

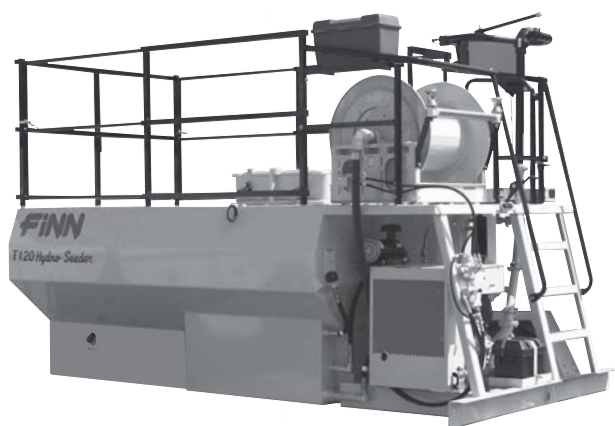
FINN CORPORATION®

9281 LeSaint Drive • Fairfield, Ohio 45014
Phone (513) 874-2818 • Fax (513) 874-2914

Sales: 1-800-543-7166



Activate
Your Warranty
By Registering
TODAY!!!



T120-II HydroSeeder® Parts and Operator's Manual

Model **MS**

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
AND MAIL TO THE FINN CORPORATION.

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

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

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



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



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

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

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

**Warranty period:**

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
Definition of Hydroseeding	6
The FINN HydroSeeder® and How It Works	6
Mounting The HydroSeeder®	6–7
Attachments	7–8
Pre-Start Check	8
Equipment Check	8–9
Two-Valve Operation	10–11
Starting Procedure	12
Area Coverage - Material Capacity	12–13
Tank Capacity Chart	14
Loading	14–15
Loading and Mixing BFM, FGM, SMM and Other Viscous Slurries	16–17
Prior to Application	18
Discharge Nozzle Selection	18
Application of Slurry	18–20
I. General Application Techniques	18–19
II. Discharge Through the Boom	19
III. Procedures When Using Hoses	19–20
Reloading Procedure	20
Liming With The HydroSeeder®	20–21
Cleaning and Maintenance	22–23
After First 4 to 8 Hours of Operation	22
Daily	22
Weekly or Every 40 Hours of Operating Time	23
Seasonal and Winter Storage Maintenance	23
Lubrication and Fluids Chart	24–25
Hydraulic System	26
Clutch/Pump Combination (Clump) Maintenance	26–31
Pump Maintenance Section	28–29
Clutch Maintenance Section	29–31
Troubleshooting Your HydroSeeder®	31–36
Leaks	34
Machine Jumps During Operation	34
Foaming of Solution and Lack of Distance	34–35

Continued . . .

INDEX

Valve	35
Clutch	35
Pump.	35–36
T120 Skid-Mount/Trailer HydroSeeder® Technical Specifications . .	38–39
T120 Gooseneck Trailer HydroSeeder® Technical Specifications . .	40–41
PARTS SECTION	43–87
T120 Straight Pull Trailer Pictorial Reference	45
T120 Gooseneck Trailer Pictorial Reference	46
T120 Skid Pictorial Reference	47
Straight Pull Trailer.	48–49
Gooseneck Trailer	50–51
Gooseneck Railing.	52–53
Skid	54–55
Operator's Platform	56–57
Wheel and Hub Assembly (Straight Pull Trailer)	58–59
Wheel and Hub Assembly (Gooseneck Trailer).	60–61
Agitator Assembly	62–63
Hydraulic Agitator Drive	64–65
Trailer Wiring	66–67
Hydraulic System	68–69
Hydraulic Hose Reel Assembly (Option)	70–71
Hydraulic System w/Hose Reel	72–73
Discharge Boom Assembly	74–75
Control Box Wiring.	76–77
Piping	78–79
Clutch/Pump Assembly	80–81
Engine and Radiator	82–83
Engine Wiring.	84
Hose Reel Nozzle/Remote Valve/Tool Kit	85
Decals	86–87

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.

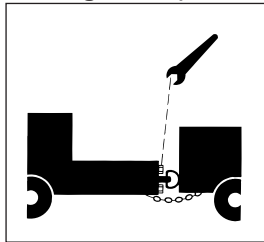
HYDROSEEDER® SAFETY SUMMARY SECTION

It is important that 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)

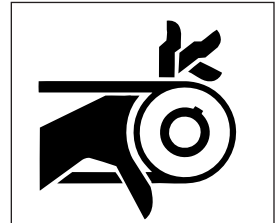
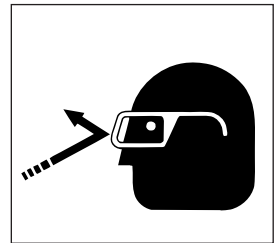
1. If you have a chassis-mounted unit, check devices securing HydroSeeder® to the truck or trailer frame.



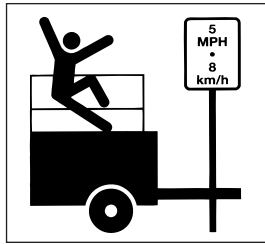
2. If HydroSeeder® is a trailer unit, check hitch and hitch bolts, lights, brakes, and all safety components.
3. Make sure loading hatch bag cutter is in place and secure.
4. Check that all guard railing is in place and secure.
5. Verify that all guards are in place.
6. With the ignition switch ON, verify 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 section 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

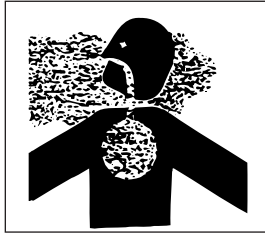
1. Always wear safety goggles when operating the machine. Other safety attire such as safety shoes, ear protection, gloves, hard hats, dust masks, etc. should be worn as required by warning decals on machine, operator's manuals, or job site requirements. Remove rings, watches, etc. Avoid wearing loose-fitting 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 section 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.
5. The driver of the carrying or towing vehicle is responsible for the safety of the operator(s) of the machine. Make sure the driver is aware of and avoids all possible hazards to the operator(s) of the machine, such as low tree limbs, low power lines, etc. Vehicles on which equipment is mounted or towed must be stopped and started gradually. Avoid abrupt starts or stops. Never operate on a slope or a hill that may endanger the driver and/or the operator(s). All personnel should review and be familiar with stop/start signals between the driver and operator(s) before going into operation. Only the operator should be located on the platform during operation.



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



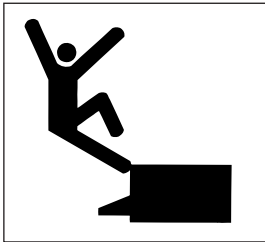
7. Never operate machine in an enclosed area without venting the engine exhaust of both the equipment and vehicle on which the equipment is mounted. Deadly carbon monoxide fumes can accumulate.



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

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

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

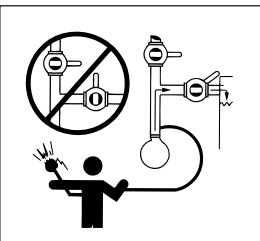


III. SLURRY APPLICATION

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



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

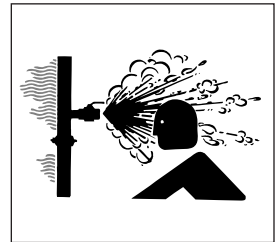


3. Recirculation valve must be open and material flowing back into the tank when using the remote valve. A closed or plugged recirculation line will cause extreme heat in the pump or discharge lines that will result in severe bodily injury and damage to the equipment.

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

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

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

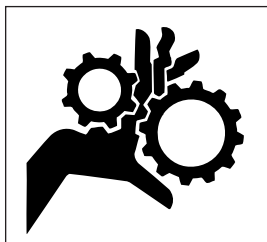


7. Except when loading materials, keep loading hatch lid closed to protect operator and prevent splashing of wet material onto the tank top.

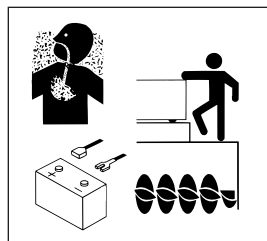
8. Wash off spillage of slippery mulch or slurry additive from the tank top and platform before operating equipment.

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



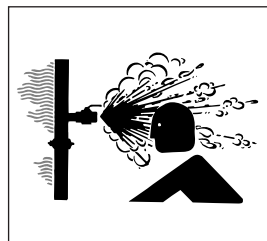
2. Certain hydroseeding amendments, when combined with or without the addition of water or heat or the element of time, may react causing harmful or deadly gasses. Consult your material suppliers regarding reactivity information. The slurry tank must be flushed and drained after each day of operation.



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 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.

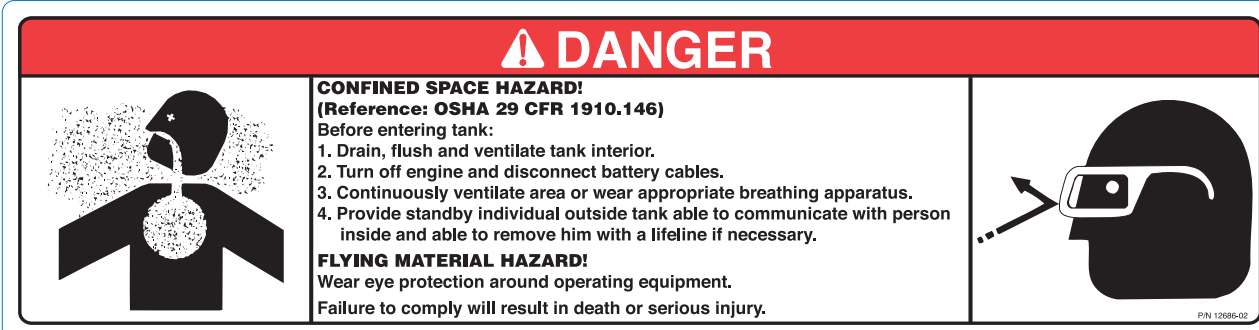
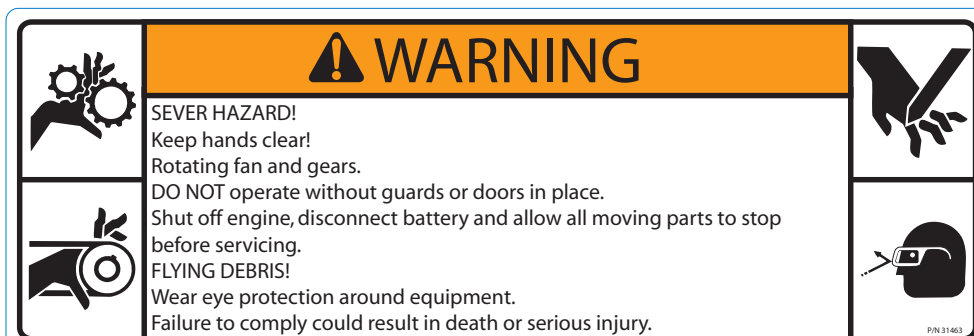
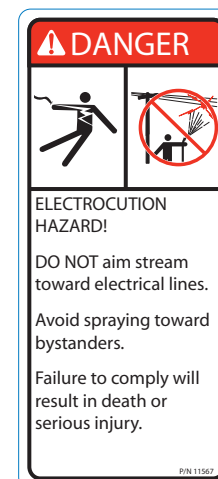
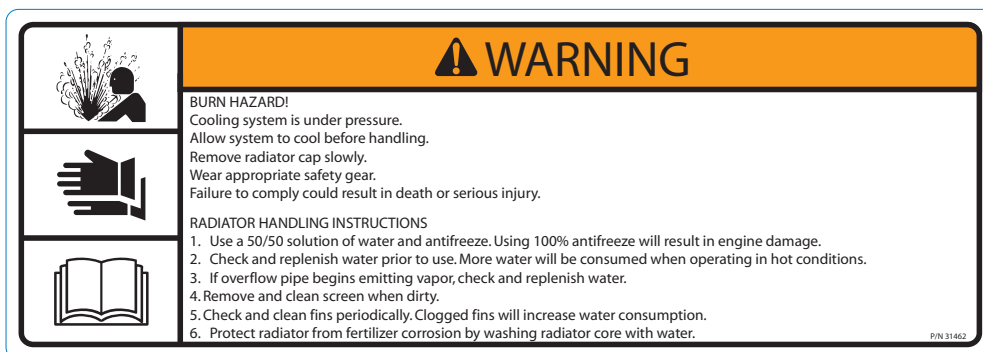
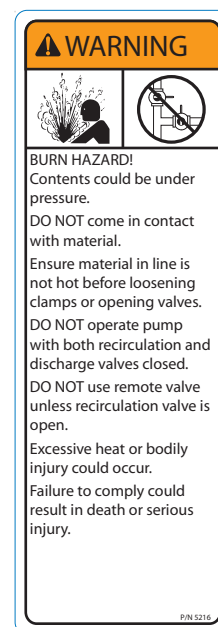
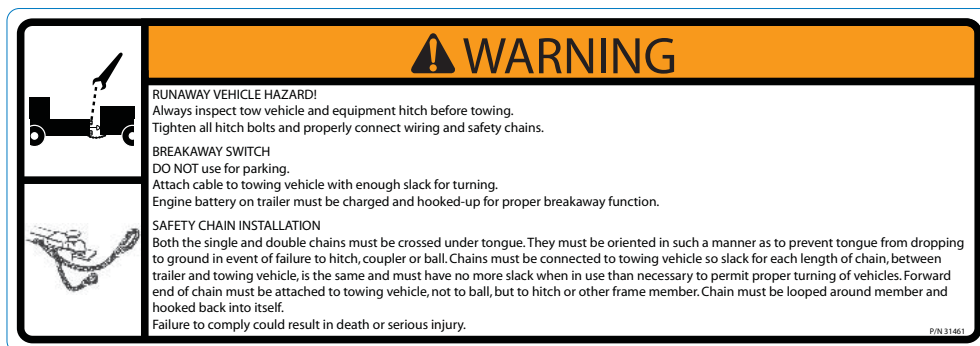


Figure 1 – Current Set of Safety Decals

OPERATION AND MAINTENANCE MANUAL FOR THE FINN T120 SERIES II HYDROSEEDER®

This manual gives you step-by-step instructions for the operation and maintenance of the FINN T120 HydroSeeder®. For best results and to ensure longer life of the equipment, please follow the instructions carefully. For your safety, read the entire manual before operating this unit.

DEFINITION OF HYDROSEEDING

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

THE FINN HYDROSEEDER® AND HOW IT WORKS

The FINN T120 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.

CARRIER VEHICLE REQUIREMENTS

HYDROSEEDER®		TRUCK REQUIREMENTS	
Type	Maximum Weight (Loaded)	Approx. GVWR*	Measurements (cab to axle)
T120S	16,080 lb (7,293 kg)	23,000 lb (10,432 kg)	84–106in (213–269 cm)
T120T	17,4000 lb (7,890 kg)	Tow vehicle must be able to support 2,940 lb (1,350 kg) down on its hitch.	
T120GN	17,620 lb (7,992 kg) (less material stored on top)	Tow vehicle must be able to support 4,800 lb (2,177 kg) down on its hitch.	

* Since truck weight will vary, ensure that vehicle's GVWR is sufficient for the particular application. This information can be obtained from the truck manufacturer or dealer.

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

CAUTION

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

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

1. Bolt the HydroSeeder® directly to the truck bed. Installer must ensure that the bed as well as the bed-to-truck and HydroSeeder®-to-bed connections are adequate for the maximum weights loaded that are shown on page 6.
2. Mount the HydroSeeder® to the truck frame.

CAUTION

The T120 HydroSeeder® has mounting legs that are 44 in. (111.76 cm) across and therefore, requires an adapter frame or chassis bed of adequate strength to mount the truck's 34-in.- (86.36-cm-) wide rails. Mounting the HydroSeeder® to the truck must allow for tire clearance and frame twist. Place hard wood spacers along the length of truck rails or use FINN spring-mounting kit (part number 011562) or equivalent. Failure to comply may result in product or property damage.

3. Place chains over the HydroSeeder® and around truck bed and secure with binders. Secure the HydroSeeder® with blocks tied to the truck bed.

CAUTION

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

ATTACHMENTS

1. Extension hoses for reaching remote areas are available in 50 ft (15 m) lengths. All connections are camlock, quick-operating fittings. The discharge will be 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 slurry flow is controlled by a second person on the HydroSeeder® which allows for full-pressure and full-volume operation.
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. The hand-held valve 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 death or serious injury.

3. Hose Reel: The live hose reel will mount either on the HydroSeeder® or on the truck frame. The 200-ft-(61-m-) capacity hydraulic rewind reel will wind up and store empty hose.
4. Fill pumps can be either carried on the truck or mounted on the HydroSeeder®.

5. **Hardened Pump Parts:** Pump casing, impeller, and suction cover are treated with a special material that is designed to resist wear.
6. **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. The rear spray bar can be arranged so that operation is remotely controlled from the truck cab.
7. **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.

PRE-START CHECK

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

1. A. Skid Unit - Check condition of all mounting hardware that secures the HydroSeeder® to truck frame rails.
B. Trailer Unit - Inspect hitch, safety chains, lights, brakes and breakaway switch.
2. Ensure the 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.

EQUIPMENT CHECK



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

1. Make sure that the tool kit contains all the prescribed items. See PARTS SECTION.
2. Inspect the slurry tank for foreign objects. See steps 2 and 3 in section IV, MAINTENANCE of the HYDROSEEDER® SAFETY SUMMARY SECTION 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 make certain pump drain plug is in place.

10. Lubricate equipment - See LUBRICATION AND FLUIDS CHART on pages 24 and 25.

- A. Each lubrication point on the machine is marked with a decal.
- B. Check automatic pressure lubricator at pump. If the stem is fully extended, with thumb nut all the way up, then automatic pressure lubricator contains lubricant. If not, lubricant must be replaced by the following procedure (See Figure 3):
 - 1. Turn thumb nut clockwise until stem rises to maximum height.
 - 2. Remove cap and fill cap with sodium- (water soluble) based grease (FINN part number 000698). Do not use lithium-based (chassis lube) grease.
 - 3. Replace cap.
 - 4. 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.

NOTE: When the thumb nut has moved down to within 1/2 in. (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 nozzles and hoses for obstructions. 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.

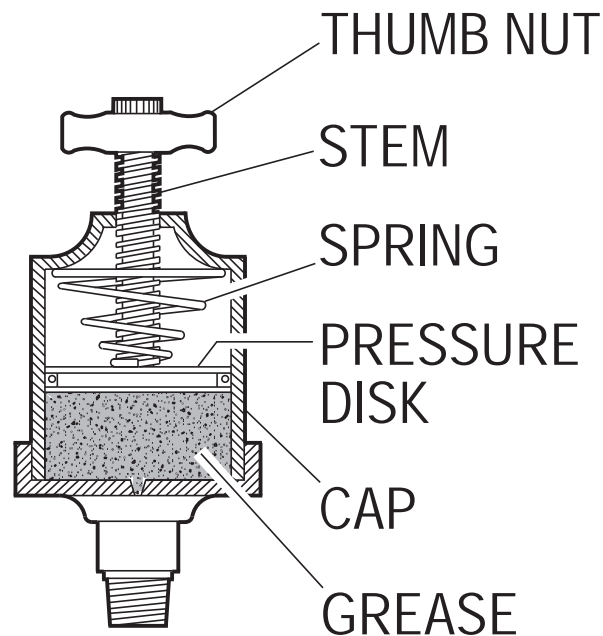


Figure 3 –Automatic Pressure Lubricator

TWO-VALVE OPERATION

The T120 HydroSeeder® is equipped with two independently operated ball 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 recirculation valve is open when the handle is in line with the valve ports and is closed when the handle is at a right angle to the valve ports. The discharge valve is open when the V-notch in the foot pedal is in line with the valve ports and is closed when the V-notch is at a right angle to valve ports (See Figure 3).



Never engage the slurry pump clutch when both valve handles are positioned as shown in Figure 3 below. If both valves are closed, a situation of extreme heat generation will result. Failure to comply could result in death or serious injury. Failure to comply could also result in product or property damage.

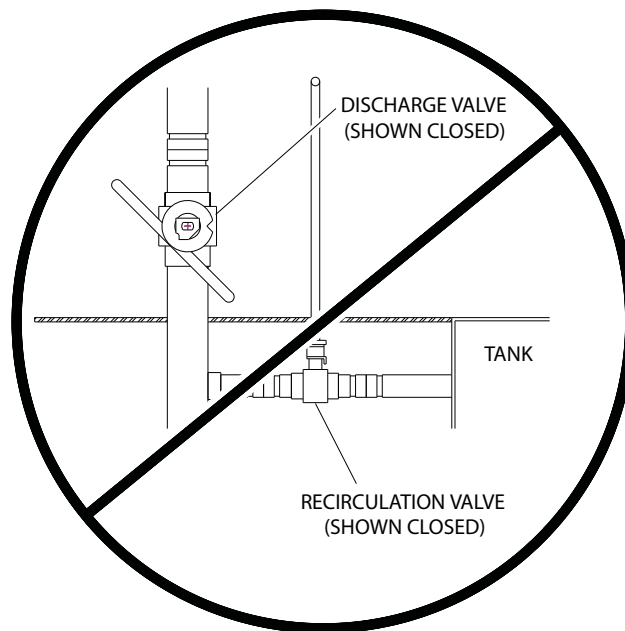


Figure 3 – NEVER Engage (Turn On) Slurry Pump Clutch w/ Both Valves Closed

1. DISCHARGE THROUGH BOOM

Flow is through boom with no flow through closed recirculation valve (Figure 4, page 11). Flow through boom is controlled by engaging and disengaging slurry pump clutch.

NOTICE

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 4, page 11). Extension hose is connected to boom and flow is controlled by engaging and disengaging pump clutch or by adjusting the engine rpm.



Do not use remote valve in this application. Failure to comply will result in death or serious injury.

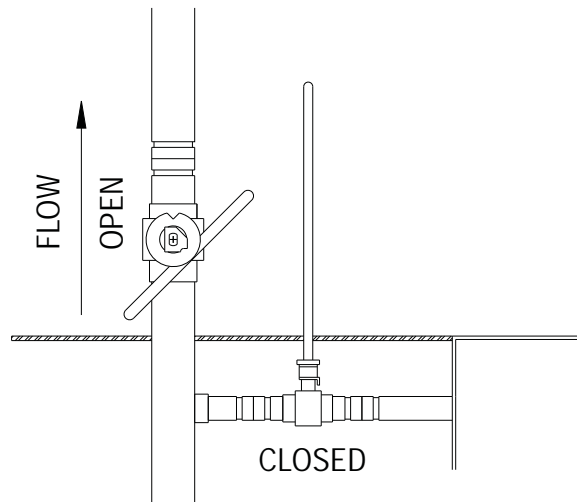


Figure 4 – Discharge Through Boom or Extension Hose Through Boom

3. EXTENSION HOSE OR HOSE REEL THROUGH REMOTE PORT



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 result in death or serious injury.

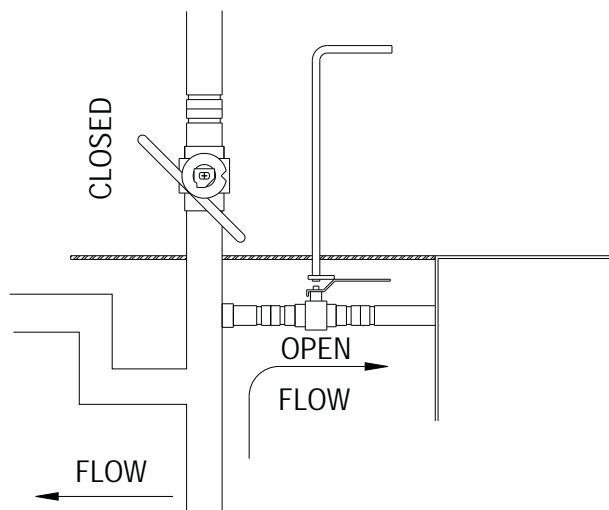


Figure 5 – Discharge Through Extension Hose or Hose Reel Through Remote Port

Flow is through recirculation with no flow through closed discharge valve (Figure 3, page 10). 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.

STARTING PROCEDURE



See HYDROSEEDER® SAFETY SUMMARY SECTION on pages 2 through 4 before operating the machine. Failure to comply could result in death or serious injury. Failure to comply could also result in product or property damage.

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

- 1 Set throttle about 1/4 open.
- 2 Turn key clockwise and hold it until the glow plug indicator light goes out.
- 3 While holding in the safety switch button, turn the key clockwise until the starter engages and the engine starts.
- 4 Continue to hold the safety switch in for approximately 10 seconds. 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 sq ft, 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 lbs (2.7 to 4.5 kgs) per 1,000 sq ft. Fertilizer is applied at a rate of approximately 400 lb (181 kg) per acre, and fiber mulch is applied at 1,500 to 2,000 lb (680 to 907 kg) per acre. (Note: 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 T120 II. 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**

Unit	Amount of Material in Tank in pounds (kilograms)			Coverage Area
	Seed	Fertilizer	Mulch	sq. ft (sq. m)
T120 II	115 (52)	133 (60)	500 (227)	14,520 (1,350)

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) / 1000 sq ft per acre.

TABLE A EXAMPLE:

$$\frac{500 \text{ lb (227 kg) Mulch per Tank}}{1,500 \text{ lb (680 kg) Mulch per Acre}} = 0.333 \text{ Acre per Load}$$

400 lb (181 kg) Fertilizer per Acre x 0.333 Acre = 133 lb (60 kg) Fertilizer per Load

345 lb (156 kg) Seed per Acre x 0.333 Acre = 115 lb (52 kg) Seed per Load

TABLE B**SEED AND FERTILIZER ONLY**

Unit	Amount of Material in Tank in pounds (kilograms)			Coverage Area	
	Seed	Fertilizer	Total	sq. ft (sq.m)	Acreage (Hectare)
T120 II	1,045 (474)	1,200 (544)	2,245 (1,018)	130,523 (12,125)	3.00 (1.12)

Table is based on rates of 8 lb (3.6 kg) seed and 9.2 lb (4.2 kg) fertilizer per 1000 sq ft.

TABLE B EXAMPLE:

$$\frac{1,684 \text{ lb (764 kg) Tank Capacity (Solids)}}{8 \text{ lb (3.6 kg) Seed} + 9.2 \text{ lb (4.2 kg) Fertilizer per 1,000 sq ft}} = 97,906 \text{ sq ft per Load}$$

$$\frac{8 \text{ lb (3.6 kg) of Seed}}{1,000 \text{ sq ft}} \times 97,906 \text{ sq ft} = 784 \text{ lb (356 kg) Seed per Tank}$$

T120 II		
Gallons (Liters)	in. (cm) from top	in. (cm) from bottom
1150 (4353)	9.25 (23.5)	42.75 (108.6)
1100 (4163)	11 (27.9)	41 (104.1)
1050 (3975)	12.5 (31.8)	39.5 (100.3)
1000 (3785)	14 (35.6)	38 (96.5)
950 (3596)	15.5 (39.4)	36.5 (92.7)
900 (3407)	10 (25.4)	42 (106.7)
850 (3218)	12 (30.5)	40 (101.6)
800 (3028)	13.75 (34.9)	38.25 (97.2)
750 (2839)	15.75 (40.0)	36.25 (92.1)
700 (2650)	17.5 (44.4)	34.25 (87.6)
650 (2460)	19.25 (48.9)	32.75 (83.2)
600 (2271)	21 (53.3)	31 (78.7)
550 (2082)	23 (58.4)	29 (73.7)
500 (1893)	24.75 (62.9)	27.75 (69.2)
450 (1703)	26.5 (67.3)	25.5 (64.8)
400 (1514)	28.25 (71.8)	23.75 (60.3)
350 (1325)	30.25 (76.8)	21.75 (55.2)
300 (1136)	32.25 (81.9)	19.75 (50.2)
250 (946)	34.25 (87.0)	17.75 (45.1)
200 (757)	36.75 (93.3)	15.25 (45.1)
150 (568)	39.25 (99.7)	12.75 (32.4)
100 (378)	42.25 (107.3)	9.75 (24.8)
50 (189)	46 (116.8)	6 (15.2)

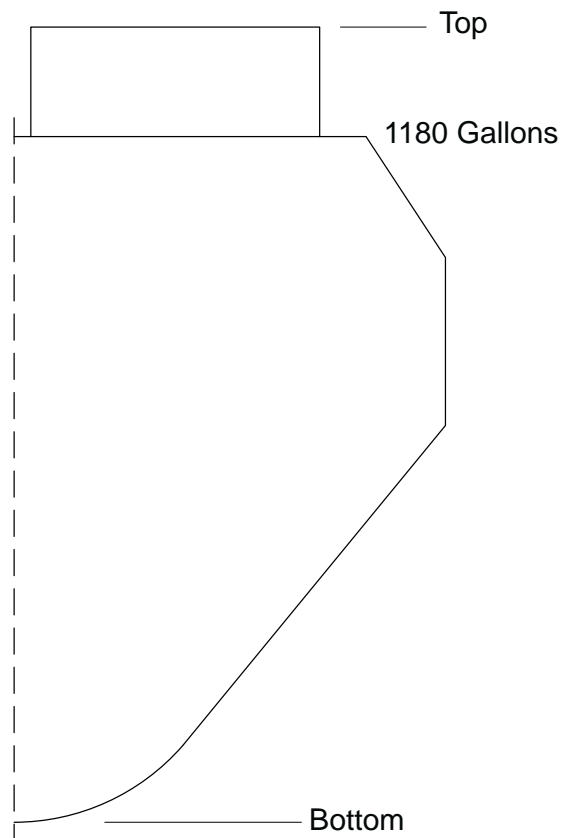


Figure 6 – Tank Capacity Chart

LOADING (FOR WOOD FIBER MULCH, IF LIMING, SEE PAGE 20)

⚠ CAUTION

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 mild or moderate personal 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 using one of the sources of water listed below. When water reaches the top of the agitator shaft, move agitator control to full REVERSE position.

Acceptable Water Sources

- A. Water from any stream or pond using a fill pump. When filling from a pond or stream, make 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. (15.2 cm) 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.
6. Start loading dry material, loading the lightest material first. Agitator control should be in full reverse for mixing.
7. Start loading dry material, loading the lightest material first. Agitator control should be in full REVERSE for mixing.
 - A. Seed – Cut 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 open bag 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.

NOTICE

Hydraulic system will overheat if agitator shaft is jammed for extended period. This will damage hydraulic oil and system components.

- C. Fertilizer – Stand over hatch opening and drop the bag onto the bag cutter. Grasp both ends of the bag and dump material into slurry tank.
 - D. All other additives – Consult with manufacturer for proper loading technique.
8. When all materials are loaded and in suspension, and the tank is full, move the agitator to NEUTRAL then full speed FORWARD to ensure all material is mixed. It may be necessary to change the agitator direction more than once to ensure a thorough mixture.
9. 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.
10. Close the hatch lid on the slurry tank.

NOTICE

The slurry should not be recirculated for more than 15 minutes prior to discharge to reduce wear and keep seed from swelling. Failure to comply could result in product damage.

NOTE: If foaming occurs, reduce agitator speed.

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

1. With clutch disengaged (turned off) and agitator control in the NEUTRAL position, start engine and allow it to warm up. See STARTING PROCEDURE page 12.
2. Start filling unit with water using one of the sources of water listed below. When water reaches the top of the agitator paddle blades, move agitator to full REVERSE position.

Acceptable Water Sources

- A. water from and stream or pond using a fill pump. When filling from a pond or stream, be sure to use a suction strainer to filter out any contaminants, which could damage the pump and unit. Other sources of water are as follows:
 - B. Any pressure source, eg. fire hydrant. This unit is supplied with a 6 in. (15.2 cm) air gap fill port, but it is necessary to consult local authorities before using water main, in order to abide by local ordinances.
 - C. Water tanker.
3. Piping System Cleanout Procedure:
 - A. Remove discharge nozzle and coupler gasket from the remote valve coupler at the end of the discharge hose (or from boom on the platform option).
 - B. Aim discharge hose (or boom on the platform option) into an open area away from any persons, obstructions, or high voltage power lines.
 - C. Open discharge and remote valves and close recirculation valve.
 - D. Open throttle 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, open recirculation valve and close discharge valve. After recirculation stream is clear, disengage (turn off) clutch.
 - G. Replace coupler gasket in the remote valve coupler (or in boom on the platform option).
 4. Continue filling tank with water.
 5. Increase throttle to 3/4 of full throttle.
 6. Start loading dry material, loading the lightest materials first. Agitator control should be in full REVERSE for mixing.

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

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

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

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

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

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. Agitate per the manufacturer's recommendations. Generally, the agitation time is 10 minutes to allow the proper viscosity to be generated. Follow manufacturer's recommendations.
9. Once material is thoroughly mixed, place the agitator in FORWARD direction to 1/4 speed, or just enough to create movement in all corners of the tank. DO NOT OVER-AGITATE the slurry. Always discharge the material with the agitator control in FORWARD and at a slow speed.

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

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

NOTE: If foaming occurs, reduce agitator speed.

PRIOR TO APPLICATION

1. Operator should familiarize themselves with the area to be seeded and develop a plan to ensure uniform application.
2. Develop a plan for communication between operator and driver of the carrying or towing vehicle to signal for start, stop, turn, etc. through the use of the signal horn.
3. Operator takes up position on the 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 four nozzles - two long distance and two 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. Both of the ribbon fan nozzles are generally suited for both types of application.

Nozzle	Nozzle ID	Distance	Width	Discharge Time
Lg. Long Distance	Black Cast	Up to 180 ft (55 m)	-	7.5 min.
Sm. Long Distance	Brass	Up to 140 ft (42 m)	-	14 min.
Narrow Fan	151000	Up to 105 ft (32 m)	15.8 ft (4.8 m)	7.5 min.
Wide Fan	501000	Up to 75 ft (23 m)	20.5 ft (6.3 m)	7.5 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 death or serious injury.



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

1. Determine which nozzle would best suit the application needs according to the DISCHARGE NOZZLE SELECTION table above.
2. When applying seed and fertilizer, elevate discharge nozzle no less than 10 degrees (25 cm) above the area to be sprayed, allowing the slurry to gently rain onto the seed bed.
3. When applying wood and paper fiber, whenever possible, aim the stream toward the ground to create a surface with small pockmarks, which helps 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.

CAUTION

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

5. While moving along area to be seeded, 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, leave the valves open and disengage (turn off) clutch. 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 off) 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 or moderate personal injury. Failure to comply could also result in product or property damage.

3. With the engine running at approximately 3/4 throttle, open remote valve at the end of the hose to discharge 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 20. If finished for the day, follow the clean-up procedure described in DAILY CLEANING AND MAINTENANCE on page 22, and flush out the hose.



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

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.



Since the extension hose will be handling the full output of the pump with the recirculation valve closed, the equipment operator and individual at the end of the hose should exercise extreme care when operating unit on high pressure. The high pressure on the hose can exert strong forces causing hose operator to lose control of hose or footing. The hose will require additional holders 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 or moderate personal injury. Failure to comply could also result in 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 below. If finished for the day, follow the procedures under DAILY CLEANING AND MAINTENANCE on page 22, and flush out the hose.

RELOADING PROCEDURE

1. Start at step 2 in LOADING on page 14.
2. After last load of the day, refer to CLEANING AND MAINTENANCE on pages 22 and 23.

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 or FINN HLL Liquid Lime.

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 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 2,500 lb (1,134 kg), 125 gal (473 L) ($2,500 / 20$) would have to be subtracted from the total tank capacity $940 \text{ gal (3,558 L)} - 125 \text{ gal (473 L)} = 815 \text{ gal (3,085 L)}$ If 1,000 lb (454 kg) of solids were used, 50 gal (189 L) ($1,000 / 20$) would have to be subtracted $940 \text{ gal (3,558 L)} - 50 \text{ gal (189 L)} = 890 \text{ gal (3,369 L)}$.
11. Fill tank to the required capacity for the rate of granular solids to be applied.
12. Load the material. See LOADING on page 15, 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. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.

16. Apply the slurry. See APPLICATION OF SLURRY on pages 18 through 20.
17. If another load is to be applied, start again at step 1. If finished, follow CLEANING AND MAINTENANCE on pages 22 and 23.

CLEANING AND MAINTENANCE

AFTER FIRST 4 TO 8 HOURS OF OPERATION

1. Check and adjust clutch. See CLUTCH MAINTENANCE SECTION on pages 29 and 31.
2. Torque wheel lugs. Torque again after 7 days. (Trailer Option only).

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. 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.
 - M. Replace coupler gasket before reinstalling discharge nozzle onto remote valve coupler.
2. Lubricating the HydroSeeder® – See LUBRICATION AND FLUIDS CHART on pages 24 and 25.

CAUTION

Lubrication should be performed IMMEDIATELY AFTER cleaning of the equipment with the engine should not be 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 9.
- C. Check the engine oil and replenish when necessary. Change oil and filter after first 50 hours, then every 200 hours thereafter. Consult the engine operator's manual for the correct grade of oil and the engine break-in procedure.

NOTICE

Change engine oil and filter at least once annually, even if the 200 hours have not been met.

- D. Lubricate the swivel on the discharge assembly.

WEEKLY OR EVERY 40 HOURS OF OPERATING TIME

1. Clean the air cleaner following the instructions in the engine operator's manual.
2. Lubricate all the points on the HydroSeeder® as outlined in DAILY CLEANING AND MAINTENANCE on page 22. 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 antifreeze 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.

SEASONAL AND WINTER STORAGE MAINTENANCE

1. Drain the slurry tank of all water, prior to storage, and leave drain plug uninstalled.
2. Park unit in suitable location and chock wheels to prevent inadvertent movement.
3. If possible, cover machine with tarp or park inside of an enclosure.
4. Store the HydroSeeder® with all slurry valve handles in the open position. To prevent damage from freezing, it is advisable to remove all slurry valves and store in a heated area.
5. Pour 1 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.
6. Chip away and use the steel brush on any interior rust spots in the slurry tank, and touch up with paint. See steps 2 and 3 in section IV, MAINTENANCE of the HYDROSEEDER® SAFETY SUMMARY SECTION on page 4.
7. Lubricate all fittings.
8. Check antifreeze in radiator.
9. Lubricate equipment again just prior to putting into operation after having been in storage.
10. Change hydraulic oil and filter. (400 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.

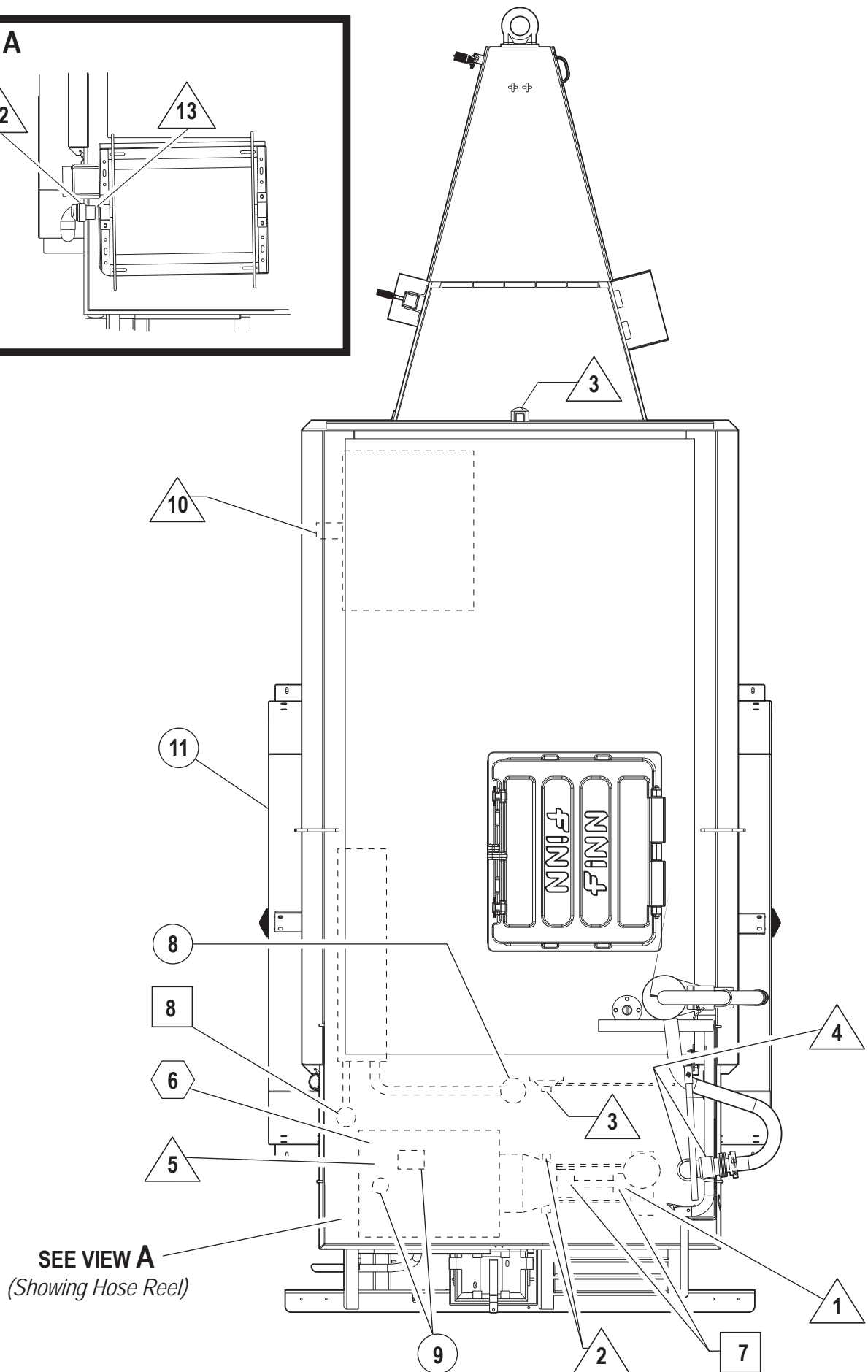
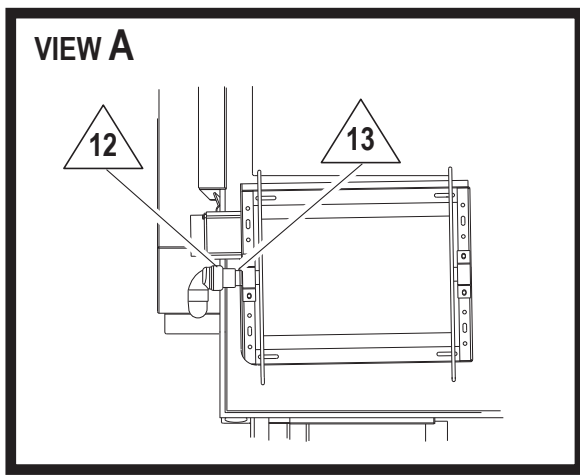


Figure 7 – Lubrication and Adjustment Points

LUBRICATION AND FLUIDS CHART

(Reference Figure 7)

Ref. No.	Location	Lubricant	Frequency	Number
1	Check Grease Level in Automatic Pressure Lubricator	SL	Daily	1
2	Check Clutch Lever Bearings	CL	Daily	2
3	Grease Agitator Shaft Bearings	CL	Daily	2
4	Grease Discharge Swivels	CL	Daily	1
5	Check Engine Oil Level	MO	Daily	1
6	Change Engine Oil and Filter	MO	See Engine Manual	1
7	Grease Pump Bearings	BL	Weekly	2
8	Check Hydraulic Fluid Level	HO	Weekly	1
	Check Hydraulic Fluid and Filter	HO	Seasonally	1
9	Change Engine Coolant	AF	Seasonally	1
10	Check Fuel Tank	DF	Daily	1
11	Repack Wheel Bearings	CL	Seasonally	4
12	Check Hose Reel Swivel	CL	Daily	1
13	Hose Reel Hank Crank Shaft	CL	Weekly	1

LUBRICANT OR FLUID USED

SL	Bearing Lube (Sodium-Based)
CL	Chassis Lubricant
MO	Motor Oil – See Engine Manual
HO	Hydraulic Oil, ISO Grade 46
AF	50/50 AntiFreeze and Water Mixture
DF	Diesel Fuel

TIME KEY

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

FLUID CAPACITIES

Diesel Fuel - 14 gal (53 L)
 Engine Oil - 6 qt (5.6 L)
 Engine Coolant - 1.5 gal (5.6 L) 50/50 Mix Only
 Hydraulic Fluid - 19 gal (72 L)

CLUTCH/PUMP (CLUMP) ASSEMBLY

(Reference Figures 8 and 9)

Ref. No.	Part Number	Description	No. Required
1	005146	Pump Suction Cover	1
1B	X0824SS	Suction Cover Bolt	4
1N	Y08SS	Suction Cover Nut	4
2	005150	O-ring	1
3	005543	Pump Impeller	1
4	006443	Mechanical Shaft Seal	1
5	005144	Pump Casing	1
5B	X0824SS	Suction Cover Bolt	8
5W	W08FSS	Suction Cover Washer	8
6	006444	Grease Retainer Seal	1
7	005446	Flange Bearing	1
7B	X0724SS	Flange Bearing Bolt	4
7LW	W07LSS	Flange Bearing Lockwasher	4
8	005447	Shaft Seal	1
9	005475	Thrust Bearing Retainer	1
9A	005544-02	Thrust Bearing Retainer Gasket	1
9B	X0512SS	Thrust Bearing Retainer Bolt	6
10	005670	Clutch/Pump Drive Housing	1
10A	005570	Clump Nameplate	1
10B	XST0408SS	Clump Nameplate Screw	2
11	005541	Clump Shaft	1
12	005450	Radial Ball Bearing	1
13	005449	Radial Ball Bearing w/ Seal	1
14	005448	Bearing Locknut	1
15	100211	Spring Lever	1
16	100212	Lever	3
17	100215	Connecting Link	6
18	100216	Link Pin	6
19	100217	Retaining Ring	6
20	100327	Release Sleeve and Bearing Assembly	1
21	100328	Release Sleeve	1
22	100330	Release Bearing	1
23	100329	Bearing Carrier	1
24	100073	Clutch Yoke	1
25	100042	Woodruff Key	2
26	100041	Cross Shaft	1
27	100210	Adjusting Ring	1
28	100214	Adjusting Lock	1
29	100336	Pressure Plate	1
30	100337	Clutch Facing	1
31	100338	Drive Ring	1
32	100056	Clutch Key	1
33	100219	Separator Spring	1
34	100335	Clutch Body	1
35	100213	Pivot Lever Pin	3
36	100008	Retaining Ring	3
37	100047	Lockwasher	1
38	100045	Drive Shaft Nut	1
39	005151	Pilot Bearing	1
40	160234	Pipe Plug	2
41	007705	Grease Fitting	1

PUMP MAINTENANCE SECTION

NOTE: Refer to Figures 8 and 9 on pages 26 and 28 for callouts on pages 27 through 31.

CAUTION

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

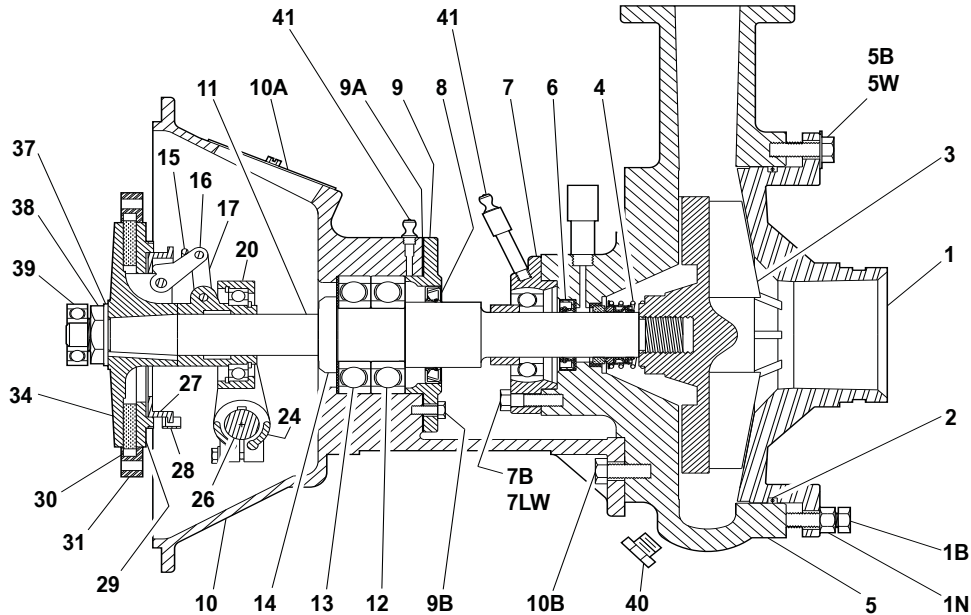


Figure 9 – Cross-Section Through Clump

A. FACTORY TOLERANCES

1. To check pump tolerances, loosen the two clamps on pump suction piping and remove the inlet elbow. Through the pump suction hole, insert a feeler gauge between the pump impeller (3) and the pump suction cover (1). This measurement on a new pump is between 0.040 in. to 0.045 in. (1.00 mm to 1.15 mm).

NOTICE

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

B. IMPELLER CLEARANCE - TO BRING THE PUMP BACK TO PROPER TOLERANCE, PROCEED AS FOLLOWS

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

C. CLEANING

1. To clean pump impeller (3), loosen the two victaulic pipe clamps and remove suction pipe assembly. The eye of the pump impeller can then be seen through the pump suction cover (1) and is readily accessible for cleaning.
2. To further access pump impeller, remove eight bolts (5B) that hold pump suction cover (1) in place. Remove pump suction cover, being careful not to damage O-ring (2).
3. To remove pump impeller, take the pump impeller wrench, which is stored in the 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 wrench securely in place with one of the pump suction cover bolts (5B). Using a pipe wrench on the clump shaft (11), unscrew pump impeller by 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 (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 above steps in CLEANING, and remove pump casing (5) by removing four bolts (10B) that hold the casing to the clutch/pump drive housing (10).
2. After cleaning all parts, including pump shaft, begin reassembly of pump. Install seal grease retainer (6) with the cavity portion of the seal facing outward. Rebolt the pump casing onto the clutch drive housing using three bolts (10B). Using a light oil lubricant (such as 3-in-1 oil), install the ceramic seat with its neoprene holder into the seal recess, making sure it is square with the pump shaft. Lubricate the inside of the bellows assembly with a light oil 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 pump shaft with an antiseize compound, install pump impeller (3), seating it securely.
4. Utilizing O-ring (2), reinstall suction cover using eight bolts (5B). At this time, check to see that pump runs freely. If pump impeller rubs suction cover, you do not have pump impeller tight on pump shaft or the suction cover needs to be readjusted. See IMPELLER CLEARANCE on page 26. 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 the automatic pressure lubricator. See page 9.

CLUTCH MAINTENANCE SECTION



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

A. ADJUSTMENT - If the clutch slips, overheats, or the clutch operating lever pops out of position, the clutch must be adjusted. Proceed as follows:

1. Remove clump nameplate (10A) in the clutch/pump drive housing (10) and rotate clutch until adjusting lock collar and lock screw (28) can be reached. Remove or disengage adjusting lock collar (28), being careful not to drop it into the housing.
2. Turn adjusting ring (27) counterclockwise to obtain recommended operating lever pressure.

Clutch Size	Reference Handle Length	Pressure at Lever
7-1/2"	7-5/8"	110–130 lb

HANDLE PRESSURE

Variation in handle length directly affects the pressure required at the handle for proper clutch adjustment. See the above table to determine the correct handle pressure.

NOTICE

A new clutch generally requires several adjustments until the friction surfaces are worn in. Do not let clutch slip, as this will glaze the friction plates and may ruin them.

B. LUBRICATION

1. Lubricant: Use any high-grade, lithium-based number 2, short-fiber grease having an operating temperature of 200°F (93°C). Grease recommended for roller bearings may be used.

NOTICE

Do not mix sodium-calcium-based grease with Lithium grease. Lubricate sparingly to avoid oil on clutch facings.

2. Antifriction Bearings: Shaft bearings should be lubricated after each 50 hours of operation. Lubricate the shaft bearings through fittings (41) with a short-fiber, high-grade, high-temperature, lithium-based number 2 lubricant having an operating temperature of 200°F (93°C). Use the same lubricant to occasionally lubricate the two fittings at the cross shaft (26).
3. Clutch Lever and Linkage: Levers and linkage should be lubricated with engine oil after every 500 hours of operation.

C. REMOVAL OF CLUTCH/PUMP FROM ENGINE

1. Remove pump section completely as described under CLEANING and INSTALLING NEW SEAL ASSEMBLY (step 4) on page 29.
2. Engage (turn on) clutch located on top of the operator's platform to hold clutch facings in place when removing the clutch from the engine. Unbolt the rod that connects the clutch operating lever to the operator's platform clutch handle.
3. Attach a suitable lifting device to clutch/pump drive housing (10). Remove the bolts that secure the drive housing to the engine flywheel housing, and the two bolts holding the drive housing to the HydroSeeder® frame.

NOTICE

Caution should be exercised when removing clutch/pump housing from the engine so that the facings and pilot bearing are not damaged.

4. Support the housing assembly on blocks with the output end of the shaft facing down.
5. Remove the clump nameplate (10A) from the housing for improved access to internal parts.

D. CLUTCH FACING PLATES (ITEM 30) REPLACEMENT

A common indication that the clutch facing's friction surface is worn out is that the adjusting ring cannot be adjusted any tighter. To replace the facing plates, remove the clutch/pump from the engine as described above and proceed as follows

1. Disengage (turn off) clutch operating lever and remove the old facing plates (30).

2. As close as possible, insert the new facing plates (three segments) in between clutch body (34), pressure plate (29), and center facings.
3. Lock clutch facings between pressure plates as follows:
 - A. Remove drive ring (31) from engine flywheel so that it can be used to center the facings.
 - B. With clutch assembly resting on a workbench, turn the clutch adjusting ring counter-clockwise until pressure plate (29) almost contacts clutch facing (30).
 - C. Place clutch driving ring over clutch facings so that the teeth in the driving ring mesh with the teeth of the clutch facings. Centrally locate driving ring relative to the pressure plate and clutch body.

NOTICE

If driving ring is not properly located relative to the pressure plate and clutch body, the clutch cannot be assembled to the flywheel, as the teeth of clutch facings will not enter the teeth of driving ring, even though the clutch drive shaft enters the pilot bearing.

- D. Engage (turn on) clutch by applying pressure on top of release sleeve and collar assembly (20). Lock clutch facings between pressure plate and clutch body. If clutch facings are still free to move, disengage (turn off) clutch and turn adjusting ring counterclockwise just enough to lock the clutch facings in place when clutch is engaged (turned on).

NOTICE

Engage clutch (turn on) until the clutch assembly is attached to the engine.

4. Remove the clutch driving ring (31) from the clutch facings and attach it to the flywheel with the specified bolts and lock washers.
5. Before re-installing the clutch onto the engine, lubricate release sleeve (21) through the grease fitting mounted on its side.
6. To reinstall the clutch/pump assembly onto the engine, reverse the procedure outlined under REMOVAL OF CLUTCH/PUMP FROM ENGINE on page 30.
7. When clutch/pump are reinstalled, check handle, engage pressure, and adjust if necessary.

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 (59 to 89 ml) 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 is the water.
- D. Limit recirculation time as much as possible.

2. Plugging or clogging:



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

Sometimes, when a stoppage occurs, you will not be able to find anything in the line. When this happens, it means that the system became airbound instead of plugged. To remedy this, see FOAMING OF SOLUTION AND LACK OF DISTANCE on page 34. 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. To determine if there is an obstruction in the discharge nozzle, observe the flow and spray pattern coming from the discharge nozzle. If a weak flow or abnormal spray pattern is observed, perform the following tasks.
1. Disengage (turn off) clutch.
 2. Make certain that pump has stopped rotating.
 3. Slowly and carefully remove nozzle.
 4. Clean the discharge nozzle. To clean the discharge nozzle, use the nozzle cleaning rod attached to the underside of the guard rail. Insert the nozzle cleaning rod into nozzle to push build-up out of the nozzle. Repeat procedure until nozzle is completely cleaned. (Platform Option only.)



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

- B. To determine if the recirculation system is not working, perform the following tasks:
1. Disengage (turn off) clutch and shut down engine.
 2. Remove two clamps on each side of recirculation valve.
 3. Slide rubber seals back and remove valve assembly.
 4. Check valve assembly, recirculation nozzle in the discharge pipe, and the recirculation pipe going into tank. Clear any obstructions.
 5. Replace valve assembly and slide seals back into place. Lubricate the outside of seals.
 6. Replace clamps.
- C. Obstruction in pump is determined by a drop in pressure. If a drop in pressure is accompanied by a frothy or whitish discharge stream, a blockage is in the suction line or sump area. To clear the pump, perform the following tasks:
1. Disengage (turn off) clutch and stop engine.
 2. Loosen suction pipe clamps. If material in the tank, shutoff suction line valve
 3. Remove suction clamp closest to pump.

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

4. Reach into pump and remove obstruction. If jammed, the pump suction cover may need to be removed.
5. Reassemble, removing pipe plug in the process.
6. Open suction line valve.

D. Obstruction in sump area, which is located at the bottom of the tank on the inside where the suction pipe is attached. Three methods to remove an obstruction in the sump area are as follows:

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



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 Bolts not tightened	Replace seal and follow lube schedule.
		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 9.
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 see distance – leaves excessive amount in tank – 100 gal (378 L) or more	Sucking air in suction lines	Check all suction connections to ensure that rubber seals are in good shape. Grease seals before replacing clamps.
	Air entrainment	See TROUBLESHOOTING step 1 on page 31.
	Low engine rpm (Below 2,750 rpm – No load)	Check throttle cable and linkage. See authorized engine dealer.
	Soft water	Slow the agitator.

TROUBLESHOOTING YOUR HYDROSEEDER®:

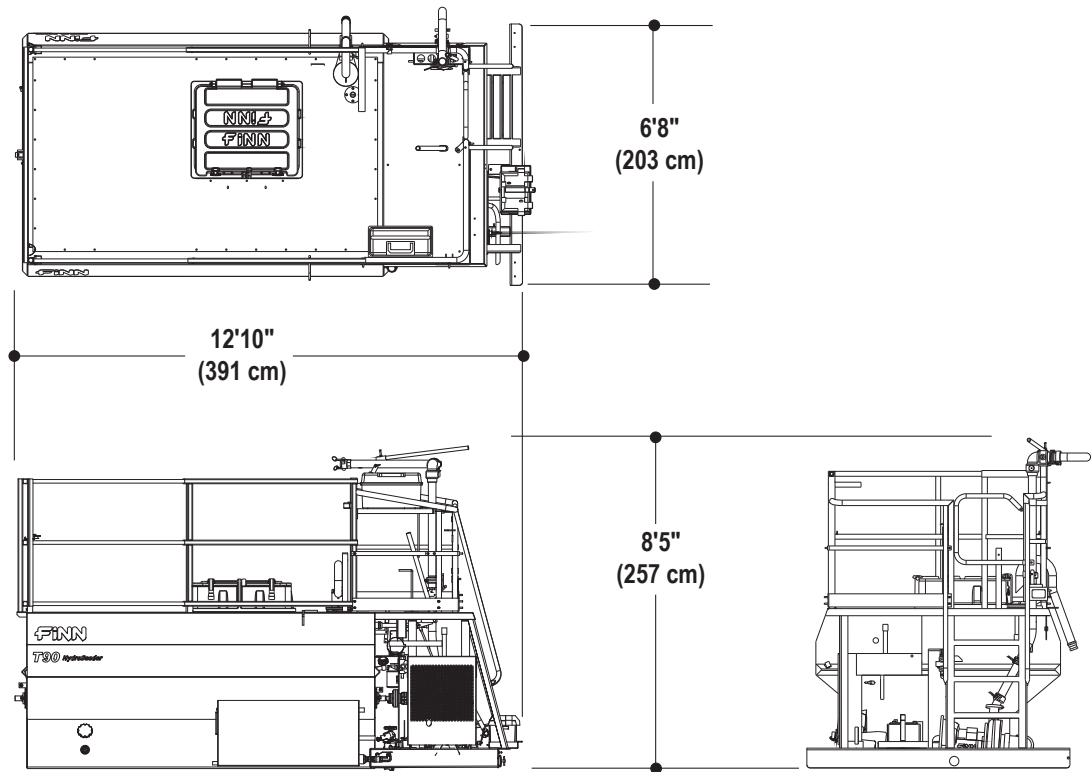
Problem	Probable Causes	Suggested Solutions
Pump loses prime – lacks distance – leaves excessive amount in tank – 100 gal (378 L) or more	Too much agitation	Slow the agitator.
	Pump worn	Reset pump tolerance. See page 28.
	Suction partially plugged	Clean out machine. See page 22.
	Nozzle worn or plugged	Clean nozzles; replace if necessary.
	Fertilizer	Change type.
	Clutch slippage	Readjust clutch; See page 29.
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 storage for foreign materials.
Constant plugging during loading and discharging	Loading HydroSeeder® before tank is half full of water	Reinstruct your operator. See page 14.
	Incorrect loading procedure	See page 14.
	Improper operation by operator	Reinstruct your operator. Review OPERATOR'S MANUAL.
	Clutch slipping	Readjust clutch. See page 29.
	Not moving valve handle far enough	Valve should be fully open.
	Machine not being flushed out prior to reloading	See page 14.
	Machine not being run at correct rpm during loading	Reinstruct your operator. See page 14.
Extension hose plugs after use	Letting water run out, leaving wood fiber mulch to dry out	If hose has to be uncoupled, seal hose 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 page 29.
Jumps out of engagement	Too loose or too tight	Readjust clutch. See page 29.
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.

TROUBLESHOOTING YOUR HYDROSEEDER®:

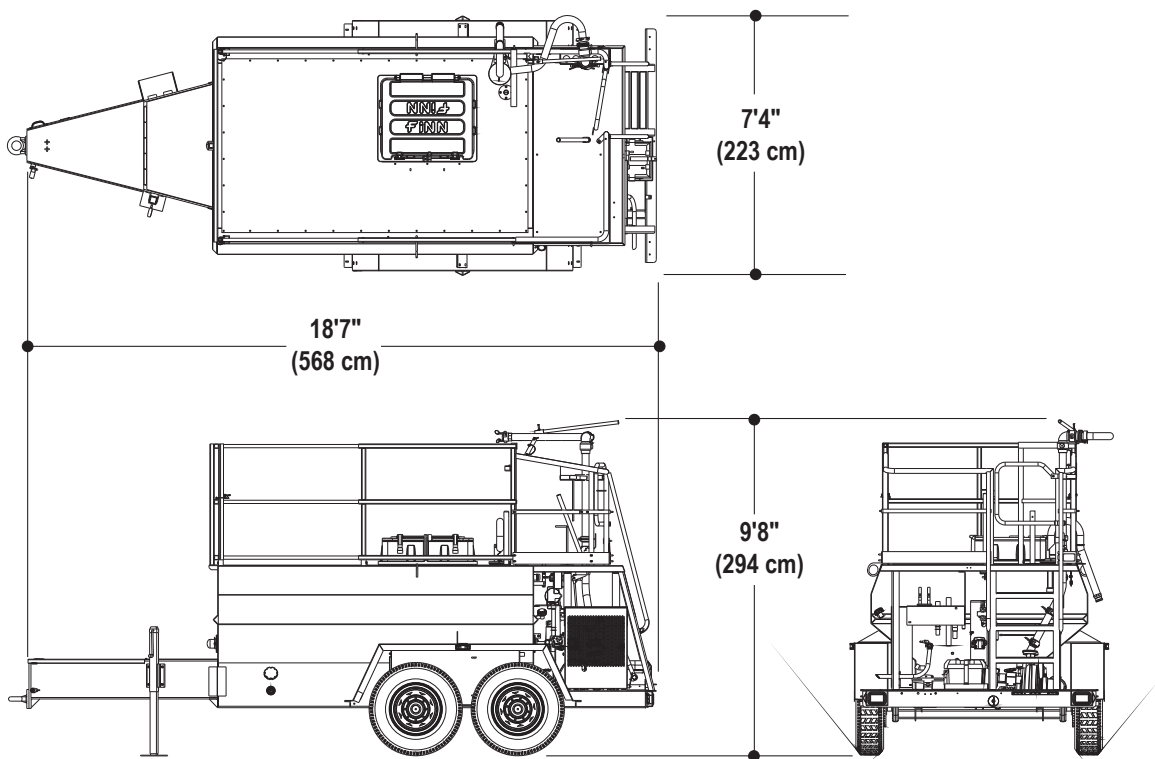
Problem	Probable Causes	Suggested Solutions
PUMP		
Will not turn	Frozen	Warm housing to melt ice.
	Jammed with fertilizer or lime	Remove cover and clean interior.
	Impeller rusted to suction cover plate	Pull cover and remove rust.

NOTES

T120 SKID-MOUNT HYDROSEEDER® TECHNICAL SPECIFICATIONS



T120 TRAILER HYDROSEEDER® TECHNICAL SPECIFICATIONS



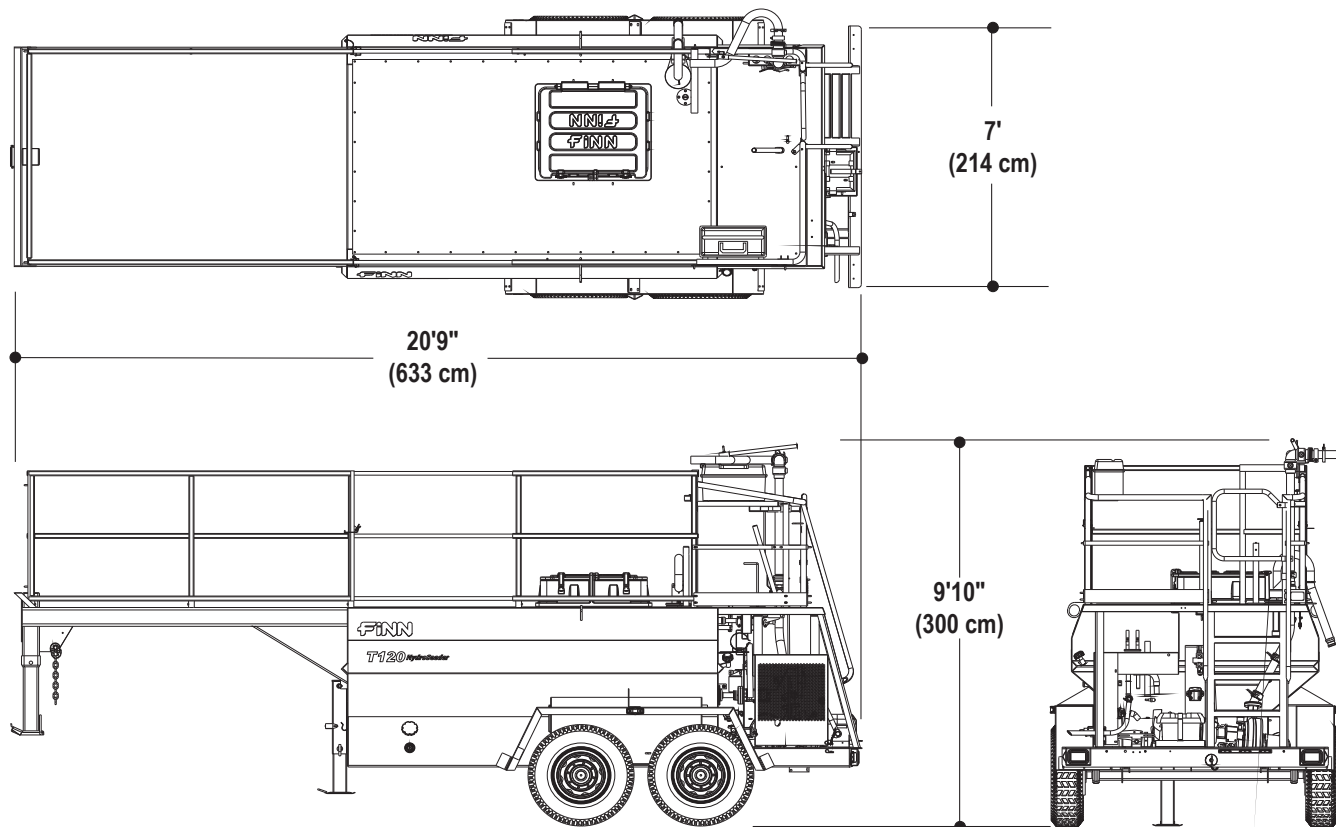
FINN T120 SKID and TRAILER-MOUNTED HYDROSEEDER®

TECHNICAL SPECIFICATIONS

POWER	Diesel Kubota V1505, 33.5 hp (25 kw), 4-cylinder water-cooled	
ENGINE SAFETY SYSTEM	Low oil pressure, high temperature shutoff	
TANK SIZE.....	1,800 gal (6,814 L) liquid capacity 1,000 gal (3,785 L) working capacity	
FUEL TANK CAPACITY	15 gal (57 L)	
PUMP.....	Centrifugal 4 in. x 2 in. (10 cm x 5 cm) 170 gpm @ 100 psi (646 lpm @ 7 kg/cm ²), 3/4 in. (1.9 cm) solid clearance, external adjustment	
PUMP DRIVE.....	Direct drive with over center clutch, pump drive is independent of agitator operation	
AGITATION	Mechanical paddle agitation and liquid recirculation	
AGITATOR DRIVE	Reversible, variable speed hydraulic motor drive (0-110 rpm)	
DISCHARGE DISTANCE.....	Up to 180 ft (55 m) from end of discharge tower	
MAX. MATERIAL CAPACITY	3,200 lb (1,452 kg) granular solids 500 lb (227 kg) fiber mulch	
NOZZLES	(1) narrow fan, (1) wide fan, (2) long distance	
EMPTY WEIGHT	T120T	5,800 lb (2,630 kg)
	T120S	4,480 lb (2,032 kg)
WORKING WEIGHT*.....	T120T	17,400 lb (7,893 kg)
	T120S	16,080 lb (7,294 kg)
BRAKES	Electric on both axles with breakaway switch	
LIGHTS	D.O.T. including marker, identification lights, and license plate light	
TIRES	12 in. x 16.5 in. tubeless with highway tread, load range F	
TRAILER AXLES	Tandem 8,000 lb (3,629 kg) rubber torsion with adjustable fenders	
HITCH WEIGHT.....	Approx. 2,940 lb (1,334 kg)	

* Working weights are approximate and do not include options or stored materials.

T120 GOOSENECK TRAILER HYDROSEEDER® TECHNICAL SPECIFICATIONS



FINN T120 GOOSENECK TRAILER HYDROSEEDER®

TECHNICAL SPECIFICATIONS

POWER	Diesel Kubota V1505, 33.5 hp (25 kw), 4-cylinder water-cooled
ENGINE SAFETY SYSTEM	Low oil pressure, high temperature shutoff
TANK SIZE.....	1,800 gal (6,814 L) liquid capacity 1,000 gal (3,785 L) working capacity
FUEL TANK CAPACITY	15 gal (57 L)
PUMP	Centrifugal 4 in. x 2 in. (10 cm x 5 cm) 170 gpm @ 100 psi (646 lpm @ 7 kg/cm ²), 3/4 in. (1.9 cm) solid clearance, external adjustment
PUMP DRIVE.....	Direct drive with over center clutch, pump drive is independent of agitator operation
AGITATION	Mechanical paddle agitation and liquid recirculation
AGITATOR DRIVE	Reversible, variable speed hydraulic motor drive (0-110 rpm)
DISCHARGE DISTANCE.....	Up to 180 ft (55 m) from end of discharge tower
MAX. MATERIAL CAPACITY	3,200 lb (1,452 kg) granular solids 500 lb (227 kg) fiber mulch
NOZZLES	(1) narrow fan, (1) wide fan, (2) long distance
EMPTY WEIGHT	6,020 lb (2,731 kg)
WORKING WEIGHT*.....	17,620 lb (7,992 kg)
BRAKES	Electric on both axles with breakaway switch
LIGHTS	D.O.T. including marker, identification lights, and license plate light
TIRES	9.5 in. x 16.5 in. tubeless with highway tread, load range E
TRAILER AXLES	Tandem 7,000 lb (3,175 kg) rubber torsion with adjustable fenders
HITCH WEIGHT.....	Approx. 4,800 lb (2,177 kg)

* Working weights are approximate and do not include options or stored materials.

NOTES

T120-II HydroSeeder® Parts Manual

Model MS

NOTES

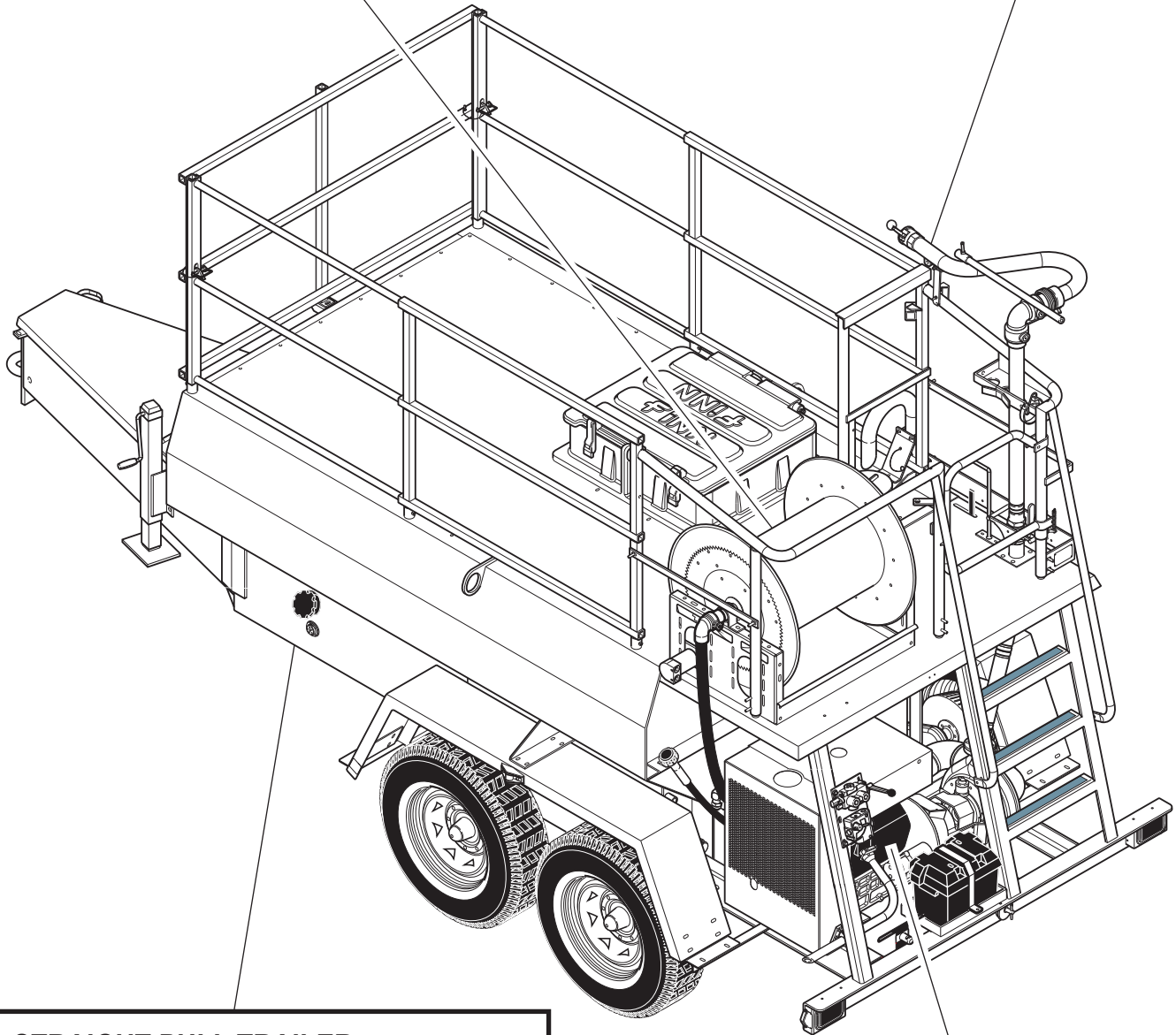
T120 STRAIGHT PULL TRAILER PICTORIAL REFERENCE

HOSE REEL

Hose Reel Assembly Pages 64-65
Hydraulic System w/Hose Reel Pages 66-67
Nozzles, Remote Valve & Tool Kit Page 79

OPERATOR'S PLATFORM

Operator's Platform Pages 52-53
Discharge Boom Assembly..... Pages 68-69
Control Box Wiring..... Pages 70-71



STRAIGHT PULL TRAILER

Straight Pull Trailer Pages 44-45
Wheel & Hub Assembly Pages 54-55
Agitator Assembly..... Pages 58-59
Hydraulic Agitator Drive Page 60
Trailer Wiring Page 61
Hydraulic System..... Pages 62-63
Decals..... Pages 80-81

PIPING, CLUMP & ENGINE

Piping..... Pages 72-73
Clutch/Pump Assembly..... Pages 74-75
Engine & Radiator Pages 76-77
Engine Wiring Page 78

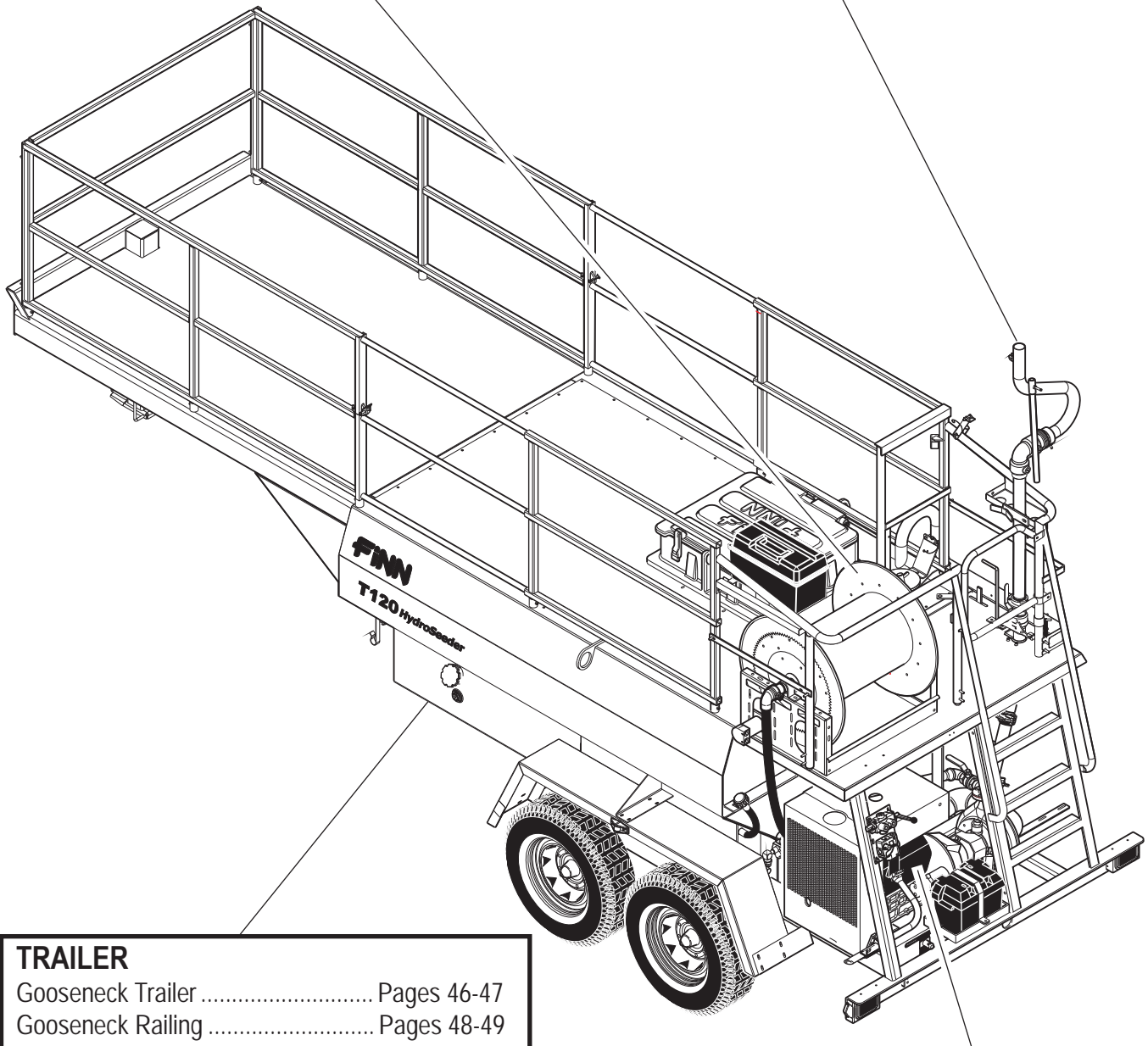
T120 GOOSENECK TRAILER PICTORIAL REFERENCE

HOSE REEL

Hose Reel Assembly Pages 64-65
Hydraulic System w/Hose Reel 66-67
Nozzles, Remote Valve & Tool Kit Page 79

OPERATOR'S PLATFORM

Operator's Platform Pages 52-53
Discharge Boom Assembly..... Pages 68-69
Control Box Wiring..... Pages 70-71



TRAILER

Gooseneck Trailer Pages 46-47
Gooseneck Railing Pages 48-49
Wheel & Hub Assembly..... Pages 56-57
Agitator Assembly..... Pages 58-59
Hydraulic Agitator Drive Page 60
Trailer Wiring Page 61
Hydraulic System..... Pages 62-63
Decals..... Pages 80-81

PIPING, CLUMP & ENGINE

Piping..... Pages 72-73
Clutch/Pump Assembly..... Pages 74-75
Engine & Radiator Pages 76-77
Engine Wiring Page 78

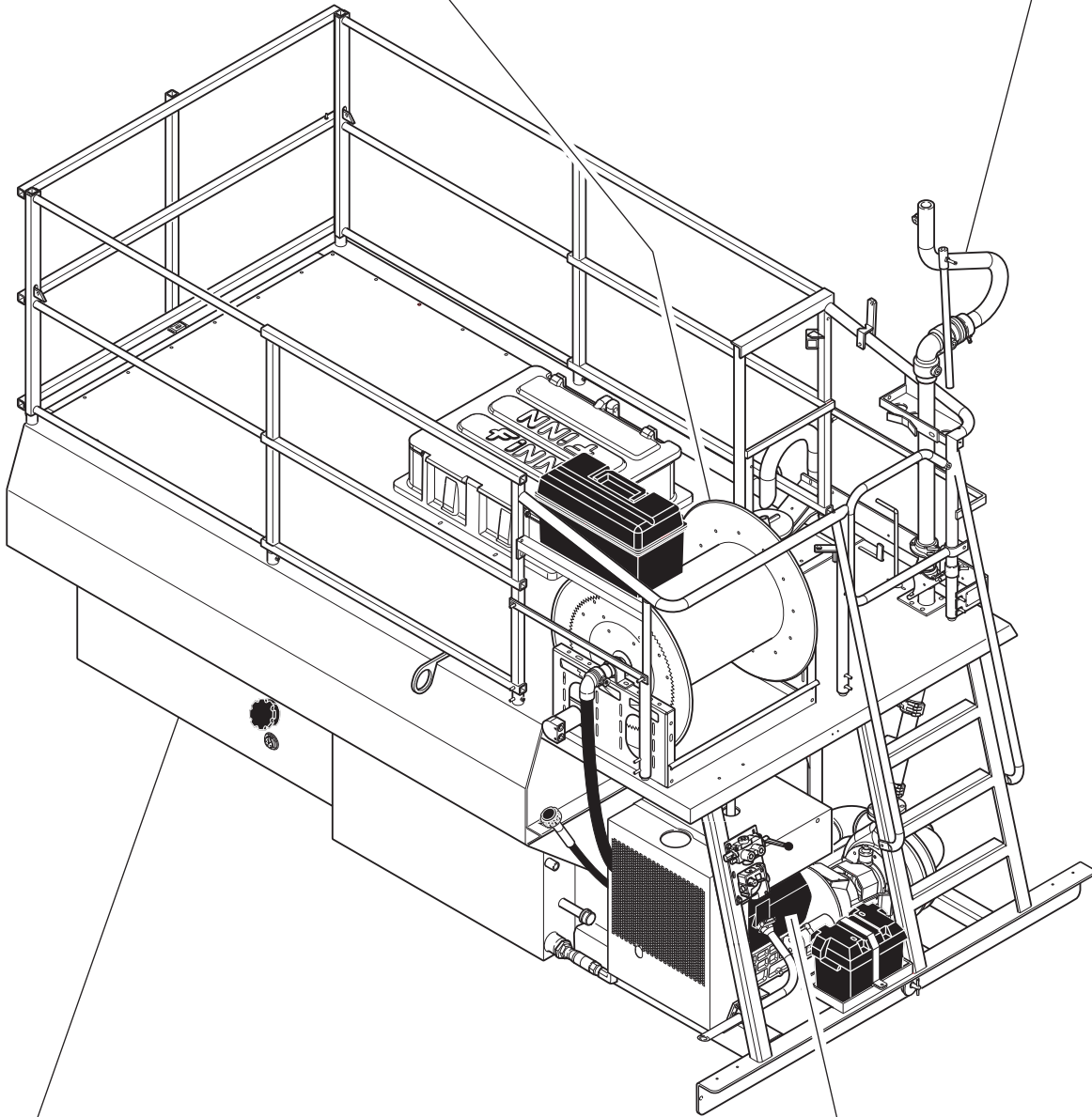
T120 SKID PICTORIAL REFERENCE

HOSE REEL

Hose Reel Assembly Pages 64-65
Hydraulic System w/Hose Reel Pages 66-67
Nozzles, Remote Valve & Tool Kit Page 79

OPERATOR'S PLATFORM

Operator's Platform Pages 52-53
Discharge Boom Assembly..... Pages 68-69
Control Box Wiring..... Pages 70-71

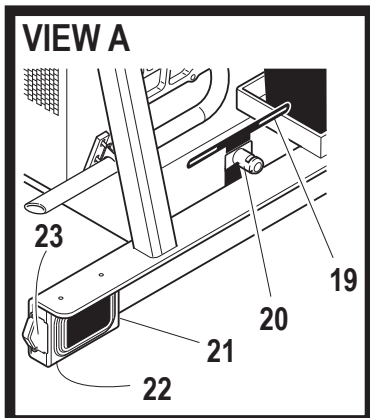
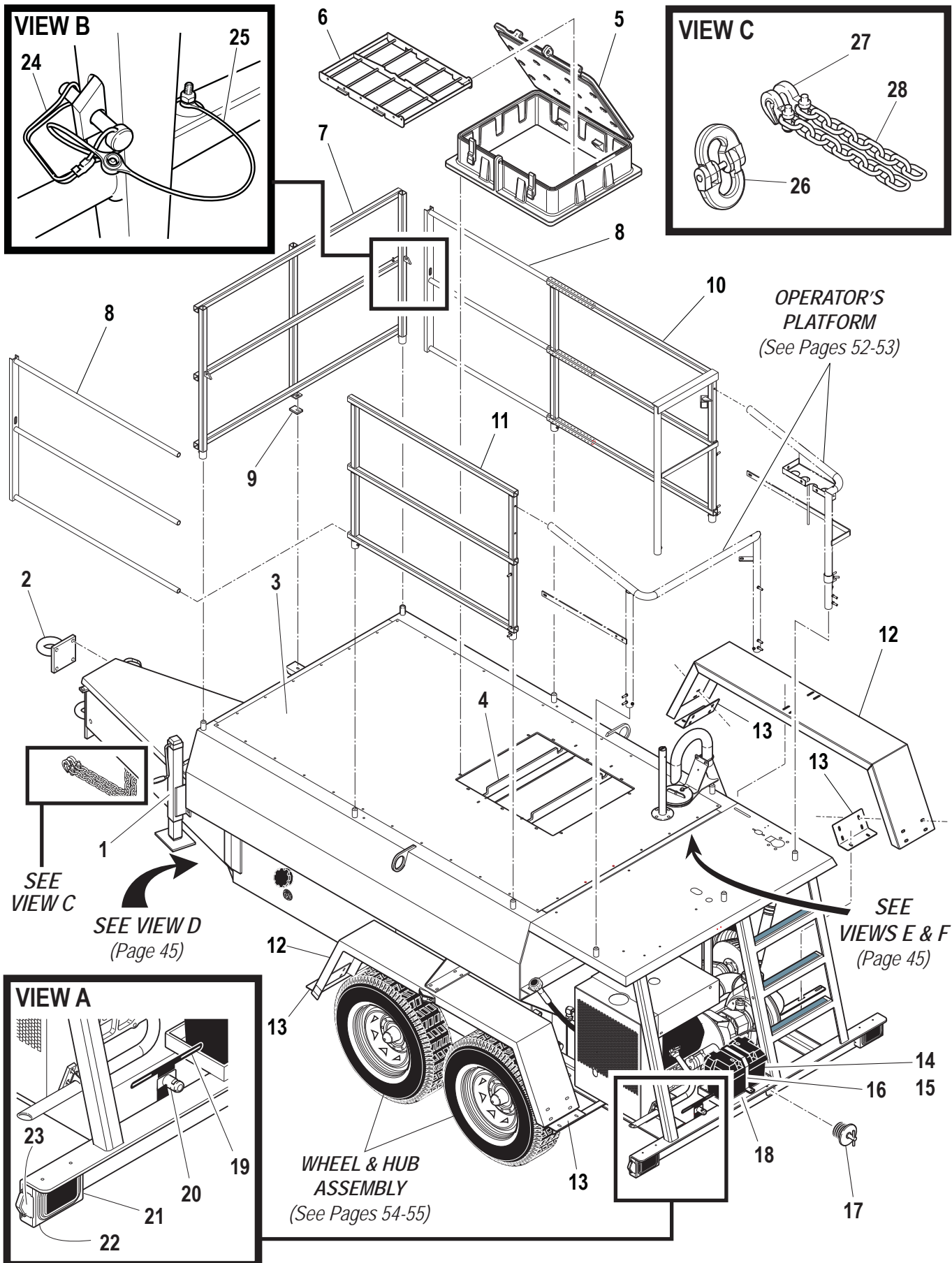
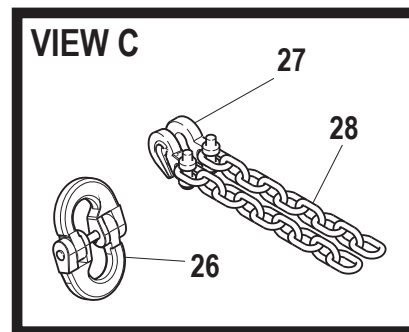
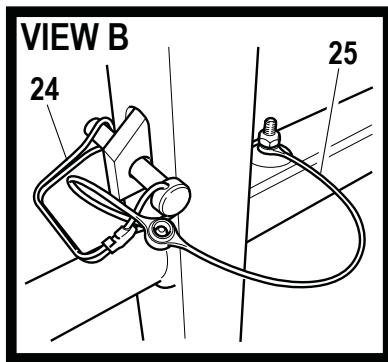


SKID

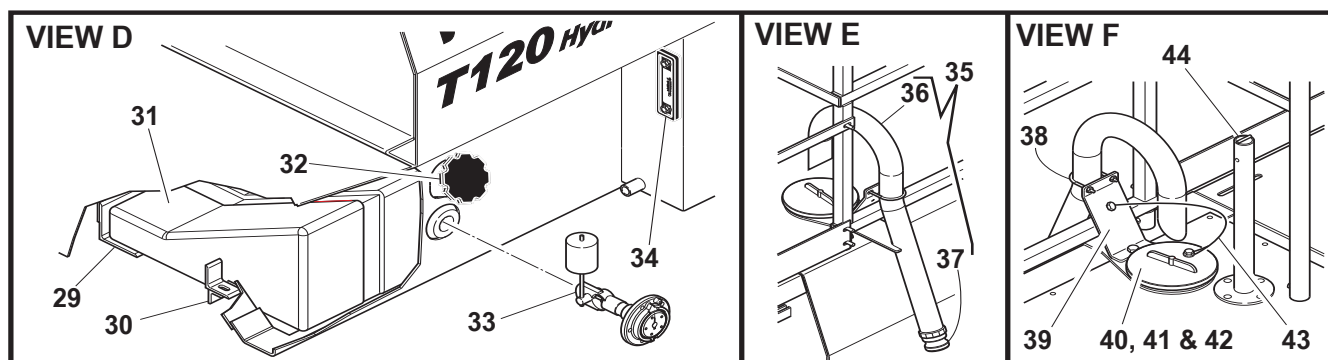
Skid..... Pages 50-51
Agitator Assembly..... Pages 58-59
Hydraulic Agitator Drive Page 60
Hydraulic System..... Pages 62-63
Decals..... Pages 80-81

PIPING, CLUMP & ENGINE

Piping..... Pages 72-73
Clutch/Pump Assembly..... Pages 74-75
Engine & Radiator Pages 76-77
Engine Wiring Page 78



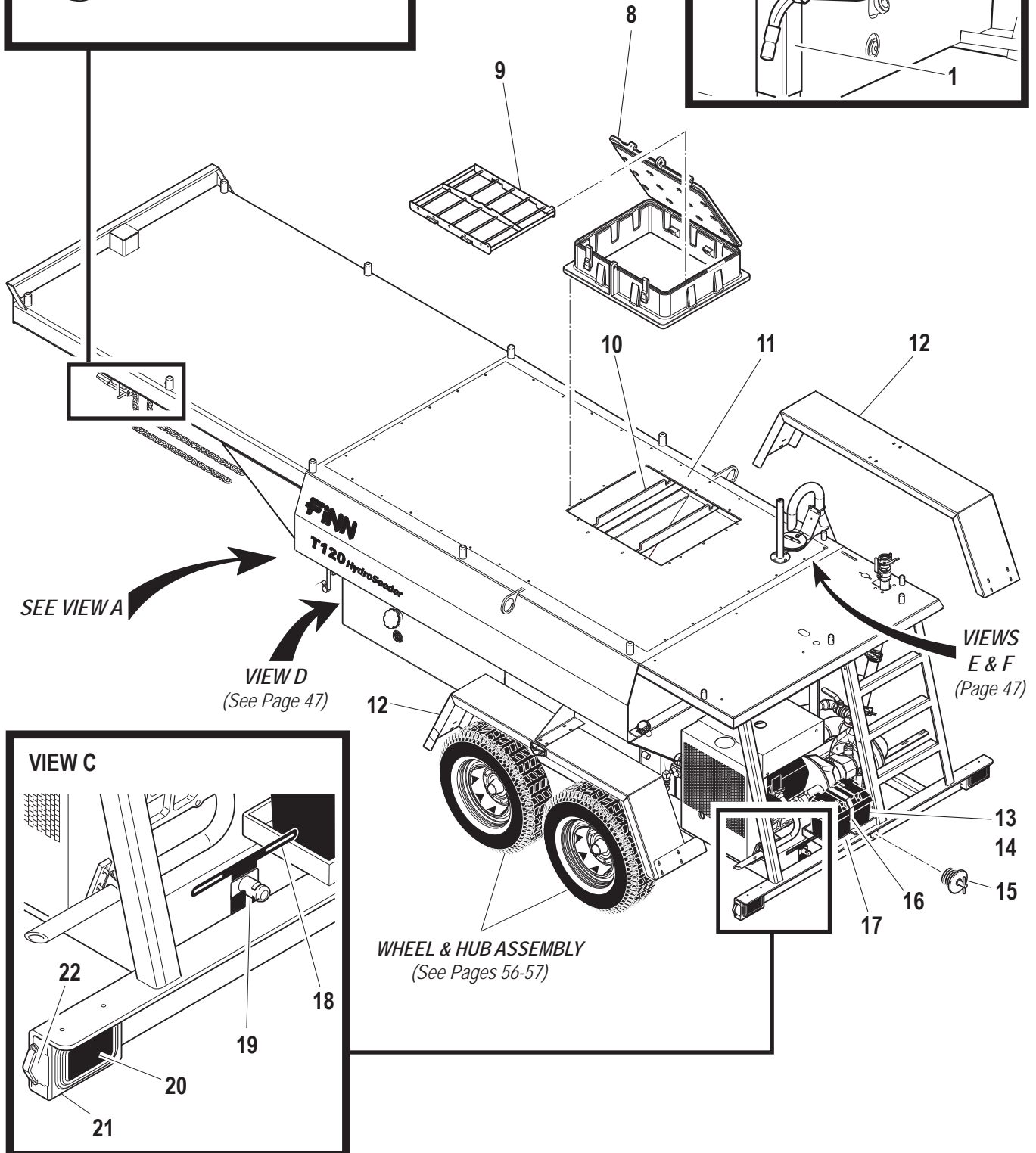
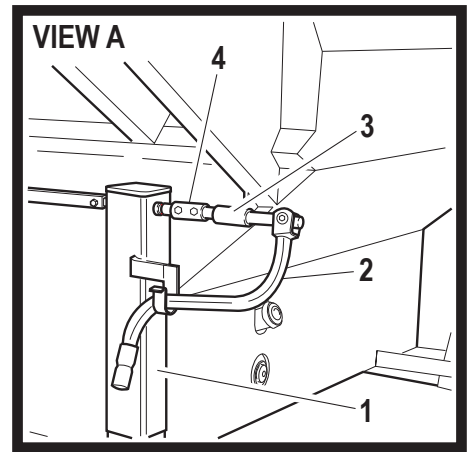
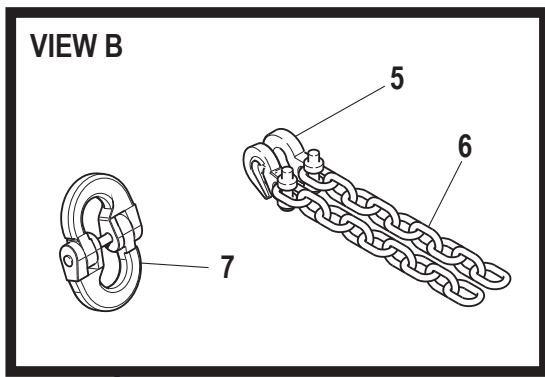
**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**



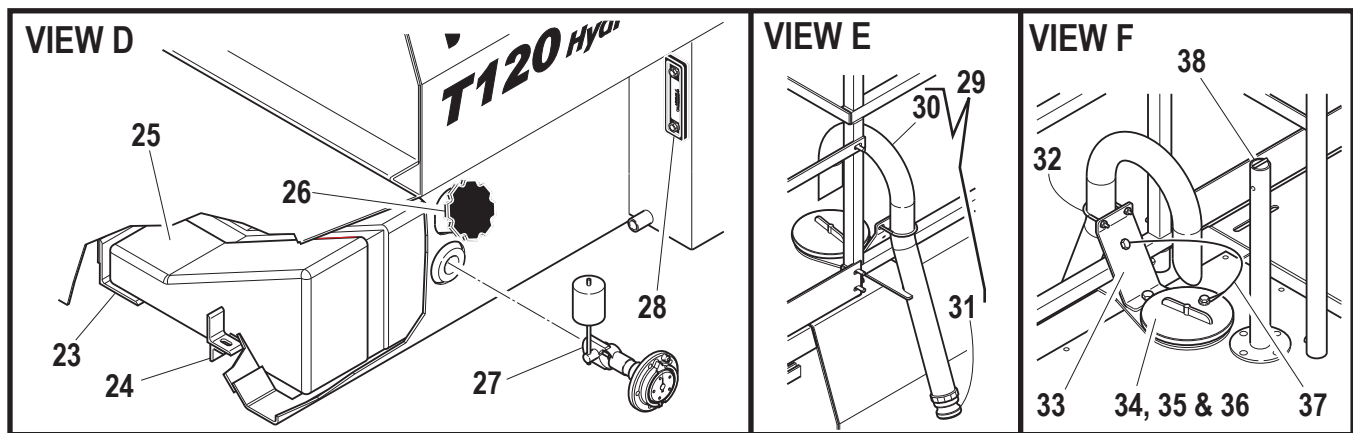
STRAIGHT PULL TRAILER

Ref. No.	Part Number	Description	No. Required
1	080701	Jack Weldment w/ Bracket	1
2	041007	Tow Ring	1
3	F120-0005	Tank Top	1
	190047	Foam Gasket 3/8" x 1-1/4" (Order By Foot)	29 ft
4	F120-0006	Hatch Safety Rail	1
5	012833	Poly Hatch Assembly	1
	005433	Soft Latch	2
6	012834	Bag Cutter - Stainless Steel	1
7	005652	Front Cross Rail	1
	005613	Square Tubing Plug	11
8	005596	Slide Gate	2
9	052136-07	Rubber Mount Pad	1
10	005600	Right Rear Rail	1
11	005598	Left Rear Rail	1
12	F90-0011	Fender	2
13	F90-0006	Fender Mounting Bracket	4
14	080223	Battery Box	1
15	002256-12	12V Battery - Interstate Battery MT34	1
16	F90-0016	Battery Box Hold Down	1
17	004593	Expansion Plug	1
18	F330-0054	Battery Box Holder	1
19	004720	License Plate Bracket	1
20	005436	License Light	1
21	005434	Tail Light Assembly	2
	005434A	Tail Light Lens	1
22	005467	Tail Light Bracket	2
23	005435	Side Marker Light	2
24	FW71225	Snapper Pin	2
25	005700	Nylon Lanyard	3
26	004888	Chain Coupling Link	2
27	005796	Clevis Grab Hook – Self-Lock	2
28	190033	Binder Chain	6 ft
29	005500-02	Fuel Tank Support Angle	1
30	005500-12	Fuel Tank Angle – Long	1
31	005724	Poly Fuel Tank	1
32	005726	Diesel Fuel Cap	1
33	005721	Fuel Tank Gauge	1
34	080329	Hydraulic Level Sight Gauge	1
35	005745	Fill Port Weldment	1
36	005745-01	Fill Port Pipe	1
37	006096	2" Male Coupler	1
38	011115	U-Bolt For 2" Pipe	1
39	F90-0017	Fill Port Support	1
40	005441	Fill Port Cover	1
41	005440	Fill Well	1
42	005544-01	Fill Port Gasket	2
43	005700	Nylon Lanyard	1
44	005714-01	Vent Port Weldment	1

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



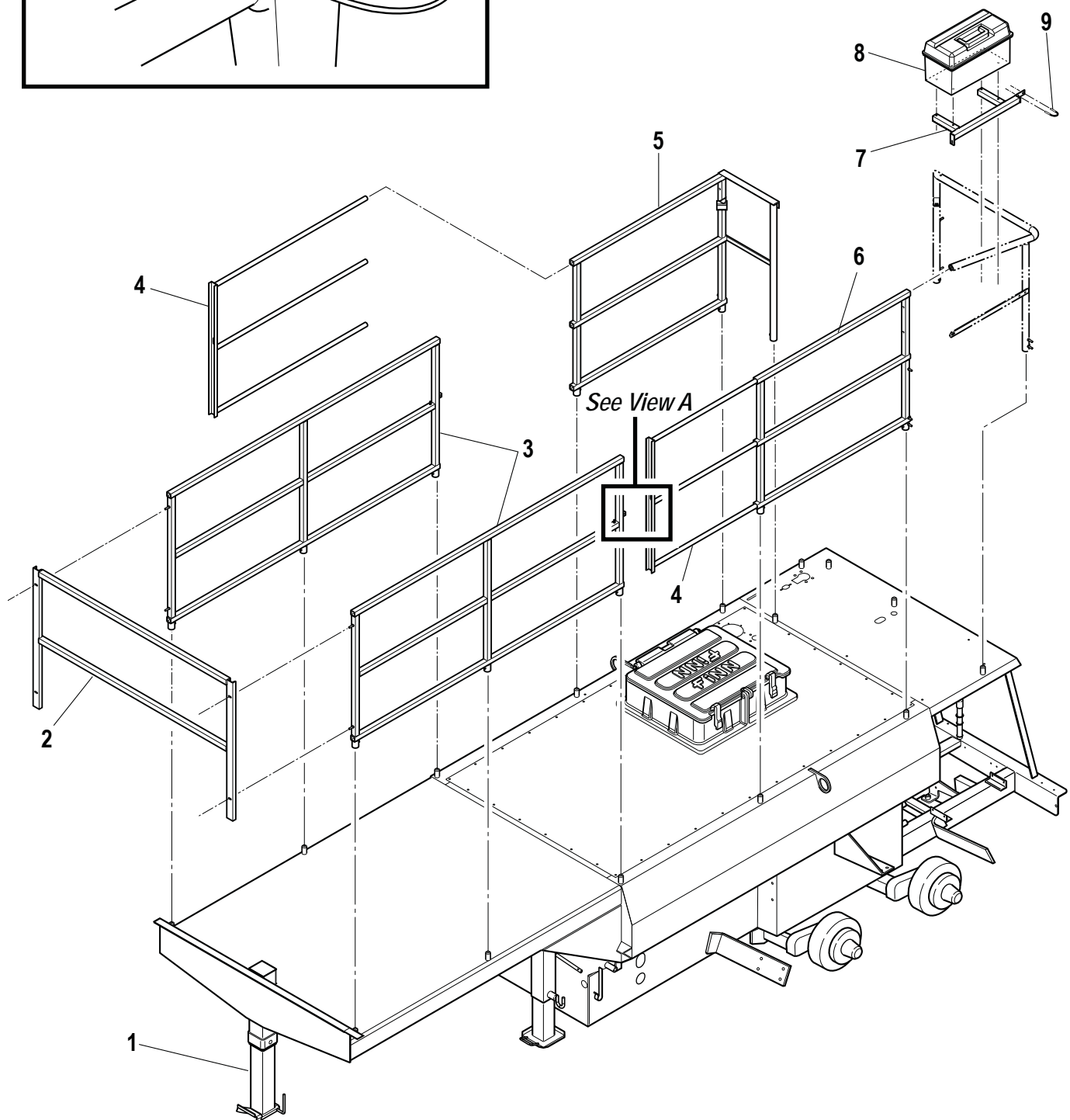
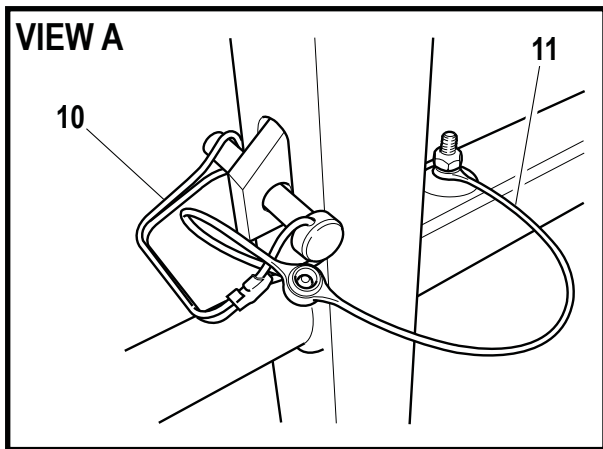
**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**



GOOSENECK TRAILER

Ref. No.	Part Number	Description	No. Required
1	004798	Trailer Jack	1
2	004798A	Trailer Jack Handle	1
3	005614-09	Jack Extension Shaft	1
4	005614-08	Coupling Tube	1
5	005796	Clevis Grab Hook – Self-Lock	2
6	190033	Binder Chain	6 ft
7	004888	Coupling Link	2
8	012833	Poly Hatch	1
	005433	Soft Latch	2
9	012834	Bag Cutter – Stainless Steel	1
10	F120-0006	Hatch Safety Rail	1
11	F120-0005	Tank Top	1
	190047	Foam Gasket 3/8" x 1-1/4" (Order By Foot)	28 ft
12	F90-0011	Fender	2
13	080223	Battery Box	1
14	002256-12	12V Battery - Interstate Battery MT34	1
15	004593	Expansion Plug	1
16	F90-0016	Battery Box Hold Down	1
17	F330-0054	Battery Box Holder	1
18	004720	License Plate Bracket	1
19	005436	License Light	1
20	005434	Tail Light Assembly	2
	005434A	Taillight Lens	1 Per
21	005467	Tail Light Bracket	2
22	005435	Side Marker Light	2
23	005500-02	Fuel Tank Support Angle	1
24	005500-12	Fuel Tank Angle – Long	1
25	005724	Poly Fuel Tank	1
26	005726	Diesel Fuel Cap	1
27	005721	Fuel Tank Gauge	1
28	080329	Hydraulic Level Sight Gauge	1
29	005745	Fill Port Weldment	1
30	005745-01	Fill Port Pipe	1
31	006096	2" Male Coupler	1
32	011115	U-Bolt For 2" Pipe	1
33	F90-0017	Fill Port Support	1
34	005441	Fill Port Cover	1
35	005440	Fill Well	1
36	005544-01	Fill Port Gasket	2
37	005700	Nylon Lanyard	1
38	005714-01	Vent Port Weldment	1

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

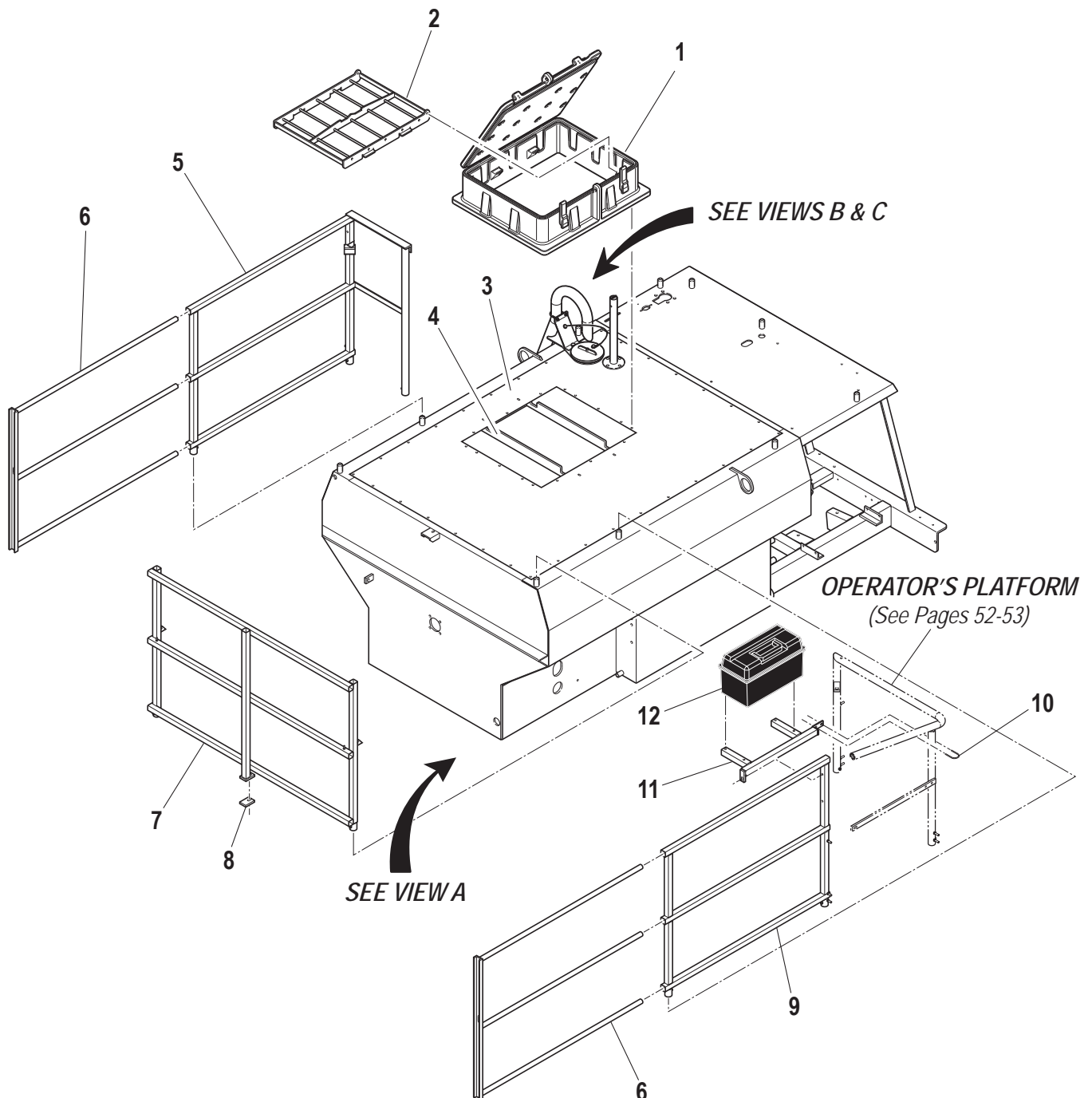
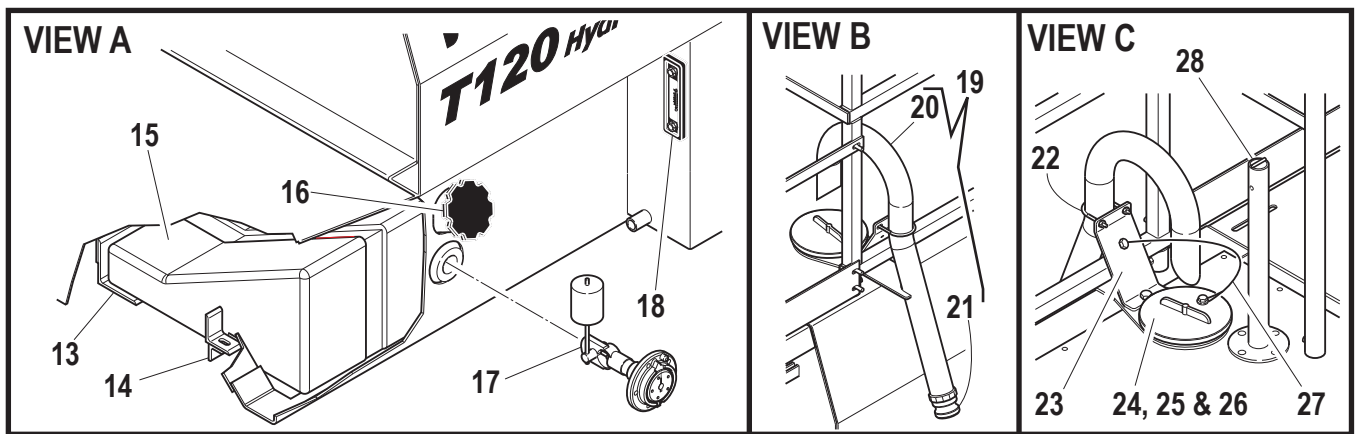


**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

GOOSENECK RAILING

Ref. No.	Part Number	Description	No. Required
1	004799	Gooseneck Coupler	1
2	005617	Front Cross Rail	1
	005613	Sqaure Tubing Plug	12
3	005599	Gooseneck Deck Rail	2
4	005596	Slide Gate	2
5	005600	Right Rear Rail	1
6	005598	Left Rear Rail	1
7	005698	Tool Box Mount Weldment	1
8	052160	Tool Box	1
9	005619	U-Bolt For 1-1/4" Pipe	1
10	FW71225	Snapper Pin	2
11	005700	Nylon Lanyard	2

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

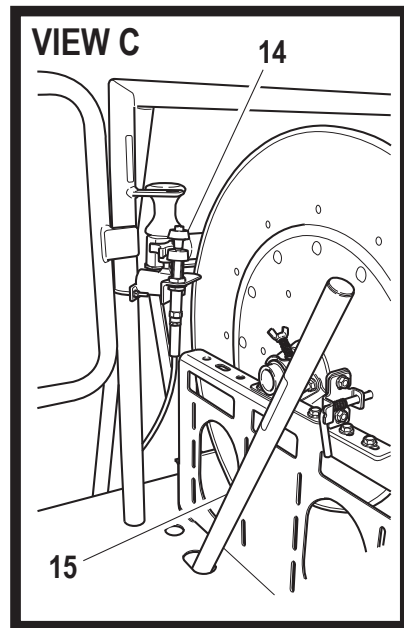
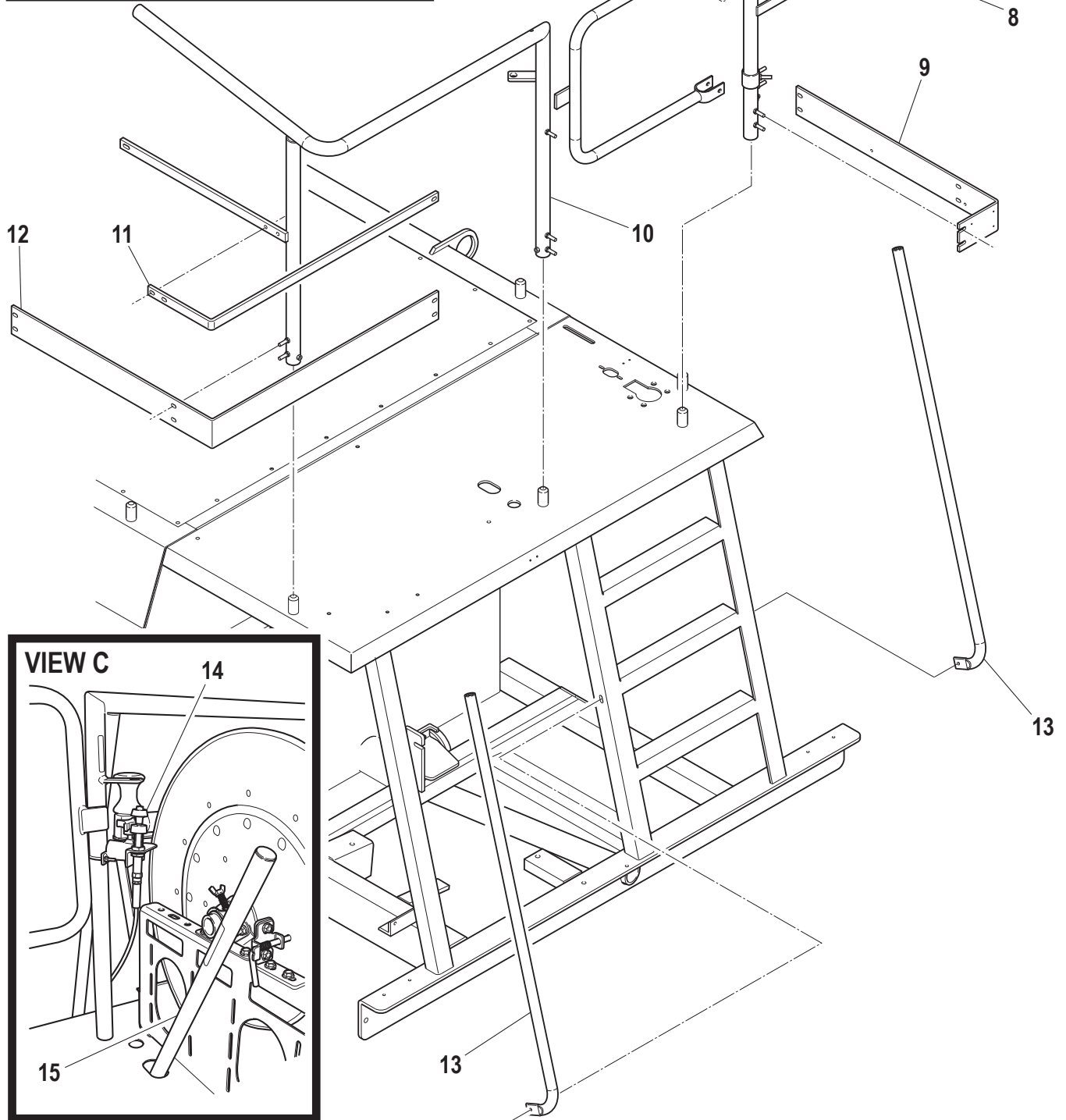
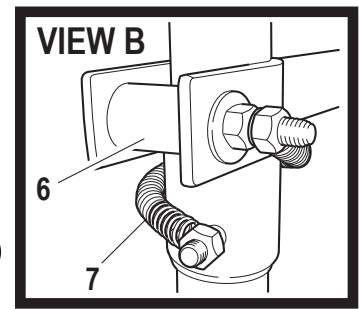
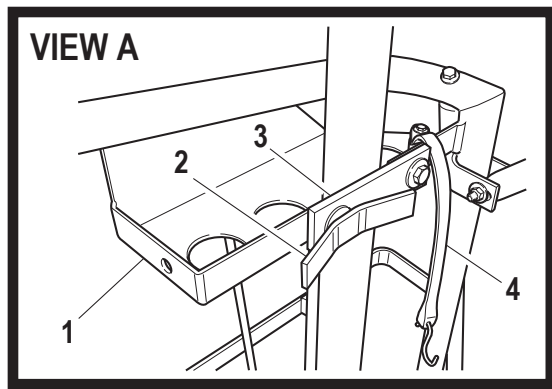


**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

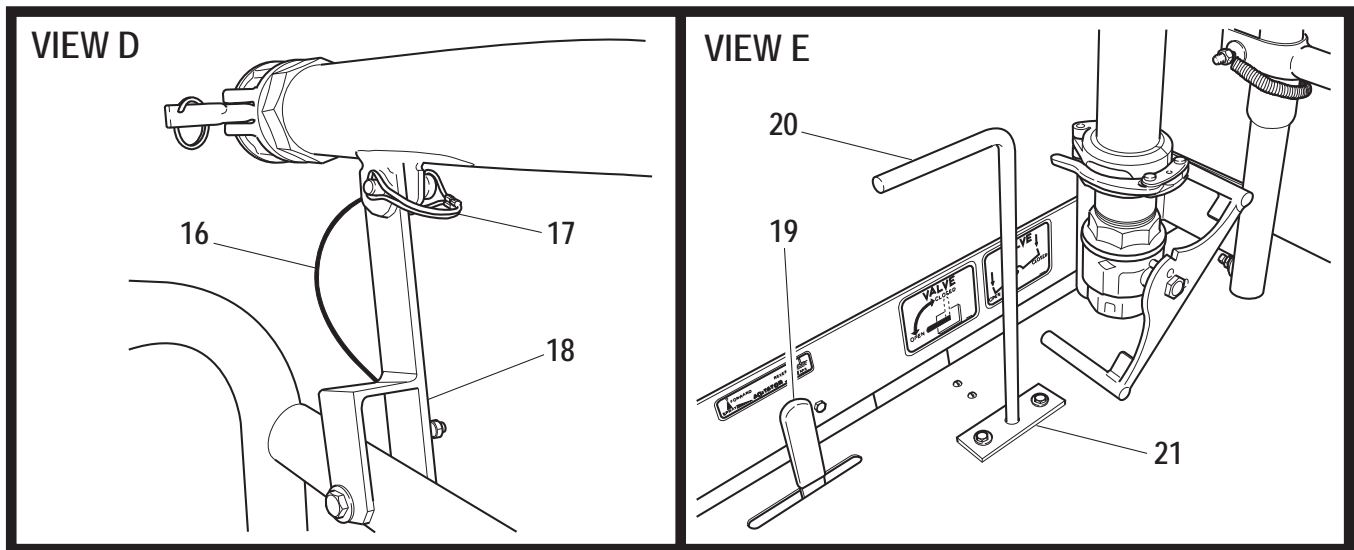
SKID

Ref. No.	Part Number	Description	No. Required
1	012833	Poly Hatch Assembly	1
	005433	Soft Latch	2
2	012834	Bag Cutter - Stainless Steel	1
3	F120-0005	Tank Top	1
	190047	Foam Gasket 3/8" x 1-1/4" (<i>Order By Foot</i>)	28 ft
4	F120-0006	Hatch Safety Rail	1
5	005600	Right Rear Rail	1
	005613	Square Tubing Plug	11
6	005596	Slide Gate	2
7	005652	Front Cross Rail	1
8	052136-07	Rubber Mount Pad	1
9	005598	Left Rear Rail	1
10	005619	U-Bolt For 1-1/4" Pipe	1
11	005698	Tool Box Mount Weldment	1
12	052160	Toolbox	1
13	005500-02	Fuel Tank Support Angle	1
14	005500-12	Fuel Tank Angle - Long	1
15	005724	Poly Fuel Tank	1
16	005726	Diesel Fuel Cap	1
17	005721	Fuel Tank Gauge	1
18	080329	Hydraulic Level Sight Gauge	1
19	005745	Fill Port Assembly	1
20	005745-01	Fill Port Pipe	1
21	006096	2" Male Coupler	1
22	011115	U-Bolt For 2" Pipe	1
23	F90-0017	Fill Port Support	1
24	005441	Fill Port Cover	1
25	005440	Fill Well	1
26	005544-01	Fill Port Gasket	2
27	005700	Nylon Lanyard	1
28	005714-01	Vent Port Weldment	1

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



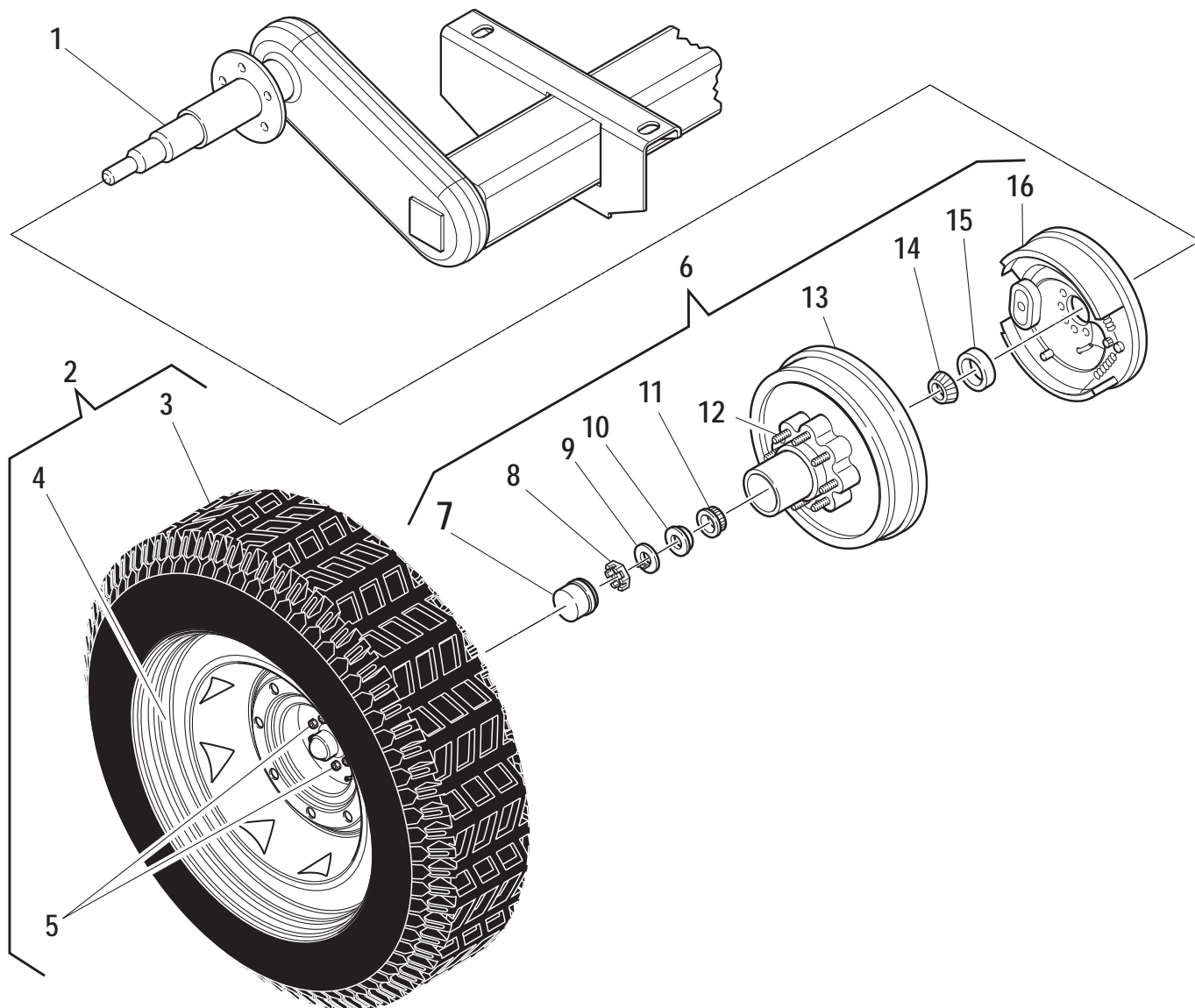
**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**



OPERATOR'S PLATFORM

Ref. No.	Part Number	Description	No. Required
1	005538	Right Rear Rail Weldment	1
2	002258	Clamp Handle Weldment	1
3	012487-05	Boom Clamping Strap	1
4	005161	Rubber Strap w/ "S" Hooks	1
5	005533	Gate Weldment	1
6	005532-03	Spacer	1
7	012052	Gate Spring	1
8	005532-05	Hinge Mounting Strap	1
9	005462-03	Platform Right Toe Rail	1
10	005540	Left Rear Rail Weldment	1
11	005534-01	Left Rear Guard Rail Strap	1
12	005462-02	Platform Left Toe Rail	1
13	005531-01	Hand Rail Weldment	2
14	005675	Throttle Cable (84")	1
	007675	1/4" Ball Joint	1
15	005514-01	Clutch Handle Assembly	1
16	005700	Nylon Lanyard	1
17	031245	Snapper Pin	1
18	005528-02	Boom Hold Down Weldment	1
19	F60-0020	Agitator Control Handle	1
	022202	Black Handle Grip	1
NOT ILL.	020682	Agitator Cable	2
NOT ILL.	006596	Agitator Push-Pull	1
20	005512-01	Extension Handle	1
21	005511-02	Top Seal	1
	005511-03	Bottom Seal	1

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



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

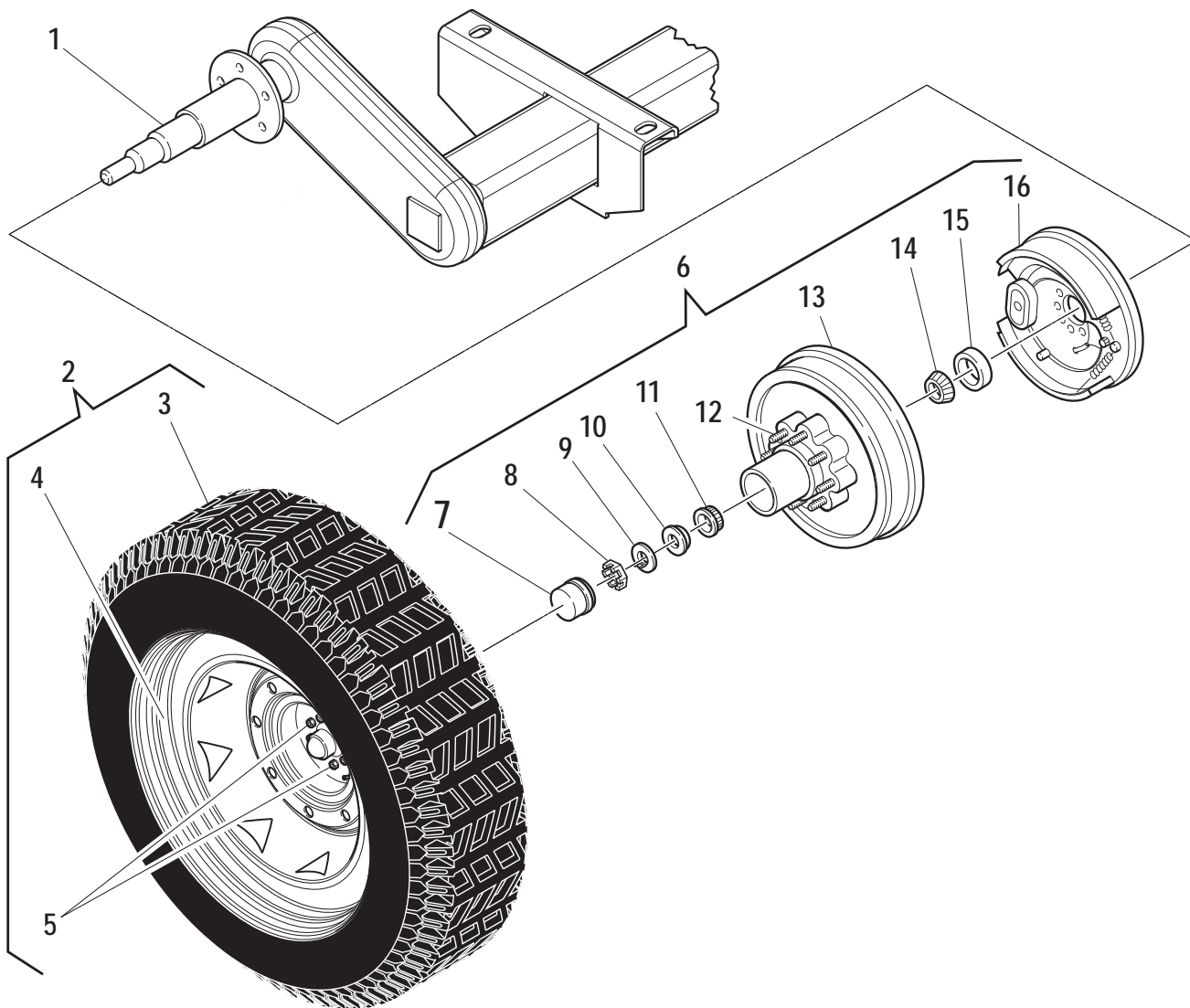
WHEEL AND HUB ASSEMBLY (STRAIGHT PULL TRAILER)

Ref. No.	Part Number	Description	No. Required
1	005799	Axle, 8000# <i>(Includes Hub, Drum, and Brakes)</i>	2
2	005249A	Mounted Tire Assembly	4
3	005249	Tire	1 per*
4	005248	Wheel	1 per*
5	WL6-109	Lug Nut	8 per*
6	WL8-285-93	Hub and Drum Assembly	2 per axle
7	005799-20	Dust Cover	1 per*
8	005799-19	Spindle Nut	1 per*
9	005799-18	Tanged Washer	1 per*
10	005799-17	Spindle Washer	1 per *
11	005799-14	Outer Bearing	1 per *
12		9/16-18 Press-In Stud	8 per*
13	005799-13	Brake Drum	1 per*
14	005799-15	Bearing	1 per*
15	005799-16	Grease Seal	1 per *
16	005799-09	Right Hand Brake Assembly	2
	005799-08	Left Hand Brake Assembly	2
		NOT ILLUSTRATED	
	005799-12	Hub Assembly Retaining Nut	4*
	005799-11	Lock Washer	4*
	005799-10	Hub Mounting Bolt	4*
	005799-21	Rubber Plug	1*

***NOTE:**

All of these required quantities are quantities required per Hub and Drum Assembly, not per axle.

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



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

WHEEL AND HUB ASSEMBLY

(GOOSENECK TRAILER)

Ref. No.	Part Number	Description	No. Required
1	005798	Axle #7000 <i>(Includes Hub, Drum, and Brakes)</i>	2
2	005060A	Mounted Tire Assembly	4
3	005060R	Radial Tire	1 per
4	005057	Wheel, 16.5 x 6.75	1 per
5	WL0190016	9/16 Lug Nut	8*
6	WL8-219-4	Hub and Drum Assembly	4
7	005798-18	Grease Cap	1*
8	005798-17	Spindle Nut	1*
9	005798-16	Tanged Washer	1*
10	005798-15	Spindle Washer	1*
11	005798-12	Outer Bearing	1*
12		9/16-18 Press-In Stud	8*
13	005798-11	Drum	1*
14	005798-13	Inner Bearing	1*
15	005798-14	Grease Seal	1*
16	005798-09	Right Hand Brake Assembly	2
	005798-08	Left Hand Brake Assembly	2
		NOT ILLUSTRATED	
	005798-10	Hub Assembly Retaining Nut	5*
	005798-19	Rubber Plug	1*

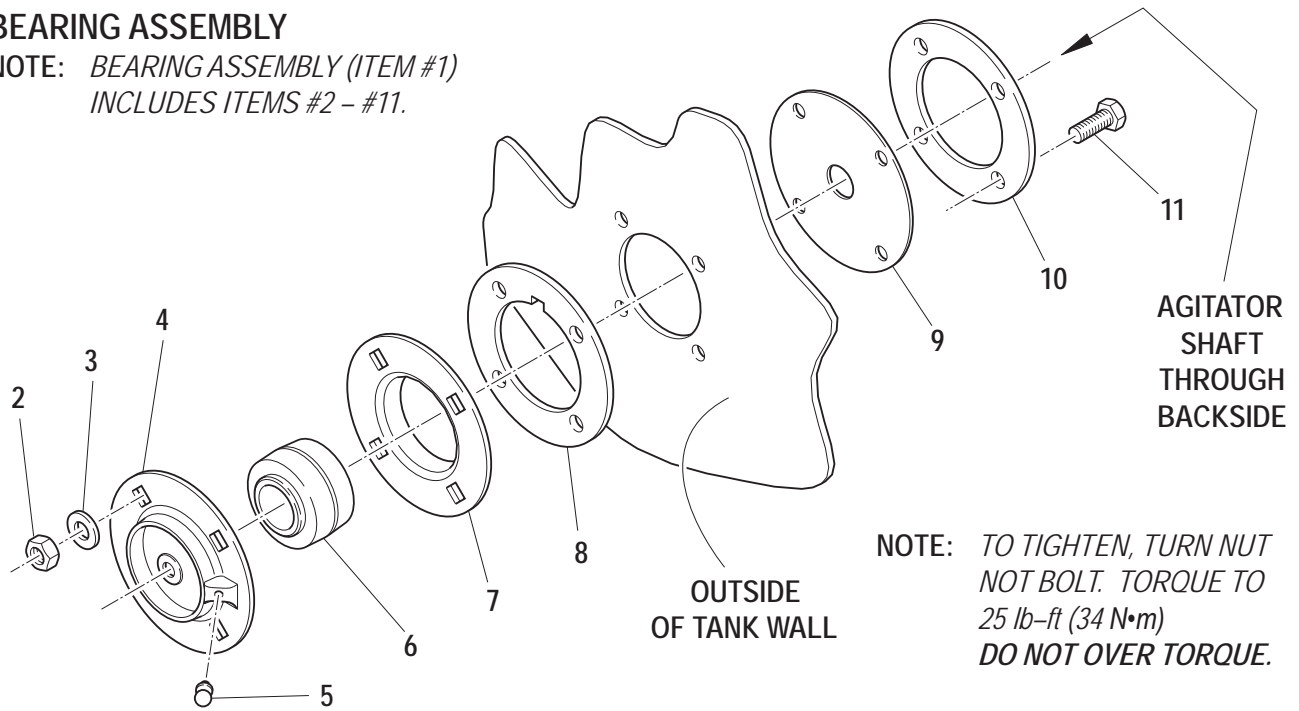
***NOTE:**

All of these required quantities are quantities required per Hub and Drum Assembly, not per axle.

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

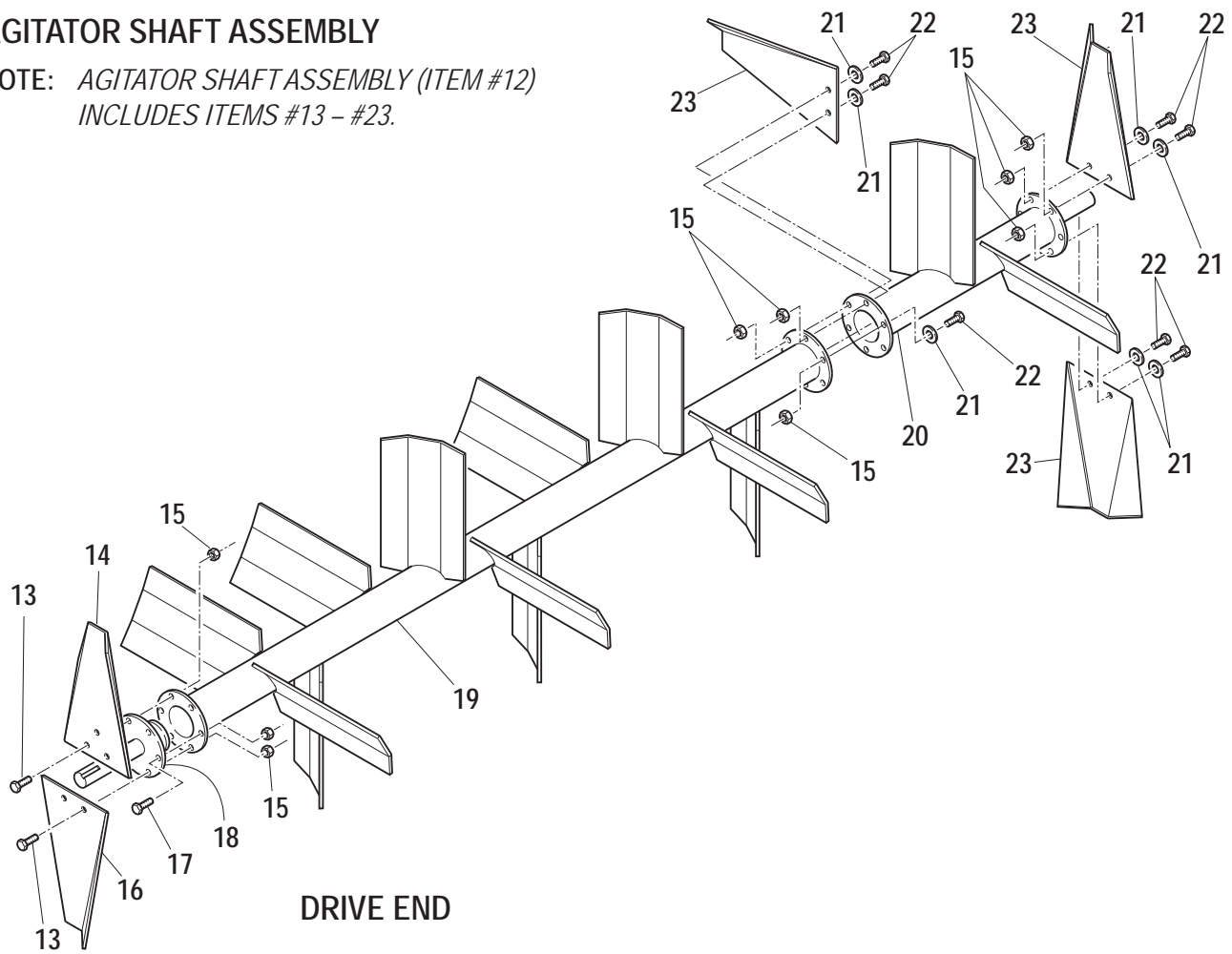
BEARING ASSEMBLY

NOTE: BEARING ASSEMBLY (ITEM #1)
INCLUDES ITEMS #2 – #11.

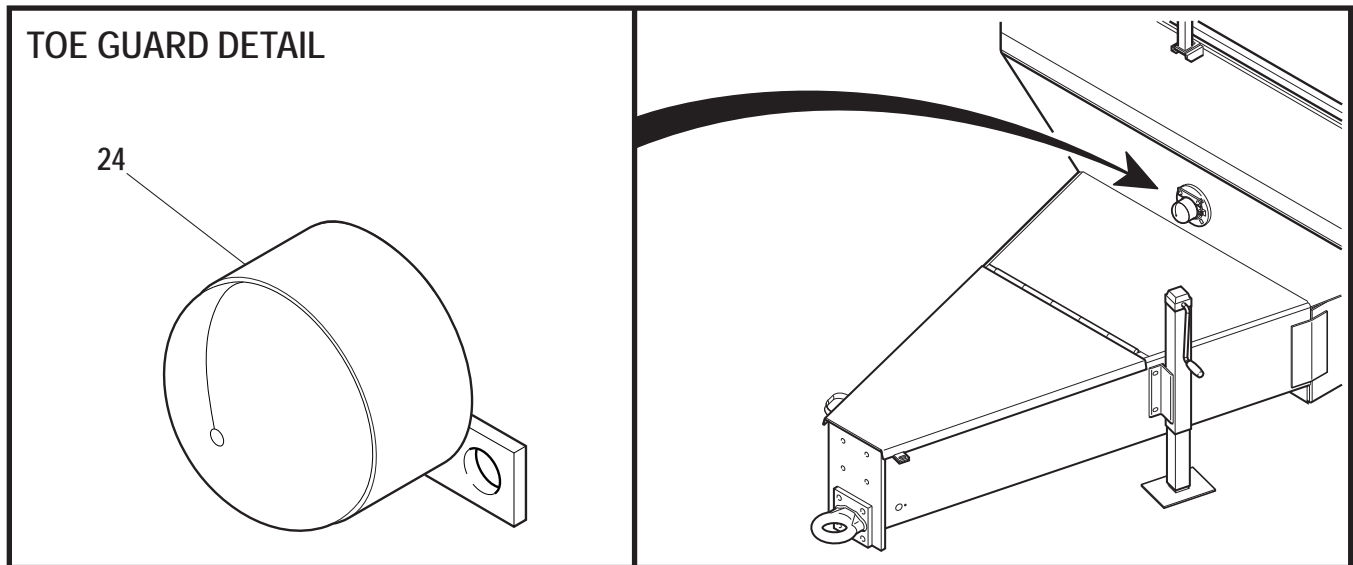


AGITATOR SHAFT ASSEMBLY

NOTE: AGITATOR SHAFT ASSEMBLY (ITEM #12)
INCLUDES ITEMS #13 – #23.



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



AGITATOR ASSEMBLY

Ref. No.	Part Number	Description	No. Required
1	007420	Bearing and Seal Assembly <i>(Includes Items 2 through 11)</i>	2
2	0Y08SS	Agitator Nut	4 per
3	012605	Bevel Sealing Washer	4 per
4	007211-02	Flangette w/ Lube Coupling	1 per
5	007705	Grease Fitting	1 per
6	003022	Bearing	1 per
7	007212-02	Flangette	1 per
8	006975	Agitator Bearing Gasket	1 per
9	007416	Agitator Rotary Gasket	1 per
10	007417	Clamping Ring	1 per
11	X0828SS	Agitator Bolt	4 per

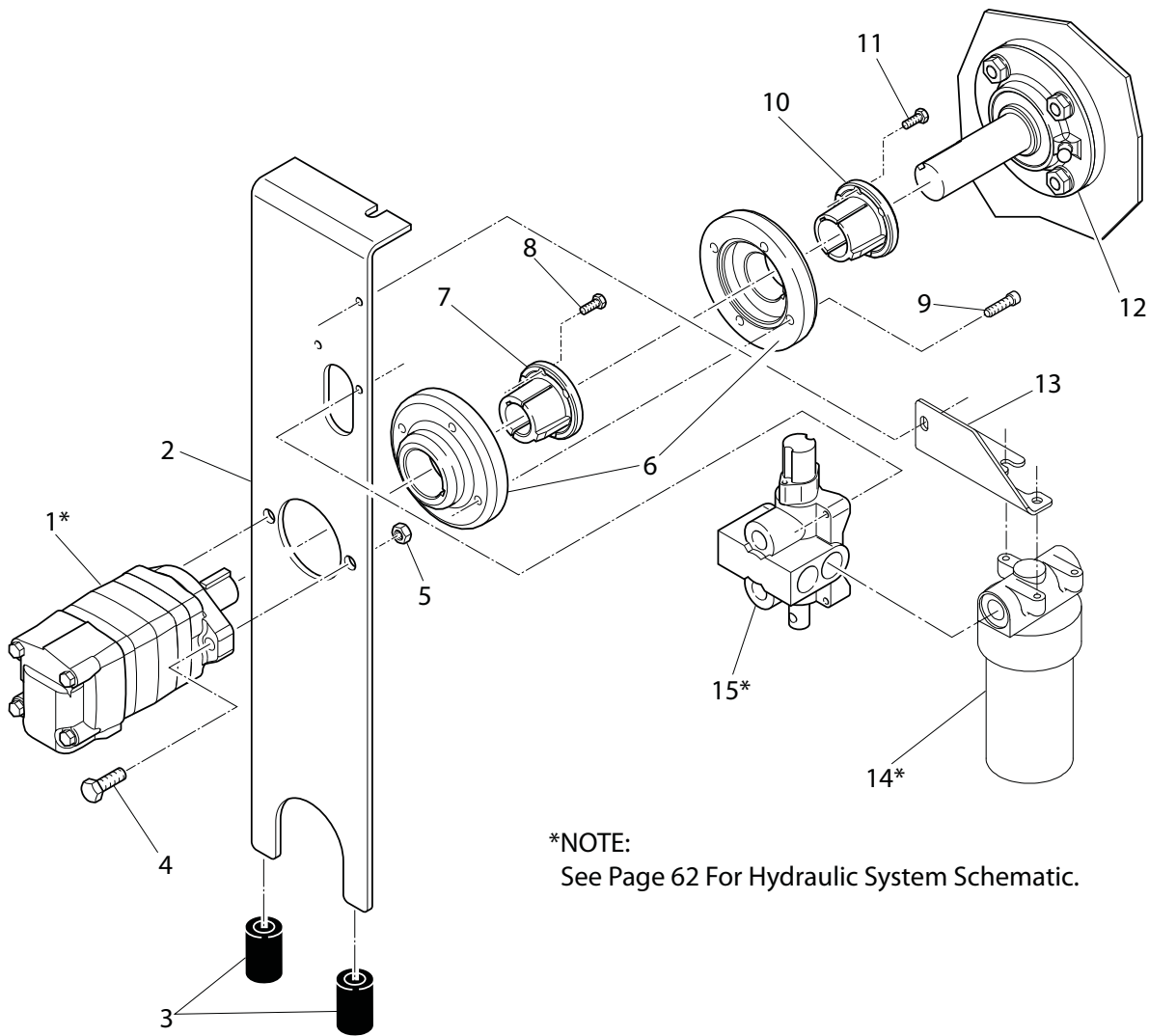
NOT SHOWN

022407	Grease Line Elbow	1*
008154	Male To Female Adapter	1*
012520	Brass Anchor Fitting	1*
012521	Grease Line Hose	1*

***NOTE:** Grease Line Components have a quantity of 2 on all Skid Units.

12	REF.	Agitator Shaft Assembly	1
13	0X0824	1/2-13 UNC x 1-1/2" Lg. Hex Hd. Cap Screw	6
14	005027-02	Rear Bolt-On-Paddle w/ Hole	1
15	00Y08L	1/2-13 UNC Locknut	16
16	005027-01	Rear Bolt-On-Paddle	1
17	0X0820	1/2-13 UNC x 1-1/4" Lg. Hex Hd. Cap Screw	4
18	005081-02	Agitator Drive Stub Shaft	1
19	005080	Main Agitator Section w/ Paddles	1
20	005111	Front Agitator Extension	1
21	00W08F	1/2" Flat Washer	10
22	0X0828	1/2-13 UNC x 1-3/4" Lg. Hex Hd. Cap Screw	6
23	005027-03	Front Bolt-On-Paddle	3
24	005399	Stub Shaft Toe Guard	1

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



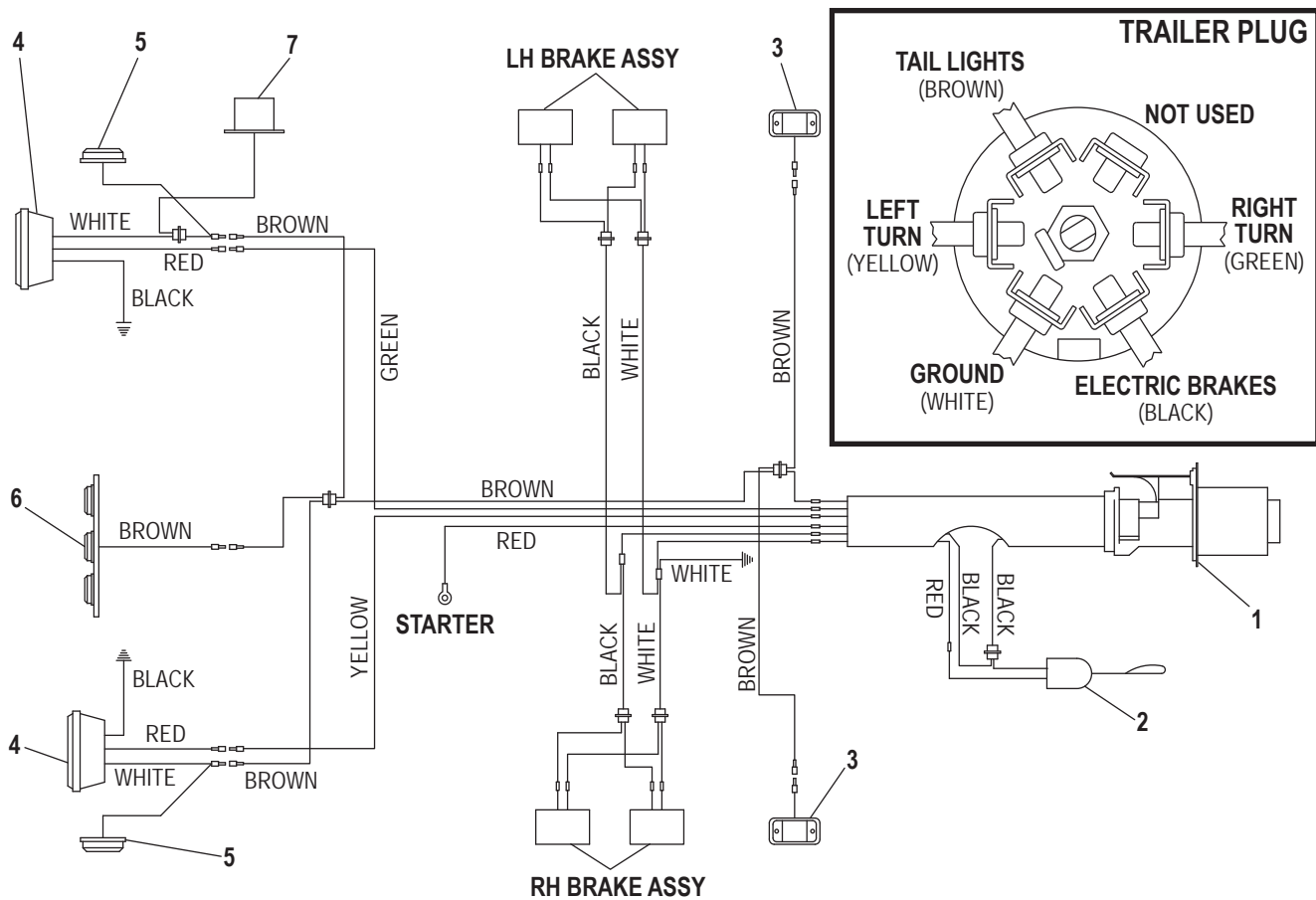
*NOTE:
See Page 62 For Hydraulic System Schematic.

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

HYDRAULIC AGITATOR DRIVE

Ref. No.	Part Number	Description	No. Required
1	070660	Hydraulic Motor	1
	023295-006	Seal Kit for 070660	1
	070660K	1/4" x 5/16" x 1-1/2" Key	1
2	005463	Torque Arrestor Plate	1
3	004630	Torque Arrestor Rubber Tubing	2
4	X0824	1/2-13 UNC x 1-1/2" Lg. Hex Hd. Caps Screw	2
5	Y08L	1/2-13 UNC Locknut	2
6	023156	Coupling Assembly	1
7	021440	Hydraulic Motor Bushing	1
	190125-12	3/8" x 3/8" x 3/4" Key	1
8	X0516	5/16-20 UNC x 1" Lg. Hex Hd. Cap Screw	3
9	X0625SH	1/2-13 UNC x 1-1/2" Lg. Socket Head Cap Screw	4
10	004635	Agitator Shaft Bushing	1
	004635K	3/8" x 1/2" x 1-15/16" Key	1
11	X0516	5/16-20 UNC x 1" Lg. Hex Hd. Cap Screw	3
12	007420	Bearing Assembly <i>(See Pages 58 and 59 for Parts)</i>	2
13	F90-0025	Hydraulic Filter Mount	1
14	023913	Hydac Filter Assembly	1
	023914	Filter Element	1
15	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

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

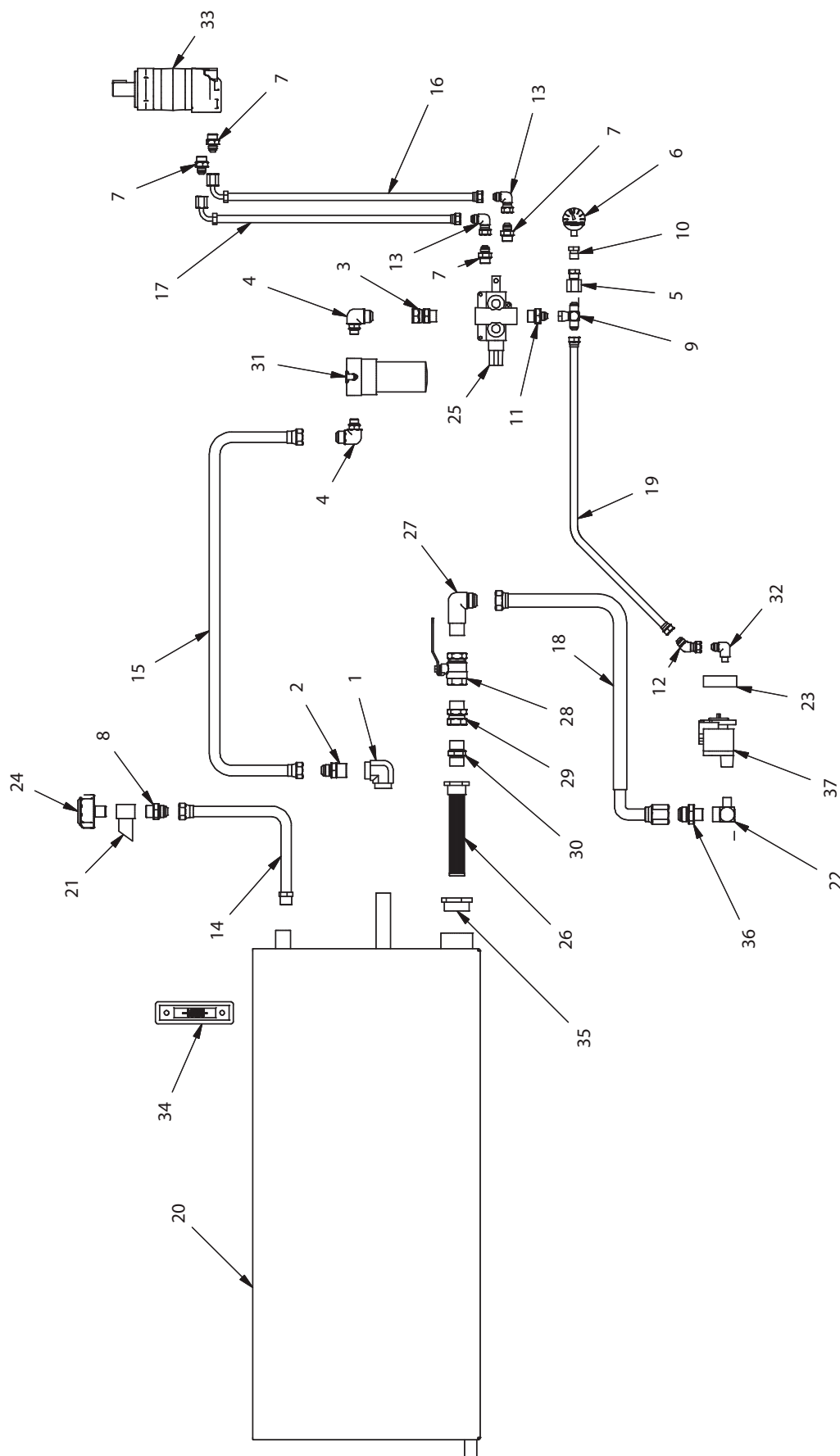


**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

TRAILER WIRING

Ref. No.	Part Number	Description	No. Required
1	075592	7-Blade Trailer Plug	1
2	023424	Breakaway Switch	1
	190029	Chain - 2 Tenso Weldless	2 ft
	005016	"S" Hook	2
	005017	Snap Hook	1
3	FW71090	Amber Corner Marker Light	2
4	005434	Tail Light Assembly	2
	005434A	Tail Light Lens	1
	005467	Tail Light Mounting Bracket	2
5	005435	Side Marker Light - Red	2
6	005437	Identification Light	1
7	005436	License Plate Light	1
	004720	License Plate Bracket	1
	005585-01	Trailer Wiring Harness <i>(For Gooseneck Trailer)</i>	1
	005585-03	Trailer Wiring Harness <i>(For Straight-Pull Trailer)</i>	1

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



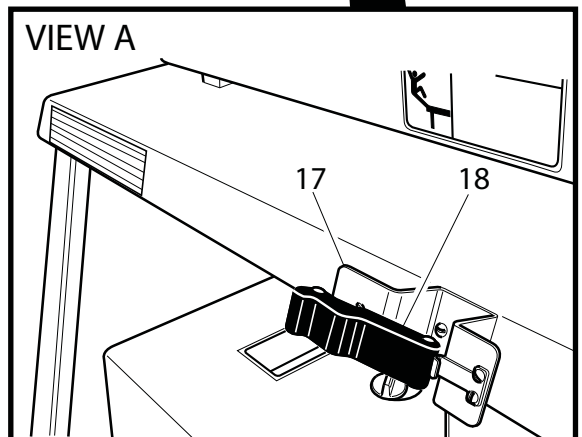
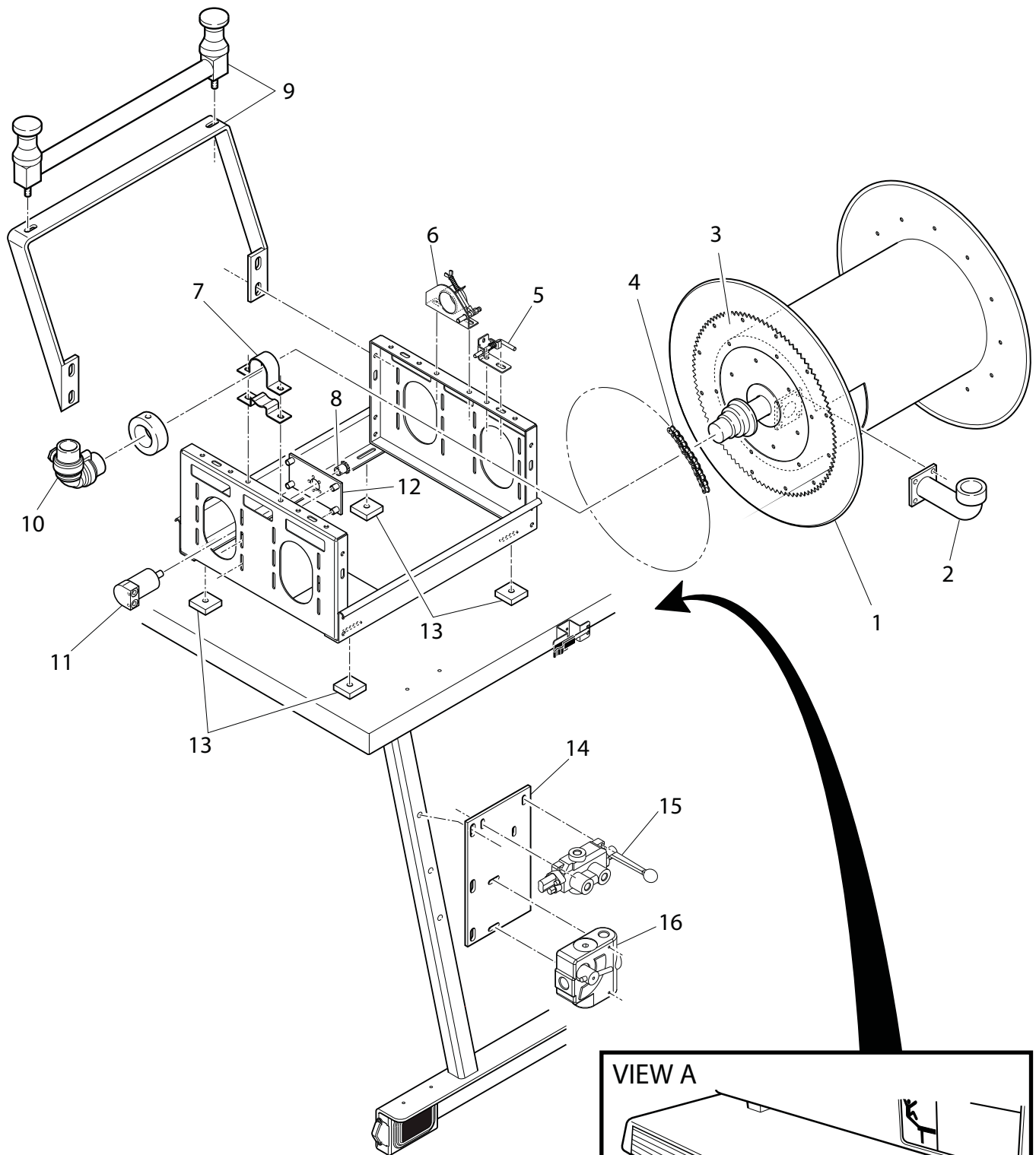
Note:
Items 1-19 are part of Hydraulic Kit #005795

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

HYDRAULIC SYSTEM

Ref. No.	Part Number	Description	No. Required
1	005639	Female NPT Elbow	1
2	005640	MNPT - FJIC Adapter	1
3	005757	MSAE - FJIC Adapter	1
4	005794	MSAE - MJIC 90° Elbow	2
5	008690	FJIC - FNPT Adapter	1
6	012044	Pressure Gauge	1
7	012086	MSAE - MJIC Adapter	4
8	023616	MNPT - MJIC Adapter	1
9	052095	Swivel Branch Tee	1
10	055229	NPT Bushing	1
11	055359	MNPT - MJIC Adapter	1
12	FW71504	JIC 45° Elbow	1
13	FW71870	JIC 90° Elbow	2
14	005551	3/4" Hyd. Hose x 18"	1
15	005552	3/4" Hyd. Hose x 46"	1
16	005554	1/2" Hyd. Hose x 29"	1
17	005555	1/2" Hyd. Hose x 34"	1
18	005688	1" Suction Hose x 29-1/2"	1
19	005689	1/2" Hyd. Hose x 22-1/2"	1
20	005489	Hydraulic Reservoir	Ref.
21	005501-02	Hydraulic Fill Coupling	Ref.
22	005684	FNPT - MNPT 90° Elbow	1
23	005719	Hydraulic Block	1
24	005793	Hydac Filler/Breather	1
25	008686	Hydraulic Valve	1
26	011466	Hydraulic Suction Strainer	1
27	012358	MNPT - MJIC 90° Elbow	1
28	021559	Ball Valve	1
29	021802	NPT Union Adapter	1
30	041162	Hex Pipe Nipple	
31	023913	Hydac Filter Assy	1
	023914	Filter Element	1
32	055235	MNPT - MJIC 90° Elbow	1
33	070660	Hydraulic Motor	1
34	080329	Hydraulic Level Sight Gauge	1
35	160763	NPT Reducer Bushing	1
36	FW71713	MNPT - MJIC Adapter	1
37	KUK3511	Hydraulic Pump Kit	Ref.

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

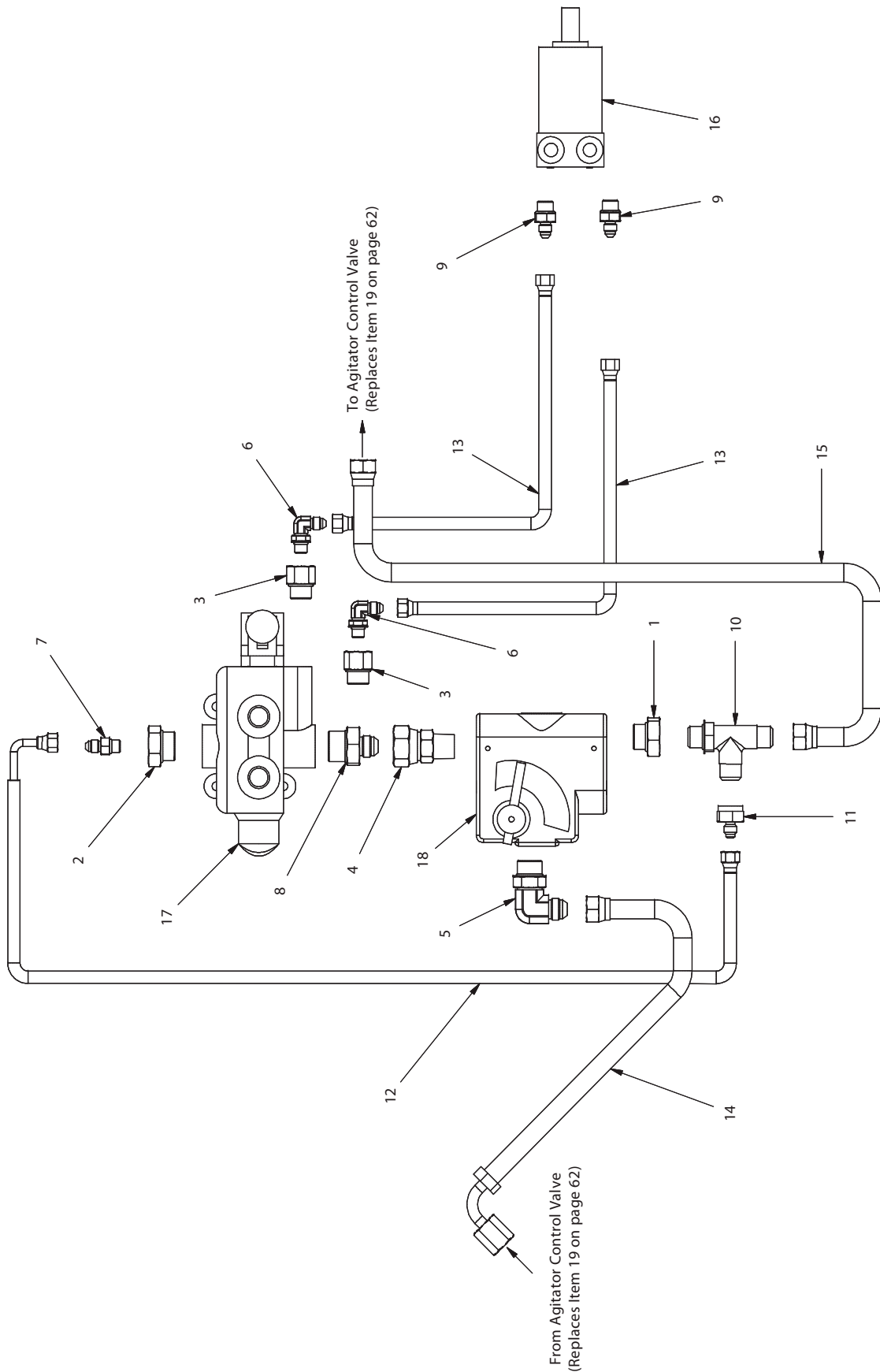


**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

HYDRAULIC HOSE REEL ASSEMBLY (OPTION)

Ref. No.	Part Number	Description	No. Required
1	008212A	Hose Reel	1
2	080302	Flanged Riser	1
	080302G	Hose Reel Riser Gasket	1
3	008144	Hose Reel Ring Gear	1
4	008200	Hose Reel Chain w/Connecting Link - 69" Lg.	1
5	008433	Pin Lock w/Brackets Assembly	1
6	008313	Idler Side Bearing	1
7	008314	Drive Side Bearing	1
8	008199	Chain Sprocket -11 Tooth	1
NOT ILL.	008111	Brake Pad	1
NOT ILL.	008112	Brake Spring	1
NOT ILL.	008109	Brake Wheel	1
9	011894	Hose Roller and Spool Guide	1
	011894-G	Guide Spool	1
10	008210	90° Swivel Elbow	1
10A	080183	Swivel Repair Kit	1
11	008635	Hydraulic Motor (See Pages 66-67)	1
12	008634	Motor Mounting Plate	1
13	031018-01	Hose Reel Bearing Block	4
14	012866	Valve Mounting Plate	1
15	012857	Direction Control Valve (See Pages 66-67)	1
16	023890	Flow Divider (See Pages 66-67)	1
17	005593	Remote Holder	1
18	005592	Soft Latch	1
NOT ILLUSTRATED			
	041109	1-1/2" Dia. x 90" Lg. Lead-In Hose	1
	007710	Pump Take-Off Valve	1
	007711	Take-Off Valve Assembly	1
	001207	1-1/2" Male Brass Adapter	1
	002158	1-1/2" Female Brass Coupler	1
	160756	1-1/2" x 1-1/4" Galvanized Reducer Bushing	1
	160309	1-1/2" Galvanized Close Nipple	1
	160040	1-1/2" 45° Elbow	1
	008422	Loop Clamps	2

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

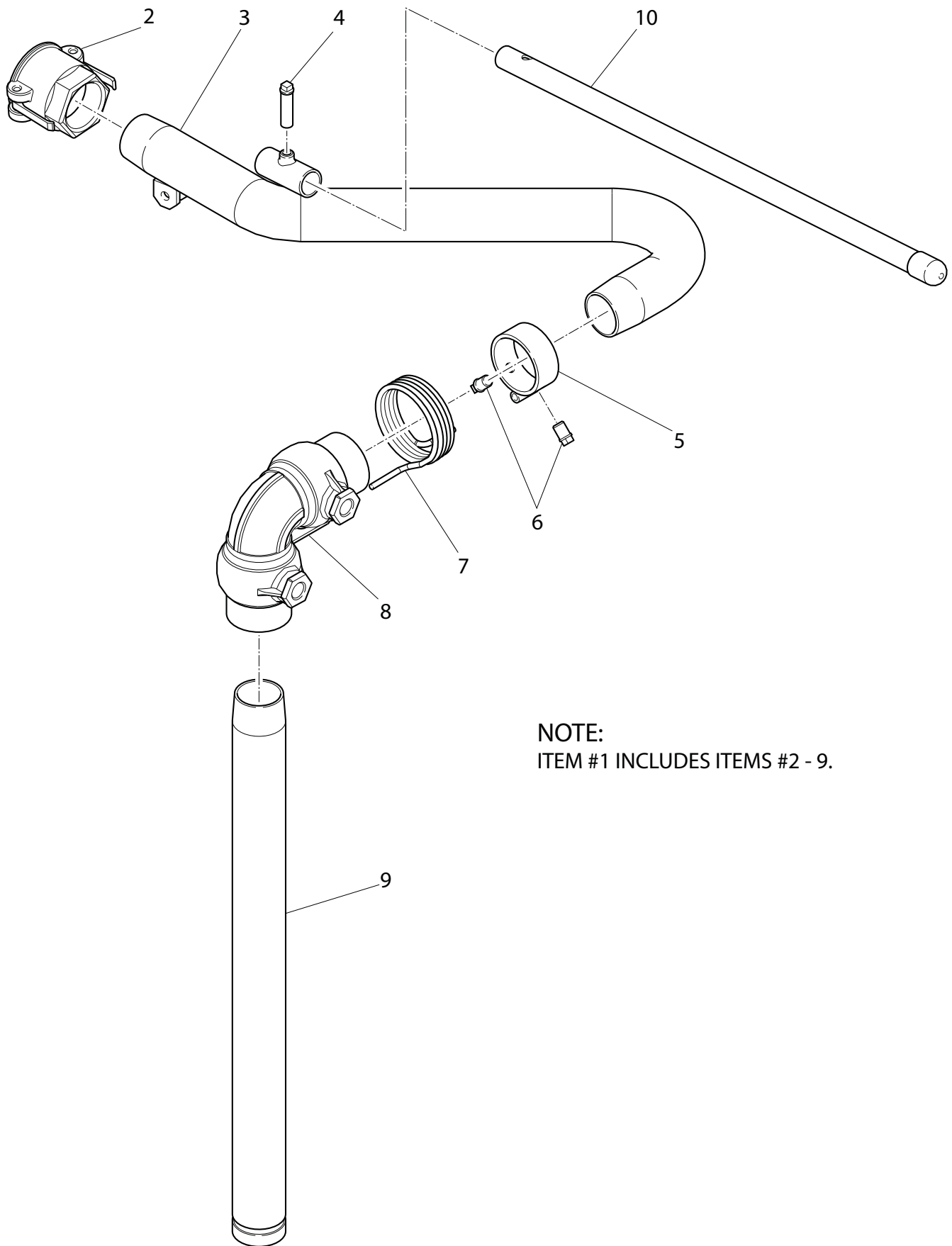


Note: Items 1-15 are part of Hydraulic Kit #5673

HYDRAULIC SYSTEM w/ HOSE REEL

Ref. No.	Part Number	Description	No. Required
1	008696	SAE Reducer	1
2	012871	SAE Reducer	1
3	012872	SAE Reducer	2
4	012873	MSAE - FJIC Swivel Adapter	1
5	023621	MSAE - MJIC 90° Elbow	1
6	055274	MSAE - MJIC 90° Elbow	2
7	055308	MSAE - MJIC Adapter	1
8	055359	MSAE - MJIC Adapter	1
9	FW65217	MSAE - MJIC Adapter	2
10	FW71869	SAE Run Tee	1
11	FW71908	JIC Reducer	1
12	008695	1/4" Hyd. Hose x 23"	1
13	SX970331	1/4" Hyd. Hose x 46"	2
14	SX970402	1/2" Hyd. Hose x 68"	1
15	SX970403	1/2" Hyd. Hose x 80"	1
16	008635	Hydraulic Motor	1
17	012857	Directional Control Valve	1
	023120	Seal kit for 012857	1
	SF310B	Hydraulic Valve Handle	1
	0SF311	Handle Knob	1
	0SE312	1/8 x 1-3/8in Roll Pin	1
	023470	Handle Bracket	1
	008293-RC	Brand Valve Relief Cartridge	1
18	023890	Flow Divider	1
	023890-K	Indicator Lever Knob	1
	023890-SK	Seal Kit for 023980	1

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



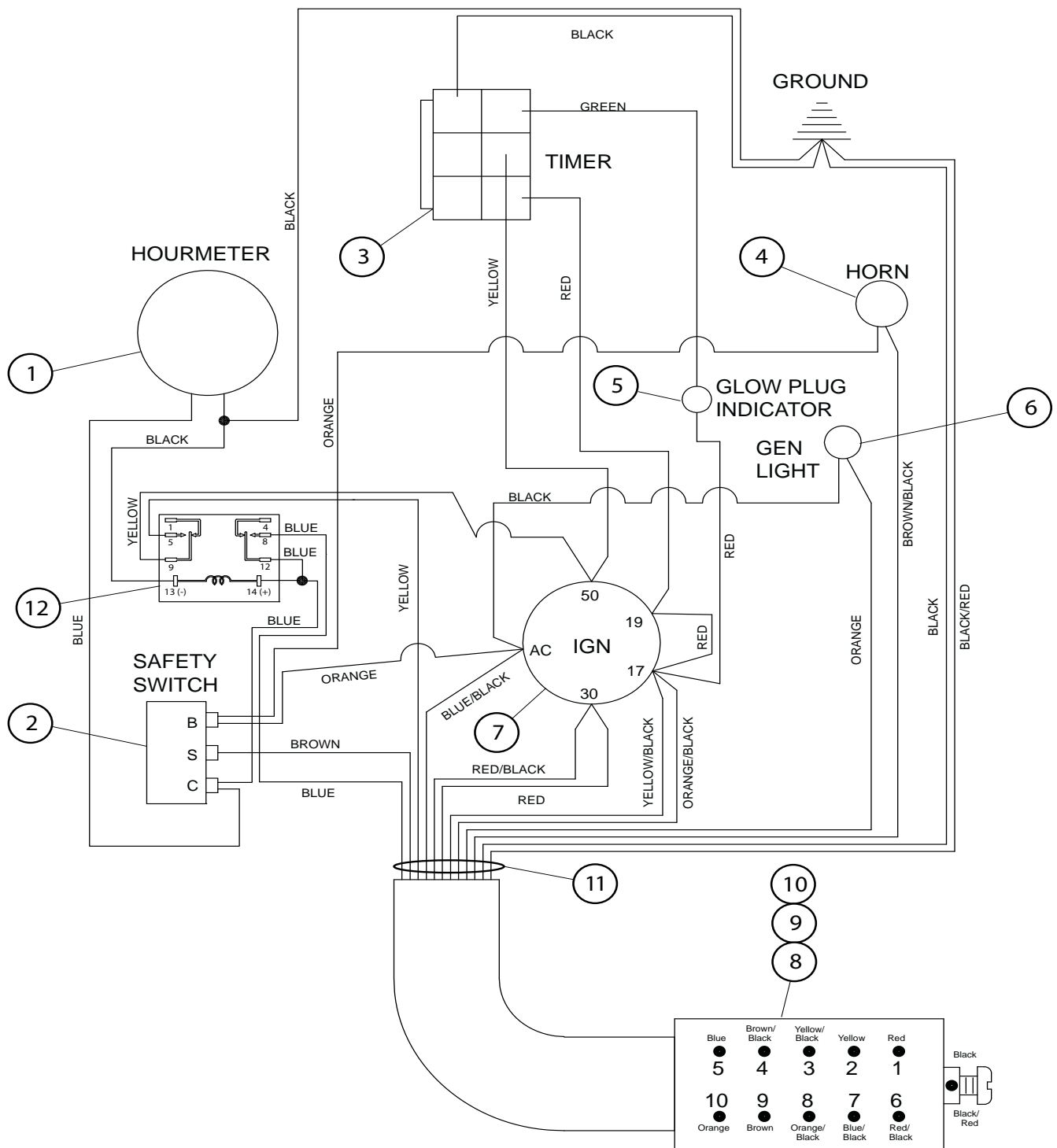
NOTE:
ITEM #1 INCLUDES ITEMS #2 - 9.

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

DISCHARGE BOOM ASSEMBLY

Ref. No.	Part Number	Description	No. Required
1	005529	Discharge Boom Assembly	
2	006102	Female Coupler	1
	006514	Coupler Gasket	1
3	005734	Boom Pipe Weldment	1
4	Z0632SCP	Boom Handle Set Screw	1
5	005528-03	Boom Collar Weldment	1
6	Z0612SCP	Boom Collar Set Screw	2
7	007286	Discharge Boom Torsion Spring	1
8	007288	Swivel Joint	1
	006969	Swivel Repair Kit	2
9	005525-02	Stand Pipe	1
10	080559-01	Boom Handle	1

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

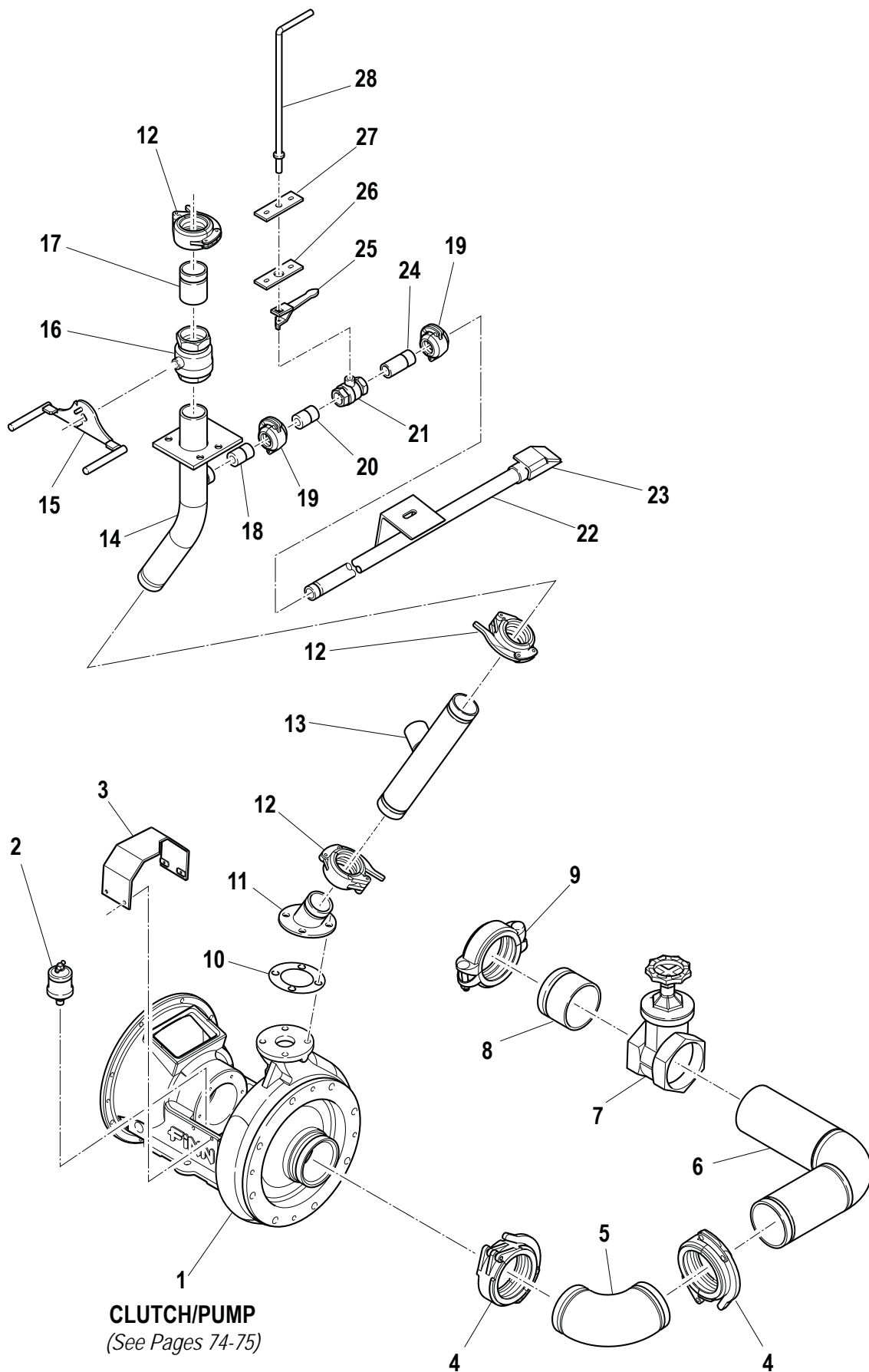


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

CONTROL BOX WIRING

Ref. No.	Part Number	Description	No. Required
	005604A	Control Box Assembly	1
1	007274	Hour Meter	1
2	022119	Magnetic Safety Switch	1
3	KU15694-65990	Glow Plug Timer	1
4	020886	Horn Button	1
5	KU15403-64490	Glow Plug Indicator Light	1
6	006245	Pilot Light	1
7	KU66711-55131	Ignition Key Switch	1
	KU66711-55140	Ignition Key <i>(Not Included w/ Switch)</i> (Set of 2)	1
8	023604	Electrical Housing	1
9	023601	Electrical Housing Plug	1
10	080304	Liquid Tight Fitting	1
11	005589A	Control Box Wiring Harness	1
12	055120	IDEC Relay	1

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

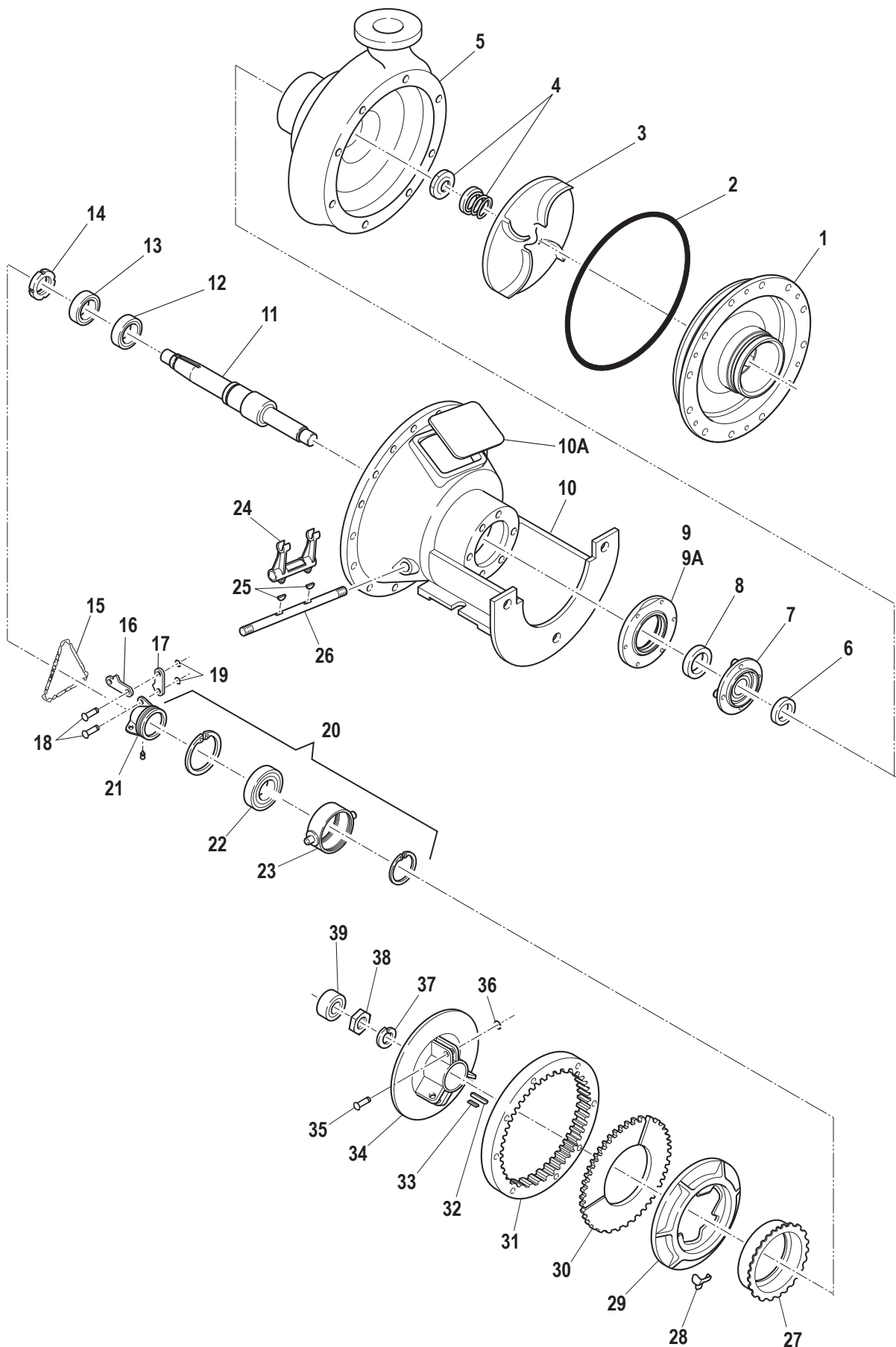


**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

PIPING

Ref. No.	Part Number	Description	No. Required
1	005682	Clump Assembly <i>(See Pages 74-75 for Parts)</i>	1
2	002383	Automatic Pressure Lubricator	1
3	005470	Pump Shaft Guard	1
4	006144	Pipe Clamp	2
	006145	Pipe Clamp Gasket	2
5	006359	90° Victaulic Pipe Elbow	1
6	005524-02	Suction Pipe Elbow Weldment	1
7	008280	Suction Line Shut-Off Valve	1
8	005523-06	Valve Outlet Pipe	1
9	006710	Pipe Clamp	1
	006145	Pipe Clamp Gasket	1
10	008469	Discharge Flange Gasket	1
11	005526-03	Discharge Flange Weldment	1
12	006250	Pipe Clamp	3
	006251	Pipe Clamp Gasket	3
13	005526-02	Lower Discharge Pipe Weldment	1
14	005526-01	Upper Discharge Pipe Weldment	1
15	005674	Foot Pedal Weldment	1
16	012287	Discharge Ball Valve	1
17	006483	Boom Connector Pipe	1
18	005083-07	Recirculation Nozzle	1
19	005156	Pipe Clamp	2
	005183	Pipe Clamp Gasket	2
20	005083-08	Recirculation Nozzle	1
21	021559	Recirculation Ball Valve	1
22	005706-02	Recirculation Pipe Weldment	1
23	005703-01	Recirculation Coupling Deflector	1
24	005083-09	Recirculation Nozzle	1
25	005512-02	Recirculation Valve Handle	1
26	005511-03	Lower Valve Handle Seal	1
27	005511-02	Upper Valve Handle Seal	1
28	005512-01	Extension Handle	1

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



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

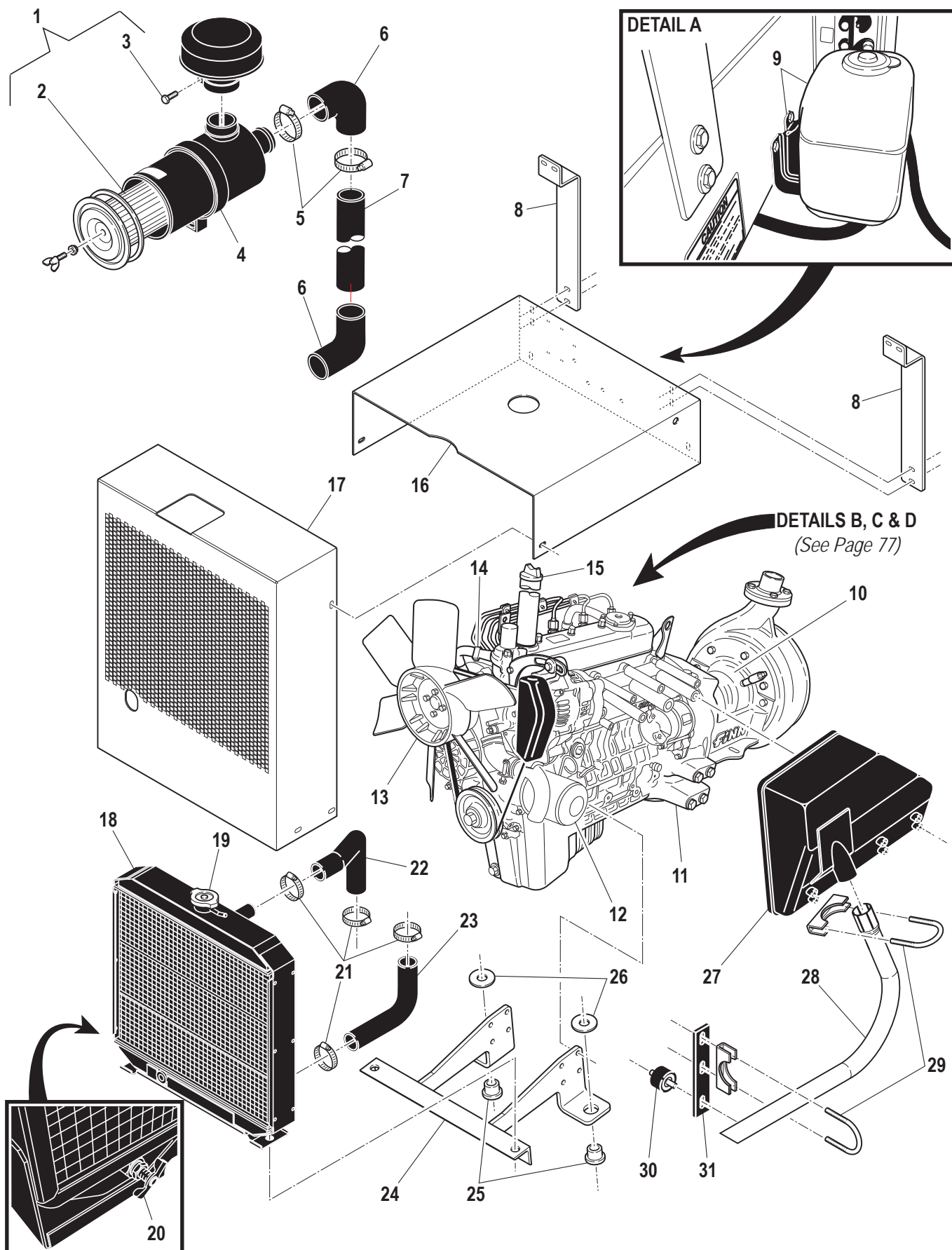
CLUTCH/PUMP ASSEMBLY

Ref. No.	Part Number	Description	No. Required
	005682	Clump Assembly	
1	005146	Pump Suction Cover	1
2	005150	O-ring	1
3	005543	Pump Impeller	1
4	006443	Mechanical Shaft Seal	1
5	005144	Pump Casing	1
6	006444	Grease Retainer Seal	1
7	005446	Flange Bearing	1
8	005447	Shaft Seal	1
9	005475	Thrust Bearing Retainer	1
9A	005544-02	Thrust Bearing Retainer Gasket	1
10	005670	Clutch/Pump Drive Housing	1
10A	005570	Clump Nameplate	1
11	005541	Clump Shaft	1
12	005450	Radial Ball Bearing	1
13	005449	Radial Ball Bearing w/ Seal	1
14	005448	Bearing Locknut	1
15 *	100211	Spring Lever	1
16 *	100212	Lever	3
17 *	100215	Connecting Link	6
18 *	100216	Link Pin	6
19 *	100217	Retaining Ring	6
20 *	100327	Release Sleeve and Bearing Assembly	1
21 *	100328	Release Sleeve	1
22 *	100330	Ball Bearing	1
23 *	100329	Bearing Carrier	1
24	100073	Clutch Yoke	1
25	100042	Woodruff Key	2
26	100041	Yoke Shaft	1
27 *	100210	Adjusting Ring	1
28 *	100214	Adjustment Lock	1
29 *	100336	Pressure Plate	1
30 *	100337	Clutch Facing	1
31	100338	Drive Ring	1
32 *	100056	Clutch Key	1
33 *	100219	Separator Spring	1
34 *	100335	Clutch Body	1
35 *	100213	Pivot Lever Pin	3
36 *	100008	Retaining Ring	3
37	100047	Lockwasher	1
38	100045	Drive Shaft Nut	1
39	005151	Pilot Bearing	1

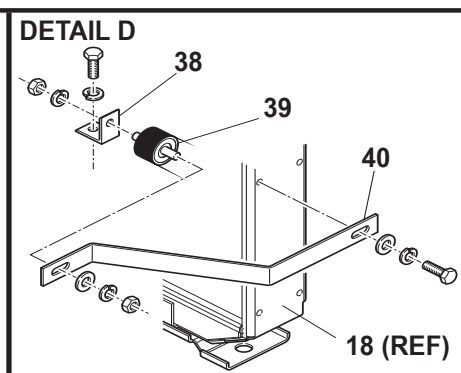
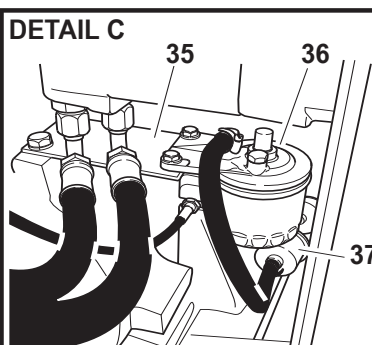
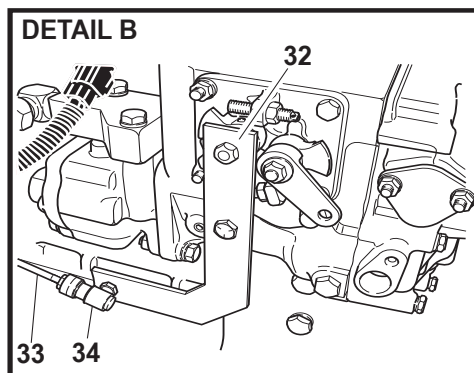
***NOTE:**

Clutch Assembly (Part No. 100334) consists of these parts.

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



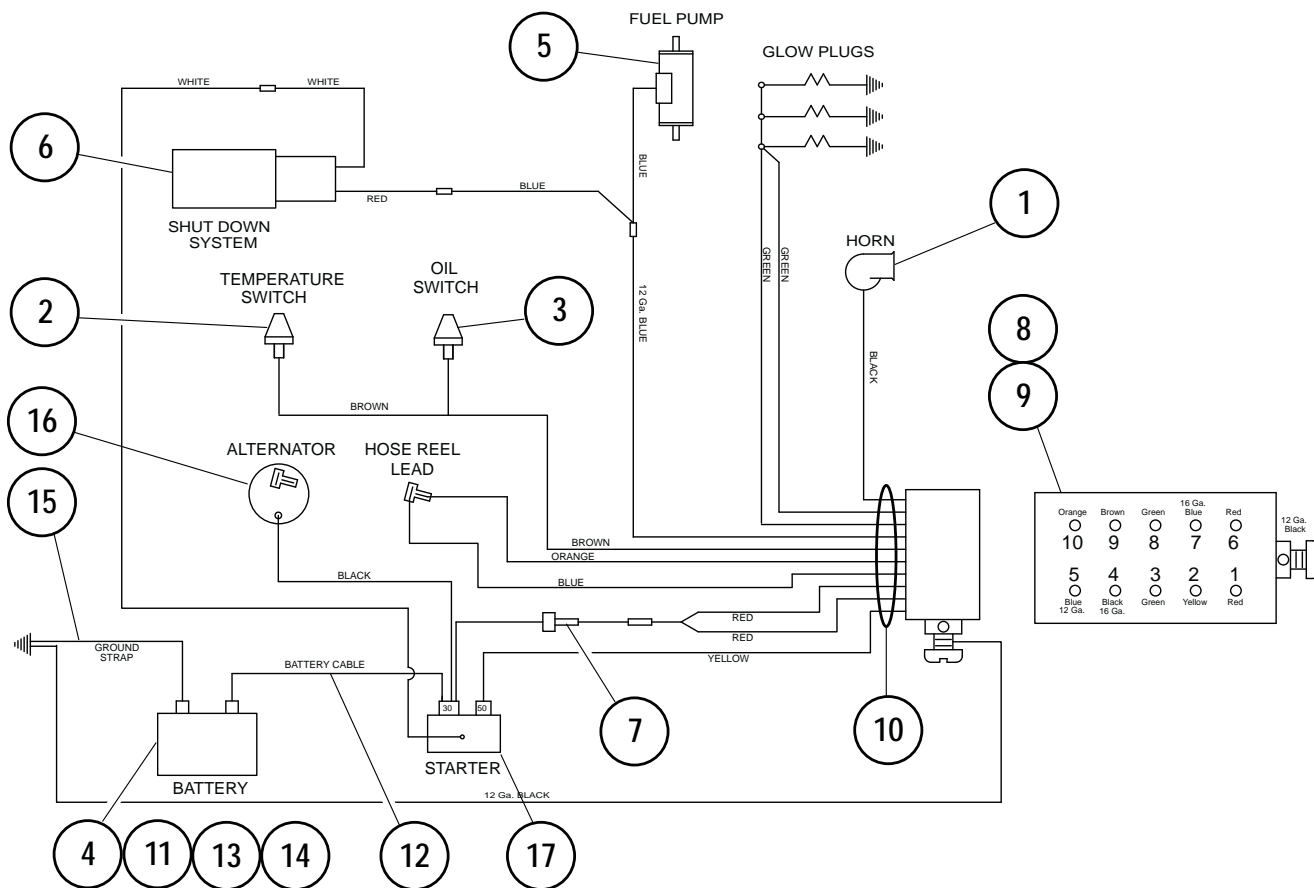
**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**



ENGINE AND RADIATOR

Ref. No.	Part Number	Description	No. Required
1	031354	Air Cleaner Assembly	1
2	KU15741-11080	Air Filter Element	1
3	KU01123-50835	Bolt	1
4	055548	Mounting Band	2
5	022450	2-1/2" Worm Gear Clamp	4
6	KU16616-11621	Air Cleaner Inlet Pipe (Cut to Fit)	1
7	005681-07	Air Cleaner Extension Pipe	1
8	F90-0012	Sheet Metal Hanger	2
9	KU15501-72400	Coolant Recovery Tank w/ Bracket	1
10	005682	Clump Assembly (See Pages 74 and 75)	1
11	031473	Kubota Engine V1505B-86 Engine (33.5 hp)	1
12	KU16271-32090	Oil Filter	1
13	KU16299-74110	Fan	1
14	055568	Temperature Switch	1
15	005690	Oil Fill Extension Assembly	1
	004987	O-ring	1
	004988	Conduit Nut	1
16	005680	Engine Top Cover	1
17	F90-0024	Radiator Shroud	1
18	031470	SRF Radiator Assembly	1
	KU1511-72180	Radiator Cushion	1
	KU1511-72190	Radiator Cushion	1
19	031470-C	Radiator Cap	1
20	031470-DC	Radiator Drain Cock	1
21	007695	Worm Gear Clamp	4
22	031444	Upper Radiator Hose	1
23	031445	Lower Radiator Hose	1
24	005694	Radiator/Engine Mount	1
25	005676	Center Bushing Mount	4
26	055505	Snubbing Washer	4
27	KU37560-88513	Manifold Muffler	1
	KU16271-92010	Muffler Nuts	8
	KU16251-91510	Muffler Studs	4
	KU16251-91520	Muffler Studs	4
	KU37560-12360	Muffler Gasket	1
28	005710	Exhaust Elbow	1
29	031421	Exhaust Clamp	2
30	031376	Air Cleaner Rubber Shock Mount	1
31	005574-03	Tailpipe Support Bracket	1
32	031397-02	Throttle Plate	1
33	005675	Throttle Cable (84")	1
34	007675	1/4" Ball Joint	1
35	005502-01	Filter Support Arm	1
36	031355	Fuel Filter Kit	1
	KU70000-43081	Filter Element	1
37	080105	Pre-Fuel Filter	1
38	031428-02	Radiator Stay Angle	1
39	031441	Isolator Mount	1
40	031428-05	Radiator Stay Strap	1

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



ENGINE WIRING

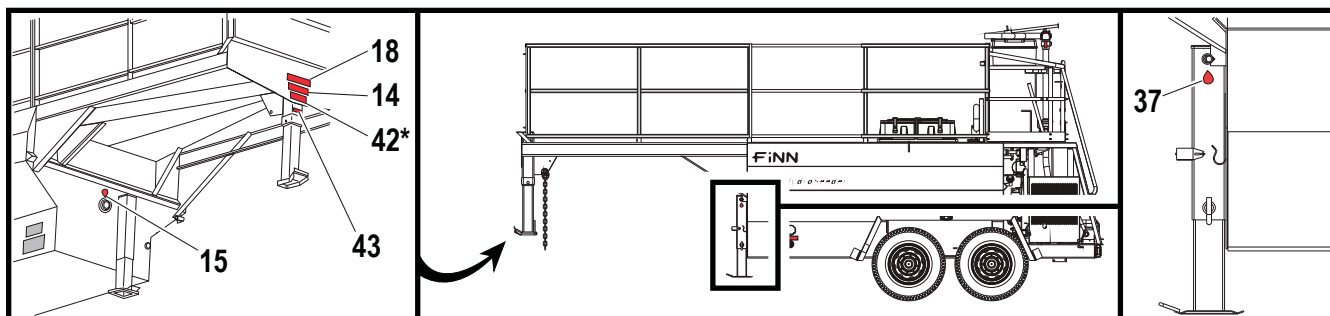
Ref. No.	Part Number	Description	No. Required
1	006499	Horn Assembly	1
2	055568	Temperature Switch	1
3	004934	Oil Switch	1
4	002256-12	12V Battery - Interstate Battery MT 34	1
5	080103	Fuel Pump	1
6	031458-01	Shutdown Solenoid	1
7	170028	Fuse w/ Holder	1
8	005561	Electrical Housing	1
9	023602	Electrical Housing Plug	1
10	031457B	Engine Wiring Harness	1
11	080223	Battery Box	1
12	008171	Battery Cable	1
13	F330-0054	Battery Box Holder	1
14	F90-0016	Battery Box Hold Down	1
15	000241	Ground Strap	1
16	KU16231-64010	Alternator	1
17	KU37560-63010	Starter	1

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

HOSE REEL NOZZLE/REMOTE VALVE/TOOL KIT

Part Number	Description	No. Required
HOSE REEL NOZZLES		
080273	Long Distance Hose Reel Nozzle Assembly	A/R
080131	Long Distance Nozzle	1 per
080260	Adapter	1 per
160749	Reducer Bushing	1 per
080394	Wide Fan Hose Reel Nozzle Assembly	A/R
006604	Wide Fan Nozzle	1 per
080260	Adapter	1 per
160750	Reducer Bushing	1 per
080395	Narrow Fan Hose Reel Nozzle Assembly	A/R
006605	Narrow Fan Nozzle	1 per
080260	Adapter	1 per
160750	Reducer Bushing	1 per
REMOTE VALVE		
080535	Remote Valve Assembly	A/R
080260	Adapter	1 per
160307	Close Nipple	1 per
012083	Ball Valve	1 per
160520	Nipple	1 per
080261	Coupler	1 per
006515	Gasket	1 per
TOOL KIT		
000698	Automatic Pressure Lubricator Grease (1 lb Can)	1
005220	Impeller Wrench	1
008187	Long Distance Nozzle	1
006632	Long Distance Nozzle Assembly	1
001042	Long Distance Nozzle	1
006096	Male Coupler	1
160309	Close Nipple	1
160763	Reducer Bushing	1
006619	Wide Fan Nozzle Assembly	1
006493	Wide Fan Nozzle	1
006096	Male Coupler	1
160762	Reducer Bushing	1
005603	Narrow Fan Nozzle Assembly	1
012117	Narrow Fan Nozzle	1
006096	Male Coupler	1
160762	Reducer Bushing	1
004593	Drain Plug	1
006102	Female Coupler	1
006514	Coupler Gasket	1
KU97898-70870	Kubota (Model V1505) Diesel Engine Parts Manual	1
LBT120-SR	FINN T120-SR HydroSeeder® Parts and Operator's Manual	1

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



DECALS

Ref. No.	Part Number	Description	No. Required
*1	023174	"FINN" Decal - Large	2
*2	012661-04	"T120" Decal	2
*3	011595	"Hydro Seeder" Decal	2
4	022199	"Throttle" Decal	1
5	011567	"Do Not Aim . . ." Decal	1
6	007230-02	"Service Daily" Decal	2
7	007230	"Service Daily" Decal	3
8	023391	"Diesel Fuel Only" Decal	1
*9	005731	T120T GVWR Decal (<i>Straight Pull Trailer Version Only</i>)	1
10	005188	"1,000 Gallon" Decal	1
11	005187	"800 Gallon" Decal	
12	005186	"500 Gallon" Decal	1
13	005184	"250 Gallon" Decal	1
14	020970	"CAUTION! Fall Hazard - Do Not Ride . . ." Decal	2
15	007230-01	"Service Daily" Decal	1
16	011662	"U.S. Patent Nos." Decal	1
17	080107	"CAUTION! Always Use Step" Decal (<i>Trailer Version Only</i>)	1
18	031461	"WARNING! Runaway Vehicle Hazard" Decal (<i>Trailer Version Only</i>)	1
*19	011690	FINN Name Plate	1
20	012180	"Tighten Suction Cover" Decal	1
21	031297	"Clutch Adjustment" Decal	1
22	005735	"VALVE - Open/Close" Decal	1
23	005736	"VALVE - Open/Closed" (Handle) Decal	1
24	008286-02	"AGITATOR - Forward (Spray) / Reverse (Mix)" Decal	1
25	005737	"CLUTCH - Disengage/Engage" Decal	1
26	005216	"DANGER! Do Not Use Remote . . ." Decal	2
27	012597	"IMPORTANT. This Is A Vent . . ." Decal	1
*28	012260	"IMPORTANT" Metal Plate	1
29	007535	"Throttle" Decal	1
30	004661	"CLUTCH - Engage/Disengage" Decal	1
31	011569	"CAUTION! Hose Reel, Remote . . ." Decal	1
32	012278	"DANGER! Hot . . ." Decal	1
33	031463	"WARNING! Sever Hazard . . ." Decal	1
34	012687	"CAUTION. Hydraulic System Instructions" Decal	1
35	KU19426-87903	"CAUTION. Do Not Use Ether Or . . ." Decal	1
36	012688	"CAUTION!. Fall Hazard" Decal	1
37	007231	"Service Weekly" Decal	3
38	006869	"Pressure Lubricator" Decal	1
39	031462	"WARNING! Burn Hazard . . ." Decal	1
40	012686-02	"DANGER! Confined Space Hazard" Decal	1
41	012041-01	"Operating Instructions - HydroSeeder" Decal	1
*42	005732	T120GN GVWR Decal (<i>Gooseneck Trailer Version Only</i>)	1
43	005022	"CAUTION. Use on 2-1/5/16"..." Decal (<i>Gooseneck Trailer Version Only</i>)	1

*** NOTE:** All of the decals depicted and listed on Pages 80 and 81 (except those identified with an asterisk) are shown for location purposes only. To order replacements you must order T120 Decal Kit (part# 005738). Replacement decals and plates for those identified with an asterisk are not part of the decal kit and must be ordered separately.

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