

# **BP-10 SUPER Table of Contents**

<b>FORWARD</b> .....	<b>2</b>
<b>INTRODUCTION</b> .....	<b>3</b>
SPECIFICATIONS.....	3
<b>SAFETY INSTRUCTIONS</b> .....	<b>4</b>
SAFETY — GENERAL.....	4
SAFETY — SITE ASSESSMENT.....	4
SAFETY — START UP.....	6
SAFETY — OPERATION PROCEDURES.....	8
SAFETY — SHUT DOWN PROCEDURES.....	8
SAFETY — MAINTENANCE PROCEDURES.....	9
<b>OPERATING INSTRUCTIONS</b> .....	<b>10</b>
SETTING CONTROL CAGE.....	11
<b>TRANSPORTATION</b> .....	<b>13</b>
<b>WEAR PARTS</b> .....	<b>13</b>
<b>MAINTENANCE</b> .....	<b>14</b>
BLAST WHEEL REMOVAL AND INSTALLATION.....	14
GENERAL MAINTENANCE POINTS.....	15
<b>PARTS LISTS</b> .....	<b>16</b>
LINERS AND SEALS.....	16
FRONT END ASSEMBLY.....	17
MAJOR WELDMENTS.....	19
BACK END ASSEMBLY.....	20
BLAST WHEEL ASSEMBLY.....	21
GENERAL ASSEMBLY.....	23
<b>TROUBLESHOOTING</b> .....	<b>25</b>
<b>ELECTRICAL SCHEMATIC</b> .....	<b>26</b>

## **Forward**

Thank you for your purchase of a shotblasting machine from BlastPro Manufacturing, Inc. We feel that you have purchased the highest quality shotblasting equipment on the market today.

This manual has been prepared to give the operator a general understanding of the machine. It is not intended to be an all encompassing document which addresses every situation which may be encountered when operating the machine. **BEFORE OPERATING, MAINTAINING, OR SERVICING THE EQUIPMENT, THIS MANUAL SHOULD BE READ BY THE INDIVIDUALS RESPONSIBLE FOR OPERATION, MAINTENANCE, OR SERVICE OF THE EQUIPMENT.**

The individuals responsible for operating, maintaining, and servicing the equipment should thoroughly understand and follow all safety precautions listed on the equipment and the safety instructions listed in this manual. As with any piece of construction equipment, serious damage to the equipment and serious injury can occur if the safety instructions and safety warnings are not followed.

If you have any questions or problems regarding the operation of the equipment, then please call:

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## Introduction

The BP-10 SUPER operates on dual voltage, 230/460 volts, 208 3-phase, and offers a 10” blast pattern. The newly designed blast wheel and the advanced air wash system, along with the high quality control box and electrical components that are engineered and constructed by a UL certified electrical contractor result in longer lasting wear parts. The BP-10 SUPER is sold with the BP-9-54 dust collector to keep work areas clean and dust-free. The BP-10 SUPER’s versatility makes it suitable for use on medium to large projects, including warehouse floors, parking garages, industrial plants, bridges, and highways. The BP-10 SUPER has a travel speed of 0-100 feet per minute and production capacity from 300-1550 square feet per hour. Shot size: S-280 to S-460. Wear parts are interchangeable with BLASTRAC<sup>®</sup> parts.

The mechanics of the BP-10 SUPER are fairly simple. When the shot lever is opened, a cable connected to the shot lever opens the shot valve which subsequently allows shot from the shot hopper to be released. The shot then moves through the shot valve, down the feed spout, and into the blast wheel which sits in a control cage. Simultaneously, a 15 horsepower 3-phase motor is spinning the blast wheel at a very high rate of speed. This spinning blast wheel then acts to throw the shot through an opening in the control cage and down onto to the concrete surface that is being cleaned. Due to the high rate of speed at which the shot is traveling, it fractures the underlying concrete surface which consequently produces concrete dust. After hitting the concrete surface, the shot rebounds off of the surface and, through a combination of the rebound effect and the use of a vacuum, the shot and the concrete dust then move through the blast housing. Because shot is heavier than concrete dust, gravitational force separates the shot and the concrete dust. The shot is then sent back into the shot hopper where it is continuously recycled by the machine. As for the concrete dust, it is sucked into a duct hose which travels from the blast housing to the dust collector. After traveling through the duct hose, the concrete dust is deposited in the dust collector’s dust bin.

## Specifications

<b>Model Number:</b>	BP-10 SUPER	<b>Minimum Generator:</b>	40 kW
<b>Production Capacity:</b>	1,550 sq. ft./hr.	<b>Dimensions (L x W x H):</b>	63” x 17” x 40”
<b>Blast Pattern:</b>	10”	<b>Weight:</b>	736 lbs.
<b>Travel Speed:</b>	0-90 ft/min.	<b>Power Cord Included:</b>	55 ft.
<b>Blast Motor:</b>	15 hp	<b>Seals:</b>	Magnetic
<b>Voltage:</b>	230 / 460 V, 60 Hz	<b>Distance to Edge:</b>	2.5”
<b>Amperage:</b>	49 / 23.5 Amp	<b>Dust Collector:</b>	BP 9-54



# DANGER



**Respirable crystalline silica**  
**May cause cancer**  
**Causes damage to lungs**



**Insure compliance with**  
**OSHA 29 CFR §1926.1153**

## **Safety Instructions**

ALL OPERATORS AND MAINTENANCE PERSONNEL SHOULD READ THIS SECTION CAREFULLY BEFORE OPERATING OR MAINTAINING THIS EQUIPMENT. THESE SAFETY INSTRUCTIONS ARE NOT MEANT TO REPRESENT AN ALL-INCLUSIVE LIST OF INSTANCES WHICH COULD OCCUR WHEN OPERATING THIS EQUIPMENT. FOR, AS WITH ANY PIECE OF CONSTRUCTION EQUIPMENT, SERIOUS INJURY CAN OCCUR IF PROPER SAFETY PROCEDURES ARE NOT DILIGENTLY FOLLOWED. ALL SAFETY AND WARNING LABELS POSTED ON THE MACHINE MUST BE FOLLOWED AS WELL AS THE SAFETY PROGRAM INSTITUTED BY YOUR COMPANY. THERE IS NO SUBSTITUTE FOR SOUND JUDGEMENT IN THE OPERATION AND MAINTENANCE OF THIS EQUIPMENT. IN CASES WHERE OPERATING PERSONNEL HAVE INSUFFICIENT KNOWLEDGE OR UNDERSTANDING OF THE ENGLISH LANGUAGE, PROPER TRANSLATED TRAINING MUST BE COMPLETED BEFORE USE OF THIS EQUIPMENT CAN TAKE PLACE.

**Note:** This manual must be kept with the machine at all times so as to allow the operator easy access to its vital information.

### **Safety — General**

The United States Department of Labor's Occupational Safety & Health Administration (OSHA) provides statutory requirements, standards, and regulations relating to the use of portable tools on construction sites. These statutory requirements, standards, and regulations are posted on the OSHA website at [www.osha.gov](http://www.osha.gov). The operator and maintenance personnel should understand and follow these statutory requirements, standards, and regulations.

### **Safety — Site Assessment**

Before starting blasting operations, a site assessment must be performed. During the site assessment verify the following:

- Work area is flat, clean, and dry, free of debris, frost-free, and has no flammable liquids nearby. Also, make sure that the machine will be able to clear all obstructions. **NEVER BLAST A WET SURFACE! NEVER ALLOW PERSONNEL, ELECTRICAL CORDS, OR CONNECTIONS TO COME INTO CONTACT WITH ANY TYPE OF MOISTURE!**
- **NEVER BLAST OVER BOLTS, NUTS, SCREWS, NAILS, OTHER DEBRIS, OR OPENINGS IN THE BLASTING SURFACE AS THIS MAY RESULT IN SIGNIFICANT DAMAGE TO THE MACHINE AND SERIOUS INJURY TO THE OPERATOR!**
- If using a generator, then proper safety precautions have been undertaken in order to help reduce the risk of carbon monoxide poisoning. Making certain that the work area is well ventilated is extremely important. For further information, refer to the owner's manual of your generator.

- Each worker has a carbon monoxide monitor on their persons. These carbon monoxide monitors should be calibrated, in working order, and should be equipped with audible alarms that will warn workers if carbon monoxide levels become too high. **IF CARBON MONOXIDE LEVELS EXCEED 35 PARTS PER MILLION, ALL WORK MUST CEASE IMMEDIATELY! THIS REPRESENTS A POTENTIALLY DEADLY SITUATION WHICH NECESSITATES AN IMMEDIATE SHUTDOWN!**
- All workers have received training on the dangers of overexposure to carbon monoxide. Staff members must also be able to identify all of the signs and the symptoms associated with carbon monoxide poisoning. This training should ensure that work would stop immediately and emergency medical personnel would be notified promptly if one or more workers exhibited or complained of any of the common signs and symptoms associated with carbon monoxide overexposure, including: headache, nausea, weakness, dizziness, lethargy, visual disturbances, changes in personality, and/or loss of consciousness.
- **SURFACE HAS BEEN THOROUGHLY INSPECTED. SOME FLOOR OR DECK SURFACES MAY BE COATED WITH OR CONTAMINATED BY DANGEROUS MATERIALS SUCH AS PCBs, LEAD, ASBESTOS, PESTICIDES, SOLVENTS, CLEANING FLUIDS, AND/OR OTHER HARMFUL CHEMICALS. THE DUST PRODUCED FROM SHOTBLASTING SUCH SURFACES CAN CREATE A SERIOUS HEALTH THREAT TO THOSE WHO INHALE OR COME INTO CONTACT WITH THE DUST. AS A RESULT, THE WORK AREA MUST BE CHECKED FOR THESE MATERIALS BEFORE WORK CAN BEGIN. BLASTPRO MANUFACTURING, INC. DOES NOT WARRANT ITS EQUIPMENT TO BE SUITABLE FOR, OR APPROVED FOR, REMOVING DANGEROUS MATERIALS. IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTOR TO AFFIRM THE SAFETY OF THE WORK AREA AND THE EQUIPMENT WITH THE PROPER AUTHORITIES. IT IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR TO WARN ALL STAFF MEMBERS OF ALL POTENTIAL SHORT-TERM AND LONG-TERM HEALTH RISKS ASSOCIATED WITH INHALING AND COMING INTO CONTACT WITH DANGEROUS MATERIALS. THE CONTRACTOR IS RESPONSIBLE, FURTHERMORE, FOR PROTECTING ALL WORKERS FROM BEING EXPOSED TO DANGEROUS MATERIALS. SO, BECAUSE THE BP-10 SUPER SHOTBLASTING MACHINE HAS NOT BEEN DESIGNED TO REMOVE, CLEAN, PROFILE, OR ALTER ANY SURFACE COATED WITH OR OTHERWISE CONTAMINATED BY DANGEROUS MATERIALS, BLASTPRO MANUFACTURING, INC. EXPRESSLY DISCLAIMS ANY LIABILITY FOR INJURY, ILLNESS, DEATH, OR DAMAGE THAT MIGHT OCCUR OR RESULT FROM SUCH IMPROPER USE.**
- Operator and any other personnel in the work area are wearing safety glasses with side shields, dust masks, ear plugs, hard hats, steel-toed work boots, long sleeved shirts, tight fitting clothing, and gloves. It is also imperative for staff to tie back long hair and to remove all jewelry.
- Work area has been blocked off to pedestrians, unprotected personnel, and untrained personnel. In the event pedestrians, unprotected personnel, or untrained personnel enter the work area, blasting operations are to be stopped immediately.

- Fire extinguishers are nearby. Also, take note of the location and the contact information of fire departments close to the work site.
- Belt guards are in working order and are present on the machine where needed at all times.
- All glass and equipment, including vehicles, are protected from steel shot. This can be done by loosely hanging a sheet of visqueen or other protective material in front of the glass or equipment in a curtain-like fashion. The importance of protecting glass and equipment from steel shot cannot be overemphasized.
- All floors drains have been plugged or covered so as to prevent steel shot from falling into the drains.
- This equipment is only being used for commercial purposes. This equipment is only to be operated by professional, trained, and competent operators.
- The operator is aware of his surroundings and will use common sense. **THE OPERATOR IS NOT TO OPERATE THE EQUIPMENT IF HE IS TIRED, DISTRACTED, OR UNDER THE INFLUENCE OF DRUGS, ALCOHOL, OR MEDICATIONS THAT DECREASE AWARENESS!**

### **Safety — Start Up**

After performing the site assessment safety procedures listed above, bring the BP-10 SUPER and the dust collector to the work area and perform the following procedures:

- Verify that personnel are competent and that they have read and understood the safety information in this manual. Staff must also be familiar with how to operate the machine and with all of its components. Make certain that all personnel follow all safety instructions and programs required by their company and by the worksite.
- Make certain that all belt guards are in working order and are present on the machine where needed.
- Verify that all of the machine's parts are assembled safely and correctly.  
**Note: It is recommended to have original spare parts and wear parts on hand. It is imperative that the machine receive special attention and regular maintenance in order to function properly and to operate safely.**
- Inspect all electrical cords on the BP-10 SUPER for damage, tears, or other signs of wear. If electrical cords are damaged, then do not attempt to perform blasting operations until cords have been repaired or replaced.
- Inspect the exhaust hose for damage. If exhaust hose is damaged, then do not perform blasting operations until the hose has been repaired or replaced.
- Inspect the dust collector. Verify that the dust bin is empty, filters are clean and clear of debris, and motors and fans are in working order.  
**Note: The dust bin must be emptied whenever it becomes full. Failure to empty the dust bin could result in serious damage to the machine and/or serious injury to the operator.**
- Inspect the duct hose leading from the BP-10 SUPER to the dust collector. Make sure hose is free of debris, hose is not cracked, and holes do not exist. If necessary, replace hose.

- Make certain that all screws and other fasteners are tight.
- Check the shot storage hopper, the feed spout, and the blast wheel parts for foreign bodies and remove them if present.
- Check the blast wheel blades, control cage, liners, and magnets for damages and wear. Wear grooves are acceptable until 50% of blade thickness has been worn away. When blade thickness has been worn away by more than 50%, replace all blades as a set.
- Check the front, side, and rear seal system and brush seals for excessive wear.
- Check the tightness of the hose connections and the condition of the hose to the filter.
- Check the electrical connections for dirt and foreign body deposits.
- Verify that the electrical motors are free of dirt and other contaminants.
- Check the level of shot in the storage hopper. Refill hopper if necessary.
- Verify that the main power cable and the dust hose are free of damage. Replace or repair all damaged parts before putting the machine into operation.
- Connect the blast cleaning machine and the filter unit with the dust hose. Use hose clamps at the connections.
- Connect the supply cable of the blast cleaning machine with filter unit. Connect the electrical cable of the filter unit with the site supply.
- Make certain that the side seals are positioned correctly in the side seal boxes.
- Check that the filter dust container has been emptied.
- Always blast in a straight line away from the dust collector. Blasting in a straight line will produce the most uniform results. **NEVER RUN OVER ANYTHING WITH THE BP-10 SUPER! RUNNING OVER AN EXTENSION CORD, AIR LINES, REBAR EXPANSION JOINTS, OPENINGS IN FLOOR, DRAINS, ETC. WITH THE BP-10 SUPER CAN RESULT IN SERIOUS INJURY TO THE OPERATOR AND/OR DAMAGE TO THE EQUIPMENT!**
- Make certain to keep hands away from all moving parts once the machine is in operation.
- Make certain to never stand next to the blast housing while the BP-10 SUPER is in operation as blade failure could result in serious injury.
- Make certain that the shot hopper door is closed while the machine is in operation as the BP-10 SUPER throws shot which could present a serious danger if the shot hopper door is not properly closed.
- Make certain that the blast seals of the BP-10 SUPER are not worn out. As these seals provide the suction that is required by the machine, they will become dislodged if they become worn out. This will then result in shot being discharged from the machine. It is consequently recommended that the operator make absolutely certain that the blast seals are in good working condition before putting the BP-10 SUPER into operation.
- In the unlikely event of a failure, turn the ignition key to the OFF position.

**Note: If the BP-10 SUPER shotblasting machine is operated using a generator as the power source, the generator must be operated in accordance with the current VDE directives (this applies to the protective earth conductor in particular) in order to ensure that all safety devices are functioning and to eliminate possible damage to electrical components.**



## Safety — Operation Procedures

When operating the BP-10 SUPER, perform the following safety procedures:

- **SUPPORT PERSONNEL MUST KEEP A SAFE DISTANCE FROM THE MACHINE WHILE IT IS IN OPERATION! DO NOT STAND IN FRONT OF THE MACHINE WHILE IT IS IN OPERATION!**
- Since the speed of the machine determines the depth of its cut, it is advised that the operator run a test pattern. Failure to run a test pattern could result in the machine gouging the floor.
- The blast pattern needs to be inspected by the operator at least every ten feet as variation in concrete means that the concrete or the coated surface may be softer in some areas than it is in others.
- Whenever the dust collector becomes full, it must be emptied. Failure to empty the dust collector could result in the machine losing its suction to the floor. If this happens, then all of the shot will fall out of the shot hopper.
- Never switch off or remove the exhaust and ventilation devices when the machine is in operation.
- **A SECOND PERSON MUST BE PRESENT SO AS TO PULL OUT THE MACHINE'S PLUG IN AN EMERGENCY! THE WORK AREA MUST THEN BE SEALED OFF USING A RED AND WHITE SAFETY CHAIN AND A DANGER SIGN! USE A TOOL THAT IS INSULATED AGAINST VOLTAGES!**
- **IF AN ERROR OCCURS WHILE THE MACHINE IS IN OPERATION, IT MUST BE SHUT DOWN IMMEDIATELY! THE CAUSE OF THE ERROR MUST BE ESTABLISHED IMMEDIATELY!**
- **IF CABLES BECOME LOOSE OR SCORCHED, THE MACHINE MUST BE SHUT DOWN IMMEDIATELY!**

## Safety — Shut Down Procedures

When shutting down the BP-10 SUPER, always perform the following safety procedures:

- Shut off the shot supply by pulling the shot valve handle in reverse.
- Advance the machine until you are sure that no deep holes are being blasted into the surface.
- Turn off the breakers to the BP-10 SUPER and to the dust collector.
- Turn switch on the BP-10 SUPER and dust collector to the OFF position.
- Empty dust from the dust collector. **WHEN REMOVING DUST FROM DUST COLLECTOR, ALWAYS WEAR A PARTICLE MASK. CONCRETE DUST MAY CONTAIN PARTICLES WHICH ARE EXTREMELY HAZARDOUS! THESE PARTICLES SHOULD NEVER BE INHALED!**

- Empty all shot from the shot hopper on the BP-10 SUPER. Shot should never be left in BP-10 SUPER after work is performed. Never move or transport BP-10 SUPER with shot in the shot hopper as this may result in damage to the equipment.
- **AFTER COMPLETING WORK, CLEAN ALL STRAY SHOT FROM WORK AREA. SHOT CAN BE CLEANED WITH A MAGNETIC BROOM OR WITH A SHOP VACUUM. NEVER LEAVE STRAY SHOT IN WORK AREA AS SHOT REPRESENTS A SLIP AND FALL HAZARD! STEPPING AND FALLING ON STEEL SHOT CAN RESULT IN SERIOUS INJURY OR EVEN DEATH!**

### **Safety — Maintenance Procedures**

When performing maintenance on the BP-10 SUPER, make certain that the following safety procedures are followed:

- Verify that the BP-10 SUPER and the dust collector are not in operation. Attempting to perform maintenance operations on the BP-10 SUPER or the dust collector while they are in operation could lead to serious injury or death.
- Verify that all moving parts on the BP-10 SUPER have completely stopped moving.
- Make certain that all moveable parts have been secured so that accidental movement of the BP-10 SUPER will not result in these parts moving.
- Verify that the BP-10 SUPER and the dust collector are on a level and stable surface.
- Make certain that the BP-10 SUPER is in the Safety off position (valve is closed, blast machine is switched off, dust collector is switched off, all drives are at a standstill, and main plug has been pulled).
- If repairing the underside of the BP-10 SUPER, then be certain to use jack stands. Never work under equipment that is not properly blocked.
- All repairs to electrical components, including wiring, should be performed by a licensed electrician.
- When performing electrical servicing work, make certain that all replacement electrical components comply with the original parts and are correctly adjusted.
- All other repairs must be completed by competent, qualified personnel.
- **FAILURE TO REPLACE LOOSE OR DAMAGED PARTS COULD CAUSE DAMAGE TO THE EQUIPMENT AND/OR SERIOUS INJURY OR DEATH TO THE OPERATOR!**
- Verify that aggressive cleaning products are not used.
- **MAKE CERTAIN TO NEVER WELD, FLAME CUT/TORCH, OR PERFORM ANY GRINDINGWORK ON THE BP-10 SUPER WITHOUT WRITTEN AUTHORIZATION FROM BLASTPRO MANUFACTURING, INC!**
- Make certain that electrical equipment is inspected regularly.
- Verify that all screw connections that were undone during maintenance work are retightened prior to putting the machine back into operation.
- After performing maintenance operations on the BP-10 SUPER and dust collector, verify that all safety labels, guards, control panels, housings, lids, seals, casters, magnets and other parts that have been replaced are secure.

## Operating Instructions

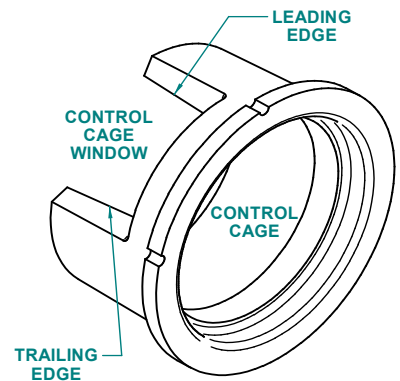
1. Verify that competent personnel have read and understood the safety information in this manual and are following all safety instructions and programs required by their company and the worksite.
2. Verify that the BP-10 SUPER is on a level, clean, debris-free and dry surface.
3. Connect the hose from the dust collector to the BP-10 SUPER. Verify that the clamps are secure.
4. Verify that the dust bin in the dust collector is empty and that the hose is free of debris.
5. Verify that the switch on the control panel of the BP-10 SUPER is set to the OFF position.
6. Verify that the switch on the control panel of the dust collector is set to the OFF position.
7. After confirming proper voltage with a voltmeter, insert the cord from the dust collector into a 240 or 480 volt electrical outlet.
8. After confirming proper voltage with a voltmeter, insert the plug from the dust collector into a 240 or 480 volt electrical outlet.
9. Make sure that any hardwiring or circuit breaker changes are performed by a licensed electrician.
10. Before loading the steel shot into machine, turn the switch on the BP-10 SUPER and the dust collector to the ON position for two minutes so as to verify that the circuit breaker will not trip.
11. Disconnect the hose from the BP-10 SUPER to verify that the dust collector has proper suction.
12. After verifying proper suction, reconnect the hose to the BP-10 SUPER.
13. Check the seals on the BP-10 SUPER to verify that the seals are set at the proper height. The seals should be rubbing the surface of the concrete or steel.
14. Place a handful of steel shot in front of the BP-10 SUPER.
15. Push the BP-10 SUPER over the handful of steel shot. This will attach the steel shot to the magnetic seals and prevent shot from escaping from the BP-10 SUPER.
16. Pour steel shot into the BP-10 SUPER shot hopper to the bottom of the screen.
17. Turn the switch on the BP-10 SUPER to the ON position, squeeze the shot valve to open the shot valve, and push the BP-10 SUPER. Verify that the blast pattern is uniform. If blast pattern is uniform, then proceed to step #19. If blast pattern is not uniform, then release the shot valve handle to close the shot valve, turn the switch on the BP-10 SUPER to the OFF position, and proceed to step #18.
18. Adjust the control cage.
19. Turn the switch on the BP-10 SUPER to the ON position, squeeze the shot valve handle to open the shot valve, push the BP-10 SUPER, and verify that the blast pattern is uniform.
20. Once blast pattern is uniform, start shotblasting.

## Setting Control Cage

Setting the correct blast pattern is essential before an even, clean profile can be achieved when shot blasting with a BlastPro Manufacturing machine. An uneven blast pattern can leave shadows on either side of the floor surface and can cause premature wear to the internal components. The importance of setting the proper blast pattern cannot be overstressed.

There are four major factors that can affect the blast pattern. They are:

1. **Wheel Rotation** - The blast wheel must be rotating in the proper direction indicated on the housing that surrounds the blast wheel. Most BlastPro Manufacturing machines rotate in a clockwise direction when looking at the machine from the operator's position.
2. **Worn Wheel Kits** - Wheel kit components such as blades, impellers and control cages vary in different machines but perform similar functions. These kits must be periodically replaced to ensure that they produce the proper blast pattern and to eliminate excessive wear, which can cause internal component damage.
3. **Abrasive Size** - The size of the abrasive will affect the blast pattern. Different sized abrasives have different masses that will alter the "hot spot" setting. See Figure B. page 22.
4. **Control Cage Setting** -The setting of the control cage is the most critical factor in determining where the blast pattern is directed. Ideally, the blast pattern is centered so that the area being cleaned receives a consistent, even distribution of high velocity abrasive. Altering the setting of the control cage can move the blast pattern to the left or right depending on which direction the control cage is moved. Moving the control cage too far in either direction will direct the abrasive blast pattern to the side of the machine and cause premature wear to the internal components. The exact positioning of the control cage is done by trial and error.



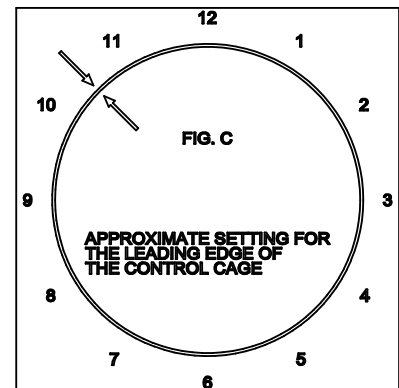
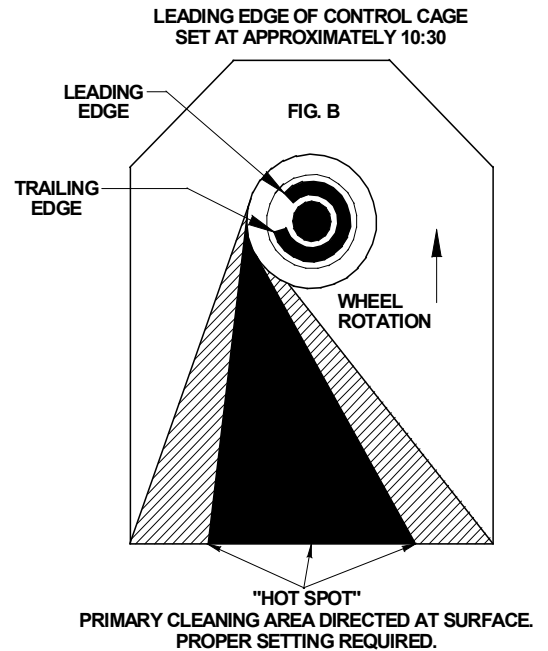
- The initial setting of a machine rotating in a counter-clockwise direction should be between 8:30 and 10:30 as indicated in Figures B and C. The resultant-cleaning path will determine the final setting.

These settings will vary with the abrasive size and the surface being cleaned. Once the proper control cage setting is obtained, the blast pattern should remain consistent. If the pattern begins to vary, check the blast wheel components for wear.

## Control Cage “Trial & Error” Setting

The initial setting of the control cage for a machine that has the blast wheel rotating in a counter-clockwise direction is between 8:30 and 10:30. The leading edge should be at 10:30. Refer to Figures A, B and C. Place a 3/16” or 1/4” steel plate beneath the machine and blast with the abrasive control valve at full open for about 45 seconds. Do not move the machine during this test. The resulting “hot spot” should be centered as it appears on Figure B. If the “hot spot” is too far to the left, rotate the control cage in a counter-clockwise direction about 1/4” and recheck the blast pattern on the test strip. Small changes in the rotation of the control cage can move the “hot spot” “significantly. If the “hot spot” is too far to the right, rotate the control cage in a clockwise direction. Once again, move the control cage in small increments until the blast pattern (“hot spot”) is centered.

**Note:** If the blast pattern cannot be centered, check the blast wheel and be sure it is properly mounted and seated on the wheel hub located behind the blast wheel. The two pins on the hub must be seated on the back of the blast wheel before the wheel can be secured. This check must be made whenever the blast wheel is changed.



## Transportation

When transporting the BP-10 SUPER shotblasting machine, it is strongly recommended that personnel act in a manner so as to reduce the potential that damage takes place as a result of using excessive force or of using incorrect loading and unloading procedures.

**Note: Personnel must remove any shot from the machine before it is transported. Also, the machine may only be lifted by using the suspension eyelets; forklifts should never be used to transport the BP-10 SUPER shotblasting machine.**

## Wear Parts

The BP-10 SUPER contains parts which are continually exposed to steel shot moving at high rates of speed. Exposure to steel shot traveling at high rates of speed and concrete dust causes these parts to deteriorate. As a result, the operator or maintenance personnel should inspect the BP-10 SUPER wear parts prior to operation and change the parts as necessary. Wear parts and inspection times, other than inspection prior to use, on the BP-10 SUPER are listed below:

<b>Part</b>	<b>When to Inspect</b>	<b>Evidence of Wear</b>
Shot Hopper	30 hours	Warping or thin spots
Feed Spout	50 hours	Thin spots
Blast Wheel	10 hours	Blades deteriorated > 50%
Control Cage	10 hours	Deteriorated edges
Blast Wheel Hub	10 hours	Missing pins/deterioration
Liners	10 hours	Warping, holes, deterioration
Blast Housing	50 hours	Thin sections or other deteriorations

**Note: Parts of the BP-10 SUPER which should also be inspected regularly but are not exposed to steel shot are the control panel, motor, electric cords, dust collector hose, filters, and motors. If any of these components show signs of wear they should be repaired so that they are in the same working condition as when they were new. If they cannot be repaired, then they should be replaced immediately.**

## Maintenance

### Blast Wheel Removal and Installation

When the blades on the blast wheel are deteriorated by 50% or more, then the blast wheel should be replaced. To replace the blast wheel, perform the following steps:

1. Verify that the control switch is in the OFF position.
2. Verify that the power cord is NOT plugged into an electrical outlet.
3. Verify that the shot valve is closed.
4. Loosen all nuts and clamps that secure the feed spout and the control cage.
5. Remove the feed spout.
6. Remove the control cage.
7. Mark plate with ink pen where control cage openings appear to aid in realignment.
8. Remove the four sets of nuts and washers securing the control cage assembly to the housing.
9. Remove the control cage assembly.
10. Remove the arbor nut and the blast wheel.
11. Check the wheel hub for wear and replace when necessary.
12. Install the new blast wheel and the arbor nut.
13. Reattach the control cage assembly that was previously removed.
14. Insert the new control cage that was provided with the blast wheel kit. Spin the blast wheel by hand to verify that the blast wheel and the control cage do not come into contact with one another. Openings of control cage should be set at approximately 10:30 (leading edge) and 8:30 (trailing edge).
15. Reattach the feed spout
16. Verify that all nuts are tight and secure
17. Briefly activate the grinder motor to verify good balance and proper clearance.

**Note: Only blast wheels manufactured by BlastPro Manufacturing, Inc. should be used by the BP-10 SUPER. Other blast wheels that have not been tested by BlastPro Manufacturing, Inc. could result in damage to the equipment or injury to the operator.**

## General Maintenance Points

Below is a matrix of general maintenance points and intervals. These intervals are general recommendations based on normal operation. These intervals should be adjusted during use in extreme conditions or extended periods of used.

MAINTENANCE POINT	INTERVAL
INSPECT SEALS	DAILY
INPECT LINERS	DAILY
INSPECT WHEEL KIT	DAILY
INSPECT POWER CHORD	DAILY
INSPECT DUST HOSE	DAILY
CHECK/ADJUST BELT TENSION	EVERY 4-6 HOURS
GREASE BEARING UNIT	EVERY 50 HOURS

### Greasing the Bearing Unit

The bearing unit is located on the back of the blast housing. The unit must receive regular lubrication to operate properly. Blastpro Manufacturing recommends using Mobil Polyrex EM grease.

There are grease fittings at both ends of the bearing unit. Each fitting should receive several pumps of grease. Once the unit is greased, run the unit without blasting for 10-15 minutes. This will help distribute the grease evenly. **Care should be taken not to over-grease the unit.**

### Checking Belt Tension

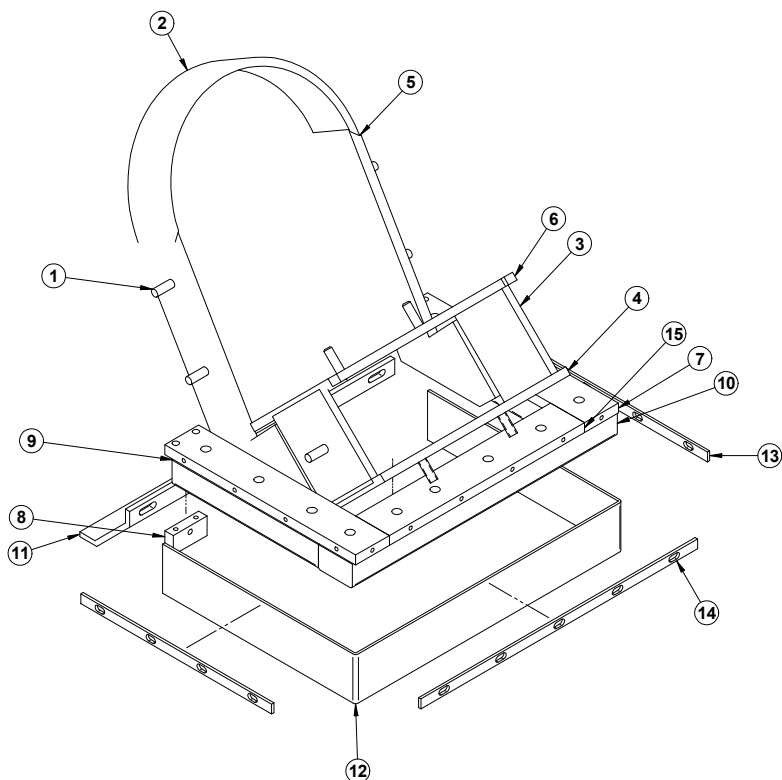
Correct blast wheel belt tension is required to maximize efficiency and prolong the life of the belts, bearing unit and sheaves. If the belt does not have enough tension there will not be proper power transmission from the motor to the blast wheel. An overly tight, or loose, condition can lead to accelerated belt wear.

When checking the belt tension, the belt should deflect 1/64” per inch of center-to-center distance between the sheaves. The optimal force for testing the belt is 11 lbs (min 9, max 13).

When possible, the use of a belt tension tester is recommended.

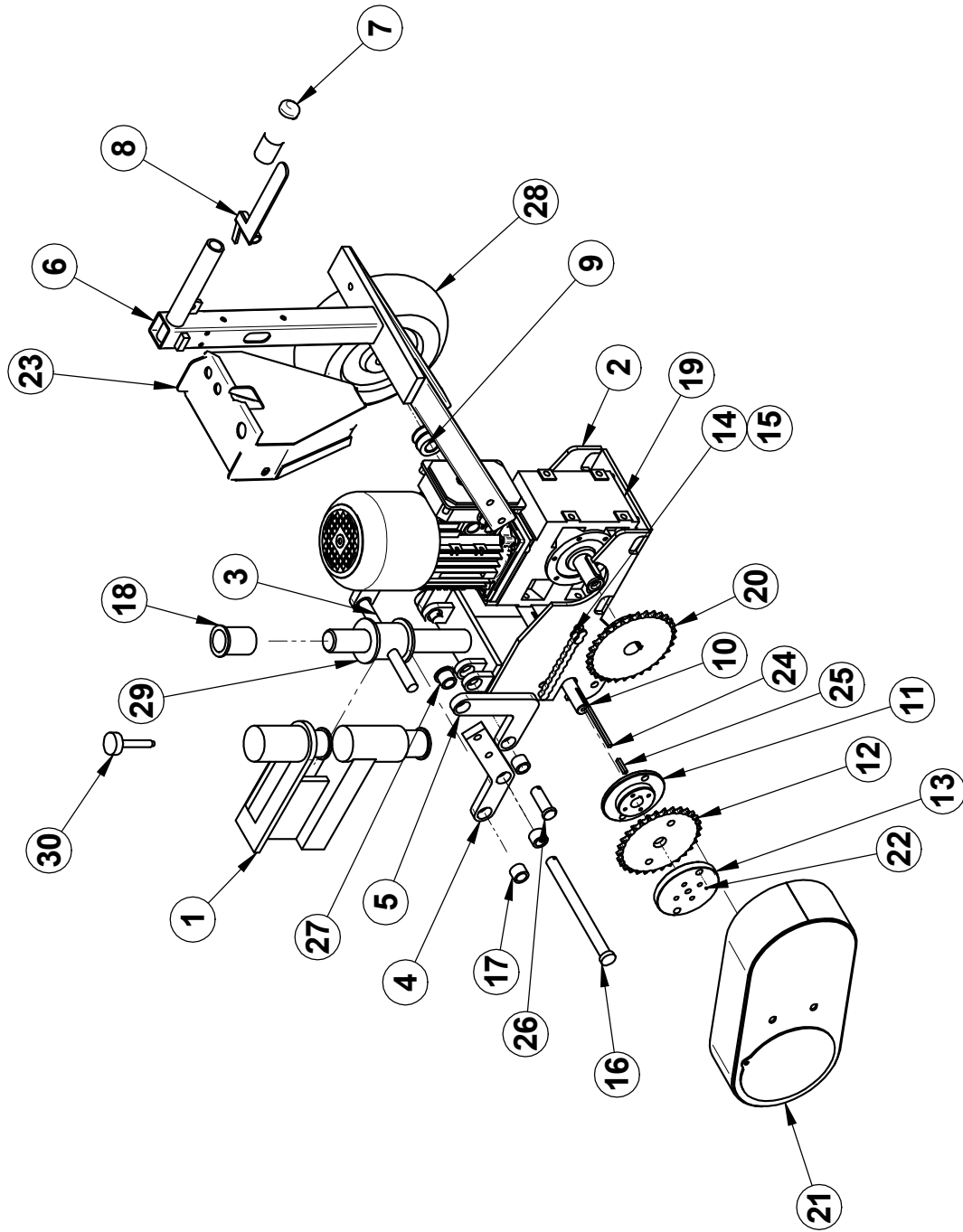


## PARTS LISTS



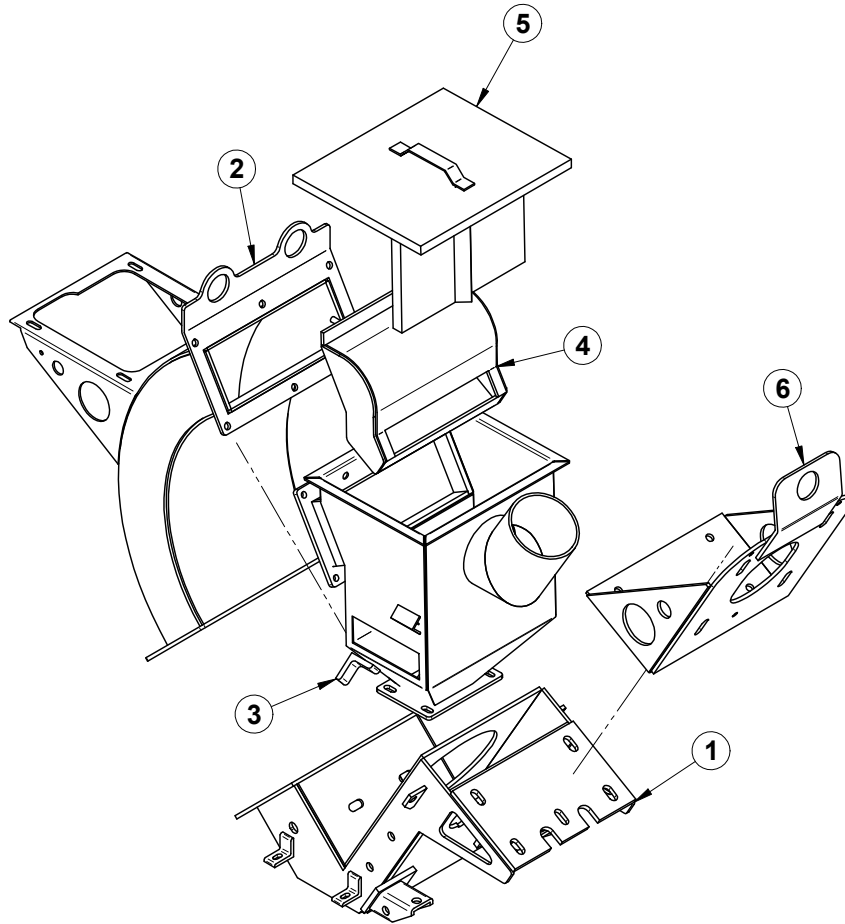
## LINERS AND SEALS

ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION
1	1	BT4899470_	LEFT LINER 10D
2	1	BT4899460_	TOP LINER
3	2	BT4900450_	SIDE REBOUND 10D
4	1	BT4899490_	BOTTOM REBOUND PLENUM LINER
5	1	BT4899480	RIGHT LINER 10D
6	1	BT4900440_	TOP REBOUND LINER
7	2	BT4899450	INSULATOR/MAGNET SIDE
8	1	BT4813500	SPACER/INSULATOR
9	2	BT4900470_	SIDE MAGNET
10	1	BT4900490_	FRONT MAGNET
11	1	BT6796740_S KID SEAL	SKID SEAL
12	1	BT4900500	MAGNET SEAL BP-10
13	2	BT4900510_	SIDE RETAINER
14	1	BT4900530_	RETAINER FRONT
15	1	BT4900460	INSULATOR/MAGNET FRONT



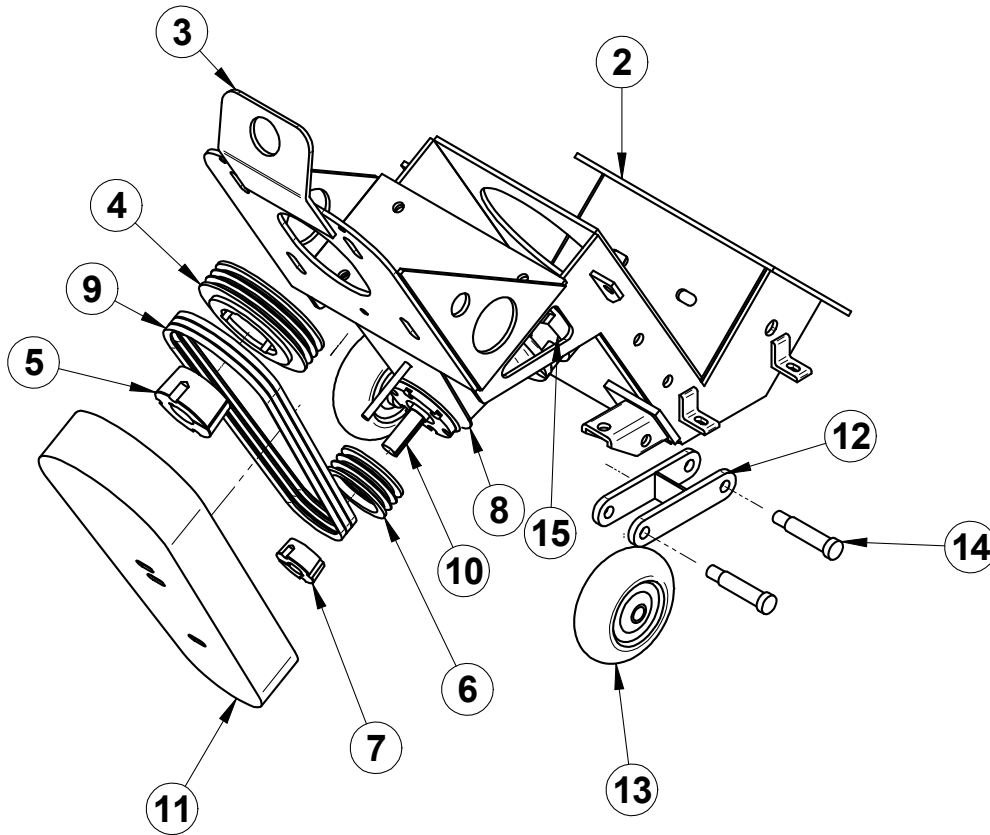
**FRONT END ASSEMBLY**

ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION
1	1	BT4899430_A	PLENUM 1-10D
2	1	BT4900780-AC DRIVE	SUPPORT DRIVE YOKE/AC DRIVE
3	1	BT4919500	YOKE
4	2	BT4919490_	ARM/LINKAGE
5	2	BT4919480_	LINKAGE FRONT END ASSEMBLY
6	1	BT4900760-AC	DRIVE HANDLE
7	1	BT4532900	GRIP/ HANDLE 1.00" ID RUBBER
8	1	BT4900740_	LEVER FOR HANDLE
9	2	BT2055710	3/4" 2 BOLT FLG BEARING 1-10D
10	1	BT4900720-AC	SHAFT/FRONT WHEEL
11	1	BT4776290	HUB TRACTION DRIVE
12	1	BT4776310	SPRKT/40-1 30T 1-10D
13	1	BT4776300	RETAINER/SPROCKET
14	1	BT4920110	CHAIN ASA #40
15	1	BT4528360	LINK
16	1	BT4919690	PIN/CLEVIS
17	4	BT4918460	RULON BUSHING
18	3	BT4918480	2" RULON BUSHING FLANGED
19	1	BT4835160-AC	GEARBOX - AC DRIVE
20	1	BT0842340-1	SPROCKET/40-1-32T
21	1	BT4900770-AC	CHAIN GUARD BP-10 AC DR
22	1	BT4781980	PIN
23	1	BTP003005	POT POD
24	1	BT5019070_	KEY 3/16 X 3/16 X 3
25	1	BT5019020_	KEY 3/16 X 3/16 X 1
26	2	BT4919680	CLEVIS PIN
27	1	BT4918470	RULON BUSHING FLANGED
28	1	BT4900790	DRIVE TIRE
29	2	BT4920120	FLAT WASHER
30	1	BT6729460	SWIVEL SCREW



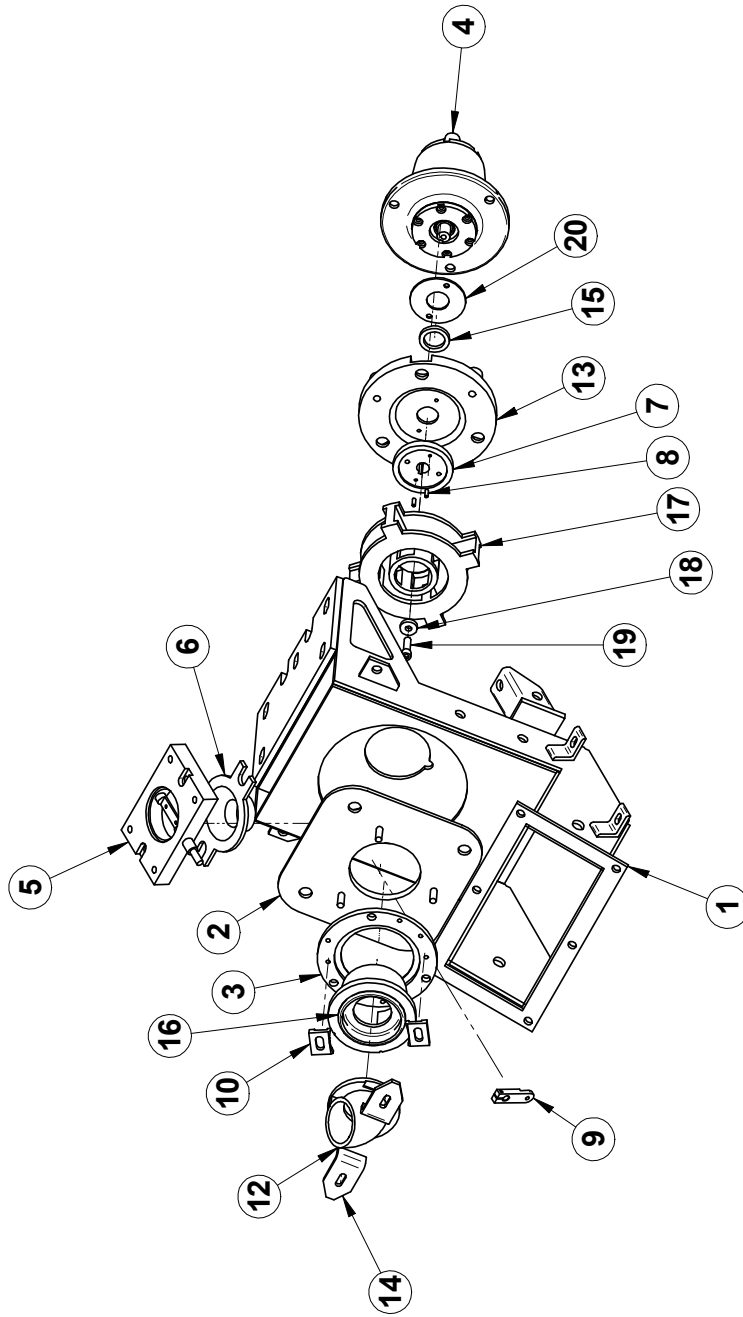
**MAJOR WELDMENTS**

ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION
1	1	BT4899400	BLAST HOUSING 1-10D
2	1	BT4899430_A	PLENUM 1-10D
3	1	BT4895410	SEPARATOR
4	1	BT4900560_A	DEFLECTOR SEPERATOR
5	1	BT4900680_A	LID SHOT HOPPER 1-10D
6	1	BT4917670_A	BLAST WHEEL MOTOR MOUNT



### BACK END ASSEMBLY

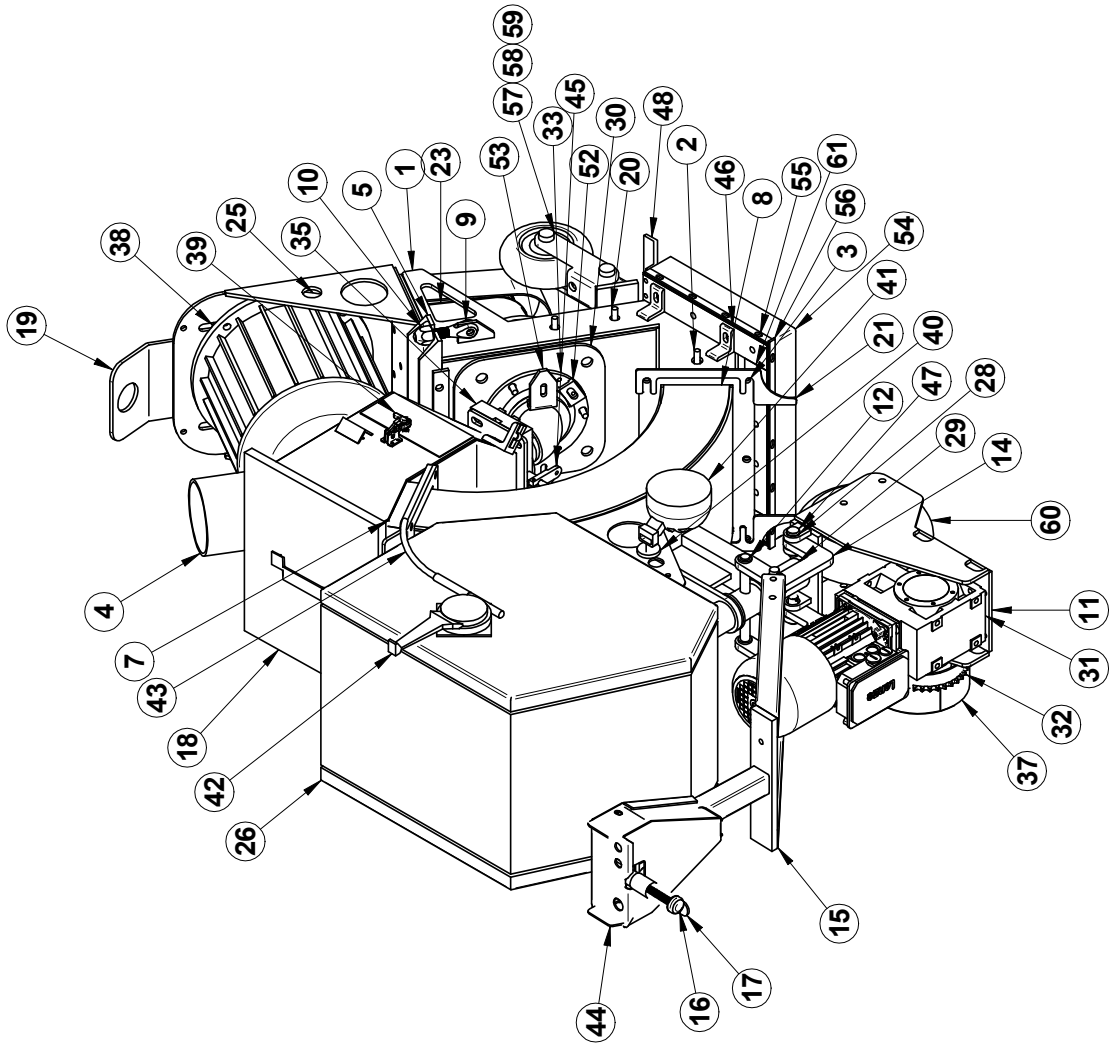
ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION
2	1	BT4899400	BLAST HOUSING 1-10D
3	1	BT4917670_A	BLAST WHEEL MOTOR MOUNT
4	1	BT6997050	3V 3GR 6.50 SHEAVE
5	1	BT4932650_B	2517 T/L BUSHING
6	1	BT6997040	3V 3GR 3.65" PULLEY
7	1	BT6997040-1	1610 T/L BUSHING
8	1	BT4917440	BACK PLATE
9	3	BT4932630-1	3VX BELT
10	1	BT4892950	BEARING UNIT
11	1	BT4917410_	BELT GUARD/BLAST MOTOR
12	2	BT4900620	IDLER WHEEL BRACKET
13	2	BT4900840	WHEEL/REAR
14	2	BT4920230	SHOULDER BOLT - IDLER WHEEL
15	1	BT4959430	MOUNT BEARING UNIT



**BLAST WHEEL ASSEMBLY**

ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION
1	1	BT4899400	BLAST HOUSING 1-10D
2	1	BT4959410	CONTROL CAGE BRKT
3	1	BT4959420	SUPPORT/BRKT CONTROL CAGE
4	1	BT4892950	BEARING UNIT
5	1	BT6800200_	SHOT VALVE
6	1	BT4936980	ADAPTER/FEED SPOUT
7	1	BT4959400_A	BLAST WHEEL HUB
8	2	BT4959400-1	BLAST WHEEL HUB PINS
9	1	BT4784610_	SHOT VALVE LINKAGE
10	2	BT4146990	CLAMP/CONTROL CAGE
12	1	BT4937000	FEED SPOUT
13	1	BT4959430	MOUNT BEARING UNIT
14	2	BP4939650	FEED SPOUT CLAMP-BP
15	1	BT4959380	FELT SEAL BEARING UNIT
16	1	BP4936990	CONTROL CAGE BP-10
17	1	BP4937010	8" BLAST WHEEL BP-10-15
18	1	NUTS & BOLTS-101	SPHERICAL WASHER ASSY
19	1	BT5004650	BLAST WHEEL BOLT
20	1	BT4959370_	RETAINER FELT SEAL BEARING UNIT

**NOTE: Items 16, 17, 18 and 19 are included in part number BT4977780\_. Use this number when ordering replacement wheel kits.**



**GENERAL ASSEMBLY**



ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION	ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION
1	1	BT4899400	BLAST HOUSING 1-10D	47	1	BT4919680	CLEVIS PIN
2	1	BT4900450_	SIDE REBOUND 10D	48	1	BT6796740_S	SKID SEAL
3	1	BT4899430_A	PLENUM 1-10D				
4	1	BT4895410	SEPARATOR	52	1	BT4146990	CLAMP/CONTROL CAGE
5	1	BT4900600	BLASTHOUSING COVER	53	1	BP4939650	FEED SPOUT CLAMP-BP
7	1	BT4900560_A	DEFLECTOR SEPERATOR	54	1	BT4900500	MAGNET SEAL BP-10
8	1	BT4899490_	BOTTOM REBOUND PLENUM LINER	55	1	BT4900510_	SIDE RETAINER
9	1	BT2365910	BOLT/JAW 1/2 X 13X6.5	56	1	BT4900530_	RETAINER FRONT
10	1	BT1984570	1/2X13 CAP NUT HARD	57	1	BT4900620	IDLER WHEEL BRACKET
11	1	BT4900780-AC	SUPPORT DRIVE YOKE/AC DRIVE	58	1	BT4900840	WHEEL/REAR
12	1	BT4919500	YOKE	59	1	BT4920230	SHOULDER BOLT - IDLER WHEEL
14	1	BT4919480_	LINKAGE FRONT END ASSEMBLY	60	1	BT4900790	DRIVE TIRE
15	1	BT4900760-AC	DRIVE HANDLE	61	1	BT4900460	INSULATOR/MAGNET FRONT
16	1	BT4532900	GRIP/ HANDLE 1.00" ID RUBBER				
17	1	BT4900740_	LEVER FOR HANDLE				
18	1	BT4900680_A	LID SHOT HOPPER 1-10D				
19	1	BT4917670_A	BLAST WHEEL MOTOR MOUNT				
20	1	BT4899480	RIGHT LINER 10D				
21	1	BTP003047	BLAST PATTERN INDICATOR				
23	1	BT4917440	BACK PLATE				
25	1	BT6976380	MOTOR/D-FLG WAFER 15HP				
26	1	BTP000184/AC	ELECTRICAL BOX/AC DRIVE				
28	1	BT4918460	RULON BUSHING				
29	1	BT4918480	2" RULON BUSHING FLANGED				
30	1	BT4959410	CONTROL CAGE BRKT				
31	1	BT4835160-AC	GEARBOX - AC DRIVE				
32	1	BT0842340-1	SPROCKET/40-1-32T				
33	1	BT4959420	SUPPORT/BRKT CONTROL CAGE				
35	1	BT6800200_	SHOT VALVE				
37	1	BT4900770-AC	CHAIN GUARD BP-10 AC DR				
38	1	BT4917410_	BELT GUARD/BLAST MOTOR				
39	1	BT03600001	TOGGLE CLAMP				
40	1	BP505-0010	WORK LIGHT MAGNET				
41	1	BP505-0001	12V LED LIGHT				
42	1	BTP000735	OPERATOR HANDLE				
43	1	BTP000736	CABLE/SHOT VALVE				
44	1	BTP003005	POT POD				
45	1	BT4784610_	SHOT VALVE LINKAGE				
46	1	BT4899450	INSULATOR/MAGNET SIDE				

## Troubleshooting

<p>Increased cleaning time.</p>	<p>Improper abrasive feed to wheel.</p> <p>Storage hopper.</p> <p>Contaminated abrasive.</p> <p>Abrasive feed and abrasive control valve.</p> <p>Wheel impeller, control cage wear.</p> <p>Drive belt.</p> <p>Loss of consistent blast pattern, "hot spot".</p> <p>Choked wheel.</p>	<p>Check ammeter reading. Low reading indicates insufficient abrasive getting to wheel.</p> <p>Check abrasive level.</p> <p>Abrasive may contain substantial percentage of fines and contaminants. Check ventilation.</p> <p>Check for obstructions in the abrasive feed, i.e. feed spout, abrasive control valve, separator screen.</p> <p>Replace wheel kit.</p> <p>Check belt for proper tension, alignment or wear.</p> <p>Check blast pattern. Check the blast wheel for proper seating with the wheel hub.</p> <p>Close abrasive valve and gradually reopen. Check abrasive valve operation, check "over-amping" blast wheel.</p>
<p>Excessive wear on blast housing rebound chamber / liners.</p>	<p>Improper setting of control cage.</p>	<p>Abrasive is being misdirected into internal components instead of work area. Check blast pattern and readjust.</p>
<p>Abrasive leakage.</p>	<p>Improper sealing.</p> <p>Improper control cage setting.</p>	<p>Check all seals for wear.</p> <p>Abrasive rebounding from side of machine. Check blast pattern.</p>
<p>Machine will not drive.</p>	<p>Drive pin not installed</p>	<p>Install drive pin.</p>
<p>Machine hang-up.</p>	<p>Uneven work surface / floor obstruction.</p>	<p>Push down on steering handle to raise machine to clear small obstructions or uneven work surfaces. Shut abrasive valve if obstruction can be cleared. Reverse direction to clear. <b><u>Use caution when raising seal due to high velocity abrasive exposure.</u></b></p>
<p>Loss of cleaning action.</p>	<p>Machine travel speed too fast.</p>	<p>Adjust travel speed.</p>

# Electrical Schematic