FINN CORPORATION®

Activate Your Warranty By Registering TODAY!!!

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

5-Series

Operator Instructions and Parts Manual

Model **MB** Serial No. _____

FOR OFFICE USE ONLY		
DATE	**UPDATE DESCRIPTION**	**CODE**
01/12/18	Initial release; Added Fan Belt Safety Guard; Design Modifications to Hopper	MB0112

ACTIVATE YOUR FINN EQUIPMENT WARRANTY

☞ It is the responsibility of the Finn Dealer to register your Finn Equipment shortly after the equipment start-up and operation overview at which time you will be asked to sign off on the **WARRANTY VALIDATION FORM**.

Be sure to confirm with your sales representative that this has been done.

This registration process activates the Finn Limited Warranty.

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

How to get parts and or repairs done under warranty:

Notify **YOUR DEALER** immediately when you discover a faulty material, workmanship, or faulty component. **Do not** wait weeks or months to get it reported. Be sure to tell the dealer that this is a failure that occurred under warranty.

NOTE: Warranty work must be done by a Finn Authorized Dealer in order to be covered by the Finn Warranty Program, unless otherwise approved by the Finn Warranty Administrator.

Instructions to Dealer on processing warranty work:

Initiating a claim

1. Be sure to have the model, serial number and number of hours on unit.
2. A description of the problem as understood at the time.
3. Call Finn's Warranty Administrator to secure warranty claim authorization number.
4. Confirm with Warranty Administrator that the unit is eligible for warranty coverage.
5. Any parts needed for the repair work should be placed with the Warranty Administrator instead of the parts department. These will be shipped to you at no charge pending the outcome of the investigation.
6. Labor hours must coincide with the published "Labor Schedule" or estimate approved by the Finn Warranty Administrator.
7. Once work is done, a Finn Warranty Claim Form must be filled out and emailed along with any related receipts or invoices to the Warranty Administrator. We ask that this is done ASAP after work is completed.

Faulty or failed parts:

IF Finn wants you to return failed parts, you will receive a return shipping label in the package with new parts. On that Label will be marked a return authorization number. (Which is the same number as you claim number.)

Please also mark the outside of the package that you are shipping back (using a marker) with the claim/return number. **THESE PARTS MUST BE RETURNED WITHIN 10 DAYS!** Failure to do so can void warranty coverage.

NOTE: Further information and related forms can be found on the Finn Web site in the Dealer Portal warranty section.

FINN CORPORATION®

WARRANTY PERIOD

Hydroseeders® and Straw Blowers: 2 years or 2000 hours, whichever comes first.

Bark Blowers: 1 year or 1200 hours, whichever comes first.

COMMERCIAL LIMITED WARRANTY

EFFECTIVE 01/01/2018

OUR WARRANTY TO YOU

Finn Corporation warrants to you, the original purchaser, for use (or rental to others for use) and to a second owner who purchases a used machine from an Authorized Dealer Rental Program (the remaining warranty), 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.

TO QUALIFY FOR WARRANTY CONSIDERATION

A. Your Finn Dealer will register your equipment with Finn. **FAILURE TO REGISTER WILL VOID THE WARRANTY.**
B. Notify your dealer same day or next day of any need for work under warranty.
C. Warranty work must be done by an authorized Finn dealer or service provider of Finn's choice and any parts must be ordered through the Finn warranty administrator.

WHAT FINN WILL DO

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

A. Verify claim falls within the valid warranty time frame.
B. Verify the product and equipment has been registered with Finn.
C. Upon affirmation of warranty period and registration, Finn will provide new or repaired replacement part(s), whichever Finn elects and a return shipping label for returning failed parts if applicable.
D. Evaluate the part when defective part is returned. If damage to a part is determined not to be covered under the warranty, the customer will be billed.
E. 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.
F. Correction of nonconformities, in the manner provided above, shall constitute fulfillment of all liabilities of Finn Corporation.

WHAT THE WARRANTY DOES NOT COVER

1. Normal wear parts, Allied Equipment, trade accessories not manufactured by Finn, such as but not limited to items such as various filters, fluids, brakes, clutch linings, coupler insert, belts, hoses, light bulbs, mechanical seal, over center clutches, tires, ignitions, starters, batteries, carburetors, engines or like or unlike equipment or accessories. (Such being subject to the warranty, if any, 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. Any defect or failure of products warranted arises out of or is caused by accessories or parts not manufactured or supplied by Finn Corporation, whether same are supplied by purchaser, dealers, or any other party.

STORAGE

Dealers and customers are responsible to follow all guidelines related to Seasonal and Long Term Storage of Equipment, as advised in operation and 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. 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 and void warranty coverage.

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SAFETY FIRST

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

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

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

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

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

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

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

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

NOTE: This is helpful information.

CALIFORNIA PROPOSITION 65

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

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

BARK BLOWER SAFETY SUMMARY SECTION

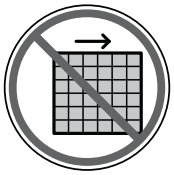
It is important that all operators of this machine are familiar with all the safety aspects mentioned below before operating the machine. Always keep a copy of this manual with the machine. It is the responsibility of the operator of the machine to fully understand this safety section. Remember that 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 sheet is written for this type of machine only. Practice all other usual and customary safe working precautions; and above all, remember that safety is up to you.

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

1. Check hitch and hitch bolts, safety chains, lights, brakes, and breakaway switch. Verify that the hitch ball or pintle hook is the correct size for the coupler.
2. Verify that all guards are in place.
3. By carefully looking into the blower hopper and transition, inspect for and remove any foreign objects. Follow Occupational Safety and Health Administration (OSHA) lockout/tagout procedure (29 CFR 1910.147)
4. Inspect all hydraulic hoses and tubes for cracks, bulges, or damage. If hose is cracked, bulging, or damaged, replace immediately.
5. Inspect the material discharge hose and connections for cracks or damage. If cracks or damage are found, replace affected part immediately.

II. MACHINE OPERATION

1. Always wear safety goggles when operating and/or feeding 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 override or tamper with the safety-shutdown switches on the airlock door or discharge. If switches fail, use OSHA lockout/tagout procedure (29 CFR 1910.147) until switches are repaired or replaced.
3. Do not operate the machine without all guards in place.



4. Never attempt to connect, or disconnect the discharge hose while the engine is running.

5. Make sure that no one is working in or on the machine. Make sure the discharge area is clear of all persons, animals, etc. Signal visually or audibly that all is clear before starting the engine. Keep unauthorized personnel away from the machine and discharge hose at all times.
6. The driver of the towing vehicle is responsible for the safety of the operator(s) and feeder(s) of the machine. Make sure the driver is aware of and avoids all possible hazards, such as tree limbs, low power lines, etc.
7. Do not allow anyone to ride on the trailer or any other part of the unit for any reason.

8. 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.

9. 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.

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

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

12. The blower discharges material at pressures and velocities that can cause severe bodily injury. Do not aim discharge at people, animals, etc. Only aim the discharge at the intended discharge area. Unless properly protected, do not place hand into the discharge stream.

13. Do not open any doors or access panels while machine is in operation. Severe injury may result from rotating parts.

14. Do not attempt to pull anything out of the blower hopper while machine is in operation. Shut down and lockout the engine using the OSHA lockout/tagout procedure (29 CFR 1910.147) before removing any foreign objects. Signal visually and audibly that all is clear before operating the machine.

15. When leaving the blower unattended for any reason, be sure to:

    A. Shut off the material feed system using the **MATERIAL STOP** button on the hardwired pendant.

    B. Shut off vehicle engine and blower engine.

    C. Place transmission of the vehicle in “NEUTRAL” or “PARK”.

    D. Set parking brake firmly.

    E. Remove keys from blower unit.

    F. Lock vehicle cab and take all keys with you.

    G. If parked on a steep grade, block the wheels.

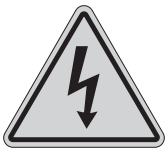
    These actions are recommended to avoid unauthorized use, runaway, vandalism, theft, and unexpected operation when the equipment is unattended.

16. Do not read, eat or otherwise lose or lessen your attention in any manner while operating the blower. Operating this equipment is a full-time job.

17. Be careful in getting on and off the blower, especially in wet, icy, snowy, or muddy conditions. Clean mud, snow, or ice from steps, fenders, and footwear.

18. All personnel operating in/or around the machine must be aware that the blower can be controlled via remote control. For safety reasons and to prevent accidental starting, always keep the Emergency Stop (e-stop) button depressed on the remote control hand held unit when unit is not being used.

19. Be careful when operating the tarp near power lines. Raising the tarp into power lines may cause severe electrical shock. Always have the tarp either fully open or retracted when transporting the machine.



20. Turn slowly and travel carefully on rough surfaces and side slopes, especially with a loaded unit.

III. 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 (OSHA 29 CFR 1910.147).

2. Take extreme care when adjusting or replacing knives. Knife edges are very sharp and can cause severe bodily injury.

3. 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.

4. 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.

5. 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 or near 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 contaminate the surrounding environment. Collect all fluids and dispose of them properly.

6. It is recommended that only authorized, genuine FINN replacement parts be used on the machine.

7. Do not use ether cold start fluid, if engine is equipped with glow plug-type preheater, or other intake manifold-type preheater. It could cause an explosion or fire and severe injury or death.

8. Diesel fuel or hydraulic fluid under pressure can penetrate the skin or eyes and cause injury, blindness, or death. To check for such leaks, use a piece of cardboard or wood instead of your hand. Pressure may build up in the hydraulic system; use caution when removing the cap.

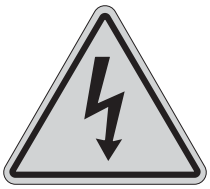
9. Some parts and assemblies are quite heavy. Before attempting to unfasten any heavy part or assembly, arrange to support it by means of a hoist by blocking or by use of an adequate arrangement to prevent it from falling, tipping, swinging, or moving in any manner. Failure to do so could result in component damage, or physical injury to someone.

10. If repairs require use of a torch or electric welder, be sure that all flammable and combustible materials are removed. Fuel or oil reservoirs must be emptied, steam-cleaned, and filled with clean water before any cutting or welding on them is attempted. Do NOT weld or cut on any tank containing oil, gasoline, fumes, other flammable material, or on any container of which the previous contents were unknown.

11. Do not pressure wash this unit. Do not pressure wash around any control boxes, radio remotes or control panels. Pressure washing this unit can cause damage to the electrical systems and components and also cause the unit to not function. Pressure washing injects water into sensitive electrical components. To clean the unit, use a method that controls the amount of water that is applied to the surface of the unit.

COMMON SAFETY DECALS


Hazard/
Attention


Electrical
Shock Hazard

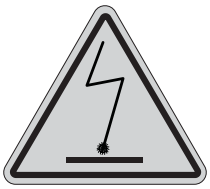

Hearing
Hazard


Arc Flash
Hazard or
Explosion
Hazard


Electrocution
Hazard

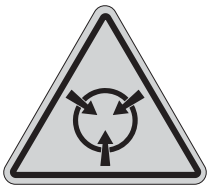

Fire Hazard


Body
Entanglement
Hazard

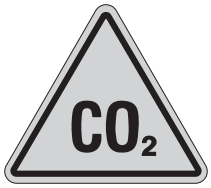

Electrostatic
Discharge
Hazard


Fumes/Dust
Hazard


Burn Hazard


Electrostatic
Sensitive Area
Hazard


Pinch Point/
Entanglement
Hazard



Carbon
Dioxide
Hazard


Explosive or
High Pressure
Hazard


Grounding
Required
Hazard


Corrosive
Hazard


Explosive
Material
Hazard


Crush Hazard


Cut/Crush
Hazard


Vision Damage
Hazard


Crush/Pinch-
point Hazard


Cut/Sever
Hazard


Vision and
Hearing
Damage
Hazard


Crush/
Entrapment
Hazard


Sever/Reach
Hazard


Vision,
Hearing and
Respiratory
Damage
Hazard


High Voltage
Hazard

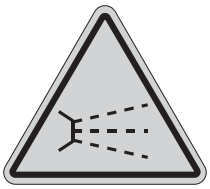
COMMON SAFETY DECALS

Heavy Object Hazard

Skin Puncture Hazard

Vision Protection Required

Hot Surface Hazard



Splash/Spray Hazard

Hearing Protection Required

Loose Clothing Entanglement Hazard

Stumble Hazard

Vision, Hearing and Head Protection Required

Pinch Point/ Moving Belt Hazard

Trip Hazard

Breathing, Vision, Hearing and Head Protection Required

Poison Hazard

Watch Head/ Overhead Hazard

Foot Protection Required

Radio Frequency Hazard

Fall/Loss of Balance Hazard

Lockout/ Tagout Procedure Required

Remote Start Hazard

Mandatory Operator Action Required

Gloves Required

Sever by Rotating Parts Hazard

Read Manual

Trailer Safety

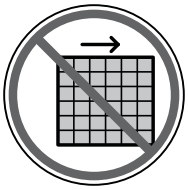
Rotating Shaft Hazard

Breathing Protection Required

Lift Point

COMMON SAFETY DECALS

Do Not Ride on Moving Vehicle



Do Not Remove Guards

Do Not Obstruct or Block

Do Not Spray Power Lines

Do Not Touch

Do Not Pressure Wash

ADDITIONAL SAFETY DECALS

⚠ DANGER

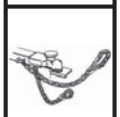
ENTANGLEMENT HAZARD!
Keep arms and feet out!
Never climb on or in unit before:
Turning engine off.
Allow all moving parts to stop.
Disconnect battery cables and follow proper lock-out & tag-out procedures.
Failure to comply will result in death or serious injury.

P/N 52177

⚠ DANGER

SEVER HAZARD!
Keep hands and feet out!
Sharp knives will sever.
Failure to comply will result in death or serious injury.

P/N 55219



⚠ WARNING

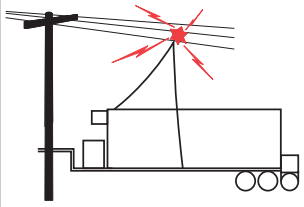
RUNAWAY VEHICLE HAZARD!
Always inspect tow vehicle and equipment hitch before towing.
Tighten all hitch bolts and properly connect wiring and safety chains.

BREAKAWAY SWITCH
DO NOT use for parking.
Attach cable to towing vehicle with enough slack for turning.
Engine battery on trailer must be charged and hooked-up for proper breakaway function.

SAFETY CHAIN INSTALLATION
Both the single and double chains must be crossed under tongue. They must be oriented in such a manner as to prevent tongue from dropping to ground in event of failure to hitch, coupler or ball. Chains must be connected to towing vehicle so slack for each length of chain, between trailer and towing vehicle, is the same and must have no more slack when in use than necessary to permit proper turning of vehicles. Forward end of chain must be attached to towing vehicle, not to ball, but to hitch or other frame member. Chain must be looped around member and hooked back into itself.
Failure to comply could result in death or serious injury.

P/N 31461

⚠ DANGER



ELECTROCUTION HAZARD!

DO NOT raise tarp under high voltage lines.

Failure to comply will result in death or serious injury.

P/N 45128

⚠ WARNING

BURN HAZARD!
Cooling system is under pressure.
Allow system to cool before handling.
Remove radiator cap slowly.
Wear appropriate safety gear.
Failure to comply could result in death or serious injury.

RADIATOR HANDLING INSTRUCTIONS
1. Use a 50/50 solution of water and antifreeze. Using 100% antifreeze will result in engine damage.
2. Check and replenish water prior to use. More water will be consumed when operating in hot conditions.
3. If overflow pipe begins emitting vapor, check and replenish water.
4. Remove and clean screen when dirty.
5. Check and clean fins periodically. Clogged fins will increase water consumption.
6. Protect radiator from fertilizer corrosion by washing radiator core with water.

P/N 31462

⚠ WARNING

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

P/N 31463

⚠ WARNING

FLYING OBJECTS!
STAY BACK!
Stay away from discharge area during operation. Keep bystanders away.
DO NOT point discharge toward people, animals or property.
ALWAYS wear appropriate protective gear.
Failure to comply could result in death or serious injury.

P/N 55280

OPERATION AND MAINTENANCE MANUAL FOR FINN BARK BLOWER

INTRODUCTION

The FINN Corporation would like to thank you for your latest FINN purchase. In our efforts to maintain a quality and growing relationship with every customer, we would like to encourage you to contact us for help with service, genuine replacement parts, or for any other information you may require.

THE FINN BARK BLOWER AND ITS FUNCTION

The FINN Bark Blower is an apparatus for conveying and discharging bulk materials, such as bark mulch, at a fast and uniform rate utilizing a minimum amount of manpower. The product to be used is generally composted and processed, then used as a soil amendment, a ground cover for erosion and weed control, or for decorative purposes on landscaping (bark mulch).

This manual is intended to provide step-by-step instructions on the operation, care, and maintenance of the Bark Blower. In addition, it contains illustrations and a complete list of parts and components for easy identification.

HOW THE BARK BLOWER WORKS

The bulk material is loaded into the hopper by a loader or by a feed elevator. Located at the bottom of the hopper is a drag chain conveyor that conveys the bulk material to an opening, in the rear of the hopper, containing a feed roll. The feed roll and drag chain conveyor feed the bulk material into an airlock. The airlock is specifically designed and built to handle tough, fibrous material. The function of the airlock is to take the bulk material into open pockets exposed to the outside air and to convey it to an area where the pocket is closed off. At that point a high volume/ low pressure air stream, created by the blower, is channeled through the pocket, carrying the material out of the airlock and through the hose for discharge.

NOTICE ***For best results and to ensure safe operation and long life of the equipment, please read and follow all instructions carefully.***

TOWING VEHICLE

The truck used to tow the FINN 5-Series must be equipped with a 2-5/16 in. ball-type or pintle-type hitch. This hitch should be mounted as near to the end of the truck bed as possible. The tow vehicle should be fully wired for trailer marker, turn, and stop lights, as well as electric brakes, and be sized to be able to pull and stop a 12,585 lbs. (5,708 kg) trailer. (Loaded 5-Series assuming 750 lbs./yd.^{3} mulch.)

NOTE: When towing tandem axle unit, always ensure the unit is level, applying equal weight distribution across both axles.

⚠ CAUTION ***When mounting a skid 5-Series, be sure to follow the 5-Series skid-mounting instructions. Ensure proper weight distribution and make sure the Bark Blower is properly supported by the truck. When mounting a skid model, contact FINN Corporation for proper instructions. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.***

SELECTING A MULCHING MATERIAL

Several factors must be considered when selecting material to convey through the Bark Blower. The variety of the wood used, how it is processed, its moisture content, and the presence of foreign objects all affect the ability of the Bark Blower to convey the mulch at a uniform rate.

The mulch material must be processed and/or screened so that a minimum amount of material is over 2 in. (5.1 cm) in any direction with no material exceeding 4 in. (10.2 cm) in length. The Bark Blower is not a wood processor. It only reduces mulch fibers when they protrude above the airlock vanes. As the vanes rotate past the knives, the protruding fibers are sheared off. If the mulch contains long or large fibers, and/ or if the wood fibers are harder to cut, then the machine's throughput is reduced. For example, if two mulches have the same mix of material sizes that the Bark Blower airlock rotor must cut, but one is softwood like pine, and one is hardwood such as oak, the pine would go through at a higher rate because it is easier to cut.

There are many different types of material that can be successfully processed through your Bark Blower. These materials are categorized into three main groups. These classifications are important when considering machine performance, material feed rate, and overall operation.

1. Dry Aged Material:	Aged double- and triple-processed bark mulch, saw dust, or wood shavings.
2. Green Material:	Single-process hard wood mulch, green wood, or large chunky material.
3. Wet or Heavy Material:	Wet, heavy bark mulch and compost. Heavy fluid materials such as sand, dirt or gravel.

Most importantly, when selecting a material, consider the greenness of the wood and its moisture content. Wood that is well seasoned is easier to cut than green wood. It also processes better, making a less stringy mulch. High moisture content in the mulch may also cause it to bridge in the hopper, and pack in the airlock vanes and discharge hose which will reduce the overall machine output.

Avoid using mulches that contain any hard foreign objects such as rocks, nails, steel, cans, glass, etc. These objects could cause bodily injury as well as damage to machine components, especially, the cutting knives in the airlock.

PRE-START EQUIPMENT CHECK

⚠ CAUTION ***Equipment check is made with the engine off and all rotating parts stopped. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.***

Safety check to ensure operator safety:

1. Check all trailer connections to the towing vehicle, as well as the condition of the safety chains, and bolts connecting the ball coupler or pintle eye to the tongue.
2. Ensure that all guards are in place.
3. Tool Kit - see that it contains all prescribed items (see Tool Kit list).
4. Lubricate equipment - use hand gun only (see Lubrication Chart).
5. Check engine oil - refer to engine operator's manual.
6. Check liquid coolant level in radiator and overflow tank. (Protected to -34ºF (-37ºC) when shipped.)
7. Inspect the engine air cleaner (refer to the engine operator's manual), the radiator chaff screen, and blower air cleaner for dust and dirt. If necessary, clean or replace the air filters.
8. Check fuel level. Use only Ultra-Low-Sulfur diesel fuel.
9. Check hopper and transition for foreign objects that could injure workers or damage equipment when the machine is started.
10. Ensure that tarp is open and secured in place. Never operate machine with tarp covering hopper.

⚠ CAUTION ***Allowing the tarp to hang or sag over hopper during operation raises the risk that the tarp will be pulled into the equipment. This will cause damage to the unit and could be a risk to the safety of the operator.***

11. Check the fluid level in the hydraulic tank. Proper level is 3/4 in. from the top of the sight gauge. (See Lubrication Chart for oil specification.)
12. Install the discharge hose, using clamps and gaskets provided with the machine.

⚠ CAUTION ***Do not use radiator-type clamps. These clamps may not hold under machine-operating pressure. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.***

13. Check to verify the radiator is free of mulch and debris obstruction to ensure over heating does not occur.

NOTICE ***Do NOT use high pressure water to clean out radiator fins because damage will occur to the delicate radiator fins.***

CONTROL GUIDE

Main Control Panel

Material Start/
Stop Pendant
(Cord Not Shown)

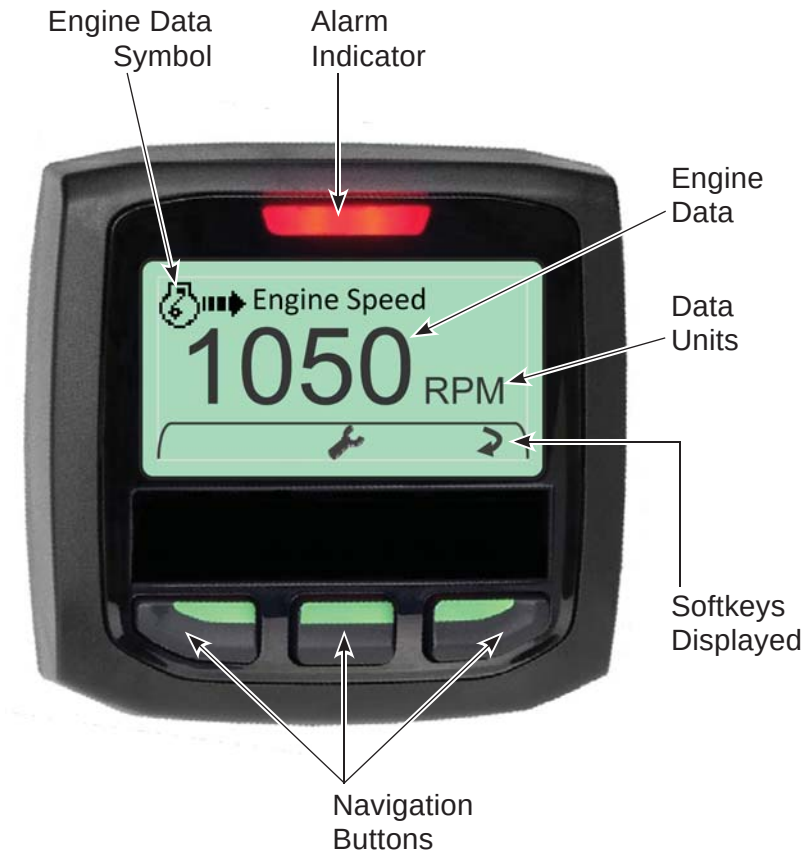
Radio Remote Transmitter

Power Button

CONTROL PANEL GUIDE AND SYSTEM OPERATION

MENU NAVIGATION

The control unit has three navigation buttons which are configured as softkeys. The system softkeys are used to navigate between displays, select menu items and change data. Pressing any of the three navigation buttons will display the softkey menu that is associated with each button.



Softkeys Displayed

- : Main Menu
- : Exit
- : Change
- : Scroll Up
- : Scroll Down
- : Next
- : Increase Vale
- : Decrease Value
- ✓ : Acknowledge
- ? : More Information

CHANGING DATA DISPLAYS

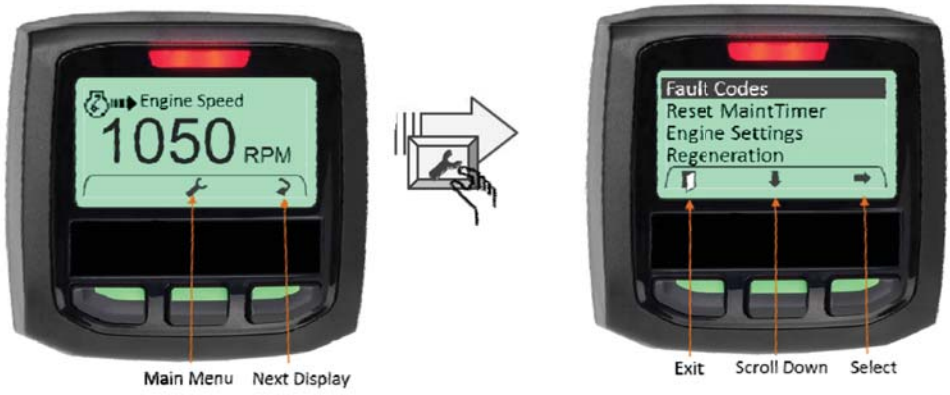
To change the data being displayed, press any key to activate the softkey menu. Press the Change "" softkey to access the next data display available.

See System Display List for complete selection of data displays available.

CONTROL PANEL GUIDE AND SYSTEM OPERATION (CONTINUED)

MAIN MENU ACCESS

To access the Main Menu, press any of the three navigation buttons. The unit will display a softkey popup window defining the available navigation possibilities. Select the Main Menu using the center softkey as shown.



MAIN MENU NAVIGATION

Access the main menu using the center softkey. The main menu will be displayed along with the main menu softkey popup window. Navigate through the main menu selections by using the "⬇" key. When the desired menu item is highlighted, press the "➡" key to select the menu item. To exit the main menu and return to the data displays press the EXIT "◧" softkey.

CHANGING PARAMETER SETTINGS

Parameter settings can be changed in one of two ways: using the "✚" / "▬" softkeys to increase or decrease a numeric value or using the Change "➲" softkey to toggle through a list of programmed settings.

FAULT CODES

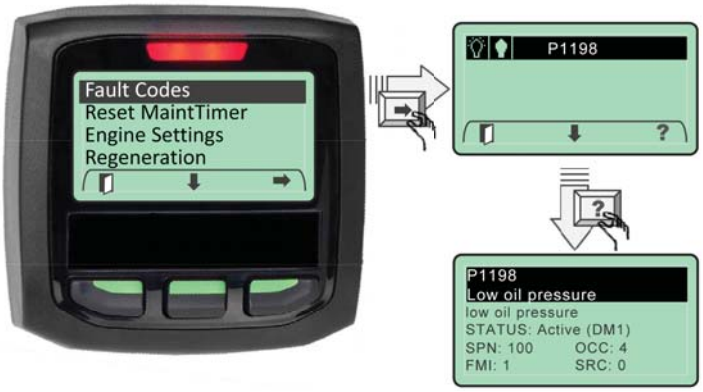
Engine fault codes (active and stored) are generated by the engine ECU and communicated to the control panel.

ACTIVE FAULT CODES

The control system reads standard messages to indicate active fault codes. When a fault is active the control system activates a popup fault display containing a check engine icon, fault code number (if applicable), a description of the active fault and an “Active Codes” alarm stripe at the bottom of the display. The control system will activate the red LED fault indicator above the digital display.

When an active fault is presented, the user must acknowledge the fault by pressing the softkey indicated. See “Acknowledging Active Faults” section.

After acknowledging a fault condition, the system will return to normal display operation. The controller will indicate that an active fault is present by displaying a “Check Engine” icon on the main data display. The system will also display an “Active Codes” alarm stripe at the bottom of the display.



ACKNOWLEDGING ACTIVE FAULTS

When the control system receives a new fault, the digital display responds by overlaying a fault pop-up graphic onto the currently active runtime display. This alerts the operator, signaling a response is needed by the operator. The display above (top) represents an unacknowledged fault for an oil pressure fault condition. To acknowledge an active fault, press the “Acknowledge” softkey (middle) button. This will remove the pop-up graphic. The control system will continue to inform the operator that a fault is active or until the fault is corrected.

Note: If the fault condition is cleared the associated pop-up will be automatically removed.

FAULT CODES (CONTINUED)

STORED FAULT CODES

The control unit allows the operator to request any stored fault codes that may be contained in the engine ECU. To view stored faults select the “Fault Codes” menu selection from the main menu. The control system will send a request to the engine ECU for any faults that the ECU may have stored. Should any faults exist, the control unit will display a list of the active and stored faults. The list will show if the fault is Active, Stored or both. The list will contain the engine manufacturer specific Fault Code (if available) for the fault condition. To view more detailed information about any of the fault conditions listed, navigate to the desired fault condition and select the “**?**” softkey. A more detailed description of the fault will be presented along with the current Status.

MAINTENANCE TIMER

The control system provides an engine maintenance timer feature. The maintenance timer is a countdown timer and indicates the amount of engine runtime remaining until maintenance is due. The maintenance timer is configurable and resettable by the operator. If the system is powered but the engine is not running maintenance hours will not be accumulated.

Note: Setting the timer to 0 will disable the maintenance timer operation.

The Maintenance Timer is factory-set to 250 hours.

MAINTENANCE TIMER ALERT

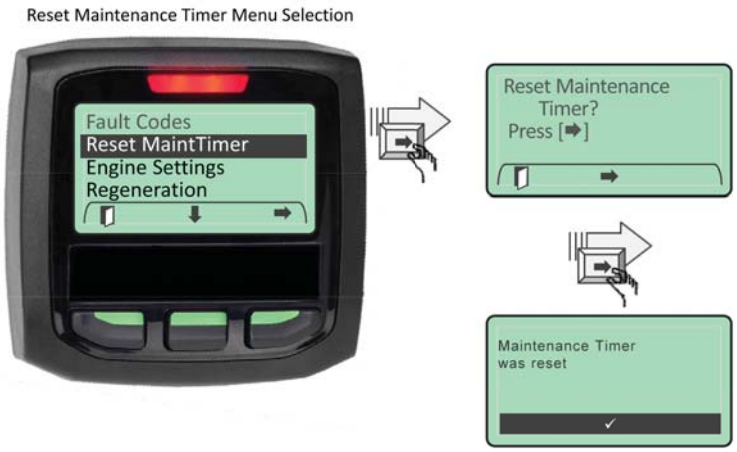
When the maintenance timer expires the system will activate an “Engine Maintenance Due” alert popup window. If the maintenance due alert is acknowledged but the timer is not reset the alert popup will re-initiate for each key “ON” cycle.

ACKNOWLEDGING MAINTENANCE TIMER

Acknowledge the maintenance alert by selecting the acknowledge “✓” softkey.

RESETTING MAINTENANCE TIMER

The maintenance timer is operator configurable and can be accessed through the engine settings menu. See “Reset MaintTimer” selection in engine settings menu. When the maintenance timer has expired, a pop-up alert window indicating that “Engine Maintenance is Due” will be displayed. The operator must acknowledge this pop-up to return the control unit to normal display operation.



To reset the maintenance timer enter the Main Menu and then scroll to the “Reset MaintTimer” entry using the “⬇” softkey. Press the “➡” softkey to select the reset maintenance timer menu item.

Press the “➡” softkey to reset the timer.

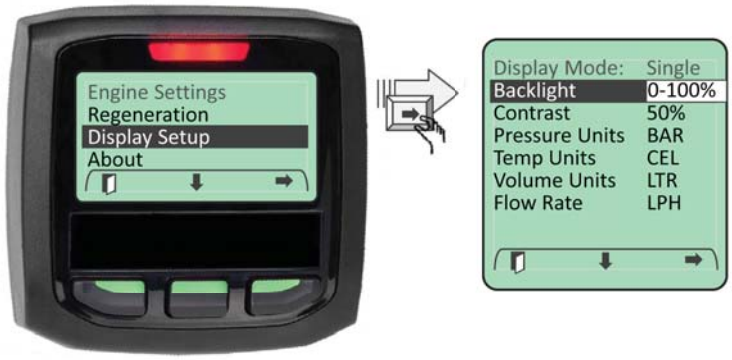
Acknowledge the timer was reset by pressing the Acknowledge “✓” softkey.

Note: The maintenance hours data display will indicate 0 hrs when the timer has expired and the operator has not yet reset the timer.

BACKLIGHT SETTING

The LCD backlight is adjustable from 0 to 100%. To adjust the LCD backlight enter the Main Menu and navigate to the “Display Setup” menu using the “⬇” softkey.

When highlighted enter the Display Setup menu by selecting the “➡” softkey. Navigate through the “Display Setup” menu using “⬇” softkey until the “Backlight” entry is highlighted.



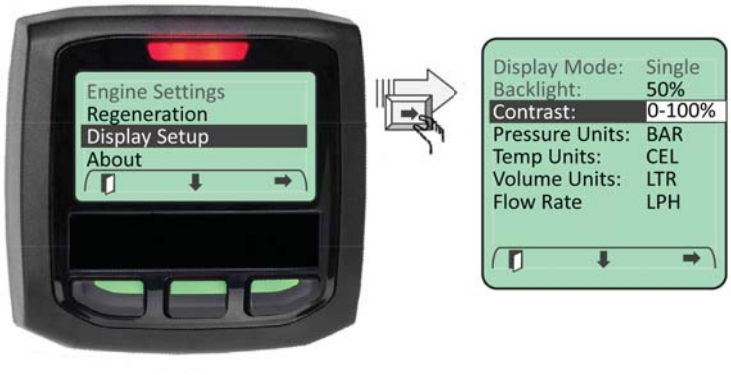
Press the “➡” softkey to select the backlight parameter setting.

Use the “➕” / “➖” softkeys to set the backlight value.

CONTRAST SETTING

The LCD contrast is adjustable from 0 to 100%. To adjust the LCD contrast enter the Main Menu and navigate to the “Display Setup” menu using the “⬇” softkey.

When highlighted enter the Display Setup menu by selecting the “➡” softkey. Navigate through the “Display Setup” menu using “⬇” softkey until the “Contrast” entry is highlighted.



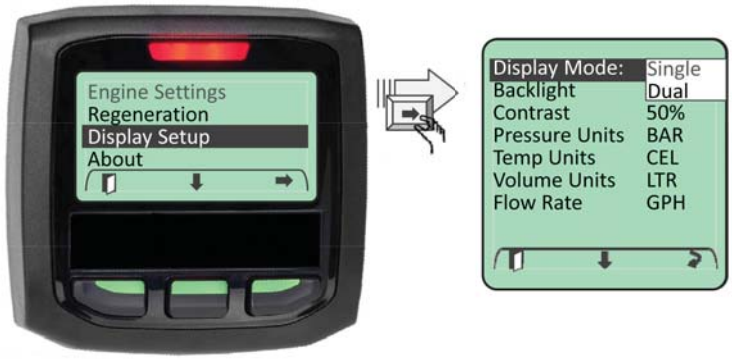
Press the “➡” softkey to select the contrast parameter setting.

Use the “➕” / “➖” softkeys to set the contrast value.

Note: Setting the contrast value below 30 may render the display to be unreadable.

DISPLAY MODE SETTING

Two display formats are available: “Single” display and “Dual” display formats. To access the display format setting, enter the Main Menu. Navigate to the “Display Setup” menu entry using “⬇” softkey. When highlighted, enter the Display Setup menu by selecting the “➡” softkey. Navigate through the “Display Setup” menu using “⬇” softkey until the “Display Mode” entry is highlighted.



Choose the desired display mode setting by cycling through the list of choices using the Change “↩” softkey.

DEFAULT DISPLAY

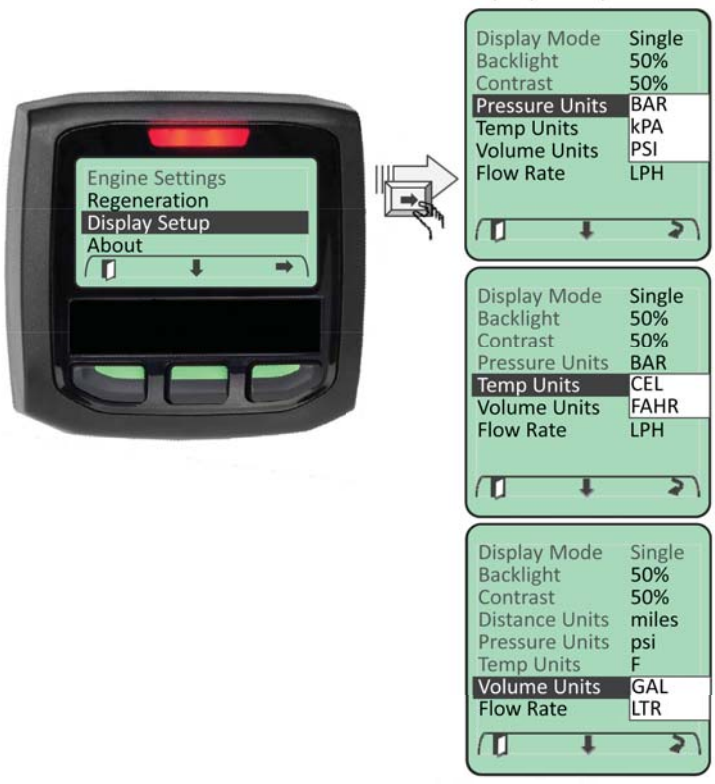
To configure a particular display as the default startup display, access the desired display and leave active for 5 minutes. The system will automatically set this display as the default startup display.

ENGINEERING UNITS

Displayed engineering units can be configured for Pressure, Temperature and Volume. To access the engineering unit’s settings, enter the Main Menu. Navigate to the “Display Setup” menu entry using “⬇” softkey.

When highlighted enter the Display Setup menu by selecting the “➡” softkey. Navigate through the “Display Setup” menu using “⬇” softkey until the desired engineering unit’s parameter is highlighted.

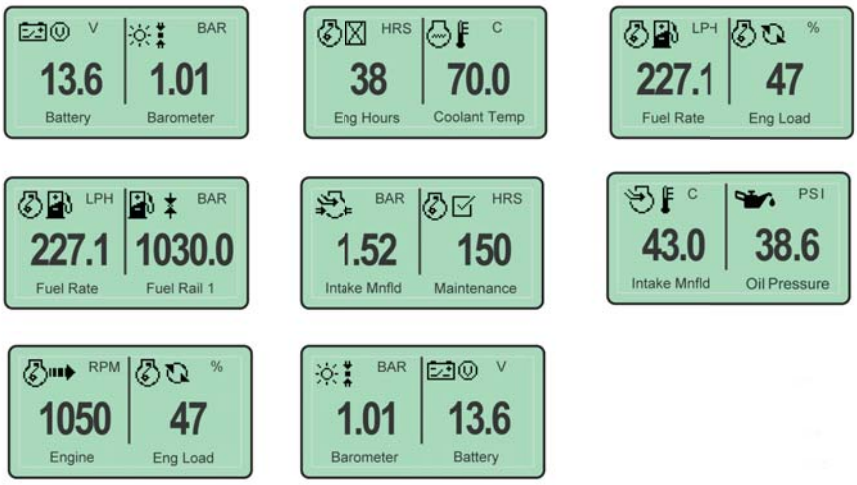
Choose the desired parameter setting by cycling through the list of choices using the change soft key.



DISPLAY LIST

SINGLE DATA FORMAT

DUAL DATA FORMAT



ABOUT MENU

The About Menu indicates the software information used for programming the control unit.

ENGINE SETTINGS

The Engine Settings are factory-specified. This feature is password-protected to ensure the correct use of the engine in this unit.

STARTING PROCEDURE

⚠ CAUTION ***See safety section of the manual (pages 1 through 4) before operating the machine. Failure to comply could result in minor or moderate personal injury. Failure to comply could also result in product or property damage.***

1. Verify that all doors are closed around the airlock.
2. Disengage Emergency Stop (e-stop) on main control panel of the unit (rotate the e-stop button clockwise).
3. Turn key clockwise to the **RUN/ON (⏀)** position and wait for key pad to illuminate and go through its start-up procedure.
4. Press the engine start (**ENG START**) button on the key pad. The button will then light up green. Once green, press and hold the engine start (**ENG START**) button until the engine starts (once the engine starts, the button will turn red).
5. Allow the engine to warm up for 3 to 5 minutes.
6. Activate remote by rotating the e-stop button clockwise to disengage e-stop functionality. Press the green button located on the back of the remote to turn on the unit.

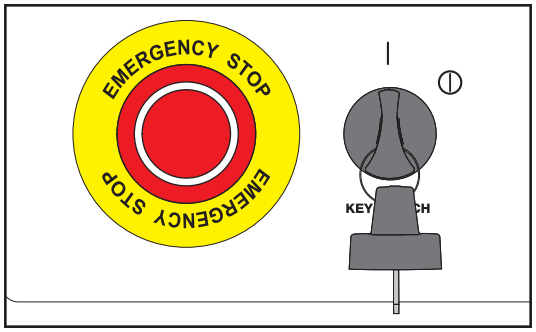
   NOTE: If the machine is running, the remote should automatically pair.

7. After engine has warmed up, press the **MATERIAL START** button on the hardwired material start/stop pendant. Then toggle the **MATERIAL STOP** switch on the radio remote transmitter (to the left of the e-stop button on the radio remote transmitter). This will ensure that the operator has machine control with the remote.

   NOTE: The material start/stop pendant is the overiding set of controls on this unit. To start material flow, the **MATERIAL START** button on the hardwired material start/stop pendant must be pushed first before either the control panel or the radio remote transmitter will work.

8. Prior to mulch application, increase the engine RPM to its highest setting (press and hold **RPM INC** button).

For additional information, see Cervis Engineered Application Specific Suppliment: WSMB-7454 Finn.



Emergency Stop (e-stop) on Main Control Panel

Key Pad on Main Control Panel

Emergency Stop on Radio Remote Transmitter

Power Button on Radio Remote Transmitter

Pendant

Material Start Switch

CREW MEMBERS AND THEIR DUTIES

1. The Operator controls the placement of the mulch by moving and aiming the discharge hose.
2. The Loader(s) feed material to the machine by using a skid steer, bucket loader, belt conveyor, or optional feed conveyor to dump material directly into the hopper.

THE MATERIAL-FEED SYSTEM

The material-feed system on the Bark Blower has been designed to give fast and uniform mechanical feeding. The adjustable feeding rate and the automatic reverse control system allow the use of varied materials while obtaining maximum production. The system is an integration of the following four subsystems, all of which contribute to efficient material flow:

SUBSYSTEM 1: MATERIAL-HANDLING GROUP

The four major components of the material-handling group are the blower, the drag chain conveyor or floor, the feed roll, and the airlock.

The blower is a rotary lobe, positive displacement-type unit having two double lobe impellers. It is direct driven off the engine flywheel by a coupling. Therefore, whenever the engine is running, air is being pumped through the system. The blower is equipped with a relief valve limiting maximum air pressure to 12 psi (82,7 kPa), an inlet and outlet silencer for noise attenuation, and an inlet air filter.

The drag chain conveyor receives material from the hopper and conveys it to an opening located at the rear of the hopper where the feed roll is located. The feed roll ensures a uniform feed of bulk material to the airlock. The feed roll is powered by a variable speed hydraulic motor, which also powers the drag conveyor through a chain drive.

The airlock receives the material from the drag chain conveyor and pressurized air from the blower. Its primary function is to convey the bulk material from the atmospheric air to a sealed chamber where the blower air stream picks it up and blows it through and out the discharge hose. To enable the Bark Blower to convey fibrous material, the airlock housing is equipped with cutting knives and the vanes on the rotor are angled and hardened. If any material should protrude above a vane, it will be sheared off, before the vane enters the close tolerance of the housing by a scissor-like action between the vane and cutting knife. The rotor of the airlock is direct-coupled to a gearbox and driven by a bi-rotational hydraulic motor.

SUBSYSTEM 2: HYDRAULIC SYSTEM

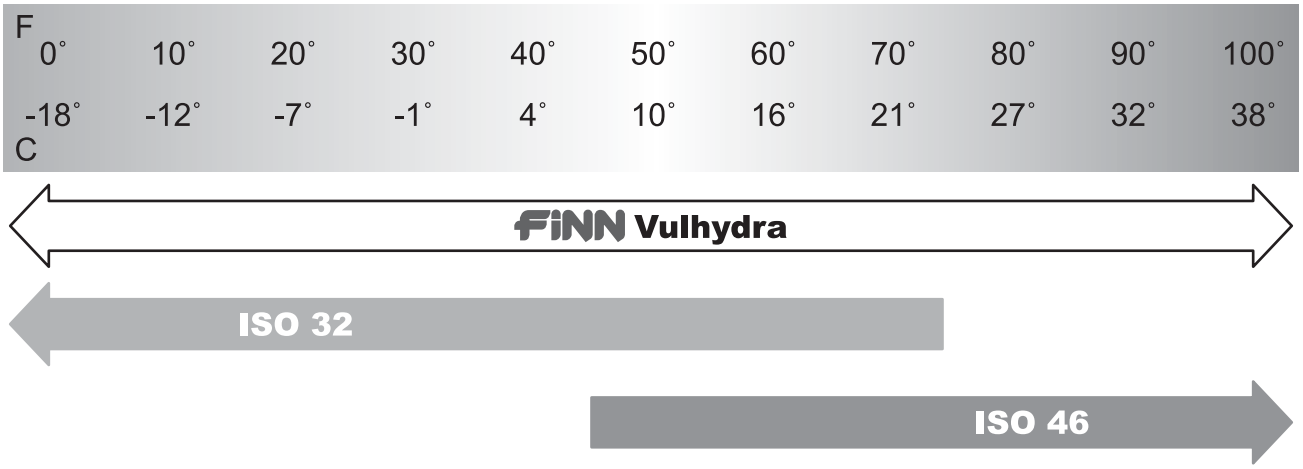
Hydraulic power for the Bark Blower is generated by a fixed-displacement hydraulic pump that is driven off the engine auxiliary drive. The pump receives hydraulic fluid from the 29.5-gallon (112 L) reservoir through a service ball valve and suction hose. It is then delivered to the hydraulic manifold through an unloading valve. This hydraulic manifold block has three separate solenoid valves that control all of the functions of the Bark Blower machine.

The hydraulic oil should be replaced per the lubrication schedule or if the oil becomes milky or gives off a burnt odor. The hydraulic oil filter must be replaced on schedule with a 5 absolute micron filter.

At time of manufacture, this unit contains Finn Vulhydra hydraulic oil. The chart below illustrates the operating temperature range of the Finn Vulhydra hydraulic oil as well as the closest ISO equivalents.

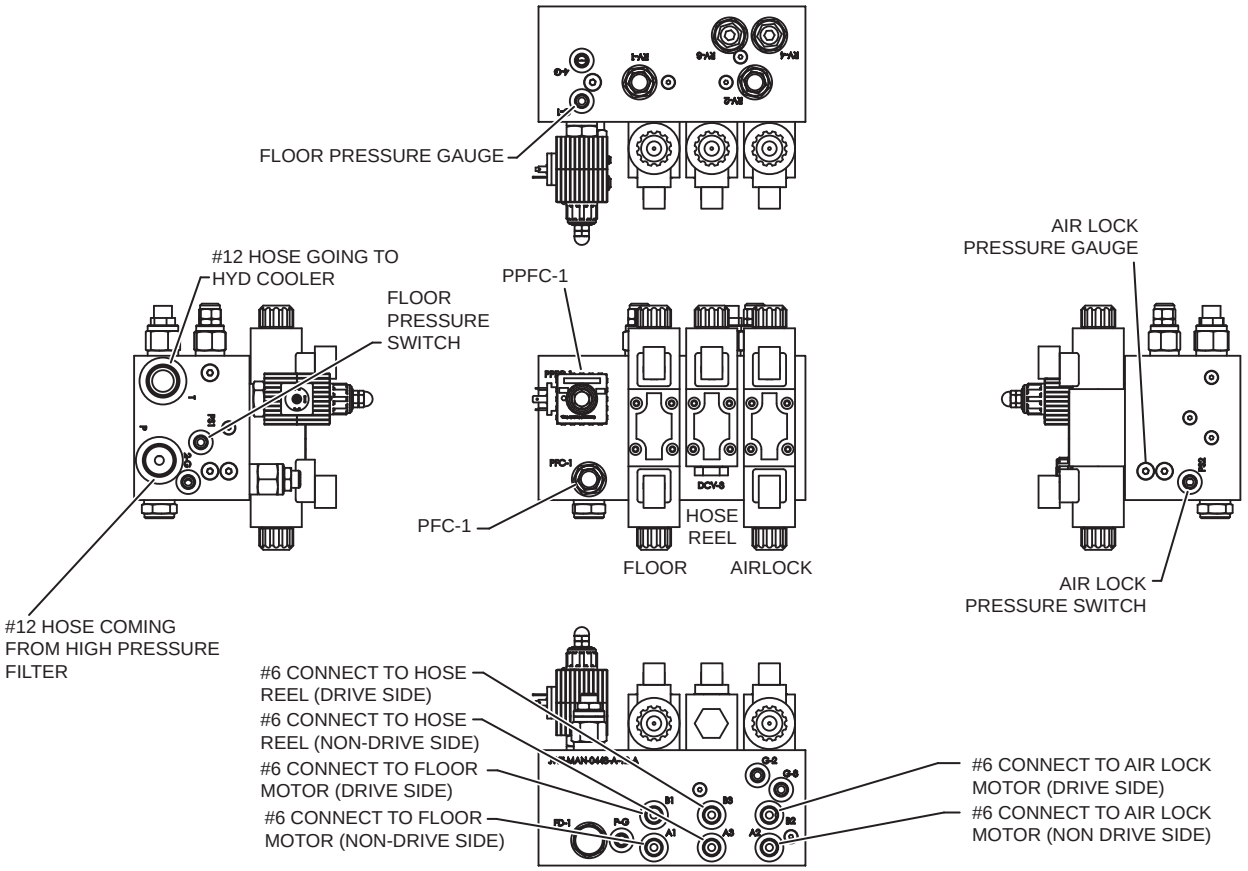
NOTE: Use equal to, or better than, a 5 micron absolute filtration.

NOTE: The Finn Vulhydra hydraulic oil may be substituted for either of the two ISO oils listed below. Please use the temperature chart to determine what oil works best in your situation.



DESCRIPTION OF VALVE SECTIONS

The illustration below shows the valve block and different hydraulic circuits. Each circuit is controlled by two valves, with the exception of the hose reel (middle) circuit. The floor and airlock valves are directional valves that can be manually stroked by inserting a small rod or screwdriver into the hole on top or bottom of the solenoid. The hose reel circuit is controlled by a two-position ON/OFF valve and its solenoid can only be actucated in one direction by inserting a small rod or screwdriver into the hole on top of the solenoid.



Valve Block

A. AIRLOCK

The right valve section of the manifold runs the airlock. The spool in the valve is factory-set so the airlock turns at about 16 RPM. The speed of the Airlock can be adjusted using PFC-1. There is a pressure switch on the forward circuit that is set for 2,400 psi (16,547 kPa) that triggers the auto-reverse function on the airlock. Normal rotation of the airlock is clockwise if viewing from the driver side of the machine.

B. FLOOR (DRAG CONVEYOR)/FEED ROLL

The left valve section controls the floor and feed roll speed. It is an electrically-driven proportional valve that is controlled by the floor increase (**FLOOR INC**) and floor decrease **(FLOOR DEC)** buttons on the keypad of the main control panel and the toggle switch on the radio remote trasnmitter. Pressing the buttons or toggling the switch up or down varies the input voltage to the solenoid and moves the spool in the valve accordingly, allowing more or less oil flow to the floor and feed roll. There is a pressure switch on the forward circuit that is set for 2,050 psi (14,134 kPa) that triggers the auto-reverse function on the floor.

DESCRIPTION OF VALVE SECTIONS (CONTINUED)

C. HOSE REEL

The middle section of the manifold controls the hose reel. The flow rate is factory-set so that the hose reel winds, and unwinds at a rate of about 12 RPM.

SUBSYSTEM 3: HYDRAULIC CONTROL SYSTEM

The hydraulic control system is an electrical system that controls all the hydraulic functions on the Bark Blower. This 12-VDC system runs off the engine electrical system. It is a programmable logic control (PLC) system located in the main control panel on the passenger-rear side of the machine. This module controls the solenoid valves in the hydraulic system. The solenoids are energized by way of the Deutsch connectors mounted on each solenoid.

When the **MATERIAL START** button on the hardwired material start/stop pendant is activated, the proportional solenoid on the airlock valve section is energized, which starts the airlock. The floor and feed roll solenoid is energized automatically after a factory-set 2 second delay. This delay ensures that the airlock has a chance to clear itself. After the delay, the floor and feed roll will begin to move at the speed relative to the Floor speed. This speed can be set by using the floor increase (**FLOOR INC**) and floor decrease **(FLOOR DEC)** buttons on the keypad or the toggle switch on the radio remote transmitter. The key pad also has a **FLOOR ON/OFF** button that allows the operator to temporarily turn off the floor to clear out the airlock.

As material drops into the top of the airlock, the pressure required to cut the material is monitored by the pressure switch. This switch is located on the forward port of the airlock valve section, in the manifold labeled PS-2 (see the Valve Block illustration). The switch is normally open. When the airlock motor stalls due to the rotor encountering an object it cannot cut, high pressure is created in the airlock circuit and the pressure switch closes. The amount of time the pressure switch is closed is monitored by a setting in the PLC box. If the switch remains closed for more than 0.5 second, the system automatically reverses the rotor by energizing the reverse solenoid. It also de-energizes the floor solenoid, thus shutting off the floor and the feed roll. The airlock will remain in reverse for approximately 3 seconds. The system will then restart the floor and feed roll, in the material feed direction, after allowing the airlock to clear itself.

When the **MATERIAL STOP** button is pushed, power is shut off to the solenoids controlling the hydraulic motors on the floor, feed roll and airlock. Please note that the hydraulics will also stop if the rear door on the feed roll housing is opened and cannot be restarted until the door closed and the **MATERIAL START** button is pushed.

NOTE: The hydraulic system on this machine can also be stopped by pressing the **Emergency Stop (E-Stop)** button either on the main control panel or the radio remote. This method should only be used in case of emergency.

SUBSYSTEM 4: RADIO REMOTE TRANSMITTER

This Bark Blower is equipped with a Cervis Radio Remote Transmitter to control the **MATERIAL START/STOP**, the **FLOOR (speed) INCREASE/DECREASE**, and the **ENGINE (RPM) INCREASE/DECREASE**. It also contains an Emergency Stop (e-stop) button that will shut down the engine.

To turn on the Radio Remote, twist the red e-stop button clockwise to release it to its UP position, then press the green Power Button located on the back side.

Power Button

To utilize the Material Feed Start/Stop feature of the radio remote transmitter, the initial start must occur at the hardwired material start/stop pendant on the Bark Blower. Start the engine using the STARTING PROCEDURE. Turn on material flow using the **MATERIAL START** button on the hardwired material start/stop pendant, then turn off material flow using the **MATERIAL START/ STOP** function of the radio remote transmitter.

The hardwired material start/stop pendant on the unit is the primary and overriding set of controls. When the **MATERIAL STOP** button is pushed on the hardwired material start/stop pendant or a loss of power to the controls occurs (i.e. the rear door on the feed roll housing is opened), the Material Start/Stop feature on the radio remote transmitter is deactivated. This feature will remain inactive until the initial start is once again made at the machine by pressing the **MATERIAL START** button on the hardwired material start/stop pendant.

The **MATERIAL INCREASE/DECREASE** function on the radio remote transmitter can be used to change the floor speed and effectively adjust the output of mulch from the machine.

The **ENGINE RPM INCREASE/DECREASE** function on the radio remote transmitter adjusts the engine RPM through communication with the ECM.

NOTE: If the **RPM INC** button is pressed and then released, the engine RPMs will only increase by 10, but if the button is pressed and held, the engine RPMs will increase at a faster.

For additional information, see Cervis Engineered Application Specific Suppliment: WSMB-7454 Finn.

REPROGRAMMING/RESYNCING THE CERVIS REMOTE

Main Control Panel

Remote (Transmitter)

Green **POWER** Button

DIRECTIONS:

1. Place remote (transmitter) on the fender, next to the main control panel.
2. Push Emergency Stop (e-stop) in on the remote (transmitter).
3. Ensure that Emergency Stop (e-stop) on the main control panel is released by turning clockwise.
4. Twist e-stop on the remote (transmitter) counter-clockwise to “pop” it up to position for normal operation of the unit.

Operation Lights

REPROGRAMMING / RESYNCING THE CERVIS REMOTE (CONTINUED)

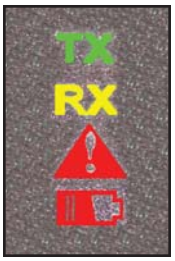
DIRECTIONS (CONTINUED):

5. Push and hold **ASSOCIATE** toggle switch up, then push and hold green **POWER** button.

   The green **POWER** button is located on the bottom of the remote (transmitter).

   All four operation lights should light for a second or two, then **TX** (transmit) will blink rapidly.
6. Continue to hold the **ASSOCIATE** switch and **POWER** button and turn key to the **RUN/ON (⏀)** position.
7. Release the **ASSOCIATE** switch and **POWER** button when all four operation lights illuminate.
8. The **TX** (transmit) and **RX** (receive) should be blinking.
9. Remote transmitter and receiver should now be paired. Start machine and check remote functions to ensure proper operation

All Four Operation Lights Illuminated



TX and RX Lights Blinking

MULCHING WITH THE BARK BLOWER

1. Check all areas listed under PRE-START EQUIPMENT CHECK section of this manual.
2. Start the engine following all the steps listed under STARTING PROCEDURE section of this manual.
3. Press the **MATERIAL START** button on the hardwired material start/stop pendant to activate the MATERIAL START/STOP feature on the remote. This will allow the material flow speed to be adjusted from the remote.
4. Toggle the **MATERIAL START/STOP** switch to the **MATERIAL STOP** position on the radio remote to stop material discharge.
5. With material flow stopped, increase engine RPM to full (toggle up on **ENGINE INCREASE** switch on radio remote transmitter).
6. With a firm grip on the hose, start material flow (toggle up on **MATERIAL START** switch on radio remote transmitter).
7. Adjust floor speed and engine throttle to achieve the desired amount of material flow.
8. At the end of the load, push **MATERIAL STOP** button on the pendant and shut down the engine.

BARK BLOWER ADJUSTMENTS

The Bark Blower has been designed to be as simple as possible to operate. The feed roll and airlock are designed to create a smooth, consistent flow of material from the hopper to the discharge. However, material conditions can change from one load to the next or from one day to the next. Adjusting the floor speed, engine RPM, and occasionally, the metering gate and/or airlock speeds will allow the Bark Blower to efficiently convey many different types of mulch.

Knowing when and how much to adjust the floor is the key to maximizing the machine's performance. The floor conveyor speed is controlled by the **FLOOR INC** and **FLOOR DEC** buttons on the keypad and the **FLOOR INCREASE/DECREASE** toggle switch on the radio remote transmitter. The floor speed can be increased using these controls until certain warning signs appear. They include the following:

A. CONSISTENT HOSE SHOCK

The Bark Blower uses a large volume of air to blow the mulch material through the discharge hose, which, at times, can become difficult for an operator to handle. Hose shock is usually due to partial plugging around the discharge. When the material gets dislodged, the larger clumps are shot through the hose and this action can make the hose jump significantly. If rough shock waves become consistently tough on the operator at the end of the hose, the floor can be turned down to smooth out the flow of material into the airlock. Cutting back on the engine RPM can also smooth out hose shock by slowing down the air flow, but be careful not to lower the engine RPM too much, as this can cause excessive plugging because there is not enough airflow to move the material. When blowing wet, heavy material, slowing the airlock speed can smooth the material flow by evenly introducing the material to the air steam. Generally, the airlock should not be run slower than 10 RPM.

B. EXCESSIVE AUTO-REVERSING

If the airlock starts to auto-reverse more than three times per minute, that means the airlock is being overfed and the floor speed should be turned down. Excessive auto-reversing leads to less production rather than if the floor was just turned down to a slower speed. This condition will occur more often with green, stringy mulch or less-processed material that contains larger chunks of wood that the airlock may have to cut.

BARK BLOWER ADJUSTMENTS (CONTINUED)

C. REGULARLY TRIPPING THE BLOWER RELIEF

The blower on your machine has a relief valve in the air line to protect the blower against a large back pressure that could build if the line becomes plugged. The relief valve, set for 12 psi (83 kPa), is located directly behind the blower in the engine area on the driver's side of the machine. A blockage, temporary or otherwise, can trip the relief valve, which causes a loud whining noise to be heard from the engine area. Occasional blowing off through the relief valve is expected, as long as the machine can clear itself. However, if the relief valve goes off repeatedly in a 10-second time span, then the discharge area or hose is in danger of becoming completely blocked. The floor speed should be immediately reduced until the relief valve is not heard consistently going off. Partial plugging most often occurs with less-processed material or if the mulch is wet and dense.

D. MATERIAL METERING GATE

The metering gate is a manually-operated gate located inside the rear of the hopper. It is a vertical panel that can be moved up and down, as well as in and out, from the feed roll. When changing the metering gate location, it is important to understand the three main material groups. The closer the material is to Dry, Aged Material, the closer the gate should be to the feed roll, and the farther it should be from the floor. The metering gate should be moved away from the feed roll and closer to the floor, the closer the material is to Wet or Heavy Material, leaving Green Material somewhere in-between the two. The better the material is, the less interaction the metering gate should have; the heavier, wetter, and harder the material is, the more interaction the metering gate needs.

CLEARING A BLOCKAGE

If the unit does become plugged and the machine can not clear itself, immediately shut down the engine, either by pressing the emergency stop on either the Radio Remote Transmitter or the Main Control Panel, pressing the engine stop (**ENG STOP**) button on the keypad or with the ignition key on the main control panel. After engine is shut down and all moving components have stopped, perform the following steps for clearing a blockage.

1. Disconnect the discharge hose and determine if the blockage is in the airlock discharge. Any blockage should be seen through the outlet. If there is no blockage, then the hose is plugged somewhere.
2. If there is blockage, loosen the clamps on the front and the rear of the discharge outlet.
3. Remove the discharge.
4. Remove any blockage and clean the discharge of any mulch debris, especially on the gasket surface, so that it can seal tightly.
5. Install the discharge outlet and clamp into place.
6. Reconnect the discharge hose if it is not plugged.
7. Restart the machine with the floor off, then run the engine to full RPM to clear out the airlock and any mulch lying in the hose.
8. Resume normal operation.

NOTES

Troubleshooting Chart

Symptom	Probable Cause	Suggested Solutions
Engine will not start	ECM has generated a fault code for the engine.	Check fault code and remedy.
	No fuel or fuel system has lost prime.	Add fuel or prime fuel system with fuel filter priming pump.
Airlock not turning	Material feed system has not been activated.	Press **MATERIAL START** button on the hardwired material start/stop pendant to activate the material feed system.
	Airlock clean out door switches are not closed.	Make sure doors are closed and latched to ensure switches are closed. If doors are closed and switches remain open, then the doors will need to be adjusted.
	Airlock speed control turned down too far.	Adjust airlock speed control (PFC-1).
Floor not turning	Floor circuit is not "on" - activated.	Press the **FLOOR ON/OFF** button on the keypad.
	Solenoid valves have lost power.	Check Deutsch connectors to make sure they have power and check voltage across the terminals.
	Solenoid valve is stuck due to contamination.	Press override button in the center of the solenoid valve cartridge to manually shift the valve.
	Feed roll/floor jammed.	Check gauge reading; if 2000 psi, push **FLOOR ON/ OFF** button and reverse floor with auto reverse (**AUTO REV.**) button.
Airlock constantly auto-reversing	Overfeeding airlock.	Decrease floor speed. See Bark Blower Adjustments section for tips.
	Dull airlock knives.	Check knife clearance; sharpen or replace knife if dull or chipped.
	Bulk material is not processed enough causing airlock to cut materials.	Pick a more processed bulk mulch material.
Airlock stalling, not auto-reversing	Pressure switch is not closing at 2,400 psi.	Check pressure switch connections or replace switch if necessary. Check relief setting airlock.

Troubleshooting Chart (Continued)

Symptom	Probable Cause	Suggested Solutions
Discharge material pulsing; not smooth	Too much air.	Decrease engine throttle and floor speed accordingly.
	Airlock turning too fast or too slow.	Adjust airlock speed with PFC-1.
	Partial plugging in airlock discharge.	Check airlock discharge for blockage and air leaks.
Engine Overheat	There is a lack of Coolant.	Check for leaks and add coolant.
	Radiator is obstructed.	Wash radiator fins with a hose to remove any foreign material buildup. Do **NOT** use a pressure washer to clean radiator fins or damage will occur.

MAINTENANCE

⚠ CAUTION ***Turn engine OFF and disconnect battery before servicing equipment. Failure to comply could result in minor personal injury, product damage, or property damage.***

DAILY - AFTER EVERY 4 TO 8 HOURS OF OPERATION

1. Check engine and blower air cleaner filters for dirt and debris. Remove and clean with dry compressed air if necessary. If the filter cannot be cleaned, it must be replaced immediately.
2. Check engine coolant and oil levels. See engine manual.
3. Check hydraulic oil level in reservoir. The oil should be about three-fourths of the way up the sight glass located on the hydraulic tank.
4. Check blower oil level. See blower manual.
5 Clean out front floor chain compartment. Unclamp cleanout pan from the bottom side of hopper and remove cleanout pan to expose floor chain. Remove any built-up material from the cleanout and around the sprockets. This will minimize material overflow through the front take up bearings during daily operation.
6. Check fuel level.

WEEKLY - AFTER EVERY 50 HOURS OF OPERATION

1. Lubricate the bearings on the floor, the blower, and on each end of the feed roll shaft. Wipe each bearing before lubrication to remove any accumulated dirt and prevent overheating.
2. Blow out radiator fins with dry compressed air. Do not use a pressure washer, as this will damage the radiator fins.
3. Remove and clean or replace air cleaner elements on the engine and rotary blower. To clean elements, use clean compressed air.
4. Check the oil level in the airlock gearbox. Add or replace if necessary.
5. Check the gear case on the blower (see Lubrication Chart information).
6. Check the tension on the floor conveyor chain. Adjust so the chain slats clear the bottom pans, on the return side, by 1/2 in. (13 mm), by turning the jackscrews on each end of the idler shaft. Adjust evenly, making sure the shaft does not shift sideways.
7. Check airlock knives for wear, chips, and clearance.

⚠ DANGER ***Knives have very sharp edges that can cause serious injury. Handle with care. Failure to comply WILL result in severe personal injury or death.***

MAINTENANCE (CONTINUED)

To change the knife (or knives), use the following:

A) Remove the five bolts that hold the knives and transition doors to the airlock knife shelves.

B) Remove the doors and knives.

C) Clean all dirt and debris from shelves.

D) Back out the two center jacking screws on each shelf.

E) Compare the replacement knife to the removed knife. If the new knife is wider, back the two outside jacking screws out by at least that amount. Count the turns and back both screws out evenly.

F) Lay the knife on the knife shelf. Ensure the knife is installed with the cutting angle edge facing down. Loosely install the two outer, and the middle knife mounting bolts. Tighten the mounting bolts enough to hold knife in position, while still allowing it to be moved.

G) Install a block of wood, approximately 2 in. x 4 in. x 6 in. (5cm x10cm x 15cm) between the knife and the closest vane at the center of the rotor length. Pinch the wood between the knife and the vane by turning the rotor shaft with a pipe wrench.

H) While keeping pressure on the knife, tighten the three mounting bolts.

I) Remove the wood block and check the clearance between the knife and the rotor vane, using a feeler gauge at the three mounting bolts.

NOTE: If the knife touches the vane at any point, loosen the three mounting bolts, back off the jacking screws evenly, and repeat steps G, H, and I until clearance is obtained.

J) Loosen the three mounting bolts; use the jacking screws to close the gap. One full turn of the screw moves the knife 0.070 in. (1.8 mm).

K) Tighten mounting bolts as explained in steps G and H.

L) Repeat steps, G, H, I, and J until a knife-to-vane clearance of no more than 0.006 in. (0.15 mm) is obtained at the closest point(s).

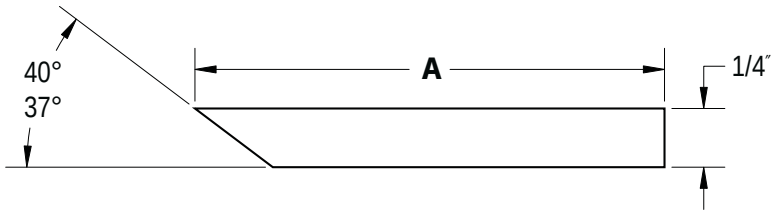
M) Once set, install the other two mounting bolts and tighten.

N) Run the two center jacking screws into contact with the knives. Lock all jacking screws in place with the jam nuts.

O) Remove three mounting bolts for transition door, and install the door.

P) Repeat procedure for other knife (if equipped).

Q) Immediately have the removed knives sharpened. Do not attempt to grind the knives by hand. The knives must be ground straight and true on a surface grinder by an experienced knife sharpener. Have the knives ground to the profile shown in the illustration below.



Knife Profile

NOTICE ***When dimension "A" has been reduced to 2-3/8 in. (6 cm), the knife must be discarded.***

MAINTENANCE (CONTINUED)

AFTER FIRST 100 HOURS OF OPERATION

1. Change engine oil and filter after 100 hours, then every 250 hours after that, following the engine manufacturer's recommendations.
2. Change the gear box oil on the blower; use ISO Grade 100 Extreme Pressure Gear Oil if your ambient operating range is from 32° F to 90° F. If your ambient operating range is above 90° F, use ISO Grade 150 Extreme Pressure Gear Oil. Change oil every 1000 hours after that.
3. Change the gearbox oil on the airlock using SAE 90W gear oil. Fill oil to the side plug. Change every 1000 hours after that.

EVERY 3 MONTHS OR 3,000 MILES (4,800 KM) TRAILER UNITS

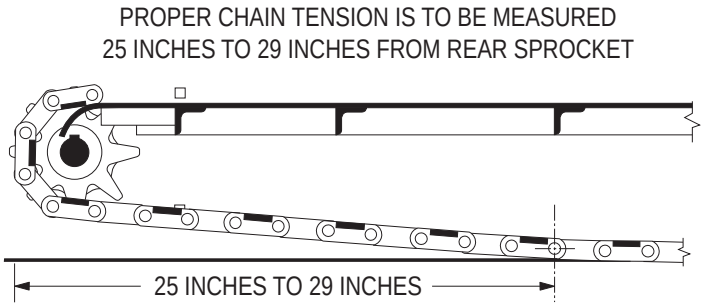
1. Check and adjust trailer brakes.
2. Torque wheel lug nuts to 115 ft.-lb. (156 N•m).
3. Check tire condition.

EVERY 12 MONTHS OR 12,000 MILES (19,300 KM) TRAILER UNITS

1. Inspect and repack wheel bearings.
2. Inspect trailer brake magnets, pads, drums, etc.

FLOOR CHAIN ADJUSTMENT: EVERY 500 HOURS

1. The floor chain tension should be checked every 500 hours. If the chain is too loose, the chain flights can buckle under the floor pan and damage the chain linkages and flights. If the chain is too tight, it can put added wear on the floor bearings and cause excessive chain stretch.
2. Shut the machine off and open the rear access door above the airlock. Remove any buildup under the floor pan between the chain links, and the rear catch pan, so that an accurate measurement can be made. Check the tension on the floor chain in the Bark Blower, as shown in the figure below.



Floor Chain

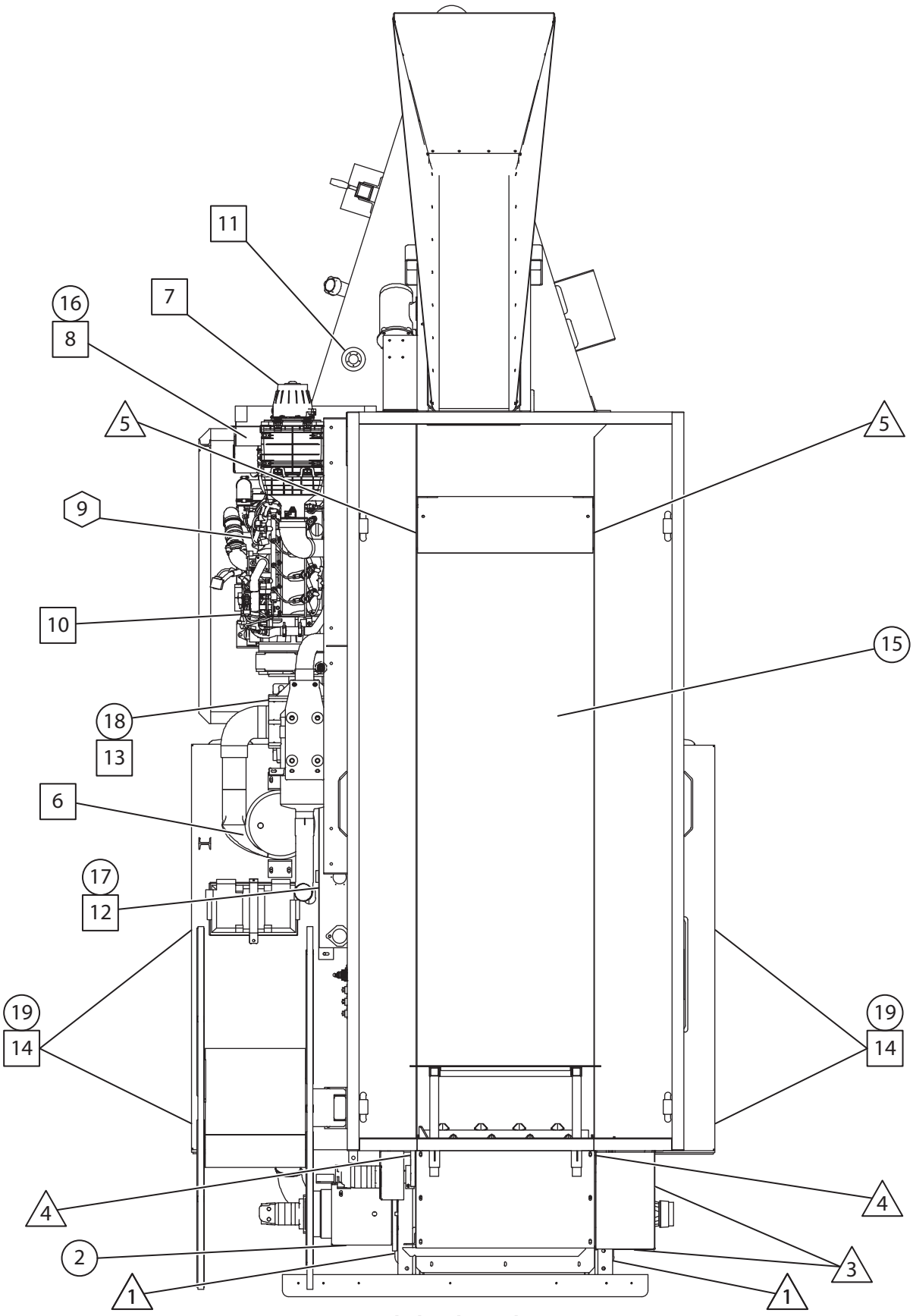
3. To adjust the chain tension, find the take-up bearings on either side of the floorsill, near the front of the hopper. Using a 1-1/2-in. wrench, turn the tensioning rod clockwise to tighten the chain and counterclockwise to loosen it. Always turn both tension rods the same amount so that the chain is always square with the drive shaft. A misaligned chain can come off the sprocket and buckle.

MAINTENANCE (CONTINUED)

WINTER SHUTDOWN AND STORAGE

1. Blow all material out of machine, turn engine OFF, and disconnect battery cables.
2. Remove the inlet elbow to the blower air chamber, and coat internals of impeller cylinder with a rust inhibitor, such as WD-40. Reconnect piping to prevent foreign debris from entering blower chamber. Rotate the drive shaft three or four revolutions. Repeat this process every month or as conditions may require.
3. Store machine inside if possible. If machine is being stored outside, protect machine from the elements as best as possible.

NOTICE ***If the machine is stored outside, do not allow water to accumulate or ice to form in the airlock or discharge pan. A buildup of rust on the rotor vanes can lock up an airlock, and ice expansion can damage the airlock discharge.***



Lubrication Chart

LUBRICATION CHART

Ref. No.	Location	Lubricant	Frequency	Number
1	Lubricate Air Lock Bearing	CL	Weekly	2
2	Lubricate Change Air Lock Gearbox Oil	GO	Seasonally	1
3	Lubricate Feeder Roll Bearing	CL	Weekly	5
4	Lubricate Floor Pillow Block Bearing	CL	Weekly	2
5	Lubricate Floor Take-Up Bearing	CL	Weekly	2
6	Check Blower Inlet Filter		Daily	1
7	Check Engine Air Cleaner		Daily	1
8	Check Engine Coolant Level	AF	Daily	1
9	Change Engine Oil and Filter	EO	See Engine Manual	1
10	Check Engine Oil Level	EO	Daily	1
11	Check Fuel Level	DF	Daily	1
12	Check Hydraulic Oil Level	HO	Daily	1
13	Check Blower Oil Level	BO	Daily	1
14	Check Tire Air Pressure		Daily	4
15	Lubricate Floor Chain	CH	Seasonally	1
16	Change Engine Coolant	AF	Seasonally	1
17	Change Hydraulic Oil and Filter	HO	Seasonally	1
18	Change Blower Oil	BO	Seasonally	1
19	Lubricate Wheel Bearings	CL	Seasonally	4

LUBRICATION OR FLUID USED

CL Chassis Lubricant

BO Blower Oil
[if ambient operating range is from 32° F to 90° F, use ISO Grade 100 Extreme Pressure Gear Oil; if ambient operating range is above 90° F, use ISO Grade 150 Extreme Pressure Gear Oil]

AF 50/50 Anti-Freeze and Water Mixture

DF Diesel Fuel

HO Hydraulic Oil
[Finn Vulhydra hydraulic oil or the closest ISO equivalent (see Hydraulic System section)]

GO 90 W Gear Oil

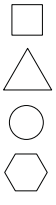
CH Mineral Oil or Chain Lubricant

EO Engine Oil, 15W-40

FLUID CAPACITIES

Fuel	28 Gallons (103 L)
Hydraulic Oil	29.5 Gallons (112 L)
Engine Coolant	See engine manual
Engine Oil	See engine manual
Gear Box Oil	20 ounces (0.6 L)
Blower Oil	16.9 ounces (0.5 L)

TIME KEY



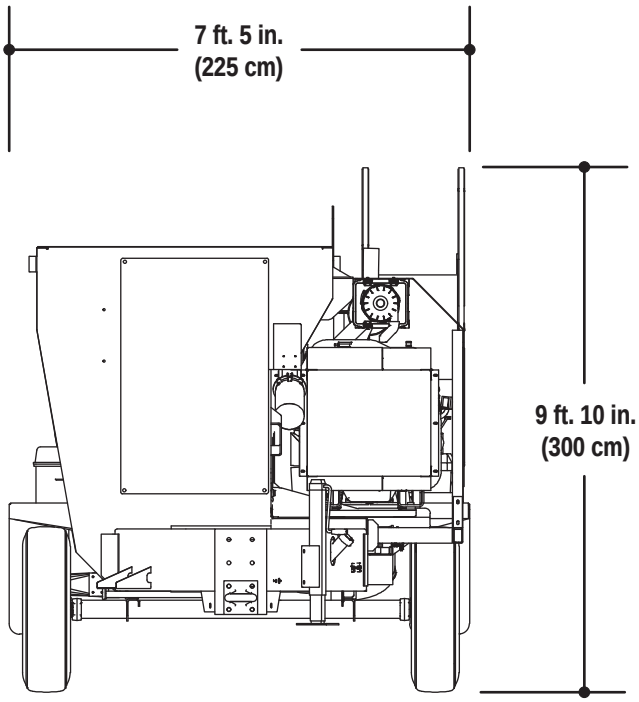
Daily (8 hours)

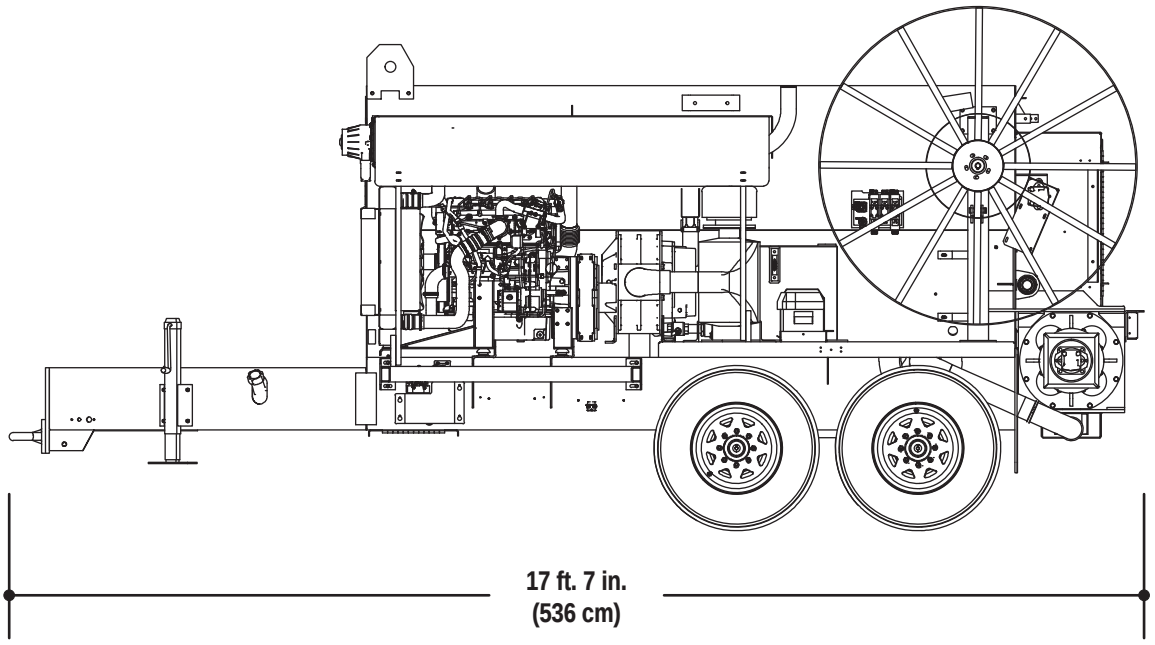
Weekly (40 hours)

Seasonally (500 hours

See Engine Manual

FINN 5-SERIES BARK BLOWER® TECHNICAL SPECIFICATIONS





FINN 5-SERIES BARK BLOWER® TECHNICAL SPECIFICATIONS

POWER	Cummins QSF 2.8 L Diesel, T4F 65 hp (48kW)
ENGINE SAFETY SYSTEM	Low oil pressure, Electronic Engine Control and Monitoring
CAPACITY	5 cubic yards (3.8 m^3)
HOSE REEL CAPACITY	Up to 150 feet (46 m)
FUEL TANK CAPACITY	25 gallon (95 L)
BLOWER	725 CFM @ 12 psi (20.5 cmm @ 83 kPa)
EMPTY WEIGHT	8,835 lbs. (4,007 kg)
WORKING WEIGHT*	12,585 lbs. (5,708 kg)
BRAKES	Electric on both axles with breakaway switch
LIGHTS	D.O.T. including side marker lights, an identification light, and a license plate light
TIRES	ST235/85R16 radial tires, load range E
TRAILER AXLES	Tandem 7,200 lbs. (3,266 kg) rubber torsion
GVWR	14,400 lbs. (6,532 kg)

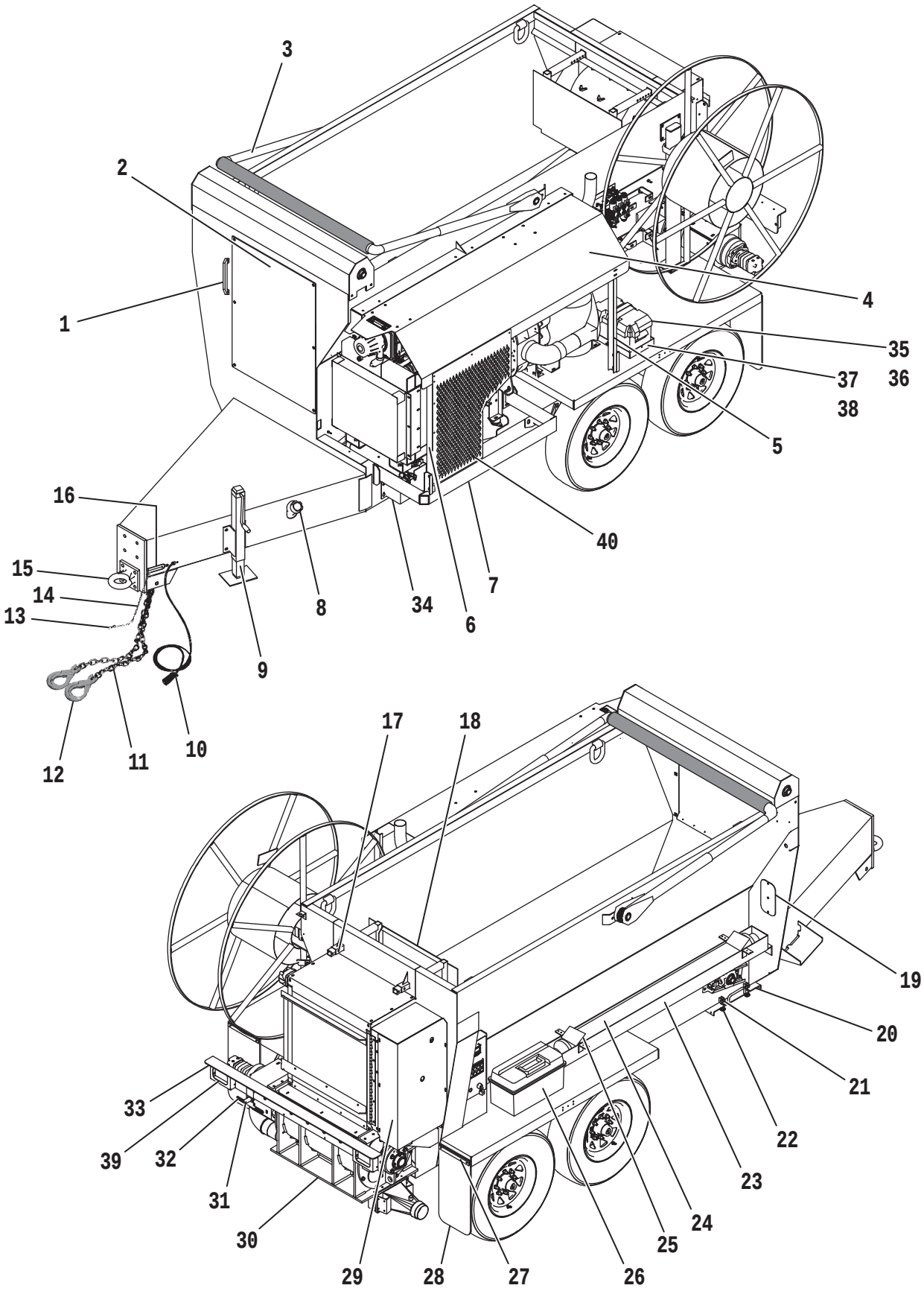
** Working weights are approximate and do not include options or stored materials. Working weights are based on material at 750 lbs./cu. yd.*

NOTES

5-Series

Parts Manual

Model MB



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

HOPPER AND TRAILER ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	075478	Plastic Handle	1
2	A1993-001	Cover Plate	1
3	075761	Tarp System (See Tarp Assembly section)	1
4	075901	Roof Panel	1
5	075730-02	Support Channel	1
6	075730-01	Support Channel	1
7	075729	Side Bumper Weldment	1
8	075799	Fuel Tank	1
	080827	Fuel Tank Cap/Gauge	1
	075795	Fuel Tank Mounting Bracket	1
9	080701	Jack	1
10	075592	Trailer Plug (see Trailer Wiring section)	1
11	190033	Safety Chain (3 ft. long)	2
12	005769	Clevis Grab Hook	2
13	005017	Snap Hook	1
14	190029	Chain	1 ft.
15	080043	Tow ring	1
16	023424	Break-Away Switch	1
17	FW71225	Snapper Pin	4
18	075774	Metering Gate	1
	075773	Metering Gate Side Weldments	2
19	F705-0045	Electronics Plate	1
20	075728	Cleanout Door	1
21	052703	Swing Bolt	2
22	052699	Knob	2
23	052730-01	Hose Tray	1
24	045304	Hot Air Hose	1
25	052742	Rubber Draw Latch	2
26	A1198-002	Toolbox (Modified)	1
27	075795	Mud Flap Mount	2
28	075732	Mud Flap	2
29	F705-0013	Floor Drive Cover	1
30	075894	Air Lock Assembly	1
31	005436	License Plate Light (see Trailer Wiring section)	1
32	004720	License Plate Mount	1

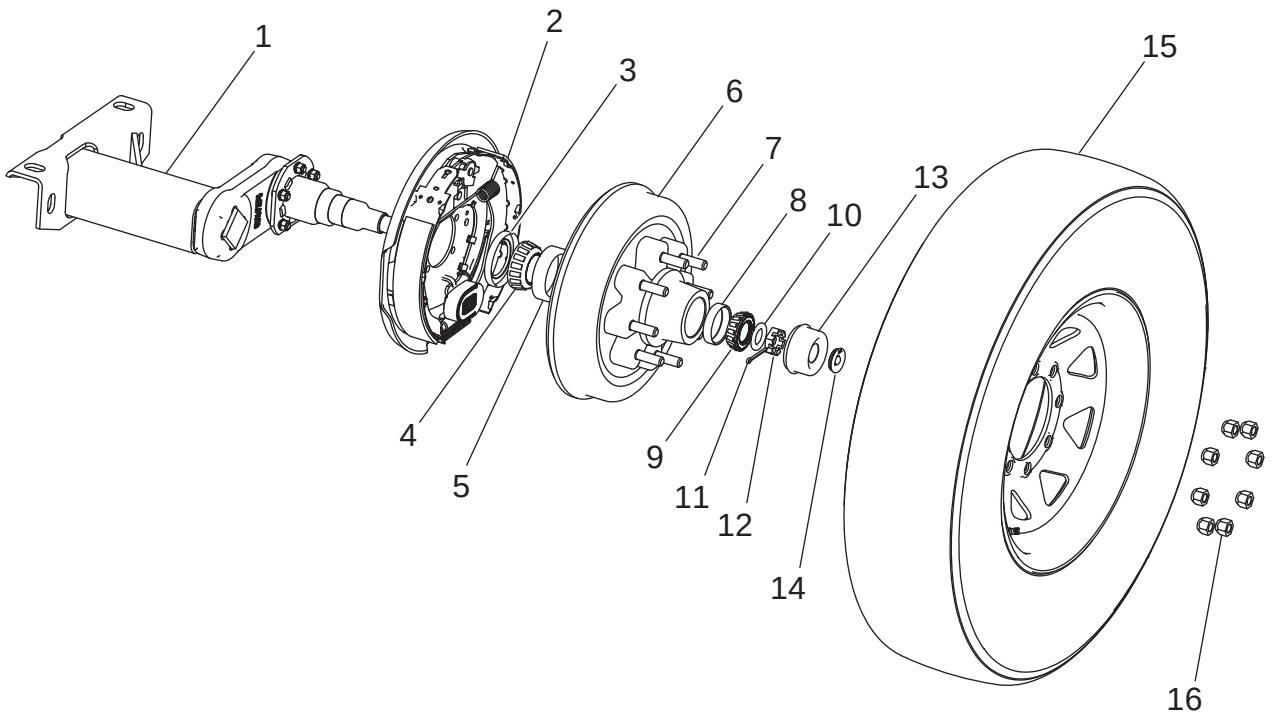
Continued to next page.

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

HOPPER AND TRAILER ASSEMBLY (CONTINUED)

Ref. No.	Part Number	Description	No. Req'd
33	F705-0028	Bumper Fab	1
34	075904	Fuel Filter/Pump Cover	1
35	011770	Battery Box	1
36	011851	12V Battery	1
37	F330-0054	Battery Box Tray	1
38	F330-0092	Battery Box Hold Down	1
39	005467	Tail Light Bracket	2
40	A2194-001	Fan Belt Guard	1
NOT SHOWN			
	075903	ECM Cover	1
	F605-0167	Brake Light Plug Mounting Bracket	1

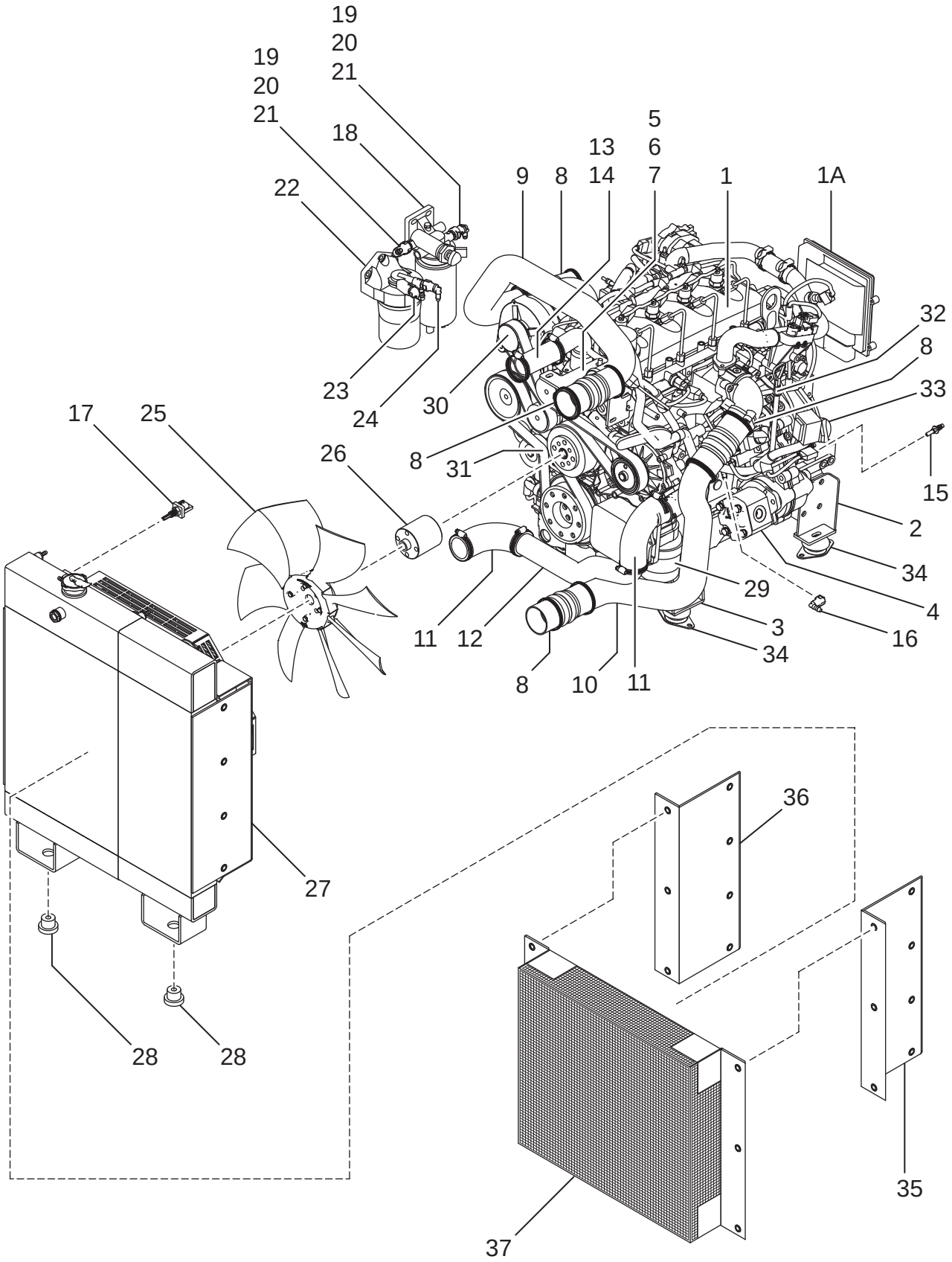
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



AXLE, WHEEL AND TIRE ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	005808	Axle (7,200 lbs.)	2
2	005823-01	Brake Assembly, LH	1 per axle
	005824-01	Brake Assembly, RH	1 per axle
3	005822-01	Grease Seal	1 per side
4	005821-01	Inner Bearing Cone	1 per side
5	005820-01	Inner Bearing Race	1 per side
6	005819-01	Hub/Brake Drum Assembly	1 per side
7	005818-01	Wheel Stud	8 per hub
8	005817-01	Outer Bearing Race	1 per side
9	005816-01	Outer Bearing Cone	1 per side
10	005815-01	Spindle Washer	1 per side
11	005814-01	Cotter Pin	1 per side
12	005813-01	Spindle Nut	1 per side
13	005812-01	Grease Cap	1 per side
14	005811-01	Rubber Plug Insert	1 per side
15	005827	Tire ST235/85R16 on 16 x 6 Steel Wheel	4
16	005825-01	Wheel Lug Nut	8 per side

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



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

ENGINE

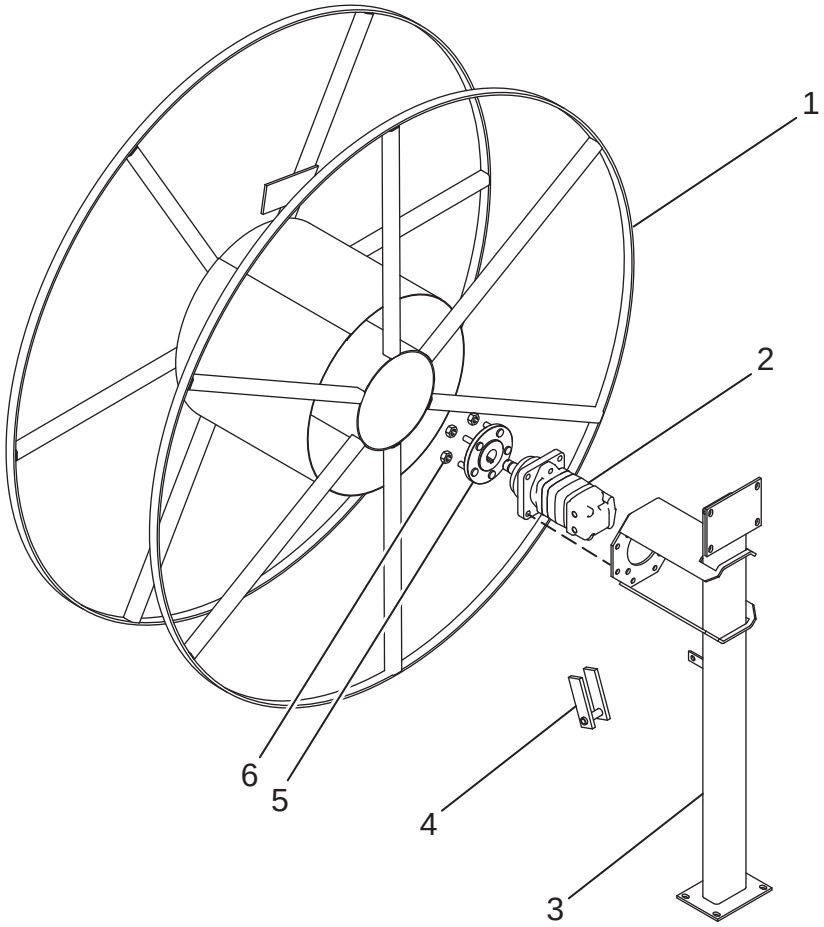
Ref. No.	Part Number	Description	No. Req'd
1	075880	QSF 2.8 Engine	1
1A	----------	Engine ECM (Supplied with Engine)	1
	075911	ECM Mounting Isolators	4
2	075847	Rear Left Engine Foot	1
3	075849	Front Left Engine Foot	1
4	075857	Hydraulic Pump (see Hydraulic System section)	1
5	008758	Upper Radiator Support	1
6	023438	Radiator Isolator	1
7	008757	Lower Radiator Support Bracket	1
8	CUM50000600	Air Intake Hose	4
	007391	Air Intake Hose Clamp	9
9	008819	CAC Inlet Tube	1
10	008822	CAC Outlet Tube	1
11	008823	Coolant Elbow	2
	022450	Coolant Elbow Clamp	4
12	008820	Coolant Tube Inlet	1
13	008817	Coolant Hump Hose	1
	022450	Coolant Hump Hose Clamp	2
14	008821	Coolant Outlet Pipe	1
15	008835	Male Quick Conector	1
16	008828	Female Quick Connector	1
17	008824	Coolant Level Sensor	1
18	075884	Stage 1 Fuel Filter Assembly	1
	075884-01	Stage 1 Fuel Filter Upper Housing with Pump	1 per
	075884-02	Stage 1 Fuel Filter Heater	1 per
	075884-04	Stage 1 Fuel Filter Spin-on Element	1 per
19	008813	Sealing Washer	2
20	008814	Male Quick Connector	2
21	008815	Female Quick Connector	2
22	075886	Stage 2 Fuel Filter Assembly	1
	075886-01	Stage 2 Fuel Filter Upper Housing Assembly	1 per
	075886-02	Stage 2 Fuel Filter Lower Spin-on Housing Cup	1 per
	075886-03	Stage 2 Fuel Filter Element	1 per
	075886-04	Stage 2 Fuel Filter Housing O-ring	1 per
23	008816	Female Quick Connector	1
24	008812	Female Quick Connector	1

Continued to next page.

ENGINE

Ref. No.	Part Number	Description	No. Req'd
25	008754	Radiator Fan	1
26	008755	Radiator Fan Spacer	1
	----	M10 x 110 Gr. 10.9 Hex Head Bolts	4
27	008763	Radiator	1
28	075205	Radiator Isolators	2
29	008809	Engine Oil Canister Element	1
30	008808	120 V Alternator	1
31	008830	QSF 2.8 Fan Belt	1
32	008854	Oil Dipstick and Guide Assembly	1
	008854-01	Oil Dipstick	1
	008854-02	Oil Dipstick Guide Tube	1
33	008855	Oil Fill Cap Assembly	2
34	085303-18	Engine Isolators	4
35	075864	Radiator Screen Mount (Right Hand Side)	1
36	075865	Radiator Screen Mount (Left Hand Side)	1
37	075863	Radiator Screen	1
NOT SHOWN			
	075848	Rear Right Engine Foot	1
	075850	Front Right Engine Foot	1
	008810	12 V/3kW Starter	1
	008831	QSF 2.8 Thermostat	1
	008832	QSF 2.8 Thermostat Seal	1
	075855	Radiator Mount	1
	CUM8100273	#10 Hose Clamp	2
	CUM80000044	#6 Hose Clamp	4

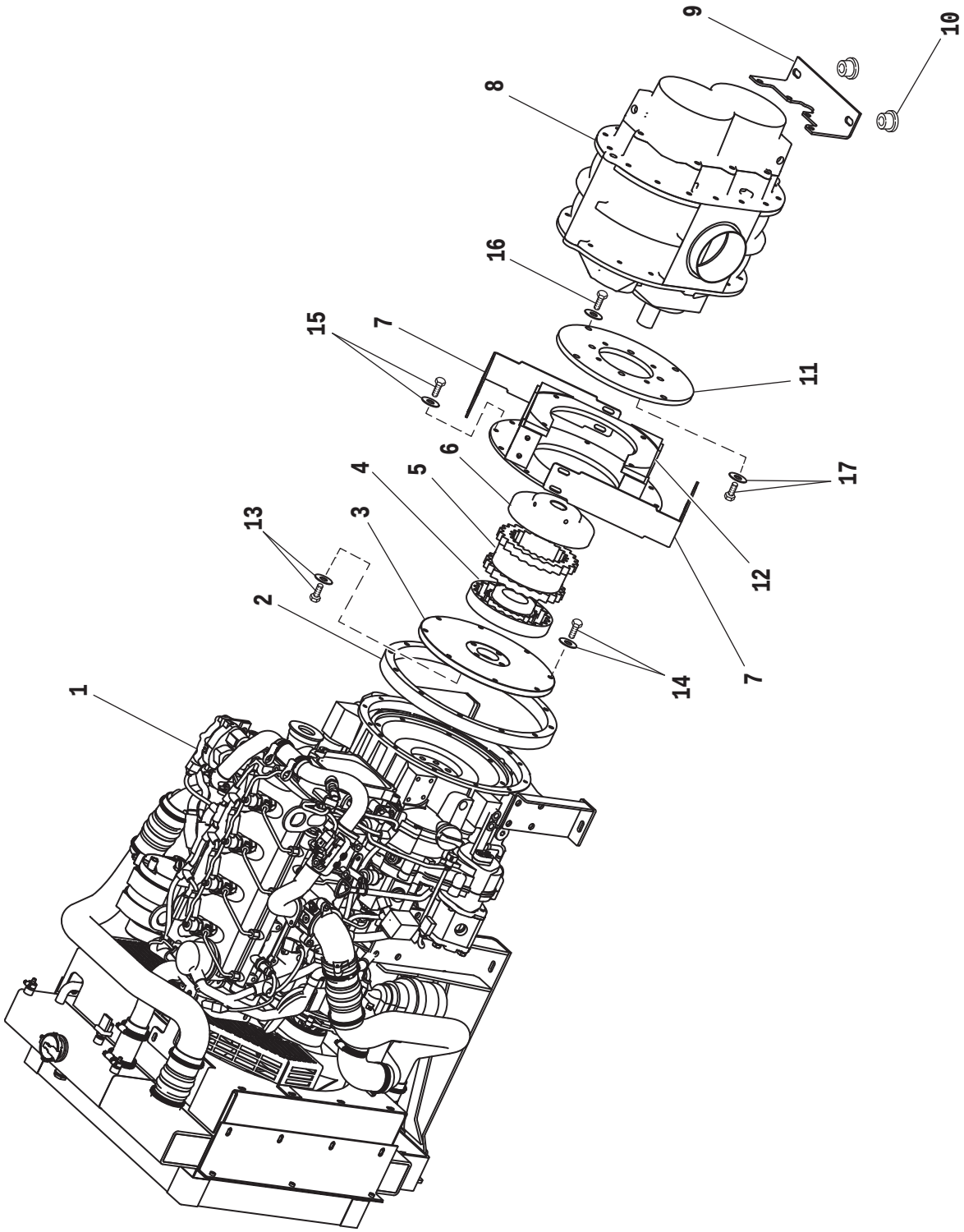
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



HOSE REEL ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	075719	Hose Reel Drum	1
2	071238	Hose Wheel Motor (see Hydraulic System section)	1
3	075713	Hose Reel Mount	1
4	055715-01	Lock Mount	1
5	045031	Machined Hub	1
6	005825-02	Lug Nut	5
NOT SHOWN			
	075739	Hose Reel Side Cover	2

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

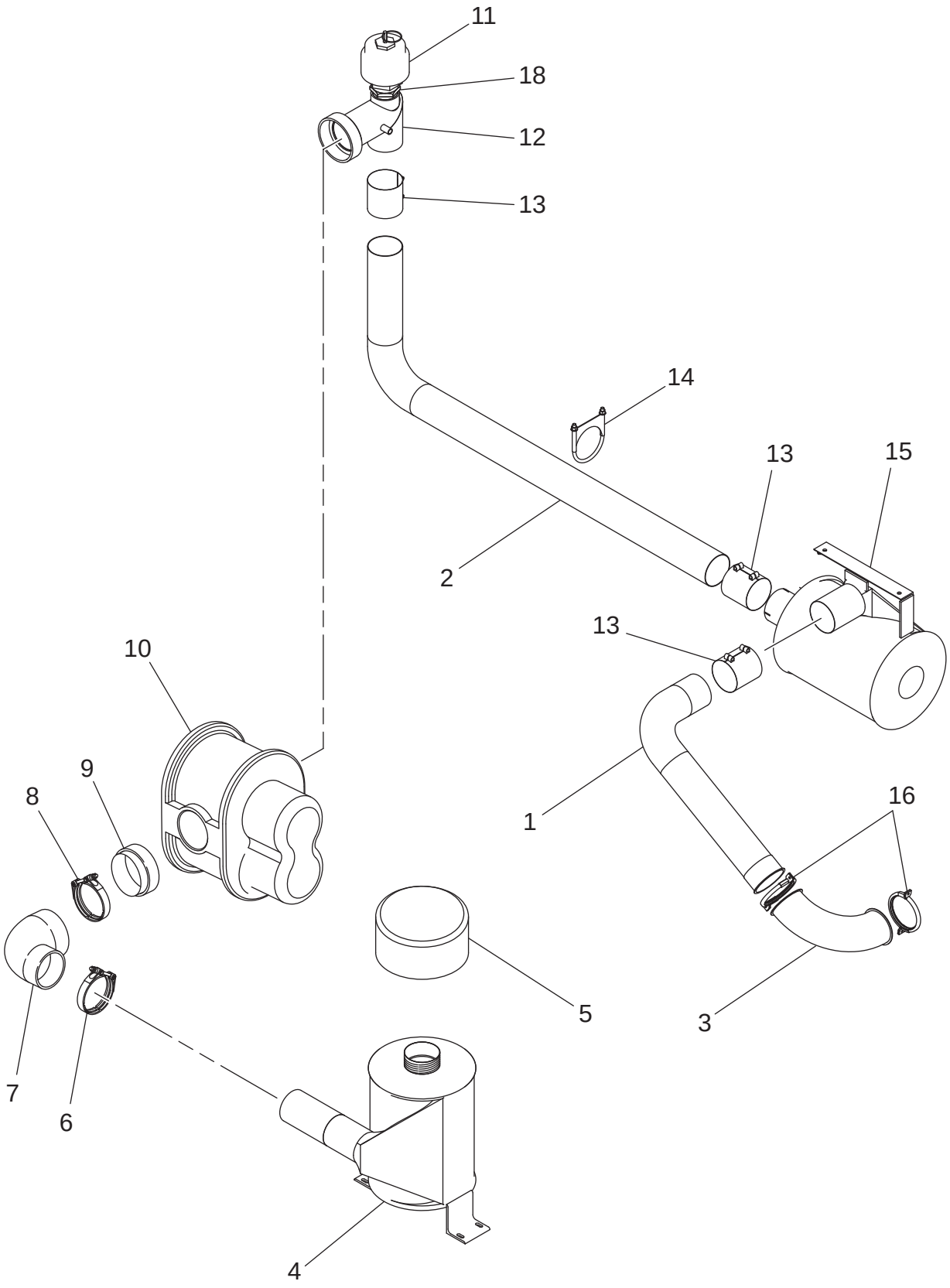


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

ENGINE TO BLOWER COUPLING

Ref. No.	Part Number	Description	No. Req'd
1	075880	Engine (see Engine section)	1
2	008811	Mounting Ring Spacer	1
3	052025	Flywheel Adapter Plate	1
4	052001	Flange	1
5	011774	Rubber Insert	1
6	011772	Coupling Flange Half	1
7	F705-0031	Coupler Guard	2
8	075290	Blower	1
9	F705-0023	Blower Mount	1
10	075205	Bushing Isolator	2
11	325180	Blower Adapter Plate	1
12	075607	Machining Coupling Standoff	1
13	●	7/16 - 14 x 1-1/4 in. LG Hex Head Cap Screw	4
	●	7/16 in. Lock Washer	4
14	●	M10 x 30	8
	●	M10 Lock Washer	8
15	●	M10 x 55	12
	●	M10 Lock Washer	12
16	●	1/2 - 13 x 1-1/4 in. LG Hex Head Cap Screw	4
	●	1/2 in. Lock Washer	4
17	●	1/2 - 13 x 1-1/4 in. LG Hex Head Cap Screw	4
	●	1/2 in. Lock Washer	4
NOT SHOWN			
	075612	5/16 x 2 in. Z-Key for Coupling to Blower	1
	●	5/16 in. Setscrew for Coupling to Blower	2
KITS AND MARKERS			
●	Standard Hardware Item		

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

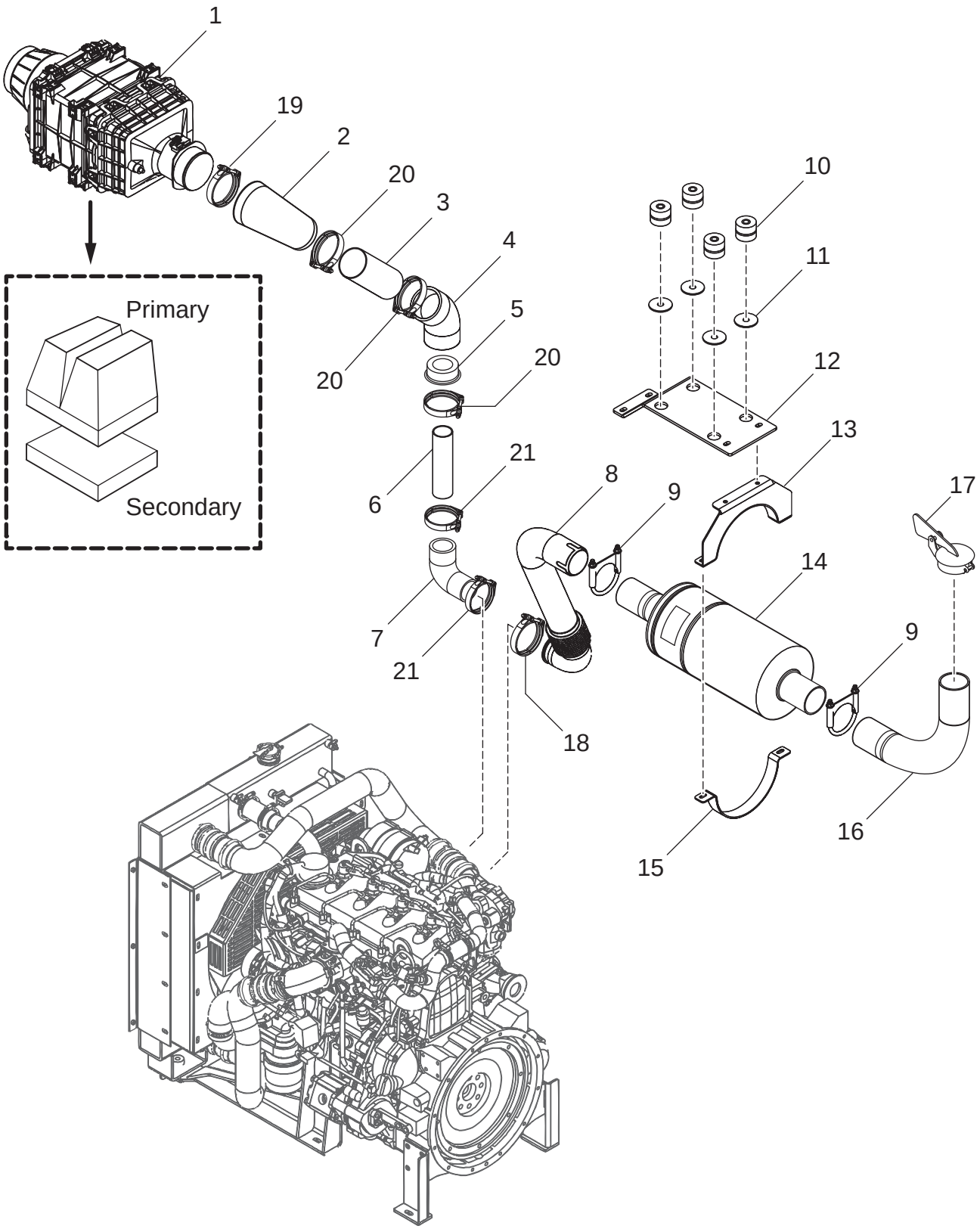


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

BLOWER AND AIR PIPING SYSTEM

Ref. No.	Part Number	Description	No. Req'd
1	075717	Rotary Air Valve Inlet Elbow Weldment	1
2	075741	Long Air Tube	1
3	052740	4 in. 90° Jacobs Elbow	1
4	075909	Inlet Silencer	1
5	055144	Inlet Filter	1
	055145	Filter Element	1
6	055335	4 in. Band Clamp	1
7	052010	90° Reducer Elbow	1
8	052011	5 in. Band Clamp	1
9	075295-02	Blower Inlet Nipple	1
10	075290	Blower	1
11	075929	Relief Valve	1
12	075788	Blower Discharge	1
13	055137	4 in. Butt Joint Clamp	3
14	055336	4 in. Muffler Clamp	1
15	075722	Outlet Silencer Weldment	1
16	052737	4 in. Bolted Pull Ring	2
	052738	4 in. U-Shaped Gasket	2

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

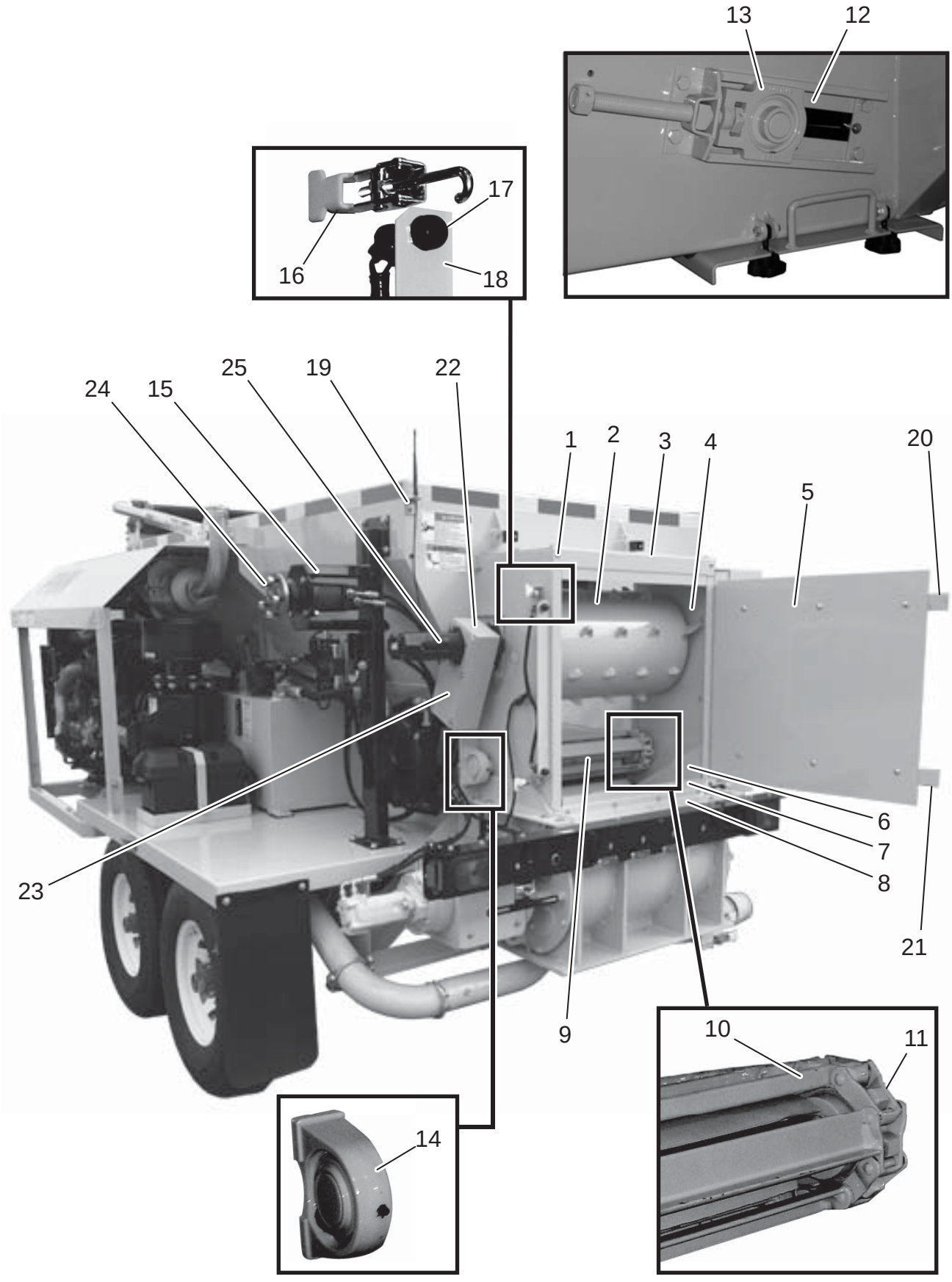


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

AIR INTAKE AND EXHAUST SYSTEM

Ref. No.	Part Number	Description	No. Req'd
1	008807	Air Inlet Filter Assembly	1
	008807-01	Filter Housing	1
	008807-02	Primary Filter Element	1
	008807-03	Secondary Filter Element	1
2	325075	4 in. x 3 in. 90° Rubber Reducer Elbow	1
3	075899	Intake Tube	1
4	055499	3 in. 45° Rubber Elbow	1
5	075859	3 in. x 2 in. Rubber Reducer	1
6	075898	Intake Tube	1
7	008827	2 in. 90° Rubber Elbow	1
8	075854	Exhaust System Piping Assembly	1
9	055501	3 in. Muffler Clamp	2
10	008804	Center Bushing Mount	4
11	055505	Snubbing Washer	4
12	075861	Muffler Mounting Plate	1
13	008796	Muffler Upper Mounting Bracket	1
14	008759	Muffler/DOC	1
15	008829	Muffler Lower Mounting Bracket	1
16	023471	Exhaust Pipe Elbow	1
17	012991	3 in. Rain Cap	1
18	008825	V-band Clamp	1
19	055335	4 in. Band Clamp	1
20	055496	3 in. Band Clamp	3
21	007391	3 in. Worm Gear Clamp	2

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

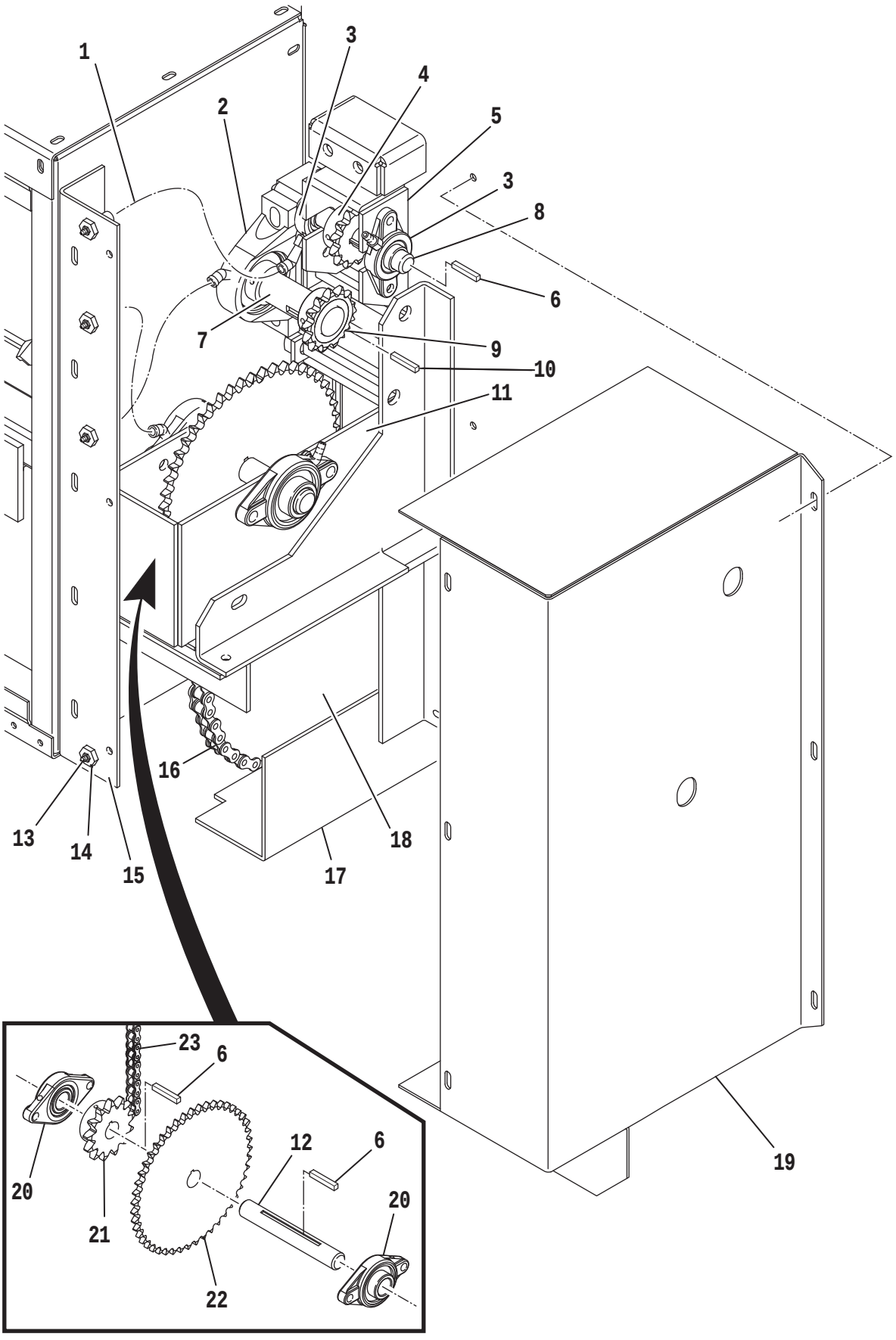


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

FEED ROLL AND FLOOR ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	F605-0109	Doghouse-Left Hand Side	1
2	075833	Feed Roll	1
3	F605-0110	Doghouse Cover	1
4	F605-0108	Doghouse-Right Hand Side	1
5	075317	Rear Door	1
6	F605-0124-01	Airlock Right Hand Side Baffle	1
7	F605-0066	Rear Knife Cover	1
8	F605-0111	Rear Knife Filler	1
9	075604	Rear Floor Drive Shaft	1
10	075583	Floor Chain	1
11	052224	Floor Chain Sprocket - Rear	2
12	075219	Front Take-Up Bearing Frame	2
13	075220	Front Take-Up Bearing	2
14	075606	Rear Floor Bearing	2
15	071238	Hose Reel Motor	1
16	075224	Overcenter Draw Latch	2
17	052436	Door Safety Switch	2
18	075277-03	Door Switch Mounting Angle	1
19	075792	Antenna Mounting Bracket	1
20	075277-01	Top Door Support Angle	1
21	075277-02	Bottom Door Support Angle	1
22	075825	Coupling Guard	1
23	055267-01	Feed Roll Motor Mount Plate	1
	004630	Torque Arrester Rubber Tube	1
24	045031	Hose Reel Mounting Hub	1
25	052391	Feed Roll Motor	1
NOT SHOWN			
	F705-0018	Floor Pan	1
	075822	Feed Roll Shaft	1
	F605-0124-02	Airlock Left Hand Side Baffle	1
	075277-05	Rear Knife Angle Bracket	1
	075215-02	Front Floor Idler Shaft	1
	075218	Floor Chain Sprocket - Front	2
	004635	Feed Roll Mounting Bushing	1
	075776	Rear Wiper Angle	1
	075824	Feed Roll Bearing	1
	080523	Feed Roll Motor Coupling	1

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

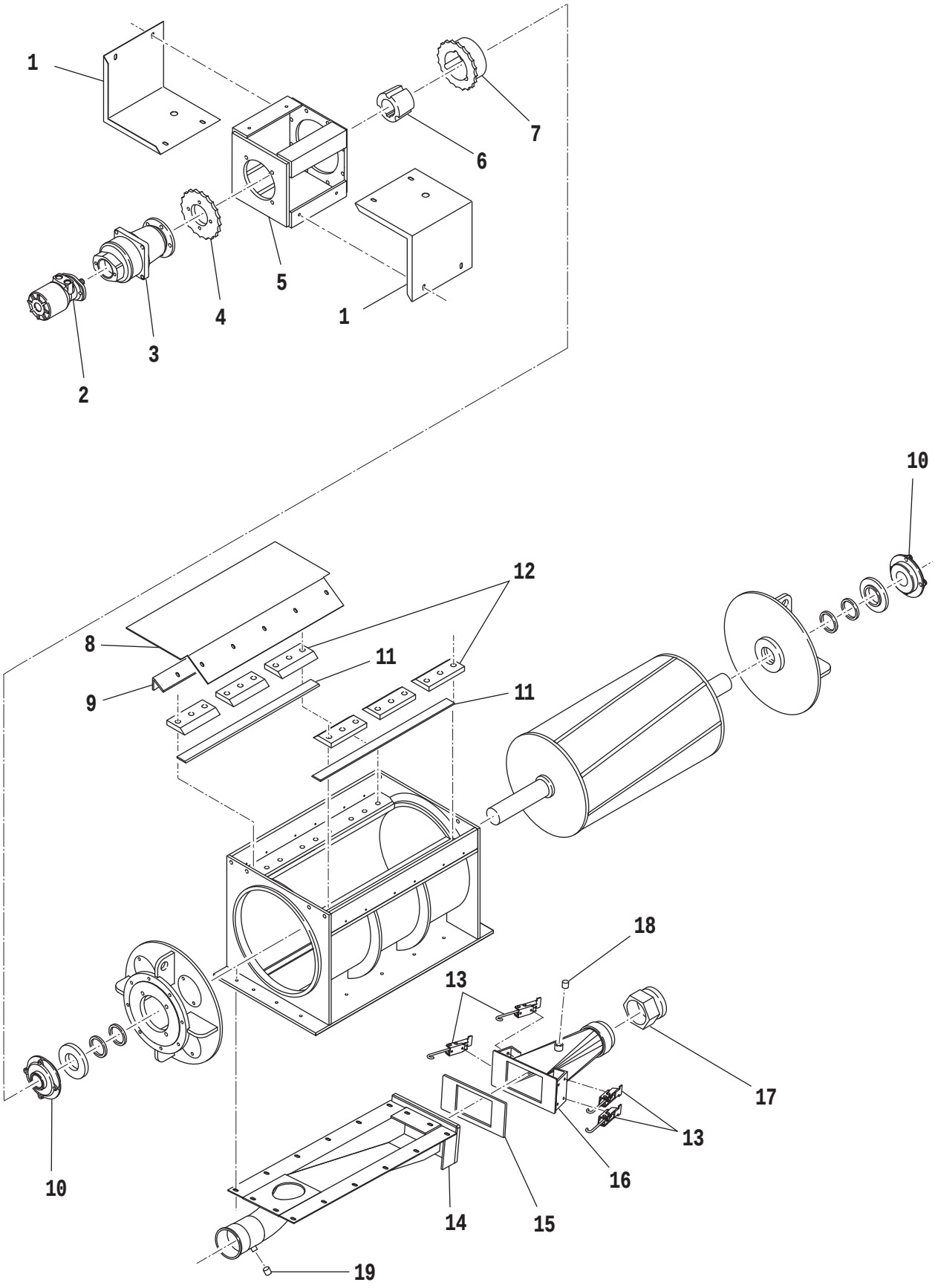


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

FLOOR DRIVE ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	023850	Grease Hose	4
	008154	Grease Fitting Adapter	2
	160052	90º Elbow	2
2	075223	Pillow Block Bearing	1
3	075232	1 in. Flange Bearing	2
4	075359	Idler Sprocket (1 in. Bore)	1
5	075368-02	Upper Chain Pivot Weldment	1
6	●	1/4 in. x 2 in. Long Key	3
7	075822	Feed Roll Shaft	1
8	075215-03	1 in. Diameter x 7 in. LG. Idler Shaft	1
9	075371	Drive Sprocket (1-1/2 in. Bore)	1
10	●	3/8 x 2 in. Keyway	1
11	075368-01	Lower Chain Pivot Weldment	1
12	075215-04	Dual Sprocket Idler Shaft	1
13	007705	Grease Fitting	4
14	012520	Bulkhead Fitting	4
15	F705-0051	Chain Guard Angle	1
16	075363	Feed Roll Drive Chain	1
17	F705-0031	Chain Guard Bottom Pan	1
18	075605	Large Floor Sprocket	1
19	F705-0013	Chain Guard	1
20	075360	1-1/4 in. Flange Bearing	2
21	075357	Idler Sprocket (1-1/4 in. Bore)	1
22	075358	Large Idler Sprocket	1
23	075361	Floor Drive Chain	1
NOT SHOWN			
	F705-0030	Bottom Chain Guard	1
	F705-0032	Inner Chain Cover Plate	1
KITS AND MARKERS			
●	Standard Hardware Item		

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



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

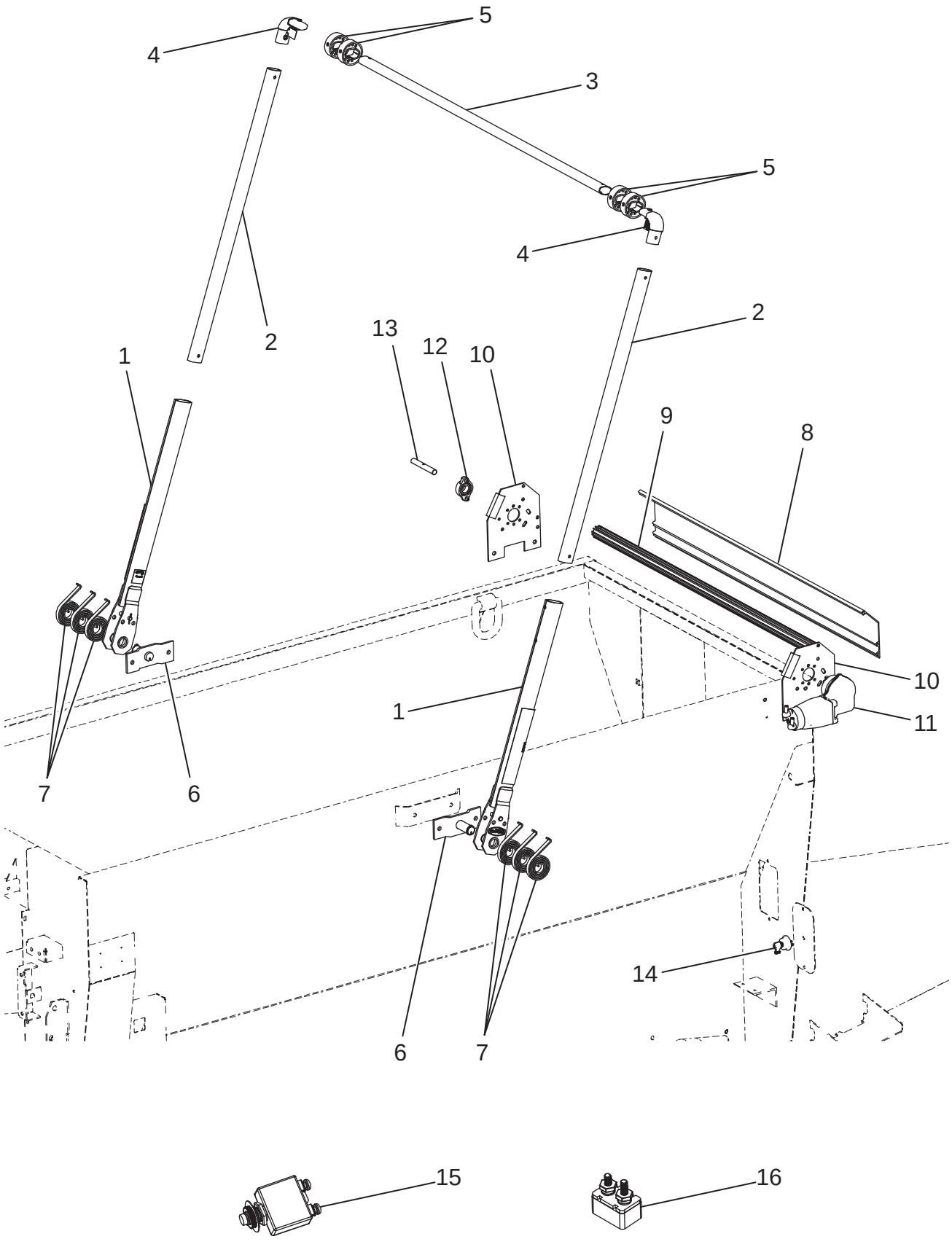
AIR LOCK ASSEMBLY

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1		F605-0021	Coupling Guard	2
2		075230	Airlock Hydraulic Motor	1
3		075204	Airlock Gearbox	1
4		075207	Sprocket	1
5		075210	Gearbox Standoff	1
6		075216	Bushing	1
7		045199	Coupling Half	1
8		F705-0034	Airlock Filler Cover	1
9		F605-0131	Airlock Filler Support	1
10	▲	075239	Airlock Flange Bearing	2
11	▲	075926	Knife, 16 x 25 Airlock	2
12	▲	075927	Knife Clamp, 16 x 25 Airlock	8
13		075224	Discharge Latch	4
14		075731	Discharge Pan	1
15		075611	Discharge Gasket	1
16		075740	Discharge Transition	1
17		055374	4 in. Male Nyglass Adapter	1
18		●	1/2 in. NPT Pipe Plug	1
19		●	1/4 in. NPT Plug	1
NOT SHOWN				
		055517	Gearbox Gasket	1
		045201	Coupling Chain	1
		012520	Brass Bulkhead Fitting	1
		007705	Grease Fitting	1
		●	Lincoln Lube 90º Swivel Fitting	2
		●	Lincoln Lube Grey Grease Line 7 in. Long	1

KITS AND MARKERS

▲	075922	Air Lock Assembly
●	Standard Hardware Item	

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

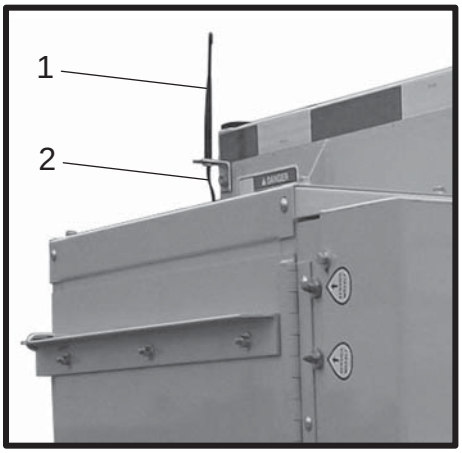


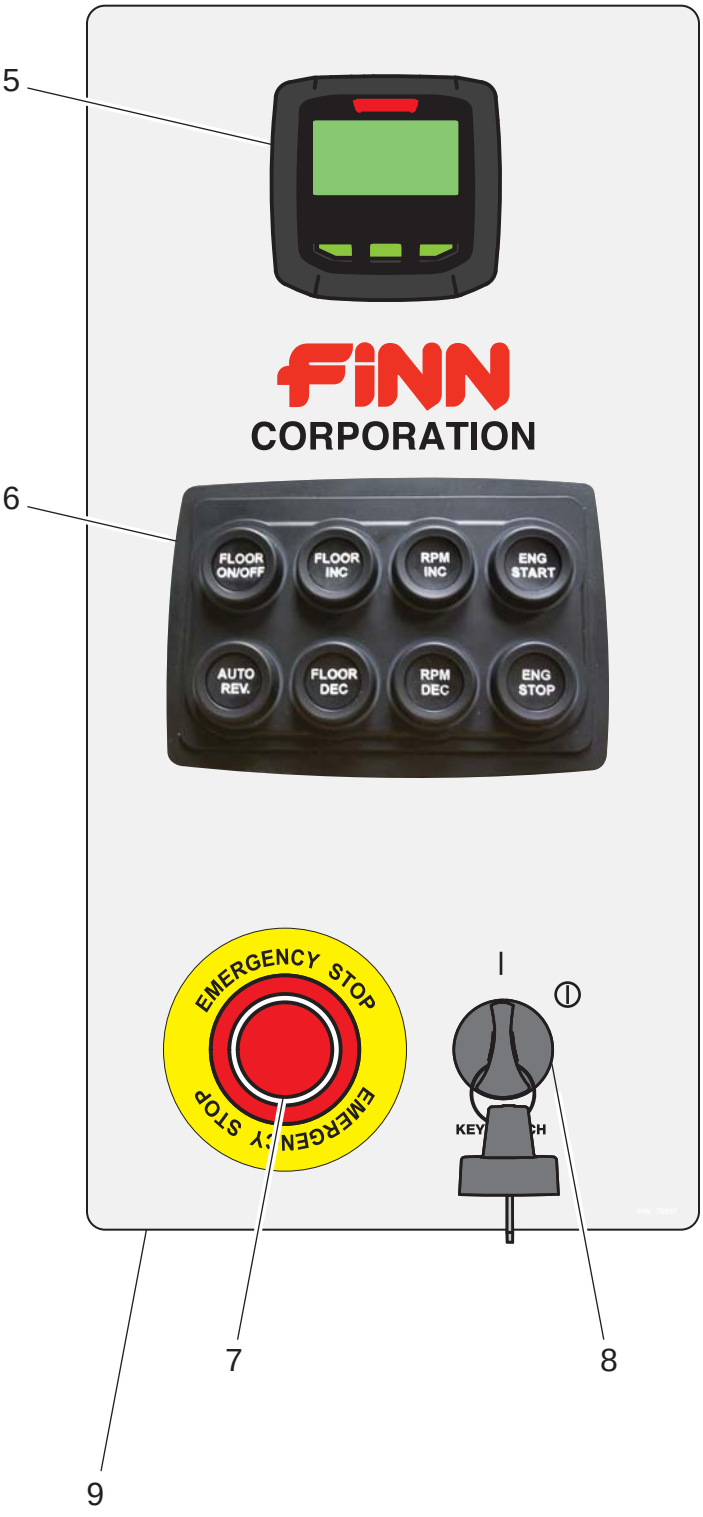
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

TARP ASSEMBLY

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲■	075761-02	Arm, Tarp Lower	2
2	▲■	075761-03	Arm, Tarp Upper	2
3	▲■	075761-04	Crossbar, Tarp	1
4	▲■	075761-05	Elbow, Connector Tarp	2
5	▲■	075761-06	Stop, Tarp Bump	4
6	▲	075761-07	Base, Tarp Pivot	2
7	▲	075761-08	Spring, Tarp Lower Arm	6
8	▲	075761-09	Deflector, Tarp Wind	1
9	▲	075761-10	Spool, Tarp	1
10	▲	075761-11	Plate, Tarp Base	2
11	▲	075761-12	Motor, Tarp Electric	1
12	▲	075761-13	Bearing, Tarp Spool	1
13	▲	075761-14	Axle, Tarp Spool	1
14	▲	075761-15	Switch, Tarp	1
15	▲	075761-16	Breaker, Tarp Auto Reset	1
16	▲	075761-17	Breaker, Tarp Manual Reset	1
NOT SHOWN				
		075761-01	Tarp, Knit Mesh 52 in. x 144 in.	
KITS AND MARKERS				
▲		075761	Full Tarp Assembly	
■		075761-K1	Tarp Bow Assembly	

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



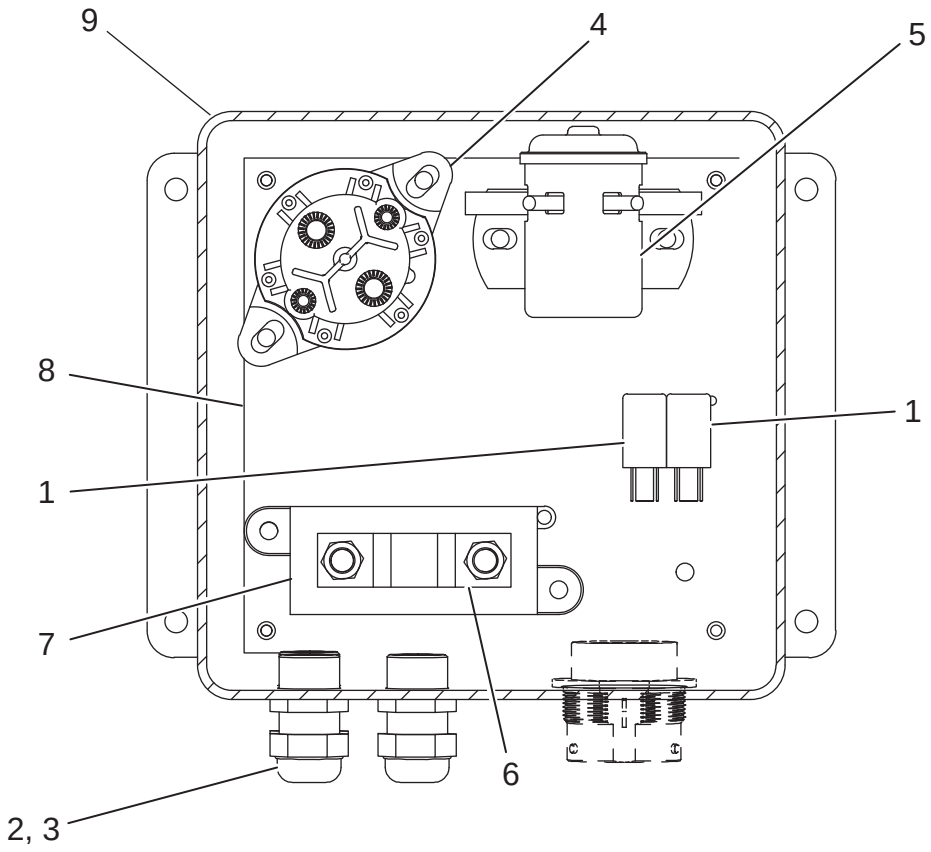


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

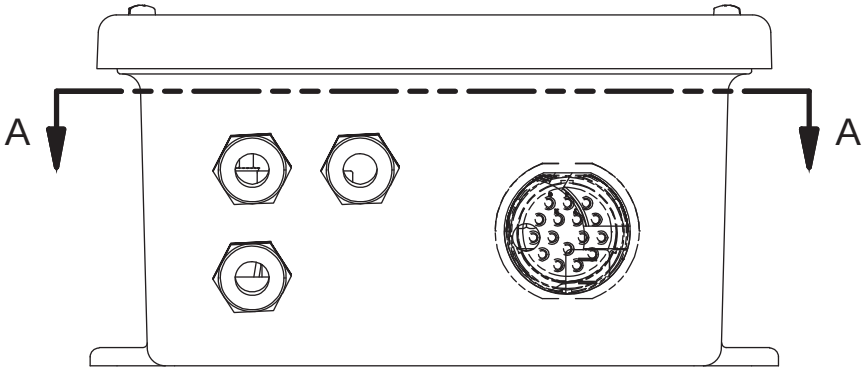
CONTROL SYSTEMS

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	075736-A	Antenna	1
2		075905	Antenna Cable	1
3	▲	075858-RP	Remote Pendant	1
4	▲	075858-T	Wireless Remote Transmitter	1
5		008795	Control Display	1
6	▲	075858-KP	Keypad	1
7		366164	E-Stop Button	1
8		055851	Ignition Switch with Keys	1
		031506-01	Replacement Key Set (2 Keys)	1
9		075907	Main Control Station Decal	1
NOT SHOWN				
	▲	075858-M	Module	1
		075896	Engine Harness	1
		075895	Control Module Mounting Bracket	1
		F705-0033	Control Module Access Cover Plate	1
KITS AND MARKERS				
▲		075858	Complete Cervis Wireless Remote System	

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



SECTION A-A

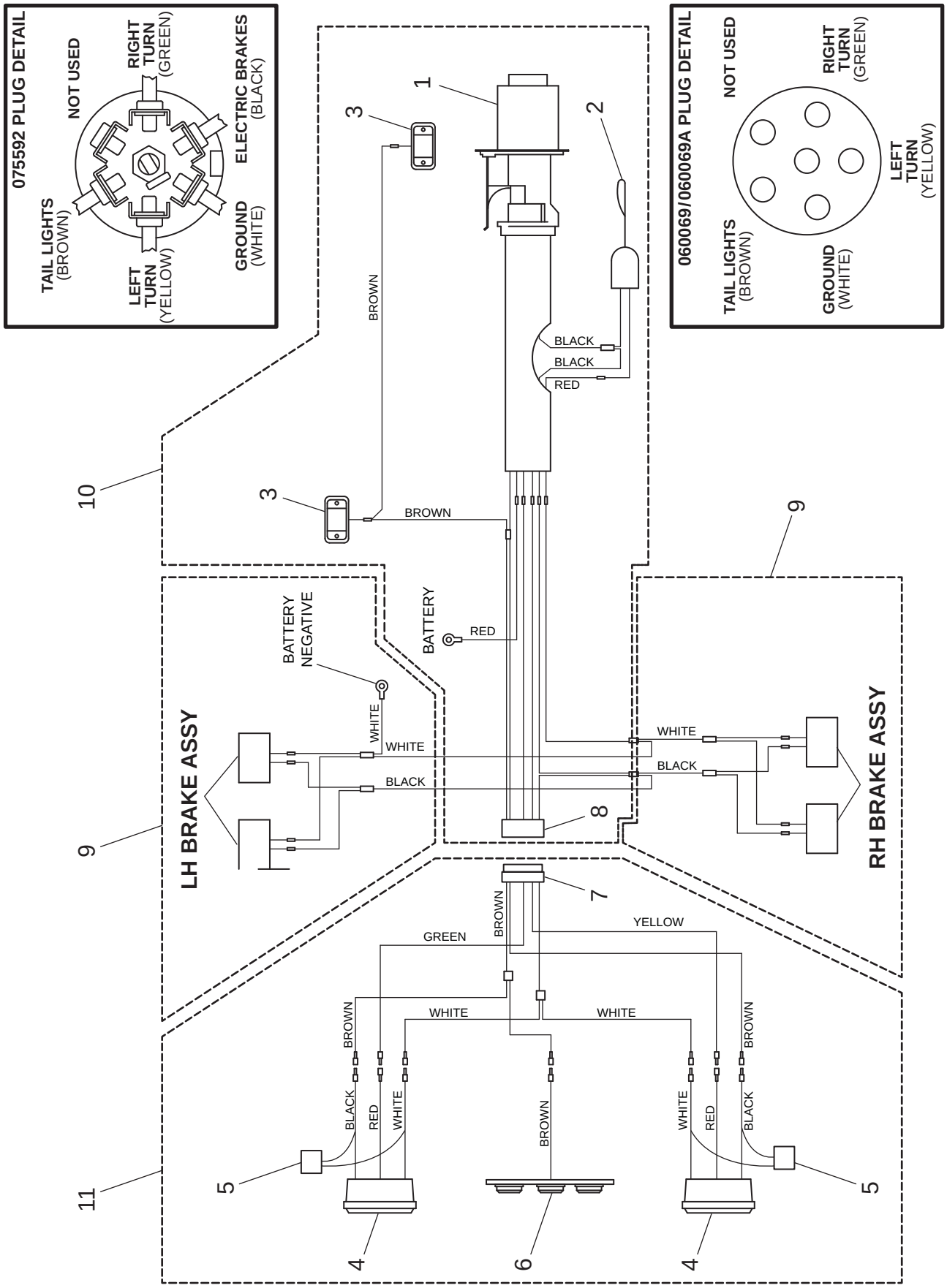


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

RELAY BOX

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	031578	Micro ISO Relay, 12V, SPDT Sealed	2
2	▲	170088	1/2" NPT Conduit Locknut	3
3	▲	080303	Liquid Tight Fitting	3
4	▲	075893	Starter Relay	1
5	▲	008840	Switch	1
6	▲	008839	Fuse, Mega 250A	1
7	▲	008838	Block Fuse, 1 Mega Fuse	1
8	▲	075892	Relay Box Back Panel	1
9	▲	075888-01	Modified Relay Box	1
NOT SHOWN				
	▲	075910-01	Relay Box Harness	1
	▲	075910-02	Jumper Cable Assembly Starter	1
	▲	075910-03	Jumper Cable Assembly Grid Heater	1
	▲	075910-04	Alternator Cable Assembly	1
	▲	075910-05	Starter Cable Assembly	1
	▲	075910-06	Grid Heater Cable Assembly	1
		075916-01	Positive Battery Cable	1
		075916-02	Negative Battery Cable	1
KITS AND MARKERS				
▲		075888	Relay Box Assembly	

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. Req'd
1	075592	7-Blade Trailer Plug	1
2	023424	Breakaway Switch	1
	005016	"S" Hook	2
	005017	Snap Hook	1
3	FW71090	Amber Marker Light	2
4	005434	Taillight Assembly	2
	005434A	Taillight Replacement Lens	1 per
5	005435	Marker Light	2
6	005944	LED Identification Light	1
	005945	Wire Sleeve	1
7	060069	Trailer Plug Male Side	1
8	060069A	Trailer Plug Female Socket	1
9	075734	Brake Wiring Harness	1
10	075781-01	Trailer Wiring Harness	1
11	075781-03	Light Bar Harness	1
NOT SHOWN			
	004720	License Plate Bracket	1
	005436	License Plate Light	1

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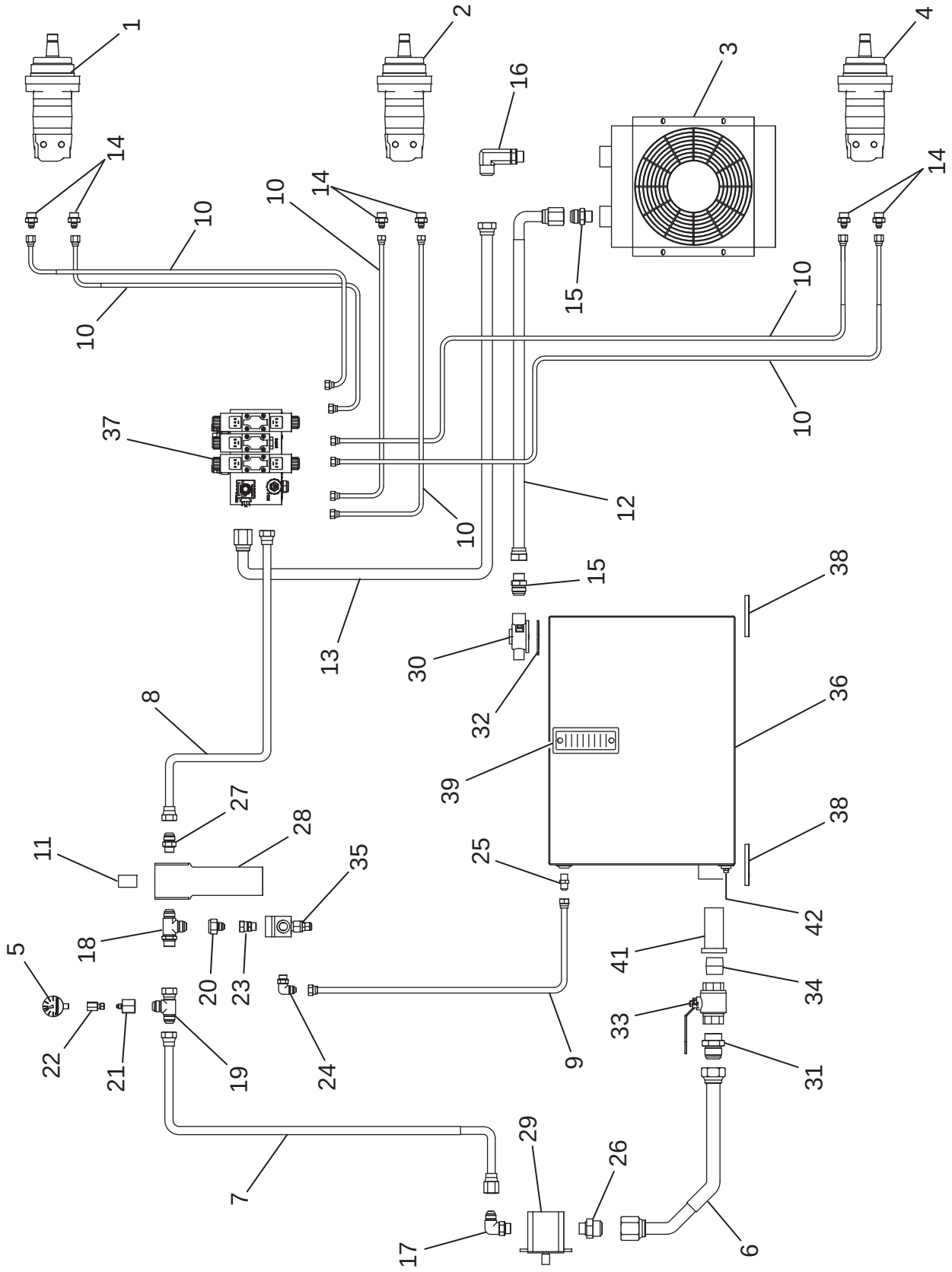

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HYDRAULIC SYSTEM

Ref. No.	Part Number	Description	No. Req'd
1	071238	Hose Reel Motor	1
2	052391	Floor Drive Motor	1
3	013192	Hydac Cooler	1
4	075230	Rotary Air Valve Motor (Airlock)	1
5	012044	Pressure Gauge	1
6	075897-01	1-1/4 in. Suction Hose	1
7	075897-02	3/4 in. Pressure Hose	1
8	075745-03	3/4 in. Pressure Hose	1
9	075745-04	1/2 in. Pressure Hose	1
10	075745-06	3/8 in. Pressure Hose	6
11	075758	Filter Indicator	1
12	075745-08	1 in. Return Hose	1
13	075745-09	1 in. Return Hose	1
14	085014	#10 SAE x #6 JIC Straight Fitting	6
15	FW65225	#12 SAE x #16 JIC Straight Fitting	2
16	075796	#12 SAE x #16 JIC 90° LL Elbow Fitting	1
17	012092	#10 SAE x #12 JIC 90° Elbow Fitting	1
18	075659	#12 JIC Straight Run Tee Fitting	1
19	FW71873	#12 JIC Swivel Run Tee Fitting	1
20	FW65226	#12 x #8 JIC Reducer Fitting	1
21	012420	#12 x #4 JIC Reducer Fitting	1
22	055757	1/4 in. NPT x #4 JIC Straight Fitting	1
23	055357	#8 SAE x #8 JIC Straight Swivel Fitting	1
24	055230	#8 SAE x #8 JIC 90° Elbow Fitting	1
25	FW71911	3/8 in. NPT x #8 JIC 90° Elbow Fitting	1
26	075797	#20 JIC x #12 SAE Straight Fitting	1
27	012087	#12 SAE x #12 JIC Straight Fitting	1
28	075747	Pressure Filter	1
29	075857	Hydraulic Pump	1
30	075746	Return Filter	1
31	FW65348	1-1/4 in. NPT x #20 JIC Straight Fitting	1
32	075746-01	Return Filter Gasket	1
33	012083	Ball Valve, 1-1/4 in. Full Port	1
34	160307	Close Nipple 1-1/4 in. STD	1

Continued to next page.

HYDRAULIC SYSTEM

Ref. No.	Part Number	Description	No. Req'd
35	075770	Relief Valve	1
	075770-01	Relief Valve Block	1
	075770-02	Relief Valve Cartridge	1
36	075716	Oil Tank Weldment	1
37	075902	Hydraulic Valve Assembly (see Hydraulic Manifold section)	1
38	052136-07	Isolators	4
39	080329	Hydraulic Reservoir Sight Gauge	1
40	F605-0175	Hydraulic Cooler Mounting Bracket	2
41	011648	Hydraulic Suction Strainer	1
42	160234	3/8 in. Square Head Pipe Plug	1
NOT SHOWN			
	008706	Filter Breather Assembly	1

TOOL BOX

Kit Ref.	Part Number	Description	No. Req'd
▲	055385	Coupler Gasket	1
▲	012681A	FINN Beige Aersol Touch-Up	1
▲	020365	Multi-Purpose Grease	1
▲	021375	Grease Gun	1
▲	021741	12 in. Whip Hose with 1/8 in. Male ends	1
▲	053075	Red Cone Assembly Kit	1
▲	052878	Red Diffuser Cone, 4 in.	1
▲	160317	Close Nipple	1
▲	055375A	4 in. Aluminum Coupler	1
▲	012305	Adhesive Label	1
		Engine Operator's Manual	1
		Blower Operator's Manual	1
		Radio Remote Transmitter Manual	1
		Bark Blower Operator Instructions and Parts Manual	1
	A1096-001	Manual Canister	1
KITS AND MARKERS			
▲	410099-04	5-Series Tool Kit (no manuals included)	

DISCHARGE HOSE

Part Number	Description	No. Req'd
055399B	100' Discharge Hose Assembly with Aluminum Couplers	1
055398B	50' Discharge Hose Assembly with Aluminum Couplers	1
055374A	Aluminum Male Adapter	1
055375A	Aluminum Female Coupler	1
045304	Hot Air Hose	1
053075	Discharge Deflector Assembly	1

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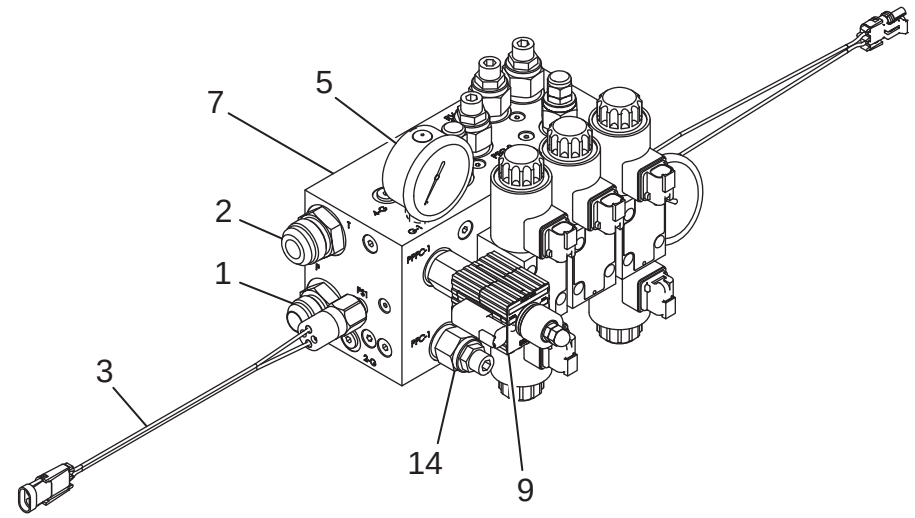

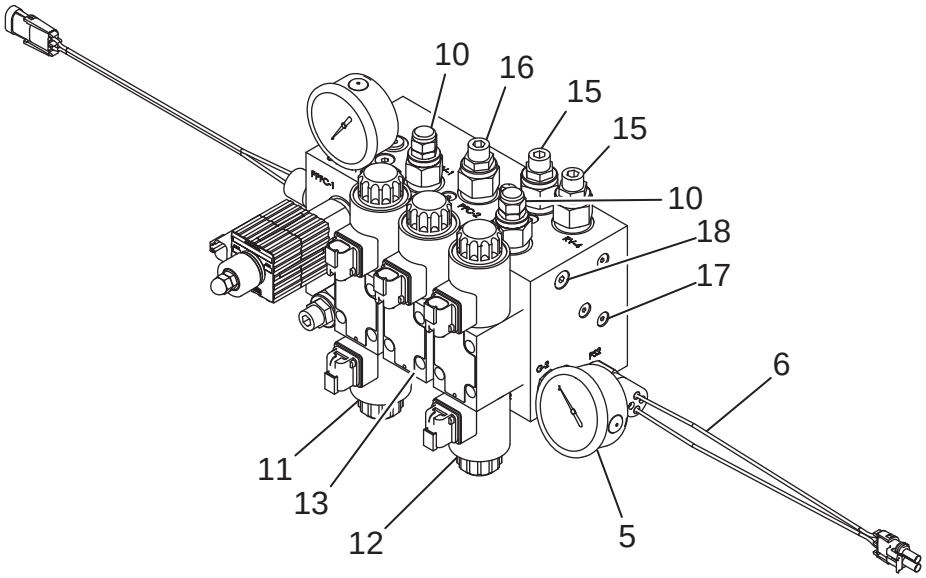

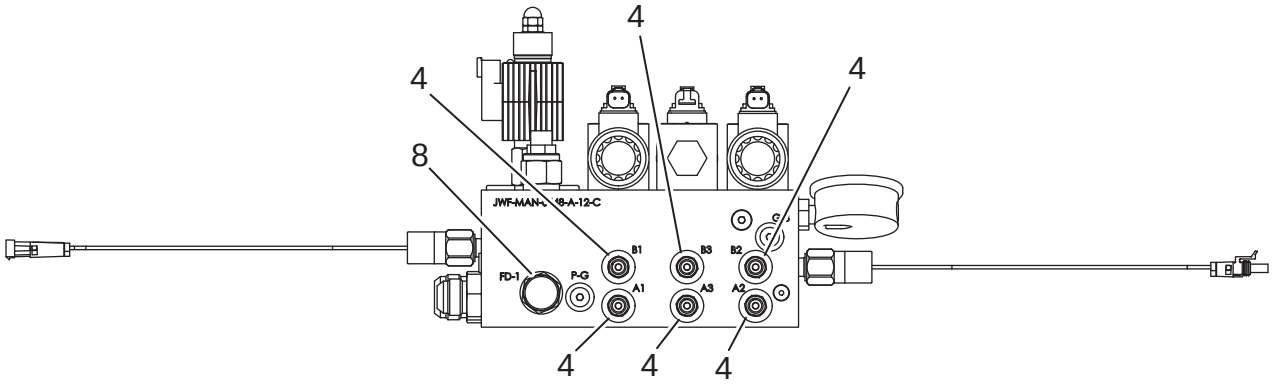

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HYDRAULIC MANIFOLD

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	012087	#12SAE x #12JIC Straight Fitting (Installed in Port P)	1
2	▲	FW65225	#12SAE x #16JIC Straight Fitting (Installed in Port T)	1
3	▲	055659	2050 psi Pressure Switch (Installed in Port PS1)	1
4	▲	055601	#6SAE x #6JIC Straight Fitting (Installed in Ports A1, A2, A3, B1, B2 AND B3)	6
5	▲	075902-11	Pressure Gauge (Installed in Ports G-1 and G-2)	2
6	▲	052336	2400 psi Pressure Switch (Installed in Ports PS2)	1
7	▲	075902-01	Custom Machined Manifold Block	1
8	▲	075902-02	Flow Divider Manifold Cartridge Valve (Installed in Port FD-1)	1
9	▲	075902-03	Proportional Priority Flow Control Valve (Installed in Port PPFC-1)	1
		055863	Solenoid Coil for PPFC Valve	1
		055856-02	Solenoid Coil Nut for PPFC Valve	1
10	▲	075902-04	Relief Valve (Installed in Ports RV-1 and RV-2)	2
11	▲	075902-05	Floor Directional Control Valve (Installed in Ports DCV-1)	1
		055865	Solenoid Coil with Deutsch Plug	2
		055866	Solenoid Coil Nut	2
12	▲	075902-06	Airlock Directional Control Valve (Installed in Ports DCV-2)	1
		055865	Solenoid Coil with Deutsch Plug	2
		055866	Solenoid Coil Nut	2
13	▲	075902-07	Hose Reel Directional Control Valve (Installed in Ports DCV-3)	1
		055865	Solenoid Coil with Deutsch Plug	1
		055866	Solenoid Coil Nut	1
14	▲	075902-08	Priority PSI Compensated Flow Control Valve (Installed in Port PFC-1)	1
15	▲	075902-09	Relief Valve (Installed in Ports RV-3 and RV-4)	2
16	▲	075902-10	Priority PSI Compensated Flow Control Valve (Installed in Port PFC-2)	1
17	▲	075923	#2SAE Socket Head Plug	14
18	▲	075924	#4SAE Socket Head Plug	16

KITS AND MARKERS

▲		075902	Hydraulic Manifold Assembly

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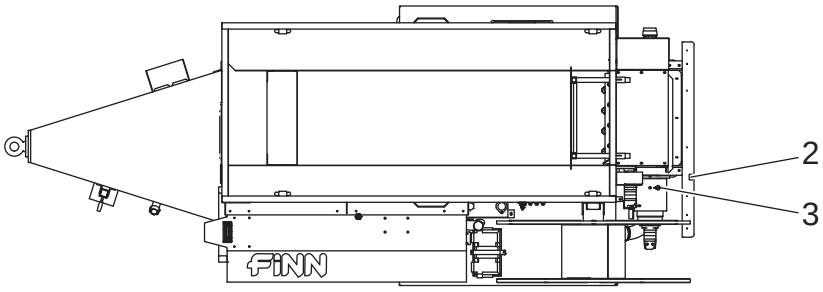

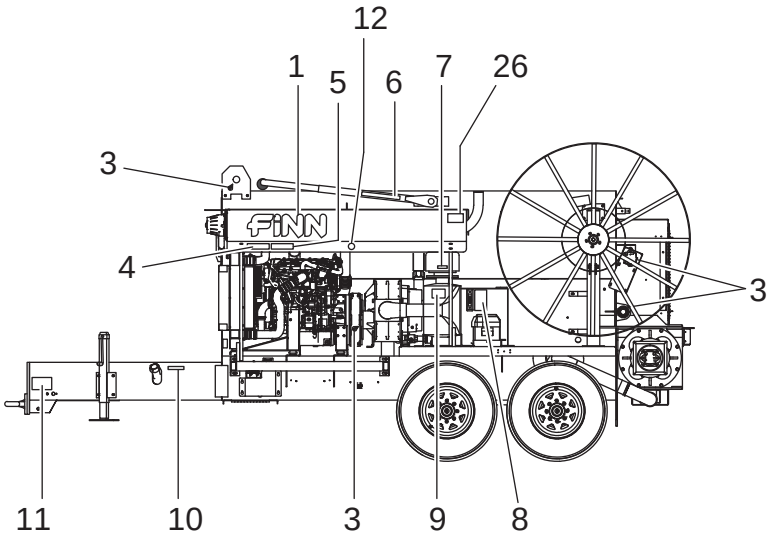

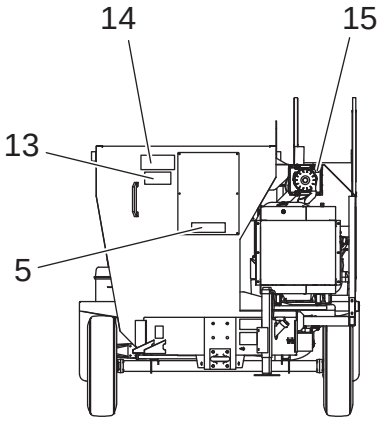

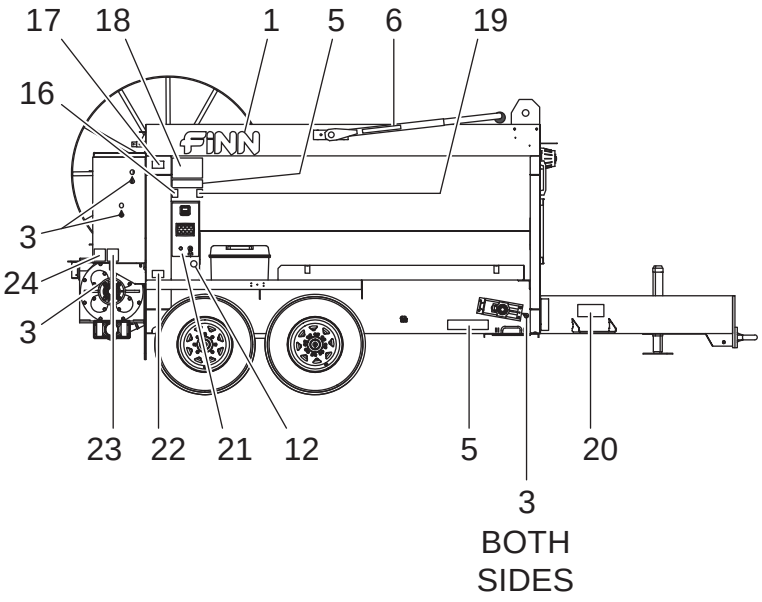

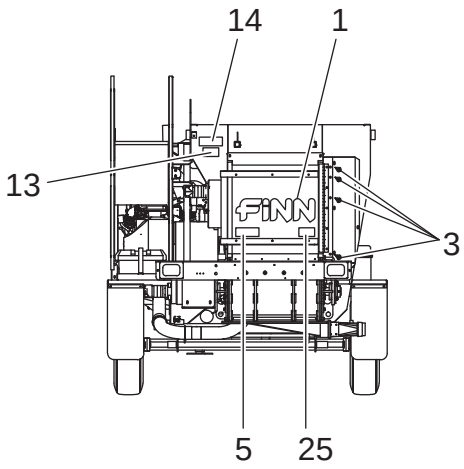

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

MB50 DECALS

Ref. No.	Part Number	Description	No. Req'd
1	023174	Finn Large Red Decal	3
2	☐	"HOSE REEL REWIND" Decal	1
3	☐	"Service Weekly" Decal	14
4	☐	"WARNING" Burn Hazard/Radiator Decal	1
5	☐	"WARNING" Sever Hazard Decal	5
6	☐	"WARNING" Flying Objects Decal	2
7	☐	"Service Daily" Decal	1
8	☐	"CAUTION" Hydraulic System Instructions Decal	1
9	☐	"CAUTION" Rotary Blower Maintenance Instructions Decal	1
10	☐	"Ultra Low Sulfur..." Decal	1
11	005807	Trailer Nameplate	1
12	☐	“DO NOT Pressure Wash” Decal	2
13	☐	"WARNING" Fall Hazard Decal	2
14	☐	"DANGER" Entanglement Hazard Decal	2
15	☐	"CAUTION" Do Not Use Ether Decal	1
16	☐	"WARNING" Wear Eye Protection Decal	1
17	012260	"IMPORTANT" Metal Plate	1
18	☐	Operating Instructions Decal	1
19	☐	"DANGER" Electrocution Hazard Decal	1
20	☐	"WARNING" Hitch Fall Hazard Decal	1
21	075907	Control Panel Decal	1
22	☐	"U.S. Patent No." Decal	1
23	☐	"WARNING" Flying Objects Decal	1
24	☐	"WARNING" Contents Under High Pressure Decal	1
25	☐	"DANGER" Sever Hazard Decal	1
26	☐	"WARNING" Burn Hazard Decal	1
KITS AND MARKERS			
☐	075744	MB50 Decal Kit	

NOTE: *All of the decals listed here with a ☐ in the part number space are available only in the MB50 Decal Kit. Replacement decals and plates for those identified with a part number are **not** part of the decal kit and **must** be ordered separately.*

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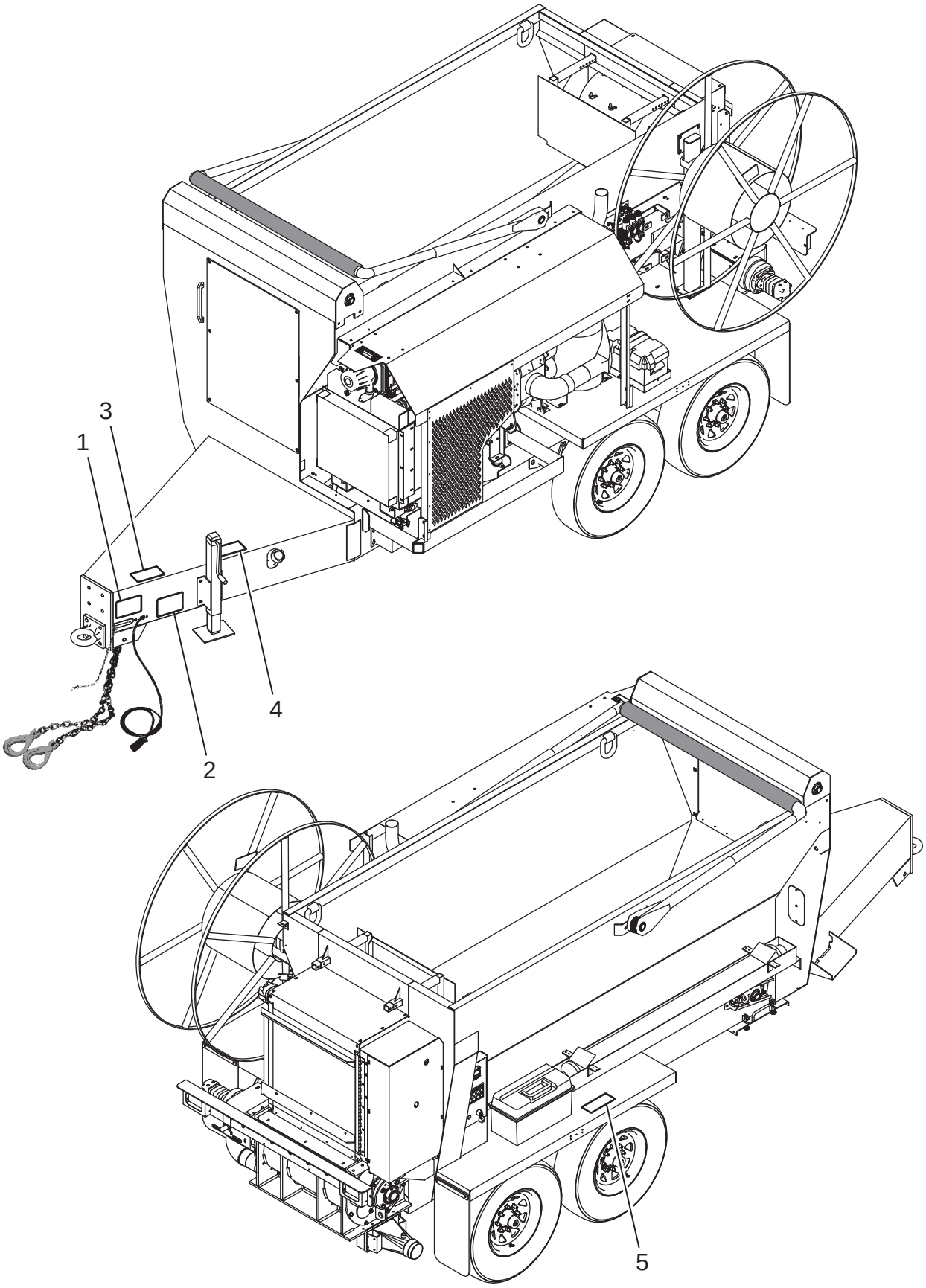

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

TRAILER SAFETY DECALS

Ref. No.	Part Number	Description	No. Req'd
1	☐	Decal "Warning! Runaway Vehicle Hazard! Breakaway..." and "Control Hazard! Chains..."	1
2	☐	Decal "Warning! Control Hazard! Lights..."	1
3	☐	Decal "Warning! Load Balance and GVWR..."	1
4	☐	Decal "Warning! Personal Injury Hazard! Trailer Jack..."	1
5	☐	Decal "Warning! Control Hazard! Tires..." (Dual Axle)	1
KITS AND MARKERS			
☐	A2270-001	Trailer Safety Decal Kit	

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