



## Owner's Manual

# BP-505 Shotblasting Machine & BP-9-54 Steel Dust Collector



**BLASTPRO MANUFACTURING, INC. ~ WARRANTY & REGISTRATION CARD**  
**ONE YEAR LIMITED WARRANTY**  
(1-877-495-6464)

**A COPY OF THE WARRANTY CARD ON THE FOLLOWING PAGE, TOGETHER WITH PROOF OF PAYMENT, MUST BE SUBMITTED WITH ANY SERVICE REQUEST. THIS WARRANTY CARD MUST BE RETURNED TO: BLASTPRO MANUFACTURING, INC., 6021 MELROSE LANE, OKLAHOMA CITY, OK 73127, WITHIN TEN (10) DAYS OF ACQUIRING BLASTPRO PRODUCTS IN ORDER TO QUALIFY FOR THE ONE YEAR LIMITED WARRANTY CONTAINED IN THE SALES AGREEMENT.**

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BlastPro provides as a limited warranty to Original Purchasers of BlastPro equipment, purchased within and situated within the United States of America, who notify BlastPro in writing through completion of the BlastPro Equipment Warranty Card within ten (10) days of acquiring BlastPro Equipment, the following limited warranty.

Subject to the exclusions, limitations and conditions stated above and below, BlastPro will warrant its products against defects in materials and workmanship, provided the Original Purchaser uses such equipment under normal and proper use, for a period of one year or 1,000 hours, whichever occurs first, from the date of delivery to the Original Purchaser.

During the applicable limited warranty period and subject to the exclusions, limitations and conditions contained herein, BlastPro shall, within a reasonable period of time, repair or replace, at its option, any defective components of the equipment. The limited warranty does not cover wear parts, including but not limited to, tires, magnets, seals, casters, liners, wear plates, bearings, cages, blast wheels, blades, belts, electrical wiring components and items of a similar nature.

This limited warranty does not cover damage to BlastPro equipment caused by any of the following: the use of the equipment for purposes other than which the equipment was designed and intended, all external causes such as (without limitation) acts of God, accidents, dropping, collision, fire, water damage, freezing, striking other objects, misuse or otherwise using the equipment contrary to the instructions and warnings contained in the User Manual; altering or modifying BlastPro equipment or accessories; exposure to environmental conditions beyond reasonable limits and the limits stated in the equipment manual; failure to properly maintain and service the equipment; damage caused by the use of any non-BlastPro parts or attachments on the equipment.

To obtain repair or replacement under this limited warranty, the Original Purchaser must contact BlastPro at 1-877-495-6464. The Original Purchaser must be prepared to describe any alleged problem, as well as provide proof of purchase and proof of date of delivery and return of the Equipment Warranty Card. Written authorization from BlastPro must be obtained prior to any BlastPro equipment being returned to BlastPro.

Once BlastPro provides the Original Purchaser with a written authorization, then the Original Purchaser shall deliver the equipment as instructed by BlastPro. The Original Purchaser shall pay the cost of shipping and shall also bear any risk of loss during shipping. Providing the BlastPro equipment is defective and the limited warranty applies, BlastPro shall, within a reasonable period of time, repair or replace any defective components. The Original Purchaser shall be responsible for picking up the repaired equipment or may arrange for shipment at Original Purchaser's expense.

BlastPro's repair or replacement of any defective parts on the equipment does not extend the term of this limited warranty, which shall expire on expiration of the period of one year from the date of Original delivery, subject to the further terms of this warranty.

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**THIS LIMITED WARRANTY IS THE ONLY WARRANTY APPLICABLE TO BLASTPRO EQUIPMENT. BLASTPRO DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OTHER THAN THOSE WARRANTIES IMPLIED AND INCAPABLE OF EXCLUSION, RESTRICTION OR MODIFICATION UNDER APPLICABLE LAW. ANY SUCH IMPLIED WARRANTIES WHICH MAY BE REQUIRED BY LAW AND ARE NOT DISCLAIMED HEREBY, ARE LIMITED TO THE EXTENT ALLOWED BY LAW TO THE APPLICABLE PERIOD OF THIS IMPLIED WARRANTY OR TO THE APPLICABLE TIME PERIOD PROVIDED BY THE APPLICABLE STATE LAW, WHICHEVER PERIOD IS SHORTER.**

**UNDER NO CIRCUMSTANCES SHALL BLASTPRO BE LIABLE TO THE ORIGINAL PURCHASER OR ANY OTHER PERSON FOR ANY DIRECT, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR MISUSE OF THE EQUIPMENT OR ARISING OUT OF ANY BREACH OF ANY WARRANTY OR FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER, INCLUDING WITHOUT LIMITATION, DAMAGES FOR ANY LOSS OF GOODWILL, WORK STOPPAGE OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES.**

**NO CHANGE TO OR ADDITIONAL WARRANTY, NO MATTER BY WHOM MADE OR WHEN MADE, SHALL APPLY TO ANY EQUIPMENT SOLD BY BLASTPRO.**

**BlastPro Warranty Registration Card**

**NOTICE!**

To ensure the proper warranty coverage is extended to the owner of this machine, fill out the attached card **COMPLETELY** and **ACCURATELY** and return to BlasPro Mfg.

Keep this top portion for your records

**USER'S REFERENCE INFORMATION**

<b>Delivery Date</b> _____	<b>Machine Model No.</b> _____
<b>Delivering Distributors Name</b>	<b>Machine Serial No.</b> _____
<b>and Address</b> _____	<b>Modifications</b> _____
_____	_____
_____	_____
_____	_____
_____	_____

*CUT HERE*

**WARRANTY REGISTRATION CARD**

**IMPORTANT!** To ensure that your BlastPro machine is covered under warranty, please fill in the following information and mail it to BlastPro Manufacturing, Inc. 6021 Melrose Lane, Oklahoma City, OK 73127, or Fax to 405-495-1331

(All boxes must be checked or date filled in)

Operating Manual Received  Training Scheduled \_\_\_\_\_ Training Complete

(Please Print)

**Company** \_\_\_\_\_

**Address** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip** \_\_\_\_\_

**Phone Number** \_\_\_\_\_

**Contact Person** \_\_\_\_\_

**Purchase Date** \_\_\_\_\_ **Delivery Date** \_\_\_\_\_

**Machine Model No.** \_\_\_\_\_

**Distributor Name** \_\_\_\_\_

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## **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 ALL 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:

BlastPro Manufacturing, Inc.  
6021 Melrose Lane  
Oklahoma City, OK 73127  
Toll free: 877-495-6464  
Phone: 405-491-6464  
Fax: 405-495-4994  
Website: [www.BlastProMfg.com](http://www.BlastProMfg.com)

## Introduction

The BP 505 shotblasting machine cleans steel and features modular construction that allows the machine to be dismantled and fit through a 24" manhole. The BP 505 has a 20" blast pattern, a thirty horsepower electric motor, which results in superior cleaning performance. The BP 505 is the most powerful, the most productive, and the only breakdown machine on the market today which features a 30 horsepower electric motor. The BP 505 can be dismantled, fit through a 24" manhole, and reassembled by three men in approximately 75 minutes.

The BP 505 is the most advanced steel cleaning system currently available. It is ideal for cleaning floors and roofs on oil storage tanks. When used in conjunction with the BP 9-54 Duct Collector, the BP 505 is an excellent choice for removing non-skid from ship decks.

The mechanics of the BP 505 are fairly simple. After mechanical pre-acceleration, metallic shot is shot onto the underlying surface at a very high rate of speed by the blast wheel. The forceful impact of the shot onto the surface systematically removes surface contaminants, coats of paint, sealants, and thin coatings. After hitting the surface, the shot immediately rebounds into a recovery duct. The recovery duct then sends the shot into an air current separator. Once here, dust and other contaminants are removed from the shot so that only the shot and a negligible amount of dust are allowed to move into the shot storage hopper for re-use by the blast wheel. By severely restricting the amount of dust that is allowed to escape into the environment, the BP 505 acts to benefit both the working staff and the air quality at the work site.

## Specifications

Drive Motor .....	Electric
Travel Speed .....	2.5-95 feet/minute
Weight.....	1542 lbs.
Dimensions without Dust Collector.....	L: 64"; W: 70"; H: 27"
Dimensions with Dust Collector.....	L: 64"; W: 93"; H: 27"
Productions .....	940 square feet/hour
Blast Type .....	SSPC-SP10 (near white)
Surface Profile .....	3 mils
Blast Wheel Power.....	30 Horsepower
Minimum Generator.....	60 kilowatts
Steering .....	Electric Zero Turn, Joystick Operated

## Dust Collector Recommendations

Steel.....	BP-9-54 Steel Dust Collector
Non-Skid.....	BP 505 with BP 9-54 Steel Dust Collector
Concrete .....	BP 505with BP 9-54 Dust Collector

## 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 SHOT BLASTING 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 505 SHOT BLASTING 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 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 505 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.
- Verify that all machine 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.**
- 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, impeller, control cage, liners, and fastening screws for damages and wear. Wear grooves are acceptable until 75% of blade thickness has been worn away. When blade thickness has been worn away by more than 75%, 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.
- Make sure the dust container of the filter unit is empty.
- Check the separator parts for wear and defects. Remove foreign bodies and dust deposits in order to prevent the separator from being blocked.
- 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.
- Fill approximately 100 lbs. of the selected shot into the shot storage hopper of the BP 505 machine. The shot valve must be closed while doing this.
- Check that the filter dust container has been emptied.
- Blast in a straight line. Blasting in a straight line will produce the most uniform results. **NEVER RUN OVER ANYTHING WITH THE BP 505! RUNNING OVER AN EXTENSION CORD, AIR LINES, REBAR EXPANSION JOINTS, OPENINGS IN FLOOR, DRAINS, ETC. WITH THE BP 505 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 505 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 505 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 505 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 505 into operation.

**Note: If the BP 505 shot blasting 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 505, 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!**
- **MAKE CERTAIN CIRCUIT BREAKERS CAN HANDLE THE ELECTRICAL LOAD REQUIRED BY THE BP 505.**
- **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 505, always perform the following safety procedures:

- Shut off the shot supply by pushing down the shot valve handle.
- Advance the machine until you are sure that no deep holes are being blasted into the surface.
- Press the push button “Main blast OFF.” This switches off the blast wheel motor.
- Press the push button “Drive OFF.” This switches off the drive motor.
- Press the push button “Fan OFF.” This switches off the fan motor.
- Set the main switch on the main box at the front of the blast cleaning machine to “OFF.”
- After several minutes press the push buttons “Compressor OFF,” “Fan OFF,” and “Pulsator OFF” on the filter unit.
- Set the main switch of the filter unit to “OFF.”
- 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 505. Shot should never be left in BP 505 after work is performed. Never move or transport BP 505 with shot or dust 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 505, make certain that the following safety procedures are followed:

- Verify that the BP 505 and the dust collector are not in operation. Attempting to perform maintenance operations on the BP 505 or the dust collector while in operation could lead to serious injury or death.
- Verify that the BP 505 and the dust collector are on a level and stable surface.
- Make certain that the BP 505 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).
- Make certain maintenance personnel are wearing lint-free cleaning cloths.
- If repairing the underside of the BP 505, 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.
- Make certain that process materials and replaced parts are disposed of safely and in an environmentally-appropriate manner.
- **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 505 WITHOUT WRITTEN AUTHORIZATION FROM THE MANUFACTURER!**
- 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 505 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.

## Check List

The tasks listed on this check list must be completed before the BP 505 can be put into operation. Completing these tasks is essential in order to increase the efficiency and safety of the BP 505.

- Blades..... Check for excessive wear.
- Blast Wheel ..... Check for balance and excessive wear.
- Top Liner ..... Check for excessive wear.
- Lower Liner ..... Check for excessive wear.
- Gap ..... To adjust gap, see Operation Adjustments section.
- Blast Wheel Bearings..... Check set screws and grease  
(Lucas Red 'N' Tacky #2:  
High Speed, High Temp).
- Shot Valve..... Make sure shot is not leaking from shot hopper.
- Filters .....Make sure filters are secure and not clogged, ripped, or wet.
- Tires ..... Check for excessive wear.
- Blower Bearings..... Check set screws and grease.
- Dust Collector Latches..... Make sure latch firmly secures door.

## Operating Instructions

Before putting the machine into operation, make certain that all existing protective housings are mounted and that the filter unit is correctly connected. To operate the machine, follow the steps listed below:

- 1) Turn on the filter unit.
  - a) Main switch of the filter unit “ON.”
  - b) Fan “ON.”
  - c) Compressor “ON.”
  - d) Pulsator “ON.”
  - e) Check the turning direction of the filter and compressor motor. The correct turning direction is indicated by the arrow on the fan motor.
- 2) Initial operation.
  - a) Check that the shot valve is closed.
  - b) Check that the emergency shutdown switch is not activated.
  - c) Ensure that the electric drive levers are centered.
  - d) Switch the main switch of the machine to “ON.” The control lamp “Power” on the control box lights up.
  - e) Press the push button “Drive ON.”
  - f) Press the push button “Fan ON.”
  - g) Press the push button “Main blast ON.” The blast wheel motor is started.
  - h) Observe the ammeter in order to check the power consumption of the blast wheel motor. The motor requires a lot of power (starting current) when it is started until it reaches its maximum speed.
  - i) Once the blast wheel has reached its rated speed the current drops to approximately 10 A no-load consumption.
  - j) If the ammeter indicates more than the normal current value after 10 seconds, interrupt the power supply and find the cause.
  - k) If the ammeter indicates high load consumption after having reached the idle-running speed, the shot valve may be partially open or there may be another disturbance. Find out the cause of the disturbance and, if necessary, contact BlastPro Manufacturing, Inc.
  - l) To steer the machine, manipulate the electric drive levers.  
**Note: See Electric Drive Levers section below for further instruction.**
  - m) When the machine is traveling, pull the shot control lever to operate the valve. Observe the ammeter. It may indicate the full load amperage (35 A).
  - n) An indication exceeding the full load value means overloading of the motor, whereas an indication below the full load value shows that there is not enough shot fed to the blast wheel. If necessary, then re-adjust the shot valve handle that operates the shot valve or refill the hopper with shot.
  - o) After having blasted approximately 2 meters close the shot valve, stop the machine, and check the blasted surface.
  - p) If the blast pattern is irregular it may be necessary to re-adjust the blast pattern or select another travel speed for the machine. If necessary, refer to Setting the Blast Pattern located in the Operation Adjustments and Recommendations section.

**Note:** It is strongly recommended that the operator blast in straight lines. Doing so will permit the operator to blast in parallel tracks which will consequently reduce the chance that the dust hose and the electric cable become intertwined. Also, it is imperative to never allow vehicles to run over the dust hose and/or the electric cable.

**Note:** The selection of the correct advancing speed of the blast machine is important for a good blast result. In the case that the surface has different characteristics, a uniform blast can be achieved by varying the advancing speed during blast cleaning.

**Note:** When the blast head is lifted from the floor, shot escapes from the sides of the blast head at a high rate of speed. If the machine is moved while the blast head is raised, the shot valve must be closed and the blast motor must be turned off.

**Note:** Alter the travel direction only after having closed the shot valve.

**Note:** The dust container of the filter unit must be emptied regularly.

### **Electric Drive Levers**

Electric drive levers steer the BP 505 shotblasting machine. To operate the machine properly, always move the hydraulic levers in a slow and smooth manner. Moving the hydraulic levers in a fast and/or forceful manner will result in a jerky, uneven movement.

- Pushing both electric levers forward (↑ ↑) will cause the machine to move forward.
- Pushing both electric levers backward (↓ ↓) will cause the machine to move backwards.
- Pushing the left electric lever forward (↑) and the right electric lever backwards (↓) will cause the machine to move to the right.
- Pushing the right electric lever forward (↑) and the left electric lever backwards (↓) will cause the machine to move to the left.

### **Turning-Off the Machine**

- 1) Shut off the shot supply by pushing on the shot valve handle.
- 2) Advance the machine until you are certain that no deep holes are being blasted into the surface.
- 3) Press the push button “Main blast OFF.” This will turn off the blast wheel motor.
- 4) Press the push button “Drive OFF.” This will turn off the drive motor.
- 5) Press the push button “Fan OFF.” This will turn off the fan motor.
- 6) Set the main switch of the main box at the front of the blast cleaning machine to “OFF.”
- 7) After several minutes press the push button “Compressor OFF,” “Fan OFF,” and “Pulsator OFF” on the filter unit.
- 8) Set the main switch of the filter unit to “OFF.”
- 9) When the BP 505 shot blasting machine has been put out of operation for a longer period of time, pull out the main plug and cover the entire machine with a plastic foil.

## Operation Adjustments and Recommendations

The BP 505 can be manipulated to make blasting easier for the operator.

### Shot Valve

Located between the shot storage hopper and the blast housing, the shot valve controls the amount of shot allowed in the blast wheel. Altering the opening of the valve results in a change in the amount of shot fed to the blast wheel. The change in the shot allowed in the blast wheel can be read from the ammeter (see Ammeter section below). The shot valve is hand-operated and can easily be adjusted. Optimum blast cleaning power is reached when the ammeter shows a reading of 35 A.

**Note: Never allow the load consumption to rise above 35 A.**

**Note: Whenever the machine is not being used for blast cleaning, the shot valve must be kept shut!**

### Shot Valve Handle

The shot valve handle controls the shot valve. When the handle is pulled upwards, the shot valve is opened, and shot is allowed to travel move to the blast wheel in a consistent, controlled manner.

### Recommended Blast Paths

Position the filter unit near to a power supply connection. Then, place the blast cleaning near to the filter unit and spread out the hose. Work with the blast cleaning machine, with the hose spread out in the opposite direction, repeating the process away from the filter unit. Travel stepwise over the work area considering the service length of the dust hose. Finally, finish the blast cleaning process by blasting the area where the filter unit originally stood.

### Setting the Blast Pattern

Setting the proper blast pattern is determined by trial and error. The importance of selecting the proper blast pattern cannot be overstated. An improper or unevenly distributed blast pattern will result in excessive blasting on either the right side or left side of the machine and will leave shadows or “track” lines in the blast pattern.

1. Verify that the blast wheel is rotating in the direction shown on the blast housing.
2. Place a sheet of steel approximately ¼” thick under the machine and then blast with the shot valve fully open for approximately 30 seconds.

**Note: Do not move the machine during this time.**

3. After blasting for thirty seconds, shut down the machine and inspect the blast pattern. The “hot spot” should be in the center of the width blasted. The “hot spot” can be altered by rotating the control cage in small increments. Rotating the control cage in a counter-clockwise direction will move the “hot spot” to the right while rotating the control cage in

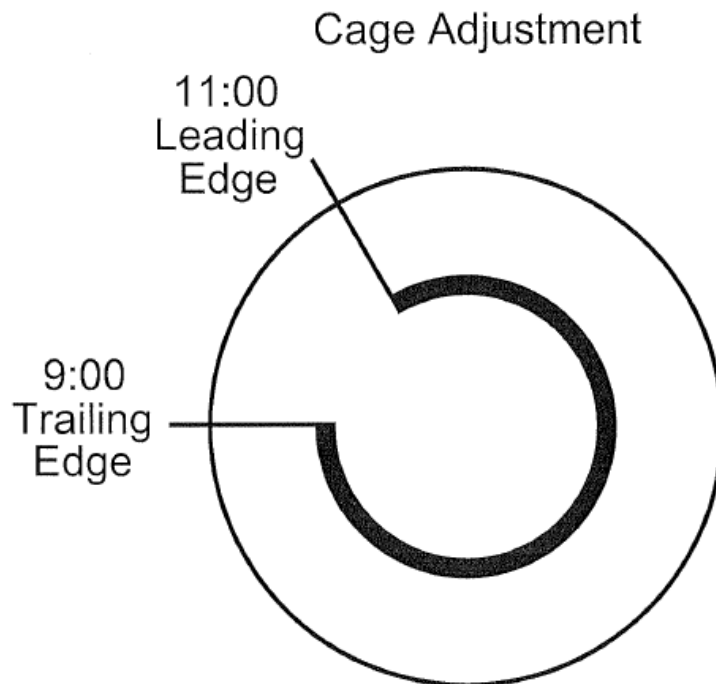


a clockwise direction will move the “hot spot” to the left. If you visualize a clock, the opening of the control cage should be set at approximately 11:00 (leading edge) and 9:00 (trailing edge) on the clock (see Proper Control Cage Setting Drawing below). The size of steel shot used will impact where the “hot spot” appears in the blast pattern. The operator will need to adjust the control cage based upon the size of steel shot utilized.

**Note: The setting of the control cage will vary depending both on the size of shot used and on the type of surface being blasted. When altering the position of the control cage, make sure to only adjust it in small increments. Keep adjusting the control cage until the desired blast pattern has been obtained. Once the desired blast pattern has been obtained, the blast pattern should remain consistent.**

**Note: Four factors may affect the blast pattern. Of these, the control cage setting is the most crucial. Other factors that may also affect the blast pattern include the size of the shot being used, the wheel rotation, and the worn wheel kits. If adjusting the control cage setting does not allow the desired blast pattern to be achieved, then it is important to narrow down what is causing the problem. First, take into consideration the size of shot being used. If this does not resolve the problem, then check and, if necessary, replace the wheel rotation and the worn wheel kits.**

### Proper Control Cage Setting Drawing



## **Transportation**

When transporting the BP 505 shot blasting 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. Before transportation, the BP 505 should be separated into machine, filter unit, and general accessories. **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 to be used to transport the BP 505 shot blasting machine.**

## Maintenance and Inspection List

### Maintenance and Inspection Time Table

The BP 505 contains parts that are continually exposed to steel shot moving at high rates of speed. The combined effect of contact with steel shot traveling at high rates of speed and exposure to concrete dust causes these parts to deteriorate. As a result, the operator or maintenance personnel should inspect the BP 505 wear parts prior to operation and replace these parts when necessary. Wear parts and inspection times on the BP 505, other than inspection prior to use, 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 Blades	10 hours	Blades deteriorated > 75%
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 505 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.

**Note:** Prior to any repair work, secure the machine against unintentional switching-on. Put the machine in the safety off position.

**Note:** The supplier's operating and maintenance instructions should also be followed during service and maintenance procedures.

### Blast Wheel Blades and Impeller Replacement

During operation, the blast wheel blades and the impeller will wear. To replace worn components, follow the directions listed below:

- 1) Make sure the power unit is stopped and the main electricity supply is disconnected.
- 2) Remove the bolts securing the abrasive storage hopper to the separator and remove the hopper from the machine.
- 3) Remove the cage clamps securing the control cage and remove the control cage.
- 4) Unscrew the impeller bolt and remove the impeller using a wooden or brass drift.
- 5) Remove the top liner cover and remove the top liner using a screwdriver or crowbar.
- 6) Clean the blast wheel and the blades with air.

- 7) Through the opening at the top of the blast housing: use a wooden or brass drift to tap out all six blades from the blast wheel towards the center of the blast wheel.
- 8) Clean the blast wheel thoroughly to make sure that the new blades and the impeller will fit well and to avoid any imbalance of the blast wheel.
- 9) Replace the blades with six new ones and re-assemble the machine in reverse order. Note: blast wheel blades must be replaced as a set. Replacing only some of the blades can cause imbalance of the blast wheel.

### **Changing the Liners**

To change the liners, follow the directions listed below:

- 1) Unscrew the top liner cover and remove it.
- 2) Take out the top liner.
- 3) Loosen the fastening screws securing the left and the right-handed liners and take the side liners out of the blast housing.
- 4) Replace all worn items. Clean the liners and the inside of the blast housing thoroughly. Re-assemble the machine in reverse order, using gaskets between the top liner and the side liners, and between the top liner and the front rear plates of the blast housing. Make sure that the top liner sits close at the edges of the side liners.

## Wear Parts

<b>Part Description</b>	<b>Part ID</b>
Rear drive tire 8.5x4x4	EBE500-2425E
Dust collector fan	BP65000509
Caster for BP 505	EBE500-2010-SEH
Filter/element 6-54 9-54	BT4932060
36" floor magnet	BTP004337
24" floor magnet	BTP004335
Hand magnet	BT08400012

# **Fault Diagnosis**

## **Fault Diagnosis: Machine**

In order to diagnose faults related to the machine, reference the problems and potential solutions listed below:

**Problem:** Abrasive is escaping.

**Possible Solution:** Check all seals and replace if necessary.

**Problem:** Reduced or no blasting performance.

**Possible Solution #1:** Check and clean blocked shot valve housing.

**Possible Solution#2:** Check the ventilation system; make sure abrasive is not contaminated.

**Possible Solution #3:** Clean wire mesh, top up abrasive if necessary.

**Possible Solution #4:** Check and replace worn blast wheel and/or control cage if necessary.

**Possible Solution #5:** Check the adjustment of the shot valve.

**Possible Solution #6:** Reduce the travel speed.

**Problem:** Excessive vibration.

**Possible Solution #1:** Replace the worn blast wheel parts and remove all broken from the machine.

**Possible Solution #2:** Replace the worn fan impeller.

**Problem:** Unusual noise.

**Possible Solution #1:** Check whether all screws and parts are fixed tightly.

**Possible Solution #2:** Check alignment of the rotating parts (blast wheel and control cage).

**Possible Solution #3:** Replace the wheels.

**Possible Solution #4:** Replace the motor.

**Problem:** Excessive wear in blast housing and recovery duct.

**Possible Solution:** The thrown abrasive blasts the housing and not the surface to be blasted. Adjust the blast pattern.

**Problem:** Contaminated abrasive.

**Possible Solution:** Check the filter unit (cartridges and seals).

**Problem:** Abrasive loss on the surface or abrasive escaping from blast head.

**Possible Solution:** Replace the worn blast wheel parts.

**Problem:** Machine is not moving.

**Possible Solution:** Increase the travel speed.

### **Fault Diagnosis: Electrical System**

In order to diagnose faults related to the electrical system, reference the problems and potential solutions listed below:

**Problem:** Control system does not switch on.

**Possible Solution:** Check and switch on again. Check the main power supply, too.

**Problem:** Control system switches off during transportation.

**Possible Solution #1:** Replace cables connecting the units.

**Possible Solution #2:** Replace connection cable.

**Possible Solution #3:** Switch the main switch “ON” – with fault, have the unit checked by an electrician.

**Possible Solution #4:** Have the fault checked by an electrician.

**Problem:** Machine does not travel.

**Possible Solution #1:** Replace the potentiometer.

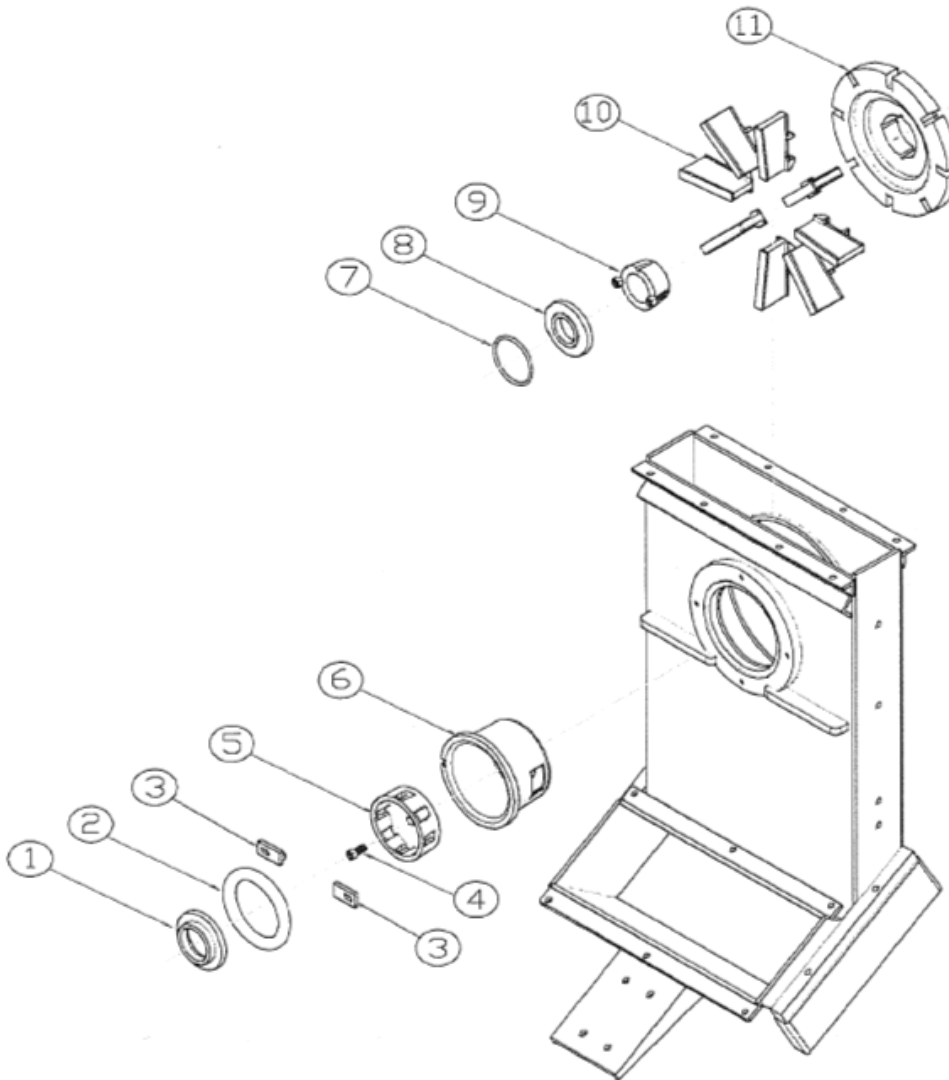
**Possible Solution #2:** Replace the control unit.

**Possible Solution #3:** Have the unit checked by an electrician.

## Drawings, Pictures, and Parts Lists

Listed below you will find drawings alongside tables with parts lists for the BP 505 blasthead assembly, separator and shot hopper, liners, and blast housing seals. You will also see pictures that denote key elements on the BP 505.

### BP 505 Blasthead Assembly Drawing

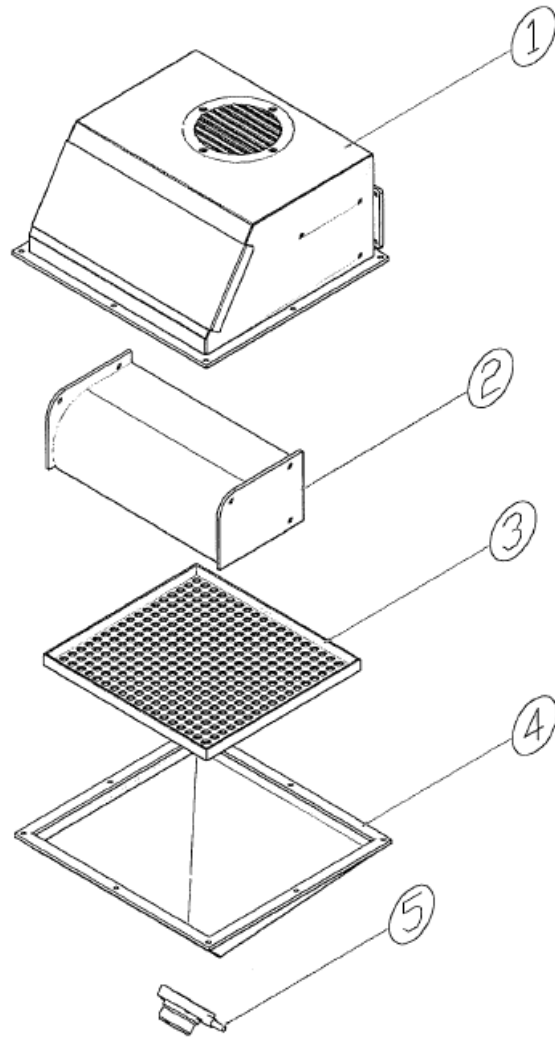




**BP 505 Blasthead Assembly Parts List**

<b>Part Name</b>	<b>Part Number</b>
1. Feed Spout	BP500-0010
2. Feed Spout Seal	COY-3060152
3. Cage Clamp	BP500-00098
4. Impeller Bolt	BP505-0008
5. Impeller	COY-P60100000
6. Control Cage	COY-P6050014
7. Centering Plate O-Ring	COY-3060153
8. Centering Plate	COY-P6000028
9. Taper Lock / Blastwheel	BP505-0003
10. Blast Wheel Blades (x8)	COY-P6000024-8
11. Rim Assembly	COY-1000080-A

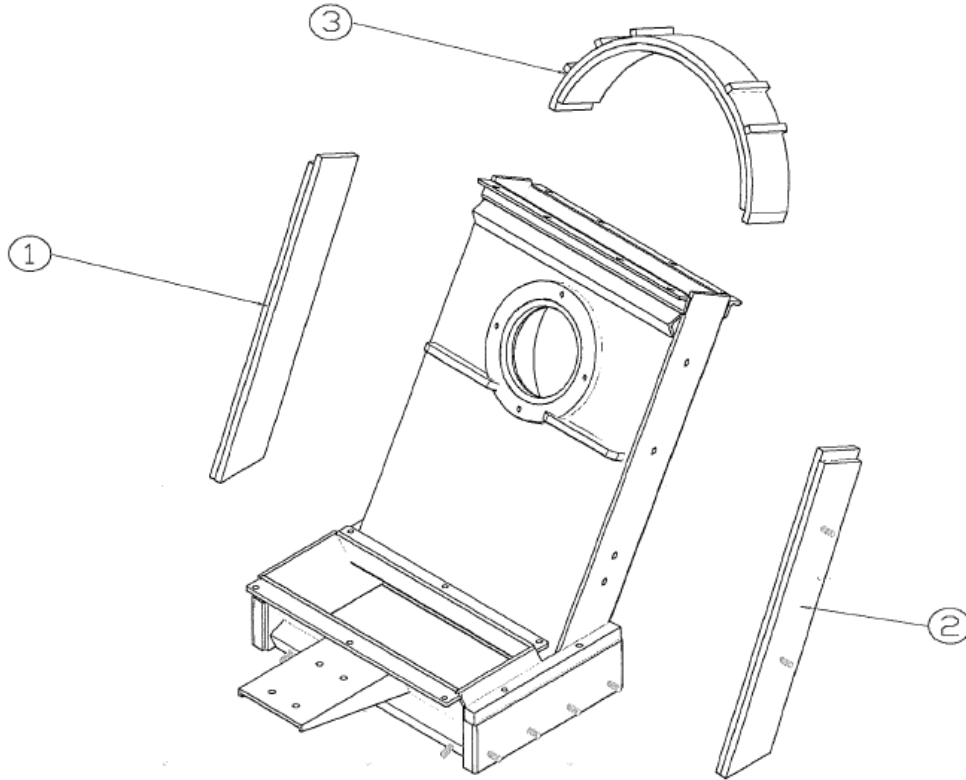
### **BP 505 Separator and Shot Hopper Drawing**



### **BP 505 Separator and Shot Hopper Parts List**

<b>Part Name</b>	<b>Part Number</b>
1. Separator Housing	BP65000540
2. Separator Deflector	BP65000512
3. Shot Screen	BP500-0013
4. Shot Hopper	BP65000543
5. Shot Valve	BP505-0014

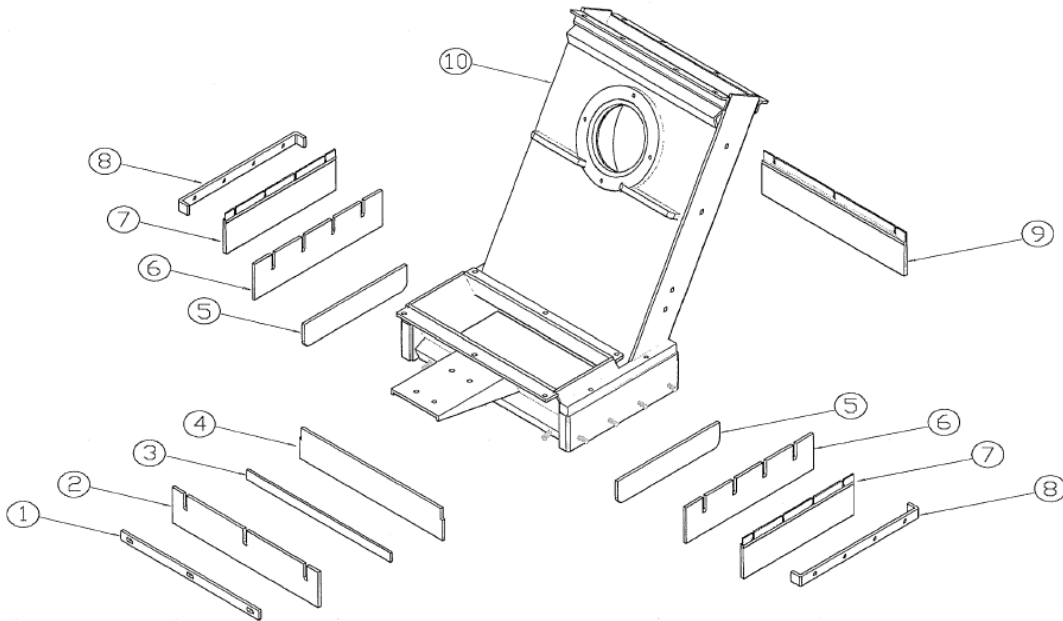
### **BP 505 Liners Drawing**



### **BP 505 Liners Parts List**

<b>Part Name</b>	<b>Part Number</b>
1. Right Liner	BP505-0005
2. Left Liner	BP505-0004
3. Top Liner	BP505-0006

## BP 505 Blast Housing Seals Drawing



## BP 505 Blast Housing Seals Parts List

Part Name	Part Number
1. Front Seal Retainer	EBE500-1057-SE
2. Front Outer Seal	EBE500-1054-SE
3. Front Inner Seal Plate	EBE500-1058-SE
4. Front Inner Seal	EBE500-1052-SE
5. Floating Liner	EBE500-1020
6. Side Seal (Set of 2)	EBE500-1060-S
7. Side Brush	BP65000539
8. Side Seal Retainer	EBE-500-1061-SE
9. Rear Brush	BP65000538
10. Blast Housing Cabinet	BP500-906-E-USA

**BP 505 Side View Picture**

