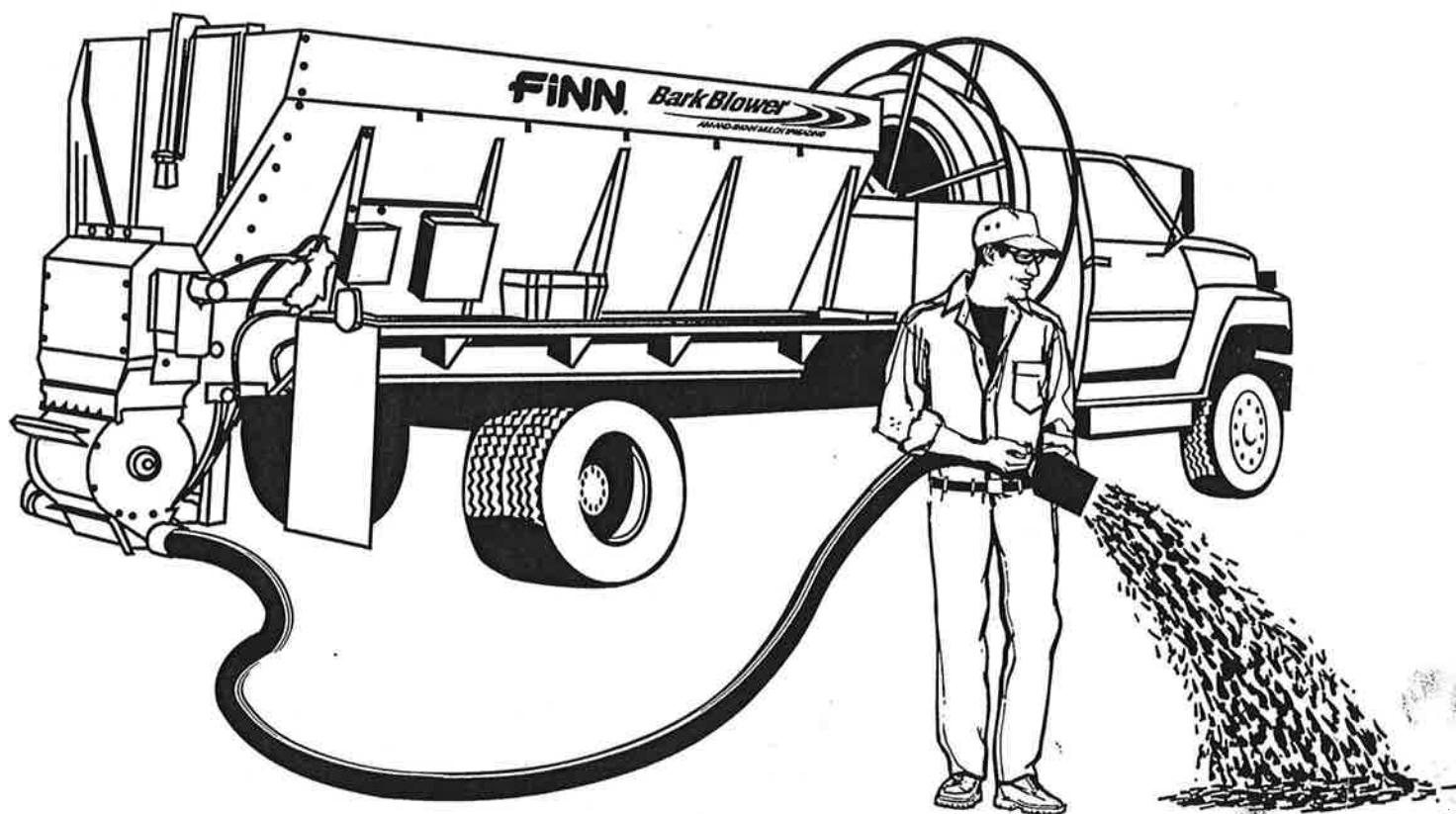


FINN

CORPORATION

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Bark Blower™
AIM-AND-SHOOT MULCH SPREADING

Models 808 & 816

Parts and Operator's Manual

Model No. RR

Serial No. _____

WARRANTY

Finn warrants to the original Purchaser for use (or rental to others for use) all new construction machinery and attachments therefore manufactured by Finn to be free from defects in material and workmanship for a period of 12 months from date of purchase or 1200 hours of use, whichever comes first. Replacement parts provided under the terms of this warranty are warranted for the remainder of the warranty period applicable to the product in which installed, as if such parts were original components of that product. Finn makes no warranty with respect to (a) allied equipment or trade accessories not manufactured by it (such as, but not limited to tires, ignitions, starters, hose, batteries, magnetos, carburetors, engines or like or unlike equipment or accessories), such being subject to the warranty, if any, provided by their respective manufactures; or (b) secondhand, used, altered, or rebuilt machines. Further, the warranty herein expressed shall be rendered null and void to the extent any defect or failure of the products warranted hereby arises out of or is caused by accessories or component parts not manufactured or supplied by Finn, whether same are supplied by Purchaser, dealers or any other party. THE WARRANTY DESCRIBED IN THIS PARAGRAPH 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.

Upon notification of Finn during the above-stated warranty period of any failure to conform to this warranty, and upon inspection by Finn to verify said nonconformity and verify the continuing existence of the warranty period, Finn will provide a new part or a repaired part, whichever Finn elects, to replace the part found to be defective. Such parts will be provided without charge to the Purchaser during normal working hours at a place of business of a Finn dealer or other establishment authorized by Finn to effect said repairs or replacements, but Purchaser shall bear all costs of transporting the product to and from such place of business or establishment. Correction of nonconformities, in the manner and for the period time provided above, shall constitute fulfillment of all liabilities of Finn under this contract.

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.

The essential purpose of this exclusive remedy shall be to provide the 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 PART 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.

Effective December 8, 1995

CALIFORNIA

Proposition 65 Warning

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

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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 to stress safe operation.

The first four pages of this manual are a summary of all the main safety aspects associated with this unit. Be sure to read completely before operation of machine.



This symbol is used throughout the operation and maintenance sections of this manual to call attention to safety procedures.
- Pay Attention -



DANGER:

Immediate hazards which **WILL** result in severe personal injury or death.



WARNING:

Hazards or unsafe practices which **COULD** result in severe personal injury or death.



CAUTION:

Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.

IMPORTANT:

Indicates that equipment or property damage could result if instructions are not followed.

NOTE:

Gives helpful information.

CALIFORNIA

Proposition 65 Warning

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

P/N 12304

Finn Corporation

BARK BLOWER

SAFETY SUMMARY SECTION

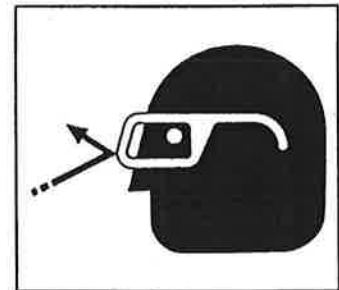
It is important that all operators of this machine are familiar with all the safety aspects mentioned below before operating the machine. Always keep a copy of this manual with the machine. It is the responsibility of the operator of the machine to fully understand this safety sheet. Remember that YOU 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):

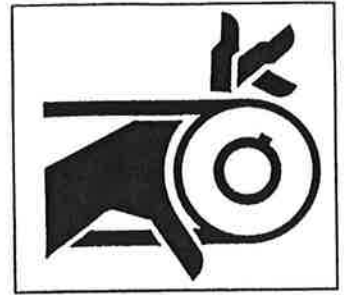
1. Verify that all guards are in place.
2. By carefully looking into the blower hopper and transition, inspect for and remove any foreign objects. Follow OSHA lockout/tagout procedure (29 CFR 1910.147)
3. Inspect all hydraulic hoses and tubes for cracks, bulges or damage. If hose is bad, replace immediately.
4. Inspect the material discharge hose and connections for cracks or damage. If damage is 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 requirements. Remove rings, watches, etc. Avoid loose fitting clothing which may get caught in rotating machinery.
2. Do not override or tamper with the safety shutdown switches on the transition doors. If switches fail, use OSHA lockout/tagout procedure (29 CFR 1910.147) until switches are repaired or replaced.

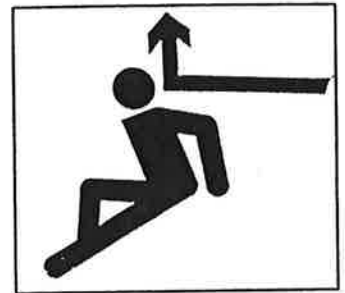


3. Do not operate the machine without all guards in place.



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

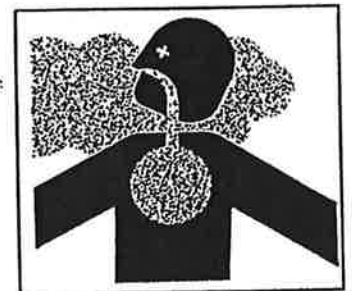
5. Make sure that no one is working in or on the machine. Make sure the discharge area is clear of all persons, animals, etc. Signal "All Clear" before starting the engine. Keep unauthorized personnel away from the machine and discharge hose at all times.



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 fenders or any other part of the blower for any reason.

8. Never operate machine in an enclosed area without venting the exhaust of both the equipment and the 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, high pressure can be exerted at the end of the hose. Always establish and maintain good footing and hold the hose firmly. Extra personnel

may be required to help direct and hold the hose, especially when working on slopes. The proper technique for hose holding personnel is to firmly grasp the hose under both arms. Never hold the hose so it goes between the legs.

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 when machine is in operation. Shut down the engine, using OSHA lockout/tagout procedure (29 CFR 1910.147) before removing any foreign objects. Signal "All Clear" before restarting 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 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 is a full time job.

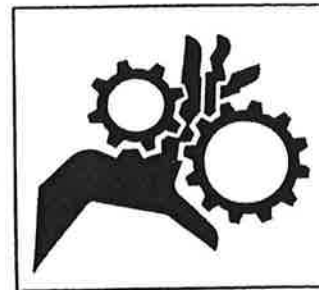
17. Be careful in getting on and off the blower, especially in wet, icy, snowy or muddy conditions. Clean mud, snow or ice from steps, fenders and footwear.



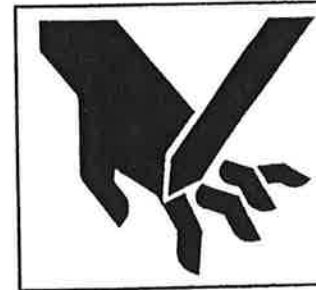
18. All personnel operating and/or around the machine must be aware that the blower can be controlled via remote control. For safety reasons and to prevent accidental starting, always keep the power switch on the remote receiver in the "OFF" position when the remote control is not being used.
19. Turn slowly and travel on rough surfaces and side slopes carefully, especially with a loaded blower body.

III. MAINTENANCE:

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



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



3. Radiator maintenance. Liquid cooling systems build up pressure as the engine gets hot. Before removing the radiator cap, stop the engine and let the system cool. Remove the radiator cap only after the coolant is cool.
4. Battery maintenance. Lead-acid batteries contain sulfuric acid which may damage eyes or skin on contact. Always wear a face shield to avoid acid in the eyes. If acid contacts 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 fuel tank with the engine running, or while smoking or when near an open flame. Never smoke while handling fuel or working on the fuel system. The fumes in an empty container are explosive. Never cut or weld on fuel lines, tanks, or containers. Move at least 10 feet (3 meters) away from fueling point before starting engine. Wipe off any spilled fuel and let dry before starting engine.

NOTE: 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 used fluids and dispose of them properly.

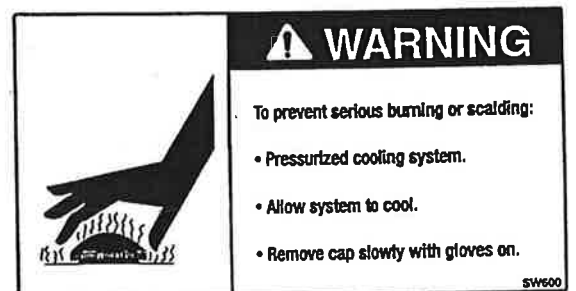
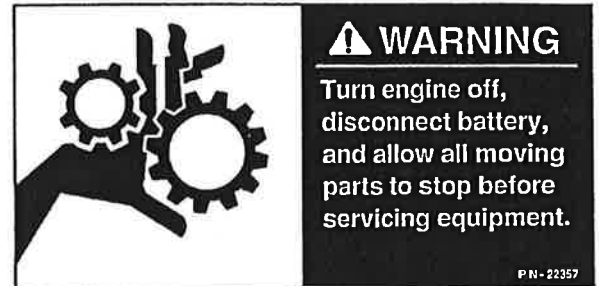
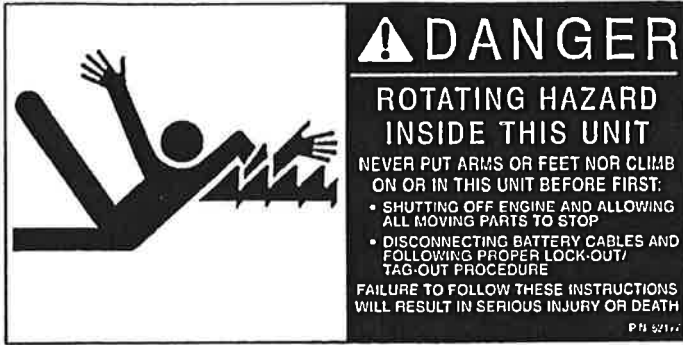
6. It is recommended that only authorized genuine FINN replacement parts be used on this machine.
7. Do not use ether cold start fluid if engine is equipped with glow plug type preheater or other intake manifold type preheater. It could cause an explosion or fire and severe injury or death.

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 so 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 which may damage it or injure 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 or their fumes or other flammable material, or any container whose contents or previous contents are unknown.

CURRENT SET OF SAFETY DECALS



OPERATION AND MAINTENANCE OF THE FINN BARK BLOWER

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 and 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 an infeed elevator. Located at the bottom of the hopper is a drag conveyor, which 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 carrying the material off and through the hose for discharge.

IMPORTANT:

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

MOUNTING THE BARK BLOWER™:

The selection of the vehicle on which a blower is to be mounted has important safety aspects. To avoid overloading:

- A. Do not mount a blower on a chassis which, when fully loaded with material to be spread, will exceed either the Gross Axle Weight Rating (GAWR) or the Gross Vehicle Weight Rating (GVWR) for the chassis, see below.
- B. Do install the blower only on a vehicle with cab-to-axle dimension recommended for the blower body length selected, see below.

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

CAUTION: Your FINN® Bark Blower™ should be mounted by a qualified truck body installer.

IMPORTANT: Mounting the blower to the truck must allow for tire clearance as well as frame twist. Place hard wood spacers along the length of truck rails or use FINN® spring mounting kit (#011562) or equivalent.

2. Follow mounting instructions given in figure 1(Page 10). If mounting conditions require deviation from these instructions, consult the factory.

DIMENSIONS, CAPACITIES, AND TRUCK REQUIREMENTS:

- *CF - Back of cab to end of frame
- C - Distance from front of Bark Blower™ to center of gravity
- *CA/CT - Back of cab to center of rear axle or trunnion
- *FE - Front axle weight – Empty
- FL - Front axle weight – Loaded
- G - Distance from center of rear axle or trunnion To Bark Blower™ Center of gravity
- BW - Bark Blower™ weight
- *RE - Rear axle weight – Empty
- *RL - Rear axle weight – Loaded
- *WB - Truck wheel base

		808	816
Truck GVW	Pounds	25,900	36,000
	** (kg)	(11,750)	(16,330)
CA/CT	inches	142+	166+
	** (cm)	(361+)	(422+)
C	inches	136	153
	(cm)	(345)	(390)
OAL	Inches	/	/
	(cm)	(465)	(524)
BW	Pounds	16,300±	25,300±
	*** (kg)	(7,394±)	(11,475±)

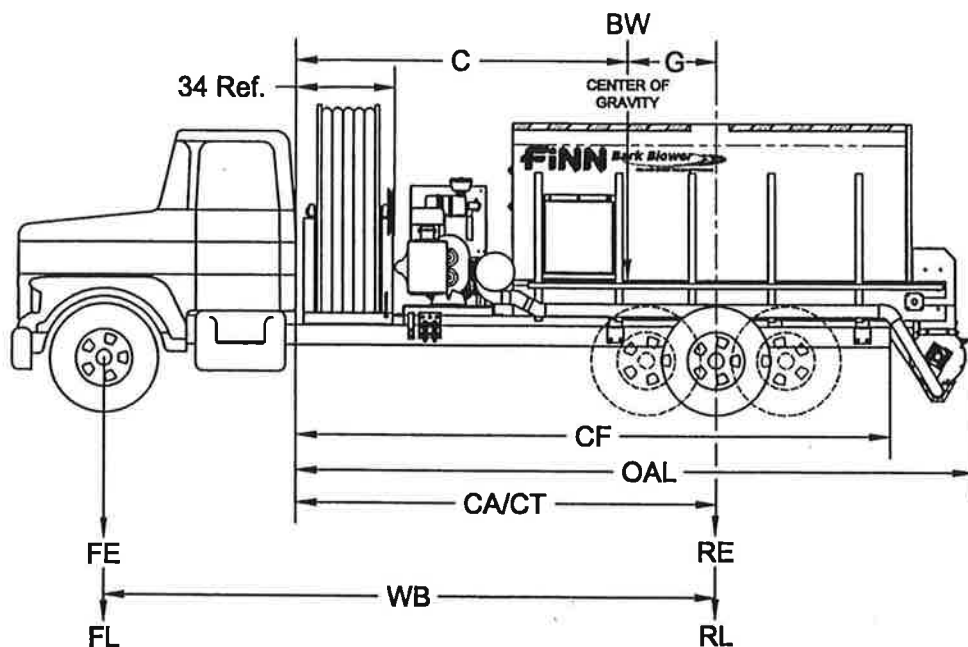
* These dimensions needed from the truck supplier as well as Front axle capacity and Rear axle capacity.

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

*** Weight of Bark Blower™, hose reel and mulch. Weight may vary greatly due to the large variety of mulch materials.

NOTE: This table was developed including the hose reel with 200' of hose. If no hose reel is to be installed the OAL, CA/CT and C dimensions may be shortened by 34" as well as the BW reduced by 750 lbs.

TRUCK MOUNTING CALCULATIONS:



$$\frac{(WB \times FL) - (WB \times FE)}{HW} = G$$

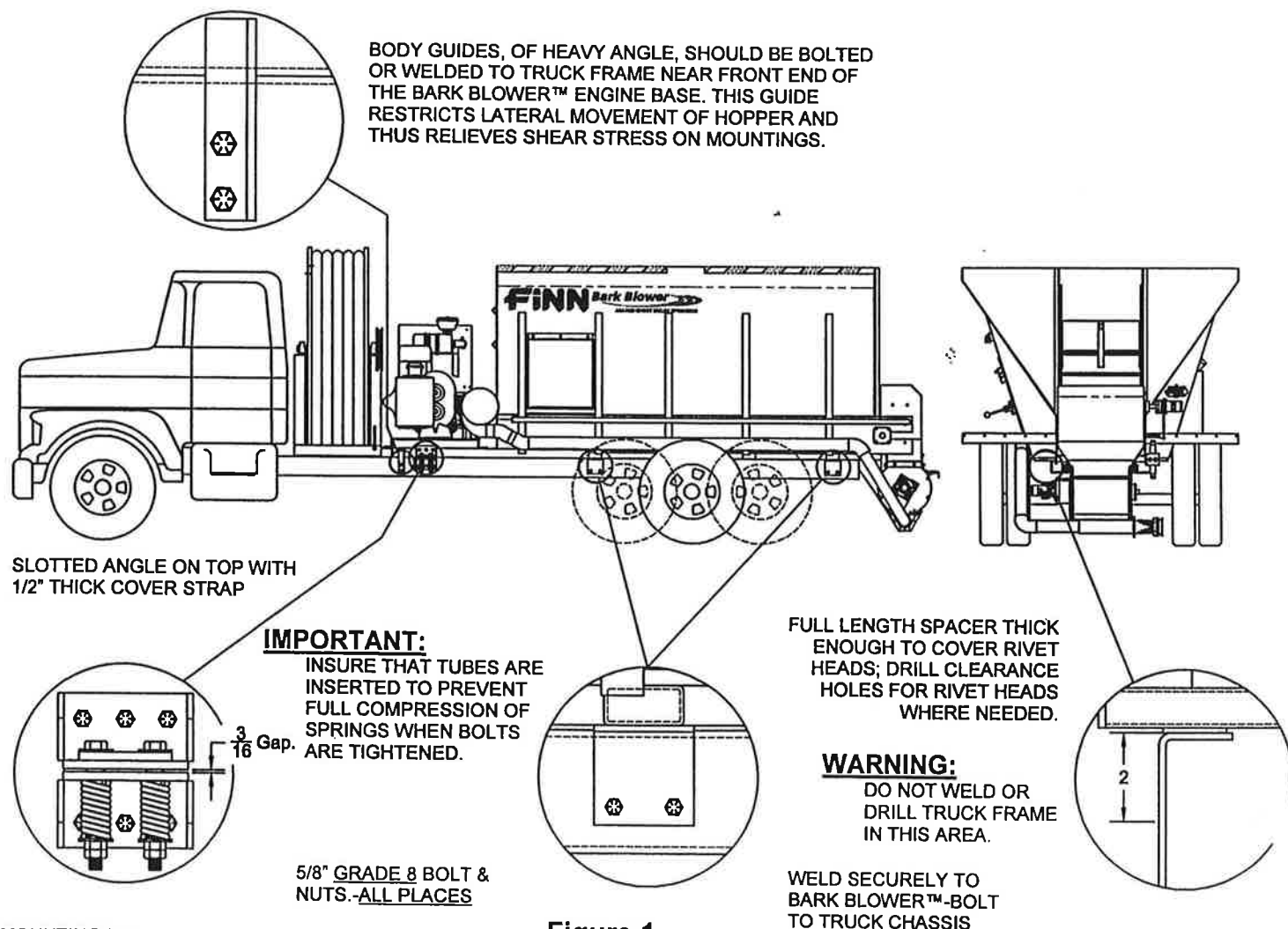
$$\frac{WB \times (RE + HW + RL)}{HW} = G$$

G + C must be equal to or less than C/

$$\frac{(WB \times FE) + (G \times HW)}{WB} = FL$$

$$\frac{(WB \times RE) + HW \times (WB - G)}{WB} = RL$$

GENERAL MOUNTING GUIDELINES:



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 inches (5.1 cm) in any direction with no material exceeding 4 inches (10.2 cm) in length. The Bark Blower is not a wood processor. It 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 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 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.

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. It also processes better, making a less stringy mulch. High moisture in the mulch may cause it to bridge in the hopper.

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 rotary air valve.

PRE-START EQUIPMENT CHECK:



CAUTION:

Equipment check is made with the engine off and all rotating parts stopped.

Safety check to insure operator safety:

1. Check that all the truck mountings are secure.
2. Insure that all guards are in place.
3. Tool Kit - see that it contains all prescribed items (see tool kit list, page 58).
4. Lubricate equipment - use handgun only (see lube chart, page 24-25).
5. Check engine oil - refer to engine operator' s manual.
6. Check liquid coolant level in radiator (protected to -34°F (-37°C) when shipped).
7. Check fuel level. Use #2-D diesel fuel oil unless operating at ambient temperature below 40°F (4°C) or at an altitude exceeding 5000 feet (1524 meters). In these instances use #1-D 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.
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 midway between the upper and lower indicator mark on the sight gauge. (See "hydraulics" page 13 for oil specification).
11. Install the discharge hose. Use clamps provided with the machine.



CAUTION:

Do not use radiator type clamps. These clamps may not hold under machine operating pressure.

STARTING PROCEDURE:



CAUTION:

See safety section of the manual (pages 2-7) before operating the machine.

1. Turn the remote control to the off position on the remote control panel.
2. While holding the safety switch button in, turn key until starter engages and the engine fires.
3. Continue holding the safety switch button in until the operating oil pressure is obtained and the button stays in.

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° Fahrenheit (110° Centigrade).

4. Check that the "ON/FUSE" and "DOOR SWITCH" lights are illuminated. If not, check the 10 AMP fuse in the control box (see Figure 5 pg. 18) and verify that the doors are closed at the air lock.
5. Allow the engine to warm up for three to five minutes.
6. Prior to mulch application, move the throttle position to fully open, and allow the governor to control the engine speed. Governed engine speed on the FINN Bark Blower should be 2300 to 2350 RPM under 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 directly into the hopper.

THE MATERIAL FEED SYSTEM:

The material feed system on the Bark Blower has been designed to give fast, 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, the feed roll, and the rotary air valve.

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 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 12 psi (0.8 bar), an inlet and outlet silencer for noise attenuation, and an inlet air filter.

The drag conveyor receives material from the agitated hopper and conveys it to an opening located at the rear of the hopper, where the feed roll is located. The feed roll insures a uniform feed of bulk material to the rotary air valve. The drag conveyor is powered by two variable speed hydraulic motors mounted to a common gearbox.

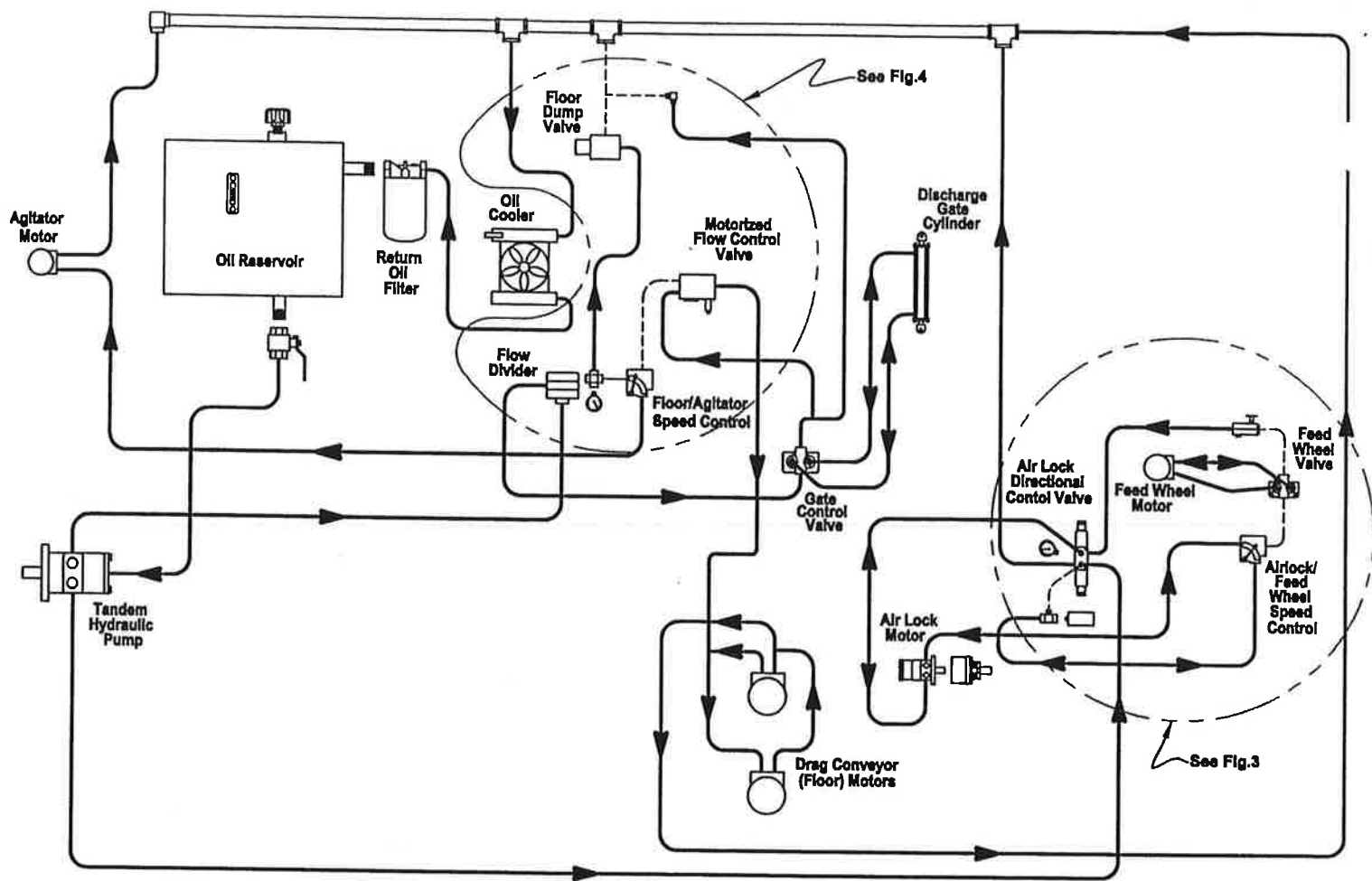
The rotary air valve receives the material from the drag conveyor and pressurized air from the blower. Its primary function is to convey the material from the atmospheric air to a sealed chamber where the blower air picks it up and blows it out of the hose. To enable the Bark Blower to convey fibrous material, the rotary air valve housing is equipped with two cutting knives, 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 direct coupled and driven by a bi-rotational hydraulic motor.

SUBSYSTEM 2: HYDRAULIC SYSTEM (See Figure 2)

Hydraulic power for the Bark Blower is generated by a fixed displacement tandem hydraulic pump driven off of the engine auxiliary drive. The pump receives 10W-40 hydraulic fluid from the 32-gallon (121 liter) reservoir through a service valve and suction hose, and delivers it to the various control valves. Pressure driving the two individual hydraulic circuits can be monitored on the outlets of the pump by the gauges provided. Oil temperature is controlled by the hydraulic cooler located above the fender on the driver side.

A. ROTARY AIR VALVE/FEED ROLL

The back section of the tandem pump feeds oil to the rotary air valve and the feed roll motor through a series of hydraulic valves. The first valve is the solenoid valve. The solenoid valve is an open center spool valve with built in relief. The relief valve is set at 2500 psi (172 bar). The spool in the valve is spring centered, and is moved by actuating a 12V DC solenoid



HYDRAULIC SCHEMATIC
Figure 2

on either end of the spool. Spool movement can be checked manually by pushing the button located at either end. Energizing a solenoid produces high pressure oil at the work port closest to that solenoid. Thus, energizing the bottom solenoid pushes the spool up and causes the oil supplied from the pump to be channeled to the bottom work port. This is "forward" position on the Bark Blower.

Oil flowing through the valve in the "forward" direction is directed to an adjustable flow control valve which splits the oil flow between the rotary air valve motor and the feed roll motor. Adjustment is made via a lever control with a set screw knob that rotates on a 90° quadrant. Proper flow control setting is between 6 and 8, allowing slightly more oil to flow to the rotary air valve motor. Excess oil flows to the three position, four way valve that controls the feed roll motor, speed and direction. (See figure 3 for valve orientation).

Oil flowing through the solenoid valve in the "reverse" direction (top solenoid energized) is channeled directly to the rotary air valve with no oil going to the roll motor.



The front section of the tandem pump feeds oil to the drag conveyor and agitator motors through a “dump” valve system. The oil first passes through a divider sending a small amount to the three position, four way valve controlling the hopper discharge gate. The gate will function any time the engine is running. The remainder of the oil flows through the open center dump valve to the tank line. Energizing this valve closes the flow path and forces the oil through an adjustable flow control valve which controls the speed of the drag conveyor. Excess oil from this divider powers the agitator. This circuit is protected by a relief valve located in the dump valve, set at 2000 psi (138 bar). An optional, motorized valve for the drag conveyor (Floor) oil flow may be provided. This valve provides floor speed adjustment for varying the material flow rate through the third function on the radio remote control. (See figure 4 for valve orientation).



SUBSYSTEM 3: HYDRAULIC CONTROL SYSTEM

The hydraulic control system is an electrical system that controls the on-off function of the conveyor motors and the rotation direction of the rotary air valve motor. This 12-volt DC system runs off the engine electrical system. It is a series of relays, located in the box labeled "Material Feed Control", that controls the solenoid valves in the hydraulic system.

When the "Start" button is pushed, the CR1 and CR2 relays in figure 5 (pg. 18) are energized. This in turn energizes the "forward" solenoid on the solenoid valve, starting the air lock and the drag conveyor, assuming the conveyor toggle switch is "On". As material drops into the top of the rotary air valve, the pressure required to cut the material is monitored by a pressure switch located on the bottom work port of the solenoid control valve (see figure 3 pg. 3). The switch is normally open. It closes when the rotary air valve motor stalls, causing high pressure due to the air valve encountering an object it can not cut. The amount of time the pressure switch is closed is monitored by the relay TR1 in figure 5 (pg. 18). If the switch remains closed for more than 0.5 seconds, TR1 energizes timer relay TR2. TR2 automatically reverses the rotary air valve by energizing the "Reverse" solenoid and de-energizing the "Forward" solenoid, and de-energizes the dump valve, shutting off the drag conveyor. The unit will remain in "Reverse" until TR2 times out, which is approximately 1 second. Timer relay TR3 delays the restart of the drag conveyor allowing the rotary air valve to clear itself. The setting for TR3 should be approximately 1.5 seconds.

When the "Stop" button is pushed, power is cut to the relays. This stops the hydraulic motors on the conveyor and the rotary air valve by shutting off power to the solenoids. The hydraulics can also be stopped by shutting off the ignition key. Please note that the hydraulics will also stop if either transition door, between the conveyor and air lock, is opened and cannot be restarted unless the doors are closed, and the start button is pushed.

SUBSYSTEM 4: RADIO REMOTE CONTROL

This Bark Blower is equipped with a Radio Remote to control the Material Feed Start and Stop. It also contains an Emergency Stop button that activates the Murphy shutdown system on the engine, and engine throttle control.

If using the Radio Remote, a certain start-up sequence must be followed to activate the remote. When using the remote, start as follows:

1. Place the Radio Remote ON/OFF switch, located on the Radio Remote box, to the "OFF" position.
2. Place the switch, located on top of the Radio Transmitter, to the "OFF" position.
3. Start the engine and allow to warm up as specified in the Bark Blower instruction manual.
4. Place the radio remote switch located on the radio remote box to the "ON" position.
5. Place the radio transmitter switch to the "ON" position.

Pushing the red button located next to the antenna on the Radio Transmitter activates the Murphy shutdown system. To reset the warning system:

1. Flip the Radio Transmitter ON/OFF switch to "OFF".
2. Re-start the engine.
3. Flip the radio transmitter ON/OFF switch to "ON".

To utilize the Material Feed Start/Stop feature of the Radio Remote, 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. Pushing of the "Stop" button, as well as a loss of power to the Material Feed Control (i.e. open transition door or blown main fuse), deactivates the material Feed Start/Stop feature of the Radio Remote until power is restored to the Material Feed Control and the "Start" button on the machine is pushed. For use of the engine RPM function and the optional material flow control function refer to "Mulching with the Bark Blower" on page 18.

Bark Blower with Power Status Lights: (See Figure 5)

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:

<u>Light Color</u>	<u>Function</u>	<u>Indicator</u>
Blue	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.
Green	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.
Amber	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 amber light will deactivate whenever the Red Auto-Reverse light comes on.

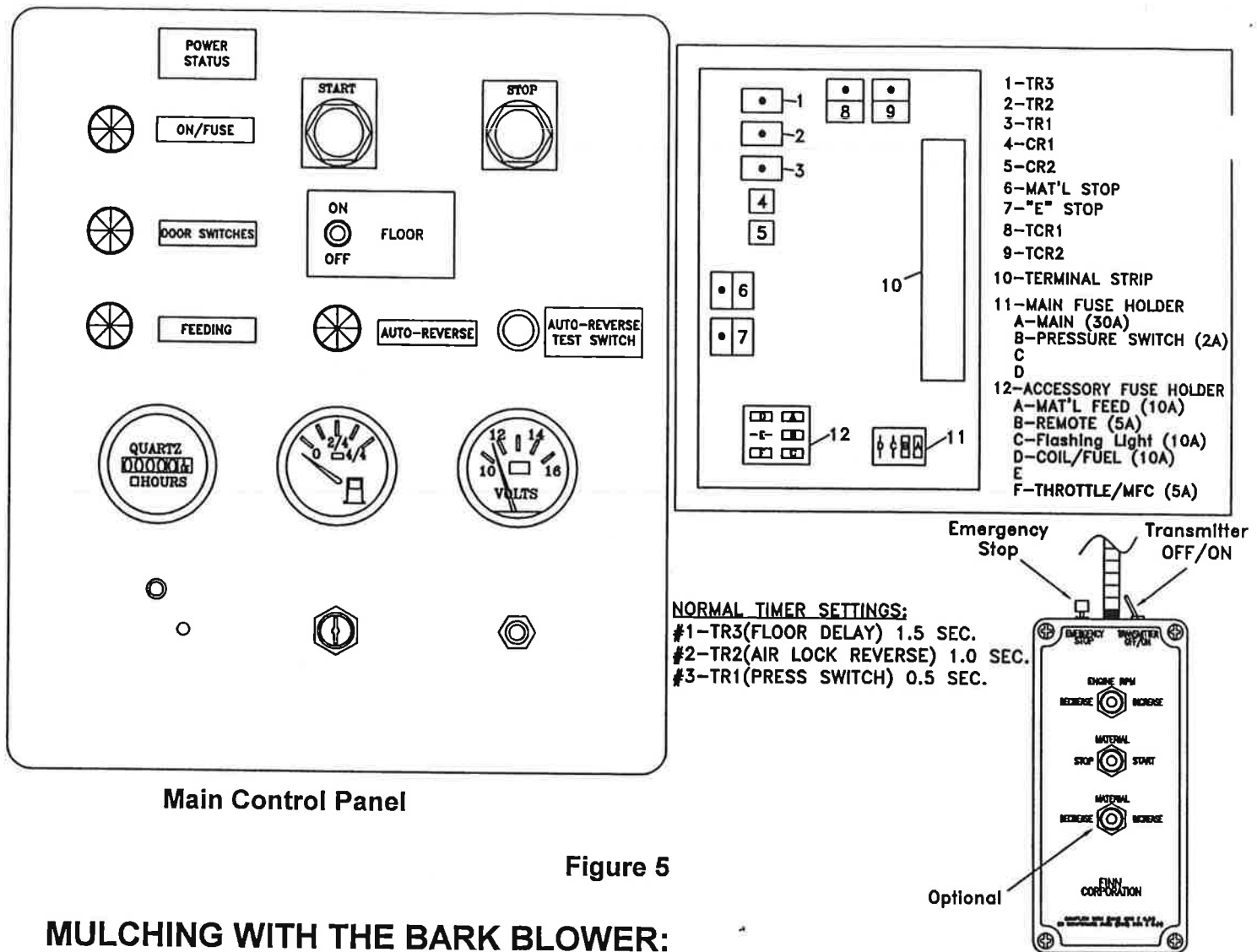


Figure 5

MULCHING WITH THE BARK BLOWER:

1. Check all areas listed under "Pre-Start Equipment Check" (pages 11-12).
2. Start the engine following all the steps listed under "Starting Procedure" (page 12).
3. Set the rotary air valve flow control on #7.
4. Set the Feed Roll Valve to the full speed forward direction.
5. Set the floor speed control to 2-1/2.
6. Open the gate to the maximum opening.
7. Refer to the remote control start-up procedure on page 16.
8. Put the drag conveyor "Floor" switch to the "ON" position.
9. Press the material feed control "START" button on the main control panel to activate the material start/stop feature on the remote.
10. Press material stop on the remote.
11. Increase the throttle to full.
12. With a firm grip on the end of the hose, press the material start button on the remote.
13. Adjust material feed speed from 2-1/2 for smooth flow. Watch for auto-reversing of the air lock as well as shock waves through the hose.
14. Use the "Engine RPM" button on the remote to decrease and increase air and material flow.
15. Use the optional "Material" decrease/increase button on the remote to adjust material flow without changing engine RPM.
16. At the end of the load, hit material stop, close gate, and shut down engine.

BARK BLOWER ADJUSTMENTS:

There are three components on the Bark Blower that may need periodic adjustments while operating due to changing material conditions. These are the drag conveyor speed, the automatic reverse pressure switch setting, and the automatic reverse time interval. Knowing how and when to adjust these is the key to getting consistent material flow and high production from the Bark Blower. Below is a description and location for each item, its function and a list of symptoms indicating what settings to correct.

A. Drag Conveyor Speed Control:

This hydraulic valve is located on the left side of the hopper on the rear gusset. It is a control with a lever that rotates on a 90° quadrant. A set screw knob locks the lever into position. The quadrant is labeled from 0-10. Moving the lever to a lower number slows the drag conveyor thus decreasing the amount of material delivered to the rotary air valve, while moving the lever to a higher number increases the amount of material delivered to the rotary air valve. Optimum setting is usually between 2 and 4.

B. Automatic Reverse Time Interval And Floor Delay:

When the pressure switch closes due to high pressure, a series of relays is triggered in the electrical control system that automatically reverses the rotary air valve and stops the drag conveyor. The length of time the system remains in reverse is determined by the setting on the timer relay TR2 (see figure 5 pg. 18). This relay is located inside and near the top of the electrical control box labeled "MATERIAL FEED CONTROL". The relay has a digital dial graduated 0-6 seconds, indicating the approximate length of time the reverse cycle will last. Optimum setting is 1 second. A third timer relay, TR3, delays the restart of the drag conveyor to allow the rotary air valve to clear itself of material before restarting of material flow. TR3 is located above TR2 and its optimum setting is 1.5 seconds.

TROUBLE SHOOTING CHART:

Symptom	Probable Cause	Remedy
No material discharge.	Drag conveyor not turning.	Turn conveyor switch on. Reset speed control.
	Electrical control system off.	Verify that engine key is on. Check that transition doors are closed.
	Reverse interval too long.	Reset timer TR2. (1 second)
Air valve auto-reverses excessively.	Pressure switch set too low.	Increase pressure switch setting.
	Feed rate too high.	Slow speed control.
	Dull air valve knives.	Sharpen and reset Knives.
	Pressure switch delay set too low.	Reset timer TR1. (0.5 seconds)
Air valve motor stalls in reverse, cycling forward-reverse.	Over-feeding.	Slow speed control.
	Foreign object in transition or hose outlet.	Shut-off engine. Remove object.
	Floor delay set too low	Reset Timer TR3. (1.5 seconds)
Air valve motor stalls in forward, no auto reverse.	Reverse time interval too short.	Reset timer TR2. (1 second)
	Knives dulled, chipped-knife or clearance too large.	Sharpen blades, reset knife clearance.
Feed roll stops.	Air valve/roll split set too high.	Reset to a lower number (5-8).

MAINTENANCE:



CAUTION:

Turn off engine and disconnect battery before servicing equipment.

Weekly - After every 50 hours of operation:

1. Lubricate the bearings on the drag conveyor, the blower, the agitator, and on each shaft of the feed roll. 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. This will damage the radiator fins.
3. Remove and clean air cleaner elements on the engine and rotary blower using dry, clean compressed air.
4. Check the oil in the rotary air valve gearbox, the drag conveyor gearbox, and the agitator gearbox.
5. Check the gear case on the blower (see blower manual).
6. Check rotary air valve knives for wear, chips, and clearance. To change:



DANGER:

Knives have very sharp edges that can cause serious injury. Handle with care.

- a) Remove five bolts holding knives and transition doors to rotary air valve knife shelves.
- b) Remove doors and knives.
- c) Clean all dirt or debris from shelves.
- d) Back out the two center jacking screws on each shelf.
- e) Compare replacement knives to those removed. If the new knife is wider, back the two outside jacking screws out at least this amount. Count the turns, and back both screws out evenly.
- f) Lay the knife on the knife shelf. Insure the knife is installed with the **cutting angle edge facing down** as shown in Figure 6. Install loosely the two outer, and the middle knife mounting bolts. Tighten the mounting bolts just enough to hold the knife in position while still allowing it to be moved.
- g) Install a block of wood (approximately 2" x 4" x 6" long (5x10x15 cm)) in 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, and use the jacking screws to close the gap. One full turn of the screw moves the knife 0.070 inches (1.8 mm).
- k) Tighten mounting bolts as in step g and h.
- l) Repeat steps, g, h, i, and j until a knife to vane clearance of no more than 0.006 inches (0.15 mm) is obtained at the closest point(s).
- m) Once set, install the other two mounting bolts and tighten.
- n) Run two center jacking screws in to contact the knives. Lock all jacking screws in place with the locknuts.
- o) Remove three mounting bolts for transition door, and install the door.
- p) Repeat procedure for other knife.
- q) Immediately have removed set of knives sharpened. Do not attempt to grind the knives by hand. They must be ground straight and true on a surface grinder by an experienced knife sharpener. Grind the knives to the profile shown below:

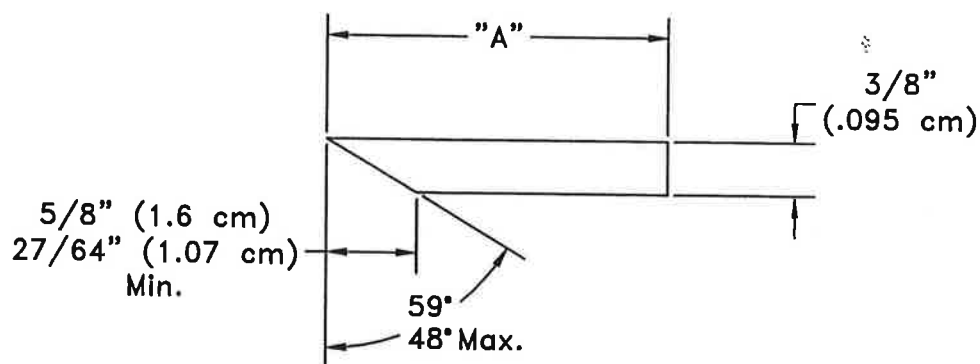


Figure 6

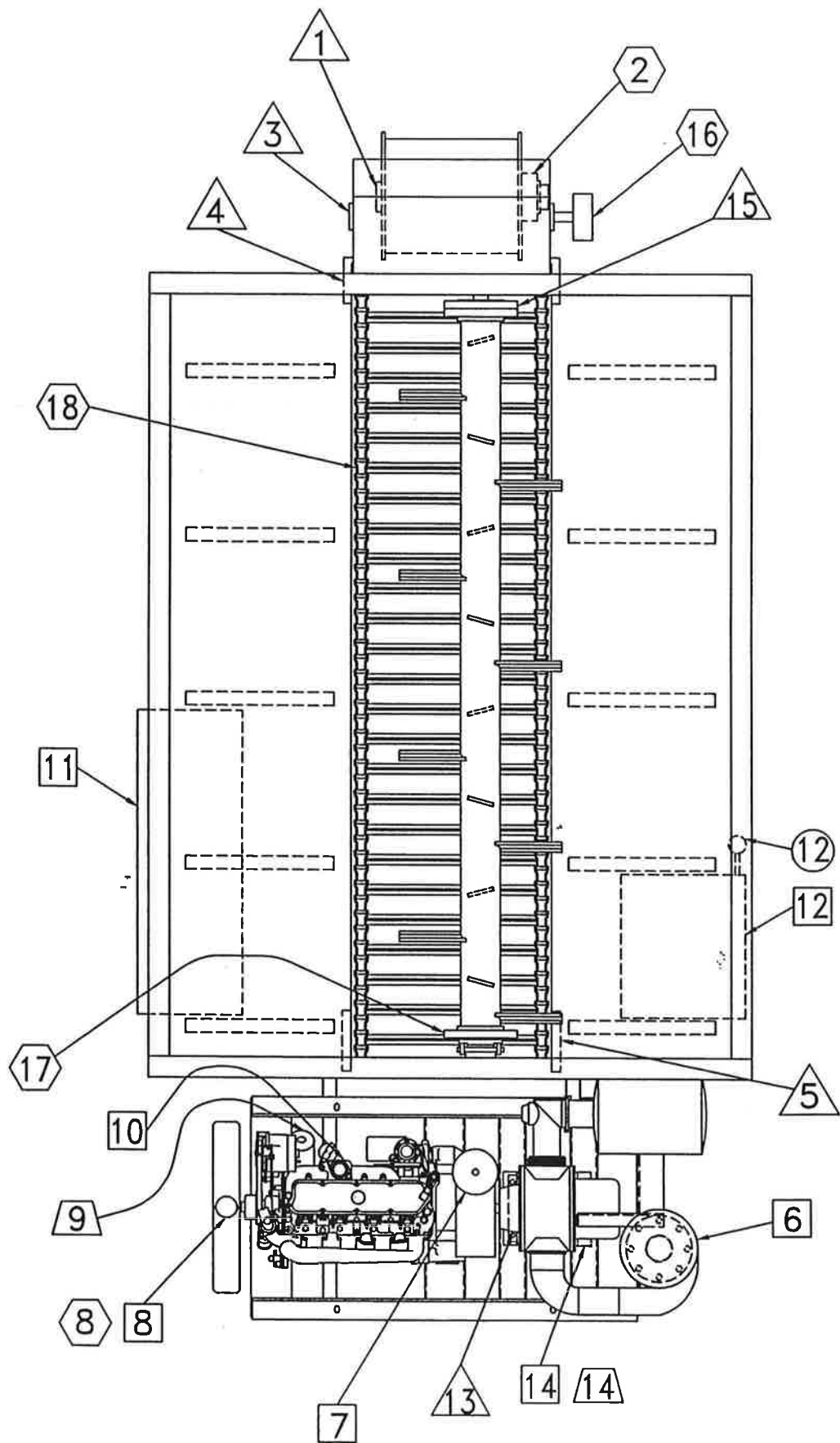
When dimension "A" has been reduced to 2- $\frac{3}{8}$ inches (6 cm) the knife must be discarded.

After First 100 Hours of Operation:

1. Change engine oil and filter after 100 hours, every 250 hours after that following engine manufacturer's recommendations.
2. Change the gear box oil on the blower (see blower manual). Change oil every 1000 hours thereafter.
3. Change the gearbox oil on the rotary air valve, the drag conveyor and the agitator using SAE 80W90 oil, filling to the side plug. Change every 1000 hours thereafter.

Winter Shutdown and Storage:

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








LUBRICATION CHART

Ref. No.	Location	Lubricant	Frequency	Number
1	Air Lock Bearing	CL	Weekly	1
2	Air Lock GearBox	GO	Seasonally	1
3	Feeder Roll Bearing	CL	Weekly	2
4	Floor Bearing	CL	Weekly	2
5	Take-Up Bearing	CL	Weekly	2
6	Check Blower Inlet Filter		Daily	1
7	Check Engine Air Cleaner		Daily	1
8	Check Coolant Level	AF	Daily	1
	Change Engine Coolant	AF	Seasonally	1
9	Change Engine Oil and Filter	MO	See Engine Manual	1
10	Check Engine Oil Level	MO	Daily	1
11	Check Fuel Level	DF	Daily	1
12	Check Hydraulic Oil Level	HO	Daily	1
	Change Hydraulic Oil and Filter	HO	Annually	1
13	Blower Bearing	CL	Weekly	2
14	Check Blower Oil Lever	MO	Daily	1
	Change Blower Oil	MO	See Blower Manual	1
15	Agitator Bearing	CL	Weekly	1
16	Change Floor Drive GearBox	GO	Seasonally	1
17	Change Agitator GearBox	GO	Seasonally	1
18	Occasionally Lubricate Floor Chain (with light weight oil or chain lubricant)			

LUBRICANT OR FLUID USED

CL	Chassis Lubricant
MO	Motor Oil SAE 30 CD/SF
AF	50/50 Anti-Freeze and Water Mixture
DF	Diesel Fuel
HO	Hydraulic Oil 10W-40 SE Motor Oil
GO	90W Gear Oil

TIME KEY

DAILY (8 hours)	
WEEKLY (40 hours)	
SEASONALLY (500 hours)	
ANNUALLY (2000 hours)	
SEE ENGINE MANUAL	

FLUID CAPACITIES

Fuel - 35 Gallons (132L)
 Hydraulic Oil - 32 Gallons (121 L)
 Engine Coolant - 4 Gallons (15.1 L) 50/50 Mix Only
 Engine Oil – See Engine Manual
 GearBox Oil - 9 ounces (.26 L)

BARK BLOWER

Models 808 & 816

Parts Manual

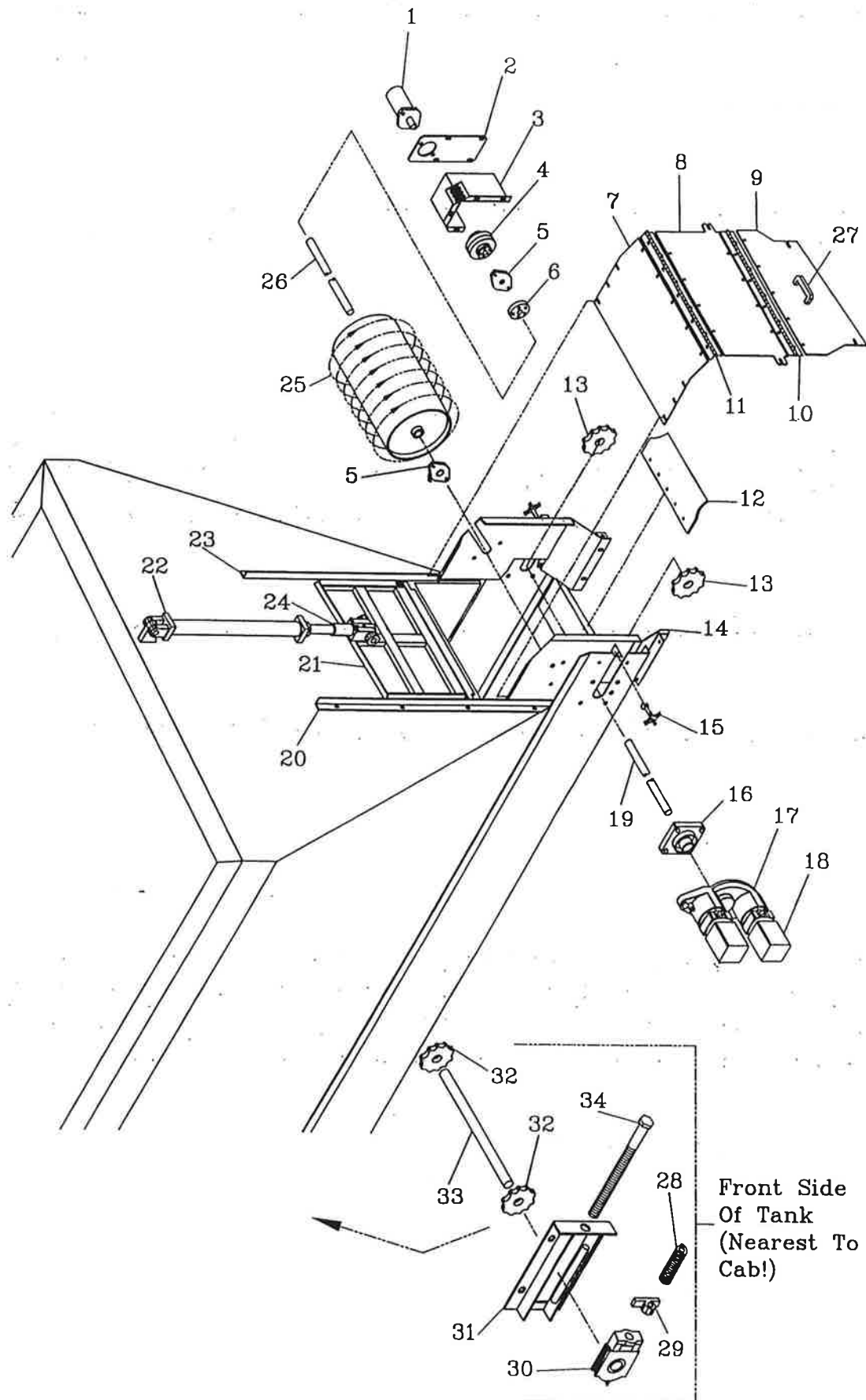
Model No. RR

Serial No. _____

NOTE: The Parts Manual Section of this manual may be removed.
The Operator's manual must remain with the machine at all
times for continued reference.

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**WHEN ORDERING PARTS, BE SURE TO STATE
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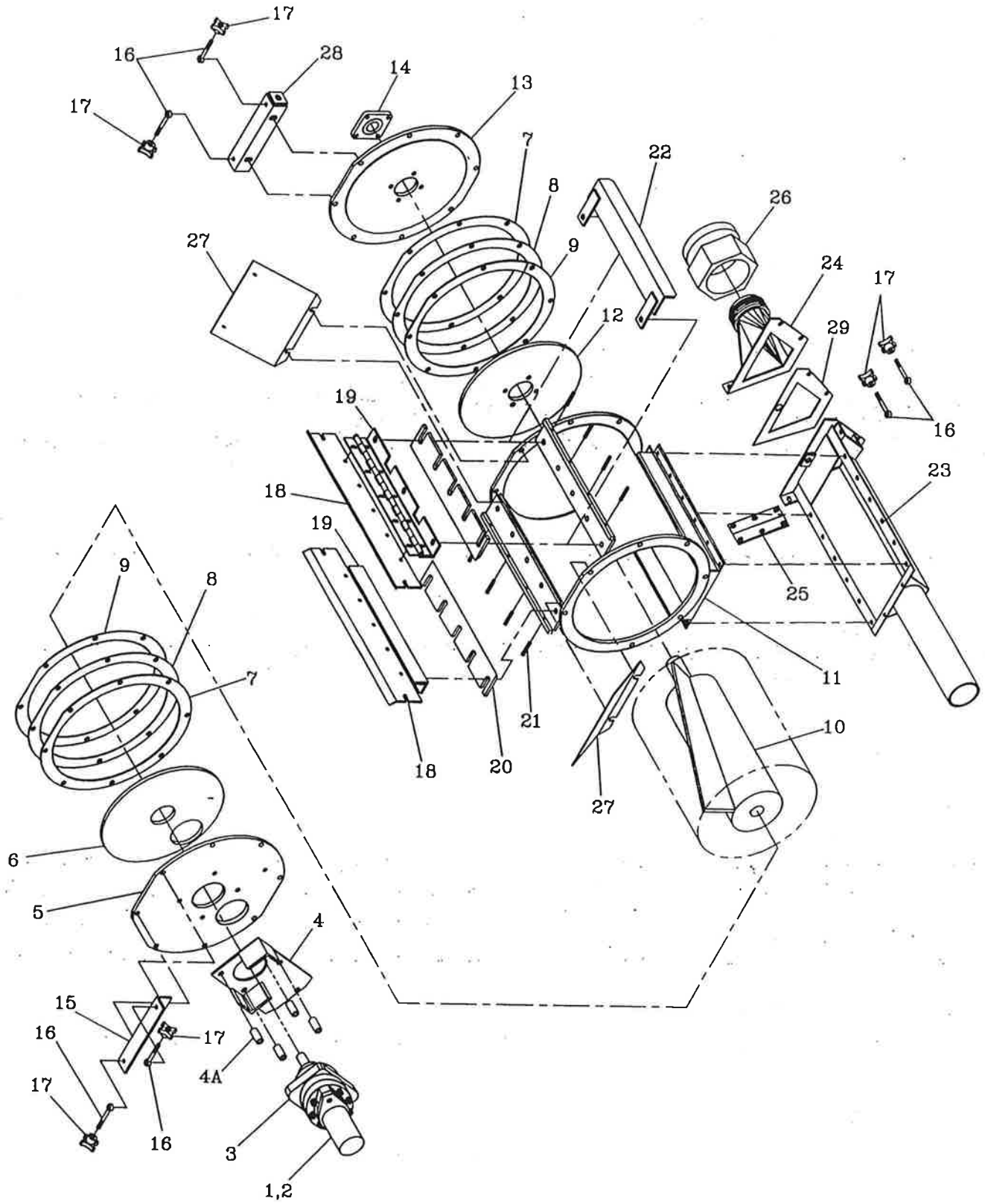
FLOOR & FEED ROLL PARTS

Ref. No.	Part Number		Description	No. Req'd
	(808)	(818)		
1	080482	080482	Hydraulic Motor	1
2	055267-01	055267-01	Motor Mount	1
3	052342	052342	Coupling Guard	1
4	055259	055259	Coupling	1
	020813B	020813B	1" Bushing	1
	020679	020679	1-1/4" Bushing	1
5	020586	020586	Flange Bearing	2
6	021440	021440	1-1/4" Bushing	1
7	052365-01	052365-01	Top Cover	1
8	052365-02	052365-02	Center Cover	1
9	052365-03	052365-03	Bottom Cover	1
10	052066-04	052066-04	Bottom Door Hinge	1
11	052066-03	052066-03	Top Door Hinge	1
12	HW27243	HW27243	Rear Wiper	1
13	052224	052224	Drive Sprocket	2
14	052156	052156	Funnel	1
15	055433	055433	Swing Bolt	2
	070583	070583	Black Knob	2
16	HW6465	HW6465	Bearing	2
17	052226	052226	Dual Pinion Gear Box	1
18	052391	052391	Hydraulic Motor	2
19	HW38600	HW38600	Drive Shaft	1
20	HW70288	HW70288	Left Side Slide	1
21	052159	052159	Rear Gate	1
22	HW55377	HW55377	Hydraulic Cylinder	1
	HW58782	HW58782	Pin	2
	HW58783	HW58783	Clip	4
23	HW70286	HW70286	Right Side Slide	1
24		52370-04	Spacer	1
25	052072	052072	Feed Wheel	1
26	052078-05	052078-05	Feed Roll Shaft	1
27	055586	055586	Rear Door Handle	1
28	HW2704		Take-up Spring	2
29	HW3908	HW20651	Tightening Nut	2
30	052220	052220	Idler Bearing	2
31	HW2126	HW74655	Bearing Bracket	2
32	075218	075218	Idler Sprocket	2
33	HW10015	HW10015	Idler Shaft	2
34	HW2124	HW57457	Machine Bolt	2
	052829	052782	Drag Chain Floor(Not Shown)	1
		HW36699	Floor Chain Link	
		HW36697	Floor Chain Pin	
		HW20817	Floor Chain Cotter Pin	
		004630	Torque Arrestor for Gearbox	

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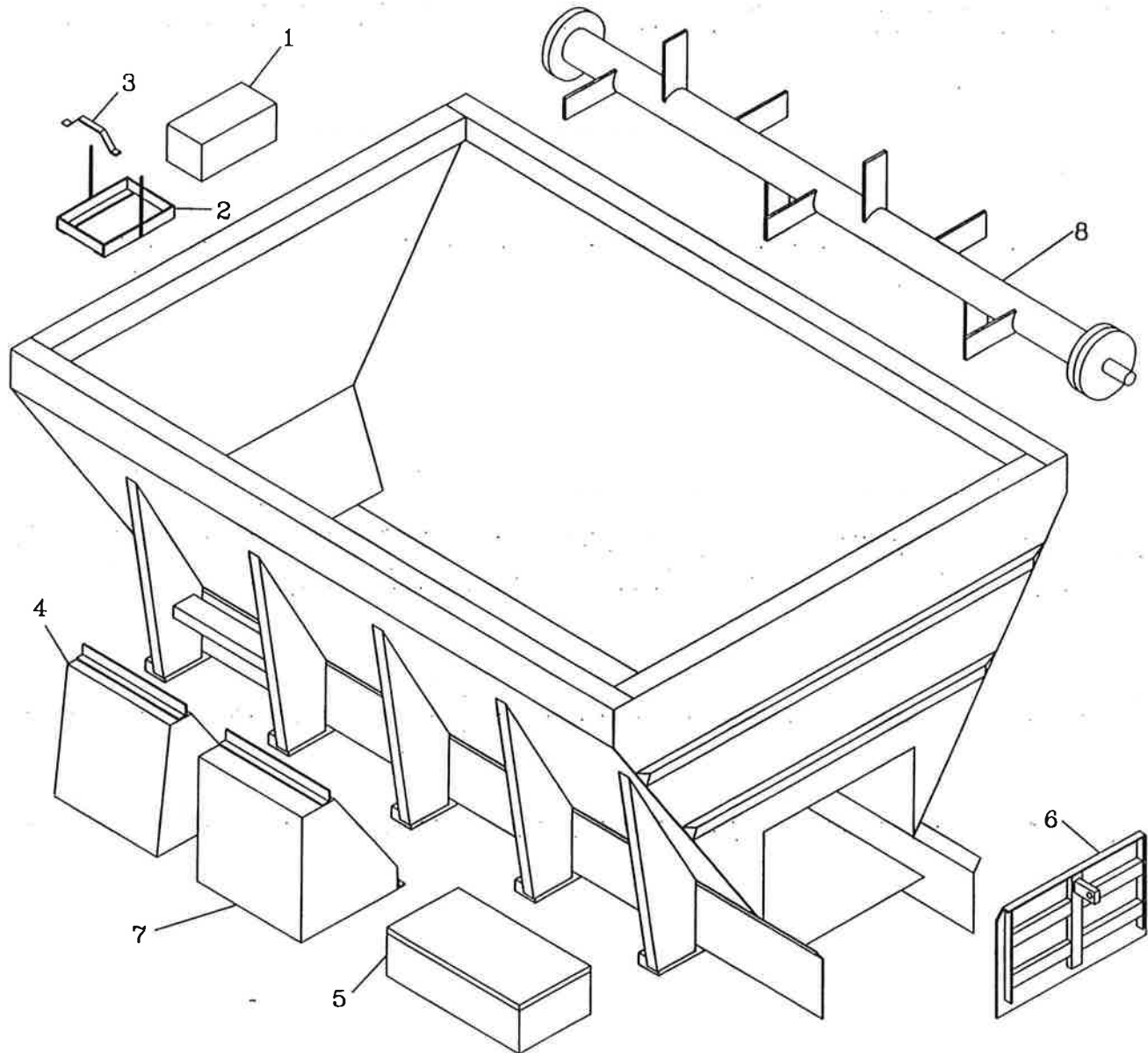
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AIR LOCK PARTS

Ref. No.	Part Number	Description	No. Req'd
	052153	Replacement Air Lock Assembly (Includes * & **)	1
			1
1	* 052007	Hydraulic Motor (#158-1084)	1
2	* 055517	Motor Gasket	1
3	* 055464	Air Lock Gearbox	1
4	* 052139	Inlet Flanged Gearbox Mount	1
4A	* 052139-03	Spacers (Must be within 0.002" of each other)	4
5	* 055439-02	Air Lock Inlet End Plate	1
	* X0828	1/2 Bolt x 1 3/4 Lg.	3
	* X0832	1/2 Bolt x 2 Lg.	5
	* W08F	1/2 Flat Washer	8
	* W08L	1/2 Lock Washer	8
	* 055332	1/2 Expansion Plug	1
6	055721	Inlet Seal Plate	1
7	** 055148-01	1/32" Thick Style 50 Gasket	†
8	** 055148-02	1/16" Thick Style 50 Gasket	†
9	** 055148-03	1/64" Thick Style 50 Gasket	†
10	* 055423	Finished Rotor	1
	* Z0408	1/4-20 UNC x 1/2 Lg. Set Screw ‡	2
	* 055463	Hex Plug ‡	2
	* 055402	Hardened Rotor Key ‡	1
11	* 052430	Air Lock Housing	1
12	** 052128	Outlet Seal Plate	1
13	* 052103	Air Lock Outlet Plate	1
	* X0828	1/2 Bolt x 1 3/4 Lg.	3
	* X0832	1/2 Bolt x 2 Lg.	5
	* W08F	1/2 Flat Washer	8
	* W08L	1/2 Lock Washer	8
14	055701	Rotor Shaft Bearing	1
15	055432-03	Left Door Mount	1
16	055433	Swing Bolt	6
17	070583	Black Knob	6
18	F816-0010	Knife Door	2
	W05F	5/16 Flat Washer	5per
	W05L	5/16 Lock Washer	5per
	Y05	5/16 Hex Nut	5per
19	055432-01	Door Hinge Mount	2
20	* 055113	Chipper Knife	2
	* X0828	1/2 Bolt x 1-3/4 Lg.	4per
	* W08	1/2 Flat Washer	4per
	* W08L	1/2 Lock Washer	4per
21	* XS0444	Chipper Knife Alignment Screw	4
22	052064	Set Screw Cover	1
23	052432	Air Lock Discharge	1
	052436	Water Proof Door Switch ‡	1
24	052431	Discharge Funnel	1
25	052427-05	Discharge Hinge	1
26	055374	Hose Adapter	1
27	052353	Deflector Plates	2
28	055432-02	Right Door Mount w/Switches	1
	055407	Door Interlock Switch ‡	2
29	052435	Air Lock Discharge Gasket	1

NOTE: †-As Req'd: Use As Needed For Proper Tolerance And Spacing
‡-Not Shown For Clarity

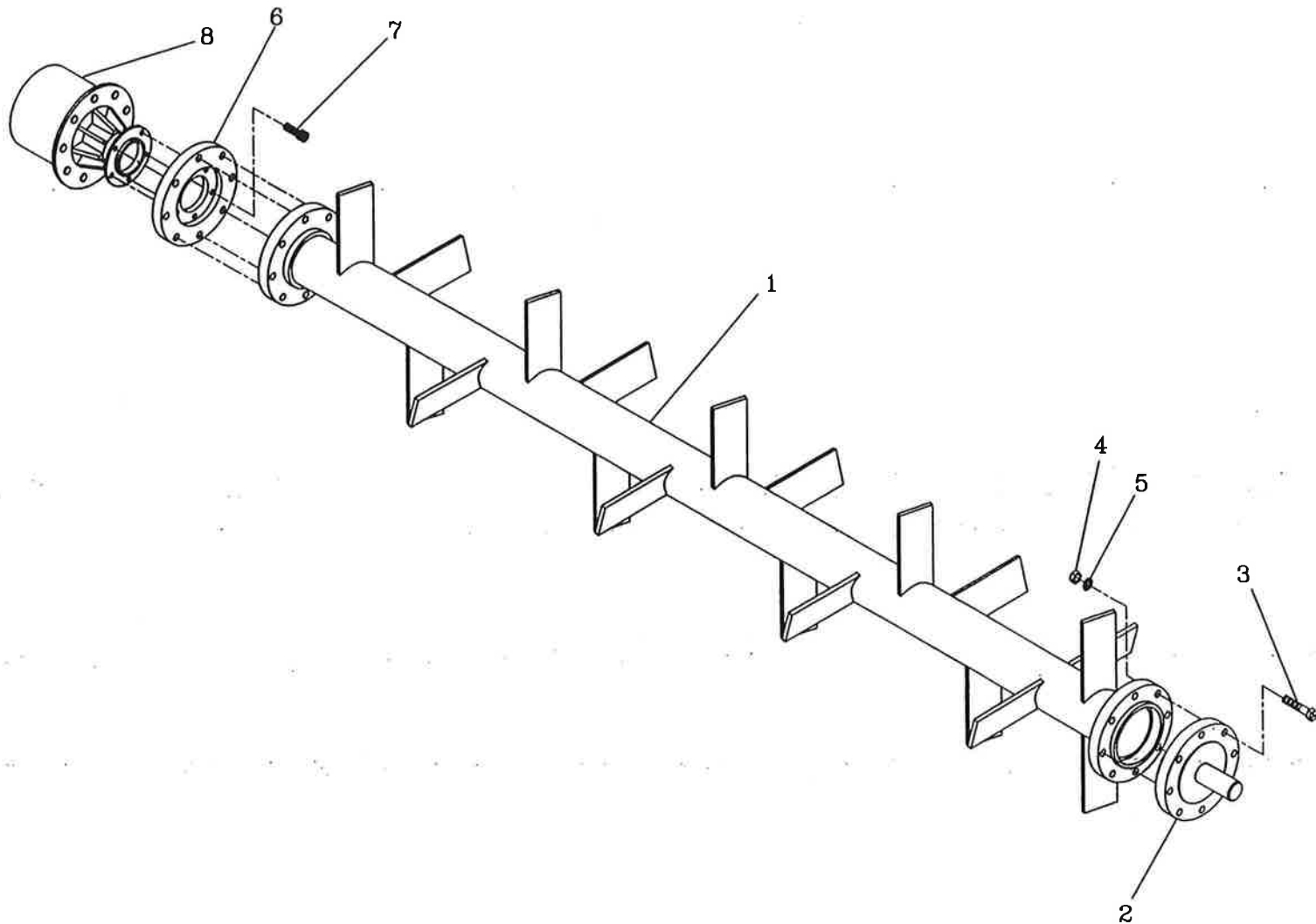
**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**



LOOSE PARTS

Ref. No.	Part Number		Description	No. Req'd
	(808)	(816)		
1	011770	011770	Battery Box	1
2	011851	011851	Battery	1
3	080220	080220	Battery Holdown Strap	1
4	HW39346	HW74774-X1	Hydraulic Reservoir	1
5	052160	052160	Tool Box	1
6	052159	052159	Rear Feed Gate (See Pages 30-31)	1
	052372-01	052372-01	Rear Gate Seal	1
	052372-02	052372-02	Seal Fastening Strap	1
7	052090	052090	Fuel Tank	1
8	052433-01	052433-02	Agitator Assembly (See Page 35)	1

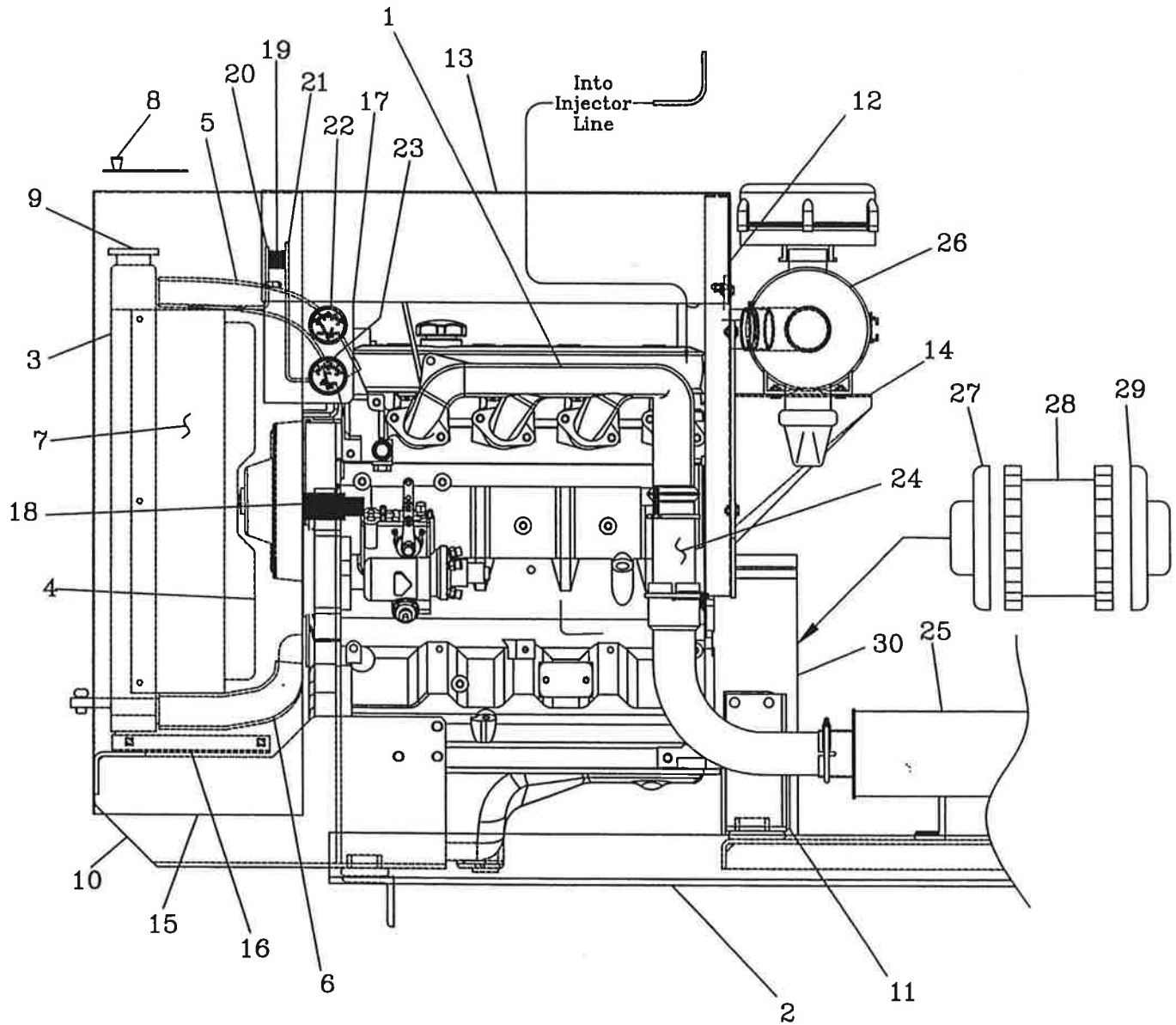
**WHEN ORDERING PARTS, BE SURE TO STATE
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AGITATOR ASSEMBLY

Ref. No.	Part Number		Description	No. Req'd
	052433-01	052433-02	Agitator Assembly (Includes Items 1 thru 7)	1
1	052423-01	052423-02	Agitator Shaft	1
2	052420	052420	Agitator Stub Shaft	1
3	X1260	X1260	¾-10 UNC HHCS x 3¾ Lg.	16
4	Y12L	Y12L	¾-10 UNC Lock Nut	16
5	W12L	W12L	¾ Lock Washer	16
6	052421	052421	Gear Box Adapter Plate	1
7	XA0824	XA0824	½-13 UNC Allen Head Cap Screw x 1½ Lg.	5
8	052111	052111	Auburn Gear Box #6 (Not Included In Assemblies)	1
	052437	052437	Hydraulic Motor #158-1083 (Not Shown)	1

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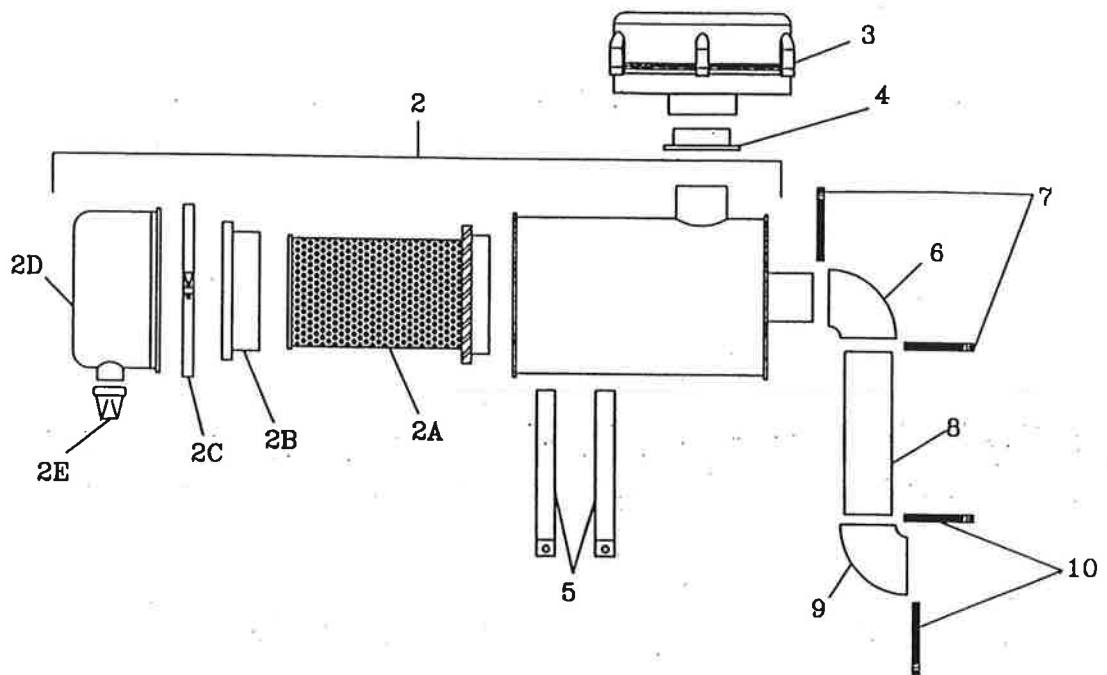


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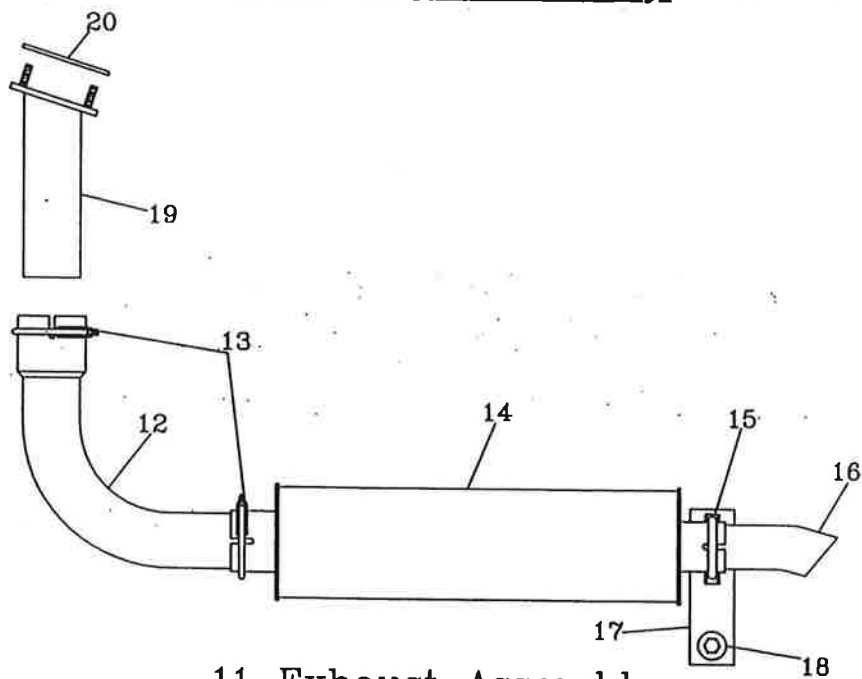
POWER SYSTEM

Ref. No.	Part Number	Description	No. Req'd
1	008576	Engine Assembly	1
2	052425	Engine Cradle	1
3	023805	Radiator	1
	008279	Rubber Mount	2
	022452	Drain Cock	1
4	007678	Fan	1
5	JDR128455	Upper Radiator Hose	1
	022450	Hose Clamp	2
6	JDR54534	Lower Radiator Hose	1
	022450	Hose Clamp	2
7	052378	Fan Shroud	1
8	023784-06	Radiator Cap Cover	1
	023817	Spring Loaded Plunger	1
9	023807	Radiator Cap	1
10	052426	Front Engine Foot	1
	007433	Rubber Shock Mount	2
	007887	Snubbing Washer	2
11	052397	Rear Engine Foot	2
	007433	Rubber Shock Mount	1per
	007887	Snubbing Washer	1per
12	F816-0017	Rear Engine Panel	1
	052398-08	Rear Panel Spacer	2
13	F816-0016	Top Cover	1
14	023526-01	Air Cleaner Mount	1
15	F816-0015	Radiator Shroud	1
16	F816-0014	Air Deflector	1
17	F816-0007	Gauge Panel	1
18	023814	Throttle Actuator	1
	023794-02	Throttle Actuator Mount	1
19	023438	Rubber Shock Mount	1
20	052398-06	Radiator Stay Arm	1
21	023812-02	Radiator Arm Support Bracket	1
22	021839	Temperature Gauge	1
	012537	Temperature Switch Adapter	1
23	007706	Oil Gauge	1
	008473	Oil Line Kit	1
24	052013	Exhaust Extension	1
25	052168	Exhaust Assembly (See Pages 38-39)	1
26	052468	Air Cleaner Assembly (See Pages 38-39)	1
27	052001	Coupling Half-Engine	1
28	011774	Coupling Insert	1
29	011772	Coupling Half-Blower	1
30	F816-0009	Coupling Guard	1
<u>NOT ILLUSTRATED</u>			
	F816-0008-01	Fan Guard	1
	F816-0008-02	Fan Guard Mounting Strap	1
	052006	Hydraulic Pump	1
	052025	Flywheel Adapter Plate	1

**WHEN ORDERING PARTS, BE SURE TO STATE
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1 Air Intake Assembly



11 Exhaust Assembly

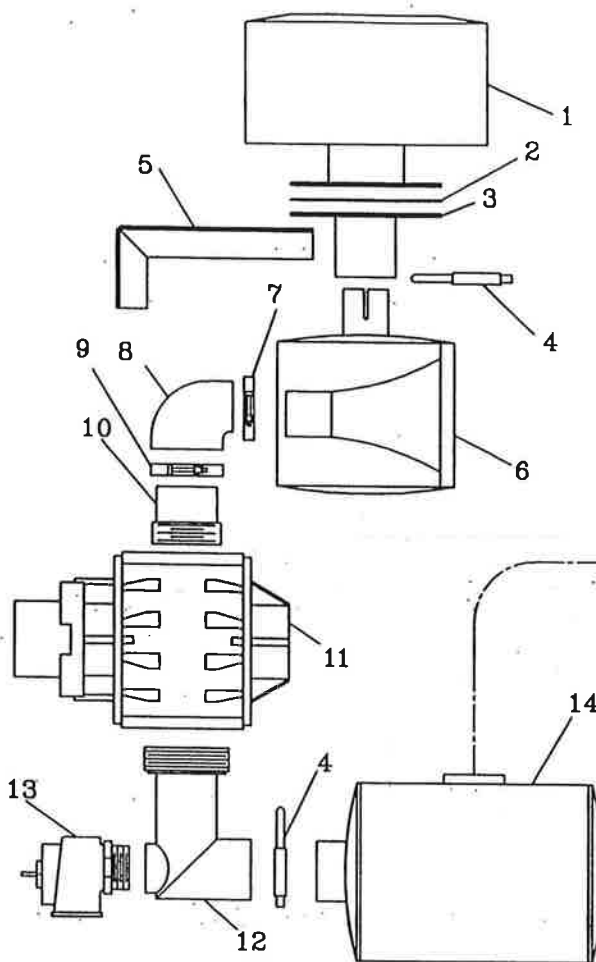
**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

AIR INTAKE AND EXHAUST SYSTEMS

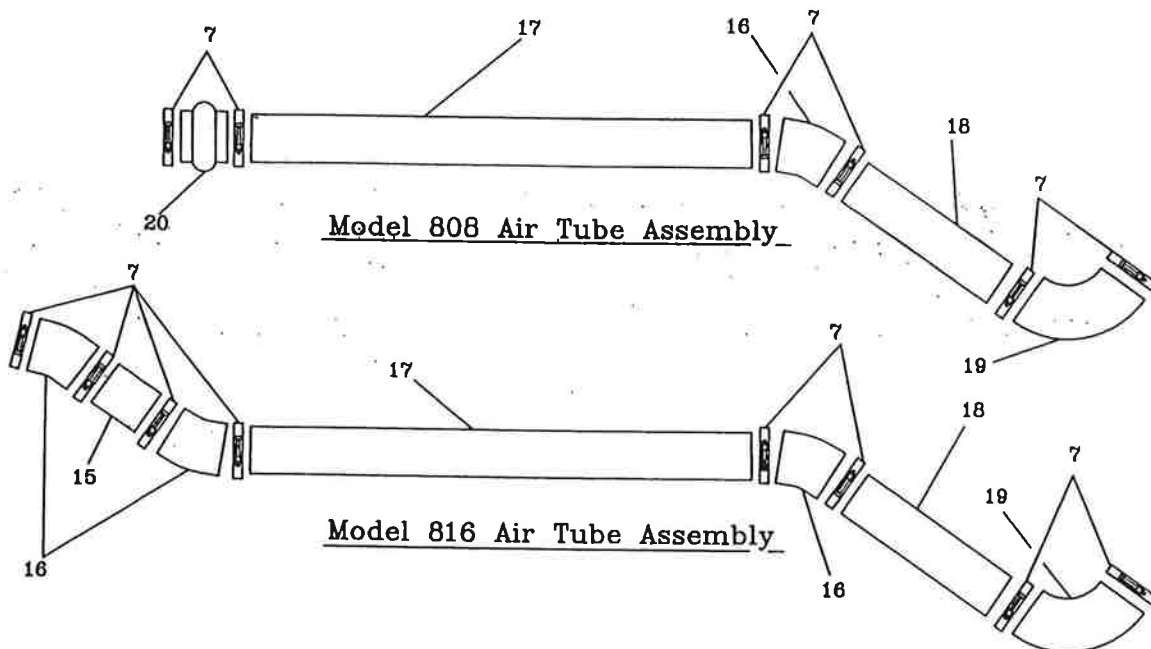
Ref. No.	Part Number	Description	No. Req'd
1	052468	Air Intake Assembly (Includes Items 2-10)	1
2	007987	Air Cleaner Assembly	1
2A	007739	Filter Element	1 per
2B	DNP10-2510	Baffle Assembly	1 per
2C	DNP00-2940	Clamp Assembly	1 per
2D	DNP10-3836	Vacuator Cup Assembly	1 per
2E	007994	Vacuator Valve	1 per
3	008613	Pre-Cleaner	1
4	*008614	*Pre-Cleaner Adapter	*1
5	007990	Mounting Band	2
6	007993	Rubber Elbow	1
7	022450	Clamp	2
8	008587-01	Connecting Pipe	1
9	052399	Large Rubber Elbow	1
10	007391	Clamp	2
11	052168	Exhaust Assembly (Includes Items 12-18)	1
12	011211	Exhaust Elbow	1
13	020052	Muffler Clamp (#250)	2
14	007456	Muffler	1
15	023801	Muffler Clamp (#200)	1
16	052110	Exhaust Turn Down	1
17	052398-07	Muffler & Support Strap	1
18	008279	Rubber Mount	1
19	052013	Exhaust Extension	1
20	011218	Flange Gasket	1

* NOTE: When replacing bowl type pre-cleaner with non-maintenance pre-cleaner or using non-maintenance pre-cleaner adapter must be use.

**WHEN ORDERING PARTS, BE SURE TO STATE
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See Below For
Air Tube Assemblies
Model 808 (Top) &
Model 816 (Bottom)

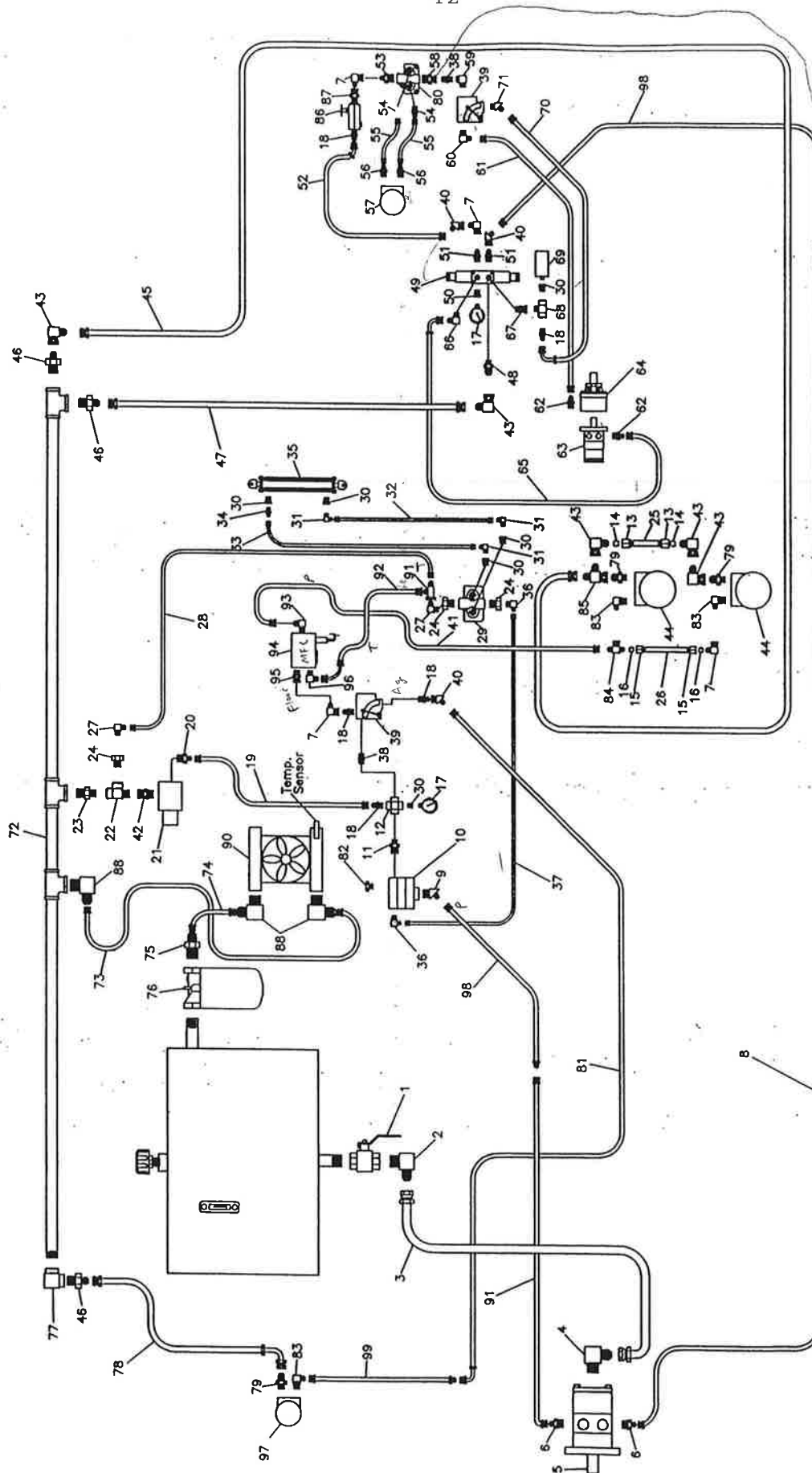


**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

BLOWER COMPONENTS

Ref. No.	Part Number		Description	No. Req'd	
	(808)	(816)		(808)	(816)
1	052003	052003	Air Cleaner Filter 5"	1	1
	052004	052004	Replacement Element	1	1
2	052141	052141	Air Cleaner Mounting Gasket	1	1
3	052023-01	052023-01	Air Cleaner Flange	1	1
4	055336	055336	4" U-Clamp	2	2
5	052021	052021	Air Cleaner Support	1	1
6	052093	052093	Inlet Silencer	1	1
7	055335	055335	4" Band Clamp	7	9
8	052010	052010	90° Reducer Elbow	1	1
9	052011	052011	5" Band Clamp	1	1
10	052023-02	052023-02	Blower Inlet Nipple	1	1
11	052005	052005	Blower Model 68	1	1
12	052137	052137	Blower Discharge	1	1
13	052008	052008	Relief Valve	1	1
14	052020	052020	Outlet Silencer	1	1
15	_____	052011-11	Short Air Tube	0	1
16	052012	052012	45° Rubber Elbow	1	3
17	052022-07	052022-09	Long Air Tube	1	1
18	052022-13	052022-14	Medium Air Tube	1	1
19	055334	055334	90° Rubber Elbow	1	1
20	055367	_____	4" Hump Hose	1	0

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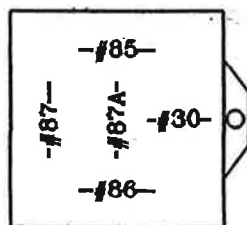
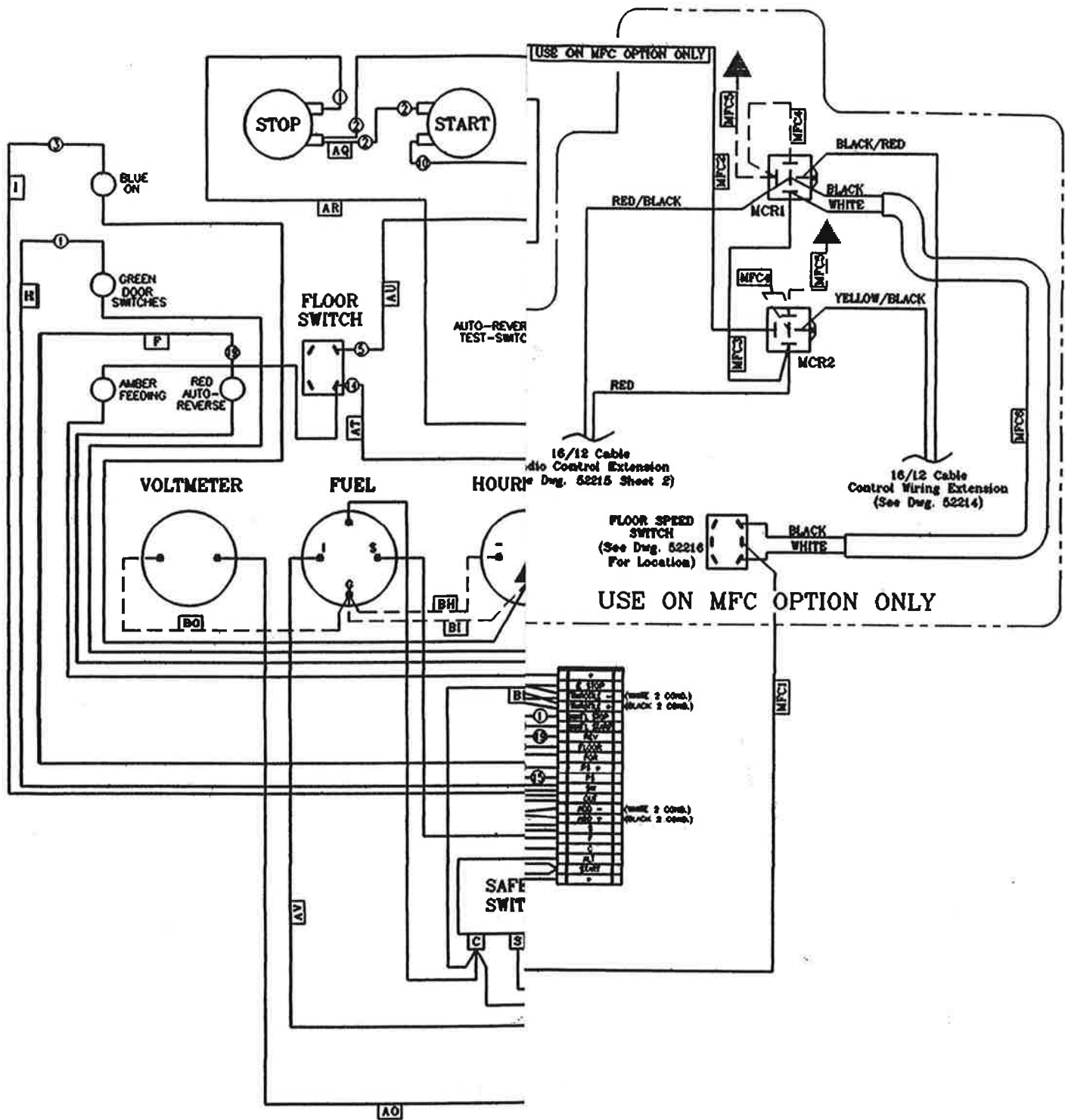


**WHEN ORDERING PARTS, BE SURE TO STATE
SERIAL NUMBER OF MACHINE**

HYDRAUL

Ref. No.	Part Number		Descrip	
	808	816	Male Adapter	2
			Oil Control Hose	1
			Male Adapter	1
1	020511	020511	Ball Valve	2
2	052030	052030	90° Male	2
3	052404	052042	Suction Hose	2
4	052401	052401	90° Adapter	2
5	052006	052006	Hydraulic Motor	1
6	055359	055359	Hydraulic Adapter Union	1
7	FW71870	FW71870	Straight Hose	1
8	052402	052402	90° Adapter	1
9	052034	052034	Pressure Elbow Adapter	1
10	022292	022292	45° Male Motor Work Hose	2
11	023206	023206	Priority Drive Motor	1
12	052033	052033	Nipple	1
13	052096	052096	Pipe Cross Return Hose	1
14	052098	052098	Tubing N Elbow Adapter	1
15	052097	052097	Ferrule Adapter Union	1
16	052099	052099	Tubing N Tee	1
17	012044	012044	Ferrule Switch	1
18	041053	041053	Pressure Work Hose	1
19	052037	052037	Straight N Elbow Adapter	1
21	041163	041163	Floor Drive Header Assembly	1
22	022346	022346	Floor Drive Male Adapter	1
23	FW65222	FW65222	Street Tee	1
24	080268	080268	Pipe Nipple	1
25	190168	190168	Hex Bush Return Filter	1
26	190169	190169	Hydraulic Element	1
27	055234	055234	Hydraulic Hose	1
28	052044	052044	90° Male Return Hose	1
29	052157	052157	Cylinder Male Adapter	3
30	055229	055229	Feed Gate Oil Valve	1
31	FW71450	FW71450	Hex Bush Work Hose	1
32	052046	052046	90° Male	1
33	052047	052047	Cylinder Elbow Adapter	3
34	FW71910	FW71910	Cylinder Adapter	1
35	052185	052185	Male Straight Adapter	1
36	055273	055273	Hydraulic Control	1
37	052045	052045	90° Male	1
38	011504	011504	Floor Work	3
39	055140	055140	Pipe Nipple	1
40	FW71504	FW71504	Speed Control Change w/ Fan	1
41	052038	052038	45° Adapter	1
42	041191	041191	Floor Corner	1
43	FW71492	FW71492	Straight Adapter	1
44	052391	052391	90° Adapter Control Valve	1
45	052039	052405	Floor Hydraulic	1
46	005640	005640	Floor Return Filter	1
47	052055	052055	Straight Motor	1
48	055233	055233	Solenoid Hose	2
49	055115	055115	Straight Hose	1
50	FW71618	FW71618	Solenoid Reducing	

51	055232	055232	Straight Male Adapter	2
52	052049	052049	Feeder Roll Control Hose	1
53	023617	023617	Straight Male Adapter	1
54	085015	085015	Straight Male Adapter	2
55	052036	052036	Feeder Roll Work Hose	2
56	085014	085014	Straight Male Adapter	2
57	080482	080482	Feeder Roll Hydraulic Motor	1
58	070497	070497	Straight Adapter Union	1
59	052029	052029	Street Elbow	1
60	023652	023652	90° Male Elbow Adapter	1
61	052048	052048	Air Lock Motor Work Hose	1
62	012086	012086	Straight Male Adapter	2
63	052007	052007	Hydraulic Motor	1
64	055464	055464	Gear Box	1
65	052052	052052	Air Lock Return Hose	1
66	055230	055230	90° Male Elbow Adapter	1
67	070377	070377	Straight Adapter Union	1
68	005547	005547	Female Run Tee	1
69	052336	052336	Pressure Switch	1
70	052050	052050	Solenoid Work Hose	1
71	080383	080383	45° Male Elbow Adapter	1
72	052187-02	052187-01	Return Header Assembly	1
73	052387	052389	Straight Male Adapter	1
74	052388	052390	Return Hose	1
75	041152	041152	Straight Male Adapter	1
76	011868	011868	Hydraulic Return Filter	1
	011869	011869	Filter Element	1
77	005639	005639	Pipe Elbow	1
78	052040	052040	Agitator Return Hose	1
79	FW75148	FW75148	Straight Male Adapter	3
80	022850	022850	Feeder Roll Valve	1
81	052053	052053	Agitator Work Hose	1
82	052164	052164	Hex Plug	1
83	023621	023621	90° Male Elbow Adapter	3
84	052095	052095	Tee Union Adapter	1
85	FW71873	FW71873	Tee Union Adapter	1
86	052334	052334	Flow Control	1
87	052333	052333	Adapter	1
88	FW71452	FW71452	Adapter	3
89	052403	052403	Hose	1
90	005626	005626	Heat Exchange w/ Fan	1
91	FW71784	FW71784	Adapter	1
92	052165	052165	Hose	1
93	FW71786	FW71786	Adapter	1
94	052134	052134	Flow Control Valve	1
95	055357	055357	Adapter	1
96	055230	055230	90° Adapter	1
97	052447	052447	Agitator Motor	1
98		052166	Extender Hose	2
99		052101	Extender Hose	1



BROWN/BLACK Wire
From 16/12 Cable
Control Wiring Extension
(See Pg. 47)

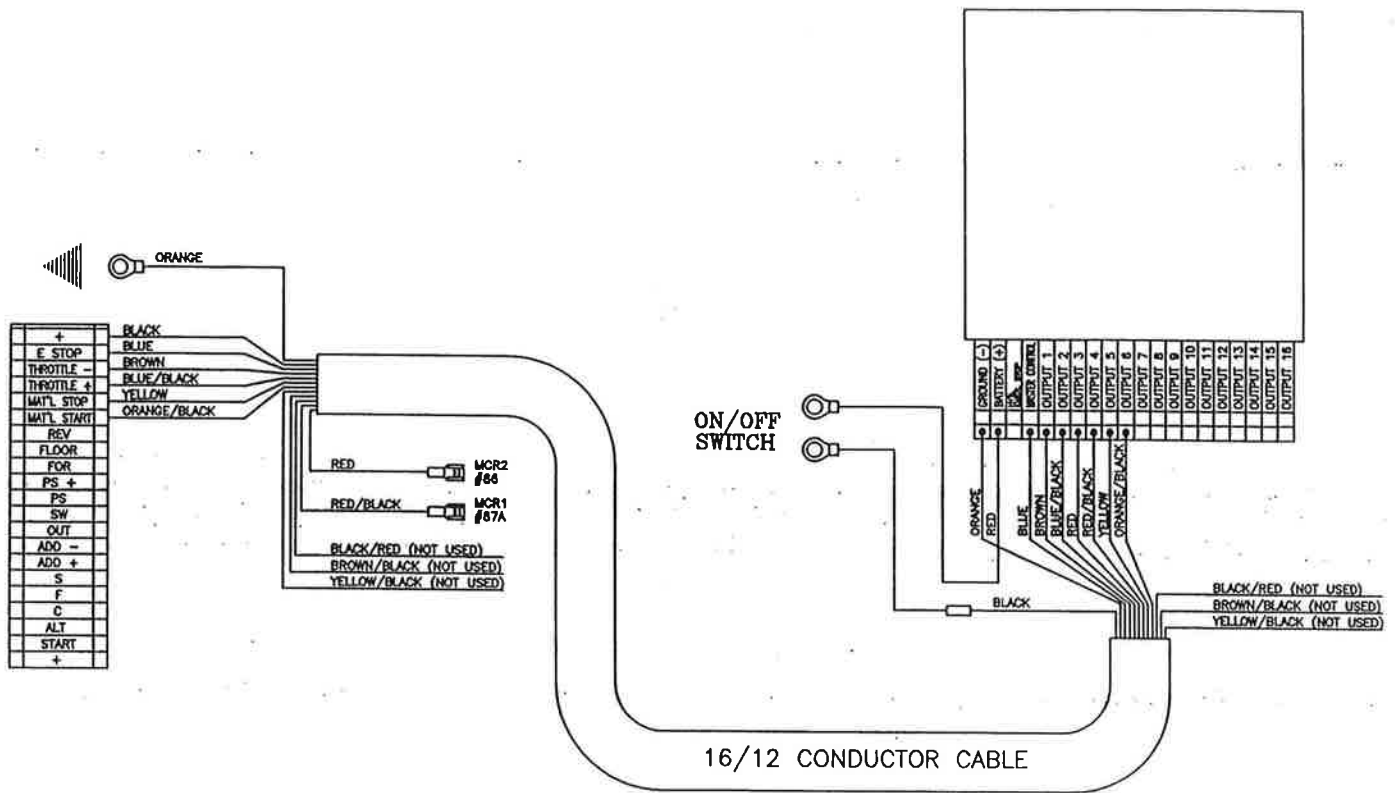
CONTROL BOX WIRING

Part Number	Description	No. Req'd
007274	Hourmeter	1
FW71972	Fuel Gauge	1
007958	Voltmeter	1
022219	Safety Switch	1
052076	Ignition Switch	1
FW71555	Throttle Switch	1
052112	Floor Switch	1
080526	Toggle Switch Boot	2
020886	Auto-Reverse Test Button	1
055127	Start Button	1
055128	Stop Button	1
055403	Amber Light	1
055404	Blue Light	1
055405	Green light	1
055406	Red Light	1
FW71749-02	30 Amp Relay	6
055120	12V Relay (CR1,CR2)	2
055122	12V Timer (TR1,TR2,TR3)	3
055123	Relay Socket	2
055125	Timer Socket	3
055132	Terminal Block	21
055451	Terminal End Piece	1
052118	6 Circuit Fuse Block	1
055447	4 Circuit Fuse Block	1
052119	30 Amp Fuse	3
055449	10 Amp Fuse	2
055450	5 Amp Fuse	1
052120	2 Amp Fuse	1
052069	Enclosure Box	1
052070	Sub-Panel	1

023076

Key for Ignition Switch

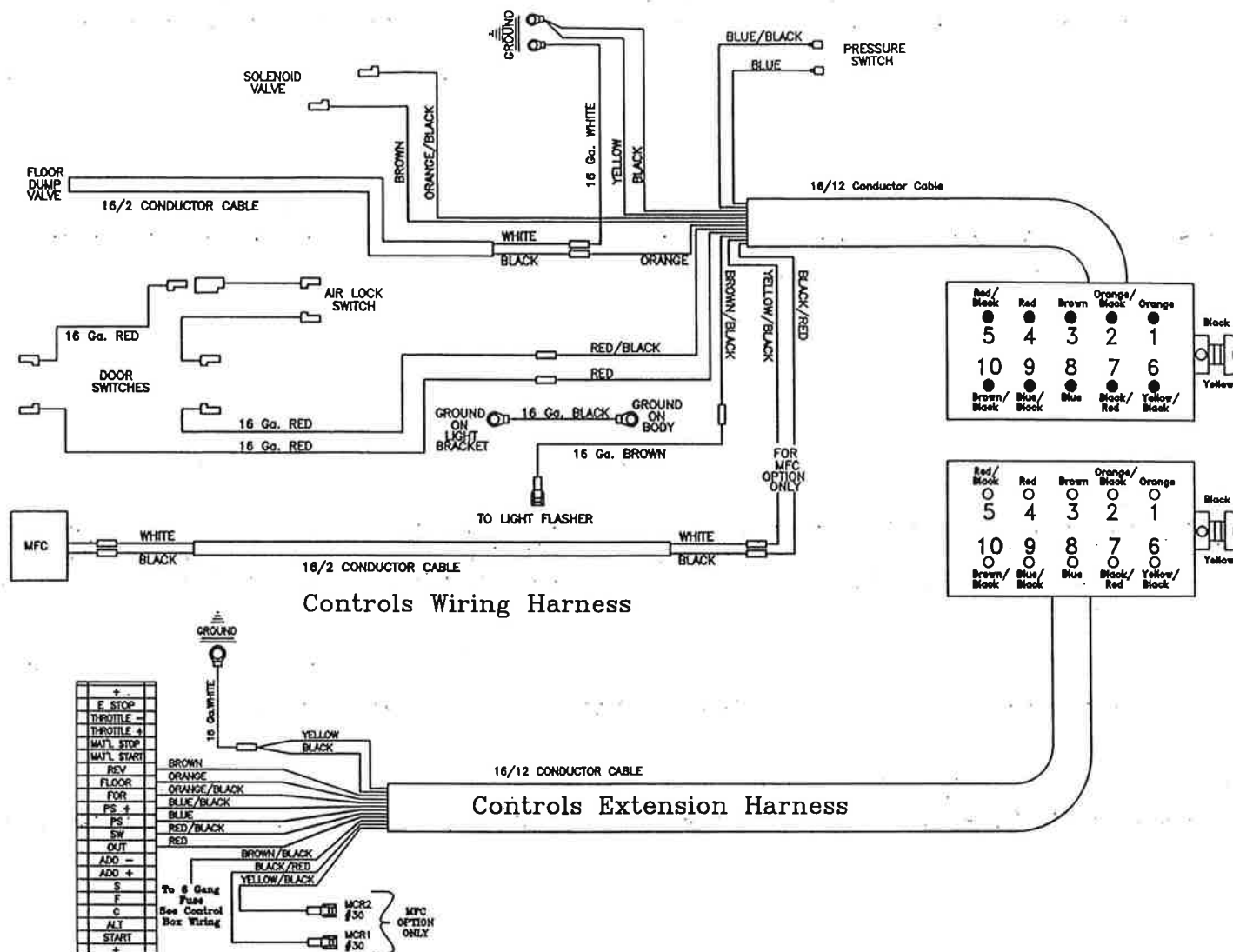
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RADIO REMOTE CONTROL WIRING WITH MFC

Part Number	Description	No. Req'd
052133T	Radio Remote Controller w/MFC	1
052133B	Radio Remote Receiver	1
052009C	Radio Remote Antenna	1
052112	Toggle Switch	1
080526	Toggle Switch Boot	1
052056-01	Radio Receiver Enclosure	1
052215-01	Radio Remote Control Wiring Harness w/ MFC	1

**WHEN ORDERING PARTS, BE SURE TO STATE
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CONTROLS WIRING

Part Number	Description	No. Req'd
052213-01	Controls Wiring Harness w/MFC Option	1
052214	Controls Extension Harness	1
005561	Base Mount Housing (Wiring Harness)	1
023604	Hood Cover Housing (Extension Harness)	1
023601	Male Insert Receptacle	1
023602	Female Insert Receptacle	1
055407	Air Lock Door Switch	2
052436	Air Lock Switch (Marine Grade)	1
055115	Solenoid Valve	1
052336	Pressure Switch	1
041163	Floor Dump Valve	1

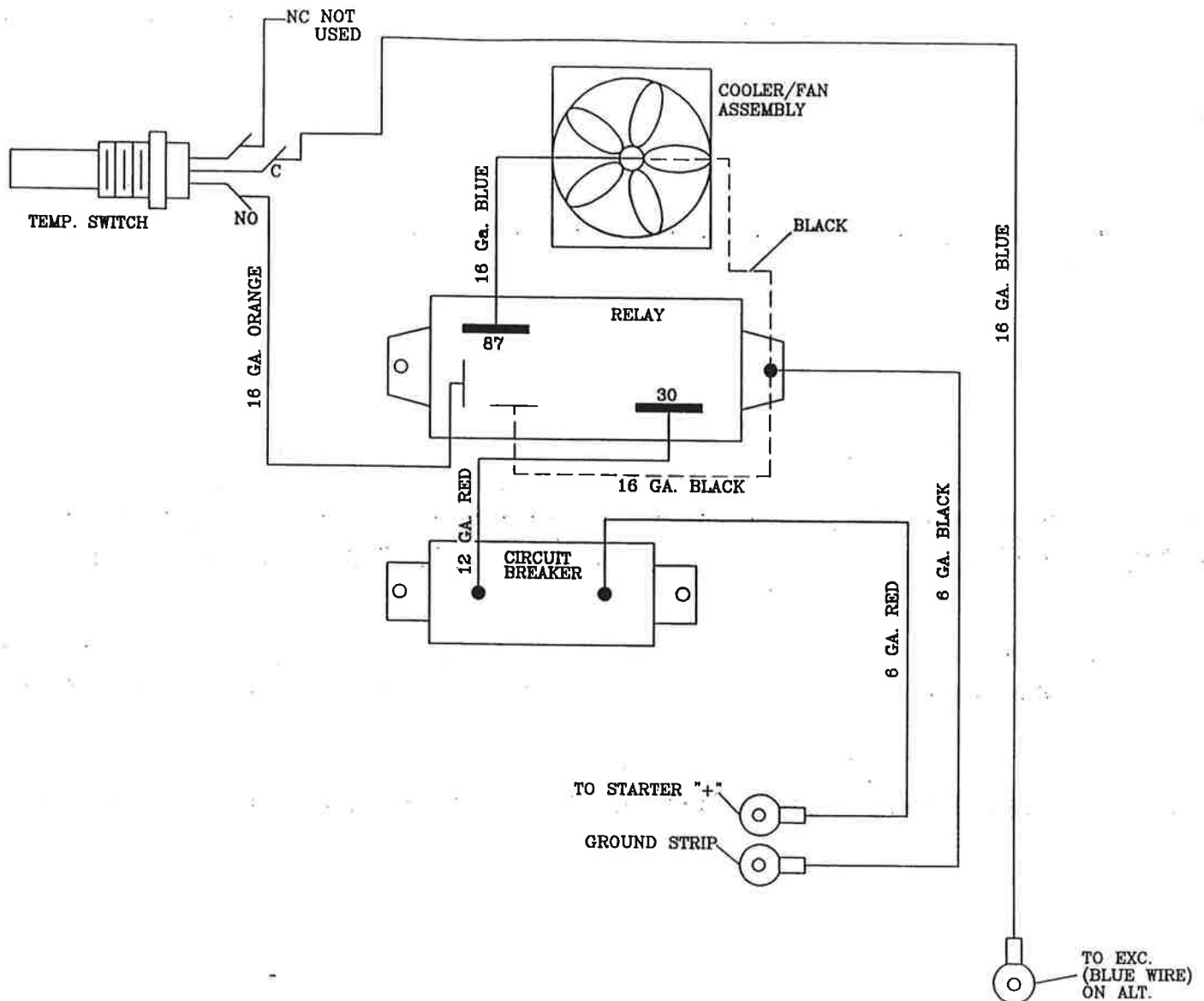
**WHEN ORDERING PARTS, BE SURE TO STATE
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ENGINE WIRING

Part Number		Description	No. Req'd
(808)	(818)		
052406	052406	Engine Wiring Harness	1
052419-01	052419-02	Engine Extension Harness	1
005561	005561	Base Mount Housing (Engine Wiring Harness)	1
023602	023602	Female Insert Receptacle	2
023604	023604	Hood Cover Housing (Engine Extension Harness)	2
023601	0223601	Male Insert Receptacle	2
023603	023603	Panel Mount (Control Box)	1
080304	080304	Water Tight Fitting	4
011851	011851	Battery	1
031031	031031	Battery Cable	1
010516	010516	Ground Strap	1
023814	023814	Warner Throttle Actuator	1
055384	055384	Temperature Switch	1
007706	007706	Oil Gauge	1
FW71978	FW71978	Fuel Level Sender	1
022425	022425	Diode	1

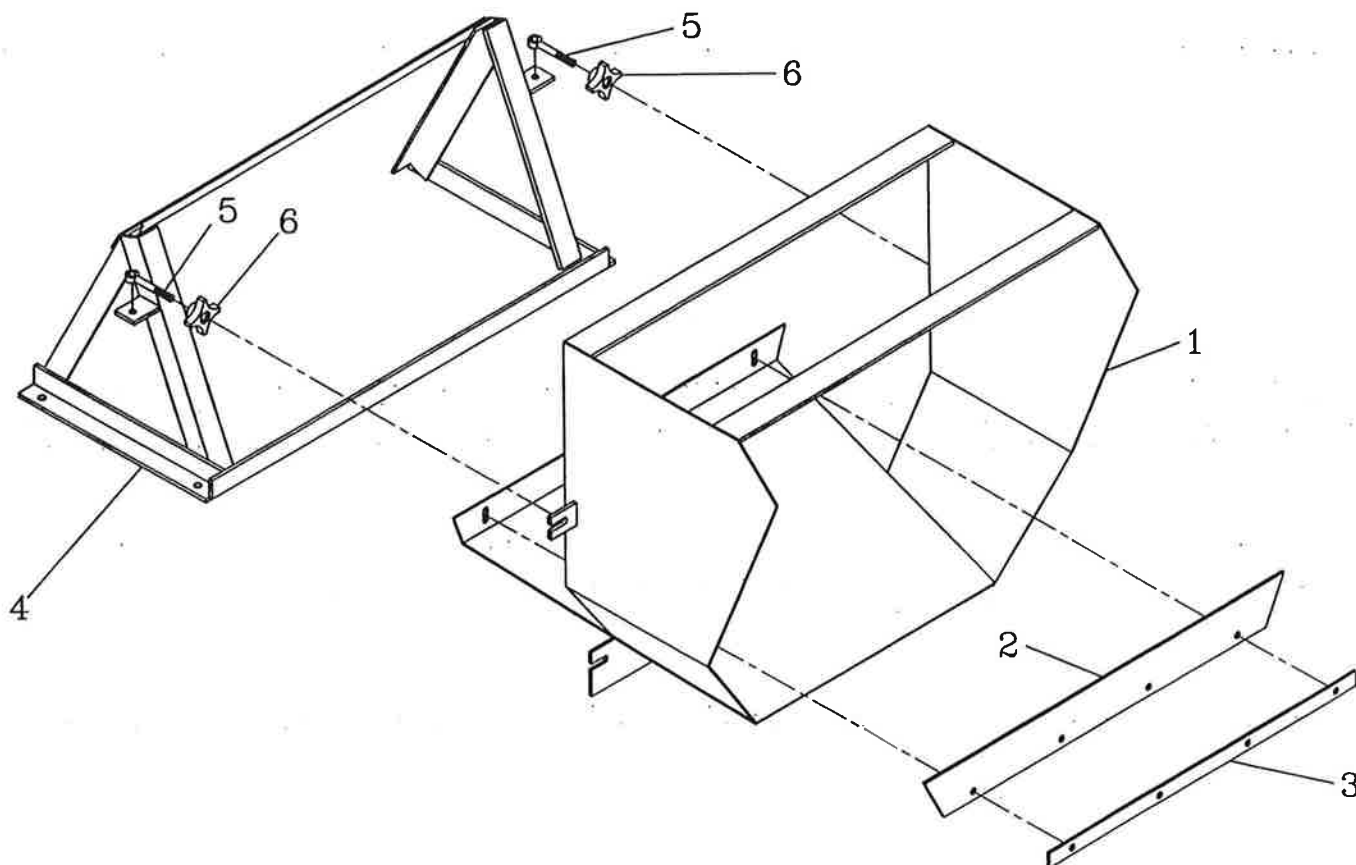
**WHEN ORDERING PARTS, BE SURE TO STATE
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COOLING FAN WIRING

Part Number		Description	No. Req'd
(808)	(818)		
052407-01	052407-02	Cooling Fan Wiring Harness	1
FW75254	FW75254	Temperature Switch	1
005626	005626	Cooler/Fan Assembly	1
052400	052400	Cooling Fan Mount	1
023438	023438	Rubber Shock Mount	4
FW72063	FW72063	Circuit Breaker	1
FW75307	FW75307	Relay	1

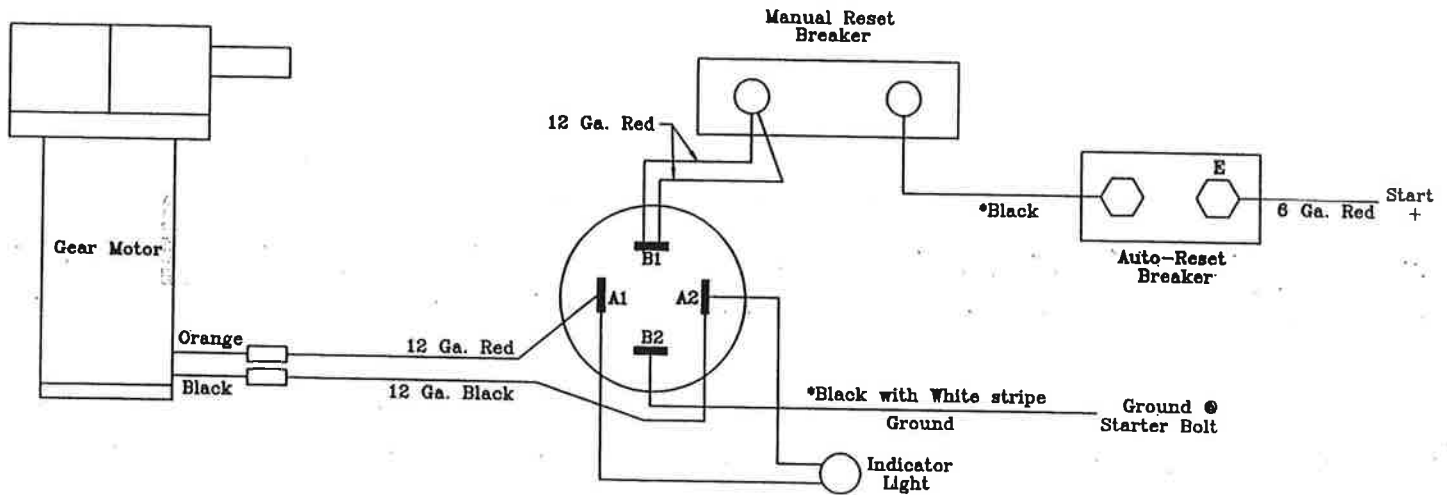
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QUICK DISCHARGE CHUTE OPTION

Ref. No.	Part Number	Description	No. Req'd
	061011	Quick Discharge Chute Attachment:	1
1	052369	Quick Discharge Chute	1
2	052368-03	Conveyor Seal	1
3	052368-02	Seal Clamping Strip	1
4	052382	Quick Discharge Chute Mounting Frame	1
5	055433	Swing Bolt	2
6	070583	Black Knob	2

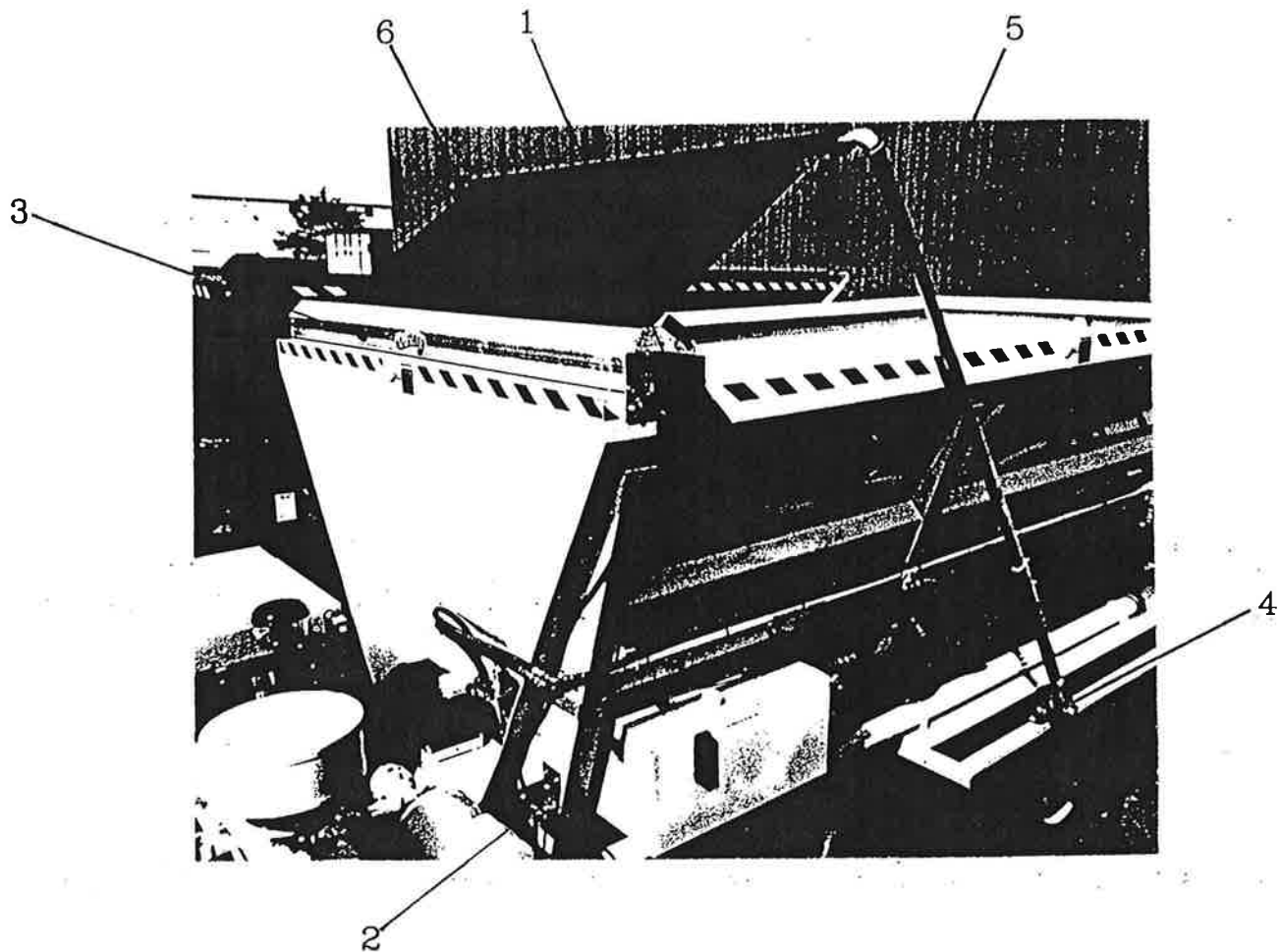
**WHEN ORDERING PARTS, BE SURE TO STATE
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TARP WIRING

Part Number	Description	No. Req'd
RR1031	Electric Gear Motor	1
RR1050	Electric Kit (Switch, Mounting Bracket, Ect.)	1

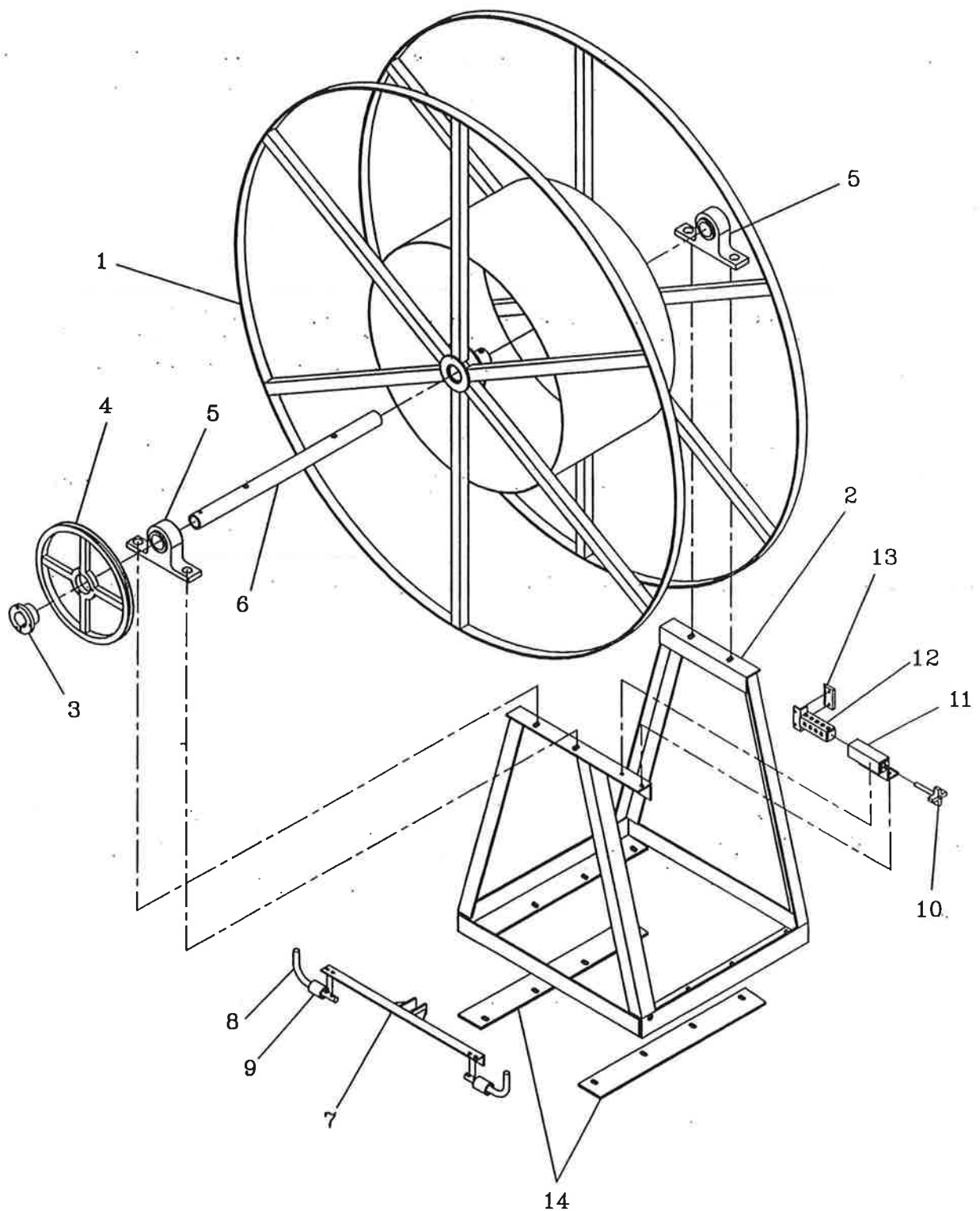
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TARP ASSEMBLY

Ref. No.	Part Number		Description	No. Req'd
	(808)	(816)		
	052376	052377	Tarp Assembly:	1
1	RR1031	HT	Electric Gear Motor w/Protective Cover	1
	RR102E-08	RR102E-16	Pre-Threaded Aluminum Tarp Axle	1
2	RR1050)	Electric Kit (Switch, Mounting Bracket, etc.)	1
3	RR635-W71-3/8	RR635-W71-3/8	Wind Deflector	1
4	RR640-3	RR640-3	3-Spring Pivot Set	2
5	RR670-08	RR670-16	Tarp Bow Set	1
6	64" x 14' KMT	88" x 16' KMT	Knit Mesh Tarp	1

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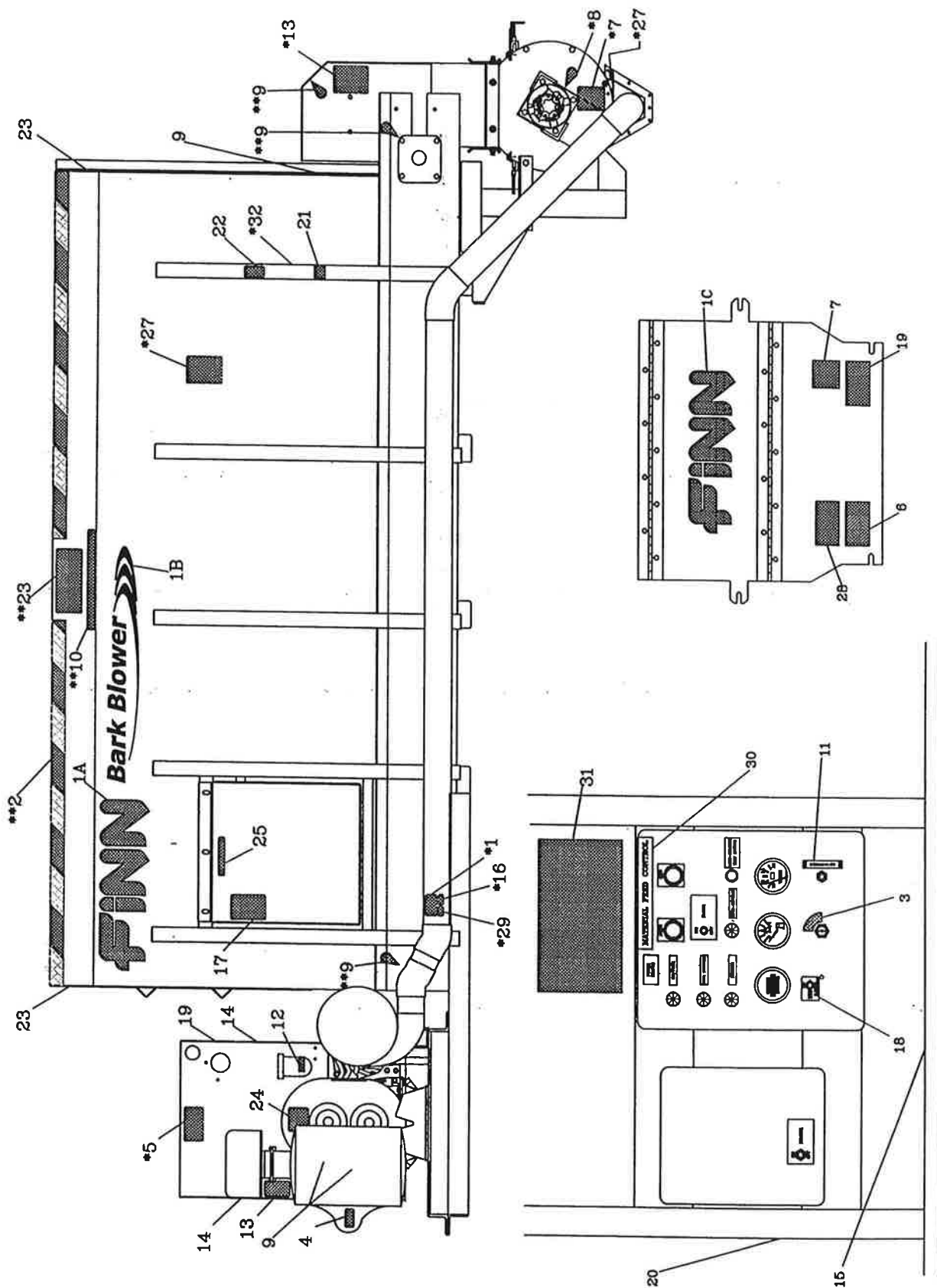


**WHEN ORDERING PARTS, BE SURE TO STATE
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150' HOSE REEL ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
	052417	150' Hose Reel Assembly includes:	1
1	052416	Hose Reel Drum	1
2	052383	Hose Reel Mounting Frame	1
3	052339	Locking Bushing	1
4	052338	Brake Sheave	1
5	052337	2" Pillow Block Bearing	2
6	052384-01	Drum Shaft	1
7	052350	Hose Reel Lock	1
8	052350-02	Lock Handle	2
9	052384-05	Handle Spacer	2
10	052346-02	Brake Adjusting Knob	1
11	052346-14	Brake Mount LH	1
12	052346-03	Brake Extension Arm	1
13	052347-02	Brake Pad	1
14	052384-06	Reel Mounting Pad	2

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DECALS

Ref. No.	Part Number	Description	No. Req'd
1	011690	FINN Name Plate	1
1A	023174	"FINN" Decal	2
1B	055639	"Bark Blower" Decal	2
1C	031235	Small "FINN" Decal	1
2	190173	Yellow-Black Warning Tape	40'
3	KL2411303	Decal "IGN" Kohler	1
4	012278	Decal "DANGER! HOT EXHAUST" #SW-7	1
5	012279	Decal "WARNING! RADIATOR" #SW-600	1
6	055219	Decal "DANGER! SHARP KNIFES"	1
7	055280	Decal #SW805 :WARNING OBJECTS MAY BE THROWN"	2
8	007230	Decal "SERVICE DAILY"	1
9	007231	Decal "SERVICE WEEKLY"	9
10	022690	Decal "WEAR EYE PROTECTION"	2
11	007535	Decal "THROTTLE"	1
12	007607	Decal "DRAIN WATER DAILY"	1
13	012179	Decal "WARNING! DO NOT OPERATE WITHOUT"	2
14	012251	Decal "WARNING! ROTATING FAN"	2
15	012260	MAINTAIN SAFETY DECAL PLATE	1
16	020976	Decal "PATENT INFRINGEMENT"	1
17	021665	Decal "HYDRAULIC INSTRUCTIONS"	1
18	022082	Decal "HOLD BUTTON IN"	1
19	022357	Decal "WARNING! TURN OFF ENGINE"	2
20	052170	Decal "FEED ROLL-FOR/REV"	1
21	052171	Decal "GATE-OPEN/CLOSE"	1
22	052172	Decal "FLOOR-FAST/SLOW"	1
23	052177	Decal "DANGER-ROTATING HAZARD"	4
24	052178	Decal "IMPORTANT"	1
25	012272	Decal "HYDRAULIC OIL ONLY"	1
26	023391	Decal "DIESEL FUEL ONLY"	1
27	023519	Decal "CAUTION! WEAR EYE PROTECTION"	2
28	020068	Decal "DANGER! DO NOT OPEN DOOR"	1
29	055216	Decal "PATENT NUMBERS"	1
30	055217	Decal "MATERIAL FEED CONTROL"	1
31	055655	Decal "OPERATING INSTRUCTIONS"	1

Note: Safety Decals Must be ordered as a kit-

Part # 053037

NOTE: 1. * Located on opposite side

** Located on both sides

2. Item 26. Not Shown; Located on fuel tank near fill neck.

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TOOL KIT

Part Number	Description	No. Req'd
012681A	Spray Paint	1
	Engine Parts Manual	1
	Engine Operators Manual	1
	Blower Operators Manual	1
	Radio Remote Control Manual	1
	Bark Blower Parts/Operators Manual	1

DISCHARGE HOSE

Part Number	Description	No. Req'd
055398B	50' Discharge Hose Assembly	
055399B	100" Discharge Hose Assembly	3
055377	Hose Adapter	4
055304	Clamp	4
055337	Shoulder Strap	1
055374A	Aluminum Adapter	2
055375A	Aluminum Coupler	2

RECOMMENDED SPARE PARTS

Part Number	Description
052004	Blower Filter Element
011869	Hydraulic Oil Return Filter Element
JDRE60021	Fuel Filter
JDRE59754	Engine Oil Filter
JDR123442	Fan Belt
007739	Air Cleaner Element
055113	Air Lock Knives (2 Sets)
055407	Air Lock Door Interlock Switch
052436	Air Lock Discharge Safety Switch

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