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# T30/T30D HydroSeeder®

## CE-Compliant

### Operator Instructions and Parts Manual

Model ML      Serial No. \_\_\_\_\_





## **ACTIVATE YOUR FINN EQUIPMENT WARRANTY**

### **IMPORTANT INFORMATION ON ACTIVATING YOUR FINN EQUIPMENT WARRANTY!!!**

IT IS IMPERATIVE THAT YOU, THE PURCHASER, COMPLETE THE FOLLOWING STEP IN ORDER TO ACTIVATE THE FINN CORPORATION LIMITED WARRANTY.



COMPLETE THE **EQUIPMENT REGISTRATION** FORM  
AND MAIL TO THE FINN CORPORATION.

IF FINN CORPORATION DOES NOT HAVE YOUR COMPLETED REGISTRATION  
FORM ON FILE, YOUR WARRANTY CLAIM WILL BE DENIED.

Once your FINN equipment has been registered, your FINN Limited Warranty will  
be activated per the warranty statement on the next page.

### **<<What should you do if you need repairs or parts under Warranty?>>**



**1. NOTIFY FINN CORPORATION OF THE FAILURE OF MATERIAL OR WORKMANSHIP**  
**1-800-543-7166 Extension (246)**  
**WARRANTY@FINNCORP.COM**



**2. AFTER YOU OR YOUR SERVICE DEALER NOTIFY FINN, FINN WILL:**

- VERIFY THAT WE HAVE YOUR REGISTRATION ON FILE
- VERIFY THAT THE WARRANTY PERIOD IS IN EFFECT
- VERIFY THAT THE RELATED PART(S) ARE INCLUDED IN THE SCOPE OF WARRANTY (PENDING FINN'S INSPECTION OF DEFECTIVE PARTS)
- SEND YOU REPLACEMENT PART(S) AND A WARRANTY INFORMATION PACKET
- REQUEST YOU FOLLOW ALL INSTRUCTIONS AS NOTED IN THE PACKET

- **Completely fill out the Parts Tag.**
- **Attach the Parts Tag to the defective part(s).**
- **Return the part(s) and the completed Warranty Claim Form to FINN Corporation using the return shipping label. (Within 2 weeks)**
- **Tape the Orange identifier sheet, marked with the W/RMA number, on the outside of the box in which you are shipping the defective part(s).**

**Warranty period:**

Hydroseeders & Straw Blowers 2 years or 2000 hrs which ever comes 1<sup>st</sup>  
All other equipment 1 year or 1200 hrs which ever comes 1st

**Commercial Limited Warranty  
Effective 4/1/2011****OUR WARRANTY TO YOU:**

Finn Corporation warrants to you, the original purchaser, for use (or rental to others for use) all new construction machinery, parts and attachments (except those referred to herein) that are manufactured by Finn to be free from defects in material and workmanship for a period noted above. Replacement parts provided under the terms of this warranty are warranted for the remainder of the warranty period applicable to the product to which parts are installed, as if parts were original components of the product.

**WHAT FINN WILL DO:**

Upon notification of Finn concerning a failure of material or workmanship in accordance with the above stated Warranty, Finn Corporation will:

- Verify claim falls within the valid warranty time frame.
- Verify the product and equipment has been registered with Finn in order to be eligible for warranty coverage.
- Upon affirmation of warranty period and registration, Finn will send to you a new or repaired replacement part(s), whichever Finn elects and a "Warranty Claim Information packet" containing instructions for processing the warranty claim.
- Evaluate the part when defective part is returned. Note: Failure to return defective part within two weeks will result in an invoice being sent to the customer. In addition, if damage to a part is determined not to be covered under the warranty, the customer will be billed.
- Reconcile costs with customer for parts and shipping, as determined by our inspection of failed parts, and confirmation of warranty coverage, per the terms of this warranty.
- Correction of nonconformities, in the manner provided above, shall constitute fulfillment of all liabilities of Finn Corporation.

**WHAT YOU MUST DO TO OBTAIN WARRANTY SERVICE:**

- As the purchaser covered under the above limited warranty you must REGISTER the equipment with Finn FAILURE TO REGISTER WILL VOID THE WARRANTY.
- Claim Number: Notify the warranty Dept. same day or next day of any intent to do warranty work and obtain a "Warranty Claim Number."
- All warranty labor must be pre-approved by providing Finn with an estimate of labor costs. Once approved, Finn will issue you a Work Authorization Number, prior to work being performed. (EXCEPTION: Unless the labor is per the Labor Allowance Schedule or less)
- The labor costs reimbursement will be based on the Labor Allowance Schedule established by Finn and where not applicable, on a reasonable number of hours as determined by Finn.
- Notify Finn Corporation of any failure of material or workmanship as described under this warranty.
  - Web notification: Warranty@Finncorp.com
  - Phone 1-800-543-7166 extension 246
- Complete the required steps in the "Warranty Claim Information packet" (which Finn will send you) and return the defective part(s) as directed in the packet to Finn Corporation.
- Should the failed part, be a hydraulic component, Finn may send you an "Oil Analysis Kit," requesting that a sample of oil from the hydraulic system be taken, and mail it to a lab. Follow the instruction sheet, on how to use your Finn Oil Analysis Kit that comes with the Kit. Failure to comply when requested will void the warranty.

**WHAT THE WARRANTY DOES NOT COVER:**

1. Normal wear parts and Allied Equipment or trade accessories not manufactured by it, such as but not limited to items such as various filters, fluids, brakes, clutch linings, belts, hoses, light bulbs, mechanical seal, over center clutches, tires, ignitions, starters, batteries, magnetos, carburetors, engines and labor, or like or unlike equipment or accessories. (Such being subject to the warranty, if any, provided by their respective manufacture).
2. Secondhand, used, altered, or rebuilt machines or parts.
3. Defects, malfunctions or failures resulting from accidents, abuse, misuse, improper servicing, or neglect of required operational guidelines and maintenance service, as outlined in the Finn Corporation's Operators Manual(s).

4. The warranty shall be null and void to the extent any defect or failure of the products warranted arises out of or is caused by accessories or component parts not manufactured or supplied by Finn Corporation, whether same are supplied by purchaser, dealers, or any other party.

5. This Warranty does **NOT** cover any costs associated with transporting the equipment for warranty service, such as mileage, fuel, or man hours; such is the responsibility of the equipment owner.

6. Dealers & Customers are responsible to follow all guidelines related to Seasonal & Long Term Storage of Equipment, as advised in operation & equipment manuals. i.e. Finn, Engine, Clutch, Pump, Motor, etc. Equipment failures caused by neglect of these guidelines are not warrantable.

**THIS IS THE ONLY EXPRESS WARRANTY ON OUR PRODUCTS:**

We neither assume nor authorize anyone to assume for us any other express warranty. The Distributor/Dealer has no authority to make any representation or promise on behalf of Finn Corporation or to modify the terms or limitations of this warranty in any way.

THIS WARRANTY THEREFORE SHALL BE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

**LIMITATIONS ON OUR RESPONSIBILITY WITH RESPECT TO PRODUCTS PURCHASED:**

THE REMEDIES OF THE USER SET FORTH HEREIN ARE EXCLUSIVE, WITHOUT REGARD TO WHETHER ANY DEFECT WAS DISCOVERABLE OR LATENT AT THE TIME OF DELIVERY OF THE PRODUCT TO THE PURCHASER.

ALL WARRANTY REPAIR MUST BE DONE BY A FINN AUTHORIZED SERVICE PROVIDER OR AUTHORIZED REPAIR SHOP OF FINN'S CHOICE.

TRANSPORTATION, HAULING, STORAGE, OR OTHER SIMILAR COSTS ARE NOT PART OF FINN'S OBLIGATION UNDER THE LIMITED WARRANTIES AND IS THE RESPONSIBILITY OF THE EQUIPMENT OWNER.

**THE ESSENTIAL PURPOSE** of this exclusive remedy shall be to provide the original purchaser with repair or replacement of parts that prove to be defective within the period and under the conditions previously set forth. This exclusive remedy shall not have failed of its essential purpose (as that term is used in the Uniform Commercial Code) provided Finn remains willing to repair or replace defective parts within a commercially reasonable time after it obtains actual knowledge of the existence of a particular defect.

IN NO EVENT shall Finn be liable for any special, consequential, incidental or indirect damages, including lost profits or lost commercial opportunities, with respect to the sale of the above warranted product or anything done in connection therewith, or for property damage sustained by a person claiming to be a third party beneficiary of a surviving warranty under the law of any jurisdiction.

**NOTICE:**

FINN CORPORATION URGES the use of only Finn corporation supplied parts and attachments to assure proper performance and safe operation of Finn corporation equipment. Insist on parts and attachments manufactured or supplied by Finn corporation when you purchase, repair or replace your Finn equipment and attachments. Because Finn corporation cannot assure that parts and attachments not manufactured or supplied by Finn meet Finn corporation's quality standards, specifications, or operating requirements, our warranty is not effective to the extent any failure of or defect in a Finn corporation product arises from or is caused by parts, attachments or components not originating with Finn corporation. Use of Finn corporation equipment with parts and attachments not manufactured or supplied by Finn could result in personal injury.

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# SAFETY FIRST

With any piece of equipment, new or used, the most important part of its operation is **SAFETY!**

FINN Corporation encourages you and your employees to familiarize yourselves with your new equipment and stresses safe operation.

The first five pages of this manual are a summary of the main safety aspects associated with this unit. Be sure to read and understand completely before operating the machine.

**The symbols below are used throughout the operation and maintenance sections of this manual to call attention to safety procedures.**

## **DANGER**

*Danger indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.*

## **WARNING**

*Warning indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.*

## **CAUTION**

*Caution indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.*

## **NOTICE**

*Notice indicates important information, that if not followed, **MAY** cause damage to equipment.*

**NOTE:** This is helpful information.

## CALIFORNIA PROPOSITION 65

### **WARNING**

*The engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm. Wear protective equipment.*



### **WARNING**

*Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.*



# HYDROSEEDER® SAFETY SUMMARY SECTION

It is important that operators of this machine are familiar with all safety aspects covered in this section and have read the entire Operator's Manual before operating the machine. Always keep a copy of this manual with the machine. It is the responsibility of the operator of the machine to fully understand this safety summary section. Remember that YOU are the key to safety. Good safety practices protect not only you, but also the people working with and around you. Keep in mind that this safety section is written for this type of machine only. Practice all other usual and customary safe working precautions. Above all, remember that safety is up to you.



The FINN HydroSeeder® is designed to mix and apply water, seed, fertilizer, agricultural lime, and hydraulic mulch to the prepared seedbed. The resultant slurry from mixing one or more of the above materials may react, causing harmful or deadly gasses within the tank. Heat, evaporation, or extended emptying period can/will accelerate the formation of these gasses. Please contact your supplier(s) of these slurry components regarding their potential reactivity.

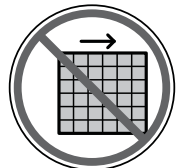
## I. PRE-START EQUIPMENT CHECK (equipment check is to be made with the engine off)

1. If you have a chassis-mounted unit, check devices securing HydroSeeder® to the truck or trailer frame.
2. If HydroSeeder® is mounted on a trailer, check hitch and hitch bolts, lights, brakes, and all safety components.
3. Make sure loading hatch safety bars are in place and secure.
4. Check that all guarding is in place and secure.
5. By carefully looking down through the loading hatch, inspect the slurry tank for foreign objects. Never enter the tank without following the procedures described in step 3 of section IV. MAINTENANCE.
6. Remove unnecessary objects (or material) from the tank top.
7. Make sure no one is working on or inside the machine. Give a visual and audible signal that all is clear, before starting the engine.
8. Inspect all hydraulic hoses for cracks, bulges, or damage. If hoses are bad, replace immediately.
9. Inspect all discharge hoses for cracks, bulges, or damage. If hoses are bad, replace immediately.



## II. MACHINE OPERATION

1. Always wear safety goggles when operating the machine. Other safety attire such as safety shoes, ear protection, gloves, hard hats, dust masks, etc. should be worn as required by warning decals on machine, operator's manuals, or job site requirements. Remove rings, watches, etc. Avoid wearing loose-fitting clothing that may get caught in rotating machinery.
2. Do not operate the machine without all guards in place.
3. Do not load unit while in transit. Load only when parked and unit is as level as possible. Take care not to drop pens, lighters, pieces of paper, plastic bags, etc. into the tank, as these objects might plug the slurry system. Should any object be dropped into the tank, do NOT reach into the tank to retrieve the foreign object. See step 3 under section IV. MAINTENANCE before allowing any personnel to enter the tank.
4. Make sure area to be sprayed is clear of all persons, animals, etc.
5. The driver of the carrying or towing vehicle is responsible for the safety of the operator(s) of the machine. Make sure the driver is aware of and avoids all possible hazards to the operator(s) of the machine, such as low tree limbs, low power lines, etc. Vehicles on which equipment is mounted or towed must be stopped and started gradually. Avoid abrupt starts or stops. Never operate on a slope or a hill that may endanger the driver and/or the operator(s). All personnel should review and be familiar with stop/start signals between the driver and operator(s) before going into operation.





6. Operator(s) of equipment should never ride on the machine at speeds of greater than 5 mph (8 km/h).



7. Never operate machine in an enclosed area without venting the engine exhaust of both the equipment and vehicle on which the equipment is mounted. Deadly carbon monoxide fumes can accumulate.



8. Never operate this or any other machinery when fatigued, tired, under the influence of alcohol, illegal drugs, or medication. You must be in good physical condition and mentally alert to operate this machine.



9. Never modify the machine. Never remove any part of the machine (except for service and then reinstall before operating).

10. Use proper means (steps, ladder) for mounting and dismounting of the machine. Never mount or dismount a moving machine.

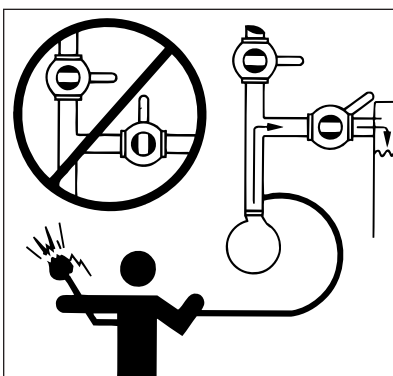


### III. SLURRY APPLICATION

1. Do not aim discharge spray toward power-lines, transformers, or other high voltage electrical conductors. Also do not aim discharge spray towards people, animals or anything other than the intended application area.



2. Never engage (turn on) clutch when both the recirculation and discharge valves are closed (as illustrated to the right). Operation with both valves closed will result in



extreme heat generation that could cause severe bodily injury and damage to the equipment.

3. Recirculation valve must be open and material flowing back into the tank when using the remote valve. A closed or plugged recirculation line will cause extreme heat in the pump or discharge lines that will result in severe bodily injury and damage to the equipment.

4. During application through a hose, high pressure can be exerted at the end of the hose. Hose-holding personnel must establish good footing. The operator should apply gradual pressure to the hose only after hose-holding personnel are firmly positioned and have firm control of the hose. Additional personnel to direct hose may be necessary if working on slopes. The proper technique for grasping the hose used by hose-holding personnel is to route and firmly grasp the hose over the shoulder or under both arms. Never route/hold the hose so it goes between the legs. If the hose-holding personnel finds that it is uncomfortable for him to handle the hose by himself, additional hose-holding personnel should be positioned at the end of the hose.

5. Plan application so that the farthest area is covered first, then work back toward the HydroSeeder®, so individuals are not walking back over slippery ground.

6. Before opening any valves or pipe clamps, shut machine down and check if material in the pipe is hot. If hot, do **NOT** open valve or pipe clamps as the hot material may cause severe personal injury. Allow to cool and open with caution.



7. Except when loading materials, keep loading hatch lid closed to protect operator and prevent splashing of wet material onto the tank top.

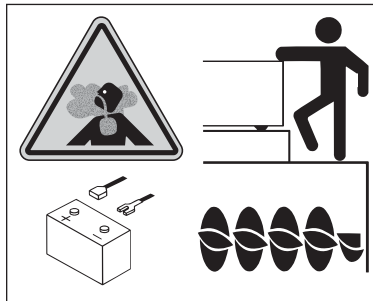
8. Wash off spillage of slippery mulch or slurry additive from the tank top and work area before operating equipment.

## IV. MAINTENANCE

1. Before servicing the machine, turn off engine and allow all moving parts to stop. To prevent accidental starting, disconnect battery cables. Tag the engine operating area to show that the machine is being serviced. Use lockout/tagout procedure (Occupational Health and Safety Administration (OSHA) 29 CFR 1910.147).



2. Certain hydroseeding amendments, when combined with or without the addition of water, heat or the element of time, may react causing harmful or deadly gasses.



Consult your material suppliers regarding reactivity information. The slurry tank must be flushed and drained after each day of operation.

3. Your slurry tank may be considered a confined space by OSHA under 29 CFR 1910.146. Before entering any confined space, your company must develop a procedure for safe entry. Make sure your company's plan meets all the requirements of 29 CFR 1910.146, or local legal requirement, including the following:

- a) Drain, flush, and ventilate tank interior.
- b) Turn off engine, disconnect battery cables, and perform lockout/tagout procedures (29 CFR 1910.147).
- c) Provide continuous ventilation or proper breathing apparatus.
- d) If tank must be entered, personnel entering the tank must be tethered to a lifeline.
- e) Provide a stand-by individual outside of tank who is able to communicate with person inside and haul him out with the lifeline if necessary.



4. Before loosening any clamps or opening any valves, determine if material in the line is hot by feeling the pipe. Do NOT allow material to come in contact with personnel. Severe bodily injury could result.



5. On trailer mounted units, perform general maintenance such as checking the safety chains, hitch and hitch bolts, tires, and brakes. Repair or replace if worn or broken. Never operate machine on improperly inflated or damaged tires. Always use a safety cage or cable restraints when inflating a repaired tire.



6. Battery maintenance: Lead-acid batteries contain sulfuric acid, which will damage eyes or skin on contact. Always wear a face shield to avoid getting acid in the eyes. If acid contacts the eyes, flush immediately with clean water and get medical attention. Wear rubber gloves and protective clothing to keep acid off skin. Lead-acid batteries produce flammable and explosive gasses. Keep arcs, sparks, flames, and lighted tobacco away.




7. Filling of fuel: Never fill the tank with the engine running, while smoking, or when near an open flame. Never smoke while handling fuel or working on the fuel system. The fumes in an empty fuel container are explosive. Never cut or weld on fuel lines, tanks, or containers. Move at least 10 ft. (3 m) away from fueling point before starting engine. Wipe off any spilled fuel and let dry before starting engine.


**IMPORTANT:** Be careful not to allow fuel, lubricant, or hydraulic fluid to penetrate into the ground or be discharged into the water system. Collect all fluids and dispose of them in accordance with local municipal regulations.

8. It is recommended that only authorized, genuine FINN replacement parts be used on the machine.
9. Do not use ether cold start fluid, if engine is equipped with glow plug-type preheater, or other intake manifold type preheater. It could cause an explosion or fire and severe injury or death.
10. Diesel fuel or hydraulic fluid under pressure can penetrate the skin or eyes and cause injury, blindness, or death. Pressure may build up in the hydraulic system; use caution when removing the vent caps.
11. Make certain that all decals on the machine are maintained in good legible condition. Replacement decals are available through FINN Corporation. See the next page for the current safety decals mounted on the unit. See the Parts Section of this manual for the location and quantity of all decals on this unit.



# CURRENT SET OF SAFETY DECALS

<b>⚠ WARNING</b>	
	<p><b>RUNAWAY VEHICLE HAZARD!</b> Always inspect tow vehicle and equipment hitch before towing. Tighten all hitch bolts and properly connect wiring and safety chains.</p> <p><b>BREAKAWAY SWITCH</b> DO NOT use for parking. Attach cable to towing vehicle with enough slack for turning. Engine battery on trailer must be charged and hooked-up for proper breakaway function.</p> <p><b>SAFETY CHAIN INSTALLATION</b> Both the single and double chains must be crossed under tongue. They must be oriented in such a manner as to prevent tongue from dropping to ground in event of failure to hitch, coupler or ball. Chains must be connected to towing vehicle so slack for each length of chain, between trailer and towing vehicle, is the same and must have no more slack when in use than necessary to permit proper turning of vehicles. Forward end of chain must be attached to towing vehicle, not to ball, but to hitch or other frame member. Chain must be looped around member and hooked back into itself. Failure to comply could result in death or serious injury.</p>


P/N 31461

<b>CAUTION</b>	
<p><b>HYDRAULIC SYSTEM INSTRUCTIONS</b></p> <ol style="list-style-type: none"> <li>1. Check oil level weekly. Add oil when level goes down to first ring on filler screen.</li> <li>2. Change filter on oil tank every 500 operating hours. (Use a 10 micron filter element only).</li> <li>3. Check and clean suction strainer once a year or when oil is changed.</li> <li>4. Change hydraulic oil when the color turns milky white. (Color change is due to water getting into hydraulic system).</li> <li>5. Keep all fittings and hoses tight and leak free.</li> <li>6. Keep system clean at all times.</li> <li>7. DO NOT start or run engine without hydraulic oil in reservoir. Permanent pump damage will occur</li> </ol>	
	<p><b>HYDRAULIC FLUID ONLY</b> See Operator's Manual for type</p>

P/N 12687

<b>⚠ WARNING</b>	
	<p><b>SEVER HAZARD!</b> Keep hands clear! Rotating fan and gears. DO NOT operate without guards or doors in place. Shut off engine, disconnect battery and allow all moving parts to stop before servicing.</p>
	<p><b>FLYING DEBRIS!</b> Wear eye protection around equipment. Failure to comply could result in death or serious injury.</p>


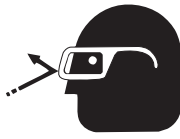
P/N 31463

<b>⚠ WARNING</b>	
	<p><b>FALL HAZARD!</b> DO NOT ride on equipment when moving at speeds in excess of 5 MPH (8 km/h). Failure to comply could result in death or serious injury.</p>



P/N 20070

<b>⚠ WARNING</b>	
	<p><b>FALL HAZARD!</b> DO NOT ride on hitch when vehicle is moving. ALWAYS use step when mounting and dismounting. Failure to comply could result in death or serious injury.</p>



P/N 80107

<b>⚠ DANGER</b>	
	
<p><b>CONFINED SPACE HAZARD! (Reference: OSHA 29 CFR 1910.146)</b> Before entering tank:</p> <ol style="list-style-type: none"> <li>1. Drain, flush and ventilate tank interior.</li> <li>2. Turn off engine and disconnect battery cables.</li> <li>3. Continuously ventilate area or wear appropriate breathing apparatus.</li> <li>4. Provide standby individual outside tank able to communicate with person inside and able to remove him with a lifeline if necessary.</li> </ol> <p><b>FLYING MATERIAL HAZARD!</b> Wear eye protection around operating equipment. Failure to comply will result in death or serious injury.</p>	


P/N 12686

<b>⚠ WARNING</b>	
	
<p><b>BURN HAZARD!</b> Contents could be under pressure. DO NOT come in contact with material. Ensure material in line is not hot before loosening clamps or opening valves. DO NOT operate pump with both recirculation and discharge valves closed. DO NOT use remote valve unless recirculation valve is open. Excessive heat or bodily injury could occur. Failure to comply could result in death or serious injury.</p>	

P/N 5216

<b>⚠ DANGER</b>	
	
<p><b>ELECTROCUTION HAZARD!</b> DO NOT aim stream toward electrical lines. Avoid spraying toward bystanders. Failure to comply will result in death or serious injury.</p>	

P/N 11560

<b>⚠ WARNING</b>	
	<p><b>BURN HAZARD!</b> Hot exhaust! Stay back! Failure to comply could result in death or serious injury.</p>


P/N 12278

<b>⚠ CAUTION</b>	
<p><b>FALL HAZARD!</b> ALWAYS face ladder when mounting and dismounting. Failure to comply may result in moderate or minor injury.</p>	

P/N 12458

<b>CAUTION</b>	
<p>Use on 2 5/16" ball only.</p>	

P/N 5022

<b>CAUTION</b>	
	<p>Seal lubricator must be kept in operation at all times for pump seal protection. See operators manual for instructions.</p>


P/N 6869

<b>CAUTION</b>	
<p>To avoid damage to suction cover, tighten all bolts to 15 ft lbs. See operator's manual for instructions.</p>	

P/N 12180

<b>STOPPING INSTRUCTIONS</b>	
<p>Engine is equipped with a fuel shut-off solenoid. Move throttle to mid-range before stopping.</p>	

P/N 12181

<b>⚠ WARNING</b>	
	
<p>Wear proper eye protection when operating machine. Failure to comply could result in death or serious injury.</p>	

P/N 22510

# OPERATION AND MAINTENANCE MANUAL FOR FINN T30 HYDROSEEDER®

This manual gives you step-by-step instructions for the operation and maintenance of the FINN T30 HydroSeeder®. For best results and to ensure longer life of the equipment, please follow the instructions carefully. For your safety, read the entire manual before operating this unit.

## DEFINITION OF HYDROSEEDING

Hydroseeding is the process whereby seed, fertilizer and/or lime and wood fiber mulch (using water as a carrying medium) are applied on the soil bed to establish vegetation.

## THE FINN HYDROSEEDER® AND HOW IT WORKS

The FINN T30 HydroSeeder® will apply seed, fertilizer and/or lime, wood fiber mulch, paper mulch or stabilizing materials in any prescribed or desired combination. The materials placed in the HydroSeeder® slurry tank are mixed with water and kept in suspension by a dual agitation process, recirculation of slurry and mechanical agitation, thus forming a slurry that is pumped to the discharge assembly and directed onto the seed bed by the operator. This equipment is designed to accomplish hydroseeding in one easy operation with maximum efficiency.

## CARRIER VEHICLE REQUIREMENTS

The trailer-mounted HydroSeeder® is to be mounted on a truck or trailer that can carry a payload of at least 4,560 lbs. (2,068 kgs). This is the weight of the fully loaded HydroSeeder®. Any auxiliary loads due to material storage or optional equipment, as well as the weight of the carrier vehicle, must be added to obtain the proper carrier vehicle capacity.

HYDROSEEDER®		TRUCK REQUIREMENTS
<u>Type</u>	<u>Maximum Weight (Loaded)</u>	
T30	4,560 lbs. (2,068kg)	Carrier vehicle must be able to support 4,560 lbs. (2,068 kg) in addition to its own weight

Once the proper carrier has been selected, the HydroSeeder® must be securely mounted to it.

**⚠ CAUTION** *Your FINN HydroSeeder® should be mounted by a qualified truck body installer. Failure to comply could result in minor or moderate personal injury. Product damage could also occur.*

## MOUNTING THE HYDROSEEDER®

When mounting the HydroSeeder® to a truck, one of the following methods of mounting is acceptable:

1. Bolt the HydroSeeder® directly to the truck bed. Installer must ensure that the bed, as well as the bed-to-truck and HydroSeeder®-to-bed connections are adequate for the maximum weights that are shown in the CARRIER VEHICLE REQUIREMENTS section.
2. Mount the HydroSeeder® to the truck frame. The T30 HydroSeeder® is provided with an adapter frame that also allows the unit to be mounted directly to the truck's 34 in. (86.4 cm) wide frame using U-bolts.

**⚠ WARNING** *This machine is equipped with two styles of lifting devices: forklift channels and a lift ring. Do NOT lift unit with water or material in it. The lifting devices are designed to carry only the empty weight of the machine. Failure to comply will result in severe personal injury or death and potential equipment damage.*

**⚠ CAUTION** *When using a truck with a tilt bed, make sure to chain the truck bed down to prevent the bed from being accidentally hoisted. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.*

**NOTICE** *Mounting the HydroSeeder® to the truck must allow for tire clearance and frame twist. Place hard wood spacers along the length of truck rails or use FINN spring mounting kit (part number 011562) or equivalent.*

## ATTACHMENTS (OPTIONAL)

1. Discharge hoses: Discharge hoses are available in 50 ft. (15 m) and 100 ft. (30 m) lengths, up to a total of 150 ft. (45 m). Hoses of a greater length may adversely affect the discharge distance and the discharge time of the HydroSeeder®. All connections are camlock quick-operating fittings, including the connection to the end of the discharge piping. A nozzle is connected to the remote discharge valve which is connected to the working end of the discharge hose. Once everything is connected, the HydroSeeder® is ready to operate. Flow through the hose and nozzle is controlled by the operation of the remote discharge valve. When using this valve, the recirculation valve on the HydroSeeder® MUST BE OPEN to allow excess material flow back into the tank when the remote valve is closed (see VALVE OPERATION section and Figure 2).

**⚠ DANGER** *The recirculation valve must be open when using a remote valve. Failure to comply will result in death or serious injury.*

2. Hose Reel: The live hose reel will mount on top of the HydroSeeder® unit. The 100 ft. (30 m) capacity electric rewind reel will wind up and store empty hose. It is wired to the unit's battery.
3. Air Gap Fill Pipe: A bolt on the air-gap fill pipe is available that mounts directly to the raised hatch liner and swings into position when the hatch lid is open.

## PRE-START CHECK

The following safety check should be made to ensure operator safety:

1. Check condition of all mounting hardware that secures HydroSeeder® to the carrier vehicle.
2. Ensure that all guards are in place.

## EQUIPMENT CHECK

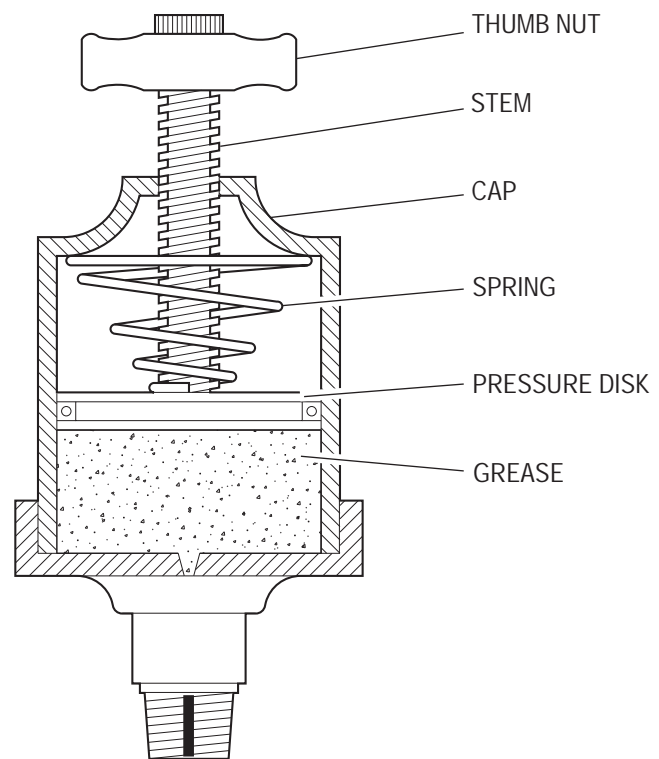


*Equipment check should be made with the engine OFF and all rotating parts stopped. Failure to comply could result in death or serious injury.*

1. Verify that the tool kit contains all the prescribed items. See PARTS SECTION.
2. Inspect the slurry tank for foreign objects. See steps 2 and 3 in Section IV. MAINTENANCE of the HYDROSEEDER® SAFETY SUMMARY SECTION.
3. Check fuel level. Fill if necessary.
4. Check hydraulic oil level and fill if necessary. See HYDRAULIC SYSTEM for oil specifications.
5. Check engine oil level and fill if necessary. For oil type, refer to the engine manual.
6. Inspect air cleaner for dust and dirt, clean if necessary.
7. Secure the tank drain plug in the drain pipe, located in the center of the bumper.
8. Check to make sure the pump drain plugs are in place.
9. Lubricate equipment – See LUBRICATION AND FLUIDS CHART.

- A. Each lubrication point on the machine is marked with a decal.
- B. Check automatic pressure lubricator at pump. If the stem is fully extended, with thumb nut all the way up, the automatic pressure lubricator contains lubricant. If not, lubricant must be replaced by the following procedure (See Figure 1):

1. Turn thumb nut clockwise until stem rises to maximum height.
2. Remove cap and fill cap with sodium- (water soluble) base grease (FINN part number 000698). DO NOT use lithium-base (chassis lube) grease.
3. Replace cap.
4. Turn thumb nut counterclockwise until thumb nut is at the top of the stem. The spring and pressure disk in the lubricator forces grease, under pressure, to the pump seal.



**Figure 1 – Automatic Pressure Lubricator Components**



## EQUIPMENT CHECK (CONTINUED)

### NOTICE

*When thumb nut has moved down to within 1/2 in. (1.25 cm) of touching the cap, re-service the automatic pressure lubricator.*

10. Check and clean the nozzles and hoses of any obstructions or foreign materials.
11. Check pump discharge, recirculation, and remote valve handles for free movement.

## VALVE OPERATION

### WARNING

*Never engage (turn on) slurry pump clutch when recirculation valve and either the pump discharge or remote valve is closed. This would create a situation where the pump is running with all slurry flow closed off, which will result in extreme heat generation, causing damage and/or bodily injury. The recirculation valve must always be open and material flowing back into the tank when using the remote valve. A closed remote valve in conjunction with a closed or plugged recirculation valve will cause extreme heat. Failure to comply could result in death or serious injury. Failure to comply could also result in property damage.*

The base HydroSeeder® is equipped with three independently operated ball valves to control slurry flow (Figure 2). The first valve is the recirculation valve. An open recirculation valve allows excess material flow back into the tank. The second valve is the pump discharge valve. An open pump discharge valve allows slurry to flow through the discharge hose. The third valve, located at the end of the discharge hose, is the remote valve. An open remote valve allows discharge of the slurry onto the area being covered.

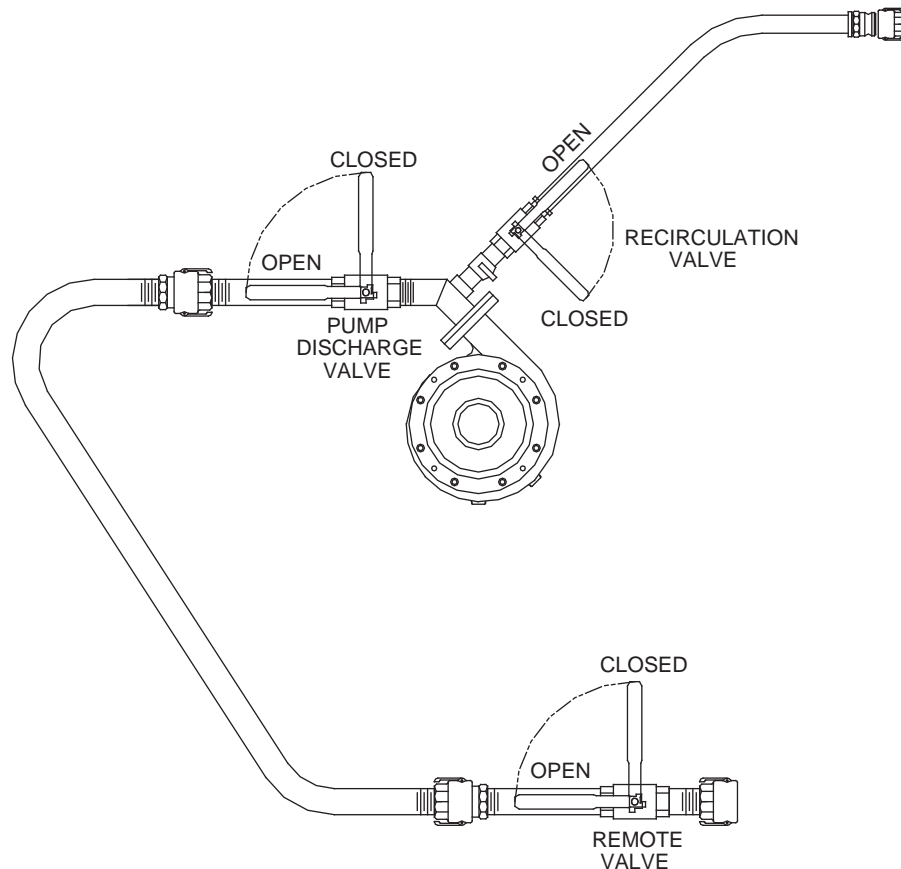


Figure 2 – Valve Operation



## STARTING PROCEDURE



**See *HYDROSEEDER® SAFETY SUMMARY SECTION* before operating the machine. Failure to comply could result in death or serious injury. Failure to comply could also result in product or property damage.**

Before starting, open recirculation valve, close the discharge valve and place the agitator control in the NEUTRAL position.

1. Set throttle about 1/4 open.
2. Pull choke control out.
3. Turn key clockwise until starter engages and engine starts.
4. Push choke control in for even running.
5. Allow the engine to warm up for 3 to 5 minutes before operation.

**NOTE:** This engine has a safety system that will shut the engine off if the engine oil pressure decreases below an acceptable level.

6. After engine has warmed up, turn on the hydraulics system by flipping the hydraulics toggle switch to the **HYDRAULICS ON** position (all the way up). The switch will automatically center itself, which is the **ON** position.

## AREA COVERAGE – MATERIAL CAPACITY

To determine the coverage per load for any HydroSeeder®, three questions must be answered prior to the application. First, is the job to be done one step (which is when the seed, fertilizer, and mulch are applied proportionally per load) or two step (which is when the seed and fertilizer are applied alone and then covered by mulch as a second operation)? Second, at what rates (usually in lbs per 1,000 sq. ft. or lbs. per acre) are the seeding materials to be applied? Finally, what are the loading capacities of the HydroSeeder®?

Application rates vary for different geographic locations, but in general, seed is applied at 6 to 10 lbs (2.7 to 4.5 kgs) per 1,000 sq. ft. Fertilizer is applied at a rate of approximately 400 lbs (181 kgs) per acre, and fiber mulch is applied at 1,500 to 2,000 lbs (680 to 907 kg) per acre [there are 43,560 square feet in an acre]. Local agronomists, agricultural extension agents, or soil and water conservation officials should be contacted for more specific information on application rates for a given area.

The following tables show loading versus coverage rates for the FINN T30. Table A shows rates for one-step applications. The coverage area is determined by the fiber mulch capacity of the HydroSeeder® and the rate at which it is applied. Table B shows the area coverage when seeding only, where little or no mulch is applied. The coverage area is determined by the granular solids capacity of the HydroSeeder® and the rate at which the solids are applied.

**TABLE A****USING SEED, FERTILIZER, AND MULCH**

<u>Unit</u>	<u>Amount of Material in Tank in pounds (kilograms)</u>			<u>Coverage Area</u>
	<b>Seed</b>	<b>Fertilizer</b>	<b>Mulch</b>	<b>sq. ft. (sq. m)</b>
T30	28 (13)	32 (15)	120 (54)	3,485 (324)

Table is based on 1,500 lbs. (680 kgs) of mulch, 400 lbs. (181 kgs) of fertilizer, and 345 lbs. (156 kgs) of seed at 8 lbs. (3.6 kgs) / 1,000-sq-ft-per-acre.

**TABLE A EXAMPLE:**

$$\frac{120 \text{ lbs. (54 kgs) Mulch per Tank}}{1,500 \text{ lbs. (680 kgs) Mulch per Acre}} = 0.08 \text{ Acre per Load}$$

400 lbs. (181 kgs) Fertilizer per Acre x 0.08 Acre = 32 lbs. (15 kgs) Fertilizer per Load

345 lbs. (156 kgs) Seed per Acre x 0.08 Acre = 28 lbs. (13 kgs) Seed per Load

**NOTE:** 1000 sq. ft. = 92.9 sq. m

**TABLE B****SEED AND FERTILIZER ONLY**

<u>Unit</u>	<u>Amount of Material in Tank in pounds (kilograms)</u>			<u>Coverage Area</u>	
	<b>Seed</b>	<b>Fertilizer</b>	<b>Total</b>	<b>sq. ft. (sq. m)</b>	<b>Acre (Hectare)</b>
T30	230 (104)	270 (122)	500 (226)	28,750 (2,670)	0.66 (0.27)

Table is based on rates of 8 lbs. (3.6 kgs) of seed and 9.2 lbs. (4.2 kgs) of fertilizer per-1,000-sq-ft.

**TABLE B EXAMPLE:**

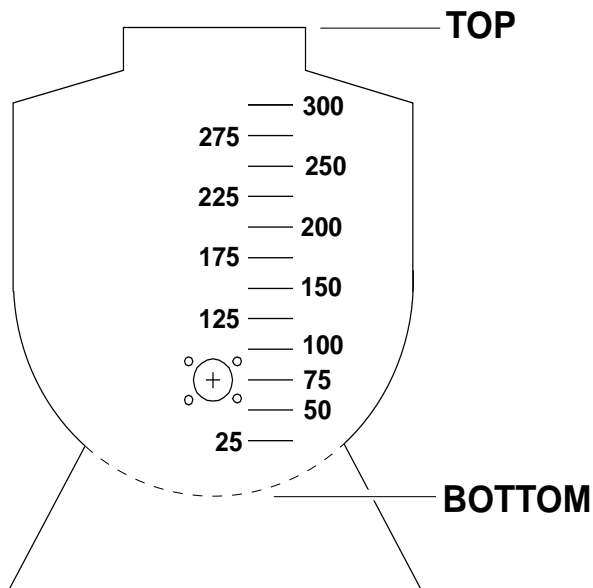
$$\frac{500 \text{ lbs. (226.8 kgs) Tank Capacity (Solids)}}{8 \text{ lbs. (3.6 kgs) of Seed} + 9.2 \text{ lbs. (4.2 kgs) of Fertilizer per-1,000-sq-ft.}} = 28,750 \text{ sq. ft. per Load}$$

$$\frac{8 \text{ lbs. (3.6 kgs) of Seed}}{1,000 \text{ sq. ft.}} \times 28,750 \text{ sq. ft.} = 230 \text{ lbs. (104.3 kgs) of Seed per Tank}$$

**NOTE:** 1000 sq. ft. = 92.9 sq. m

**NOTE:** 1 Acre = 0.405 Hectare

## TANK CAPACITY CHART



T30			
Gallons (Liters)		Inches (centimeters) from Top	Inches (centimeters) from Bottom
300	(1136)	6.25 (15.9)	32.75 (83.2)
275	(1041)	8.75 (22.2)	30.25 (76.8)
250	(946)	11.0 (27.9)	28.0 (71.1)
225	(852)	13.5 (34.3)	25.5 (64.8)
200	(757)	16.0 (40.6)	23.0 (58.4)
175	(662)	18.25 (46.4)	20.75 (52.7)
150	(568)	20.5 (52.1)	18.5 (47.0)
125	(473)	23.0 (58.4)	16.0 (40.6)
100	(379)	25.25 (64.1)	13.75 (34.9)
75	(284)	27.75 (70.5)	11.25 (28.6)
50	(189)	30.75 (78.1)	8.25 (21.0)
25	(95)	34.0 (86.4)	5.0 (12.7)

## LOADING PROCEDURE

**⚠ WARNING** *Take care not to lose pens, lighters, etc. from shirt pockets, or drop pieces of paper or plastic bags into the tank, as these might plug the slurry system. Failure to comply could result in death or serious injury. Failure to comply could also result in product or property damage.*

1. With the pump clutch disengaged (turned off), hydraulic system turned off and the agitator control lever in the NEUTRAL position, start the engine and allow it to warm up. See STARTING PROCEDURE section.
2. After the engine has warmed up, turn on the hydraulic system by flipping the hydraulics toggle switch to the HYDRAULICS ON position (all the way up). The switch will center itself, which is the ON position.
3. Start filling unit with water from one of the water sources as listed below. When water reaches the top of agitator shaft, move agitator control to full REVERSE position.

Tank can be filled by using one of the sources of water as follows:

- A. Water from any stream or pond using a fill pump. When filling from a pond or stream, be sure to use a suction strainer to filter out contaminants that could damage the pump and unit.
  - B. Any pressure source, eg. fire hydrant. An optional air gap fill port is available for this unit but it is necessary to consult with local authorities before using a water main, in order to abide by all local ordinances.
  - C. Water tanker.
4. Piping System Cleanout Procedure (Purging Line):
    - A. Remove discharge nozzle and coupler gasket from remote valve coupler at the end of the discharge hose.
    - B. Aim discharge hose into an open area away from any persons, obstructions, or high voltage power lines.
    - C. Open discharge and remote valves and close recirculation valve.

## LOADING PROCEDURE (CONTINUED)

4. Piping System Cleanout Procedure (Purging Line) [Continued]:
  - D. Turn on the pump clutch by flipping the clutch toggle switch to the CLUTCH ON position (all the way up). The switch will automatically center itself, which is the ON position.
  - E. Increase engine speed to approximately 1/2 to 3/4.
  - F. When discharge stream is clear, open recirculation valve and close discharge valve. After recirculation stream is clear, disengage (turn off) clutch.
  - G. Replace coupler gasket in the remote valve coupler.
4. Continue filling tank with water.
5. Increase engine speed to full RPM.
6. Start loading dry material, loading the lightest material first. Agitator control should be in full REVERSE for mixing.
  - A. Seed – Cut open the seed bag and dump contents into slurry tank. (When using inoculant, add it in the tank along with the seed.) When using quick-swelling seeds, load them just prior to application.
  - B. Fiber mulch – Empty the entire bag in or cut bag open and drop in the sections of fiber. The amount of mulch to be used should be loaded by the time the water level is at 3/4 full. If agitator stalls, or a high pitch squeal comes from the hydraulic system, reverse agitation direction to forward for a moment to clear the obstruction, then return agitation to reverse.
  - C. Fertilizer – Cut the fertilizer bag and dump contents into slurry tank.
  - D. All other additives – Consult with manufacturer for proper loading technique.

### DANGER

***Keep hands and arms away from tank interior and agitator. Failure to comply WILL result in serious personal injury or death.***

### WARNING

***Hydraulic system will overheat if agitator shaft is jammed for extended period. This will damage hydraulic oil and system components. Failure to comply could result in death or serious injury. Failure to comply could also result in product or property damage.***

7. When all materials are loaded, and the tank is full, move agitator to the NEUTRAL position, then full speed FORWARD to ensure all materials are thoroughly mixed and in suspension. It may be necessary to change the agitator direction more than once to ensure a thorough mixture.
8. After material is thoroughly mixed, slow agitator in forward direction to 1/4 speed or just enough to create movement in all of the corners of the tank. Do not over-agitate the slurry.

**NOTE:** Always discharge material with the agitator control in the FORWARD position.

9. Close the hatch lid on the slurry tank.

**NOTE:** The slurry should not be recirculated for more than 15 minutes prior to discharge to reduce wear and keep the seed from swelling. If foaming occurs, reduce agitator speed.

## LOADING AND MIXING BFM, FGM, SMM AND OTHER HIGHLY VISCOUS SLURRIES

1. With clutch disengaged (turned off), agitator control in the NEUTRAL position and hydraulic system off, start engine and allow it to warm up. See STARTING PROCEDURE.
2. After engine has warmed up, turn on the hydraulics system by flipping the hydraulics toggle switch to the **HYDRAULICS ON** position (all the way up). The switch will automatically center itself, which is the **ON** position.
3. Start filling unit with water from one of the water sources as listed below. When water reaches the top of agitator shaft, move agitator control to full REVERSE position.

Tank can be filled by using one of the sources of water as follows:

- A. Water from any stream or pond using a fill pump. When filling from a pond or stream, be sure to use a suction strainer to filter out contaminants that could damage the pump and unit.
  - B. Any pressure source, e.g. fire hydrant. An optional air gap fill port is available for this unit but it is necessary to consult with local authorities before using a water main, in order to abide by all local ordinances.
  - C. Water tanker.
4. Piping System Cleanout Procedure:
    - A. Remove discharge nozzle and coupler gasket from the remote valve coupler at the end of the discharge hose.
    - B. Aim discharge hose into an open area away from any persons, obstructions, or high voltage power lines.
    - C. Open discharge and remote valves and close recirculation valve.
    - D. Engage (turn on) pump clutch.
    - E. Increase engine speed to roughly 50% of full RPMs.
    - F. When discharge stream is clear, open recirculation valve and close discharge valve. After recirculation stream is clear, disengage (turn off) the pump clutch.
    - G. Replace coupler gasket in the remote valve coupler (or in boom on the platform option).
  5. Continue filling tank with water.
  6. Increase engine speed to full RPM.

## LOADING AND MIXING BFM, FGM, SMM AND OTHER HIGHLY VISCOUS SLURRIES (CONTINUED)

7. Start loading dry material, loading the lightest materials first. Agitator control should be in full REVERSE for mixing.

Seed - Cut open the seed bag and dump contents into slurry tank. (When using inoculant, add it in the tank along with the seed.) When using quick-swelling seeds, load them just prior to application.

BFM, FGM, SMM, and other highly viscous slurries - When the water level is above the top of the agitator blades, begin adding the entire bag of material into the tank. It may become necessary to slow the rate of water being added to the tank. Add all bales before the tank is 3/4 full. If agitator stalls or a high-pitch squeal comes from the hydraulic system, reverse agitation direction to FORWARD for a moment to clear obstruction, then return agitator to REVERSE.

**NOTE:** BFM, FGM, and other viscous slurries will entrain air if proper mixing procedures are not followed. Ensure that the agitator blades are completely submerged prior to the addition of this material. This will prevent air from entering the slurry. Follow manufacturers suggested rates of materials as indicated on the packaging. Generally, this recommendation is 50 pounds of material to 125 gallons of water.

Fertilizer – Cut open the fertilizer bag and dump contents into slurry tank.

All other additives - Consult with manufacturer for proper loading technique.

8. When all materials are loaded and in suspension, and the tank is full, move the agitator to NEUTRAL then full speed FORWARD to ensure all materials are thoroughly mixed. It may be necessary to change the agitator direction more than once to ensure a thorough mixture.
9. Agitate per the manufacturer's recommendations. Generally, the agitation time is 10 minutes to allow the proper viscosity to be generated. Follow manufacturer's recommendations.
10. Once material is thoroughly mixed, place the agitator in FORWARD direction to 1/4 speed, or just enough to create movement in all corners of the tank. DO NOT OVER-AGITATE the slurry. Always discharge the material with the agitator control in FORWARD and at a slow speed.

**NOTE:** As the application process commences and the slurry level is decreased, which will expose the agitator blades, it is extremely important to ensure that the speed of the agitators is slow.

**NOTE:** Use of recirculation should be kept to a minimum.

**NOTE:** If foaming occurs, reduce agitator speed.

**NOTE:** When mixing multiple loads of BFM, FGM, SMM, and other viscous slurries, make sure to purge the lines with clear water before mixing the next load.

## PRIOR TO APPLICATION

1. Operator should familiarize themselves with the area to be seeded and develop a plan to ensure uniform application.
2. Develop a plan for communication between operator and driver of the carrying or towing vehicle to signal for start, stop, turn, etc. through the use of the signal horn.
3. Operator takes up position on the discharge hose. From this point, application will be controlled by the use of the clutch, valve, discharge assembly, and throttle.

## DISCHARGE NOZZLE SELECTION

Nozzles are stored in the tool box. This HydroSeeder® is equipped with three nozzles – one long distance and two fan nozzles. The following chart tabulates the approximate distance, width, and discharge time of the nozzles when used with the platform option. When using the base unit, these factors will vary according to the type and length of hose being used.

Nozzle	Distance (A)	Width (B)	Discharge Time
Long Distance	Up to 70 ft. (21 m)	-	12 minutes
Narrow Fan	Up to 45 ft. (14 m)	10 ft. (3 m)	8 minutes
Wide Fan	Up to 35 ft. (10 m)	20 ft. (6 m)	8 minutes

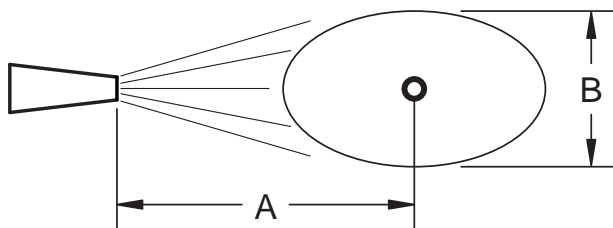


Figure 3 – Discharge Nozzle Spray Pattern



# APPLICATION OF SLURRY

## I. GENERAL APPLICATION TECHNIQUES

### **DANGER**

*Do not spray toward power lines, transformers or other high voltage conductors. Failure to comply will result in death or serious injury.*

### **CAUTION**

*The driver of the carrying vehicle should remain alert for hazards to the operator, such as low power lines, hanging branches, etc. Driver should never start or stop abruptly. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.*

1. Determine which nozzle will best suit the application needs according to the DISCHARGE NOZZLE SELECTION table.
2. When applying seed and fertilizer, elevate discharge nozzle no less than 10 degrees above the area to be sprayed, allowing the slurry to gently rain onto the seed bed.
3. When applying wood and/or paper fiber with seed, aim the stream toward the ground to create a surface with small pockmarks which will help get the seed in contact with ground. Do not allow the stream to blast away the surface of the seed bed.
4. Generally, the most remote area of the seed bed should be covered first. Distance is controlled by engine speed and nozzle selection.

### **CAUTION**

*Do NOT partially close the valve to control the distance. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.*

5. While moving along area to be seeded, operator should move nozzle back and forth in a slow, even arc.
6. If application is to be interrupted for a short period of time, leave the valves open and disengage (turn off) the pump clutch. Re-engage (turn on) the pump clutch to continue application.
7. It may be necessary to slow the agitator as tank empties, to reduce foaming.

## APPLICATION OF SLURRY (CONTINUED)

### II. PROCEDURES WHEN USING HOSES

Always pump clear water through hose before pumping mulch. If the inside hose liner is dry, it will dewater the mulch, causing the hose to plug.

#### DISCHARGE THROUGH HOSE OR HOSE REEL WITH REMOTE VALVE

1. Open recirculation valve, close discharge valve, and close remote valve at the end of hose.
2. Engage (turn on) clutch. When stream is flowing freely through the recirculation line, open pump take-off valve.

#### CAUTION

*The high pressure on the hose can exert strong forces, causing the potential for the hose operator to lose control of hose or footing.*

*The hose will require additional hose holders when this operation occurs on slopes. Open the pump take-off valve and the remote valve slowly and only after the hose operator is firmly positioned and has firm control of hose. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.*

3. With the engine at 3/4 speed, open the remote valve at the end of hose to discharge load.
4. When finished spraying, close remote valve, disengage (turn off) clutch, and stop engine. If using fiber mulch, retain as much water as possible in hose by elevating the hose ends or by coupling the hose ends together.
5. If another load is to be done, see RELOADING PROCEDURE below. If finished for the day, follow the clean-up procedure described in DAILY CLEANING AND MAINTENANCE section and flush out the hose.

#### DANGER

*The recirculation valve must be open when using a remote valve. Failure to comply will result in death or serious injury.*

#### RELOADING PROCEDURE

1. Start at step 2 in LOADING PROCEDURE section.
2. After last load of the day, refer to CLEANING AND MAINTENANCE section.

# CLEANING AND MAINTENANCE

## DAILY

1. Cleaning the HydroSeeder®
  - A. Fill slurry tank to center of agitator shaft with clear water.
  - B. Move agitator lever to full speed (forward or reverse) to flush off inside of tank top and walls.
  - C. Remove discharge nozzle and coupler gasket from remote valve coupler at the end of the discharge hose.
  - D. While aiming the discharge hose toward an open area, open DISCHARGE and remote valves and engage (turn on) the pump clutch. Allow to discharge until clear water is coming out.
  - E. Open RECIRCULATION valve and allow to run until stream is clear.
  - F. Disengage (turn off) the pump clutch, idle the engine, move DISCHARGE valve handle to OPEN position, move agitator handle to NEUTRAL, and turn off the engine. (Remember to replace coupler gasket.)
  - G. Always remove drain plug and allow tank to drain.
  - H. In freezing weather, leave main tank drain plug out and remove pump drain plug. Move all slurry valves to OPEN position.
  - I. Wash the outside of HydroSeeder® to remove any corrosive materials.
  - J. Replace coupler gasket before re-installing discharge nozzle onto remote valve coupler.
2. Lubricating the HydroSeeder® (See LUBRICATION AND FLUIDS CHART.)

### **NOTICE**

***Lubrication should be performed IMMEDIATELY AFTER cleaning of the equipment, with the engine not running.***

- A. Lubricate agitator shaft bearings located on the outside-front and rear of slurry tank.
- B. Service automatic pressure lubricator on pump as needed.
- C. Check engine oil and replenish when necessary. Change oil and filter after first 5 hours, then every 100 hours thereafter. Consult the engine operator's manual for correct grade of oil and the engine break-in procedure.

### **NOTICE**

***Change engine oil and filter at least once annually, even if the 100 hours have not been met.***

## WEEKLY OR EVERY 40 HOURS OF OPERATING TIME

1. Clean the air cleaner following the instructions in the engine operator's manual.
2. Lubricate all the points on the HydroSeeder® as outlined in DAILY of the CLEANING AND MAINTENANCE section. Additionally, lubricate the grease fittings on clutch/pump.
3. Check the hydraulic oil level in the hydraulic oil reservoir – maintain level via the sight gauge.
4. Inspect slurry tank for build up of residue in suction area and clear if necessary.

## **CLEANING AND MAINTENANCE (CONTINUED)**

### **SEASONAL AND WINTER STORAGE MAINTENANCE**

1. Drain slurry tank of all water prior to storage, and leave the drain plugs uninstalled.
2. Park unit in suitable location and chock wheels to prevent inadvertent movement.
3. If possible, cover machine with tarp or park inside of an enclosure.
4. Store the HydroSeeder® with all slurry valve handles in the open position. To prevent damage from freezing, it is advisable to remove all slurry valves and store in a heated area.
5. Pour 1 quart (0.95 L) of mineral oil or environmentally safe lubricant into pump housing and spin pump by hand to prevent rust in pump. Remove pump drain plugs.
6. Chip and steel-brush any interior rust spots in slurry tank and touch-up with paint. See numbers 2 and 3 in IV. MAINTENANCE of the HYDROSEEDER® SAFETY SUMMARY SECTION.
7. Lubricate all fittings.
8. Lubricate equipment again just prior to starting operation after storage.
9. Change hydraulic oil and filter (400 hours).
10. Disconnect battery cables. In cold weather, remove battery and store in safe, warm place.
11. Add fuel stabilizer to fuel tank.

## LUBRICATION AND FLUIDS CHART (Reference Figure 4)

Ref. No.	Location	Lubricant	Frequency	Number
1	Check Grease Level in Automatic Pressure Lubricator	SL	Daily	1
2	Grease Agitator Shaft Bearings	CL	Daily	2
3	Check Engine Oil Level	MO	Daily	1
4	Change Engine Oil and Filter	MO	See Engine Manual	1
5	Grease Pump Bearings	CL	Weekly	2
6	Check Hydraulic Fluid Level	HO	Daily	1
7	Change Hydraulic Fluid and Filter	HO	Seasonally	1
8	Check Fuel Tank	FU	Daily	1

### LUBRICANT OR FLUID USED

SL Bearing Lube (Sodium-Based)  
 CL Chassis Lubricant  
 MO Motor Oil (See Engine Manual Recommendations)  
 HO Hydraulic Oil, ISO Grade 46  
 FU Gasoline

### TIME KEY

△ Daily (8 Hours)  
 □ Weekly (40 Hours)  
 ○ Seasonally (500 Hours)  
 ⬡ See Engine Manual

### FLUID CAPACITIES

Fuel - 6.6 gallons (25 L)  
 Engine Oil - 2 quarts (2 L)  
 Hydraulic Fluid - 6 gallons (23 L)

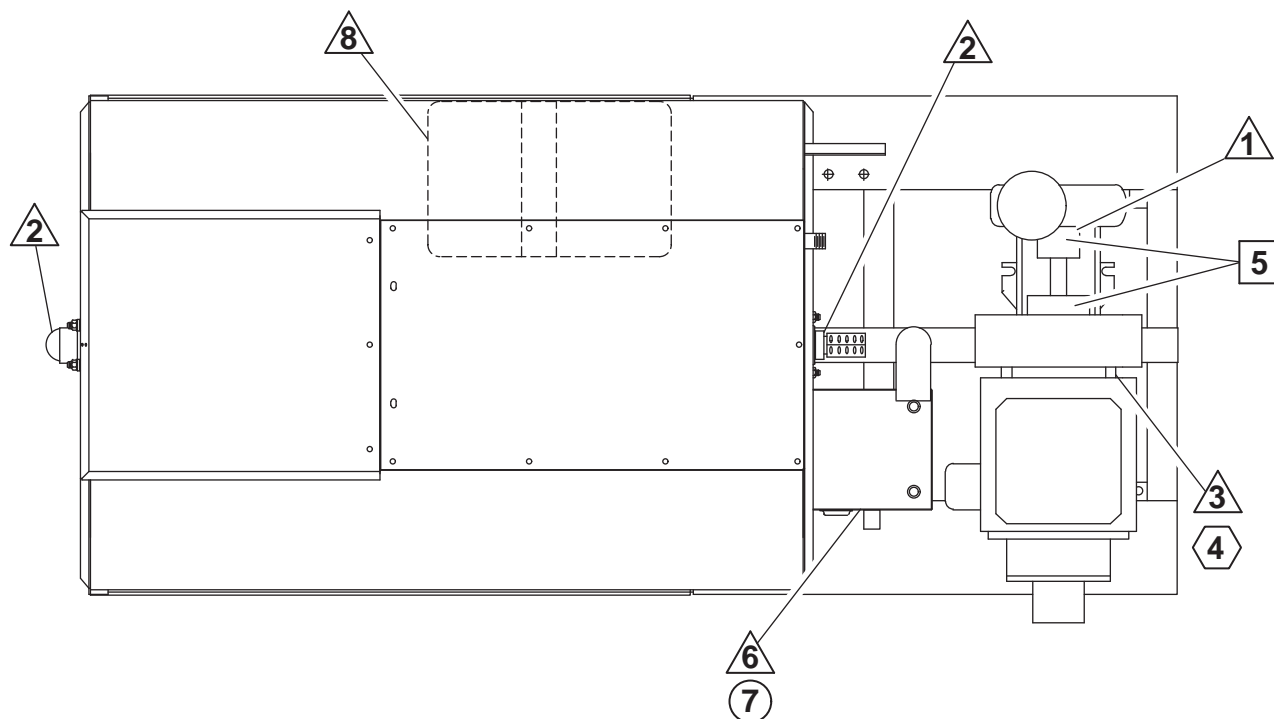
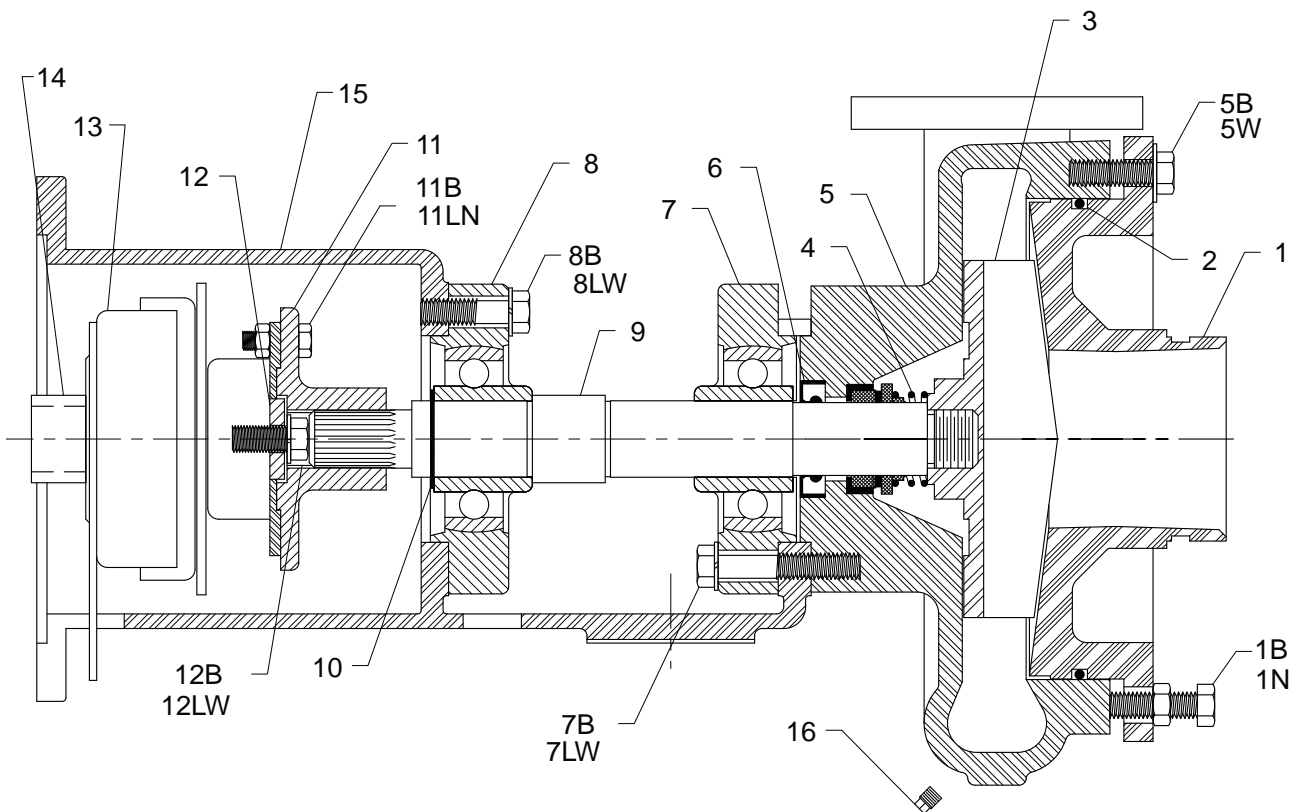


Figure 4 – Lubrication and Adjustment Points

## PUMP ASSEMBLY

Ref. No.	Description	No. Required	Ref. No.	Description	No. Required
1	Suction Cover	1	8B	Bearing Bolt	4
1B	Suction Cover Bolt	4	8LW	Bearing Washer	4
1N	Suction Cover Nut	4	9	Pump Shaft	1
2	O-ring	1	10	Snap Ring	1
3	Pump Impeller	1	11	Drive Hub	1
4	Mechanical Seal	1	11B	Drive Hub Bolt	2
5	Pump Casing	1	11N	Drive Hub Nut	2
5B	Suction Cover Bolt	8	12	Clutch Retainer	1
5W	Suction Cover Washer	8	12B	Locking Bolt	1
6	Radial Lip Seal	1	12W	Lockwasher	1
7	Casing Bearing	1	13	Clutch	1
7B	Bearing Bolt	4	14	Clutch Spacer	1
7LW	Bearing Washer	4	15	Pump Frame	1
8	Frame Bearing	1	16	Casing Drain Plug	1

**NOTE:** See parts manual for FINN part number.



**Figure 5 – Pump Assembly Components**

## HYDRAULIC SYSTEM

The hydraulic system on your FINN HydroSeeder® is designed to give trouble-free service, when properly maintained. The most important areas of maintenance are the hydraulic oil and filtration. The reservoir holds 6 gal (23 L) of ISO Grade 46 Hydraulic Oil. The hydraulic oil should be replaced per the lubrication schedule or if the oil becomes milky or gives off a burnt odor. The hydraulic oil filter must be replaced on schedule with a 5 absolute micron filter (FINN part number 023914). The hydraulic system relief is factory-set at 2,250 psi (15,513 kPa).

## PUMP MAINTENANCE (Reference Figure 5 for callouts mentioned in this section)

**⚠ WARNING** *Pump maintenance to be done only while engine is not running and battery cables are disconnected. Failure to comply could result in death or serious injury.*

### A. FACTORY TOLERANCES

1. To check pump tolerances, loosen the two clamps on pump suction piping and remove inlet elbow. Through the pump suction hole, insert a feeler gauge between the pump impeller (3) and the pump suction cover (1). This measurement on a new pump is from 0.030 to 0.045 in. (0.762 to 1.14 mm).

**⚠ CAUTION** *Tightening of the bolts should be performed in a criss-cross pattern. DO NOT TIGHTEN OVER 15 lb-ft (20 N•m). Overtightening will crack the flange of the pump suction cover.*

### B. IMPELLER CLEARANCE – TO BRING THE PUMP BACK TO PROPER TOLERANCE, PROCEED AS FOLLOWS:

1. Loosen four bolts (1B) and push pump suction cover (1) into pump casing (5) until pump suction cover hits the pump impeller (3). Pump impeller should be in full contact with pump suction cover.
2. Tighten eight bolts (5B), finger-tight. Pump impeller should rub the pump suction cover and not turn easily through one revolution.
3. Tighten four bolts (1B), hand-tight, until they touch the pump casing (5).
4. Back off eight bolts (5B) 3/4 turn.
5. Tighten four bolts (1B) 3/4 turn to 15 lb-ft (20 N•m) and tighten four nuts (1N) to 15 lb-ft (20 N•m).
6. Tighten eight bolts (5B) to 15 lb-ft (20 N•m). Clearance gap should be about 0.040 in. (1.00 mm). Check to see if pump impeller turns freely through one revolution.

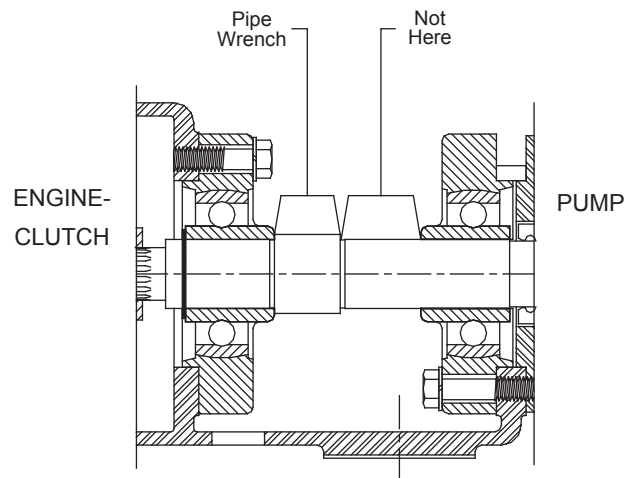


Figure 6 – Pump Impeller Removal



## PUMP MAINTENANCE (CONTINUED)

### C. CLEANING

1. To clean pump impeller (3), loosen the two Victaulic pipe clamps and remove suction pipe assembly. The eye of the pump impeller can then be seen through the pump suction cover (1) and is readily accessible for cleaning.
2. To further access pump impeller, remove eight bolts (5B) that hold pump suction cover (1) in place. Remove pump suction cover, being careful not to damage O-ring (2).
3. To remove pump impeller, take the pump impeller wrench, which is stored in the tool box, and position it so the hole is aligned with any of the eight tapped holes in the front of the pump casing (5). The 90-degree leg of the pump impeller wrench should face inward, toward the pump impeller and be positioned between any two of the pump impeller fins. Bolt pump impeller wrench securely in place with one of the pump suction cover bolts (5B). Using a pipe wrench on the pump shaft (9), unscrew pump impeller, turning pump shaft in a clockwise direction. Be careful not to unscrew pump impeller too far before removing the impeller wrench.

### D. INSTALLING NEW SEAL ASSEMBLY

**NOTE: Do not unwrap new seal assembly until you are ready to install.  
All parts of seal assembly are packed in sequence of installation.**

1. To replace seal assembly (4), perform the steps under CLEANING, and remove pump casing (5) by removing four bolts (7B) that hold the pump casing and pump casing bearing (7) to pump frame (15).
2. After cleaning all parts, including pump shaft, begin reassembly of pump. Install seal grease retainer (6) with the cavity portion of the seal facing inward. Rebolt pump casing and pump casing bearing (7) onto the clutch housing using four bolts (7B). Using a light oil lubricant (such as 3-in-1 oil), install the ceramic seat with its neoprene holder into the seal recess, making sure it is square with the pump shaft. Lubricate the inside of the bellows assembly with a light oil and check to make sure the steel ring is stuck (glued) to the end of the assembly. Slide the bellows assembly onto the shaft and push until the steel ring is against the ceramic seat.
3. Install the seal spring on the hub of the impeller. After coating the threads on the pump shaft with an antiseize compound, install the impeller, seating it securely.
4. Utilizing the O-ring (2), reinstall pump suction cover using eight bolts (5B). At this time, check to see that the pump runs freely. If pump impeller rubs the pump cover plate, either the pump impeller is not tight on the pump shaft or the suction cover plate needs readjusted (see IMPELLER CLEARANCE section). Tighten bolts uniformly using 15 lb-ft (20 N•m) on the torque wrench.
5. After reinstalling the suction pipe assembly, lubricate, and tighten the two Victaulic clamps. Service the automatic pressure lubricator. See EQUIPMENT CHECK section.

## TROUBLESHOOTING YOUR HYDROSEEDER®

Because of the tremendous work load usually placed upon the HydroSeeder®, minor malfunctions will occur from time to time. If not remedied immediately, they could lead to degraded performance and damage to the equipment. This section describes possible problems and the action to correct them.

### 1. Foam in the tank and air entrainment:

The mixture of dry materials with water will sometimes cause excessive foaming, while other materials will cause air entrainment. This is exhibited by erratic discharge and/or a drop in pressure and distance. Some solutions are:

- A. As the slurry level drops in the tank, slow the agitator.
- B. Add 2 to 3 oz (59 to 89 ml) of an anti-foaming agent to the tank.
- C. If you can determine which additive is causing the air problem, either add it last or not at all – unless it is the water.
- D. Limit recirculation time as much as possible.

### 2. Plugging or clogging:



**Turn off engine and disconnect battery cables before working on equipment. Failure to comply will result in death or serious injury.**

Sometimes, when a stoppage occurs, you will not be able to find anything in the line. When this happens, it means that the system became airborne instead of plugged. To remedy this, see FOAMING OF SOLUTION AND LACK OF DISTANCE section of the troubleshooting chart. Plugging can occur in any one of four places, the valve and recirculation nozzle, the discharge nozzle, the pump area, and the sump area. The plugging is caused by either foreign objects or dewatered mulch.

- A. Obstruction in the discharge nozzle is determined by a change or stoppage of spray pattern:
  1. Disengage (turn off) the pump clutch and shut down the engine.
  2. Remove discharge nozzle.
  3. Clean the discharge nozzle. To clean the discharge nozzle, use a cleaning rod. Insert the nozzle cleaning rod into nozzle to push any buildup out of the nozzle. Repeat procedure until nozzle is completely cleaned.



**Before loosening any clamps, determine if the pipe is hot. If so, let it cool before attempting to perform repairs. Failure to comply will result in death or serious injury.**

- B. If the recirculation system is not working:
  1. Disengage (turn off) the pump clutch and shut down engine.
  2. Remove clamps attaching recirculation valve.
  3. Slide rubber seals back and remove valve assembly.
  4. Check valve assembly, recirculation nozzle in the discharge pipe, and the recirculation pipe going into the tank. Clear any obstructions.
  5. Replace valve assembly and slide seals back into place. Lubricate outside of seals with sodium based grease.
  6. Replace clamps.

## TROUBLESHOOTING YOUR HYDROSEEDER® (CONTINUED)

C. Obstruction in pump can be identified by a drop in pressure. If a drop in pressure is accompanied by a frothy or whitish discharge stream, blockage is in suction line or sump area. To clear the pump:

1. Disengage (turn off) the pump clutch and stop engine. Perform proper lockout/tagout procedures.
2. Loosen suction pipe clamps. If material is in the tank, stuff a rag into the suction piping. Shut off the valve on the main suction line.
3. Remove clamp closest to pump.

**NOTE:** If no water comes out, it means the obstruction is in sump area.

4. Reach into pump and remove obstruction. If jammed, the pump suction cover may need to be removed.
5. Reassemble, removing rag plugging the suction piping.

D. Obstruction in sump area, which is located at the bottom of the tank on the inside where the suction pipe is attached. There are three methods that can be used to remove an obstruction in the sump area. Use one of the methods described below:

1. Clear the sump by backflushing through the discharge plumbing with the water supply hose. This is the easiset method.
2. Remove the drain plug and run a long pole through the opening and into the sump area. Remove the obstruction and replace the drain cap.
3. Use a pipe or pole through the loading hatch opening to dislodge the obstruction.

### CAUTION

***Do not turn the shaft backward with a pipe wrench. This will unscrew pump impeller from pump shaft. Consequently, when the pump clutch is engaged (turned on), the pump impeller will screw onto pump shaft with a force great enough to break pump impeller. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.***

## TROUBLESHOOTING YOUR HYDROSEEDER®:

Problem	Probable Causes	Suggested Solutions
<b>LEAKS:</b>		
Tank Bearing	Lack of lubrication – seal worn	Replace seal and follow lube schedule.
	Bolts not tightened	Tighten uniformly to 25 lb–ft (34 N•m).
Pressure Pipe Clamps	Rubber seal cracked, pinched, torn or missing.	Replace, always grease seal before clamping shut.
Suction Pipe Clamps	Rubber seal cracked, pinched, torn or missing.	Replace, always grease seal before clamping shut.
Pump Shaft	Pressure lubricator not serviced	Replace pump seal. Service automatic pressure lubricator daily.
Pump Suction Cover	O-ring bad	Replace O-ring; use grease when replacing.
Discharge Hose or Nozzle Camlock Fittings	Worn or no gasket	Replace gasket.
<b>MACHINE JUMPS DURING OPERATION:</b>		
Agitator	Agitator bent by heavy object falling on it	Straighten agitator or shim so it runs true.
Bent Paddles	Loading wood fiber mulch into tank before tank is half full	Straighten agitator paddle; realign agitator to run true.
<b>FOAMING OF SOLUTION AND LACK OF DISTANCE:</b>		
Pump loses prime – lacks distance – leaves excessive amount in tank [100 gallons (378 L) or more]	Sucking air through suction line	Check all suction connections to see that rubber seals are in good shape. Grease seals before replacing clamps.
	Air entrainment	See TROUBLESHOOTING step 1.
	Low engine RPM (Below 2,750 RPM – No load)	Check throttle cable and linkage. See authorized engine dealer.
	Soft water	Slow the agitator.
	Too much agitation	Slow the agitator.
	Pump worn	Reset pump tolerance.
	Suction partially plugged	Clean out machine.
	Nozzle worn or plugged	Clean nozzles; replace if necessary
	Fertilizer	Change type.
	Clutch slippage	Replace clutch.

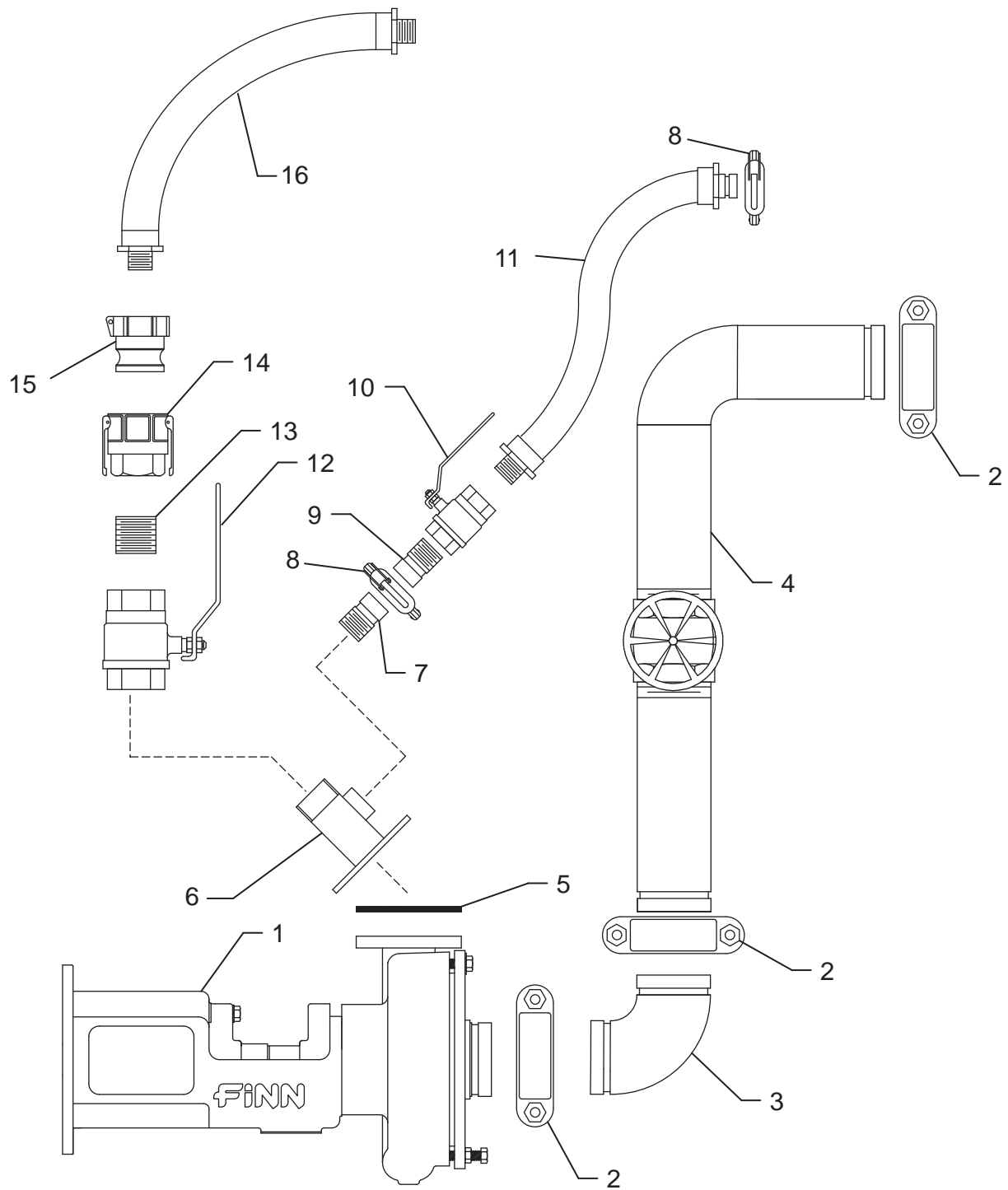
## TROUBLESHOOTING YOUR HYDROSEEDER®:

Problem	Probable Causes	Suggested Solutions
<b>VALVE:</b>		
Valve stuck	Frozen	Thaw out ice and lubricate; leave in open position during storage.
Constant plugging during operation	Foreign material in slurry	Drain and clean out tank; check storage for foreign materials.
Constant plugging during loading and discharging	Loading HydroSeeder® before tank is half full of water	Reinstruct your operator.
	Incorrect loading procedure	See LOADING section.
	Improper operation by operator	Reinstruct your operator. Review OPERATION AND MAINTENANCE section.
	Clutch slipping	Replace clutch.
	Not opening valve handle all the way	Valve should be fully open.
	Machine not being flushed out prior to reloading	See CLEANING section.
	Machine not being run at correct RPM during loading	Reinstruct your operator.
Extension hose plugs after use	Letting water run out, leaving wood/paper fiber mulch to dry out	If hose has to be uncoupled, seal ends, to keep water in hose and prevent wood and paper fiber mulch from drying out.
<b>CLUTCH:</b>		
Jumps out of engagement	Losing electrical power.	Replace clutch. Check plug end and wires to ensure a good connection.
<b>PUMP:</b>		
Excessive wear	Fertilizer with highly abrasive fillers	Change fertilizer – avoid abrasive fillers.
	Overloading machine with dry material	Load machine to recommended capacities.
	Too much time allowed between loading and discharging	After loading and mixing has been completed, set agitator at 1/2 speed in reverse and disengage pump.
	Recirculating all the time	Close recirculation valve when discharging through the boom.
Will not turn	Frozen	Warm housing to melt ice.
	Jammed with fertilizer or lime	Remove cover and clean interior.
	Impeller rusted to suction cover plate	Pull cover and remove rust.

# **T30/T30D HydroSeeder®**

**CE-Compliant**

Parts Manual



**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**



## SUCTION, DISCHARGE AND RECIRCULATION PIPING

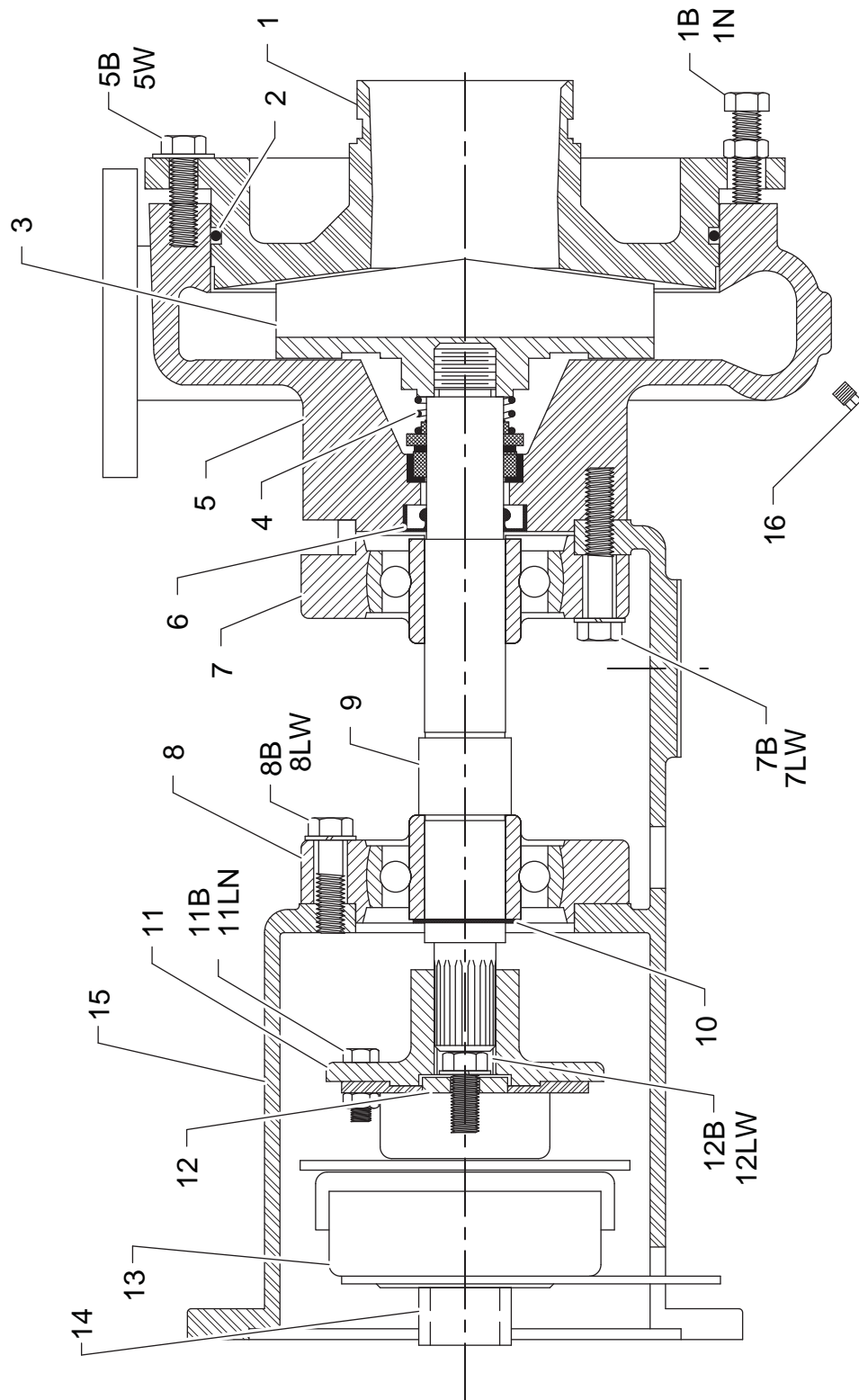
Ref. No.	Part Number	Description	No. Req'd
1	080713	Clump Assembly ( <i>Diesel Engine Only</i> )	1
	085160	Clump Assembly ( <i>Gasoline Engine Only</i> )	1
2	080366	Pipe Clamp	3
	002439	Clamp Gasket	1 per
3	002868	90° Grooved Elbow	1
4	085167-01	Suction Pipe Assembly	1
5	008469	Discharge Flange Gasket	1
6	080558-01	Discharge Flange Pipe	1
7	005083-07	Recirculation Nozzle	1
8	005156	Pipe Clamp	2
	005183	Clamp Gasket	1 per
9	005083-08	Recirculation Nozzle	1
10	021559	Ball Valve	1
11	085269	Recirculation Hose	1
12	007710	Ball Valve	1
13	160309	Close Nipple	1
14	080377	Female Coupler	1
	006515	Coupler Gasket	1 per
15	080378	Male Coupler	1
16	085252	Lead-In Hose	1

### NOT SHOWN (REPLACEMENT PARTS FOR AIRFLUSH OPTION ONLY)

6	085215	Discharge Flange Pipe Assembly	1
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**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**

# DIESEL CLUMP ASSEMBLY



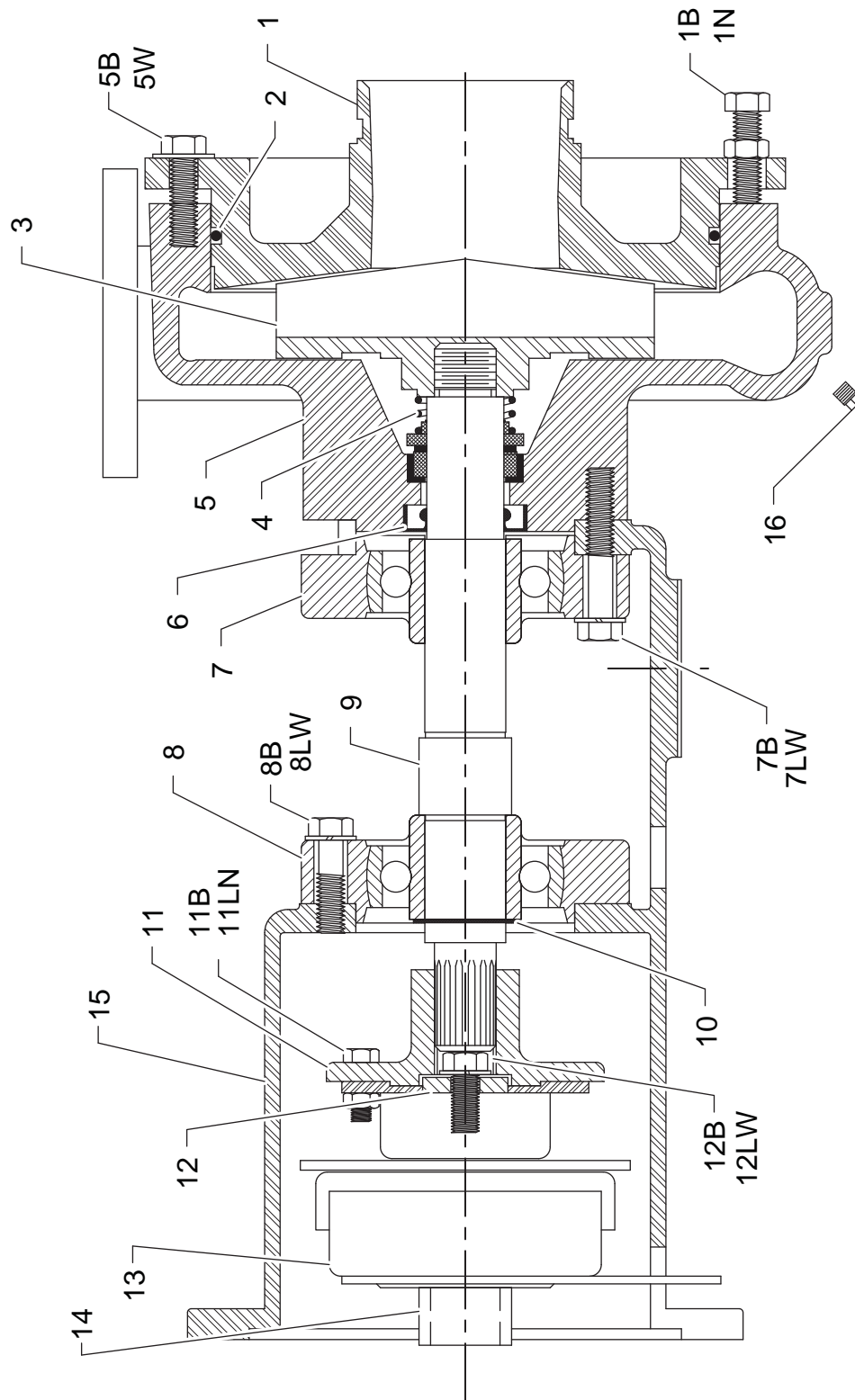
**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**

# DIESEL CLUMP ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
	080713	Complete Diesel Clump Assembly	1
1	080489	Suction Cover	1
1B	0X0720	Suction Cover Bolt	4
1N	000Y07	Suction Cover Nut	4
2	080499	O-Ring	1
3	080488	Impeller	1
4	080485	Mechanical Seal	1
5	080487	Pump Casing	1
5B	0X0720	Suction Cover Bolt	8
5W	000W07	Suction Cover Washer	8
6	080493	Radial Lip Seal	1
7	080498	Casing Bearing	1
7B	0X0740	Bearing Bolt	4
7LW	00W07L	Bearing Lock Washer	4
8	080498	Frame Bearing	1
8B	0X0728	Bearing Bolt	4
8LW	00W07L	Bearing Lock Washer	4
9	080491	Pump Shaft	1
10	080497	Snap Ring	1
11	080490	Drive Hub	1
11B	0X0516	Drive Hub Bolt	2
11LN	00Y05L	Drive Hub Lock Nut	2
12	080590-07	Clutch Retainer	1
12B	080741	7/16-20 UNF x 1-1/4 in. Lg. Locking Bolt	1
12LW	00W07L	Retainer Lock Washer	1
13	035084	Electric Clutch	1
14	080590-08	Clutch Spacer	1
15	080486	Pump Frame	1
16	160234	Pump Drain Plug	1
<b>NOT SHOWN</b>			
	002383	Pressure Lubricator	1
	F60-0022-01	Clump Guard	1

**WHEN ORDERING PARTS, BE SURE TO STATE  
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# GASOLINE CLUMP ASSEMBLY



**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**

# GASOLINE CLUMP ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
	085160	Complete Gasoline Clump Assembly	1
1	080489	Suction Cover	1
1B	0X0720	Suction Cover Bolt	4
1N	000Y07	Suction Cover Nut	4
2	080499	O-Ring	1
3	085159	Impeller	1
4	080485	Mechanical Seal	1
5	080487	Pump Casing	1
5B	0X0720	Suction Cover Bolt	8
5W	000W07	Suction Cover Washer	8
6	080493	Radial Lip Seal	1
7	080498	Casing Bearing	1
7B	0X0740	Bearing Bolt	4
7LW	00W07L	Bearing Lock Washer	4
8	080498	Frame Bearing	1
8B	0X0728	Bearing Bolt	4
8LW	00W07L	Bearing Lock Washer	4
9	080491	Pump Shaft	1
10	080497	Snap Ring	1
11	080490	Drive Hub	1
11B	0X0516	Drive Hub Bolt	2
11LN	00Y05L	Drive Hub Lock Nut	2
12	080590-07	Clutch Retainer	1
12B	080741	7/16-20 UNF x 1-1/4 in. Lg. Locking Bolt	1
12LW	00W07L	Retainer Lock Washer	1
13	035084	Electric Clutch	1
14	080590-08	Clutch Spacer	1
15	080486	Pump Frame	1
16	160232	Pump Drain Plug	1
<b>NOT SHOWN</b>			
	002383	Pressure Lubricator	1
	F60-0022-01	Clump Guard	1

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# HYDRAULIC SYSTEM

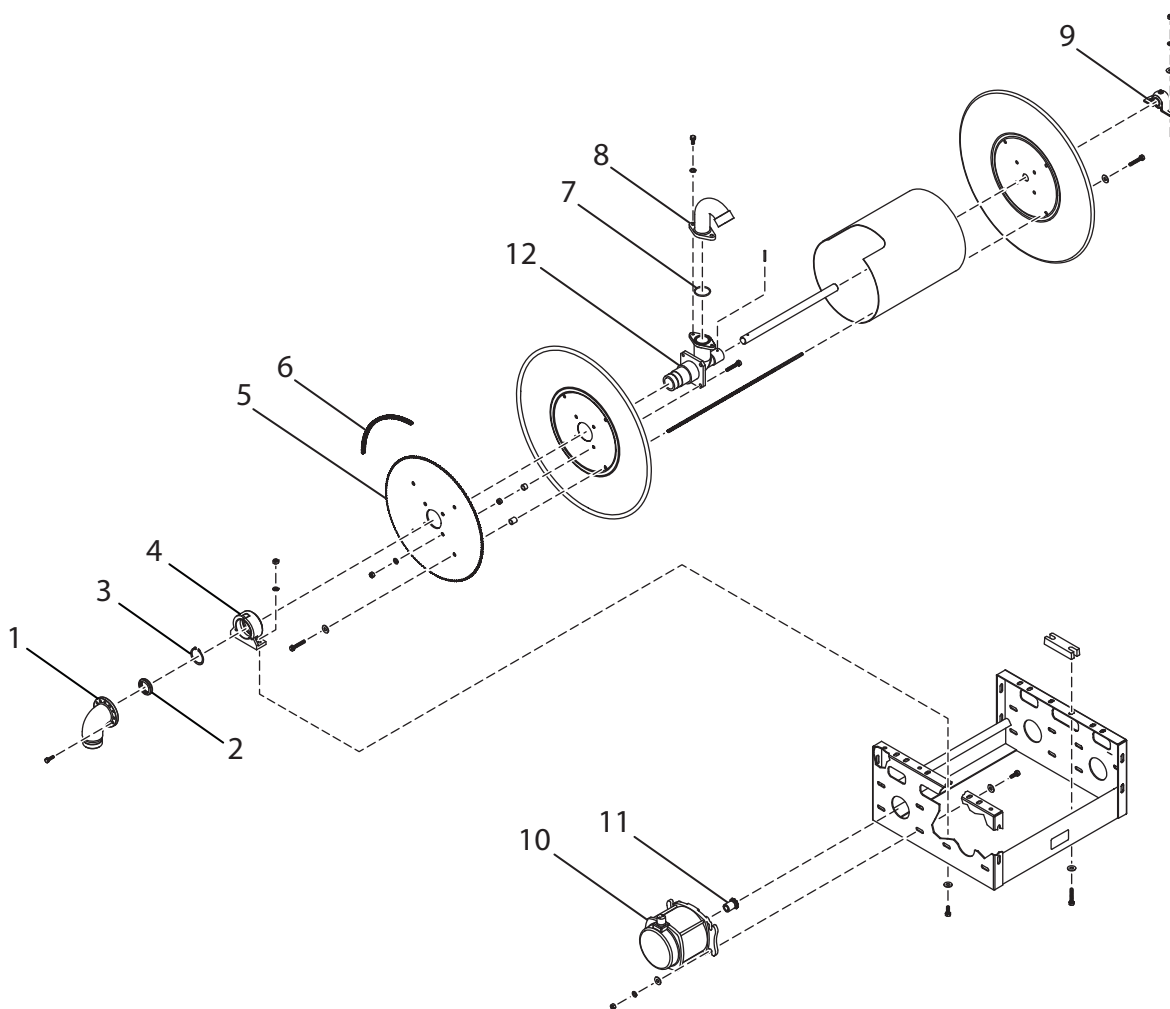
Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	012044	Pressure Gauge	1
2	▲	012874	Straight Male Adapter	1
3	▲	022301	Street Tee	1
4	▲	023186	Straight Male Adapter	1
5	▲	023616	Straight Male Adapter	1
6	▲	023911	Straight Female Adapter	1
7	▲	055230	Male 90° Adapter Elbow	1
8	▲	055234	Male 90° Adapter Elbow	1
9	▲	055272	Straight Male Adapter	1
10	▲	055309	Male 90° Adapter Elbow	1
11	▲	055359	Straight Male Adapter	4
12	▲	080789	Reducer Bushing	1
13	▲	012086	Straight Male Adapter	4
14	▲	085157	45° Male Adapter	1
15	▲	FW71870	90° Union Elbow	1
16	▲	080576	Suction Hose	1
17	▲	085154	Return Hose	1
18	▲	085259	Pressure Hose	1
19	▲	085342-03	Pressure Hose	2
20		020658	Ball Valve	1
21		023913	Hydac Filter Assembly	1
		023914	Filter Element	1
22		080743	4-Way Hydraulic Valve	1
		023120	Seal Kit for Hydraulic Valve	1
		023470	Handle Bracket for Valve	1
		SF310B	Handle for Valve	1
		0SF311	Knob for Valve	1
		0SF312	Roll Pin for Valve - 1/8 in. x 1-3/8 in.	1
23		004618	Hydraulic Suction Strainer	1
24		005793	Hydac Filler/Breather Cap	1
25		080482	Hydraulic Motor	1
		080615	Hydraulic Motor Seal Kit	1
26		080534	Hydraulic Level Sight Gauge	1
27		080642	Hydraulic Pump	1
28		085145	Hydraulic Reservoir	1
29		085276	Dump Valve	1
		085276-01	Dump Valve Solenoid Coil Assembly	1
30	▲	005923	Male 90° Adapter Elbow	1
31	▲	085342-01	Pressure Hose	1
32	▲	085342-02	Pressure Hose	1

## KITS AND MARKERS

▲	085342	Hydraulic Hose and Fittings Kit
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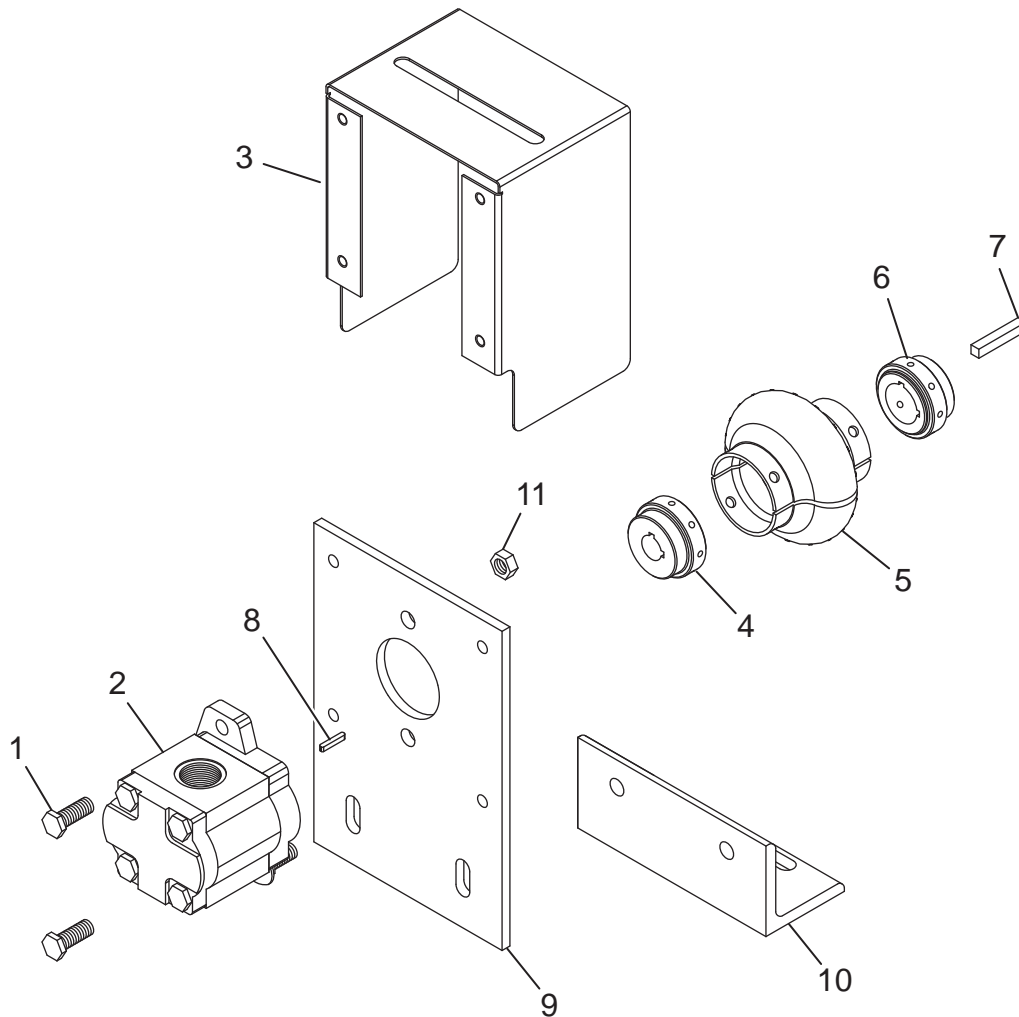


**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**

# HOSE REEL ASSEMBLY

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	080801-02	Inlet Pipe	1
2	▲	080801-14	Seal and Ring Assembly	1
3	▲	080801-07	Snap Ring	1
4	▲	080801-03	Bearing Housing Sub-Assembly	1
5	▲	080801-10	Sprocket	1
6	▲	080801-12	Chain Assembly	1
7	▲	080801-08	O-Ring	1
8	▲	080801-06	Gooseneck	1
9	▲	080801-09	RHP Ball Bearing (without Grease Fitting)	1
		080801-09A	RHP Ball Bearing (with Grease Fitting)	1
10	▲	008188	Electric Motor	1
11	▲	085246-01	Sprocket	1
12	▲	080801-04	Spindle 1-1/2 in. Female Pipe - Ductile	1
<b>NOT SHOWN</b>				
		085245	Composite Hose Reel Chain Guard	1
<b>KITS AND MARKERS</b>				
	▲	085246	Electric Hose Reel Full Assembly	

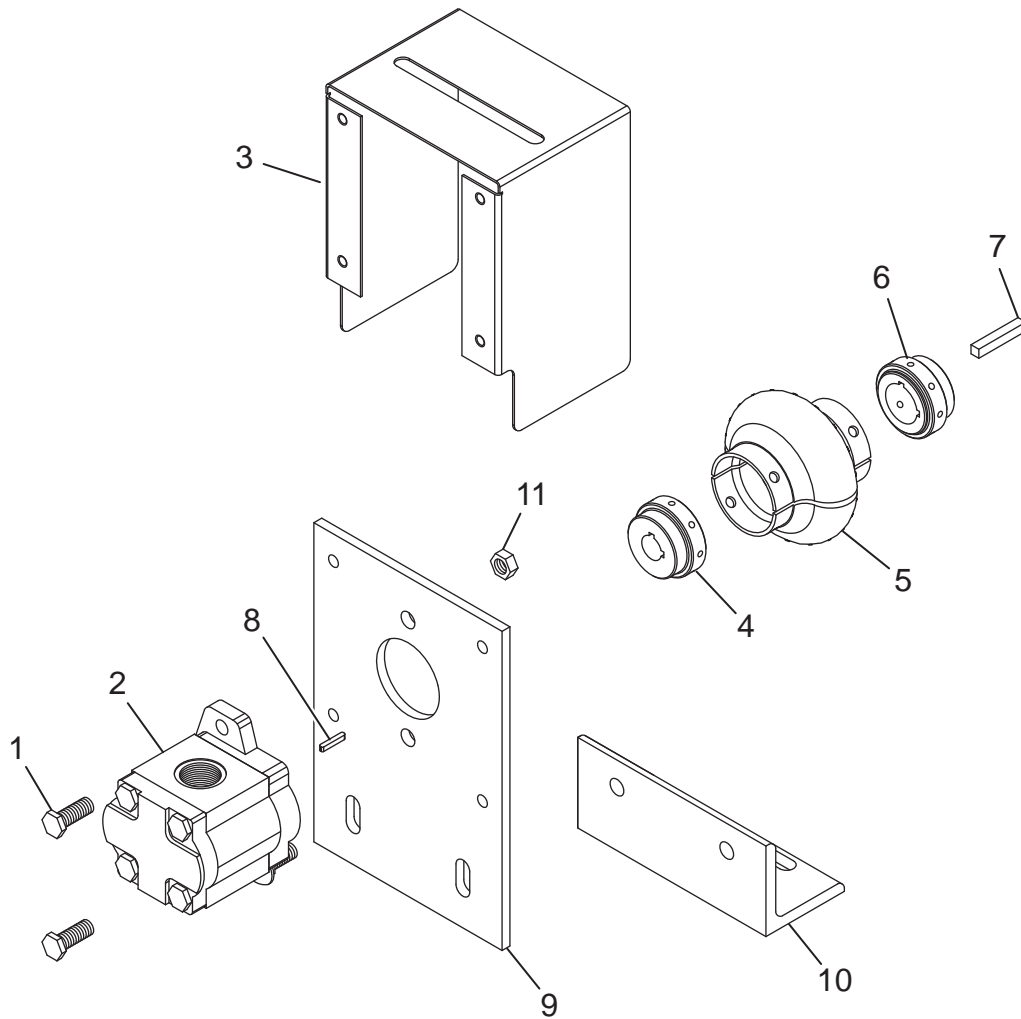
**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**



## DIESEL HYDRAULIC PUMP DRIVE ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	0X0616	3/8-16 x 1 in. Lg. Hex Head Bolt	2
2	080642	Hydraulic Pump	1
3	F30-0008	Diesel Hydraulic Pump Coupling Guard	1
4	080807	Coupling Half 5/8 in. Bore	1
5	080809	Coupling Insert	1
6	080808	Coupling Half 1 in. Bore	1
7	190123-24	1/4 in. Sq. Key x 1-1/2 in. Lg.	1
8	080642-A	Pump Key	1
9	085133	Hydraulic Pump Mounting Plate	1
10	080590-02	Hydraulic Pump Mounting Angle	1
11	00Y06L	3/8 in. Lock Nut	2

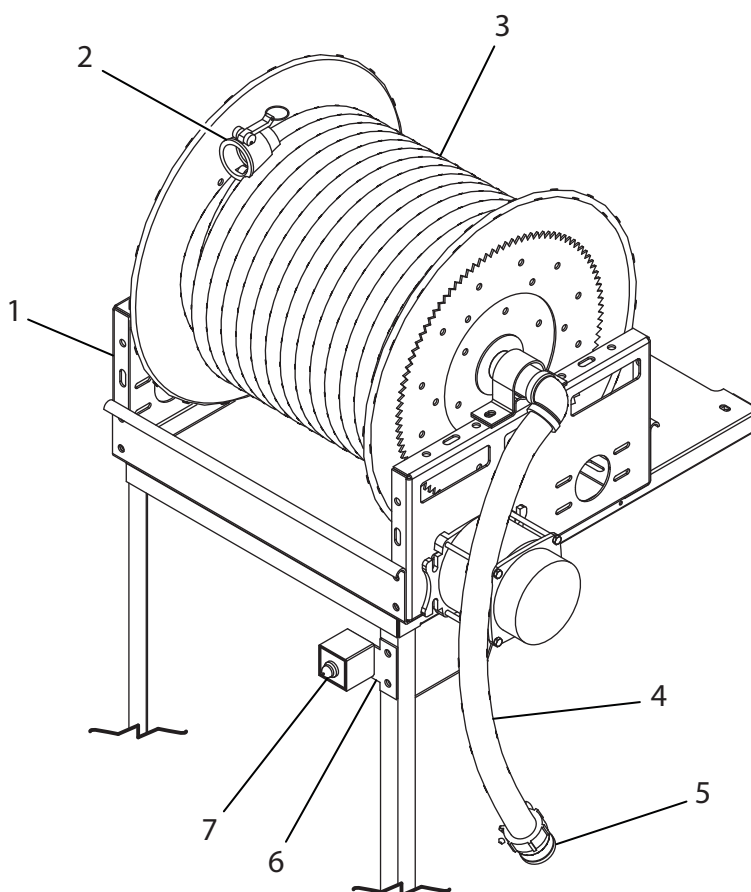
**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**



## GASOLINE HYDRAULIC PUMP DRIVE ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	0X0616	3/8-16 x 1 in. Lg. Hex Head Bolt	2
2	080642	Hydraulic Pump	1
3	F30-0001	Hydraulic Pump Coupling Guard	1
4	080807	Coupling Half 5/8 in. Bore	1
5	080809	Coupling Insert	1
6	080808	Coupling Half 1 in. Bore	1
7	190123-24	1/4 in. Sq. Key x 1-1/2 in. Lg.	1
8	080642-A	Pump Key	1
9	085133	Hydraulic Pump Mounting Plate	1
10	F30-0014	Hydraulic Pump Mounting Angle	1
11	00Y06L	3/8 in. Lock Nut	2

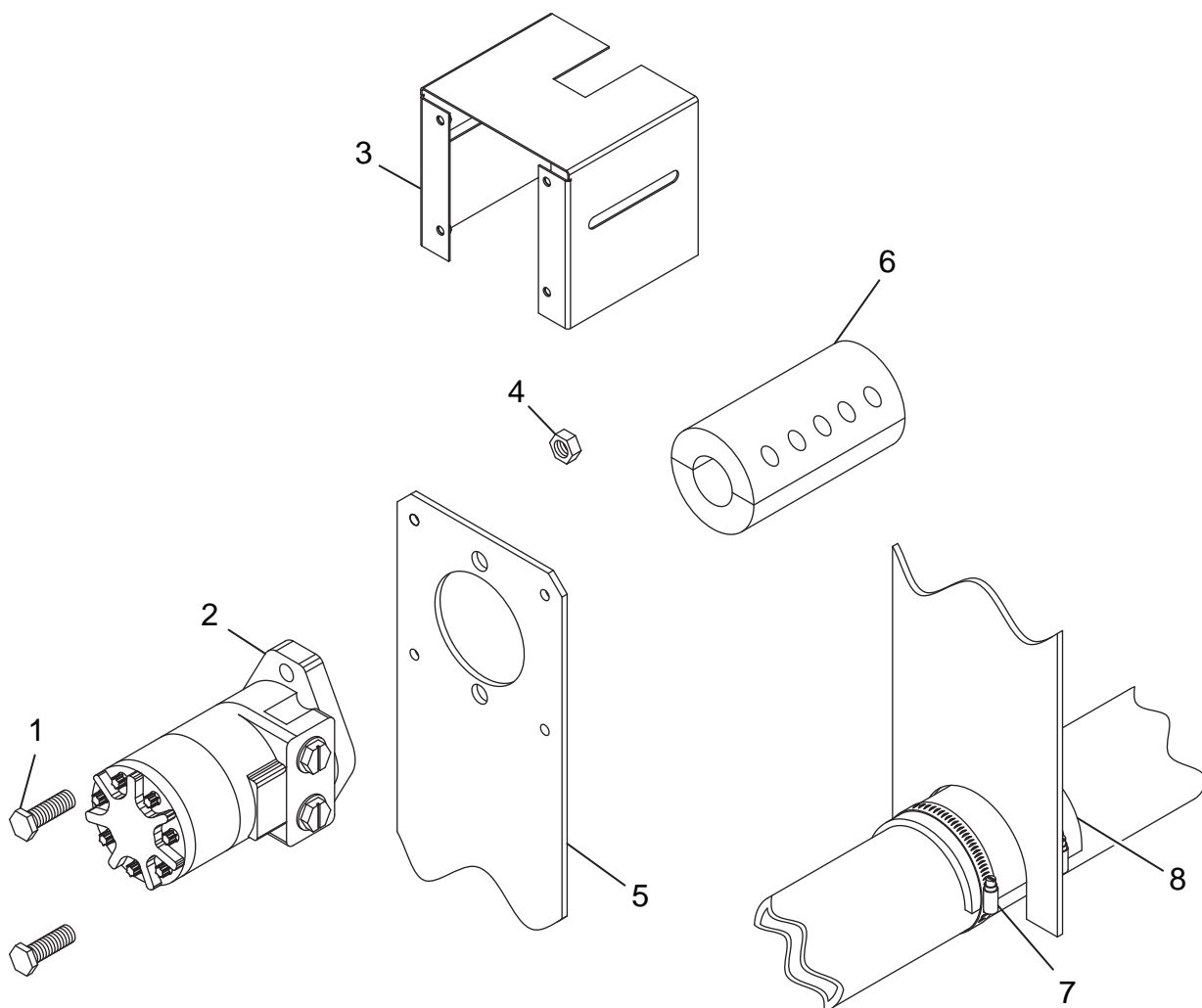
**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**



## DISCHARGE HOSE COMPONENTS

Ref. No.	Part Number	Description	No. Req'd
1	085246	Electric Hose Reel Assembly	1
2	080261	Female Nyglass Coupler	1
3	003308-10	1-1/4" Hose x 100'	1
4	085252	Lead-In Hose	1
5	080378	Male Nyglass Coupler	1
6	F60-0035	Hose Reel Button Box Mount	1
7	080757	Hose Reel Button Box	1
<b>NOT SHOWN</b>			
	080800	Hose Roller and Spool Guide	1

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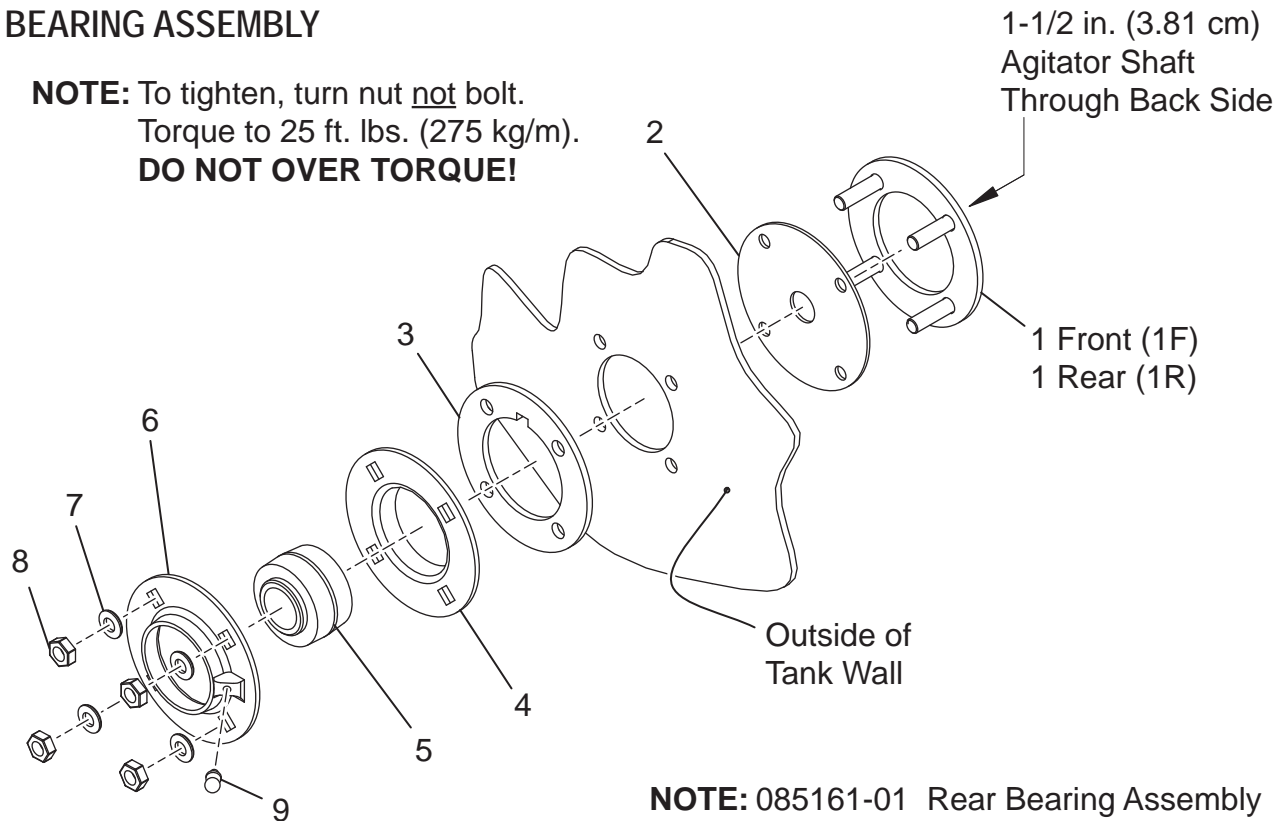
## HYDRAULIC AGITATOR DRIVE ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	0X0824	1/2-13 x 1-1/2" Lg. Hex Hd. Cap Screw	2
2	080482	Hydraulic Motor	1
3	F60-0022-02	Agitator Coupling Guard	1
4	00Y08L	1/2-13 Locknut	2
5	085128-01	Torque Arrestor Plate	1
6	080523	2-Piece Rigid Coupling Assembly	1
7	022657	Worm Gear Clamp	2
8	085150	Rubber Torque Arrestor Pad	1

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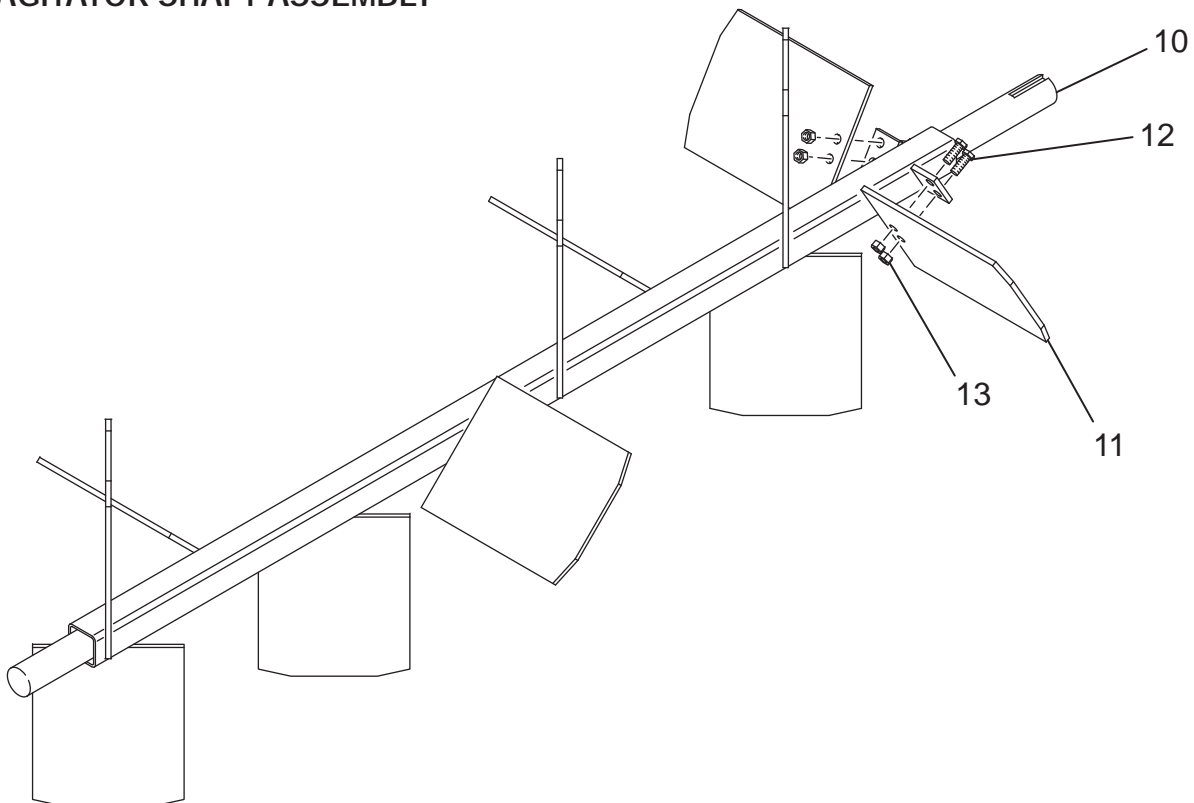
## BEARING ASSEMBLY

**NOTE:** To tighten, turn nut not bolt.  
Torque to 25 ft. lbs. (275 kg/m).  
**DO NOT OVER TORQUE!**



**NOTE:** 085161-01 Rear Bearing Assembly  
085161-02 Front Bearing Assembly  
(both include items #1 - 9)

## AGITATOR SHAFT ASSEMBLY



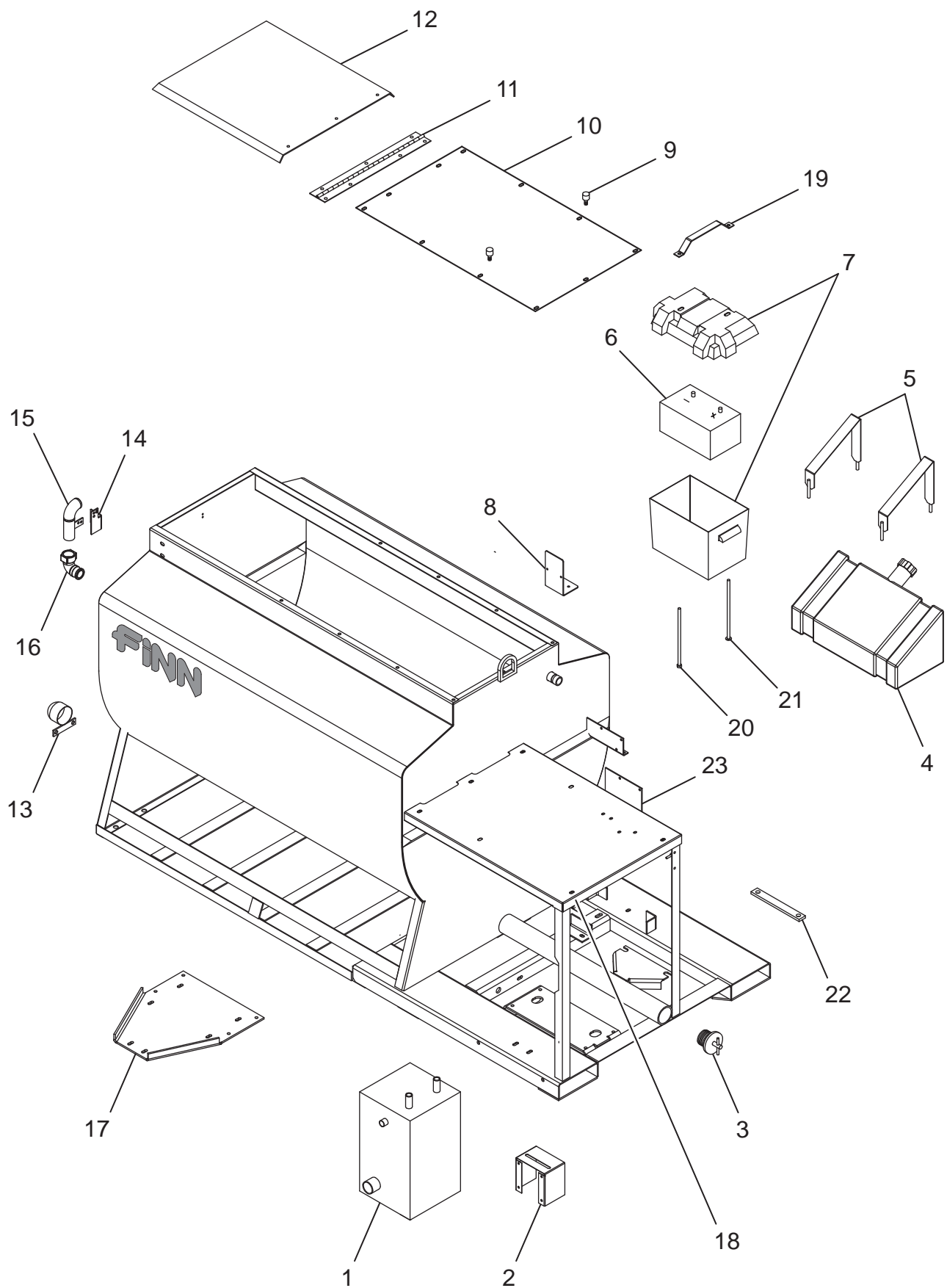
**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**

## AGITATOR AND BEARING ASSEMBLY

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1F	▲	085162-02	Front Clamping Ring	1 per
1R	●	085162-01	Rear Clamping Ring	1 per
2	▲●	007416	Shaft Seal	1 per
3	▲●	006975	Rubber Flangette Seal	1 per
4	▲●	007212	Flangette w/Groove	1 per
5	▲●	003022	Bearing	1 per
6	▲●	007211	Flangette w/Lube Coupling	1 per
7	▲●	012605	Bevel Sealing Washer	4 per
8	▲●	0Y08SS	Agitator Nut	4 per
9	▲●	007705	Grease Fitting	2
10		085131	T30 Agitator Weldment	1
11		085130-01	Bolt-On Paddle w/Holes	1
12		0X0616	Agitator Paddle Bolt	2 per
13		00Y06L	Agitator Paddle Nut	2 per
<b>KITS</b>				
	▲	085161-02	Front Bearing Assembly	
	●	085161-01	Rear Bearing Assembly	

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**WHEN ORDERING PARTS, BE SURE TO STATE  
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## COMMOM LOOSE PARTS

Ref. No.	Part Number	Description	No. Req'd
1	085145	Hydraulic Reservoir	1
2	F30-0008	Diesel Hydraulic Pump Coupling Guard	1
	F30-0001	Gasoline Hydraulic Pump Coupling Guard	1
3	004593	Drain Plug	1
4	035143	Fuel Tank	1
	035144	Fuel Cap	1
5	F30-0009	Fuel Tank Strap	2
6	002256-12	Battery	1
7	080223	Battery Case	1
8	F30-0012	Battery Disconnect Mount	1
9	085152	Rubber Stud Mount	2
10	085127	Tank Top	1
11	085132-01	Hatch Lid Hinge	1
12	085126	Hatch Lid	1
13	005399	Agitator Shaft Guard	1
14 *	F60-0013	Fill Port Bracket	1
15 *	080636	Fill Port Weldment	1
16 *	080638	90 Deg Polypropylene Elbow	1
17	F30-0007	Engine/Pump Plate (Diesel Engine Only)	1
18	F30-0005	Hose Reel Mount Tray	1
19	080220	Battery Tie-Down Strap	1
20	005495-22	Battery Bolt (with Nut)	1
21	085266	Battery Bolt (with Flat Washer)	1
22	085265	Pump Isolator	1
23	085349	CE Control Box Mount	1

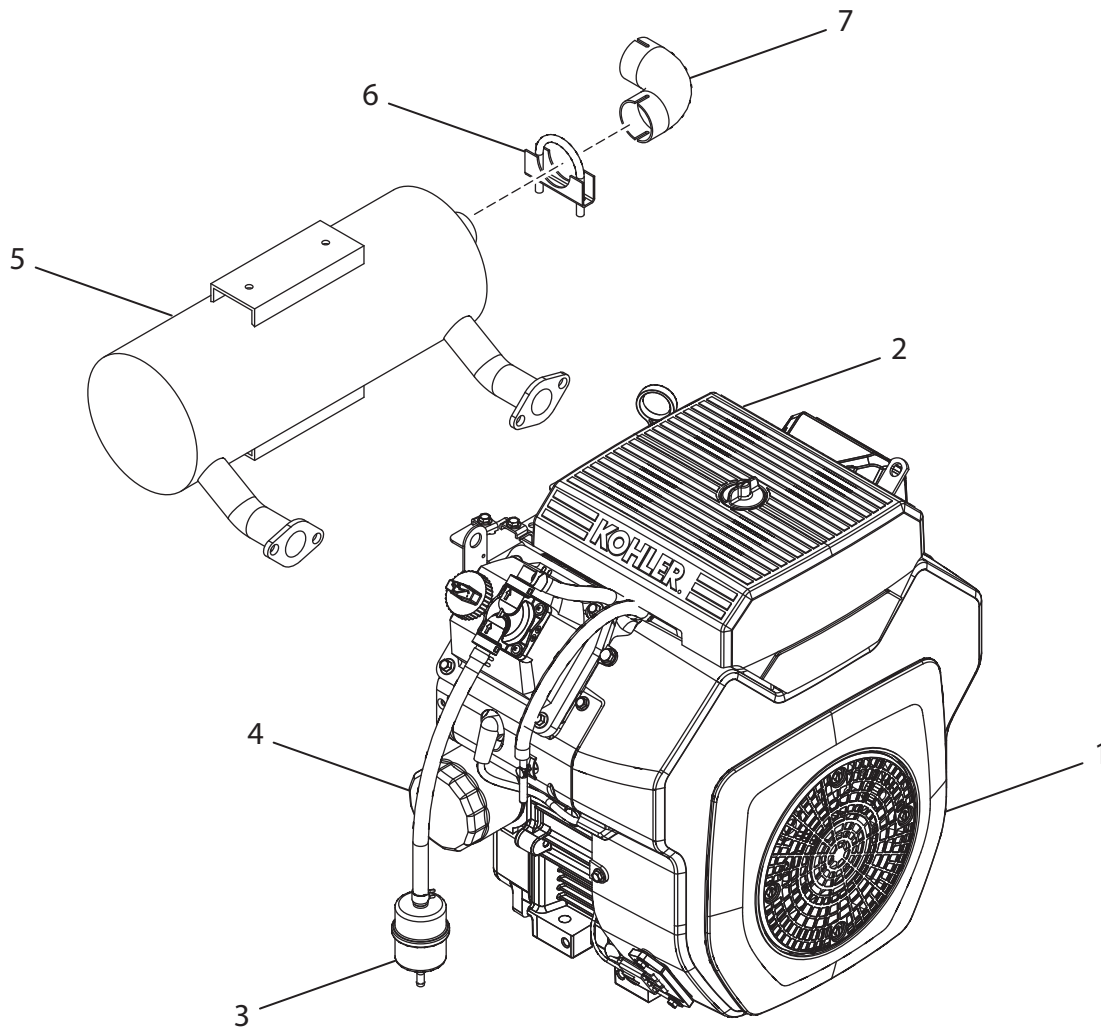
### NOT SHOWN

005433	Soft Latch	1
F75-0009	Airflush Mounting Plate (Airflush Option Only)	1
012747-03	Airflush Valve Mount (Airflush Option Only)	1
012800	Airflush Valve (Airflush Option Only)	1
012342	Airflush Valve Sub Plate (Airflush Option Only)	1

### KITS AND MARKERS

\* Denotes Optional Attachment

**WHEN ORDERING PARTS, BE SURE TO STATE  
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## GASOLINE ENGINE SPECIFIC PARTS

Ref. No.	Part Number	Description	No. Req'd
1	085262	Kohler Gasoline Engine	1
2	KL4708303	Air Filter	1
3	080105	Fuel Filter	1
4	KL1205001	Oil Filter	1
5	KL2406817	Muffler	1
6	031421	Muffler Clamp	1
7	031420	Muffler Elbow	1
<b>NOT SHOWN</b>			
	085142	Throttle Cable	1
	080567	Choke Cable	1

**WHEN ORDERING PARTS, BE SURE TO STATE  
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## DIESEL ENGINE SPECIFIC PARTS

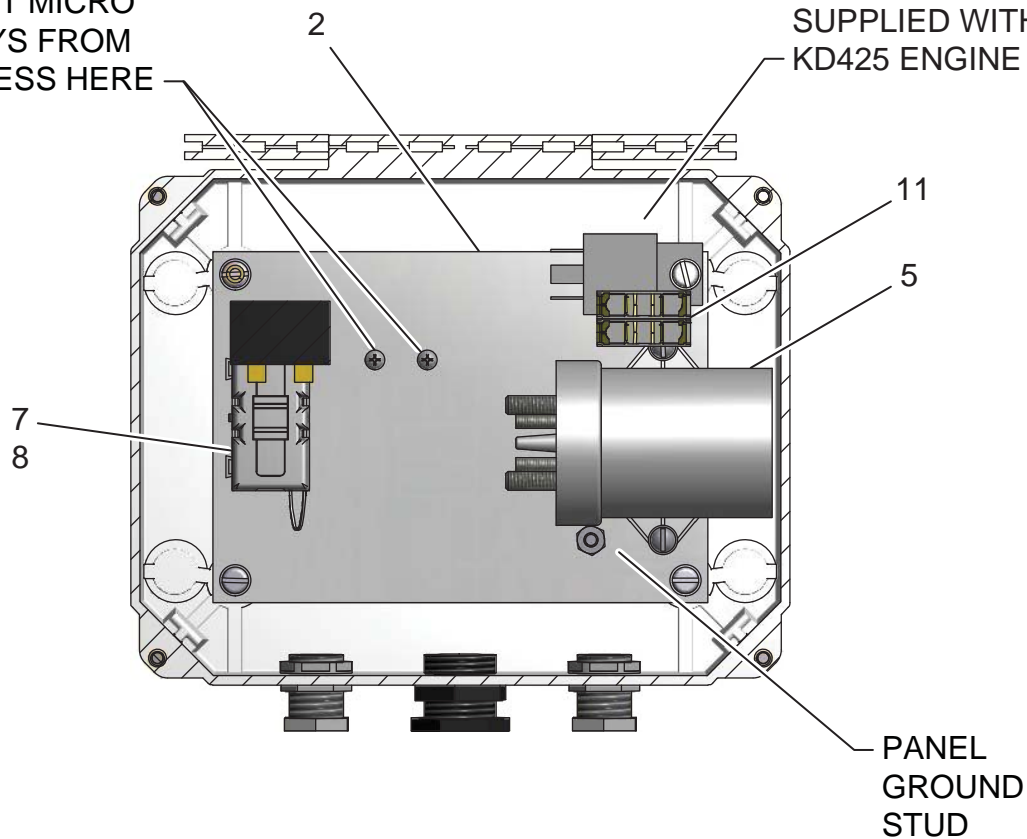
Part Number	Description	No. Req'd
085250	Diesel Engine Complete Assembly	1
KL21752730	Air Filter	
KL21752840	Oil Filter	
KL21752880	Fuel Filter	
080115	Throttle Cable	1
F30-0013	Key Switch Mount	1
085354	Rain Cap	1
085355	Rubber Reducer	1

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MOUNT MICRO  
RELAYS FROM  
HARNESS HERE

MOUNT THE RELAY  
SUPPLIED WITH THE  
KD425 ENGINE HERE



**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**

## CONTROL BOX AND WIRING (DIESEL POWERED UNITS)

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	085344	Control Box	1
2	▲	085345	Sub Panel	1
3	▲	008793	Toggle Switch	2
4	▲	080526	Toggle Switch Boot	2
5	▲	080753	Potted Relay	1
6	▲	007274	Hour Meter	1
7	▲	366279	Fuse Holder	1
8	▲	075764	80 Amp Fuse	1
9	▲	085352	Control Box Decal	1
10	▲	366164	Emergency Stop Button (E-Stop)	1
11	▲	366164-04	Contact Block	1

### NOT SHOWN

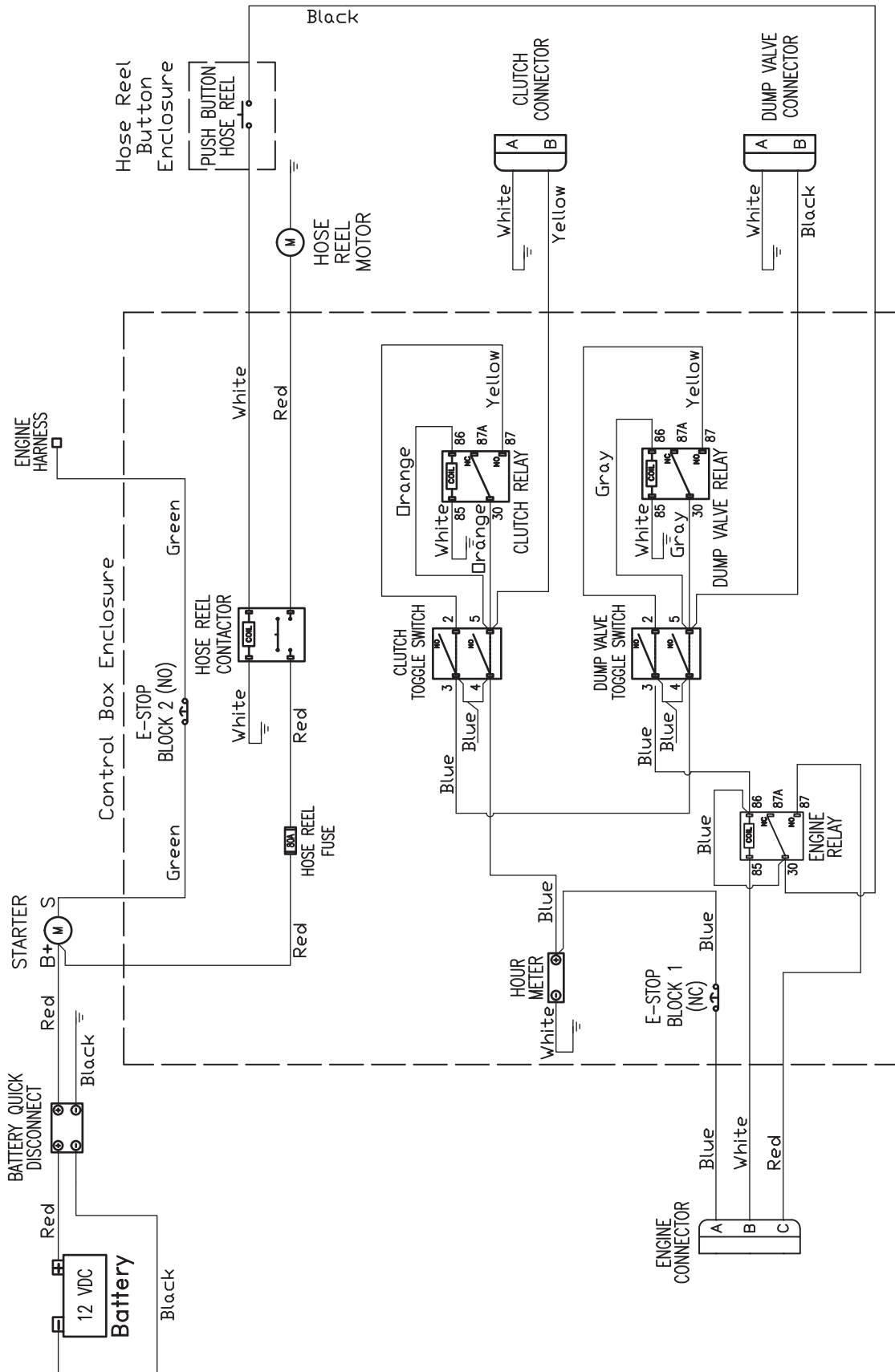
		085346	Wire Harness	1
	●	080779	Hose Reel Push Button Enclosure	1
	●	080757	Hose Reel Push Button Box	1
	●	080783	Hose Reel Push Button Adapter	1
	●	080784	Hose Reel Push Button Contact Block	1
		085225	Male CE Battery Cable Assembly	1
		085226	Female CE Battery Cable Assembly	1

### KITS

▲	085343	Control Box Assembly
●	080780	Hose Reel Push Button Assembly

**WHEN ORDERING PARTS, BE SURE TO STATE  
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# WIRING SCHEMATIC (DIESEL POWERED UNITS)



**WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE**

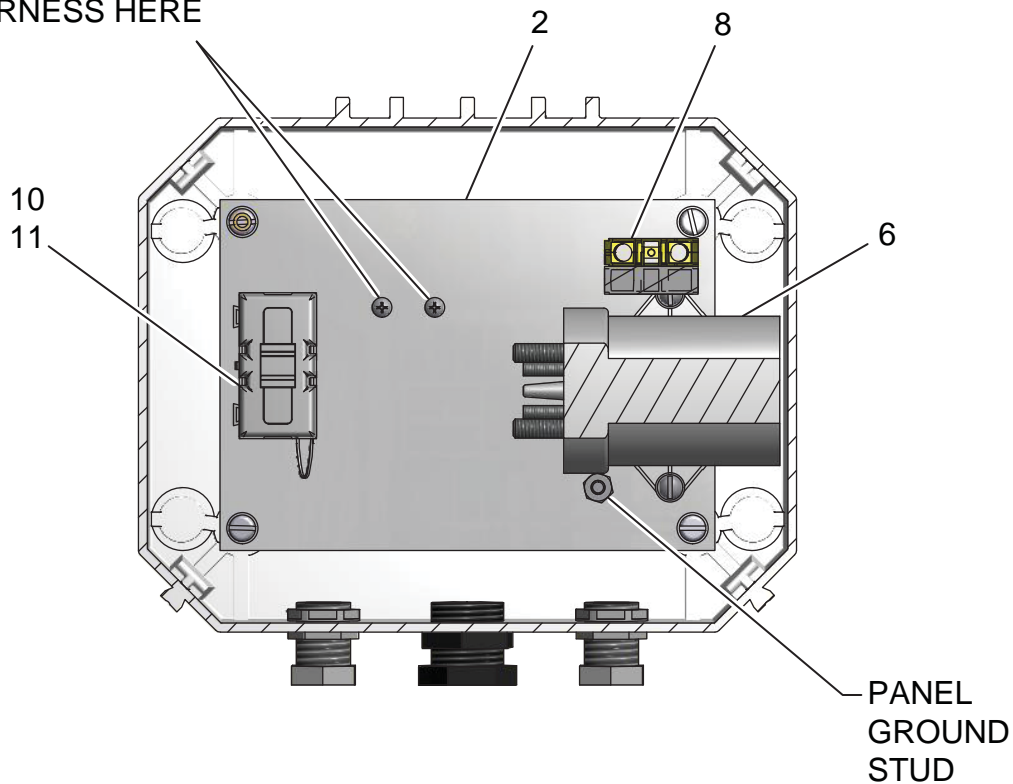
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**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**





MOUNT MICRO  
RELAYS FROM  
HARNESS HERE



**WHEN ORDERING PARTS, BE SURE TO STATE  
SERIAL NUMBER OF MACHINE**

## CONTROL BOX AND WIRING (GASOLINE POWERED UNITS)

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	085344	Control Box	1
2	▲	085345	Sub Panel	1
3	▲	085353	Control Box Decal	1
4	▲	008793	Toggle Switch	2
5	▲	080526	Toggle Switch Boot	2
6	▲	080753	Potted Relay	1
7	▲	366164	Emergency Stop Button (E-Stop)	1
8	▲	080784	Contact Block	1
9	▲	007274	Hour Meter	1
10	▲	366279	Fuse Holder	1
11	▲	075764	80 Amp Fuse	1
12	▲	080654	Starter Switch	1

### NOT SHOWN

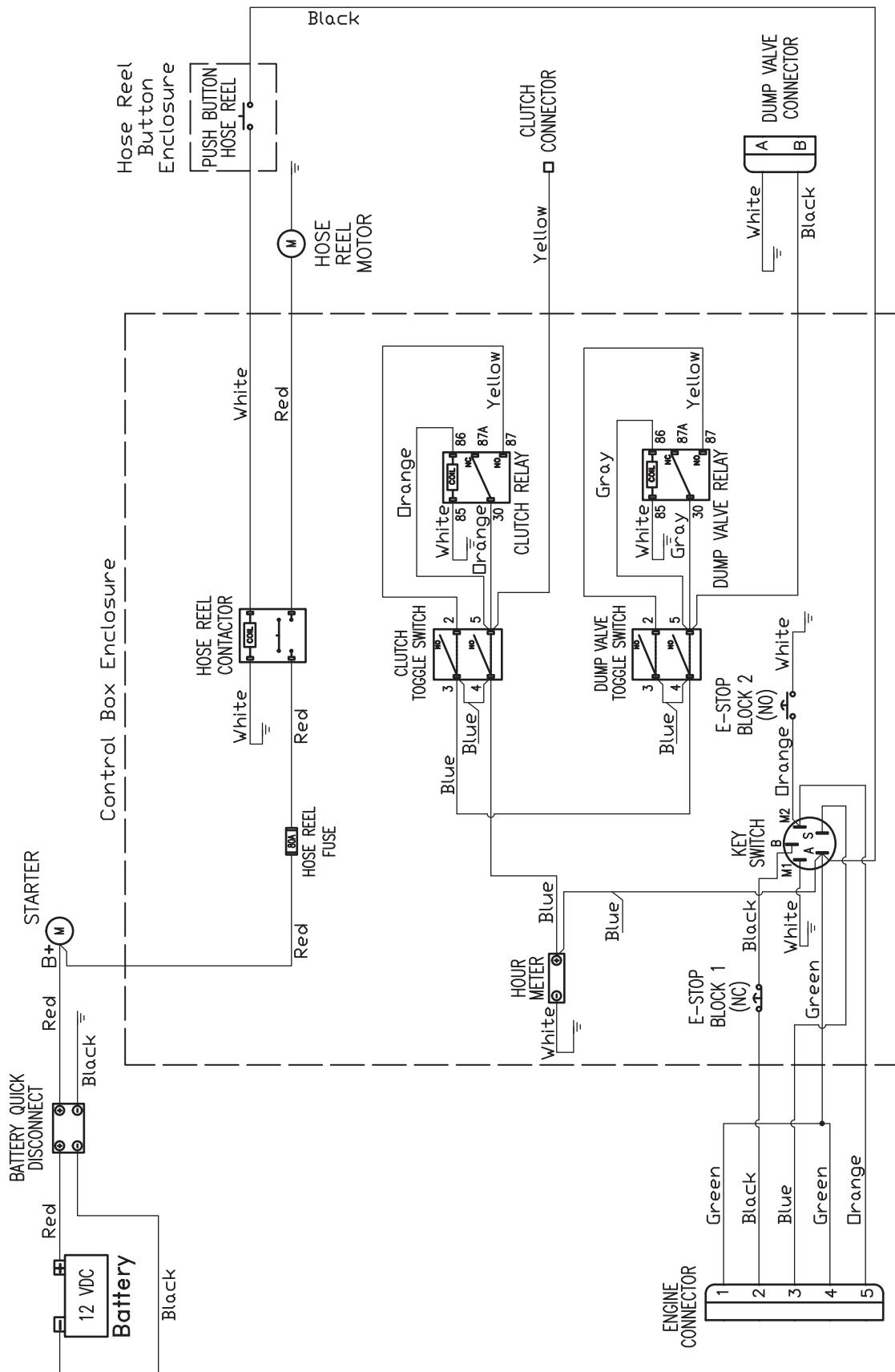
		085351	Wire Harness	1
●		080779	Hose Reel Push Button Enclosure	1
●		080757	Hose Reel Push Button Box	1
●		080783	Hose Reel Push Button Adapter	1
●		080784	Hose Reel Push Button Contact Block	1
		085225	Male CE Battery Cable Assembly	1
		085226	Female CE Battery Cable Assembly	1

### KITS

▲		085350	Control Box Assembly	
●		080780	Hose Reel Push Button Assembly	

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# WIRING SCHEMATIC (GASOLINE POWERED UNITS)



**WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE**

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## TOOL KIT

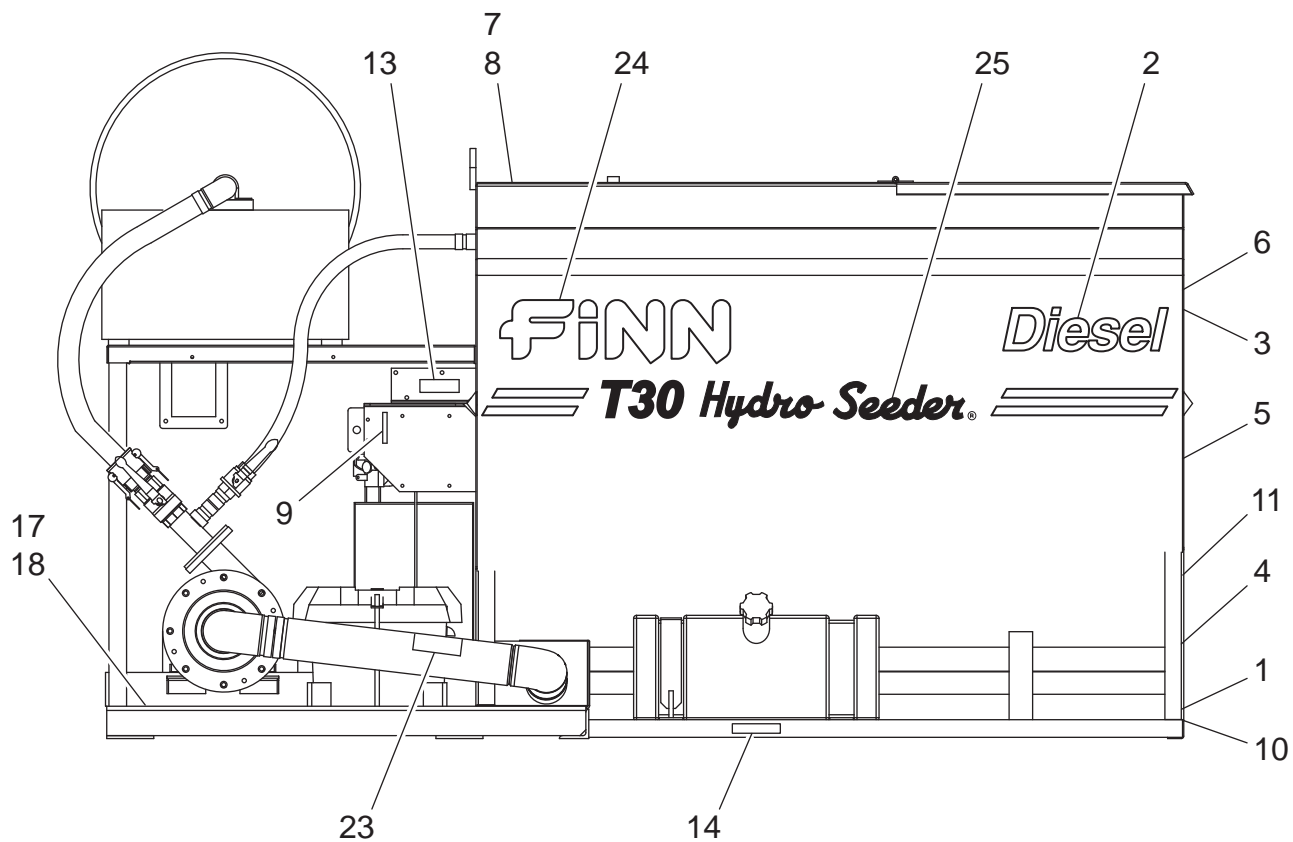
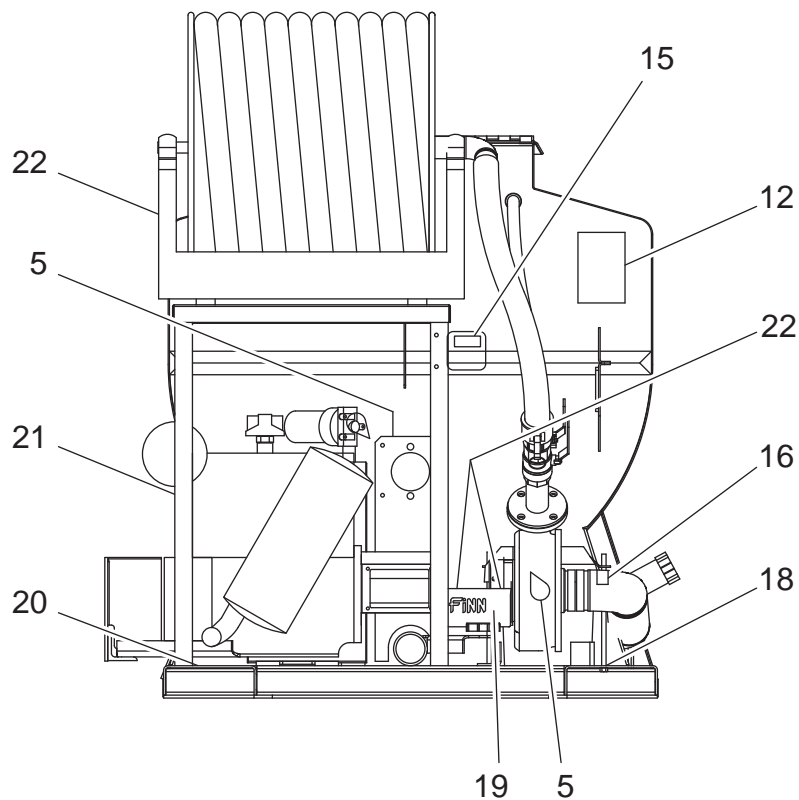
Part Number	Description	No. Req'd
000698	Automatic Pressure Lubricator Grease (1 Pound Tub)	1
005220	Impeller Wrench	1
080273	Long Distance Nozzle Assembly	1
080131	Long Distance Nozzle	1
080260	Nyglass Adapter	1
160749	Reducer Bushing	1
080394	Wide Ribbon Nozzle Assembly	1
006605	Wide Fan Nozzle	1
080260	Nyglass Adapter	1
160750	Reducer Bushing	1
080395	Narrow Ribbon Nozzle Assembly	1
006604	Narrow Fan Nozzle	1
080260	Nyglass Adapter	1
160750	Reducer Bushing	1
004593	Drain Plug	1
006515	Coupler Gasket	1
012681T	Finn Beige Touch-Up Paint	1
012681A	Finn Beige Aerosol Paint	1
080535	Remote Valve Assembly	1
012083	Full Port Ball Valve	1
080260	Male Nyglass Adapter	1
080261	Female Nyglass Coupler	1
160307	Close Nipple	1
	Engine Parts Manual	1
	HydroSeeder® Parts/Operator's Manual	1

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## SEAL REPAIR KITS

Part Number	Description
023120	Seal Kit for Hydraulic Valve #080743
080615	Seal Kit for Hydraulic Motor #080482
080616	Seal Kit for Hydraulic Pump #080642

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**WHEN ORDERING PARTS, BE SURE TO STATE  
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# DECALS

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1		011690	FINN Nameplate	1
2		085261	Decal "Diesel" (Diesel Powered Units)	2
3	●	-----	Decal "Entanglement Hazard..."	1
4	▲	-----	Decal "U.S. Patent Numbers"	1
5	▲	-----	Decal "Service Daily"	3
6	▲	-----	Decal "CAUTION! Wear Eye Protection..."	1
7	▲	-----	Decal "DANGER! Do Not Enter Tank"	1
8	▲	-----	Decal "Operating Instructions"	1
9	▲	-----	Decal "Throttle" (Diesel Powered Units)	1
	▲	-----	Decal "Throttle" (Gasoline Powered Units)	1
10		012260	FINN Maintain Decal Plate	1
11	●	-----	Decal "Decibel Level"	1
12	▲	-----	Decal "Sound Level Exceeds..."	1
13	▲	-----	Decal "Agitator Speed"	1
14	▲	-----	Decal "Diesel" (Diesel Powered Units)	1
		-----	Decal "Gasoline" (Gasoline Powered Units)	1
15	●	-----	Decal "Hose Reel Rewind"	1
16	▲	-----	Decal "To Avoid Damage To Suction Cover"	1
17	▲	-----	Decal "DANGER! Do Not Aim..."	1
18	▲	-----	Decal "WARNING! Do Not Operate..."	2
19	▲	-----	Decal "Pressure Lubricator"	1
20	▲	-----	Decal "DANGER! Hot Exhaust"	1
21	▲	-----	Decal "Hydraulic Instructions"	1
22	▲	-----	Decal "Service Weekly"	3
23	▲	-----	Decal "WARNING! Open Recirculation"	1
24		031235	Decal "FINN"	2
25		085158	Decal "T30 HydroSeeder"	2
<b>KITS</b>				
▲		080699	T30 Decal Kit	
●		080769	T30 CE Decal Kit	

**Note:** Items marked by a triangle (▲) are part of decal kit # 080699.  
 Items marked by a circle (●) are part of decal kit # 080769.  
 These decals must be ordered by their kit numbers and cannot be ordered separately.

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