

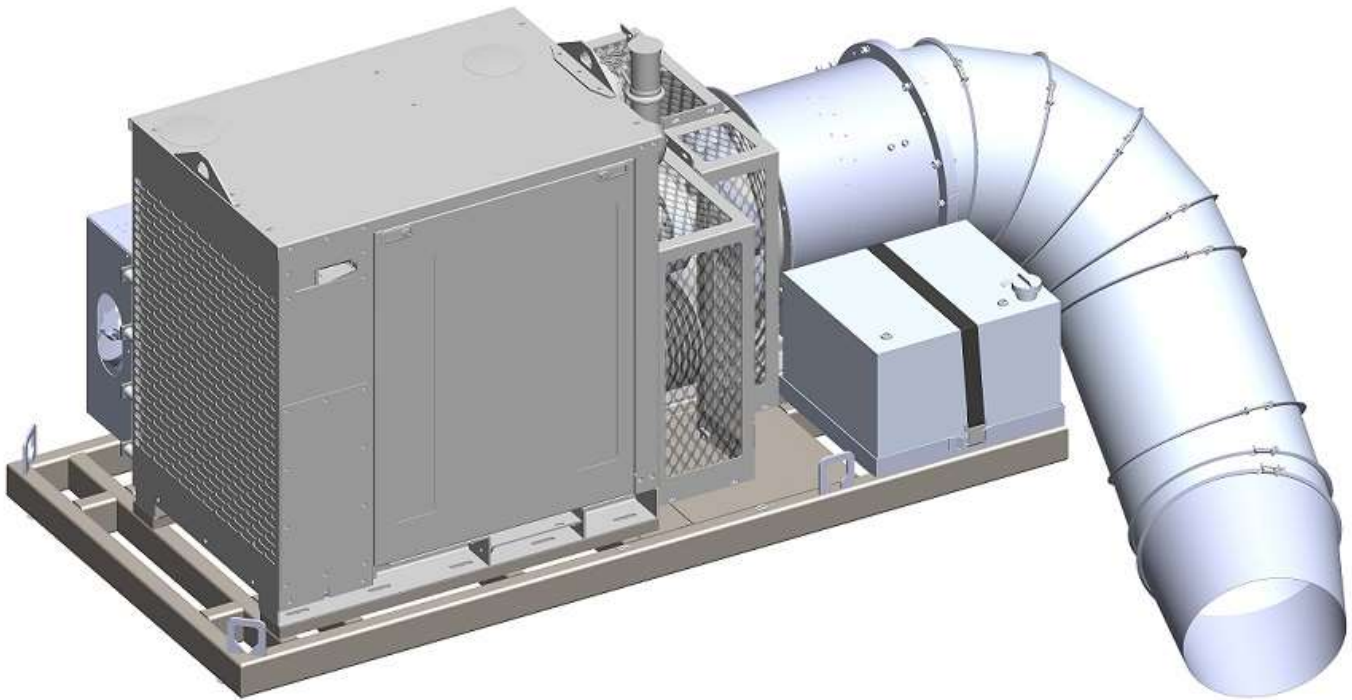
# **BUFFALO TURBINE**

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## **BUFFALO TURBINE'S BT-D20DB2 ORIGINAL INSTRUCTIONS AND PARTS MANUAL**

05/25 -BT MAN



## 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 Airport and Racing 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.**

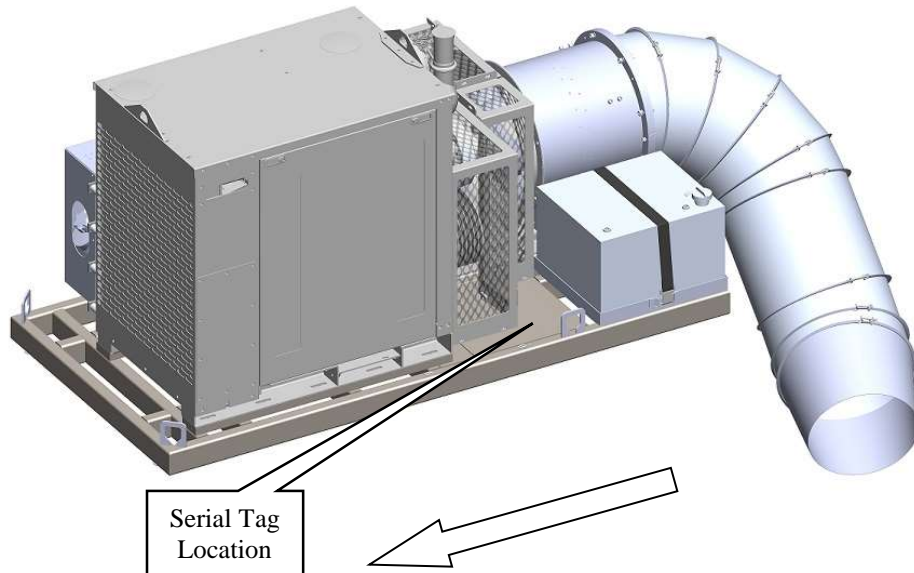
This Manual covers the BT-D20DB2 Turbine Blower.

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-D20DB2

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 Debris 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.

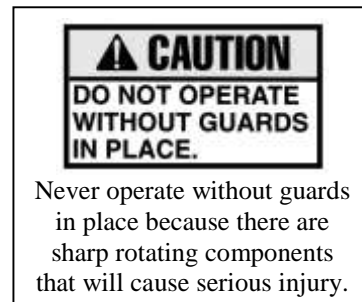
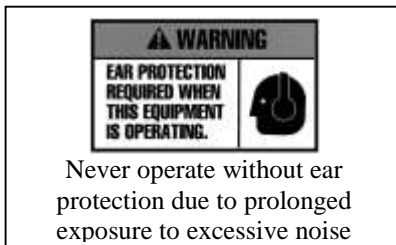
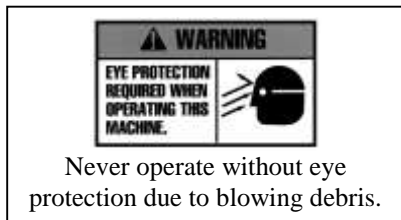
**The Safety Alert symbol identifies important safety messages on the Buffalo Turbine Blower and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.**

## 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.

**\* NEVER HAVE NOZZLE POINTING AT/NEAR ANYONE DURING STARTUP\***



# Buffalo Turbine Debris Blowers

## Buffalo Turbine Warranty Policy

### 3.0 MACHINE WARRANTY INFORMATION

Buffalo Turbine LLC, Inc. 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 1 year 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 will be shipped free of charge via standard ground shipping**

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

1 year manufacturer warranty

3 year engine warranty through engine manufacturer

**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

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

#### **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.



#### **WARNING:**

This Product can expose you to chemicals including carbon monoxide and benzene, 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. 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.

#### **BATTERY MUST BE CONNECTED BEFORE OPERATION (DISCONNECTED FOR SHIPPING).**

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

1. For fuel, oil, and operating information of the Kohler Engine, refer to the Manufacturers specs included with this manual.
2. Make sure all guards and shields are in place, secured and functioning as designed.
3. Check that all clamp bands are secure.

**CAUTION ! DO NOT ALLOW LEAVES OR DEBRIS TO ACCUMULATE ON OR NEAR THE ENGINE OR EXHAUST SYSTEM OF THE MODEL KB BLOWER, TRACTOR ENGINE OR ANY INTERNAL COMBUSTION ENGINE.**

#### 4.4 BT-D20DB2 Assembly Instructions

1. Snug-tighten the nozzle assembly to the blower through the flanges with the three bolt holes positioned at the bottom, as in [Figure 3].

Part #	Description	Quantity
1222	1/2 Lock Washer	2
1226	1/2 Flat Washer	2
1237	1/2-20 Hex Nut	2
1599	1-3/4" 1/2-20 Hex Bolt	2

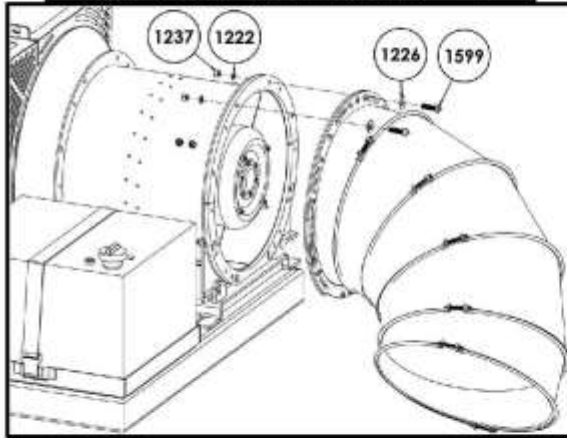


Figure 3 Nozzle Mounted on Blower

2. Snug-tighten the nozzle assembly to the blower at the location shown in [Figure 4]. **Note:** The second hardware location is mirrored on the opposite side.

Part #	Description	Quantity
1222	1/2 Lock Washer	2
1226	1/2 Flat Washer	2
1237	1/2-20 Hex Nut	2
1599	1-3/4" 1/2-20 Hex Bolt	2

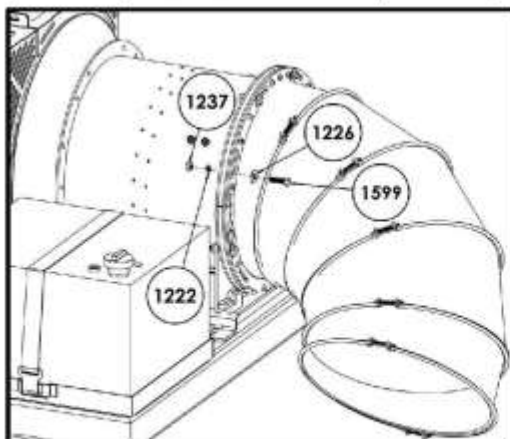


Figure 4 More Hardware for Nozzle Mounting

3. Snug-tighten the remaining hardware to secure the nozzle to the blower at the locations shown in [Figure 1]. **Note:** The remaining hardware locations are

Part #	Description	Quantity
1102	1-3/4" 3/8-24 Hex Bolt	4
1105	3/8-24 Hex Nut	4
1107	3/8 Lock Washer	4
1108	3/8 Flat Washer	4

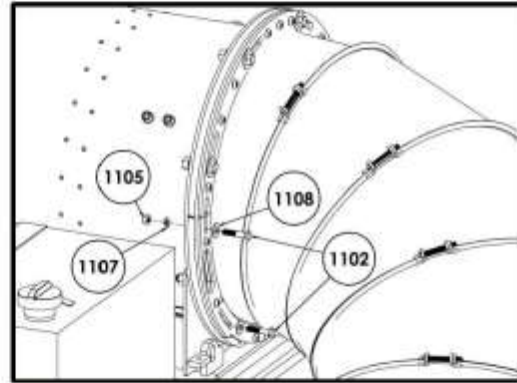


Figure 1 Nozzle Fully Mounted

mirrored on the opposite side.

4. Align the seam between the welded nozzle elbow and the straight nozzle and hold that position.

Part #	Description	Quantity
4723	17" Long 20" Round Nozzle	1

5. Slip the two clamp bands over the nozzle flanges. **Note:** Refer to the clamps on the welded nozzle elbow for installation reference.
6. Hand-tighten the clamp bands to secure the nozzles to each other.

Part #	Description	Quantity
1174	2-1/2" 1/4-20 Phillips Head Bolt	2
1175	1/4-20 Square Nut	2

7. Fully tighten the two clamp band bolts evenly to prevent warping.
8. While viewing the outlet of the straight nozzle, rotate the next nozzle's bend line 90° clockwise from the bend line on the straight nozzle and hold it in that

Part #	Description	Quantity
20-4256	20" 22.5° Elbow	1

position. **Note:** Refer to [Figure 5] showing the fully installed nozzle for visual reference.

9. Fully tighten the 22.5° elbow to the straight nozzle as in Steps 5–7.

Part #	Description	Quantity
1174	2-1/2" 1/4-20 Phillips Head Bolt	2
1175	1/4-20 Square Nut	2
20-4262	20" Clamp Band	2

10. Fully tighten the 11.25° elbow to the 22.5° elbow as in Steps 5–7.

Part #	Description	Quantity
1174	2-1/2" 1/4-20 Phillips Head Bolt	2
1175	1/4-20 Square Nut	2
20-4255	20" 11.25° Elbow	1
20-4262	20" Clamp Band	2

11. Fully tighten the round nozzle to the 11.25° elbow as in Steps 5–7.

Part #	Description	Quantity
1174	2-1/2" 1/4-20 Phillips Head Bolt	2
1175	1/4-20 Square Nut	2
20-1172	20" Round Nozzle	1
20-4262	20" Clamp Band	2

12. Rotate the entire nozzle assembly within the mounting slots, where the hardware from Steps 1–3 is installed, to adjust the nozzle output to the desired direction. **Note:** Loosen the hardware slightly if the nozzle does not rotate easily to prevent damage to the nozzle assembly.
13. Fully tighten all hardware to secure the nozzle assembly to the blower for a final look similar to [Figure 5].
14. Attach nozzle retainers (see PG.18)
15. Fill Engine oil to proper level (overseas shipments)
16. Attached positive battery cable (RED) and ground cable (BLACK) to proper battery terminals.



Figure 5 Fully Installed Nozzle

## 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. **Stopping blower unit:** Shut engine off at idle by turning key switch to off position to avoid engine backfire.
5. Allow the blower fan speed to come to a complete stop before disconnecting or servicing.

## 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, and debris.

## 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 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 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-D20DB2 Series**

<b>Length:</b>	<b>127" With nozzle installed</b>
<b>Width:</b>	<b>66.5"</b>
<b>Height:</b>	<b>81"</b>
<b>Weight:</b>	<b>Approx. 2400 lbs</b>
<b>Electrical System:</b>	<b>12 Volt battery / 1000 CCA</b>
<b>Fuel Capacity:</b>	<b>23-gallon Diesel Fuel only</b>
<b>Input Power:</b>	<b>134HP Diesel Engine</b>
<b>Outlet Size:</b>	<b>Approximately 17"</b>

## 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

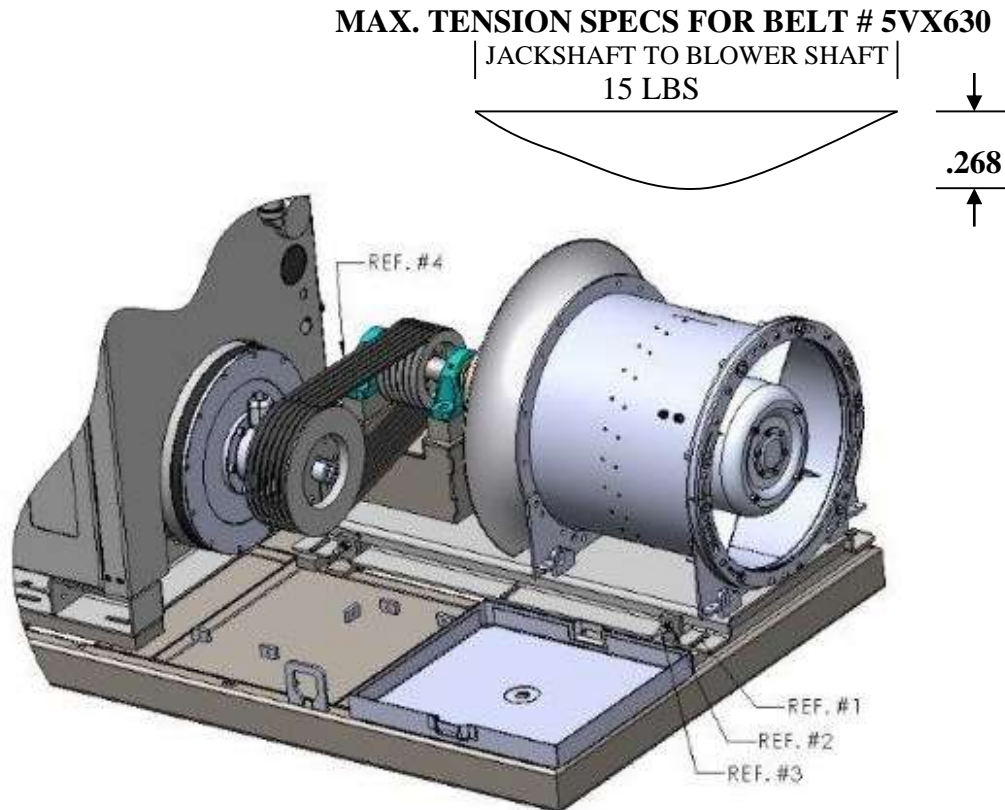
Change oil per Manufacturer's specification (see Engine owner's manual section).

Pillow Block Bearings require NLGI2 grease

### 7.3 Belt Tension

**Efficient machine operation requires that the belt be properly tensioned. To adjust the belt tension, follow this procedure:**

1. Remove guard (Guard removed for clarity in photo below) after engine is shut off.
2. Loosen bolts 6 places (Ref#1)
3. Loosen lock nut (Ref #2). Adjust drive screws 2 places (Ref #3) equally on each drive screw to achieve proper tension. See specification below. **Note: Tension needs to be checked at the mid-point between both sheaves.**
4. Check pulley alignments with a straight edge. If pulleys out of alignment fix alignment and then Recheck belt tension.
5. Attach safety guard, start engine. Listen and visually check for any belt slippage and check for any misalignment.



Note: Turbine Assembly, pillow block bearings and sheave is mounted on a metal plate. The whole plate moves during tensioning process

Caution: A loose belt will cause premature wear an inhibit performance.

Pillow Block Bearings and Flange bearing require 2-3 shots of grease every 40HRS. \*Make sure hands are clear of belt and pulley at all times\*

## 7.4 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 engine oil and fill to proper level – Do not overfill
- (\*) Check air filter and precleaner
- (CL) Clean debris from air intake and other cooling areas on the engine
- (\*) Check Clamp Band Bolt for tightness

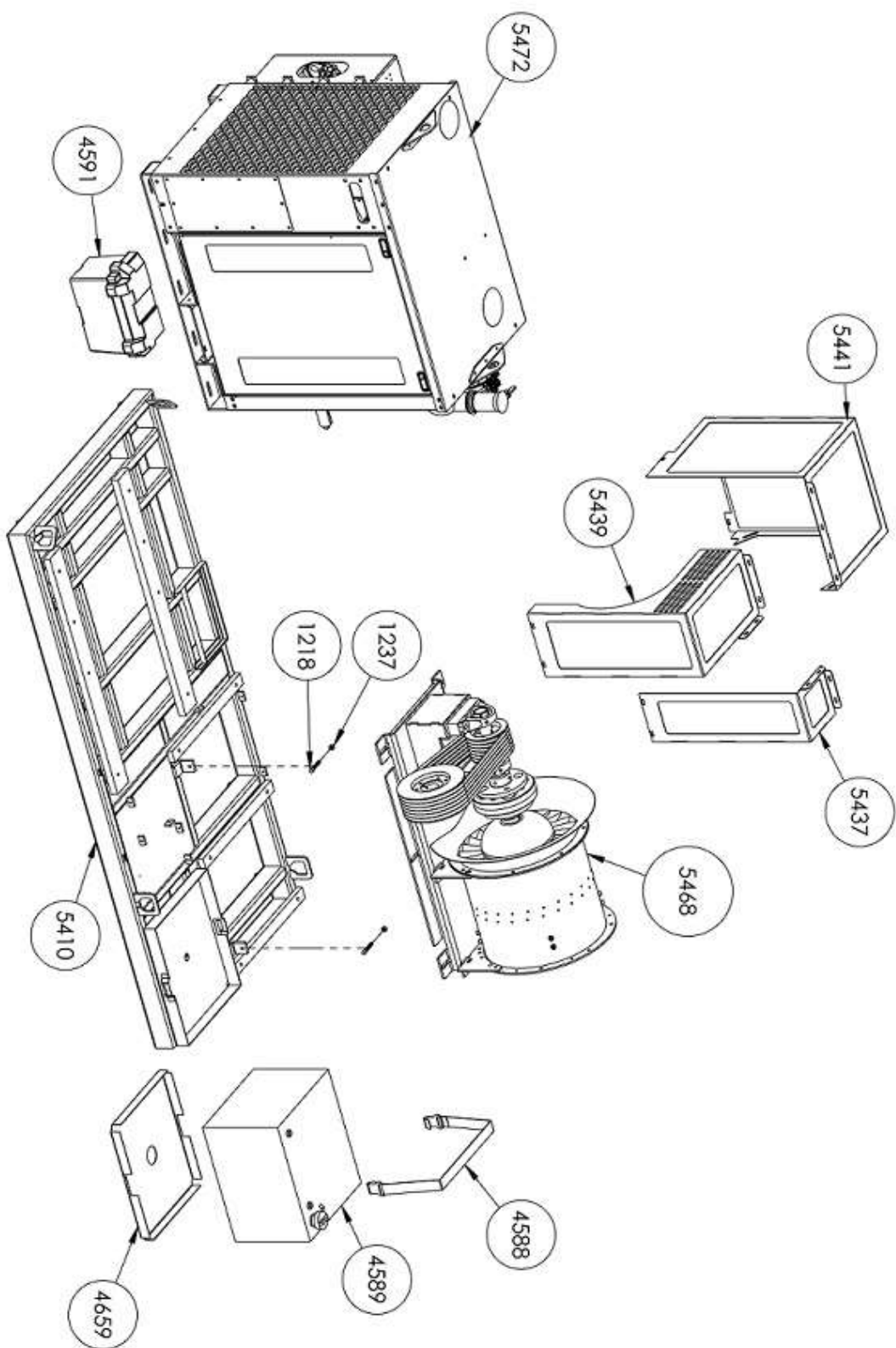
##### **40 hours or weekly**

- (\*) Inspect battery terminals for any corrosion, broken wires, or loose connections.
- (\*) Remove Battery and clean debris from inside of battery box
- (\*) 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.
- (L) Flange Bearings (2-3 shots of grease)

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

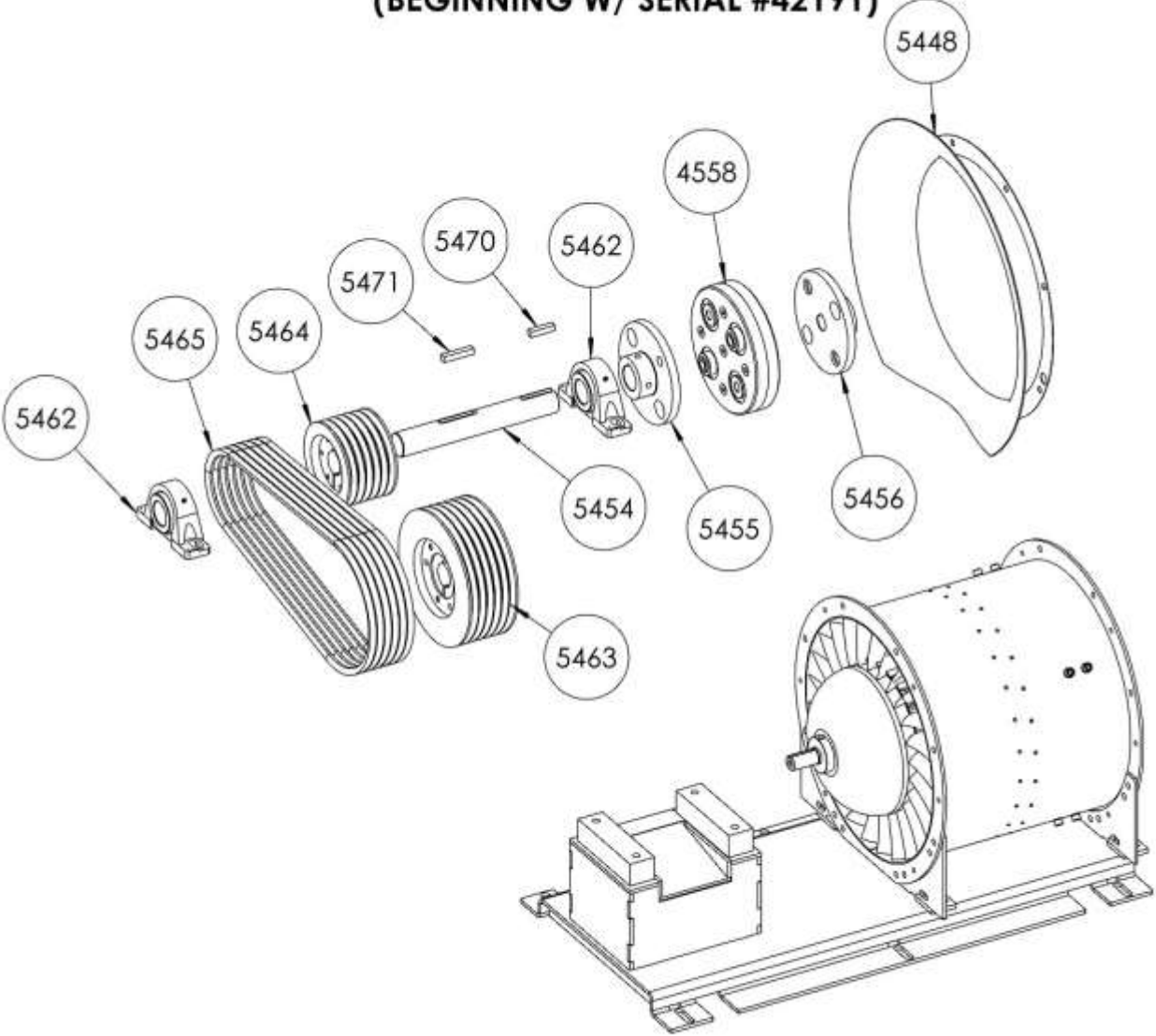
- (CL) Machine

# BT-D20DB2 PARTS REFERENCE (BEGINNING W/ SERIAL #42191)



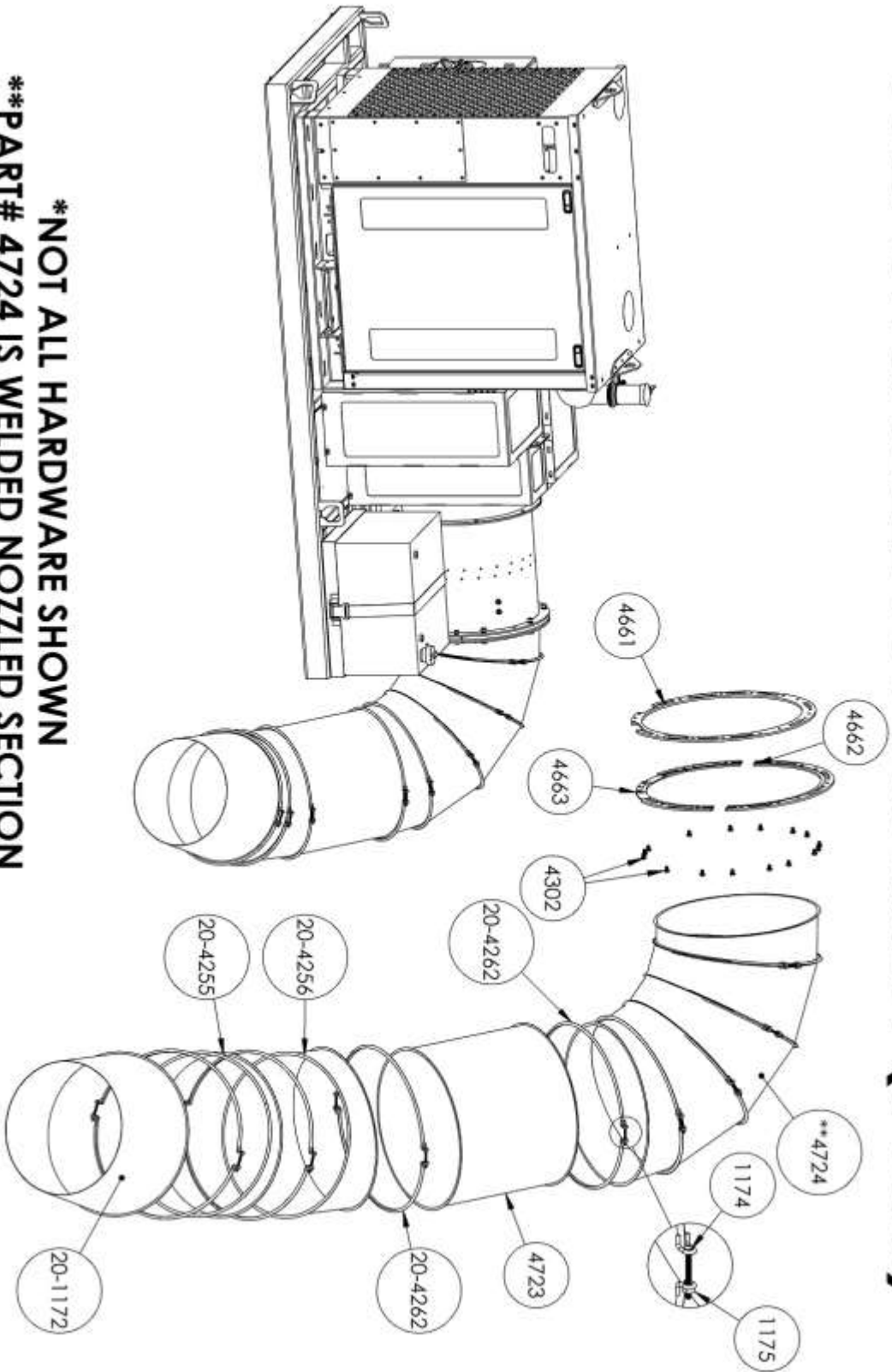
**\*NOT ALL HARDWARE/WIRING IS SHOWN**

**BT-D20DB2 TURBINE KIT (#5468)**  
**(BEGINNING W/ SERIAL #42191)**



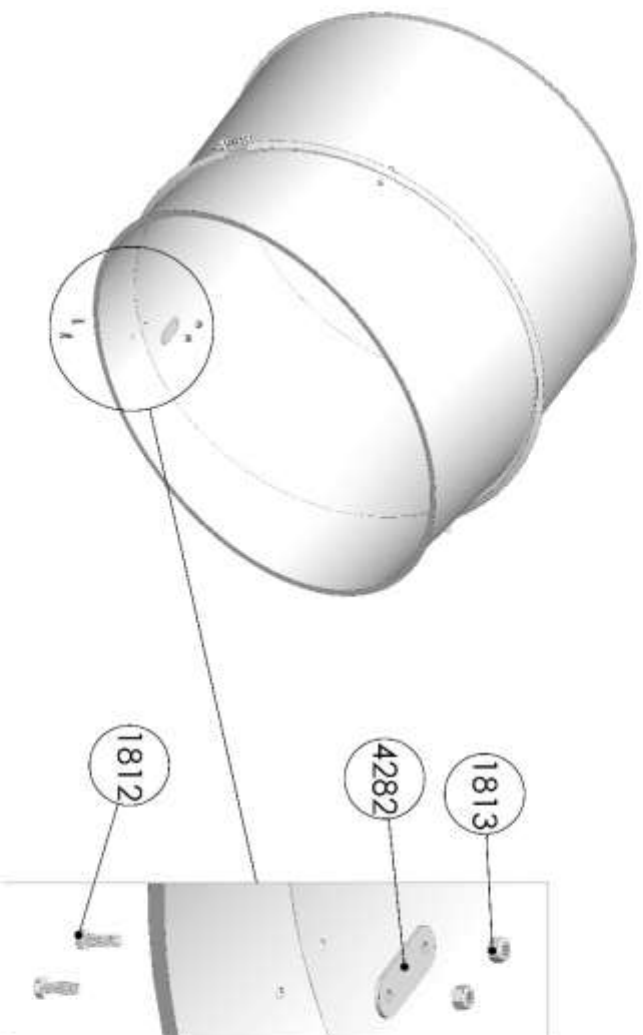
**\*NOT ALL HARDWARE SHOWN**

# BOLT ON NOZZLE SUB-ASSEMBLY (#4685)



**\*NOT ALL HARDWARE SHOWN**  
**\*\*PART# 4724 IS WELDED NOZZLED SECTION**

# BT-D20DB PARTS REFERENCE CONT. (NOZZLE ASSEMBLY)



\*NOZZLE RETAINERS (PN 4282) ARE INCLUDED WITH MACHINE. ONCE NOZZLE ASSEMBLY IS POSITIONED WHERE DESIRED, IT IS RECOMMENDED TO USE RETAINERS. 3 RETAINERS ARE TO BE USED FOR CONNECTING TWO NOZZLES TOGETHER AND SHOULD BE EQUAL DISTANCE APART. USING THE RETAINER, MARK HOLE LOCATIONS IN NOZZLE AND DRILL FOR HARDWARE. **DO NOT TRY AND PUT RETAINER ON CRIMPED SEAM.**

BILL OF MATERIALS FOR BT-D20DB2			
REF PAGE #	PN	DESCRIPTION	QTY
	1156	SERIAL TAG	1
	1186	CAUTION DO NOT OPERATE DECAL	1
	1187	8 X 10 BT DECAL	4
15	1218	PUSHOVER BOLT	2
	1233	AMERICA & SAFETY FIRST DECAL	1
15	1237	½-20 HEX NUT	2
	1275	8" LONG CABLE TIE	3
	3559	5/8" LOCKWASHER	6
	4100	¾-16 X 4-1/2" HHCS	4
	4101	¾-16 TOP LOCK NUT	4
	4466	BATTERY POST TERMINAL, POSITIVE	1
	4467	BATTERY POST TERMINAL, NEGATIVE	1
	4470	5/16" ID FUEL HOSE	120"
16	4558	CENTER SECTION	1
	4564	1 GAUGE BATTERY CABLE (POSITIVE)	46"
	4565	1 GAUGE BATTERY CABLE (NEGATIVE)	34"
	4566	LUG TERMINAL FOR 1 GAUGE WIRE (3/8" EYELET)	1
	4567	LUG TERMINAL FOR 1 GAUGE WIRE (1/2" EYELET)	1
	4568	3/8" RING TERMINAL, 10-12 WIRE	3
15	4588	TANK STRAP	1
15	4589	ALUMINUM FUEL TANK, 23 GALLON	1
	4590	12V BATTERY 1000CCA	1
15	4591	BATTERY BOX, FOR 1000CCA BATTERY	1
15	4659	FUEL TANK ISOLATION PAD	1
17	4685	BOLT ON NOZZLE SUB ASSEMBLY	1
	4725	COMBINED WARNING DECAL	1
	4797	3/8-16 X ¾" FLANGED HEX HEAD SCREW	6
	4801	3/8-16 SERRATED FLANGE NUT	6
	4802	3/8-24 X ¾" FLANGED HEX HEAD SCREW	8
15	5410	FRAME, D134 20" BLOWER	1
15	5437	GUARD	1
15	5439	GUARD	1
15	5441	GUARD	1
16	5448	BELLMOUTH, 20" BLOWER	1
16	5454	JACK SHAFT	1
16	5455	COUPLING FLANGE (JACKSHAFT)	1
16	5456	COUPLING FLANGE (TURBINE SIDE)	1
16	5462	PILLOW BLOCK BEARING	2
16	5463	SHEAVE 11.3" DIA.	1
16	5464	SHEAVE 7.1 DIA.	1
16	5465	V-BELT	6
	5467	ENGINE STUD	8
15,16	5468	TURBINE SKID KIT	1
16	5470	½" SQ X 2-3/16" LONG KEY	1
16	5471	½" SQ X 2-3/4" LONG KEY	2
13	5472	134HP KOHLER ENGINE	1
	5473	¼" SQ X 2-1/16" LONG KEY	1
	5474	5/8" FLAT WASHER -1.25 OD, .120 THICK	6
	5476	½-20 X ½" SET SCREW	4
	5584	½-20 SERRATED FLANGE NUT	8
	5585	½" HEAVY WASHER-2"OD	8
	5591	¼-28 X ¾" LONG SET SCREW	4
	5592	5/8-11 X 1-1/2" HHCS	6



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