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REV	DATE	DESCRIPTION	NAME
*	10/29/20	UP-DATE	J. SLACK

INTRODUCTION

This manual introduces the warranty policy, safe operation, safe maintenance, parts, and other aspects of the concrete equipment.

Reading and understanding this operation manual will help maximize performance and reliability, and help minimize dangers, improper operation, and repair costs. Contact REED Customer Service for additional replacement manuals.

All safety guidelines, product descriptions, illustrations, and specifications found throughout this manual were in effect at the time the manual was released for printing. It should be noted; **REED RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN OR TO MAKE ADDITIONS TO OR IMPROVEMENTS IN THE PRODUCT WITHOUT IMPOSING ANY OBLIGATIONS UPON ITSELF TO INSTALL THEM ON PRODUCTS PREVIOUSLY MANUFACTURED.**

Everyone involved with the operation, maintenance, inspection, and repair of the concrete pump **MUST READ** and **UNDERSTAND** this manual and the accompanying Safety Manual.



WARRANTY

REED warrants each new Concrete equipment M Series to be free of defects in material and workmanship under normal use and service for a period as follows:

CONCRETE PUMP

- 1 year or 1200 operating hours, whichever occurs first
- M Series all Structural Parts for 3 years

The warranty is issued **ONLY** to the **INITIAL USER**. The warranty period begins when the product is delivered to the initial user or when first put into service, whichever occurs first. Said warranty is void if the machine is subject to misuse, neglect, accident, and/or abuse.

REED's obligation under this warranty is limited to correcting without charge, at its factory, any parts or parts thereof which shall be returned to its factory, transportation prepaid and upon **REED's** examination proves to have been originally defective. Correction of such defects by repair or replacement shall constitute fulfillment of all obligations to the initial user. This warranty does not include labor or transportation charges unless specifically identified and authorized in writing by **REED**. Nor does the warranty apply to any unit upon which repair, or unauthorized alterations have been made.

This warranty does not apply to normal maintenance service or to normal replacement of certain machine parts which are subject to normal wear (such as concrete cylinders and wear components, valve mechanisms, delivery systems, hopper grate, etc.) **REED** makes no warranty in respect to trade accessories or outside vendor components, such being subject to the warranties of their respective manufacturers.

THIS IS A LIMITED WARRANTY AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE. In no event shall **REED** be made liable for incidental, general or consequential damage, loss or any expense directly or indirectly related and resulting from use or lack of use caused by delay in delivery, parts failure, or any other causes associated with the product use. No person, firm or corporation is authorized to assume for **REED** any other liability in connection with the sale of **REED** products.

Effective April 2010



OPERATION and MAINTENANCE

www.reedpumps.com

(909)287-2100

WARRANTY CLAIM FORM					
Claim Number:			Date:		
Distributor Account Number:			End User Account Number:		
Distributor:			End User:		
Address:			Address:		
City:	State:	Zip:	City:	State:	Zip:
Phone ()			Phone ()		
Pump Model: _____			In Service Date: _____		
Pump Serial Number: _____			Hours of Operation: _____		
			Failure Date: _____		
			Repair Date: _____		
<p>Do not send part(s) until requested by REED or until claim is approved. All parts requested to be returned must have a Return Authorization Number provided by REED and shipping freight prepaid. Parts must ship within 30 days from REED request.</p> <p>Return Authorization Number: _____ Ship Date: _____</p>					
Part Number	Description	Qty	Unit Price	Total Price	Replacement Part Invoice No.
Failure Description and Cause: _____					
REED Comments: _____					
Claim Value Approved:\$ _____			Claim Value Denied:\$ _____		
REED Print Name, Sign, and Date: _____					
Dealer Print Name, Sign, and Date: _____					

SAFETY

Everyone involved with the operation, maintenance, inspection, and repair of the concrete pump **MUST READ** and **UNDERSTAND** this manual and the accompanying Safety Manual.

SAFETY ALERT SYMBOLS AND SIGNAL WORDS

The following safety alert symbols, signals, and explanations are intended to warn the operator of hazardous and potentially hazardous situations.

The triangle with the exclamation points inside is used to alert the operator to an important safety point and is called a safety alert symbol. One of the following signal words will appear after the safety alert symbol:



If the safety alert symbol is followed by the signal word **DANGER**, the safety alert symbol indicates a hazardous situation which, if not avoided, **WILL** lead to death or serious injury.

If the safety alert symbol is followed by the signal word **WARNING**, the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

If the safety alert symbol is followed by the signal word **CAUTION**, the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **COULD** result in minor to moderate injury.

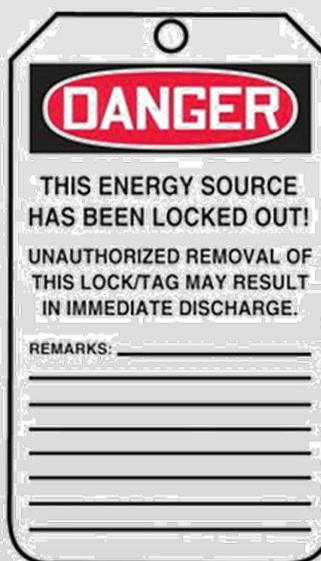
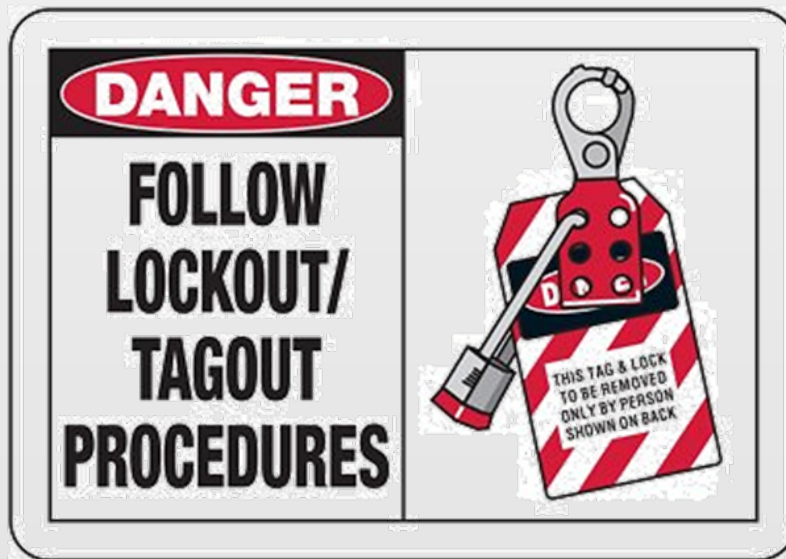
The signal word **CAUTION**, but without safety alert symbol means the safety symbol alert addresses a hazard which, if not avoided, **COULD** cause damage to equipment or property.

LOCKOUT / TAGOUT

The Lockout/Tagout procedure applies to all **REED** concrete placing equipment. Before performing any maintenance and/or repair on equipment;

1. Remove keys lock-out signage must be posted to indicate machine is currently under Lockout/Tagout.

The following symbol is a reminder to Lock Out and Tag Out equipment before working on equipment.



GENERAL SAFETY GUIDELINES

 WARNING

Use Only Qualified, Experienced, and Trained Personnel
Wearing Protective Equipment at All Times

 WARNING

For Safe Use, Maintenance, Inspection, and Repair,
Only Operate, Maintain, Inspect, and Repair
In Accordance with This Operation Manual and the Safety Manual

 WARNING

Performance and Safety Features Must Never Be Altered, Disconnected, or Removed

 WARNING

Contact **REED** Technical Support and Service When Assistance Is Required

SAFETY DECALS

Decals and placement of decals are standardized by the Concrete Pump Manufacturers Association (CPMA) for your protection. They are placed at appropriate areas on the concrete pump to be constant warnings of dangers. Know and adhere to the information they provide. Contact **REED** Customer Service for complimentary replacements of safety decals, shipping charges may apply.

DECALS PLACED NEAR CONTROL BOX AREA


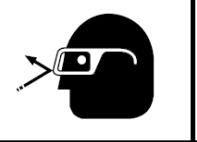
	<h3>! WARNING</h3>
	<p>Do not operate this machine without training. Understand the warnings in safety manuals and on decals.</p>
	<h3>! ADVERTENCIA</h3>
	<p>No use esta maquinaria sin estar capacitado. Entienda las advertencias de los manuales de seguridad y de las calcomanías.</p>

Do not paint over this label/No pintar encima de ésta etiqueta 800925

IMPORTANT	IMPORTANTE
<p>You can order additional operation manuals, spare parts books, safety manuals and decal sets by contacting us at: REED Manufacturing 1-(888)-779-7333 7:00 AM to 5:00 PM Pacific Time Monday through Friday</p>	<p>Usted puede solicitar manuales de operacion, catalogos de refacciones, manuales de seguridad y juegos de calcomanias adicionales contactando a: REED Manufacturing 1-(888)-779-7333 DE 7:00 AM a 5:00 PM Hora Pacifico LUNES A VIERNES</p>

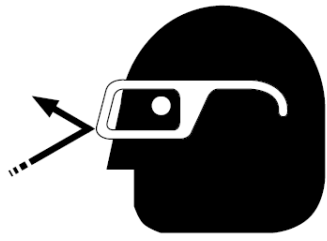
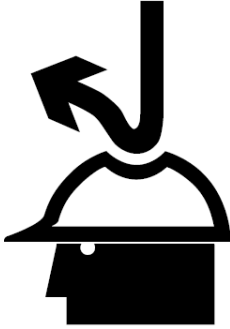
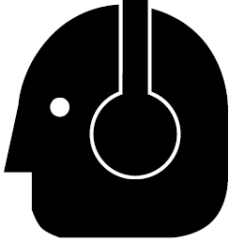
Do not paint over this label/No pintar encima de ésta etiqueta 803226

**DO NOT OPERATE
MACHINE
WITHOUT ALL
GRATES IN PLACE**

⚠ WARNING			SAFETY INSTRUCTIONS
			<ol style="list-style-type: none"> 1. Relieve system pressure before opening any system or coupling. 2. Regularly inspect system condition and wall thickness. 3. Wear reduces system burst pressure. 4. Use recommended clean out procedures - consult manufacturer. 5. Use retaining pins in delivery system snap couplings.
<ul style="list-style-type: none"> • Stay clear of pressurized concrete placing system. • Wear eye protection. • Do not operate at pressures exceeding the rating of any piece of the material delivery system. 			
⚠ ADVERTENCIA			INSTRUCCIONES DE SEGURIDAD
<ul style="list-style-type: none"> • Permanezca alejado del sistema de distribución de concreto presurizado. • Use protección para los ojos. • No opere a presiones mayores que las de la capacidad de cualquier pieza del sistema de descarga. 			<ol style="list-style-type: none"> 1. Alivie la presión del sistema ante de abrir un sistema o un acoplamiento. 2. Inspeccione periódicamente el estado del sistema y el espesor de las paredes. 3. El desgaste reduce la presión de rotura por estallido. 4. Use los procedimientos de limpieza recomendados, consulte con el fabricante. 5. Use los pasadores de retención en los acoplamientos de fijación a presión.

803237

ADVERTENCIA ⚠ WARNING

		
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800929A

INSTRUCCIONES DE SEGURIDAD		SAFETY INSTRUCTIONS				
<p>Recommended hand signals Señales de mano recomendadas</p>						
<p>1. START PUMP SPEED UP</p>	<p>2. SLOW PUMP DOWN</p>	<p>3. STOP PUMP</p>	<p>4. LITTLE BIT</p>	<p>(2 golpecitos) (2 taps)</p> <p>5. RELIEVE PRESSURE</p>	<p>6. ADD WATER 4-GALLONS</p>	<p>7. ALL DONE CLEAN UP</p>
1. PRENDER LA BOMBA ACELERAR	2. BAJAR VELOCIDAD A LA BOMBA	3. PARAR LA BOMBA	4. UN POCO	5. ALIVIAR LA PRESIÓN	6. AÑADIR AGUA 4-GALONES	7. TERMINADO LIMPIAR

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803235

DECALS PLACED NEAR HOPPER GRATE AREA

⚠ WARNING



Do not paint over this label/No pintar encima de esta etiqueta

Keep hands out of hopper and valve assembly. See operation manual if access is required.

⚠ ADVERTENCIA

No meta las manos a la tolva o válvula. Consulte el manual de operación si necesita tener acceso.

800917

⚠ WARNING



Do not paint over this label/No pintar encima de esta etiqueta

Stay off hopper grates.

⚠ ADVERTENCIA

Manténgase alejado de la rejilla que cubren la tolva.

800918

Do not paint over this label/No pintar encima de esta etiqueta

! WARNING



Cement dust is toxic. Use lung protection when exposed.

! ADVERTENCIA

El polvo de cemento es tóxico. Use protección para los pulmones cuando se exponga.

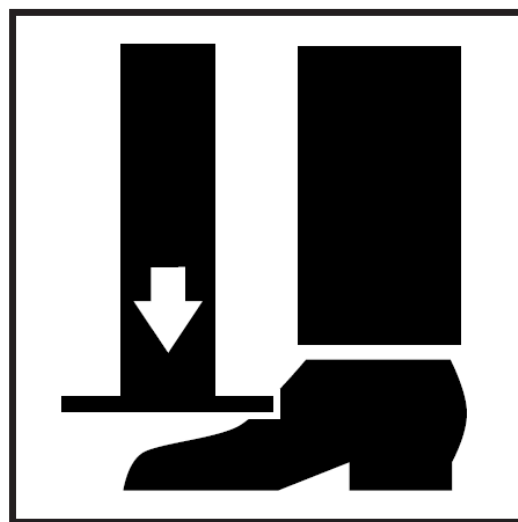
803231

DECALS PLACED NEAR WATERBOX AREA

	⚠ WARNING
	Keep hands out of waterbox. Stop motor if access is required. Keep guards in place.
	⚠ ADVERTENCIA
	No meta las manos a la caja de agua. Pare el motor si necesita tener acceso. Mantenga las cubiertas cerradas.

Do not paint over this label/No pintar encima de ésta etiqueta 800916

DECALS PLACED NEAR OUTRIGGER CONTROL AREA

	⚠ WARNING
	Clear area before activating outriggers.
	⚠ ADVERTENCIA
	Despeje el área antes de activar los estabilizadores.

Do not paint over this label/No pintar encima de ésta etiqueta 800919

DECALS PLACED ON SIDE PANEL AREA



! WARNING

This machine is remote controlled and may start at any time. Stop engine before servicing unit.

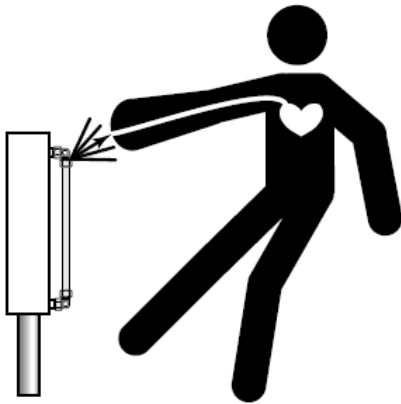
! ADVERTENCIA

Esta máquina funciona a control remoto y puede ponerse en marcha en cualquier momento. Apagar el motor antes de realizar el mantenimiento.

Do not paint over this label/No pintar encima de esta etiqueta

800924

! WARNING



Do not paint over this label/No pintar encima de esta etiqueta

Do not touch hydraulic oil leaks. Get immediate medical attention if oil penetrates skin.

! ADVERTENCIA

No toque las fugas de aceite hidráulico. Obtenga atención médica inmediata si el aceite penetra en la piel.

803225



800931





OPERATION

OPERATOR QUALIFICATIONS

Everyone involved with the operation, maintenance, inspection, and repair of the concrete pump MUST READ and UNDERSTAND this operation manual and the accompanying Safety Manual.

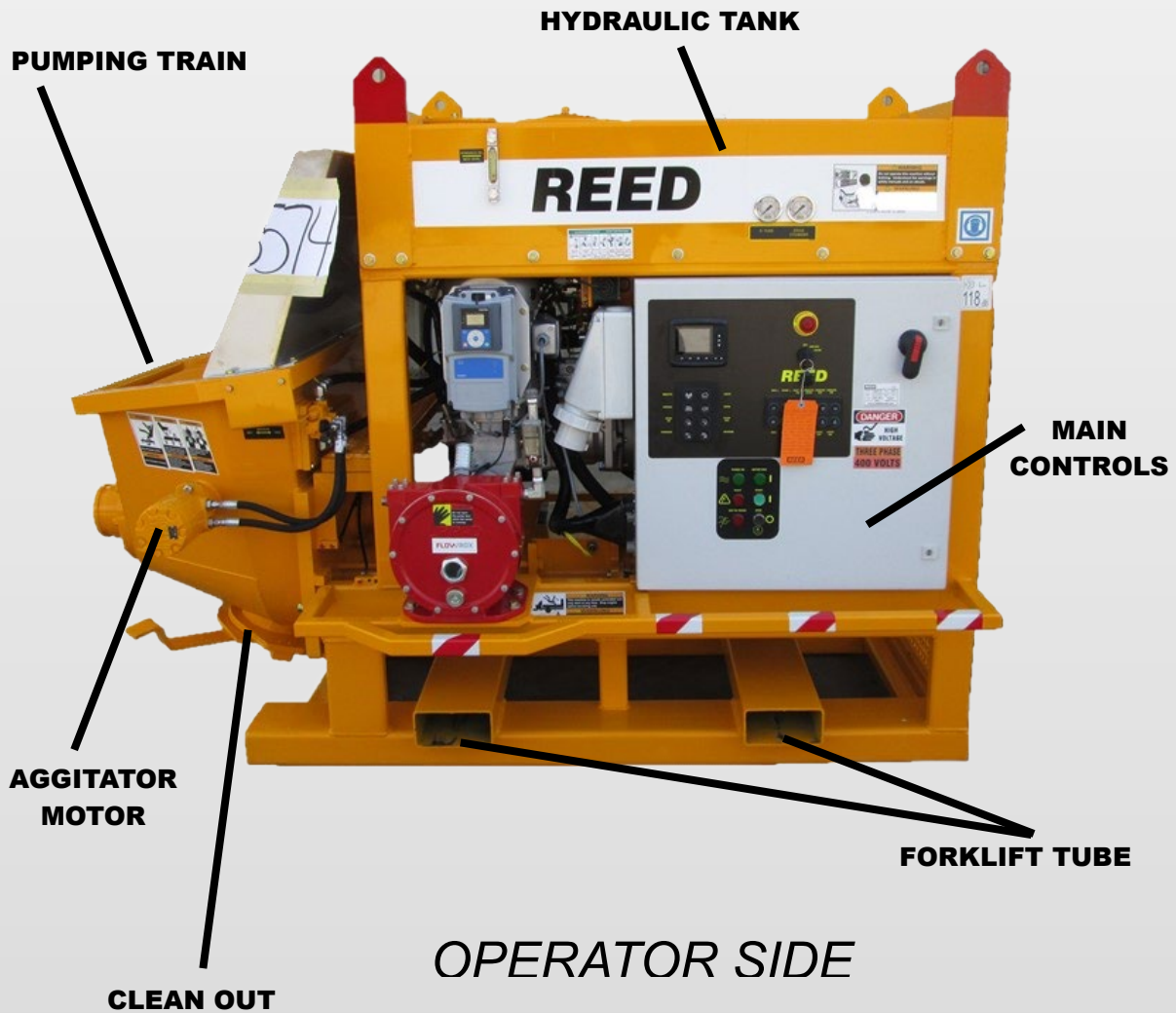
The following are a few general warnings for operator qualifications outlined in the Safety Manual.



- Individuals who cannot read and understand this operation manual, Safety Manual, signs, warnings, notices, and operating instructions, in the language in which they are printed, must not be allowed to operate the concrete equipment / mixer.
- Only qualified, experienced, and trained personnel may be allowed to operate the concrete equipment / mixer.
- Operation, maintenance, inspections, and repair must only be made by qualified, experienced, and trained personnel.
- Obey all applicable local and government statutes and regulations applying to safely operate equipment in their location.

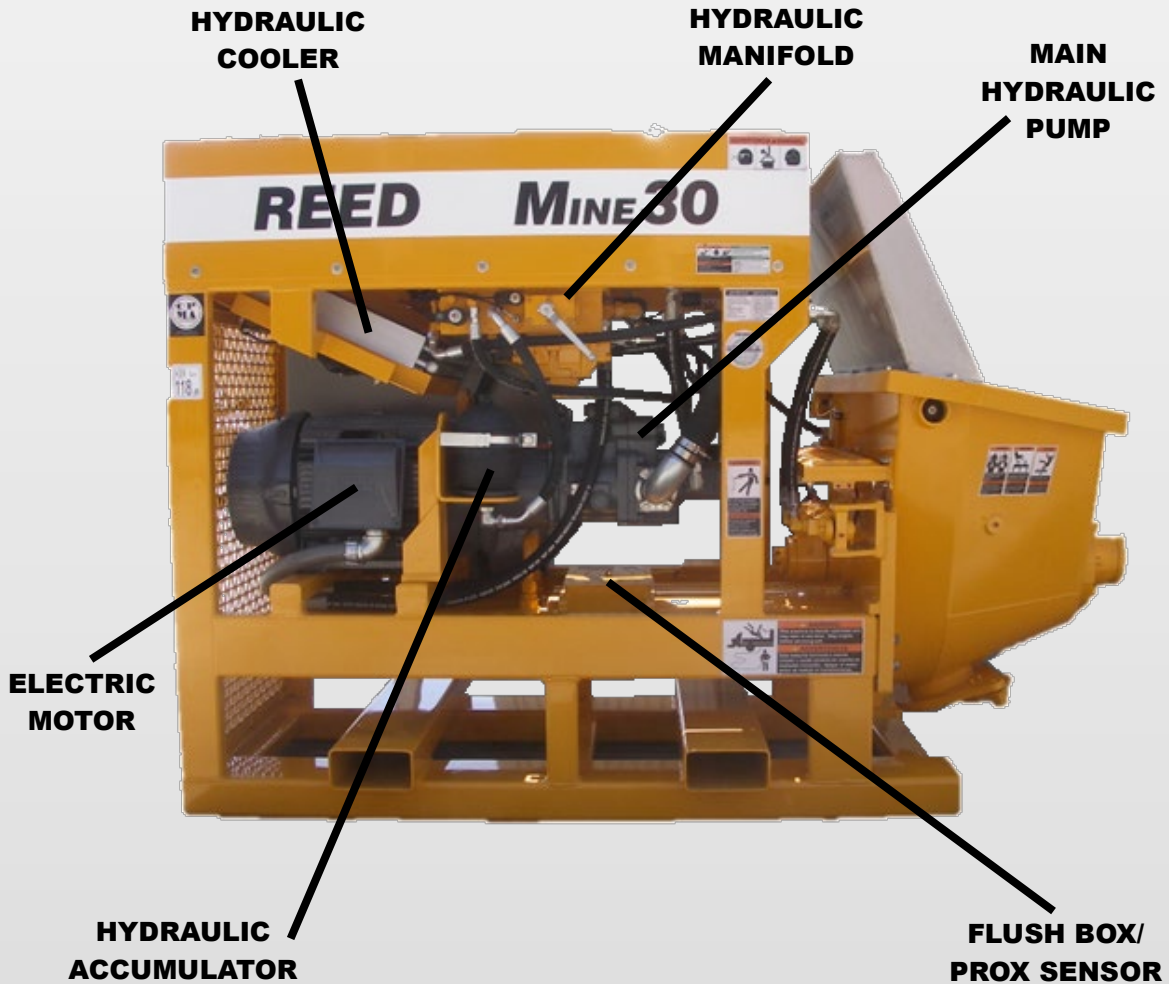
PRODUCT DESCRIPTION

The operation of the concrete equipment encompasses the use of hydraulic and electrical systems. This Concrete Pump is designed to safely mix wet concrete or material within its published ratings and specifications



PRODUCT DESCRIPTION

The operation of the concrete equipment encompasses the use of hydraulic and electrical systems. This Concrete Pump is designed to safely mix wet concrete or material within its published ratings and specifications.



NON-OPERATOR

CONTROLS

MAIN CONTROLS FUNCTION

EMERGENCY STOP This push/pull emergency switch is used to shut down the pump in an emergency by disabling the hydraulic systems. It does not shut the engine or motor off. Depress **PUSH** knob in to **STOP** operation. **PULL** knob out to **REACTIVATE** system. **NOTE:** the **HORN/RESET** must be switched one time to restart pump operation.



CONTROL SWITCH (LOCAL/REMOTE) this is used to select the pump control location. Press button to **LOCAL** to enable operation of concrete pump for main stationary panel. Press button to **REMOTE** for operation using the remote control. It will be backlit when each function is engaged

STROKE-SWITCH
Press button to test stroke change. It is used for the purpose of pressure testing the main drive cylinders. Both main and swing cylinders reverse direction when button is depressed. When the main cylinders reach the end of the stroke they will "dead head" until the button is released.

PUMP ON/OFF SWITCH
this is to turn the pump on and off. Press button **PUMP ON** to turn pump on, and press button **PUMP OFF** to turn pump off. It will be backlit when each function is engaged.

PUMP DIRECTION SWITCHES
this is used to select and controls of the cycle direction of the concrete pump. Press button **FORWARD** to control pump forward, and press button **REVERSE** to control pump reverse functions. It will be backlit when each function is engaged.



HORN/RESET
Press button down to activate horn/reset, it is used to reactivate the control and **PUMP CIRCUIT** after machine has been shut down using the **EMERGENCY STOP** switch or when you start the pump. Once the emergency stop has been depressed it will be necessary to press down the **HORN** button to **RESET**. It will be backlit when engaged.



NOTE: Hopper grate safety switch engages **EMERGENCY STOP** when grate is lifted

MAIN CONTROLS

MAIN DIGITAL DISPLAY this is where all the pumping statuses are displayed.

MAIN POWER KEY this is a three (3) position key switch. Turnkey to the **ON** position to power control box. Shut down power by turning key to **OFF** position.



RPM +/-
controls increase and decrease of engine RPM. It will be backlit when each function is engaged.

FAST CHANGE
(if equipped-closed loop only) controls the fast change feature for smoother operation under certain conditions

VIBRATOR
(if equipped-HOPPER OPTION) controls vibrator activation. (AUTO/PUMP/ON/OFF)



PUMP VOLUME
this is to turn the pump volume up or down. Press button **VOLUME UP** to increase volume, and press button **VOLUME DOWN** to reduce volume. It will be backlit when each function is engaged.

THESE CONTROLS ARE USED FOR (OPTION SYNCHRONISED CHEMICAL PUMP)

- Manual mode is used when you can control the speed of the chemical pump.
- Auto mode is used when you need a specific amount of chemical to be pumped. With each stroke of the concrete pump.

REED CONCRETE PUMPS

SCREEN OPERATION INSTRUCTIONS

GENERAL DESCRIPTION

This is the standard operation instructions and review of the PLC screen functions.

EMERGENCY AND ALTERNATE CONTROLS

These instructions are to be used in an Emergency situation with computer or communication failure, for back-up operation ONLY.

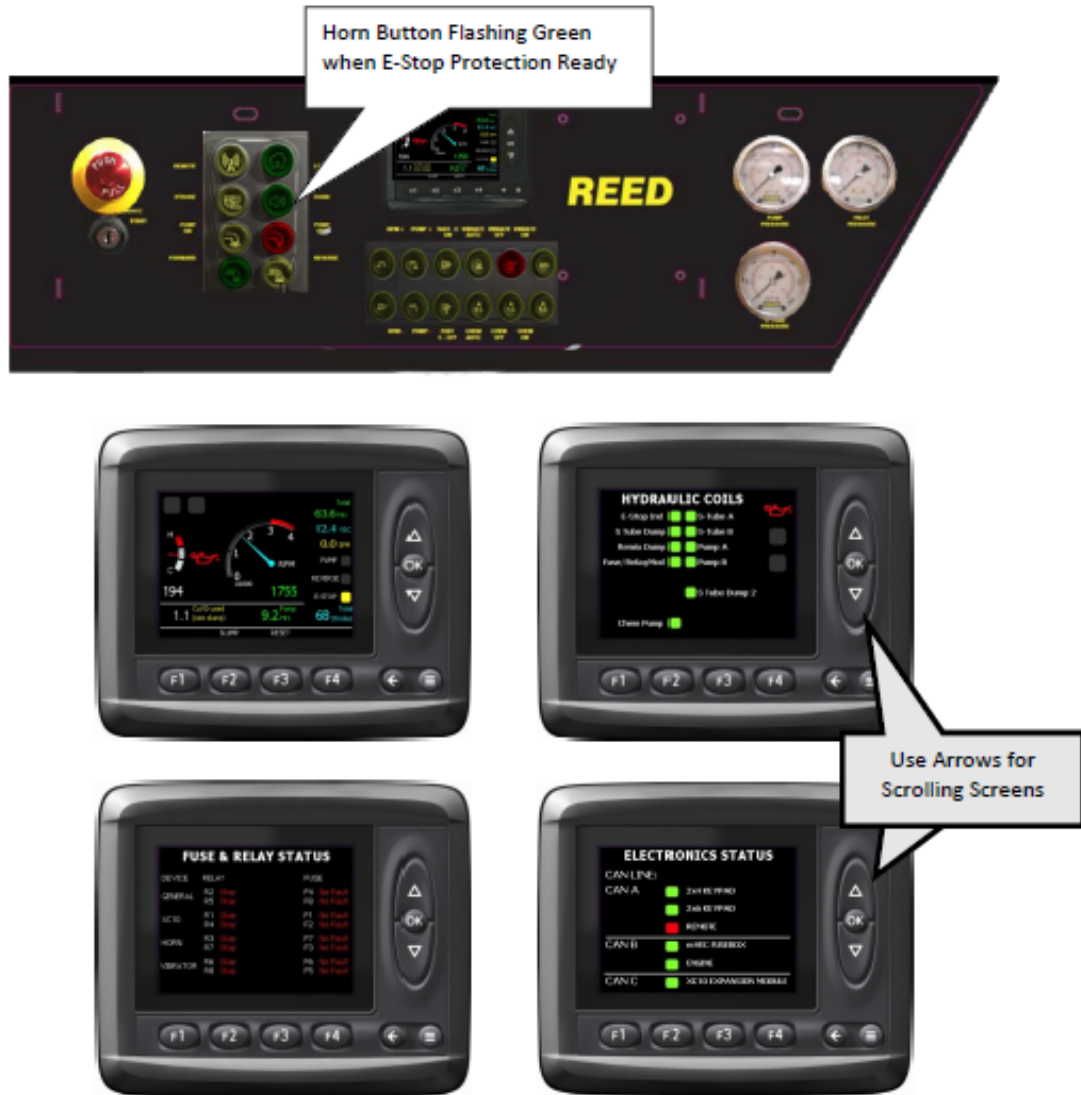
INITIALIZING SCREEN

1. **Pump Key Switch Turn ON** –When power is first activated with key switch the Initializing screen will be visible to provide any possible start up issues with pump devices. Any non-typical device operation will trigger an ERROR popup providing more detailed information or providing alternate paths of operations.

READY TO START ENGINE

2. **Initializing routine complete** – When the REED Logo is present initialization is complete and engine is ready to start. Control button lights have been updated for a more consistent look and intuitive operation. If E-Stop function has Push Button pulled out and Grate sensor show grate as closed the Horn Button will flash Green showing ready to operate. If E-Stop is triggered Horn light will be Yellow. Stop buttons are always RED and control buttons are Yellow until pressed where they will turn Green showing Active.

ENGINE RUNNING PUMP READY TO OPERATE



GRATE SENSOR



DEF TANK LEVEL



3. Scrolling Screens – Providing a Straight forward convenience for the operator and easier access to pump status items using the up and down arrows to scroll through the primary operational and status displays.

MAIN MENU DISPLAYS AND CONTROL

Press Menu Button for more pump options and info.



4. Main Menu Screen - After pressing the menu button a screen appears that provides the operator three options Adjust, Preferences, and Info



Selecting INFO provides the operator with 2 more options, See the list of Modules and status (Above) and See the system logs of operation and/or errors that have occurred during operation. (Below)



Selecting PREFERENCES provides the operator with 3 more options, Adjust the display (Above), Setting the date and time (Useful for log entries) and selecting the language the software should display. Currently English and Spanish are available (Below)





Selecting ADJUST provides the operator the ability to make setting to basic pump features (Above)

EMERGENCY AND ALTERNATE CONTROLS

1. **Prox Sensor Fail / Engine Communication Loss Override** - If at any time the pump detects both prox Sensors are active at the same time it will assume there has been a failure of one or more of the sensors. When this happens, it will stop the pump from trying to stroke and provide the operator with a popup messages of the issue while providing a option to go into a **OVERRIDE** mode. If the Operator selects to go into the override mode, the operation of stroking the pump becomes only available in **LOCAL** and requires a **Dead man** operation of the **Stroke** button.



2. **PROX OVERRIDE MODE** - Select **Override** from the popup (above) **Stroke** button will be flashing to indication **Override** mode. (Below)

Blow Horn, Press and hold **Stroke** button to begin stroking. OPERATOR MUST RELEASE BUTTON WHEN PUMP BEGINS TO DEADHEAD! After release press and hold **stroke** button and pump will change direction and stroke until it begins to deadhead again.

PRESS HOLD **STROKE** BUTTON, RELEASE AT START OF DEADHEAD, PRESS AND HOLD **STROKE** BUTTON, REPEAT.

WARNING - THIS MODE IS ALSO AVAILABLE WHEN COMMUNICATION IS LOST TO THE ENGINE, ENGINE WILL ONLY BE AT IDLE AND USE THIS MODE FOR CLEAN OUT AND GET OUT. DO NOT OPERATE PUMP IN THIS MODE FOR ANY EXTENDED PERIOD OF TIME.



Alternate Control Mode - If at any time the pump detects a loss of communication to the 2X4 or 2X6 control button pads or with the MVEC relay box it will assume there has been a failure of one or more of

these devices. When this happens, it will stop the pump from trying to stroke and provide the operator with a popup messages of the issue while providing a options to go into a ALTERNATE CONTROL or use REMOTE mode. If the Operator selects to go into the alternate control mode, the 2X4 and 2X6 control button pads will turn RED if possible and the alternate control will be available using the buttons on the main screen MD# display.

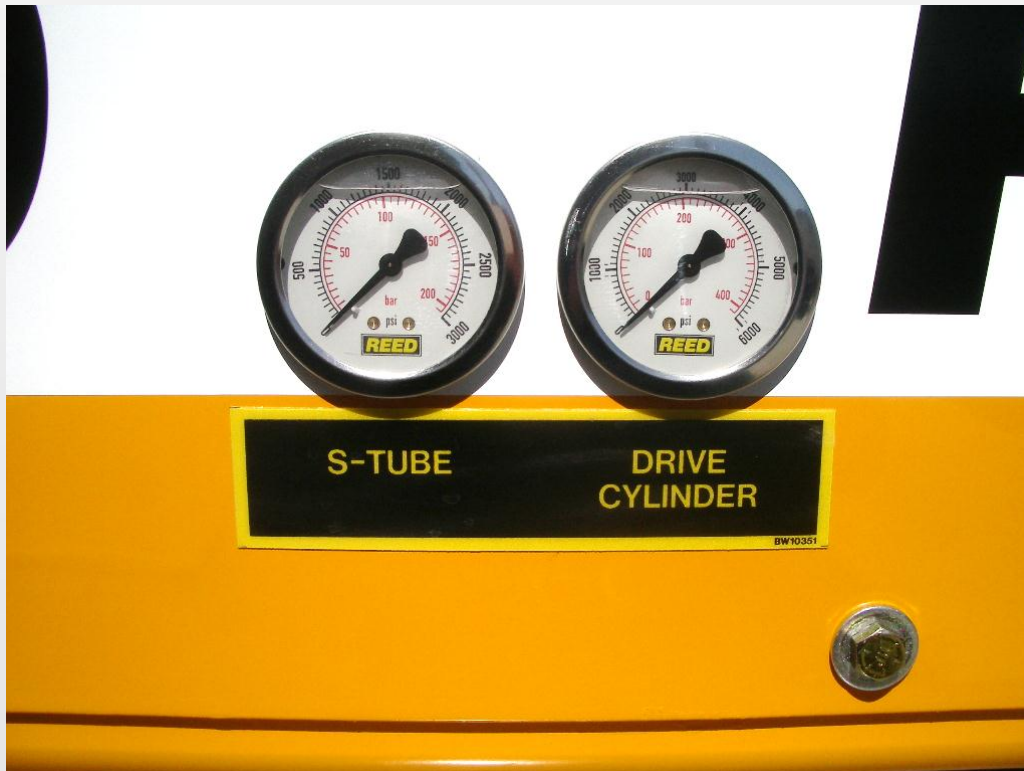


3. ALTERNATE CONTROL MODE - Selecting REMOTE when there is an error will allow normal remote controls. Pressing the OK Button toggles REMOTE and LOCAL.

Selecting yes to go into Alternate control displays 2 screens on the main display which are navigated with the arrow buttons. Pump will operate normally using the alternate button but may not allow Horn to blow or Vibrator to operate.

It is possible to have both the need for alternate controls and override at the same time. Pump will operate as described on the override section but requires holding the alt control for stroke.





GAUGES

PUMP or DRIVE CYLINDER GAUGE indicates the hydraulic pressure requirement of the pumping cylinders to push material. Gauge reading varies depending upon many circumstances such as: material slump, material line type, size and length, vertical, uphill, downhill or horizontal placement, pumping speed, etc.

S-TUBE GAUGE indicates amount of oil pressure stored in accumulator circuit. Pressure will build and stabilize at a set pressure once E-STOP is reset. Pressure will fluctuate as swing cylinder(s) shift but will always recharge to the same set pressure.

JOBSITE SET-UP

Refer to the Safety Manual for set-up safety precautions not limited to the following guidelines:

WARNING

Ensure Machine Can Be Safely Operated in Set-Up Location
Away from Hazards and Dangers
Away from Slopes and Excavations

WARNING

Position Machine on As Solid and Level Ground As Possible

WARNING

Adjust height of Machine and remove Leg pins

WARNING

Secure Machine Positions with Leg Pins and Locks

PRIMING

Priming consists of pumping a lubricant to coat the s-tube and delivery lines to assist the initial concrete material in getting through the delivery lines and avoid blockages. Once the delivery lines are full of concrete, that material will supply the lubrication necessary for the material to flow through the delivery lines. However, it is imperative that a primer be used ahead of the initial concrete material to pre-lubricate the lines in order to avoid blockages.

A suggested grout to use for priming and lubrication may consist of 2 parts sand and 1-part cement and mixed to a consistency of a thick cream.

The amount of grout required depends on the length of the delivery line as well as the material being pumped. Operator experience will eventually indicate the amount to be required.

In addition to grout, there is a wide variety of priming products available on

SYSTEM START-UP

Everyone involved with the operation, maintenance, inspection, and repair of the concrete pump **MUST READ** and **UNDERSTANDS** this manual and the Safety Manual.

Refer to the Safety Manual for pumping and blockages safety precautions not limited to the following guidelines:



Perform Required Inspection, Lubrication, and Maintenance
Before, During, and After Pumping Operations



Do Not Remove Hopper Grate
Or Other Safety Components



Do Not Insert Body Parts into Hopper, S-Tube, or Water box
Or Other Moving Components

SYSTEM START-UP

THE HOPPER GRATE MUST BE CLOSED (There is a safety interlock that guards against the opening of the mixer grate).

SYSTEM START-UP



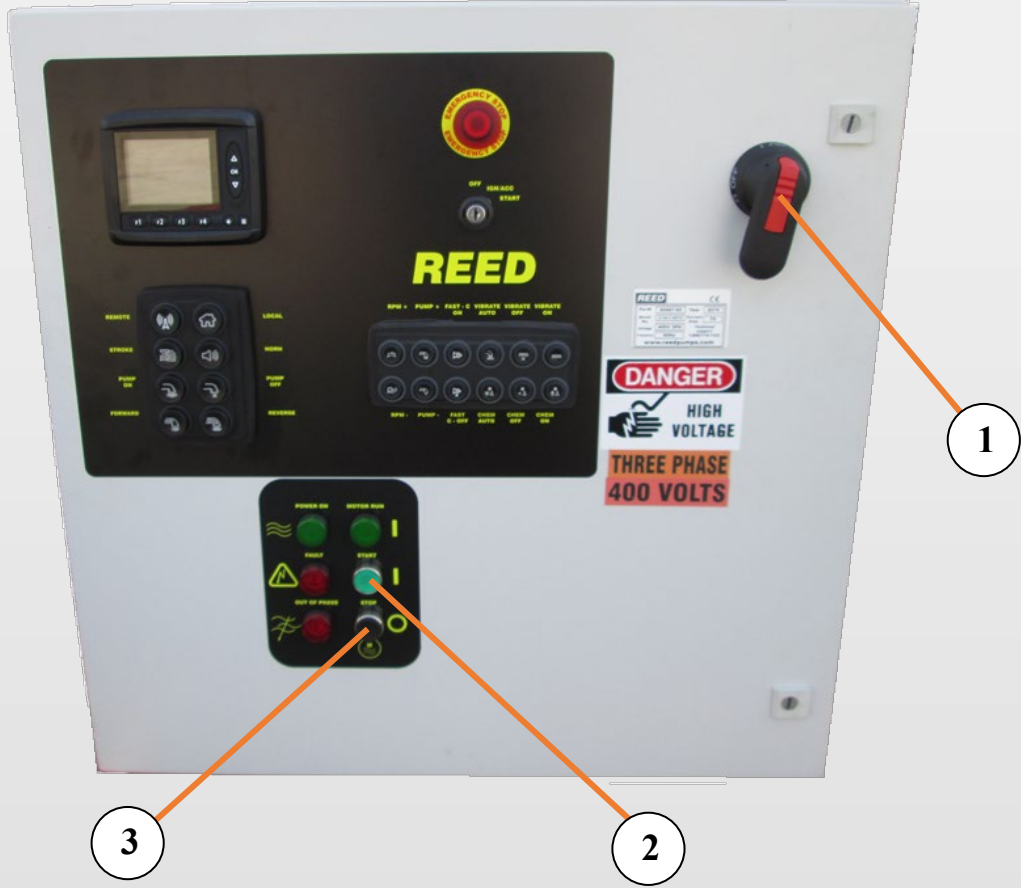
Turn Pump ON Only When Hopper Is Full of Concrete



Ensure the following conditions are met before activating pump:

- PUMP Switch Is "OFF"
- VOLUME CONTROL Is Set To MINIMUM
- AGITATOR Control Is placed in the "OFF" Position
- EMERGENCY STOPS Are Not Activated
- Controls "On" LOCAL Position

SYSTEM START-UP



1. MAIN ELECTRICAL PANEL CONTROL

This is two (2) position switch used to control energizing the main electrical hi-voltage system. Turn handle to the **ON** position to activate system from the external source.

2. MOTOR CONTROL SWITCH

Two (2) push button switches are provided and are used to control the 380V or 460V electric motor. To **START** motor, push the green button, then release button.

3. To **STOP** motor, PUSH black button until motor stops.

SYSTEM START-UP



1. Turn KEY operated SYSTEM POWER Switch to “ON”
2. Activate the HORN/RESET to prepare the concrete pump for operation
3. Increase RPM to desired engine RPM by adjusting THROTTLE CONTROL
4. Adjust VOLUME CONTROL to low output when starting pumping operations
5. Switch PUMP Switch to “ON” to pump concrete when hopper is full, maintain full level
6. Closely monitor the PUMP pressure gauge while pumping
7. Turn PUMP Switch to “REVERSE” to reverse the pumping action if necessary. REVERSE function is typically used to relieve pressure in the delivery line in the event of a blockage. A blockage will generally result in the main hydraulic system reaching maximum pressure as indicated on the PUMP PRESSURE GAUGE
8. Turn PUMP Switch “OFF” to stop cycling and stop pumping concrete
9. In the event of an emergency, push the “EMERGENCY STOP” Button “IN” to stop all functions of the concrete pump. Pull the “EMERGENCY STOP” Button “OUT” to enable system to reset; Horn/Reset function must be activated to reset pump operation.

CHEMICAL PUMP CONTROL (OPTION)



AUTO MODE

CHEM OFF

CHEM ON

THESE CONTROLS ARE USED FOR (OPTION SYNCHRONISED CHEMICAL PUMP)

- Manual mode is used when you can control the speed of the chemical pump.
- Auto mode is used when you need a specific amount of chemical to be pumped

With each stroke of the concrete pump

MAINTENANCE

RECOMMENDED MAINTENANCE PRACTICES

MAINTENANCE MANAGEMENT

Schedule lubrication and maintenance inspections to anticipate maintenance issues. Maintenance management requires the assignment of responsibilities to individual personnel, training of personnel, keeping of records, and the exercise of judgment.

INSPECTION AND LUBRICATION CHECKLISTS AND OPERATOR REPORTS

Utilize checklists for scheduled inspection and lubrication and maintain a written record regarding observations and actions performed. Maintain all scheduled maintenance reports by the operator listing any malfunctions and observations.

MIXER HISTORY FILE NOTING MIXER SERIAL NUMBER

File the operator reports, inspection and lubrication checklists, shop repair, work orders and tickets, parts replacement and pump usage records. This file should also include the parts book for the specific serial number and engine.

ANNUAL REVIEW

Review the history records of each unit once every year to find evidence of repetitive failures, adjustments, problems, or excessive wear so that action can be taken to minimize breakdowns and reduce excessive maintenance costs. A review of the machine history will help in the stocking of spare parts and assemblies in advance of a possible need.

CAUTION

Engine Manufacturer Maintenance Schedule Must Be Followed
Read Engine Manufacturer Manual

REED has provided only general guidelines regarding engine maintenance and will not cover engine warranty claims.

MAINTENANCE

WARNING

Hydraulic Pressure in All Systems Must Be ZERO Before and During Any Maintenance Procedures

Engine Must Be Turned OFF and Lockout / Tagout Procedures Must Be Followed Before and During Any Maintenance Procedures



GENERAL MAINTENANCE AREAS

Perform scheduled inspections to identify and detect any potential problems. The list presented should be inspected and checked on a regular basis and is a recommended minimum.

MAIN CONTROLS

- Control box in good condition, sealed, not damaged
- All Switches, push buttons, E-Stop in good condition, not broken, jammed or bent and stay in position or momentarily return to center
- Control identification in good condition, legible
- Gauges in good condition

REMOTE CONTROLS

- Control console in good condition, not damaged
- Switch in good condition
- Cord in good condition, no cuts, securely mounted to box

HYDRAULIC SYSTEM

- Hydraulic tank securely mounted, covers tight
- Breather, filler cap and strainer in place, level sight gauge in proper condition
- Check filter condition indicators
- Hydraulic oil cooler securely mounted; connections tight
- Hydraulic fluid to proper level and clean
- All hoses and tubing secure, check for leaks

LUBRICATION

Rapid wear and possible shutdown will result if the unit is operated with inadequate lubrication. Follow the recommendations stated herein, and if needed increase the application of lubricants above these recommendations when the equipment is subject to heavy usage.

RECOMMENDED LUBRICATING INTERVALS

Recommended lubrication intervals are based on normal use under normal conditions. The lubrication interval must be increased to meet more challenging uses and uses which subject the equipment to high and/or unusual concentration of forces. The lubrication interval must be increased if the pump has been exposed to environmental conditions such as low humidity, high humidity, excessive dust, high temperatures, low temperatures, heavy rainfall, long term storage, ocean air, etc...

1) every hour of operation

2) after completion of every job

All lubrication points must be greased on every interval as recommended.

TYPE OF LUBRICANT

- Use EP grease, extreme pressure grease available for wheel bearings, general purpose grease, Shell Alvania EP (LFH2), or equivalent if this lubricant is unavailable in your area



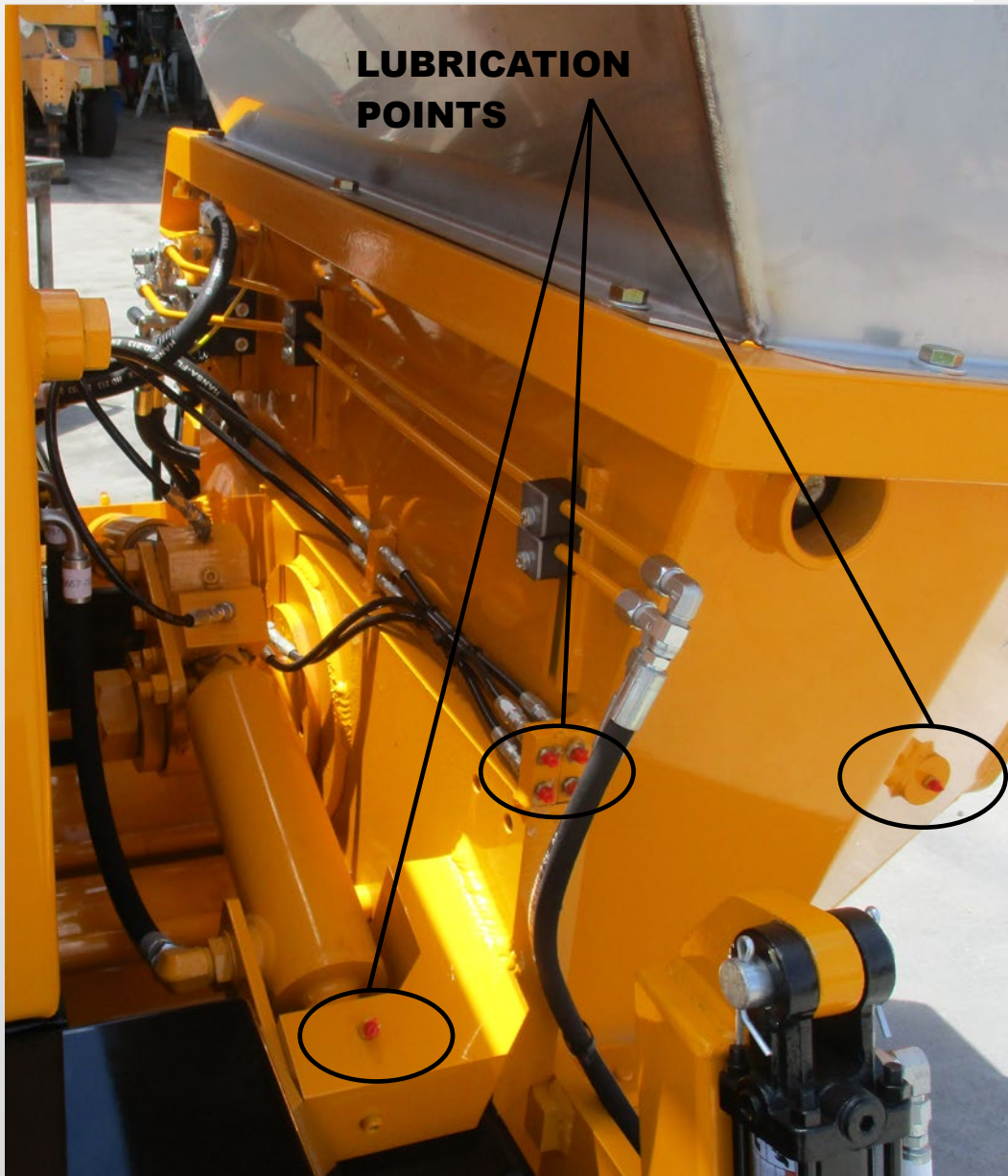
- Do NOT use Moly grease, grease with Moly additives

LUBRICATION POINTS

The following graphics are for REFERENCE ONLY.

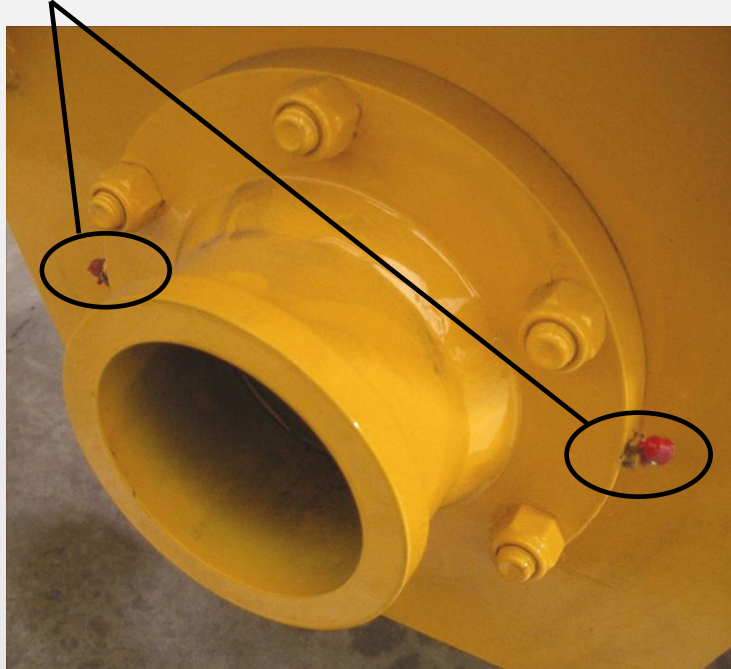
CAUTION

IF EQUIPPED WITH DUAL (2) HYDRAULIC SHIFT CYLINDERS,
RELIEVE SHIFT CIRCUIT HYDRAULIC PRESSURE TO PROPERLY GREASE
HYDRAULIC SHIFT CYLINDERS AND BELL CRANK



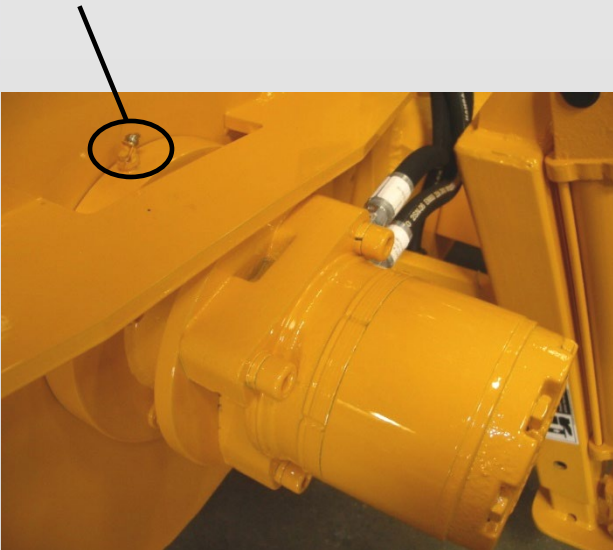
LUBRICATION POINTS

S-TUBE OUTLET GREASE POINTS

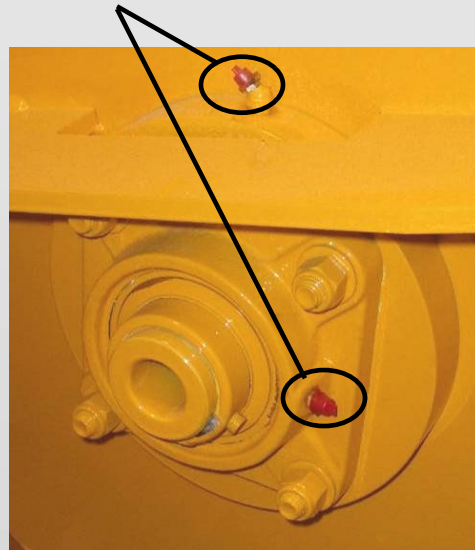


AGITATOR GREASE POINTS

HYDRAULIC MOTOR SIDE GREASE POINTS



BEARING SIDE GREASE POINTS



HYDRAULIC SYSTEM

Hydraulic pumps are used to supply the flow of oil necessary to operate actuators of the concrete pump.

CAUTION

Contamination of the Oil Is the Leading Contributor to System Malfunctions

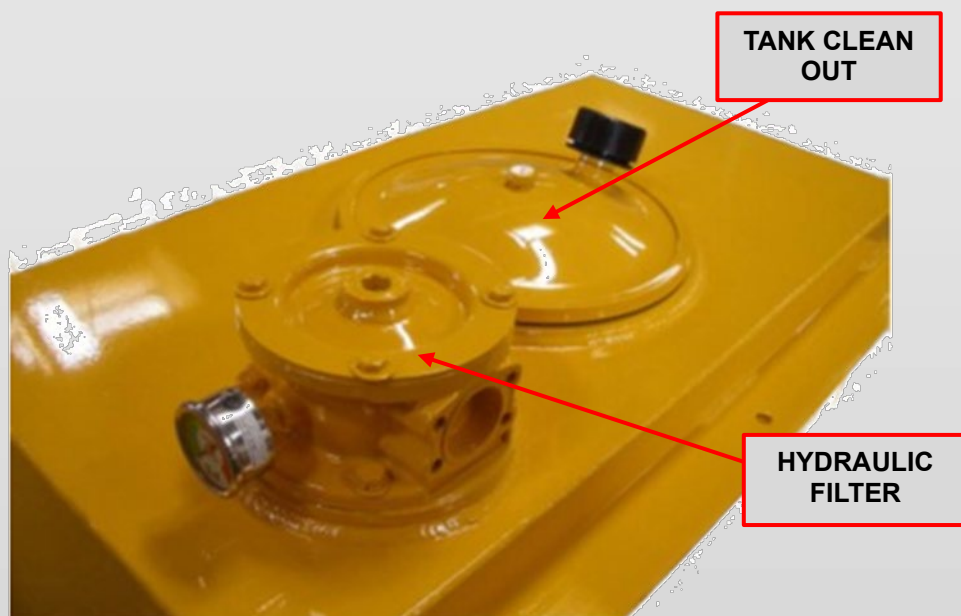
Extreme care must be exercised to prevent contaminants from entering the system. Always cap or plug open ports and hydraulic lines.

HYDRAULIC TANK

Hydraulic tank can be equipped with an access cover with breather. A sight and temperature gauge are installed on the tank to determine the fluid level and temperature inside the tank. The tank is also equipped with drain valve.

To accomplish filtration, hydraulic tanks can be equipped with the following: internal magnetic suction strainers, a suction filter, a return filter and a pressure filter.

NOTE: Not all models use all these components. Suction and return filters are equipped with an indicator gauge to monitor filter restriction. An oil cooler is adjacent to the engine cooling unit.



HYDRAULIC SYSTEM MAINTENANCE ITEM DESCRIPTIONS

FLUID

Check fluid level and oil clarity daily with sight gauge provided. Maintain level at full mark. Add hydraulic oil through the return filter fill port when necessary.

TANK BREATHER

Clean every 50 hours of operation. Remove from tank, clean with solvent and air blow dry.

FILTER

Change after first 50 hours of operation. Thereafter change every 250 hours of operation or when condition gauge indicates change is necessary.

HYDRAULIC TANK

Change oil in tank every 500 hours of operation or yearly, whichever comes first.

HYDRAULIC FLUID

The hydraulic system is filled with Shell Oil Company TELLUS #46. It is to be used in ambient temperatures of 39-90° F (4-32° C). The normal fluid temperature will range from 100-167° F (38-75° C).

For ambient temperatures of 90° F (32° C) and above, use fluid designated with an ISO rating of 68. Use ISO 32 for ambient temperatures of 32° F (4° C) and below.

CAUTION

Use Only Shell Tellus 46 or Equivalent
Never Mix with Other Types of Fluids

CAUTION

Always Use Clean and New Fluid

Using impure or other type of fluids not specified will contaminate the hydraulic system and lead to eventual system malfunction and/or damage.

ADDING HYDRAULIC FLUID

There are a few common methods for filling the hydraulic tank as described below. Exercise extreme care when adding fluid to the hydraulic tank to avoid contamination.

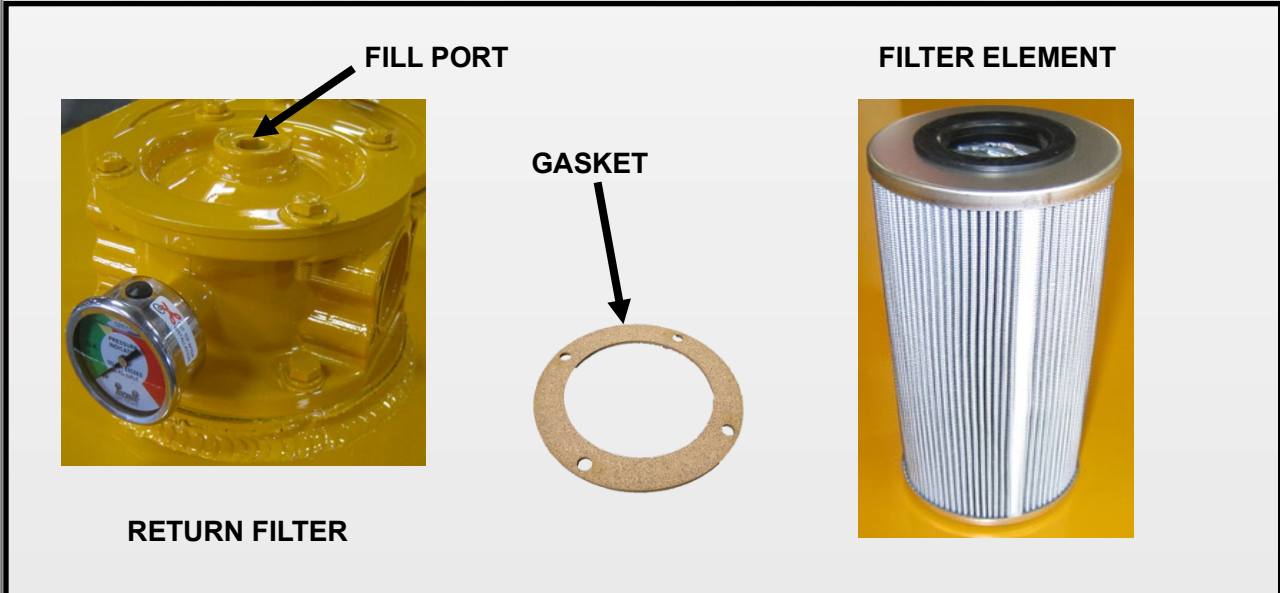
- To prevent any dirt or water from entering the hydraulic tank, thoroughly clean area around the return filter fill port plug, the vented fill cap or the inspection cover.
- Remove return filter fill port plug, vented cap or inspection cover.
- Fill system to MAX LEVEL mark on sight gauge with new clean hydraulic fluid. If a pump is used to transfer the fluid, ensure the pump filter is clean. If pouring fluid from a container, pour it through a fine wire mesh screen, 200 mesh or finer.
- Replace filter fill port plug, vented cap or inspection cover immediately after filling tank to proper level

FILTER SERVICING

Hydraulic filters provide a means of continuous hydraulic fluid filtration to prevent recirculation of contamination which will cause rapid wear and component breakdown.

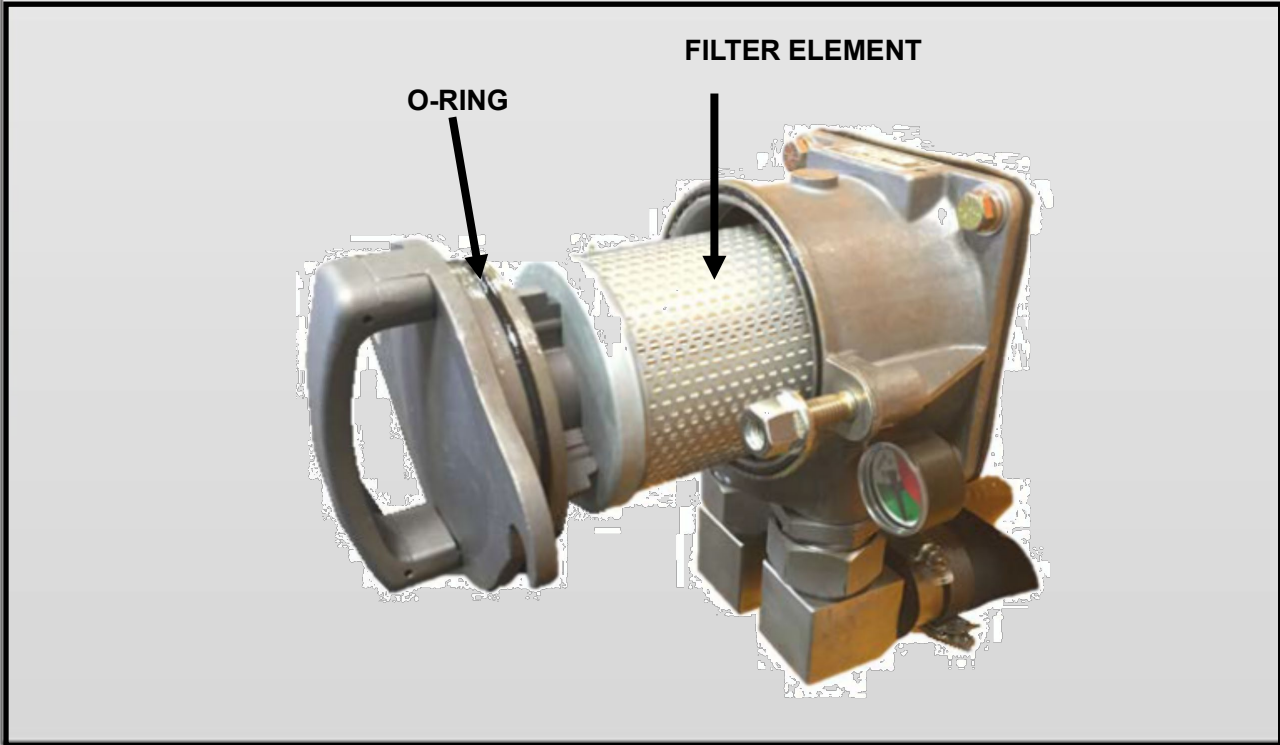
A filter that is equipped with a condition indicator gauge should be checked daily and the element changed when indicated to do so. Below are TYPICAL filters and filter elements.





CAUTION

**Do Not Use Cloth for Straining Fluid
Lint Is a Contaminant Harmful to the Hydraulic System**



To change the filter elements:



1. Shut off machine.
2. VERIFY PRESSURES IN ALL CIRCUITS READ ZERO!
3. Wipe clean any dirt and grime from area surrounding filter housing
4. Loosen the filter cover plate bolts
5. Carefully remove cover so as not to damage the gasket or O-ring
6. Discard only element and discard responsibly
7. Install bypass valve (if equipped) and new element and replace cover
8. Wipe clean any contaminants around high pressure filter
9. Remove filter housing then remove and discard filter element
10. Check and replace O-ring or gasket if necessary
11. Replace filter element and install filter housing
12. Start-up machine and observe for leakage

CAUTION

Do Not Wash Out and Reuse Disposable Filter Elements

CLEANING THE HYDRAULIC TANK

The hydraulic tank should be drained and cleaned after 500 hours of operation or yearly, whichever occurs first, to assist in keeping the systems clean and in proper condition.

1. Shut off machine
2. VERIFY PRESSURES IN ALL CIRCUITS READ ZERO!
3. Place a suitable size container under the hydraulic tank drain fitting and then remove drain plug. Dispose of used oil responsibly
4. After draining, remove the access cover on the hydraulic tank being careful not to damage the gasket
5. Remove, disassemble and clean magnetic suction strainers before reassembly (if equipped)
6. Flush the inside of hydraulic tank with clean solvent and wipe clean with lint free cloths
7. Install suction strainers (if equipped)
8. Replace sight gauge
9. Install the tank drain plug and access cover with gasket.
10. Change the hydraulic system filter element(s) and breather cap
11. Refill the hydraulic tank with new clean hydraulic fluid to MAX LEVEL mark
12. Start machine and check for leaks

COMPONENT REPLACEMENT

When parts are worn, do not delay in replacement. Continued usage with worn parts may lead to damage of other components.

Please contact the **REED** Service Department or your local dealer for technical support.



PUMP MAINTENANCE SCHEDULE AND CHECKLISTS

Providing a maintenance schedule defined specifically by run hours or yardage pumped serves only as a general guideline given the large amount of variables a unit might be subject to, such as weather and ambient temperature conditions, jobsite conditions, material differences of mix design, the load burden the unit is typically subject to, i.e. light, medium or heavy duty operation, etc.

The list that follows is to be used as a reference guide. However, the end user is encouraged to develop a preventative maintenance program that specifically suites their needs depending on the usage of the equipment.

DAILY PUMP MAINTENANCE CHECKLIST		
Actual Hours _____		Date ____ / ____ / ____
#	Maintenance Description	Initials
1	Check hydraulic tank fluid levels	
2	Check condition of hydraulic oil for water or other contamination.	
3	Drain water from hydraulic tank	
4	Check engine fluid levels (see engine manufacturer maintenance schedule for additional requirements)	
	Additional Notes:	
5	Check hydraulic filter indicator condition	
6	Lubricate lubrication points, during and after pumping	
7	Inspect unit for fluid leaks, loose hoses, loose nuts, bolts, fasteners etc.	
	Additional Notes:	
8	Additional Notes:	



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INITIAL 50 HOUR MAINTENANCE CHECKLIST		
Actual Hours _____		Date ____ / ____ / ____
#	Maintenance Description	Initials
1	Change engine oil and filters (see engine manufacturer maintenance schedule for additional requirements) IF REQUIRED	
	Additional Notes:	
2	Change hydraulic oil filters	
3	Inspect hydraulic hoses and fittings for any signs of external wear or damage	
	Additional Notes:	



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EVERY 100 HOUR MAINTENANCE CHECKLIST		
Actual Hours _____		Date ____ / ____ / ____
#	Maintenance Description	Initials
1	Clean hydraulic tank breather	
2	Inspect all structural components (check frame, hopper, and other structural members for any damage)	
	Additional Notes:	
	Additional Notes:	
3	Check coolers and radiators for dirt or debris. Clean as necessary	
4	Check condition of engine drive belts. Change if necessary (see engine manufacturer maintenance schedule for additional requirements) IF REQUIRED	
Additional Notes:		



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EVERY 250 HOUR MAINTENANCE CHECKLIST		
Actual Hours _____		Date ____ / ____ / ____
#	Maintenance Description	Initials
1	Change hydraulic filters (or change more frequently as indicated by indicator gauge on filter)	
	Additional Notes:	
2	Check that all electrical wires, cables, terminals, plugs are in good condition	
	Additional Notes:	
3	Change engine oil and filters (see engine manufacturer guide for all engine requirements) IF REQUIRED	
	Additional Notes:	
4	Check condition of fuel hoses, fittings, and clamps	
	Additional Notes:	
5	Inspect all safety decals to ensure that they are completely visible and legible	
6	Perform complete inspection of the controls	
7	All toggles in good condition, stay in position or momentarily return to center	
8	Control identification in good condition, legible	
9	Perform complete inspection of the controls	
10	All toggles in good condition, stay in position or momentarily return to center	
11	Control identification in good condition, legible	
12	Gauges in good condition	
	Additional Notes:	



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EVERY 250 HOUR MAINTENANCE CHECKLIST		
Actual Hours _____		Date ___ / ___ / ___
#	Maintenance Description	Initials
13	Control console in good condition	
14	Switch in good condition	
	Additional Notes:	



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EVERY 500 HOUR MAINTENANCE CHECKLIST		
Actual Hours _____		Date ____ / ____ / ____
#	Maintenance Description	Initials
1	Inspect hydraulic hoses and fittings for any signs of external wear or damage	
	Additional Notes:	
2	Inspect all wear parts and change as necessary (excessive wear may cause inefficient performance and/or shutdown of operation)	
	Additional Notes:	
3	Change hydraulic fluid, clean the reservoir and the suction strainers within reservoir, and replace all hydraulic oil filters	
	Additional Notes:	
4	Complete inspection of the engine (refer to engine manufacturer maintenance schedule for details) IF REQUIRED	
5	Inspect mountings, bolts, brackets	
6	Oil level proper, coolant level proper, check for leaks	
7	Fuel system, tank mounting, filter condition, check for leaks, damaged lines	
11	Air cleaner and muffler securely mounted IF REQUIRED	
Additional Notes:		



OPERATION and MAINTENANCE

EVERY 500 HOUR MAINTENANCE CHECKLIST

Actual Hours _____

Date / /

ADDITIONAL GENERAL NOTES:



NOTES