Reinco

TM7-30 SERIES POWER MULCHER
SAFETY, OPERATION, PARTS & SERVICE MANUAL

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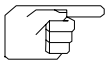
NOTICE

Every attempt has been made to make this manual complete, accurate and up-to-date. However, all information contained herein is subject to change due to updates and design modifications. All inquiries concerning this manual should be directed to **REINCO INC**.

CAUTION: The following information is **IMPORTANT** to the **HEALTH** and **SAFETY** of your employees. Please **READ**, take **ACTION** and **FILE** this document for future reference. Ask for additional copies if required.

Study this manual carefully before attempting to operate the machinery.

This safety alert symbol is used to call your attention to instructions concerning your personal safety. **Federal law requires you to explain the safety and operating instructions furnished with this machine to all employees before they are allowed to operate the machine.** These instructions must be repeated to the employees at the beginning of each season. Be sure to observe and follow these instructions for you and your employee's safety.



This symbol is used to draw attention to those operational and maintenance instructions we consider important to insure long trouble-free operation of this machine.

CALIFORNIA
PROPOSITION 65 WARNING

DIESEL ENGINE EXHAUST AND SOME OF ITS CONSTITUENTS ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS AND OTHER REPRODUCTIVE HARM.

REVISED 0398
PN 33000900

REINCO MODEL TM7-30 SERIES

POWER MULCHER

FORWARD

A MESSAGE FROM REINCO

Getting the most out of your new **TM7-30 POWER MULCHER** should be within the reach of an inexperienced crew in a few hours. The purpose of this manual is to minimize start up difficulties and acquaint the new owner with recommended operating procedures and techniques. The following pages also include information on parts, service and accessories to help in making your new machine a versatile and profitable investment.

Your new **REINCO POWER MULCHER** represents the culmination of over thirty-five years of expertise embodying field feedback, innovative design and manufacturing experience. Functional simplification and avoidance of mechanical complexities have been prime engineering objectives throughout this time. The benefits to be realized will be years of trouble free performance with minimum attention and maintenance.

Every operator and foreman should read this booklet and familiarize himself with the operational and mechanical aspects described. Some of the following commentary may appear to be obvious, but at the expense of being repetitive or assuming certain basics, this will serve as a guide for both owners and operators not acquainted with mulching procedures as well as providing instructions on the detailed operation of your new unit.

This manual is provided to ship with new units manufactured at the date of this document's revision. It is also supplied as a reference guide for units of similar construction, manufactured under prior designs. Some parts, options, engines, etc., may not be, or may not have been, available at the time of production of your machine. Contact **REINCO** for cost and availability of any requested upgrades.

All references made to engines, apply to the Wis-Con W4-1770 engine only. Owners of equipment with other power plants should consult the appropriate engine manufacturer's literature for applicable detailed information.

We at **REINCO** welcome this opportunity to be of service to you and wish to express our appreciation for the confidence extended by your selection of **REINCO** mulching and seeding equipment.

WHAT IS MULCHING

From a horticultural point of view, mulch can cover a wide variety of organic materials. Pine bark, wood chips, pine straw, peat, and hay or straw are typical. At **REINCO**, our concern has been with the processing of the last two products in a useful productive form.

Reinco Power Mulchers process rectangular bales. After removing the twine or wire, the expanded slabs or flakes are thrashed into uniform stalk lengths, adjustable between 4" and 10" in length. These are then blown in place over prepared ground surfaces forming an intertwined mat. The mulch serves to control topsoil water evaporation, wind and water erosion while providing a beneficial micro climate promoting more rapid seed germination.

Mulch is commonly applied at the rate of 1-1/2 to 2 tons to the acre (about 3" to 4" of fluffed height). Higher rates, 6 tons or more, may sometimes be specified. There is a limit however, because more is not necessarily better. Too much will snuff out required air and light inhibiting new seedling growth.

To provide a sense of productivity, the **TM7-30** carries a nominal rating of 5 tons per hour. In more practical terms this machine will process good quality dry mulch weighing about 60 lb. per bale at the rate of about 3 bales a minute.

It is safe to predict that capacity limits are based on getting material to the machine and not how much the machine can process.

REINCO MODEL TM7-30

POWER MULCHER

SAFETY

POWER MULCHER SAFETY OVERVIEW

Personnel responsible for your Power Mulcher training program, maintenance, and operations must read and understand this safety manual and operator's manual. No one should set up, operate or maintain a Power Mulcher until they understand it, its operation and know how to do their job safely.

RECOGNIZE SAFETY INFORMATION

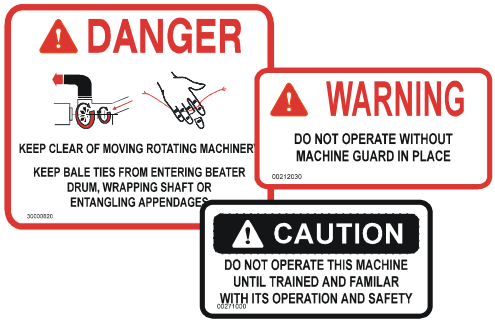
This is the safety alert symbol. When you see it in your operations manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

UNDERSTAND SAFETY WORDS

A signal word - **DANGER**, **WARNING**, or **CAUTION** - is used to identify a potential for serious injury. **DANGER** identifies the most serious hazards.

DANGER or **WARNING** safety signs are located near specific hazards. General precautions are listed on **CAUTION** safety signs. **CAUTION** also calls attention to safety messages in this manual.



FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in your operations manual and on your Power Mulcher. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include current safety signs and safety guards. Replacement safety signs and guards are available from your Reinco dealer or directly from Reinco.

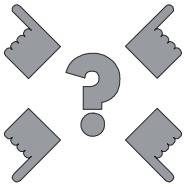
Learn how to operate the machine and how to use the controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact Reinco directly.

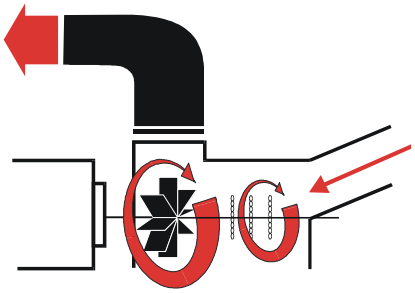
800-526-7687

CONCENTRATE ON YOUR JOB



Daydreaming, worrying about other problems or other improper operation of a machine could cripple you for life. Operating a Power Mulcher requires your complete attention. Talking, joking or participating in or watching horseplay could result in physical injury to you . . . and that's not something to joke about. So watch what you are doing and concentrate on your job.

KEEP CLEAR OF THE WORK AREA



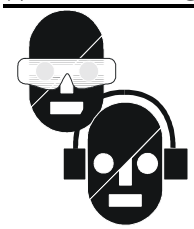
The purpose of a Power Mulcher is to cut and thrash bales of hay and discharge the processed mulch away from the machine. The Power Mulcher utilizes a powerful engine which turns a main drive shaft , beater chains and blower wheel at high speed to process the hay. It is obvious that this same capacity will sever arms, hands, fingers or any other part of the body that is in the work area when the machine is activated.

Additionally, the discharge from the blower is capable of blowing mulch in excess of 100 feet on some models. The machine's discharge is powerful enough to dislodge pebbles, stones or other debris which may cause eye injury.

The person responsible for activating the machine is the boom operator. It is his responsibility to see not only that his own body is clear of the work area and all moving parts, but that his co-workers are clear also and are entirely visible in a safe location before activating the machine.

During set-up, maintenance or other work on the machine which requires manipulation within the beater drum, fan housing, boom, feed tray, engine or other work area, the key should be removed from the machine and battery disconnected.

WEAR PROTECTIVE CLOTHING



Protect your eyes from blowing chaff as well as rocks and other foreign debris found in mulch bales. Use approved impact resistant eye wear.

As the conditions dictate, the use of respirators to protect you from inhaling nuisance dust is recommended.

Construction equipment is noisy. Prolonged exposure to loud noise can cause impairment or loss of hearing. Use approved ear protection to control this hazard.

Reflective gear and hard hats may also be necessary depending on your job site.

PRACTICE WORK AREA SAFETY RULES

The location of your job site will demand that additional safety practices be implemented. Always follow the applicable OSHA regulations.

While working on road sides and interstate highways, insure that appropriate strobes, flashers and other warning devices are installed on all vehicles as required by law. All workers should be wearing high visibility reflective vests. Anti-crash vehicles should be employed when appropriate. The use of barriers and flagmen is suggested. Be aware of the traffic flow and use caution to avoid discharging towards vehicles.

Since Power Mulchers are used at a variety of locations (strip mines, coal storage areas, land fills, refineries, power plants, and protected wilderness areas) it is imperative to contact the appropriate safety official or regulating agency to obtain information regarding any special safety considerations on specific job sites.

FIRE IS ALWAYS A POSSIBILITY

The potential for fire always exists. The combination of fuels, heat from engines,and clean dry straw increase the risk. Have a fire extinguisher near the work area. Learn to look for it before you begin working.

Always keep the machine clean of chaff and debris.

NEATNESS IS IMPORTANT

Keep the floor of your work area clear of bales or flakes of mulch, twine, scrap and trash that could cause you to stumble. Falling or slipping can result in painful or perhaps even fatal injuries.

Put all fuel, tools and other equipment away when you are not using them. Even a screwdriver can be deadly if left on an enclosure of the machine.

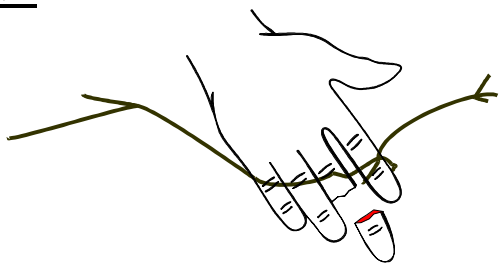
CLEAN AS YOU GO

Twine, when removed, should be disposed of immediately in a container away from the Power Mulcher. That loose piece of twine around the machine could cause you to fall or loose a hand or finger.

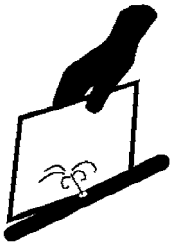
PROPER BALE HANDLING IS IMPORTANT

Bale twine or wire is dangerous. When cutting and removing twine from a mulch bale the handler must make sure that the twine is not pulled into the machine. The twine can wrap around a shaft and pull an arm or hand into the machine. It is capable of cutting through fingers.

It takes only a fraction of a second to lose fingers. Pay attention to your fingers, the twine, and the moving equipment when handling twine.



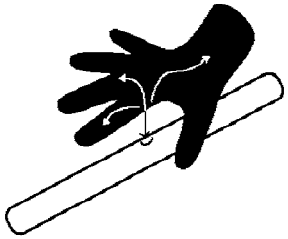
HYDRAULIC SYSTEM CONCERNS



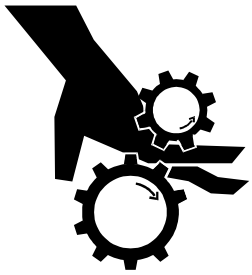
Some Power Mulchers are manufactured with hydraulically operated power feed systems. Hydraulic fluid lines are a high pressure fluid hazard. To prevent serious injury or death always relieve system pressure before repairing or adjusting or disconnecting.

Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Leaking hoses, fittings or components should be reported to your supervisor immediately.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed in a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.



HYDRAULIC FEED SYSTEM JAMS



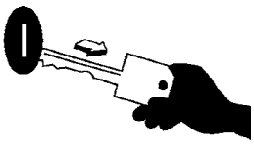
Should the hydraulic power feed system jam and the feed flipper drum stop rotating, the pressure relief valve in the flow control valve will open. Before attempting to clear any feed system jam, turn the engine off and return the feed system control cable to its closed position. The jammed bale may now be cleared.

Failure to shut the machine down will cause the power feed system to immediately resume operation when the system pressure drops below the relief valve setting. This could cause death or severe bodily injury.

VIBRATION IS A WARNING SIGN

A rotation unbalance of any sort will become obvious in the form of vibration. Vibration is an important warning sign of impending mechanical failure. Instruct all users of your equipment to report unusual vibration at the onset.

PRACTICE SAFE MAINTENANCE



Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service or adjust machine while it is running. Keep hands, feet and clothing away from moving or power driven parts. Disengage all power and operational controls, and relieve pressure. Stop engine and remove key. Allow machine to cool.

Disconnect the battery before machine adjustments or welding on machine.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any build-up of grease, oil or debris.

PROPER ENGINE SERVICING IS IMPORTANT

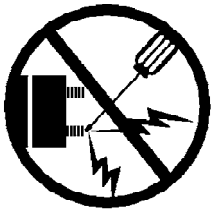
Do not perform service on an engine if you are not qualified.

Use care when refueling all engines, whether gas or diesel units. Fuels and their vapors are extremely flammable and can explode when ignited. Do not fill the fuel tank when engine is hot or running , since spilled fuel could ignite if it comes in contact with hot parts or sparks from the ignition. Do not start the engine near spilled fuel; wipe up spills immediately. Never use gasoline as a cleaning agent.

Store fuels in approved containers only. After refueling remove containers from work area.

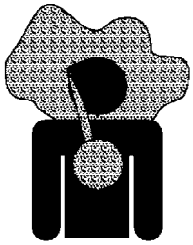
Do not add oil when engine is hot or running as oil could vaporize and ignite.

Do not add coolant to water cooled units when engine is hot due to the possibility of steam burns.
Only remove filler cap when cool enough to touch with bare hands.
Slowly loosen cap first to relieve pressure before removing completely.



Engines are a burn hazard. The crank case, cylinder head, exhaust system, radiator, and other components can get extremely hot from operation.

The electrical systems of engines can be a source of high voltage. Never touch electrical wires or components when engine is running. Never attempt to start the engine by shorting across the starter solenoid.

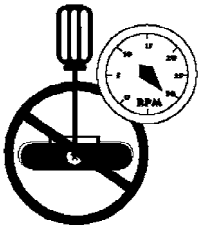


Engine exhaust gases contain poisonous carbon monoxide. Never run engine in an enclosed area. Avoid inhaling exhaust fumes.

Avoid accidental starts which could cause injury to yourself or fellow workers. Remove the ignition key. Disconnect and ground the spark plug wire on one and two cylinder gas units. On electric start units, disconnect the battery cables. Always remove the ground (-) cable first.

Refer to the engine manufacturer's operation and safety manuals for more detailed information.

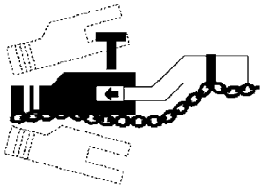
ENGINE SPEED IS IMPORTANT



Never tamper with the governor components settings to increase the maximum speed. The components used to build the Power Mulcher are designed to operate at a specific maximum speed. Severe personal injury and damage to the Power Mulcher can result at speeds set above the maximum.

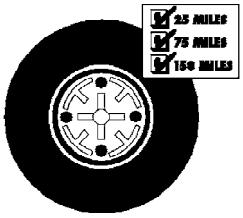
A rotation unbalance of any sort will become obvious in the form of vibration. Vibration is an important warning sign of impending mechanical failure. Notify your supervisor of any unusual vibrations or noises at the onset.

TRAILERED UNIT CONCERNS



The machine's frame should be level for towing, as well as boom operator safety. The hitch should be located so that the truck bed overhang will not interfere with the load tray. Provide adequate set back from the vehicle chassis frame so that jack knifing, when backing up, will not damage machine. Provide for securing the safety chains. Running lights are standard for over the road travel. They include stop, directional, tail side markers and license plate. Make sure all running lights are working at the start of each day.

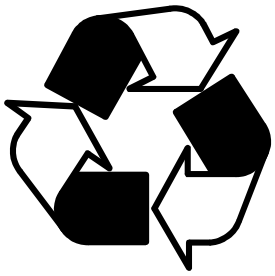
The flasher light switch of the truck, when engaged, will also activate the directional and tail lights mounted in the rear bumper. Whenever emergency signaling is required, use this circuit.



Initially, it is important to check the torque of the wheel lug nuts. These are set at the factory at 90 ft. lb.. Due to relaxation associated with travel, they must be torqued at 25, 75, and 150 mile intervals.

Braking systems, if supplied, must be checked for proper adjustment and operation. Brake adjustments should be made after the first 200 miles (seating) and again at 3000 mile intervals.

DISPOSE OF WASTE PROPERLY



Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with Reinco equipment include such items as oil, fuel, coolant, filters, batteries, emulsified asphalt, tackifier and fertilizers .

Use leak proof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them. Do not pour waste onto the ground, down a drain or into any water source.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your state's Environmental Protection Agency.

LOOK THINGS OVER CAREFULLY

Before operating your Power Mulcher, look to see if your machine is in the proper condition. Are the beater chains or flail knives all in place? Are they worn? Is the blower wheel in operating condition? Is the work space clean? Is the fuel properly stored? Is all the bale twine cleaned up? Are the machines guards and covers all in place? Are all nuts, bolts and screws tight? Do you know where the fire extinguisher is? Do all workers have protective safety gear? Is everything in proper operating condition? If not, report the unsafe condition to your supervisor and be sure the problem is corrected before beginning operation.

KNOW YOUR MACHINE

Power Mulchers all have one characteristic in common. Once the beater shaft starts spinning, simply turning off the machine will not stop the main shaft and blower wheel from spinning. The moving machinery can cause serious injury and even death. Be aware that a shaft which rotates at more than 2000 revolutions per minute is extremely dangerous.

1 • Before mulching, be sure to read this entire manual.

2 • Do not operate unit if unfamiliar with operational and safety procedures on this or any unit.

3 • The force from the blower can kick up dust and blow over small items that are not secure.

4 • Never discharge the unit towards people. Bodily injury may occur.

5 • Never force any material into the machine.

6 • Never attempt to clear the beater drum of debris or make adjustments while the engine is running.

7 • Be sure to keep all body parts and clothing away from moving parts while engine is running.

8 • Do not attempt to discharge rocks, nails, or other debris which may damage blower or cause premature wear.

9 • Do not operate machine without factory provided guards installed.

10 • Twine or wire should be cut and removed to prevent loose trailing ends from being pulled into the beater chamber.

11 • Do not allow fingers to become entangled in the bale twine.

12 • Do not wear loose clothing which may become entangled with the machinery.

13 • Do not add oil, water or fuel while engine is running or hot.

14 • Do not perform maintenance while unit is running or battery is connected.

15 • Do not under any condition operate the machine when vibrating.

16 • Working space must be allowed not only for the boom operator, but also for access to the stacked mulch bales.

17 • Daily, inspect the flailing chains, blower wheel blades and drive coupling assembly for signs of wear or misalignment.

18 • Always make sure chain stations are replaced in matched pairs.

19 • The flailing chains are made of case hardened steel. If a link breaks, an unbalance or vibration will occur. Do not under any condition operate the machine when vibrating. Always make sure chain stations are replaced in matched pairs.

20 • Check the leading edges of the blower wheel paddles. Dry mulch causes very little wear, but dirt laden, wet or moldy material will abrade the leading edges of the paddles. When they begin to feather and bend back, replace the wheel. Rocks and other foreign matter found in some mulch bales may also cause bending of the wheel blades which may produce a noticeable vibration.

21 • The drive coupling connects the engine to the blower shaft. Coupling misalignment will cause vibration. Realign immediately should this occur.

22 • Secure the discharge boom latch before transporting the machine.

23 • The Power Mulcher is not a passenger vehicle. Never board the machine while moving from site to site.

24 • Make sure all towing systems are operational and in good order.

25 • Never attempt to hitch machine without using leveling jack.

26 • **It is imperative that common sense and good judgment be employed when operating this machine.**

REINCO MODEL TM7-30

POWER MULCHER

OPERATION

MACHINE IN GENERAL

The **TM7-30** Series POWER MULCHER is a self-contained, portable machine designed to thrash hay or straw into short, uniform lengths and then blow the mulch strands at distances up to 60 feet.

The Model **TM7-30** is powered by a heavy duty, air cooled, gas engine which drives an in line beater/blower shaft. The engine, blower housing with lift ring, and beater drum are mounted to a fabricated steel frame. A rectangular discharge boom and elbow assembly are mounted to the outlet side of the blower housing and allow the operator to direct the placement of mulch.

Mulch is fed to the beater drum via a removable feed tray that can be folded for storage when the unit is in transit. A bale placed on the load tray must first be untied and the wire or twine removed to prevent it from being draw into the machine. Care should be used to avoid entangling one's fingers in the baling twine.

The opening from the load tray to the beater drum has purposely been limited in height to prevent overloading. An ideal flake thickness of dry mulch material is about 4 to 5 inches.

Thrashing and debaling of the mulch flakes in the beater drum is accomplished by a series of beater chain stations. Air drawn into the beater drum, by the blower, sucks the thrashed stalks and strands through the beater drum and convey them under high static pressure and volume through the discharge boom.

An engine instrument control panel is mounted on the engine cowl. The panel includes ammeter, hour meter, keyed ignition, and choke control.

Discharge distance is controlled by adjusting the engine speed with the throttle mounted within easy reach of the operator.

Model **TM7-30X** is a single axle, trailer mounted unit. It has a fixed tongue, safety chains and top wind screw jack and foot pad. A 2" ball type hitch is supplied standard. An optional adjustable lunette eye hitch is also available. The skid and trailer mounted units are similar with the exception of the discharge boom length and the load tray assembly.

Either of the above models may be equipped with an optional emulsion spray system which allows simultaneously blowing hay and coating the mulch with emulsified asphalt or other liquefied tacking material. Machines equipped with this option are designated as **TM7-30A** or **TM7-30XA**.

UNPACKING

The **TM7-30** Series Power Mulcher is normally shipped unpacked on a flat bed truck. Some units, however are shipped palletized or crated to accommodate other methods of transport. If it is received in the original factory packaging, your new Power Mulcher Model **TM7-30** may require some light assembly.

1 • Remove the banding straps by cutting with a pair of snips. Pull the cardboard from the pallet, and remove the outer packaging.

2 • Assemble the discharge boom assembly (Ref.: pg. 44 - 47).

3 • Locate the lifting loop and lift the unit from the pallet with a hoist and sling.

4 • Place the machine in an open area suitable for inspection.

ASSEMBLY

The **TM7-30** Series Power Mulcher is normally shipped fully assembled. Look the machine over to insure that all items appear to be installed and secured. On some occasions, assemblies must be broken down for shipment.

WARNING! INSTALL BEARING GUARD BEFORE OPERATING.

GUARD INSTALLATION INSTRUCTIONS

1 • Remove mulcher from shipping carton.

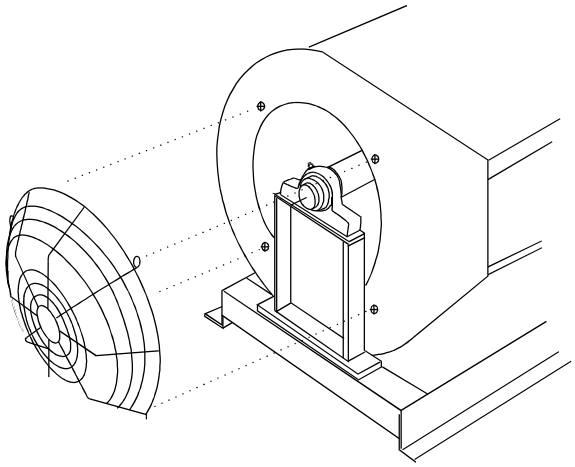
2 • Locate the wire bearing guard.

3 • Remove and retain the two (2) hex head cap screws and nuts located on the bearing side of the beater drum. (The side opposite the engine).

4 • Orient the guard so that the "looped ears" face up, then slip the bottom stringer hooks into the two (2) holes on the beater drum near the base frame.

5 • Push the guard toward the beater drum and align the two (2) "looped ears" with the upper mounting holes.

6 • Secure the guard with the two (2) ¼-20 x 3/4" hex head cap screws and nuts previously removed. Position the fasteners so that the nuts are on the exterior of the machine.



LOCATING THE LOAD TRAY [*SKID MOUNTED UNITS ONLY*]

1 • Remove the load tray from the side of beater drum by lifting it and position it in the mouth of the beater chamber so that it may be supported at a slight angle. To do this, place the reinforced end of the tray over the support bar and under the support lip (both run crossways in beater chamber opening).

2 • Swing open the load tray extension tray to it's open position.

Inspect machine for obvious obstructions in beater chamber, blower housing, and the rest of the drive mechanism. Check all bolts for tightness.

PRE-OPERATION INSPECTION

Before placing your machine on the job site, it is recommended that a familiarizing check-out be conducted for all key personal involved with the operation. Each machine is functionally tested at the factory prior to shipping. Before starting up, however, retrace the factory inspection procedures as follows:

All units:

1. Crank case oil level
2. Air cleaner assembly
3. Fuel (Check engine manuals for grade)
4. Battery connections (negative ground)
5. On-off and start switch, instruments, horn
6. Remove boom lock and actuate boom
7. Remove feed tray, open and install
8. Remove any debris from beater drum
9. Inspect failing chain stations

If equipped with emulsion spray option:

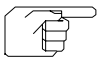
10. Pump, sheave and belt alignment and tension
11. Pump clutch and lever linkages
12. Suction strainer and prime fill cap
13. Hose connections and auxiliary spray valve

With trailer option:

14. Wheel lugs and tires
15. Ball hitch, safety chain and swing jack
16. Trailer wiring cable and plug
17. Lighting
18. Brakes, if supplied

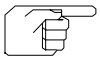
MOUNTING

Model **TM7-30** can be secured to any flatbed truck or trailer and is compact enough to be carried in a standard pickup truck. The ideal working position is in the back of the bed and on the shoulder side of the road with the load tray extending toward the mulch supply.



IMPORTANT ! Working space must be allowed not only for the boom operator, but also for access to the stacked mulch bales. For a large trailer, two men or more will be required for top productivity.

A lifting loop is provided so that a front end loader, or a fork lift with lifting chain or sling, can be used to transport and position the machine. Once in place, secure with binders or mounting cleats and blocks. The base frame has four bolt holes through which fasteners can be positioned to secure the machine.



IMPORTANT ! Insure that the machine base is placed on a level surface before fastening. Do not distort the frame.

TOWING THE MULCHER

The **TM7-30X** trailer frame tongue has permanently fixed, 2" ball hitch with a nominal height of 26". An optional lunette eye requires a pintle hook mounted on the towing vehicle. Either style require a Class B hitch assembly. It is important that the trailer hitch is properly positioned on the vehicle:

1 • The first concern is height. The machine frame should be level for towing, as well as operator safety.

2 • Secondly, the hitch should be located so that the truck bed overhang will not interfere with the load tray when in the retracted position.

3 • Next, provide adequate set back from the vehicle chassis frame so that jack knifing, when backing up, will not damage the machine.

4 • Finally, provide for securing the safety chains.

Running lights are provided as standard equipment. They include stop, directional, tail and license plate. A pig tail harness is included. This must be installed on the vehicle chassis to complete the recommended trailer hook up.

The truck hazard flasher switch will also activate the directional and tail lights mounted in the rear bumper. Use this circuit when working on roadways.

WARNING ! Periodically check the torque of the wheel lug nuts. These are set at the factory at (90 ft. lbs). **Due to relaxation associated with travel, they must be torqued at 25, 75, and 150 mile intervals.**

Do not attempt to tow unit until all hookups are complete and properly functioning.

ENGINE BREAK IN

The BREAK-IN period for the specific engine is noted in the vendor operation manual supplied with this manual. Proper engine break in and maintenance scheduling will result as increased engine life.

IMPORTANT ! The recommended first oil change for the air cooled WIS-CON model W4-1770 is at 8 hours of operation.

STARTUP

Familiarize yourself with this entire manual. Also, read the engine manual.

The engine is equipped with an electronic ignition system. Other than servicing the spark plugs, adjustments, or ignition maintenance is significantly reduced. This non-contact ignition system should provide years of trouble free service if the engine is properly maintained. Before starting the unit, be sure it is mounted as described previously. Be sure to make your test run in an open area.

CAUTION ! THE FORCE FROM THE BLOWER CAN KICK UP DUST AND BLOW OVER SMALL ITEMS THAT ARE NOT SECURE.

After reading the engine manual, you may start the engine. The air cooled engine, Wisconsin Model W4-1770 has a keyed ignition start switch. Turn to the "ON" position, pull the choke, set the throttle for a fast idle, and turn the key to "START". Slowly reset the choke as the engine warms up.

When running smoothly, pull the throttle to rev at a high idle. No strange noises or vibrations should occur. If there is, shut the engine down and rectify the problem (see Maintenance & Service pg. 24-37). For break-in procedure, refer to the Engine Manual for details.

A governor control is set at the factory for 2400 RPM maximum throttle extension. The throttle is a vernier type. By depressing the center button and pushing or pulling, quick adjustment is made. Releasing the button will lock the control, and by rotating the outside knob, a fine or vernier variation occurs.

OPERATING CAUTIONS

BE SURE ALL OPERATORS READ AND UNDERSTAND THE FOLLOWING OPERATIONAL PRECAUTIONS:

1 • Twine or wire should be cut and removed to prevent loose trailing ends from wrapping around fingers and then being pulled into the beater chamber.

2 • Never attempt to clear the beater drum of debris or make adjustments while the engine is running.

3 • Check the thrashing chains at the end of every days operation. The chains are made of case hardened steel. If a link breaks, an unbalanced vibration will occur. Do not, under any condition, operate the machine when vibrating. Always make sure chain stations are in matched pairs.

4 • Routinely inspect the drive coupling connecting the engine drive shaft to the blower shaft. Wear on the center member or coupling looseness will result from a vibration situation caused by an imbalance or misalignment due to overloading, obstruction or low quality mulch. Do not operate the unit until the coupling has been aligned or repaired.

5 • The engine has been set to a maximum operating speed of 2400 RPM. Do not exceed or set speed higher, as wear from excessive vibration may occur.

ENGINE OPERATING CAUTIONS

1 • The engine has been set to a maximum operating speed of 2400 RPM. Do not exceed or set speed higher, as wear from excessive vibration may occur.

2 • Clean chaff from engine routinely. Partial engine cowl removal may be required on a periodic basis.

3 • The engine is intended to run in a level position. Intermittently, the engine may run at a maximum of 25° angle for not more than 10 minutes.

4 • The available horsepower supplied by the engine drops 3% per one thousand feet above sea level. When operating unit at an altitude of 5000 feet or greater, a high altitude carburetor jet must be installed. Contact REINCO for details.

MULCHING

Your new Power Mulcher Model **TM7-30** will accept flakes or slabs of mulch for thrashing and blowing. The opening has been limited to 8" in height to minimize potential overloading. A bale placed on the load tray must first be untied and the wire or twine removed to prevent from being engorged by the machine. The placement operator simply separates a flake from the untied bale and allows the blower suction to draw the mulch into the drum. An ideal flake thickness of dry mulch material is about 4 to 5 inches.

The **TM7-30** as equipped with standard flailing chain stations can blow mulch strands uniformly at distances 60 to 65 feet in calm air. This may vary slightly depending on bale moisture content and the degree of decomposition.

This unit is rated at 5 tons per hour. Dry bales, with a count of 40 to the ton would require 200 bales for this coverage equating to blowing ten bales every three minutes. Conversely, oversized or wet bales weighing as much as 100 pounds may require two minutes or more for processing.

In practical terms, the machine can distribute mulch at higher outputs depending on the grade (quality), moisture content, and age. "Clean" mulch will be thrashed and blown faster than will old, moldy or mulch infused with foreign objects. Similarly, hay characteristically will not "mulch" as quickly as straw.

Every load of mulch varies one way or another and requires some human or mechanical adjustment. The machine is not programmed to do this for you.

IMPORTANT ! IT IS IMPERATIVE THAT COMMON SENSE AND GOOD JUDGMENT BE EMPLOYED WHEN OPERATING THIS MACHINE.

CAUTION ! BEFORE MULCHING, BE SURE TO READ THIS ENTIRE MANUAL.

A minimum crew of 2 men, not including the vehicle driver, is needed. To get maximum output perhaps as many as 4 or more men will be required. Their function would be primarily to get the baled mulch to the machine and remove the twine or wire wrap. While job size usually dictates labor requirements, a three member crew is common. This would include a vehicle driver, a feed man and a placement operator. If extension hose is used, the operator would direct mulch placement at the far end of the hose while the feeder would continuously provide a mulch supply to the TM7-30 thus reducing the crew size to two.

In the case of a three man crew, the operator normally stands next to the feed tray and flakes the supplied mulch bales off into segments which are drawn into the beater chamber.

CAUTION ! NEVER FORCE ANY MATERIAL INTO THE MACHINE.

If mulch does not flow into the beater chamber by the air suction and a slight nudge, or if it plugs completely, stop the machine before inspecting the beater chamber.

CAUTION ! BE SURE TO KEEP ALL BODY PARTS AND CLOTHING AWAY FROM MOVING PARTS WHILE ENGINE IS RUNNING.

After placing each bale on the feed chute, either the feeder or operator must cut and remove the baling twine or wire. Since it is best to make the cut on the top of the bale closest to the beater chamber opening, it will probably be easiest for the operator to do the cutting. However, if the feeder loads each bale from the side opposite the operator it could be just as easy for the feeder to do the cutting and removal. In any case should twine or wire get into the machine, it should be stopped and removed. Baling wire and twine when wrapped with the mulch will reduce output and may damage the shaft bearings.

The boom operator is the key man to the whole operation. He directs the placement of the mulch by properly positioning the discharge boom. While flaking and feeding with one hand, the operator should direct the discharge boom with the other.

Naturally it is to the crews advantage to mulch with the wind to obtain the best possible range and minimize operator fatigue and discomfort. This is particularly true when applying tackifier emulsions.

A horn with foot control switch is used to signal the vehicle driver. A simple signal system to stop and to proceed will serve to regulate truck movement to best advantage.

CAUTION ! NEVER DISCHARGE THE UNIT TOWARDS PEOPLE. BODILY INJURY MAY OCCUR.

Blowing range and output is partially controlled by the throttle. A low engine speed will blow only a portion of the maximum range while top engine speed will provide the greatest range. As engine speed decreases, the loading rate must be decreased accordingly. This adjustment in output should be coordinated with position, and travel speed to achieve the desired application rate. The crew should quickly adapt to a comfortable routine which will be clearly recognizable in the increased productivity.

ANCHORING MULCH

Mulch can be either "glued down" with tackifier, held down with netting, or "cut" into the soil with an implement.

Originally, emulsified asphalt was predominantly used for holding mulch in place. Although contractors still utilize this oil based tackifier, is use is becoming less common due to high cost, environmental concerns, availability problems and the associated cleanup liabilities in congested areas. The emulsion spray system option is utilized to spray the tackifier into the discharged mulch as it is placed.
Alternative tackifiers are available in either liquid or powder form, yet both are always applied in a liquid state through a HYDROGRASSER or a similiar mixing/spraying apparatus.

A straw incorporator implement is similar to a disc harrow yet the coulter blades are not angled. By rolling the "crimper" over blown hay or straw mulch, the notched blades "punch" the mulch strands into the soil thus holding it in place. The "packer" then "locks" the crimps permanently anchoring the mulch. Contact your REINCO representative for more information on tackifiers and "crimping" implements.

OPTIONAL EMULSION SPRAY SYSTEM

The positive displacement gearotor style pumping system can be installed for applying asphaltic tackifiers such as SS-1 or RC-1. The pump is driven by a belt powered from the beater shaft and engaged by a clutch. The flow is directed to a spray pipe mounted under the boom. A flat jet nozzle on the end of the pipe directs a fan pattern discharge of emulsion into the air blast carrying the mulch from the boom. When tacking is not required the clutch should not be actuated.

Emulsified asphalt should have the viscosity of latex paint at 70 degrees Fahrenheit. To maintain this viscosity at lower temperatures requires a heater system.

The suction pick-up tube must be immersed and the pump primed to draw binder from a drum or other source. Emulsion can be sprayed directly with the mulch. To do so, the valve on the pressure side of the pump is set to feed the boom spray hose. The alternate position is adapted with a garden hose connection for remote or over-spraying of mulch. When not in use the pick up tube is stored in a holder and the valves are closed.

APPLICATION RATES

The pump employed is rated at 8 gpm with a liquid, having a viscosity of 400 SSU. Normally specifications call for 150 to 200 gallons per acre. This means that under ideal conditions it would take about 20 minutes to pump enough oil to cover an acre. On an hourly basis, the system could theoretically tack 3 acres of mulch. With alternative tackifiers the application will vary based on the particular product coverage requirements.
The boom operator must develop skill in applying the proper quantity of emulsified asphalt based on the amount of mulch that is being placed. This is done visually and can be estimated rather closely by the black/grey color the over spray casts on the mulch.

There are many variables controlling the actual pump flow. Such as:

1 • Temperature as related to viscosity.

2 • Engine RPM.

3 • Cleanliness of the system.

4 • Age of the emulsion.

PRIMING FOR START-UP

To insure an adequate supply of liquid to the pump, the system must first be primed. This is done with about 5 gallons of waste oil cut with kerosene. Here are the steps to follow:

1 • Disengage clutch and stop engine.

2 • Remove pick-up tube from holder and place in a clean can or pail. Open boom valve.

3 • Uncap riser pipe mounted on pump discharge and fill to top with cut waste oil.

4 • Rotate pump in a clockwise direction by pulling the belt. As the level in the riser pipe falls, continue to add more oil. When oil discharges from the pick-up tube, into the can, stop rotating the pump. Then fill the riser pipe to the top and recap.

5 • Place the pick-up tube in the remaining oil of the 5 gallon pail. Support the tube so it doesn't fall over. Place a section of waste hose over the nozzle and return to the container.

6 • Start the engine. Engage the clutch and run at about 1000 RPM.

7 • As the pump forces oil through the system, the entrained air will cause a squealing noise. After a few minutes this will cease. The system is now primed.

8 • Disengage the drive belt clutch. Close the boom valve, then drain and store the pick-up tube in it's holder.

CLEAN-UP

After use, the system must be flushed. Fuel oil or cutback waste oil should be used for this purpose.

Here are the steps to follow:

1 • Remove pick-up tube from the asphalt and drain into a 5 gallon container of flushing liquid.

2 • Place a piece of waste hose onto the boom nozzle and return to the container.

3 • Start engine. Make certain valve is open, engage clutch and run at a slow idle for about 5 minutes.

4 • Close boom valve, replace pick-up tube in holder, disengage clutch and turn engine off.

5 • Any excess coating should be wiped clean with fuel oil.

6 • Remove strainer element and clean before replacing.

If emulsified asphalt is used, flush the pump and spray hose with fuel oil or with a 50/50 oil kerosene mix.

If water based tackifiers are used, flush system with clean water making particularly certain the strainer is unclogged. Follow the water flush with a 50/50 oil kerosene mix.

OPTIONAL EXTENSION HOSE(S)

Up to 100 feet of 8" flexible extension hose can be used to apply mulch in hard to reach areas.

To install hose:

1 • Install the hose adaptor (A) onto the discharge boom end. Locate and bolt the mounting angles to the boom. Some drilling will be required for feild installation. Secure the boom adaptor to the mounting angles with the hardware provided.

2 • Lock the boom in the transport position to insure that the discharge assembly is directed away from the engine.

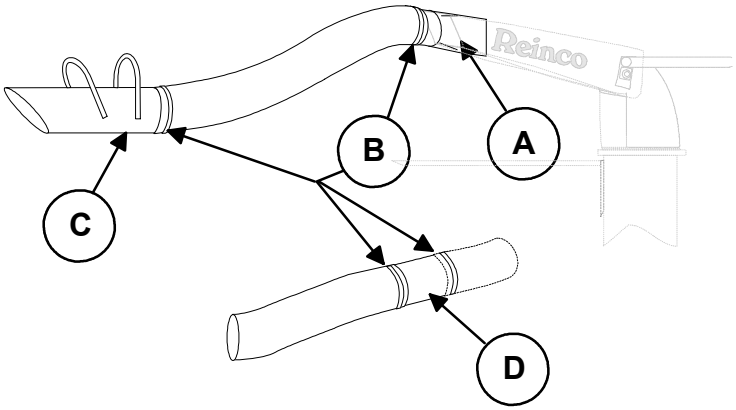
3 • Place a stainless band clamp (B) over the hose end and mount the hose to the boom adaptor end (A). Tighten the band clamp.

4 • Install the applicator spout end (C) similarly.

5 • If additional extension hoses are being used, they may be inserted before the applicator spout by means of a coupling tube (D), included with each extension hose kit. The hose ends are to be clamped over the coupler.

TM7-30 EXTENSION HOSE KITS

(Ref. pg 69)



PN: 33009110 - 25 FOOT STARTER KIT

PN: 33009200 - 25 FOOT EXTENSION KIT

Mulching can now be started. Adjust throttle to desired speed and begin feeding untied mulch bales while the placement operator directs the discharge at the hose end.

OPTIONAL VACUUM ADAPTER

Another option adding to the versatility of the **TM7-30** Power Mulcher is the Vacuum Adapter kit. Spilled or over-sprayed mulch, leaves and decorative wood chips may be picked up and placed with this easily installed assembly.

The kit includes a beater drum "inlet hose adapter", and an air "suction cover".

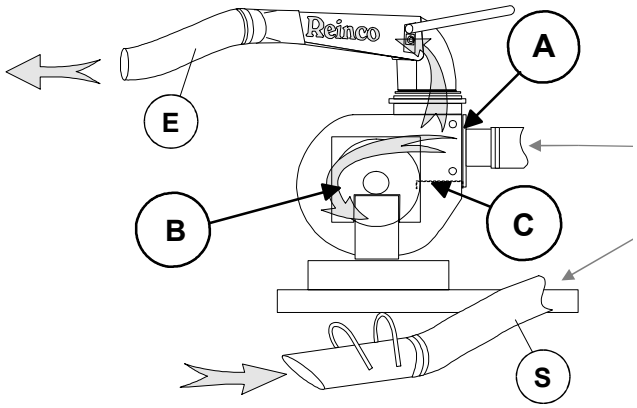
1 • The inlet hose adapter (A) must be bolted to the beater drum side sheet. Be sure the machine is turned off and the key is removed before attempting assembly.

2 • Place the tray makeup adaptor (C) onto the tray support bars in place of the feed tray. Then secure the hose adaptor (A) to the inlet opening.

3 • The air makeup cover (B) is to be installed on the exterior of the unit at the pillow block bearing end. Remove the bearing shaft guard. Hold the cover over the beater shaft with the "U" shaped notch facing down. Slide the piece towards the beater shaft and wedge it between the beater drum wall and the bearing until firmly secured. This cover now forces all make-up air to be drawn through the inlet hose adapter. Replace the bearing guard using the two longer bolts supplied with the vacuum kit.

4 • The final installation step involves installing suction and discharge hoses consistent with the desired application. Typically, the basic hose "starter kit" (S) would be connected to the inlet adapter by slipping the hose over the adapter tube and clamping the hose as indicated in the forgoing section. The other end of the hose would utilize the discharge spout end as a suction head. Other extension hoses may be added on the suction and discharge loops as the individual job dictates, however, the length of the hoses used will be constrained by the type of material(s) being vacuumed.

TM7-30 VACUUM KIT



PN: 33009300 - VACUUM KIT

The feed man is now utilized to pick up the desired material by working the pick up end of the hose. Compacted or wetted material should be kicked up to assist in vacuuming. The placement operator simply directs the discharge boom assembly or the discharge extension hose (E) if utilized.

CAUTION ! DO NOT ATTEMPT TO PICK UP OR DISCHARGE ROCKS, NAILS, OR OTHER DEBRIS WHICH MAY DAMAGE BLOWER OR CAUSE PREMATURE WEAR.

When done with the job, turn the machine off and remove the adapter assembly and suction cover. Clean out any residual material remaining in the beater drum, then replace the feed tray.

REINCO MODEL TM7-30

POWER MULCHER

MAINTENANCE AND SERVICE

SERVICE

Due to the simplified construction of REINCO HYDROGRASSERS AND POWER MULCHERS, most routine maintenance can be performed without the services of a skilled mechanic. In the event the unit requires expertise beyond that which is covered in this manual, contact your authorized REINCO servicing dealer.

If your REINCO dealer is not an authorized engine dealer, and the problem is engine related, contact an authorized engine service center. Call REINCO or your dealer for the name of your nearest engine service location.

The REINCO limited warranty which follows does not cover the engine. The engine manufacturer provides their own limited warranty found in the engine manual, provided with new machine.

ABOUT WARRANTY

The equipment warranty statement is provided as protection to our valued customers, when or if the situation occurs, that a part or parts fail prematurely during normal use and service. The warranty period as provided allows the purchaser to make claim for repair or replacement of the parts deemed defective within that period. The procedure that follows will provide that claims made, may be expedited promptly and that settlement will be made fairly and amicably.

WARRANTY PROCEDURE AND FILING

1 • NOTIFICATION - Promptly notify your dealer or REINCO of defect or failure and confirm in writing.

2 • AUTHORIZATION - Upon receipt of authorization from REINCO, initiate replacement or repair under the terms and conditions of the warranty.

3 • RETURN GOODS - Should part(s) be requested returned for inspection, obtain authorization for return (RGA). Return part(s) to REINCO Inc., freight prepaid. A copy of the return authorization should accompany the shipment.

4 • SUBMIT - Claims submitted for warranty consideration will require copies of notification, replacement part(s), invoice(s), and time record (Work Order). Copies of any additional correspondence with regard to the particular claim should be submitted as well.

REINCO's obligation under the terms of the warranty shall be limited to replacement or credit for the part(s). On request parts must be returned for inspection. Related labor must be considered fair and reasonable regarding work performed. A work order time record will be required to substantiate and validate labor reimbursement requests.

Claims submitted which upon review are determined to be the responsibility of third parties will be returned with instruction for forwarding to those parties.

Claims submitted for warranty consideration must be forwarded to REINCO for review **within 30 days of the date of claim** or the claim will be considered invalid and void.

Settlement of any claim will require that any prior claims or adjustments are settled.

WARRANTY

The following warranty statement is provided to illustrate Reinco's typical Warranty. To the extent that there may be inconsistencies between this statement and that provided by the order Terms and Conditions, the order Terms and Conditions shall apply.

REINCO INC. PROVIDES A LIMITED TWO YEAR WARRANTY ON THE MACHINERY OF ITS OWN MANUFACTURE. REINCO INC. WARRANTS TO ANY BUYER THAT THE MACHINERY SHALL BE FREE OF DEFECTS IN MATERIAL OR WORKMANSHIP DURING NORMAL USE AND SERVICE FOR A PERIOD OF TWO YEARS FROM THE DATE OF SHIPMENT TO THE CONSUMER. THIS WARRANTY IS NOT EXTENDED FOR MACHINES PLACED INTO RENTAL SERVICE.

UNDER THIS LIMITED WARRANTY, REINCO INC. SHALL WITHIN ONE WEEK FROM THE DATE OF NOTIFICATION, (1) INITIATE REPLACEMENT OR ACTION FOR REPAIR OF THE PART(S) PROVEN DEFECTIVE IN MATERIAL OR WORKMANSHIP OR, (2) DIRECT THE SERVICING DEALER TO INVESTIGATE, REPORT, AND THEN AUTHORIZE AND PERFORM REPAIR OR, (3) ON DIRECT FACTORY SHIPMENT, INSTRUCT THE USER, UPON VERIFICATION OF FAILURE, TO PERFORM HIS OWN REPAIR WITH PRIOR AGREED UPON BACK CHARGES TO REINCO INC. THE CHOICE OF ALTERNATIVES SHALL REMAIN THE SOLE DECISION OF REINCO INC.

THIS WRITTEN WARRANTY IS THE ONLY WARRANTY MADE BY REINCO INC. IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IF ANY, ARE LIMITED TO THE SAME TERM AS THIS WRITTEN WARRANTY. CERTAIN STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY. HOWEVER, SOLELY WITH RESPECT TO THE BUYER, THE FOREGOING WARRANTY IS IN LIEU OF ANY AND ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, AND NO OTHER WARRANTY IS MADE OR AUTHORIZED TO BE MADE.

THE USER OR DEALER MUST PROMPTLY, WITHIN THE LIMITED WARRANTY PERIOD, NOTIFY REINCO INC., AND CONFIRM IN WRITING, THE DEFECTS, ALLOWING THE COMPANY TO ANALYZE THE FAILURE AND DETERMINE ITS OBLIGATION UNDER THE WARRANTY. COSTS INCURRED BY THE USER OR DEALER ARE TO BE ABSORBED, UNTIL SETTLEMENT UNDER TERMS OF THIS WARRANTY. THE COMPANY RESERVES THE OPTION AND THE RIGHT TO HAVE ALL DEFECTIVE COMPONENTS RETURNED, TRANSPORTATION PREPAID, FOR INSPECTION.

THIS LIMITED WARRANTY DOES NOT COVER UNSATISFACTORY PERFORMANCE OR FAILURE DUE TO MISUSE OR ABUSE OF THE PRODUCT, NOR WILL REINCO INC. BE RESPONSIBLE FOR UNSATISFACTORY PERFORMANCE OR FAILURE DUE TO IMPROPER ADJUSTMENT OR REPAIR OF THE PRODUCT. THE SPECIFICATIONS ARE DESCRIPTIVE AND ARE NOT WARRANTIES.

THIS LIMITED WARRANTY DOES NOT COVER EQUIPMENT AND ACCESSORIES MANUFACTURED BY THIRD PARTIES.

REINCO INC. SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, SPECIAL, CONTINGENT, INCIDENTAL OR ANY OTHER DAMAGES WHATSOEVER IN CONNECTION WITH REPLACEMENT, REPAIR OR REFUND AS SET FORTH ABOVE. CERTAIN STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS IN ACCORDANCE WITH YOUR STATE LAW.

MAINTENANCE OVERVIEW

The life of your equipment investment relates directly to the care you give it. By following the recommendations below, your new Power Mulcher should last many years.

BASIC

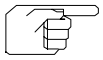
GENERAL: Keep your machine clean. Inspect beater chains, drive coupling, engine, oil and air cleaner before and after each use. Remove all dirt and chaff from the engine with a brush. Pay particular attention to the engine air intake at the flywheel shroud cover.

SAFETY: Perform a daily inspection of the machine from a safety viewpoint. Replace safety decals when worn, faded or damaged.

DRIVE TRAIN

BEARINGS: The most common error committed by the casual operator is over lubrication of bearings. A shot or two of grease (Fiske Lubri-plate 930-AA or equivalent) every 100 hours is adequate. Periodically check locking collar set screws for tightness.

BEATER CHAINS: The position of the beater chain station nearest the blower inlet will determine stalk length. Moving closer to the blower will shorten the stalks. Positioning too close to the inlet, however, will act as a restriction in getting mulch to the blower.



When processing coarse or green mulch or salt hay, a series of cutting knives should be installed in lieu of the center station. These are available in sets, with two link chains (part no. 83271120). These are not installed as standard because stalk length with average mulch hay would be much to short.

Beater chains should be inspected on a daily basis for wear. Failure to replace worn chains could lead to serious injury if "thrown". Failure to replace "thrown" chains will cause an imbalance on the beater shaft which may be evidenced by a noticeable vibration. Broken links of chain must be immediately replaced.

Always install in matched pairs. If one side of a chain station needs replacement the other side will need to be replaced shortly also.

Standard commercially available chain is not suitable for operation in the Power Mulcher. Use beater chain purchased from Reinco or a Reinco Authorized Dealer only!

There are three matched flailing stations. Starting from the feed tray, the first is 3 link, the next two 4 link . The first is positioned about 4" from the face of the beater drum and the last 4" from beater drum inlet. the center station is centered between the first and last . Each station is oriented @120° from the others.

One or both of the center stations may not be required depending on the mulch. With very dry and old material these can be removed.

BEATER SHAFT: If a foreign object such as a boulder or log enters the beater chamber it may bend the shaft. The only way to check this is to remove the shaft and have a machinist check for straightness. If the total run out should exceed .015", replace the shaft.

BLOWER WHEEL: The blower fan is keyed to the driven shaft with four square head set screws. Inspect these screws for tightness periodically and after the first twenty hours of use. If the fan becomes loose, reposition if necessary, then re-tighten screws. Screws can be accessed through blower outlet after discharge chute has been removed.

Wear of the wheel is evident when the leading edges of the blades begin to curl back. If a heavy object hits the paddles, bending and unbalance can occur. In either case, replace the wheel.

DO NOT ATTEMPT TO REPAIR THE BLADES.

DO NOT OPERATE THE MACHINE WITH A WORN WHEEL.

A WORN OR UNBALANCED BLOWER WHEEL IS DANGEROUS AND MAY CAUSE DEATH OR SERIOUS INJURY!

DRIVE COUPLING: The drive coupling transmits power to the blower and beater shaft. Excessive misalignment of the shafts (axial or angular) will produce vibration. If so, realign coupling as necessary. Check the set screws and connecting bolts every 100 operating hours for loosening or other abnormality.

If the coupling becomes misaligned, contact your servicing dealer. Otherwise, follow this procedure: Determine the direction and degree of misalignment by measuring with a caliper or divider around the periphery of the drive coupling flanges. If the gap is measured on the top of the driven coupling flange, this indicates that the shaft(s) have shifted downwards. If a gap is measured in the side of the driven flange this indicates that either the blower housing assembly has shifted to one side or the driven shaft has shifted at the end opposite the engine.

If misalignment is detected, determine whether to adjust the blower shaft or engine [shim as required]. Make the adjustment, then re-measure the two coupling flanges. If the gap is eliminated, tighten all bolts and again check alignment. If coupling is aligned, start engine and check for vibration. If vibration exists contact your servicing dealer or the factory for assistance.

For more information on coupling alignment, see ***"DRIVE COUPLING ALIGNMENT"*** .

ENGINE: Daily inspection involves checking oil level, air cleaner and removing dirt and chaff from engine cowl. Refer to engine manual for the manufacturers maintenance schedule and further details.

A governor setting limits the rpm nominally at 2400. If the max RPM exceeds 2400 readjust this setting.

DISCHARGE ASSEMBLY

BLOW RANGE: Check engine RPM. If not 2400, reset the governor control.

BOOM ROTATION: The bearing contacting surface may be dirty making it hard to turn. The top boom assembly must be disconnected, then clean and coat the mating surfaces with a dry molybdenum lubricant and reassemble.

BOOM SEALS: Inspect boom air seals (top and bottom) for wear from abrasion. Worn, cracked or softened air seals will cause discomfort to the boom operator. Replace as required.

EMULSION SYSTEM

CLUTCH: Periodically grease clutch assembly. A single shot of grease is sufficient, over greasing will prevent clutch from actuating.

DRIVE BELT: The sides of the pump driver and driven sheaves must be in line for the belt to run true. Tensioning is maintained by adjusting the pump base. Tension drive belt only with clutch engaged. Alignment is correct when belt is "in-line" when clutch is "not" engaged.

LEVER BEARINGS: Lubricate with oil every 50 hours.

PUMP: The pump is equipped with sealed, lubricated bearings that should last virtually for the life of the pump provided the mechanical seal remains intact.

It is necessary to use clean emulsions or binders and to flush the pump (including the spray system) after each use. The pump must be flushed daily with cut back oil to protect the close tolerance surfaces. Drain oil, or a 50% mixture of low grade motor oil with kerosene (or fuel oil) is adequate.

The relief valve is equipped with a spring adjustment range of 100 to 150 psi. The exact pressure setting is not critical, but it must be high enough to prevent chattering and by-pass. Discharge pressure increases when turning the adjusting screw in a clock-wise direction.

If the screw bottoms out and chattering persists, the viscosity is too high and liquid must be thinned.

PUMP SEAL: Should the mechanical seal fail, the first indication will be dripping emulsion or binder from the shaft end of the pump. Replacement must be made immediately or the bearings will be ruined.

The seal is replaced by removing the head and pulling the shaft, rotor and seal out as a unit. The seal is not replaced from the pulley end. Refer to disassembly and reassembly instructions.

STRAINER ELEMENT: The strainer has a 1/8" mesh element. It is sized to keep congealed lumps of asphalt from plugging the nozzle or valves. If the strainer basket is clogged, the pump can not draw fluid. Inspect the screen daily for possible obstructions from dirty emulsion.

TRAILER ASSEMBLY

AXLE: Inspect all suspension components for exercise wear at approximately 6,000 miles. Worn spring eye bushings, sagging or broken springs should be replaced. Repack bearings every 12 months or 12,000 miles.

BRAKES: Inspect and service trailer brakes at yearly intervals. Magnets which are worn unevenly should be replaced. Inspect drum surfaces and armature contact area for excessive wear or scoring. Test operation each use. Check adjustment each 3,000 miles.

BREAKAWAY: Check switch operation routinely.

HITCH: Inspect hitch components for wear. Periodically check hitch mounting hardware for loosening or wear. Replace all worn components.

JACK: Oil tongue jack periodically. Wipe dirt from retracting leg. Inspect locking pin and spring assembly for wear. Replace worn components as necessary.

LIGHTS: Routinely inspect and insure all lights are operational each time the unit is hitched.

TIRES: Check inflation pressure weekly to insure maximum life and tread wear. Check for tire wear frequently. (Note: Once a wear pattern is established, it will continue even when cause is corrected).

WHEELS: Retorque wheel bolts at 25, 75, and 150 mile intervals. Inspect for cracks, dents, or distortion at six months or 6,000 mile intervals.

WINTERIZING AND STORAGE

When the season is over, a preventative maintenance plan for laying up the machine over the winter months will simplify spring start up.

1 • It is assumed that the entire unit will have been thoroughly cleaned and washed down both inside and out. Peeling paint or rusty spots should be scraped, primed and painted. The standard 100 hour check should be performed on the engine. The air cooled engine should be fogged to prevent sticking valves. Reference the specific engine manual for cold weather preparation.

2 • Remove the battery , fill and charge, and store in a dry, preferably warm area. Never store a battery directly on the ground or on concrete. Check battery charge at 90 day intervals.

3 • Lubricate all components as listed per the ***"MAINTENANCE SCHEDULE".***

4 • Any identified repairs should be performed now to simplify next season's start up.

5 • If the machine cannot be stored inside during the winter months, cover the entire unit to protect from the elements.

6 • Jack up trailer and place frame on stands to remove weight from tires. Never jack up or support unit on running gear components (springs, beam, shackles, etc.)

MAINTENANCE SCHEDULE

At the end of each job, clean residual materials spilled or over sprayed onto and around the machine. Clean dirt and chaff from the engine cooling fins and shroud.

FIRST 4 HOURS:
- **CHECK ENGINE AND ALL MOUNTING BOLTS.**
- **CHECK COUPLING SET SCREWS.**
- **RETORQUE IF LOOSE.**
- **CHECK ENGINE CONTROLS.**
- **CHECK ENGINE FLUID LEVELS.**

EVERY 4 HOURS:
- **CLEAN AIR INTAKE PRECLEANER FOAM.**
- **REPEAT FIRST 4 HOURS INSPECTION.**

EVERY 20 HOURS:
- **INSPECT FLAIL CHAIN AND BLOWER WHEEL.**
- **OIL THE THROTTLE AND CHOKE MECHANISMS.**
- **CLEAN AIR CLEANER PRECLEANER FOAM.**
- **REPEAT THE FIRST 4 HOURS INSPECTION.**

EVERY 40 HOURS:
- **CHECK BATTERY ELECTROLYTES.**
- **CHECK AND SET ENGINE RPM TO 2400 MAXIMUM.**

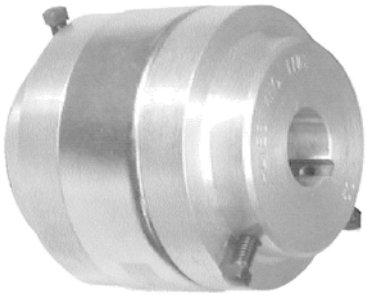
EVERY 100 HOURS:
- **TUNE UP ENGINE.**
- **CHANGE ENGINE OIL.**
- **REPLACE AIR CLEANER CARTRIDGE.**
- **LUBRICATE BLOWER SHAFT BEARING(S).**

DO NOT OVER GREASE BEARINGS!

For specific engine maintenance instructions, please refer to the engine manufacturer's manual.

DRIVE COUPLING ALIGNMENT

SERIES 50 COUPLINGS



When aligning the coupling, it is important that the centerline of the driven shaft be true to the centerline of the engine shaft. Wear on the flex element due to the axial and radial misalignments will be avoided with proper alignment.

COUPLING SHOULD BE ALIGNED WITHIN .005" PARALLEL AND .092" ANGULAR.

1 • To check PARALLEL drive coupling alignment, use a notched straight edge (notch should be sufficient to clear the center member) and a feeler gauge. Place the straight edge across the two coupling flanges and measure the maximum offset at various points around the periphery of the coupling without rotating the coupling. If the maximum offset exceeds .005", realign the shafts.

2 • To check ANGULAR drive coupling alignment, a micrometer or caliper must be used. Measure from the outside of one flange to the outside of the other at intervals around the periphery of the coupling. Determine the maximum and minimum dimensions without rotating the coupling. The difference between the maximum and minimum must not exceed .092". If correction is required be sure to recheck the parallel alignment.

3 • In the field, the angular measurements may be approximated with a tape or ruler. Use opposite reference positions on the driven shaft flange, measuring to respective locations on the perimeter of the coupling flange (engine side). The variations should be limited to 1/32". However, this method should be rechecked as soon as possible as indicated above.

ALIGNMENT OR REPLACEMENT

It should not be necessary to replace any parts on the drive coupling assembly, provided that misalignment is discovered at the onset. The following procedure covers the method to replace an entire coupling assembly, and may also be used as a guide for alignment also.

1 • Inspect the coupling assembly for damage. Secure replacements as required.

2 • Remove any protective coatings or lubricants from bores, mating surfaces and fasteners. De-burr any marred surfaces and edges.

3 • Slide one coupling flange onto each shaft. The keys must fit snugly. Should the fit be loose, find out why and correct before proceeding further. Nest the sleeve (flexible element) with metal ring within one flange. Draw the two flanges together with some clearance between the element and flanges (approx. 1/32" total or 1/64" per side). Center the flanges between the two shafts. Using a thread locking resin, then torque the set screws on the flanges securely.

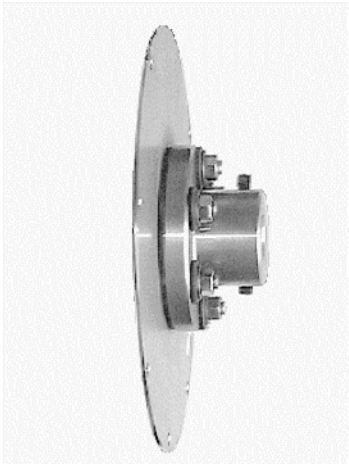
4 • Check parallel and angular alignment as described above. Should the alignment be within specifications, proceed to step 6.

5 • Loosen bearing and/or engine bolts, as required, to shim to correct the alignment. Torque the bearing and engine fasteners, then repeat step 4.

6 • Check to insure that all fasteners are securely torqued.

DRIVE COUPLING ALIGNMENT

FLYWHEEL COUPLINGS



When aligning the coupling, it is important that the centerline of the blower shaft be true to the centerline of the (driver) engine shaft. Wear on these components due to the axial and radial forces transmitted during operation will be avoided with proper alignment.

COUPLING SHOULD BE ALIGNED WITHIN .015" PARALLEL AND ANGULAR.

1 • To check PARALLEL drive coupling alignment, set up a dial indicator, with the base securely fixed at the surface of the engine bell housing or on the flywheel bolt ring (make sure that the bolt ring is properly installed and bolts are torqued). Set the indicator on the O.D. of the coupling hub and rotate the coupling to determine any offset. Parallel alignment must be limited to .015".

2 • To check ANGULAR drive coupling alignment, set the dial indicator to read from the face of the coupling flange, and again rotating the coupling to determine any offset. Angular alignment should be within .015". If correction is required be sure to recheck the parallel alignment.

3 • In the field, the angular measurements may be approximated with a tape or ruler. Use opposite reference positions on the engine bell housing, measuring to respective locations on the perimeter of the coupling flange (blower side). The variations should be limited to 1/32". However, this method should be rechecked as soon as possible as indicated above.

ALIGNMENT OR REPLACEMENT

It should not be necessary to replace any parts on the drive coupling assembly, provided that misalignment is discovered at the onset. The following procedure covers the process to replace an entire coupling assembly, and may also be used as a guide for alignment also.

1 • Inspect the coupling assembly for damaged parts. Secure replacements as required.

2 • Remove any protective coatings or lubricants from bores, mating surfaces and fasteners. Remove any burrs, etc. from the shafts.

3 • Slide the coupling flange (hub) onto the blower shaft using the proper, snug fitting, key. Should the fit be loose, identify the cause and remedy before proceeding further.

4 • Slide the coupling plate, with the steel hub and blower shaft mounted to it, into the flywheel pilot or counter bore. Install and tighten the flywheel mounting screws alternately to approximately 400 in. lb..

5 • Shim the shaft bearing and/or engine as required, and tighten all bolts.

6 • Check parallel and angular alignment as described above. Should the alignment be within specifications, proceed to step 8.

7 • Loosen shaft bearing, and/or engine bolts as required, adjust shims to correct the misalignment. Torque all fasteners, then repeat step 6.

8 • Using a thread locking resin, torque the set screws on the shaft flange securely. Check that all fasteners are securely torqued.

9 • Replace coupling guard and bearing end shaft guard.

DRIVE COUPLING ALIGNMENT

SERIES X02 COUPLINGS

When aligning the coupling, it is important that the centerline of the driven shaft be true to the centerline of the engine shaft. Wear on the flex element due to the axial and radial misalignments will be avoided with proper alignment.

COUPLING SHOULD BE ALIGNED WITHIN .010 PARALLEL AND 5° ANGULAR.

1 • To check PARALLEL drive coupling alignment, use a notched straight edge (notch should be sufficient to clear the center member) and a feeler gauge. Place the straight edge across the two coupling flanges and measure the maximum offset at various points around the periphery of the coupling without rotating the coupling. If the maximum offset exceeds .010", realign the shafts.

2 • To check ANGULAR drive coupling alignment, a micrometer or caliper must be used. Measure from the outside of one flange to the outside of the other at intervals around the periphery of the coupling. Determine the maximum and minimum dimensions without rotating the coupling. The difference between the maximum and minimum must not exceed 5°. If correction is required be sure to recheck the parallel alignment.

3 • In the field, the angular measurements may be approximated with a tape or ruler. Use opposite reference positions on the driven shaft flange, measuring to respective locations on the perimeter of the coupling flange (engine side). The variations should be limited to 1/32". However, this method should be rechecked as soon as possible as indicated above.

ALIGNMENT OR REPLACEMENT

It should not be necessary to replace any parts on the drive coupling assembly, provided that misalignment is discovered at the onset. The following procedure covers the method to replace an entire coupling assembly, and may also be used as a guide for alignment also.

1 • Inspect the coupling assembly for damage. Secure replacements as required.

2 • Remove any protective coatings or lubricants from bores, mating surfaces and fasteners. De-burr any marred surfaces and edges.

3 • Slide one coupling flange onto each shaft. The keys must fit snugly. Should the fit be loose, find out why and correct before proceeding further. Nest the center member (flexible element) with metal casing within one flange. Draw the two flanges together with some clearance between the element and flanges (approx. 1/32" total or 1/64" per side). Center the flanges between the two shafts. Using a thread locking resin, then torque the set screws on the flanges securely. Assemble center member bolts and nuts, torque to insure bushings are snug into flanges.

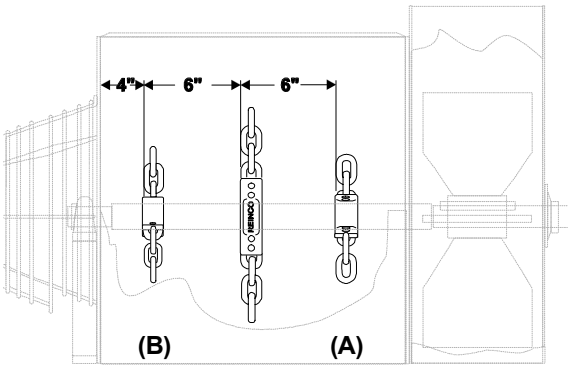
4 • Check parallel and angular alignment as described above. Should the alignment be within specifications, proceed to step 6.

5 • Loosen bearing and/or engine bolts, as required, to shim to correct the alignment. Torque the bearing and engine fasteners, then repeat step 4.

6 • Check to insure that all fasteners are securely torqued.

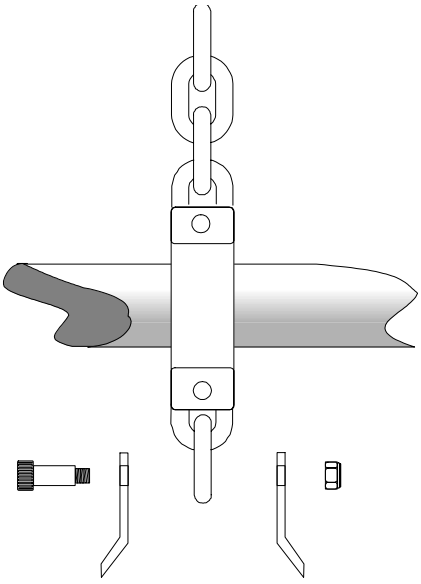
MULCH LENGTH AND BEATER CHAIN ADJUSTMENT

Pairs of steel clamps secure the chains to the beater shaft by means of ½" bolts. The chains are of alloy steel, casehardened and mounted in pairs of four link stations. The first is mounted 4" from the beater drum end sheet. The other two are 6" apart. Each station is set 120° from one another as viewed from the open end of the shaft.



The position of the chain on the beater shaft will determine the stalk length of the discharged mulch. The station nearest the blower inlet (A) will determine stalk length. Moving closer to the blower will shorten the stalks. Positioning too close to the inlet, however, will act as a restriction in getting mulch to the blower. The furthest station (B) will regulate the make up air to the blower. One or both of the stations farthest from the blower inlet may not be required , depending on the mulch. With very dry and old material these may be completely removed.

Chains do wear! Scheduled inspection should be made after every 40 hours as routine. If wet, moldy mulch is used, inspection should become a daily routine. The link chain used is case hardened (Grade 70) for wear resistance. On inspection, if an apparent groove is beginning to form between the mating links the chain should be replaced in pairs.



When processing coarse or green mulch, or salt hay, a series of cutting knives may be installed in lieu of the center station chain links. The knives will thrash and cut material otherwise too tough for handling with the standard flail chains. These are available in sets, which include mounting hardware for one station. (KIT Part No. CH0643.21)*

These are not installed as standard equipment because stalk length with average mulch hay would be much to short.

To install the flail knives:

1 • Cut or burn the two outer links from the station closest to the blower wheel.

2 • Secure the knives as shown in the diagram to the left. One kit includes all parts required for one chain station.

Should the mulch be too fine, try removing one or both of the other stations. also try locating the knife assembly at another location.

When operating with knives installed it is important to inspect these regularly for wear. Do not operate with broken or damaged knives.

*(NOTE: Flail Knife set with 2 Link chain P/N 83271120).

EMULSION PUMP SERVICE INSTRUCTIONS

VIKING PUMP

GG-195 **HL-195**

DISASSEMBLY

1 • Remove the head and O-ring gasket. Avoid tilting the head down, as the idler may slide off.

2 • Remove the idler from the idler pin. If the idler pin is worn, the head, idler pin and the idler bushing should be replaced. If the idler bushing is worn, it is strongly recommended that the idler and bushing be replaced.

3 • Remove the lock not from the shaft. A piece of brass rod or hardwood inserted in the port opening will keep the shaft from turning.

4 • The rotor and shaft can now be removed from the casing. The spring and rotary member of the mechanical seal will come out with the shaft.

5 • Loosen the two (2) set screws in the end of the bearing housing. Turn the housing counter clockwise and remove the casing. Remove the snap ring form the bearing housing to remove the double row ball bearing. Use a spanner wrench to remove the end cap.

6 • Remove the snap ring and casing ball bearing. The bearing retainer washer, located between the casing bearing and seal seat , can now be removed if it did not stay on the rotor shaft when the shaft was removed.

7 • The seal seat or stationary part of the seal can now be removed from the casing.

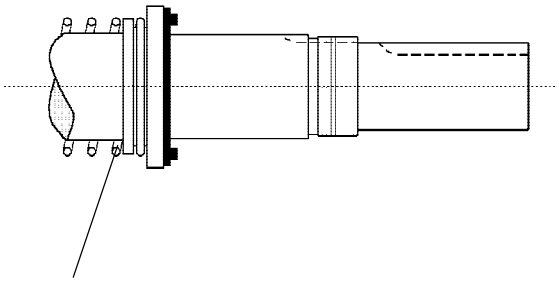
REASSEMBLY

1 • Installing New Mechanical Seal: This seal is simple to install and good performances will result if care is taken in its installation. Never touch the sealing faces with anything except the fingers or a clean cloth.

2 • Clean the rotor hub, shaft and seal seat housing in the casing, making sure they are clean and free from dirt and grit. Coat the outside diameter of the seal seat and the inside diameter of the seal housing bore with light oil. With thumb and forefinger, push the seal seat into place in the casing. Place the tapered sleeve (furnished with replacement seals) on the shaft as far as it will go. The small end must be toward end of shaft. Coat the inside of the rotary member and the outside of the tapered sleeve with light oil. Be sure the shaft is free of nicks and burrs. Place the spring and rotary member on the shaft, spring first, over the sleeve and against the hub of the rotor. REMOVE THE TAPERED SLEEVE.

MECHANICAL SEAL INSTALLATION

SPRING



COAT WITH LIGHT OIL BEFORE ASSEMBLY

3 • Flush the sealing faces of both the rotary member and seal seat with light oil and install rotor and shaft. Push the rotor and shaft into the casing slowly until the ends of the rotor teeth are just beyond the face of the casing.

4 • Place the idler on the idler pin and the O-ring head gasket on the head. Place the head assembly on the pump and tighten the cap screws evenly and securely. The seal is now automatically compressed to its proper working length.

5 • Pack the single row ball bearing with grease and install in the casing and secure it with the snap ring.

6 • Pack the lubrication chamber between the casing ball bearing and the double row ball bearing in the bearing housing approximately half full with lithium base ball bearing grease.

7 • Pack the double row ball bearing with lithium base ball bearing grease and press into the bearing housing. Install the snap ring to hold the bearing in place.

8 • Start the bearing housing into the casing. Turn by hand until tight. This forces the rotor against the head. Replace and tighten the lock nut on the shaft. Insert a piece of brass or hardwood through the port opening between the rotor teeth to keep the shaft from turning.

9 • Adjust the pump thrust bearing and rotor clearance by loosening the two set screws in the bearing housing and turn counterclockwise 1/2" measured on the outside of the bearing housing. This represents approximately .003" end clearance.

IMPORTANT ! BE SURE THE SHAFT CAN BE ROTATED FREELY. IF NOT, TURN THE BEARING HOUSING COUNTERCLOCKWISE UNTIL THE SHAFT CAN BE TURNED. BE SURE SET SCREWS ARE TIGHTENED SECURELY AFTER ADJUSTMENT IS MADE. HIGH VISCOSITY LIQUIDS REQUIRE ADDITIONAL END CLEARANCE. THE AMOUNT OF END CLEARANCE DEPENDS ON THE VISCOSITY OF THE LIQUID BEING PUMPED.

RELIEF VALVE PRESSURE ADJUSTMENT

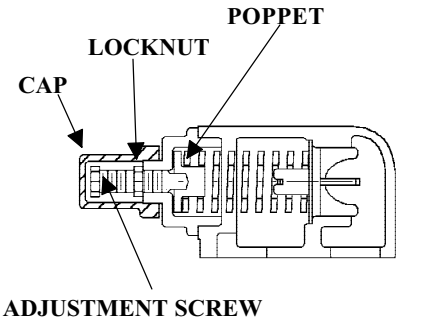
1 • Remove the valve cap which covers the adjustment screw and loosen the lock nut which locks the adjusting screw. A pressure gauge somewhere in the discharge line must be used for accurate adjustment during operation. The adjusting screw should be turned in for increasing the pressure or turned out for decreasing the pressure. Make sure the locknut is secured whenever any adjustment has been made.

2 • Should the pressure adjustments fail, then repair or replace the pump relief valve as follows:

3 • Reverse the preceding steps for reassembly. If valve is removed for repairs, be sure to replace in same position. The valve cap should point towards the suction port.

Remove valve cap. Measure and record the length of extension of the adjusting screw. Loosen the lock nut and back out adjusting screw until spring pressure is released. Remove bonnet spring guide, spring and poppet from the valve body.

RELIEF VALVE ASSEMBLY



REINCO MODEL TM7-30

POWER MULCHER

PART PICTORIALS

REPLACEMENT PARTS

TO ORDER REPLACEMENT PARTS:

Identify the part(s) by item number using the pictorial schematic provided. Match the item number to the list, and identify the part required by stock number. Contact your **REINCO** dealer for price and availability. Parts may be ordered directly from the factory, outside of dealer territories. Parts ordered from the factory, for shipment to a customer within a dealer territory will be directed through the respective dealer's Parts and Service departments.

Many of the parts listed are commercially available and may be procured locally. Manufacturer's specific part numbers are available on request.

Other parts, such as engine components may be obtained through the respective manufacturer's distribution and service network.

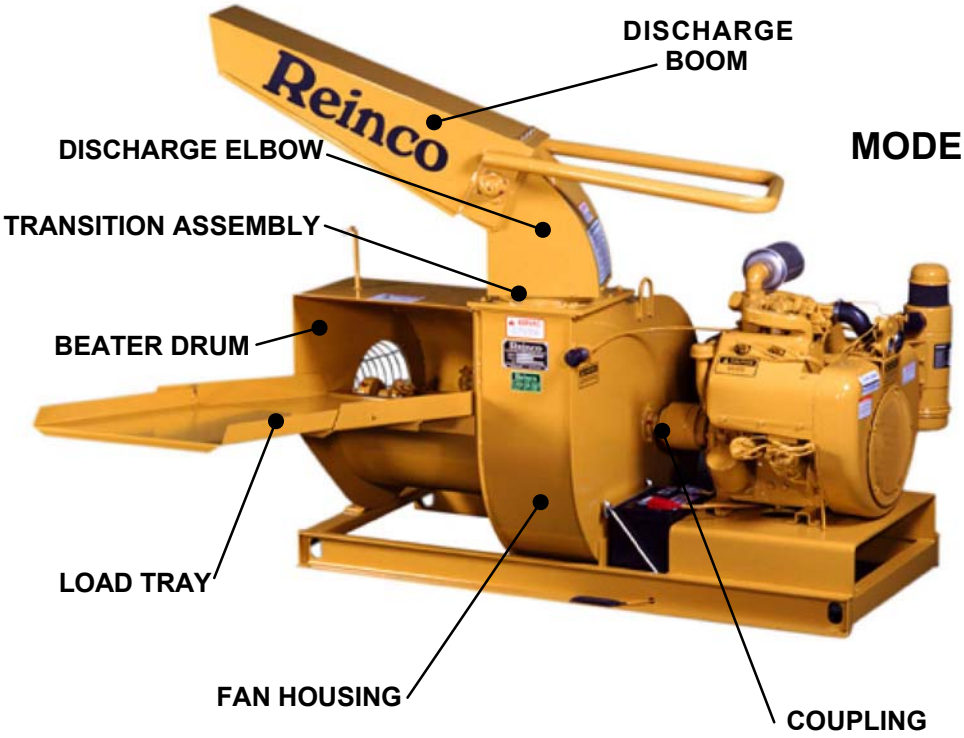
Should you require assistance with regard to locating these agencies, contact your **REINCO** dealer or **REINCO** directly.

OPERATION PARTS AND SERVICE MANUALS

Additional user manuals may be ordered by part number pursuant to the following table:

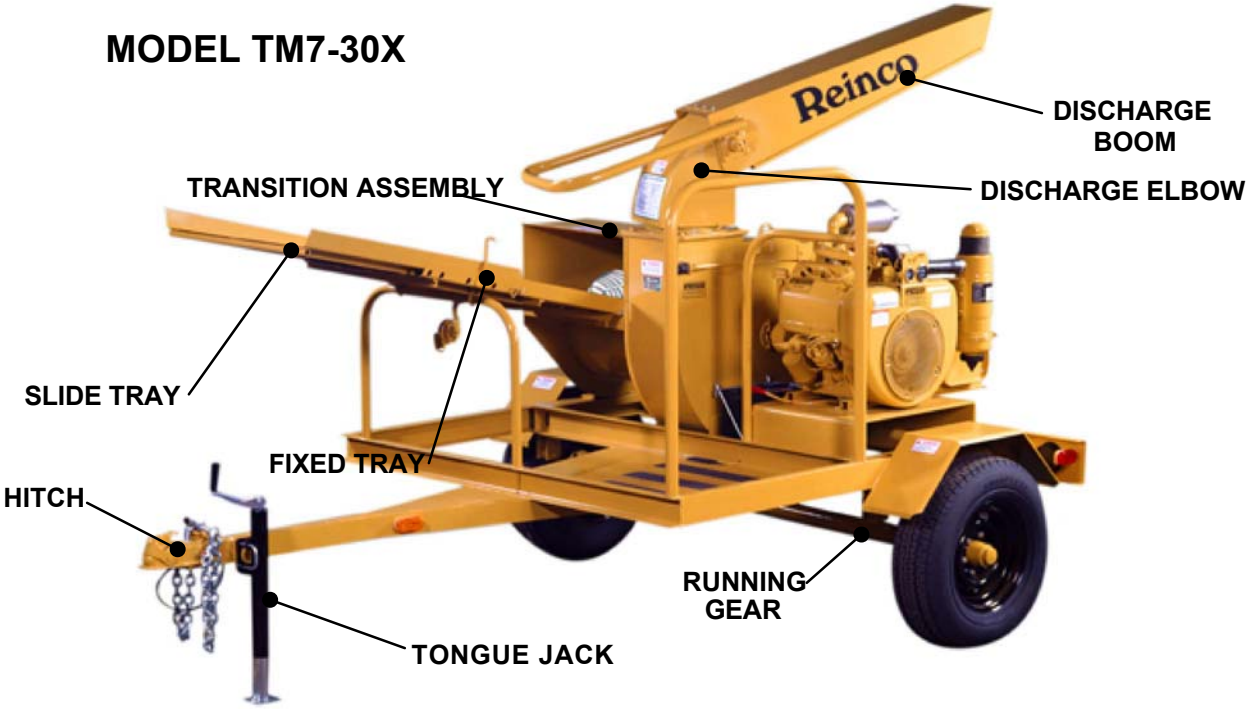
MANUAL PART NO.	MACHINE DESCRIPTION
00902000	Power Mulcher Safety Manual Common for All Reinco Mulchers
33000900	TM7-30 Series, All Serial No.'s
EN3108.50	Engine Operation Manual W4-1770 #LIT20170
EN3108.52	Parts Manal W4-1770 #TT20089
EN3108.51	Repair Manual W4-1770 #TTP20067
EN3112.51	Engine Operation Manual Isuzu 3KR1 #IDE-1186000000
EN3103.51	Engine Operation Manual Deutz F3L1011 #0297-4706
AX5110.51	Axle Service Manual 100-M

NOMENCLATURE

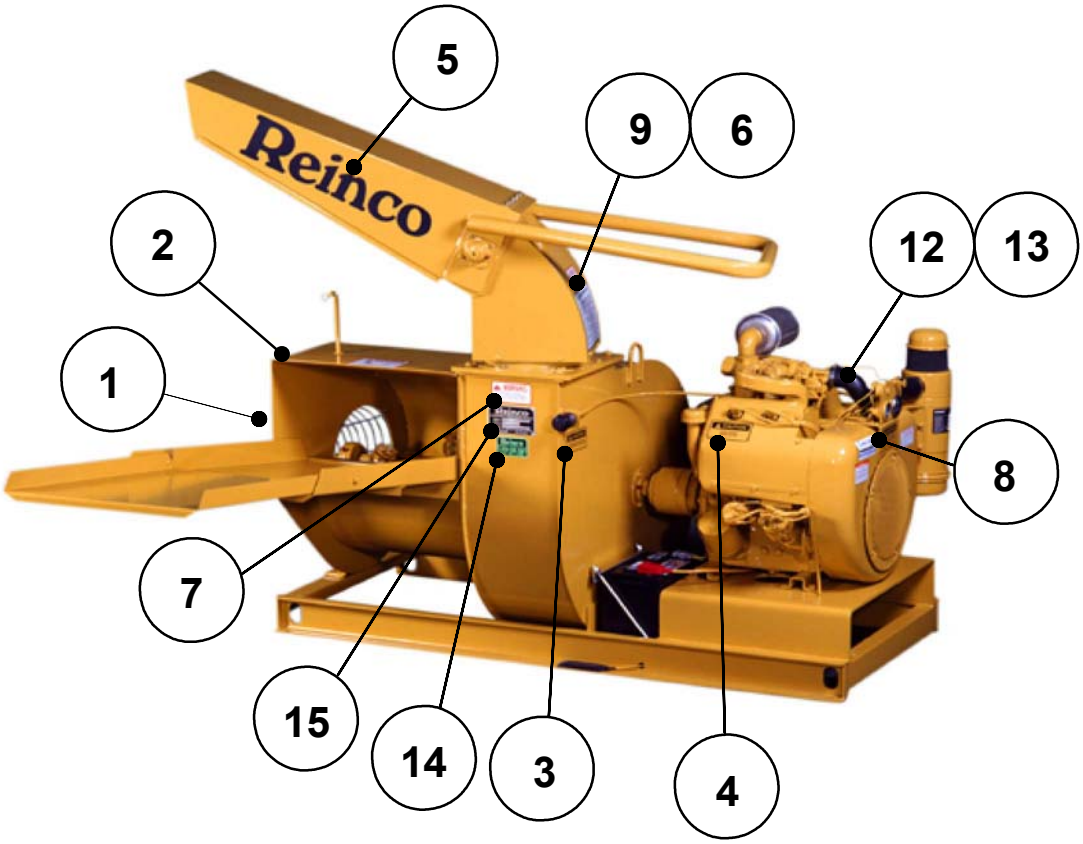


MODEL TM7-30

MODEL TM7-30X



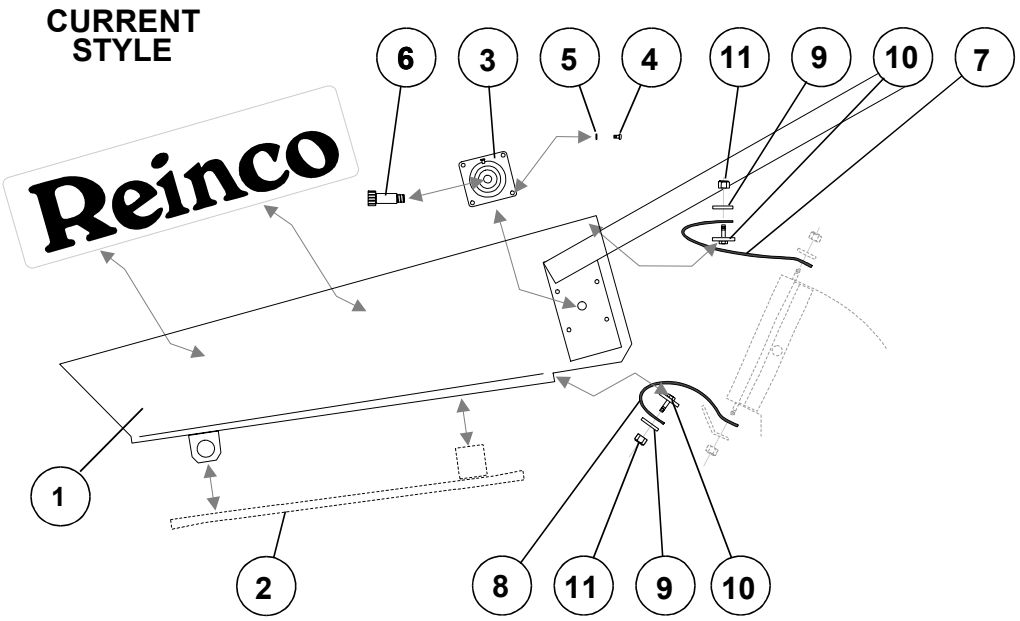
DECALS - EQUIPMENT LABELING & APPLIQUÉS

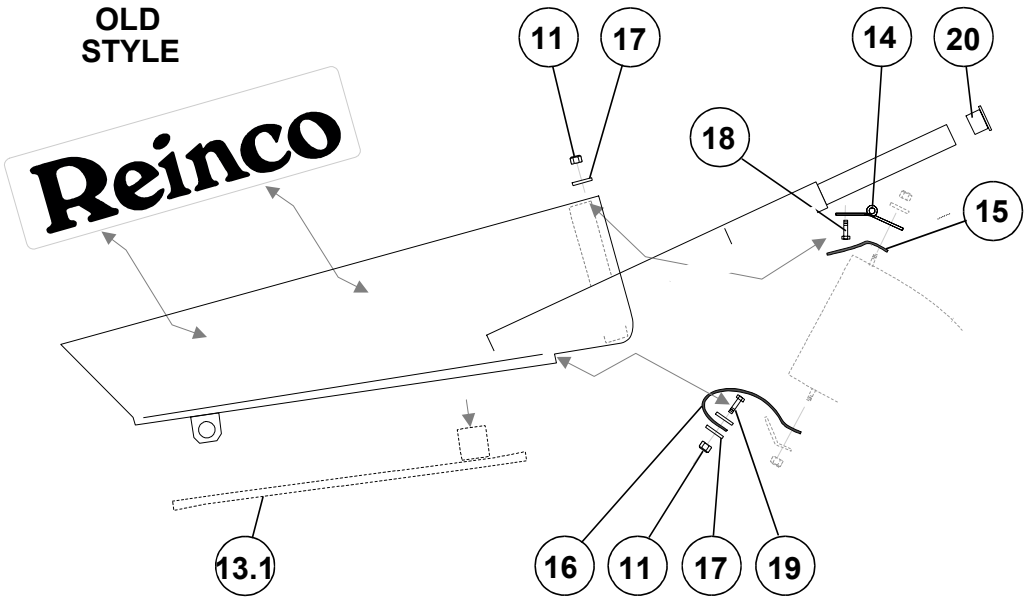


DECALS - EQUIPMENT LABELING & APPLIQUÉS

ITEM	PART NUMBER	DESCRIPTION	QTY
	00902040	**TMX SERIES SAFETY DECAL KIT**	**1**
		INCLUDES ITEMS 1-11	
	00902030	**TM SERIES SAFETY DECAL KIT**	**1**
		INCLUDES ITEMS 1-9	
1	00191000	DECAL - BEARING LUBRICATION	1
2	30000820	DECAL - 'DANGER' BALE TIES	1
3	00211020	DECAL - 'WARNING' STOP MACHINE	1
4	85591000	DECAL - 'CAUTION' 2400 RPM MAX.	1
5	ID2625.02	APPLIQUÉ - 'REINCO' LOGO	2
6	30000810	DECAL - OPERATING INSTRUCTIONS	1
7	00291000	DECAL - 'WARNING' VIBRATION	1
8	00271000	DECAL - 'CAUTION' EQUIPMENT TRAINING	1
9	00301000	DECAL - HEARING PROTECTION	1
10	00281000	DECAL - 'WARNING' WHEEL TORQUE	2
11	SA0101.30	NON-SKID TAPE KIT	1
12	00181000	DECAL - 'GASOLINE' ONLY	1
13	00182000	DECAL - 'DIESEL' ONLY	1
14	00241000	DECAL - NOTICE - REINCO SALES & SERVICE	2
15	ID2600.11	SERIAL NUMBER NAMEPLATE	1

BOOM DETAILS





BOOM PARTS LIST

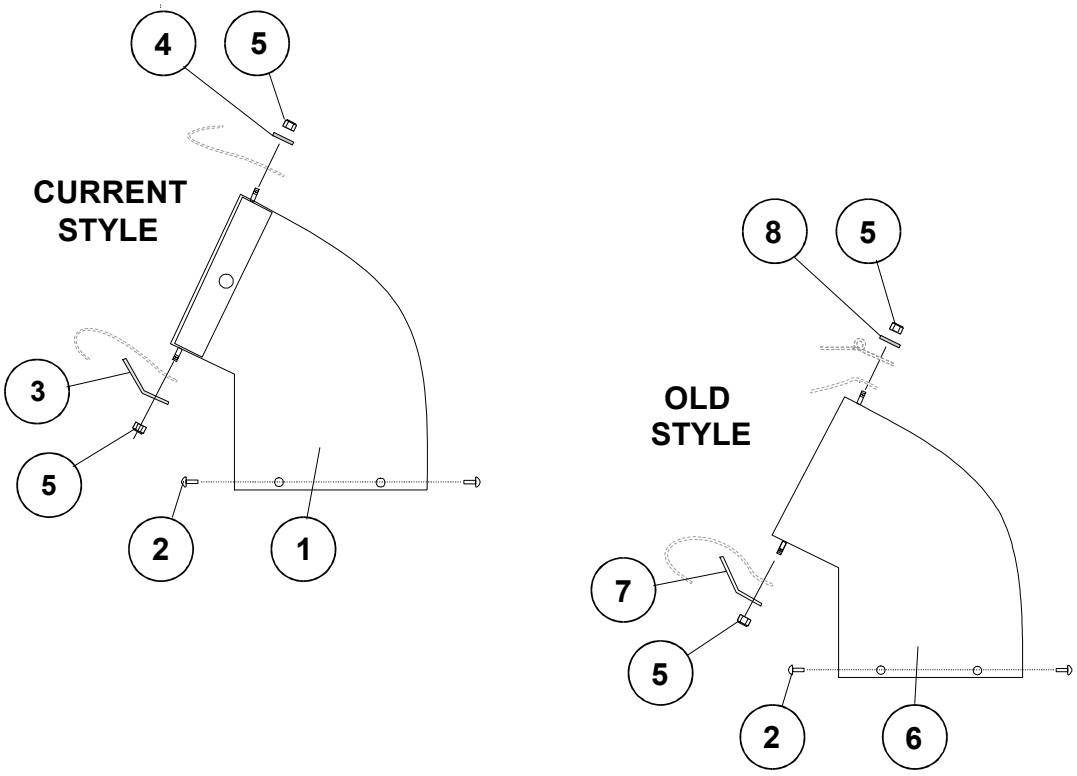
CURRENT STYLE - SN 3701 AND AFTER

ITEM	PART NUMBER	DESCRIPTION	QTY
1	**3010J020**	**TM DISCHARGE BOOM - SKID**	1
	3010J040	**TM(X) DISCHARGE BOOM - TRLR**	
2	**3010J030**	**TM(A) DISCHARGE BOOM-SKID (INCL. SPRAY PIPE)**	ALT
	3010J050	**TM(XA) DISCHARGE BOOM-TRLR (INCL. SPRAY PIPE)**	ALT
3	BE0318.02	BEARING 3/4" FLANGED	2
4	FA2153.03	5/16-24 x 3/8" BHSS	8
5	FA0340.02	5/16 INTERNAL LOCKWASHER	8
6	FA1189.20	3/4 x 2 SOCKET SHOULDER BOLT	2
7	30541020	SEAL - TOP	1
8	30541010	SEAL - BOTTOM	1
9	30541040	SEAL STRAP	2
10	30541050	SEAL HOLD DOWN	2
11	FA1241.01	¼-20 NYLON INSERT NUT	8

OLD STYLE - S/N 3700 AND EARLIER

ITEM	PART NUMBER	DESCRIPTION	QTY
13	**30101010**	**TM DISCHARGE BOOM - SKID**	1
	30102010	**TM(A) DISCHARGE BOOM - SKID (INCL. SPRAY PIPE)**	ALT
	30104010	**TM(X/A) DISCHARGE BOOM - TRLR (INCL. SPRAY PIPE)**	
14	HA7120.01	BOOM HINGE	1
15	GA7001.01	HINGE GASKET	1
16	GA7001.04	THROAT SEAL	1
17	30101020	SEAL STRAP	3
18	FA1122.05	¼-20 x 5/8 HHCS	4
19	FA1122.06	¼-20 x 3/4 HHCS	4
7	FA1241.01	¼-20 NYLON INSERT NUT	8
20	CP1000.02	HANDLEBAR CAP PLUG	1

DISCHARGE ELBOW DETAILS



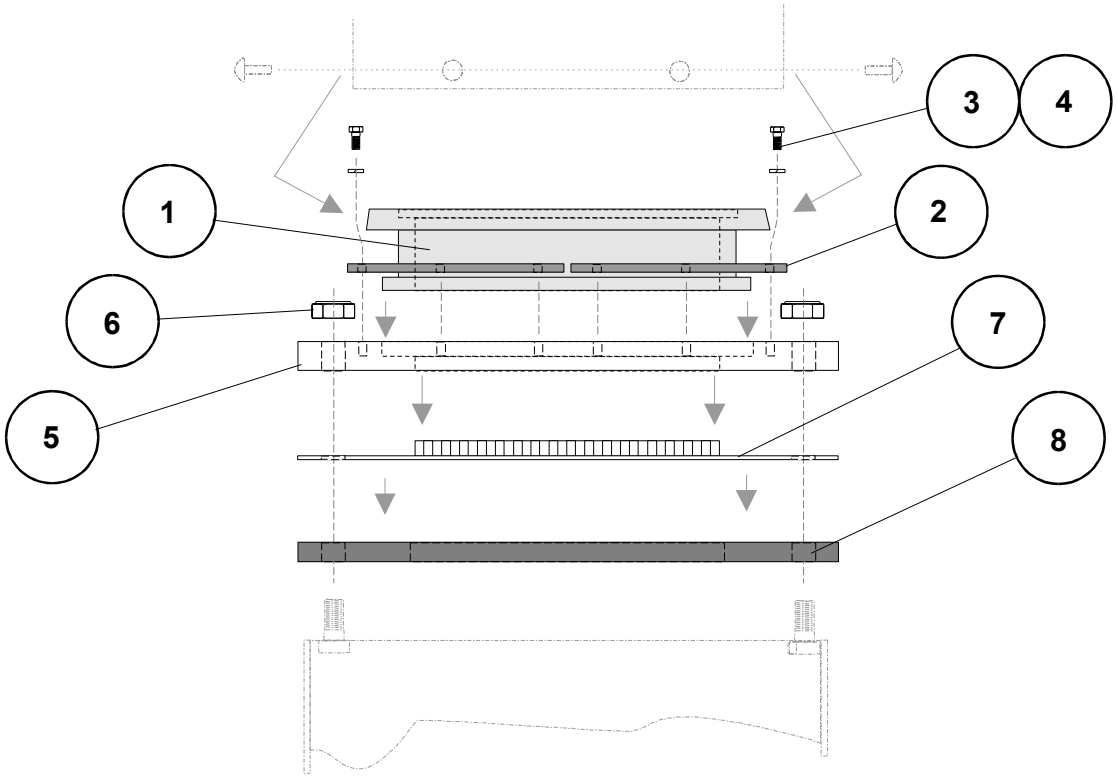
CURRENT STYLE - S/N 3701 AND AFTER

ITEM	PART NUMBER	DESCRIPTION	QTY
1	30123000	ELBOW	1
2	FA0667.94	RIVET ¼ - U x ½" (7/32" HOLE)	8
3	30541030	SEAL BACKUP PLATE	1
4	30541040	SEAL STRAP	1
5	FA1241.01	¼-20 NYLON INSERT NUT	8

OLD STYLE - S/N 3700 AND EARLIER

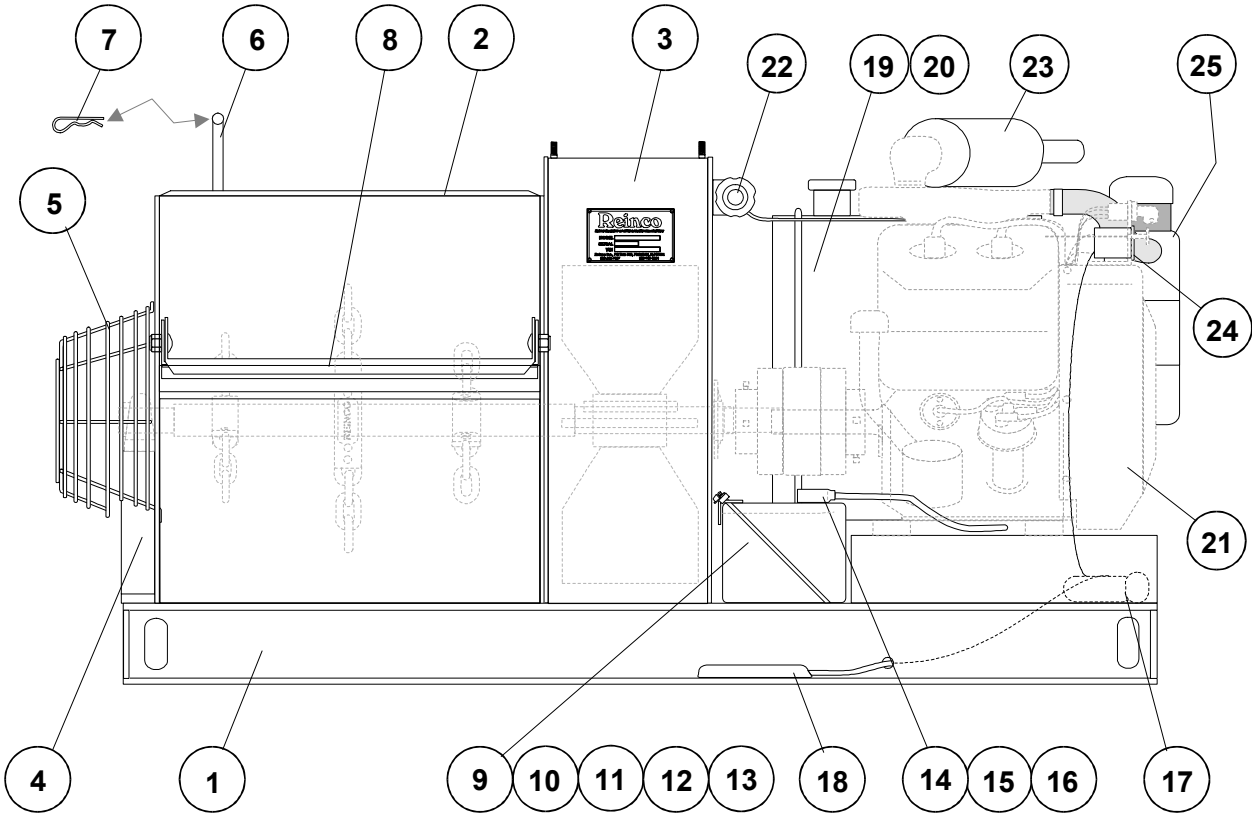
ITEM	PART NUMBER	DESCRIPTION	QTY
6	30101050	ELBOW	1
2	FA0667.94	RIVET ¼ - U x ½" (7/32" HOLE)	8
7	30101030	SEAL BACKUP PLATE	1
8	30101020	SEAL STRAP	1
5	FA1241.01	¼-20 NYLON INSERT NUT	8

TRANSITION ASSEMBLY



ITEM	PART NUMBER	DESCRIPTION	QTY
1	30911000	TRANSITION - CAST IRON	1
2	30111050	CLAMP RING (SPLIT)	1
3	FA1122.05	¼-20 x 5/8 HHCS	8
4	FA0330.01	¼ SPLIT LOCKWASHER	8
5	30951000	BEARING CAP PLATE	1
6	FA2244.01	½-20 NYLON INSERT JAM NUT	4
7	30961000	CAP PLATE CHAFF DEFLECTOR	1
8	GA7001.15	CAP PLATE GASKET	1

LOWER UNIT DETAILS - W4-1770 ENGINE

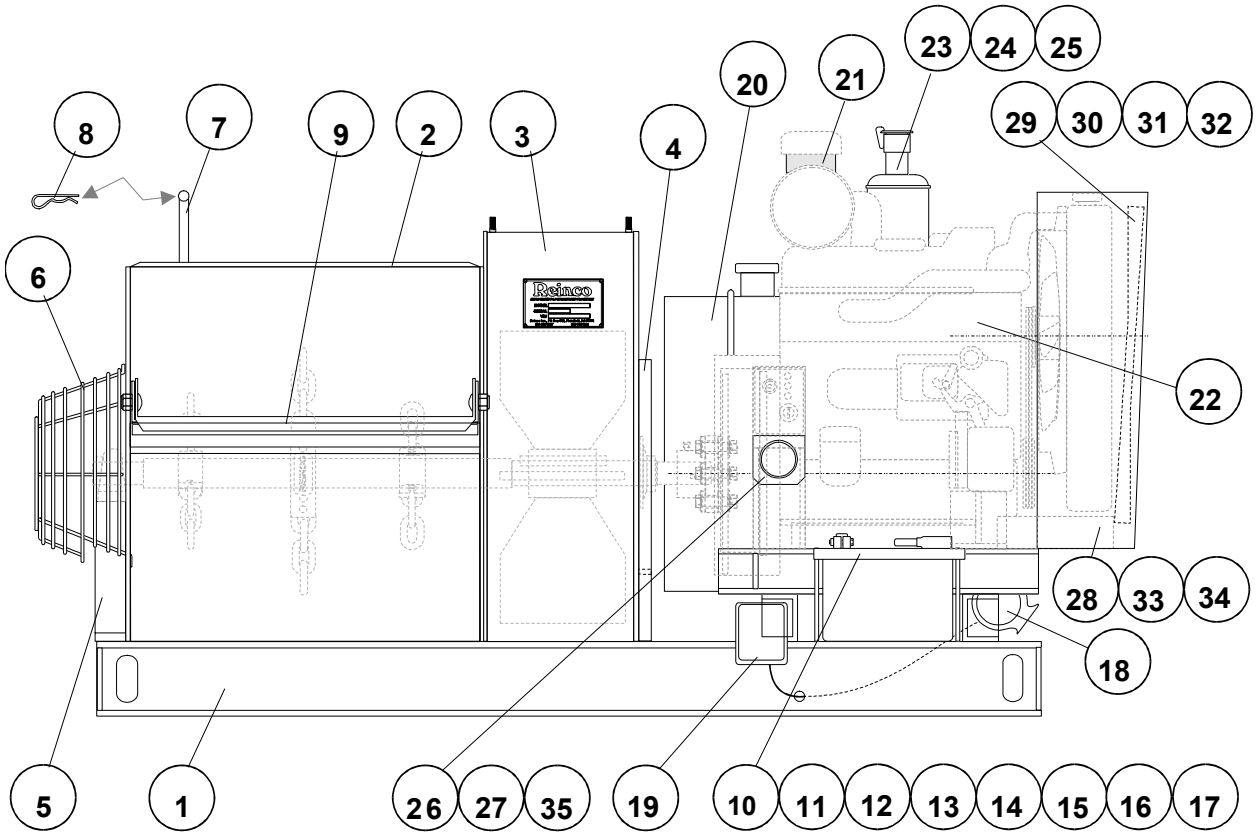


LOWER UNIT - W4-1770 ENGINE

ITEM	PART NUMBER	DESCRIPTION	QTY
1	30343000	BASE FRAME	1
2	30601000	BEATER DRUM	1
3	30501000	BLOWER HOUSING	1
4	30341070	SHAFT BEARING SUPPORT	1
5	31651000	SHAFT BEARING GUARD	1
6	30101100	BOOM TRANSPORT BRACKET	1
7	HA7160.01	HAIRPIN COTTER	1
8	30801000	FEED TRAY ASSEMBLY - FOLDING	1
9	BA8802.01	BATTERY GRP 24 12V	1
10	31471010	BATTERY HOLD-DOWN BRACKET	1
11	BA8808.01	BATTERY HOLD-DOWN BOLT 'L'	2
12	FA1241.03	3/8-16 NYLON INSERT NUT	2
13	FA0320.03	3/8 COMMERCIAL FLAT WASHER	2
14	BA8806.02	BATTERY CABLE 4/0 30-31 (+)	1
15	BA8850.01	BATTERY TERMINAL BOOT - RED	1
16	BA8807.01	BATTERY GROUND STRAP 9D	1
17	SI0901.05	SIGNAL HORN	1
18	EL2101.50	HORN PAD	1
19	32511000	FUEL TANK KIT	1
19.1	TA6036.00	TANK 12 GALLON	1
19.2	TA6036.01	TANK HOLD DOWN CABLE	2
19.3	FA1241.03	3/8-16 NYLON INSERT NUT	2
19.4	FA0330.03	3/8 SPLIT LOCKWASHER	2
19.5	HO7306.10	FUEL HOSE/FT	2 .2
19.6	TA2010.12	FELT TAPE 1/8 x 1" /FT	1
20	FI2037.01	FUEL FILTER 3/8 INLINE	1
21	EN3109.02	ENGINE WISCON W4-1770 SPEC 464269 (01/92 -) SPEC 449055 (11/92 - 06/87) SPEC 443810 (06/87 - 02/86) SPEC 439605 (02/86 - 02/85)	
22	CO6210.00	THROTTLE CONTROL CABLE ASSEMBLY 24" +6	1
23	EN3107.09	MUFFLER WD-86	1
24	IN3601.00	HOUR METER	1
25	32502000	AIR CLEANER ASSEMBLY	
25.1	FI0100.50	AIR CLEANER FWA05-2527	1
25.2	FI0100.52	CAP GAX00-2018	1
25.3	FI0170.17	INTAKE HOSE	1
25.4	EN3107.15	AIR CLEANER BRACKET	1
25.5	31631010	PRECLEANER FOAM	1
25.6	FI0180.16	HOSE CLAMP #28	1
25.7	FI0180.20	HOSE CLAMP #32	1

NOTE: REPLACEMENT AIR CLEANER ELEMENTS :
DONALDSON # P10-1275 (P181050); FRAM# CAK 256;
AC# A297C (SHORT); BALDWIN # PA-1690FN

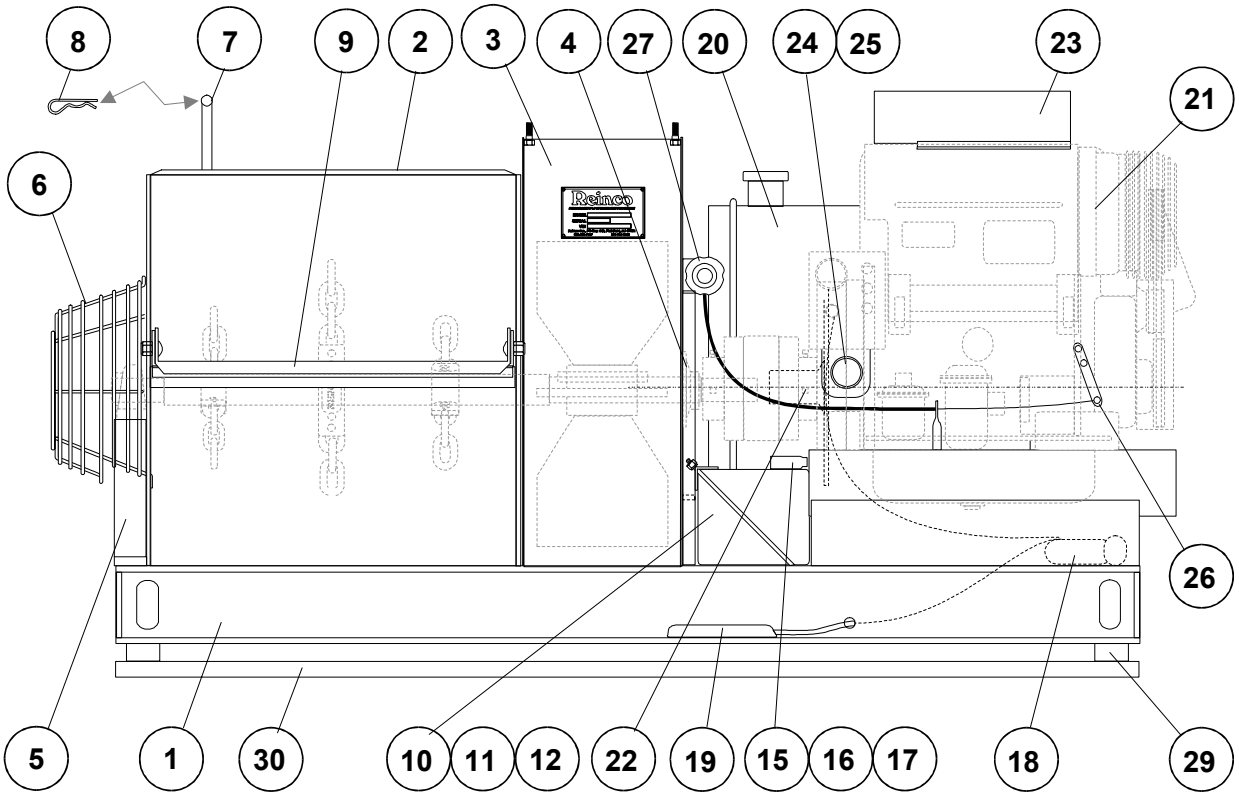
LOWER UNIT - 3KR1 ENGINE



LOWER UNIT - 3KR1 ENGINE

ITEM	PART NUMBER	DESCRIPTION	QTY
1	30344000	BASE FRAME 3KR1	1
2	30601000	BEATER DRUM	1
3	30501000	BLOWER HOUSING	1
4	30892040	SIDE PLATE BRACE ASSEMBLY	1
5	30341070	SHAFT BEARING SUPPORT	1
6	31651000	SHAFT BEARING GUARD	1
7	30101100	BOOM TRANSPORT BRACKET	1
8	HA7160.01	HAIRPIN COTTER	1
9	30801000	FEED TRAY ASSEMBLY - FOLDING	1
10	BA8802.01	BATTERY 12v GRP 24	1
11	31471010	BATTERY HOLD DOWN BRACKET	1
12	BA8808.01	BATTERY HOLD DOWN BOLT	2
13	FA1241.03	3/8-16 NYLON INSERT NUT	2
14	FA0320.03	3/8 COMMERCIAL FLATWASHER	2
15	BA8806.03	BATTERY CABLE 36-38 (+)	1
16	BA8850.01	BATTERY BOOT (RED)	1
17	BA8807.01	BATTERY GROUND STRAP	1
18	SI0901.05	SIGNAL HORN	1
19	EL2101.61	FOOT SWITCH	1
20	32512000	FUEL TANK KIT (DIESEL)	
20.1	TA6036.00	TANK 12 GALLON	1
20.2	TA6036.01	TANK HOLD DOWN CABLE	2
20.3	FA1241.03	3/8-16 NYLON INSERT NUT	2
20.4	FA0330.03	3/8 SPLIT LOCKWASHER	2
20.5	HO7303.11	FUEL HOSE/FT	4
20.6	HO7301.81	RETURN HOSE/FT	4 .5
20.7	TA2010.12	FELT TAPE 1/8 x 1	1
21	31631010	PRECLEANER FOAM	1
22	EN3112.00	ISUZU 3KR1 SPEC #VA07	1
23	EN3107.09	MUFFLER	1
24	EX3055.28	EXHAUST CAP	1
25	30891030	EXHAUST ADAPTER	1
26	IN3601.00	HOUR METER	1
27	30892060	HOUR METER BRACKET	1
28	07845000	RADIATOR ENCLOSURE	1
29	07892030	RADIATOR DEBRIS SCREEN	1
30	07921020	SCREEN BRACKET	2
31	FA1112.06	¼-20 x 3/4 SHOULDER WING SCREW	4
32	FA1281.02	¼-20 BLIND NUT	4
33	30891050	RADIATOR ENCLOSURE BRACKET	1
34	30894040	RADIATOR ENCLOSURE MOUNT	2
35	30891060	INSTRUMENT PANEL BRACKET	1
OPT	31701000	ELECTRIC SHUTDOWN KIT	

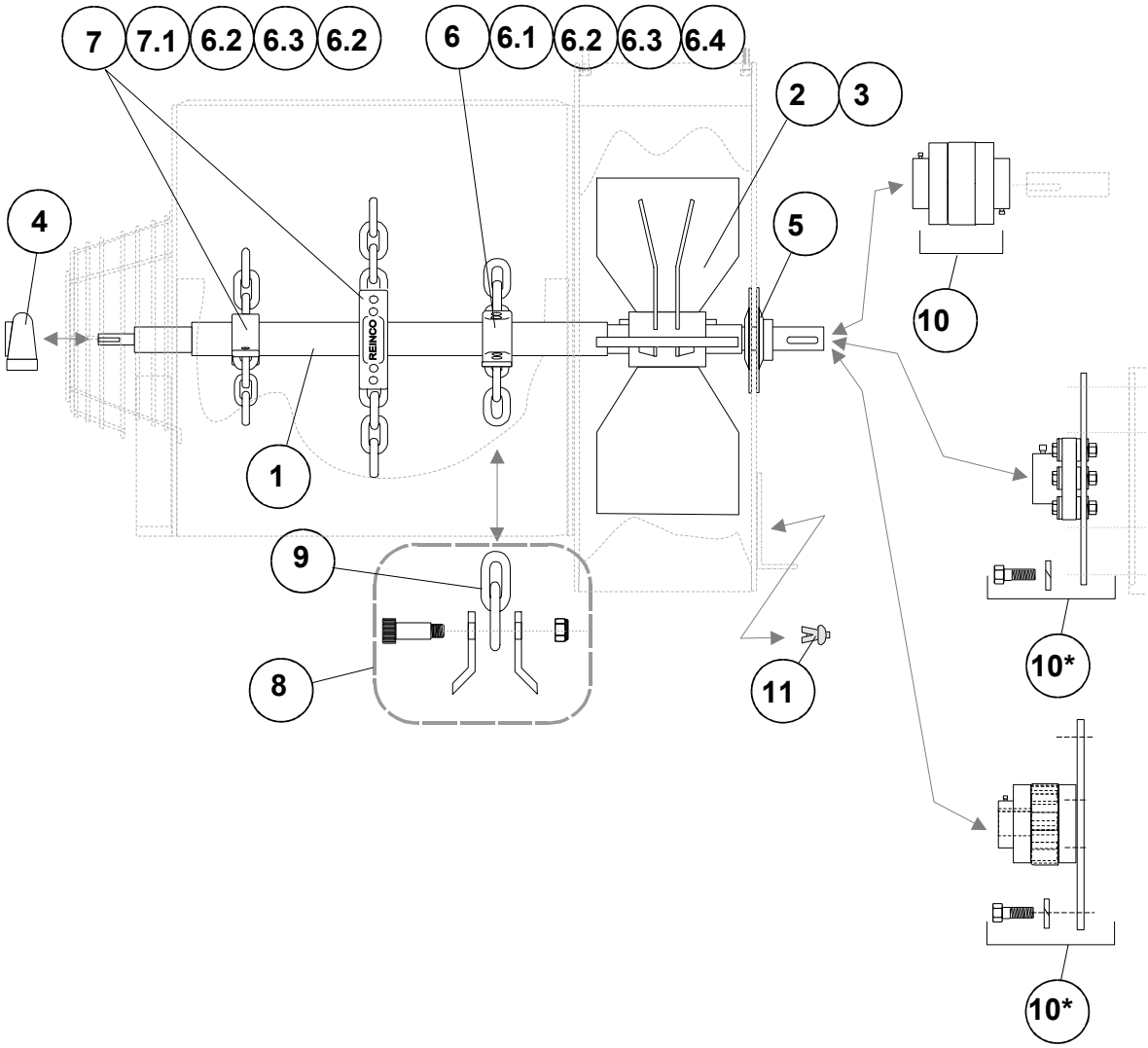
LOWER UNIT - F3L-1011 ENGINE



LOWER UNIT - F3L-1011 ENGINE

ITEM	PART NUMBER	DESCRIPTION	QTY
1	30381000	BASE FRAME F3L-1011	1
2	30601000	BEATER DRUM	1
3	30501000	BLOWER HOUSING	1
4	30892040	SIDE PLATE BRACE ASSEMBLY	1
5	30341070	SHAFT BEARING SUPPORT	1
6	31651000	SHAFT BEARING GUARD	1
7	30101100	BOOM TRANSPORT BRACKET	1
8	HA7150.01	HAIRPIN COTTER	1
9	30801000	FEED TRAY ASSEMBLY - FOLDING	1
10	BA8802.01	BATTERY 12V GRP 24	1
11	31471010	BATTERY HOLD DOWN BRACKET	1
12	BA8808.01	BATTERY HOLD DOWN BOLT	2
13	FA1241.03	3/8-16 NYLON INSERT NUT	2
14	FA0320.03	3/8 COMMERCIAL FLATWASHER	2
15	BA8806.01	BATTERY CABLE 30-31 (+)	1
16	BA8850.01	BATTERY BOOT (RED)	1
17	BA8807.01	BATTERY GROUND STRAP	1
18	SI0901.05	SIGNAL HORN	1
19	EL2101.50	FOOT SWITCH	1
20	32512000	FUEL TANK KIT (DIESEL)	
20.1	TA6036.00	TANK 12 GALLON	1
20.2	TA6036.01	TANK HOLD DOWN CABLE	2
20.3	FA1241.03	3/8-16 NYLON INSERT NUT	2
20.4	FA0330.03	3/8 SPLIT LOCKWASHER	2
20.5	HO7303.11	FUEL HOSE /FT	2.2
20.6	HO7301.81	RETURN HOSE/FT	2
20.7	TA2010.12	FELT TAPE 1/8 x 1" /FT	1
21	EN3103.00	DEUTZ F3L-1011 SPEC #F0311001/04	1
22	EN3103.03	STUB SHAFT SA09990027 1-3/4"	1
23	30392090	OIL COOLER COVER	1
24	IN3601.00	HOUR METER	1
25	30391030	HOUR METER BRACKET	1
26	30391010	THROTTLE LINKAGE	1
27	CO6210.00	THROTTLE CONTROL CABLE ASSEMBLY	1
28	CO6295.00X	THROTTLE BALL CONNECTOR ASSEMBLY	1
29	SH0650.02	COMPRESSION MOUNT	4
30	30381020	ISOLATION FRAME MEMBER	2

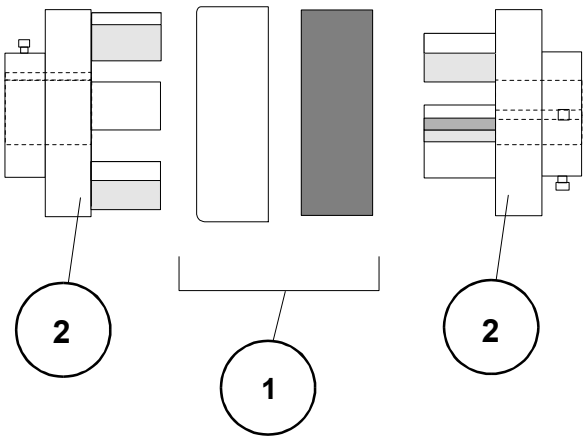
DRIVE TRAIN COMPONENTS



DRIVE TRAIN PARTS LISTING

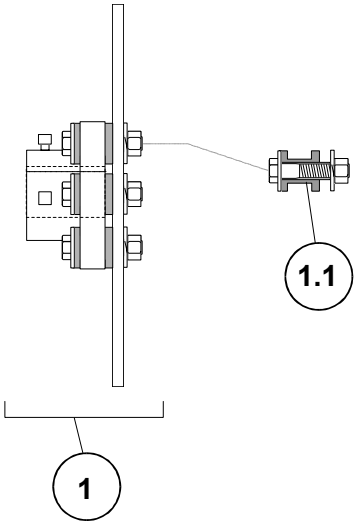
ITEM	PART NUMBER	DESCRIPTION	QTY
1	30711000	BEATER SHAFT	1
2	BL6030.01	BLOWER WHEEL	1
3	KE9003.10	KEY 3/8 x 4" BER	1
4	BE0260.01	SHAFT PILLOW BLOCK BEARING	1
5	BE0342.01	SIDE PLATE FLANGE BEARING	1
6	83271030	FLAIL CHAIN STATION - 3 LINK	1
6.1	CH0642.43	CHAIN ONLY - 3 LINK GRADE 70	2
6.2	83271010*	BRACKET ONLY	2
6.3	FA2126.20*	½-20 x 2 HHCS	4
6.4	FA2241.04*	½-20 NYLON INSERT NUT	4
7	83271040	FLAIL CHAIN STATION - 4 LINK	2
7.1	CH0642.44	CHAIN ONLY - 4 LINK GRADE 70	4
8	CH0643.21*	OPTIONAL FLAIL KNIVE KIT	OPT
9	CH0642.42*	CHAIN ONLY - 2 LINK GRADE 70	2
	***832711020**	**INCLUDES KNIVES, ATTACH. HDWR., CHAINS BRKTS.**	**OPT**
10	CO8446.30	DRIVE COUPLING ASSEMBLY (S/S) #50 REF. pg: 56, 32	1
10*	CO8513.10	DRIVE COUPLING ASSEMBLY (F/W) #124273 REF. pg: 56, 33	1
10*	CO8514.10	DRIVE COUPLING ASSEMBLY (F/W) #50 REF. pg: 57, 32	1
11	FA0724.40	ALIGNMENT LOCK RIVET 3/8" (DRIVE)	2

HAYES #50 DRIVE COUPLING



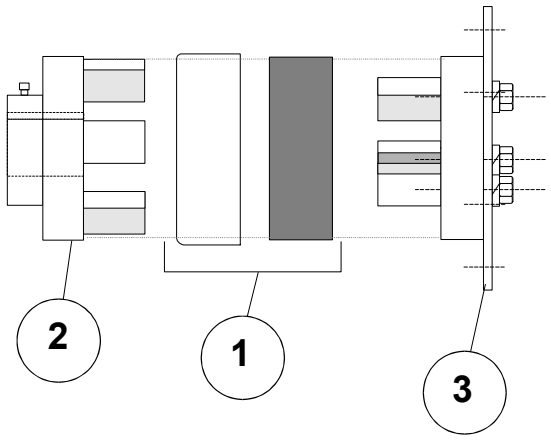
ITEM	PART NUMBER	DESCRIPTION	QTY
	CO8446.30	**COUPLING ASSEMBLY COMPLETE**	
1	CO8446.34	CENTER MEMBER WITH RING	1
1.1	CO8446.35	CENTER MEMBER ONLY - NEOPRENE	1
1.2	CO8446.36	METAL RING ONLY	1
2	CO8446.32	FLANGE ONLY 1-7/16 B 3/8 KW	2
3	KE9002.12	KEY - BLOWER SHAFT 3/8 x 1½ BER	1
4	KE9002.11	KEY - ENGINE SHAFT 3/8 x 2½ OER	1

HAYES FLYWHEEL COUPLING



ITEM	PART NUMBER	DESCRIPTION	QTY
1	**CO8513.10**	**FLYWHEEL COUPLING COMPLETE #124273**	1
1.1	CO8525.26	INSERT/BUSHING/HARDWARE KIT	6
2	KE9002.11	KEY - ENGINE SHAFT 3/8 x 2½ OER	1

HAYES FLYWHEEL COUPLING



ITEM	PART NUMBER	DESCRIPTION	QTY
	CO8514.10	**FLYWHEEL COUPLING COMPLETE #124273**	1
1	CO8446.34	CENTER MEMBER WITH RING	1
1.1	CO8446.35	CENTER MEMBER ONLY - NEOPRENE	1
1.2	CO8446.36	METAL RING ONLY	1
2	CO8446.32	FLANGE ONLY 1-7/16 B 3/8 KW	2
3	CO8514.11	FLANGE & PLATE ASSEMBLY 1-7/16"B 3/8 KW	1

OTHER COUPLINGS . . .

MORSE STYLE 602

FOR UNITS MANUFACTURED PRIOR TO MARCH, 1985 SER #2290

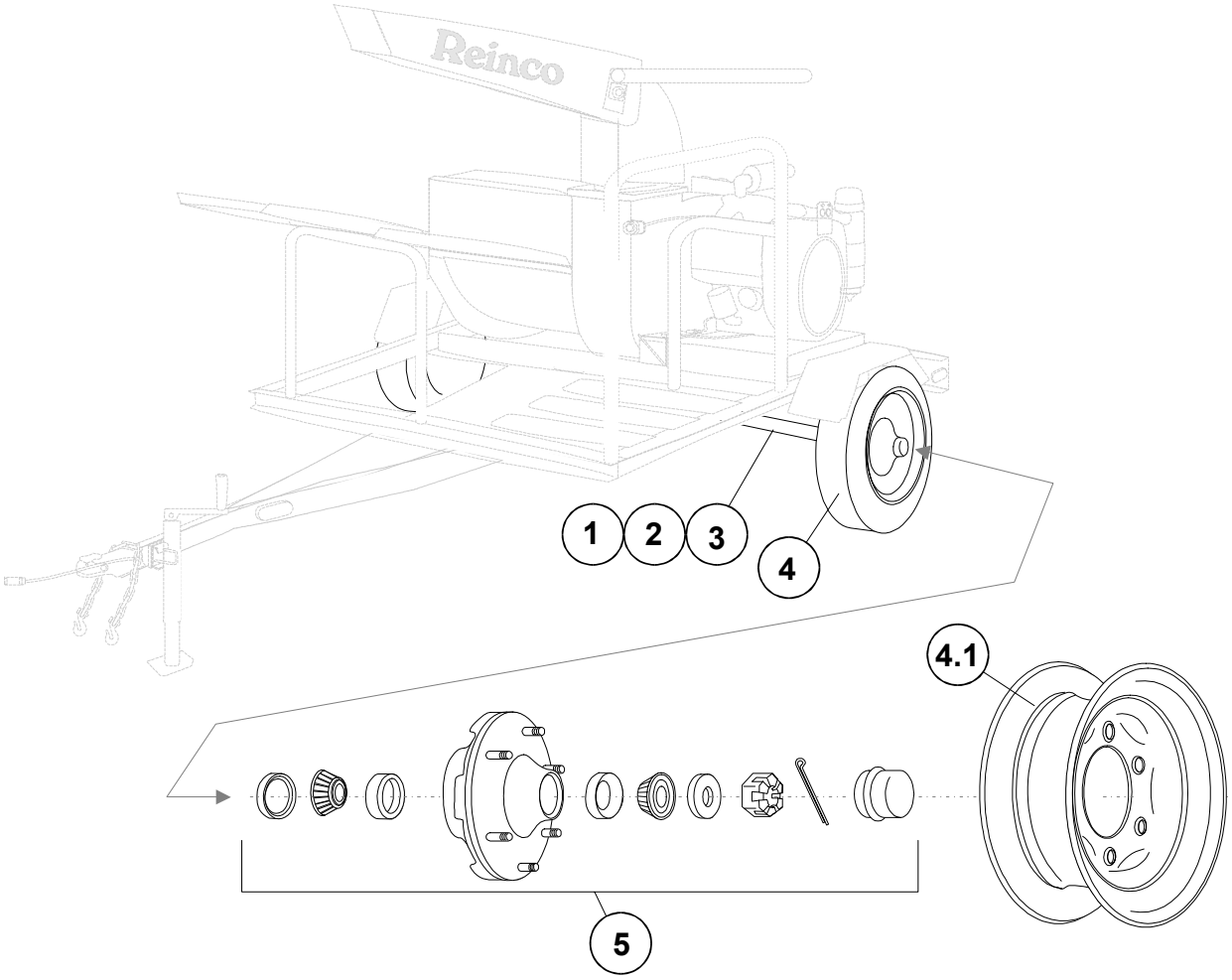
ITEM	PART NUMBER	DESCRIPTION	QTY
	CO8446.00X	**COUPLING ASSEMBLY COMPLETE**	**1**
1	CO8446.01	CENTER MEMBER	1
2	CO8446.02	HARDWARE SET	1
3	CO8446.03	COUPLING FLANGE 1-7/16" B 3/8 KW	1

SUREFLEX STYLE 10

ITEM	PART NUMBER	DESCRIPTION	QTY
	CO8454.00X	**COUPLING ASSEMBLY COMPLETE**	**1**
1	CO8472.21	INSERT WITH RING #10E	1
2	CO8472.24	DRIVER COUPLING FLANGE #10S 1-3/4" B 3/8 KW	1
3	CO8472.27	DRIVEN COUPLING FLANGE #10S 1-7/16 B 3/8 KW	1

TM7-30X

RUNNING GEAR



TM7-30X
RUNNING GEAR & RELATED PARTS

3500 LB CAPACITY IDLER - S/N 3701 AND AFTER

ITEM	PART NUMBER	DESCRIPTION	QTY
1	AX5105.30	AXLE ASSEMBLY	1
2	AX5103.22	SPRING LS 72-26-2500, 4LF	1
3	AX5103.23	SPRING RS 72-26-2000, 3LF	1
	AX5103.16	BOLT - SHACKLE 7-3	6
	AX5103.17	LOCKNUT - SHACKLE 6-7	6
	AX5103.21	LINK - SHACKLE 18-12 (3 1/8")	4
	AX5103.15	BUSHING - SPRINGEYE 14-01	4
4	TI7501.00	MOUNTED TIRE ASSEMBLY	2
4.1	AX5105.15	WHEEL 6-5.5 BC 17-118	2
4.2	TI7201.03	TIRE ST225/75R15-D 8 PLY	2
5	AX5103.44	HUB ASSEMBLY 8-251 90 6-5.5	1
5.1	AX5103.48	GREASE CAP 21-3 1.9900	2
5.2	AX5103.07	COTTER PIN 19-2	2
5.3	AX5103.06	SPINDLE NUT 6-1	2
5.4	AX5103.45	SPINDLE WASHER 5-23D	2
5.5	AX5103.49	BEARING - OUTER CONE L44649	2
5.6	AX5103.40	RACE - OUTER CUP L44610	2
5.7	AX5103.41	BEARING - INNER CONE L68149	2
5.8	AX5103.42	RACE - INNER CUP L68111	2
5.9	AX5103.43	GREASE SEAL 10-4 NTL 442251	2
5.10	AX5201.20	WHEEL NUT 6-80	12

TM7-30X
RUNNING GEAR & RELATED PARTS

5200 LB CAPACITY IDLER - S/N 3699 AND BEFORE

ITEM	PART NUMBER	DESCRIPTION	QTY
1	AX5105.20	AXLE ASSEMBLY 5200# 6-5.5 HUBS□□	N/A
1	AX5105.10	AXLE ASSEMBLY 5200# 4-9.4 HUBS□□	N/A**
2	AX5103.22	SPRING LS 72-26-2500, 4LF□□	1
3	AX5103.23	SPRING RS 72-26-2000, 3LF□□	1
	AX5103.16	BOLT - SHACKLE 7-3□□	6
	AX5103.17	LOCKNUT - SHACKLE 6-7□□	6
	AX5103.21	LINK - SHACKLE 18-12 (3 1/8")□□	4
	AX5103.15	BUSHING - SPRINGEYE 14-01□□	4
4	TI7500.02	MOUNTED TIRE ASSEMBLY□□	2
4.1	AX5105.15	WHEEL 6-5.5 BC 17-118□□	2
4.1	AX5103.02	WHEEL 4 - 9.4 BC 17-121 (STAR)□□	2**
4.2	TI7201.03	TIRE ST225/75R15-D 8 PLY□□	2
5	AX5103.34	HUB ASSEMBLY 8-213 90 6-5.5□□	1
	AX5103.04	HUB ASSEMBLY 8-157 90 4-9.4□□	1**
5.1	AX5103.08	GREASE CAP 21-1 2.4500□□	2
5.2	AX5103.07	COTTER PIN 19-2□□	2
5.3	AX5103.06	SPINDLE NUT 6-1□□	2
5.4	AX5103.05	SPINDLE WASHER 5-57D□□	2
			5 .5
5.6	AX5103.10	RACE - OUTER CUP LM67010□□	2
5.7	AX5103.11	BEARING - INNER CONE 25580□□	2
5.8	AX5103.12	RACE - INNER CUP 25520□□	2
5.9	AX5103.13	GREASE SEAL 10-1 NTL 440972□□	2
5.10	AX5103.03	LUG BOLT 7-40□□	8**
5.10	AX5201.20	WHEEL NUT 6-80□□	12

****PRIOR TO S/N 3070**

TM7-30X
RUNNING GEAR & RELATED PARTS

OPTIONAL BRAKE ASSEMBLIES (3500 lb)

ITEM	PART NUMBER	DESCRIPTION	QTY
ELEC□	AX5105.34	HUB AND DRUM ASSEMBLY 8-250-90 6-5.5□□	2
	AX5105.36	BRAKE ASS LH 23-26DX 10 x 2¼□□	1
	AX5105.37	BRAKE ASS LH 23-27DX 10 x 2¼□□	1
HYDR□	AX5105.41	BRAKE ASSY LH 23-312 DX US 10 x 2¼□□	1
	AX5105.42	BRAKE ASSY RH 23-313 DX US 10 x 2¼□□	1
	TU1000.01	TUBING KIT - SINGLE AXLE□□	1

S/N 3701 AND AFTER

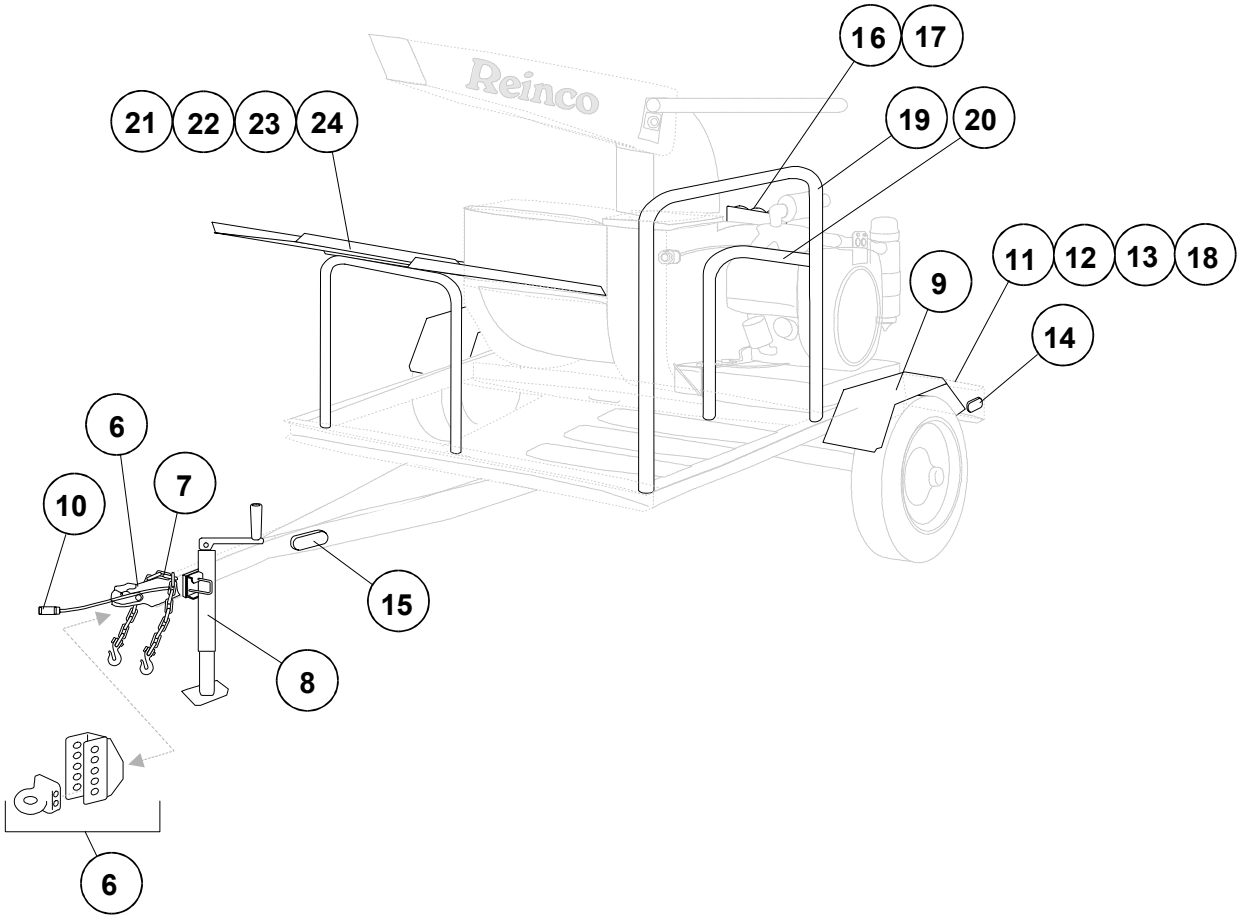
OPTIONAL BRAKE ASSEMBLIES (5200 lb)

ITEM	PART NUMBER	DESCRIPTION	QTY
ELEC□	AX5103.62	HUB AND DRUM ASSEMBLY 8-201-90 6-5.5	2
	AX5110.10	BRAKE ASSY LH 23-105DXQ 12 x 2	1
	AX5110.08	BRAKE ASSY RH 23-106DXQ 12 x 2	1

S/N 3070 - 3700

TM7-30X

TRAILER COMPONENTS



TM7-30X

TRAILER COMPONENTS

HITCH COMPONENTS

ITEM	PART NUMBER	DESCRIPTION	QTY
6	CO9212.01	COUPLER - 2" BALL	1
6*	CO9080.40	ADJUSTABLE EYE, 3: LUNETTE	OPT
	CO9080.51	ADJUSTABLE COUPLER - 2" BALL	OPT
6.1*	CO9080.41	5 POSITION MOUNTING CHANNEL/GUSSET	1
6.2*	CO9080.42	BOLT & NUT KIT	1
HYDR	CO9212.10	COUPLER - 2" BALL/HYDR SURGE ACTUATOR	OPT
	CO9212.20	COUPLER - 3" EYE/HYDR SURGE ACTUATOR	OPT
7	CH0641.41	SAFETY CHAIN W/HOOKS	1
8	JA1003.05	SWIVEL JACK 1000#	1
8.1	JA1005.05	JACK LOCKRING	1
9	83042000	FENDER	2
10	31493000	TRAILER WIRING HARNESS	1
10.1	EL2203.02	CONNECTOR PLUG 6 COND.	1
10.2	EL2203.01	CONNECTOR SOCKET 6 COND.	1

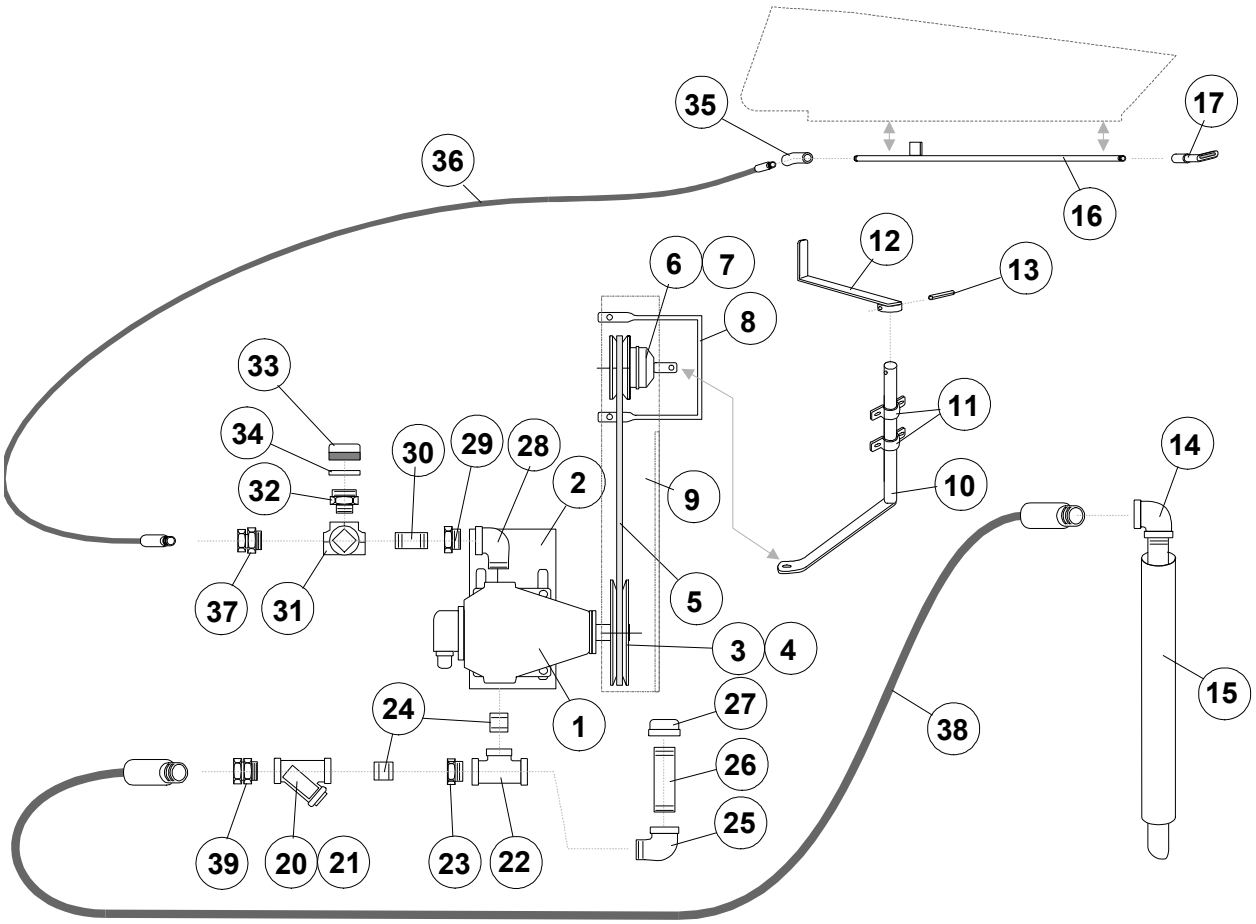
LIGHTING COMPONENTS

11	LI3302.07	TAIL LAMP - COMBINATION	2
12	LI3303.07	TAIL LAMP - DIRECTIONAL	2
13	LI3305.03	LICENSE PLATE LAMP/BRACKET	1
14	LI3301.21	MARKER LAMP - RED (REAR)	2
15	LI3301.22	MARKER LAMP - AMBER (FWD)	2
16	LI3301.23	MARKER LAMP BAR (3) - RED	1
17	31641000	LIGHT BAR BRACKET	1
18	LI4030.01	REFLECTOR - RED	1

TRAILER RELATED PARTS

19	30201110	SIDE RAILING	1
20	30201100	ENGINE GUARD RAILING	1
21	30201090	TRAY SUPPORT RAILING	1
22	30811010	FEED TRAY - FIXED	1
22.1	30811020	FEED TRAY ADAPTER	1
22.2	HA7131.10	U-CLAMP	2
23	30821000	FEED TRAY - SLIDING	1
24	30811011	TRAY LOCK BAR	1
24.1	HA7150.02	HAIR PIN COTTER	2
25	BR2022.03	BREAK AWAY SWITCH	OPT
26	BR0501.02	BRAKE CONTROLLER 12V ELEC #2030	OPT

OPTIONAL EMULSION SPRAY SYSTEM

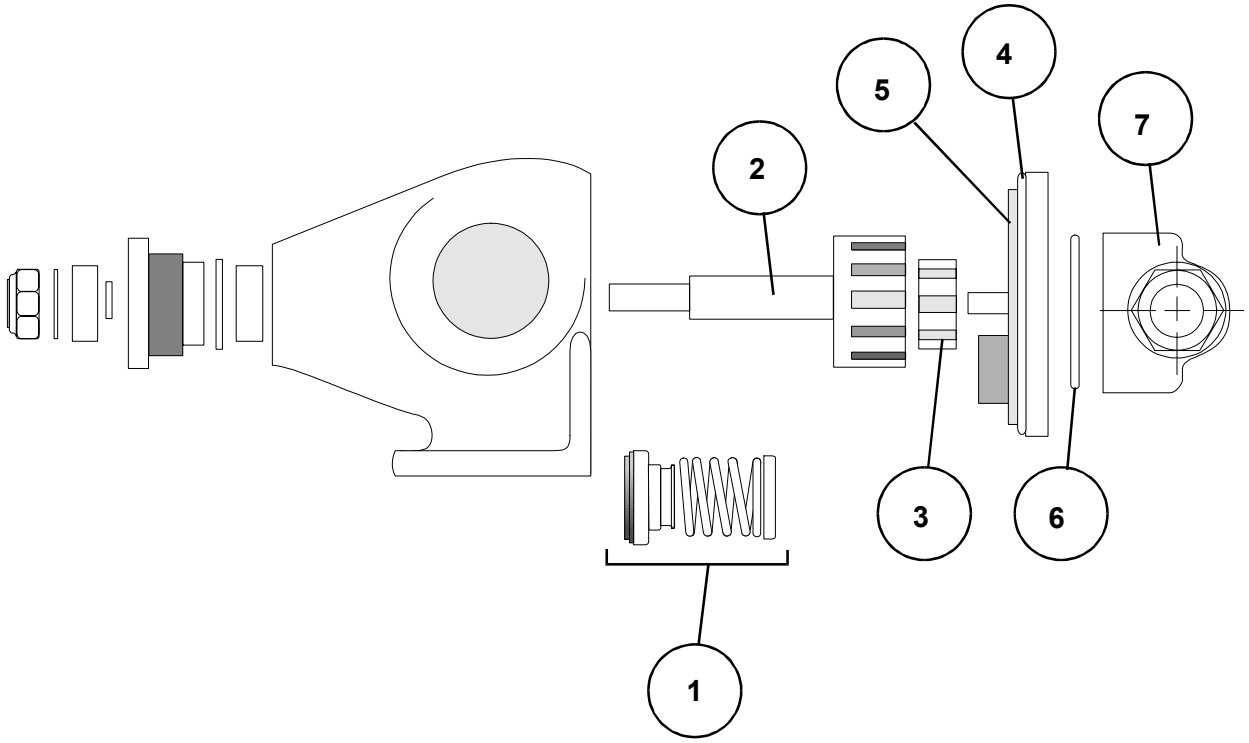


OPTIONAL EMULSION SPRAY SYSTEM

ITEM	PART NUMBER	DESCRIPTION	QTY
1	PU5443.00	EMULSION PUMP VIKING GG4195	1
2	31101110	PUMP BASE	1
3	SH2100.20	SHEAVE 5" PITCH ½"B	1
4	KE9001.01	KEY 3/16 x 1½ BES	1
5	BE5802.01	BELT BX46 46.1	1
6	CL8005.00	CLUTCH XB4-3/4"	1
7	KE9001.05	KEY ¼ x 2 BES	1
8	31101060	CLUTCH GUARD	1
9	31101080	BELT GUARD	1
10	31101040	PIVOT LEVER	1
11	BE0225.02	BEARING 1"PB	2
12	31101020	ACTUATING LEVER - (SKID)	1
	31101021	ACTUATING LEVER - (TRAILER)	ALT
13	HA7160.06	ROLL PIN ¼ x 1-5/8"	1
14	31101121	PICKUP TUBE ASSEMBLY	1
15	31101122	PICKUP TUBE HOLDER	1
16	31111001	BOOM SPRAY PIPE 16" (SKID)	1
	31111002	BOOM SPRAY PIPE 28" (TRAILER)	ALT
17	30102020	SPRAY NOZZLE ASSEMBLY	1
20	ST7101.00	STRAINER 1" WYE	1
21	ST7101.01	ELEMENT	1
22	PI2882.57	REDUCING TEE 1½ x 1½ x 1	1
23	PI2714.10	REDUCING BUSHING 1½ x 1	1
24	PI7871.01	NIPPLE 1" x SHORT HVY	2
25	PI2853.14	ELBOW 90° 1½ x STREET BMI	1
26	PI7873.06	NIPPLE 1½ x 6 TBE	1
27	PI3830.14	CAP 1½ BRASS	1
28	PI2853.10	ELBOW 90° 1 x STREET BMI	1
29	PI2710.14	REDUCING BUSHING 1" x ½"	1
30	PI7869.00	NIPPLE ½" x CLOSE	1
31	VA5310.00	VALVE ½" 3 PORT	1
32	PI3815.80	GARDEN HOSE ADAPTER	1
33	PI3815.81	CAP - GARDEN HOSE	1
34	PI3815.82	WASHER	1
35	PI2851.03	ELBOW 45° 3/8 BMI	1
36	31291010	DISCHARGE HOSE 3/8" x 6'	1
37	HO7770.53	SWIVEL CONNECTOR ½"M x 3/8"FM	1
38	31291020	SUCTION PICKUP HOSE 1" x 7'6"	1
39	HO7771.10	SWIVEL CONNECTOR 1"M x 1"FM	1

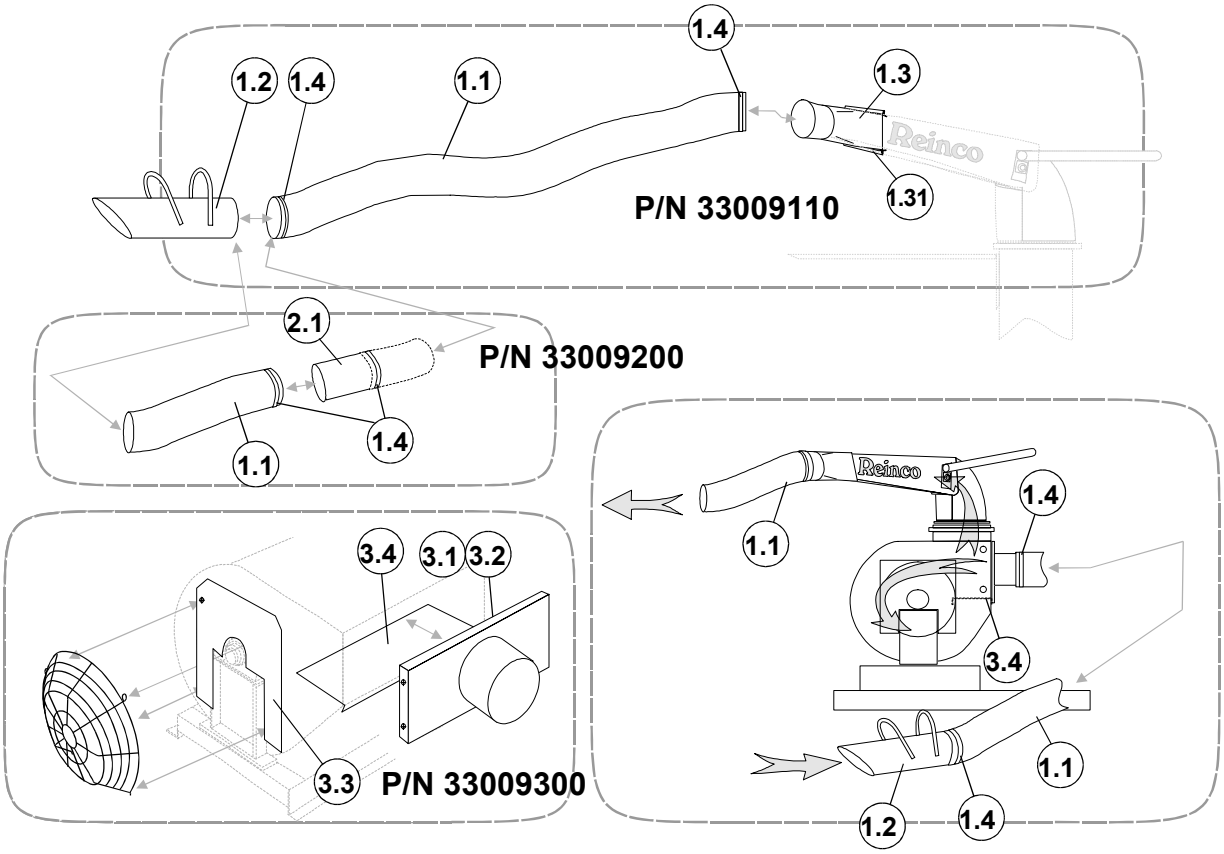
TM7-30

TACKING SYSTEM PUMP PARTS



ITEM	PART NUMBER	DESCRIPTION	QTY
1	PU5443.01	MECHANICAL SEAL ASSY (2-473-003-999)	1
2	PU5443.02	ROTOR & SHAFT (3-564-200-012)	1
3	PU5443.03	IDLER & BUSHING (3-417-200-553)	1
4	PU5443.04	O-RING (2-551-001-860)	1
5	PU5443.05	HEAD & IDLER PIN (3-336-200-015)	1
6	PU5443.06	GASKET, RELIEF VALVE (2-316-806-300)	1
7	PU5443.07	INTERNAL RELIEF VALVE (3-795-200-000)	1

OPTIONAL HOSE ATTACHMENTS



ITEM	PART NUMBER	DESCRIPTION	QTY
1	33009110	STARTER HOSE KIT 8" x 25'	
1.1	HO6180.65	HOSE 8" x 25'	1
1.2	30108020	HAND HELD PLAY PIPE (SPOUT)	1
1.3	30108010	BOOM HOSE ADAPTOR	1
1.3	31633030	ADAPTOR MOUNTING ANGLES w/HARDWARE	2
1.4	HO8180.31	HOSE CLAMP	2
2	33009200	EXTENSION HOSE KIT 8" x 25'	
2.1	30108030	COUPLER	1
3	33009300	DEBRIS VACUUM KIT	
3.1	31681010	VACUUM ADAPTER	1
3.2	GA7003.01	GASKET	1
3.3	31681020	MAKE UP AIR COVER	1
3.4	31681030	BEATER DRUM INTAKE ADAPTOR	1
4	33009400	VACUUM HOSE KIT 8" x 25' (NO ADAPTOR)	1

NOTES

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