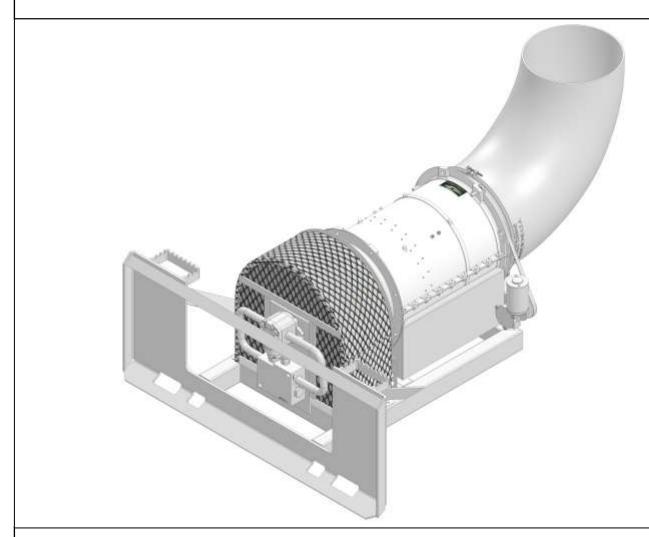
# **BUFFALO TURBINE**

180 Zoar Valley Road Springville, NY 14141

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# BUFFALO TURBINE'S BT-HYSS3HSCE ORIGINAL INSTRUCTIONS AND PARTS MANUAL

03/20 -BT MAN

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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.

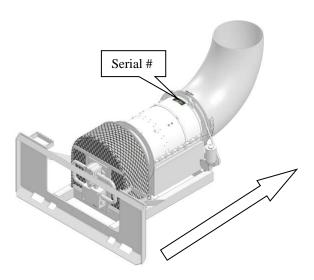
This Manual covers the BT-HYSS3HSCE Turbine Blower.

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-HYSS3HSCE

TOP SURFACE OF TURBINE

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.



Never operate without eye protection due to blowing debris.



Never operate without ear protection due to prolonged exposure to excessive noise



Never operate without guards in place because there are sharp rotating components that will cause serious injury.

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, <u>Set blower on the ground, stop engine, set park brake, remove key, and wait for all moving parts to stop.</u>

# 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**

DATE	EMPLOYEES SIGNATURE	EMPLOYERS SIGNATURE

# **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 Year 2: parts only

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

Year 3: Engine, per engine manufacturer's standard / 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 having 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

This form must be fined out by the dealer and	signed by both the dealer and the editioner at the time of derivery
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	
Lubricate Machine	Guards in Place
Fasteners Tight	Trailer assembly bolts properly installed and tightened
I have thoroughly instructed the buyer on the above	SHAFTS MUST TELESCOPE IN EVERY POSITION 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 be adjustments, safe operation and applicable warranty	en received by me and I have been thoroughly instructed as to the care, policy.
Date	Owner's Signature
PLEASE EMAIL TO BUFFA	LO TURBINE AT - service@buffaloturbine.com

PLEASE EMAIL TO BUFFALO TURBINE AT - 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.

# 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. Re-torque all wheel bolts, axle nuts and trailer mounting bolts and nuts.
- 2. Re-torque all other fasteners and hardware.
- 3. Check set screw (nozzle pulley) to ensure it tightened.

# B. Operating for first 5 hours

- 1. Re-torque all hardware and fasteners.
- 2. Check set screw (nozzle pulley) to ensure it tightened.
- 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.
- 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-HYSS3HSCE 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. Connect Hydraulic lines.
- 4. Check Upper and lower limits.
- 5. Connect the remote nozzle control to a 12 volt system only. Red wire needs to be connected to positive terminal of battery. White wire needs to be connected to negative terminal of battery. (wiring schematic on PG. 14)
- 6. 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.
- 2. Starting blower unit: Always start engine at a lower engine speed with nozzle pointed down or away.
- 3. The air stream direction is changed (in either direction) by pressing the nozzle buttons on the transmitter. The nozzle will stop turning by releasing the transmitter 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.
- 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.

# <u>TURN OFF ENGINE, REMOVE KEY, AND DISCONNECT BATTERY BEFORE SERVICING BLOWER UNITS.</u> <u>INSTALL GUARDS BEFORE OPERATING.</u>

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
		Shut off engine
		Blower or tractor – remove restrictions
		Debris cannot be allowed to build up between the
		blower fan and stationary vanes
Machine vibrates or	Bearing or coupling failure	Replace bearings or coupling
Unusual sounds	Out-of-balance	Have your dealer check blower for damaged blades.
		Wash and clean blower fan blades

# **6.0** Machine Specifications

# **Model BT-HYSS3HSCE Series**

Length:	64" With nozzle 39" Without nozzle
Width:	46"
Height:	32" With nozzle
Weight:	300 lbs
Electrical System:	12 Volt
Input RPM:	Up to 4100 RPM
Outlet Size:	Approximately 12"

# **Hydraulic Motor Specifications**

Displacement size	.918 cu.in./Rev
Required minimum hydraulic pressure (to operate @ stated values)	3100 psi
Maximum shock and surge pressure	3500 psi
Maximum flow rate	40 gpm
Minimum flow rate	13 gpm*
Maximum speed (continuous)	up to 4100 rpm*
Mounting (any position)	SAE "A" size, 2 bolt
Shaft seal	130 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

Flange Bearing requires NLGI2 grease \*2-3 shots of grease every 40HRS\* Change oil per Manufacturer's specification (see Engine owner's manual section). A Teflon spray type lubricant on the nozzle base and slides provides for freer rotation.

# 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: <u>LUBRICATE-(L) / CHECK-(*) / CHANGE-(C) / REPLACE-(B) / CLEAN-(CL)</u>
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

# 40 hours or weekly

- (\*) Check condition of coupling (center section) connecting bolts and nuts during each oil change or when experiencing vibration or unusual noises.
- (L) Nozzle base slides (Teflon or Silicone spray)
- (L) Pillow Block and Flange Bearing (2-3 shots of grease)
- (\*) Check set screw (nozzle pulley) to ensure it is tightened
- (\*) 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



Buffalo Turbine 180 Zoar Valley Road Springville, NY 14141 Tel: 716-592-2700 Fax: 716-592-2460 info@buffaloturbine.com

Debris Blowers, Vector Sprayers, Dusters and Dust Control Systems

# <u>Declaration of Conformity</u> According to EC Machinery Directive 2006/42/EC, Annex II B

We, Buffalo Turbine of Springville, New York, USA herewith declare, that the following described machine/machinery part is to be incorporated into a(n) machine/assembly with other machinery to make one machine and that its setting into operation is prohibited unless the machine, which shall be incorporated into the lower mentioned, complies with the requirement of the EC Machinery Directive 2006/42/EC.

Product: Engine Debris blower

Type: BT-HYSS3HSCE

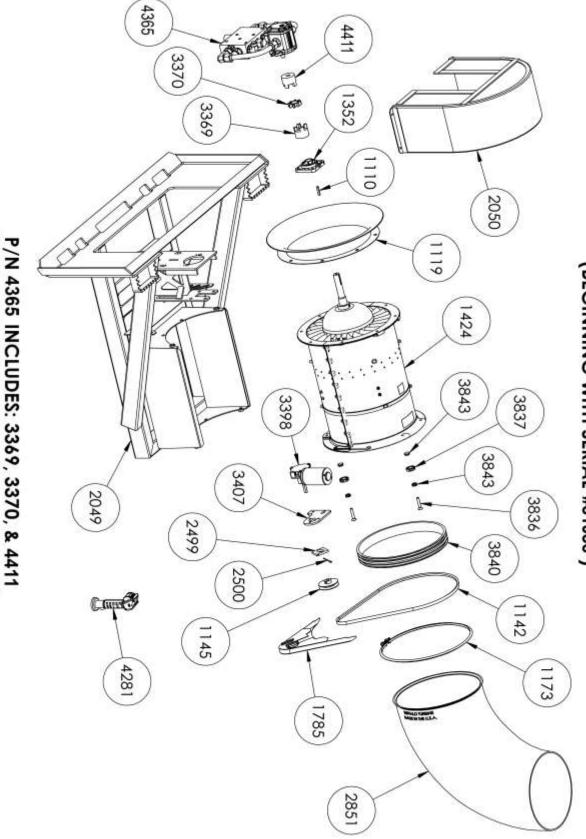
Applicable EC Directives: Machinery Directive 2006/42/EC

Applicable Harmonized Standards: BSENISO 12100:2010

ISO 4413:2011

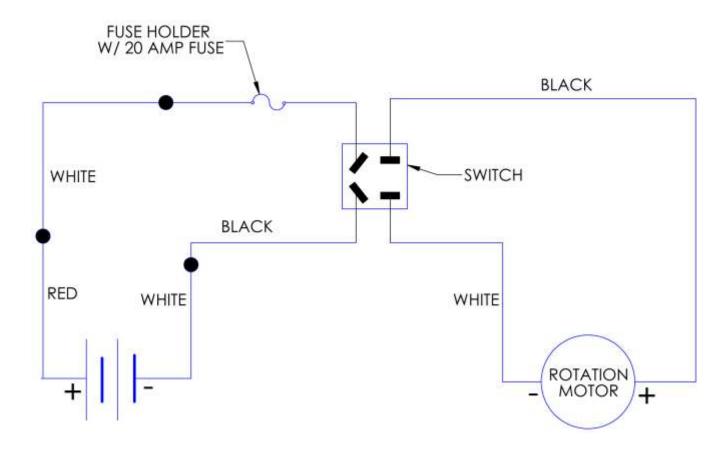
# BT-HYSS3HSCE PARTS REFERENCE

(BEGINNING WITH SERIAL #31036)



\*NOT ALL HARDWARE/WIRING IS SHOWN

# WIRING SCHEMATIC CONTROL BOX



REF PAGE #	PN	DESCRIPTION	QTY
KEF PAGE #			
	1100	3/8-24 X 1-1/4 HHCS ZINC GR 5	6
	1101	3/8-24 X 1-1/2 HHCS ZINC GRADE 5	7
	1102	3/8-24 X 1-3/4 HHCS ZINC GRADE 5	3
	1105	3/8-24 HEX NUT ZINC PLATED GRADE 5	18
	1107	3/8 LOCK WASHER ZINC PLATED	20
	1108	3/8 FLAT WASHER ZINC PLATED	18
13	1110	KEY, 1/4 X 1-1/2	1
13	1119	14-221-D1 BELLMOUTH	1
	1130	5/16-18 X 3/8 SET SCREW	1
	1139	3/8 NOTCHED WASHER	2
13	1142	AX54 V-BELT	1
13	1145	SHEAVE AK32 X ½	1
	1156	SERIAL TAG	1
	1169	1/4-20 X 1" HHCS ZINC GRADE 5	4
13	1173	CLAMP BAND W/ BOLT & NUT	1
	1182	4 X 4 BT DECAL	2
	1184	WARNING – EYE PROTECTION DECAL	1
	1185	WARNING – EAR PROTECTION DECAL	1
	1186	CAUTION DO NOT OPERATE DECAL	3
	1222	½" LOCKWASHER	2
	1226	½ FLAT WASHER	4
	1231	1/2-13 HEX NUT	2
	1233	AMERICA & SAFETY FIRST DECAL	1
	1236	3/16 X 1 ROLL PIN	4
	1259	¼ LOCKWASHER	7
13	1352	1" FLANGE BEARING	1
13	1424	BLOWER ASSEMBLY LEFT HAND ROTATION	1
	1444	½-13 X 4" HHCS	2
	1660	7/16-20 HEX NUT	2
	1661	7/16 LOCK WASHER	2
	1669	%-20 X .055 HEAD INSERT	4
	1783	CE LABEL	1
13	1785	GUARD ROTATION MOTOR BELT	1
15	1819	BLACK CABLE TIES 12"	2
13	2049	FRAME HYSS1	1
13	2050	GUARD HYSS2	1
15	2076	16/14 FULLY INSULATED FEMALE QUICK DISCONNECT	2
13	2499	1/8" X 2-1/2" LONG COTTER PIN	1
13	2500	PLASTIC BELT GUARD MOUNT	1
13	2851	AEROSPACE POLYMER NOZZLE	1
13	3152	%-28 X 1" HHCS	3
	3178	HYDRAULIC DECAL	2
13	3398	ROTATION MOTOR, 12V BI DIRECTIONAL	1
13	3407	ROTATION MOTOR, 12V BI DIRECTIONAL  ROTATION MOTOR BRACKET	1
13	3836	3/8"-24 X 2" LONG FLAT HEAD SOCKET CAP SCREW, ZINC PLATED	4
13	3836		4
13		ELBOW BASE RING BEARING	1
-	3840	V-GROOVE BASE RING	
13	3843	BEARING BUSHING	8
	3881	7/16-20 X 1-1/2 HHCS GR5 ZINC	2
	4246	3/16" VINYL COATED LOOP CLAMP	2
13	4365	HIGH SPEED HYDRAULIC PACKAGE WITHOUT CASE DRAIN	1
	4409	1" HYDRAULIC HOSE ASSEMBLY WITH FLUSH FACE COUPLER INCLUDED	1
	4410	1" HYDRAULIC HOSE ASSEMBLY WITH FLUSH FACE PLUG INCLUDED	1
			ļ
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# **OPTIONS** PTO, HYDRAULIC, FRONT MOUNT, ELECTRIC

# **NOZZLES**

# **ALUMINUM NOZZLES**



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



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 15" Nozzle Extension - Part# 1842 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



12" 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.



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



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

# 1" HYRAULIC HOSES

### Part# 3922

For hydaulic machines with flow rates over 25gmp. Quantity needed: 2



# **FORK POCKET**

# Part# 3894

Great for moving blowers around jobsites and bed mount / skid mount applications,



# **ROTATION BEARING KIT**

# Part# 3838

Increases rotation speed and reduces load on rotation motor.



# **BUFFALO TURBINE PRODUCTS**

# **CYCLONE 8000**

and Labor.

The Cyclone 8000 Debris Blower is strategically priced to fit most budgets. This little powerhouse is already proving its worthiness in saving Time

The word "MEGA" is defined as Impressive, Extreme and Mammoth. The NEW Buffalo Turbine MEGA lives up to its name!

# Turbine MEGA lives up to its name!

MEGA

# CYCLONE PTO

The Cyclone PTO incorporates an "Advanced" direct drive gearbox which significantly reduces routine maintenance. At 238lbs, it's the lightest, meanest turbine style PTO blower available!



# **CYCLONE SQUARED**

The Cyclone Squared with its "Twin Turbines", and wireless controlled dual independent nozzles, in most cases can handle twice the work in half the time. This versatile powerhouse is already a favorite on Golf courses, Racetracks, and the Paving Industry.



# **CYCLONE KB4**

The Cyclone KB4 with its "More Powerful" CH740 Kohler Engine and a "State of the Art" Wireless Remote System is the most powerful KB unit to date.



# **HYDRAULIC**

The Hydraulic debris blower features our built in "flow and pressure" control system and easily attaches to most skid steers. This handy attachment comes complete with mounting plate and hoses.

