

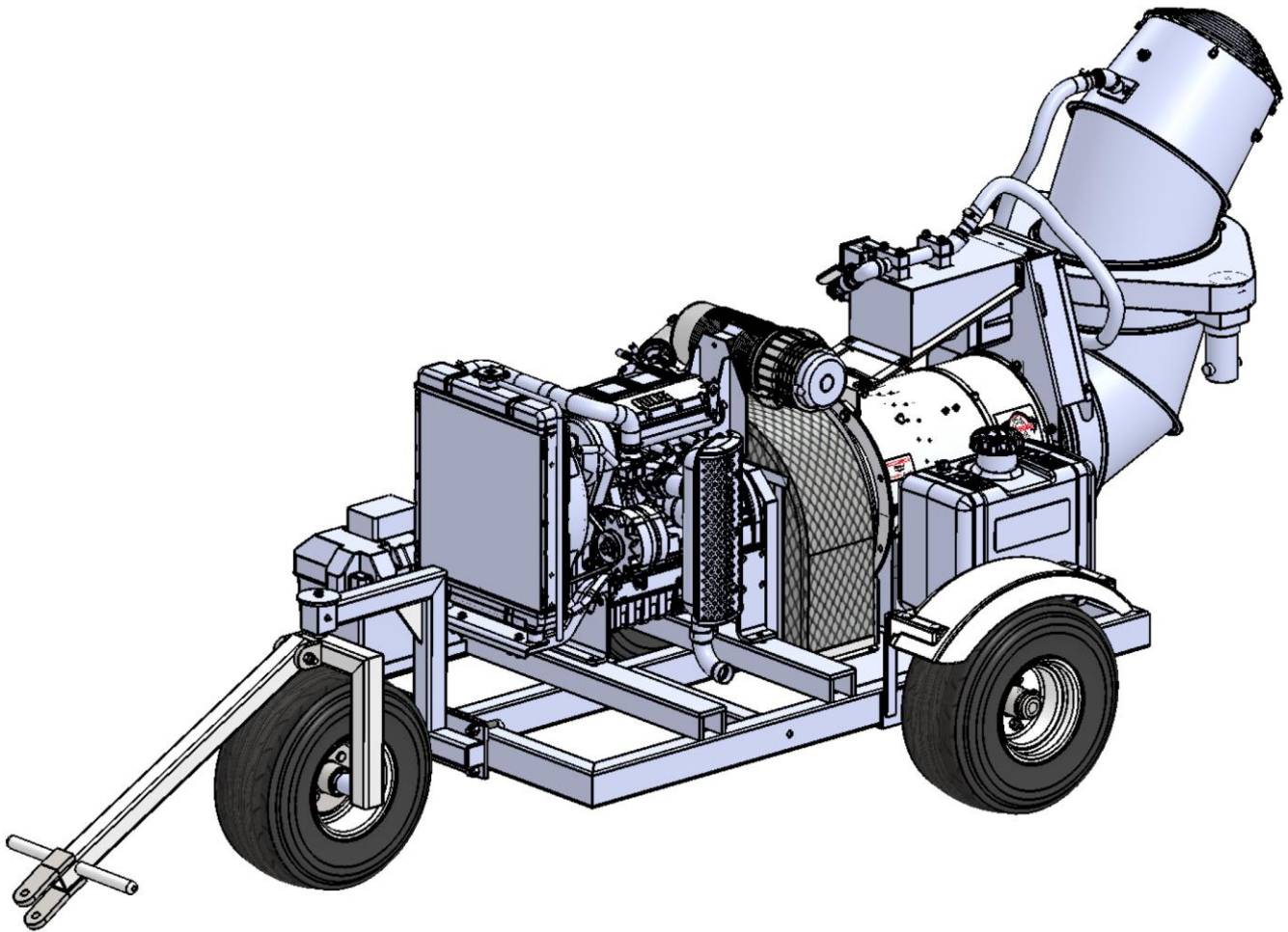
# BUFFALO TURBINE

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## BUFFALO TURBINE'S BT-MDC2CW ORIGINAL INSTRUCTIONS AND PARTS MANUAL

12/20 -BT MAN

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## 1.0 INTRODUCTION

Congratulations on your choice of a Buffalo Turbine Dust/Odor Controller. This equipment has been designed and manufactured to meet the needs of the construction/demolition industry.

Safe, efficient and trouble-free operation of your Buffalo Turbine Dust/Odor Controller 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.

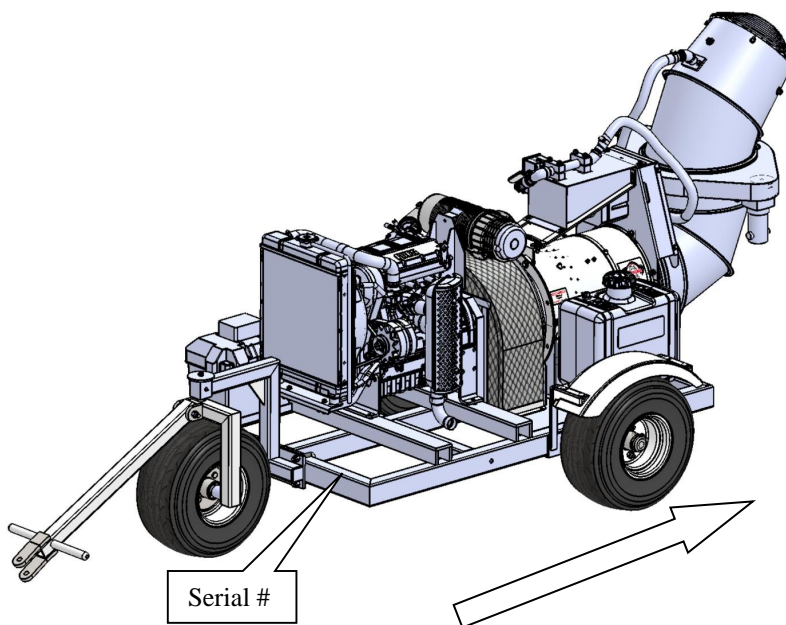
This Manual covers the BT-MDC2CW Turbine Dust/Odor Controller.

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 Dust/Odor Controller 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-MDC2CW RIGHT FRONT TOP SURFACE OF FRAME

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

## 2.0 SAFETY

**YOU** are responsible for the **SAFE** operation and maintenance of your Buffalo Turbine Dust/Odor Controller. **YOU** must ensure that you and anyone else, who is going to operate, maintain or work around the Buffalo Turbine Dust/Odor Controller 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 Dust/Odor Controller.

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.

- Dust/Odor Controller owners must give operating instructions to operators or employees before allowing them to operate the Dust/Odor Controller, 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 Dust/Odor Controller 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.

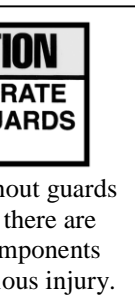
**The Safety Alert symbol identifies important safety messages on the Buffalo Turbine Dust/Odor Controller and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.**

## 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, chock wheels, 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 Monsoon on the ground, stop engine, chock wheels, 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 Monsoon on the ground, stop engine, chock wheels, 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 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.

# 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 Dust/Odor Controller are designed to spray a fine mist of water particles to control dust. The material is conveyed on a stream of high volume and velocity of air and water to remove it from the area of concern.

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 monsoon around others to prevent the possibility of being run over by equipment.

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

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

Between Trailer Tongue and mounting hitch on towing vehicle



#### 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 Dust/Odor Controller 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.

#### 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 Monsoon 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 (DISCONNECTION FOR SHIPPING).

Before Operating the Monsoon 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. The Model MDC2CW trailer is not designed for highway towing. For highway use or speeds above 15mph (24kph) an optional DOT approved trailer must be used.
3. Insure the Monsoon unit is attached to a proper receiver mounted on the towing vehicle. A pin hitch receptacle is standard with the model MDC2CW. Attach the MDC2CW trailer using the proper size hitch pin with a locking presto pin.
4. Make sure all guards and shields are in place, secured and functioning as designed.
5. Check that all clamp bands are secure.
6. Check the belts and pulleys for proper tension and alignment.

#### Remote Nozzle and Throttle Control

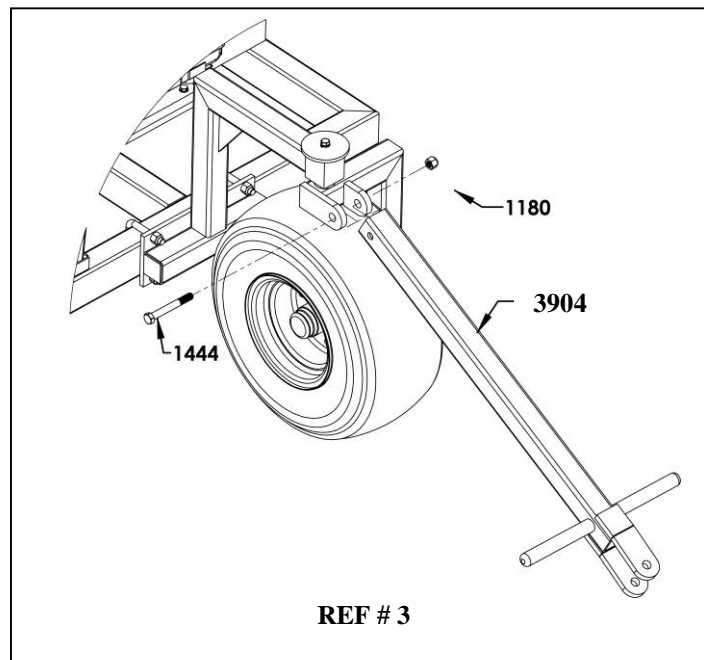
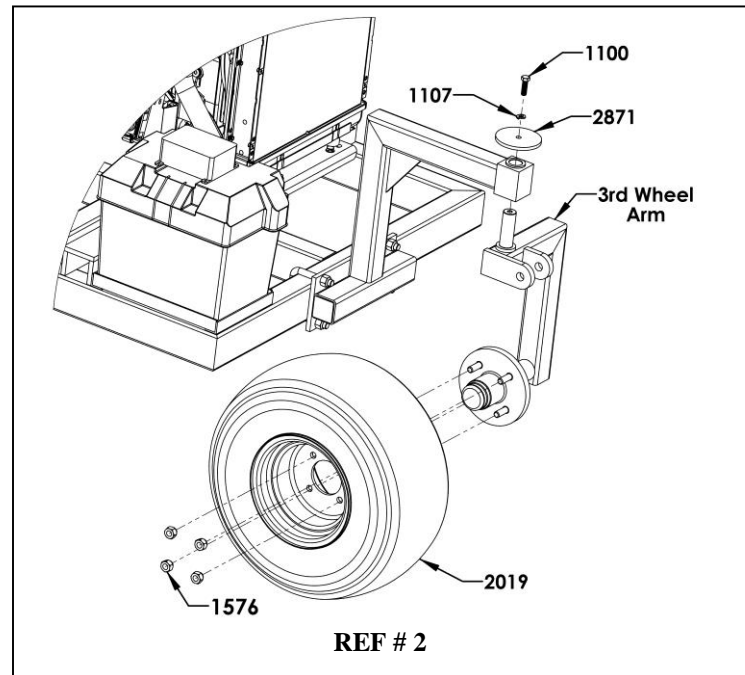
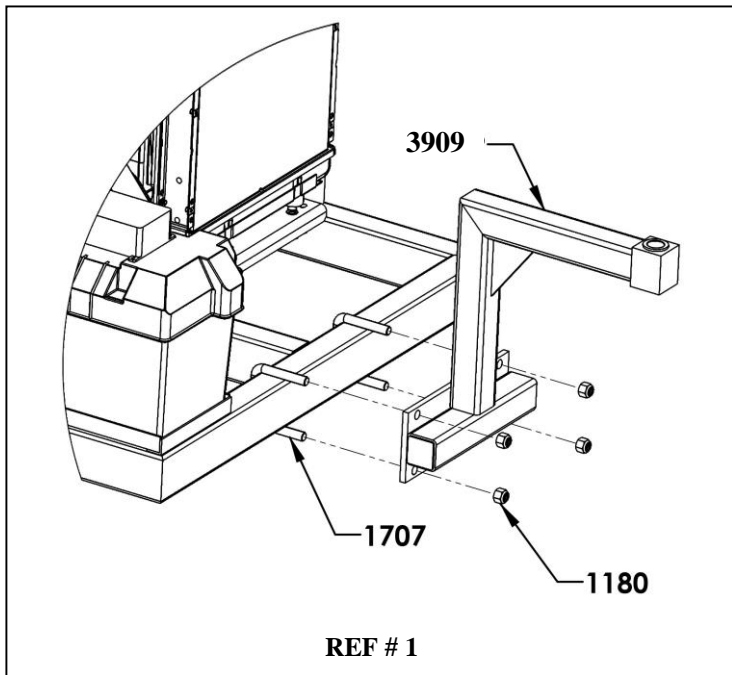
(REFERENCE PAGES 25-31 FOR WIRELESS REMOTE INSTRUCTIONS – CYCLONE MDC2CW)

The throttle control adjusts the engine RPM from an idle to maximum RPM and the nozzle control adjusts the rotation of the nozzle assembly (360° in either direction).

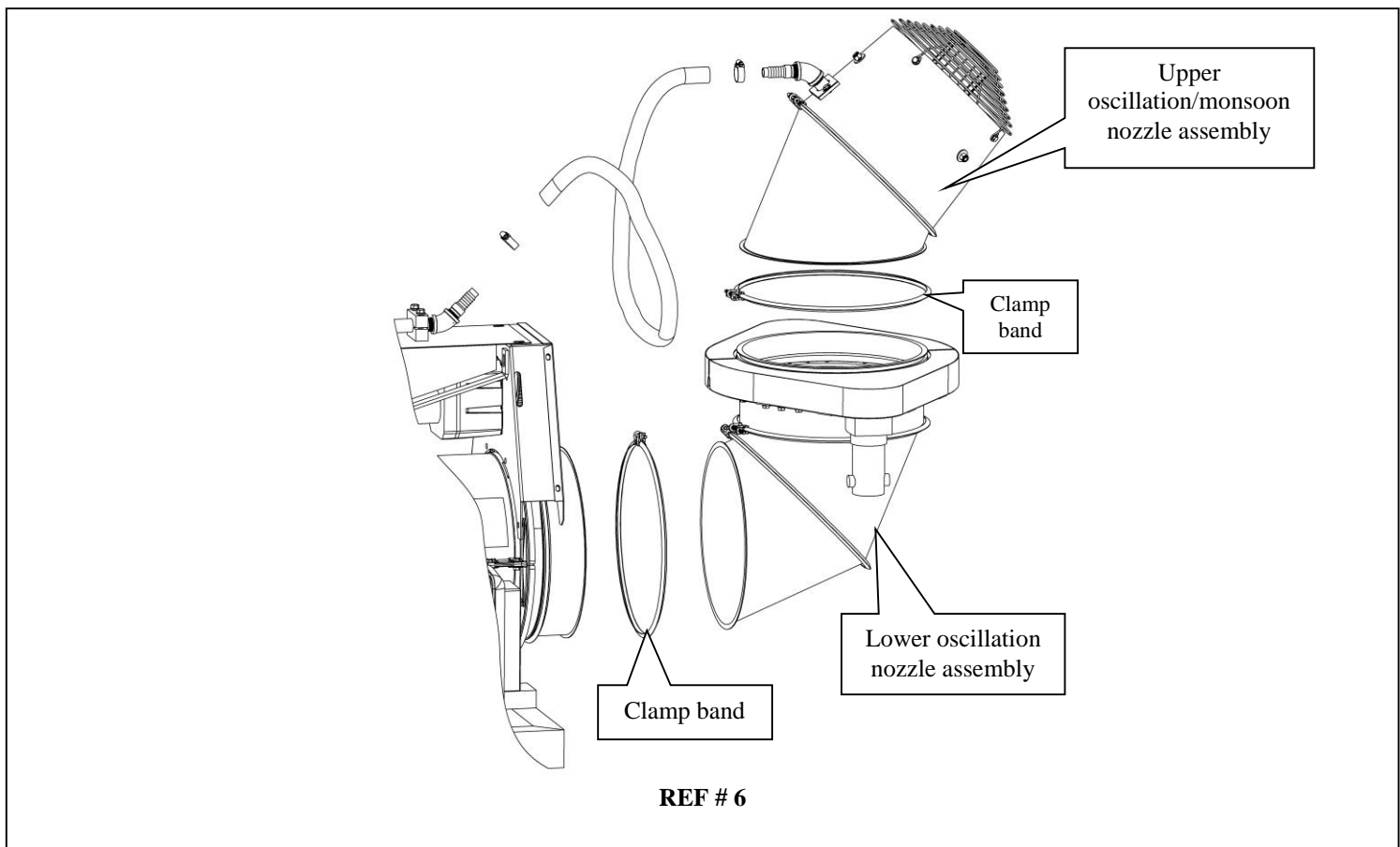
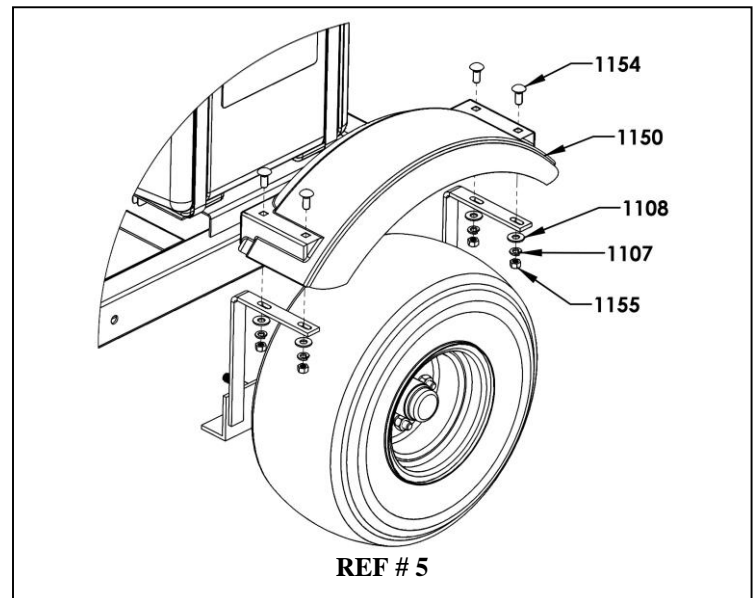
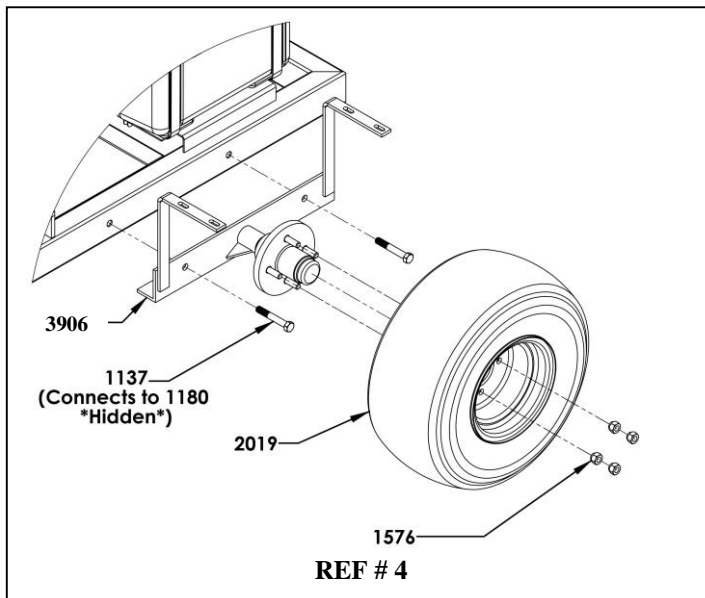
**CAUTION!** DO NOT ALLOW LEAVES OR DEBRIS TO ACCUMULATE ON OR NEAR THE ENGINE OR EXHAUST SYSTEM OF THE MODEL MDC2CW BLOWER, TRACTOR ENGINE OR ANY INTERNAL COMBUSTION ENGINE.

#### 4.4 MODEL BT-MDC2CW Assembly Instructions

1. Fill engine oil to proper level. (overseas shipments)
2. (See Ref # 1) Attach 3<sup>rd</sup> Wheel bracket (**part# 3909**) with 2 U-bolts each (**part# 1707** and **part #1180**). Center (Part # 3299) with the center frame support. Tighten Nyloc nuts (**part # 1180**)
3. Attach 3<sup>rd</sup> Wheel Arm to 3<sup>rd</sup> Wheel Bracket (See Ref # 2) using (**part # 1100 / 1107 / 2871**)
4. (See Ref # 2) Install Tire (**part # 2019**) with lug nuts (**part # 1576**). **Torque lug nuts to 80 Ft/Lbs.**
5. Attach Tow Bar/Handle (**part # 3904**) using the bolt (**part # 1444**) and nyloc nut (**part # 1180**). Tighten at this time.



6. Attach 2 axle weldments (**part# 3906**) with 2 bolts/nuts each (**part# 1137/1180**). Torque to 45-50 Ft/Lbs. **NEVER USE AN IMPACT GUN TO TIGHTEN NUTS / BOLTS!** (SEE REF#4)
7. Install Tire (**part # 2019**) with lug nuts (**part # 1576**). **Torque lug nuts to 80 Ft/Lbs.** (SEE REF #4)
8. Attach both fenders (**part # 1150**) using (4) 3/8-16 x 1" carriage bolts (**part # 1154**), (4) 3/8 Flat Washer (1108), (4) 3/8 lock washer (1107) and 3/8-16 hex nuts (**1155**) (SEE REF # 5)
9. Recheck all mounting bolts to assure that they are tight.
10. Attach lower oscillation nozzle assembly (SEE REF # 6) to elbow base ring.
11. Attach upper oscillation / monsoon nozzle (SEE REF # 6) to lower oscillation nozzle assembly
12. Connect water hoses
13. Reattach positive battery cable (RED) and ground cable (Black) to proper terminals.



## 4.5 FIELD OPERATION

1. Do not direct monsoon towards people, pets, autos, windows, etc.
2. **Starting monsoon 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 monsoon unit:** Shut engine off above ½ throttle 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 from tow vehicle.
6. **MUST CLEAN RADIATOR GUARD REGULARLY**

## 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 Monsoon can operate at a slower RPM. Increase engine RPM as needed. Always try to blow with the wind.

## 4.7 Storage

At the end of the working season or before storing the monsoon 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. **DO NOT PRESSURE WASH**
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 monsoon 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 Dust/Odor Controller 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 (KB Series)	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
No throttle control		See diagnostic tests on pages 29-30
No nozzle control		See diagnostic tests on pages 31-32

**6.0     Machine Specifications**

**Model MDC2CW Series**

<b>Length:</b>	<b>136.5” with wheels and handle 104.5” with wheels and handle (turned to side for transport) 88” with wheels and handle removed</b>
<b>Width:</b>	<b>55” with wheels 36.5” without wheels</b>
<b>Height:</b>	<b>54” with wheels 46” without wheels</b>
<b>Weight:</b>	<b>975 lbs.</b>
<b>Electrical System:</b>	<b>12 Volt battery / 575 CCA</b>
<b>Fuel Capacity:</b>	<b>12-gallon Diesel Fuel only</b>
<b>Input Power:</b>	<b>KDW1003 Kohler Engine</b>
<b>Input RPM:</b>	<b>Up to 3600 RPM</b>
<b>Outlet Size:</b>	<b>Approximately 12”</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).  
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: 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 tire pressure (Max. 50 PSI)
- (\*) Check Clamp Band Bolt for tightness
- (L) Grease oscillation ring (2 fittings) **\*monsoon nozzle needs to be removed and grease while rotating until you see grease coming out on the inside of nozzle. Then clean excess grease off nozzle\***

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

- (\*) Check condition of coupling (center section # 1256) connecting bolts and nuts during each oil change or when experiencing vibration or unusual noises. (See page 15)
- (\*) Inspect battery terminals for any corrosion, broken wires, or loose connections.
- (\*) Remove Battery and clean debris from inside of battery box
- (L) Nozzle base slides (Teflon or silicone spray)
- (\*) 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 DUST/ODOR CONTROLLER WITHOUT GUARDS SECURELY ATTACHED**

## Declaration of Conformity

### According to EC Machinery Directive 2006/42/EC, Annex II B

We, Buffalo Turbine LLC 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 Monsoon

Type: BT-MDC2CW

Serial Number:

Order Number:

Applicable EC Directives: Machinery Directive 2006/42/EC  
Noise Emissions Directive 2000/14/EC +  
Amendment 2005/88/EC

Applicable Harmonized Standards: BSENISO 12100:2010  
ISO 3744:2010  
ISO 11094:1991

With a measured sound power level of:

Lwa 120 dB

With a guaranteed sound power level of:

Lwa 123 dB

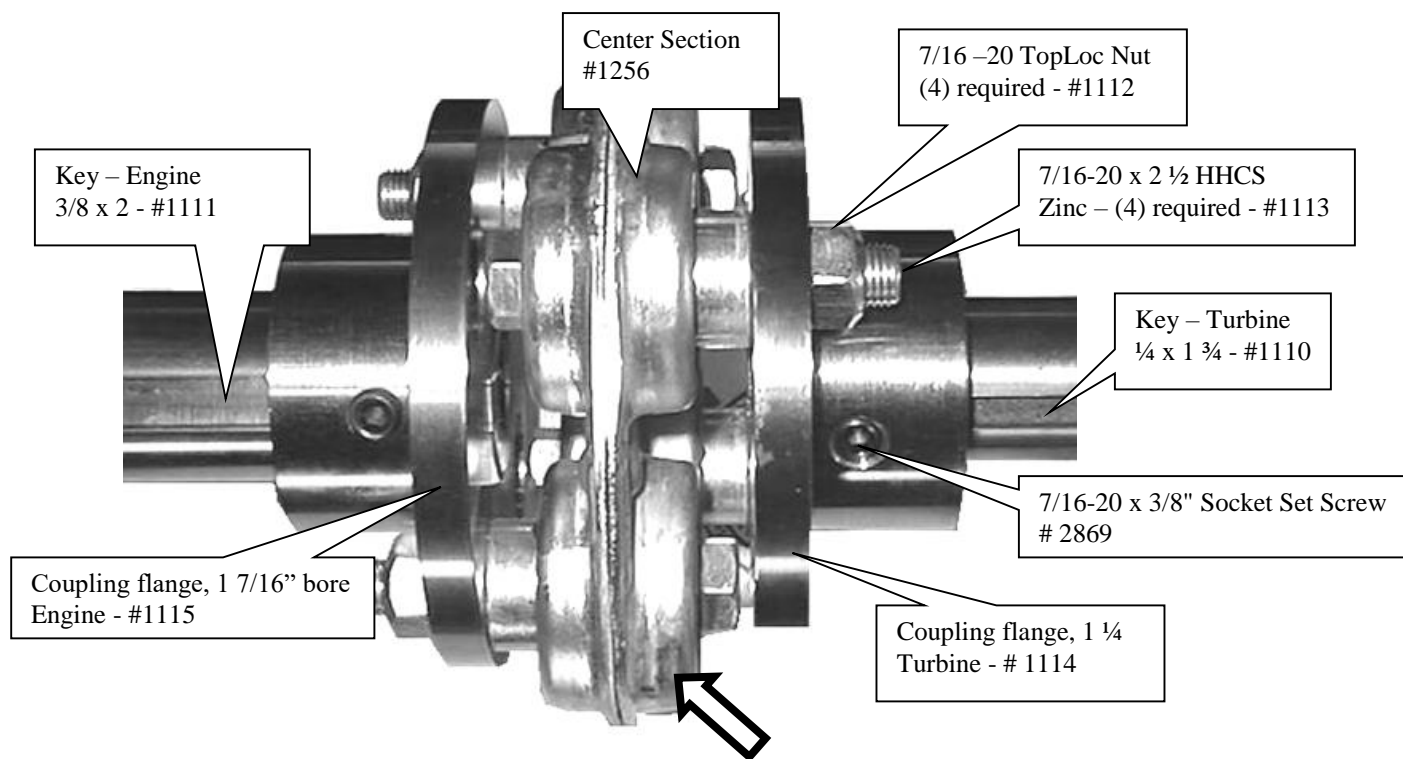
# INSTALLATION INSTRUCTIONS & PARTS FOR THE MOREFLEX COUPLING

## PART # 1746 – COUPLING COMPLETE, KOHLER ENGINE

Includes PN 1110(1pc), 1111(1pc), 1112(4pc), 1113(4pc), 1114(1pc), 1115(1pc), 1256(1pc), 2869(4pc)

### **ALIGNMENT OF TURBINE SHAFT WITH SHAFT OF ENGINE IS CRITICAL**

1. Install keys in both shafts.
2. Slide coupling flanges on both shafts (engine and turbine shafts)
3. Place Morflex coupling CENTER SECTION between coupling flanges and secure with 4 bolts and TOPLOC nuts. The bolt heads are positioned against the coupling in alternating directions. Tighten all 4 bolts. DO NOT TIGHTEN SET SCREWS AT THIS TIME.
4. Check key for proper position under the set screw hole on both shafts.
5. Place several drops of Loctite 271 into these two holes only. Set screws and tapped screw holes must be free of dirt and oil for Loctite to work properly.
6. Install the set screws over the keys and tighten firmly.
7. Using a drill point, dimple each shaft through the other 2 set screw holes. Clean drill chips, oil and dirt before applying Loctite.
8. Place several drops of Loctite 271 in these 2 holes.
9. Install and tighten set screws in these 2 holes.
10. Check and retighten the 4 bolts that hold the coupling center section in place.
11. Visually inspect the unit and replace the guard. DO NOT OPERATE WITHOUT THE GUARDS IN PLACE.



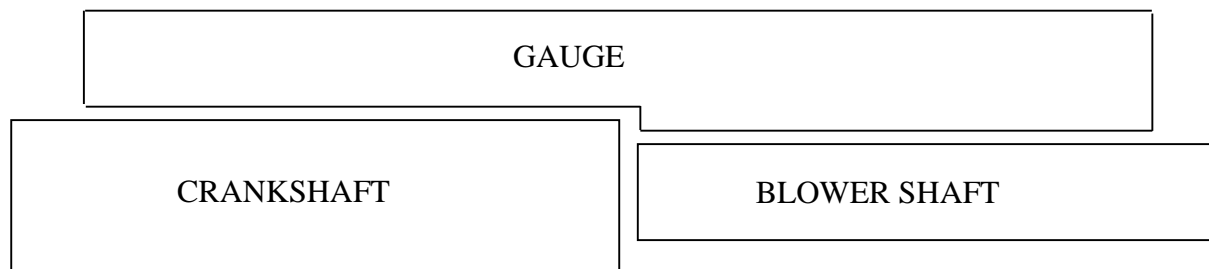
Part # 1256 (center section) is a **"WEAR"** item that should be visually checked each time the engine oil is changed. This coupling is equipped with special lock nuts. Occasionally check that all 4 nuts are securely fastened. **LOOK FOR CRACKS IN THE RUBBER COMPOSITION THAT SURROUNDS THE 4 BUSHINGS. Replace the center section when the rubber composition begins to show ANY signs of cracking OR an increase in vibration OR unusual sounds. When in doubt, call our Service Department.**



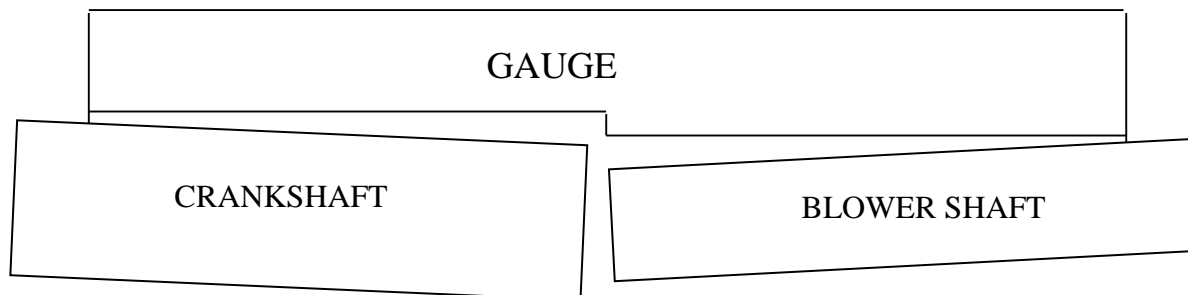
## **MOUNTING BLOWER ASSEMBLY ONTO FRAME** **AND ALIGNMENT RECOMMENDATIONS**

1. Install blower assembly onto frame and tighten all of the bolts.
2. Remove all burrs and oil from the shafts and keyways (engine and blower shafts).
3. Using the supplied gauge, align the shafts parallel to each other (very important).
4. Check in four places around the shafts at 90° to each other.
5. When properly aligned, gauge should have little to no gap between itself and the shafts at any point along the gauge.
6. To adjust, move the engine. The 2 mounting brackets have tapped holes in each corner to help support and adjust the position of the engine. The 4 roll pins may need to be repositioned after alignment is completed and bolts are tightened.
7. Tighten all engine bolts and recheck alignment. Drill and install 4 roll pins in new position.

### **ACCEPTABLE**

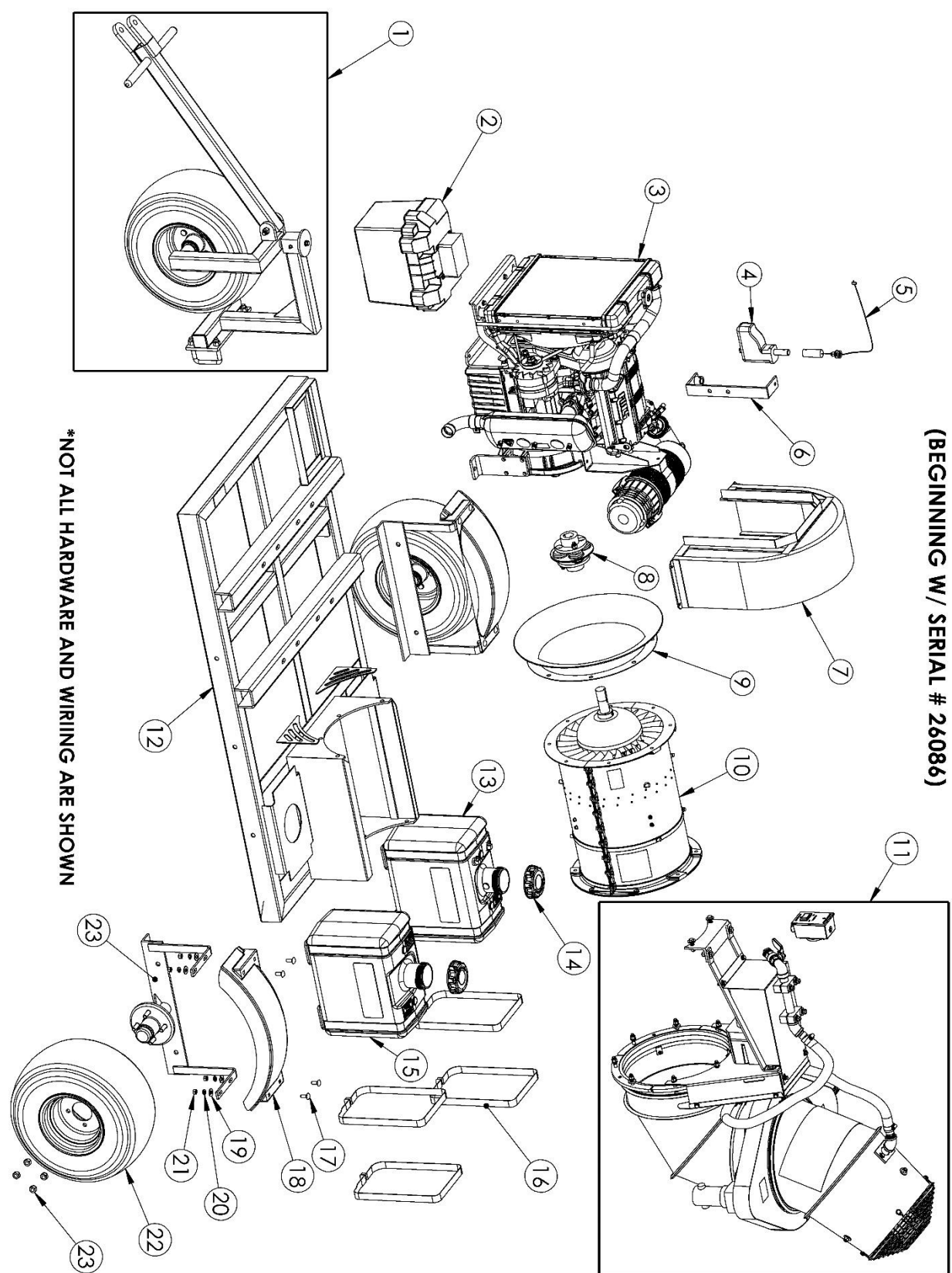


### **NOT ACCEPTABLE**



SECURELY ATTACH GUARDS BEFORE OPERATING BLOWER UNITS

# **BT-MDC2CW PARTS REFERENCE** (BEGINNING W/ SERIAL # 26086)



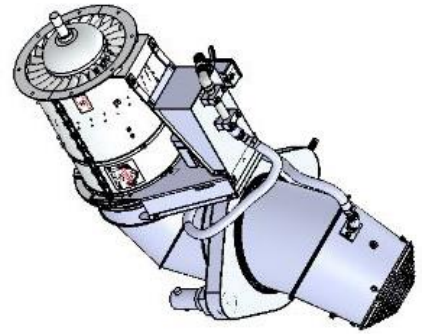
\*NOT ALL HARDWARE AND WIRING ARE SHOWN

# BT-MDC2CW PARTS REFERENCE

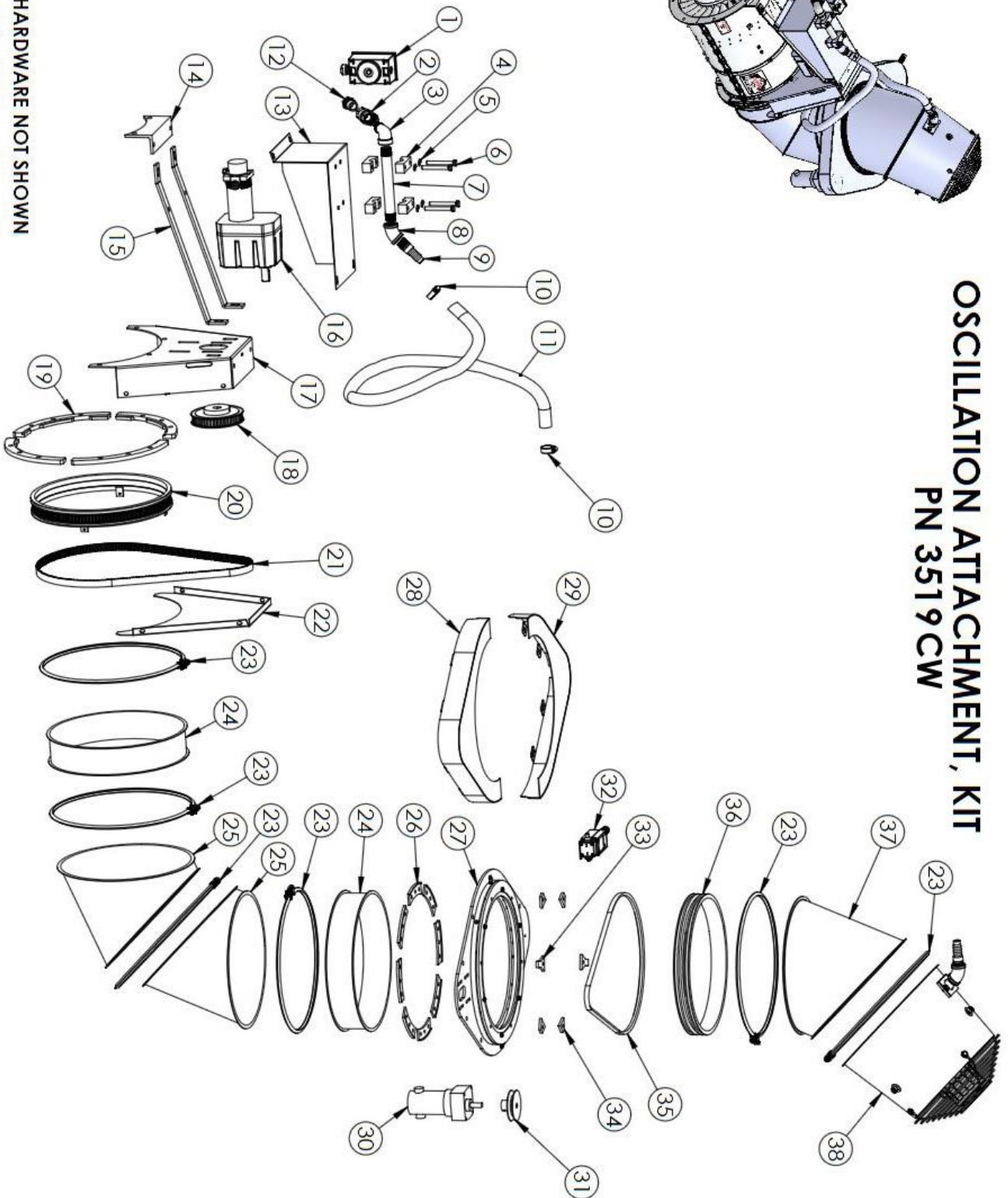
(BEGINNING W/ SERIAL # 26086)

REFERENCE #	QTY.	DESCRIPTION	PART #
1	1	3RD WHEEL ASSEMBLY	3305CW
2	1	BATTERY BOX ASSEMBLY, D1003	3518
3	1	D1003 DIESEL ENGINE	3890
4	1	THROTTLE ACTUATOR; DIESEL	3505
5	1	THROTTLE CABLE ASSEMBLY	2323
6	1	ACTUATOR BRACKET	3285
7	1	GUARD (D1003)	3435
8	SEE PAGE 16	MOREFLEX COUPLING, COMPLETE	1746
9	1	14-221-D1 BELLMOUTH	1119
10	1	RH BLOWER ASSEMBLY, NOT NIPPED	3910
11	1	OSCILLATION ATTACHMENT, KIT	3519
12	1	FRAME, BT-D1003	3908
13	1	6 GALLON FUEL TANK, D1003	3828
14	2	DIESEL FUEL CAP, GREEN	3668
15	1	FUEL TANK, 6 GALLON BOTTOM DRAW	1772
16	4	GAS TANK STRAP, FOR LARGER TANK	1788
17	*8	3/8-16 X 1 CARRIAGE BOLT ZINC	1154
18	2	SMALL WHITE PLASTIC FENDER	1150
19	*35	3/8 FLAT WASHER ZINC PLATED	1108
20	*34	3/8 LOCK WASHER ZINC PLATED	1107
21	*8	3/8-16 HEX NUT GRADE 5 ZINC PLATED	1155
22	2	18" X 8 1/2" X 8" 4PLY SAWTOOTH TIRE ON 8X7, 4-4 WHITE RIM	2019
23	*8	1/2-20 LUG NUT	1576
24	2	STUB AXLE/HUB ASSEMBLY	3906

**\* NOT ALL HARDWARE SHOWN ON EXPLODED VIEW FOR CLARITY REASONS.**



# **OSCILLATION ATTACHMENT, KIT PN 3519CW**



\*ALL HARDWARE NOT SHOWN

## PN 3519CW - OSCILLATION ATTACHMENT, KIT

REFERENCE #	QTY.	DESCRIPTION	PART #
1	1	CONTROL BOX, OSCILLATION MONSOON	3500
2	1	3/4" BRASS BALL VALVE, PRESSURE ADJUSTABLE BALL VALVE	1525
3	1	3/4" STREET "L" 304 STAINLESS 150 LB	2675
4	4	STEEL PIPE CLAMP	3293
5	18	3/8 LOCK WASHER ZINC PLATED	1107
6	4	3/8-24 X 3" HHCS GRADE 5 ZINC	1726
7	1	3/4" X 8" NIPPLE	2676
8	1	45 DEGREE 3/4" STEEL ELBOW	3516
9	1	BARBED HOSE FITTING, 3/4" HOSE, 3/4" MALE NPT, ZINC PLATED STEEL HEX ADAPTER	3515
10	2	HOSE CLAMP No. 12 (32-17MM)	3514
11	66 in.	3/4" GOODYEAR ORTAC HOSE	1732
12	1	3/4" BRASS HOSE ADAPTER, 3/4" MALE PIPE, 3/4" HOSE FEMALE SWIVEL	2677
13	1	ROTATION MOTOR COVER	3274
14	1	SUPPORT MOUNT FOR BRACES	1996
15	2	BRACES FOR GEAR MOTOR MOUNT	3730
16	1	LARGE RUBBER DIPPED MOTOR W/BRAKE; OSCILLATION	3504
17	1	BELT GUARD BACK	3142
18	1	3/8"X 3/4" 44 TOOTH TIMING BELT PULLEY	1804
19	4	PLASTIC SLIDES	1138
20	1	ELBOW BASE RING MATES WITH TIMING BELT AND PULLEY	1803
21	1	3/8" X 3/4" TIMING BELT 60 TEETH	1805
22	1	BELT GUARD FRONT	3141
23	7	CLAMP BAND W/ BOLT & NUT	1173
24	2	3" HEAVY DUTY EXTENSION	3269
25	2	HEAVY GAUGE ELBOW	1681
26	8	CLAMP	1666
27	1	OSCILLATION EYE ASSEMBLY	3513
28	1	OSCILLATION GUARD	3425
29	1	OSCILLATION GUARD W/ SLOT	3426
30	1	SMALL OSCILLATION MOTOR, RUBBER DIPPED	3501
31	1	LONG THROAT ROTATION SHEAVE	3271
32	1	LIMIT SWITCH ASSEMBLY	3502
33	2	LIMIT SWITCH TRIGGER	3268
34	4	MOUNTING TAB	3267
35	1	A-54 V-BELT	1142
36	1	ELBOW BASE, SHORT	1141
37	2	ELBOW SEGMENT	1171
38	1	OSCILLATION MONSOON NOZZLE	3912

**NOTE:** NOT SHOWN IN EXPLODED VIEW:

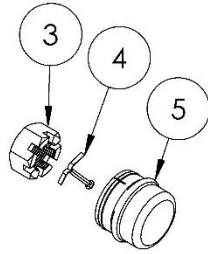
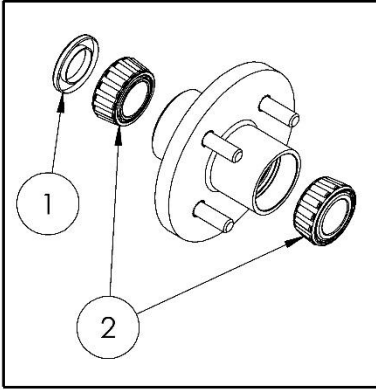
PART # 1100 - 3/8-24 X 1-1/4 HHCS ZINC GR 5 - QTY = 4  
 PART # 1101 - 3/8-24 X 1-1/2 HHCS ZINC GR 5 - QTY = 2  
 PART # 1104 - 3/8-24 X 2 HHCS ZINC GR 5 - QTY = 8  
 PART # 1105 - 3/8-24 HEX NUT ZINC PLATE GR 5 - QTY = 14  
 PART # 1106 - SPACER-3/8 X 3/16 THICK WASHER - QTY = 28  
 PART # 1108 - 3/8 FLAT WASHER ZINC PLATED - QTY = 8  
 PART # 1125 - 1/4-20 NYLOC NUT ZINC - QTY = 2  
 PART # 1130 - 5/16-18 X 3/8 SET SCREW - QTY = 2  
 PART # 1139 - 3/8 NOTCHED WASHER - QTY = 8  
 PART # 1169 - 1/4-20 X 1 HHCS ZINC - QTY = 3

PART # 1258 - 1/4-20 X 3/4 HHCS GR5 ZINC - QTY = 17  
 PART # 1259 - 1/4 LOCK WASHER, ZINC - QTY = 18  
 PART # 1415 - 1/4" FLAT WASHER - QTY = 22  
 PART # 1540 - 5/16 LOCK WASHER, ZINC PLATED - QTY = 24  
 PART # 1668 - 5/16-24 X 3/4 HHCS GR5 ZINC PLATED - QTY = 24  
 PART # 1669 - 1/4-20 X .055 HEAD INSERT - QTY = 6  
 PART # 1673 - #10 LOCK WASHER - QTY = 4  
 PART # 1674 - #10 FLAT WASHER - QTY = 4  
 PART # 1812 - 10-32 X .625 HHCS - QTY = 4



# BT-MDC2CW SUB ASSEMBLIES PARTS REFERENCE

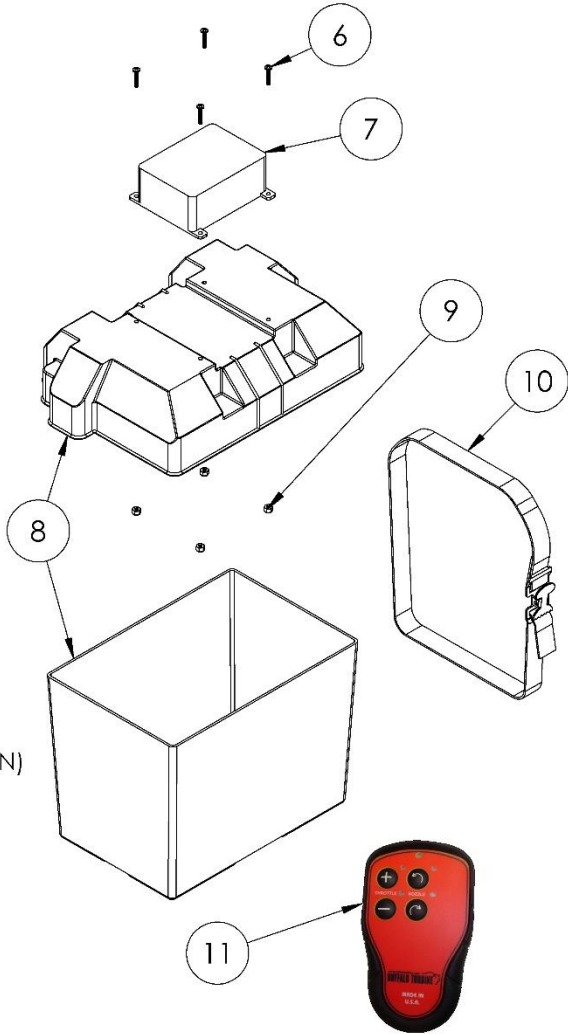
**PN 1153** (HUB W/ STUD RISERS)  
REPLACEMENT PARTS



HUB ASSEMBLY PARTS REFERENCE			
Ref #	Qty.	Description	Part #
1	1	SEAL	1691
2	2	1-1/16 TAPER ROLLER BEARING	1690
3	1	1"-14 CASTLE NUT	1151
4	1	1/8 X 1-1/2" COTTER PIN	1152
5	1	BEARING CAP	1575

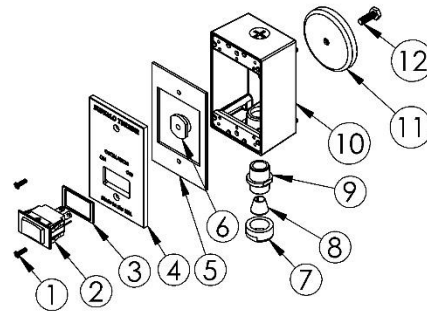
3518 BATTERY BOX PARTS REFERENCE			
Ref #	Qty.	Description	Part #
6	4	8-32 X 7/8" PHILLIPS PAN HEAD	2306
7	1	UNIVERSAL WIRELESS RECEIVER	3239
8	1	LARGE BATTERY BOX	2259
9	4	8-32 NYLOC NUT	2329
10	1	BATTERY BOX STRAP	3238
11	1	WIRELESS TRANSMITTER	3024

**NOTE:** NOT SHOWN:  
PART NO: 3512 - WIRING HARNESS, DIESEL (MONSOON)  
QTY=1  
PART NO: 2076 - 16/14 FEMALE QUICK DIS.  
QTY=1



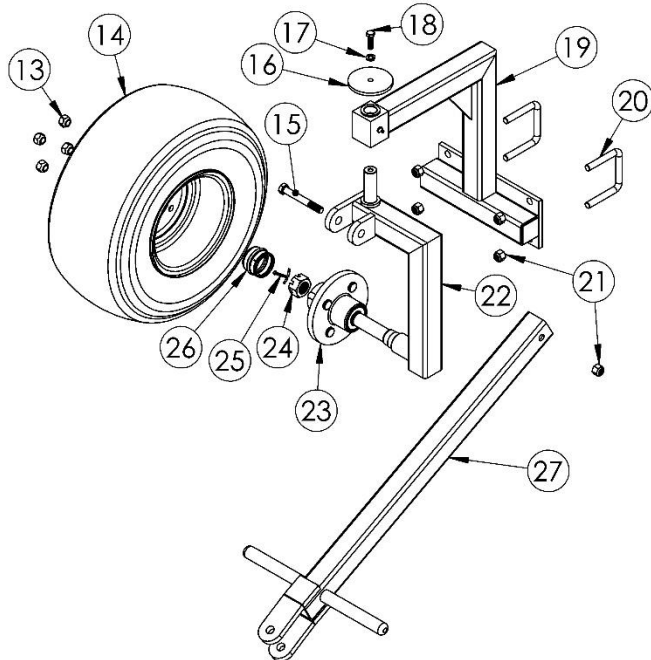
## BT-MDC2CW SUB ASSEMBLIES PARTS REFERENCE CONT.

PART # 3500 : OSCILLATION CONTROL BOX			
Ref #	Qty.	Description	Part #
1	2	6-32 PHILLIPS SCREW 1" LONG SS FLAT HEAD	1310
2	1	ROCKER SWITCH	1786
3	1	SEAL, ROCKER SWITCH	4013
4	1	CONTROL BOX COVER 12V OSCIALLTION	2945
5	1	SEAL, CONTROL BOX COVER	4014
6	1	1/4-20 NUT PLATE	1302
7	1	2 AND 4 WIRE NUT	1286
8	1	4 WIRE BUSHING	1303
9	1	BOX FITTING	1295
10	1	CONTROL BOX HOUSING	1281
11	1	MAGNET	1300
12	1	1/4-20 X 3/4 HHCS	1258

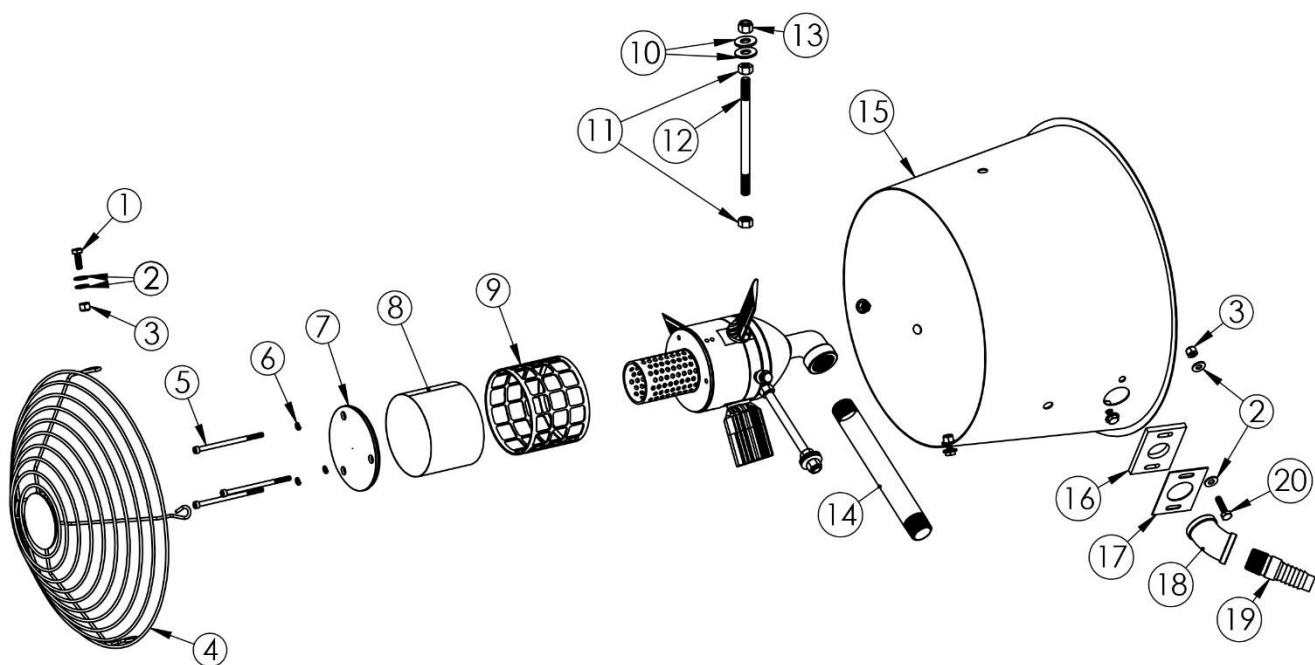


**NOTE: NOT SHOWN BUT INCLUDED WITH PART #3500**

Part #	Description	Qty.
1177	1/4 BLACK HEAT SHRINK	12 in.
1178	3/8 BLACK HEAT SHRINK	24 in.
1282	QUICK CONNECT FLAG TERMINAL	4
1283	BUTT CONNECTOR	5
1293	FUSE HOLDER	1
1294	20 AMP FUSE	1
1305	16/4 SJO WIRE	30 in.
1537	16-2 SJOOW CORD	102 in.
1838	1/2 HEAT SHRINK	3 in.
2084	11172-03, CONNECTOR PLUG, 2 POLE	1
2085	11172-02, CONNECTOR PLUG, 2 POLE	1
3427	2-WAY WEATHER PACK CONNECTOR, FEMALE	1
3429	16-14 GA. FEMALE WEATHER PACK TERMINAL	2
3431	GREEN CAVITY SEAL	2
3431	GREEN CAVITY SEAL	2
3449	RING TERMINAL	2



PART# 3305CW : 3RD WHEEL ASSEMBLY			
Ref #	Qty.	Description	Part #
13	4	1/2-20 LUG NUT	1576
14	1	18" X 8 1/2" X 8" 4PLY SAWTOOTH TIRE	2019
15	1	1/2-13 X 4 HHCS GR. 5 ZINC PLATED	1444
16	1	3-1/2" OD WASHER, OSCILLATION TRAILER	2871
17	1	3/8 LOCK WASHER ZINC PLATED	1107
18	1	3/8-24 X 1-1/4 HHCS ZINC GR 5	1100
19	1	THRID WHEEL BRACKET	3909
20	2	U BOLT, 3" X 1/2" SQUARE BEND	1707
21	5	1/2-13 NYLOC NUT ZINC	1180
22	1	WHEEL BRACKET	3907
23	1	HUB WITH STUDS,RACES, AND GREASED BEARINGS INSTALLED	1153
24	1	1"-14 CASTLE NUT YOUR	1151
25	1	1/8 X 1-1/2" COTTER PIN	1152
26	1	BEARING BAP FOR HUB	1575
27	1	TOW BAR / HANDLE, OS	3904



Oscillation Gyratory Atomizing Nozzle (Part #3912) Parts Reference			
Ref #	Part #	Description	Qty.
1	1258	1/4-20 X 3/4 HHCS GR5 ZINC	4
2	1415	1/4" FLAT WASHER	12
3	1125	1/4-20 NYLOC NUT ZINC	6
4	2881	MONSOON NOZZLE GUARD	1
5	2663	10-32 X 3 1/2" LONG STAINLESS STEEL SHCS	3
6	2664	10-32 STAINLESS STEEL SPLIT LOCK WASHER	3
7	2574	CAGE END CAP, MONSOON	1
8	2711	SCREEN, STAINLESS MONSOON	1
9	2605	SCREEN CAGE, MONSOON ATOMIZER	1
10	1108	3/8 FLAT WASHER ZINC PLATED	6
11	1105	3/8-24 HEX NUT ZINC PLATED GRADE 5	6
12	2592	3/8" X 5.7" LONG SUPPORT ROD, MONSOON	3
13	1935	3/8-24 NYLOC NUT	3
14	2676	3/4" X 8" NIPPLE	1
15	3911	MONSOON NOZZLE	1
16	2678	RUBBER RETAINING GASKET, MONSOON	1
17	2679	GASKET RETAINER STAINLESS, MONSOON	1
18	3516	45 DEGREE 3/4" GALVANIZED STEEL ELBOW	1
19	3515	BARBED HOSE FITTING, 3/4" HOSE, 3/4" MALE NPT, ZINC PLATED	1
20	1169	1/4-20 X 1 HHCS ZINC	2

**PLEASE CONTACT BUFFALO TURBINE AT 716-592-2700  
BEFORE ATTEMPTING TO SERVICE GYRATORY ATOMIZING NOZZLE.**



# BILL OF MATERIALS FOR BT-MDC2CW

PN	DESCRIPTION	QTY
1100	3/8-24 X 1-1/4 HHCS ZINC GR 5	7
1101	3/8-24 X 1-1/2 HHCS ZINC GRADE 5	6
1104	3/8-24 X 2 HHCS ZINC GRADE 5	12
1105	3/8-24 HEX NUT ZINC PLATED GRADE 5	31
1106	SPACER-3/8 X 3/16 THICK WASHER	11
1107	3/8 LOCK WASHER ZINC PLATED	30
1108	3/8 FLAT WASHER ZINC PLATED	43
1110	KEY, 1/4 X 1-1/2	1
1111	KEY, 3/8 X 1-1/2	1
1112	7/16-20 TOPLOC NUT GRADE 5 ZINC	4
1113	7/16-20 X 2-1/2 HHCS ZINC GRADE 5	4
1114	COUPLING FLANGE 1-1/4 BORE	1
1115	COUPLING FLANGE 1-7/16 BORE	1
1119	14-221-D1 BELLMOUTH	1
5588	16" NEGATIVE BATTERY CABLE	1
1124	1/4-20 X 1-1/4 HHCS	2
1125	1/4-20 NYLOC NUT ZINC	4
1130	5/16-18 X 3/8 SET SCREW	2
1137	1/2-13 X 3-1/4 HHCS GRADE 5 ZINC	4
1138	PLASTIC SLIDES	4
1139	3/8 NOTCHED WASHER	8
1150	PLASTIC FENDER	2
1156	SERIAL TAG	1
1158	1/2" GAS LINE	59
1166	COV 1/2 X 1/4 WIRE CLAMP	4
1167	COV 5/16 X 1/4 WIRE CLAMP	1
1168	SS HOSE CLAMP	7
1169	1/4-20 X 1 HHCS ZINC	8
1171	ELBOW SEGMENT	1
1173	CLAMP BAND W/ BOLT & NUT	2
1180	1/2-13 NYLOC NUT ZINC	9
1184	WARNING – EYE PROTECTION DECAL	1
1185	WARNING – EAR PROTECTION DECAL	1
1256	MOREFLEX CENTER SECTION	1
1258	1/4-20 X 1/4 HHCS	12
1259	1/4 LOCKWASHER	18
1415	1/4" FLAT WASHER	34
1444	1/2-13 X 4 HHCS	1
1540	5/16 LOCK WASHER	38
1575	BEARING CAP FOR HUB	1
1576	1/2-20 LUG NUT	12
1707	U-BOLT	2
1732	1/2" GOODYEAR ORTAC HOSE	64
1772	6 GALLON FUEL TANK	1
1788	GAS TANK STRAP	4
1804	3/8 X 3/4 44 TOOTH TIMING BELT PULLEY	1
1805	3/8 X 1/2 TIMING BELT 60 TOOTH	1
1813	10/32 NYLOC LOCK NUT	4
1980	1/4-20 X 1/2" LONG SOCKET SET SCREW	1
1996	SUPPORT MOUNT FOR BRACES	1
2019	18" X 8 1/2" X 8" 4PLY SAWTOOTH TIRE ON 8X7, 4-4 WHITE RIM	3
2275	79AH SEALED BATTERY, 8A24	1
2303	2" SLIDE ACTUATOR	1
2320	40" RED BATTERY CABLE	1
2323	THROTTLE CABLE ASSEMBLY	1
3904	TOW BAR / HANDLE, OS	1
3907	WHEEL BRACKET, OS	1
2869	7/16-20 X 3/8" SOCKET SET SCREW	4
2874	RUBBER WHEEL CHOCK	2
3141	BELT GUARD FRONT, MEGA	1
3142	BELT GUARD BACK, MEGA	1
3906	STUB AXLE/HUB ASSEMBLY, MEGA	2
3908	FRAME, BT-D1003	1
3285	ACTUATOR BRACKET, LIQUID COOLED DIESEL	1
3910	RH BLOWER ASSEMBLY	1
3435	GUARD	1
3500	CONTROL BOX, OSCILLATION MONSOON	1
3504	LARGE RUBBER DIPPED MOTOR W/BRAKE, OSCILLATION	1
3912	GYRATORY ATOMIZING NOZZLE	1
3668	DIESEL FUEL CAP, GREEN	2
3730	GEAR MOTOR MOUNT BRACE	2
3828	6 GALLON FUEL TANK, D1003M (3 FITTINGS)	1
3832	MUFFLER GUARD, DIESEL	1
3890	D1003 DIESEL ENGINE	1
3909	THIRD WHEEL BRACKET, OS	1

# BUFFALO TURBINE WIRELESS REMOTE SYSTEM MANUAL FOR BT-MDC2CW

## Specifications:

### Receiver

(BT PN 3239) WIRELESS RECEIVER

### Transmitter

(BT PN 3024) WIRELESS TRANSMITTER 4 BUTTON

## Environmental

Supply Voltage: 12VDC

Signal Analog Voltage Ramp (V/Sec): 10/6

Signal Analog Ramp Range (V): 0-10 increase & 10 - 0 decrease

Functional Relays: functional relays makes/ breaks 8A ACI

Transmit Frequency: 2405-2480 MHz

Number of Freq. Channels: 16

IP Class: IP65

Battery Type: 3 x 1.5 V - AAA alkaline

Operating Time: Approx. 15 h. with continuous usage

## Operation

Operation of the controlled device is performed with the Nozzle and Throttle buttons on the transmitter. The Nozzle buttons are used to rotate the Nozzle clock (⌚) wise or counter clock wise (⌚). The Throttle buttons (+) increase and (-) decrease the engines throttle.

- Analog Signal Ramp Range (DCV): 0 to 10 increase (+) / 10 to 0 decrease (-)
- Releasing the + or - buttons at any time during an increase/decrease command will result in the control voltage to remain at a proportional value between 0 and 10 volts.
- At any time, the operator can press both + and - buttons simultaneously to return the variable output to 0 volts resulting in the engine's throttle be set back to low idle.

## Pairing Transmitter (TX) to Receiver (RX)

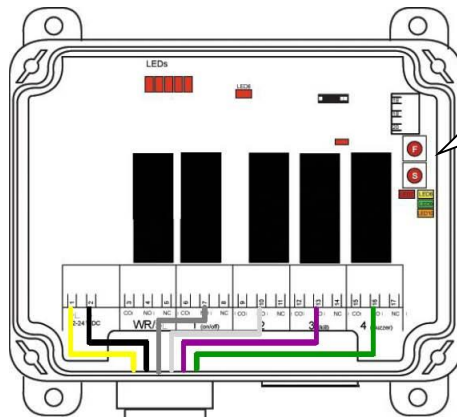
This procedure should be used to pair a single transmitter to the receiver. If you need multiple transmitters paired to this Receiver Contact Buffalo Turbine at 716-592-2700 for assistance.

The following steps will completely erase any previously stored transmitter out of the receiver's memory making them obsolete. You have 10 seconds to complete these procedures after turning the engine key switch to the run position.

1. Verify that the transmitter has a green light when each individual button is pressed.
2. Engine key switch should be in the "OFF" position.
3. Firmly press and hold transmitter buttons Throttle +, Throttle -, and Nozzle 1 CCW (⌚) simultaneously.
4. While holding down the three buttons, turn the engine key switch ON, supplying power to receiver.
5. Keep holding down these three buttons for 6-10 seconds in which time the nozzle should start to move.
6. Pairing has been successfully completed.

If a valid code from an already registered TX is received, the receiver will go directly into normal operating mode. This is to speed up the startup time.

**NOTE: Breaking any warranty seal will void the equipment's warranty, consult with Buffalo Turbine at 716-592-2700 before proceeding.**

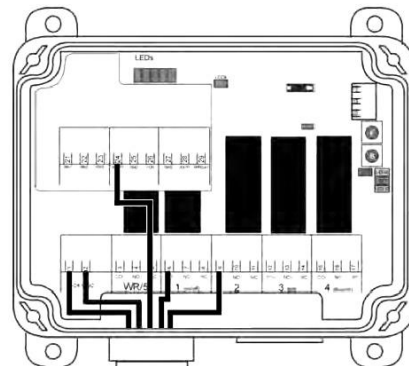


Receiver  
(Part # 3239)

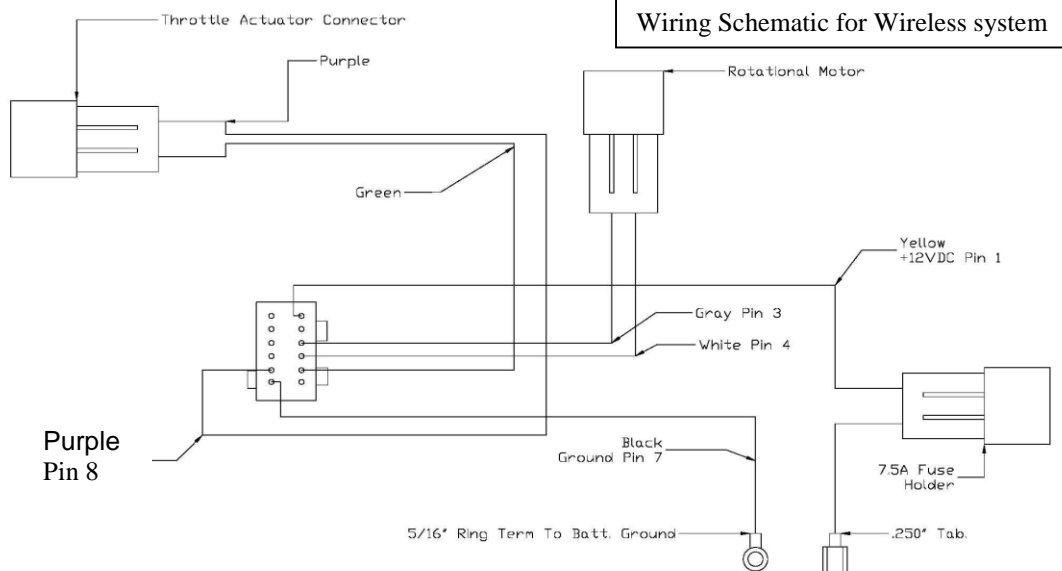
Wire color	Function	Terminal number
Yellow	+12VDC	1
Black	-0VDC, Ground	2
Gray	Nozzle 1	6
White	Nozzle 1	9
Purple	Throttle Relay	12
Green	Throttle Relay	15



Transmitter  
Part # 3024



Future models will have all black wires sequentially numbered 1-12 and matching terminal numbers above.



Wiring Schematic for Wireless system

## BATTERIES

BATTERY TYPE: 3 x 1.5 V

AAA alkaline

OPERATING TIME: Approx. 15 h. with continuous usage

WARNING! Do not recharge! Attempts to recharge may cause rupture, or the leaking of hazardous liquids which will corrode the equipment.

## CHANGE THE BATTERIES

1. Remove the clip (2 screws).
2. Remove the battery cover (2 screws).
3. Remove the batteries, starting with the one in the middle.
4. Put the new batteries in (3 x 1.5V AAA batteries), starting with the battery to the left or to the right.
5. put back the battery cover (2 screws).

## BATTERY PRECAUTIONS

Observe the following warnings.

- As batteries contain flammable substances such as lithium or other organic solvents, they may cause heating, rupture or ignition.
- Risk of explosion if battery is replaced with a battery of an incorrect type.
- Do not short circuit, disassemble, deform or heat batteries.
- Never try to charge a visibly damaged or frozen battery.
- Do not charge rechargeable batteries with a higher voltage than specified.
- Keep batteries out of reach of small children. Should a child swallow a battery, consult a physician immediately.
- Avoid direct soldering to batteries.
- When discarding batteries, insulate the + and - terminals of batteries with insulating/ masking tape. Do not put multiple batteries in the same plastic bag.
- When improperly disposed, lithium batteries may short circuit, causing them to become hot, burst or ignite.
- Store in a cool location. Keep batteries away from direct sunlight, high temperature, and high humidity.
- Do not throw batteries into fire.

## DISPOSAL OF BATTERIES AND ELECTRONICS

An alkaline battery does not contain mercury, cadmium or lead, and is better for the environment than older types of batteries. Alkaline batteries should be disposed through local recycling stations/waste dumps. Contact your local government's recycling or solid waste department for more information on proper recycling of alkaline batteries in your region.

Improperly disposed batteries and electronics may harm public health and the environment. Batteries and electronic waste may contain toxic heavy metals. If thrown away in the trash, the toxic compounds can leach into soil and water, pollute lakes and streams, making them unfit for drinking, swimming, fishing, and wildlife. Contact your local government's recycling or solid waste department for more information on proper disposal of batteries and electronics in your region.

## GUARANTEE, SERVICE, REPAIRS AND MAINTENANCE FOR WIRELESS SYSTEM

Buffalo Turbine products are covered by a guarantee against material, construction and manufacturing faults. During the guarantee period, Buffalo Turbine may replace the product or faulty parts. Work under guarantee must be authorized by Buffalo Turbine.

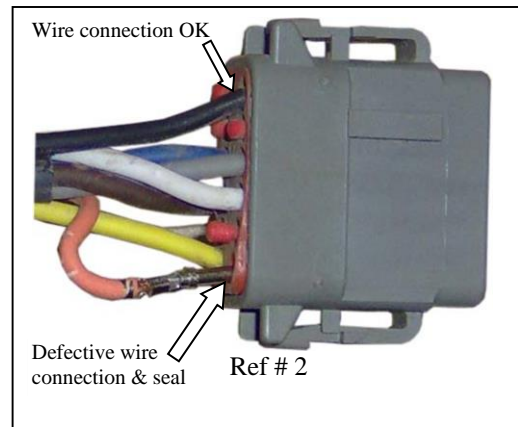
The following is not covered by the guarantee: Faults resulting from normal wear and tear, parts of a consumable nature, any Product that has been subject to unauthorized modifications, a faults resulting from incorrect installation or use, and any failure due to damp and/or water damage.

Repairs and maintenance must be authorized by Buffalo Turbine. Use spare parts from Buffalo Turbine only. Contact Buffalo Turbine at 716-592-2700 if you require service or other assistance. Keep the product in a dry, clean place. Keep contacts and antennas clean. Wipe off dust using a slightly damp, clean cloth. Never use cleaning solutions or high-pressure water.

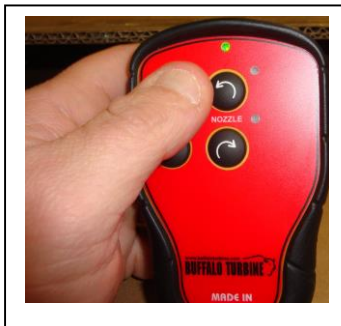
# Troubleshooting for MDC2CW Remote / Receiver

## Symptom – Does not throttle up properly.

1. Disconnect grey plug connected to the receiver. Grey plug must be removed by compressing the side tabs and pulling straight out as shown in Ref #1. Check to ensure that each wire is securely attached to the grey connector plug (see Ref #2). Ref # 2 shows a defective grey plug.
  - If wires will not pull out of the grey connector plug, reattach connector plug to the receiver and proceed to step 2.
  - If wire(s) pull out of connector plug, wire harness needs to be replaced. (see ref # 2)



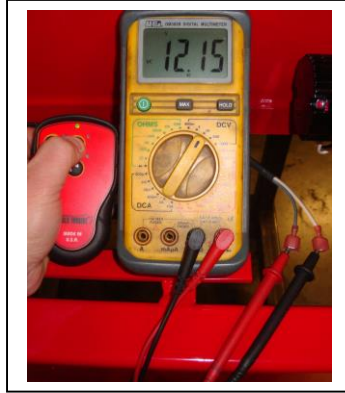
2. Check Remote Transmitter by pressing each button to ensure that the light on Transmitter has a green light.



- If the LED lights do not appear when pressing each button on the transmitter, replace transmitter batteries. If the LED lights still fail to function after replacing the batteries, replace the transmitter.
- If the lights functions correctly, proceed to step #3

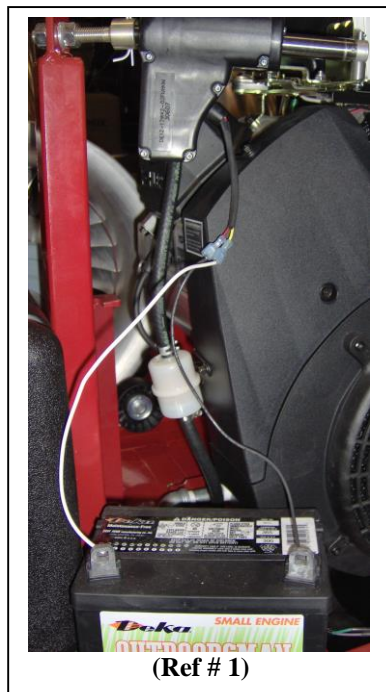
3. With engine key switch in the run position (do not start the engine at this time), disconnect throttle wires (purple and green) between throttle actuator and wire harness at the quick disconnects. The following test will require an electronic multimeter, set to read at least 12 volts.

- Insert the red probe into the purple wire and black probe into the green wire. Press the throttle buttons up and down. (Voltage should read approx. +12 volts in one direction and approx. – 12 volts in the opposite direction.) If the proper voltage is confirmed and all wire connections are secure, the throttle actuator may need to be replaced, proceed to Step 4.

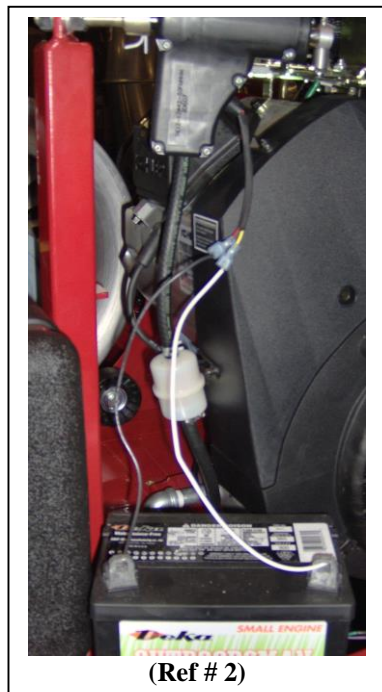


- If proper voltage has not been verified contact Buffalo Turbine for further instructions.

4. The engine should be off for the following tests. Apply power to the throttle actuator directly. Both wires from the throttle actuator need to be connected to the battery (see ref # 1). (ex. yellow wire to positive terminal and red wire to negative terminal) Then the wires need to be reversed on the battery (see ref # 2). (ex. yellow wire to negative terminal and red wire to negative terminal.)



(Ref # 1)



(Ref # 2)

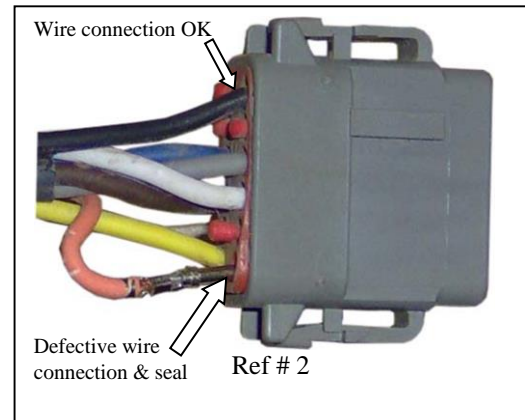
- If the throttle actuator works properly, contact Buffalo Turbine for further instructions.
- If the throttle actuator will not move in one or both directions, the throttle actuator may need to be replaced.

**If necessary, contact Buffalo Turbine at 716-592-2700 for more instructions.**

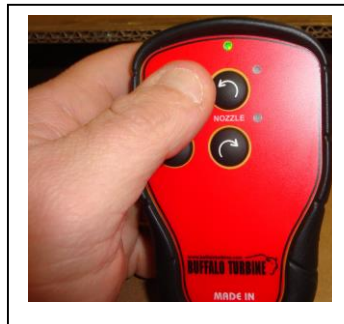
## Troubleshooting for MDC2CW Remote / Receiver

### Symptom: Nozzle will not rotate properly.

1. Disconnect grey plug connected to the receiver. Grey plug must be removed by compressing the side tabs and pulling straight out as shown in Ref #1. Check to ensure that each wire is securely attached to the grey connector plug (see Ref #2). Ref # 2 shows a defective plug.
- If wires will not pull out of the grey connector plug, reattach connector plug to the receiver and proceed to step 2.
  - If wire(s) pull out of connector plug, wire harness needs to be replaced. (see ref # 2)



2. Check Remote Transmitter by pressing each button to ensure that the light on Transmitter has a green light.

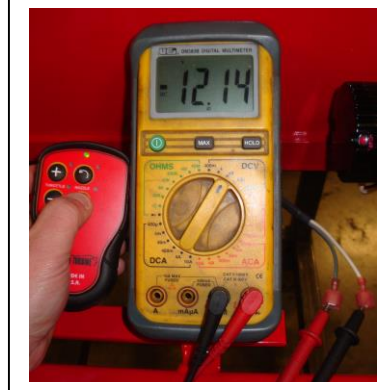


- If the LED lights do not appear when pressing each button on the transmitter, replace transmitter batteries. If a LED lights still fail to function after replacing the batteries, replace the transmitter.
  - If the lights functions correctly, proceed to step #3
3. Check the set screw on the rotation motor pulley to make sure pulley is not loose and spinning on the shaft.
- If set screw is loose, rotate nozzle assembly until pulley and flat spot on shaft are aligned. Tighten set screw and test nozzle functions with remote.
  - If set screw is tight, proceed to step #4



4. With the engine key switch in the run position, disconnect the nozzle wires leading from the rotation motor and wire harness (white and grey) at the quick disconnects. The following test will require an electronic multi-meter, set to read at least 12 volts.

- Insert the red probe into the white wire and black probe into the grey wire. Press the nozzle buttons CW or CCW. (Voltage should read approx. +12 volts in one direction and approx. – 12 volts in the opposite direction.) If the proper voltage is confirmed and all wire connections are secure, proceed to step # 5

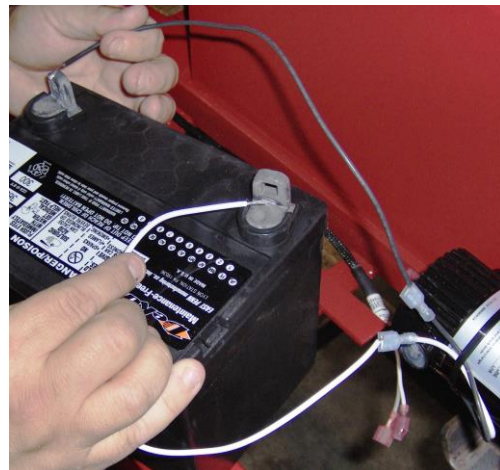


- If proper voltage has not been verified contact Buffalo Turbine for further instructions.

5. Apply power to the rotation motor directly. Both wires from rotation motor need to be connected to the battery. (Ex. white to positive terminal & black to negative terminal) Then reverse the wire connections to the battery. (Ex. black to positive terminal & white to negative terminal)



(Ref # 1)



(Ref # 2)

- If rotation motor rotates in both directions, the motor is ok.
- If rotation motor will not rotate in either direction with power applied contact Buffalo Turbine.
- If rotation motor rotates in one direction but the other, contact Buffalo Turbine.

If necessary, contact Buffalo Turbine at 716-592-2700 for more instructions.



## 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)**



**Best On Earth**



**Cyclone SQUARED**



**Cyclone Hydraulic (& Hydraulic MEGA)**



**Cyclone PTO (& PTO MEGA)**



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