



# BRB-2800 MACHINE MANUAL



KEEP WITH MACHINE

# Table of Contents

1.1: Applications.....	3
1.2: Specifications.....	3
1.3: Manufacturer.....	3
2.1: General.....	3
2.2: Maintenance and wear part replacement modes.....	4
2.3: Work site assessment and inspection.....	4
2.4: Personal protective equipment (ppe).....	6
2.5: Operational safety.....	6
3.1: Start-up.....	6
3.2: Shut Down.....	8
3.3: Blade Selection.....	8
3.4: Transport.....	9
4.1: Maintenance intervals.....	10
4.2: Troubleshooting.....	11
4.3: Recommended Spare Parts.....	11
4.4: Recommended Tools.....	12
4.5: Hydraulic Schematic.....	13
4.6: Eletrical Schematic.....	15
4.6: Assembly Schematic.....	16

## 1.1: Applications

This machine is specifically designed to remove coatings and coverings from horizontal surfaces. Coatings may include glue, epoxies and cementitious overlays. Coverings may include carpet, ceramic tile, and VCT. A wide variety of tools are available from Blastpro® for your specific application. In general, this machine uses sharpened spring steel blades along with the weight of the machine itself to perform the scraping function. The variable angle of attack allows for a great deal of flexibility when dealing with different floor coatings.

## 1.2: Specifications

Dimensions (L x W x H)	74" x 30" x 68"
Weight	2800 lbs.
Fuel	33lb Vapor Propane
Engine	27 HP Kohler
Electrical System	12 VDC
Blade Actuation	Hydraulic
Steering	Hydraulic
Ground Drive	Hydraulic
Blade Widths	2" through 12"

## 1.3: Manufacturer

Blastpro Manufacturing  
 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)

## 2.1: General

Read and understand this Machine Manual prior to operating or performing maintenance on the machine. This Machine Manual has been developed as a guideline for machine operation. It is not a substitute for proper organizational training and management. All machine operators and maintenance personnel should be properly trained in operation and safety features of the machine. Make these operating instructions accessible to all operating and maintenance personnel. Never weld, modify, cut or grind components of the machine without prior written consent from the manufacturer. Never use aggressive cleaning chemicals to clean the machine. All operators and maintenance personnel should receive training on the dangers of carbon monoxide, or CO. All personnel should be able to identify signs and symptoms of CO poisoning. Common signs associated with overexposure

include headache, nausea, weakness, dizziness, lethargy, visual disturbances, and changes in personality and/or loss of consciousness.

## 2.2: Maintenance and Wear Part Replacement Modes

Maintenance Mode is defined as placing the machine in a configuration, which minimizes potential electric or stored energy hazards. In general, the machine should be placed in Maintenance Mode prior to performing any maintenance and/or troubleshooting activities as follows:

1. Move the machine to a level surface.
2. Lower the blade.
3. Rotate the motor switch to off position.
4. Depress the E-stop button.
5. Remove the 10 amp fuse connecting 48V power to controller.
6. Block the wheels to prevent the machine from moving.
7. Allow all the components to cool.

In general, the machine should be placed in Wear Parts Replacement Mode prior to changing the blade as follows:

1. Move the machine to a level surface.
2. Raise the blade holder so the blade is off of the ground.
3. Rotate motor switch to "OFF" position
4. Depress E-stop button
5. Loosen appropriate bolts and replace blade(s).

After performing any maintenance or repair work verify that all safety labels, guards, lids and bolted connections are properly and securely installed on the machine.

## 2.3: Work Site Assessment and Inspection

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

1. 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.
2. Never scrape over bolts, nuts, screws, nails, or other debris as this may result in significant damage to the machine and serious injury to the operator.
3. Work area is well ventilated. If work area is enclosed or partially enclosed (warehouse, parking garage, tunnels, etc.), this is because carbon monoxide, which is a byproduct of all internal combustion engines, can be extremely hazardous when allowed to accumulate in an area. An odorless, tasteless, and non-irritating gas, carbon monoxide can quickly become lethal. As a result,

vapor propane must be used in all instances when the work area is enclosed or partially enclosed.

4. 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.
5. 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.
6. Floors have 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

Disturbing such surfaces can create a serious health threat to those who inhale or come into contact with the dust. The work area must be checked for these materials before work can begin. Blastpro does not warrant its equipment to be suitable for, or approved for, removing dangerous materials. It is therefore the responsibility of the contractor to confirm 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 the potential short-term and long-term health risks associated with inhaling and coming into contact with dangerous materials. The contractor is responsible for protecting all workers from being exposed to dangerous materials.

7. 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.

8. 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, scraping operations are to be stopped immediately.
9. Fire extinguishers are nearby. Also, take note of the location and the contact information of fire departments close to the work site.
10. All guards are properly installed and in good working order prior to using the machine.
11. All glass and equipment, including vehicles, are protected from debris. 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.
12. The operator must be aware of their surroundings and use common sense. The operator is not to operate the equipment if he is tired, distracted, or under the influence of drugs, alcohol, or medication that decreases awareness.

## **2.4: Personal Protective Equipment (PPE)**

All personnel working with, or in the vicinity of the machine should, at a minimum, utilize the following PPE:

1. Protective boots or shoes
2. Eye protection with side shields
3. Hearing protection
4. Protective leather gloves for handling blades
5. Carbon monoxide monitor

All personnel should observe PPE requirements particular to each job site.

## **2.5: Operational Safety**

Support personnel must keep a safe distance from the machine while it is in operation. Do not stand in front of, or behind, the machine while in operation. The blade should only be actuated up and down with the operator properly seated on the machine. Do not drive the machine with the scraper blade more than ½" off of the floor. The operator must be aware of their surroundings. No personnel should operate or perform maintenance on the machine if they are tired, distracted or under the influence of drugs, alcohol or medication that decreases awareness. Verify that all protective guards and covers are properly installed and secured. Verify that there is sufficient light for the operator to view the work surface. The machine is equipped with headlights to provide additional lighting.

## **3.1: Start-Up**

Only trained, authorized personnel should be allowed to run the machine. If training is needed, please consult with your Blastpro Manufacturing representative or authorized distributor. Prior to start-up, the work surface should be inspected for hidden studs,

electrical boxes, or any other hidden obstructions. These items should be removed or clearly marked so they can be avoided.

To move machine:

1. Operator should be firmly seated in the operator's seat.
2. Verify that the left and right control levers are in the center position.
3. Pull e-stop button up to energize the motor controller.
4. Rotate motor switch to "ON" position.
5. Push rocker switch on the right control lever to raise the blade.
6. Push levers forward to move forward; pull backward to reverse. Varying positions of the left and right control levers will turn the machine left and right.
7. Move machine to desired location.

For normal operation:

1. Insert selected blade into blade holder (see Section 3.3). Always wear leather gloves and use caution when handling the blades.
2. Operator should be firmly seated in the operator's seat.
3. Verify that the left and right control levers are in the center position.
4. Pull e-stop button up to energize the motor controller.
5. Rotate motor switch to "ON" position.
6. Flip light switch to "ON" position if additional lighting is needed.
7. Push rocker switch on right control lever to adjust the blade angle. Some materials may require more pressure on blade for removal. This can be accomplished with a higher angle on the blade holder.
8. Move control levers forward to start removal. It is recommended to make a single pass in one direction to expose an edge of the material to be removed. Subsequent passes should be made perpendicular to the initial pass. See figure 3.1.1.

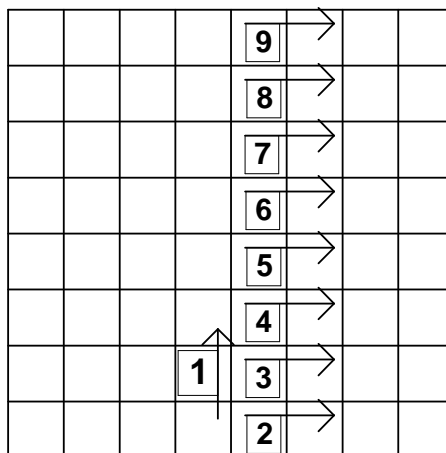


Figure 3.1.1

## 3.2: Shut Down

At end of shift or workday:

1. Move machine to level ground for storage.
2. Use the rocker switch in the left control lever to lower the cylinders until the front caster lifts off of the ground.
3. Rotate motor switch to “OFF” position.
4. Depress E-stop.

For long term storage:

1. Move machine to level ground in a secure location for storage.
2. Lift blade to upper-most position.
3. Rotate motor switch to “OFF” position.
4. Depress E-stop.
5. Remove the blade and/or the blade holder from the front of the machine.
6. Operator should be firmly seated in operator’s seat.
7. Pull E-stop out.
8. Rotate motor switch to “ON” position.
9. Use the rocker switch in the right control lever to lower the cylinders until the front caster lifts off of the ground.
10. Rotate motor switch to “OFF” position.
11. Depress E-stop.
12. Cover the machine to protect it from dust and moisture.

Many of the components on the machine are not meant to be exposed to high levels of moisture. It is critical, especially if the machine is stored in a location exposed to the elements, that it be protected from rain, splashing or other high levels of water.

## 3.3: Blade Selection

Selecting the proper blade for the application will have a dramatic effect on machine efficiency. If a blade is too wide for the application, there may not be enough pressure on the blade to stay under the material to be removed. If the blade is too narrow, the machine may not be removing the maximum material it is capable of in a single pass. Based on information about a particular job, start with the widest blade that may be appropriate for removal. Make a test pass to determine if the blade will stay under the material. If so, continue with this selected blade. If removal of the material is relatively easy, consider moving to a larger blade. If it is difficult to stay under the material, move to a narrower blade. Always wear leather gloves and use caution when handling blades. In general, flat blades should be used for scraping glues, mastics, epoxies and thinsets. See figure 3.3.1.





Figure 3.3.1

For carpet, rubberized and elastomeric coatings, a carpet blade should be utilized. The 90° wings on each end of the blade will help keep the removed material manageable. See figure 3.3.2.



Figure 3.3.2

Blastpro offers a carbide tipped tool for tile removal. This can be inserted into the 3-hole tool adapter on the blade holder. See figure 3.3.3.



Figure 3.3.3

### 3.4: Transport

Only use factory installed tie-down/lifting lugs when transporting or moving the equipment. These are located at the front of the machine, near the blade, and at the rear of the machine, under the motor mounting plate (see figure 3.4.1).

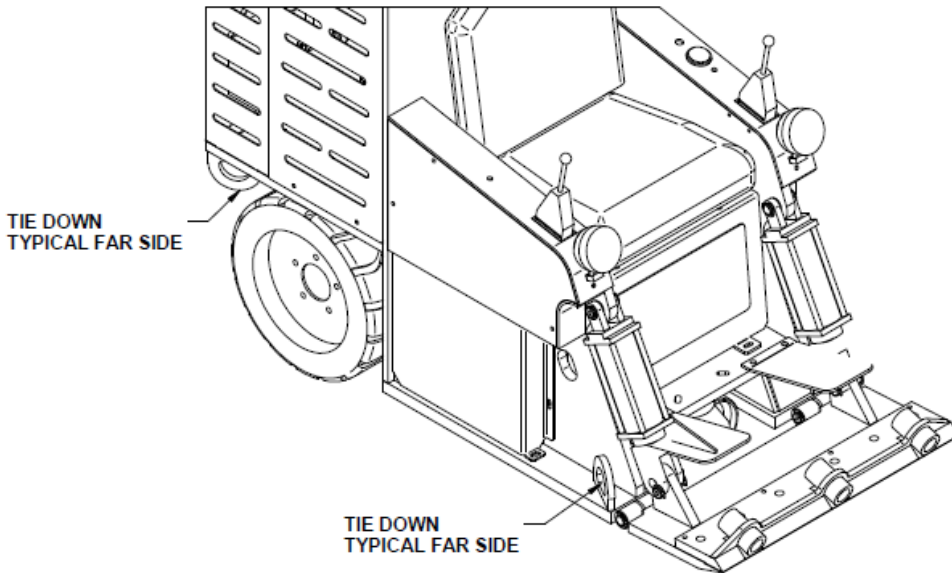


Figure 3.4.1

Never secure the machine with straps; this can result in damage to the cylinders or premature wear. Verify that lifting straps or chains are rated for the weight of the machine. Verify that trailer or truck bed is rated for the weight of the machine. Remove scraper blade and/or pivoting blade holder prior to securing for transport. Verify that the blade holder is lowered and that the front swivel caster is off of the truck or trailer bed. Never allow personnel to stand under the machine when it is being lifted.

## 4.1: Maintenance Intervals

Perform these maintenance activities more frequently under extremely dusty, dirty conditions. Always wear leather gloves and use caution when handling blades. If additional assistance is required consult your Blastpro representative, authorized Blastpro distributor, or qualified systems professional.

Daily or at the beginning of each shift:

1. Check engine oil.
2. Check hydraulic oil level.
3. Inspect hydraulic oil cooler for obstructions (dirt, paper, etc.).
4. Inspect hydraulic components and hoses for leaks or abrasions.
5. Inspect engine air filter.
6. Inspect belts for proper tension.
7. Inspect blades for excessive wear.
8. Check air intake and cooling areas.
9. Inspect drive wheels for wear.

Every 25 hours:

1. Inspect electrical connections.
2. Grease all blade and cylinder pivot pins.
3. Inspect battery terminals for corrosion.

Every 50 hours:

1. Tighten rear wheel nuts
2. Grease front caster and inspect for wear or damage.

## 4.2: Troubleshooting

Problem	Possible Cause	Remedy
Electric motor will not start	E-stop is depressed	Turn motor switch to "OFF", pull out E-stop button, and try to start motor
	Fuse is blown	Replace 10A fuse
	Batteries are dead	Charge batteries
	Motor controller fault	Remove rear cowling to retrieve fault code on controller and consult Blastpro Representative or authorized distributor (see section 4.3)
Slow coating removal	Blade is dull	Flip or replace blade
	Blade is too wide	Replace with narrower blade
	Incorrect blade angle	Adjust blade angle up or down
Cylinder movement seems slow	Dirt in cylinder control spool valve or damaged cylinder	Consult Blastpro representative or authorized distributor
Engine seems sluggish during operation	Throttle not set in high position	Flip or replace blade
	Incorrect oil level	Replace with narrower blade
	Incorrect blade angle	Adjust blade angle up or down with hydraulic cylinders
Ground speed seems slow	Throttle not set in high position	Move throttle to high position
	Damage to ground drive pump or motor	Consult Blastpro representative or authorized distributor

## 4.3: Recommended Spare Parts

It is recommended that the machine owner/operator keep spare parts with the machine while it is working. Down time due to part failure or lack of wear parts can far exceed the cost of the parts.

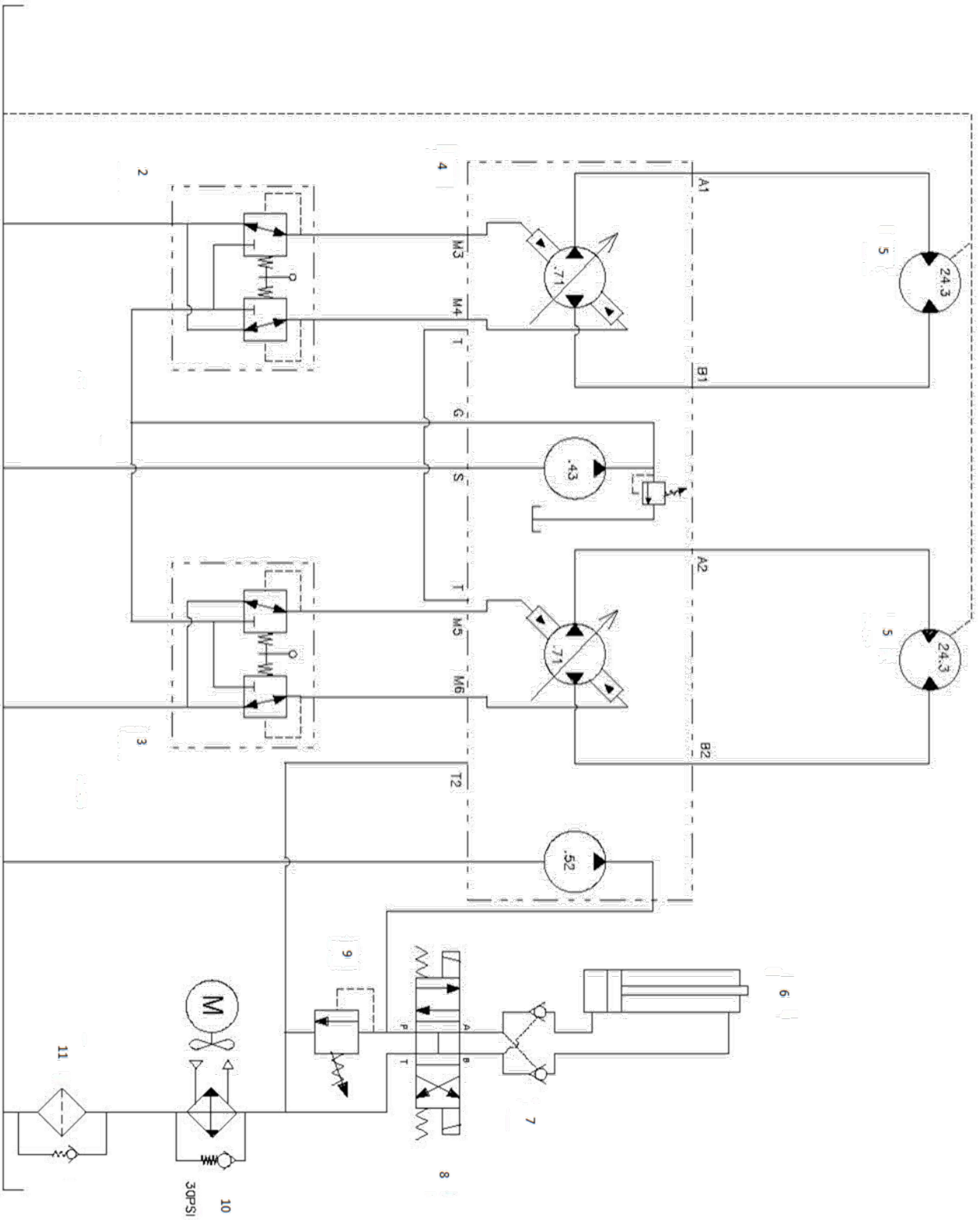
Part Number	Description
BTP000451	6" Carpet Removal Blade
BTP000553	8" Carpet Removal Blade
BTP000554	10" Carpet Removal Blade
BTP000555	12" Carpet Removal Blade
BTP000853	6" Tile Blade
BTP000854	8" Tile Blade
BTP000855	12" Tile Blade W/ Bevel
BTP000886	10" Tile Blade W/ Bevel

## 4.4: Recommended Tools

This is a list of the minimum tools necessary to maintain and/or operate the machine during normal operation. This list is not meant to be exhaustive or to indicate the tools required for more intensive maintenance.

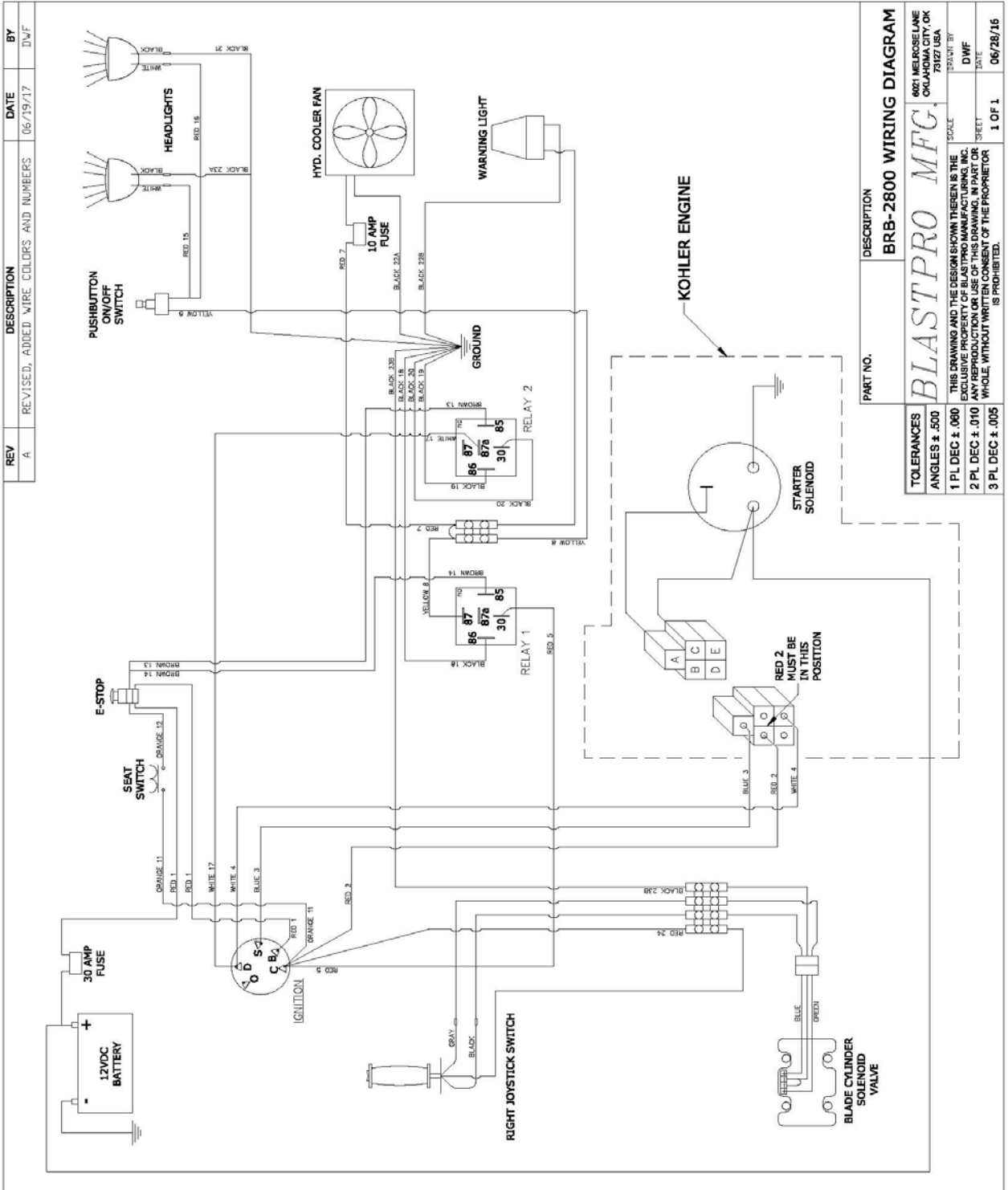
- Ratchet
- Sockets: 7/16", 1/2", 9/16" and 3/4"
- Combination wrench: 7/16", 1/2", 9/16" and 3/4"
- Utility knife
- Rubber mallet or dead blow hammer
- Leather gloves
- Multi meter with DC and AC capabilities

### 4.5: Hydraulic Schematic



ITEM	PART NUMBER	QTY	DESCRIPTION
1	BP85000504	1	HYDRAULIC TANK
2	BP85000012	1	JOYSTICK 3-POS SWITCH
3	BP85000011	1	JOYSTICK – STANDARD
4	BP85000007	1	PUMP – HYDRAULIC
5	BP85000003	2	GROUND DRIVE MOTOR
6	SCR0003	2	HYDRAULIC CYLINDER
7		1	PO CHECK VALVE
8	BP85000009	1	VALVE/LIFT CYLINDER
9	BP85000010	1	EQUALING VALVE
10	BP85000001	1	HYDRAULIC COOLER
11	BP85000008	1	FILTER

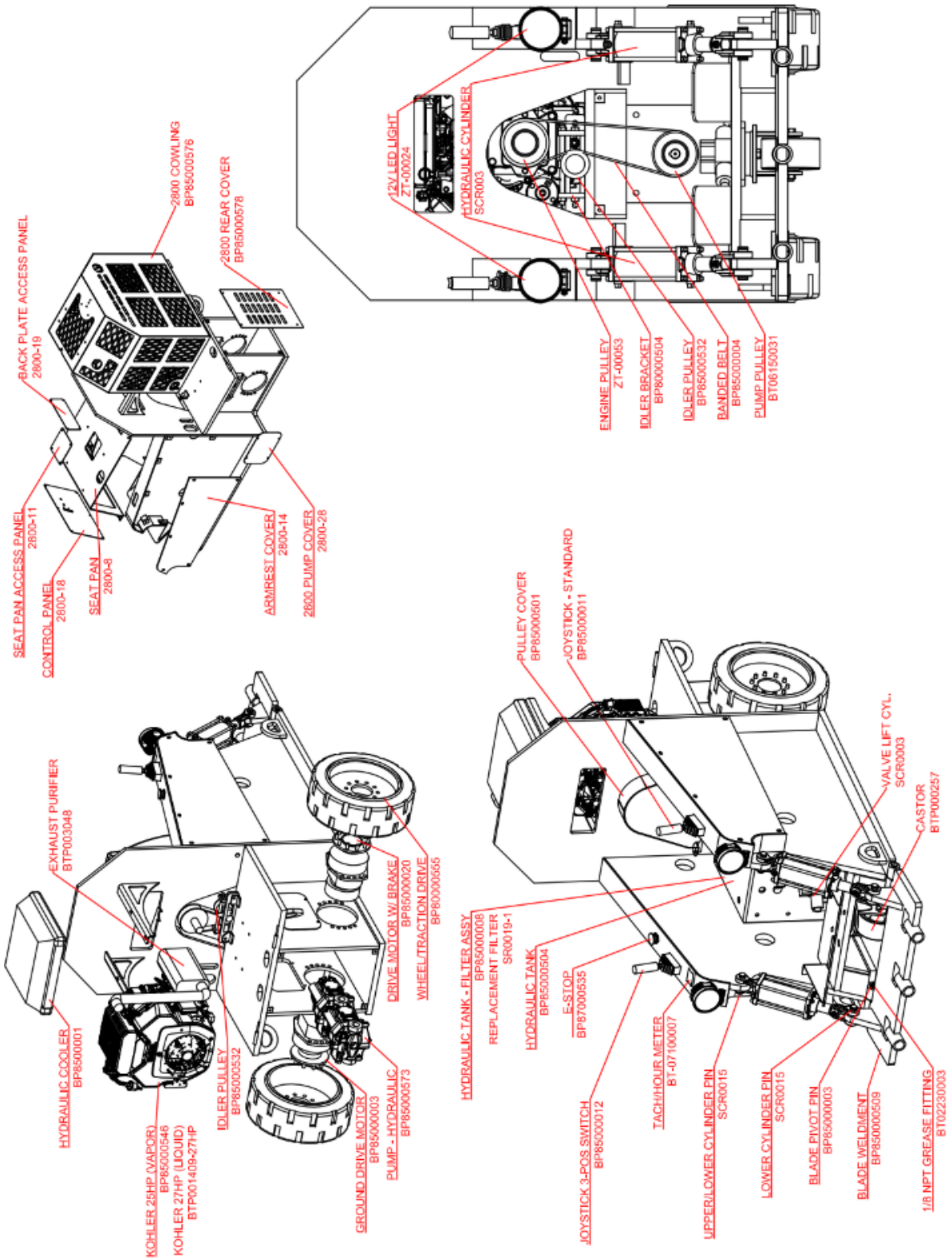
### 4.6: Electrical Schematic



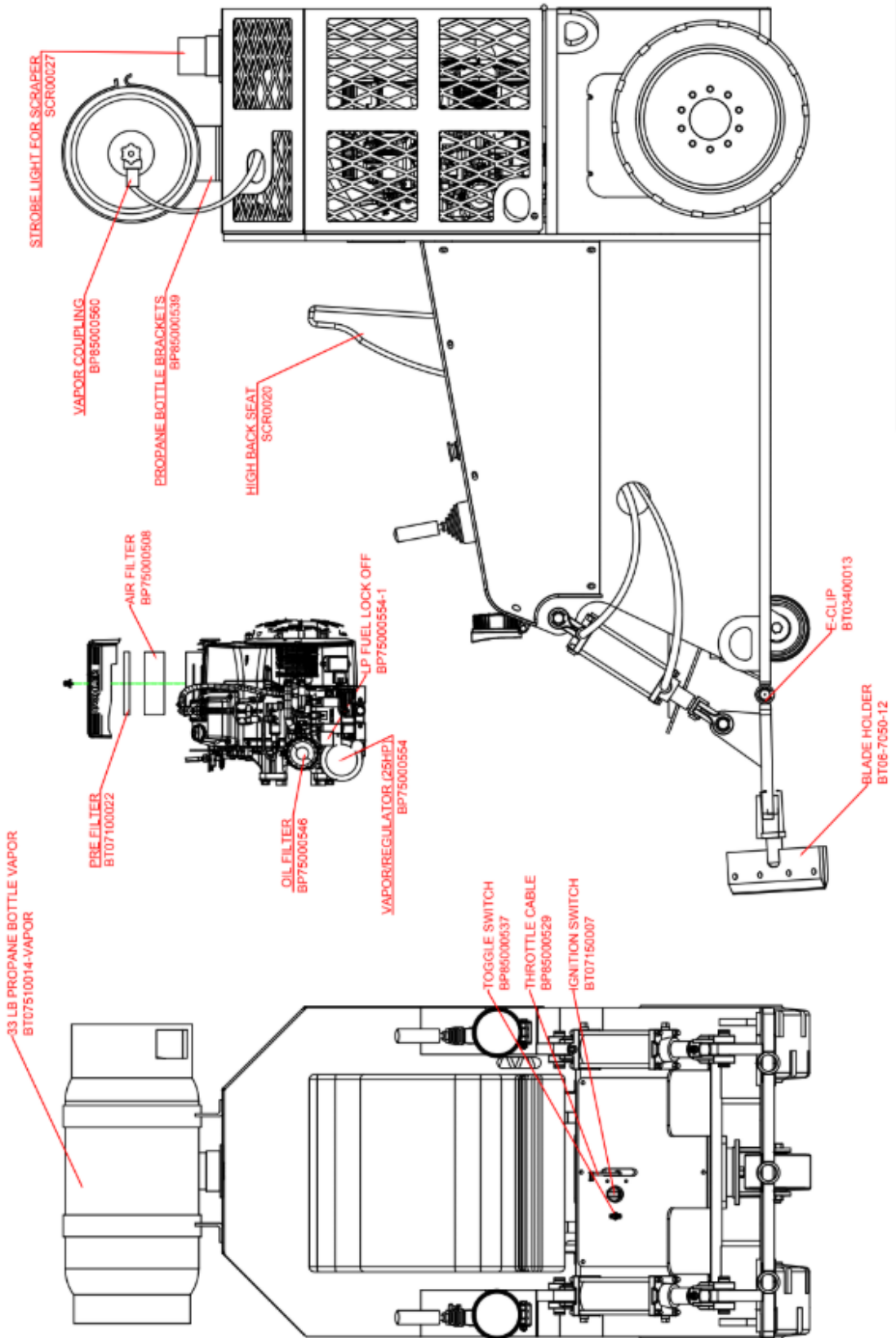
PART NO.		DESCRIPTION
BLASTPRO MFG		BRB-2800 WIRING DIAGRAM
6621 MELROSE LANE OKLAHOMA CITY, OK 73127 USA		DRAWN BY: DWF DATE: 06/28/16
TOLERANCES ± .000		SCALE: 1 OF 1
ANGLES ± .060		
1 PL DEC ± .060		
2 PL DEC ± .010		
3 PL DEC ± .005		

THIS DRAWING AND THE DESIGN SHOWN THEREIN IS THE EXCLUSIVE PROPERTY OF BLASTPRO MANUFACTURING, INC. NO PARTS MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT WRITTEN CONSENT OF THE PROPRIETOR.

## 4.7: Assembly Schematic







<b>Part number</b>	<b>Description</b>	<b>Qty</b>
BP85000001	Hydraulic cooler	1
BP85000004	Banded belt	1
BP85000002	Spline coupling	1
BP85000003	Ground drive motor	2
BP85000006	Blade pivot pin brb-2800	1
BP85000007	Pump-hydraulic	1
BP85000008	Filter	1
BP85000009	Valve lift cyl.	1
BP85000011	Joystick standard	1
BP85000012	Joystick 3 pos switch	1
BP85000546	25hp motor (vapor)	1
BTP001409-27HP	27hp motor (vapor)	1
BT-07100007	Tach/hour meter	1
BTP003048	Exhaust purifier/w 1 1/2 inlet	1
BTP001409-13	Regulator 25hp/kohler	1
BTP001409-8	Vaporizer assy/w filter	1
BP85000529	Throttle cable	1
SCR0038	Wheel/traction drive	2
BTP000257	Caster/swivel 6.00x3.0 w/1.0 t	1
SCR0003	Hydraulic blade cylinder	2
ZT-00053	Engine sheave	1
BT06300025	Taperlock bushing	1
ZT-00024	12v led work lights	2
SCR0031	Propane bottle brackets	1
SCR0016	Upper cylinder pin	2
SCR0015	Lower cylinder pin	2
BT03400013	E clip/for 1.0" od shaft .822	12
BT06150031	Pump sheave	1
ZT-00056	Taperlock bushing	1
ZT-00058	Needle bearing	1
BP80000504	Hm idler bracket	1
ZT-00060	So2 shaft	1
BTP002439	Wiring harness	1
BP85000532	Idler pulley	1