, 08MP-16FP
21	1	P0100-023	CAM LOCK
22	1	P0300-571	FITTING, 6MP-6FP90
23	1	P0300-819	FITTING, 06MP-08FPX
24	1	P0303-378	PUMP
25	1	P0303-379	GEAR BOX
26	1	P0125-146	ENGINE, 14HP Electric Start
27	4	P0001-07-016	BOLT, Hex 7/16 UNC x 4
28	4	P0013-07-000	LOCK NUT, 7/16UNC
29	2	P0059-082	MOUNT, Vibration Damping
30	4	P0040-007	WASHER, Hardened Flat 7/16
31	4	A47348P	PLATE, Washer Motor Mount
32	2	P0059-080	MOUNT, Vibration Damping
33	1	P0302-525	VALVE, Water
34	1	P0301-100	GAUGE, 5000 PSI
35	1	A10320A-024	HOSE ASSEMBLY, 1/2 x 24
36	2	P0300-168	FITTING, 08FP-08FP-08MP
37	3	P0300-012	FITTING, 12MP-08FPS
38	2	P0300-826	FITTING, 08MP-08MJBKHD
39	2	P0300-562	CAP
40	2	P0300-018	FITTING, 08MP-08FPX90
41	1	A10320A-030	HOSE ASSEMBLY, 1/2 x 30 Male Ends
42	1	P0300-010	FITTING, 08MP-08FPX
43	1	P0300-016	FITTING, 08FP-08FP-08FP
44	1	P0300-067	FITTING, 08MP-06FPS
45	1	A10320A-026	HOSE ASSEMBLY, 1/2 x 26 Male Ends
46	1	P0300-030	FITTING, 08FP-08FP90
47	2	P0300-256	08MP-06MP (WITH CHAMFER)
48	1	P0302-507	VALVE, Ball 3/8
49	1	P0300-049	FITTING, 08MP-08FP-08FP
50	1	P0300-086	FITTING, 08MP-04FPS
51	1.4 QT	P0126-005	OIL, SAE10W-30
52	0.06 GAL	P0126-024	OIL, Gear SAE 90W
53	4	PM40-030	WASHER, Flat M30
54	1	P0300-308	FITTING, 16MJ-16MJBKHD
55	1	P0300-144	FITTING, 02MP-HHP
56	1	P0300-643	CAP
57	1	P0064-126	BATTERY
58	1	P0064-126A	BOX, Battery
59	2	A47870P	ROD, Battery Box Clamp
60	1	A47871P	BAR, Battery Cross Bar Clamp
61	2	P0040-004	WASHER, Hardened Flat 1/4
62	2	P0003-04-000	NUT, 1/4 UNC
63	1	A47872A	ASSEMBLY, Positive Cable

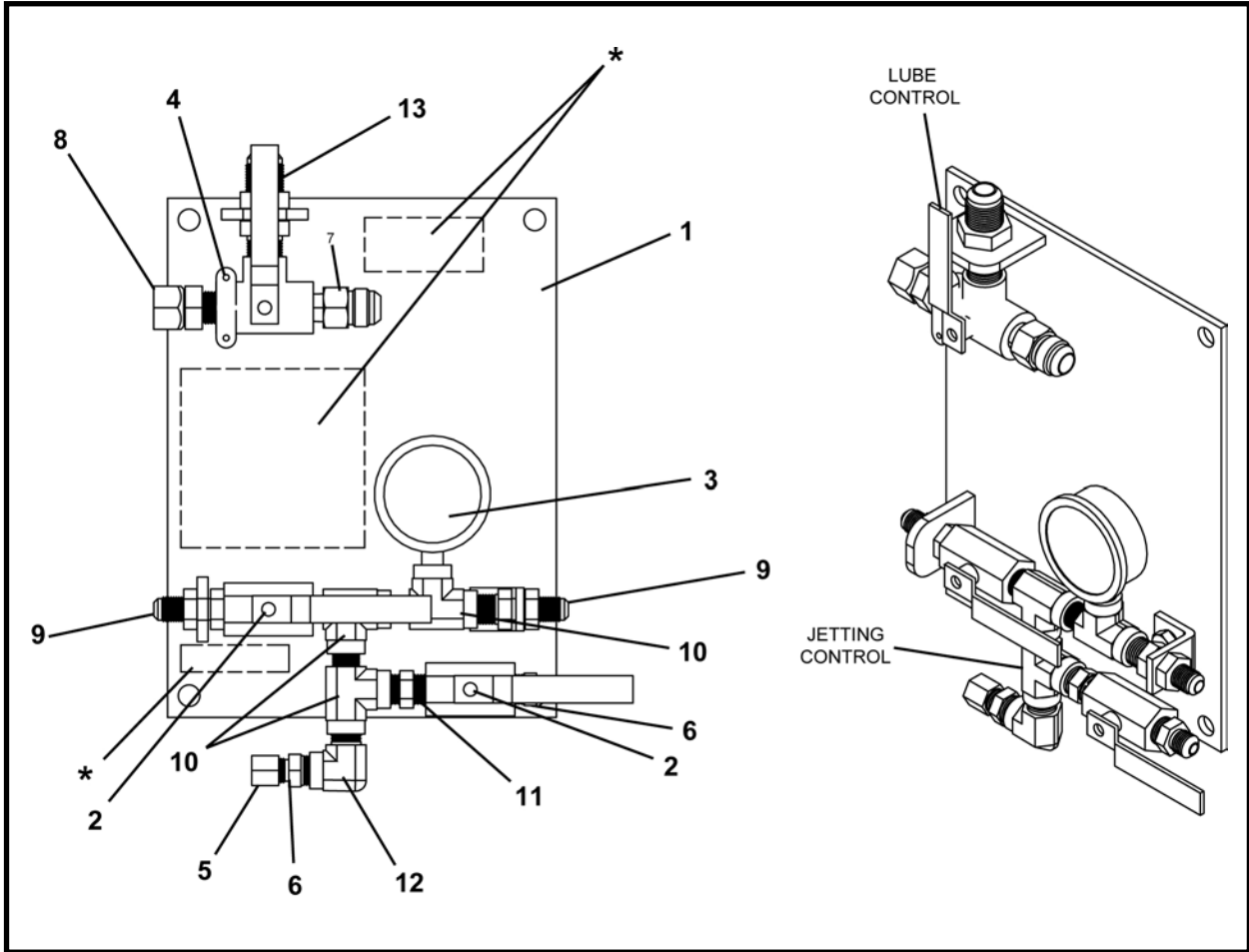
(Continued on next page)

1325G LUBRICATION PUMP FINAL ASSEMBLY, FA47850F

ITEM	QTY	PART NO.	DESCRIPTION
64	1	A47873A	ASSEMBLY, Negative Cable
65	2	P0001-04-003	BOLT, Hex 1/4 UNC x .75
66	1	P0055-126	TUBING, Clamp 1/2
67	1	P0001-05-005	BOLT, Hex 5/16 UNC 1.25
68	1	P0040-005	WASHER, Hardened Flat 5/16
69	1	P0013-03.5A-000	NUT, Nyloc 5/16-18
70	1	A45904A	ASSEMBLY, Document Tube (Includes items 70a - 70c)
70a	2	P0035-001A	SCREW, Self Drilling #8 x 5/8
70b	2	P0040-001	WASHER, #8
70c	14 LI	P0094-017	CHAIN, #10 Single Jack
71	2	P0201-307	CLAMP
72	2	A10071A-036	HOSE ASSEMBLY, 3/8 x 36
73	1	A43749A	CONTROL, Jetting & Lube Shaft

GAL - Gallon
 LI - Linear Inch
 QT - Quart

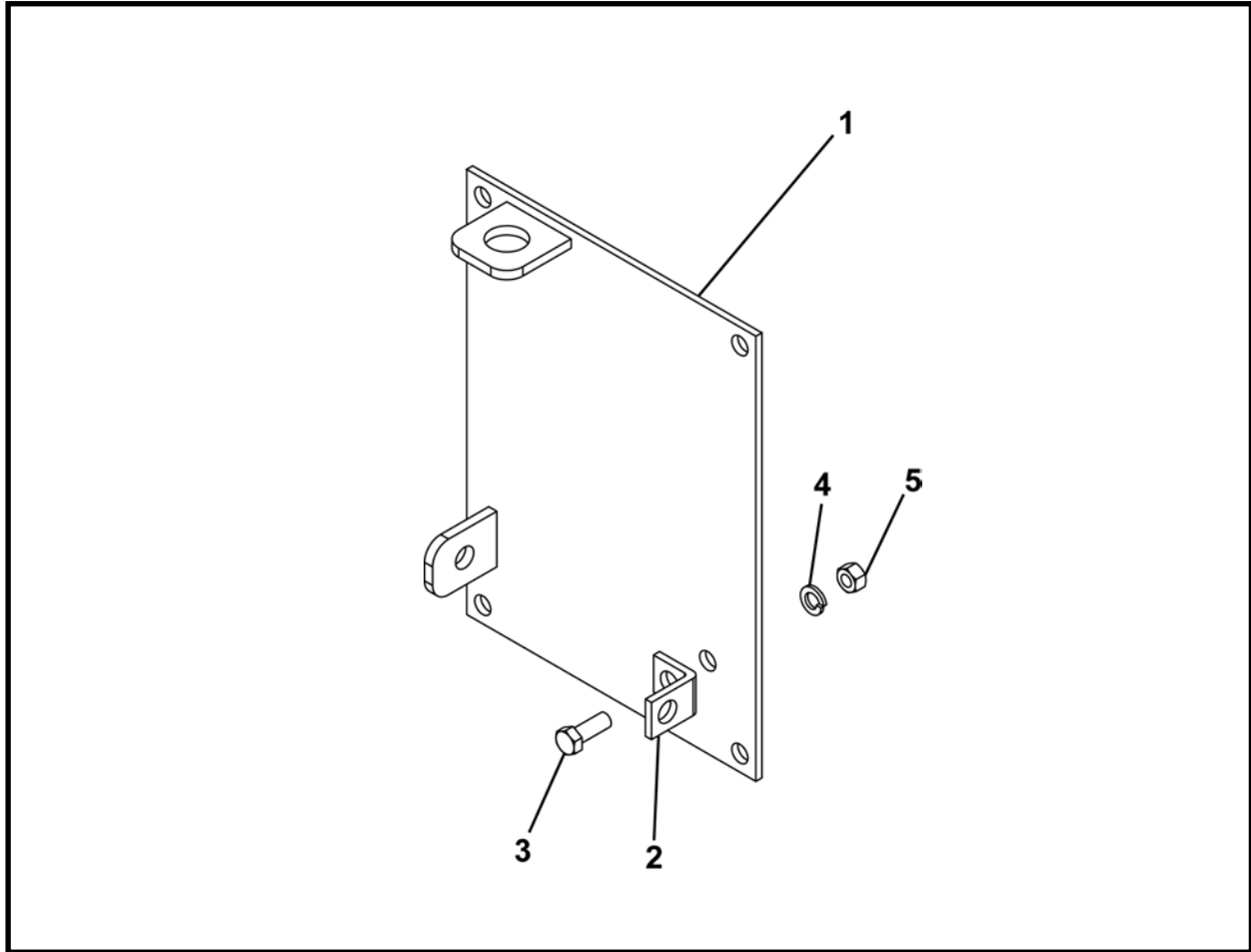
JETTING & LUBRICATION SHAFT CONTROL, A43749A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A43749A	JETTING & LUBRICATION SHAFT CONTROL
1	1	A43758A	ASSEMBLY, PCH SHAFT CONTROL MOUNT
2	2	P0302-507	VALVE, Ball 3/8" 2,000 PSI
3	1	P0301-100	GAUGE, Pressure 5000 PSI
4	1	P0302-512	VALVE, Ball 3-Way
5	1	P0300-126	FITTING, 06FJ-CAP
6	1	P0300-093	FITTING, 06MP-04FPS
7	2	P0300-130	FITTING, 06MJ-06MP
8	1	P0300-142	FITTING, 10MJ-08MP
9	1	P0300-399	FITTING, 08MP-10FJX
10	2	P0300-568	FITTING, 6MJ-6MPBKHD
11	3	P0300-569	FITTING, 6MP-6FP-6FP
12	1	P0300-570	FITTING, 6MP-6MP
13	1	P0300-571	FITTING, 6MP-6FP90
14	1	P0300-567	FITTING, 10MJ-8MPKBHD

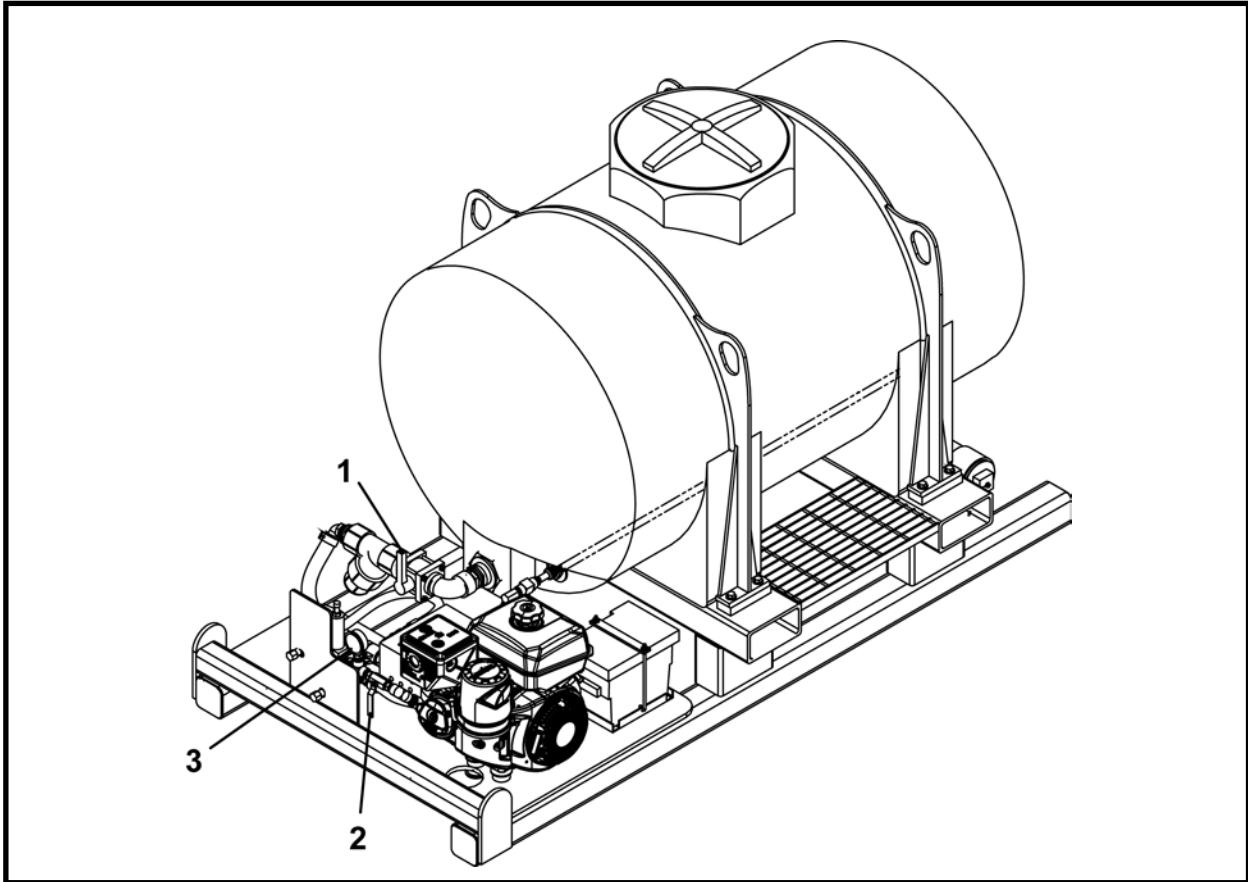
* Decal 1250-917

PCH SHAFT CONTROL MOUNT ASSEMBLY, A43758A



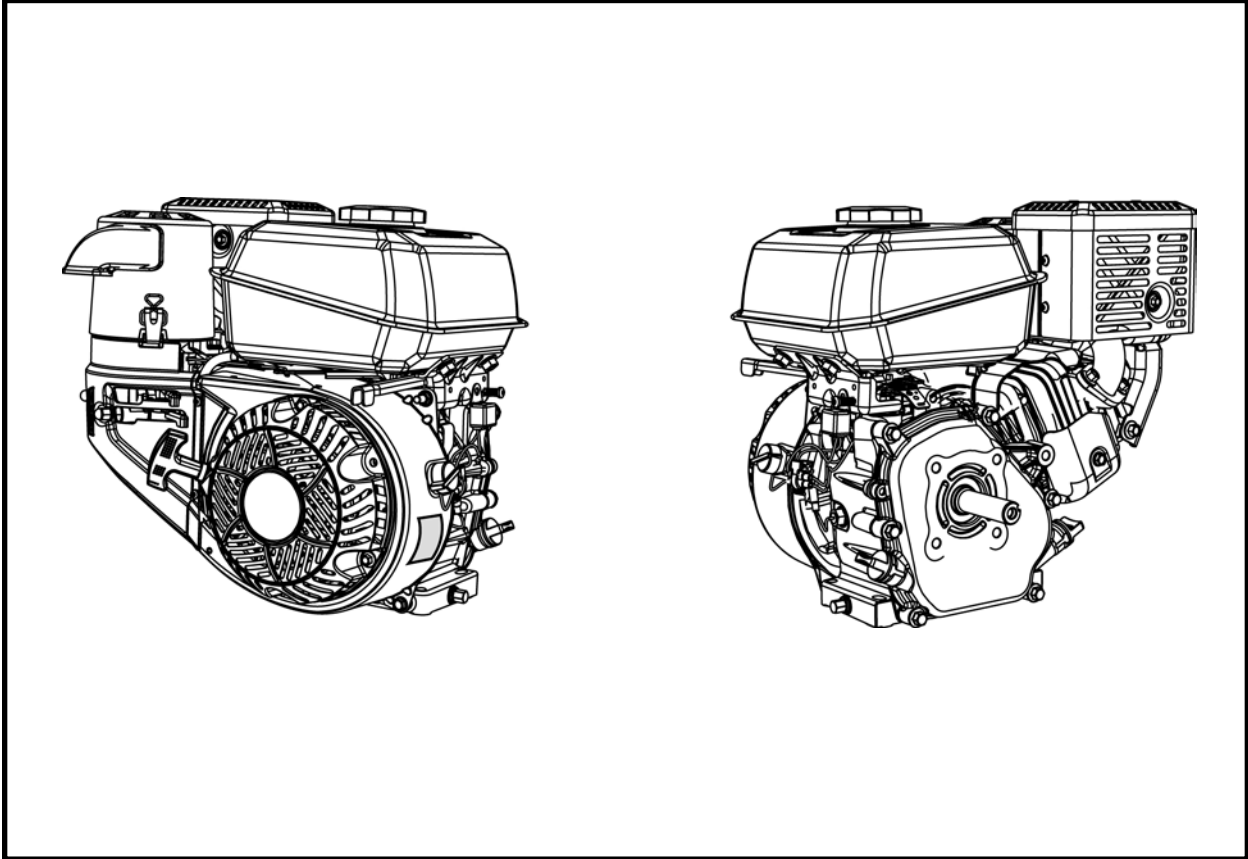
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A43758A	ASSEMBLY, PCH SHAFT CONTROL MOUNT
1	1	A43757A	WELDMENT, PIT CONTROL MOUNT
2	1	A43754P	BRACKET, Pipe Lube Control
3	1	P0001-06-004	BOLT, 3/8 UNC x 1
4	1	P0045-006	WASHER, Lock 3/8
5	1	P0003-06-000	NUT, 3/8

OPERATOR CONTROLS



ITEM	QTY	PART NO.	DESCRIPTION
1	1	P0258-006	VALVE, Port 1-1/2
2	1	P0302-507	VALVE, Ball 3/8
3	1	P0301-100	GAUGE, Pressure 5000 PSI

ENGINE, 14 HP, P0125-146



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0125-146	ENGINE, 14 HP

For engine parts, contact your local Kohler engine distributor.

NOTES

Alphabetical Index

A

Agitator 4-1, 16-20
Accidental fluid injection 9-1
Adapter, pilot tube 4-4, 6-4, 6-7
Agitator, in-tank 4-2, 6-17, 12-1
Air cleaner base 9-18
Air cleaner components 6-11
Air cleaner cover 6-11, 9-11, 9-24, 9-25
Air cleaner filter element, replace 9-24
Air cleaner & precleaner elements 9-11
Air intake & cooling areas 9-11
Air intake/cooling areas, clean 9-21
Air lock 6-14, 6-17
Annular space, pilot tube 6-2
Auxiliary 4-4, 6-4
Auxiliary device 6-7
Auxiliary retractable starter 4-2
Avoid pinch points 1-3, 9-1

B

Battery acid 9-17
Battery cables 9-17
Battery, check 9-17
Battery, frozen 9-17
Battery safety 1-3
Blower housing 9-21
Bore-gel® 6-2
Break-in, engine 6-8
Break-in period 6-14
Bypass control ... 4-1, 4-2, 6-15, 6-17, 6-21, 6-22
Bypass mode 4-1

C

Cam lock hose assembly 6-20, 6-21, 6-22
Cannot reach maximum pressure 11-1
Capacity, engine oil 8-2, 9-20, 12-1
Capacity, fuel tank 8-1, 12-1
Capacity, gear box 12-1
Capacity, gear box reservoir 8-3
Capacity, jetting pump 12-1
Capacity, jetting pump reservoir 8-2
Capacity, jetting tank 12-1
Cavitation 5-1
Chamber, combustion 4-3
Change engine oil 9-14, 9-19
Charts, maintenance 9-2
Check battery 9-17
Checklist 5-1
Chemicals, dangerous 1-4
Choke control, engine 4-3
Choke position 4-3
Circuit hookup, jetting 6-4
Circuit, jetting 4-4
Clean air intake/cooling areas 9-21
Cleaning tank 6-18

C (continued)

Clean precleaner 9-18
Clear tube 6-14, 6-17
Clothing, wear protective 1-1
Cold engine 4-3, 6-8
Cold weather operation position
..... 6-11, 9-11, 9-18, 9-25
Cold weather protection
Draining system 6-20
Using rv anti-freeze solution 6-22
Cold weather protection - draining system 6-20
Cold weather protection - using RV anti-freeze
solution 6-22
Combustible gas detectors 6-1
Combustion chamber 4-3, 9-25
Components, air cleaner 6-11
Con det® 6-2, 6-17
Confined space permit 5-1
Connections, jetting 6-20
Contents iii
Contents, parts 16-1
Control, bypass... 4-1, 4-2, 6-15, 6-17, 6-21, 6-22
Control, engine choke 4-3
Control, jetting volume 4-1
Control, pump shaft 3-4, 4-4
Controls & instruments 4-1
Controls, operator 16-12
Control, throttle 6-9
Cooling air intake 6-11
Cooling areas, air intake & 9-11
Cooling fins 9-11, 9-21
Cooling shrouds 9-11, 9-21
Covers & guards, inspect 9-12

D

Daily inspection 5-1
Daily or every 10 hours of operation 9-2, 9-9
Daily pre-start inspection 5-1
Daily shutdown 6-15
Dangerous chemicals 1-4
Decals 2-1, 9-13
Decals, jetting & lubrication pump shaft control
..... 16-4
Decals, lubrication pump - left view 16-2
Decals, lubrication pump - right view 16-3
Decals, safety 2-1
Decrease speed 4-3
Detectors, combustible gas 6-1
Detectors, ventilation 6-1
Detergent oils 8-2
Dimensions 12-1
Dipstick 8-2, 8-3
Drain/fill gear box oil reservoir 9-16
Drain & fill gear box oil reservoir 9-26
Drain & fill jetting pump oil reservoir 9-26

D (continued)

Draining system, cold weather protection 6-20
 Drain outlet 6-18
 Drain plug 9-16, 9-26
 Drain plug, engine oil 9-14, 9-19
 Drive system 12-1
 Dry run pump 6-22

E

Electronic starter 4-2
 Element, replace air cleaner filter 9-24
 Elements, precleaner & air cleaner 9-11
 Engine 3-3
 Engine, 14 hp 16-13
 Engine break-in 6-8
 Engine choke control 4-3
 Engine, cold 4-3, 6-8
 Engine crankcase oil level 9-10
 Engine does not start 11-1
 Engine fuel shutoff 4-3
 Engine ignition switch 4-2
 Engine, inspect 9-9
 Engine mounts, inspect 9-23
 Engine oil 8-2
 Engine oil capacity 8-2, 9-15, 9-20, 12-1
 Engine oil, change 9-14, 9-19
 Engine oil drain plug 9-14, 9-19
 Engine oil level 9-20
 Engine, service 9-25
 Engine, shutting down the 6-10
 Engine speed 6-10, 6-15
 Engine, starting the 6-8
 Engine throttle 4-3
 Equipment, inspect 1-6
 Equipment, personal protective 5-1
 Equipment, protective 6-1
 Every 100 hours of operation 9-6, 9-19
 Every 500 hours of operation 9-8, 9-26
 Exhaust fumes 1-4
 Explosive fuel 1-4
 Ez-mud® 6-2, 6-17

F

Fill gear box oil reservoir, drain & 9-26
 Fill jetting pump oil reservoir, drain & 9-26
 Filter element, replace air cleaner 9-24
 Filter, fuel tank 9-10
 Final assembly, lubrication pump 16-6
 Fire prevention 1-5
 First 5 hours of operation & every 100 hours
 thereafter 9-3, 9-14
 First 50 hours of operation & every 500 hours
 thereafter 9-4, 9-16
 Fluid capacities 12-1
 Fluid injection, accidental 9-1
 Fluid settlement 4-2, 6-17
 Fluids under pressure 1-2, 9-1

F (continued)

Frame weight 7-1
 Freezing weather 6-22
 Frozen battery 9-17
 Fuel-air mixture 4-3
 Fuel, explosive 1-4
 Fuel, inferior 8-1
 Fuel shutoff, engine 4-3
 Fuel shutoff valve 4-3, 6-8, 6-10, 6-16
 Fuels & lubricants 8-1
 Fuel specifications 8-1
 Fuel tank 8-1
 Fuel tank cap 9-25
 Fuel tank capacity 8-1, 12-1
 Fuel tank filter 9-10
 Fuel tank level 6-11, 9-10
 Fuel valve cup, clean 9-21
 Fumes, exhaust 1-4

G

Gas detectors, combustible 6-1
 Gasoline 8-1
 Gasoline, unleaded 6-11, 8-1
 Gasoline vapors 8-1
 Gauge, pressure 4-2
 Gear box capacity 12-1
 Gear box lubricant 8-3
 Gear box oil reservoir 9-16
 Gear box oil reservoir level 9-9
 Gear box pump oil level 6-12
 Gear box reservoir capacity 8-3
 Gear oil 8-3
 Genuine akkerman parts 16-1
 Grass screen 9-11, 9-21
 Guards & covers, inspect 9-12
 Guidelines, jetting 6-2
 Guidelines, operating 6-1
 Guidelines, transporting 7-1

H

Handle, starter 4-2, 6-9
 Hardware specification 16-1
 Hookup, jetting circuit 6-4

I

Identification numbers 13-1
 Idle 6-15
 Ignition switch, engine 4-2
 Increase speed 4-3
 Inferior fuel 8-1
 Information, safety 1-1
 Injection, accidental fluid 9-1
 Inspect decals 9-13
 Inspect engine 9-9
 Inspect equipment 1-6
 Inspection, daily 5-1
 Inspection, pre-start 5-1

I (continued)

Inspect outlet tube	9-13
Inspect valves	9-12
Inspect water tank	9-12
Inspect wiring	9-12
Instructions, lifting	7-1
Instruments & controls	4-1
In-tank agitator	4-2, 6-17
Introduction	i, 16-1
Introduction, parts	16-1

J

Jetting assembly	3-2
Jetting circuit	4-4
Jetting circuit hookup	6-4
Jetting connections	6-20, 6-21
Jetting guidelines	6-2
Jetting hose	6-4, 6-21
Jetting & lubrication pump shaft control decals	16-4
Jetting & lubrication shaft control	16-10
Jetting nozzles	4-4, 6-4, 6-7
Jetting nozzles, PCH	6-4
Jetting, PRH	6-4
Jetting pump capacity	12-1
Jetting pump lubricant	8-2
Jetting pump oil level	6-12
Jetting pump oil reservoir, drain &	9-26
Jetting pump oil reservoir level	9-9
Jetting pump pulsating	11-1
Jetting pump reservoir capacity	8-2
Jetting tank capacity	12-1
Jetting tank strainer	10-2
Jetting volume control	4-1
Job site safety	5-1

K

Key switch	6-10
------------------	------

L

Lifting eyes	7-1
Lifting instructions	7-1
Loads, suspended	1-2
Locating parts	16-1
Lube control	6-5
Lubricant, gear box	8-3
Lubricant, jetting pump	8-2
Lubricants & fuels	8-1
Lubricants, storing	8-3
Lubricating outside of casing with reaming head assembly	6-6
Lubricating outside of pilot tubes	6-5
Lubricating spoils for reaming head or open cutter head	6-5
Lubrication port	6-5
Lubrication pump	6-13

L (continued)

Lubrication pump decals	
Left view	16-2
Right view	16-3
Lubrication pump decals - left view	16-2
Lubrication pump decals - right view	16-3
Lubrication pump final assembly	16-6
Lubrication pump, setting up	6-3
Lubrication pump, terminology	3-1
Lubrication, using shaft control for	6-7

M

Maintenance charts	9-2, 9-3, 9-4, 9-5, 9-6, 9-7, 9-8
Daily or every 10 hours	9-2
Every 100 hours of operation	9-6
Every 500 hours of operation	9-8
First 5 hours of operation & every 100 hours thereafter	9-3
First 50 hours of operation & every 500 hours thereafter	9-4
Monthly or every 200 hours of operation	9-7
Weekly or every 50 hours of operation	9-5
Maintenance instructions	9-9, 9-14, 9-16, 9-17, 9-19, 9-23, 9-26
Daily or every 10 hours	9-9
Every 100 hours of operation	9-19
Every 500 hours of operation	9-26
First 5 hours of operation & every 100 hours thereafter	9-14
First 50 hours of operation & every 500 hours thereafter	9-16
Monthly or every 200 hours of operation	9-23
Weekly or every 50 hours of operation	9-17
Maintenance, periodic	9-1
Maintenance, safe	1-5
Measurements	16-1
Medical help	9-1
Mixing, solution	6-17
Mixing tank	6-17
Monthly or every 200 hours of operation ...	9-7, 9-23
Mounting bolts, pump & gear box	9-23
MSHA	5-1
Muffler screen	9-22
Muffler screen, clean	9-22

N

Non-detergent oil	8-2
Normal operation position ...	6-11, 9-11, 9-18, 9-25
No water discharge	11-1
Nozzles, jetting	4-4, 6-4, 6-7
Nozzles, PCH jetting	6-4
Numbers, identification	13-1
Numbers, serial	13-1

O

Octane rating	6-11
Oil capacity, engine	9-20

O (continued)

Oil capacity, engine	9-15
Oil, change engine	9-14, 9-19
Oil, engine	8-2
Oil, gear	8-3
Oil level	8-2
Oil level, gear box pump	6-12
Oil level, jetting pump	6-12
Oil, non-detergent	8-2
Oil recommendations	6-11
Oil reservoir, drain & fill gear box	9-26
Oils, detergent	8-2
Operating guidelines	6-1
Operation	6-1
Operator controls	16-12
OSHA	5-1, 6-1, 14-1
Outlet	6-19
Outlet, drain	6-18
Outlet tube	9-13
Overheating	9-11, 9-21
Oxygen deficiency	5-1

P

Parts	16-1
Parts contents	16-1
Parts, genuine akkerman	16-1
Parts introduction	16-1
Parts, locating	16-1
Parts ordering	16-1
PCH jetting nozzles	6-4
PCH shaft control mount assembly	16-11
Periodic maintenance	9-1
Permit, confined space	5-1
Personal protective equipment	5-1
Pilot tube adapter	4-4, 6-4, 6-7
Pilot tube annular space	6-2
Pilot tubes, lubricating outside of	6-5
Pinch point hazard	9-1
Pinch points, avoid	1-3
Polymers	4-2, 6-17
Port, pressure	4-4
Port, return	4-4
Position, cold weather operation	6-11, 9-11, 9-18, 9-25
Position, normal operation	6-11, 9-11, 9-18, 9-25
Powered cutter head jetting nozzles	6-4
Powered reaming head jetting	6-4
Power unit specifications	12-1
Precleaner	9-18
Precleaner/air cleaner element	9-18
Precleaner & air cleaner elements	9-11
Precleaner, clean	9-24
Precleaner, clean	9-18
Preparing for storage	10-1
Pressure, cannot reach maximum	11-1
Pressure gauge	4-2
Pressure hose	6-20, 6-21

P (continued)

Pressure port	4-4
Pressure & return hoses	9-13
Pressure washer wand	1-2, 6-1, 9-1
Pressure washer wand or auxiliary, using	6-6
Pressure washer wand, using	1-2
Pre-start inspection	5-1
PRH jetting	6-4
Program, safety	5-1
Protective clothing	1-1
Protective equipment	6-1
Protective equipment, personal	5-1
Pulsating, jetting pump	11-1
Pump, dry run	6-22
Pump & gear box mounting bolts	9-23
Pump shaft control	3-4, 4-4
Pump unit specification	12-1

R

Reaming head	6-4
Recirculation, tank	4-1
Recommendations, oil	6-11
Recycle waste	1-7
Refueling	1-3
Removing from storage	10-2
Research method	8-1
Research octane number	8-1
Retractable starter	6-9
Retractable starter, auxiliary	4-2
Return hose	6-20
Return port	4-4
RV anti-freeze solution	6-22

S

Safe maintenance	1-5
Safety	1-1
Safety, battery	1-3
Safety data sheets	14-1
Safety decals	2-1
Safety information	1-1
Safety, job site	5-1
Safety program	5-1
Screen, clean muffler	9-22
Serial numbers	13-1
Service engine	9-25
Setting up lubrication pump	6-3
Settlement, fluid	4-2, 6-17
Shaft control	6-4, 6-13, 6-15
Shaft control circuit	6-17
Shaft control for lubrication, using	6-7
Shaft control, pump	3-4, 4-4
Shutdown, daily	6-15
Shutoff, engine fuel	4-3
Shutoff valve, fuel	4-3, 6-8, 6-10, 6-16
Shut off valve, tank	4-1, 6-12, 6-13, 6-16, 6-17, 6-18, 6-21
Shutting down the engine	6-10

S (continued)

Slippery when wet 1-5
 Solution mixing 6-17
 Solution, tank 6-17
 Spark plug 9-21
 Spark plug, check 9-21
 Specification, hardware 16-1
 Specification, pump unit 12-1
 Specifications 12-1
 Specifications, fuel 8-1
 Speed, decrease 4-3
 Speed, increase 4-3
 Stainer assembly 6-17
 Starter, auxiliary retractable 4-2
 Starter, electronic 4-2
 Starter handle 4-2, 6-9
 Starter, retractable 6-9
 Starting the engine 6-8
 Start up procedure 6-11
 Steering head 4-4, 6-4, 6-7
 Steering head port 6-5
 Storage 10-1
 Storage, preparing for 10-1
 Storage, removing from 10-2
 Storing lubricants 8-3
 Strainer 6-12, 6-18, 6-20, 6-21
 Strainer, jetting tank 10-2
 Suspended loads 1-2, 6-1
 Switch, engine ignition 4-2
 Switch, key 6-10

T

Tank, cleaning 6-18
 Tank filter, fuel 9-10
 Tank lid 6-13
 Tank, mixing 6-17
 Tank outlet 6-9
 Tank recirculation 4-1
 Tank return hoses 6-21
 Tank shut off valve
 4-1,6-1,6-12,6-13,6-16,6-17,6-18,6-21
 Tank solution 6-17
 Tank strainer 9-9
 Terminology 3-1
 Terminology, 1325G lubrication pump 3-1
 Throttle control 6-9
 Throttle, engine 4-3
 Transporting 7-1
 Transporting guidelines 7-1
 Troubleshooting 11-1

U

Unleaded gasoline 6-11, 8-1
 Using pressure washer wand or auxiliary 6-6
 Using shaft control for lubrication 6-7

V

Valve, fuel shutoff 4-3, 6-8, 6-10, 6-16
 Valves, inspect 9-12
 Valve, tank shut off
 4-1,6-12,6-13,6-16,6-17,6-18,6-21
 Vapors 8-1
 Ventilation detectors 6-1

W

Wand, pressure washer 9-1
 Wand, using pressure washer 1-2
 Warranty 15-1
 Washer wand 4-4, 6-4, 6-7
 Washer wand or auxiliary, using pressure 6-6
 Washer wand, pressure 9-1
 Washer wand, using pressure 1-2
 Waste, recycle 1-7
 Water discharge, no 11-1
 Water tank 9-12
 Weekly or every 50 hours of operation 9-5,9-17
 Weight, frame 7-1
 Welding 1-6
 Welding, unauthorized 1-6
 Wiring, inspect 9-12

NOTES

Numerical Index

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
1250-098	16-2	A47833A	16-7	P0258-012	16-8
1250-498c	16-3	A47870P	16-8	P0258-013	16-8
1250-544	16-2	A47871P	16-8	P0258-015	16-8
1250-558	16-2	A47872A	16-8	P0258-018	16-7
1250-558	16-3	A47873A	16-9	P0300-010	16-8
1250-638	16-2	A47874P	16-7	P0300-012	16-8
1250-638	16-3	A47876A	16-8	P0300-016	16-8
1250-742	16-2	A47891A	16-7	P0300-018	16-8
1250-742	16-3	FA47850F	16-7	P0300-030	16-8
1250-743	16-3	P0001-04-003	16-9	P0300-049	16-8
1250-917a	16-4	P0001-05-005	16-9	P0300-067	16-8
1250-917b	16-4	P0001-06-004	16-11	P0300-086	16-8
1250-917c	16-4	P0001-07-016	16-8	P0300-093	16-10
1251-016	16-3	P0001-08-005	16-7	P0300-126	16-10
1251-023	16-3	P0003-04-000	16-8	P0300-130	16-10
1251-221	16-2	P0003-06-000	16-11	P0300-142	16-10
1251-221	16-3	P0013-03.5A-000	16-9	P0300-144	16-8
1251-228	16-2	P0013-07-000	16-8	P0300-168	16-8
1251-246	16-2	P0035-001A	16-9	P0300-256	16-8
1251-246	16-3	P0040-001	16-9	P0300-308	16-8
1251-273	16-2	P0040-004	16-8	P0300-399	16-10
1251-273	16-3	P0040-005	16-9	P0300-562	16-8
1251-502	16-2	P0040-007	16-8	P0300-567	16-10
1251-502	16-3	P0040-008	16-7	P0300-568	16-10
1251-503	16-2	P0045-006	16-11	P0300-569	16-10
1251-504	16-3	P0055-126	16-9	P0300-570	16-10
1251-505	16-3	P0059-080	16-8	P0300-571	16-8
1251-506	16-3	P0059-082	16-8	P0300-571	16-10
1251-509	16-3	P0064-126	16-8	P0300-643	16-8
1251-517L	16-2	P0064-126A	16-8	P0300-819	16-8
1251-517L	16-3	P0094-017	16-9	P0300-824	16-8
1251-517R	16-2	P0100-023	16-8	P0300-826	16-8
1251-517R	16-3	P0100-024	16-8	P0301-100	16-8
A10071A-036	16-9	P0125-146	16-8	P0301-100	16-10
A10320A-024	16-8	P0125-146	16-13	P0301-100	16-12
A10320A-026	16-8	P0126-004	16-7	P0302-507	16-8
A10320A-030	16-8	P0126-005	16-8	P0302-507	16-10
A3000-1	16-3	P0126-024	16-8	P0302-507	16-12
A43749A	16-9	P0201-238	16-8	P0302-512	16-10
A43749A	16-10	P0201-299	16-8	P0302-525	16-8
A43754P	16-11	P0201-307	16-9	P0303-378	16-8
A43757A	16-11	P0258-003	16-7	P0303-379	16-8
A43758A	16-10	P0258-004	16-7	P0423-124	16-8
A43758A	16-11	P0258-005	16-7	PM40-030	16-8
A45904A	16-9	P0258-006	16-7		
A47348P	16-8	P0258-006	16-12		

NOTES

WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.