

# **U. S. FILTER**

**BLASTRAC**

**Model**

**1 - 15D**

**&**

**654 Dust Collector**

**Portable Dust Cleaning System**

## INTRODUCTION

This manual has been prepared to assist the operator and maintenance personnel in understanding the machine so that it may be operated in the safest and most efficient manner and maintained in the best condition. Therefore, it is necessary that all personnel responsible for the operation and maintenance of the machine read and understand the manual.

Before attempting to operate, service or maintain the machine, the personnel should thoroughly familiarize themselves with the physical make-up of the machine. They should be familiar with the major components of the machine and have a general understanding of overall operations.

The operating and maintenance personnel must obey all the warnings and safety precautions posted on the machine and stated throughout this manual. Serious injury to personnel or severe damage to the equipment may result if the warnings and precautions are not followed.

You will be notified of any changes which occur after this manual is printed. We will send you manual revisions that should be inserted in the manual in accordance with instructions which will be forwarded with them.

### Receipt of Machine

Examine the shipment carefully for possible damage that might have occurred while in transit. If any damage is noted, notify the transportation carrier immediately and advise U. S. Filter/Blastrac.

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**U. S. FILTER/BLASTRAC  
WARRANTY POLICY**

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This document is to be used as a guide in determining warranty policies and procedures for U. S. FILTER/BLASTRAC products. It is to be used in determining whether a warranty is justified and also as a procedural guide in completing a U. S. FILTER/BLASTRAC Warranty Claim form.

**Warranty Responsibility:**

A Machine Warranty Information Card **must** be prepared by the distributor or the end user when the machine is delivered. Failure to comply will make any and all warranties on this equipment null and void. Credit for warranty repairs will be given only after receipt of the WARRANTY CLAIM FORM, properly completed with all the required details. Submittal details are described later in this document.

**Warranty Policy:**

1. U. S. Filter/Blastrac warrants its products against defects in material and workmanship under normal and proper use for a period of one hundred and eighty (180) days from the date of delivery; in the case of Rental Fleet Machines, date of assignment to Rental Fleet. Such warranty is extended only to the buyer who purchases the equipment directly from U. S. Filter/Blastrac or its authorized distributor. This warranty does not include expendable parts such as, but not limited to, blades, blast wheel, wear plats, liners and seals.
2. The obligation under this warranty is strictly limited to the replacement or repair, at U. S. Filter/Blastrac's option, of machines and does not include the cost of transportation, loss of operating time, or normal maintenance services.
3. This warranty does not apply to failure occurring as a result of abuse, misuse, negligence, corrosion, erosion, normal wear and tear, alterations or modifications made to the machine without express written consent of U. S. Filter/Blastrac.
4. Warranty request must be submitted in writing within thirty (30) days after failure.
5. Written authorization to return merchandise under warranty must first be obtained from U. S. Filter/Blastrac.
6. U. S. Filter/Blastrac reserves the right to inspect and make the final decision on any merchandise returned under warranty.

## Warranty Policy (Continued)

7. U. S. Filter/Blastrac offers no warranty with respect to accessories, including but not limited to, engines, motors, batteries, tires and any other parts not manufactured by us but which are warranted by the original manufacturer.
8. U. S. Filter/Blastrac reserves the right to make product changes or improvements without prior notice and without imposing any obligation upon itself to install the same on its products previously sold.
9. The above warranty conditions can only be altered by U. S. Filter/Blastrac. Alterations must be confirmed in writing by U. S. Filter/Blastrac for each specific transaction.
10. U. S. Filter/Blastrac reserves the right to establish specific warranty terms for used or demo machines on an individual transaction basis. Invoices covering such merchandise will clearly state the provisions of the applicable warranty for each specific transaction.
11. WE DO NOT AUTHORIZE ANY PERSON, REPRESENTATIVE OR SERVICE OR SALES OUTFIT TO MAKE ANY OTHER WARRANTY OR TO ASSUME FOR US ANY LIABILITY IN CONNECTION WITH THE SALE OF OUR PRODUCTS OTHER THAN THOSE CONTAINED HEREIN.
12. UNDER NO CIRCUMSTANCES SHALL U. S. FILTER/BLASTRAC BE LIABLE TO CUSTOMER OR ANY OTHER PERSON FOR ANY DIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF ANY WARRANTY OR FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER, INCLUDING WITHOUT LIMITATIONS, DAMAGES FOR ANY LOSS OF GOODWILL, WORK STOPPAGE, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES.
13. U. S. FILTER/BLASTRAC MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE U. S. FILTER/BLASTRAC PRODUCTS SOLD PURSUANT THERETO.

## FORWARD

U. S. Filter/Blastrac is pleased that you have selected the Model 1-15D Blast Cleaning Machine for your surface preparation requirements. This environmental, closed-cycle, surface preparation machine has been designed and built for abrasive blast cleaning of horizontal surfaces.

This manual has been prepared to assist the operator and the maintenance personnel in understanding the machine so that it may be operated in the most efficient manner and maintained in the best condition. Therefore, it is necessary that all personnel responsible for the operation and maintenance of the machine read the manual thoroughly. By following the instructions in this manual, the 1-15D system can be easily and effectively operated, serviced and maintained by personnel assisted by a brief period of familiarization and training from a U. S. Filter/Blastrac technician.

Before attempting to operate, service or maintain the machine, the personnel should thoroughly familiarize themselves with the physical makeup of the machine, be familiar with the major systems of the machine, and have an understanding of its operation.

The operating and maintenance personnel must obey all the warnings and safety precautions posted on the side of the machine and stated throughout this manual. Serious injury to personnel or severe damage to the equipment may result if the warnings and precautions are not followed, or through careless handling of this equipment.

Initial operation and maintenance must be done cautiously. Extreme care should be taken when activating any control devices until the response of the machine and its various components are clearly understood.

If you have any questions or problems in regard to the operation or capabilities of this U. S. Filter/Blastrac machine, please contact:

U. S. Filter/Blastrac  
6215 Aluma Valley Drive  
Oklahoma City, OK 73121  
405/478-3440  
800/256-3440

or your nearest Service Center.

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## SECTION 1

### SAFETY INSTRUCTIONS

Note: IT IS VERY IMPORTANT THAT YOU READ THIS SECTION AND SAFETY INSTRUCTIONS IN SECTION 10 BEFORE OPERATING OR MAINTAINING THIS MACHINE.

This Wheelabrator Operator's Manual has been specifically prepared for operating and maintenance personnel working with Blastrac Airless Media Blast Equipment. The information in this manual is intended to provide an understanding of the equipment for safer operation and maintenance procedures. Your maintenance and operating personnel should read and be familiar with the contents of this manual.

### SAFETY INSTRUCTIONS

It is important that the operating and maintenance personnel for these machines observe all warnings and precautions that are listed in this operating and maintenance manual for the individual machine, the safety and warning labels posted on the machine and the safety program established by your management.

This Blastrac machine has been manufactured for your specific finishing application. The engineering design of this Airless Blast Machine incorporates three basic elements which include one airless media blast wheel and a media recycling system. As a result of many years of operating and engineering experience, the features of these machines which when used with proper operation and maintenance procedures, enable the machines to operate in a safer, more efficient and trouble-free manner.

A thorough understanding of the Blastrac machine will help assure that the machine can be operated efficiently and safely. No instructions, written or verbal, can be effective without the use of sound judgment and good work practices in the operation and maintenance of the equipment. Listed below are practices that should always be observed:

#### CAUTION

Always keep the abrasive valve control lever in OFF position except when the machine is blast cleaning. Whenever an irregular or hazardous behavior of the machine occurs during blasting, immediately close the abrasive valve and release the start/stop switch to deactivate the blast wheel motor. Before operating, make certain that the machine can clear and travel over all obstructions in the work area. The work areas must be dry and cleaned of any loose debris at the start of the cleaning.

Maintain all guards in place. These machines are equipped with guards or coverings for parts that present safety hazards.

All personnel in the immediate area of the machine must wear safety glasses with side shields whenever the machines are operating. Also, protective clothing is recommended for the operator. Never wear

loose flowing clothes when working around blast equipment.  
Long-sleeved shirts and safety shoes are recommended.

Since the abrasive impacts the work surface at high velocity, any leaking abrasive can sting if it contacts unprotected skin areas.  
The blast head must be sealed to the work surface during operation of the machine to prevent possible injury from flying abrasive.

### Mechanical

1. Before performing maintenance of Blastrac blast equipment, Zero Mechanical State (ZMS) must be obtained in which:
  - a. Every power source that can produce mechanical movement has been locked off.
  - b. The mechanical potential energy in all portions of the machine must be at their lowest practical values.
  - c. The kinetic energy of the machine members must be at lowest practical values. Loose or freely movable machine members and parts must be secured against accidental movement.

### EXAMPLE

A rotating part, such as an airless blast wheel, will continue to rotate for a period of time after the electrical power has been discontinued.

2. All drive guards are kept in place, except during maintenance or repair work. All drive guards are remounted upon completion of any maintenance or repair work.
3. Safety glasses with side shields should always be worn when working with or near Blast equipment. When applicable, gloves should be worn.
4. Loose fitting clothes are never worn while working near belts, chains, sprockets, shafts or other components that are movable.
5. The machine and the footing areas around the machine must be kept clean as loose media can make footing dangerous. All leaks in the wheel assembly housing, other abrasive seals and the abrasive recycling system should be repaired immediately.
6. Any condition(s) that may result in further damage to the machine or cause injury to personnel should be repaired immediately.
7. Do not attempt to adjust the feed spout or other wheel parts while the airless abrasive blast wheel is operating or rotating. Do not attempt to adjust any components while any part of the machine is in operation.



8. Obey all safety and danger signs and other precaution information posted in the machine and in the areas where the machine is operated.
9. Do not operate Blastrac machinery in the presence of rain or heavy moisture. Do not expose the blast abrasive supply to water or heavy moisture. Always drain abrasive from the machine before shipment. Always empty dust collector disposal bin(s) before shipment.

### Electrical

1. Do not operate the machine with the electrical panel door open. A door interlock should prevent opening the door unless the main disconnect switch or circuit breaker is off.
2. Never use oversize fuses or bypass any fuses. Always refer to the electrical drawings provided for the individual machines for proper fuse sizes.
3. Use only overload coils or relays for the motor starter(s) that are for the proper amperage ratings of the motor(s) as shown on the motor nameplate.
4. Disconnect all power sources before attempting maintenance or repair of electric motors on the equipment.
5. Avoid contact with rotating parts of the motors, drives or driven components.
6. Before starting the motor(s), check to see if the correct power supply (voltage, frequency and phase) is being used and that the motor(s) are connected per the connection diagram on the motor nameplates. Check the motor(s) for the correct rotation. Sustained improper rotation of motors will cause damage to the machine components.

The Blastrac Model 1-15D and Model 654 Ultra Jet Dust Collector can operate on either 230 volt or 460 volt, 3 phase, 60 HZ power. Please note that these voltages require wiring changes when converting from one voltage to the other. A list of what changes are necessary is outlined in the voltage conversion table in Section 13. Regardless of which voltage is being utilized, proper safety precautions must be followed to avoid serious or fatal injury. Handle all connectors, cables and junction boxes with extreme caution. Avoid contact with energized circuits. Do not disconnect power plugs with any electric motor running or energized.

Ventilation air must follow a particular path through the machine. The air sequence is as follows:

1. Air enters the area around the rear seal flap at high velocity and sweeps residual abrasive from the work surface. Air leaks at the seams of mating parts such as the blast housing lid, control cage and separator lid should be corrected by sealing.
2. Air moves up the rebound chamber with the rebounding shot, dust and debris. This air movement also cools the steel abrasive and the chamber walls.
3. Air enters the separator and selectively conveys unwanted fine particles upward toward the exhaust port. The separator lid must be properly seated and secured.
4. Air moves through the flexible hose to the dust collector with sufficient velocity to carry the dust and fine particles. Hose sections must be properly attached at separator outlet and at the air entry on the dust collector. Slip the hose over the flange tube and secure with the a band-type hose clamp, then wrap thoroughly with duct tape. Use only the proper length and diameter of hose as specified in Section 6 of this manual. The hose lengths should be airtight and free of holes. Check daily for wear and avoid any unnecessary looping.
5. Air enters the dust collector baghouse, passes through the filter cartridge and out of the machine via the exhaust. Elastomer seals on the dust collector lid and on the storage bin joints must be maintained in good condition. Dust observed in the dust collector exhaust is an indication of either a damaged or failed filter cartridge or a loose joint at one of the filter cartridge attachment points. Replacement of the faulty filter cartridge or repair of the loose joint should be performed as soon as possible. The minihelic gauge reads pressure difference between the dust side and the clean side of the filter cartridges. High readings on this gauge indicates a heavy dust cake on the exterior surfaces of the filter cartridges. If a reading exceeds 6 inches water column, the timer should be adjusted to increase pulse frequency to 5 seconds and the air pressure used for pulse cleaning should be set to 100 PSI Max.

## Dust Collectors and Ventilation

All abrasive blast equipment must be properly ventilated to be environmentally effective. This benefits the operator, the machine efficiency and minimizes wear and maintenance.

With all types of dust collectors, it is important that the dust hoppers be kept as empty as practical. It is important to empty the dust hopper at the end of the operating day or more frequently, if required. Many dusts have the potential to be easily ignited when left stored. The hazards of fires and explosions are minimized when the dust is removed from the dust collector hoppers as recommended.

## SECTION 2

### CUSTOMER'S RESPONSIBILITIES

1. The customer shall provide a 230 volt, three phase, 60 cycle, 60 amperes or 460 volt, three phase, 60 cycle, 30 amperes rated grounded electrical power source for the equipment. The estimated total connected full load of this system is 53 amperes at 230 volts. When wired for 460 volts, the estimated full load current will be approximately 27 amps.
2. The customer shall provide personnel who are trained by a WHEELABRATOR Blastrac Field Technician for operation and service of the Blastrac equipment.
3. The customer shall provide all necessary blasting media in accordance with the recommendation of a Blastrac Field Technician so that the most efficient operation will be obtained.
4. The customer shall be responsible for observance of all safety precautions expressed in this manual.
5. The customer shall perform all maintenance and basic repair functions as stated and described in this manual.
6. The customer shall maintain an inventory of "wearable parts" as outlined in this manual.
7. The customer shall dispose of all dust collector refuse material.
8. The customer shall provide these tools and accessories:

- Hammer
- Screwdrivers
- Set of Wrenches
- Volt/Ohm Meter
- Impeller Allen Head Wrench - 5/16"
- Brooms
- Buckets

## SECTION 3

### DESCRIPTION AND FUNCTION

General - Refer to Figure Number 1

The Wheelabrator Blastrac Model 1-15D is a surface preparation downblast machine for closed-cycle abrasive cleaning of horizontal surfaces. Thorough removal of surface contaminants on steel or concrete, such as rust, mill scale and various coatings is accomplished by the impact of metallic abrasive thrown by controlled centrifugal force from a power driven bladed wheel. This thrown abrasive impacts the work surface then rebounds upwardly into a specially designed rebound chamber which directs the abrasive into an airwash dust extractor which removes dust, scale and other contaminants from the abrasive, so that the predominantly good quality steel media is delivered by gravity to the storage hopper for reuse by the blast wheel. The machine is self-propelled by a variable speed electric drive system. For all operating conditions, a Dust Collector shall be connected to the machine. This blast cleaning machine, shown in Figure Number 1, is composed of the following basic systems and elements:

#### Abrasive Cleaning Head

##### WHEELABRATOR UNIT

The heart of the patented abrasive cleaning head is the power driven, four bladed wheel that throws abrasive by centrifugal force toward the surface to be cleaned.

The Wheelabrator unit (referred to as wheel or W/A), is enclosed in a guard housing of abrasive-resistant material and lined where necessary with replaceable wear plates. The wheel is driven by a 3600 RPM electric motor.

The Wheelabrator airless abrasive blast wheel is equipped with a cast-in-place impeller for easy maintenance. The impeller serves a very important function in the operation of the wheel by feeding the abrasive in controlled amounts onto the blades of the rotating wheel. In operation, the impeller rotates with the wheel.

Abrasive fed into the center of the rotating impeller is given its initial circular motion to direct it through the control cage opening and onto the wheel blades. The performance of the wheel is dependent upon the setting of the control cage since it directs the abrasive and determines how well the abrasive will cover the work. The setting or location of this control cage opening is extremely important for directing the abrasive blast on to the work surface. (See Figure Numbers 10, 11, and 12, Section 5)

The blast wheel motor circuit is equipped with a current ammeter on the machine to give a visual indication of the abrasive flow to the wheel. If the ammeter reads full amperage when blasting the operation is at peak efficiency. The full load amperage rating is listed on the nameplate mounted on the motor and control panel.

### Abrasive Control Valve

An enclosed permanent magnet type abrasive control valve is provided between the abrasive storage hopper and the wheel feed spout to regulate the flow of abrasive from the storage hopper into the blast wheel. The volume of abrasive flow may be varied by the amount the abrasive valve is opened. The valve is manually actuated and is equipped with a mechanical variable stop arrangement. This may be set to provide the desired abrasive shot flow rate. Valve stop adjustments are provided on the abrasive throttle lever located on the side of the operator's control panel.

### Rebound Chamber and Separator

#### Rebound Chamber

After the abrasive impacts the work surface, it rebounds upward into a specially designed rebound chamber and is then directed into an airwash dust extractor.

#### Separator - Refer to Figures 2 and 3.

Immediately following the rebound chamber is a compact chamber which separates the dust, pulverized abrasive, debris and other undesirable contaminants from the returning abrasive prior to its entry into the storage hopper. The returned abrasive is carried by momentum into the storage hopper, while light contaminants are conveyed up and away by a rapidly moving airstream. The airstream is generated by vacuum pressure from the dust collector; dust is conveyed and deposited in the dust filter chamber, or baghouse.

#### Abrasive Seals

Magnetic abrasive seals are provided around the blast head opening to contain the thrown abrasive. The trailing edge of the blast head is equipped with a seal flap which admits air at high velocity to sweep up residual abrasive from the work surface.

#### Chassis

All components of the cleaning unit are mounted on a mobile transporter. The chassis, or transport carriage, is a three wheel, self-propelled unit. The drive system is powered by a 1/4 HP, DC electric motor turning a drive wheel via chain drive and gear reducer. Travel speed is regulated by controlling the drive motor power through an electrical variable DC voltage regulator control located on the operator's control panel. A quick release pin on the drive wheel allows free wheeling for towing to and from the work site. The operator's handle contains a lifting cam which will lift the blast seal over obstructions. Swing the handle down slightly to raise the blast seal.

## Filter Chamber

The central part of the dust collector is a filter chamber. Dust laden air enters this chamber through a vent hose connection at one end, passes through a plenum, and flows through an array of six vertically mounted filter cartridges. Dust is captured by the surfaces of the cartridges, allowing only clean air to pass. The filtered air next enters a clean air plenum and moves toward an outlet into an exhauster which returns the clean air to the open atmosphere.

The dust which has been trapped on the external surfaces of the cartridges is periodically removed by rapidly pulsing the cartridges with an internally supplied pulse of compressed air. The momentary reverse pulse of air removes the cake of dust from the external surfaces of the cartridges and causes only a slight reduction of air flow. The filter cartridges are cleaned individually while others remain "on filter stream".

The dust drops from the surfaces of the cartridges into a special disposal bin mounted below the filter chamber. Periodically, the operator must stop operation of the system and remove the dust from the bin for disposal. Additional dust bins are available from your Blastrac Representative. Do not allow the dust bin to overfill!

## Dust Bin

The dust bin on the Model 654 is equipped with wheels and a handle to assist in the disposal of the collected dust.

## Blower

The blower (exhauster) is mounted on the rear of the dust collector chassis and is powered by a 5 HP direct drive motor.

## Minihelic Gauge

A gauge is mounted on the dust collector and measures the differential pressure across the filter surface of cartridges. As the filters age with use and become clogged with debris, the gauge reading will increase.

## Pulse Pressure System

An air compressor with external pressure regulation is mounted on the rear of the dust collector chassis and is driven by a 3/4 HP motor. Compressed air enters a receiver to which three diaphragm valves are attached. These diaphragm valves are activated by solenoid pilot valves, which are in turn activated by an electronic sequencing timer mounted in a separate enclosure. When activated, the diaphragm valves open to admit a short pulse of compressed air into venturis at the end of the filter cartridges. This air pulse cleans the cartridges as previously described.

## OPERATOR CONTROLS

The operator's control panel on the 1-15D blast unit is provided with the following 110 volt controls and instruments for monitoring and controlling the operating functions of the machine.

Speed Control Switch - regulates the forward/reverse travel speed of the machine through a variable-voltage DC control system.

Travel Switch - controls the direction of travel of the machine. Forward/Brake/Reverse.

Wheel Start/Stop Buttons - starts/stops operation of the blast wheel motor.

Hour Meter - indicates elapsed operating time on the blast machine.

Ammeter - indicates current flow rate to the blast wheel. Use for monitoring proper abrasive flow rate.

On/Off Switch - (on steering handle) provides on/off "attended" operation of the traction drive motor.

Throttle for Abrasive Control Valve - used to start/stop flow of abrasive to the blast wheel and to adjust the rate of abrasive flow during operation.

## Machine Size

The 1-15D is designed to pass through a 34" door opening.

Dust Collector - Refer to Figure Number 3

The 1-15D shall not be used for blast cleaning unless attached to a proper air exhaust hose and dust collector. A special Pulse Jet Type Dust Collector, Model 654, has been designed to operate in conjunction with the 1-15D Blastrac Machine.

The Model 654 Dust Collector is normally attached to the 1-15D with 50 feet of 5" diameter flexible exhaust hose. The dust collector is sized to pass through a 34" door opening, and is mounted on a self-contained mobile chassis. In operation, the 1-15D cleans a radial area around the stationary dust collector, then the entire system is hand towed to an adjacent area and the procedure is repeated. Occasionally, the dust collector may be parked in an adjacent room and connected to the 1-15D by a longer hose if access to the cleaning area is a problem. Consult with a Blastrac representative if longer hose extensions are required.



## Chassis

The entire dust collector is mounted on a mobile chassis, resting on four casters. Two swivel casters are mounted under the air inlet.

### Note:

The dust collector is not designed for vehicle towing or movement on roads.

## Electrical Control Panel

A control panel for the dust collector is mounted on the front of the chassis. The panel has the following controls and instruments for the operation of the dust collector:

Blower Running Time - an elapsed time meter showing the total accumulated operating hours of the blower.

Compressor Start/Stop Buttons - start/stop the motor driving the compressor.

Blower Start/Stop Buttons - start/stop the motor driving the blower.

## Cleaning Media

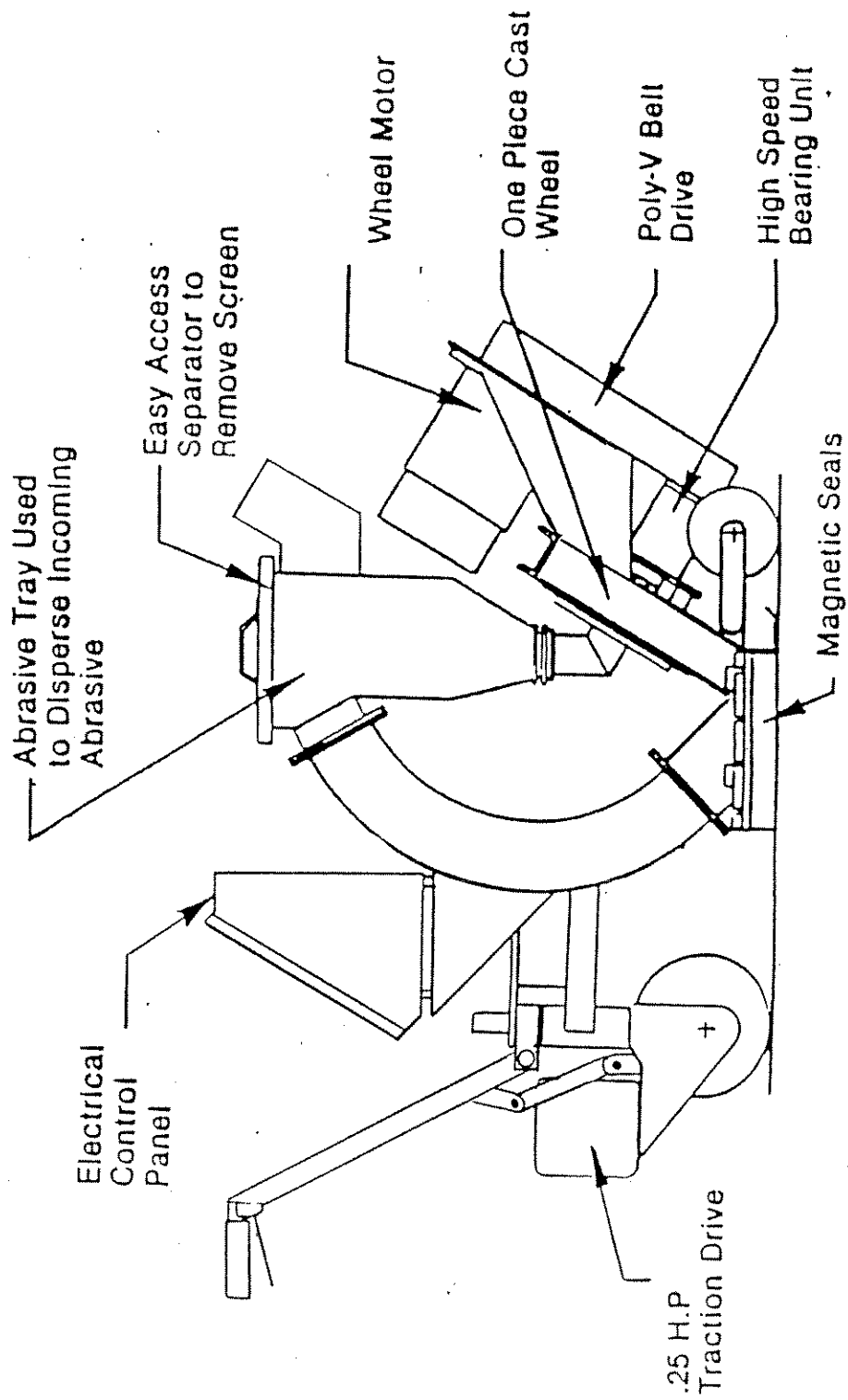
The Wheelabrator Corporation manufactures a variety of special sizes of high quality abrasives for the Blastrac blast cleaning machines. Blastrac steel shot is made of high quality tempered martensitic steel to provide long operating life and minimal abrasive breakdown.

The selection of proper abrasive is very important in assuring best performance from a Blastrac blast cleaning system. Your Blastrac field technician is experienced in the selection of proper abrasive to meet the needs of your particular cleaning requirement. Each of the Blastrac Service Centers maintains, in inventory, a wide range of Blastrac abrasives. They can readily supply the quantity of abrasive needed for your particular job.

## Ventilation System

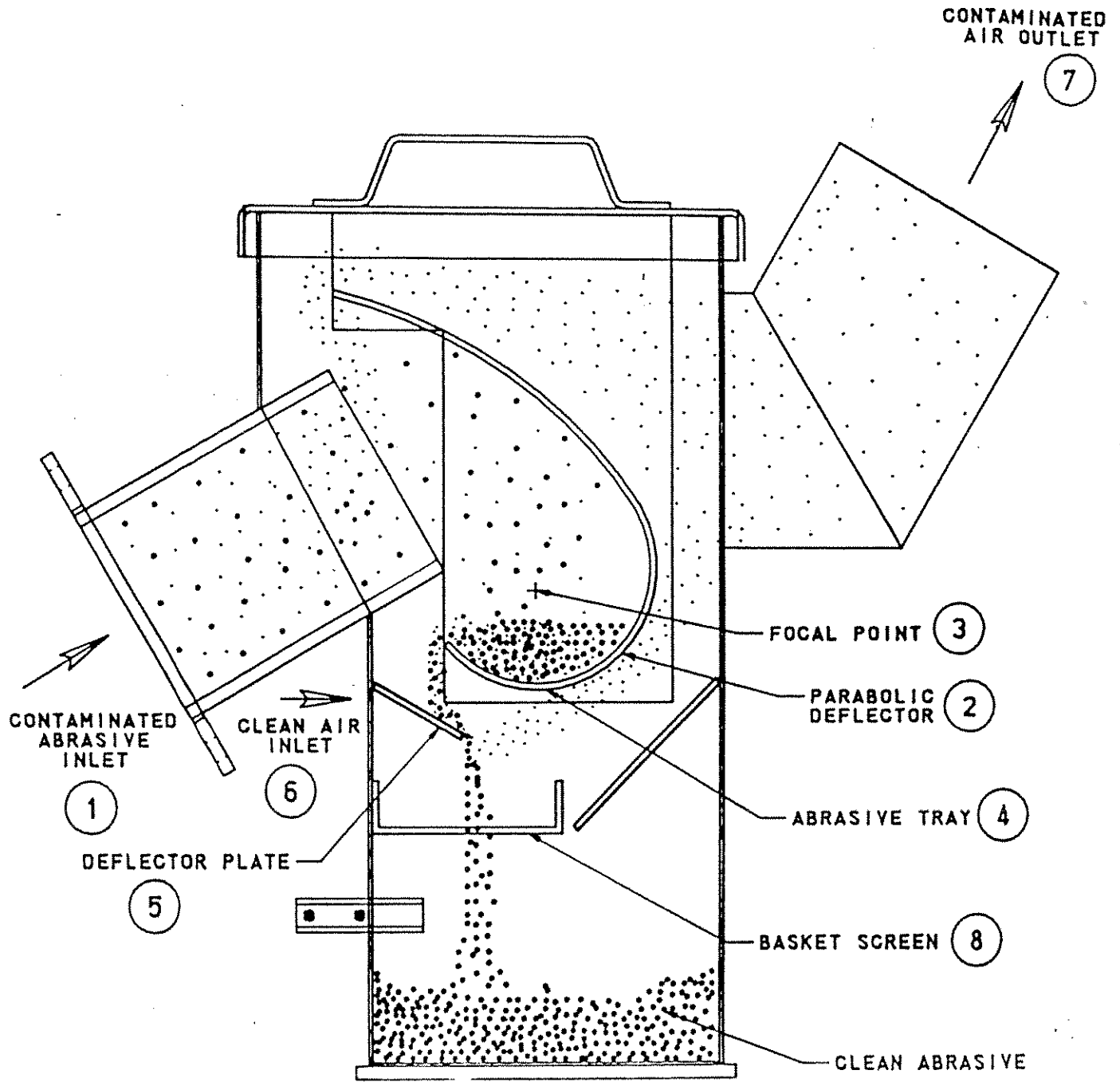
A controlled flow of ventilating air must pass through the Model 1-15D Blastrac and Model 654 dust collector during operation for the following purposes:

- a. Cooling blast machine components
- b. Sweeping residual abrasive from the blast surface
- c. Collecting and separating dust from the supply of good usable abrasive
- d. Conveying dust to the dust collector



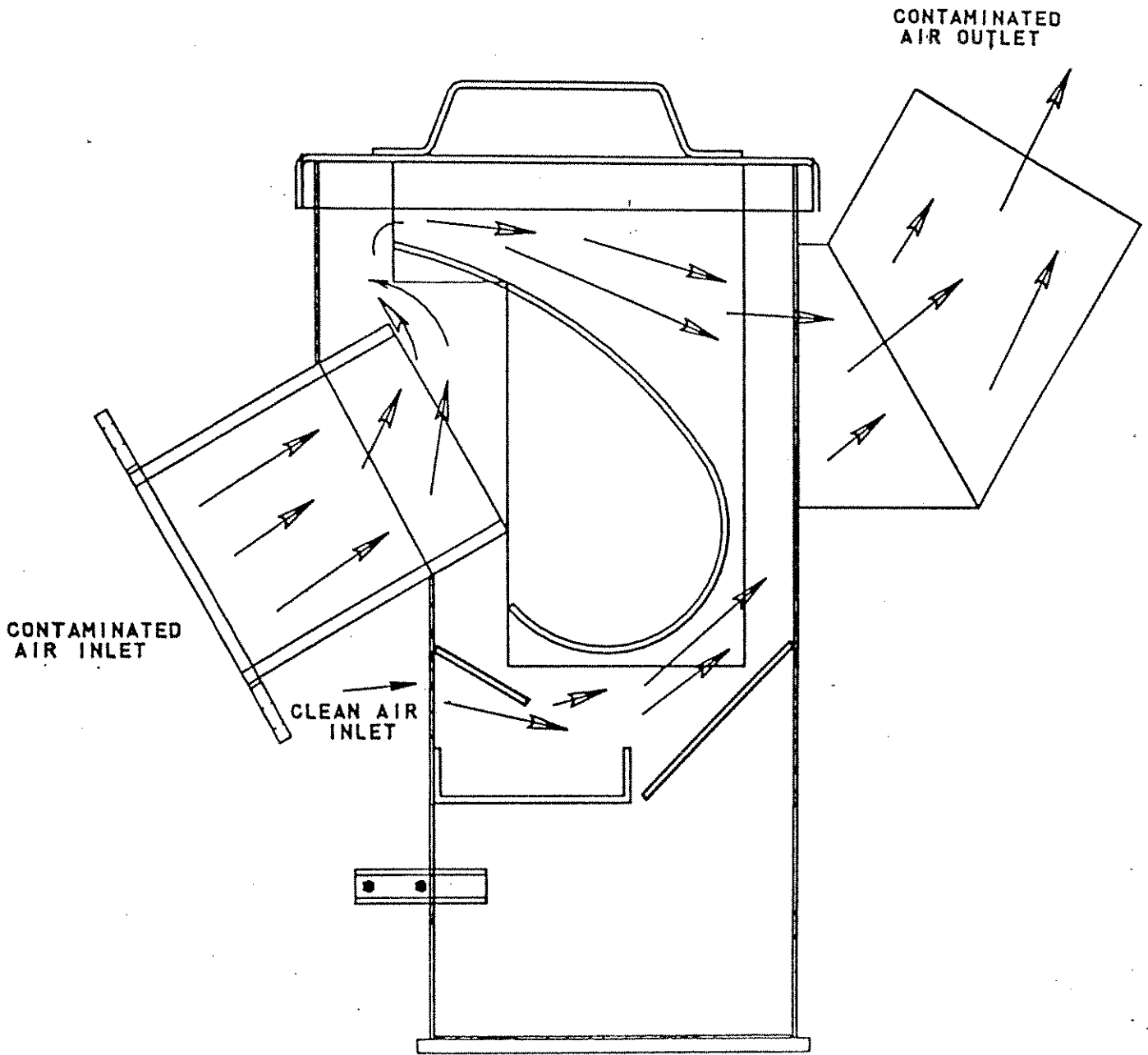
Model 1-15D

Figure No 1



# SEPARATOR - 1-15D

FIGURE 2



SEPARATOR 1-15D AIRFLOW

FIGURE 3

## SECTION 4

### START-UP PROCEDURE

#### NOTE:

It is important that the operating and maintenance personnel assigned to this machinery thoroughly read and understand all WARNINGS AND SAFETY INSTRUCTIONS found in Section 1 of this manual before attempting any part of the start up, blast cleaning or shutdown procedure for the Model 1-15D Blastrac or the Model 654 Dust Collector.

#### START-UP

1. Move the machine components to the site to be cleaned. The dust collector may be hand towed or moved by lift truck. To tow the Model 1-15D Blastrac by hand, disconnect the pin from the traction drive hub.
2. Check the blast wheel, control cage, feed spout, seals, liners and hopper parts for wear. Replace parts where needed.
3. Inspect the electrical interconnection cables for cuts or wear defects and inspect the flexible exhaust hose for holes or leaks. Replace or repair all defective items before continuing this procedure.
4. Connect the exhaust hose to the Model 1-15D Blastrac and to the Model 654 Dust Collector.
5. Plug in the electrical interconnection cable between the Model 1-15D Blastrac and Model 654 Dust Collector.
6. Turn off the disconnect switch on the control panel of the Model 654 Dust Collector and operator's station on the 1-15D Blastrac.
7. Connect the power cable from the Model 654 Dust Collector to the customer's disconnect box being sure the power is OFF and a proper ground terminal connection is made. Turn power on after wiring.
8. Check the area to be clean of all debris and large objects which might clog or damage the blast cleaning apparatus. If required, sweep the area before blast cleaning.
9. Check that the abrasive valve control is in the closed position. Remove the lid making sure the separator is free of debris and the abrasive valve is closed. Add approximately fifty (50) pounds of the selected size of Blastrac steel shot. Replace separator lid.
10. Verify that the dust bin on the dust collector has been emptied. Re-secure the dust bin latches.

11. Turn on the dust collector disconnect switch. Engage the start button for the blower (exhauster) drive and air compressor. Check for correct blower and air compressor rotation. If rotation is not correct, engage stop buttons for the drive motors and turn the disconnect switch off. Change the motor wiring connections for correct motor rotation. Recheck motor drive(s) rotation.

Note: For three phase motors, switching any two of the three power leads will reverse the rotation.

CAUTION: BE SURE ALL ELECTRICAL DISCONNECTS ARE LOCKED IN "OFF" POSITION AND ROTATING PARTS ARE FULLY STOPPED (ZMS).

12. Turn on the Operator Control Panel Disconnect Switch. Engage the blast wheel start button. Check for correct blast wheel rotation. If rotation is not correct, immediately engage stop button and turn disconnect switch OFF. Change the wiring connections for motor rotation. Recheck motor rotation.
13. Engage the start button for blower, air compressor and blast wheel.
14. On the 1-15D operator's station, set the (travel) speed control switch to about midpoint for concrete operation. (See Section 6) Engage the traction drive using the "attended" switch on the steering handle. Ease the abrasive valve open while traveling. Watch blast motor ammeter and reduce abrasive flow if the maximum motor amperage is exceeded - 20 amp if wired for 460 volt operation, or 40 amp if wired for 230 volt.
15. After cleaning a 5 ft. test strip, close the abrasive valve, stop the machine and observe the cleaned area.
16. If brightness or texture is uneven on the floor surface, see Section 5.

### Blast Cleaning

1. Engage the traction drive using the "attended" switch on the steering handle. Ease the abrasive valve open while traveling forward. Watch blast motor ammeter and reduce abrasive flow if maximum motor amperage is exceeded.
2. If cleaning is either inadequate or too severe, make an adjustment in the travel speed setting on the operator's station. If irregular surfaces are being cleaned, some variation of travel speed setting will need to be made. See Section 6, "Equipment Calibration".
3. The 1-15D Blastrac machine is normally maneuvered around the dust collector in a parallel path pattern. Blasting in a straight line gives the best results. This pattern will allow the least entanglement of lines and exhaust hose. When the area is completed, the Model 1-15D Blastrac and Model 654 Dust collector are moved together by hand to the next adjacent area to be cleaned.

CAUTION: DO NOT PERMIT OTHER EQUIPMENT (SUCH AS FORK LIFT TRUCKS) TO RUN OVER THE POWER CORDS OR EXHAUST HOSE. AVOID LONG POWER CORD EXTENSIONS.

4. The Model 1-15D Blastrac will clear small obstructions in its path if operator pushes down slightly on the operator's handle.

CAUTION: LIFTING THE ABRASIVE SEAL TOO FAR ABOVE THE SURFACE BEING BLASTED MAY CAUSE EXPOSURE OF PERSONNEL AND THE IMMEDIATE SURROUNDINGS TO FLYING SHOT. FOR SAFE ABRASIVE BLASTING PRACTICE, SHUT OFF THE ABRASIVE FLOW IF BLAST SEAL IS TO BE LIFTED BEYOND THE NORMAL GAP SETTING OF THE ABRASIVE SEAL.

#### Shutdown

1. Move the abrasive valve control throttle to fully closed position.
2. Release the "attended" switch on the 1-15D Blastrac steering handle to bring the unit to rest.
3. Push wheel stop button and turn the disconnect switch handle to "OFF".
4. Walk to the dust collector panel and push the blower (exhauster) and compressor stop buttons. Shut the disconnect switch off.

## SECTION 5

### BLAST PATTERN

Abrasive leaving the centrifugal blast wheel does not disperse in all directions. The abrasive blast pattern is a controlled angular arc of approximately 50 degrees directed by the use of a control cage mounted between the impeller and the blades of the WHEELABRATOR wheel. This control cage may be adjusted by angular rotation to control the placement of the blast pattern. Proper adjustment of the control cage is one of the most important maintenance items for effective operation of the Model 1-10D blast cleaning unit. Improper adjustment will cause (1) high wear rates and premature failure of blast housing and liners, (2) loss of blast cleaning capacity, (3) possible loss of rebound and recirculation of abrasive, (4) uneven surface cleaning.

CAUTION: The adjustment of the control cage must be made with power disconnect switch in "OFF" position and the blast wheel completely stopped.

#### To Adjust the Control Cage:

1. Set the control cage arrow mark as shown on Figure 11.
2. Place a 3/16 or 1/4 inch steel plate beneath the blast seals and blast at full amperage for 45 seconds. Do not move the Model 1-15D Blastrac machine during this blast pattern test.
3. Remove the Model 1-15D from the blasted zone on the plate and carefully observe the blast pattern. A "hot spot" will exist where maximum blast intensity has occurred. This location will usually be slightly discolored due to heat of blasting.

CAUTION NOTE: The target plate may be hot enough to burn hands for a period of time after blasting at full amperage (Item 2).

4. Continue to readjust the control cage setting as shown and described until the blast pattern is even across the total width cleaned and the hot spot is well centered.
5. Blasting on concrete surfaces after setting the hot spot on steel may cause the hot spot to shift. A minor adjustment to the control cage should recenter the hot spot. See the following page.



# BLASTRAC

## SETTING THE CORRECT BLAST PATTERN:

Setting the correct blast pattern is essential in assuring an even, clean profile on the surface being cleaned.

An incorrect blast pattern causes:

- (1) Uneven cleaning of the blasted surface (leaving "shadows" on either side of the clean blast path).
- (2) Premature wear on integral parts of the machine.

The four (4) major factors affecting the blast pattern are:

- (1) Blast wheel rotation. The blast wheel must rotate in the direction indicated by the arrow on the wheel housing.
- (2) Worn wheel kit parts. The blades, impeller, and control cage (in wheel kit form) must be replaced periodically to insure correct operation and the proper blast pattern and balance.
- (3) Abrasive size. The size of abrasive affects the blast pattern necessitating adjustment of the control cage to correspond with small or large abrasive. (FIG. 11).
- (4) Position of the control cage. The control cage and its proper positioning is the most critical factor in setting a correct blast pattern. Every control cage possesses a window (FIG.10) in

the side wall, the position of which determines where the abrasive enters the wheel blades and impacts the surface to be prepared. Type of control cage (determining window size and shape) is decided prior to machine use.

Proper positioning of the window is a trial-and-error procedure, and will often be established on the job after every wheel kit replacement. Although trial-and-error is unavoidable — the approximate window location can be established by following these few basic steps:

- (a) Determine the leading and trailing edge of control cage window. (FIG. 10).
- (b) Position leading edge at approximately 11:30 on the clock face. (FIG. 11).

### Troubleshooting:

As viewed from the feed spout side:

- (1) If the blast pattern is strong on the right side of the blast path and weak ("shadows") on the left side, move the leading edge of the control cage clockwise in increments of  $1/8"$  -  $1/4"$ .
- (2) If the blast pattern is strong on the left side of the blast path and weak on the right side, move the leading edge of the control cage counterclockwise in increments of  $1/8"$  -  $1/4"$ .

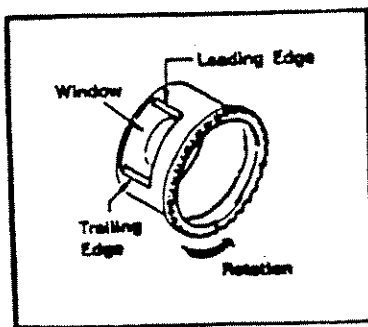


Figure 10.

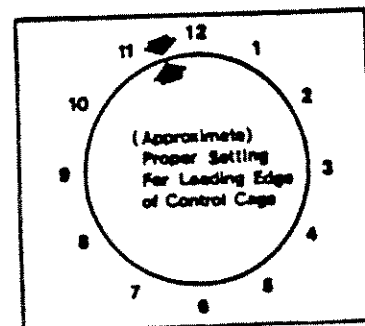


Figure 11.

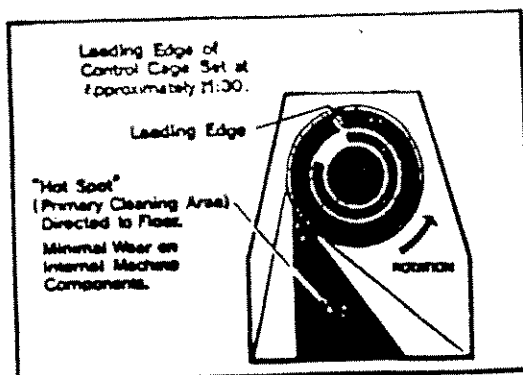


Figure 12. Correct Control Cage Setting

## SECTION 6

### EQUIPMENT CALIBRATION

The following is a listing of recommended setup adjusted and reference values which should be used to obtain the best performance of the blast cleaning system. These should be used as starting points with fine adjustments being made by trial and observation.

CAUTION: CALIBRATION OF ITEMS 1, 2, 6, AND 7 MUST BE MADE WITH ALL ELECTRICAL DISCONNECTS IN "OFF" POSITION AND ALL ROTATING PARTS COMPLETELY STOPPED. ALWAYS OBSERVE ZERO MOTION STATE - ZMS BEFORE ATTEMPTING ANY ADJUSTMENTS OR MAINTENANCE.

1. Blast Housing Height - Bottom of blast housing to be 1/8" to 1/2" above floor line. Use lesser clearance for smooth floors, more clearance for rough services.
2. Angular Position of Control Cage - See Figure Numbers 10, 11, and 12 in Section 5.
3. Blastrac Steel Shot Size Suggestions:
  - A. Brush blast of smooth concrete: BT-1 to BT-3 (smaller size will produce a brighter etch) - See Number 4-A.
  - B. Rough concrete, etch for coating: BT-4 to BT-6 See Number 4-B.
  - C. Heavy removal of concrete: BT-6 See Number 4-B.
  - D. Cleaning scale or paint on steel: BT-4 to BT-6 See Number 4-C
4. Travel Speed Suggestions (Speed Control Switch)
  - A. For brush blast of concrete 40-80 - higher setting
  - B. For heavy blast on concrete 15-40 - midpoint setting
  - C. For blast cleaning steel 10-15 - lower setting
5. Exhaust Hose Length - Recommended length 50 ft. of 5-inch diameter exhaust hose. Maximum length - Consult your Blastrac technician.
6. Dust Collector Pulse Timer - Set for 10 second pulse interval for concrete. Set for 15 second pulse for steel cleaning.
7. Dust Bin Change Interval - Inspect after one-half hour to estimate change interval.
8. Compressor Unload Setting - 80 PSI
9. Pressure Drop Across Cartridges - Normally between 1 to 4 inches water column.

## SECTION 7

### WEAR PARTS

#### Wear Parts

Certain parts of the 1-15D Blastrac are continuously exposed to abrasive blast; therefore, it is important that these parts be periodically inspected for wear and surface erosion. These parts, identified on Drawings SD3102, SD3103, and SD3094 with descriptive parts lists, are all designed for ease of replacement by the operator of the machine, if required.

The next page of this manual lists significant wear parts, their usual replacement interval, an inspection test and the method of replacement.

WEAR PARTS CHART

<u>PART</u>	<u>INSPECTION INTERVAL</u>	<u>INDICATION OF WEAR</u>	<u>REPLACEMENT METHOD</u>
Blast Wheel	5 hrs	Blade half thickness worn	See Section 8.
Feed Spout	50 hrs	Thin entry at wheel end	Remove and replace.
Control Cage	5 hrs	Eroded edge on opening	See Section 8.
Rebound Chamber	100 hrs	Thin sections, wear at welds	Contact Blastrac Service Center.
Deflector Plate	50 hrs	Thin sections, wear at welds	Remove separator lid and replace deflector.
Separator	100 hrs	Thin sections, wear at welds, warping screen wear	Contact Blastrac Service Center.
Liners	100 hrs	Thin sections, warping	Bolted to housing Remove and replace.
Blast Wheel Hub	At Blast Wheel Replacement	Pins missing, wear	Remove and replace.

## SECTION 8

### BLAST WHEEL REPLACEMENT

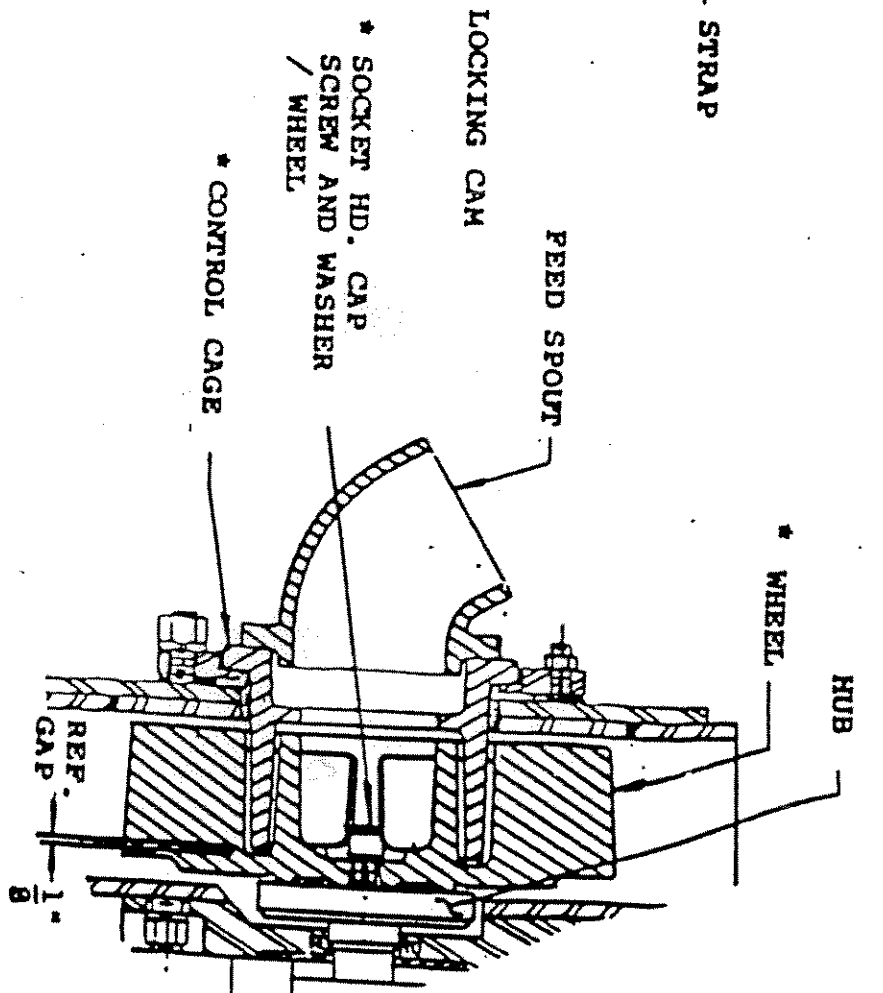
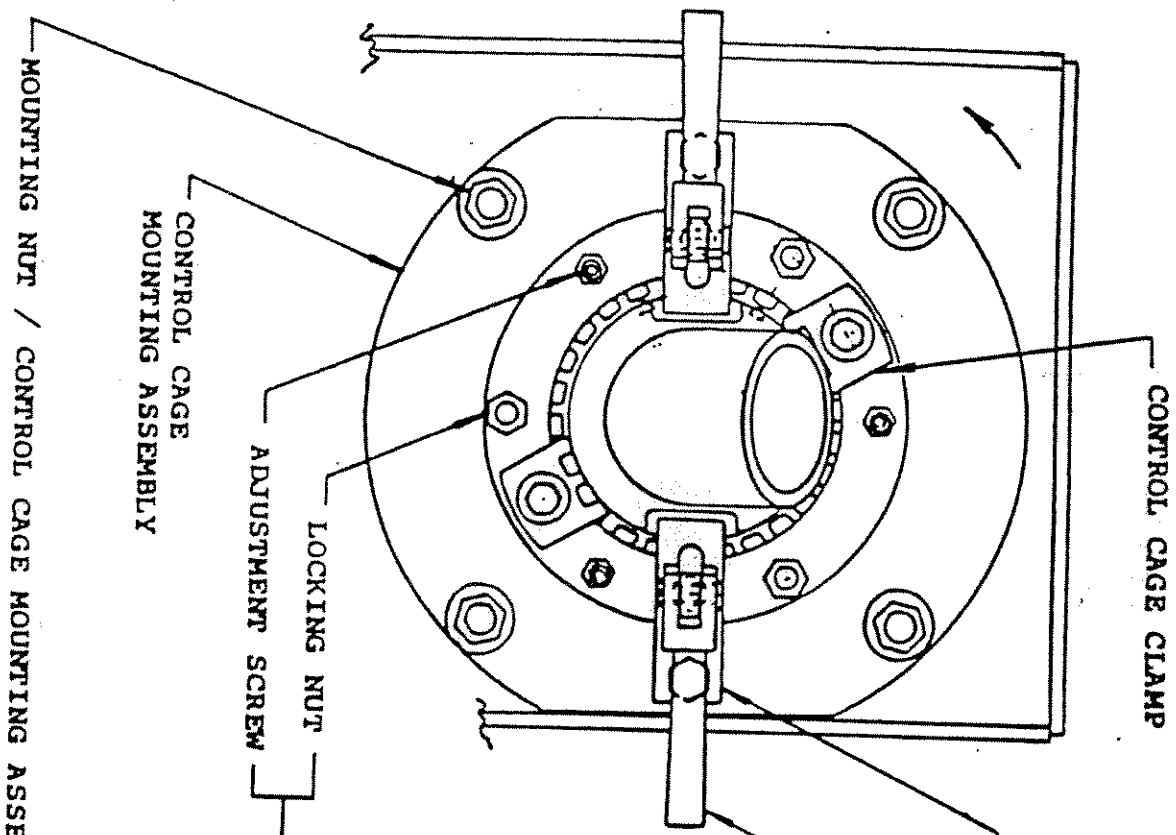
CAUTION: ALL ELECTRIC POWER MUST BE DISCONNECTED AND ALL ROTATING PARTS COMPLETELY STOPPED BEFORE ATTEMPTING THIS PROCEDURE. ALWAYS OBSERVE ZMS BEFORE ATTEMPTING ANY ADJUSTMENTS OR MAINTENANCE!

1. Release two (2) locking cams holding feed spout and slide straps away from feed spout. Remove feed spout.
2. Remove control cage clamps and control cage.
3. Remove four (4) mounting nuts, flat washers and lock washers holding the control cage mounting assembly to housing. Do not loosen any other screws on the control cage mounting assembly. The remaining screws are used to set the gap between the wheel and control cage.
4. Remove socket head cap screw and washer from wheel, then remove wheel from housing.
5. Check the blast wheel hub for indications of wear. Replace if required.
6. Install new wheel using new wheel screw and washer.
7. Reinstall control cage mounting assembly to housing.
8. Install new control cage. Rotate wheel by hand making certain wheel does not contact the control cage.
9. Reinstall feed spout.
10. Start the wheel momentarily to check for good balance before blasting.
11. See Section 5 "Blast Pattern" for adjustment of the control cage.

The assembly of blast wheel rotating parts is shown in Figure 4. It is important to assure these parts are maintained in a condition of accurate rotating balance to prevent excessive vibration of machine parts, to avoid high stresses on the blast wheel and its attached parts and also to assure long bearing life in the unit bearing assembly.

All of the rotating parts are supplied from Blastrac in a state of accurate balance and mating surfaces are accurately machined to obtain good concentric fits.

The unit bearing assembly and the electric motor are designed for long operating life. If either unit has deteriorating parts, they will generally be indicated by an unusual noise or an electrical fault. Call a Blastrac representative if this occurs.



DO NOT LOOSEN. (USED FOR SETTING GAP BETWEEN WHEEL AND CONTROL CAGE.)

\* DENOTES PARTS SUPPLIED IN WHEEL KIT

# Blast Wheel Replacement

Figure No. 4

SECTION 9

LUBRICATION INFORMATION

Blast Wheel Bearings

1. Lubricate with Mobilux 77 EP-2 high temperature grease every 50 hours.

IMPORTANT: DO NOT EXCEED 50 HOURS BETWEEN RELUBE INTERVALS!!

2. Lubricate both ends. Several pumps at each fitting should be sufficient.
3. Run wheel blast motor for 15 minutes to purge any excess grease.

## SECTION 10

### TROUBLESHOOTING

NOTE: ALL SERVICE OF BLASTRAC EQUIPMENT REQUIRES THOROUGH AWARENESS OF THE WARNINGS AND PRECAUTIONS IN SECTION 1 OF THIS MANUAL. READ THOSE PRECAUTIONS BEFORE ATTEMPTING INSPECTION OR MAINTENANCE.

#### Troubleshooting List: Mechanical Malfunctions

<u>Trouble</u>	<u>Probable Cause</u>	<u>Remedy</u>
Excessive vibration usually indicates that the wheel unit is out of balance. This condition will usually cause bearing failures in the wheel motor or bearing unit.	Unevenly worn blades  Chipped blades broken blades	Replace wheel kit check separator and ventilation.  Chipped or broken blades will throw wheel permanently out of balance and cause damage to other parts of the unit. Replace all broken parts from the rebound system before operating the machine.
	Unevenly worn wheel	Inspect and replace wheel kit if it is badly worn or shows uneven wear.
Excessive Noise - Besides being undesirable, may also indicate misalignment of WHEELABRATOR components which cause failures or wear.	Improper clearances or alignment between rotating parts of wheel, i.e. control cage and feed spout	Check alignment and mounting of stationary control cage and feed spout in relation to the rotating impeller. Allow sufficient clearance between moving parts to prevent contact against one another.
	Loose bolts or misalignment	Check wheel bearing, set screws, sheaves, belts, motor mounting, wheel housing, etc. Make certain all components are firmly secured.



Increased  
Cleaning Time

Improper  
abrasive feed  
to wheel

If ammeter indicates  
a lower ampere  
reading than the  
normal full load  
rating, check:

a)Storage  
hopper

a)storage hopper  
and add abrasive  
if level is low.

b)Contaminated  
abrasive

b)Abrasive may  
contain a large  
percentage of fines  
or other contaminants  
which should have  
been removed by the  
ventilation system;  
check ventilation  
system.

c)Abrasive  
feed lines  
and abrasive  
control valve

c)Feed lines -  
obstruction may  
cause reduced flow  
through the feed  
pipe, feed spout or  
abrasive control  
valve - check and  
clean out.

d)Feed spout

d)Remove feed spout  
and check for  
obstructions, clean  
out, if needed.

e)Impeller,  
control cage

e)Impeller or  
control cage may be  
worn, replace wheel  
kit and control cage.

f)Drive belt

f)Check that belt  
drive is properly  
tensioned.

Loss of  
directional  
control of  
blast pattern

Conduct an accurate  
blast pattern test.  
Make certain that  
you have definitely  
located the zone of  
blast. Adjust control  
cage accordingly so  
that the zone of  
blast is directed  
onto the work most  
efficiently.

Choked wheel  
may occur even  
though all  
components are  
in perfect  
operating  
condition.

Close the abrasive  
valve, stop the  
machine and gradually  
reopen the valve  
after resuming  
travel.

Excessive Wear  
on wheel housing  
rebound, chamber

Improper  
setting of  
abrasive  
control cage

Abrasive is being  
directed onto wheel  
housing and rebound  
chamber instead of  
work. Readjust  
control cage. Take  
test of pattern and  
blast zone.

Abrasive Leakage

Improper  
sealing

Check WHEELABRATOR  
hub seal. Replace,  
if necessary.

Machine will not  
drive.

Travel speed  
control knob  
not set high  
enough

Reset travel speed  
by turning speed  
control knob.

Switch not  
making contact

Check wiring, check  
switch, clean  
contact.

Fuse in traction  
drive blown

Replace fuse.  
Note: If fuse still  
blows, shut  
down particular  
circuit. Check power  
source for proper  
voltage, clean  
contacts and terminals.  
Inspect wiring  
broken or cut.  
Check for loose  
terminals, inspect  
all system components  
for damage or malfunction.

Machine Hang Up

Machine frame hung up on obstruction or unevenness of work surface

Push down on drive handle to raise machine (1/4" to 1") to clear small obstructions. Check riding height of machine. Adjust as required to obtain 1/8" to 1/2" clearance or reverse machine direction and go around large obstructions.

Loss of Cleaning Action

Machine travel speed too fast

Slow down speed by turning speed control knob.

Abrasive contaminated

Clean out storage hopper and replace with clean abrasive. Check ventilation system.

Blast wheel rotation is wrong.

Reverse polarity. Check with electricians.

Drive belt

Check drive belt for proper tension.

Contaminated Abrasive

Inefficient flow of air is being delivered by the exhaust fan for proper removal of debris, fines, and contaminants.

Ventilation System - fan, cartridges, and fan belts

## Air Compressor

Loss of  
Compressed Air  
Pressure

Line leakage  
from compressor

Check all connections  
in air line from  
compressor to dust  
collector. Make sure  
all fittings are tight.  
Do not over torque fittings.

Diaphragm valve  
stuck open

Check solenoid pilot  
valve. Clean plunger.  
Replace diaphragm valve  
or pilot valve.

Unloader not  
holding correct  
pressure

Reset to 80 PSI or  
replace unloader.

Loss of  
compressed air  
supply

Check compressed air  
system. Look for air  
leaks.

Improper  
solenoid  
operation

Check timer "telltale"  
lights to observe  
solenoid operation.  
Check pilot discharge  
port to insure that it  
is open.

Timer failure

Observe timer operation.  
If defective, replace.

## Ventilation System (Dust Collector)

Note: Once the Ultra-Jet Dust Collector has been filtering for a few days, a stable operating level will result. Sudden changes of operating pressure can usually be traced to a malfunction.

Contaminated  
Abrasive - fines  
and contaminants  
not properly  
removed from  
abrasive

Insufficient  
flow of air is  
being delivered  
by the dust  
collector  
exhaust fan.

Check exhaust fan  
rotation for correct  
rotation. Also,  
check for leaks  
in fan housing or  
wear of fan blades.

Visible Stack  
Discharge

Torn or  
punctured  
filter cartridges

Replace all damaged  
or faulty filter  
cartridges.

Improper  
cartridge  
installation

Correct installation  
a, b, and c apply  
to the pulse jet  
dust collector only.

- a) loose  
cartridges
- b) leaking  
tube sheet  
joints

Check clean air  
plenum to find  
trouble area. Dust  
accumulation will  
usually indicate  
source of leak. Note:  
Top chamber must be  
removed to check  
plenum.

High Differential  
Pressure

Clogged filters

Increase timer pulse  
frequency to 5 seconds  
and set unloader to  
100 PSI MAX or replace  
faulty filters.

## Troubleshooting List: Electrical Malfunctions

<u>Trouble</u>	<u>Probable Cause</u>	<u>Remedy</u>
Electric motors do not start. Blastrac and/or Ultra-Jet Dust Collector	Main power cable disconnected at electrical source	Check main power cable at electrical source. Must be 230 volt, 60 Hz, 3 phase or 460 volt, 60 Hz, 3 phase depending on voltage of machine.
	Circuit breaker tripped (open)	Check circuit breaker.
	Applicable motor starter circuit breaker open	Reset starter circuit breaker.
Electric motors do not come up to speed, run slowly.	All 3 phases of 230 volt or 460 volt supply not connected properly	Recheck wiring for loose or improper connections.
	One fuse blown in disconnect box	Check all fuses. Replace, as required.
Circuit breakers trip continuously.	Overload in circuit, low power	Shut down particular circuit. Check power source for proper voltage.
	Broken, damaged or loose wiring	Inspect wiring for broken, cut wires and loose terminals. Replace/repair, as required.
	Dirt or contaminants at terminals	Clean contacts and terminals.
Wheel motor ammeter reading is unsteady.	Abrasive level low	Add abrasive to specified level.
	Loose connector	Tighten electrical connectors.
	Abrasive valve closed or not open enough	Adjust abrasive control valve.

Abrasive system  
clogged or  
damaged

Clean or replace  
defective parts.

Ammeter faulty,  
dirty, inaccurate  
readings

Replace.

Drive belt  
loose

Check wheel drive  
belt for proper  
tension.

Panel lights  
will not  
illuminate.

Main circuit  
breaker tripped

Check main power  
cable connections.  
Connect as required.

Fuses blown in  
disconnect box

Check disconnect box  
for blown fuses.  
Replace as required.

Motor control  
box door open

The panel door is  
equipped with an  
interlock. The door  
cannot be opened before  
the electrical power  
is turned off.

SECTION 11

SPECIFICATIONS

BLAST MACHINE SPECIFICATIONS

Blastrac Model 1-15D

Length	6 Ft 7 In
Width	1 Ft 11 In
Height	3 Ft 6 In
Weight	802 lbs
Wheel	8 In
Motors	
Wheel	15 HP
Traction Drive	.25 HP
Cleaning Width	15 In
Bearing Unit:	
Operating RPM	6700
Grease	Mobilgrease EP-2 or Mobilith AW-2 or equivalent



DUST COLLECTOR SPECIFICATIONS

Model 654 Cartridge Type Collector

Length	4 Ft 4 In
Width	2 Ft 9 In
Height	5 Ft 3 In
Weight	850 lbs
Cartridges	6 - 7.8 In Dia x 16.0 In
Total Area	324 Sq Ft
Air Flow	500 CFM
Motors	
Compressor	3/4 HP
Fan	5 HP



PORTABLE SHOT BLAST CLEANING SYSTEMS

BLASTRAC MODEL 6-54 DUST COLLECTOR SPECIFICATIONS

WITHOUT OPTIONAL HEPA RATED FILTER \*

Unit Length	4 Ft. 4 In.
Unit Width	2 Ft. 9 In.
Unit Height	5 Ft. 3 In.
Unit Weight	850 lbs
Motors	
Compressor	3/4 HP
Fan	5 HP
Air flow	500 CFM
Vacuum hose length	50 ft., 5-inch diameter urethane hose.
Pulse timer	10 second pulse interval. Two cartridges pulsed each interval. Vacuum maintained across four non-pulsing cartridges.
Compressor setting	80 PSI
Pressure drop	1 to 4 inches water column.
Number of filter cartridges	6
Filter cartridge (specifications)	
Manufacturer	Donaldson Company, Torit/Day Division
End caps	Galvanized plated carbon steel
Top gasket	7.14" o.d. X 6.38" i.d. X 1/2" memory functional hollow gasket neoprene
Tread seal & washer	1/2" i.d. neoprene with metal washer insert
Inside metal core	Galvanized expanded steel 72% open
Permeability	18 cfm minimum/square feet at 1/2" w.g.
Pore size	10 micron
Media base weight	70 lb/3000 square feet
Media area/each filter cartridge	54 square feet
Media area/total system	324 sq. ft.
Filter efficiency	99.96% to 0.3 microns with 3-1/2 inch water pressure drop.

\*Hepa rated filter available. When installed, hepa filter is positioned in-line, after exhaust blower.

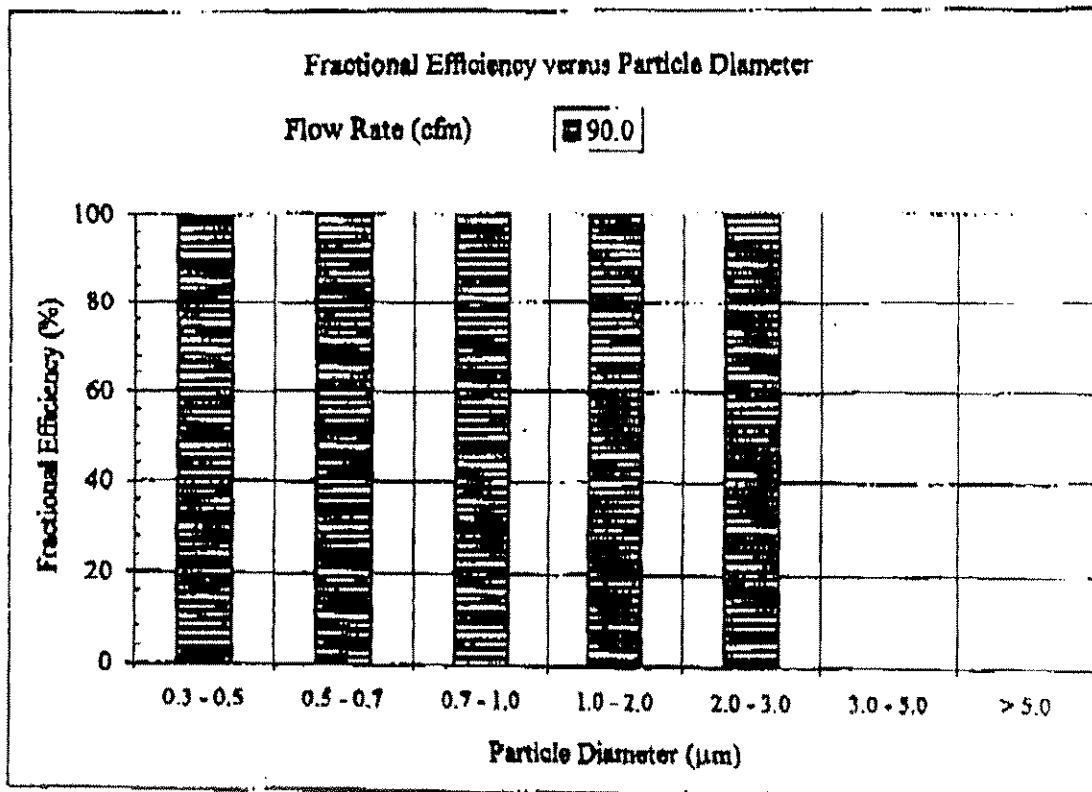
### LMS Technologies, Inc.

4570 West 77 th Street, Suite 102, Edina, MN 55435

(612) 832-5353, Fax: (612) 832-5354

Test Number T121396-C	DATE: DECEMBER 13, 96
Filter ID : 493206	Test Requested by: BRUNNER
Test Type : Fractional Efficiency	Filter Manufacturer :
Test Aerosol : NaCl, Neutralized	MPF

Flow Rate (cfm)	90.0
Status	Loaded
Size Range (µm)	Fractional Efficiency %
0.3 - 0.5	99.99
0.5 - 0.7	99.99
0.7 - 1.0	99.99
1.0 - 2.0	99.99
2.0 - 3.0	99.99
3.0 - 5.0	
> 5.0	



TEST SUPERVISOR

MICK FLOW

*Mick Flow*

ENGINEERING

APPROVAL

K.C. KWOK, PH.D.

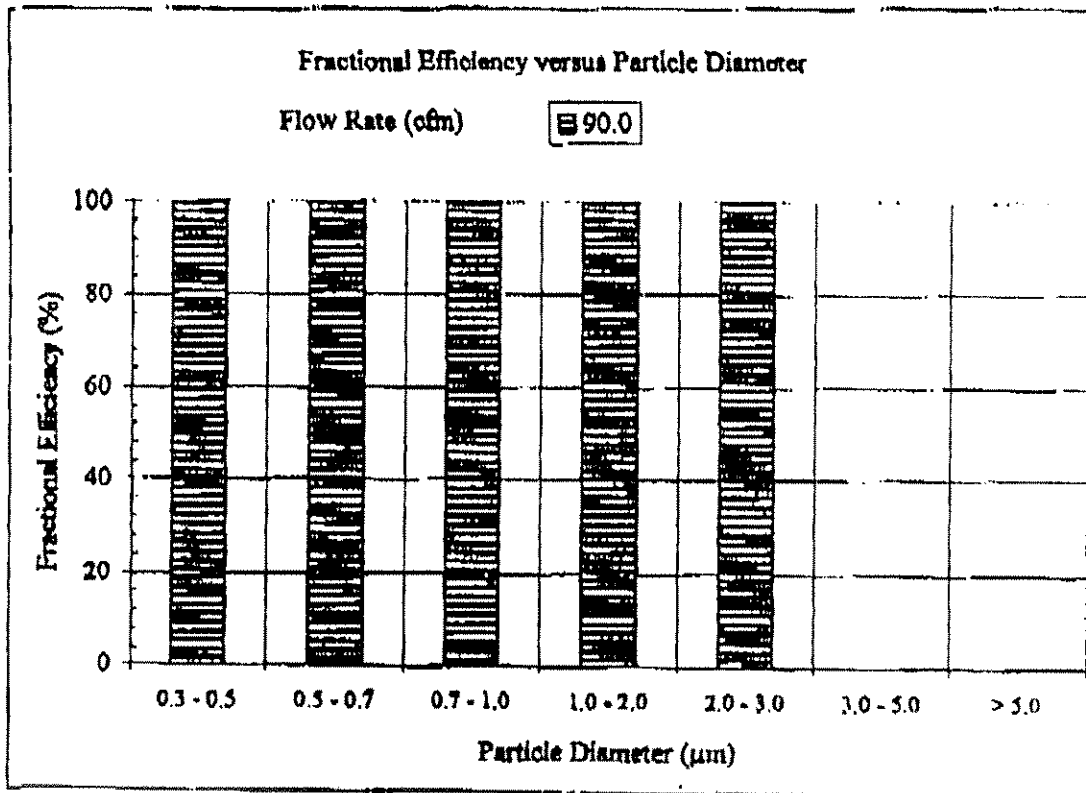
*K.C. Kwok*

F-005

**LMS Technologies, Inc.**  
 4570 West 77th Street, Suite 102, Edina, MN 55435  
 (612) 832-5353, Fax: (612) 832-5354

Test Number T121396-A	DATE: DECEMBER 13, 96
Filter ID: <b>FORIT</b>	Test Requested by: BRUNNER
Test Type: Fractional Efficiency	Filter Manufacturer:
Test Aerosol: NaCl, Neutralized	<b>DONALDSON</b>

Flow Rate (cfm)	90.0
Status	Loaded
Size Range (µm)	Fractional Efficiency %
0.3 - 0.5	99.99
0.5 - 0.7	99.99
0.7 - 1.0	99.99
1.0 - 2.0	99.99
2.0 - 3.0	99.99
3.0 - 5.0	
> 5.0	



TEST SUPERVISOR  
 MICK FLOW  
*Mick Flow*

ENGINEERING  
 APPROVAL  
 K.C. KWOK, PH.D.  
*Kwok*

F-003

SECTION 12

ELECTRICAL EQUIPMENT LIST

BLASTRAC 1 - 15D

QUANTITY	DESCRIPTION	PART #
1	Switch / Disconnect, 3 pole, 600 V, 60 Amp Stromberg #OESA-F60 with through the door operating handle	678388
1	Transformer/Control Voltage 230/460/575V GE #9t58B69 with GE Fuse Kit #9T58P1	493451
1	Fuse / Dual Element 5 Amp/125V Bussman MDX-5	497598
1	Contactors 3 Pole with 1 Auxilliary Allen Bradley #100-A45N-3	678389
1	Overload Relay Allen Bradley #193 CPC45	678387
2	Relay 2P2T CAD 11A10/110 Schrack #RC275110	678386
1	Resistor 10 ohm 25 watt Ohmite # 0200B	489745
1	KBIC-120 SCR Controller .25 HP	489685
3	Terminal Block 2 Pole 600V 50 Amp Curtis #2PSWTTC	284732
1	Extended Head Pushbutton/Red Allen Bradley #800T-B6D2	672923
1	Flush Head Pushbutton / Green Allen Bradley #800T-A2D1	672922
1	Elapsed Time Meter Engler #AC20010N-67	494823
1	For/Off/Rev Selector Switch	494822
1	5 K-ohm Potentiometer KB Elec.	687122
1	Ammeter/0-50 Amps GE #250-340NTNT	678390
2	Cord Grips Kellems #074-01-027	422989
2	Cord Grip Kellems #074-01-008	489953
6 Ft.	Cable / 4 cond. #6 AWG Type W	422987
55 Ft.	Cable / 4 cond # 6 AWG Type W	422987
5 Ft.	Cable / 3 cond. #16 AWG Type SO	417012
1	Limit Switch Micro-switch #9014CE18-6OR	486110
1	Plug / Appleton #ACP6034BC	687879
1	Gearmotor 1/4 HP	483516
1	Motor/Pancake 15 HP	676614

**MODEL 654 DUST COLLECTOR  
ELECTRICAL PARTS LIST**

QUANTITY	DESCRIPTION	PART #
1	MODEL 654 DUST COLLECTOR ELECTRICAL CONTROL PANEL	687273
1	MAINLINE DISCONNECT SWITCH, 3 POLE, 60 AMP FUSIBLE WITH THRU THE DOOR OPERATING HANDLE	678217
1	CONTROL CIRCUIT TRANSFORMER, 230/460 TO 120 VAC 375 VA WITH FUSE KIT	495119
1	FUSE, DUAL ELEMENT, 125 VOLT, 3 AMP RATED	497599
3	FUSES, DUAL ELEMENT, 600 VOLT, 60 AMP RATED	464493
3	FUSES, DUAL ELEMENT, 600 VOLT, 20 AMP RATED	463862
2	PILOT LIGHT AMBER LENS	463182
2	PUSH-BUTTON (BLACK) ON	672922
2	PUSH-BUTTON (RED) OFF	672923
1	ELAPSED TIME METER	494823
3	SOLENOID, PILOT VALVE	493410
1	RECEPTACLE, APPLETON ACR6034, 60 AMP, 600 VOLT 3W-4P	687880
1	CORD GRIP, 1.0" TO 1.125" RANGE, CG-1018	422989
1	CONTACTOR, 3 POLES WITH 1 AUX (1M) AB	677698
1	CONTACTOR 3 POLES WITH 1 AUX (2M) AB	678216
1	OVERLOAD RELAY (1M) AB	676080
1	OVERLOAD RELAY (2M) AB	676523
29	TERMINAL BLOCKS, 2 POLE 50 AMP, 600 VOLTS	284732
1	SOLID STATE TIMER BOARD 1-3 OUTPUT 120 VAC	487270
1	FUSE BLOCK	292613
75 FT	4 COND #6 AWG TYPE W CABLE	422987
1	CORD GRIP .500" TO .625" RANGE 90 DEGREE CG-610-90	492007
1	CORD GRIP .625" TO .750" RANGE 90 DEGREE CG-612-90	678255
1	CORD GRIP .500" TO .625" CG-610	490195
3 FT	10 COND #14 AWG TYPE SDN CABLE (BLOWER)	687113
5 FT	10 COND #16 AWG TYPE SDN CABLE (COMPRESSOR)	687114
1	PLUG WITH CONTACTS (CTI)	687115
1	CABLE CLAMP (USED WITH 687115) (CTI)	687116
1	PANEL MOUNTED RECEPTACLE (CTI)	687117
1	DUST CAP WITH CHAIN (USED WITH 687117) (CTI)	687118
1	COMPRESSOR	676554
1	FANNING STRIP	687274
1	MELTRIC PLUG (USED FOR BLOWER ON MACHINES WITHOUT FANNING STRIP VOLTAGE CHANGE CAPABILITY)	678381
1	MELTRIC RECEPTACLE (USED FOR BLOWER CONNECTION ON MACHINES WITHOUT FANNING STRIP VOLTAGE CHANGE CAPABILITY)	678382

## SECTION 13

### VOLTAGE CONVERSIONS

#### I. 1 - 15D Blastrac

- A. Make sure power source is disconnected.
- B. Change motor wiring at the motor junction box located on the 15 HP motor to desired voltage (230V - low ; 460V - high)
- C. Inside the control panel , change the transformer wiring to the desired voltage.
- D. Inside the control panel, set the overload relay for the wheel motor to the following amperage.
  - 1. 230V - Set overload at 40 Amps
  - 2. 460V - Set overload at 20 Amps or lowest setting

#### II. 654 Dust Collector

- A. Make sure power source is disconnected.
- B. Inside the control panel, move the fanning strips to proper location for the desired voltage.  
(Moving the fanning strips will change the wiring to the blower motor, compressor motor and the transformer.)
- C. Inside the control panel set the overload relays for the following amperages.
  - 1. 230V. Blower motor - 12 amps.  
Compressor motor - 2.4 amps.
  - 2. 460V. Blower motor - 6 amps or lowest setting.  
Compressor motor - 1.2 amps or lowest setting

## SECTION 13

### ELECTRICAL CONVERSIONS 230/460, 3 PHASE, 60 HERTZ

The Model 654 Dust Collector and the 1 - 15D Blastrac can be wired to operate on either a 230 volt or 460 volt, three phase grounded power source. The availability of 230 volt or 460 volt, three phase power will change from job site to job site, making it necessary to have a shot cleaning system that converts from one voltage source to the other.

When operating at 230 volts, the 1 - 15D and 654 Dust Collector together will draw approximately 53 amps of current; a minimum 60 amp service is recommended. When operating at 460 volts, the two machines will draw approximately 27 amps; a minimum 40 amp service is recommended.

The conversion to either 230 volt or 460 volt operation is not difficult. The following step by step procedures and wiring illustrations should be followed whenever a change in operating voltage is needed.

#### 230 VOLT TO 460 VOLT CONVERSION

1. Check the power source that the Model 654 Dust Collector will be connected to. Verify that the voltage is 460 volt, three phase power with a minimum service rating of 40 amps. **CHECK THE VOLTAGE WITH A METER!; CONNECTING THE MACHINES TO THE WRONG VOLTAGE WILL DAMAGE THE EQUIPMENT.**
2. **Turn off the disconnect switches on both the Model 654 Dust Collector and the 1 - 15 Blastrac. Turn off the disconnect switch at the customer furnished power source and lock it shut. If the power cord from the dust collector has not been connected to the power source, leave it unconnected and continue. FAILURE TO FOLLOW THESE STEPS WILL CREATE A SHOCK HAZARD TO ANYONE CHANGING THE WIRING INSIDE THE CONTROL PANELS!!!**

#### MODEL 654 DUST COLLECTOR CONVERSION TO 460 VOLTS

3. Open the control panel to the Model 654 Dust Collector and locate Terminal Block 1C and Fanning Strip 1C. Terminal Block 1C should have a total of fifteen (15) terminals. Fanning strip 1C will have twelve (12) terminals. **(SEE FIGURE 1)** The entire fanning strip is designed to move as a unit. Do not try to move individual terminals. Loosen the center screws that secure the fanning strip to the terminal board. Gently pull the fanning strip away from the terminal board and reinsert the fanning strip three (3) positions down so that fanning strip terminal one (1) is inserted into terminal strip number four (4). Fanning strip number twelve (12) will be inserted into terminal block number fifteen (15). Once the entire fanning strip is moved to the proper location, tighten **all** the center connectors.



This operation has changed the wiring to the compressor motor and the control transformer. **DO NOT ATTEMPT TO CHANGE THE TRANSFORMER WIRING. BY MOVING THE FANNING STRIP YOU HAVE ACCOMPLISHED THE NECESSARY WIRING CHANGE FOR 460 VOLT OPERATION.**

**NOTE: FAILURE TO TIGHTEN ALL CENTER SCREWS WILL RESULT IN ELECTRICAL MALFUNCTIONS.**

4. Locate Terminal Block 1B and Fanning Strip 1B. Terminal block 1B has nine terminals. Fanning strip 1B has six (6) terminals. **(SEE FIGURE 2)** Again, the fanning strip is designed to be moved as a unit. Do not attempt to move the terminals individually. Loosen the center screws and gently pull the fanning strip away from the terminal block. Reinsert the fanning strip into the terminal block three (3) spaces down so that fanning strip number one (1) is now inserted into terminal block number four (4). Fanning strip number six (6) will now be inserted into terminal block number nine (9). Tighten all center screws once the fanning strip has been moved. By moving this fanning strip, the wiring to the blower motor has been changed to operate at 460 volts.

**NOTE: FAILURE TO TIGHTEN ALL CENTER SCREWS WILL RESULT IN ELECTRICAL MALFUNCTIONS.**

5. Check the settings on the overload relays located at the bottom of the two motor controllers. The overload settings should coincide with the full load amperage rating of the blower and compressor motors for the chosen operating voltage. For 460 volt operation, the blower motor overload setting should be six (6) amps or the lowest setting on the overload relay. The overload relay setting for the compressor motor should be one and two tenths (1.2) amps or the lowest setting. Once you have made the above changes, the Model 654 Dust Collector should be ready to operate at 460 volts.

### **1 - 15D BLASTRAC CONVERSION TO 460 VOLTS**

6. Three separate changes are necessary to convert the 1 - 15D to operate at 460 volts. The first change requires that the leads be changed in the motor junction box. The motor should be wired for high voltage as it appears on the motor. Wires 4 and 7; 5 and 8; 6 and 9 should be connected independently. Wire 1 should be connected to 1T1 (red); Wire 2 should be connected to 1T2 (white); Wire 3 should be connected to 1T3 (black). Wires 1T1, 1T2 and 1T3 are the power leads (3 phases) coming from the motor contactor and overload relay in the control panel.

7. The control transformer located in the control panel should be wired for 460V. operation. The transformer input leads should be:
  - A. 2L1 connected to H1
  - B. 2L2 connected to H3A wiring diagram should appear on the transformer and can be used for reference.
8. Check the setting of the overload relay located in the control panel at the bottom of the motor controller for the blast wheel. The full load amperage for this motor at 460 volts is eighteen (18) amps. This overload relay should be set at eighteen (18) amps or its lowest setting. Once these changes have been made the 1 - 15D should be operational at 460 volts.

**BOTH MACHINES SHOULD BE READY FOR 460 VOLT OPERATION. AS A FINAL PRECAUTION, CHECK ALL MOTORS FOR PROPER ROTATION.**

### **460 VOLT TO 230 VOLT CONVERSION**

1. The procedure for converting a machine to operate at 230 volts is very similar to the previous steps. Check the power source that will be used to operate the machine. Verify that the voltage is 230 volt, three phase power with a minimum service rating of 60 amps. **CHECK THE VOLTAGE WITH A METER! CONNECTING THE MACHINES TO THE WRONG VOLTAGE WILL DAMAGE THE EQUIPMENT.**
2. **Turn off the disconnect switches on both the Model 654 Dust Collector and the 1 - 15D Blastrac. Turn off the disconnect switch at the customer furnished power source and lock it shut. If the power cord from the dust collector has not been connected to the power source, leave it unconnected and continue. FAILURE TO FOLLOW THESE STEPS WILL CREATE A SHOCK HAZARD TO ANYONE CHANGING THE WIRING INSIDE THE CONTROL PANELS!!!**

### **MODEL 654 DUST COLLECTOR CONVERSION TO 230 VOLTS**

3. Open the control panel to the Model 654 Dust Collector and locate Terminal Block 1C and Fanning Strip 1C. Terminal Block 1C should have a total of fifteen (15) terminal locations. Fanning strip 1C will have twelve (12) terminals. **(SEE FIGURE 1)** Loosen the center screws that secure the fanning strip to the terminal board. The fanning strip is designed to move as a unit. Do not try to move individual terminals.

Gently pull the fanning strip away from the terminal board and reinsert the fanning strip three (3) positions up so that fanning strip terminal one (1) is inserted into terminal block number one (1). Fanning strip number twelve (12) will be seated into terminal block number twelve (12). Once the entire fanning strip is moved to the proper location, tighten all the center screws. This operation has changed the wiring to the compressor motor and the control transformer. **DO NOT ATTEMPT TO CHANGE THE TRANSFORMER WIRING. BY MOVING THE FANNING STRIP YOU HAVE ACCOMPLISHED THE NECESSARY WIRING CHANGE FOR 230 VOLT OPERATION.**

**NOTE: FAILURE TO TIGHTEN ALL CENTER SCREWS WILL RESULT IN ELECTRICAL MALFUNCTIONS.**

4. Locate Terminal Block 1B and Fanning Strip 1B. Terminal block 1B has nine terminals. Fanning strip 1B has six (6) terminals. **(SEE FIGURE 2)** Again, the fanning strip is designed to be moved as a unit. Do not try to move individual terminals. Loosen the center screws and gently pull the fanning strip away from the terminal block. Reinsert the fanning strip into the terminal block three (3) spaces up so that fanning strip number one (1) is now inserted into terminal block number one (1). Fanning strip number six (6) will now be inserted into terminal block number six (6). Tighten all center screws once the fanning strip has been moved. By moving this fanning strip, the wiring to the blower motor has been changed to operate at 230 volts.

**NOTE: FAILURE TO TIGHTEN ALL CENTER SCREWS WILL RESULT IN ELECTRICAL MALFUNCTIONS.**

5. Check the settings on the overload relays located at the bottom of the motor controllers. The overload settings should coincide with the full load amperage rating of the blower and compressor motors at the chosen operating voltage. For 230 volt operation, the blower motor overload setting should be twelve (12) amps. The overload relay setting for the compressor motor should be two and four-tenths (2.4) amps. Once you have made the above changes, the Model 654 Dust Collector should be ready to operate at 230 volts.

### **1 - 15D BLASTRAC CONVERSION TO 230 VOLTS**

6. Three changes are necessary to convert the 1 - 15D to operate at 230V . First, the wiring to the 15 HP motor must be changed at the motor junction box to conform to the low voltage illustration on the motor. The star configured motor used on the 1 - 15D requires that motor wires 4, 5 and 6 be connected; Wires 1, 7 and 1T1(red) be connected; Wires 2, 8 and 1T2(white) be connected and wires 3, 9 and 1T3(black) connected. Wires 1T1, 1T2 and 1T3 are the power leads coming from the motor controller and overload relay inside the control panel.

7. The control transformer located inside the control panel should have the following leads connected:

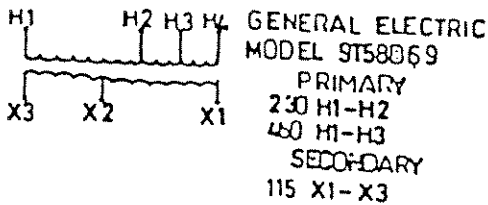
- A. 2L1 to H1
- B. 2L2 to H2

A wiring illustration should appear on the transformer for reference.

8. Check the setting of the overload relay located at the bottom of the motor controller for the blast wheel. Full load amperage for this motor is thirty-seven (37) amps. This overload relay should be set at thirty-seven (37) amps to operate at 230 volts. Once these changes have been made, the 1 - 15 D should be operational at 230 volts.

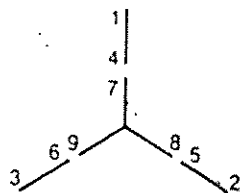
**BOTH MACHINES SHOULD BE READY FOR 230 VOLT OPERATION. AS A FINAL PRECAUTION, CHECK ALL MOTORS FOR PROPER ROTATION.**

### 1 - 15D Transformer/Motor Illustrations



230 Volts	460 Volts
2L2 to H2	2L2 to H3
2L1 to H1	2L1 to H1

#### TERMINAL MARKINGS AND CONNECTIONS FOR SINGLE-SPEED, THREE-PHASE MOTORS—9 LEADS



230 Volts	460 Volts
4-5-6 together	4-7 together
1-7-1 (red)	5-8 together
2-8-2 (white)	6-9 together
3-9-3 (black)	1-1 (red)
green to ground	2-2 (white)
	3-3 (black)
	green to ground

#### DUAL VOLTAGE Y-CONNECTED

VOLTAGE	L1	L2	L3	JOIN
LOW	1,7	2,8	3,9	4&5&6
HIGH	1	2	3	4&7,5&8,6&9

## 9. Motor Wiring Connection

When it becomes necessary to alter the wiring in the motors of your Blastrac shot cleaning system, certain procedures are recommended by BLASTRAC.

We prefer the use of terminal lugs that are securely crimped onto the motor wires and the incoming power line. Once the lugs are secure, they should be connected with the proper size brass nut and screw. This screw should not extend more than 1/2" in length. Be sure that you follow the proper wiring diagram and tighten the nut/screw combination securely. This will help ensure that your connection will not vibrate loose.

Do not forget the green ground wire. A terminal lug must also be crimped onto this wire and securely connected at the wiring junction box. The wire helps prevent potential shock hazards associated with high voltage use.

After double checking all of your connections for strength and proper number configuration, you are ready to insulate these connections.

The first layer over these exposed terminals should be a varnished cambric tape. In addition to the good insulating qualities of this tape, it is abrasion resistant. This is important, since it is in direct contact with the angular surfaces of the lugs and connecting devices. One complete layer covering all the exposed metal is all that is required.

Next, a rubber splicing tape should be stretched securely around the varnished cambric tape. This tape also has good insulating qualities and helps make your electrical connections more resistant to moisture. One complete wrap should suffice.

Finally, a good standard vinyl electrical tape should be used to complete the connection. At least two complete wraps is all that should be necessary.

Once your connections are securely wrapped, these leads can now be placed inside the junction box. When done properly, these connections should never vibrate loose and will provide excellent insulating properties for your machine.

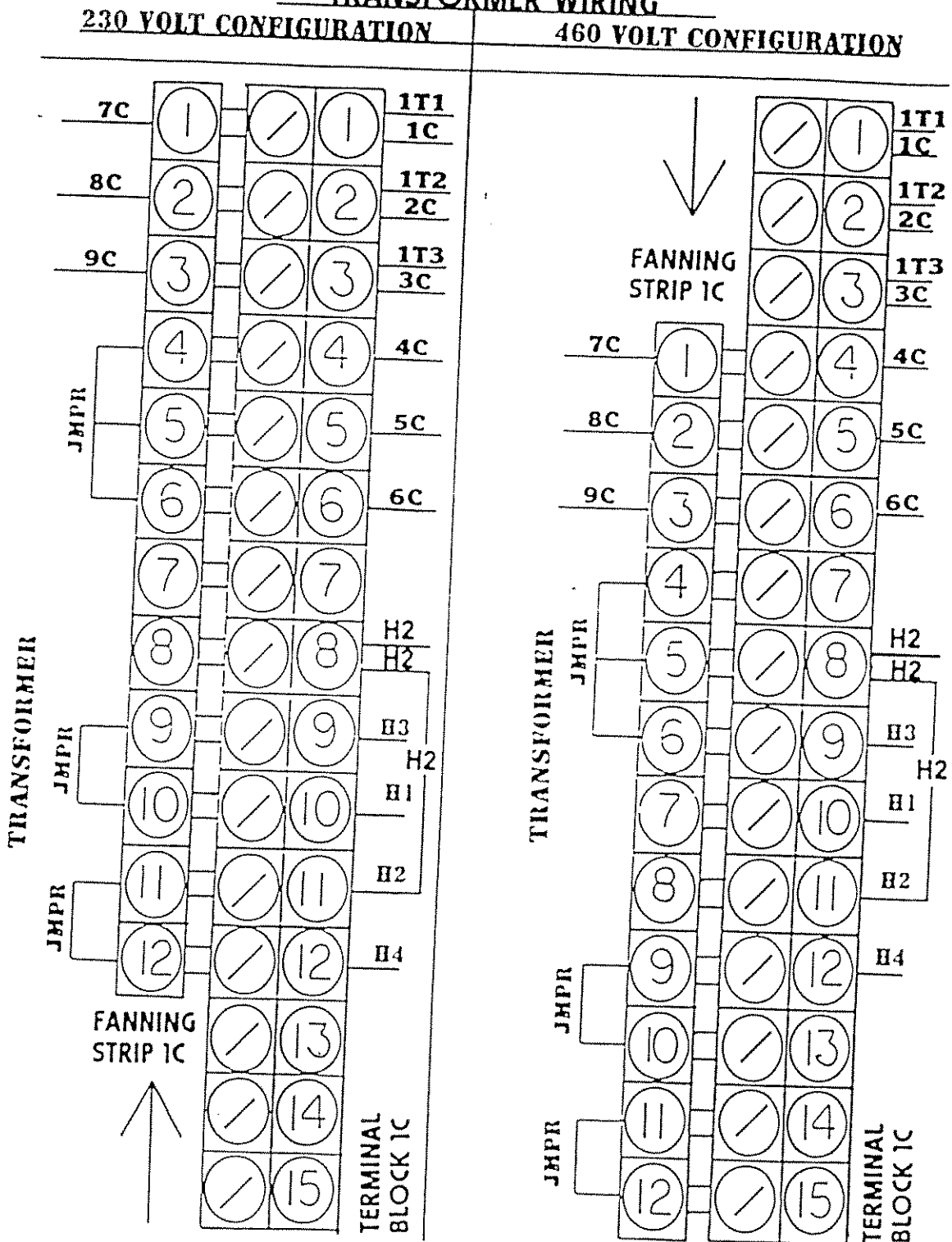
Do not use fabric duct tape for any of your electrical connections. This tape has very poor insulating capabilities and can cause serious injury or damage when used!!

# FIGURE 1

## 654 DUST COLLECTOR

### COMPRESSOR AND CONTROL

### TRANSFORMER WIRING

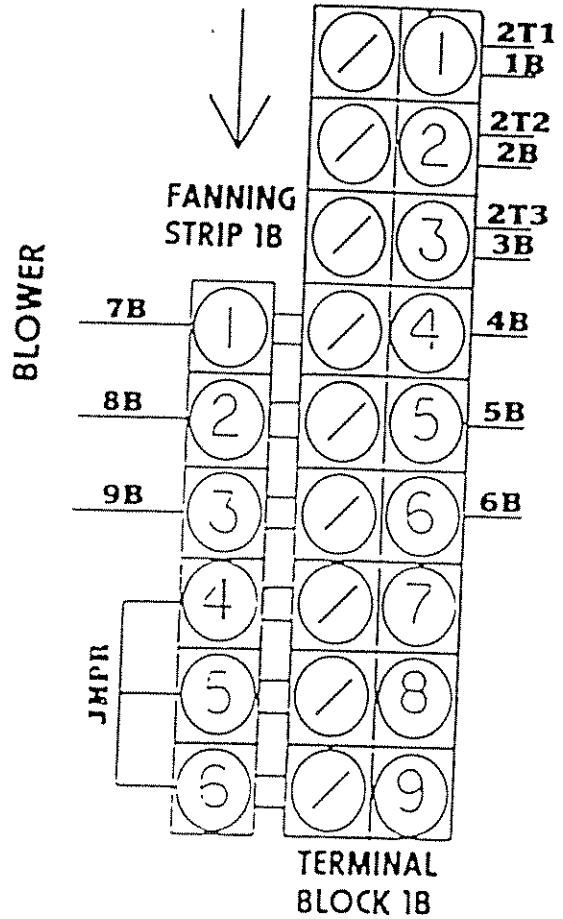
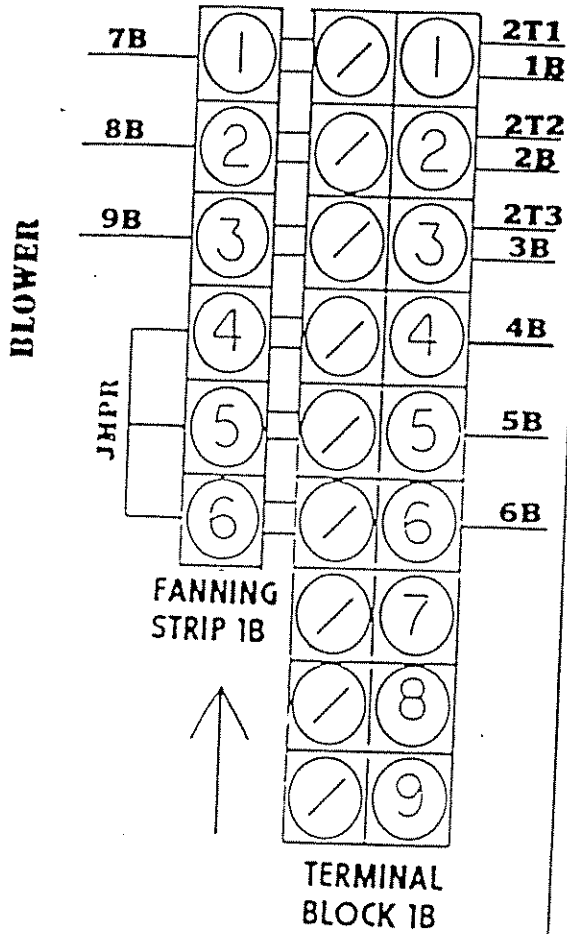


# FIGURE 2

## 654 DC

### 230 VOLT CONFIGURATION

### 460 VOLT CONFIGURATION



**SECTION 14**

**DRAWINGS**



# BLASTRAC MODEL 1-15D/6-54DC AIR COMPRESSOR TA-6102 (BLASTRAC PART NUMBER 676554)

## Installation, Operation, Parts List and Maintenance



### GENERAL

Operation and maintenance instructions as well as parts information presented herein relate to the following motor mounted, piston air compressor and vacuum pump models:

#### AIR COMPRESSORS

TA-3052	TA-4102
TA-4052	TA-5102
TA-5052	<b>TA-6102</b>
TA-6052	

#### VACUUM PUMPS

TA-3V2	TA-4V2
--------	--------

### OPERATION

**AMBIENT CONDITIONS:** Pumps should be operated in a well ventilated area where the surrounding air is relatively clean, dry, and temperatures are consistently within the range of 35°F to 95°F.

**ELECTRICAL:** For connection of electric power, remove the cover plate located on the rear surface of the motor. Connect wire leads as shown on wiring diagram secured to rear surface of the cover plate. Reinstall cover plate prior to operating pump.

The electric motors have been designed to operate within a  $\pm 10\%$  range from rated nameplate voltage. Insure that electric power source is the same as shown on motor nameplate. Single phase motors are equipped with automatic reset type thermal protectors.

**WARNING** - Disconnect electric power before servicing. Thermal protector can automatically start motor when the device resets.

**FILTERS:** Do not operate pumps without an inlet air filter. Excessive dirt, foreign particles, moisture, or liquids entering the pump can contribute to poor performance and/or premature failure. Dirty filters reduce pump performance by restricting air flow. Inspect filter elements periodically and clean or replace when necessary.

**CAUTION:**  
DO NOT CLEAN FILTER ELEMENTS WITH PETROLEUM BASED PRODUCTS.

#### Vacuum Pumps:

Always use an inlet filter on vacuum models to prevent foreign material from entering pump. PNEUMOTIVE part number S62240, inline filter is recommended for this purpose.

**WARNING—** These Products are suitable for pumping only atmospheric air. As defined in Compressed Gas Association Pamphlet G-7, Page 3, atmospheric air is a mixture of elements and compounds where nitrogen and oxygen comprise more than 99% with all other trace gases comprising less than 1%. DO NOT USE THIS PRODUCT IN CONTAMINATED ENVIRONMENTS OR FOR PUMPING MIXTURES OTHER THAN ATMOSPHERIC AIR.

## WARNING

PNEUMOTIVE OFFERS OIL-LESS AIR COMPRESSORS WHICH PROVIDE CLEAN, OIL-LESS DISCHARGE AIR. HOWEVER, OSHA SPECIFICATIONS REQUIRE ALL BREATHING AIR SYSTEMS TO MEET THE STANDARDS AS SPECIFIED FOR "TYPE 1, GROUP D AIR," AS FURTHER DEFINED IN CGA PAMPHLET G-7. 1. THEREFORE, ALL COMPRESSED AIR BREATHING SYSTEMS MUST INCLUDE AIR FILTRATION EQUIPMENT FROM COMPRESSOR INTAKE TO FINAL RESPIRATOR DEVICE.

**AIR COMPRESSOR TA-6102  
(BLASTRAC PART NUMBER 676554)**

# AIR COMPRESSOR and VACUUM PUMP MAINTENANCE

Only a few basic maintenance details are required to insure trouble free operation.

**FILTRATION:**

Dirty filters reduce pump performance. Periodically check inlet air filter. To clean filter, disassemble filter housing and use compressed air to blow dirt particles from the filter element. Replace filter when element can no longer be cleaned with this method.

**LUBRICATION:**

The Taskair line of piston products is a dry, oil-less compressor/ pump design. This product uses sealed grease-packed bearings and does not require additional lubrication.

**CAUTION:**

**DO NOT LUBRICATE.** Adding greases or petroleum products to this unit will reduce performance and can potentially damage the product.

**SERVICE KITS**

PNEUMOTIVE has available from stock minor service kits for Taskair series motor compressors and vacuum pumps. To obtain these service kits please contact the factory for the Taskair representative nearest you.

**Minor Service Kits include: Piston rings, springs, skirt, cylinder head gasket, cylinder gasket, valve plate, and (2) valve reeds. NOTE: ORDER ONE KIT PER CYLINDER.**

KIT NO.	MODELS
C85493-P	All models.

Note: For complete compressor/pump rebuild, order (1) one minor service kit plus appropriate piston/rod assembly. ( See chart, pg. 2 )

**WARRANTY**

**A. WARRANTY** - Pneumotive warrants that at the time of shipment, the products manufactured by Pneumotive will be free from defects in material and workmanship.

**B. Warranty Adjustment**

1. Pneumotive agrees to repair or at Pneumotive option, replace part or parts which within twelve (12) months from date of original startup or sixteen (16) months from date of factory shipment, whichever occurs first, shall upon examination by Pneumotive prove defective.

2. Buyer shall notify Pneumotive of any defect within this warranty period and deliver such defective parts no later than thirty (30) days after defect is discovered.

3. No product will be accepted for return or replacement without authorization by Pneumotive. Upon such authorization in accordance with instructions from Pneumotive, the product will be returned to Pneumotive, shipping charges prepaid by Buyer. Products return to Pneumotive to be addressed as follows:

Pneumotive  
4601 Central Avenue  
Monroe, Louisiana 71203  
ATTN: RGA (Obtained Returned  
Authorization Number)

Repair or replacement under this warranty will be returned freight pre-paid.

**C. Exclusions From Warranty**

1. The foregoing warranty is limited solely as set forth herein and applies only for the period designated above.

2. Pneumotive shall not be liable for any loss, damage, special or consequential damage of any kind whether based upon warranty, contract, or negligence, arising in connection with the sale, use or repair of the product.

3. The maximum liability of Pneumotive under this warranty (or under any other warranty, expressed, implied, statutory, or otherwise) shall not in any case exceed the contract price for the product claimed to be defective.

4. Pneumotive shall not be liable for removal or installation of product claimed to be defective.

5. This warranty does not extend to any product manufactured by Pneumotive which has been subjected to misuse, neglect, accident, improper installation, or use in a manner contrary to Pneumotive instruction.

6. This warranty does not extend to or apply to any product or part of products which have been repaired or altered at any place other than Pneumotive Factory or factory authorized service centers nor to any unit the serial number, model number, or identification of which has been removed, defaced, or changed.

7. Components manufactured by any supplier other than Pneumotive shall bear only that warranty made by the manufacturer of the product.

**Modification**

Unless otherwise provided, Pneumotive reserves the right to modify the specifications of the products ordered by the Buyer, providing that the modification will not materially affect the performance.

**Non Waiver**

Any failure at any time of Pneumotive to enforce any provision of the sales agreement shall not constitute a waiver of such provisions or prejudice the right of Pneumotive to enforce such provisions at any subsequent time.

**Limitation of Liability**

Pneumotive will not be liable for any loss or damage, cost of repairs, incidental, special or consequential damages of any kind, whether or not based upon express warranty or implied warranty (except for obligations assumed by Pneumotive under the product warranty clause), contract negligence or strict liability arising in connection with the design, manufacture, sale, use or repair of the product. In no event will Pneumotive be liable to Buyer for any amount in excess of the purchase price of the product claimed to be defective.



**THOMAS**  
INDUSTRIES INC.

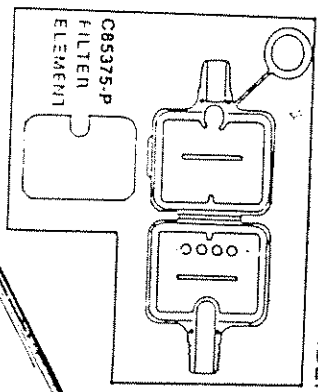
**PNEUMOTIVE**  
Division

# AIR COMPRESSOR TA-6102 (BLASTRAC PART NUMBER 676554)

S75600-P  
Relief Valve  
(Models: TA-4102, TA-5102, TA-6102)

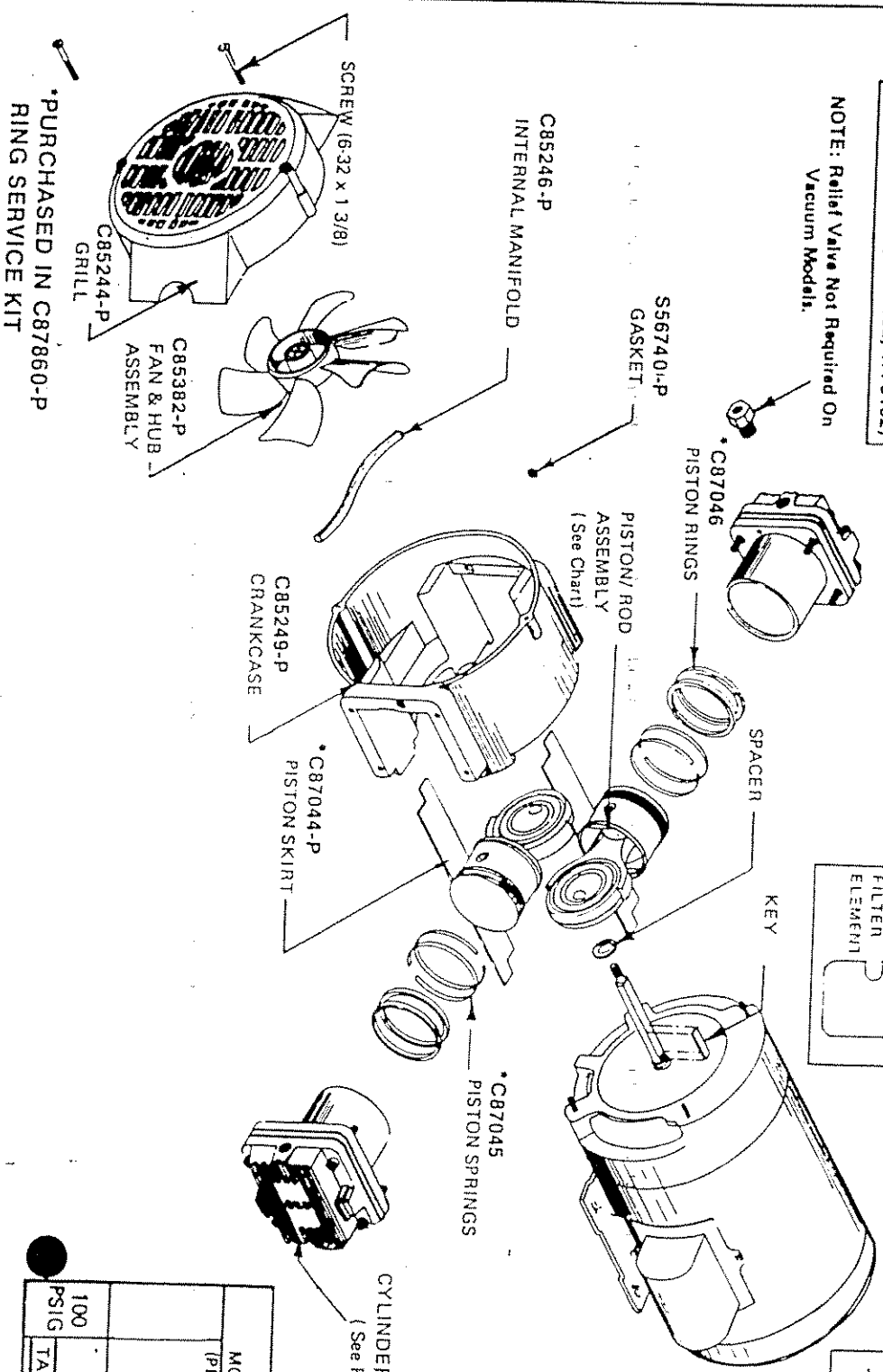
NOTE: Relief Valve Not Required On Vacuum Models.

C85399-P FILTER ASSEMBLY



NOTE:  
Filters shown are equal alternates. Order parts for filter configuration originally supplied.

NOTE: UPON INSTALLATION OF FILTERS WE DO NOT RECOMMEND THE USE OF TEFLON TAPE ON FILTER THREADS

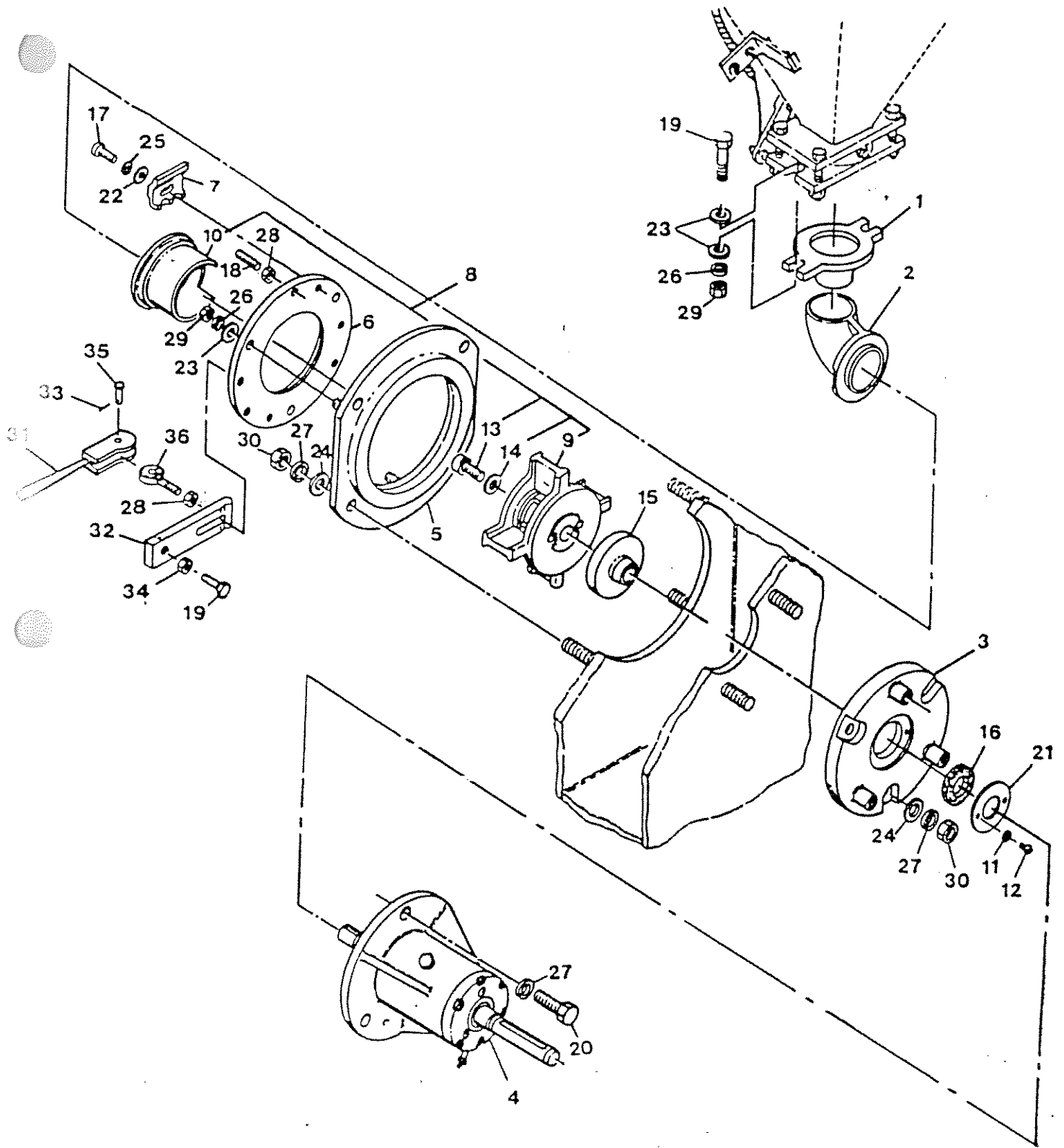


\*PURCHASED IN C87860-P RING SERVICE KIT

## TWO CYLINDER EXPLODED VIEW

MODEL (PRESSURE)	HP	PISTON/ROD ASSEMBLY
100 PSIG		
TA-6102	3/4	C87226-P

CYLINDER HEAD ASSEMBLY (See Page 3)



BLAST WHEEL ASSEMBLY						
1-10D (8" Dia. Wheel)						
SCALE NTS		DRAWN MH		TRACED		SD 3102
CHG	WAS	DATE	BY	DATE 1/8/85	CHECK	

SECTION 14

BLAST WHEEL ASSEMBLY - SD 3102

<u>ITEM</u>	<u>NO</u>	<u>QUANTITY</u>	<u>PART NO</u>	<u>DWG NO</u>	<u>DESCRIPTION</u>
	1	1	493698	93CO383	ADAPTER/FEED SPOUT
	2	1	493700	83CO385	FEED SPOUT
	3	1	495943	84CO195	MOUNT/BRG UNIT
	4	1	489295	82DO868	BRG UNIT ASSEMBLY
	5	1	676261	88B0188	BRACKET/MTG CONTROL CAGE SUPPORT
	6	1	<del>495942</del> 676262	88B0189	BRACKET/CONTROL CAGE SUPPORT
	7	2	414699	72AO664	CLAMP/CONTROL CAGE
	8	1	677496		WHEEL KIT - INCLUDES ITEMS 9, 10, 13, AND 14
	9	1	493701	83DO652	WHEEL/8 INCH
	10	1	676248	83CO384	CONTROL CAGE
	11	2	500113		3/16 LOCK WASHER
	12	2	500045		#10-24 X 3/8 RD HD MACH SCREW
	13	1	500465		3/8-16 X 1-1/4 SOC HD CAP SCREW
	14	1	483947		SPHERICAL WASHER
	15	1	495940	84B0174	HUB
	16	1	495938	84A0167	SEAL FELT
	17	2	500189		5/16-18 X 3/4 HEX HD CAP SCREW
	18	4	500768	501231	3/8-16 X 1-1/4 HEX HD CAP SCREW
	19	3	500220		1/2-13 X 1-1/4 HEX HD CAP SCREW
	20	1	495937	84A0166	RETAINER/FELT SEAL
	21	2	500103		5/16" PLAIN WASHER
	22	7	500104		3/8" PLAIN WASHER
	23	7	500106		1/2" PLAIN WASHER
	24	3	500114		5/16" LOCK WASHER
	25	5	500115		3/8" LOCK WASHER
	26	10	500116		1/2" LOCK WASHER
	27	2	500060		3/8-16 HEX NUT
	28	7	500062		1/2-13 HEX NUT
	29	2	493965		CAM
	30	2	493966		STRAP
	31	2	500596		1/8 X 1 COTTER PIN
	32	2	500070		3/8-16 JAM NUT
	33	2	493964		CLEVIS PIN
	34	2	493963	83A0410	ROD END

DRAWINGS

Model 654 Ultra-Jet Dust Collector Machine  
Assembly Drawings

Electrical Schematic - Elementary for Model  
1-15D Blastrac and Model 654 Ultra Jet

Model 1-15D Abrasive Blast Wheel Assembly

Model 1-15D Abrasive Valve and Separator

Model 1-15D Housing, Liners, Plenum

Model 1-15D Steering Assembly

Model 1-15D Magnet and Seal Assembly

Model 1-15D Blast Wheel Motor  
Drive Assembly

# U. S. FILTER

## BLASTRAC

### HAZARDOUS MATERIALS

#### SAFETY WARNING

Some floor or deck surfaces may be coated with or contaminated by hazardous material. Typical examples of hazardous materials include tile mastic which is likely to contain asbestos, stained areas near electrical equipment which may contain PCBs, old paint, which may contain lead, stained or surface contaminated floor areas in chemical or other industrial facilities that may contain pesticides, cleaning fluids, solvents, or other harmful chemicals.

During the normal operation of shot blasting equipment, surface material is removed and dust is created. When the surface material is contaminated, the dust may contain hazardous material.

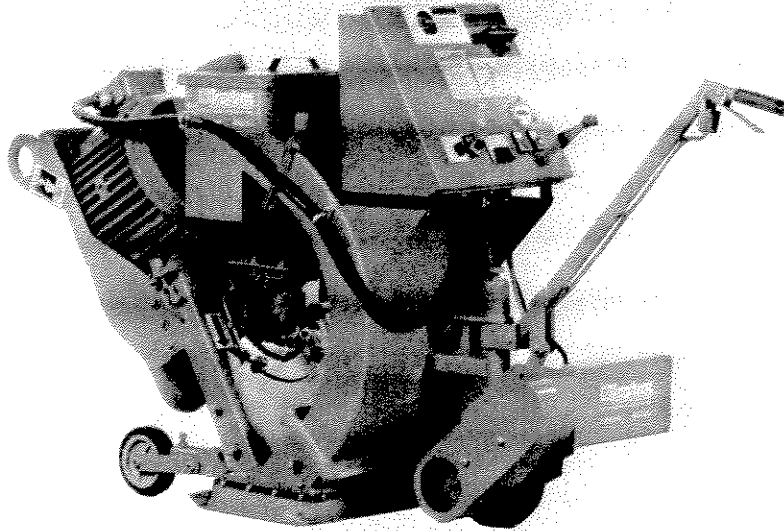
It is very probable that dust will be released during the normal operation of U. S. Filter/Blastrac equipment. If this dust contains hazardous material, there is a danger that exposure to this dust may pose a health risk.

Before using U. S. Filter/Blastrac equipment on any surface, the area must be inspected for possible contamination.

U. S. Filter/Blastrac does not warrant its equipment to be suitable for, or approved for, removing hazardous materials.

Before beginning any project involving the removal of hazardous materials, it is the responsibility of the contractor to ensure that the work site and equipment to be used have been inspected and the proposed work has been approved by the proper authorities. It is also the responsibility of the contractor to notify workers of any potential health risks and ensure that workers are properly protected from exposure to hazardous materials and from the long term effects of such exposure.

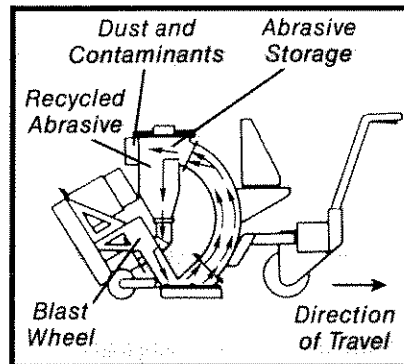
U. S. Filter/Blastrac Portable Shot Blast Cleaning Systems are not designed for use to remove, clean, profile, or alter any surface coated with or otherwise contaminated by hazardous material. U. S. Filter/Blastrac expressly disclaims any liability for injury, illness, death, or damage that might occur or result from such use.



Featuring a travel speed up to 60 ft./min., the self-propelled Model 1-15D is engineered for medium-to-large sized flooring applications in the 2,000-75,000 sq. ft. range.

### Application

Blastrac portable abrasive blasting equipment is industry's most cost-effective and environmentally safe way to remove dirt, paint, coatings and other contaminants from floor surfaces. The patented "one-step" machine economically cleans and profiles surfaces of concrete or steel. Major applications include industrial plant and warehouse floors, parking garages, ship decks and storage tanks.



### Technology

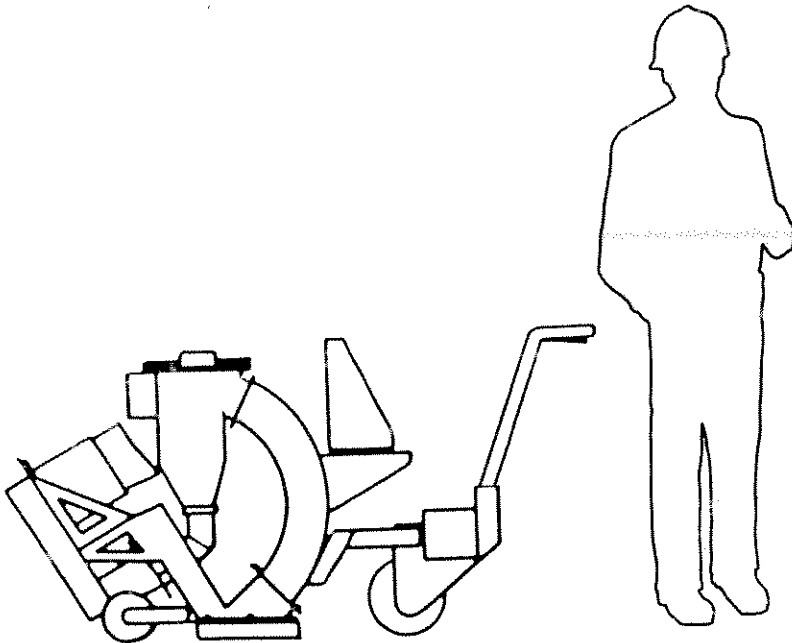
The shot blasting system incorporates the high performance airless centrifugal wheel for propelling blast media in a controlled pattern and direction. Metal abrasive thrown by the rapidly rotating blast wheel scours the concrete surface and rebounds along with removed contaminants into a recovery chamber. Pulverized abrasive, dust and contaminants are removed by a separate dust collector. Very little abrasive is lost and the usable media is returned to the storage hopper for recirculation by the blast wheel.

### Features and Benefits

- Labor and time-saving shot blasting process strips, cleans and profiles simultaneously
- Flooring surface is left dry and chemically-free without releasing airborne dust or contaminants
- Drying times, acid etching and costly disposal procedures are eliminated
- Blast pattern accuracy and wide abrasive selection allows users to achieve any desired surface profile
- Excellent bonding characteristics are produced — reducing coating failures, maximizing floor life
- Recommended method of surface preparation by most coating manufacturers
- Disposal of dust and contaminants is easily achieved

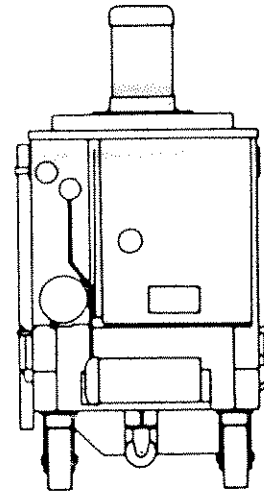


## 1-15D Portable Blast Cleaning Systems



**Model 1-15D Blast Unit**

Production Capacity:	1500 sq.ft./hr.	140 m <sup>2</sup> /hr.
Cleaning Path:	15"	38 cm
Travel Speed:	0-60 ft./min	0-18 m/min
Voltage:	230/460V, 3 $\phi$	
Length:	6' - 7"	200 cm
Width:	1' - 11"	58 cm
Height:	3' - 6"	107 cm
Weight:	802 lbs.	364 kg



**Model 654-DC Dust Collector**

Vacuum Hose Length:	50'	15.25 m
Power Cord Length:	125' (Total System)	38 m
Generator Requirements:	30 KVA	
Amperage:	60/30 A (Total System)	
Voltage:	230V/460V, 3 $\phi$	
Length:	4' - 4"	132 cm
Width:	2' - 9"	84 cm
Height:	5' - 3"	160 cm
Weight:	850 lbs. w/o hose	386 kg

### Ensuring Your Application Satisfaction

Blastrac engineering specialists work closely with many of the world's leading coating manufacturers. What does this mean for you? Our technical knowledge enables us to confidently recommend the proper machine,

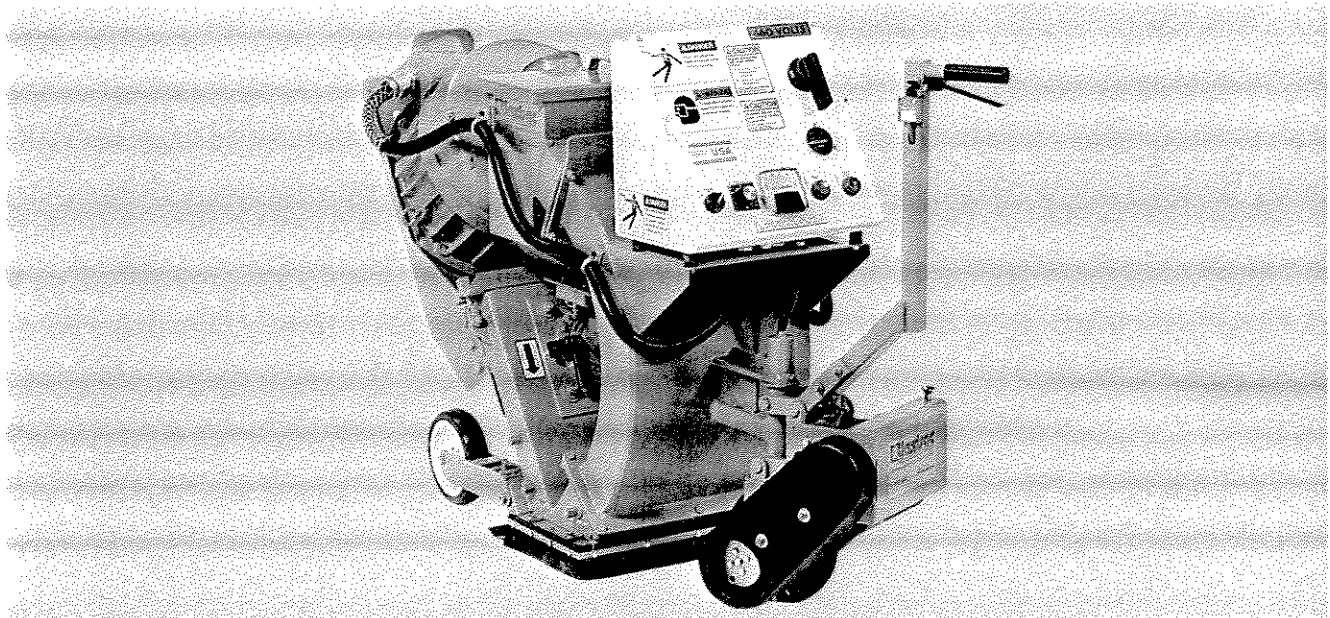
abrasive, and travel speed for your specific budget and application. Rental or lease-to-buy purchase plans are conveniently available to contractors, plants or others who require alternative financing methods.

Distributed by:

# BLASTRAC

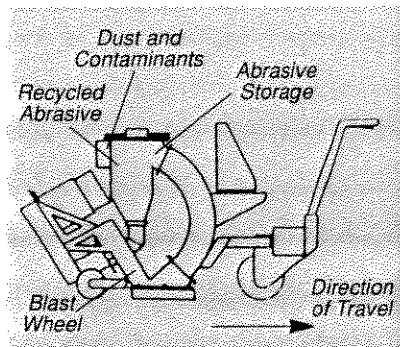
## MODELS I-15D AND I-15D SUPER

### PORTABLE BLAST CLEANING SYSTEMS



PORTABLE SOLUTIONS  
FOR SURFACE PREPARATION

*Featuring a travel speed up to 60 ft./min., the self propelled Model I-15D is engineered for medium-to-large sized flooring applications in the 2,000-75,000 sq. ft. range.*



#### APPLICATION

Blastrac portable abrasive blasting equipment is industry's most cost-effective and environmentally safe way to remove dirt, paint, coatings and other contaminants from floor surfaces. The patented "one-step" machine economically cleans and profiles surfaces of concrete and steel. Major applications include industrial plant and warehouse floors, parking garages, ship decks and storage tanks.

#### TECHNOLOGY

The shot blasting system incorporates the high performance airless centrifugal wheel for propelling blast media in a controlled pattern and direction. Metal abrasive thrown by the rapidly rotating blast wheel scours the concrete surface and rebounds along with removed contaminants into a recovery chamber. Pulverized abrasive, dust and contaminants are removed by a separate dust collector. Very little abrasive is lost and the usable media is returned to the storage hopper for recirculation by the blast wheel.

**U.S. FILTER**  
**BLASTRAC**

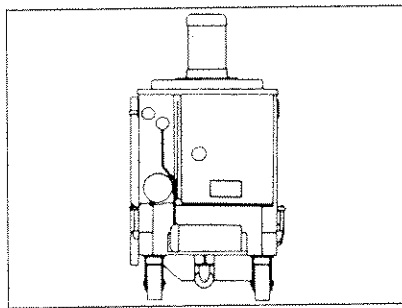
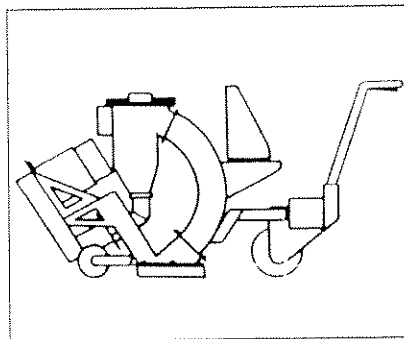
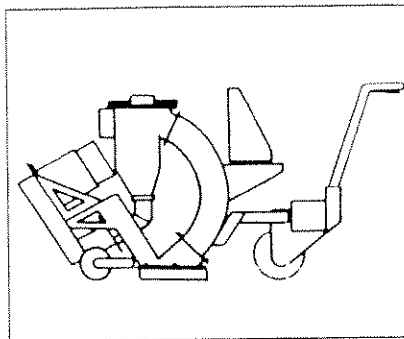
# BLASTRAC

## MODELS I-15D AND I-15D SUPER

### PORTABLE BLAST CLEANING SYSTEMS

#### FEATURES AND BENEFITS

- Labor and time-saving shot blasting process strips, cleans and profiles simultaneously.
- Flooring surface is left dry and chemically-free without releasing airborne dust or contaminants.
- Drying times, acid etching and costly disposal procedures are eliminated.
- Blast pattern accuracy and wide abrasive selection allows users to achieve any desired surface profile.
- Excellent bonding characteristics are produced — reducing coating failures, maximizing floor life.
- Recommended method of surface preparation by most coating manufacturers.
- Disposal of dust and contaminants is easily achieved.



#### MODEL 1-15D BLAST UNIT

Production Capacity:	1500 ff/hr. (140 m <sup>2</sup> /hr)
Cleaning Path:	15" (38 cm)
Travel Speed:	0-60 ft./min. (0-18m./min)
Voltage:	230/460V, 3ø
Length:	6'-7" (200 cm)
Width:	1'-11" (58cm)
Height:	3'-6" (107cm)
Weight:	802 lbs. (364 kg)

#### MODEL 1-15D SUPER (for steel)

Production Capacity:	300 ff/hr. (28 m <sup>2</sup> /hr)
Cleaning Path:	15" (38 cm)
Travel Speed:	0-60 ft./min (0-18m./min)
Voltage:	460V, 3ø only
Length:	6'-7" (200 cm)
Width:	1'-11" (58cm)
Height:	3'-6" (107cm)
Weight:	850 lbs. (386 kg)

#### MODEL 654 DUST COLLECTOR

Vacuum Hose Length:	50' (15.25m)
Power Cord Length:	125' (38m) Total System
Generator Requirements:	30 KVA
Amperage:	60/30A, Total System
Voltage:	230V/460V, 3ø
Length:	4'-4" (132 cm)
Width:	2'-9" (84 cm)
Height:	5'-3" (160 cm)
Weight:	850 lbs. w/o hose (386 kg)

#### ENSURING YOUR APPLICATION SATISFACTION

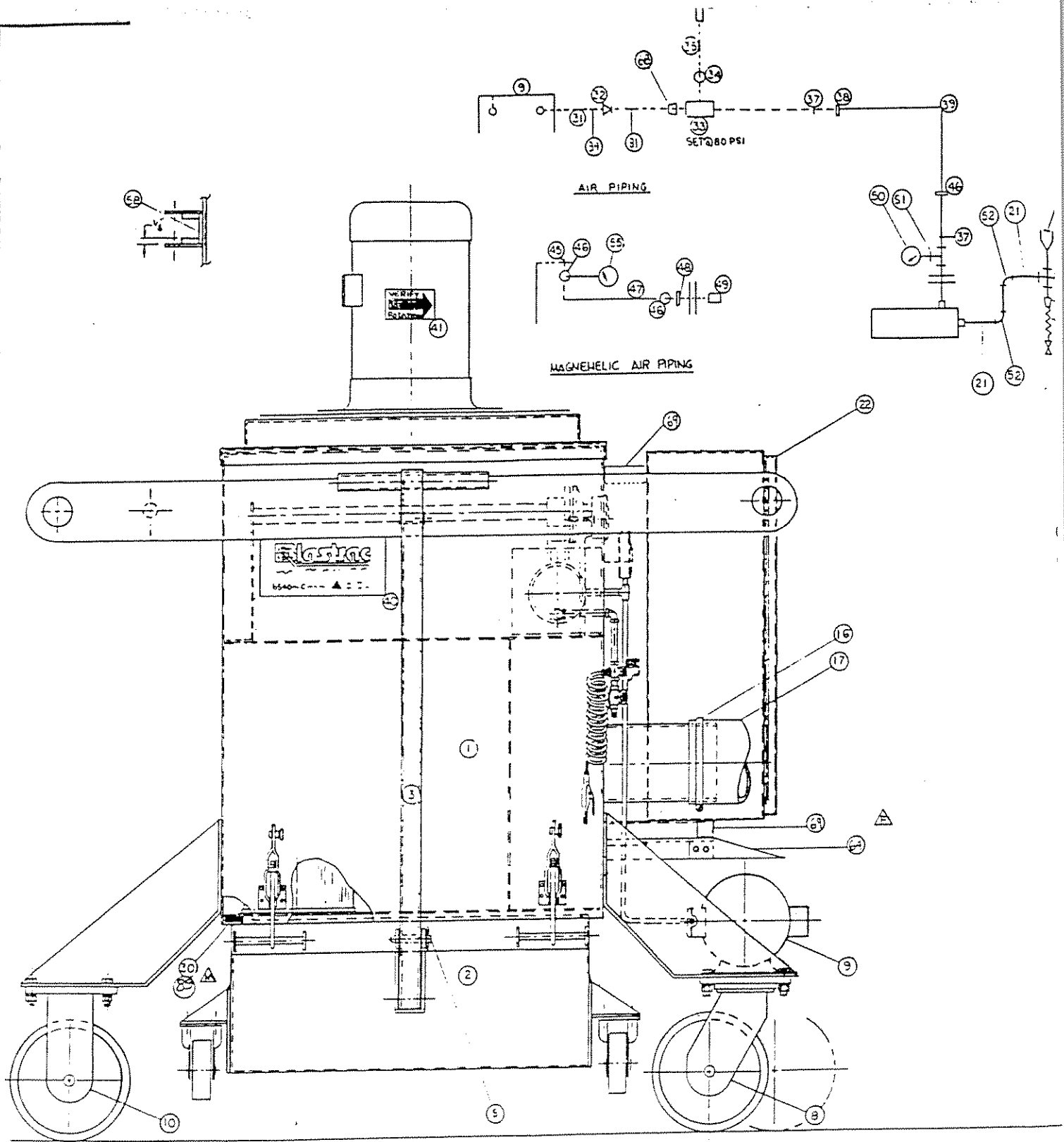
Blastrac engineering specialists work closely with many of the world's leading coating manufacturers. What does this mean for you? Our technical knowledge enables us to confidently recommend the proper machine, abrasive, and travel speed for your specific budget

and application. Rental or lease-to-buy purchase plans are conveniently available to contractors, plants or others who require alternative financing methods.

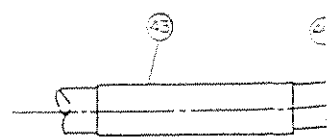
**U.S. FILTER**  
**BLASTRAC**

U. S. Filter / Blastrac  
6215 Aluma Valley Drive  
Oklahoma City, OK 73136-2239  
800.256-3440 phone  
405.478-3440 phone  
405.478-5327 fax  
<http://www.blastrac.com>

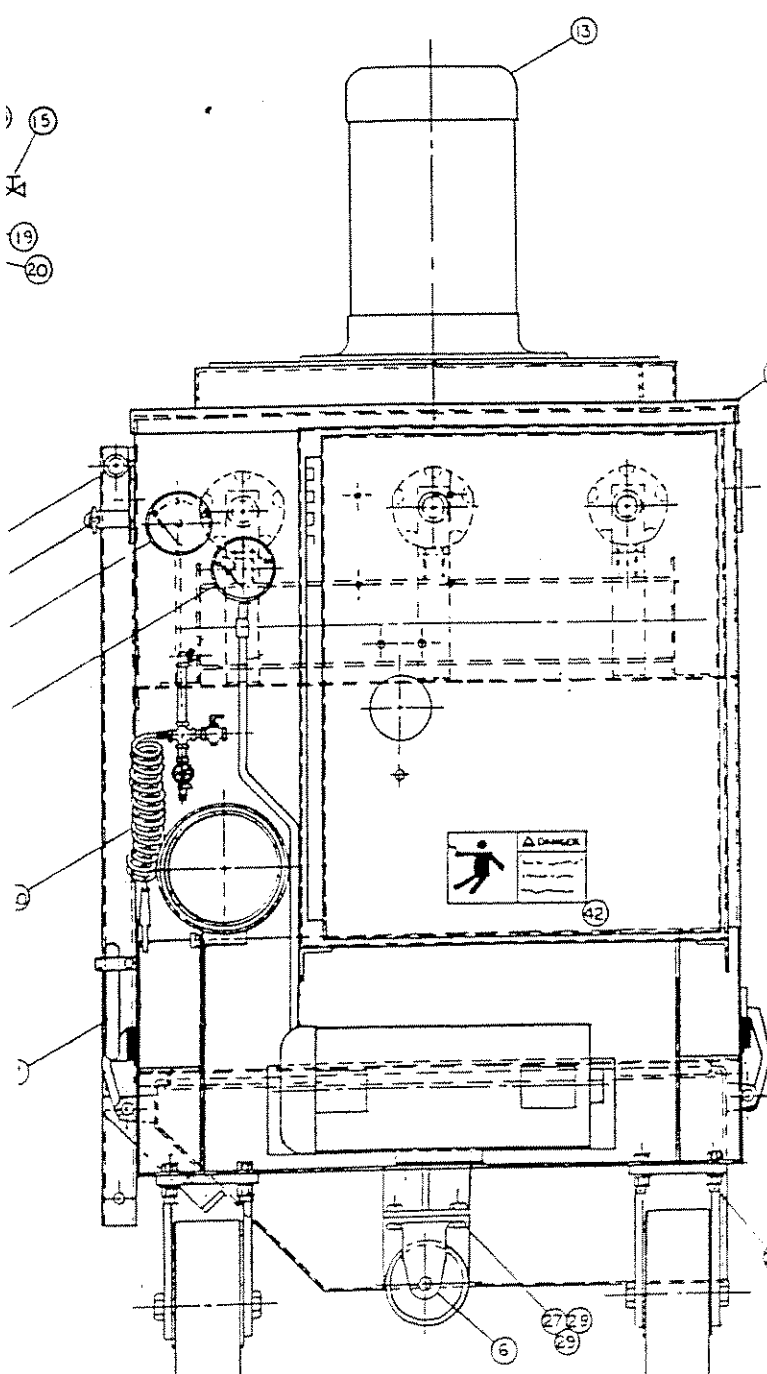
Visit us on the web at [www.surfacepreparation.com](http://www.surfacepreparation.com)



M	Y000236	7-24-92	WAB
L	890124	7-21-92	WAB
RTREV	B7M	11-7-51	1005



75 FT. ELECT. CA  
TO POWER SU



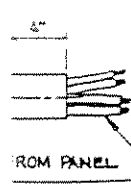
NO.	QUANTITY	DESCRIPTION
1	1	676066 90B187 BAGHOUSE
2	1	676068 88C-0164 DUST HOPPER
3	1	490097 828 896 HANDLE
4	2	453290 GRIP
5	2	490694 PIN
6	2	490696 CASTER RIGD
7	2	483551 CLAMP
8	2	490697 CASTER SWIVEL
9	1	676554 COMPRESSOR
10	2	676557 CASTER RIGD
12	1	676064 88C-0174 LID BAGHOUSE
13	1	6765550 BLOWER
15	1	674906 DRAIN VALVE
16	2	176038 CLAMP 5/8" TO 1"
17	1	492019 DUCT 5"
18	5	676551 GROMMET
19	3	289191 REDUCER 1/2" TO 1/4"
20	1	676118 BLOWGUN WITH HOSE
21	2	500427 NIPPLE 1/2" NPT 6" LONG
22	1	675577 88D190 CONTROL PANEL
24	16	500221 HEX HD. CP SCR. 1/2" x 13 NC x 1 1/2"
25	16	500116 LOCKWASHER 1/2"
26	16	500062 HEX NUT 1/2" - 13 NC
27	8	500189 HEX HD. CP SCR. 5/16" - 18 NC x 3/4"
28	8	500114 LOCKWASHER 5/16"
29	8	500059 HEX NUT 5/16" - 18 NC
30	7	678214 SEAL
31	2	500342 PIPE NIPPLE 1/4" X 3"
32	1	674905 REDUCING BUSHING 1/2" x 3/8"
33	1	490691 UNLOADER
34	1	500551 ELBOW STREET 1/4" - 90°
35	1	468468 CLOSE PIPE NIPPLE 1/8"
36	1	255861 MUFFLER
37	1	146290 FITTING 1/2" - 14 NPT BARB
38	2	205112 CLAMP
39	1	492743 HOSE
40	1	676092 88R-0154 SIGN DUST COLLECTOR
41	2	472553 79A-1015 SIGN ROTATION
42	1	494150 83B510 SIGN DANGER
43	1	499843 85A230 SIGN GROUNDING
44	1	495605 SIGN VOLTAGE
45	5	483862 CONNECTOR
46	1	677736 ELBOW 3/8" TO 1/2"
47	1	483865 TUBE LOW
48	1	500106 1/2" FLAT WASHER
49	2	500365 1/8" COUPLING
50	1	126814 GAUGE 2"
51	2	500517 TEE 1/2"
52	2	494248 ELBOW 1/2"
53	1	483468 SAFETY VALVE
54	2	500427 NIPPLE 1/2" X 6"
55	1	676556 GAUGE, MAGNEHEUC
57	2	676552 GROMMET
58	1	492742 83A266 CAMPER
59	1	676550 88C 230 TANK/AIR
60	3	676558 88C 236 HEADER / BL-DOWN
61	1	422987 NOT SHOWN CABLE / ELEC # 6 900.00
62	6	493206 NOT SHOWN ELEMENT
63	6	498494 NOT SHOWN HANGER ROD
64	1	677537 89D219 SHIELD / CON.D
65	1	677600 89C123 CONTAINER / SHIP (NOT SHOWN)
66	1	677604 89B150 CRATE / SHIPPING (NOT SHOWN)
67	1	677941 NO DWG FITTING / TEE 3/8"
68	1	500392 1/8" - 20" ELL
69	4	710015 INSULATOR
70	3	676553 VALVE / GOYEN
71	2	678214 SEAL / RUBBER
72	2	678215 SEAL / RUBBER
73	3	493397 FITTING
74	1	678255 GRIP / CORD
75	1	492807 GRIP / CORD
76	1	499414 85A134 4-40 VOLT
77	1	495605 84A144 230 VOLT
78	1	499946 85B286 SIGN / POWER
79	1	494449 83A 431 SIGN / ROTATION

89	2	678215 SEAL
88	1	680187 90B178 SIGN / WARNING
87	6	677882 CAPLUG
86	2	679709 90C86 SIGN / BLASTAC 654 DC
85	1	678885 85B440 LATCH / DUST BIN
84	4	464548 78A0284 LATCH CLAMP
83	3	676032 88B154 SIGN / IDENTIFY
82	2	472553 79A1015 SIGN / VERIFY ROTATION
81	4	676985 89B022 SIGN / LIFT HERE
80	1	494040 83H414 SIGN / POWER

F 10/25/83 14-10-301875  
 H 10/25/83 13-120 025  
 E 10/25/83 2-23-23 058  
 F 10/25/83 8-9-89 06A  
 E 10/25/83 7-21-23 028  
 D 10/25/83 24-25-23 028  
 C 10/25/83 11-11-11 028  
 B 10/25/83 11-11-11 028  
 A 10/25/83 11-11-11 028

BM: 676105  
**The Wheelabrator Corporation**  
 400 South Byrkit Avenue, Mishawaka, Indiana 46544  
 MACHINE ASSEMBLY  
 654-DC  
 880-0327

SCALE 1/4" = 1"  
 DRAWN JR  
 CHECK  
 DATE 3-27-88



88D327

TOLERANCES UNLESS OTHERWISE NOTED ARE PLUS OR MINUS  
 DIMENSIONS .001" - STRUCTURAL DIMENSIONS .005" - ALL OTHERS .010" - FOR ACCUMULATIVE  
 THE DIMENSIONS ARE THE DIMENSIONS OF THE COMPONENTS OF THE WHEELABRATOR CORPORATION  
 AND ARE NOT TO BE USED FOR OTHER PURPOSES WITHOUT WRITTEN PERMISSION

SPECIAL QUANTITY DISCOUNTS

DISTRIBUTOR PRICE

BLASTRAC MODEL 1-15D

PART #	DESCRIPTION	QUANTITY	PRICE
677117	BELT/POLY-V	5	18.00
499088	COVER/BLAST HOUSING	5	72.00
489947 ✓	LINER/LEFT SIDE	5	40.00
489948	LINER/RIGHT SIDE	5	40.00
499091 ✓	LINER/TOP	5	78.00
499102 ✓	SEAL/MAGNET (Rubber Skirt)	25	7.50
677496 ✓	WHEEL/KIT	5	135.00

\*\*These prices are for DISTRIBUTORS only.\*\*

## BLASTRAC MODEL 1-15D

PART #	DESCRIPTION	PRICE
84234	SPROCKET/26 TEETH	28.00
100056	WASHER/FLAT 1/2"	0.50
168365	BROOM/MAGNETIC 16"	120.00
168366	BROOM/MAGNETIC 20"	145.00
198457	NUT/CAP HEX 1/2"	3.40
205571	BEARING/FLANGE (Drive Tire)	18.00
236591	BOLT/JAW - WITH PIN AND COTTER	8.65
254661	CHAIN/ROLLER .5 INCH PITCH	2.50
284732	BLOCK/TERMINAL	5.50
414699	CLAMP/CONTROL CAGE 70 DEG	6.00
417012	CABLE/ELECTRIC #16-4 (Per Foot)	.70
422987	CABLE/ELECTRIC #6-4 (55 Ft. lengths, price per Ft.)	4.00
422989	GRIP/CORD/KELLEMS 1"-1-1/8"	74.50
452394	CLAMP/CONTROL CABLE	1.25
452836	CHAIN DRIVE CONNECTING LINK	0.60
453290	GRIP/HANDLE	1.00
456550	ISOLATOR/BOTTOM PANEL	2.50
459679	PLUG (4 Pin, 3 Wire, 600V, 60 AMP)	240.00
472553	DECAL/CAUTION - VERIFY ROTATION	1.00
477629	HUB/TRACTION DRIVE	134.00
477630	RETAINER/SPROCKET	50.00
477631	SPROCKET/30 TEETH	34.00
478198	PIN/QUICK RELEASE	26.50
478461	ABRASIVE VALVE LEVER	41.50
481350	INSULATOR/REAR MAGNET	18.50

## BLASTRAC MODEL 1-15D

PART #	DESCRIPTION	PRICE
492070	SCREW/ROUND #10 X 2-1/4"	0.30
493264	SHEAVE/POLY-V BEARING UNIT (8" Wheel)	36.00
493451	TRANSFORMER/CIRCUIT	157.00
493698	ADAPTER/FEED SPOUT	34.50
493700	SPOUT/FEED (8" Wheel)	38.00
493701	WHEEL/BLAST 8"	175.00
493963	BOLT/SWING EYE	10.50
493964	PIN/CLEVIS 5/16" X 1-1/8"	0.50
493965	CAM/DOUBLE ARM	21.00
493966	CLAMP/FEED SPOUT	14.50
494036	DECAL/BEARING UNIT	1.00
494044	DECAL/CAUTION - DO NOT OPERATE MACHINE WITH	1.00
494149	DECAL/CAUTION - CHECK ROTATION	1.00
494150	DECAL/DANGER - LOCK OUT POWER AT	1.00
494151	DECAL/DANGER - SAFETY GLASSES	1.00
494822	SWITCH/FORWARD-REVERSE (Allen Bradley)	85.50
494823	METER/ELAPSED TIME	60.00
495182	POTENTIOMETER/SPEED (Allen Bradley)	151.00
495605	DECAL/DANGER - 230 VOLTS	1.00
495937	RETAINER/FELT SEAL	9.50
495938	SEAL/FELT WHEEL 8"	3.00
495940	HUB/WHEEL (8" Wheel)	80.00
495942	BRACKET/CONTROL CAGE SUPPORT	
495943	MOUNT/BEARING UNIT (8" Wheel)	
497064	BOOT/RUBBER/BLACK (Allen Bradley)	20.50



## BLASTRAC MODEL 1-15D

PART #	DESCRIPTION	PRICE
500104	WASHER/FLAT 3/8"	0.30
500108	WASHER/FLAT 3/4"	0.50
500113	WASHER/LOCK 3/16"	0.30
500114	WASHER/LOCK 5/16"	0.30
500115	WASHER/LOCK 3/8"	0.30
500116	WASHER/LOCK 1/2"	0.30
500174	SCREW/HEX HEAD CAP 1/4" X 3/4"	0.30
500177	SCREW/ROUND 1/4" X 1-1/2"	0.30
500189	SCREW/HEX HEAD CAP 5/16" X 3/4"	0.30
500209	SCREW/CAP 3/8" X 5"	0.50
500220	SCREW/CAP 1/2" X 1-1/4"	0.50
500221	SCREW/CAP 1/2" X 1-1/2"	0.50
500226	SCREW/ROUND 1/2" X 2-3/4"	1.00
500229	SCREW/HEX HEAD CAP 1/2" X 3-1/2"	.80
500465	SCREW/CAP 3/8" X 1-1/4"	1.00
500596	PIN/COTTER 1/8" X 1"	0.30
500630	SCREW/SQUARE HEAD 1/2" X 2-3/4"	2.50
500689	SCREW/ROUND 3/16" X 3/8"	0.30
500767	SCREW/HEX HEAD CAP 3/8" X 1"	0.40
500768	SCREW/HEX HEAD CAP 3/8" X 1-1/4"	0.40
500769	NUT/FLEX	0.40
500901	NUT/HEX #10-24	0.40
500953	WASHER/LOCK 1/4"	0.30
500972	SCREW/BUTTON CAP 1/4" X 1"	.30
501502	SCREW/CAP #1 X 5/8"	0.40

## BLASTRAC MODEL 1-15D

PART #	DESCRIPTION	PRICE
676250	SHAFT/TRACTION DRIVE	48.50
676253	GUARD/TRACTION DRIVE	122.50
676254	DEFLECTOR/SEPARATOR LID	150.00
676261	BRACKET/CONTROL CAGE SUPPORT	66.50
676262	BRACKET/CONTROL CAGE SUPPORT	28.00
676267	YOKE/BLOCK	72.00
676268	PIN/CLEVIS 5/8"	4.00
676277	BASKET/SEPARATOR	20.25
676279	SCREW/SHOULDER 5/8" X 2-3/4"	5.00
676281	DECAL/1-15D	1.50
676314	CONTROL PANEL	
676614	MOTOR/WHEEL 15HP	2800.00
676779	LEVER/DEADMAN	35.00
676985	DECAL/CAUTION - LIFT HERE	1.00
676998	BRACKET/MOTOR SUPPORT	
677003	PLATE/BACK	120.50
677076	GUARD/BELT POLY-V	133.50
677117	BELT/POLY-V	25.00
677118	SHEAVE/POLY-V MOTOR	46.00
677496	WHEEL KIT	175.00
677596	GASKET/FLANGE	5.50
677832	BEARING UNIT (Rebuilt)	639.00
678386	RELAY/POWER SUPPLY (Schrack #RC275110)	
678387	RELAY/OVERLOAD (Allen Bradley #193-CPC45)	80.50
678388	SWITCH/MAINLINE DISCONNECT	

679938 handle & shaft  
679937 disconnect only  
sell as components

679938 - 63.00

7 679937 - 80.28

1/15/93

## BLASTRAC MODEL 1-15D

PART #	MECHANICAL COMPONENTS DESCRIPTION	PRICE
487220	ABRASIVE CONTROL ASSEMBLY	112.00
487264	ABRASIVE CONTROL CABLE	42.50
487263	ABRASIVE CONTROL HANDLE	69.50
680020	ABRASIVE CONTROL VALVE	233.50
676138	ABRASIVE CONTROL VALVE (Obsolete use 680020)	
478461	ABRASIVE VALVE LEVER	41.50
491726	ABRASIVE VALVE PIVOT	10.50
493698	ADAPTER/FEED SPOUT	34.50
676205	ARM	
676277	BASKET/SEPARATOR	20.25
489295	BEARING UNIT (New)	912.50
677832	BEARING UNIT (Rebuilt)	639.00
205571	BEARING/FLANGE (Drive Tire)	18.00
677117	BELT/POLY-V	25.00
496942	BRACKET/CONTROL CAGE SUPPORT	
676261	BRACKET/CONTROL CAGE SUPPORT	66.50
676262	BRACKET/CONTROL CAGE SUPPORT	28.00
676247	BRACKET/IDLER WHEEL	75.00
676998	BRACKET/MOTOR SUPPORT	
676248	CAGE/CONTROL 65 DEG. (See 677496)	22.50
493965	CAM/DOUBLE ARM	21.00
452836	CHAIN DRIVE CONNECTING LINK	0.60
492011	CHAIN/DRIVE (Use 254661, order 3 Ft., price per Ft.)	
499088	COVER/BLAST HOUSING	100.00
676254	DEFLECTOR/SEPARATOR LID	150.00

## BLASTRAC MODEL 1-15D

PART #	MECHANICAL COMPONENTS DESCRIPTION	PRICE
677003	PLATE/BACK	120.50
676038	PLENUM/REBOUND	
495937	RETAINER/FELT SEAL	885.80 9.50
499101	RETAINER/FRONT MAGNET SEAL	15.00
490051	RETAINER/SIDE MAGNET SEAL	7.50
499099	RETAINER/SKID (Obsolete use 682652)	
499098	RETAINER/SKID SEAL(Obsolete use 672652)	
477630	RETAINER/SPROCKET	50.00
495938	SEAL/FELT WHEEL 8"	3.00
499102	SEAL/MAGNET RUBBER (Skirt)	15.00
499100	SEAL/SKID (Obsolete use 682652)	
676237	SEPARATOR ASSEMBLY	690.00
676250	SHAFT/TRACTION DRIVE	See Note as 5-17-00 48.50
499089	SKID/REAR METAL (Obsolete use 682652)	
682652	SKID & SEAL	37.50
493700	SPOUT/FEED (8" Wheel)	38.00
84234	SPROCKET/26 TEETH	28.00
477631	SPROCKET/30 TEETH	34.00
681250	SUPPORT-ANGLE/MOTOR	
490079	TIRE AND HUB	Buy drive handle 55.00
677496	WHEEL KIT	175.00
493701	WHEEL/BLAST 8"	175.00
678587	WHEEL/IDLER	Buy Blast head 40.00
676267	YOKE/BLOCK	72.00
676241	YOKE/DRIVE (Weldment)	

685636 Wheel Kit for Blastrac Europe only

128.00

X000236 Seal/separator lid<sup>3</sup>; takes 5'

1/15/93

BLASTRAC MODEL 1-15D

PART #	ELECTRICAL COMPONENTS DESCRIPTION	PRICE
678386	<i>(keeper Relay) 120V RR2P-U-26221 old style 8-pin Round on Bottom.</i> RELAY/POWER SUPPLY (Schrack #RC275110)	26.00
683340	RECEPTACLE/TWIST LOCK (125V, 15 Amp)	17.00
489745	RESISTER 10 OHM 25 W	12.00
486110	SWITCH/DEADMAN	94.50
494822	SWITCH/FORWARD-REVERSE (Allen Bradley)	85.50
673891	SWITCH/FORWARD-REVERSE (Telemecanique)	81.00
678388	SWITCH/MAINLINE DISCONNECT <i>679938 handle &amp; shaft Stromberg 679937 - disconnect only</i>	sell as 63. components 80.28
493451	TRANSFORMER/CIRCUIT (G.E.)	157.00
680955	TRANSFORMER/CIRCUIT (AB 1497-N11)	
	<i>now use P000118</i>	

## BLASTRAC MODEL 1-15D

PART #	HARDWARE DESCRIPTION	PRICE
680947	PIN/CLEVIS 3/8" X 1-5/8"	2.50
676268	PIN/CLEVIS 5/8"	4.00
500596	PIN/COTTER 1/8" X 1"	0.30
478198	PIN/QUICK RELEASE	26.50
500972	SCREW/BUTTON CAP 1/4" X 1"	.30
501502	SCREW/CAP #1 X 5/8"	0.40
500221	SCREW/CAP 1/2" X 1-1/2"	0.50
500220	SCREW/CAP 1/2" X 1-1/4"	0.50
482237	SCREW/CAP 1/4" X 1"	0.30
500465	SCREW/CAP 3/8" X 1-1/4"	1.00
500209	SCREW/CAP 3/8" X 5"	0.50
500229	SCREW/HEX HEAD CAP 1/2" X 3-1/2"	0.80
500189	SCREW/HEX HEAD CAP 5/16" X 3/4"	0.30
500174	SCREW/HEX HEAD CAP 1/4" X 3/4"	0.30
500767	SCREW/HEX HEAD CAP 3/8" X 1"	0.40
501565	SCREW/HEX HEAD CAP 3/8" X 1"	0.70
500768	SCREW/HEX HEAD CAP 3/8" X 1-1/4"	0.40
672946	SCREW/KNURLD 3/8"	4.50
492070	SCREW/ROUND #10 X 2-1/4"	0.30
500226	SCREW/ROUND 1/2" X 2-3/4"	1.00
500177	SCREW/ROUND 1/4" X 1-1/2"	0.30
500689	SCREW/ROUND 3/16" X 3/8"	0.30
676279	SCREW/SHOULDER 5/8" X 2-3/4"	5.00
501617	SCREW/SOCKET HEAD CAP 10-24 X 1"	0.30
500630	SCREW/SQUARE HEAD 1/2" X 2-3/4"	2.50

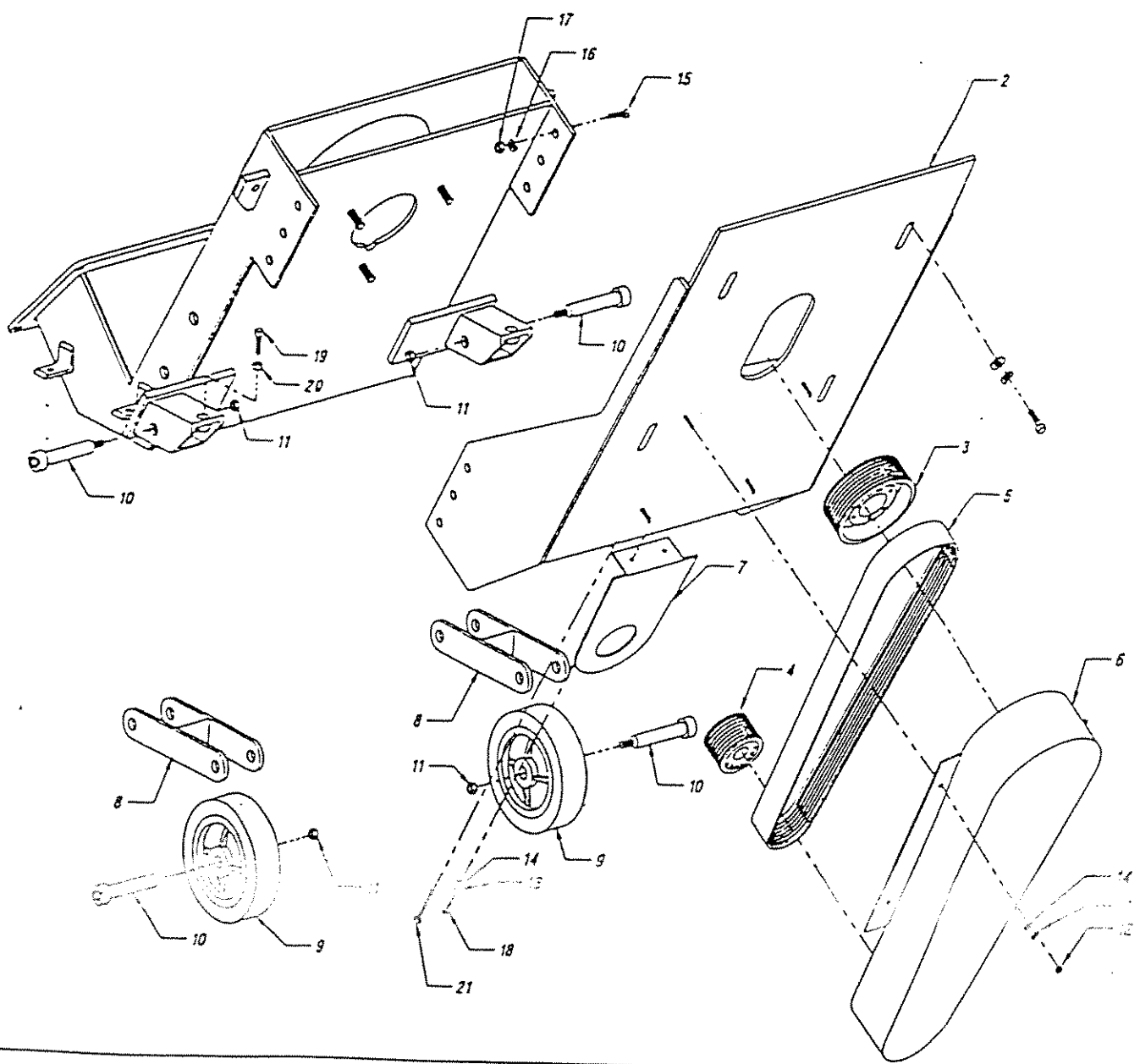
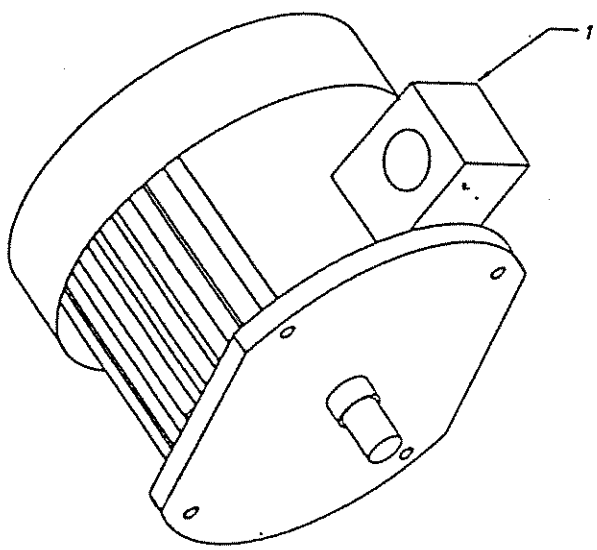
## BLASTRAC MODEL 1-15D

PART #	MISCELLANEOUS DESCRIPTION	PRICE
678776	DECAL KIT	12.00
494036	DECAL/BEARING UNIT	1.00
494149	DECAL/CAUTION - CHECK ROTATION	1.00
494044	DECAL/CAUTION - DO NOT OPERATE MACHINE WITH	1.00
676985	DECAL/CAUTION - LIFT HERE	1.00
472553	DECAL/CAUTION - VERIFY ROTATION	1.00
494150	DECAL/DANGER - LOCK OUT POWER AT	1.00
494151	DECAL/DANGER - SAFETY GLASSES	1.00
495605	DECAL/DANGER - 230 VOLTS	1.00
676281	DECAL/1-15D	1.50

## BLASTRAC MODEL 1-15D

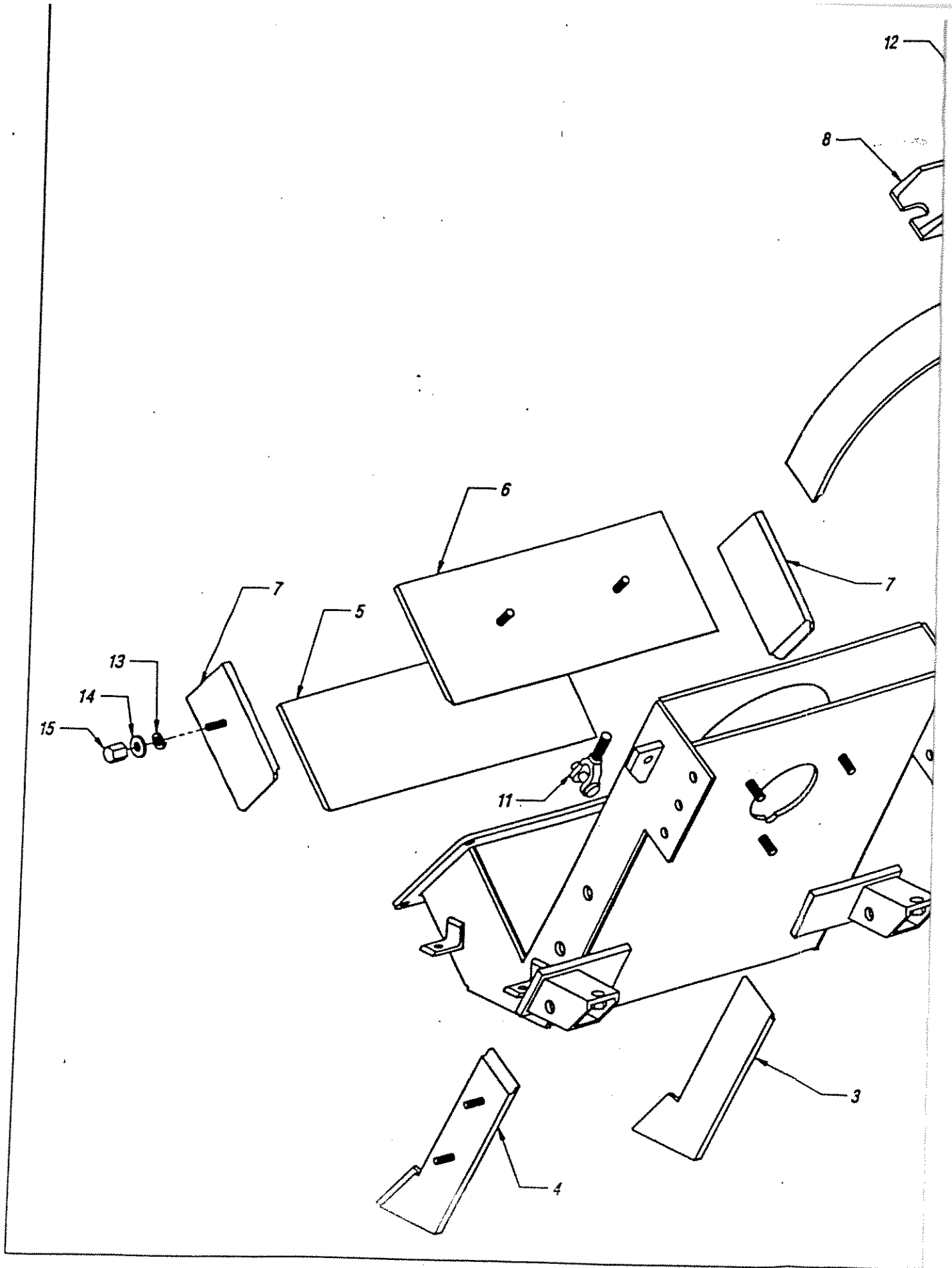
PART #	ACCESSORIES DESCRIPTION	PRICE
168365	BROOM/MAGNETIC 16"	120.00
168366	BROOM/MAGNETIC 20"	145.00
497896	BROOM/MAGNETIC 24"	560.00
676039	DRUM SEPARATOR ASSEMBLY	350.00
676040	DRUM SEPARATOR BARREL CART	72.50
675476	DRUM SEPARATOR LID	277.50
708189	SEALANT/SILICONE ADHESIVE 10.3 OZ.	5.50

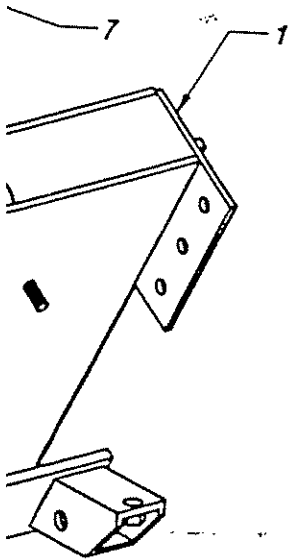
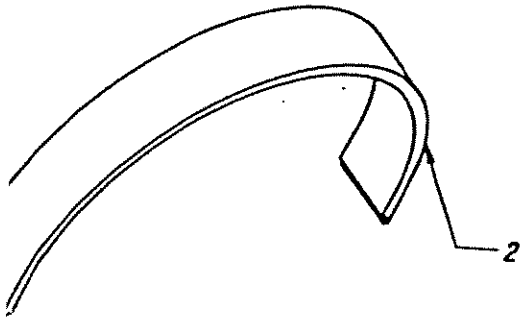
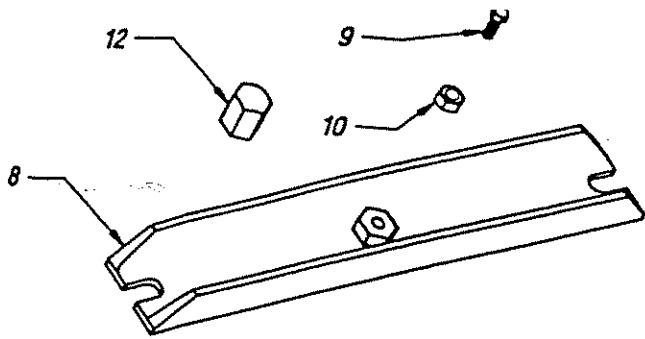
H5D  
old style





ITEM	PART #	DESCRIPTION
1	676614	MOTOR 15 HP
2	676999	MOTOR SUPPORT BRACKET
3	677178	SHEAVE
4	493264	SHEAVE
5	677117	BELT
6	-677076	GUARD
7	677002	BACK PLATE
8	676247	WHEEL BRACKET
9	678587	WHEEL
10	676279	SHOULDER SCREW 5/8
11	500082	LOCK NUT 1/2-13
12	500058	NUT 1/4-20
13	500953	LOCKWASHER 1/4
14	500102	FLATWASHER 1/4
15	500221	HEX HEAD CAP SCREW 1/2-13 X 1 1/4
16	500116	LOCKWASHER 1/2
17	500062	NUT 1/2-13
18	500174	HEX HEAD SCREW 1/4-20 X 3/4
19	600630	1/2-13 X 2 3/4 SQUARE HEAD SET SCREW
20	500071	1/2-13 HEX HEAD JAM NUT
21	500634	1/2-13 X 6 SQUARE HEAD SET SCREW CUP PT.



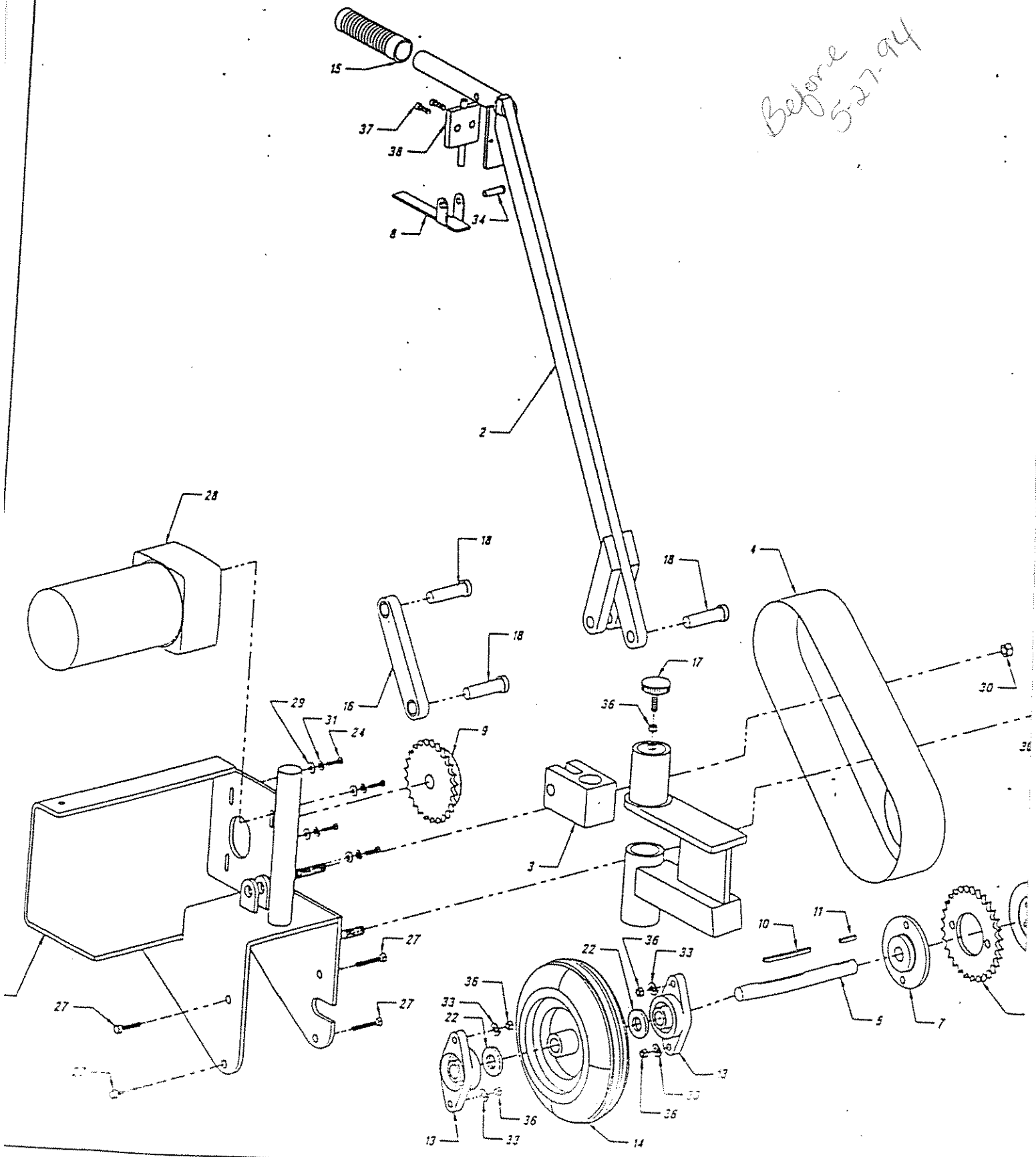


ITEM #	ITEM #	DESCRIPTION
1	676170	BLAST HOUSING
*	2	499091 LINER #1
*	3	489947 LINER #2
*	4	489948 LINER #3
*	5	499092 LINER #4
*	6	499093 LINER #5
*	7	490045 LINER #6
	8	499088 HOUSING COVER
	9	500630 1/2-13 X 2 3/4 SQ. HD. SET SCREW
	10	500062 1/2-13 HEX NUT
	11	236591 1/2 JAW BOLT WITH PIN
	12	198457 1/2 CAP NUT
	13	<del>500106</del> 3/8 X 1/2 FLATWASHER
	14	<del>500116</del> 3/8 X 1/2 LOCKWASHER
	15	500062 NUT 1/2-13

076291

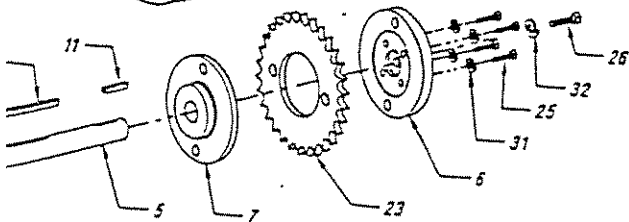
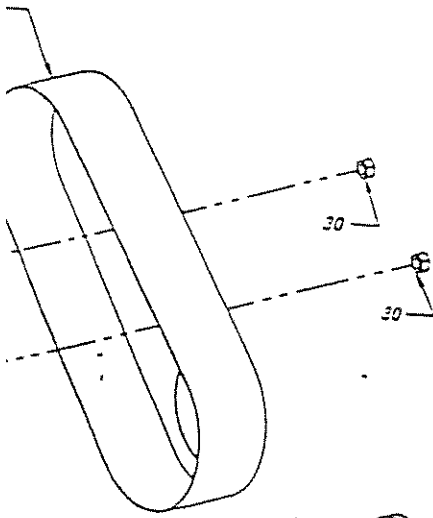
\* WEAR PARTS WHICH SHOULD BE KEPT ON HAND

Before 5-27-94



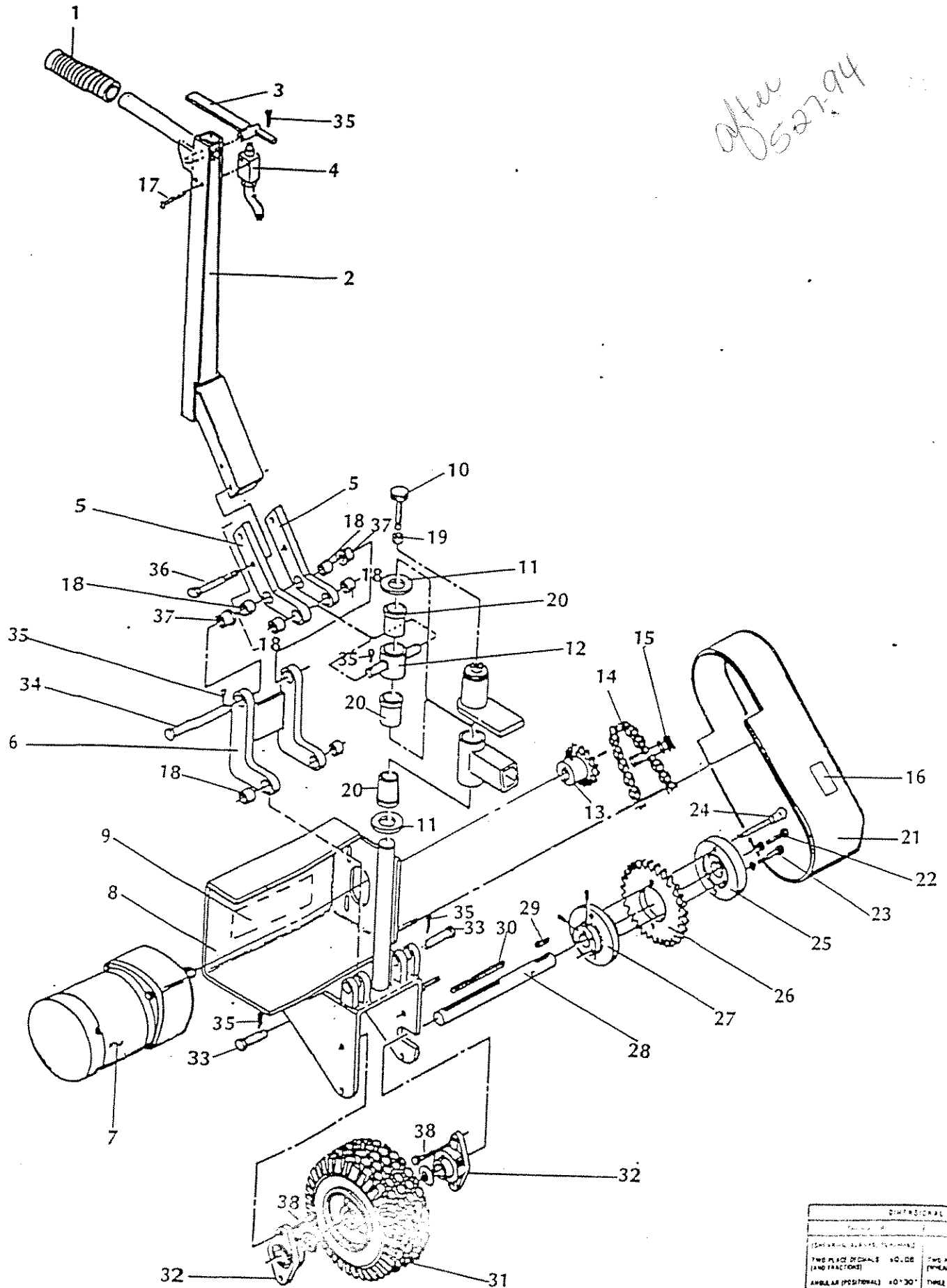
ITEM	PART #	DESCRIPTION
1	676241	YOKE/DRIVE
2	676246	STEERING HANDLE
3	676267	YOKE
4	676253	DRIVE GUARD
5	676250	DRIVE SHAFT
6	477630	SPROCKET RETAINER
7	477629	HUB
8	676779	SWITCH HANDLE
9	084234	SPROCKET 26 TEETH
10	501907	KEY
11	501902	KEY
12	478198	RELEASE PIN
13	205571	BEARING
14	490079	TIRE AND HUB
15	453290	RUBBER GRIP
16	676205	ARM
17	672946	KNURLED SCREW
18	676268	PIN
* 19	452836	CONNECTING LINK
* 20	492011	ROLLER CHAIN
22	500108	FLATWASHER 3/4
23	477631	SPROCKET
24	482237	HEX HD. CAP SCREW 1/4 X 1
25	500174	HEX HD. CAP SCREW 1/4 X 3/4
26	500189	HEX HD. CAP SCREW 5/16 X 3/4
27	500768	HEX HD. CAP SCREW 3/8 X 1 1/4
28	483516	GEARMOTOR
29	500103	FLAT WASHER 5/16
30	500082	FLEX NUT 1/2 NC
31	500953	LOCKWASHER 1/4
32	500114	LOCKWASHER 5/16
33	500115	LOCKWASHER 3/8
34	497215	CLEVIS PIN
* 35	500596	COTTER PIN 1/8
36	500060	HEX NUT 3/8-16
37	500046	MACHINE SCREW #10-24 X 3/4
38	485110	MICROSWITCH

\* NOT SHOWN



**\*NOTE**  
 This drawing reflects a unit  
 built before 5/27/94.  
 Serial number below #140147

after 052794



\* T E S

DIMENSIONAL TOL.		
TABLE 1		
(DIMENSIONAL TOL. TO WHICH)		
TWO PLACE DECIMALS (WHOLE AND FRACTIONS)	±0.05	TWO PLACE (TYPICAL DR)
ANGULAR (POSITIONAL)	±0°30'	THREE PLACE
ANGULAR (FORM) (LAND ±1°30' WELD GROOVE)	±1°30'	ANGULAR

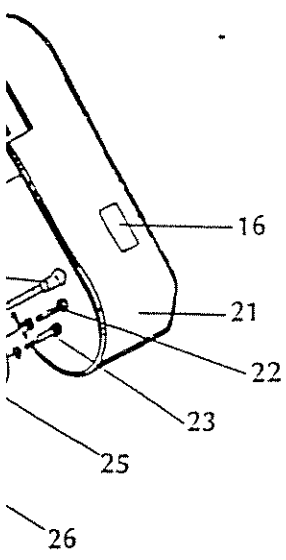
NOTE: RADIUS IS EQUAL TO W THICKNESS UNLESS OTHERWISE SPECIFIED

B | C | D | E | F

REVISIONS		
NO	DATE	BY

ITEM #	QUAN	PART #	DWG #	DESCRIPTION
1	1	453290		GRIP
2	1	490076	82C792	HANDLE
3	1	490074	82B895	LEVER
4	1	486110		SWITCH
5	2	491949	638152	ARM (INCLUDES ITEM # 18)
6	1	491948	838151	LINKAGE (INCLUDES ITEMS # 18 & 37)
7	1	483516	81C371	MOTOR DC W/ GEAR REDUCER
8	1	490078	82D1281	SUPPORT DRIVE
9	1	490092	82B897	SIGN / BLASTRAC
10	1	672946		SWIVEL SCREW
11	2	492012		1 - 1/4" PLAIN WASHER
12	1	491950	83A126	YOKE (INCLUDES ITEM #20)
13	1	84234		SPROCKET - MOTOR
14	1	492011		CHAIN ASA # 40
15	1	452836		LINK
16	1	494044	83A418	SIGN / HAZARD MECH.
17	2	492070		10-32 X 2-1/4" RD. HD MACH SCREW
18	6	491846		BUSHING 5/8" BORE
19	1	500590		5/16-18 HEX NUT
20	3	491848		FLANGE BUSHING 1-1/4" BORE
21	1	490077		GUARD
22	1	500458		5/16-18 X 3/4" HEX HD CAP SCREW
23	4	500174		1/4-20 X 3/4" HEX HD CAP SCREW
24	1	478198		QUICK RELEASE PIN
25	1	477630	80B257	RETAINER
26	1	477631	80B258	SPROCKET-SHAFT
27	1	477629	80B256	HUB
28	1	490072	82B894	SHAFT
29	1	501902		KEY 3/16 X 3/16 X 1
30	1	501907		KEY 3/16 X 3/16 X 3
31	1	490079		TIRE ASSEMBLY
32	2	205571		BEARING 3/4" BORE
33	2	491968		5/8 X 1-3/4" CLEVIS PIN
34	1	491969		5/8 X 6" CLEVIS PIN
35	6	500596		1/8 X 1" COTTER PIN
36	2	500209		3/8-16 X 5" HEX HD CAP SCREW
37	2	491847		FLANGE BUSHING 5/8" BORE
38	4	500768		3/8-16 X 1-1/4" HEX HD CAP SCREW

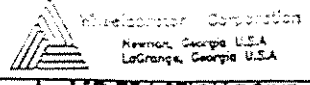
672946



**\*NOTE**  
 This drawing for Machines  
 built on 5/27/94 or later.  
 Serial #140147 and higher

NOTE:  
 SEE ALSO SD 3096 (1-100)

DIMENSIONAL TOLERANCES - UNLESS OTHERWISE NOTED - INSPECTION SPECIFICATION - W-3-0017					SD 1-150 TRACTION DRIVE AND STEERING ASSEMBLY	
TOLERANCE	FUNCTION	METHOD OF MEASUREMENT	APPLICABLE	EXEMPT	REVISION	DATE
TWO PLACE DECIMALS (AND FRACTIONS)	±0.08	TWO PLACE DECIMALS (AND FRACTIONS)	±0.08	FLATNESS (IN OVERALL LENGTH THROUGH MEAS.)	±0.08	
ANGULAR (POSITIONAL)	±0°30'	THREE PLACE DECIMALS	±0.005	ANGULAR (POSITIONAL)	±0°30'	
ANGLE AIR CHAMFER (AND WELD GROOVES)	±1°30'	ANGULAR	±0°30'	ALL WELDMENTS	±0.12	
				SQUARENESS (COINCIDES TO CORNER RADIUS DIFFERENCE IN DIAGONALS)	0.12 MAX.	
				CAST PARTS SHALL BE CAST TO TOLERANCES AS SHOWN BY THE FOLLOWING RELATIONSHIP OF TOLERANCE TO ACTUAL CAST DIMENSION (LENGTH (L) AND CASTING WEIGHT (W))	TOL. (L) = 0.125 ± W <sup>0.15</sup> ± 0.002 IN. MIN.	

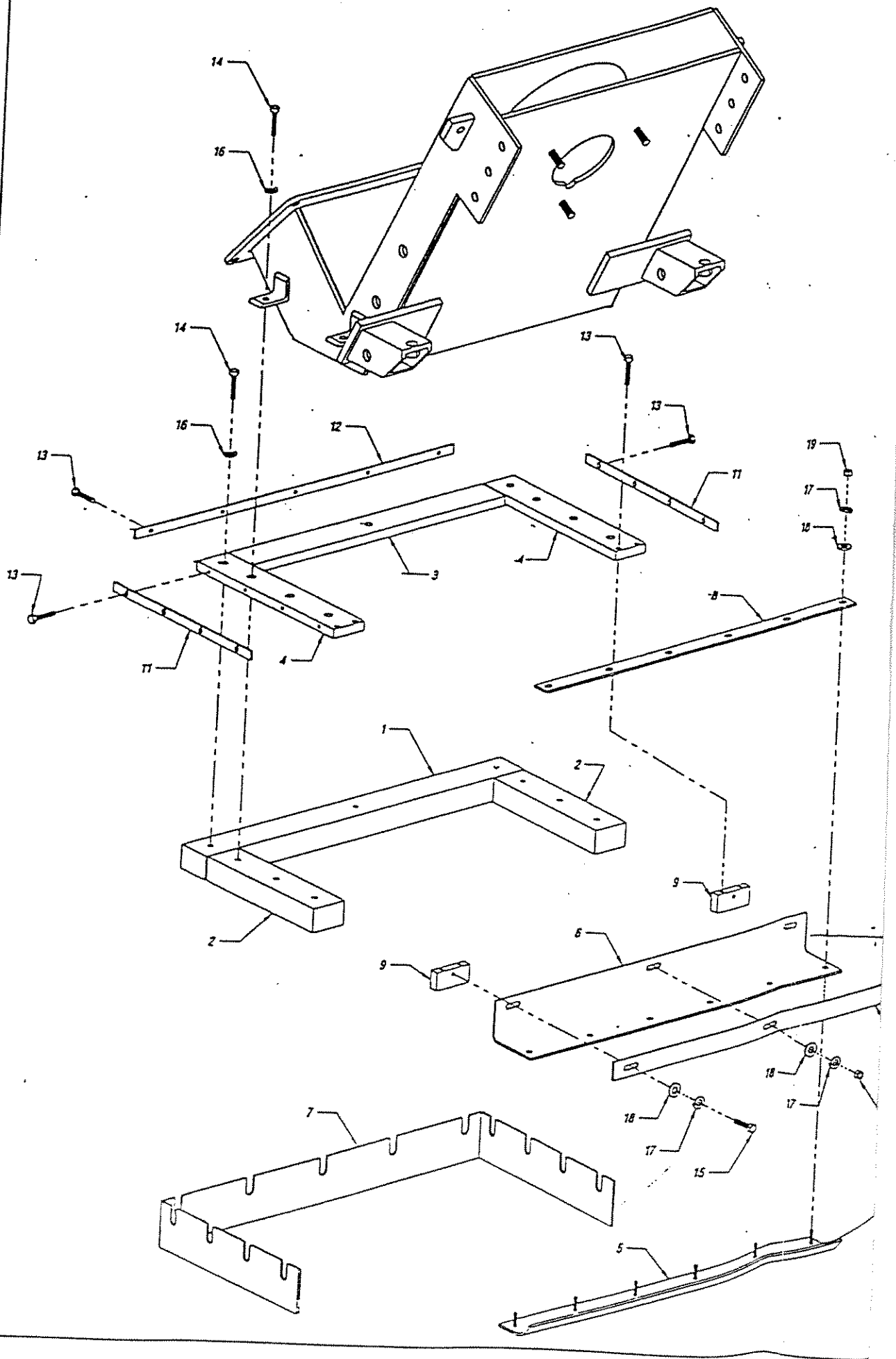


**1-150 TRACTION DRIVE AND STEERING ASSEMBLY**

DATE: NONE DRAWN: TAV  
 DATE: 12/7/94 SHEET: 1 OF 1

**SD3105**

F G H J





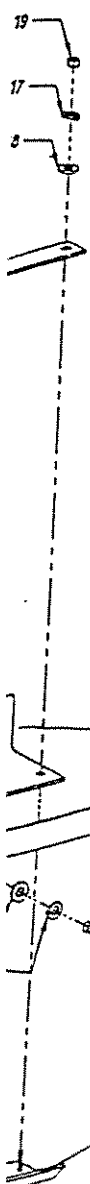
	PART #	DESCRIPTION
1	499097	FRONT MAGNET
2	490047	SIDE MAGNET
3	499090	FRONT MAGNET INSULATOR
4	489945	SIDE MAGNET INSULATOR
5	<del>499089</del>	SKID
6	<del>499180</del>	SKID SEAL
7	499102	SKIRT
8	499098	SKID RETAINER
9	481350	SPACER
10	499099	SKID SEAL RETAINER
11	490051	SIDE SKIRT RETAINER
12	499101	FRONT SKIRT RETAINER
13	500972	1/4-20 X 1 BUTTON HEAD CAP SCREW
14	501565	5/16-18 X 1 HEX HEAD SCREW SS
15	501199	1/4-20 X 3/4 ROUND HEAD MACHINE SCREW
16	500114	LOCKWASHER 5/16
17	500953	LOCKWASHER 1/4
18	500102	FLATWASHER 1/4
19	500058	1/4-20 HEX HEAD NUT

\* See Note

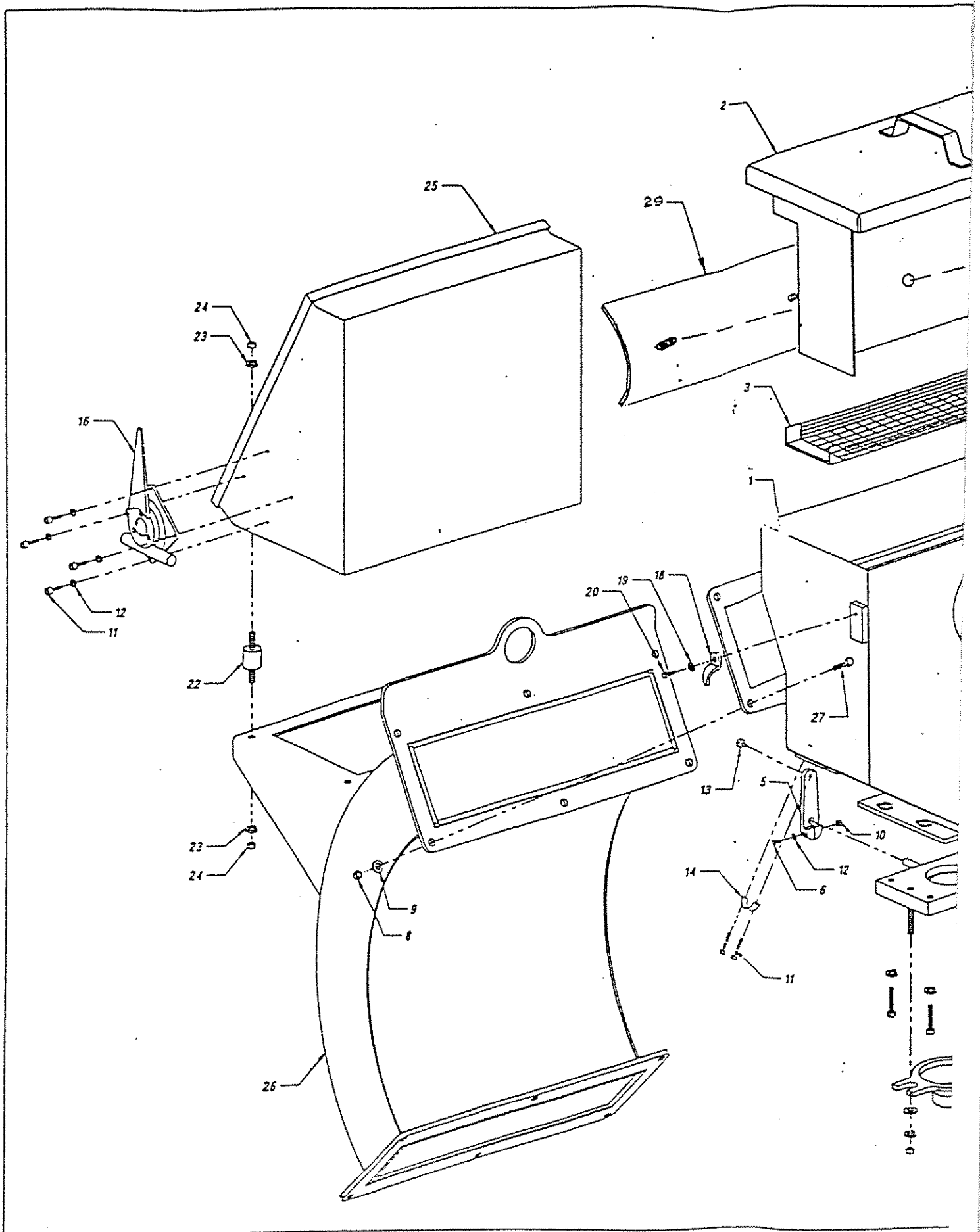
\* IMPORTANT SPARE PARTS WHICH SHOULD BE KEPT ON HAND

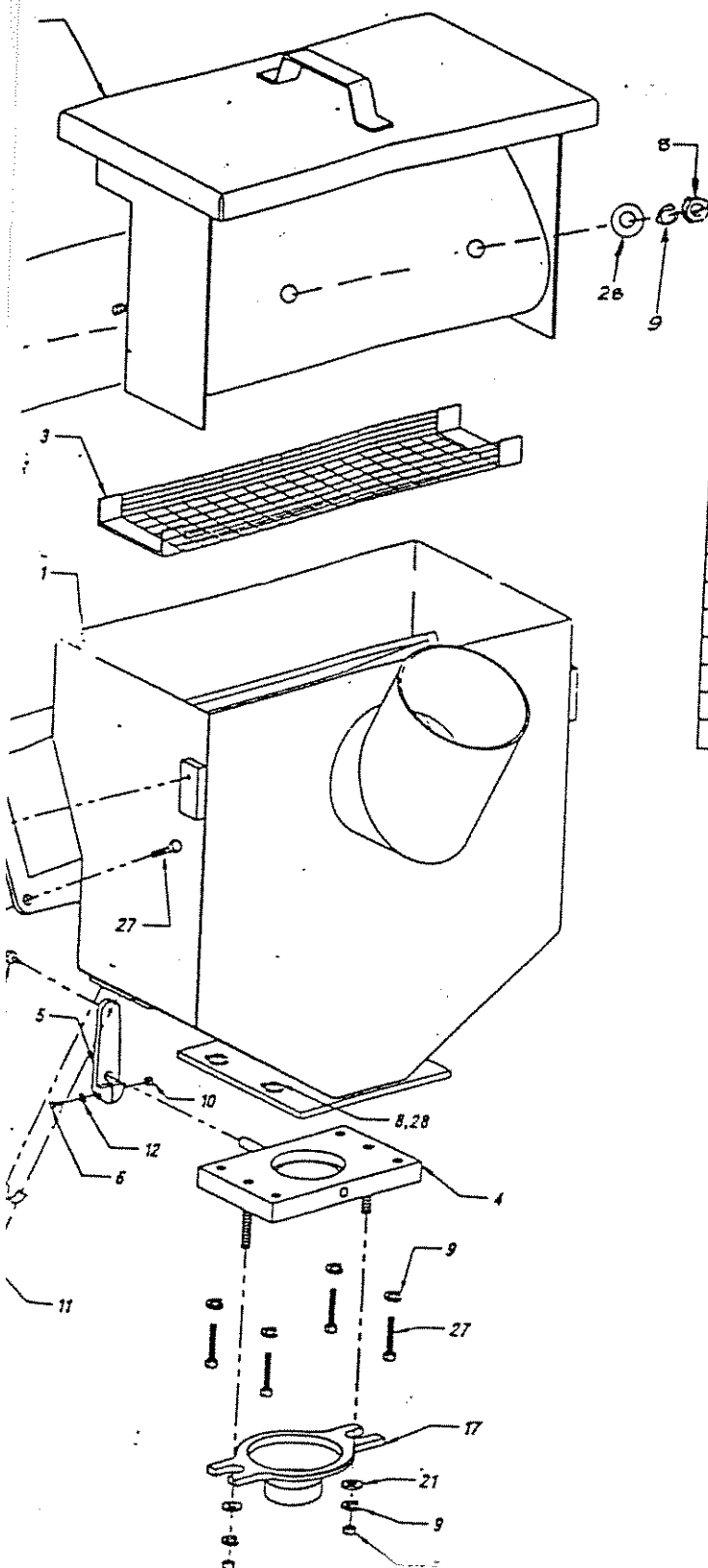
\* Note

Parts 5 & 6 combined  
Part # 682652



See note \*





ITEM	PART #	DESCRIPTION
1	676237	SEPARATOR
2	676254	DEFLECTOR/LID
3	676277	BASKET
4	680020	ABRASIVE VALVE
5	478461	LINKAGE
6	501617	SCREW/SOCKET #10 X 1
7	500767	SCREW/CAP 3/8 - 16 X 1
8	500060	NUT 3/8 - 16
9	500115	LOCKWASHER 3/8
10	500901	NUT #10 - 24
11	501592	SCREW #10 X 5/8
12	500113	LOCKWASHER 3/16
13	491726	PIVOT
14	452394	CLAMP
15	500596	COTTER PIN 1/8 X 1
16	487220	CONTROL ASSEMBLY
17	493698	FEEDSPOUT ADAPTER
18	491956	CONDUIT CLAMP
19	500953	LOCKWASHER 1/4
20	500172	SCREW 1/4 - 20
21		FENDER WASHER 3/8
22	456550	RUBBER MOUNT
23	500114	LOCKWASHER 5/16
24	500590	NUT 5/16
25	676314	CONTROL PANEL
26	676038	REBOUND PLENUM
27	500768	SCREW/CAP 3/8 - 16 X 1 1/4
28	500104	FLATWASHER 3/8
29	676821	LID LINER

*Special  
with seal  
X0002340*