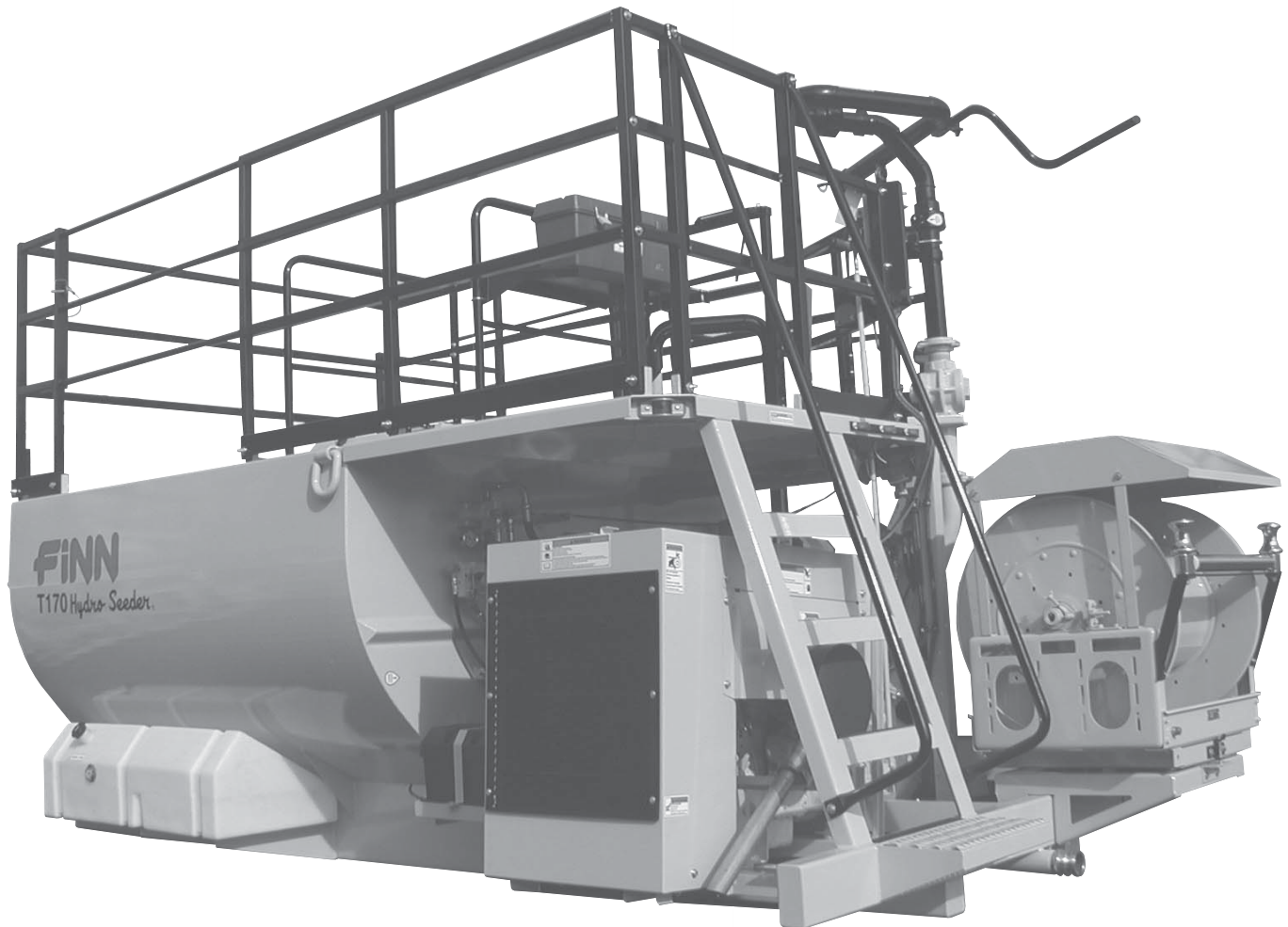




9281 LeSaint Drive • Fairfield, Ohio 45014
Phone (513) 874-2818 • Fax (513) 874-2914
Sales: 1-800-543-7166



T170 HydroSeeder®

Parts and Operator's Manual

Model **MO**

Serial No. _____

NOTES



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 ON
THE NEXT PAGE 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 other side of this notice.

<<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#, on the outside of the box in which you are shipping the defective part(s).**



Warranty period:
Hydroseeder & Straw Blowers 2 years or 2000 hrs which ever comes 1st
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.

INDEX

SAFETY FIRST	1
HYDROSEEDER® SAFETY SUMMARY SECTION	2–5
OPERATION and MAINTENANCE	6–33
Definition of HydroSeeding	6
The FINN HydroSeeder® and How It Works	6
Mounting The HydroSeeder®	6
Dimensions, Capacities and Truck Requirements	6–8
Truck Mounting Calculations	7
General Mounting Guidelines	7–8
Attachments	8–9
Pre-Start Check	9
Equipment Check	9–10
Two-Valve Operation	10–12
1. Discharge Through Boom	11
2. Extension Hose Through Boom	11
3. Extension Hose or Hose Reel Through Remote Port	11
Starting Procedure	12
Area Coverage - Material Capacity	12–13
Tank Capacity Chart	14
Loading (For Wood Fiber Mulch, If Liming See Page 19)	15–16
Prior to Application	16
Discharge Nozzle Selection	16
Application of Slurry	17–19
I. General Application Techniques	17
II. Discharge Through the Boom	17
III. Procedures When Using Hoses	18–19
A. Pump Take-Off System or Hose Reel w/ Remote Valve	18
B. Extension Hose System w/o Remote Valve	18–19
C. Hose Work w/Radio Remote	19
Reloading Procedure	19
Liming With the HydroSeeder®	20
Troubleshooting Your HydroSeeder®	21–24
Cleaning and Maintenance	25–26
After First 4 to 8 Hours of Operation	25
Daily	25
Weekly or Every 40 Hours of Operation	26
Seasonal and Winter Storage Maintenance	26

Continued . . .

INDEX CONTINUED

OPERATION and MAINTENANCE Cont'd . . .

Hydraulic System	26
Machine Lubrication Diagram	28
Lubrication and Fluids Chart	29
Clump Maintenance Section	30–31
A. Factory Tolerances	30
B. Impeller Clearance	30
C. Cleaning	30
D. Installing New Seal Assembly	31
Clump Assembly	32–33

PARTS SECTION 35–71

Pictorial Reference	37
Structure and Railing	38–39
Discharge Boom Assembly	40–41
Engine and Radiator	42–43
Engine Sheet Metal	44–45
Air Intake and Exhaust Systems	46–47
Electrical System	48–49
Clump, Piping, and Discharge Assembly	50–51
Clump Assembly	52–53
Controls	54–55
Control Box Wiring	56–57
Agitator and Seal Assembly	58–59
Hydraulic System	60–61
Hydraulic Agitator Drive	62
Discharge Hose Extensions	63
Hose Reel Assembly	64–65
Hydraulic System	66–67
Decals	68–69
Recommended Spare Parts and Repair Kits	70
Tool Kit	71

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.



Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



Indicates practices that are not related to personal injury

NOTE: Gives 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.

CALIFORNIA

Proposition 65 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.

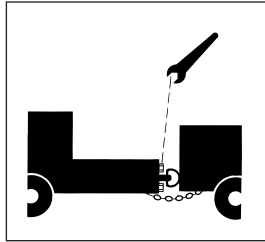
HYDROSEEDER® SAFETY SUMMARY SECTION

It is important that all 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):

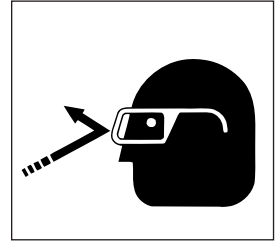
1. If you have a chassis-mounted unit, check devices securing HydroSeeder® to the truck or trailer frame.



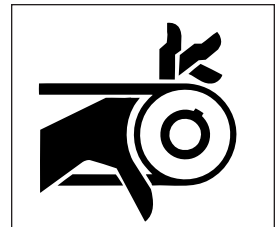
2. If HydroSeeder® is a trailer unit, check hitch and hitch bolts, lights, brakes, and all safety components.
3. Make sure loading hatch bag cutter is in place and secure.
4. Check that all guard railing is in place and secure.
5. Verify that all guards are in place.
6. With the ignition switch ON, verify that the signal horn is operating correctly.
7. 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 IV. MAINTENANCE on page 4.
8. Remove unnecessary objects (or material) from the tank top.
9. 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.
10. Inspect all hydraulic hoses for cracks, bulges, or damage. If hoses are bad, replace immediately.
11. 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.



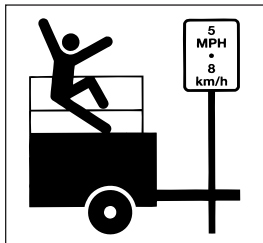
2. Do not operate the machine without all guards in place.



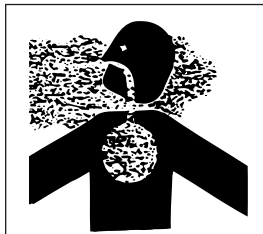
3. Do not load unit while in transit. Load only when parked and unit is as level as possible. Take care not to drop pens, lighters, etc. or pieces of paper or plastic bags into the tank as these objects might plug the slurry system. Should any object be dropped into the tank, do NOT reach into the tank to retrieve the foreign object. See step 3 under IV. MAINTENANCE on page 4 before allowing any personnel to enter the tank.
4. Make sure area to be sprayed is clear of all persons, animals, etc.

- 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. Only the operator should be located on the platform during operation.

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



- 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.



- 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.

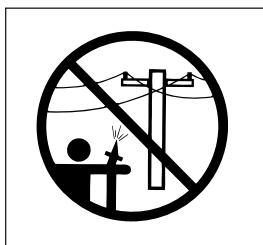
- Never modify the machine. Never remove any part of the machine (except for service and then reinstall before operating).

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

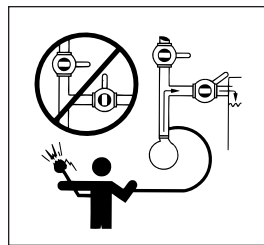


III. SLURRY APPLICATION:

- 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.



- Never engage (turn on) clutch when both the recirculation and discharge valves are closed. Operation with both valves closed will result in extreme heat generation that could cause severe bodily injury and damage to the equipment.

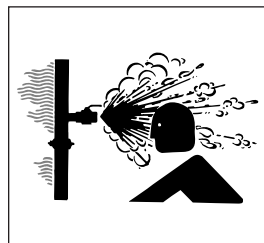


- Recirculation valve must be open and material flowing back into the tank when using the remote valve. A closed or plugged recirculation line will cause extreme heat in the pump or discharge lines that will result in severe bodily injury and damage to the equipment.

- 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 holders should be positioned at the end of the hose.

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

- 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.

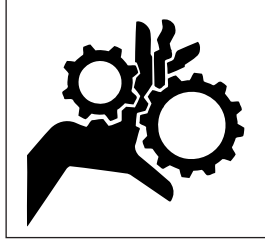


- Except when loading materials, keep loading hatch lid closed to protect operator and prevent splashing of wet material onto the tank top.

- Wash off spillage of slippery mulch or slurry additive from the tank top and platform before operating equipment.

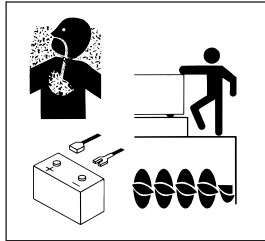
IV. MAINTENANCE:

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 Safety and Health Administration (OSHA) 29 CFR 1910.147).

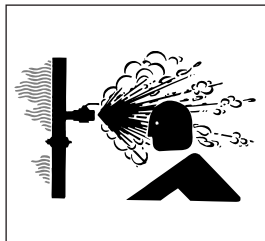


2. Certain hydroseeding amendments, when combined with or without the addition of water or heat or the element of time, may react causing harmful or deadly gasses! Consult your material suppliers regarding reactivity information. The slurry tank must be flushed and drained after each day of operation.

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 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 re-inflating a repaired tire.

6. Radiator maintenance: Liquid cooling systems build up pressure as the engine gets hot. Before removing radiator cap, stop the engine and let the system cool. Remove radiator cap only after the coolant is cool.

7. 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.

8. 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, hydraulic fluid, or cooling fluids 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.

9. It is recommended that only authorized, genuine FINN replacement parts be used on the machine.
10. Do not use either 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.
11. 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 cap.
12. Make certain that all decals on the machine are maintained in good legible condition. Replacement decals are available through FINN Corporation by specifying part number shown in the lower right-hand corner of the decal. See page 5 for the current safety decals mounted on the unit. See pages 72 and 73 in the PARTS MANUAL for the location and quantity of all decals on this unit.





CURRENT SET OF SAFETY DECALS

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

PIN 12686-01

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

PIN 11567




⚠ WARNING	
	<p>SEVER HAZARD! 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. FLYING DEBRIS! Wear eye protection around equipment. Failure to comply could result in death or serious injury.</p>
	<p> </p>

PIN 31465



⚠ WARNING

<p>Do not operate without guards in place. Failure to comply could result in death or serious injury.</p>


PIN 12179

⚠ WARNING	
	<p>BURN HAZARD! Cooling system is under pressure. Allow system to cool before handling. Remove radiator cap slowly. Wear appropriate safety gear. Failure to comply could result in death or serious injury.</p>
	<p>RADIATOR HANDLING INSTRUCTIONS</p> <ol style="list-style-type: none"> 1. Use a 50/50 solution of water and antifreeze. Using 100% antifreeze will result in engine damage. 2. Check and replenish water prior to use. More water will be consumed when operating in hot conditions. 3. If overflow pipe begins emitting vapor, check and replenish water. 4. Remove and clean screen when dirty. 5. Check and clean fins periodically. Clogged fins will increase water consumption. 6. Protect radiator from fertilizer corrosion by washing radiator core with water.
	

PIN 14562

⚠ WARNING


<p>BURN HAZARD! 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>

PIN 5216

⚠ WARNING

<p>FALL HAZARD! All gates must be closed during operation. Failure to comply could result in death or serious injury.</p>

PIN 12621

⚠ WARNING

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

012275

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

PIN 12688

OPERATION AND MAINTENANCE MANUAL FOR FINN T170 HYDROSEEDERS®

This manual gives you step-by-step instructions for the operation and maintenance of the FINN T170 HydroSeeder®. For best results and to ensure longer life of the equipment, please follow these 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 to establish vegetation.

THE FINN HYDROSEEDER® AND HOW IT WORKS:

The FINN HydroSeeder® will apply seed, fertilizer and/or lime, wood fiber 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.

MOUNTING THE HYDROSEEDER®:

For speed and mobility of operation, the HydroSeeder® should be mounted on a truck or trailer. However, it is important to select a carrier with sufficient capacity to handle the added weight.

DIMENSIONS, CAPACITIES, AND TRUCK REQUIREMENTS:

- ***CF** Back of cab to end of frame
- C** Distance from HydroSeeder® front to center of gravity
- ***CA** Back of cab to center of rear axle or trunnion on tandem
- ***FE** Front axle weight – Empty
- ***FL** Front axle weight – Loaded
- G** Distance from center of bogie to HydroSeeder® center of gravity
- HW** HydroSeeder® weight
- ***RE** Rear axle weight – Empty
- ***RL** Rear axle weight – Loaded
- ***WB** Truck wheel base

* These dimensions are needed from the truck supplier. The front axle capacity and rear axle capacity are needed as well.

** Truck GVW depends on the truck weight. CA dimensions are approximate only, and depend on the front and rear axle capacities, as well as the front and rear empty axle weights.

*** Weight of HydroSeeder®, water, and full charge of granular solids only. No auxiliary equipment or loads included.

	T170	
	English	(Metric)
Truck GVW **	35,900 lb	(16,284 kg)
CA **	110 in.	(279 cm+)
C (loaded)	71 in.	(180+ cm)
C (empty)	112 in.	(284+ cm)
OAL	191.5 in.	(486.41+ cm)
HW (empty)	6,500 lb	(2,948+ cm)
HW (water only)	21,200 lb	(9,616+ kg)
HW (full load) ***	23,900 lb	(10,841+ kg)

TRUCK MOUNTING CALCULATIONS:

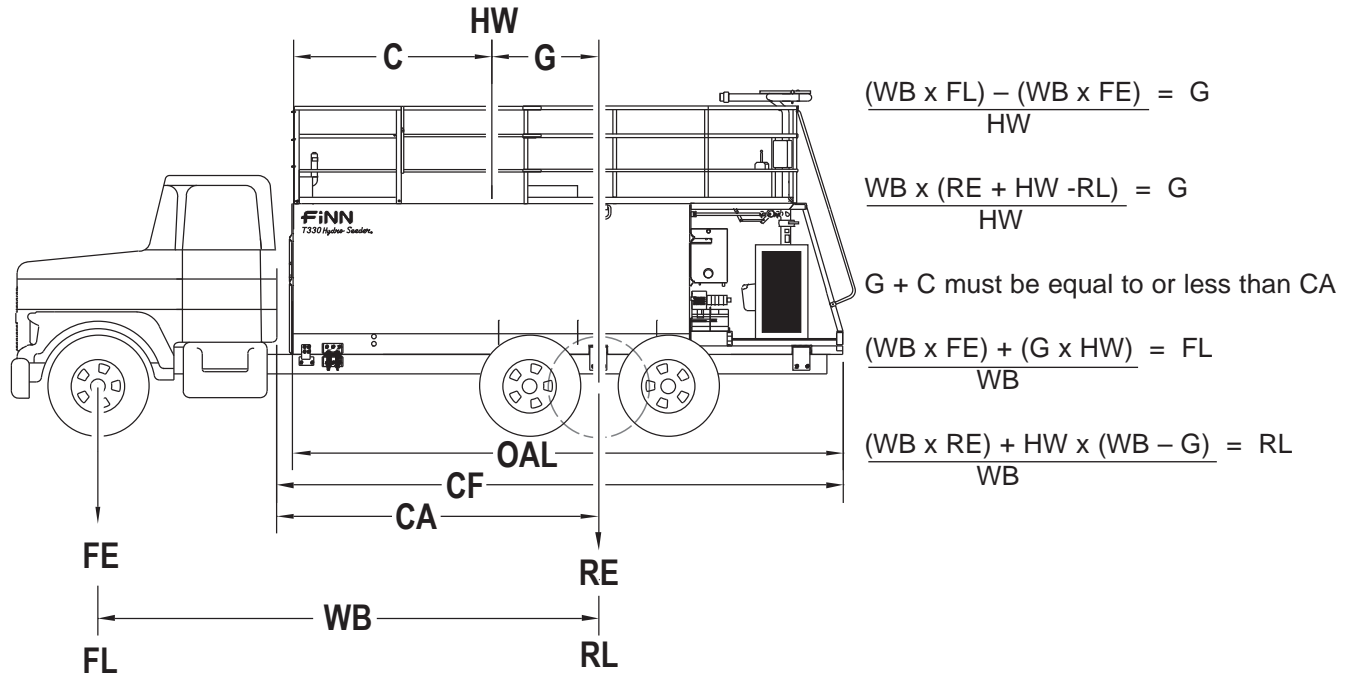


Figure 1 – Truck Mounting Calculations and Dimensions

GENERAL MOUNTING GUIDELINES:

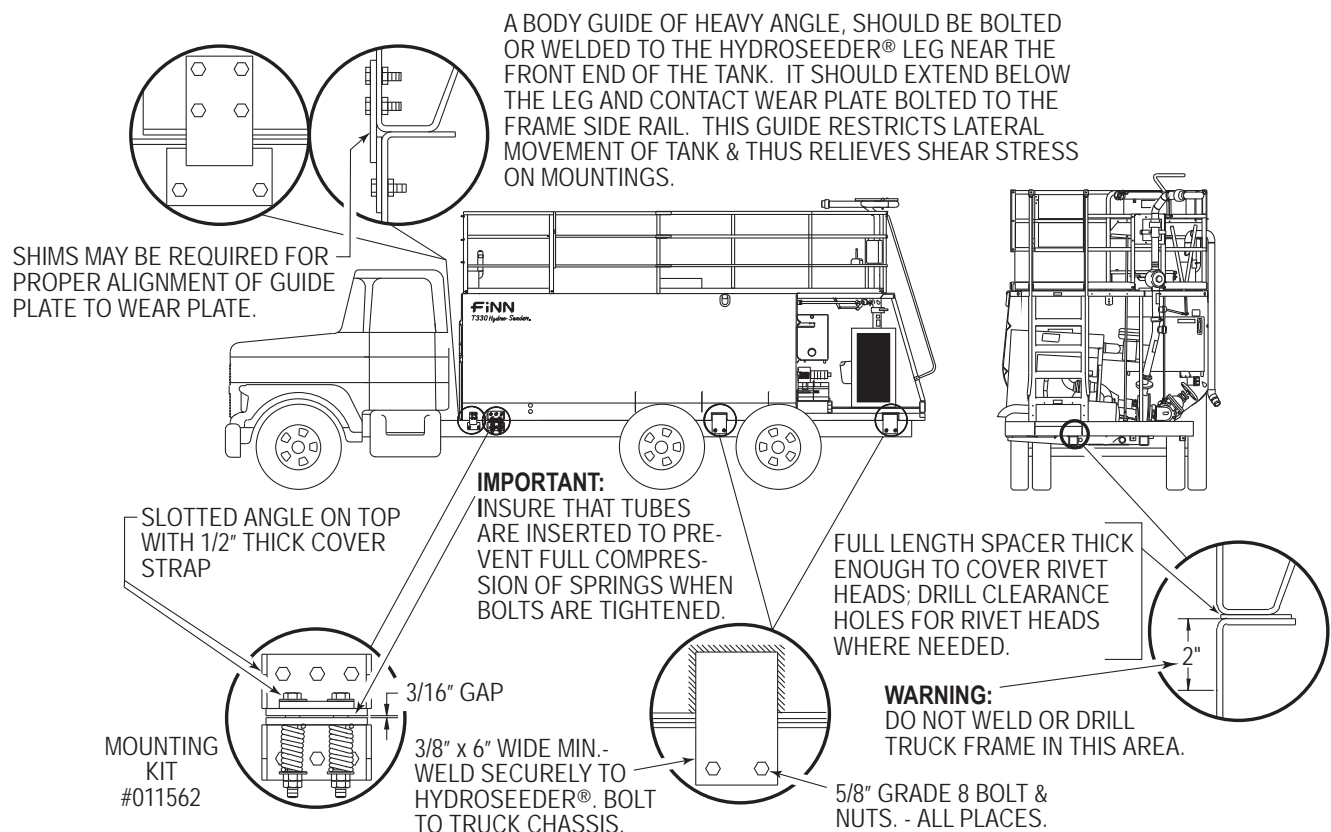


Figure 2 – General Truck Mounting Guidelines

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 personal injury or product or property damage.

NOTICE

Mounting the HydroSeeder® to the truck must allow for tire clearance as well as frame twist. Place hard wood spacers along the length of truck rails or use FINN Spring Mounting Kit (part number 011562) or equivalent.

ATTACHMENTS:

1. Extension hoses for reaching remote areas are available in 50 ft (15 m), 100 ft (30m), and 200 ft (60m) lengths. All connections are camlock quick-operating fittings. The hose is connected to the end of the discharge boom in place of a nozzle. The nozzle is connected to the end of the hose and controlled by the person on the ground. The flow is controlled by a second person on the HydroSeeder®. This allows for a full pressure and volume operation.

CAUTION

Since the extension hose will be seeing the full output of the pump with the recirculation closed, the equipment operator and individual at the end of the hose should exercise extreme care when operating the unit on high pressure. 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 operation occurs on slopes. Engage (turn on) clutch only after the hose operator is firmly positioned and has firm control of hose. Failure to comply could result in minor personal injury or product or property damage.

2. For lower pressure applications, or for close-up work, such as around buildings, the remote valve attachment can be used. The attachment includes a semi-rigid hose with quick-disconnect fittings along with a hand-held valve that fits the end of the hose and accepts the standard nozzle assemblies. The hose is connected to the outlet on the discharge pipe above the pump. The machine is run at 1/2 to 3/4 throttle to apply material where desired.

DANGER

The recirculation valve must be open when using a remote valve. Failure to comply WILL result in severe personal injury or death.

3. Hose Reel: The live hose reel will mount on the HydroSeeder® or on the truck frame. The 200 ft (61 m) capacity hydraulic rewind reel will wind up and store empty hose. A pivoting feature provides three locking positions, enabling curb-side, 45-degree, and rear-hose discharge. The entire hose reel is protected by a UV-protective canopy.
4. Hardened Pump Parts: Pump casing, impeller, and suction cover are treated with a special material that is designed to resist wear.
5. Rear Spray Bar: The spray bar option is not designed for slurry application, but for the dispersion of liquids for dust control, watering, feeding, and washing applications. Rear spray bar is arranged so that operation is remotely controlled from the truck cab.

6. Radio Remote Control: The radio remote control option provides the operator with pump ON/OFF control, throttle control, and engine shutdown at the end of the hose. With control of the engine throttle, the operator can precisely adjust the pump flow to whatever output the situation requires (such as close-up work around buildings). The ability to remotely shut off the pump allows the operator to close the recirculation valve for increased performance during hose work. Carrying the remote valve at the end of the hose becomes unnecessary.

NOTE: For remote pump ON/OFF control, the clutch cylinder must be connected to an air supply.

7. Air Flush System: The air flush option uses compressed air to purge any remaining mulch slurry from the HydroSeeder® hose, the discharge boom, and the recirculation piping. To maximize performance, all discharge plumbing should be purged after every load. The air flush system provides a quick and easy means of purging without the need to acquire a flush tank and an additional water supply.

PRE-START CHECK:

Safety check to ensure operator safety:

1. Check condition of all mounting hardware that secures HydroSeeder® to truck frame.
2. Make sure bag cutter is in place and secure.
3. Inspect all railings, ensuring they are all in place and secure.
4. Make sure that all guards are in place.
5. With the ignition switch on, verify that the amber safety light, under the operator's platform, is flashing.

EQUIPMENT CHECK:

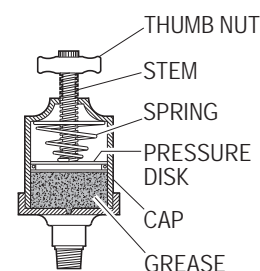


Equipment check should be made with the engine off and all rotating parts stopped. Failure to comply could result in severe personal injury or death.

1. Make sure that tool kit contains all the prescribed items. See TOOL KIT on page 71.
2. Inspect the slurry tank for foreign objects. See numbers 2 and 3 in IV. MAINTENANCE of the HYDROSEEDER® SAFETY SUMMARY SECTION on page 4.
3. Check fuel level and fill if necessary.
4. Check the hydraulic oil level and fill to proper level if necessary. See HYDRAULIC SYSTEM on page 26 for oil specifications.
5. Check engine oil level and fill to proper level if necessary. For oil type refer to the engine manual.
6. Check fluid level in radiator and fill to proper level if necessary.
7. Inspect air cleaner for dust and dirt; clean if necessary.
8. Secure the drain plug on the outside bottom of the slurry tank.
9. Check to be certain pump drain plug is in place.

10. Lubricate equipment - See LUBRICATION AND FLUIDS CHART on pages 26 and 27.

- A. Each lubrication point is marked.
- B. Check automatic pressure lubricator at pump. If the stem is fully extended, with thumb nut all the way up, then automatic pressure lubricator contains lubricant. If not, lubricant must be replaced by the following procedure (See Figure 3):
 - a) Turn thumb nut clockwise until stem rises to maximum height.
 - b) Remove cap and fill cap with sodium-(water soluble) base grease. (FINN part number 000698). Do not use lithium-base (chassis lube) grease.
 - c) Replace cap.
 - d) Turn thumb nut counterclockwise until the thumb nut is at the top of the stem. The spring and pressure disc in the lubricator forces the grease, under pressure, to the pump seal.



**Figure 3 –
Automatic Pressure
Lubricator**

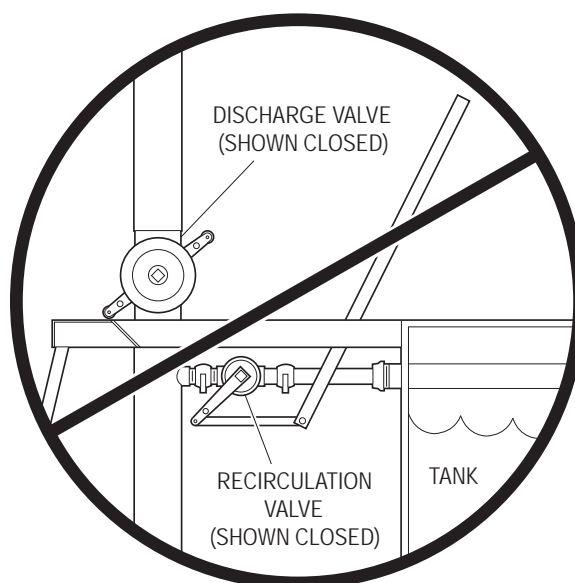
NOTICE

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

- 11. Engage (turn on) and disengage (turn off) clutch to determine if it snaps in and out.
- 12. Check nozzle for obstructions and clean as required.
- 13. Check pump discharge and recirculation valve handles for free movement.
- 14. Make sure all tank vents are clean and open. Do not plug or cap.

TWO-VALVE OPERATION:

This HydroSeeder® is equipped with two independently operated plug valves to control slurry flow. One is located in the recirculation line below the platform, and the other is located in the discharge line above the platform. The valve handles should be positioned as shown in Figures 4 through 6 for the particular application required.



**Figure 4 – DO NOT Engage
(Turn On) Clutch**

WARNING

Never engage (turn on) slurry pump clutch when both valve handles are positioned as shown in Figure 4. Both valves are closed and will result in extreme heat generation. Failure to comply could result in severe personal injury or death.

1. DISCHARGE THROUGH BOOM:

Flow is through boom with no flow through closed recirculation valve (Figure 5). Flow through boom is controlled by engaging and disengaging slurry pump clutch.

NOTE: Do not use the discharge valve to control distance. Valve should be completely open. Control the spray volume and spray distance by adjusting the engine RPM.

2. EXTENSION HOSE THROUGH BOOM:

Flow is through boom with no flow through closed recirculation valve (Figure 5). Extension hose is connected to boom and flow is controlled by engaging and disengaging pump clutch or by adjusting engine RPM.

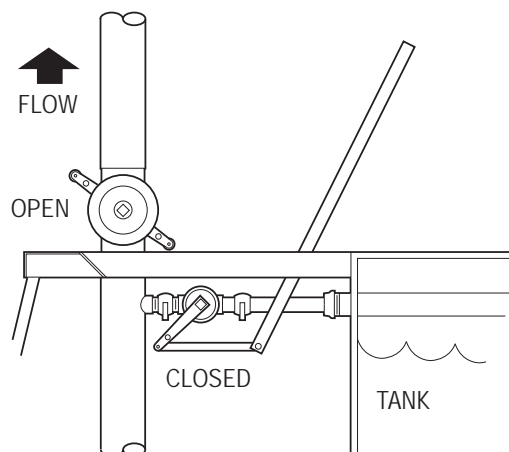


Figure 5 – Discharge Through Boom

! DANGER

Do not use remote valve in this application. Failure to comply **WILL** result in severe personal injury or death.

3. EXTENSION HOSE OR HOSE REEL THROUGH REMOTE PORT:

Flow is through recirculation with no flow through closed discharge valve (Figure 6). Flow through hose is controlled by engaging and disengaging slurry pump clutch or by remote valve at end of hose. An open recirculation valve allows flow back into tank when the remote valve is closed.

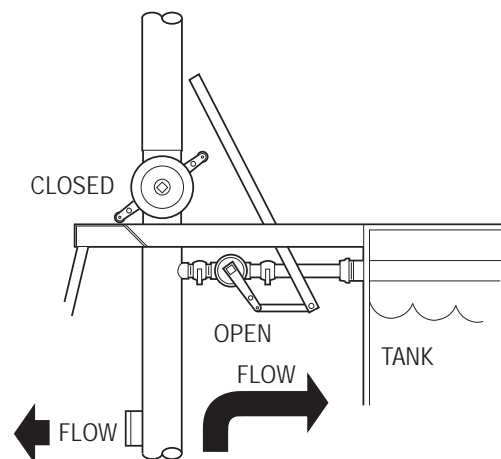


Figure 6 – Discharge Through Extension Hose or Hose Reel

! DANGER

Recirculation valve must be open and material should be flowing back into tank when using a remote valve. A closed or plugged recirculation line will cause extreme heat. Failure to comply **WILL** cause severe personal injury or death.

STARTING PROCEDURE:



See HYDROSEEDER[®] SAFETY SUMMARY SECTION of pages 2 through 4 before operating the machine.

Before starting, open recirculation valve, close discharge valve, disengage (turn off) clutch, and place the agitator control in the NEUTRAL position.

1. Set throttle about 1/4 open.
2. Turn the key clockwise until the starter engages and the engine starts.

NOTE: Once the keyswitch has been turned to START, if the engine does not start within 15 seconds, all lights on the five gauges will illuminate. At this point, the engine will not start until you reset the system by turning the keyswitch back to OFF and attempt to restart engine.

3. Allow engine to warm up for 3 to 5 minutes.

NOTE: This engine has a safety system that will shut the engine off if the engine oil pressure drops below 7 psi (48 kPa) or if the water temperature reaches 230°F (110°C).

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 a one-step process (which is when the seed, fertilizer and mulch are applied proportionally per load) or a two-step process (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 pounds per 1,000 square feet, or pounds 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 pounds per 1,000 square feet; fertilizer is applied at a rate of approximately 400 pounds per acre; and fiber mulch is applied at 1,500–2,000 pounds 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 on page 13 show loading versus coverage rates for the FINN T170 HydroSeeder[®]. 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>
	<u>Seed</u>	<u>Fertilizer</u>	<u>Mulch</u>	<u>sq. ft (sq. m)</u>
T170	172 (78)	200 (91)	750 (340)	21,780 (2,023)

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

TABLE A EXAMPLE:

$$\frac{750 \text{ lb (340 kg) Mulch per Tank}}{1,500 \text{ lb (680 kg) Mulch per Acre}} = 0.5 \text{ Acre per Load}$$

400 lb (181 kg) Fertilizer per Acre x 0.5 Acre = 200 lb (91 kg) Fertilizer per Load

345 lb (156 kg) Seed per Acre x 0.5 Acre = 172 lb (78 kg) Seed per Load

TABLE B**SEED AND FERTILIZER ONLY**

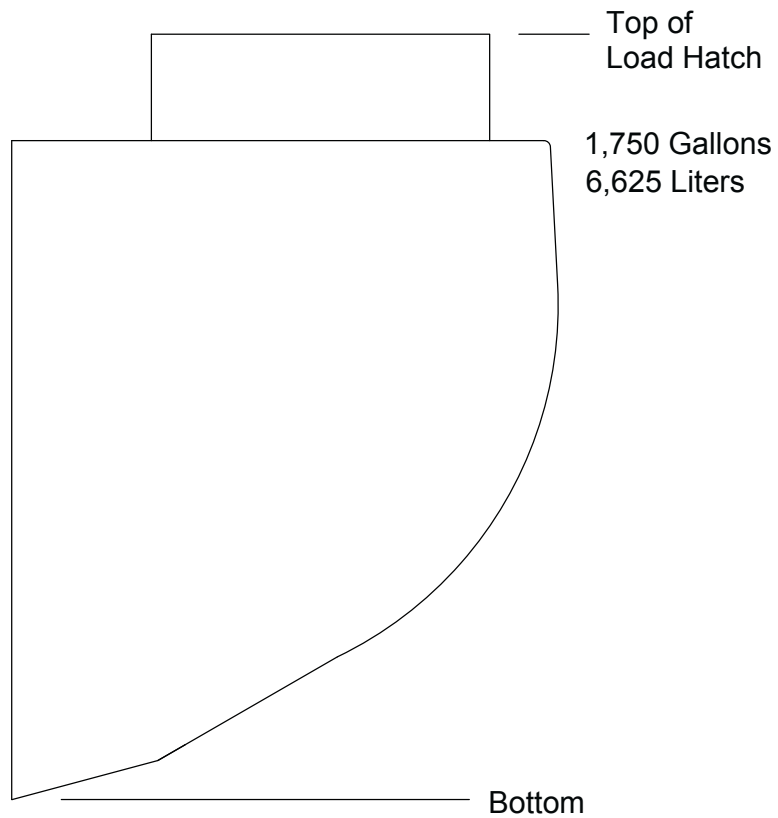
<u>Unit</u>	<u>Amount of Material in Tank in pounds (kilograms)</u>			<u>Coverage Area</u>	
	<u>Seed</u>	<u>Fertilizer</u>	<u>Total</u>	<u>sq. ft (sq. m)</u>	<u>Acreage (Hectare)</u>
T170	1,742 (790)	2,000 (907)	3,742 (1,697)	217,800 (20,233)	5 (2.02)

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

Table B Example:

$$\frac{3,742 \text{ lb (1697 kg) Tank Capacity (Solids)}}{8 \text{ lb (3.6 kg) Seed} + 9.2 \text{ lb (4.2 kg) Fertilizer per 1,000 sq. ft}} = 217,800 \text{ sq. ft per Load}$$

$$\frac{8 \text{ lb (3.6 kg) Seed}}{1,000 \text{ sq. ft}} \times 217,800 \text{ sq. ft} = 1,742 \text{ lb (790 kg) Seed per Tank}$$



T170		
Gallons (Liters)	in. (cm) From Top of Load Hatch	in. (cm) From Bottom
1,700 (6,435)	9.5 (24.1)	49.25 (125.1)
1,600 (6,055)	12 (30.5)	46.75 (118.7)
1,500 (5,678)	14.25 (36.2)	44.5 (113)
1,400 (5,300)	16.5 (42)	42.25 (107.3)
1,300 (4,921)	18.75 (47.6)	40 (101.6)
1,200 (4,542)	21.25 (54)	37.5 (95.25)
1,100 (4,164)	23.5 (59.7)	35.25 (89.5)
1,000 (3,785)	25.75 (65.4)	33 (83.8)
900 (3,406)	28 (71.1)	30.75 (78.1)
800 (3,028)	30 (76.2)	28.75 (73)
700 (2,650)	32.5 (82.5)	26.25 (66.7)
600 (2,271)	35.25 (89.5)	23.5 (59.7)
500 (1,892)	37.75 (95.9)	21 (53.3)
400 (1,514)	40.25 (102.2)	18.5 (47)
300 (1,135)	43.25 (110)	15.5 (39.4)
200 (757)	46.75 (118.7)	12 (30.5)
100 (378)	50.25 (127.6)	8.5 (21.6)

Figure 7 – Tank Capacity

LOADING (FOR WOOD FIBER MULCH, IF LIMING SEE PAGE 19):



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 clutch disengaged (turned off) and agitator control in the NEUTRAL position, start engine and allow it to warm up. See STARTING PROCEDURE on page 12.
2. Start filling unit with water. When water reaches the top of the agitator shaft, move agitator control to full REVERSE position.

Fill tank 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. This unit is supplied with a 6 in. (15.2cm) air gap fill port. Consult with local authorities before using water main in order to abide by all local ordinances.
 - C. Water tanker.
3. Piping System Cleanout Procedure (Purging Line):
 - A. Remove discharge nozzle and gasket from discharge boom.
 - B. Aim discharge boom assembly into an open area away from any persons, obstructions, or high voltage power lines.
 - C. Open discharge valve and close recirculation valve.
 - D. Increase throttle position to approximately 1/2 to 3/4 full.
 - E. Engage (turn on) clutch with a firm snap. Do NOT allow clutch to slip.
 - F. When discharge stream is clear, flush hose on reel (if applicable), open recirculation valve, and close discharge valve. After recirculation stream is clear, disengage (turn off) clutch.
 - G. Replace nozzle and gasket in discharge boom.
 4. Continue filling tank with water.
 5. Increase engine speed to full RPM. Governed speed of the engine on the FINN HydroSeeder® should be 2,700 to 2,800 RPM under load.
 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 open 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. Wood 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 to FORWARD for a moment to clear the obstruction, then return agitation to REVERSE.

⚠ CAUTION

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 minor personal injury, or damage to product or personal property.

- C. Fertilizer – Stand over hatch opening and drop the bag onto the bag cutter. Grasp both ends of the bag and dump material.
- D. All other additives – Consult with manufacturer for proper loading technique.
- 7. 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 material is mixed. 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 1/2 to 3/4 speed or enough to create movement in all of the corners of the tank. Do not over-agitate the slurry. Always discharge the material with the agitator control in 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 seed from swelling.

NOTE: If foaming occurs, reduce agitator speed.

PRIOR TO APPLICATION:

1. Operator(s) 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 platform. 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 six nozzles – two long distance and four fan nozzles. The smaller, long-distance nozzle is generally better suited for seed, fertilizer, and/or lime application, while the large, long-distance nozzle is better for wood fiber mulch application. All of the fan nozzles are generally suited for both types of application.

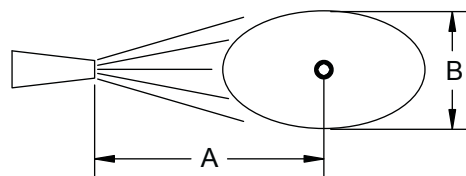


Figure 8 – Nozzle Spray Dimensions

Nozzle	Part Number	Distance (A)	Width (B)	Discharge Time
Lg. Long Distance	008465	Up to 200 ft (61 m)	-	7.5 min.
Sm. Long Distance	011703	Up to 150 ft (46 m)	-	30 min.
Sm. Narrow Fan	011707	Up to 75 ft (23 m)	15 ft (4.6 m)	30 min.
Sm. Wide Fan	011706	Up to 45 ft (14 m)	25 ft (7.6 m)	30 min.
Lg. Narrow Fan	011891	Up to 90 ft (28 m)	23 ft (7 m)	10.6 min.
Lg. Wide Fan	011890	Up to 50 ft (15 m)	35 ft (10.5 m)	10.6 min.

APPLICATION OF SLURRY:

I. GENERAL APPLICATION TECHNIQUES



Do not spray toward power lines, transformers or other high voltage conductors. Failure to comply WILL result in severe personal injury or death.



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 personal injury, or product or property damage.

1. Determine which nozzle would best suit the application needs according to the DISCHARGE NOZZLE SELECTION table on page 16.
2. Application of seed, fertilizer, and lime: 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. Application of wood and paper fiber: Whenever possible, aim the stream towards the ground to create a surface with small pockmarks which will help get 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.



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

5. While moving along area to be seeded, the operator should move the nozzle back and forth in a slow, even arc.
6. If application is to be interrupted for a short period of time, disengage (turn off) clutch. If shut-down is going to be for an extended period of time (i.e., lunch break, reloading, etc.), close the valves to prevent slurry from dewatering. Re-engage (turn on) clutch to continue application.
7. It may be necessary to slow the agitator as the tank empties to reduce foaming.

II. DISCHARGE THROUGH THE BOOM:

1. Move the discharge valve handle to the OPEN position, the recirculation valve handle to the CLOSED position, and engage (turn on) clutch. At this time, should the operator want to stop spraying for a short period, disengage (turn off) clutch; then re-engage (turn on) to continue spraying.
2. When the tank is empty, or when discontinuing discharge for an extended period of time, disengage (turn on) clutch, then immediately move the discharge valve to the CLOSED position, and idle the engine. This will maintain moisture in the discharge piping and help prevent plugging. Move the agitator control to the NEUTRAL position.

III. PROCEDURES WHEN USING HOSES:

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

A. PUMP TAKE-OFF SYSTEM OR HOSE REEL WITH REMOTE VALVE:

1. Open recirculation valve, close discharge valve, and close remote valve at the end of the hose.
2. Engage clutch. When stream is flowing freely through the recirculation line, open the 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 personal injury, or product or property damage.

3. With the engine running at approximately 2,000 RPM, open the remote valve at the end of the hose to discharge the load.
4. When finished spraying, close the remote valve, disengage the clutch, and stop the engine. If using fiber mulch, retain as much water as possible in the hose by elevating the hose ends or by coupling the hose ends together.
5. If another load is to be done, see RELOADING PROCEDURE on page 19. If finished for the day, follow the clean-up procedure and flush out the hose.

DANGER

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

B. EXTENSION HOSE SYSTEM - WITHOUT REMOTE VALVE:

1. Connect the extension hose into the end of the discharge boom.
2. A person controlling the end of the hose directs a second operator at the machine to control the clutch and adjust the engine speed.

CAUTION

Since the extension hose will be seeing the full output of the pump with the recirculation closed, the equipment operator and individual at the end of the hose should exercise extreme care when operating the unit on high pressure. The high pressure on the hose can exert strong forces, causing potential for the hose operator to lose control of hose or footing. The hose will require additional hose holders when operation occurs on slopes. Engage the clutch only after the hose operator is firmly positioned and has firm control of hose. Failure to comply could result in minor personal injury, or product or property damage.

3. When hose operator is ready, signal the second operator to engage clutch and slowly increase the engine RPM until the desired discharge pressure is reached.
4. When finished spraying, disengage the clutch, stop the engine, and close the discharge valve. If using fiber mulch, retain as much water as possible in the hose by elevating the hose ends or by coupling the hose ends together.
5. If another load is to be done, see RELOADING PROCEDURE on page 19. If finished for the day, follow clean-up procedure and flush out the hose.

C. HOSE WORK WITH RADIO REMOTE:

1. Begin with the engine around 1/4 throttle (1,400 RPM).
2. Close recirculation valve. If using an extension hose connected to the discharge boom, open the discharge valve. If using the hose reel, close the discharge valve and open the pump take-off valve to the hose reel.
3. Switch Remote On/Off switch on the control panel to the ON position.
4. When the operator is in position, engage (turn on) pump using the remote transmitter and increase throttle to the desired output.

NOTICE

To quickly shut off the engine at any time, press the red E-Stop button on the transmitter. To restart the engine, the key switch on the control panel must be returned to the OFF position and then re-started.

5. When finished spraying, turn the pump off and decrease the engine throttle to idle.

CAUTION

CAUTION: When using the radio remote control option, the secondary operator(s) must be aware that the machine can be activated remotely at any time after the Remote On/Off switch on the control panel is switched ON. If any maintenance or troubleshooting must be performed while the engine is running, the Remote On/Off switch must be in the OFF position. Failure to comply could result in minor personal injury, or product or property damage.

RELOADING PROCEDURE:

1. Start at step 2 in LOADING on page 15.
2. After last load of the day, refer to CLEANING AND MAINTENANCE on pages 23 and 24.
3. If the unit is equipped with an Air Flush System, refer to the Air Flush System Parts and OPERATOR'S MANUAL.

LIMING WITH THE HYDROSEEDER®:

In using large concentrations of granular solids through the HydroSeeder®, it is advisable to keep the slurry moving through the pump at all times. This keeps the solids from settling in the lines, and creating a clog. This unit was designed for the application of agricultural-grade lime only.

PROCEDURE:

1. With clutch disengaged (turned off) and agitator control in the NEUTRAL position, start engine and allow it to warm up. See STARTING PROCEDURE on page 12.
2. Start filling the unit with water. When water reaches the top of the agitator shaft, move agitator control to approximately 1/2 speed in REVERSE.
3. Open both the recirculation and discharge valves.
4. Remove discharge nozzle and gasket from discharge boom.
5. Aim discharge boom assembly into an open area away from any persons, obstructions, or high voltage power lines.
6. Move the throttle to approximately 1/2 engine speed.
7. Engage (turn on) clutch, and increase engine speed until you have reached maximum engine speed. A stream of water should be coming from the end of the recirculation pipe beside the hatch opening as well as from the boom.
8. As soon as both streams are clear, close discharge valve and make sure water is being recirculated back to the tank.
9. Decrease throttle to 3/4 speed. Increase agitator speed to full REVERSE.

NOTICE

Do not disengage (turn off) clutch.

10. Twenty lb (9.02 kg) of granular solids displaces approximately 1 gal (3.8 L) of water. When filling the tank with water, the volume of granular solids must be accounted for. For example, if using the maximum recommended capacity of 5,000 lb (2268 kg), 250 gal (946 L) $(5,000/20 = 250)$ would have to be subtracted from the total tank capacity, thus 1,750 gal (6,624 L) - 250 gal (946 L) = 1,500 gal (5,678 L). If 1,000 lb (454 kg) of solids were used, 50 gal (189 L) $(1,000/20)$ would have to be subtracted, thus, 1,750 gal (6,624 L) - 50 gal (189 L) = 1,700 gal (6,435 L).
11. Fill the tank to the required capacity for the rate of granular solids to be applied.
12. Load the material (see Loading pages 15 and 16, steps 5 through 8).
13. When ready to apply slurry, install gasket and nozzle into boom.
14. Move agitator control to 3/4 speed, forward.
15. With the clutch still engaged (turned on), open discharge valve.

CAUTION

To decrease pump wear and increase discharge distance, it may, at this point be desirable to close the recirculation valve. However, the recirculation valve must be open BEFORE closing the discharge valve if the application of slurry is to be interrupted. Extreme heat, which will cause damage and/or bodily injury, will occur if both valves are closed.

16. Apply the slurry. See APPLICATION OF SLURRY on pages 17 through 19.
17. If another load is to be applied, start again at step 1. If finished, follow the clean-up procedure.

TROUBLESHOOTING YOUR HYDROSEEDER®:

Because of the tremendous work load usually placed upon the HydroSeeder®, minor malfunctions will occur from time to time. If these are not remedied immediately, they could lead to poor performance and damage to the equipment. This section describes symptoms, possible causes, and the corrective action(s) to take.

1. Foam in the tank and air entrainment.

The mixture of dry materials with water will sometimes cause excessive foaming while other dry materials-with-water mixes will cause air entrainment. These situations will reveal themselves with the occurrences of an erratic slurry discharge, a drop in the pressure of the discharge, and a drop off in distance of slurry discharge.

Some solutions are:

- A. As slurry level drops in the tank, slow the agitator.
- B. Add 2 to 3 oz (6 to 9 cl) of an antifoaming agent to tank.
- C. If you can determine which additive is causing the air problem, either add it last or not at all – unless it's the water.
- D. Limit recirculation time as much as possible.
- E. Open pump suction bleed valve to exhaust air trapped in the pump or suction line. Close valve as soon as the air stops.

2. Plugging or clogging:



Turn off engine and disconnect battery cables before working on equipment. Failure to comply WILL result in severe personal injury or death.

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 airbound instead of plugged. To remedy this, see FOAMING OF SOLUTION AND LACK OF DISTANCE on page 22. 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 in or stoppage of the spray pattern.
 - A) Disengage (turn off) clutch.
 - B) Make certain that pump has stopped rotating.
 - C) Slowly and carefully remove nozzle.
 - D) Using the nozzle cleaning rod attached to the underside of the guard rail, clear the nozzle.



Before loosening any clamps, determine if the pipe is hot. If so, let it cool before attempting to perform repair. Failure to comply WILL result in severe personal injury or death.

- B. If the recirculation system is not working:
- Disengage (turn off) clutch and shut down engine.
 - Remove two clamps on each side of the recirculation valve.
 - Slide rubber seals back and remove valve assembly.
 - Check valve assembly, recirculation nozzle in the discharge pipe, and the recirculation pipe going into tank. Clear any obstructions.
 - Replace valve assembly and slide the seals back into place. Lubricate the outside of the seals.
 - Replace the clamps.
3. Obstruction in the pump, which can be determined by a drop in pressure. If the drop in pressure is accompanied by a frothy or whitish discharge stream, the blockage is in the suction line or sump area. To clear the pump:
- Disengage (turn off) clutch and stop the engine.
 - Loosen the suction pipe clamps. If there is material in the tank, shut off the suction line valve.
 - Remove the clamp closest to the pump.
- NOTE:** If no water comes out, obstruction is in sump area.
- Reach into the pump and remove the obstruction. If jammed, the pump suction cover may need to be removed.
 - Reassemble, removing pipe plug in the process.
 - Open suction line valve.
4. Obstruction in sump area, which is located at the bottom of the tank on the inside where the suction pipe is attached:
- Easiest: Clear the sump by backflushing through the discharge plumbing with the water supply hose.
 - Another method: 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.
 - Use a pipe or pole through the loading hatch opening to dislodge the obstruction.



Do not turn the shaft backward with a pipe wrench. This will unscrew pump impeller from pump shaft. Consequently, when 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
LEAKS:		
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, or torn.	Replace, always grease seal before clamping shut.
Suction Pipe Clamps	Rubber seal cracked, pinched, or torn	Replace, always grease seal before clamping shut.
Discharge Swivels	Not greased often enough	Rebuild swivels w/repair kit (part number 012397, qty. 2 required).
Pump Shaft	Pressure lubricator not serviced	Replace pump seal. Service automatic pressure lubricator daily. See page 10.
Pump Suction Cover	O-ring bad	Replace O-ring; use grease when replacing.
Discharge Boom or Nozzle Camlock Fittings	Worn or no gasket	Replace gasket.
MACHINE JUMPS DURING OPERATION:		
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.
FOAMING OF SOLUTION AND LACK OF DISTANCE:		
Pump loses prime – lacks distance – leaves excessive amount in tank –100 gal (378 L) or more	Sucking air in suction lines	Check all suction connections to see that rubber seals are in good shape. Grease seals before replacing clamps.
	Air entrainment	See TROUBLESHOOTING step 1 on page 20.
	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. See page 30.
	Suction partially plugged	Clean out machine. See pages 24 and 25.
	Nozzle worn or plugged	Clean nozzles; replace if necessary
	Fertilizer	Change type.
	Clutch slippage	Readjust clutch; See clutch manual.

TROUBLESHOOTING YOUR HYDROSEEDER®:

Problem	Probable Causes	Suggested Solutions
VALVE:		
Valve stuck	Frozen	Thaw out ice and lubricate; leave in discharge position during storage.
Constant plugging during operation	Foreign material in slurry	Drain and clean out tank; check sump area for foreign materials.
Constant plugging during loading and discharging	Loading HydroSeeder® before tank is half full of water	Reinstruct your operator. See pages 15 and 16.
	Incorrect loading procedure	See pages 15 and 16.
	Improper operation by operator	Reinstruct your operator. Review OPERATOR'S MANUAL.
	Clutch slipping	Readjust clutch. See manual.
	Not moving valve handle far enough	Valve should be fully open.
	Machine not being flushed out prior to reloading	See page 15.
	Machine not being run at correct RPM during loading	Reinstruct your operator. See page 15.
Extension hose plugs after use	Letting water run out, leaving wood fiber mulch to dry out	If hose has to be uncoupled, seal ends, to keep water in hose and prevent wood fiber mulch from drying out.
CLUTCH:		
Does not pull load or overheats	Out of adjustment	Readjust clutch. See clutch manual.
Jumps out of engagement	Too loose or too tight	Readjust clutch. See clutch manual.
PUMP:		
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.

CLEANING AND MAINTENANCE:

AFTER FIRST 4 TO 8 HOURS OF OPERATION:

1. Check and adjust clutch. See clutch manual.

DAILY:

1. Cleaning the HydroSeeder®
 - A. Fill slurry tank to center of agitator shaft with clean water.
 - B. Move agitator lever to full speed to flush off inside of tank top and walls.
 - C. Remove discharge nozzle and gasket from discharge boom.
 - D. While pointing discharge toward an open area, move discharge valve handle to DISCHARGE position and engage (turn on) clutch. Allow to discharge until clear water is coming out.
 - E. Move recirculation valve handle to RECIRCULATION and allow to run momentarily.
 - F. Disengage (turn off) clutch, idle the engine, move valve handle to DISCHARGE position, move agitator handle to NEUTRAL, and turn off engine.
 - G. Always remove drain plug and allow the 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 the HydroSeeder®, including the radiator, to remove any corrosive materials.
 - J. If using lime, daily maintenance should be performed after every load.
 - K. Clean out extension hoses.
 - L. Make sure all tank vents are clean and open. Do not plug or cap.
2. Lubricating the HydroSeeder® – See LUBRICATION AND FLUIDS CHART on pages 26 and 27.

CAUTION

Lubrication should be performed IMMEDIATELY AFTER cleaning of the equipment, making sure the engine is not running. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.

- A. Lubricate the agitator shaft bearings located on the outside front and rear of slurry tank.
- B. Service the automatic pressure lubricator on pump as needed. See page 10.
- C. Check the engine oil and replenish when necessary. Change oil and filter after first 100 hours, then 250 hours thereafter. Consult the engine operator's manual for the correct grade of oil and the engine break-in procedure.
- D. Lubricate the swivel on the discharge assembly and the swivel on the hose reel.
- E. If equipped with the Air Flush Option, refer to the Air Flush System Manual.

WEEKLY OR EVERY 40 HOURS OF OPERATION:

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 on page 24. Additionally, lubricate the four grease fittings on the clutch/pump.
3. Check the level in the hydraulic oil reservoir; maintain level at sight gauge.
4. Check the clutch adjustment to ensure that it "snaps" in and out of engagement. Adjust the clutch with the engine off.
5. Check the anti freeze in the radiator.
6. Inspect the slurry tank for build-up of residue in the suction area and clear if necessary.
7. Check and clean engine radiator. Flush with clear, low-pressure water and blow dry with compressed air. Do NOT use high-pressure water spray.
8. Check pivoting hose reel swivel bolt. Ensure proper torque. Replace bolts if any show signs of wear.

SEASONAL AND WINTER STORAGE MAINTENANCE:

1. Drain the slurry tank of all water, prior to storage, and leave the drain plug uninstalled.
2. If possible, cover machine with tarp or park inside of an enclosure.
3. 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.
4. Pour 1 qt (0.95 L) of mineral oil or environmentally safe lubricant into the pump housing and spin pump by hand to prevent rust in the pump. Remove drain plug.
5. Chip and steel brush any interior rust spots in the slurry-tank and touch up with paint. See Numbers 2 and 3 in IV. MAINTENANCE of the HYDROSEEDER® SAFETY SUMMARY SECTION on page 4.
6. Lubricate all fittings.
7. Check anti freeze in radiator.
8. Lubricate equipment again just prior to putting into operation after having been in storage.
10. Change hydraulic oil and filter. (500 hours)
11. Disconnect battery cables. In cold weather, remove battery and store it in a safe, warm place.
12. Add fuel stabilizer to fuel tank.

HYDRAULIC SYSTEM:

The hydraulic system on your FINN HydroSeeder® is designed to give trouble-free service, if maintained as required. The most important areas of maintenance are the hydraulic oil and filtration. The reservoir holds 22 gal (83 L) of Mobil DTE-13M or equivalent 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 25 micron absolute filter (FINN part number 021618). The hydraulic system relief is factory-set at 2,800 psi (19,305 kPa).

NOTES

MACHINE LUBRICATION DIAGRAM

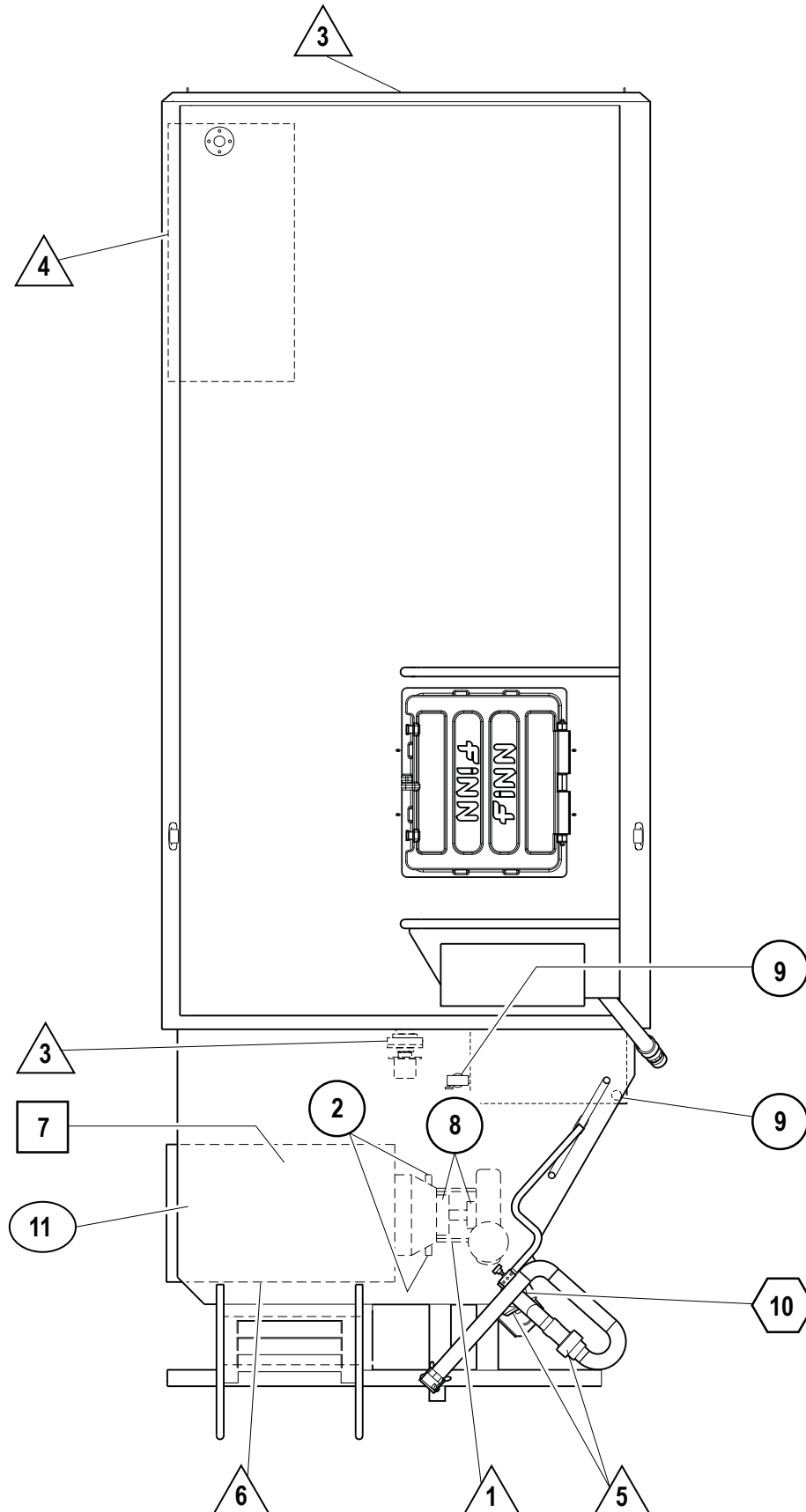


Figure 9 – Lubrication and Adjustment Points






LUBRICATION AND FLUIDS CHART

Ref. No.	Location	Lubricant	Frequency	Number
1	Check Grease Level in Pressure Lubricator	BL	Daily	1
2	Check Clutch Lever Bearings	CL	Weekly	2
3	Grease Agitator Shaft Bearings	CL	Daily	2
4	Check Fuel Level	DF	Daily	1
5	Grease Discharge Swivels	CL	Daily	2
6	Check Engine Oil Level	MO	Daily	1
7	Check Engine Oil and Filter	MO	See Engine Manual	1
8	Grease Pump Bearings	BL	Weekly	2
9	Check Hydraulic Fluid Level	HO	Weekly	1
	Change Hydraulic Fluid and Filter	HO	Seasonally or 500 Hours	1
10	Grease Discharge and Recirculation Valves	SL	Each Load	1
11	Change Engine Coolant	AF	Seasonally	1

LUBRICANT OR FLUID USED

BL	Bearing Lube (Soda-Based)
CL	Chassis Lubricant
MO	Motor Oil – See Engine Manual
HO	Mobil DTE-13M or Equivalent Hydraulic Oil
SL	Special Stick Lubricant
AF	50/50 Anti Freeze and Water Mixture
DF	Diesel Fuel

TIME KEY

DAILY (8 Hours)	
WEEKLY (40 Hours)	
EACH LOAD	
SEASONALLY (500 Hours)	
SEE ENGINE MANUAL	

FLUID CAPACITIES

Fuel - 38 gal (144 L)
 Hydraulic Oil - 22 gal (83 L)
 Engine Coolant - 4.25 gal (16 L) 50/50 Mix Only
 Engine Oil - See Engine Manual

CLUMP MAINTENANCE SECTION:



Clump maintenance to be done only while engine is not running, and battery cables are disconnected. Failure to comply could result in minor personal injury, or product or property damage.

A. FACTORY TOLERANCES

1. To check clump tolerances, loosen the two clamps on the pump suction piping and remove the inlet elbow. Through the pump suction hole, insert a feeler gauge between the impeller (7) and the suction cover (1). This measurement on a new clump is between .040 and .045 in (1.00 and 1.15 mm).

B. IMPELLER CLEARANCE

TO BRING THE CLUMP BACK TO PROPER TOLERANCE, PROCEED AS FOLLOWS:

1. Loosen four bolts on nuts on pump suction cover (1) and push into pump casing (5) until pump suction cover hits pump impeller (3). Pump impeller should be in full contact with pump suction cover.
2. Tighten eight housing bolts finger tight. Pump impeller should rub the pump suction cover and not turn easily through one revolution.
3. Tighten four bolts on nuts finger tight until they touch the pump casing (5).
4. Back off eight housing bolts 3/4 turn.



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 pump suction cover.

5. Tighten four bolts on nuts 3/4 turn and tighten four nuts to 15 lb-ft (20 N•m).
6. Tighten eight housing bolts 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.

C. CLEANING

1. To clean pump impeller (3), loosen the two Victaulic pipe clamps and remove the 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 housing bolts holding 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 toolbox, and position it so that 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 wrench should face in toward the pump impeller and be positioned between any two of the pump impeller fins. Bolt the wrench securely in place with one of the suction cover bolts. Using a pipe wrench on the clump shaft (10), unscrew pump impeller turning clump shaft in a clockwise direction. Be careful not to unscrew pump impeller too far before removing the puller wrench.

D. INSTALLING NEW SEAL ASSEMBLY

NOTICE

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

1. To replace seal assembly (4), perform the steps in CLEANING on page 30, and remove pump casing (5) by removing three bolts holding the pump casing to the clump housing (14).
2. After cleaning all parts, including pump shaft, begin reassembly of pump. Install seal grease retainer (6) with the cavity portion of seal facing outward. Rebolt pump casing onto clump housing (14) using three bolts previously removed. 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 shaft. Lubricate the inside of the bellows assembly with a light oil lubricant and check to make sure the steel ring is stuck (glued) to the end of the assembly. Slide the bellows assembly onto pump shaft and push until the steel ring is against the ceramic seat.
3. Install the seal spring on the hub of pump impeller. After coating the threads on the clump shaft (10) with an anti-seize compound, install the pump impeller (3), seating it securely.

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 pump suction cover.

4. Utilizing O-ring (2), reinstall pump suction cover (1) using eight housing bolts previously removed. At this time, check to see that the clump runs freely. If pump impeller (3) rubs pump suction cover (1), you do not have impeller tight on clump shaft (10) or the pump suction cover needs to be readjusted. See IMPELLER CLEARANCE on page 30. Tighten bolts uniformly using 15 lb-ft (20 N•m) on the torque wrench.
5. After reinstalling suction pipe assembly, lubricate and tighten Victaulic clamps. Service automatic pressure lubricator. See page 10.

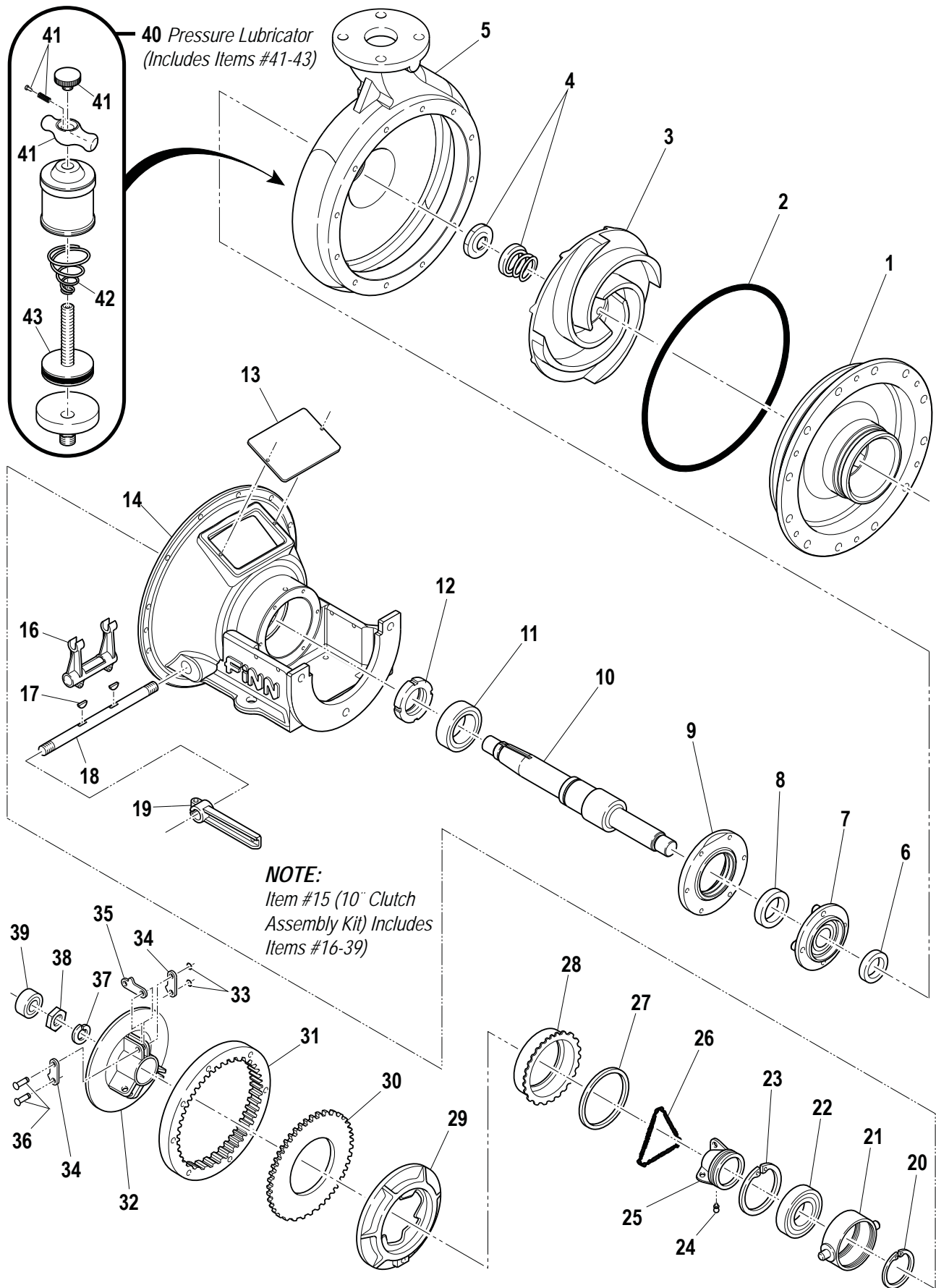


Figure 17 - Clump Assembly

CLUMP ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	005146	Pump Suction Cover	1
2	005150	O-Ring	1
3	005145	Pump Impeller	1
4	006443	Mechanical Shaft Seal	1
5	005144	Pump Casing	1
6	006444	Grease Retainer	1
7	005446	Flange Pilot Bearing	1
8	012733	Grease Retainer Seal	1
9	012734	Bearing Retainer Ring	1
10	012729	Clump Shaft	1
11	012731	Bearing	1
12	012732	SN-11 Nut	1
13	005570	Clump Name Plate	1
14	012695	Clump Housing	1
15	012783	10" Clutch Assembly Kit	1
16	100323	Clutch Yoke	1
17	100042	Woodruff Key	2
18	100040	Yoke Shaft	1
19	005574-02	Modified Clutch Lever	1
20	012783-06	External Snap Ring	1
21	100030	Bearing Carrier	1
22	100031	Release Bearing	1
23	012783-05	Internal Snap Ring	1
24	100224	Lube Fitting	1
25	012783-04	Release Sleeve	1
26	100026	Lever Spring	1
27	100032	Adjusting Ring Plate	1
28	100013	Adjusting Ring	1
29	100028	Pressure Plate	1
30	100341	10" Clutch Disc	1
31	100003	Driving Ring	1
32	012783-03	Clutch Body	1
33	100008	Retaining Ring	6
34	100019	Connecting Link	6
35	100018	Release Lever	6
36	100009	Clevis Pin	6
37	012783-02	Lock Washer	1
38	012783-01	Drive Shaft Nut	1
39	022314	Pilot Bearing	1
	KU19418-25692	Pilot Bearing Adaptor	1
40	002383	Automatic Pressure Lubricator	1
41	008190	Screw, Nut, Follower, and Spring	1
		NOT AVAILABLE	
42	007954	Spring	1
43	008189	Plunger	1

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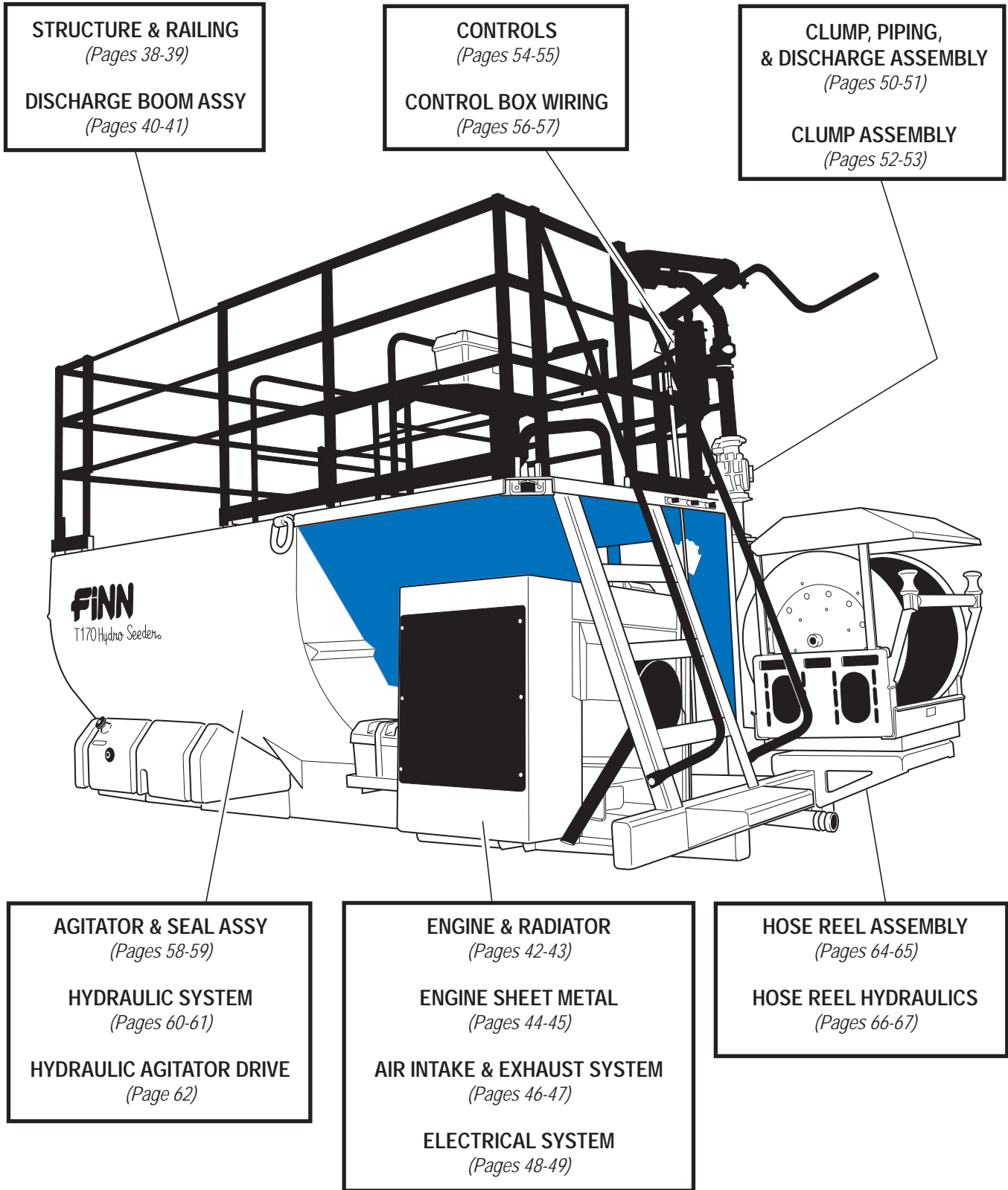
HydroSeeder®

Parts Manual

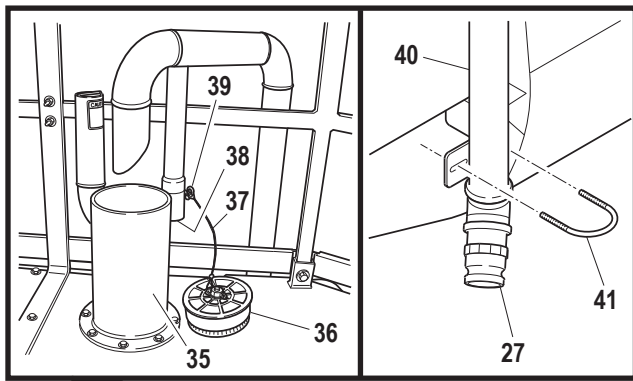
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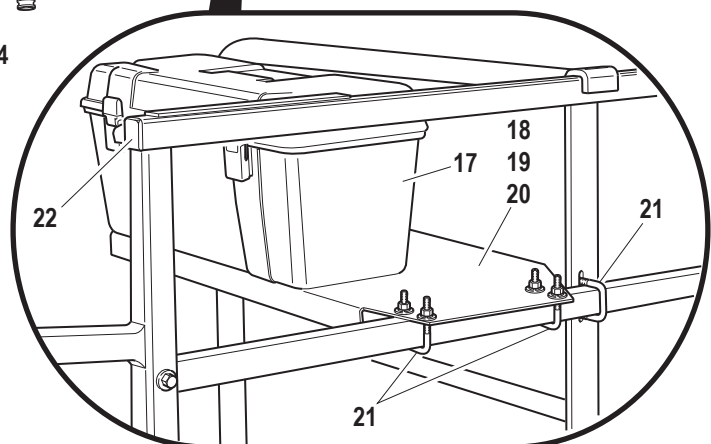
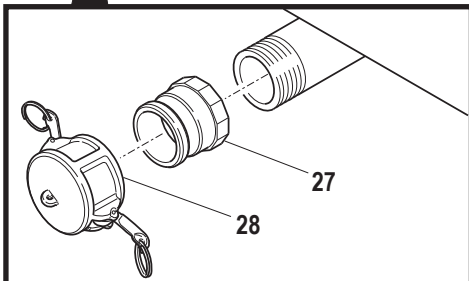
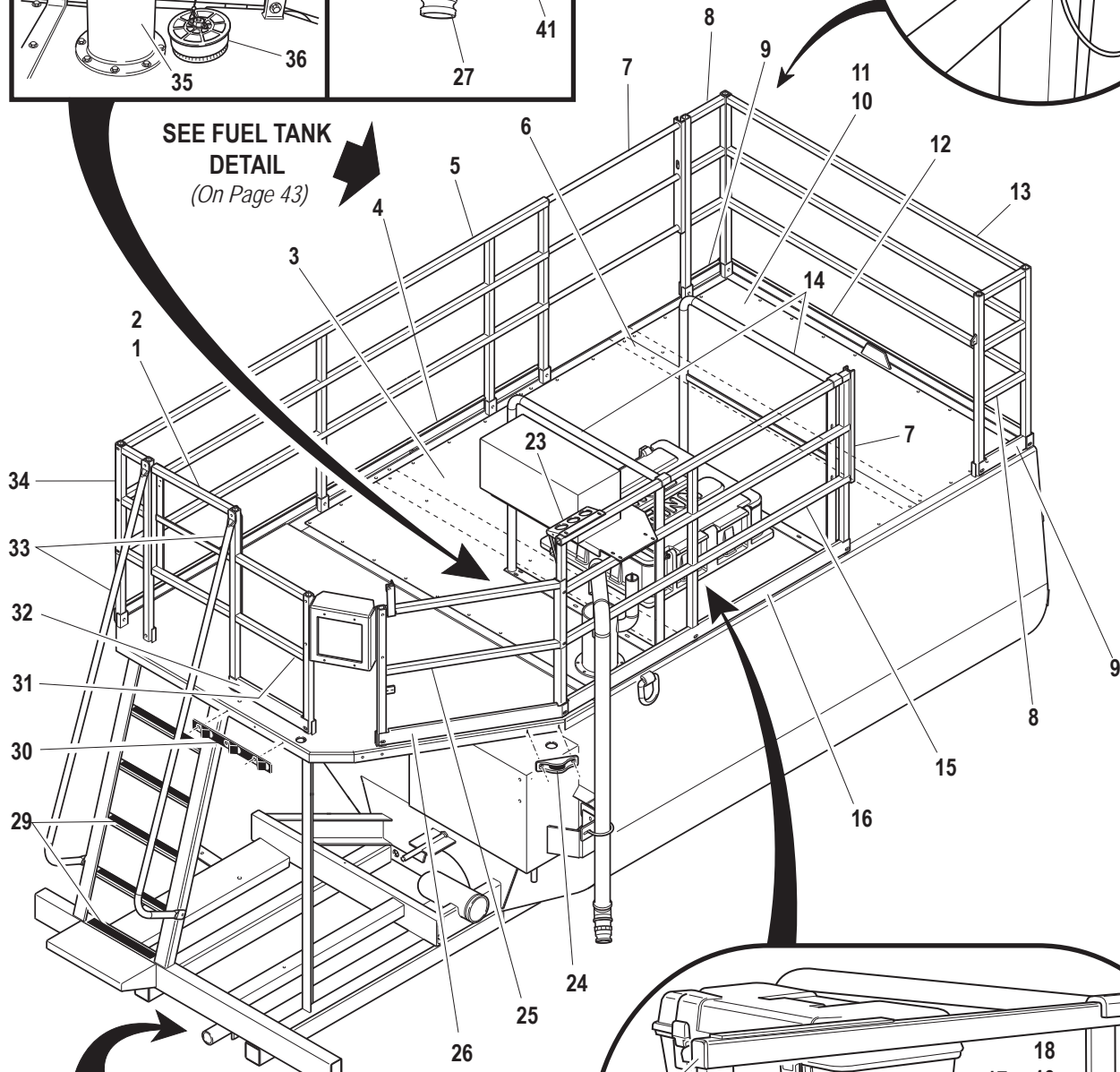
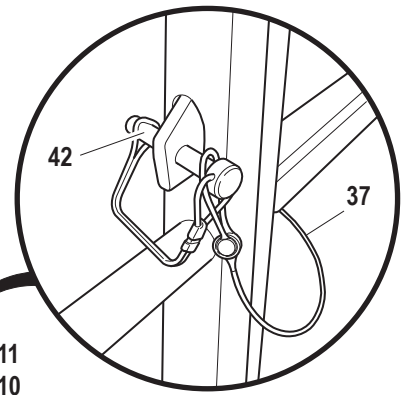
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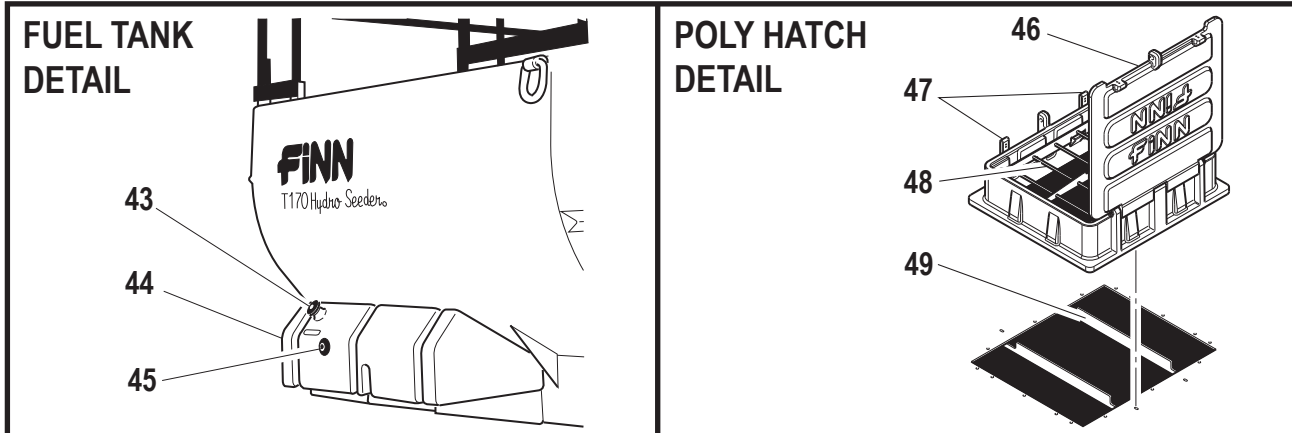
DISCHARGE HOSE EXTENSIONS	Page 63
DECALS	Pages 68-69
RECOMMENDED SPARE PARTS & REPAIR KITS	Page 70
TOOL KIT	Page 71



SEE FUEL TANK
DETAIL
(On Page 43)



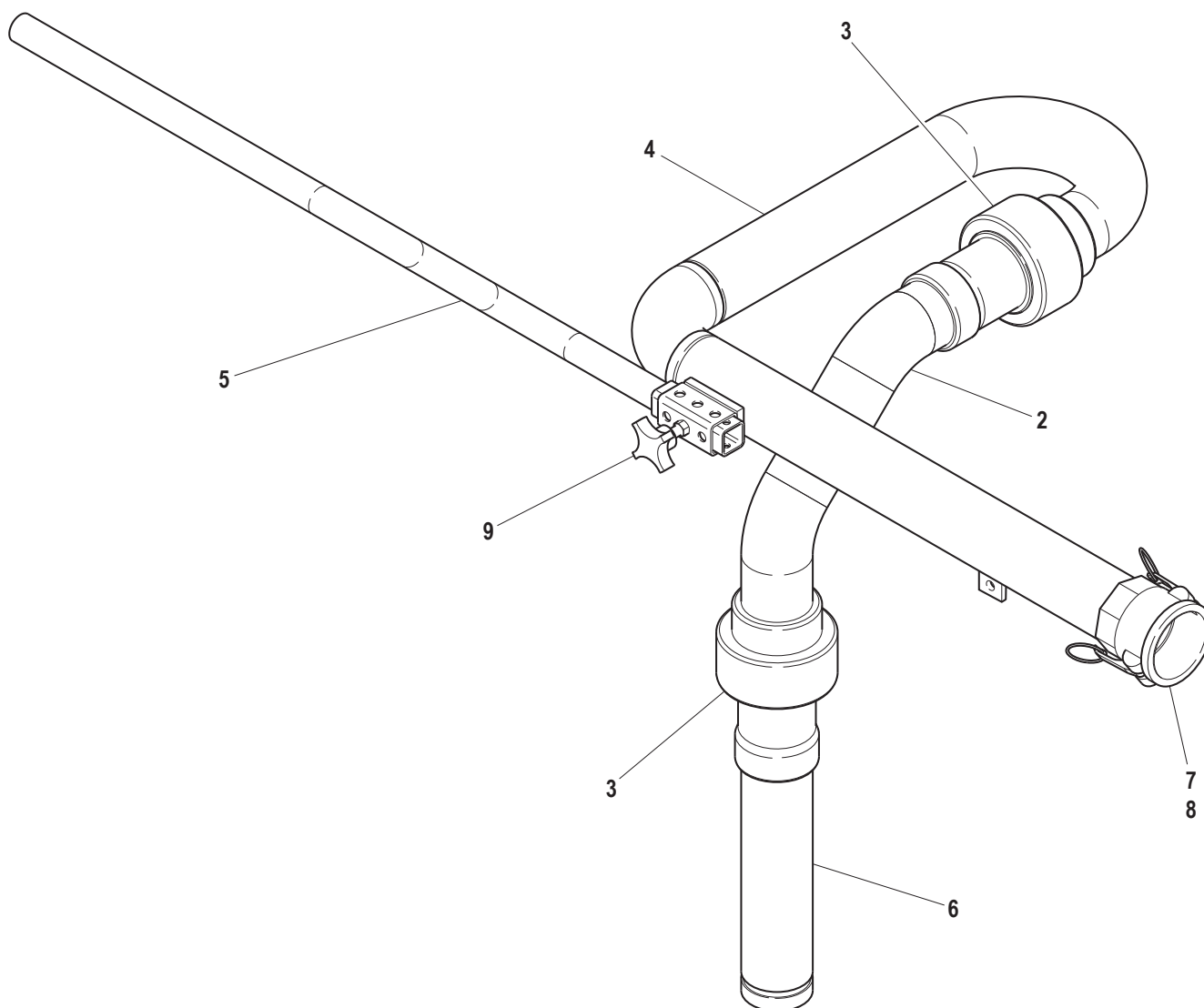
**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**



STRUCTURE and RAILING

Ref. No.	Part Number	Description	No. Req'd
1	013149	Swing Gate	1
2	013122	Gate Spring	1
3	F330-0108	Main Tank Top	1
4	F170-0015	Left Side Toe Rail	1
5	008639	Left Side Guard Rail	1
6	F330-0120	Front Tank Top Support	2
7	012703	Slide Gate	2
8	012737	Front Side Rail	2
9	F280-0005	Front Side Toe Rail	2
10	F330-0109	Small Tank Top	1
11	190047	Foam Gasket	A/R (Ft.)
12	F330-0082	Front Toe Rail	1
13	012705	Front Guard Rail	1
14	012708	Hatch Guard Rail	2
15	012702	Right Rear Guard Rail	1
16	F330-0086	Right Rear Toe Rail	1
17	012669	Toolbox	1
18	F330-0078	Tool Box Mount	1
19	085152	Rubber Stud Mount	2
20	005619	U-Bolt For 1-1/4" Pipe	2
21	012514	Square U-Bolt For 1-1/2" Square Pipe	6
22	005613	Square Tubing Plug	10
23	F330-0075	Nozzle Holder	1
24	002290	Rear Marker Light - Red	2
25	012736	Rear Corner Guard Rail	1
26	F330-0084	Rear Corner Toe Rail	1
27	002191	2-1/2" Male Brass Adapter	2
28	002190	Dust Cap w/ Gasket - Main Tank Drain	1
	006513	Dust Cap Gasket	1
29	190018	2" Wide Conformable Safety Walk	A/R (Ft.)
30	005437	Identification Light	1
31	012701	Long Rear Guard Rail	1
32	F330-0089	Long Rear Toe Rail	1
33	012771	Ladder Hand Rail	2
34	012707	Short Rear Guard Rail	1
35	012750	Fill Stack Extension	1
36	008470	Fill Port Plug	1
37	005700	Nylon Lanyard	3
38	012515	1-1/4" Pipe Plug	1
39	012296	Closed "S"-Hook	2
40	012829	Fill Port	1
41	085148	U-Bolt	1
42	FW71225	Snapper Pin	2
43	005726	Fuel Cap (Diesel)	1
44	012693	Poly Fuel Tank	1
45	012694	Fuel Gauge	1
46	012833	Poly Hatch Assembly	1
47	005433	Soft Latch	2
48	012834	Bag Cutter - Stainless Steel	1
49	F120-0006	Hatch Safety Rail	1

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



NOTE:
ITEM #1 (DISCHARGE BOOM ASSEMBLY)
INCLUDES ITEMS #2 - #7.

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

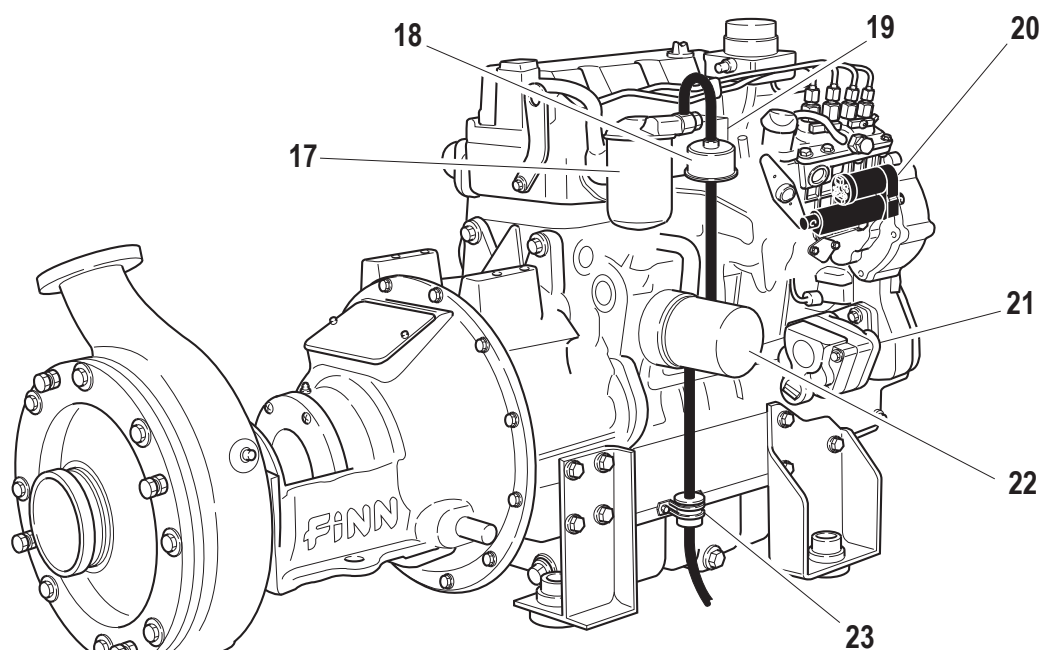
DISCHARGE BOOM ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	012764	Discharge Boom Assembly	1
2	012763	Lower Boom Discharge Weldment	1
3	012283	2-1/2" Straight Swivel	2
4	012762	Upper Boom Discharge Weldment	1
5	013159	Boom Discharge Handle Weldment	1
6	012726-01	Boom Stand Pipe	1
7	010544	2-1/2" Female Coupler	1
8	006513	2-1/2" Coupler Gasket	1
9	011914	Black Hand Knob	1
NOT ILLUSTRATED			
	012397	Swivel Repair Kit	A/R

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



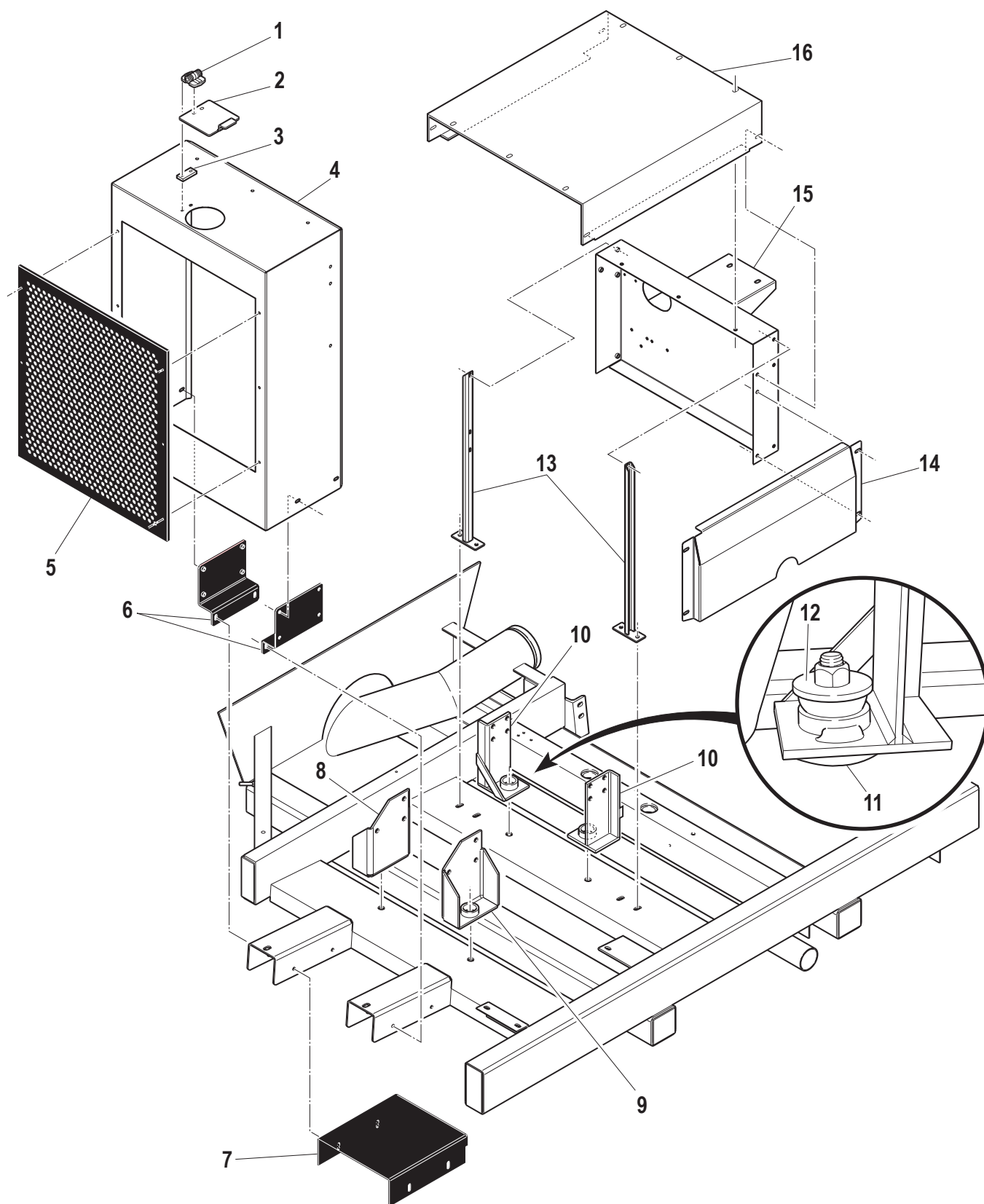
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ENGINE and RADIATOR

Ref. No.	Part Number	Description	No. Req'd
1	075200	Kubota Tier II V3300 Diesel Engine	1
2	KU1G521-97010	Fan Belt	1
3	075565	Fan Spacer	1
4	075563	Pusher Fan	1
5	075562	Radiator	1
6	023807	Radiator Cap	1
7	F816-0008-01	Fan Guard	1
8	F330-0096	Fan Guard Mounting Strap	1
9	F170-0042	Top Radiator Mount	1
10	F170-0014	Radiator Fan Shroud	1
11	075227	Upper Radiator Hose	1
12	022450	Worm Gear Clamp	4
13	075228	Lower Radiator Hose	1
14	008641	Isolator Mount	2
15	008676	Radiator Mount	1
16	023438	Rubber Shock Mount	1
17	KU16631-43560	Fuel Filter	1
18	075202	Electric Fuel Pump	1
19	008662	Electric Fuel Pump Mount	1
20	023814	Throttle Actuator	1
	075292-05	Throttle Pivot	1
	075284-01	Actuation Strap	1
	075415	Throttle Bracket	1
21	008640	Hydraulic Pump	1
	075201	Hydraulic Pump Base Kit	1
22	KU1C010-32430	Oil Filter	1
23	080105	Pre-Fuel Filter	1

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

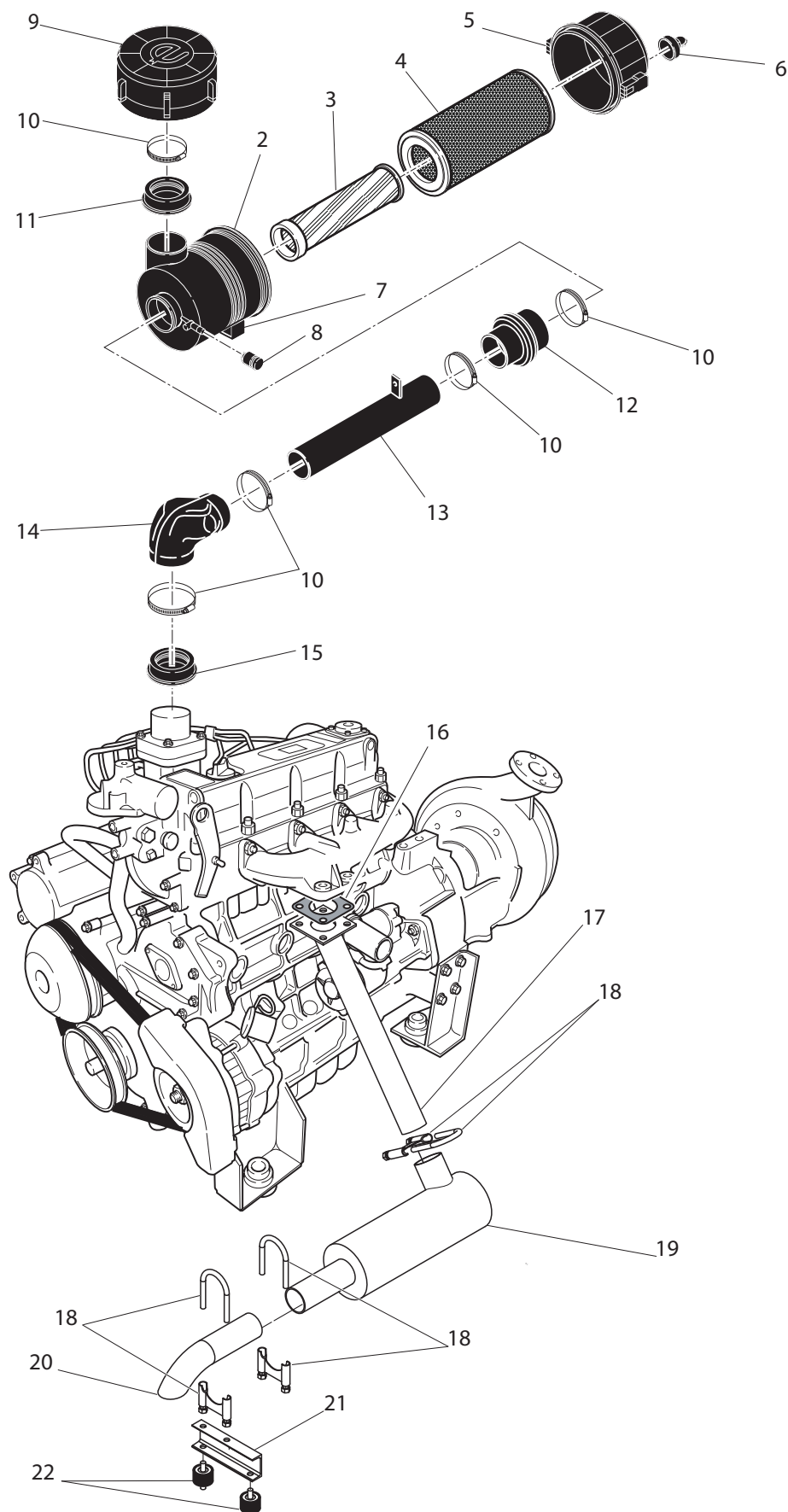
ENGINE SHEET METAL

Ref. No.	Part Number	Description	No. Req'd
1	055669	Door Positioning Hinge	1
2	F260-0006-02	Radiator Cap Cover	1
3	F260-0006-03	Hinge Spacer	1
4	F170-0023	Radiator Shroud	1
5	075562-01	Radiator Screen	1
6	F170-0026	Front Sheet Metal Mount	2
7	F170-0020	Radiator Pan	1
8	F170-0018	Left Front Engine Foot	1
9	F170-0019	Right Front Engine Foot	1
10	052397	Rear Engine Mount	2
11	007433	Rubber Shock Mount	6*
12	007887	Snubbing Washer	6*
13	008664	Rear Sheet Metal Mount	2
14	F170-0035	Engine Side Panel	1
15	008663	Rear Engine Panel Weldment	1
16	F916-0033	Engine Top Cover	1

***NOTE:**

Only four (4) pieces are shown. The remaining two (2) secure the clump to the engine base.

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



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

AIR INTAKE and EXHAUST SYSTEM

Ref. No.	Part Number	Description	No. Req'd
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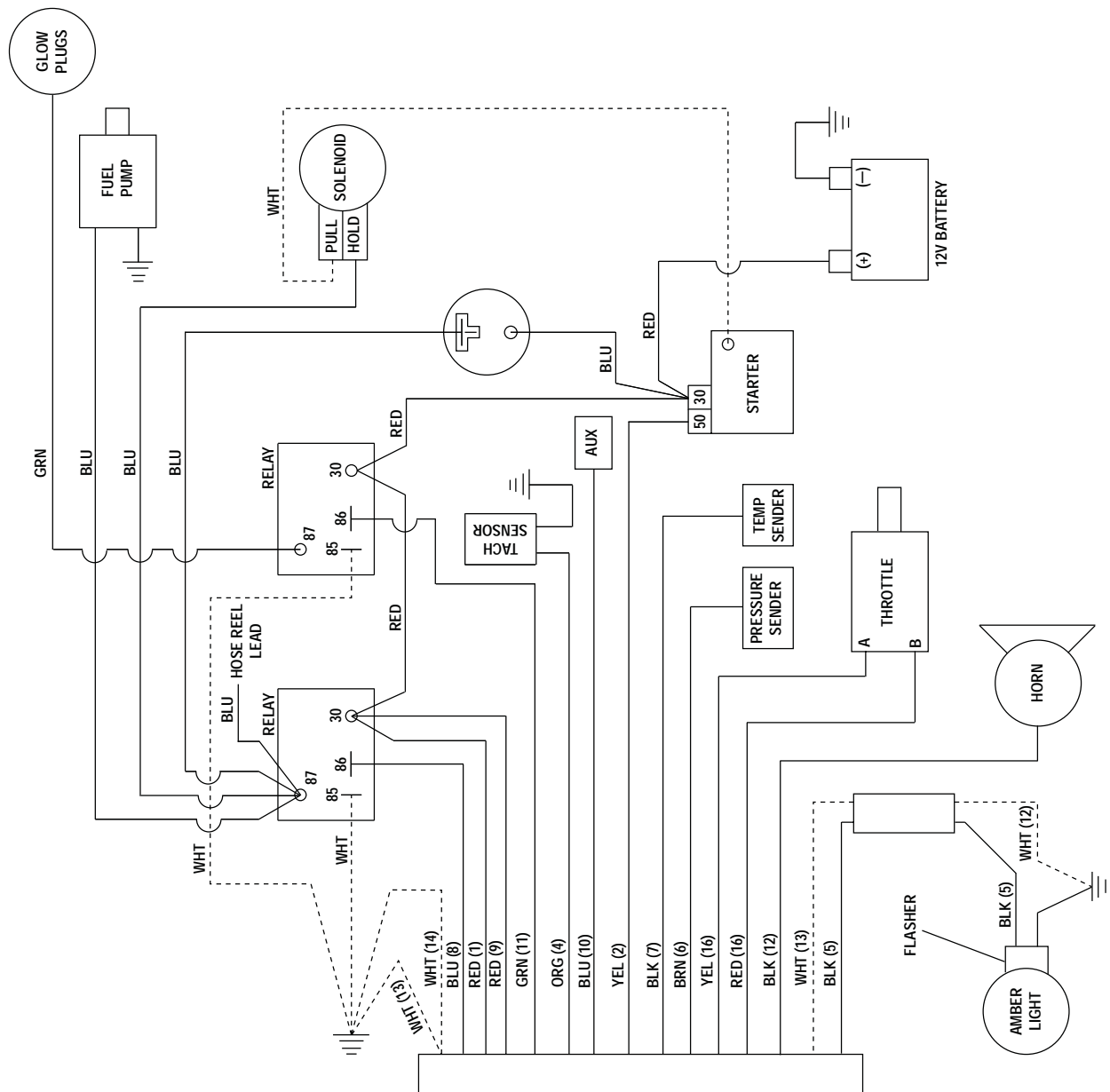
AIR INTAKE ASSEMBLY

1	012646	Air Cleaner Assembly	1
2	012621	Air Cleaner	1
3	012623	Safety Filter Element (3.75-E2)	1 per
4	012622	Main Filter Element (3.75-E1)	1 per
5	012621D	Filter Cap	1 per
6	012621A	Flapper Valve	1 per
7	012621C	Mounting Bracket	1 per
8	012621B	Dust Load Indicator Gauge	1 per
9	012608	Pre-Cleaner	1
10	022657	Worm Gear Clamp	5
11	012609	Pre-Cleaner Adapter	1
12	008618	Hump Hose Reducer	1
13	008652	Air Cleaner Tube Weldment	1
14	008666	Hump Adapter	1
15	075244	Reducer	1

EXHAUST ASSEMBLY

16	KU19258-12230	V3300 Exhaust Gasket	1
17	008697	Exhaust Extension	1
18	000461	2" Muffler Clamp	3
19	008694	Silencer	1
20	052110	Tail Pipe	1
21	008698	Exhaust Mount	1
22	023438	Rubber Shock Mount	2

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



(12)	BLUE	BLACK	BROWN	BLACK	ORANGE	OPEN	YELLOW	RED
8	16	7	6	5	4	3	2	1
YELLOW	RED	WHITE	WHITE	WHITE	BLACK	GREEN	BLUE	RED
					(12)			

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

ENGINE WIRING

Part Number	Description	No. Req'd
FW75307	12 VDC/75 AMP SPST Power Relay	2
007336	Amber Warning Light	1
021198	Flasher	1
006499	Horn	1
011851	12V Battery - Interstate #C27-XHD	1
011770	Battery Box	1
F330-0054	Battery Box Holder	1
F330-0092	Battery Box Hold Down	1
080096	Positive Battery Cable	1
000241	Ground Strap	1
075202	Electric Fuel Pump	1
023814	Throttle Actuator	1
FW71680	Electrical Housing	1
FW71357	Female Insert – 16 Pin	1
075310	Temperature Sender	1
075308	Pressure Sender	1
075329	Tach Sensor	1
008649A	Engine Wiring harness	1

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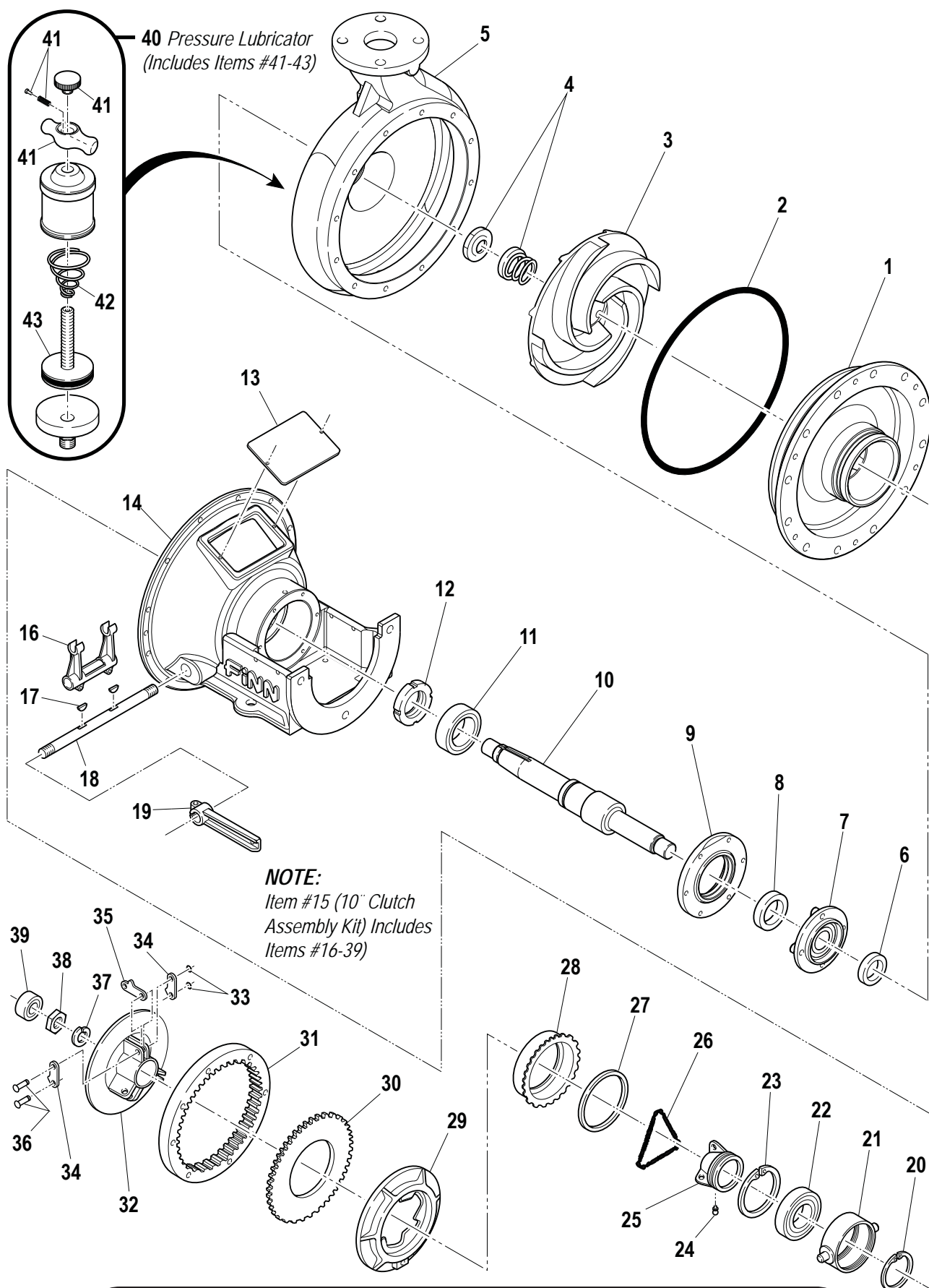


LBT170-MO

CLUMP, PIPING, and DISCHARGE ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	011736	Victaulic Pipe Clamp	2
2	011919	Victaulic Pipe Clamp Seal	1 Per
3	008259	90° Pipe Elbow	1
4	0X1232	3/4-10 x 2" Lg. Hex Hd. Cap Screw (Grade 5/Zinc)	16
5	012722	Suction Valve Flange Weldment	2
6	012058	Flanged Suction Gate Valve	1
7	012491	Suction Valve Bleeder Valve Assembly	1
8	012491-02	Suction Elbow Weldment	1 Per
9	012457	Stainless Steel Ball Valve	1 Per
10	160428	1/2" Dia. x 4" Lg. SCH 40 Nipple	1 Per
11	160006	90° Elbow	1 Per
12	008471	Reducing Pipe Clamp	1
13	008472	Reducing Pipe Clamp Seal	1
14	008469	Pump Discharge Gasket	1
15	008645	Pump Discharge Flange Weldment	1
16	002771	Victaulic Pipe Clamp	3
17	002820	Victaulic Pipe Clamp Seal	1 Per
18	008647	Lower Discharge Pipe Weldment	1
19	160263	Pipe Cap	1
20	008646	Discharge Valve Stand Pipe	1
21	011727-09	Recirculation Nozzle	1
22	006721	Victaulic Pipe Clamp	3
23	006722	Victaulic Pipe Clamp Seal	1 Per
24	011727-10	Recirculation Nozzle	1
25	011776	Round Port 2-Way Valve	1
26	012786	Recirculation Lever	1 Per
27	011950	Gasket	1 Per
28	011951	Spring	1 Per
29	004962	Lube Screw	1
30	F330-0090	Recirculation Valve Stabilizer	1
31	011727-11	Recirculation Nozzle	1
32	012726-03	Recirculation Pipe	1
33	012462-05	Guardian Coupling	1
34	005703-02	Coupling Deflector	1
35	011777	Round Port 2-Way Valve	1
36	011953	Spring	1
37	008487	Gasket	1
38	004962	Lube Screw	1
39	012758	Valve Foot Pedal	1
40	011882	Toe-Goe Pipe	1

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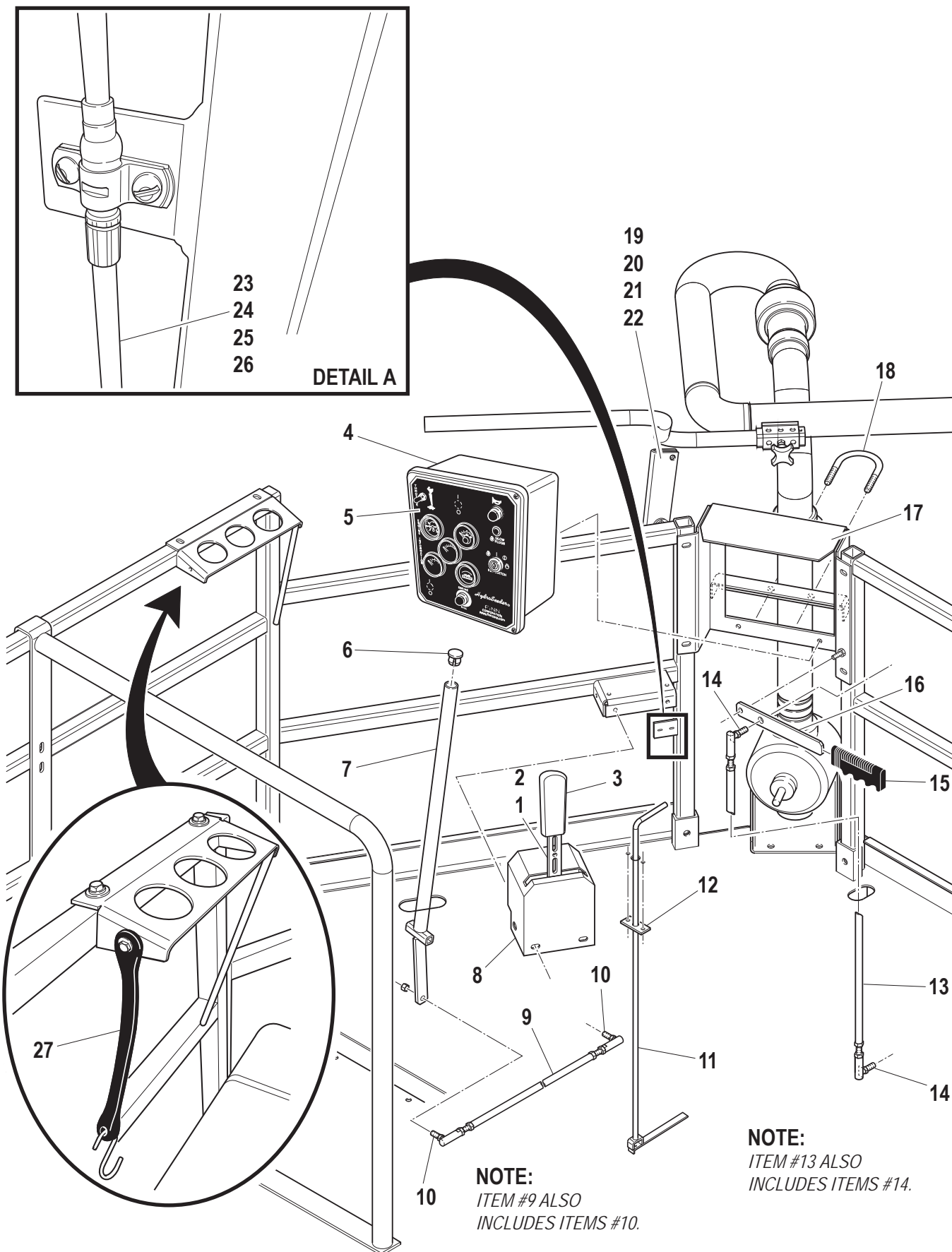


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

CLUMP ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	005146	Pump Suction Cover	1
2	005150	O-Ring	1
3	005145	Pump Impeller	1
4	006443	Mechanical Shaft Seal	1
5	005144	Pump Casing	1
6	006444	Grease Retainer	1
7	005446	Flange Pilot Bearing	1
8	012733	Grease Retainer Seal	1
9	012734	Bearing Retainer Ring	1
10	012729	Clump Shaft	1
11	012731	Bearing	1
12	012732	SN-11 Nut	1
13	005570	Clump Name Plate	1
14	012695	Clump Housing	1
15	012783	10" Clutch Assembly Kit	1
16	100323	Clutch Yoke	1
17	100042	Woodruff Key	2
18	100040	Yoke Shaft	1
19	005574-02	Modified Clutch Lever	1
20	012783-06	External Snap Ring	1
21	100030	Bearing Carrier	1
22	100031	Release Bearing	1
23	012783-05	Internal Snap Ring	1
24	100224	Lube Fitting	1
25	012783-04	Release Sleeve	1
26	100026	Lever Spring	1
27	100032	Adjusting Ring Plate	1
28	100013	Adjusting Ring	1
29	100028	Pressure Plate	1
30	100341	10" Clutch Disc	1
31	100003	Driving Ring	1
32	012783-03	Clutch Body	1
33	100008	Retaining Ring	6
34	100019	Connecting Link	6
35	100018	Release Lever	6
36	100009	Clevis Pin	6
37	012783-02	Lock Washer	1
38	012783-01	Drive Shaft Nut	1
39	022314	Pilot Bearing	1
	KU19418-25692	Pilot Bearing Adaptor	1
40	002383	Automatic Pressure Lubricator	1
41	008190	Screw, Nut, Follower, and Spring	1
		NOT AVAILABLE	
42	007954	Spring	1
43			1

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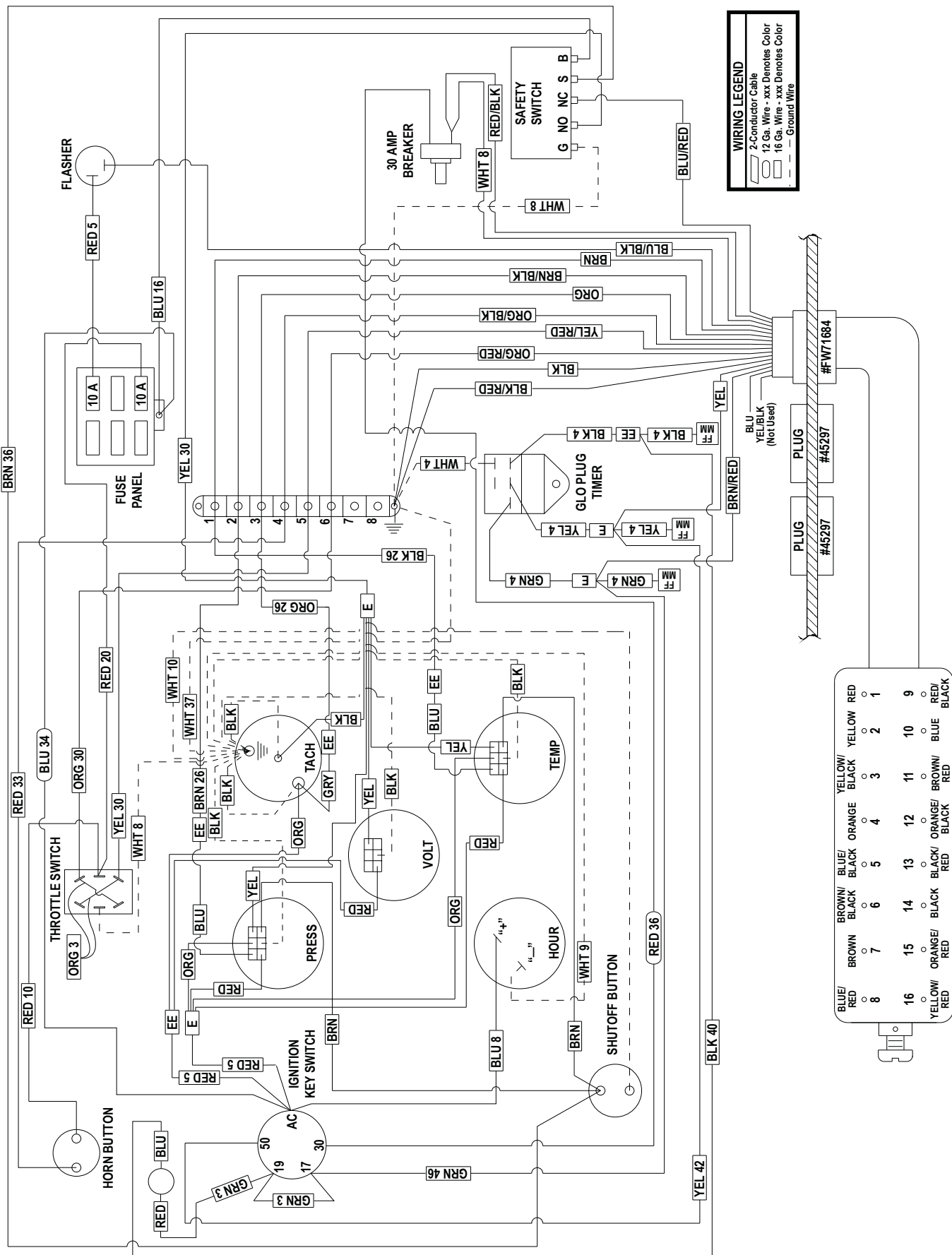


**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

CONTROLS

Ref. No.	Part Number	Description	No. Req'd
1	008672	Agitator Control Handle	1
2	008673	Agitator Handle Pivot	1
3	022202	Black Handle Grip	1
4	008650	Control Box Assembly	1
5	008656	Control Box Decal	1 Per
6	004996	Pipe Plug	1
7	012777	Recirculation Handle	1
8	F330-0102	Agitator Control Box	1
9	012780-05	Recirculation Valve Rod Weldment	1
10	006737	Ball Joint	2 Per
11	012493-01	Bleeder Valve Handle	1
12	012493-09	Bearing Pad	1
13	012780-08	Clutch Rod Weldment	1
14	006737	Ball Joint	2 Per
15	000427	Black Handle Grip	1
16	012760	Clutch Handle	1
17	F170-0029	Control Box Mount	1
18	085148	U-Bolt	1
19	005016	"S" Hook	1
20	005700	Nylon Lanyard	1
21	031245	Snapper Pin	1
22	F330-0081	Boom Hold Down	1
23	006596	Agitator Control Cable (74")	1
24	004983	Clamp and Shim	1
25	007675	Ball Joint	1
26	020682	Clevis	1
27	005161	Rubber Strap w/ "S" Hooks	1

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BLUE/RED	BROWN	BROWN/BLACK	BLUE/BLACK	ORANGE	YELLOW/BLACK	YELLOW	RED
8	7	6	5	4	3	2	1
16	15	14	13	12	11	10	9
YELLOW/RED	ORANGE/RED	BLACK/RED	BLACK/RED	ORANGE/BLACK	BROWN/BLACK	BLUE/BLACK	RED/BLACK

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

CONTROL BOX WIRING

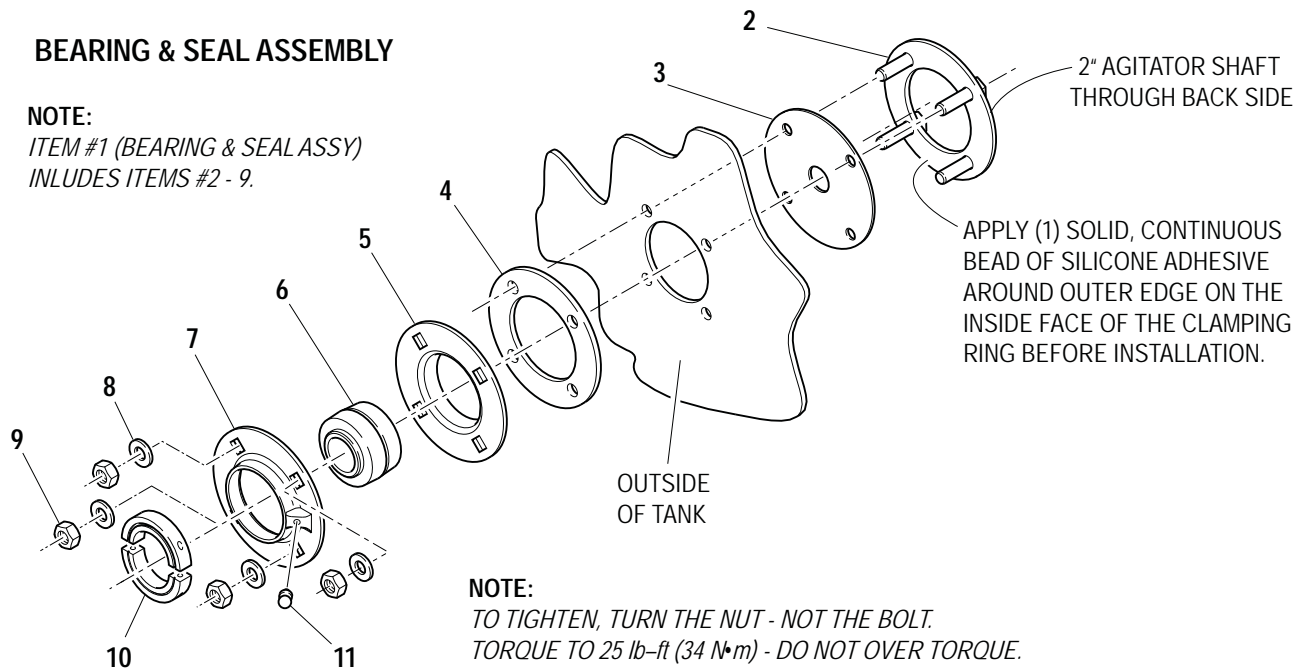
Part Number	Description	No. Req'd
008658	Modified Control Box	1
008659	Modified Aluminum Sub-Panel	1
023802	Safety Switch	1
045055	30A Panel Mount Circuit Breaker	1
021198	Flasher	1
012825	Flasher Mounting Bracket	1
052118	6 Circuit Fuse Panel	1
055449	ATO/ATC 10 Amp Fuse	2
031401	Stud-Type Junction Block (8-Std)	1
020886	Horn Button	2
075330	Hourmeter	1
075309	Temperature Gauge	1
075313	Voltmeter	1
075328	Tachometer	1
075307	Pressure Gauge	1
KU66711-55131	Ignition Key Switch	1
KU66711-55140	Key (Set of Two)	1
FW71555	Throttle Toggle Switch	1
080526	Switch Boot	1
045297	Gray Conduit Plug w/ Seal	1
FW71684	Liquid-Tight Fitting	1
FW71356	16-Pin Male Insert	1
FW71359	16-Pin Electrical Housing Hood	1
008656	Control Box Decal	1
KU15694-65990	Glo Plug Timer	1

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BEARING & SEAL ASSEMBLY

NOTE:

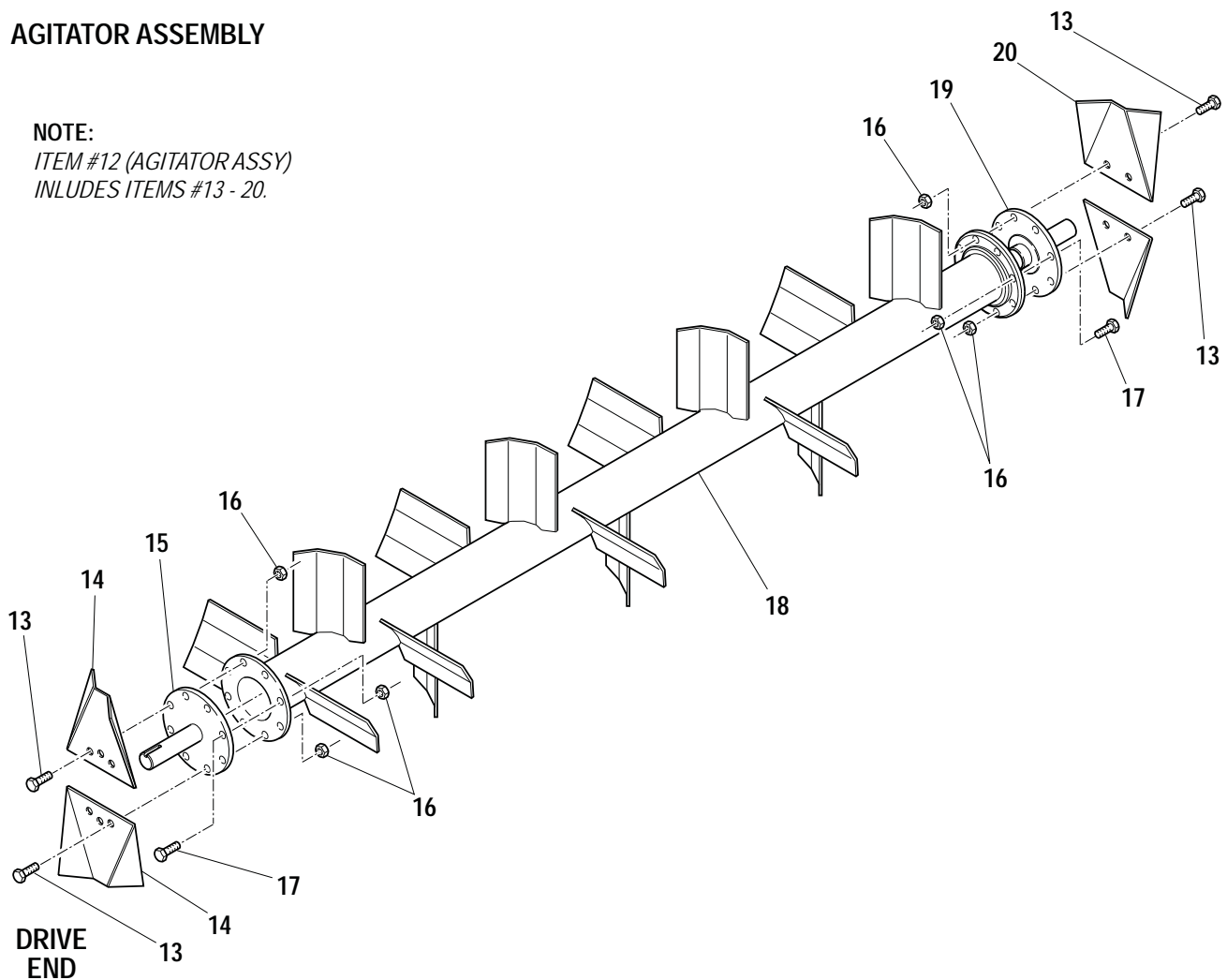
ITEM #1 (BEARING & SEAL ASSY)
INCLUDES ITEMS #2 - 9.



AGITATOR ASSEMBLY

NOTE:

ITEM #12 (AGITATOR ASSY)
INCLUDES ITEMS #13 - 20.

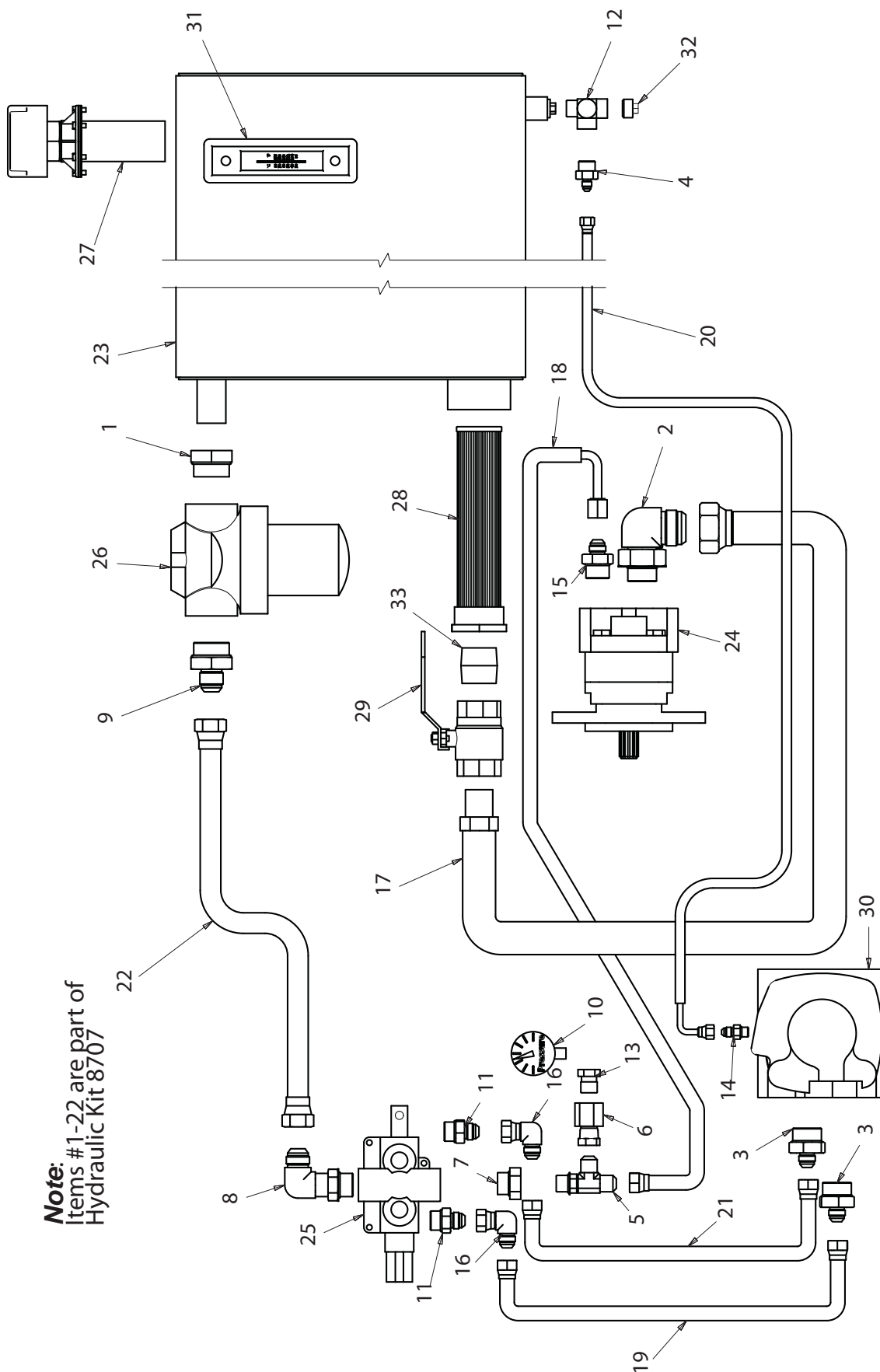


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AGITATOR and SEAL ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	012529	Bearing and Seal Assembly	2
2	012527	Agitator Clamping Ring	1 per
3	012528	Agitator Shaft Seal	1 per
4	012525	Agitator Bearing Clamping Ring	1 per
5	012451	Flangette	1 per
6	012450	Bearing	1 per
7	012452	Flangette w/ Lube Coupling	1 per
	008154	Lube Coupling Adapter	1 per
8	012605	Agitator Seal Washer	4 per
9	000Y08	Agitator Hex Nut	4 per
10	012625	Split Collar	2
11	007705	Grease Fitting	2
	022407	Grease Line Elbow	2
	012520	Bulk Head Fitting	2
	012521	Grease Line Hose	2
12	012505	Agitator Assembly	1
13	X1240	3/4-10 UNC x 2-1/2" Lg. Hex Hd. Cap Screw (Bolt-On Paddles)	8 per
14	F330-0010-02	Bolt-On Paddle w/ Identification Hole	2 per
15	012495-01	Drive Stub Shaft	1 per
16	Y08L	3/4-10 UNC Locknut	16 per
17	X1236	3/4-10 UNC x 2-1/4" Lg. Hex Hd.Cap Screw (Stub Shaft Flange Only)	8 per
18	012502	Main Agitator Section	1 per
19	012496-01	Idle Stub Shaft	1 per
20	F170-0003-01	Bolt-On Paddle	2 per

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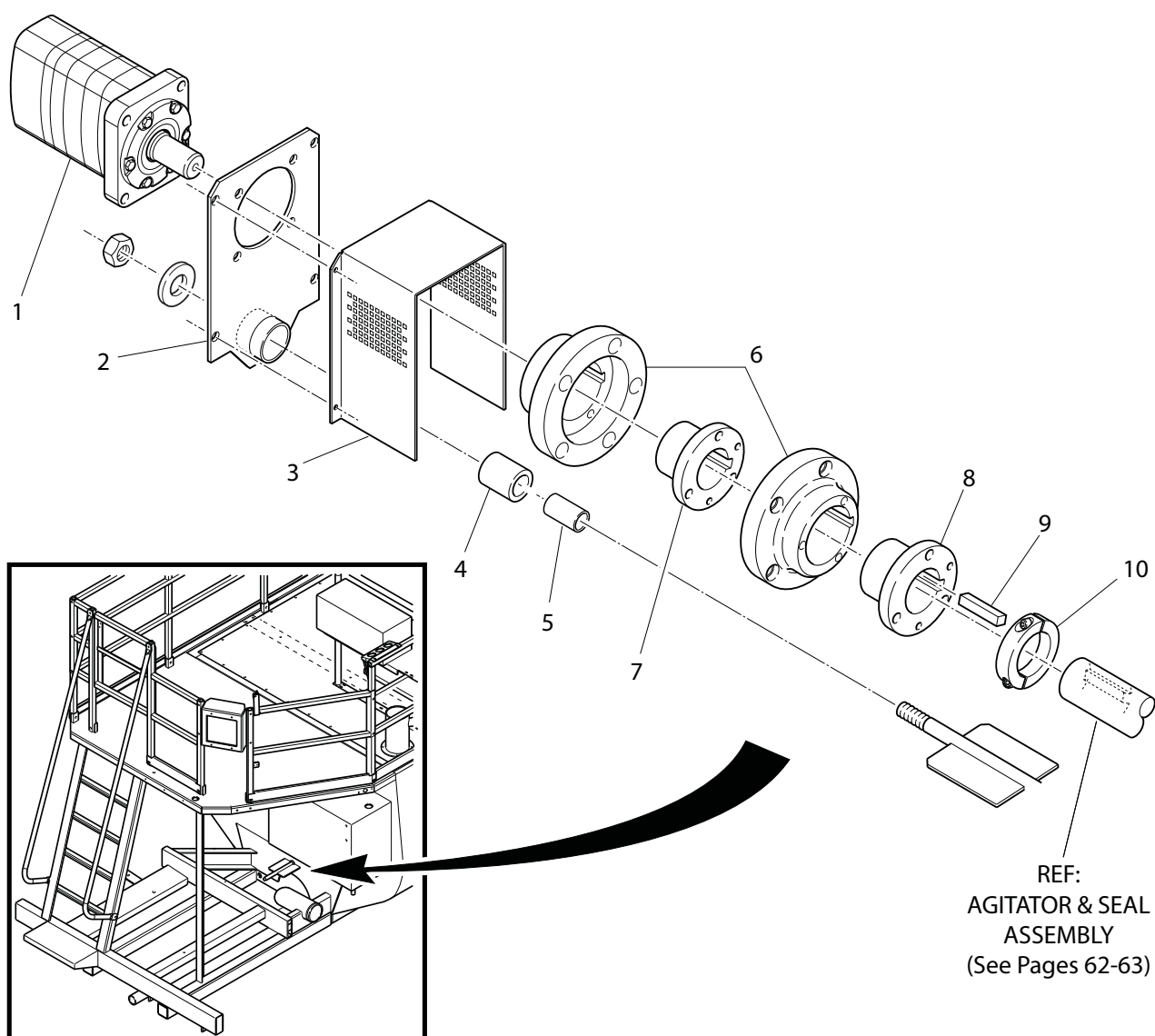
**WHEN ORDERING PARTS, BE SURE TO STATE
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HYDRAULIC SYSTEM

Ref. No.	Part Number	Description	No. Req'd
1	008545	FNPT - MSAE Adapter	1
2	008603	MSAE - MJIC 90° Elbow Adapter	1
3	008606	MSAE - MJIC Adapter	2
4	008660	MNPT - MJIC Adapter	1
5	008689	SAE Run Tee	1
6	008690	FNPT - FJIC Adapter	1
7	008691	SAE Reducer	1
8	008692	MSAE - MJIC 90° Long Elbow Adapter	1
9	008709	MSAE - MJIC Adapter	1
10	012044	Pressure Gauge	1
11	012806	MSAE - MJIC Adapter	2
12	022592	Female Pipe Tee	1
13	055229	NPT Reducer	1
14	055308	MSAE - MJIC Adapter	1
15	055359	MSAE - MJIC Adapter	1
16	FW71870	JIC Swivel Elbow	2
17	008654-01	1-1/4" Hyd. Hose x 40"	1
18	008654-02	1/2" Hyd. Hose x 44"	1
19	008654-03	1/2" Hyd. Hose x 40"	1
20	008654-04	1/4" Hyd. Hose x 39"	1
21	008654-06	1/2" Hyd. Hose x 37"	1
22	008707-01	3/4" Hyd. Hose x 23"	1
23	008435	Hydraulic Reservoir	1
24	008640	Hydraulic Pump	1
25	008686	Hydraulic Valve	1
	023120	Seal Kit for 008686	1
	023379-01	Valve Handle	1
	0SF311	Handle Knob	1
	0SF312	1/8 x 1-3/8 Roll Pin	1
	023470	Handle Bracket	1
26	008702	Hydac Filter Assembly	1
	008703	Hydraulic Filter Element	1
27	008706	Hydraulic Filler/Breather	1
28	011648	Hydraulic Suction Strainer	1
29	012083	Ball Valve	1
30	012333	Hydraulic Motor	1
	012384	Seal Kit fo 012333	1
31	080329	Hydraulic Level Sight Gauge	1
32	160236	Pipe Plug	1
33	160307	Close Nipple	1

NOTE: Items #1-22 above are part of T170 Hydraulic Hose and Fitting Kit (Part No. 008707).

**WHEN ORDERING PARTS, BE SURE TO STATE
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HYDRAULIC AGITATOR DRIVE

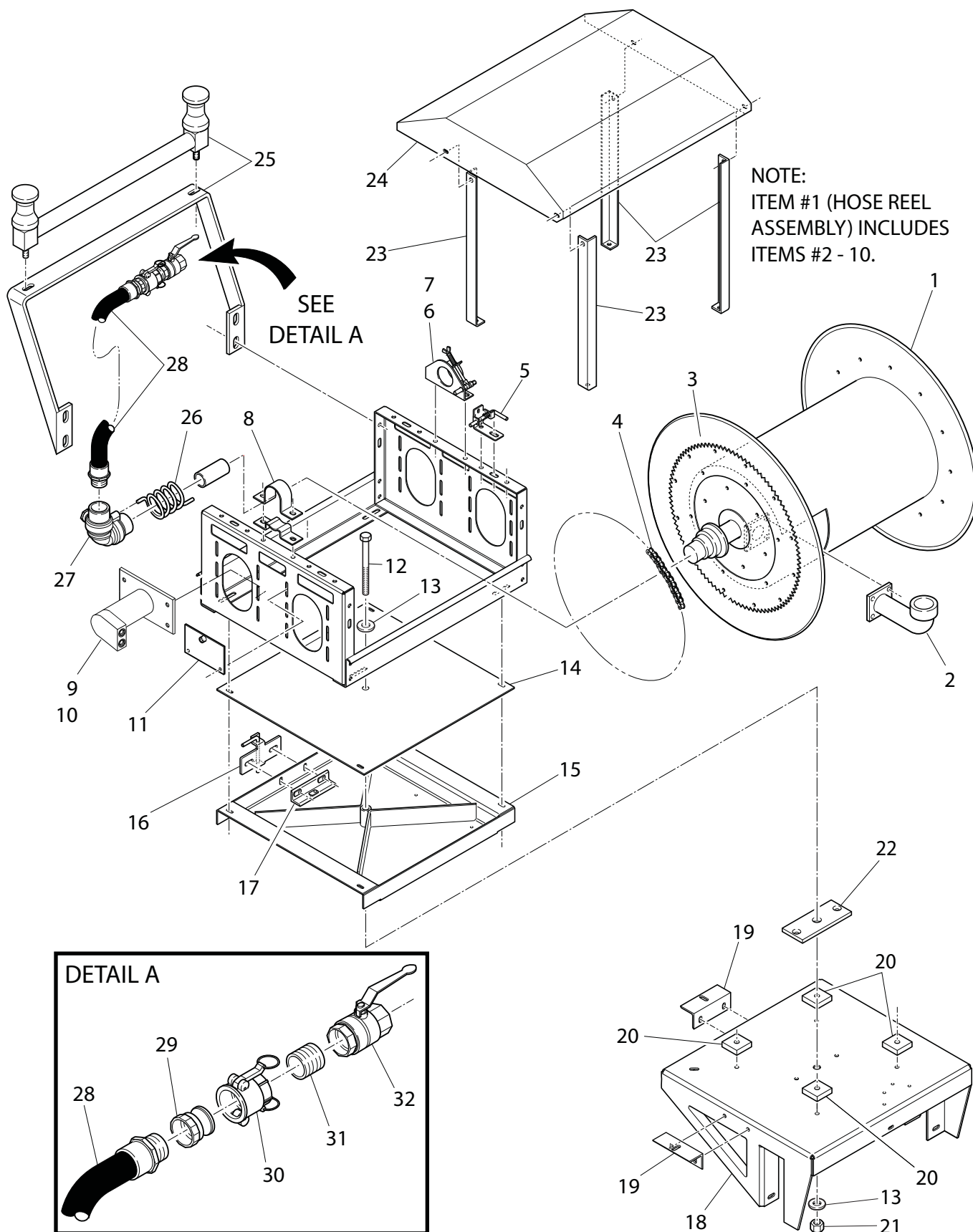
Ref. No.	Part Number	Description	No. Req'd
1	012333	Hydraulic Motor	1
2	012354	Hydraulic Motor Mount	1
3	F330-0029	Agitator Coupling Guard	1
4	012522-02	Rubber Bushing	1
5	012522-04	Torque Arm Insert	1
6	011780	Rigid Coupling	1
7	003055B	Motor Bushing	1
8	055103	Agitator Bushing	1
9	190127-40	Key	1
10	012625	Split Collar	2

**WHEN ORDERING PARTS, BE SURE TO STATE
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DISCHARGE HOSE EXTENSIONS

Part Number	Description	No. Req'd
BOOM TAKE OFF SYSTEM		
007930-02	Boom Discharge Extension Hose Assembly	As Ordered
007929	Extension Hose w/ Nipples	1 per
002191	Male Brass Adapter	1 per
160768	Reducer Bushing	1 per
010544	Female Coupler	1 per
006513	Quick-Coupler Gasket	1 per
PUMP TAKE OFF SYSTEM		
007930-01	Pump Remote Discharge Hose Assembly	As Ordered
007929	Extension Hose w/ Nipples	1 per
001207	Male Brass Adapter	1 per
002158	Female Brass Coupler	1 per
006515	Coupler Gasket	1 per
007740	Remote Valve Assembly	1
007710	Full Port Ball Valve	1
003243	Aluminum Nipple Pipe	1
160309	Std. Close Nipple	1
160763	Tank Bushing	1
006102	Female Coupler	1
001207	Male Brass Adapter	1
006621	Wide Fan Nozzle Assembly	1
006604	Wide Fan Nozzle	1
006096	Male Adapter	1
160761	Reducer Bushing	1
006622	Narrow Ribbon Nozzle Assembly	1
006605	Narrow Fan Nozzle	1
006096	Male Adapter	1
160761	Reducer Bushing	1
007711	Pump Take Off Valve Assembly	1
007710	Full Port Ball Valve	1
002158	Female Brass Coupler	1
160309	Close Nipple	1

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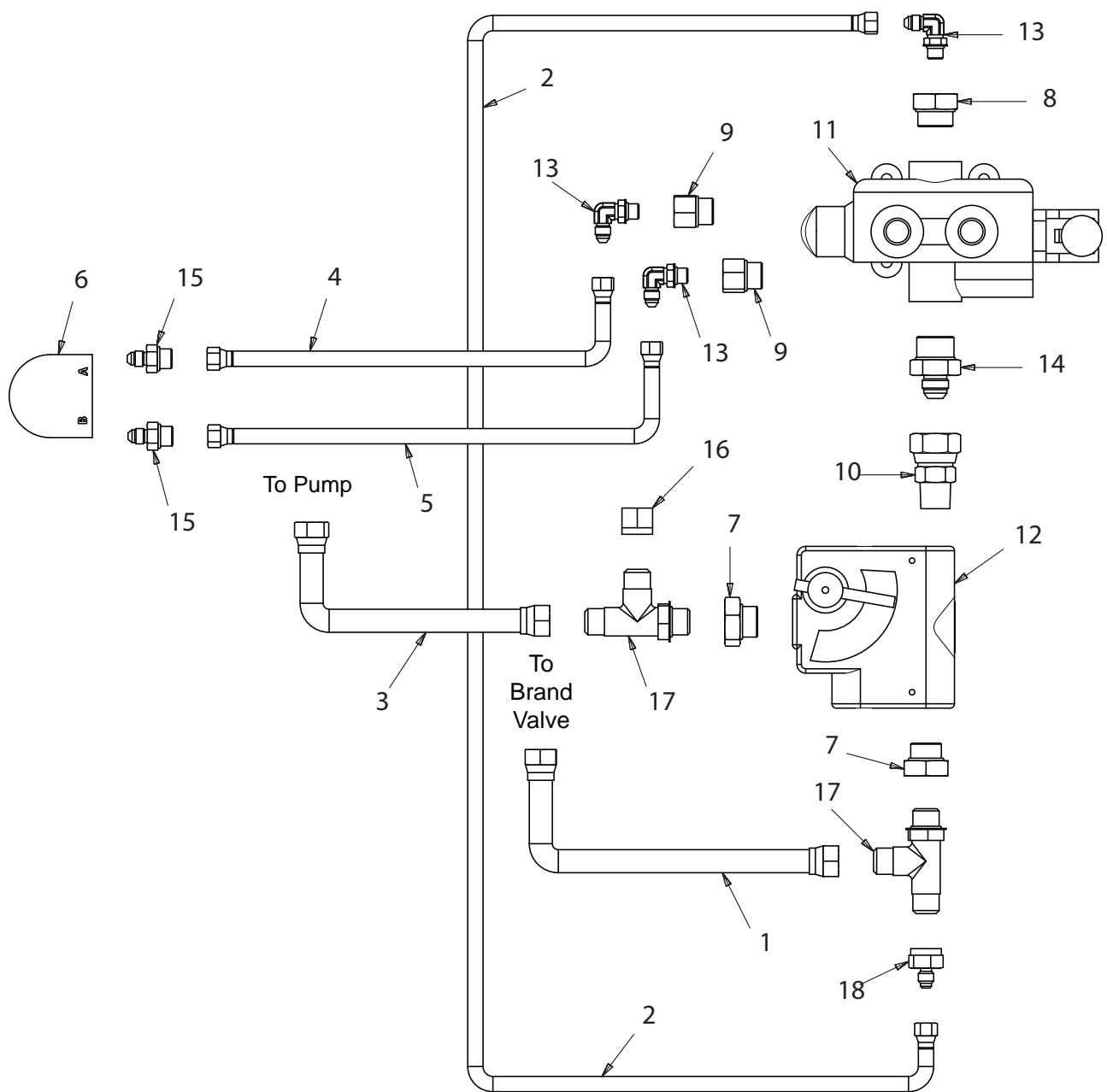


**WHEN ORDERING PARTS, BE SURE TO STATE
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HOSE REEL ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	008212	Hose Reel and Swivel Assembly	1
2	080302	Flanged Riser	1
3	008144	Hose Reel Gear	1
4	008200	Hose Reel Chain (69")	1
5	008433	Pinlock w/Brackets Assembly	1
6	008313	Idle Side Bearing	1
7	008111B	Brake Assembly	1
8	008314	Drive Side Bearing	1
9	008635	Hydraulic Motor	1
	008635-SK	Seal Kit	
10	008199	Chair Sprocket - 11 Tooth	1
11	012757	Spring Retainer Plate	1
12	XF12112H	3/4-10 X 7" Lg. Grade 8 Hex Hd. Cap Bolt	1
13	W12FSS	3/4" Flat Washer - SS	2
14	F330-0104	Hose Reel Mount Cover	1
15	F330-0117	Upper Hose Reel Support Bracket	1
16	052928	Pinlock	1
17	012860	Hose Reel Pinlock Support Weldment	1
18	F330-0116	Lower Hose Reel Support Bracket	1
19	012781	Hose Reel Lock Angle	2
20	012798	Hose Reel Bearing Block	2
21	YL12SS	3/4-10 Locknut - SS	1
22	012861	Hose Reel Washer	1
23	F330-0094	Hose Reel Canopy Support	4
24	F330-0077	Hose Reel Canopy	1
25	011894	Hose Roller and Spool Guide	1
26	003299	Torsion Spring	1
27	003207	1-1/2" Dia. x 90 Degrees Swivel Joint	1
	003355	Seal Kit	
28	011435	1-1/2" Dia. x 3' Lg. Lead-In Hose	1
29	001207	1-1/2" Male Brass Adapter	1
30	002158	1-1/2" Female Brass Coupler	1
31	160309	Standard Close Nipple	1
32	007710	Ball Valve	1

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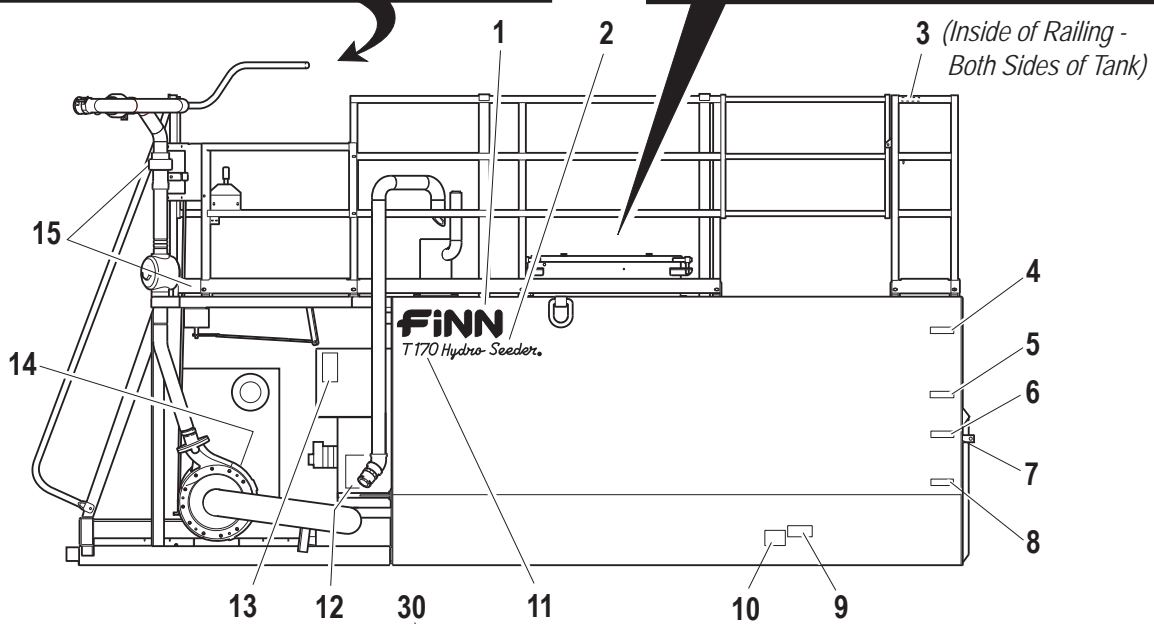
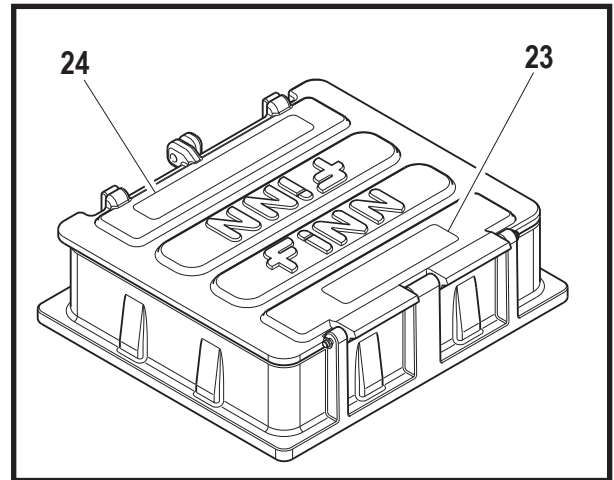
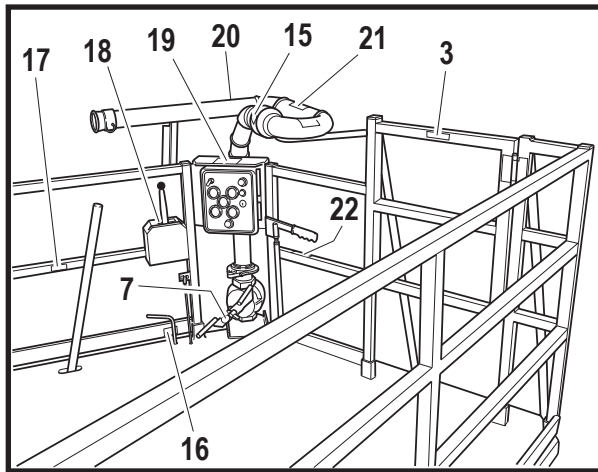
**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

HYDRAULIC SYSTEM

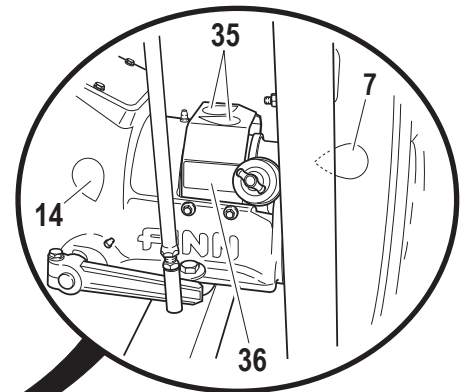
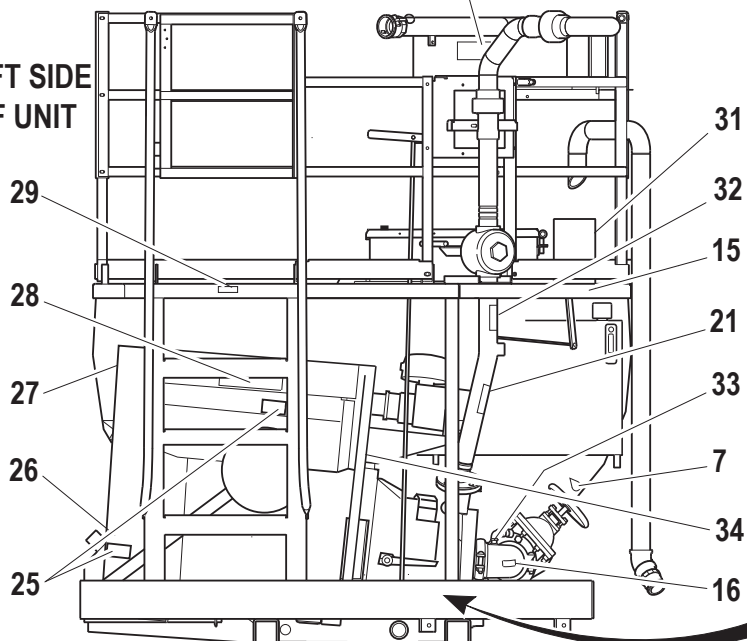
Ref. No.	Part Number	Description	No. Req'd
1	*008693-01	1/2" Hyd. Hose x 170"	1
2	*008693-02	1/4" Hyd. Hose x 23"	1
3	*008693-03	1/2" Hyd. Hose x 134"	1
4	*008693-04	1/4" Hyd. Hose x 70"	1
5	*008639-05	1/4" Hyd. Hose x 68"	1
6	008635	Hydraulic Motor	1
	008635-SK	Seal Kit	
7	*008696	SAE Reducer	2
8	*012871	SAE Reducer	1
9	*012872	SAE Reducer	2
10	*012783	MSAE - FJIC Adapter	1
11	012857	Control Valve	1
	SF310B	Hydraulic Valve Handle	1
	0SF311	Handle Knob	1
	0SE312	Roll Pin - 1/8" x 1-3/8"	1
	023470	Handle Bracket	1
	008293-RC	Brand Valve Relief Cartridge	1
12	023890	Flow Divider	1
	023890-SK	Seal Kit	
	023890-K	Indicator Knob	
	023890-L	Indicator Lever	
13	*055274	MSAE - MJIC 90° Elbow Adapter	3
14	*055359	MSAE - MJIC Adapter	1
15	*FW65217	MSAE - MJIC Adapter	2
16	*FW71495	JIC Cap Nut	1
17	*FW71869	SAE Run Tee	2
18	*FW71908	JIC Reducer	1

NOTE: Items marked with an asterisk (*) above are part of T170 Hydraulic Hose and Fitting Kit (Part No. 008693).

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



LEFT SIDE
OF UNIT



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DECALS

Ref. No.	Part Number	Description	No. Req'd
*1	023174	"FINN" Decal	2
*2	011595	"HydroSeeder®" Decal	2
3	012821	"WARNING! Fall Hazard" Decal	3
4	011790	"1,500 Gallon" Decal	1
5	005188	"1,000 Gallon" Decal	1
6	005187	"800 Gallon" Decal	1
7	007230	"Service Daily" (Up Arrow) Decal	5
8	005186	"500 Gallon" Decal	1
*9	011690	FINN Nameplate	1
10	011662	"U.S. Patent No." Decal	1
*11	012661-03	"T170" Decal	2
12	012179	"WARNING! Do Not Operate w/o Guards . . ." Decal	1
13	012687	"CAUTION. Hydraulic System Instructions" Decal	1
14	007231-01	"Service Weekly" (Down Arrow) Decal	2
15	007230-01	"Service Daily" (Down Arrow) Decal	4
16	012819	"BLEEDER VALVE - Open/Close" Decal	2
17	012817	"RECIRCULATION VALVE - Close/Open" Decal	1
18	008286-02	"AGITATOR OPERATION" Decal	1
19	005735	"VALVE - Open/Closed" (Foot Pedal) Decal	1
20	011567	"DANGER! Electrocution Hazard . . ." Decal	1
21	005216	"WARNING! Burn Hazard!" Decal	2
22	012818	"CLUTCH - Engage/Disengage" Decal	1
23	012886-02	"DANGER! Confined Space Hazard! . . ." Decal	1
24	012041-01	"HydroSeeder® Operating Instructions . . ." Decal	1
25	012278	"DANGER! BURN HAZARD!" Decal	2
26	023391	"DIESEL FUEL" Decal	1
27	031462	"WARNING! Burn Hazard! . . ." Decal	1
28	031463	"WARNING! Sever Hazard! . . ." Decal	1
29	012688	"CAUTION! Fall Hazard!" Decal	1
30	020970	"WARNING! Do Not Ride . . ." Decal	1
31	012597	"CAUTION. Keep This Tank Vent Clean . . ." Decal	1
32	011569	"CAUTION. This Connection Is For Remote . . ." Decal	1
33	012180	"CAUTION. To Avoid Damage To Suction Cover . . ." Decal	1
34	031297	"CAUTION. New Clutch Information"	1
35	007231	"Service Weekly" (Up Arrow) Decal	2
36	006869	"CAUTION. Seal Lubricator Must Be Kept In Operation . . ." Decal	1
Not Ill.	012260	"IMPORTANT" Metal Plate	1

*** NOTE:** These items are not a part of the Decal Sheet (P/N 012820). All other decals are not available individually, they are only available as part of 012820. These decals have been listed for location purposes only.

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RECOMMENDED SPARE PARTS AND REPAIR KITS

Part Number	Description	No. Req'd
RECOMMENDED SPARE PARTS		
000698	Automatic Pressure Lubricator Grease (1 lb Can)	2
011919	Suction Pipe Seal - 5"	3
008472	Suction Pipe Seal - 5" x 4" Reducer	3
002820	Discharge Pipe Seal	3
006722	Recirculation Pipe Seal	2
006513	Nozzle Coupler Gasket (Boom Discharge)	2
007469	Lube Sticks For Recirculation and Discharge Valves (Box of 24)	4
012623	Air Cleaner Safety Filter Element (3.75-E2)	1
012622	Air Cleaner Main Filter Element (3.75-E1)	1
KU1G521-97010	Fan Belt	1
KU16631-43560	Fuel Filter	1
KU1C010-32430	Oil Filter	1
031245	Snapper Pin – Boom Hold Down	1
008703	Hydraulic Filter Element	2
006514	2" Nozzle Coupler Gasket (Hose Discharge)	1
KU66711-55140	Ignition Key (Set of 2)	1
080105	Fuel Pre Filter	1
REPAIR KITS		
012397	Swivel Repair Kit	
REF.	Pump Seal Components:	
005150	O-Ring	1
006443	Mechanical Seal Assembly	1
006444	Grease Retainer	1
006447	Grease Seal	2
012384	Hydraulic Motor Seal Kit	
023120	Hose Reel Valve Seal Kit	
003355	Hose Reel Swivel Repair Kit	

NOTE: Recommended spare parts are available to avoid unnecessary down time. Repair Kits are available to recondition parts, which periodically need service.

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TOOL KIT

Part Number	Description	No. Req'd
011703	Long Distance Nozzle Assembly	1
002191	Male Adapter	1
001042	Long Distance Nozzle	1
160309	Close Nipple	1
160768	Reducer Bushing	1
011706	Wide Fan - Small Nozzle Assembly	1
002191	Male Adapter	1
006604	Wide Fan - Small Nozzle (50500)	1
160766	Reducer Bushing	1
011707	Narrow Fan - Small Nozzle Assembly	1
002191	Male Adapter	1
006605	Narrow Fan - Small Nozzle (25500)	1
160766	Reducer Bushing	1
011890	Wide Fan - Large Nozzle Assembly	1
002191	Male Adapter	1
011861	Wide Fan - Large Nozzle (501500)	1
160769	Reducer Bushing	1
011891	Narrow Fan - Large Nozzle Assembly	1
002191	Male Adapter	1
011860	Narrow Fan - Large Nozzle (251500)	1
160769	Reducer Bushing	1
008465	Long Distance Nozzle	1
006513	Coupler Gasket	1
002190	Dust Cap	1
005220	Impeller Wrench	1
021375	Grease Gun (<i>Hose Not Included</i>)	1
021741	Whip Hose w/ Male Ends	1
000698	Automatic Pressure Lubricator Grease (1 lb Can)	1
020365	Multi-Purpose Grease Cartridge	1
007469	Lube Sticks For Discharge and Recirculation Valves (Box of 24)	1
012681A	Touch-Up Paint (FINN Beige - Aerosol)	1
012305	Adhesive Label (Remove Aerosol Can)	1
	Engine Operator's Manual	1
	HydroSeeder® Parts and Operator's Manual	1

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