

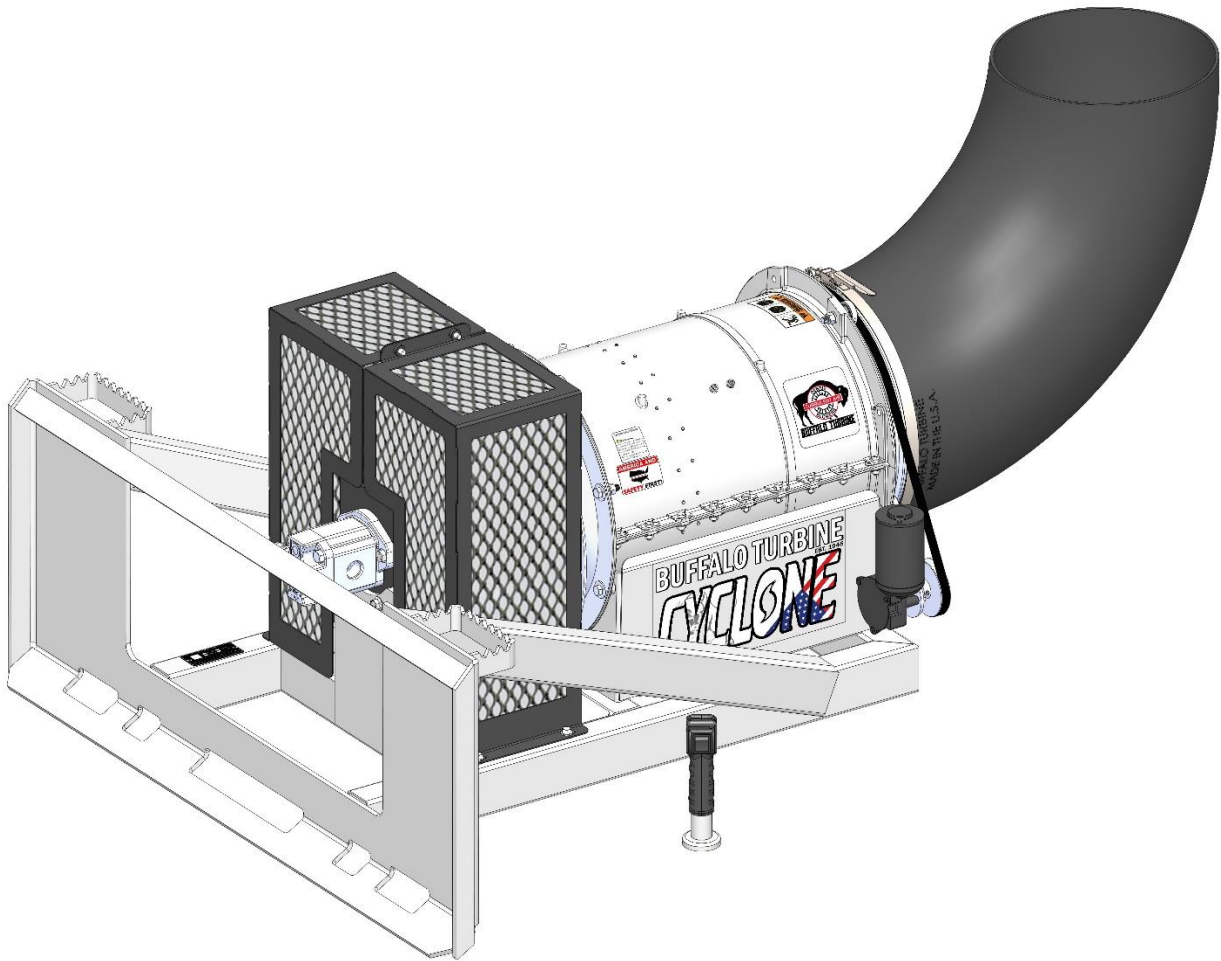
# BUFFALO TURBINE

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## BUFFALO TURBINE'S BT-HYSS4 ORIGINAL INSTRUCTIONS AND PARTS MANUAL

REV A – BT ENG

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## 1.0 INTRODUCTION

Congratulations on your choice of a Buffalo Turbine Debris Blower. This equipment has been designed and manufactured to meet the needs of the Turf Care Industry.

Safe, efficient and trouble-free operation of your Buffalo Turbine Blower requires that you and anyone else, who will be operating or maintaining the Blower, read and understand all of the safety, operation, maintenance and troubleshooting information contained within this Operator's manual.

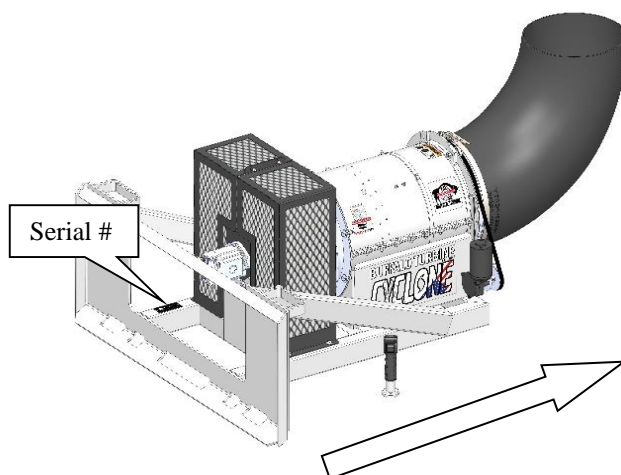
This Manual covers the BT-HYSS4 Turbine Blower.

Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Buffalo Turbine dealer or distributor if you need assistance, information, or additional copies of the manuals.

## SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Debris Blower when ordering parts or requesting service or other information.

The serial number plate(s) is located where indicated in the pictures below. Please document the number in the space provided for easy reference.



**OPERATOR ORIENTATION** – The directions left, right, front and rear, as mentioned throughout the manual, are as seen from the driver's seat and facing in the direction of travel.

### MODEL BT-HYSS4 SIDE RAIL OF FRAME

Serial Number: \_\_\_\_\_

## 2.0 SAFETY

**YOU** are responsible for the **SAFE** operation and maintenance of your Buffalo Turbine Debris Blower. **YOU** must ensure that you and anyone else, who is going to operate, maintain or work around the Buffalo Turbine Blower be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practice while operating the Blower.

Remember **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this machine is familiar with the procedures recommended and follows safety precautions. Remember most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Blower owners must give operating instructions to operators or employees before allowing them to operate the Blower, and at least annually thereafter.
- The most important safety device on this equipment is a **SAFE** operator. It is the operator's responsibility to read and understand **ALL** Safety and Operating instructions in the manual and to follow these. All accidents can be avoided.
- A person who has not read and understood all operating instructions is not qualified to operate the machine. An untrained operator exposes themselves and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety which could affect the life of the equipment.
- Think **SAFETY!** Work **SAFELY!**

This Safety Alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**

The Safety Alert symbol identifies important safety messages on the Buffalo Turbine Blower and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is **SAFETY** important to you?



**3 Big Reasons: Accidents Disable and Kill  
Accidents Cost  
Accidents Can Be Avoided**

**SIGNAL WORDS:** Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guidelines

1. **DANGER** –injury or death if the proper precautions are not taken.
2. **WARNING** -- A specific hazard or unsafe practice that **COULD** result in severe personal injury or death if proper precautions are not taken.
3. **CAUTION** – Unsafe practices that **COULD** result in personal injury if proper practices are not taken, or as a reminder of good safety.

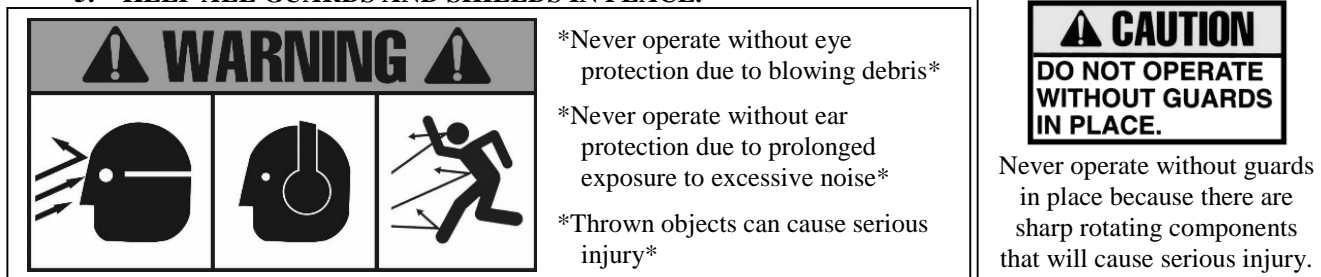
**The Safety Alert symbol identifies important safety messages on the Buffalo Turbine Blower and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.**

## 2.1 SAFETY DECALS

The types of decals on the blower unit are shown below. Good safety requires that you familiarize yourself with the various Safety Decals, the type of warning and the area, or particular function related to that area that requires your **SAFETY AWARENESS.\* THINK SAFETY! WORK SAFELY!**

### !ATTENTION!

1. **KEEP HANDS, FEET AND CLOTHING AWAY FROM POWER DRIVEN PARTS.**
2. **STOP ENGINE AND REMOVE KEY BEFORE LEAVING OPERATOR'S POSITION.**
3. **MACHINE MUST COME TO A COMPLETE STOP BEFORE ANY MAINTENANCE, TO INCLUDE ADJUSTING, LUBRICATING OR CLEANING, IS PERFORMED.**
4. **KEEP PEOPLE AND PETS AT SAFE DISTANCE FROM MACHINE.**
5. **KEEP ALL GUARDS AND SHIELDS IN PLACE.**



**REMEMBER – If safety decals have been damaged, removed, become illegible or parts replaced without decals, new decals must be applied. New decals are available from your authorized dealer.**

## 2.2 GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining, and adjusting.
2. Provide a first-aid kit for use in case of an accident. Store in a highly visible place.
3. Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.
4. Wear appropriate protective gear. This list includes but is not limited to:
  - A hard hat
  - Protective shoes with slip resistant soles
  - Protective glasses or goggles
  - Heavy gloves
  - Wet weather gear
  - Hearing protection
5. Do not operate without guards or shields properly installed.
6. Do not allow riders.
7. **Wear appropriate ear protection for prolonged exposure to excessive noise.**
8. **(All Models) Set Blower on the ground, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before dismounting to service or adjust.**
9. Clear the area of people, especially small children, before starting the unit.
10. Review all safety related items annually with all personnel who will be operating or maintaining the Blower.
11. Keep hands, feet, hair and clothing away from moving parts. Operate equipment only while seated in the operator's seat.

## 2.3 OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, servicing or adjusting.
2. Before servicing or repairing, **Set blower on the ground, stop engine, set park brake, remove key, and wait for all moving parts to stop.**

## 2.4 MAINTENANCE SAFETY

1. Read and follow ALL general, operating, maintenance and safety information in this manual.
2. Support the machine with blocks or safety stands when changing tires or working beneath it.
3. Set Blower on the ground, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before operating, servicing or adjusting.
4. Make sure all guards are in place and properly secured when operating or maintaining the Blower.

## 2.5 TRANSPORT SAFETY

1. Make sure you are in compliant with all local DOT regulations regarding transporting Buffalo Turbine equipment on public roads and highways.

## 2.6 STORAGE SAFETY

1. Store the Blower on a firm, level surface.
2. Store away from areas of human activity. Do not permit children to play on or around the stored machine.
3. Make sure the unit is sitting, or blocked up firm and solid and will not tip or sink into a soft area.
4. Cover with a weatherproof tarpaulin and tie down securely.

## 2.7 SIGN-OFF FORM

- Buffalo Turbine recommends that anyone who will be operating and/or maintaining the Buffalo Turbine Blower must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.
- Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Annually review this information before the season start-up.
- Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to operate this machine.

A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

## SIGN-OFF FORM

[illegible]

## **Buffalo Turbine Warranty Policy**

### **3.0 MACHINE WARRANTY INFORMATION**

Buffalo Turbine warrants the DEBRIS BLOWER, to the original owner, to be free from defects in material and workmanship, under normal use and service. **All machines must have a completed registration form sent to Buffalo Turbine within 30 days of purchase for warranty to apply.** Obligation under this warranty shall extend for a period of 10 years from date of purchase and, at the option of Buffalo Turbine, replacement of any parts found, upon inspection by Buffalo Turbine, to be defective. Any parts replaced under warranty will have the remainder of the warranty from the original date of purchase.

**Warranty parts during first 2 years will be shipped free of charge via standard ground shipping**

**\*If expedited shipping is required charges will be paid by the end user\***

Year 1: Parts and Labor / Hydraulic Motor per motor manufacturer

Year 2: Parts only

**Customer will be required to pay shipping charges for years 3-10**

Year 3: Turbine Assembly / Frame (parts only)

Year 4-10: Turbine Assembly / Frame (parts will be prorated)

**Buffalo Turbine reserves the right to incorporate improvements in material and design of its products without notice and is not obligated to make the same improvements to equipment previously manufactured.**

**ALL WARRANTY REPAIRS NEED PRE-APPROVAL BY A FACTORY PERSON (FROM BUFFALO TURBINE) PRIOR TO COMMENCING WITH A WARRANTY REPAIR TO INCLUDE SERIAL NUMBER AND HOURS FROM HOUR METER (IF EQUIPPED). PRE-APPROVAL WILL BE REQUIRED BY THE END USER AND DEALER/DISTRIBUTOR LEVEL.**

**Factory ordered Buffalo Turbine parts must be used when filing a warranty claim.**

### **LIMITATIONS OF LIABILITY**

This warranty is expressly in lieu of all other warranties expressed or implied and all other obligations or liabilities on our part of any kind or character, including liabilities for alleged representations or negligence. We neither assume nor authorize any other person to assume on our behalf, any liability in connection with the subsequent sale of the **DEBRIS BLOWER**. This warranty shall not apply to any DEBRIS BLOWER, which has been altered outside the factory in any way so as, in the judgment of Buffalo Turbine, to affect its operation or reliability, or which has been subject to misuse, neglect, or accident. This warranty does not cover parts and accessories, which are under separate guarantee from the manufacturers and service can be, obtained from their service facilities. No warranty is extended to regular service items such as lubricants, belts, paint and the like.

### **Original Instruction Manual**

The Purchaser acknowledges receiving training in the safe operation of the DEBRIS BLOWER and further acknowledges that Buffalo Turbine does not assume any liability resulting from the operation of the DEBRIS BLOWER in any manner other than described in the Operator's Manual supplied at the time of purchase.

**WARRANTY VOID IF NOT REGISTERED (see Page 2 for warranty registration form)**

**DO NOT SPLIT THE TURBINE HOUSING FOR ANY REASON.**

**DO NOT ATTEMPT TO SERVICE OR DISASSEMBLE THE TURBINE BLOWER.**

**DO NOT USE THE TOP OF THE TURBINE HOUSING TO STRAP OR TIE DOWN BLOWER UNITS.**

**Unauthorized service work on the Turbine Blower will null and void all warranties.**

If there are any questions regarding any of our products call Buffalo Turbine at 716 592 2700.

### 3.1 Warranty Registration Form

## BUFFALO TURBINE

### WARRANTY REGISTRATION FORM & INSPECTION REPORT

Any units not registered with Buffalo Turbine are not eligible for warranty claims

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery

Customer's Name \_\_\_\_\_ Dealer's Name \_\_\_\_\_

Address \_\_\_\_\_ Address \_\_\_\_\_

City, State, Zip, Country \_\_\_\_\_ City, State, Zip, Country \_\_\_\_\_

Email Address (important) \_\_\_\_\_ Email Address \_\_\_\_\_

Telephone Number \_\_\_\_\_

Blower Model \_\_\_\_\_

**Circle one:**

Serial Number \_\_\_\_\_

Commercial Use

Delivery Date \_\_\_\_\_

Private Use

#### DEALER INSPECTION REPORT

#### SAFETY CHECKS

\_\_\_\_\_ Tire Pressure Check -- Model KB

\_\_\_\_\_ All Decals Installed

\_\_\_\_\_ Wheel Bolts

\_\_\_\_\_ Review Operating and Safety Instructions

\_\_\_\_\_ Belt Tension

\_\_\_\_\_ Guards in Place

\_\_\_\_\_ Lubricate Machine

\_\_\_\_\_ Guards in Place

\_\_\_\_\_ Fasteners Tight

\_\_\_\_\_ Trailer assembly bolts properly installed and tightened

#### **ALL 3 POINT HITCH MODELS: PTO SHAFTS MUST TELESCOPE IN EVERY POSITION**

I have thoroughly instructed the buyer on the above described equipment which reviews the included Operator's Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Date \_\_\_\_\_

Dealer's Rep. Signature \_\_\_\_\_

The above equipment and Operator's Manual has been received by me and I have been thoroughly instructed as to the care, adjustments, safe operation and applicable warranty policy.

Date \_\_\_\_\_

Owner's Signature \_\_\_\_\_

**PLEASE EMAIL TO BUFFALO TURBINE AT - [service@buffaloturbine.com](mailto:service@buffaloturbine.com)**

**Or fax to 716 592 2460**



## 4.0 OPERATIONS

### 4.1 TO THE NEW OPERATOR OR OWNER

Buffalo Turbine Debris Blowers are designed to quickly and efficiently, blow away leaves, cuttings and other debris. The material is conveyed on a stream of high volume and velocity of air to remove it from the area of concern. When the material is removed, it gives a neat, professional look to the working area.

Many of the features incorporated into the machine are the result of suggestions made by customers like you. Read the manual carefully to learn to operate the machine safely and how to set it to provide maximum efficiency. The manual will take you step-by-step through your working day. By following the operating instructions in conjunction with a good maintenance program, your Blower will provide many years of trouble-free service.

#### Potential Mechanical Hazards while operating your machine:

Never operate the debris blower around others to prevent the possibility of being run over by equipment.

Never ride on your debris blower to prevent the possibility of being thrown off the machine or hurt severely.

#### Potential Crushing Hazards while operating your machine:

Between machine arms and blower frame



#### WARNING:

This Product can expose you to chemicals which are known to the State of California to cause cancer and birth defects or

other reproductive harm.

For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### 4.2 BREAK-IN

Although there are no operational restrictions on the Blower when it is used for the first time, it is recommended that the following mechanical items be checked:

#### A. Operating for first ½ hour

1. Check to see if any fasteners are loose. \*Hardware has been marked after installation with Loctite. DO NOT ADD FORCE WHEN CHECKING HARDWARE\*
2. Check set screw (nozzle pulley) to ensure it tightened. \*Hardware has been marked after installation with Loctite. DO NOT ADD FORCE WHEN CHECKING HARDWARE\*

#### B. Operating for first 5 hours

1. Check to see if any fasteners are loose. \*Hardware has been marked after installation with Loctite. DO NOT ADD FORCE WHEN CHECKING HARDWARE\*
2. Check set screw (nozzle pulley) to ensure it tightened. \*Hardware has been marked after installation with Loctite. DO NOT ADD FORCE WHEN CHECKING HARDWARE\*
3. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section of the manual.

### 4.3 PRE-OPERATION CHECKS

Efficient and safe operation of the Buffalo Turbine Blower requires that each operator reads and understands the operating procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both personal safety and maintaining the good mechanical condition of the machine that this checklist is followed.

Before Operating the Blower and each time thereafter, the following areas should be checked off.

1. Make sure all guards and shields are in place, secured and functioning as designed.
2. Lubricate machine per maintenance schedule.
3. Ensure that the machine is properly attached to the (appropriate) power unit attaching arms and that the mounting pins are secured in position.
4. Ensure that ALL Hydraulic lines are securely connected (Including Case Drain Hose).
5. Check that all clamp bands are secure.
6. Check the belts and pulleys for proper tension and alignment.
7. **\*NOTE: It is necessary to warm up the machine for 5 minutes to get the hydraulic oil to operating temperature\***
8. Engage blower at low engine speed and slowly increase engine RPM to the desired blowing speed

#### 4.4 MODEL BT-HYSS4 Assembly Instructions

1. Make sure the tractor has proper Hydraulic Specifications and is in good working order, including mounting brackets and safety equipment.
2. Make sure there is enough room to safely drive up to the blower. Align mounting pins of the blower unit to match the tractor mounting brackets of the tractor. Engage into the mounting brackets and secure pins. (See Tractor attachment installation instructions)
3. Attach nozzle to base ring using quick connect clamp band. Confirm clamp band adjustment nut is torqued to specification listed on latch.
4. Connect Hydraulic lines. Connect hydraulic drive hoses to tractor hydraulic ports, pressure may need to be relieved in the system to connect main hoses, consult your machines manual for proper pressure relief procedure if needed. Connect case drain hose to case drain port on tractor. **NOTE: Case drain hose must be connected when turbine blower is in use to reduce risk of damage to hydraulic motor and seals.**
  - a) On first run of new machine confirm that the blower wheel starts to spin when the hydraulic system is turned on. If the blower wheel does not engage the hose ends installed on the blower hoses will need to be reversed. To do this unscrew each hose end and swap to the other hose. Re-attach hoses to tractor and turn the hydraulic system back on; the blower should now be functioning correctly.
5. Check Upper and lower limits.
6. Connect the remote nozzle control to a 12 volt system only. Red wire needs to be connected to positive terminal of battery. Correct labeled wire needs to be connected to negative terminal of battery. (Wiring Schematic on Pg. 13)
7. To unhook the blower unit from the tractor, reverse the above procedures. Always park the Blower unit and tractor in a dry, level area.

#### 4.5 FIELD OPERATION

1. Do not direct debris blower towards people, pets, autos, windows, etc.  
**Connecting blower:** Securely connect quick attach plate to machine latch point. Connect drive hoses to machine hydraulic ports, note: pressure may need to be relieved in the system to connect main hoses, consult your machines manual for proper pressure relief procedure if needed. Connect case drain hose to case drain port on machine. **NOTE: Case drain must be connected properly at all times when using turbine debris blower to reduce risk of damage to hydraulic motor and seals.**
2. **Starting blower unit:** Always start blower at a lower engine speed(idle) with nozzle pointed down or away.
3. The air stream direction is changed (in either direction) by pressing the nozzle buttons on the Joystick. The nozzle will stop turning by releasing the Joystick button. **ALWAYS CHECK THE GROUND CLEARANCE WHEN OPERATING THE NOZZLE IN THE DOWN VERTICAL POSITION.**
4. **Stopping blower unit:** Gradually slow the tractor RPM down to a lower speed using the throttle.
  - a. A pressure relief valve is installed to reduce risk of motor / seal damage if blower is shut off suddenly at high RPM. A small amount of hydraulic fluid could be expelled from relief valve if pressure exceeds safe limits.
5. Allow the blower fan speed to come to a complete stop before disconnecting from tractor.

#### 4.6 Operating RPM (All Models)

The manufacturer's engine section normally recommends the unit be run at a RPM that will insure efficient operation. The Blower can operate at a slower RPM if it can effectively move the debris. Increase engine RPM as needed. Moving light material, such as dry leaves, requires much less wind than wet or heavier material. Always try to blow with the wind. The Blower can be used for a wide variety of applications to move leaves, grass clippings, aeration plugs and debris. Drying wet areas has been another use with these powerful Debris Blowers.

#### 4.7 Storage

At the end of the working season or before storing the blower unit, prepare the machine by following this procedure:

1. Select a storage area that is dry, level and free of debris.
2. Thoroughly wash the machine with a water hose to remove all debris and residue.
3. Run the machine at low RPM to dry the Blower Components.
4. Touch up all paint chips and scratches to prevent rusting.
5. Inspect for worn or failed components. Order the replacement parts and repair the blower unit when time allows. This will eliminate unnecessary down time at the start of next season.
6. Store in an enclosed building. If space is not available, cover with a waterproof tarpaulin and tie it down securely.
7. Store the machine away from areas of human activity.
8. Do not allow children to play around the stored unit.

## 5.0 TROUBLE SHOOTING

The Buffalo Turbine Debris Blower uses a high volume and velocity of air to move material from one place to another. The system is simple and reliable requiring minimal maintenance.

If you encounter a problem that is difficult to solve, even after reading through this trouble shooting section, please call your local dealer or distributor. **Before calling, please have this Operator's Manual and the serial number from your Blower ready.**

In the following section, we have listed causes and solutions to the problems that you may have encountered.

**TURN OFF ENGINE, REMOVE KEY, AND DISCONNECT BATTERY BEFORE SERVICING BLOWER UNITS. INSTALL GUARDS BEFORE OPERATING.**

PROBLEM	CAUSE	SOLUTION
No air flow	Buildup of debris inside turbine	Remove nozzle and clean debris from inside turbine
	Broken coupling	Replace coupling
No air flow	Blower fan not turning	See solutions above
Reduced or no air flow	Blower fan turns	Air intake or exhaust restricted Blower or tractor – remove restrictions Debris cannot be allowed to build up between the blower fan and stationary vanes
Machine vibrates or Unusual sounds	Bearing or coupling failure Out-of-balance	Replace bearings or coupling Have your dealer check blower for damaged blades. Wash and clean blower fan blades

## 6.0 Machine Specifications

### Model BT-HYSS4 Series

Length:	64" With nozzle 39" Without nozzle
Width:	46"
Height:	32" With nozzle
Weight:	300 lbs
Electrical System:	12 Volt
Outlet Size:	Approximately 12"

### Hydraulic Motor Specifications

Displacement size	1.04 in <sup>3</sup> /Rev
Required minimum hydraulic pressure (to operate @ performance speeds)	2200 psi
Maximum shock and surge pressure	3500 psi
Maximum flow rate	40 gpm
Minimum flow rate	20 gpm*
Mounting (any position)	SAE "A" size, 2 bolt
Safety Valve Max Pressure	200 psi

(\*) Flow Rates below 20 gpm will reduce the Blower output (RPM) please contact Buffalo Turbine for more information.

**Repairs:** Motors are not repairable in the field except for replacement of shaft seals.

## 7.0 MAINTENANCE SECTION

### 7.1 Maintenance Safety

1. Set Blower on a level surface, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before dismounting to service, adjust or repair.
2. Reinstall and secure all guards removed for servicing before starting to use machine again. \*We recommend wearing gloves when removing or installing the guard to avoid getting cut\*
3. Securely support machine with blocks or safety stands when changing tires or working beneath it.

### 7.2 Fluids

Change oil per machines manufacturing specifications. (See Manual of machine that is running your Buffalo Turbine Debris Blower).

### 7.3 SERVICE CHECKLIST

See Lubrication and Maintenance sections for details of service. Copy this page to continue record.

#### **TURN OFF ENGINE, REMOVE KEY & DISCONNECT BATTERY BEFORE SERVICING BLOWER UNIT**

CODE: LUBRICATE-(L) / CHECK-(\*) / CHANGE-(C) / REPLACE-(B) / CLEAN-(CL)

**SCHEDULED MAINTENANCE HOURS** \_\_\_\_\_

**SERVICED BY** \_\_\_\_\_

#### **MAINTENANCE**

##### **8 hrs or daily**

- (\*) Remove all debris that has settled between the blower wheel fan and the stationary vanes. Helps maintain peak performance.
- (\*) Check Clamp Band Bolt for tightness
- (\*) Check Hydraulic fittings for tightness and leaks.

##### **40 hours or weekly**

- (\*) Check condition of coupling (center section) connecting bolts and when experiencing vibration or unusual noises.
- (\*) Check Nozzle Pulley by gently trying to move in on rotation motor shaft to ensure set screw is tight.
- (\*) Wash and Clean any dirt or grime build up that has accumulated on blower wheel fan blades. Helps to minimize vibration balance and maintain peak performance.

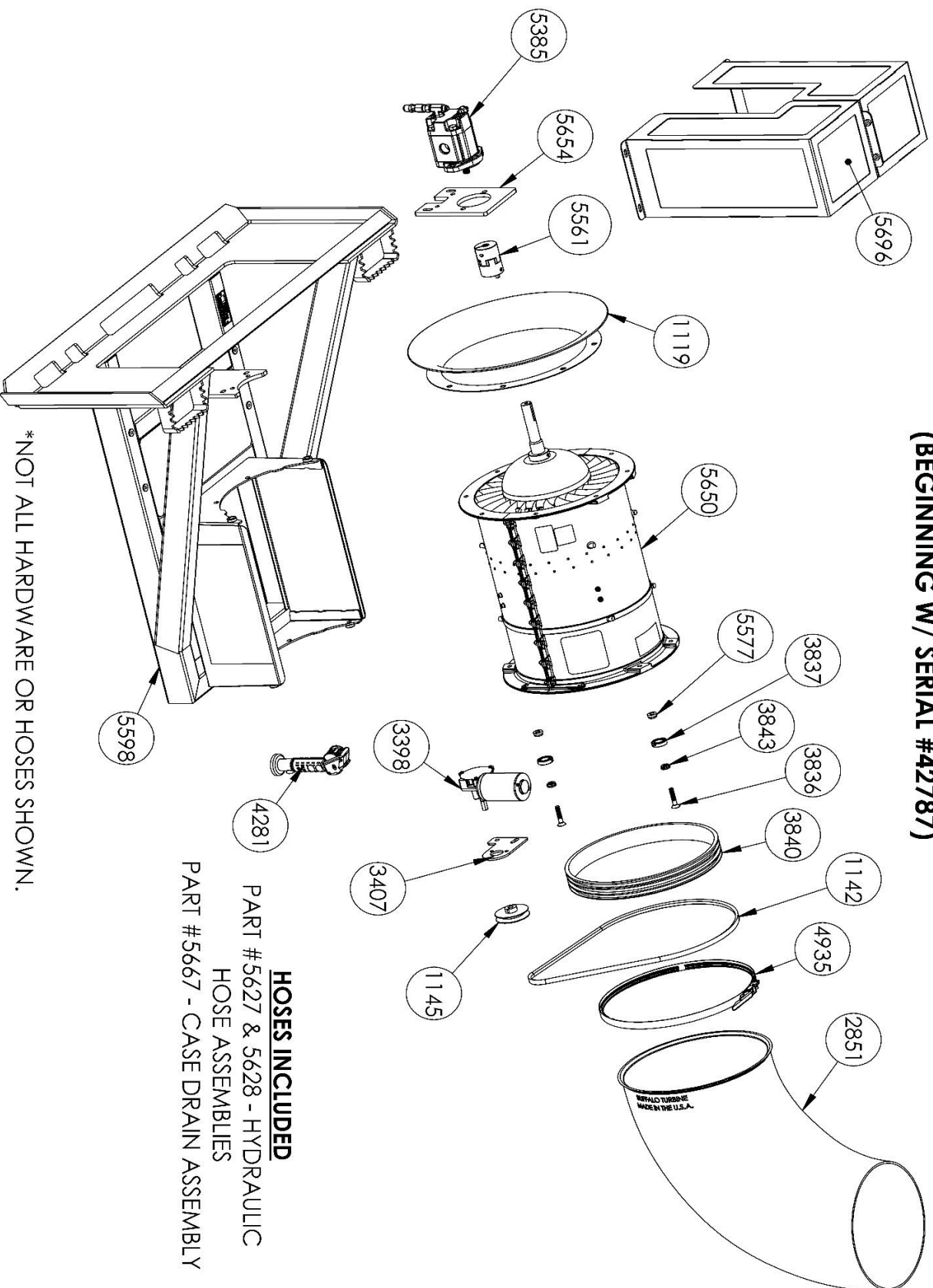
##### **200hrs or annually**

(CL) Machine

**DO NOT OPERATE BLOWER UNIT WITHOUT GUARDS SECURELY ATTACHED**

# BT-HYSS4 PARTS REFERENCE

(BEGINNING W/ SERIAL #42787)



## HOSES INCLUDED

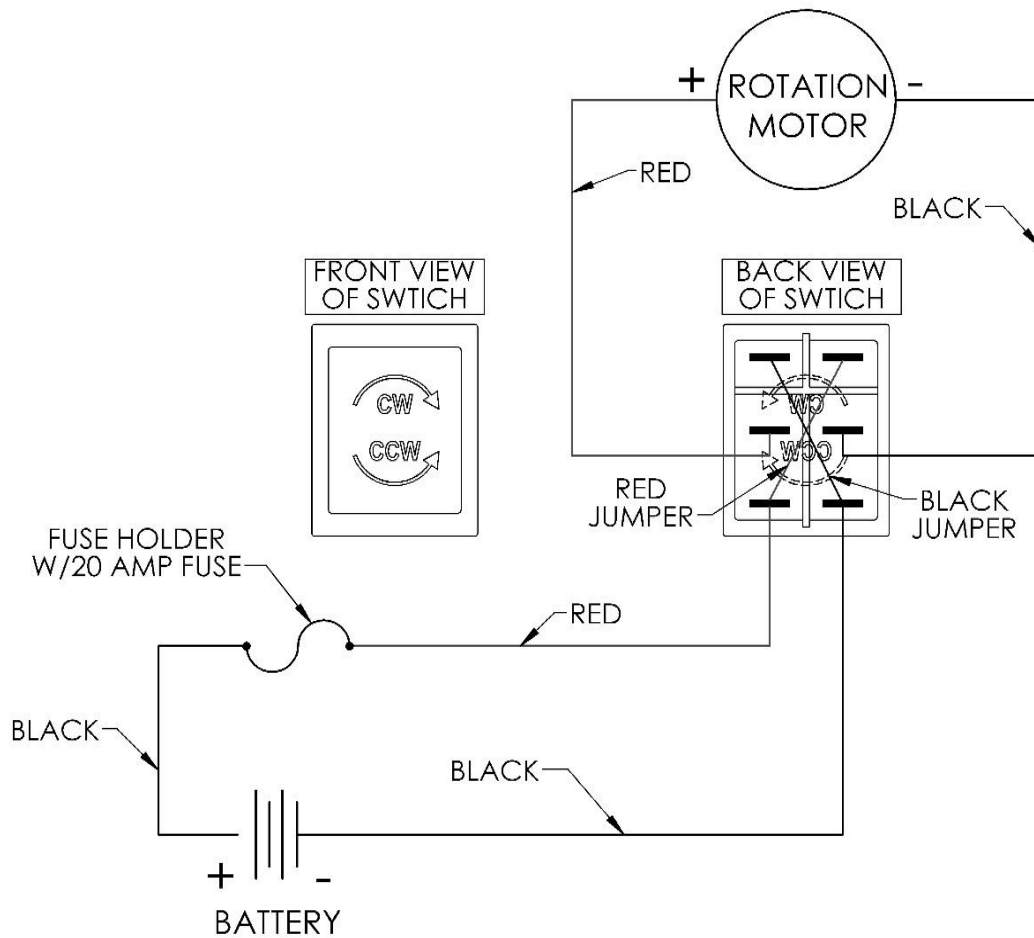
PART #5627 & 5628 - HYDRAULIC

HOSE ASSEMBLIES

PART #5667 - CASE DRAIN ASSEMBLY

\*NOT ALL HARDWARE OR HOSES SHOWN.

# WIRING SCHEMATIC JOYSTICK CONTROLLER (PN 4281)



BILL OF MATERIALS FOR BT-HYSS4			
REF PAGE #	PN	DESCRIPTION	QTY
	1100	1-1/4" 3/8-24 HEX BOLT	4
	1101	1-1/2" 3/8-24 HEX BOLT	4
	1102	1-3/4" 3/8-24 HEX BOLT	2
	1105	3/8-24 HEX NUT	14
	1107	3/8 LOCK WASHER	14
	1108	3/8 FLAT WASHER	8
12	1119	BELLMOUTH	1
	1130	3/8" 5/16-18 SET SCREW	1
12	1142	AX54 V-BELT	1
12	1145	AK32 SHEAVE	1
	1182	4" X 4" BT DECAL	2
	1186	CAUTION DECAL	1
	1233	AMERICA & SAFETY FIRST DECAL	1
	1275	8" CABLE TIES	2
	1660	7/16-20 HEX NUT	2
	1661	7/16 LOCK WASHER	2
	1819	12" CABLE TIES	1
12	2851	PLASTIC NOZZLE	1
12	3398	ROTATION MOTOR	1
12	3407	ROTATION MOTOR BRACKET	1
12	3836	2" 3/8-24 FHCS	4
12	3837	BASE RING BEARING	4
12	3840	14" BASE RING	1
12	3843	BEARING BUSHING	4
	3881	1-1/2" 7/16-20 HEX BOLT	2
12	4281	JOYSTICK CONTROLLER	1
	4548	PROP 65 LABEL	1
	4725	COMBINED WARNING DECAL	1
	4726	CYCLONE SIDE PANEL DECAL	2
	4792	3/4" 5/16-18 FLANGE BOLT	6
	4797	3/4" 3/8-16 FLANGE BOLT	2
	4801	3/8-16 FLANGE NUT	4
12	4935	QUICK RELEASE CLAMP BAND	1
	5056	1/8" DIA. STEEL RIVETS	2
	5164	1-1/4" 3/8-16 FLANGE BOLT	4
	5193	3/4" 1/4-28 FLANGE BOLT	3
12	5385	HYDRAULIC MOTOR - STANDARD	1
12	5561	JAW COUPLING KIT	1
12	5577	BEARING SPACER BUSHING	4
12	5598	BT-HYSS4 FRAME	1
	5627	FEMALE HYDRAULIC HOSE	1
	5628	MALE HYDRAULIC HOSE	1
12	5650	RED, LEFT-HAND, 14" BLOWER	1
12	5654	MOTOR MOUNT PLATE	1
	5657	CASE DRAIN 90° CONNECTOR	1
	5658	CASE DRAIN HOSE W/ CAP	1
	5660	HYDRAULIC HOSE SLEEVE	1
	5661	TAMPER PROOF CAP	1
	5665	200 PSI SAFETY RELIEF VALVE	1
	5666	¼" FNPT TO #37 FJIC STRAIGHT ADAPTER	1
	5696	GUARD KIT – CPT02, HYSS4, HY4	1
	1156R	SERIAL TAG	1



**TALK WITH OUR EXPERTS**  
8AM-4:30PM (Mon-Fri) EST  
(716) 592-2700  
www.BuffaloTurbine.com

## OPTIONS

180 Zoar Valley Road  
Springville, NY 14141

### NOZZLES



Aerospace Polymer Nozzle - Part# 2851  
Standard Clamp Band - Part# 1173



**Flexible Nozzle Assembly - Part# 3345**  
Various lengths available.  
Ideal for rough terrain.

**Gyratory Atomizing Nozzle - Part# 2547**  
(Safety guard removed for clarity)



### ALUMINUM NOZZLES

Optional aluminum nozzles **will not** connect to the standard Aerospace Polymer Nozzle (Part# 2851).  
Requires: **Two 45° elbow segments (Part# 1171)** and two additional clamp bands (Part# 1173).

**12" Nozzle Extension - Part# 1468**  
**20" Nozzle Extension - Part# 1845**

**10" Round Nozzle - Part# 1417**  
**12" Round Nozzle - Part# 1172**  
Improves air velocity with lower horsepower and hydraulic blower units



**10" Rectangular Nozzle - Part# 1469**  
**19" Rectangular Nozzle - Part# 1425**  
5.5"x15" opening - extra length/more concentrated air flow. Uses - heavy wet debris, plugs, top dressing. **No ground clearance** in the vertical down position.



**Fishtail Nozzle - Part# 1743**  
5"x30" (wide angle) opening. Distributes a large volume of air at a lower velocity over a wide area. Easily converts blower into a "Greens Fan". Adaptable to all models. Not as effective at moving debris.



#### D.O.T. TRAILER

**Part# 1613-D** for 8000, KB4, EFI & Mega



#### 2" BALL RECEIVER HITCH

**Part# 4605**



#### FORK POCKETS

**Part# 4552**  
Great for moving blowers around jobsites and bed mount / skid mount applications.



#### LINE DRIVER ATTACHMENT

**Part# 2419**



#### CORDED CONTROL

**Part# 2788** for KB4 Model  
**Part# 2787** for Mega, Diesel Models



#### ROTATION BEARING KIT

**Part# 3838**  
Increases rotation speed and reduces load on rotation motor.



#### QUICK CONNECT CLAMP BAND

**Part# 4935**  
Quickly remove or add nozzle with the barrel style clamp band.



#### EXHAUST GUARD KIT

**Part# 2988**  
Available for Model: KB



**WARNING:**  
Cancer & Reproductive Harm -  
www.P65Warnings.ca.gov



# BUFFALO TURBINE PRODUCTS

**Cyclone eKB**



**Cyclone 8000 (& 8000 EFI)**



**Cyclone KB7**



**Cyclone MEGA**



  
**The Original &  
Most Powerful  
Turbine Debris  
Blowers**  
since 1945



**BLITZ (& BLITZ MEGA)**



**Cyclone SQUARED**



**Cyclone Hydraulic  
(& Hydraulic MEGA)**



**Cyclone PTO (& PTO MEGA)**

Visit [BuffaloTurbine.com](http://BuffaloTurbine.com) for more product info