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

Activate Your Warranty By Registering TODAY!!!

Bark Blower™
AIM-AND-SHOOT MULCH SPREADING

Model BB-302

Parts and Operator's Manual

Model **MMA** Serial No._____

ACTIVATE YOUR FINN EQUIPMENT WARRANTY

IMPORTANT INFORMATION ON ACTIVATING
YOUR FINN EQUIPMENT WARRANTY!!!

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

COMPLETE THE EQUIPMENT REGISTRATION FORM ON THE NEXT PAGE AND MAIL TO THE FINN CORPORATION.

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

Once your FINN equipment has been registered, your FINN Limited Warranty will be activated per the warranty statement on the other side of this notice.

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

1. NOTIFY FINN CORPORATION OF THE FAILURE OF MATERIAL OR WORKMANSHIP

1-800-543-7166 Extension (246)
WARRANTY@FINNCORP.COM

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

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

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

Warranty period:
Hydroseeders & Straw Blowers 2 years or 2000 hrs which ever comes 1st
All other equipment 1 year or 1200 hrs which ever comes 1st

Commercial Limited Warranty
Effective 4/1/2011

OUR WARRANTY TO YOU:

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

WHAT FINN WILL DO:

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

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

WHAT YOU MUST DO TO OBTAIN WARRANTY SERVICE:

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

WHAT THE WARRANTY DOES NOT COVER:

1. Normal wear parts and Allied Equipment or trade accessories not manufactured by it, such as but not limited to items such as various filters, fluids, brakes, clutch linings, belts, hoses, light bulbs, mechanical seal, over center clutches, tires, ignitions, starters, batteries, magnetos, carburetors, engines and labor, or like or unlike equipment or accessories. (Such being subject to the warranty, if any, provided by their respective manufacture).
2. Secondhand, used, altered, or rebuilt machines or parts.
3. Defects, malfunctions or failures resulting from accidents, abuse, misuse, improper servicing, or neglect of required operational guidelines and maintenance service, as outlined in the Finn Corporation's Operators Manual(s).
4. The warranty shall be null and void to the extent any defect or failure of the products warranted arises out of or is caused by accessories or component parts not manufactured or supplied by Finn Corporation, whether same are supplied by purchaser, dealers, or any other party.
5. This Warranty does **NOT** cover any costs associated with transporting the equipment for warranty service, such as mileage, fuel, or man hours; such is the responsibility of the equipment owner.
6. Dealers & Customers are responsible to follow all guidelines related to Seasonal & Long Term Storage of Equipment, as advised in operation & equipment manuals. i.e. Finn, Engine, Clutch, Pump, Motor, etc. Equipment failures caused by neglect of these guidelines are not warrantable.

THIS IS THE ONLY EXPRESS WARRANTY ON OUR PRODUCTS:

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

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

LIMITATIONS ON OUR RESPONSIBILITY WITH RESPECT TO PRODUCTS PURCHASED:

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

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

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

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

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

NOTICE:

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

INDEX

Safety First 1
Bark Blower Safety Summary Section 2–4
Operation And Maintenance Of The FINN Bark Blower 6
Introduction. 6
The Finn Bark Blower And Its Functions 6
How The Bark Blower Works 6
Towing Vehicle 6
Selecting A Mulching Material 7
Pre-Start Equipment Check 7–8
Starting Procedure 8
Crew Members and their Duties 8
The Material-Feed System. 9–11
- Subsystem 1: Material Handling Group 9
- Subsystem 2: Hydraulic System 9–10
  - A. Rotary Air Valve/Feed Roll 10
  - B. Floor (Drag Conveyor)/Feed Roll 10
- Subsystem 3: Hydraulic Control System 10–11
- Subsystem 4: Radio Remote Transmitter 11

Bark Blower Power Status Lights. 12
Miratron Radio Remote Association Procedure 13
Mulching with the Bark Blower. 13
Troubleshooting Chart 14
Maintenance. 15–17
- Weekly - After Every 50 Hours of Operation:. 15–16
- After First 100 Hours of Operation 17
- Every 3 Months or 3,000 Miles (4,800 Km) 17
- Every 12 Months or 12,000 Miles (19,300 Km) 17

Winter Shutdown and Storage 17
Lubrication Chart 18–19

Continued

INDEX

Parts Manual 21–49
- Hopper and Trailer Parts 22–23
- Axle and Hub Parts 24–25
- Air Lock Parts 26–27
- Feeder Parts 28–29
- Conveyor Parts 30–31
- Blower Components 32–33
- Hydraulic Parts 34–35
- Engine Parts 36–37
- Engine Wiring 38
- Trailer Wiring 39
- Electric Throttle 40
- Radio Remote Transmitter and Box 41
- Controls Wiring/Engine 42
- Controls Wiring 43
- Control Box Cover Assembly 44–45
- Hose Reel Assembly 46
- Tool Kit, Discharge Hose, and Recommended Spare Parts 47
- Decal Location 48–49

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

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

⚠WARNING

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

⚠CAUTION

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

NOTICE

Indicates practices that are not related to personal injury.

NOTE: Gives helpful information

CALIFORNIA

Proposition 65 Warning

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

CALIFORNIA

Proposition 65 Warning

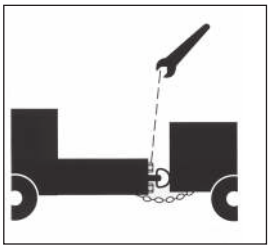
Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

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):

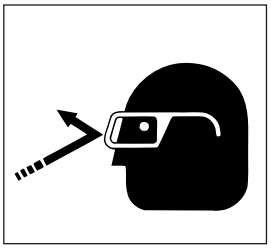
1. Check hitch and hitch bolts, safety chains, lights, brakes, and breakaway switch. Verify that the hitch ball or pintle hook is the correct size for the coupler.



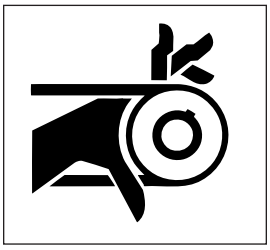
2. Verify that all guards are in place.
3. By carefully looking into the blower hopper and transition, inspect for and remove any foreign objects. Follow Occupational Safety and Health Administration (OSHA) lockout/tagout procedure (29 CFR 1910.147)
4. Inspect all hydraulic hoses and tubes for cracks, 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 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 folding 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.

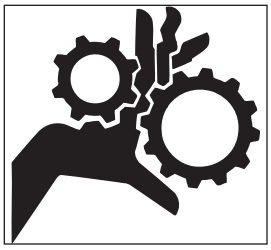
6. The driver of the towing vehicle is responsible for the safety of the operator(s) and feeder(s) of the machine. Make sure the driver is aware of and avoids all possible hazards, such as tree limbs, low power lines, etc.
7. Do not allow anyone to ride on the trailer or any other part of the blower 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 a hose, high pressure can be exerted at the end of the hose. Hose-holding personnel must establish good footing. The operator should apply gradual pressure to the hose only after hose-holding personnel are firmly positioned and have firm control of the hose. Additional personnel to direct hose may be necessary if working on slopes. The proper technique for grasping the hose used by hose-holding personnel is to route and firmly grasp the hose over the shoulder or under both arms. Never route/hold the hose so it goes between the legs. If the hose-holding personnel finds that it is uncomfortable for him to handle the hose by himself, additional hose holders should be positioned at the end of the hose.

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 the engine using the OSHA lockout/tagout procedure (29 CFR 1910.147) before removing any foreign objects. Signal visually or audibly that all is clear before operating the machine.

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

    A. Shut off conveyor drive.
    B. Shut off vehicle engine and blower engine.
    C. Place transmission of the vehicle in “NEUTRAL” or “PARK”.
    D. Set parking brake firmly.
    E. Lock ignition and take keys with you.
    F. Lock vehicle cab.
    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 restarted.

16. Do not read, eat or otherwise lose or lessen your attention in any manner while operating the blower. Operating the 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.

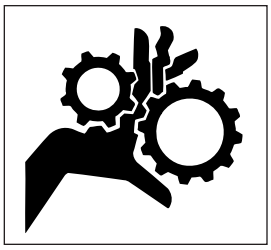
18. All personnel operating and/or around the machine must be aware that the blower can be controlled via remote control. For safety reasons and to prevent accidental starting, always keep the power switch on the remote receiver in the OFF position when the remote control is not being used.

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 fully retracted when transporting the machine.

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

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.

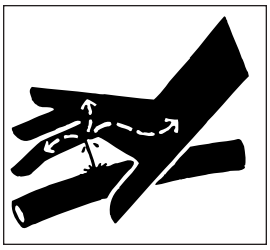
5. Filling of fuel: Never fill the tank with the engine running, while smoking, or when near an open flame. Never smoke while handling fuel or working on the fuel system. The fumes in an empty fuel container are explosive. Never cut or weld on fuel lines, tanks or containers. Move at least 10 ft (3 m)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

   IMPORTANT: Be careful not to allow fuel, lubricant, hydraulic fluid, or cooling fluids to penetrate into the ground or be discharged into the water system. Collect all fluids and dispose of them properly.

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

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

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.

CURRENT SET OF SAFETY DECALS

⚠ CAUTION **Wear proper eye protection when feeding this machine.**

⚠ 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

⚠ WARNING

Wear proper eye protection when operating machine.

Failure to comply could result in death or serious injury.

23519

⚠ 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

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

⚠ 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

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

P/N 12278

⚠ 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 55210

OPERATION AND MAINTENANCE OF THE 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 FUNCTIONS

The FINN Bark Blower is an apparatus for conveying and discharging bulk materials, such as bark mulch, at a fast and uniform rate while utilizing a minimum amount of manpower. The product to be used is generally composted and processed, then used as a soil amendment, ground cover for erosion, 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 an infeed elevator. Located at the bottom of the hopper is a drag conveyor that conveys the bulk material to an opening containing a feed roll. The feed roll and drag conveyor feed the bulk material into a rotary air valve. The rotary air valve is specifically designed and built to handle tough, fibrous material. The function of the rotary air valve 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-pressure air stream, created by the blower, is channeled through the pocket and carries the material 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 BB-302 Bark Blower must be equipped with a 2-5/16 in. ball 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 the following: trailer marker, turn, and stop lights as well as electric brakes.

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 effect the ability of the Bark Blower to convey the mulch at a uniform and acceptable rate.

The mulch material must be processed and/or screened so that a minimum 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. The Bark Blower only reduces mulch fibers when they protrude above the rotary air valve vanes. As the vanes rotate past the knife, the protruding fibers are sheared off. If the mulch contains long or large fibers and 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 rotor must cut, but one is a softwood like pine and one is a hardwood such as oak, the pine would go through at a higher rate because it is easier to cut. Two characteristics must be considered when selecting a material: the "greenness" of the wood, and the moisture of the mulch as a whole. Wood that is well-seasoned is easier to cut than "green" wood. Seasoned wood also processes better, making a less stringy mulch. High moisture in the mulch may cause it to bridge in the hopper.

⚠CAUTION

Avoid using mulches that contain any hard foreign objects such as rocks, nails, steel, cans, glass, etc. Failure to comply could result in minor personal injury, product damage, or property damage.

PRE-START EQUIPMENT CHECK:

⚠CAUTION

Equipment check must be made with the engine off and all rotating parts stopped. Failure to comply could result in minor personal injury, product damage, or property damage.

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 - make sure that it contains all prescribed items (see Tool Kit, page 47).
4. Lubricate equipment. Use hand gun only (see Lubrication Chart, pages 18 and 19).
5. Check engine oil and fill or change if necessary. Refer to engine operator' s manual.
6. Check the radiator liquid level and fill if necessary. (Protected to -34°F (-37°C) when shipped.)
7. Check fuel level. Use number 2-D diesel fuel oil, unless operating at ambient temperature below 40ºF (4ºC) or at an altitude exceeding 5000 ft (1524 m). In those instances, use number 1-D diesel fuel oil.

8. Inspect the engine air cleaner (refer to the engine operator's manual), the radiator chaff screen, and the blower air cleaner for dust and dirt. If necessary, clean or replace the air filter.
9. Check hopper and transition for foreign objects that could injure workers or damage equipment.
10. Check the fluid level in the hydraulic tank. Proper level is when the sight gauge is completely full with unit sitting on level ground. See Hydraulics, pages 9 through 11, for oil specifications.
11. Install the discharge hose. Use the clamps 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 personal injury, product damage, or property damage.

STARTING PROCEDURE:

⚠CAUTION

See safety section of the manual (pages 1 through 5) before operating the machine. Failure to comply could result in minor personal injury, product damage, or property damage.

1. Turn key counterclockwise and hold it until the glow plug indicator light goes out.
2. Turn key until starter engages and the engine fires.

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

3. Check that the ON/FUSE and DOOR SWITCH lights are illuminated. If not, check the 10-AMP fuse in the control box (see Figure 2). Verify that the doors are closed at the rotary air valve.
4. Initialize the Radio Remote Transmitter by turning on the transmitter.
5. Allow the engine to warm up for 3 to 5 minutes.
6. Prior to mulch application, move the throttle position to wide open, and allow the governor to control the engine speed. Governed engine speed on the FINN Bark Blower should be 2,700 to 2,800 RPM under a load.

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 or loader tractor, dumping it directly into the hopper, or by shoveling from the tow vehicle to the feed floor.

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 conveyor or floor, the feed roll, and the rotary air valve.

The blower is a rotary lobe, positive-displacement type unit having two double-lobe impellers. The blower is directly driven off the engine flywheel via a flexible coupling. Therefore, whenever the engine is running, air is being pumped. The blower is equipped with a relief valve, limiting maximum air pressure to 10 psi (69 kPa), an inlet and outlet silencer for noise attenuation, and an inlet air filter.

The drag 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 rotary air valve. The drag conveyor is powered by a variable-speed hydraulic motor, which also powers the feed roll.

The rotary air valve receives the material from the drag conveyor and pressurized air from the blower. Its primary function is to convey the material from the atmospheric air, to a sealed chamber where the blower air picks it up and blows it out of the hose. To enable the Bark Blower to convey fibrous material, the rotary air-valve housing is equipped with a cutting knife and the vanes on the rotor are angled and hardened. If any long 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 rotary air valve is directly coupled and driven by a bi-rotational hydraulic motor.

SUBSYSTEM 2: HYDRAULIC SYSTEM

Hydraulic power for the Bark Blower is generated by a fixed-displacement tandem hydraulic pump that is driven off the engine auxiliary drive. The pump receives AW46 hydraulic fluid from the 15-gal (57-L) reservoir through a service valve and suction hose. It is then delivered to the solenoid control valves. The pressure driving the two individual hydraulic circuits can be monitored on the outlets of the pump by utilizing the gauges provided.

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

A. ROTARY AIR VALVE/FEED ROLL

The front section of the tandem pump feeds oil to the rotary air valve motor through a solenoid valve. The solenoid valve is an open-center spool valve with built in relief set at 2100 psi (14500 kPa). The spool in the valve is spring-centered and is moved by actuating a 12 VDC solenoid on either end of the spool. Spool movement can be checked manually by pressing the button located at either end. This action energizes a solenoid that produces high-pressure oil at the work port away from that solenoid, thus, energizing the bottom solenoid on the valve that then channels oil from the pump to the top work port on the valve. This is forward position on the rotary air valve motor. Energizing the top solenoid produces reverse rotation on the rotary air valve motor.

B. FLOOR (DRAG CONVEYOR)/FEED ROLL

The rear section of the tandem pump feeds oil to the floor motor through a dump valve system. The floor speed control valve, located on the conveyor leg next to the control box, is actually three valves in one manifold: a relief valve set at 1,850 psi (12,800 kPa) to protect this circuit, a 12 VDC normally open solenoid dump valve, and a flow control valve.

Oil entering this manifold flows back to the tank. Energizing the solenoid valve forces oil through the flow control valve where a certain amount flows to the feed roll hydraulic motor, causing the roll to rotate. Turning the adjustment knob on top of the valve increases or decreases the amount of oil going to the feed roll motor and, in turn, increases or decreases the speed. The floor is chain-driven off the feed roll motor.

SUBSYSTEM 3: HYDRAULIC CONTROL SYSTEM

The hydraulic control system is an electrical system that controls the ON/OFF function of the conveyor motor and the rotation direction of the rotary air valve motor. This 12 VDC system runs off the engine electrical system. It is a self-contained PLC system located in the control box, which controls the solenoid valves in the hydraulic system.

When the START button is pushed, the forward solenoid on the solenoid valve is energized, starting the rotary air valve and the drag conveyor, but only if the conveyor toggle switch is in the ON position. As material drops into the top of the rotary air valve, the pressure to turn the rotary air valve varies. If the pressure reaches the high-pressure relief valve threshold in the solenoid control valve, the oil is channeled through the relief valve to the hydraulic tank. In the forward work line is a normally open pressure switch. When the pressure in the work line exceeds the pressure-switch setting, the switch then closes and triggers the auto-reverse sequence.

During auto-reverse, the rotary air valve reverses direction for approximately 1 second. While in reverse, it also cuts power to the floor, shutting it OFF. At the end of the auto-reverse cycle, power is restored to the forward solenoid, putting the rotary air valve back into forward.

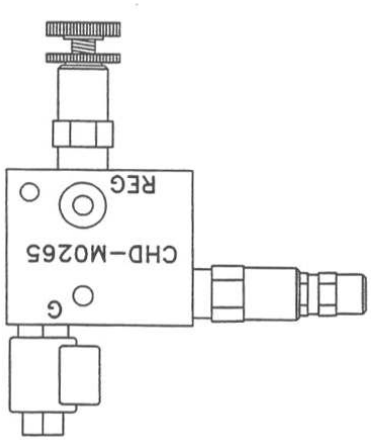


Figure 1 - Rotary Air Valve

Black Cartridge with 1 in. (25 mm) Diameter Knob:
Turn Counterclockwise to Increase Speed.
Turn Clockwise to Decrease Speed.
Gold Cartridge with 1.5 in. (38 mm) Diameter Knob.
Turn Clockwise to Increase Speed.
Turn Counterclockwise to Decrease Speed.

After the start button is pushed, there is a time delay before the floor begins operation. This delay keeps material from feeding into the rotary air valve until the auto-reverse duration has passed. In the case of multiple auto-reverse cycles, it keeps the transition area above the rotary air valve clear of any new material. There is also a time delay for the pressure switch. Since the electronics can reset faster than the hydraulics, this time delay activates the pressure switch after its set time passes following an auto-reverse cycle. This small amount of time, approximately 0.4 seconds, allows the relief valve to fully close and the flow switch to return to the open position, eliminating a false signal that would trigger another auto-reverse cycle.

When the STOP button is pushed, power is cut to the floor and rotary air valve solenoids. Turning off the ignition key can also stop the hydraulics. Please note that the hydraulics will also stop if either transition door between the floor and the rotary air valve is opened and cannot be restarted unless the doors are closed and the START button is pushed.

SUBSYSTEM 4: RADIO REMOTE TRANSMITTER

This Bark Blower is equipped with a Radio Remote Transmitter to control the Material-Feed Start/Stop feature. It also contains an Emergency STOP button, that activates the safety shutdown system on the engine and the engine throttle control. To activate the remote, simply set the toggle switches on top of the transmitter, and on the control box to the ON position. The two indicator lights on the top will begin alternately flashing. When they are no longer flashing, the unit is on and ready for operation.

To utilize the Material-Feed Start/Stop feature of the Radio Remote Transmitter, the initial start must occur at the Start/Stop station on the Bark Blower. The hard-wired Start/Stop on the unit is the primary and overriding set of controls. Pressing the STOP button, as well as a loss of power to the Material-Feed Control (i.e., an open transition door or blown main fuse), deactivates the Material-Feed Start/Stop feature of the Radio Remote Transmitter until power is restored to the Material-Feed Control and the START button on the machine is pressed.

Figure 2 - Main Control Panel

Figure 3 - Radio Remote Transmitter

Figure 4 - Start / Stop Pendant

BARK BLOWER WITH POWER STATUS LIGHTS:

The Bark Blower is equipped with four Power Status Lights on the Material-Feed Control Box. Each glowing light indicates that a function is ready for operation. A list of the lights as they appear from top to bottom and the meaning of each follows:

LIGHT COLOR	FUNCTION	INDICATOR
Blue/Clear	ON/FUSE	Should be glowing when engine key is on. Shows power from the ignition switch through the 10 amp main fuse into the Material-Feed Control Box.
Amber	Door Switches	Should be glowing when engine key is on if the transition doors at the air lock are both closed and the interlock switches are making proper contact.
Green	Feeding	Should be glowing whenever the “START” button is pushed activating the Bark Blower hydraulic system*.
Red	Auto-Reverse	Should be glowing whenever the unit Auto-Reverses while feeding*.
* **NOTE:** The green light will deactivate whenever the Red Auto-Reverse light comes on.		

MIRATRON RADIO REMOTE ASSOCIATION PROCEDURE

1. With the Key Switch in the OFF position, remove the two screws on the right side of the Main Control Panel and open the Control Panel Box.
2. Turn the Key Switch to the ON position and ensure the Remote Switch is in the ON position.
3. On the Radio Remote Transmitter, ensure that the Emergency Stop Button is not engaged and that the Power switch is in the ON position.
4. Press and hold the Associate Button for 3 seconds as shown in Figure 5. The blue light on the Radio Remote Transmitter will illuminate when association is successful.
5. Verify the functionality by moving the Throttle Switch on the Radio Remote Transmitter in both the (+) and (-) directions. The corresponding lights on the LED/Relay Bank will light up accordingly. Close Control Panel Box and replace screws previously removed in Step 1.

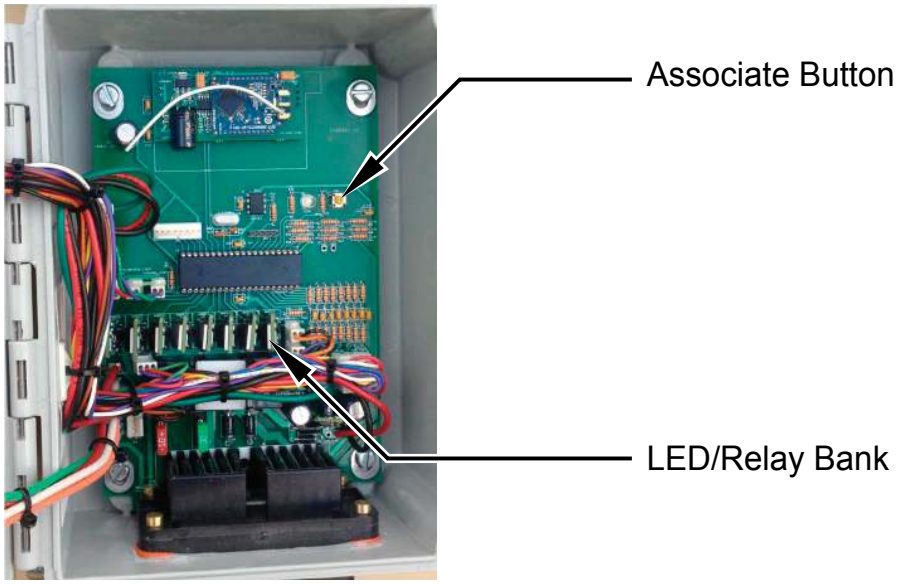


Figure 5 - Open Control Panel Box

MULCHING WITH THE BARK BLOWER:

1. Check all areas listed under Pre-Start Equipment Check (pages 7).
2. Start the engine following all the steps listed under Starting Procedure (page 8).
3. Set the floor speed control to 1/2 turn to one turn from minimum.
4. Press the START button on the Start/Stop Pendant to activate the material start/stop feature on the remote.
5. Put the floor switch to the ON position.
6. Press MATERIAL STOP on the remote.
7. Increase the throttle to full.
8. With a firm grip on the end of the hose, press the MATERIAL START button on the Radio Remote Transmitter.
9. Adjust floor speed for smooth flow. Watch for auto-reversing of the air lock, as well as shock waves through the hose.
10. At the end of the load, press the MATERIAL STOP BUTTON, shut down engine, and shut off the Radio Remote Transmitter.

TROUBLESHOOTING CHART:

Symptom	Probable Causes	Remedy
No material discharge	Floor not turning	Turn floor switch ON. Reset speed control.
	Electrical control system off	Check status lights.
	Feed roll jammed	Clear jam; reset speed control.
Air valve auto-reverses excessively	Feed rate too high	Slow floor speed control.
	Dull air valve knife	Sharpen and reset knife.
	Poor material	Change material.
Air valve motor stalls in reverse, cycling forward to reverse	Overfeeding	Slow speed control
	Foreign object in transition or hose outlet	Shutoff engine. Remove object.
Air valve motor stalls in forward, no auto reverse	Knives dulled or chipped; Knife clearance too large	Sharpen blades; reset knife clearance
Feed roll stops	Floor speed control set too low	Reset speed control 1/2 to one turn from minimum
	Foreign object in material	Shutoff engine. Remove object.
	Relief valve too low on roll	Reset relief valve to 1850 psi

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.

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 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 rotary air valve gearbox. Add or replace if necessary.
5. Check the gear case on the blower (see Lubrication Chart, pages 18 and 19).
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 rotary air valve knife (or knives) for wear, chips, and clearance.

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

⚠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.

A) Remove the five bolts that hold the knives and transition doors to the rotary air valve 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, as shown in Figure 5. 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 Figure 5:

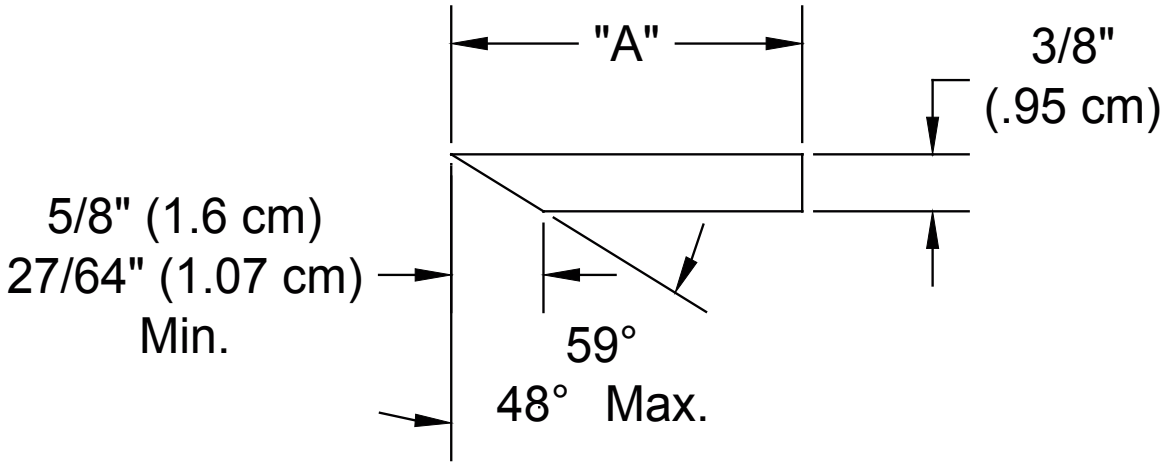


Figure 5 - Knife Profile

NOTICE

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

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 Mobil SHC 630 synthetic only. Change oil every 1000 hours after that.
3. Change the gearbox oil on the rotary air valve 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):

1. Check and adjust trailer brakes.
2. Torque wheel lug nuts to 85 to 95 ft-lb (12 to 13 N•m).
3. Check tire condition.

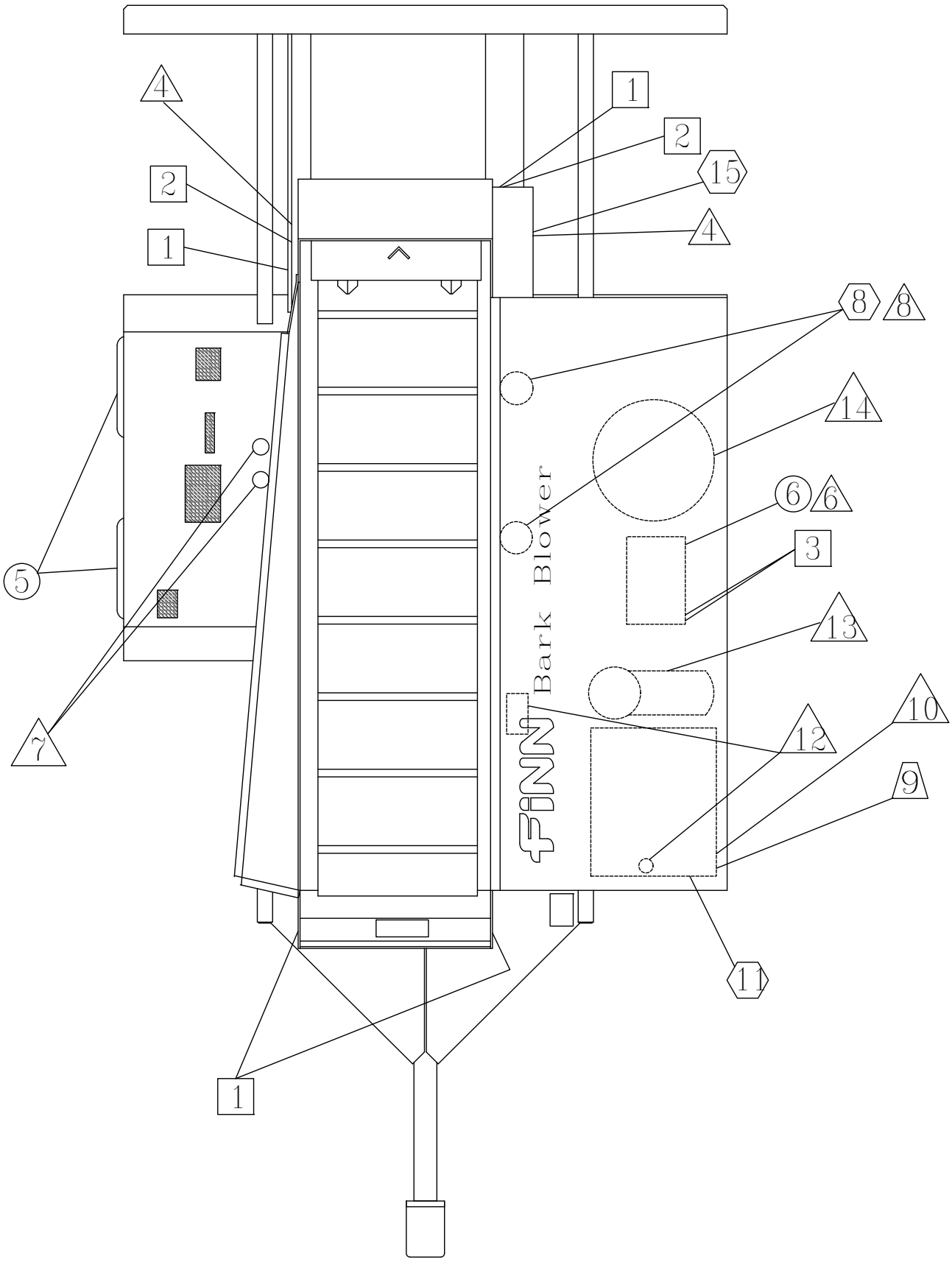
EVERY 12 MONTHS OR 12,000 MILES (19,300 KM):

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

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.

LUBRICATION CHART



LUBRICATION CHART

Ref. No.	Location	Lubricant	Frequency	Number
1	Conveyor Bearings (Idle and Drive)	CL	Weekly	4
2	Feed Roll Bearings (Idle and Drive)	CL	Weekly	2
3	Blower Bearings	CL	Weekly	2
4	Air Lock Bearing	CL	Daily	1
5	Wheel Bearings	CL	Annually	4
6	Check Oil Level-Blower	BO	Daily	1
	Change Oil-Blower	BO	Annually	1
7	Check Fuel Level	DF	Daily	1
8	Check Hydraulic Oil Level	HO	Daily	1
	Change Hydraulic Oil and Filter	HO	Seasonally	1
9	Change Engine Oil and Filter	MO	See Engine Manual	1
10	Check Engine Oil Level	MO	Daily	1
11	Change Engine Coolant	AF	Seasonally	1
12	Check Coolant Level	AF	Daily	1
13	Check Air Cleaner-Engine		Daily	1
14	Check Air Cleaner-Blower		Daily	1
15	Gear Box Air Lock	GO	Seasonally	1

LUBRICANT OR FLUID USED

CL	Chassis Lubricant
MO	Motor Oil SAE 10W-40
AF	50/50 Anti Freeze and Water
DF	Diesel Fuel
HO	Hydraulic Oil, Gulf 46AW, Mobile DTE25, or Shell Tellus 46
GO	90 W Gear Oil
BO	Mobil SHC 630

TIME KEY

Daily (8 Hours)

Weekly (40 Hours)

Seasonally (500 Hours)

Annually (2000 Hours)

See Engine Manual

FLUID CAPACITIES

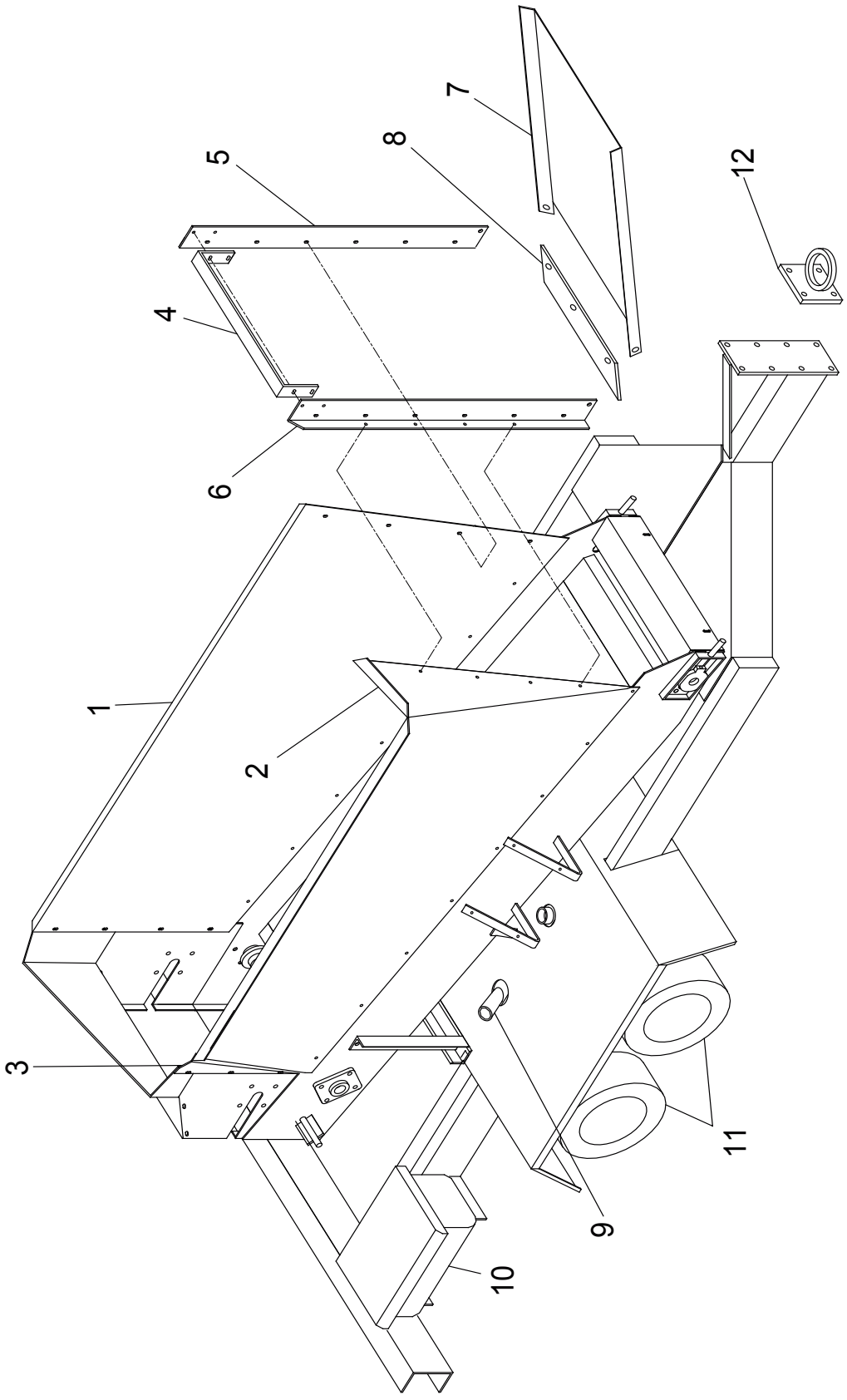
Fuel -15 gal (57 L)
Hydraulic Oil -15 gal (57 L)
Engine Coolant -1.5 gal (6 L) 50/50 Mix Only
Engine Oil - 6 qt (6 L)
Gear Box Oil - 9 oz (.26 L)

NOTES

BARK BLOWER

Model 302
Parts Manual

Model MMA

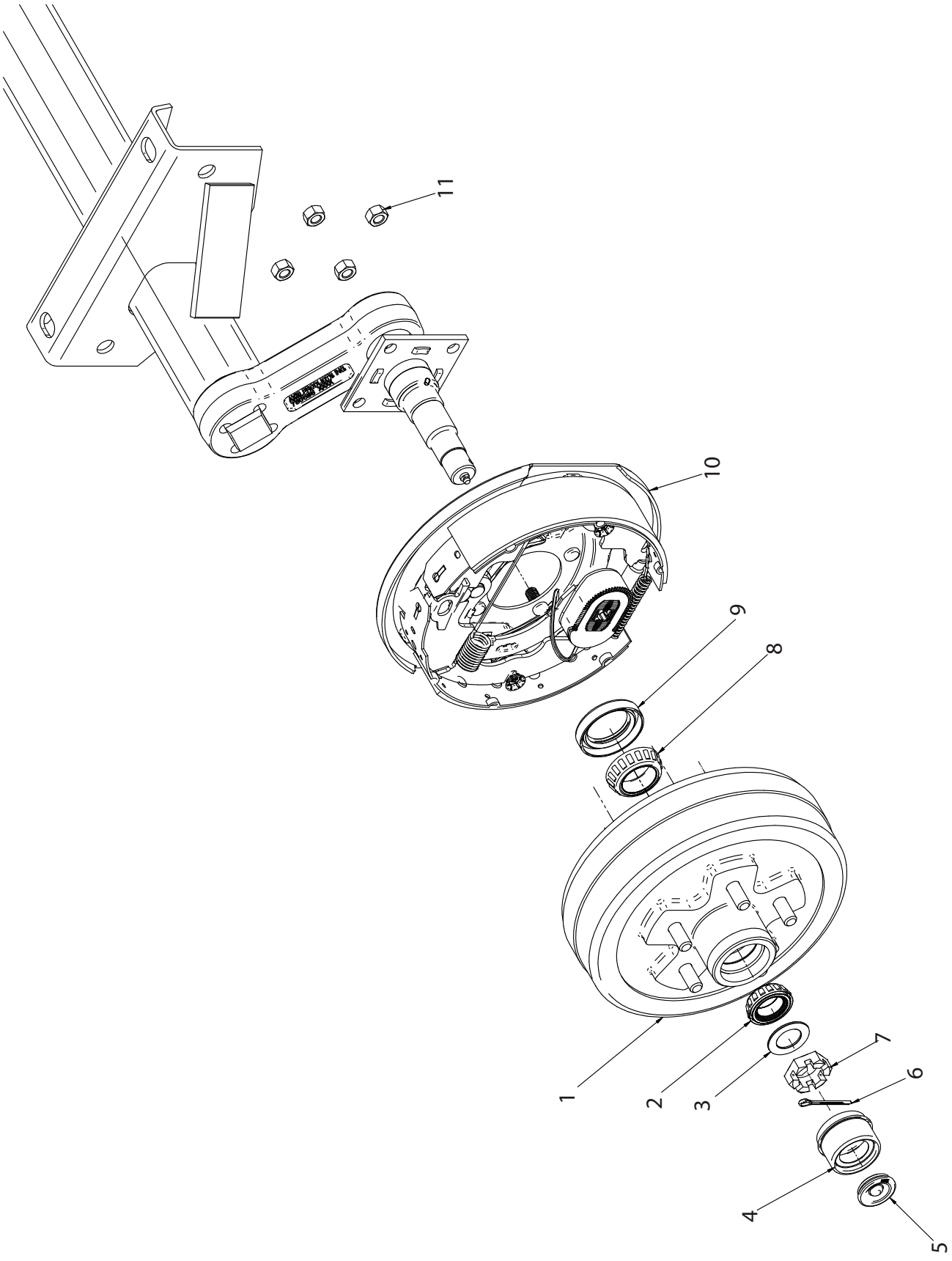


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HOPPER AND TRAILER PARTS

Ref. No.	Part Number	Description	No. Req'd
1	055531	Hopper Left Side	1
2	055530	Hopper Right Side	1
3	055533	Hopper Corner	1
4	055583	Front Cross Member	1
5	055529-01	Front-Left Support Angle	1
6	055529-02	Front-Right Support Angle	1
7	055638	Feed Chute	1
	055629	Material Retaining Flaps	2
	055577	Feed Chute Support Jack Base	1
	055577-03	Support Jack Lower Tube (Inner)	1
	055577-04	Support Jack Top Tube (Outer)	1
	FW71225	Support Jack Locking Snap Pin	1
	007913	Retaining Tie Back Strap	2
8	055623-01	Lower Feed Chute Seal	1
	055582-21	Seal Retaining Strap	1
9	055593	Fuel Tank	1
	007914	Fuel Cap	1
	080305	Fuel Gauge	1
	000575	Shut-Off Drain Cock	2
10	052160	Tool Box	1
11	055737	Tire and Rim Assembly	4
	055789	Axle with Brake Assembly (See Page 24-25)	2
12	080043	Tow Ring (Standard)	1
	005134	Coupler (Optional)	1
	005135	2 5/16 Ball (Optional)	1
	190028	Safety Chain	6'
	031181	Coupling Link	2
	023915	Clevis Grab Hook	2
		NOT SHOWN FOR CLARITY	
	022588	Trailer Jack	1
	055527	Engine and Blower Canopy	1
	055709	Canopy Support	2
	055594	Hydraulic Reservoir (See Page 35)	1

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

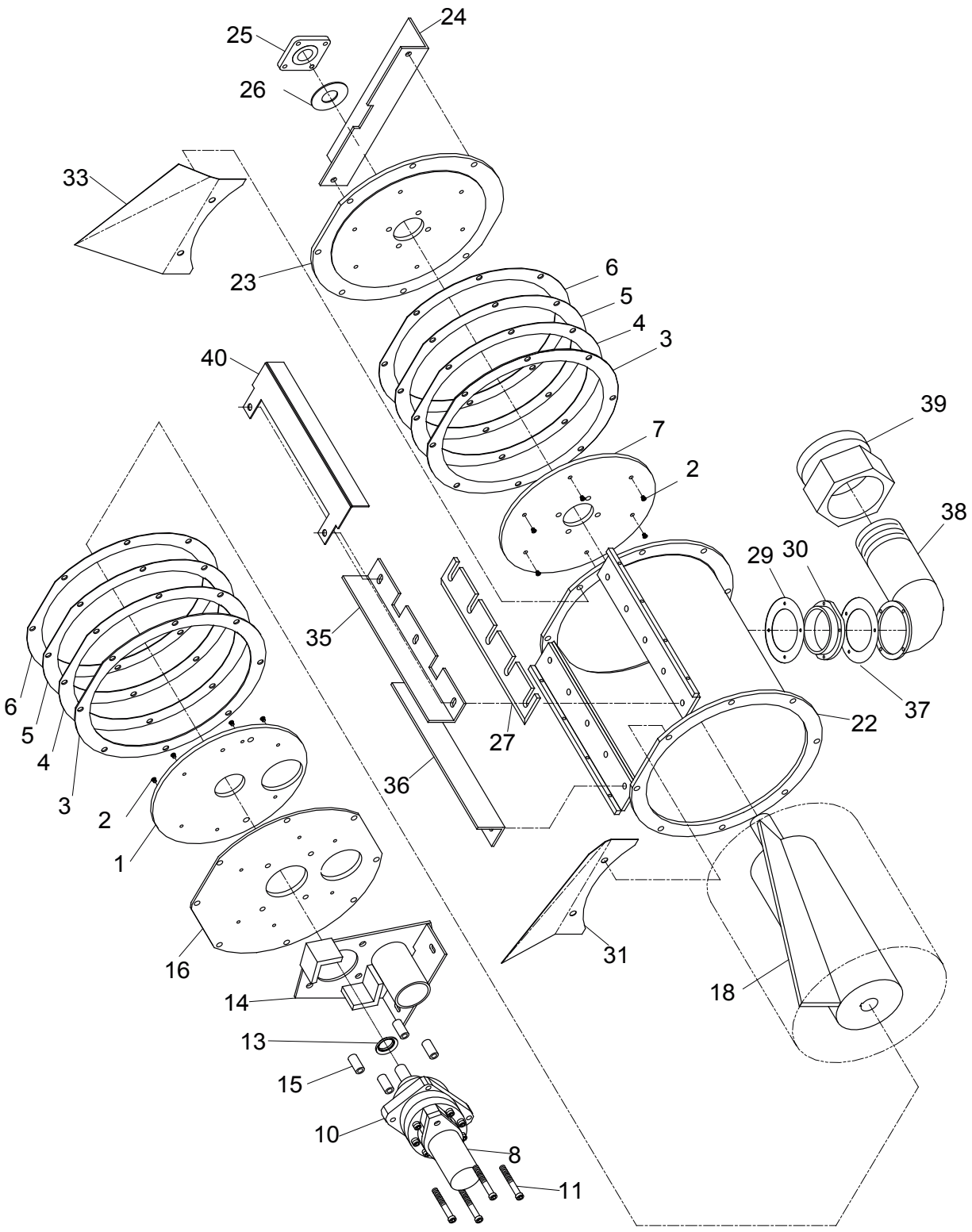


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

AXLE AND HUB PARTS

Ref. No.	Part Number	Description	No. Req'd
	055789	Axle Assembly	2
1	055789-11	Hub	2
2	055789-13	Outer Bearing Cup	2
3	055789-15	Spindle Washer	2
4	055789-18	Grease Cap	2
5	055789-19	Rubber Plug	2
6	055789-17	Cotter Pin	2
7	055789-16	Spindle Nut	2
8	055789-14	Inner Bearing Cone	2
9	055789-12	Bearing Seal	2
10	055789-8	Left-Hand Brake Assembly	1
	055789-9	Right-Hand Brake Assembly	1
11	055789-10	Nut	8

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

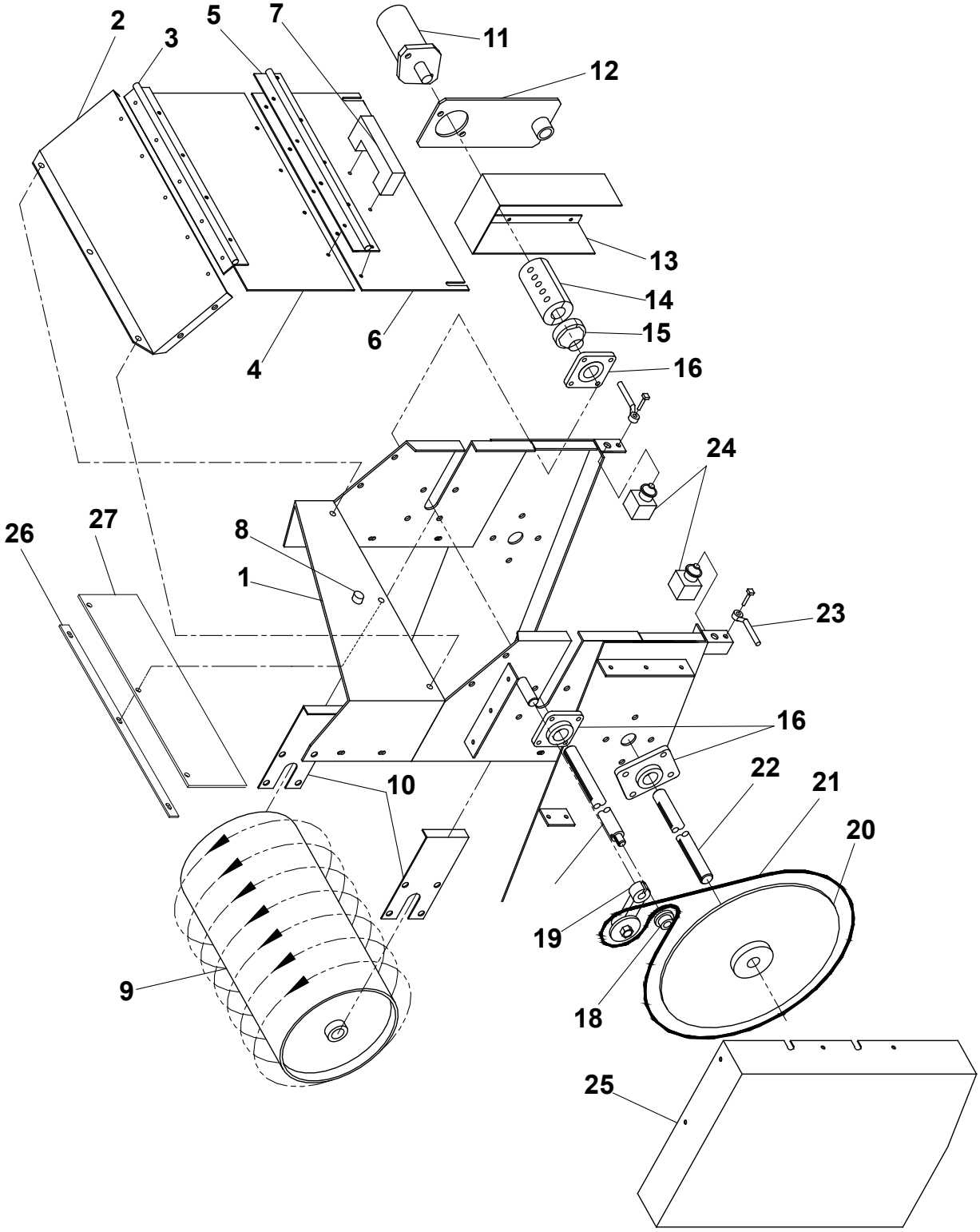


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

AIR LOCK PARTS

Ref. No.	Part Number	Description	No. Req'd
	055653	Air Lock Assembly	1
1	055721	Inlet Seal Plate	1per
2	055694	3/8-16 UNC X 3/4 Lg. Low Profile Soc Hd Bolt	8per
3	055148-01	1/32" Thick Style 50 Gasket	A/R
4	055148-02	1/16" Thick Style 50 Gasket	A/R
5	055148-03	1/64" Thick Style 50 Gasket	A/R
6	055148-04	0.006" Thick Style 50 Gasket	A/R
7	055720	Outlet Seal Plate	1per
8	055552	Hydraulic Motor	1per
9	055517	Motor Gasket (Not Shown)	1per
10	055464	Air Lock Gearbox	1per
11	X08060SH	1/2-13 X 3-3/4" Lg. Soc Hd Cap Bolt	4per
12	055464-1B	Gearbox Lip Seal (Not Shown)	1per
13	055700	Gearbox Slinger Seal	1per
14	055580	Inlet Flanged Gearbox Mount	1per
15	052139-03	Spacers (Must be within 0.002" of ea. other)	4per
16	055439-02	Air Lock Inlet End Plate	1per
18	055423	Finished Rotor	1per
19	Z0408	1/4-20 UNC X 1/2" Lg. Set Screw (Not Shown)	2per
20	055463	Hex Plug (Not Shown)	2per
21	055402	Hardened Rotor Key (Not Shown)	1per
22	055644	Air Lock Housing	1per
23	052103	Air Lock Outlet Plate	1per
24	055579-03	Air Lock Mounting Foot	1per
25	005446	Rotor Shaft Bearing	1per
26	F302-0003-01	Bearing Seal	1per
27	055113	Chipper Knife	1per
28	XS0444	Chipper Knife Alignment Screw (Not Shown)	4per
29	055440	Plastic Shim	A/R
30	055597	Discharge Insert	1per
31	055619-01	Right Hand Deflector	1
32	055623-02	Deflector Skirt (Not Shown)	2
33	055619-02	Left Hand Deflector	1
35	055635-01	Air Lock Seal Angle w/Knife	1
36	055635-02	Air Lock Seal Angle w/o Knife	1
37	055440-01	Discharge Elbow Gasket	1
38	055630	Disharge Elbow	1
39	055374	Hose Adapter	1
40	F302-0005	Knife Screw Cover	1

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

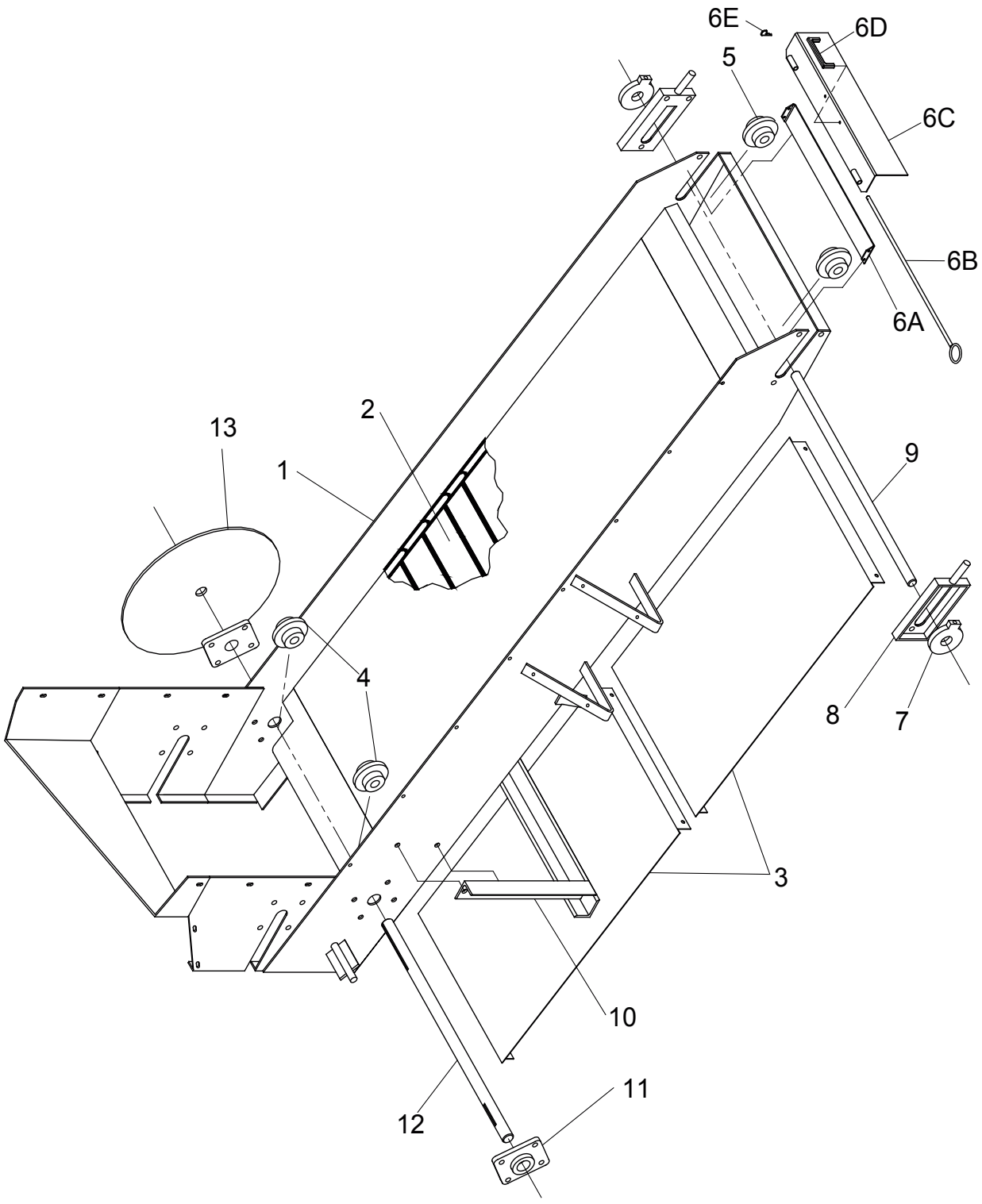


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

FEEDER PARTS

Ref. No.	Part Number	Description	No. Req'd
1	055792	Conveyor Weldment	1
2	055532-01	Feeder Top Cover	1
3	055631-01	Top Cover Hinge	1
4	055532-02	Feeder Door (Center Panel)	1
5	055631-02	Feeder Door Hinge	1
6	055532-03	Feeder Door (Bottom Panel)	1
7	055586	Feeder Door Handle	1
8	085152	Feeder Door Stop	1
9	055625	Feed Roll	1
10	055563-01	Feed Roll Closure Plate	2
11	055698	Feed Roll Hydraulic Motor	1
12	055267-01	Hydraulic Motor Mounting Plate	1
	004630	Torque Arrester Insert	1
13	055537	Coupling Guard	1
14	055545	Feed Roll Coupling	1
	190123-32	Coupling Key	1
15	021440	Feeder Roll Bushing	1
	190123-32	Bushing Key	1
16	055502	1-1/4" Shaft Bearing	4
17	055596-03	Feed Roll Shaft	1
18	055544	Drive Sprocket	1
	190122-16	Drive Sprocket Key	1
19	055486	Idle Sprocket Tensioner	1
	055572-06	Conveyor Spacer	1
20	055547	Driven Sprocket	1
	190123-20	Driven Sprocket Key	1
21	055546	Roller Chain	1
22	055596-02	Conveyor Floor Drive Shaft	1
23	031258	Feeder Door Lock Lever	2
	Z0632SCP	Lever Stud	2
24	055407	Safety Switch	2
25	055528	Chain Cover	1
26	055745	Clamping Strap	1
27	055744	Closure Flap	1

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

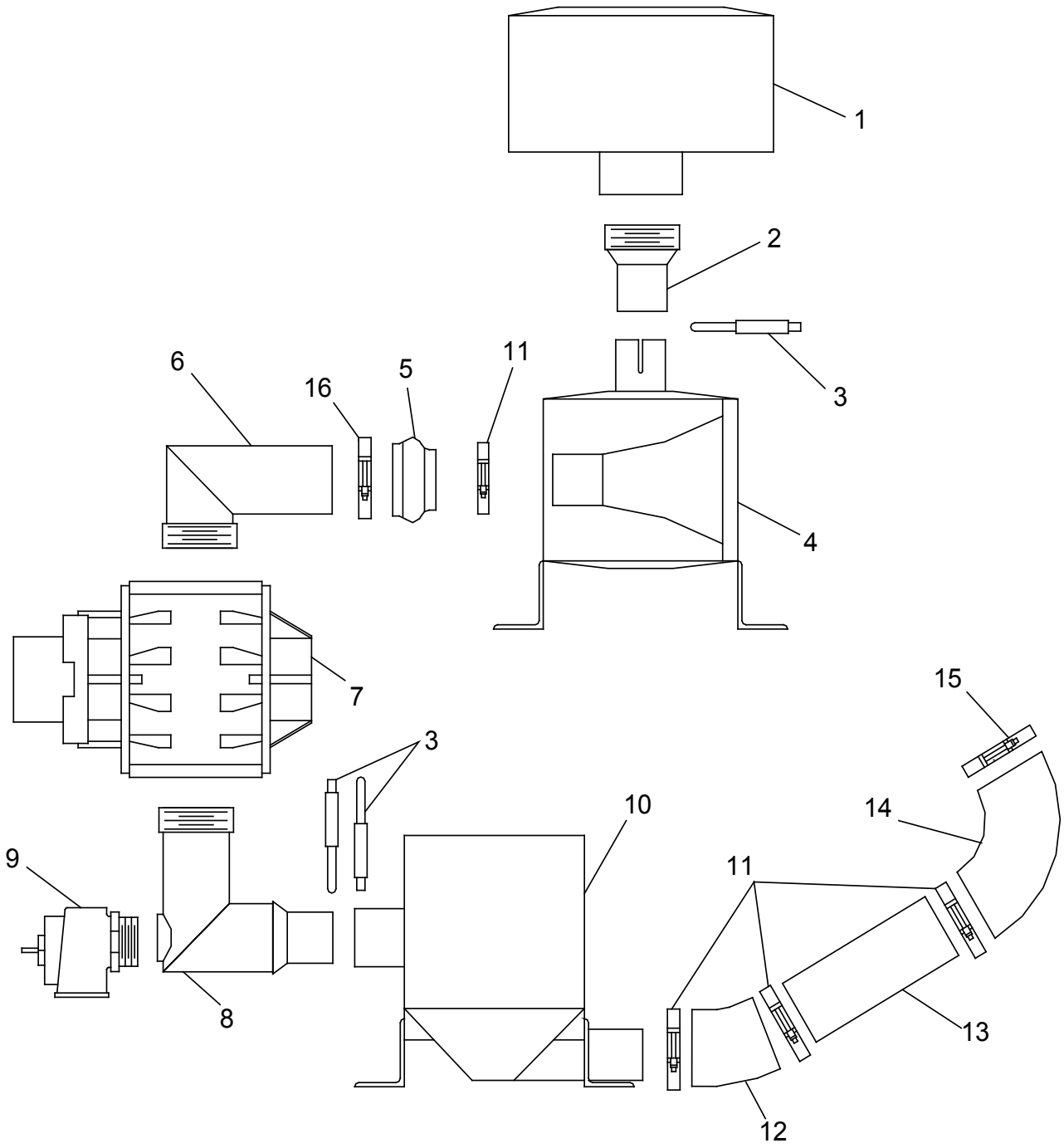


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

CONVEYOR PARTS

Ref. No.	Part Number	Description	No. Req'd
1	055792	Conveyor Weldment	1
2	055483	Conveyor Drag Chain Assembly	1
	055703	Replacement Individual Slat	
	055843-RK	Replacement Cotter and Pin w/ Link	
3	055524	Conveyor Floor Pan	2
4	021517-04	Conveyor Drive Sprocket	2
	190123-32	Drive Sprocket Key	2
5	021517-02	Conveyor Take-Up Sprocket (no key)	2
6A	F302-0006-02	Front Clean Out Door Lip	1
6B	055728-02	Front Clean Out Door Pin	1
6C	055729	Front Clean Out Door	1
6D	055586	Clean Out Door Handle	1
6E	030894	Cotter Pin	1
7	055487	1" Take-up Bearing	2
8	055488	Take- Up Bearing Frame (Bearing Not Included)	2
9	055596-01	Conveyor Take-Up Shaft	1
10	055572	Conveyor Mounting Frame	1
11	055502	1-1/4" Shaft Bearing	2
12	055596-02	Conveyor Drive Shaft	1
13	055547	Driven Sprocket	1
	190123-20	Driven Sprocket Key	1

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

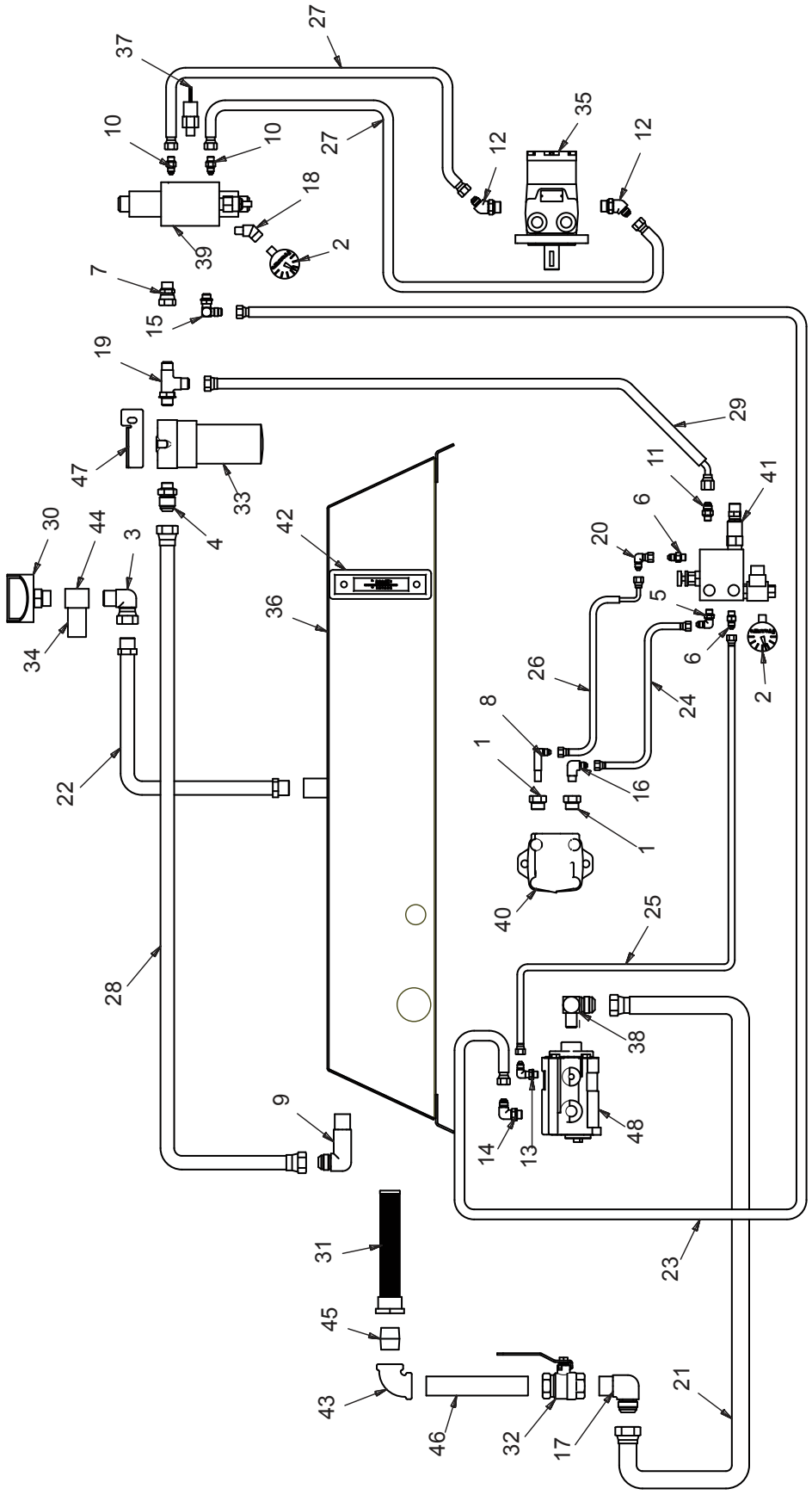


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

BLOWER COMPONENTS

Ref. No.	Part Number	Description	No. Req'd
1	055144	Filter	1
	055145	Filter Element	1
2	055584-06	Blower Filter Adapter	1
3	055501	Muffler Clamp	3
4	055584	Inlet Silencer	1
5	055498	Hump Reducer	1
6	055575-02	Blower Inlet Adapter	1
7	055706	Blower	1
8	055575-01	Blower Outlet Adapter	1
9	055141	Relief Valve	1
10	055585	Outlet Silencer	1
11	055496	Clamp 300 Series	4
12	055499	Modified 45 Elbow	1
13	055574-11	Air Lock Extension Tube	1
14	060325	90 Reducer Elbow	1
15	055497	Clamp 350 Series	1
16	055335	Clamp 400 Series	1

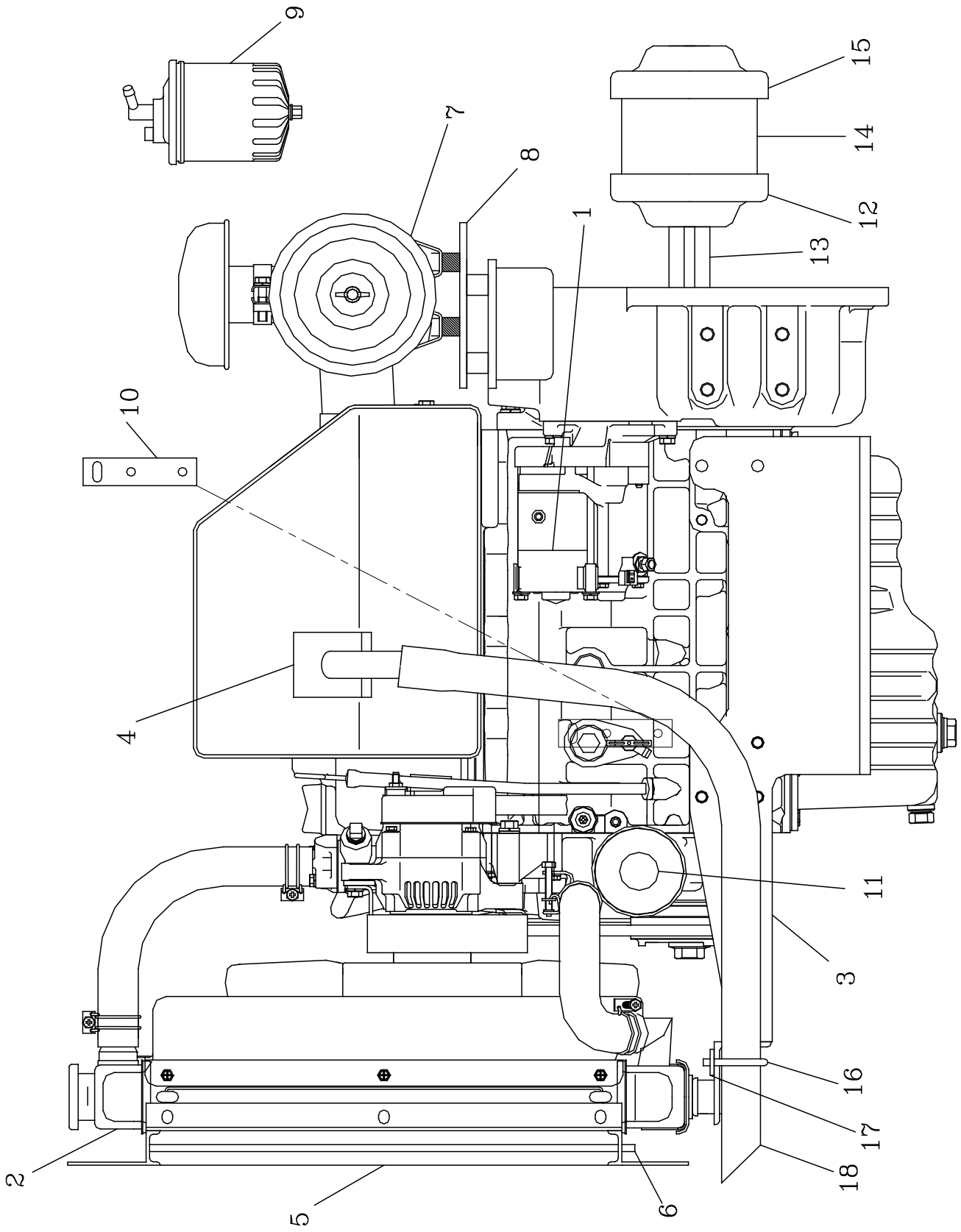
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



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

HYDRAULIC PARTS

Ref. No.	Part Number	Description	No. Req'd
1	005686	MSAE - FNPT Adapter	2
2	012044	Pressure Gauge	2
3	022862	90° NPT Swivel Elbow	1
4	055233	MSAE - MJIC Adapter	1
5	055274	MSAE - MJIC 90° Elbow Adapter	1
6	055308	MSAE - MJIC Adapter	2
7	055357	MSAE - FJIC Swivel Adapter	1
8	055598	MNPT - MJIC 90° Long Elbow Adapter	1
9	055599	MNPT - MJIC 90° Long Elbow Adapter	1
10	055601	MSAE - MJIC Adapter	2
11	055602	MSAE - MJIC Adaper	1
12	055741	MSAE - MJIC 45° Elbow Adapter	2
13	055742	MSAE - MJIC 90° Elbow Adapter	1
14	055743	MSAE - MJIC 90° Elbow Adapter	1
15	FW71488	MSAE - MJIC 90° Elbow Adapter	1
16	FW71450	MNPT - MJIC 90° Elbow Adapter	1
17	FW71450	MNPT - MJIC 90° Elbow Adapter	1
18	FW71609	45° NPT Street Elbow	1
19	FW71869	SAE Run Tee	1
20	FW71909	90° JIC Swivel Elbow	1
21	055606	1" Hyd. Hose x 23-1/2"	1
22	055607	3/4" Hyd. Hose x 27"	1
23	055610	3/8" Hyd. Hose x 34"	1
24	055614	1/4" Hyd. Hose x 26"	1
25	055615	1/4" Hyd. Hose x 68"	1
26	055616	1/4" Hyd. Hose x 26"	1
27	055687	3/8" Hyd. Hose x 41"	2
28	055758-01	3/4" Hyd. Hose x 56"	1
29	055758-02	3/8" Hyd. Hose x 48"	1
30	005793	Hydac Filler / Breather	1
31	011466	Suction Strainer	1
32	021559	1" NPT Ball Valve	1
33	023913	Hydraulic Filter	1
	023914	Filter Element	1
34	055267-08	Oil Fill Plate	1
35	055552	Hydraulic Motor	1
36	055594	Hydraulic Reservoir	1
37	055659	Pressure Switch	1
38	055600	MNPT - MJIC 90° Elbow Adapter	1
39	055682	Scott Manifold	1
40	055698	Hydraulic Motor	1
41	055730	Scott Manifold	1
42	080329	Hydraulic Level Gauge	1
43	160010	1" 90° Pipe Elbow	1
44	160168	3/4" Pipe Coupling	1
45	160305	1" Close Nipple	1
46	160498	1" Nipple x 7"	1
47	F302-0017	Hydraulic Filter Mount	1
48	KUK16285	Hydraulic Pump	1

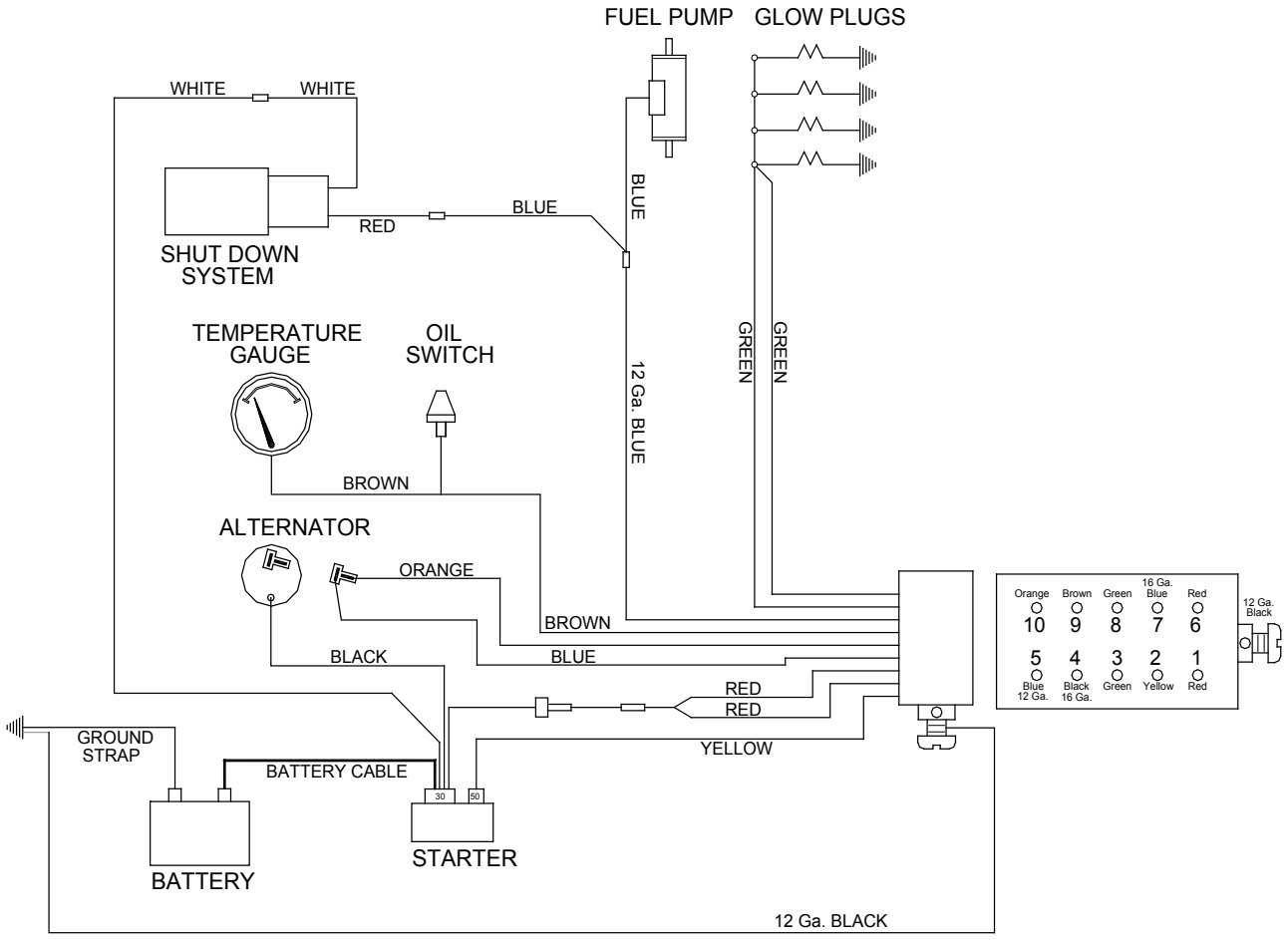


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

ENGINE PARTS

Ref. No.	Part Number	Description	No. Req'd
1	031473	Kubota V1505B-86 Engine	1
2	031470	Radiator Assembly	1
	031444	Upper Radiator Hose	1
	007695	2" Hose Clamp	4
	031445	Lower Radiator Hose	1
	KU16285-74110	Fan-Suction	1
3	031424	Engine Mount	1
	055504	Engine Shock Mount	4
	055505	Shock Mount Snubbing Washer	4
4	KU37560-88513	Muffler	1
	KU16271-92010	Nuts	8
	KU16251-91510	Stud	4
	KU16251-91520	Stud	4
	KU37560-12360	Gasket	1
5	055753	Screen Frame Weldment	1
	F302-0010	Screen Frame Shim	2
	055637	Radiator Screen (Removable)	1
6	055711-04	Screen Fastening Rod	1
	030894	Fastening Rod Cotter Pin	1
7	031354	Air Cleaner Assembly	1
	KU15741-11080	Element	1
	055548	Mounting Band	2
	031442	Pre-Cleaner	1
	031376	Shock Mount Stud	4
8	055620	Air Cleaner Mounting Plate	1
	055515-02	Mounting Plate Spacer	4
9	031355	Fuel Filter Assembly	1
	KU70000-43081	Filter Element	1
	080105	Pre-Fuel Filter	1
10	055691-01	Throttle Plate (See Pg. 46)	1
	023814	Electric Throttle (See Pg. 46)	1
11	KU16271-32090	Oil Filter	1
12	031273	Coupling Half	1
13	055595	Flywheel Drive Shaft	1
	190125-32	Square Key	1
14	031274	Coupling Insert	1
15	055102	Coupling Half	1
16	031421	Exhaust Clamp	2
17	005574-03	Tail-Pipe Support Bracket	1
18	005710	Exhaust Tail-Pipe	1
	055568	Temperature Switch	1
	080103	Fuel Pump	1
	KU15501-72400	Coolant Recovery Tank w/Bracket	1
	055569	Engine Coupling Guard	1

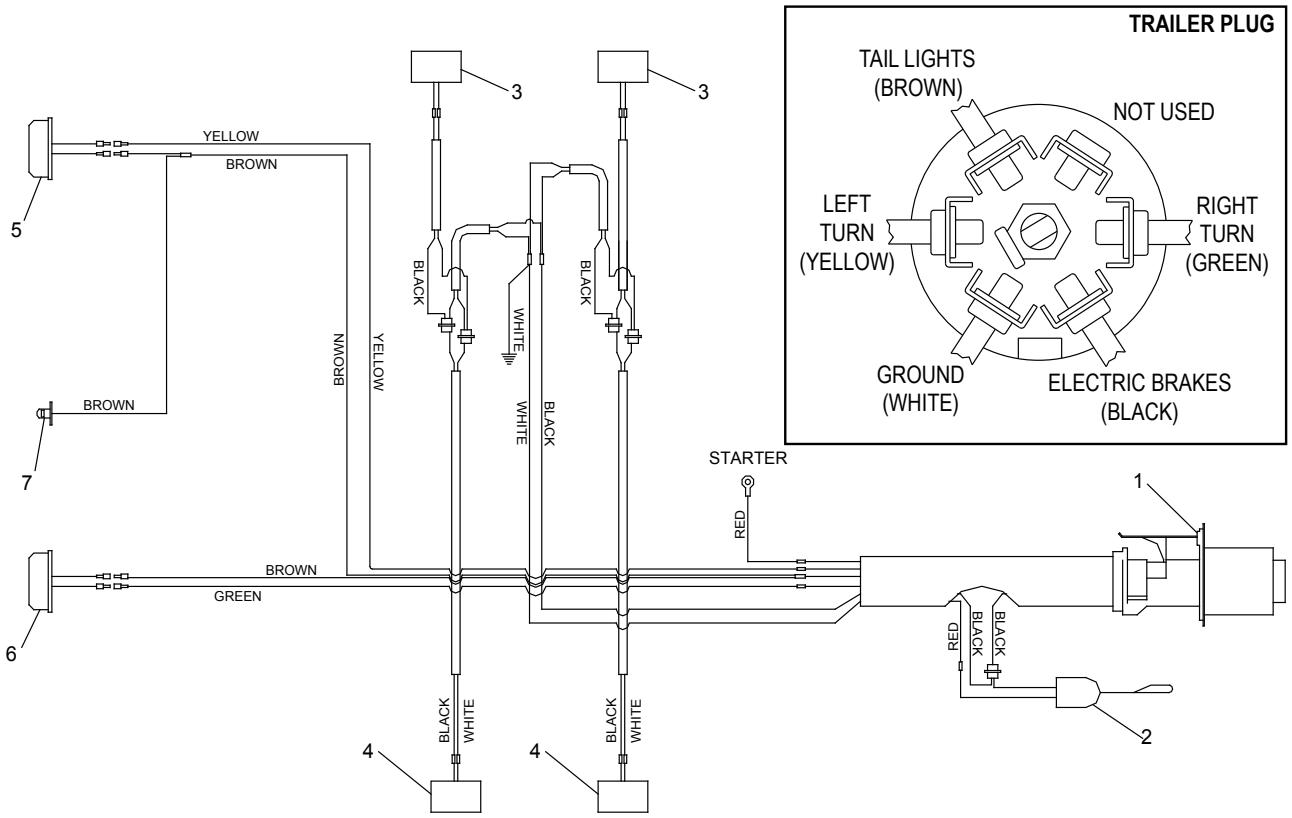
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



ENGINE WIRING

Part Number	Description	No. Req'd
031457B	Wiring Harness	1
055568	Temperature Switch	1
004934	Oil Switch	1
002256-12	Battery (12-Volt)	1
031031	Battery Cable	1
000241	Ground Strap	1
080103	Fuel Pump	1
031458-01	Shutdown Solenoid	1
170028	Fuse w/Holder	1
005561	Electrical Housing	1
023602	Electrical Housing Plug	1

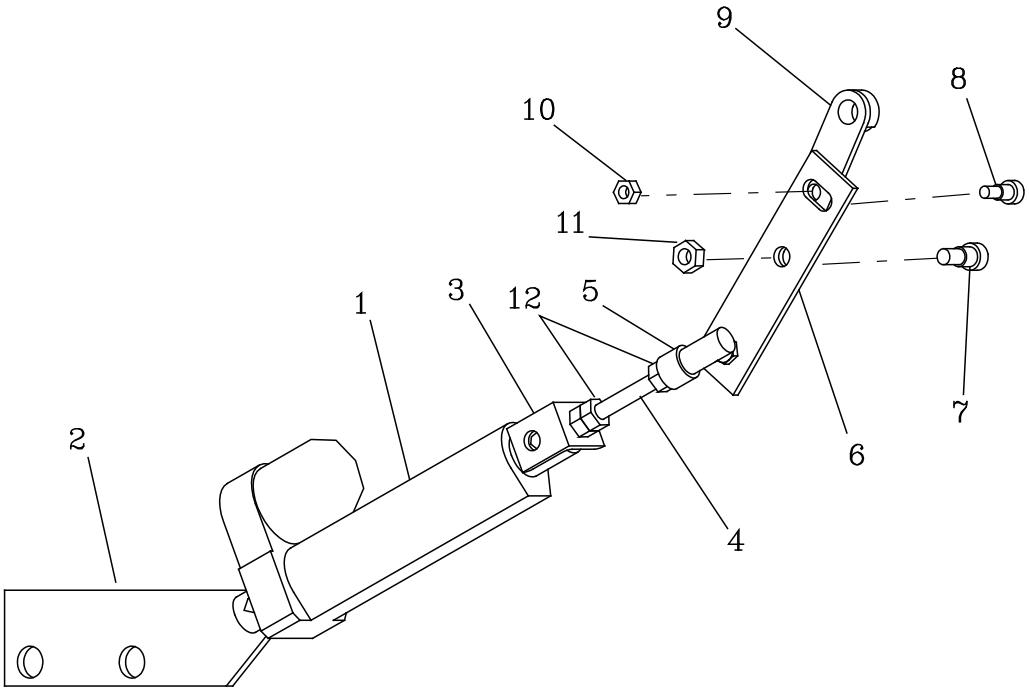
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



TRAILER WIRING

Ref. No.	Part Number	Description	No. Req'd
	055650	Trailer Wiring Harness	1
1	075592	7-Blade RV Style Trailer Plug	1
2	023424	Breakaway Switch	1
	190029	Chain	5
	005016	"S" Hook	2
	005017	Snap	1
3	031222	Left-Hand Brake Assembly	1
4	031222	Right-Hand Brake Assembly	1
5	005137	Taillight-Left Hand Side	1
	005137-A	Lens, Taillight	1
6	005138	Taillight-Right Hand Assembly	1
	005137-A	Lens, Taillight	1
7	005436	License Plate Light	1
	004720	License Plate Bracket	1

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

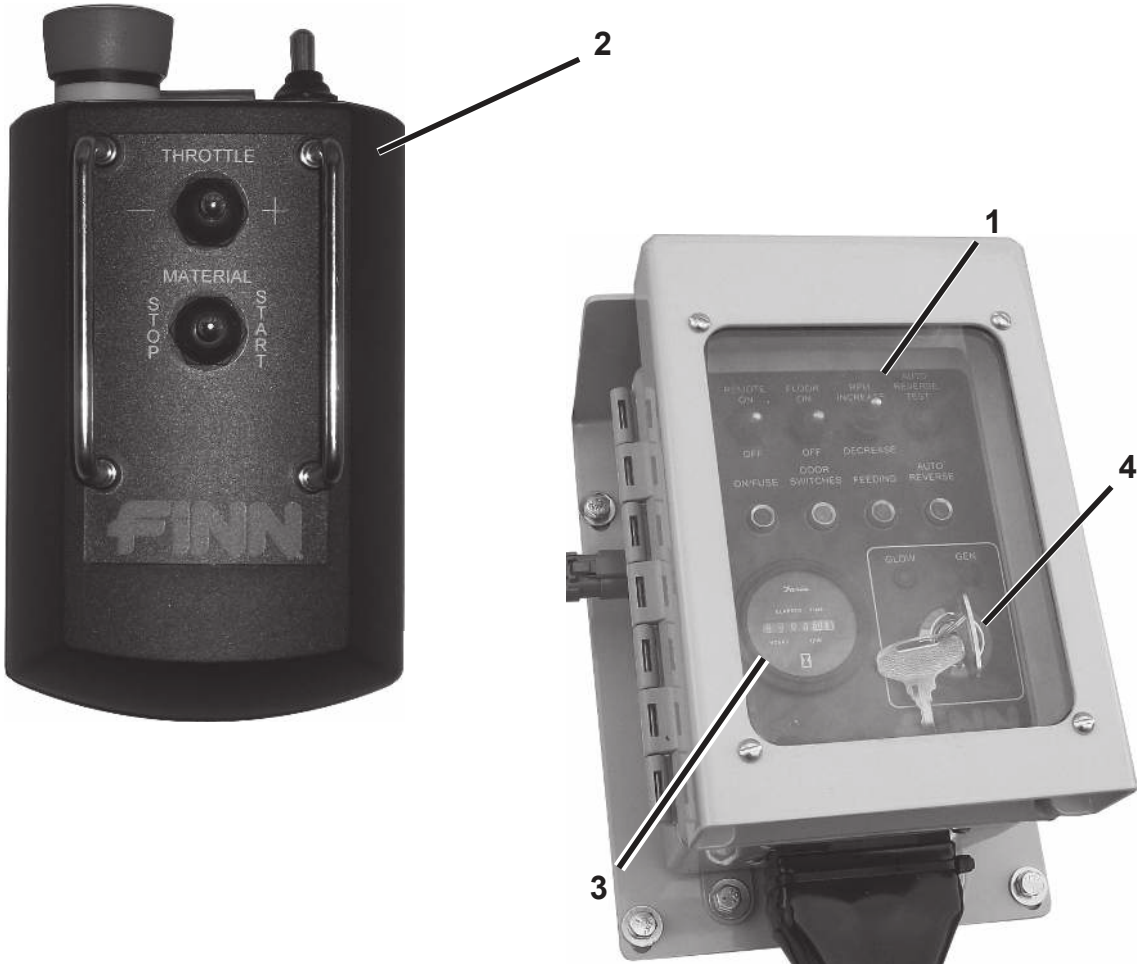


Wire Connection
White to Black
Black to Red

ELECTRIC THROTTLE

Ref. No.	Part Number	Description	No. Req'd
1	023814	Electric Throttle	1
2	055691-02	Engine Base Mount	1
3	F302-0007	Adjusting Rod Arm Mount	1
4	055695-02	Adjusting Rod	1
5	012193	Ball Joint	1
6	055691-01	Throttle Pivot Arm	1
7	055693	Pivot Shoulder Bolt	1
8	055692	Sliding Shoulder Bolt	1
9	KU16271-57150	Fuel Injector Arm	1
10	Y#10L	#10-24 Lock Nut	1
11	Y04L	¼-20 Lock Nut	1
12	Y04FJ	¼-28 Jam Nut	2

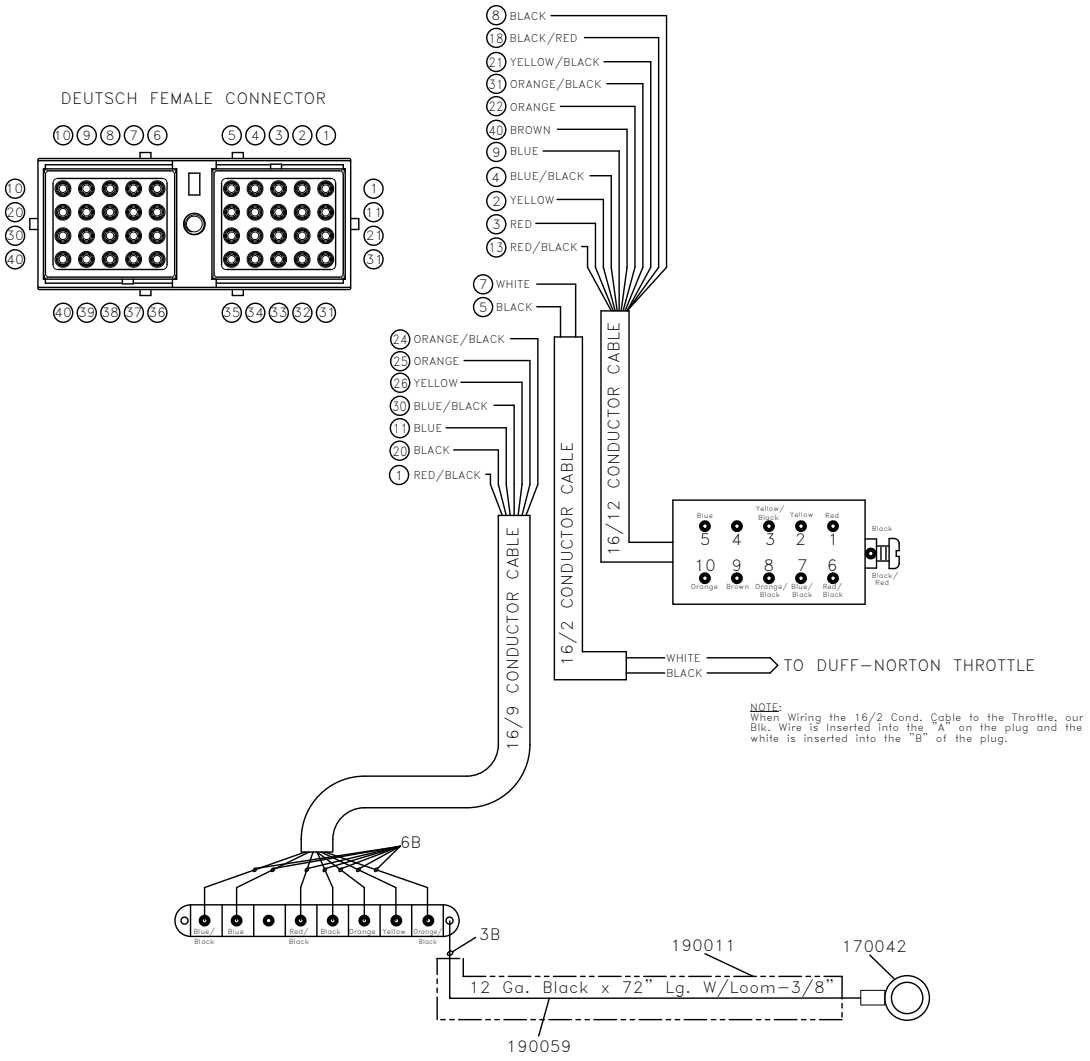
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



RADIO REMOTE TRANSMITTER AND BOX

	Part Number	Description	No. Req'd
1	055790	BB302 PLC Control Box Assembly	1
2	055790-T	2 Function Radio Remote Transmitter	1
	055790-RP	Remote Pendant	1
	055790-B	Box Only	1
3	007274	Hour Meter	1
4	KU66711-55131	Ignition Switch	1

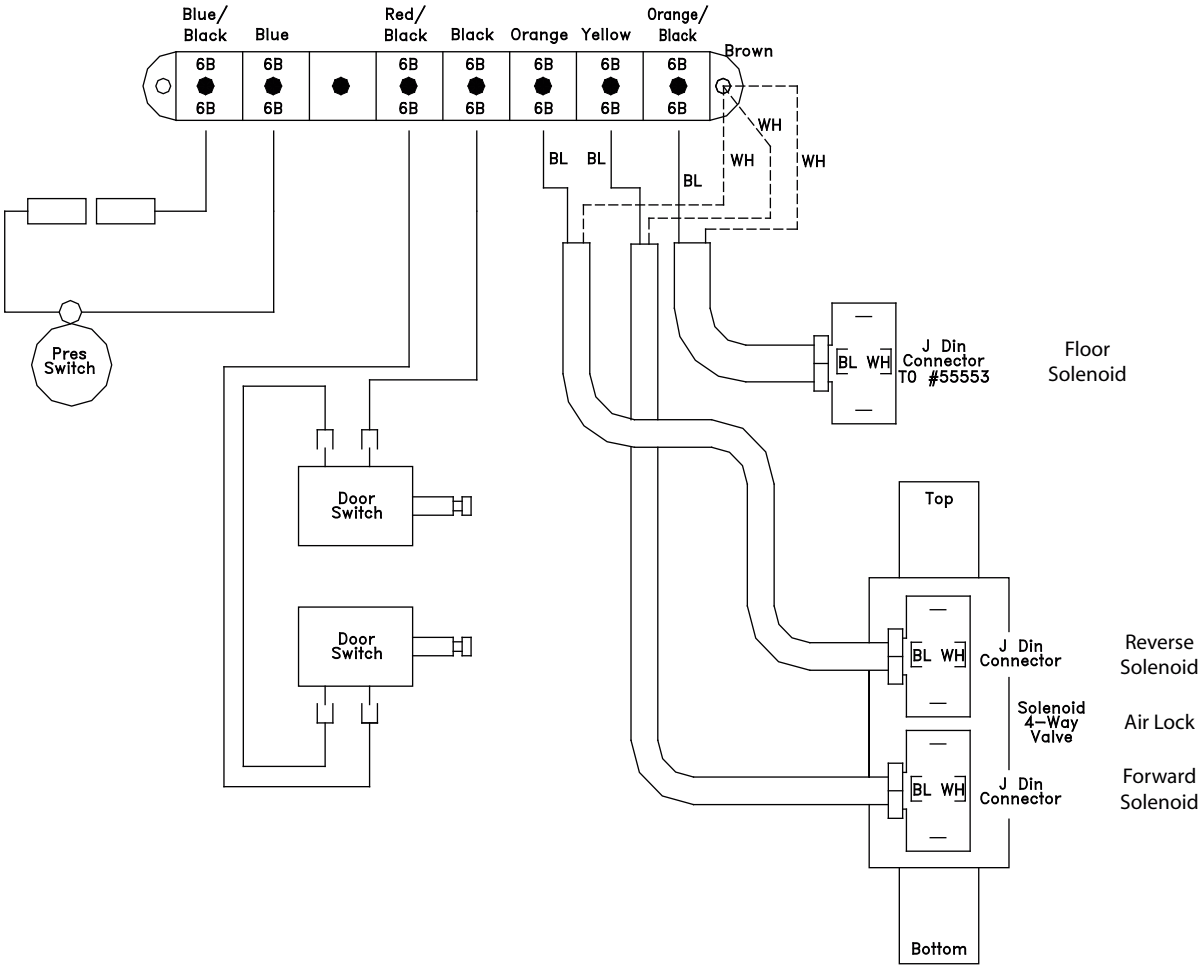
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



CONTROLS WIRING/ENGINE

	Part Number	Description	No. Req'd
	055793	Control Box Harness	
1	190080	16/9 Conductor Cable	6'
2	190155	16/12 Conductor Cable	8'
3	190156	16/2 Conductor Cable	7.5'
4	055794	Deutsch Female Receptacle	1
5	023604	Hood, Side Entry	1
6	023601	Male Insert	1
7	170004	Terminal Ring	1
8	170005	Terminal Ring	7
9	170111	Deutsch 16 Ga. Socket	20
10	170124	Deutsch Sealing Plug	2
11	055795	Deutch Connector Boot	1
12	170042	Ring Tongue: 12-10 GA 1/2"Stud	1
13	190011	3/8 Corrugated Loom	72"
14	190059	Wire 12 Ga. Black SAE SXL	72"

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

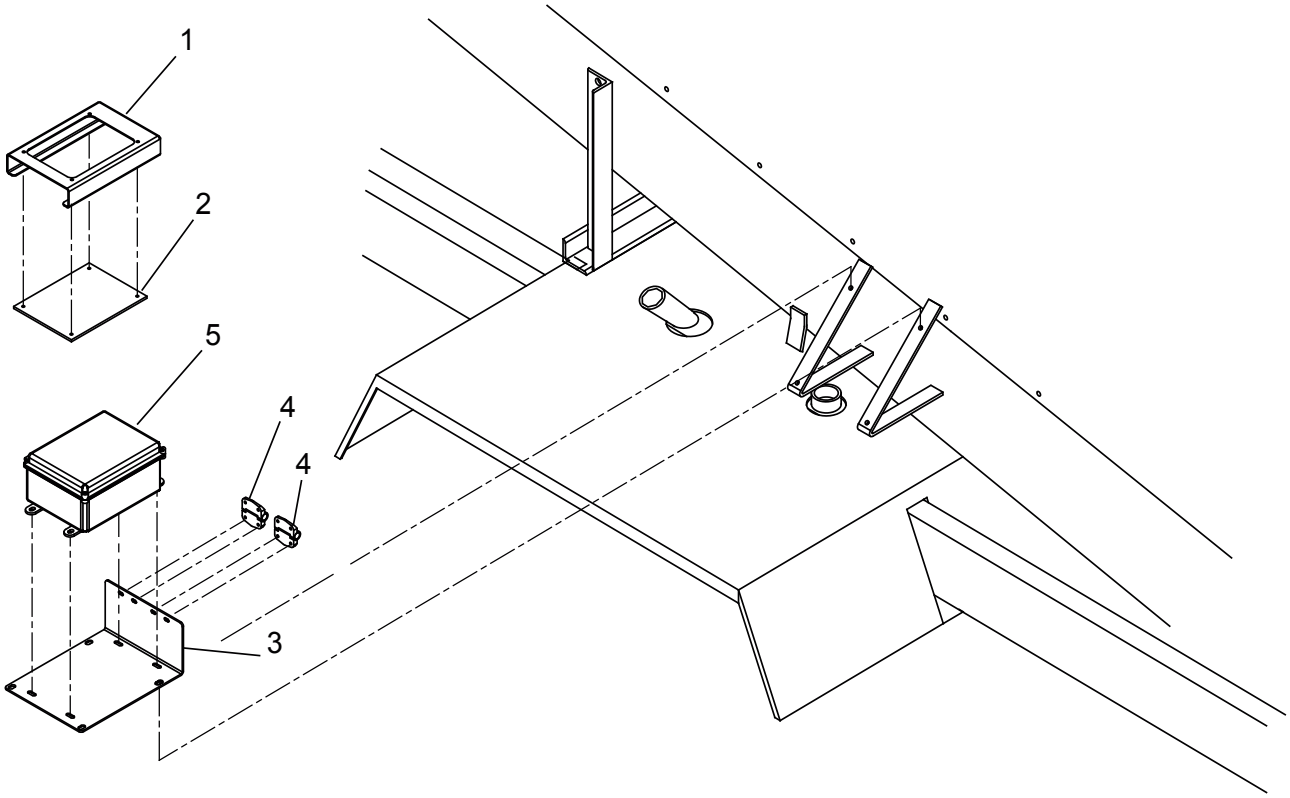


CONTROLS WIRING

Part Number	Description	No. Req'd
055689	Wiring Harness	1
031401	Stud Junction Block	1
FW71548	J Din Connector	3
055407	Door Switch	2
*55682	4-Way Solenoid Valve	1
*55659	Pressure Switch	1

* Note: See Hydraulic Schematic On Page 34-35

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

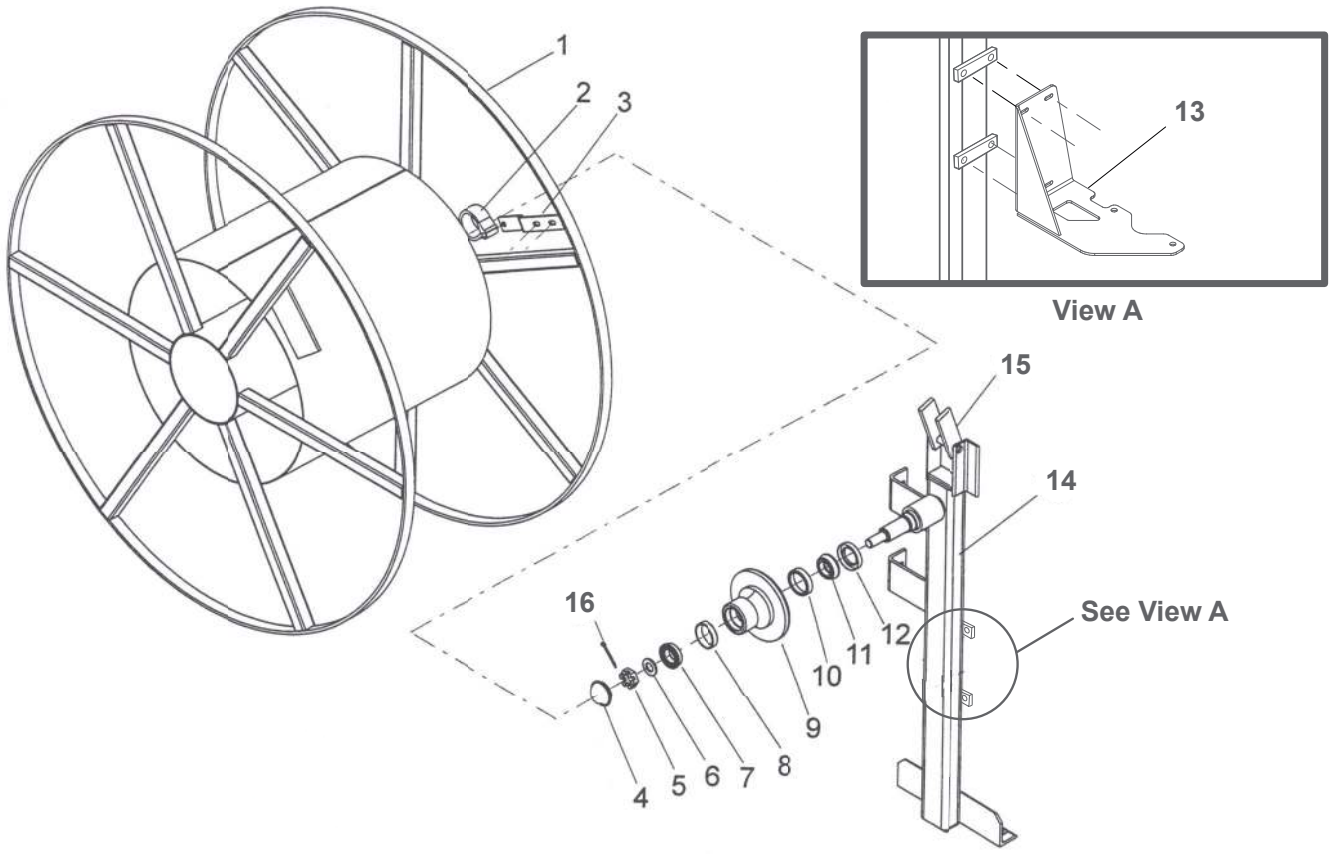


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

CONTROL BOX COVER ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	F302-0018	Cover Frame	1
2	055791	Clear Cover Lens	1
	X#1008R	#10-24 x ½" Lg. RD Bolts	4
	Y#10K	#10-24 Keps nut	4
3	F302-0019	Cover Mounting Base	1
4	055669	Cover Hinge	2
	X#1008R	#10-24 x ½" Lg. RD Bolts	8
	Y#10K	#10-24 Keps Nut	8
	WF#10F	#10 Flat Washer	8
5	055790	Control Box Assembly	1

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



HOSE REEL ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
	055716	Hose Reel Assembly:	
1	055714	Hose Reel Drum	1
2	055725	Drum Brake	1
3	F302-0004-03	Brake Arm	1
4	WL1504	Dust Cap	1
5	WLSN-750	Spindle Nut	1
6	WLSW-751	Spindle Washer	1
7	WLLM11949	Outer Cone	1
8	WLLM11910	Outer Cup	1
9	WLH-15-450E	Hub Assembly	1
	WLSTN-509	Lug Nuts	4
10	WLLM67010	Inner Cup	1
11	WLLM67048	Inner Cone	1
12	WLSL-150	Seal	1
13	F302-0008	Hose Reel Bracket	1
14	055713	Hose Reel Mount	1
15	055715-01	Hose Reel Lock	1
16	WLSCP-100	Cotter Pin	1
	055715-02	Hose Filter Guard Bar	1

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

TOOL KIT

Part Number	Description	No.Req'd
055385	4" Coupler Gasket	1
012681A	FINN Beige Aerosol Paint	1
053075	Red Diffuser Cone 4"	1
020365	Grease, Multi Purpose	1
021375	Grease Gun (Hose Not Included)	1
021741	12" Whip Hose W/1/8" Male Ends	1
	Engine Parts Manual	1
	Engine Operators Manual	1
	Blower Operators Manual	1
	Bark Blower 302 Parts/Operators Manual	1

DISCHARGE HOSE

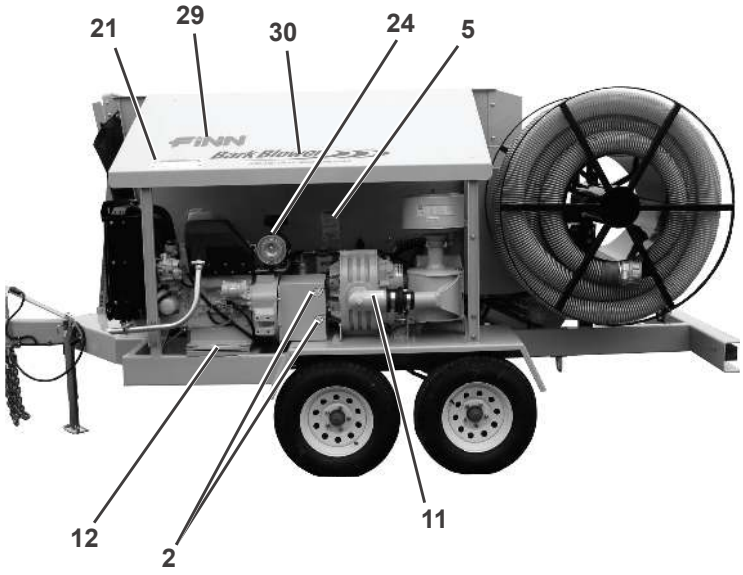
Part Number	Description	No. Req'd
055399B	4"X100' BB Hose Assembly	1
055398B	4" x 50' BB Hose Assembly	3
055377	Hose Adapter	2 per
055304	Clamp	2 per
055374A	Aluminum Adapter Part A	1 per
055375A	Aluminum Coupler Part D	1 per
053075	Deflector Assembly	1

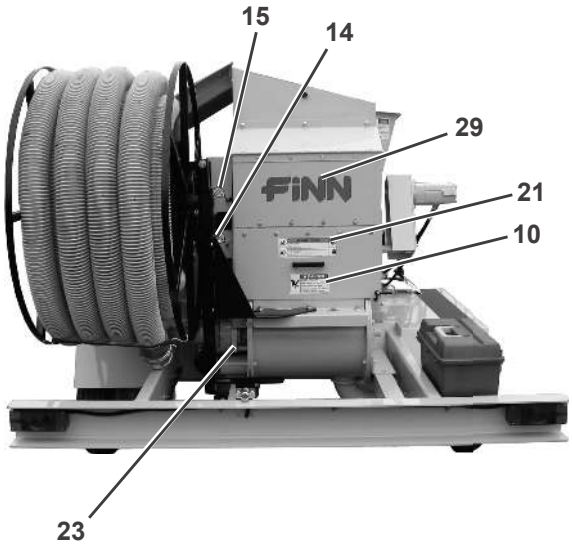
RECOMMENDED SPARE PARTS

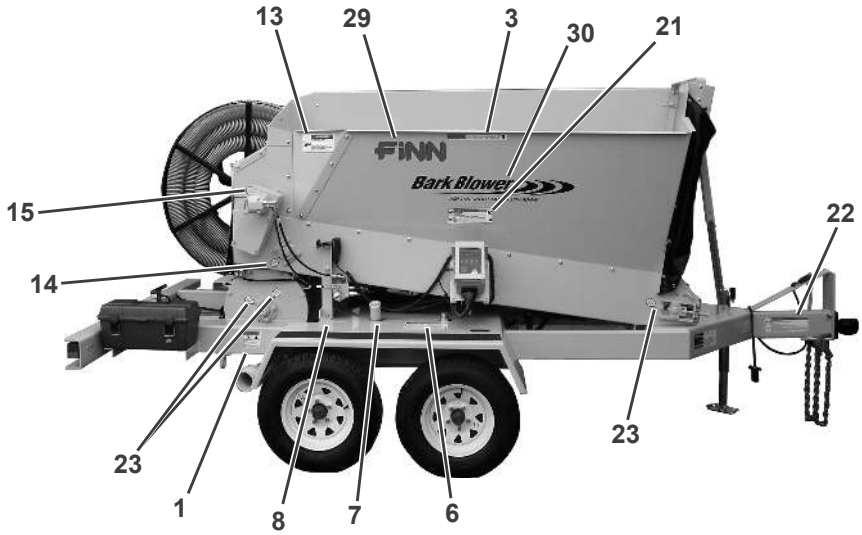
Part Number	Description
055145	Blower Filter Element
023914	Hydraulic Oil Return Filter Element
KU70000-43081	Fuel Filter
080105	Pre-Fuel Filter
KU16271-32090	Engine Oil Filter
KU15741-11080	Air Cleaner Element
055113	Air Lock Knife
055385	Hose Coupler Gasket

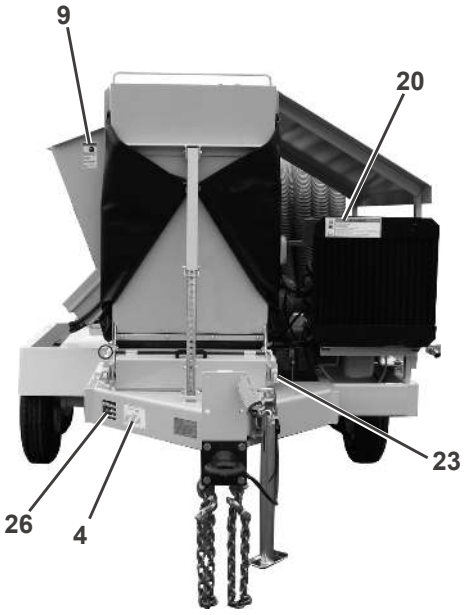
Recommended spare parts are available to help avoid unnecessary down time.

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









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

DECAL LOCATION

Ref. No.	Part Number	Description	No. Req'd
	055748	BB302 Decal Sheet	
1	055280	"WARNING! FLYING OBJECTS" Decal	1 per
2	007231	"SERVICE WEEKLY"	3 per
3	022690	"WARNING! FLYING OBJECT" Decal	1 per
4	055216	"U.S. PAT NO'S NOTICE" Decal	1 per
5	012687	"CAUTION. Hydraulic System Instructions" Decal	3 per
6	055724	"Operating Instructions" Decal	1 per
7	023391	"DIESEL FUEL" Decal	1 per
8	055723	"FLOOR-Slow-Fast" Decal	1 per
9	023519	"WARNING! Wear Proper Eye Protection" Decal	1 per
10	055219	"DANGER! SEVER HAZARD" Decal	1 per
11	052178	"CAUTION Rotary Blower Maint." Decal	1 per
12	012278	"WARNING! Burn Hazard" Decal	1 per
13	052177	"DANGER! Entanglement Hazard" Decal	1 per
14	007231-02	"SERVICE WEEKLY Up Arrow" Decal	2 per
15	007231-01	"SERVICE WEEKLY Down Arrow" Decal	5 per
20	031462	"WARNING! Burn Hazard" Radiator Decal	1 per
21	031463	"WARNING! Sever Hazard/Flying Debris" Decal	3 per
22	031461	"WARNING! Runaway Vehicle Hazard...."	1 per
23	007230-01	"SERVICE DAILY" Down Arrow	4 per
24	19426-87903	"CAUTION, Do Not Use Ether or..." Decal	1 per
26	011690*	FINN Name Plate	1
27	012260*	"IMPORTANT-Maintain all Safety..." (Not Shown)	1
28	055740*	BB302 GVWR Decal (Not Shown)	3
29	031235*	Red "FINN" Medium Decal	3
30	055639*	"BARK BLOWER" Die Cut Decal	2

Note:

These items are not a part of the Decal Sheet (P/N 055748). All other decals are not available individually, they are only available as part of 055748. These decals have been listed for location purposes only.

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