



ONVX
ENVIRONMENTAL SOLUTIONS
EnviroGard

Black Diamond
21", 24", 27" Propane Burnishers
Operator's Manual



Manual Part#

This manual has important information for the use and safe operation of this machine. Failure to read this manual prior to operating or attempting any service or maintenance procedure to your Onyx machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. You must have training in the operation of this machine before using it. If your operator(s) cannot read English, have this manual explained fully before attempting to operate this machine.

Si Ud. o sus operadores no pueden leer el inglés, se haga explicar este manual completamente antes de tratar el manejo o servicio de esta máquina.

All directions given in this manual are as seen from the operator's position at the rear of the machine.

For replacement manuals please call or email your request to:

Onyx Environmental Solutions

Phone: (800) 858-3533

Email: info@onyxsolutions.com

DANGER! It is the owner/operator's responsibility to ensure that the air-exchange system installed in any location where a propane floor care machine is being operated is of sufficient capacity and quality to support the use of such a machine. OSHA and other County, State, or Federal Agencies publish guidelines on this subject that are usually most readily found in the possession of the respective owners and/or parent companies of any location or chain of locations. Failure on the part of the owner/operator to ensure that a propane floor care machine can be operated safely in a given location may lead to injury, sickness or even loss of life.

RECORD THIS IMPORTANT INFORMATION FOR FUTURE REFERENCE:

DATE OF PURCHASE _____		
PURCHASED FROM _____		
ADDRESS _____		
CITY _____	STATE _____	ZIP _____
PHONE _____	CONTACT _____	
MACHINE MODEL _____	SERIAL# _____	

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****For engine and emissions information, please reference the EnviroGard engine manual provided.**

This Operator’s Manual/Safety Procedures Guide has been prepared for the promotion of educational purposes only and Onyx does not claim or assume any responsibility for the operator's actions or safety. To be completely aware of what local authorities may require, contact the Fire Marshal of your community.

SECTION (1) MACHINE SPECIFICATIONS:

MODEL	21" black Diamond	24" Black Diamond	27" Black diamond
PART NUMBER	S1ZBCN****	S4ZBCN****	S7ZBCN****
PAD SIZE	21" (53cm)	24" (61cm)	27" (68cm)
ENGINE	Kawasaki FS481V 18hp 603cc Twin-V	Kawasaki FS481V 18hp 603cc Twin-V	Kawasaki FS481V 18hp 603cc Twin-V
CATALYTIC MUFFLER	Yes	Yes	Yes
EMISSIONS SHUT DOWN	Optional	Optional	Optional
CLUTCH	Optional	Optional	Optional
PAD SPEED (RPM's)	1800	1400	1400
PROPANE CYLINDER	20lb(9.1kg) 80% Safety Fill	20lb(9.1kg) 80% Safety Fill	20lb(9.1kg) 80% Safety Fill
AUTO FUEL SHUT OFF	Yes	Yes	Yes
LOW OIL SHUT DOWN	Yes	Yes	Yes
HOUR METER	Yes	Yes	Yes
SOUND LEVEL	87-89 db (A)	87-89 db (A)	87-89 db (A)
PRODUCTIVITY RATE	???	???	???
WEIGHT	195 lbs.	220 lbs.	230 lbs.
DEMENSIONS:	21"	24"	27"
Length	51.5" (131.8cm)	51.5" (131.8cm)	59" (149.9cm)
Width	23.3" (59cm)	26.25" (66.6cm)	29.3" (74.4cm)
Height	43" (109.2cm)	43" (109.2cm)	43" (109.2cm)
Warranty	See Warranty Policy included in this manual	See Warranty Policy included in this manual	See Warranty Policy included in this manual

SECTION (2) OPERATOR SAFETY INSTRUCTIONS:

DANGER! means: Severe bodily injury or death can occur to you or other personnel if the DANGER statements found on this machine or in this Operator's Manual are ignored or are not adhered to. Read and observe all **DANGER!** statements found in this Operator's Manual and on your machine.

WARNING! means: Injury can occur to you or to other personnel if the **WARNING** statements found on your machine or in this Operator's Manual are ignored or are not adhered to. Read and observe all WARNING statements found in this Operator's Manual and on your machine.

CAUTION! means: Damage can occur to the machine or to other property if the CAUTION statements found on your machine or in this Operator's Manual are ignored or are not adhered to. Read and observe all **CAUTION!** statements found in this Operator's Manual and on your machine.

DANGER! Failure to read the Operator's Manual prior to operating or attempting any service or maintenance procedure to your ONYX machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. You must have training in the operation of this machine before using it. If you or your operator(s) cannot read English then have this manual explained fully before attempting to operate this machine.

DANGER! Moving parts of this machine can cause serious injury and/or damage. Do not allow contact of clothing, hair, hands, feet, or other body parts with the rotating pad. Keep other people away from the machine while it's in operation.

DANGER! Injury to the operator or bystanders could occur if the machine's power is on while changing the buffing pad or making machine adjustments. Never try to change the buffing pad or attempt to make machine adjustments while the engine is running.

DANGER! Cigarette lighters, pilot lights and any other sources ignition can create an explosion if it comes in contact with Propane gas. Propane is a highly flammable fuel. All sources of ignition should be extinguished or removed entirely if possible from the work area. **DO NOT SMOKE** in the vicinity of a Propane powered machine.

DANGER! This machine emits carbon monoxide. Asphyxiation could occur if the unit is used in an area with poor or inadequate ventilation. Operate machine in a well ventilated area only. If a headache develops, shut off the machine. Have it checked for carbon monoxide emissions by a qualified technician before using it again.

DANGER! Dangerous carbon monoxide emissions from this machine are greatly increased due to a dirty combustion air cleaner. Follow the engine's manufacturer's air cleaner service instructions.

DANGER! Propane is highly flammable. If you smell propane gas, shut off the machine and move it outside. Determine the source of the leak before using it again. **NEVER** vent propane gas inside a building. It is **UNLAWFUL** to store a propane cylinder inside a building.

WARNING! Long or continuous exposure to high noise levels may cause permanent hearing loss. Always wear hearing protection while using this machine.

WARNING! Injury to the eyes and/or body can occur if protective clothing and/or equipment is not worn while using this machine. Always wear safety goggles and safety clothing while using this machine.

WARNING! Severe burn or injury could occur if you touch the hot muffler or exhaust pipe. **Do not touch the hot muffler or exhaust pipe.**

WARNING! Any alterations or modifications of this machine could result in damage to the machine or injury to the operator or other bystanders. Alterations or modifications not authorized by the manufacturer voids any and all warranties and liabilities.

WARNING! To avoid injury or property damage, do not leave the machine where it can be tampered with or started by persons untrained in its operation. You must have training in the operation of this machine before using it. **DO NOT** leave the machine running unattended.

WARNING! Substantial damage to the floor, the machine, or personnel may result if the machine is operated with the pad off center, damaged or missing. Do not operate the machine if the pad is off center, damaged or missing.

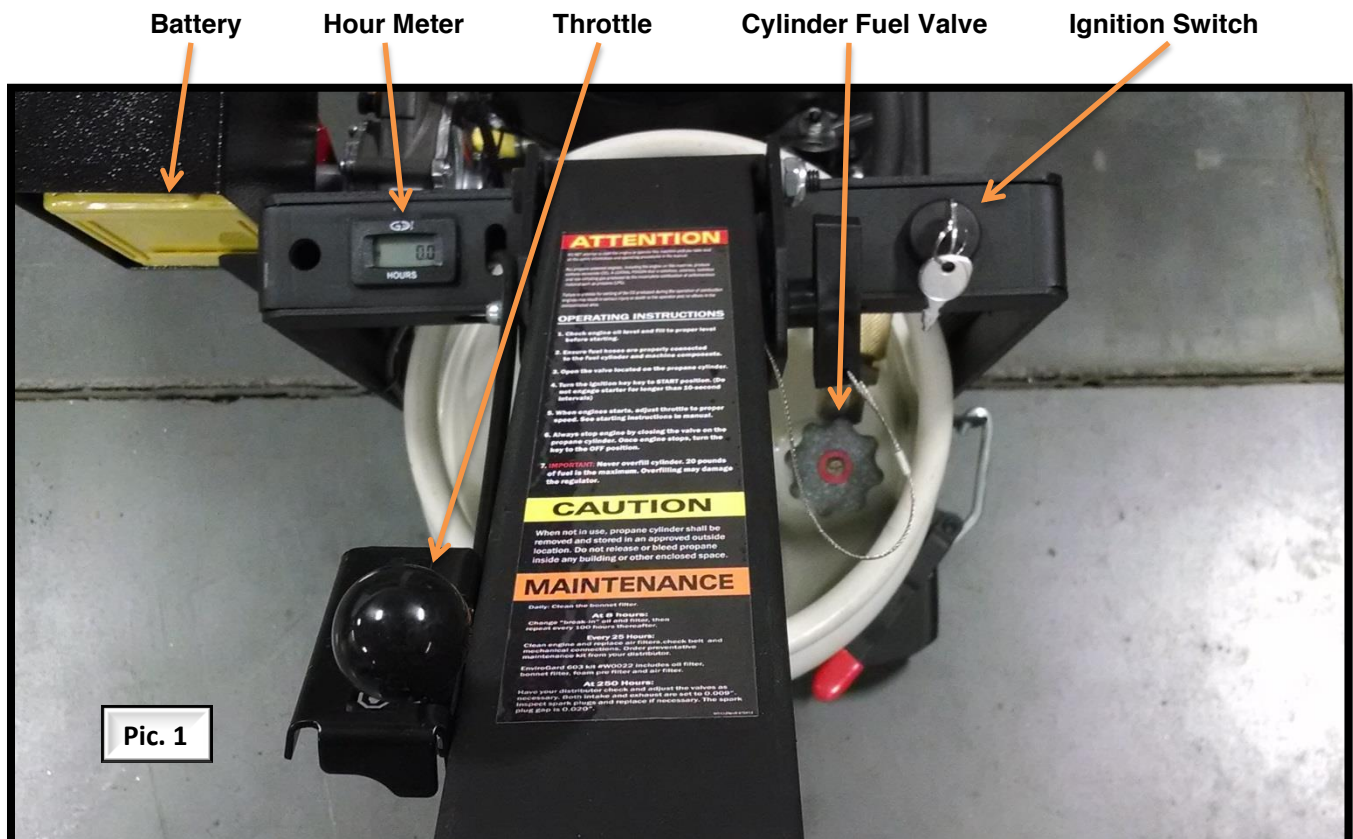
WARNING! Operating a machine that has loose parts could result in injury or property damage. Do not operate this machine if there are loose parts. Inspect the machine for loose parts frequently. This will promote safe operation and a long life for the machine.

WARNING! Vibration from machinery may cause numbness or tingling of the fingers in certain people. Smoking, dampness, diet, and heredity may contribute to the symptoms. Wearing warm clothing, gloves, exercising and refraining from smoking can reduce the effects of vibration. If the symptoms still persist, discontinue operation of the machine.

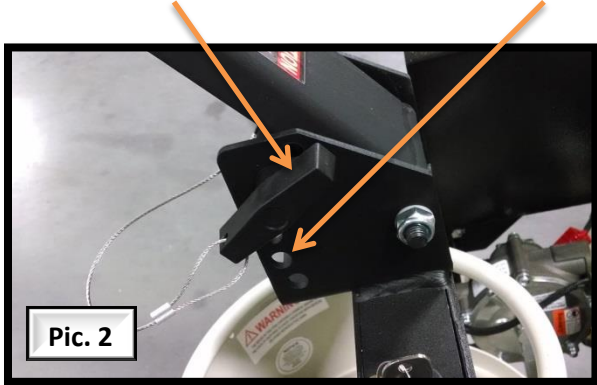
SECTION (3) MACHINE INTRODUCTION:

ONYX propane floor care equipment is manufactured in two basic concepts: The high speed buffer/burnisher/polisher and the floor stripper/grinder. Both of these designs are truly portable equipment. Propane burnishers are best defined as ultra high speed burnishers with the staying power to produce superior high gloss floor surfaces. Upon contact with the floor, the burnisher should always be kept moving. The speed at which you walk will determine the results that you will obtain. Slower speeds create more heat and therefore more shine. ONYX recommends a moderate pace for best results and safe operation. **NEVER RUN WITH THE BURNISHER!** While a credible shine will still result, the danger of trying to stop the machine in an emergency situation is unacceptable. When buurnishing, avoid loose tile, electric outlets, door thresholds and any object which may come in contact with the pad other than the floor itself. **REMEMBER**, the pad is turning very rapidly.

Proper care and maintenance will protect your investment and keep your machine serving you for many years to come. It is essential that these instructions are closely followed.



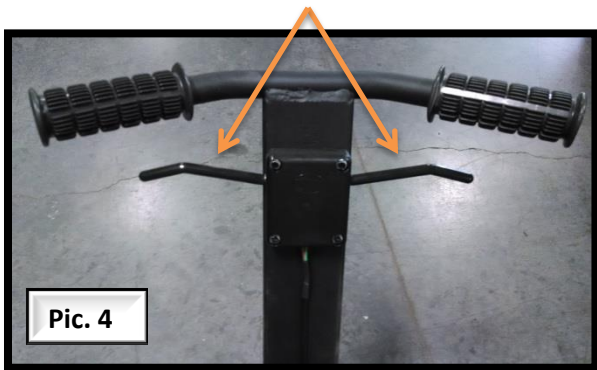
Handle Height Adjustment T-pin – Adjustment holes



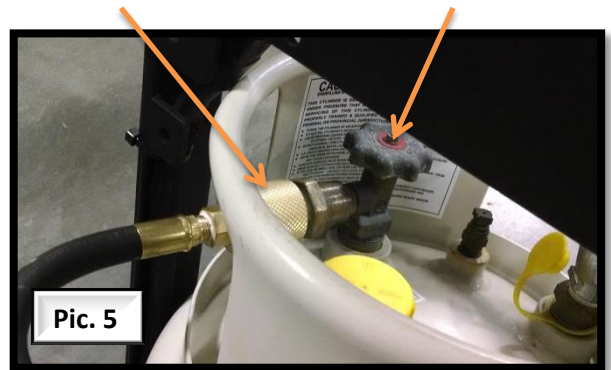
Throttle



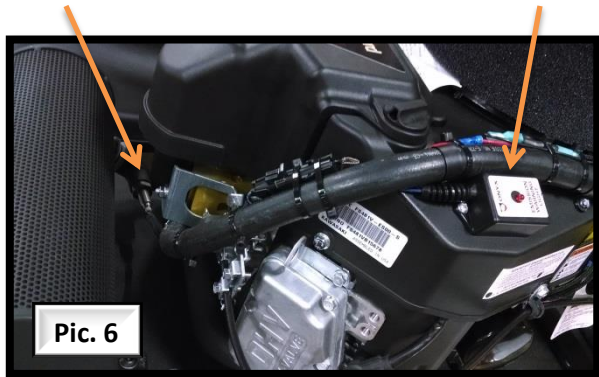
Clutch Trigger Handles (IF EQUIPPED)



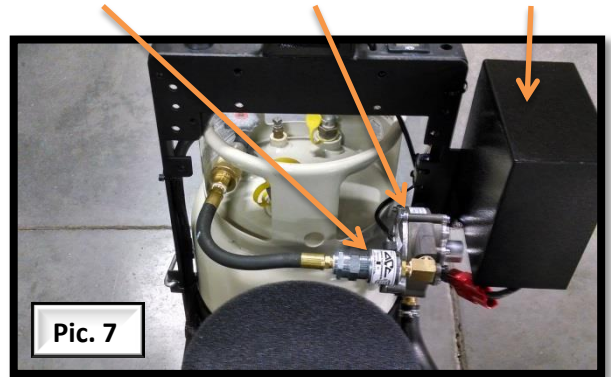
Fuel Rego Coupler Propane Cylinder Valve



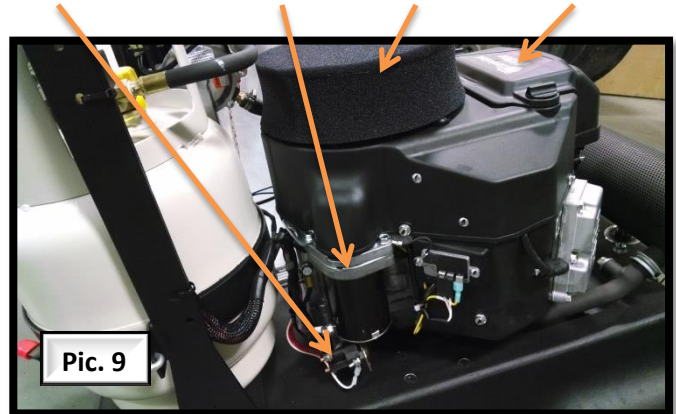
O2 sensor (IF EQUIPPED) Emissions Shut down



Fuel Lock-off Fuel Regulator Battery Box



Oil Filter-Oil Drain Plug-Oil Dipstick/Fill-Battery connector Starting Solenoid-Starter-Bonnet filter-air Filter Cover



SECTION (4) HOW TO OPERATE THE MACHINE:

Preparing The Machine For Use:

BEFORE using any type of powered equipment, proper safety dictates you should visually inspect it before each and every use.

1. Adjust the HANDLE to a comfortable height and insert T-pin into adjustment hole **(Pic. 2)**
2. BONNET FILTER - Make sure the bonnet air filter atop the engine is clean and secure. It should be inspected before each use for cleanliness. Clean or replace as needed **(Pic. 9)**
3. Check engine OIL LEVEL. **KAWASAKI - MUST screw the dipstick in to get reading (Pic. 8)**
4. **DANGER!** Propane cylinder **MUST** be filled by a certified filling station.
5. PAD AND PAD HOLDER - Inspect the condition of the pad and pad holder. Is there a pad? Is it properly attached? What is its condition? Ensure pad is clean and has at least a thickness of 1/3 inch. **DANGER! ALWAYS turn off engine to clean or replace pad.**
6. PROPANE CYLINDER and FUEL LINES – Do the fuel lines show any sign of wear and tear, such as cracks/dry rot or any corrosion?
Screw the brass fuel line fitting (Rego) onto the tank service valve hand tight only. **DANGER!** This connection **MUST** be secure because the service valve has a safety valve inside it which will only open if the brass fuel fitting is **COMPLETELY** seated into the service valve **(Pic. 5)**

Starting the Engine:

1. Be sure the fuel (Rego) coupler is tight and secure to the propane cylinder and the battery is connected.
2. Turn on the propane cylinder valve (counter clockwise) to the fully open **(Pic. 5)**
3. Set the throttle in the (pulled back) idle position **(Pic. 3)**
PRIMER BUTTON
4. It may be necessary to crank the engine for several seconds to allow the propane gas to populate the fuel system.
5. Allow the engine to warm up at half throttle to operating temperature before placing under load (beginning work). For best results and engine performance, run the machine at full throttle while under load.
6. Push throttle lever to the full throttle position before engaging floor surface.
7. **NOTE:** If equipped with Emissions shut-down, the red LED light will light up for 8-10 seconds when starting the machine and then go out if working properly.

Emissions Shut Down Operation (If Equipped):

The Onyx Emissions Shut-down System is a safety feature that serves multiple purposes. The system is designed to shut the engine down when the emissions readings at the exhaust are too high to safely operate the machine in an indoor environment. Secondly, the System is designed to shut the engine down in the event that the O2 sensor has failed or the emissions sensor is lacking communication with the O2 sensor (**Pic. 6**).

These two functions are indicated by:

1. Emissions too high: **DANGER!** The red LED indicator light on the emissions box will light up (**Solid/Constant**) for about one minute before shutting the engine down. The reason for the time delay is to allow the engine to begin running within the expectable emissions range if the condition that triggered it was only temporary allowing the engine to continue running. See the Trouble Shooting section in the EnviroGard manual for causes (**pic. 6**).
2. Communication failure with O2 sensor: **DANGER!** The red LED indicator light on the emissions box will light up (**Blinking/pulsing**) for about a minute before shutting the engine down. This indicates to the operator that either the O2 sensor has failed or the emissions box is not receiving a signal from the O2 sensor which could be a loose connection or damaged wiring between the two (**Pic. 6**).

SECTION (5) MAINTANENCE AND ADJUSTMENTS: (See *EnviroGard manual for engine maintenance*)

****SEE maintenance log near end of this manual (Advised to make copies)****

Emission Control Information

To protect the environment in which we will live, the manufacturer has incorporated **(1)** crankcase emission and **(2)** exhaust emission control systems (EM) in compliance with applicable regulations of the United States Environmental Protection Agency and California Air Resources Board.

1. *Crankcase Emission Control System.* A sealed-type crankcase emission control system is used to eliminate blow-by gases. The blow-by gases are led to the breather chamber through the crankcase. Then, it is led to the air cleaner. Oil is separated from the gases while passing through the inside of the breather chamber from the crankcase, and then returned back to the bottom of crankcase.
2. *Exhaust Emission Control System.* The exhaust emission control system applied to this engine consists of a carburetor and an ignition system having optimum ignition timing characteristics. The carburetor has been calibrated to provide lean air/fuel mixture characteristics and optimum fuel economy with a suitable air cleaner and exhaust system.

WARNING! Tampering with Emission Control System Prohibited: Federal law and California State law prohibits the following acts or the causing thereof: **(1)** the removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element at design incorporated into any new engine for the purpose of emission control prior to its sale or delivery to the ultimate purchaser or while it is in use, or **(2)** the use of the engine after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering involve the parts/systems listed below:

- Carburetor and internal parts
- Spark plugs
- Magneto or electronic ignition system
- Fuel filter element
- Air cleaner elements
- Crankcase
- Cylinder heads
- Breather chamber and internal parts
- Intake pipe and tube

General Maintenance and Adjustments

1. **FUEL CONTROL SYSTEM.** To ensure personal safety, adjustments should **ONLY** be made by a qualified LPG system technician or an authorized service center using an exhaust gas analyzer. Do not operate the machine if carbon monoxide levels exceed OSHA standards.
2. **PAD REPLACEMENT.** Tilt the machine back on its rear caster to reach the pad centering device. Turn the outer ring counterclockwise to remove it. Remove the old pad. Install the new pad by carefully centering it against the "harpoon hook" plastic gripper. Replace the center locking ring. Check rotation of the pad driver. The pad should not protrude more than $\frac{1}{4}$ of an inch anywhere around from the pad driver. (Center the pad on the driver the best you can).
3. **BELT REPLACEMENT.** Tilt the machine on its side (observing the following precautions) and block securely.

****KAWASAKI twin cylinder. DO NOT** tilt the machine on its nose as this is where the carburetor is located. It is okay to turn this model on either its left or right side.

Remove pad.

- Use a suitable wrench to secure the top of the shaft and spin off the pad driver.
- Remove old belt carefully and completely.
- Install new belt and adjust the pressure of the tensioner
- Reinstall pad driver.

Recommended First 25 Hours and thereafter every 50 Hour Maintenance Items

- Change engine oil.
- Check pad driver for loose parts.
- Check belt for wear or slippage.
- Check engine pulley for tightness.
- Check wheel bolts.
- Check engine mount bolts.
- Check handle bolts.
- Check for leakage of engine oil at the various seals.

Recommended Oil Change Intervals

NOTE: You **CANNOT** manually reset the hour meter. The meter will stop indicating (Change oil) automatically at a preset amount of time. Roughly after **(5-6 hours)** of indicating.

- **DO NOT EXCEED THE 50 HOUR OIL CHANGE INTERVAL.**

- The **FIRST** oil change **MUST** be performed at **(25 hours)** which **WILL NOT** be indicated by the hour meter. This is important because it is necessary to remove any debris from the break-in period that would be harmful to the engine.
- The second oil change **MUST** be performed at **(50 hours)** and **WILL** be indicated by the hour meter. Continue to change the every **(50 hours)**.
- Oil changes more frequent than 25 hours will give even longer engine life. In any case, always use 30HD or 10W30 engine oil with all of the following ratings: SF, SG, and CC. The various engines have different oil sump capacities. Make sure the oil level is maintained at the "FULL" level.

Recommended 200 Hour Maintenance

Return machine to authorized service center for overall checkup.

PROCEDURE TO CHANGE MODES OF OPERATION FOR STRIPBUFF MACHINE

Note: If done correctly, this procedure should take no longer than 10 minutes.

1. Turn the machine over onto its right side (from the operator's position)
2. Remove the pad holder or brush by spinning it off of the shaft.
 - You may have to loosen the belt tensioner by loosening the tensioner bolt about $\frac{3}{4}$ to one turn, which is located on the top of the frame, near the front left corner of the engine. Push the tensioner, which is mounted below the frame, towards the center of the machine.
3. Work the belt off of the small pulley on the engine shaft, then off the larger pulley on the front end.
4. Place the belt on the proper pulley on the belt tensioner to line up the upper and lower set of pulleys.
 - **STRIP MODE – LOWER SET OF PULLEYS:** Place belt on lower pulley on engine shaft and start the belt on the lower pulley on the front end. Turn the front end pulley counterclockwise and the belt will slip into place.
 - **BUFF MODE – HIGHER SET OF PULLEYS:** Place the belt on the front end pulley first; the higher pulley next to the frame. Start to work the belt onto the higher pulley on the engine shaft. If you have trouble working the belt on, try using a 5/8" socket on the engine shaft bolt and turn clockwise only. This will enable you to turn the shaft easily.
 - Make sure the belt is on the proper tensioner pulley. Take your 15/16" wrench or socket and place it in place on the tensioner. As you tighten the belt tensioner, from the top of the frame, turn your 15/16" wrench or socket until you achieve a proper (firm) tension on the belt.
5. Spin the pad holder or the stripping brush, depending on the application, back onto the shaft.

- The large 10" grey wheels should be removed for the buffing mode, by removing the axle clips at each end of the axles, then the washers and finally the wheel assemblies. The axle may be left in place.

REMEMBER: It may be entirely unnecessary to loosen the tensioner to accomplish the changeover. Experiment at first, without loosening the tensioner, and see if you can achieve repositioning the belt with the tensioner activated. You'll probably find, as most people do, that it is not only quite possible, but the changeover is much easier as there is far less to do.

SECTION (6) TROUBLESHOOTING: (See EnviroGard manual for engine troubleshooting)

When troubles occur, **be sure to check the simple causes** which at first, may seem too obvious to be considered. For example, a starting problem could be caused by fuel starvation due to an empty propane cylinder or an unopened service valve. If you don't check for this, starter burnout could result.

1. **KAWASAKI ENGINE SURGING IDLE** - To smooth out the engine's idle characteristics, adjustment is provided by an idle screw on the lower left side of the carburetor as viewed from the operator's position. The screw is bright steel and 1/4" in diameter with a Phillips head on it. Rotating the screw clockwise will increase the idle speed and this should cure the "surging idle". IF IT DOES NOT, call our customer service department for assistance.
2. **EXCESSIVE VIBRATION** - Look for the following possibilities: .
 - Pad is off center. Remove and reinstall.
 - Pad Driver is cracked. (Possibly from striking a curb or bolt in the floor) Replace at once with a new part.
 - Bearings in Front End Assembly are worn. Place machine on its side where the muffler is mounted. Grip Pad Driver and move up, down and from side to side to check for slack in the bearings. If this is the case, then to affect a proper repair, the bearings should be replaced and possibly the shaft.
3. **ENGINE STARTS AND IDLES, BUT WILL QUIT AS THE THROTTLE IS ADVANCED** - It is possible that the propane tank's service valve is faulty. To check for this, close the valve completely and then reopen very slowly while you listen for a "click" when the gas begins to travel through the valve. If you hear this very slight noise, the valve is only partially opening. This allows enough gas through to start and idle the engine, but not enough for full throttle operation. As the throttle is increased, allowing more air to enter the intake, the engine will quit from fuel starvation. Call your dealer or the factory for instructions on where to have the service valve replaced. Meanwhile, to get by, you can continue to open the service valve until you don't hear a "click" and then the engine will run normally. IF IT DOES NOT, call our customer service department for further assistance.
4. **THE BUFFER SEEMS TO RUN WELL BUT DIES DOWN WHEN THE PAD IS PLACED ON THE FLOOR OR SOON THEREAFTER** - Check for the same problem as in #3.
5. **EXCESSIVE NOISE FROM UNDER BUFFER** - If this problem has developed after use of the machine from new, then the first place to check is the Tensioner. As a new belt wears in, it naturally stretches a bit and the tensioner will begin to rattle. Place the buffer on

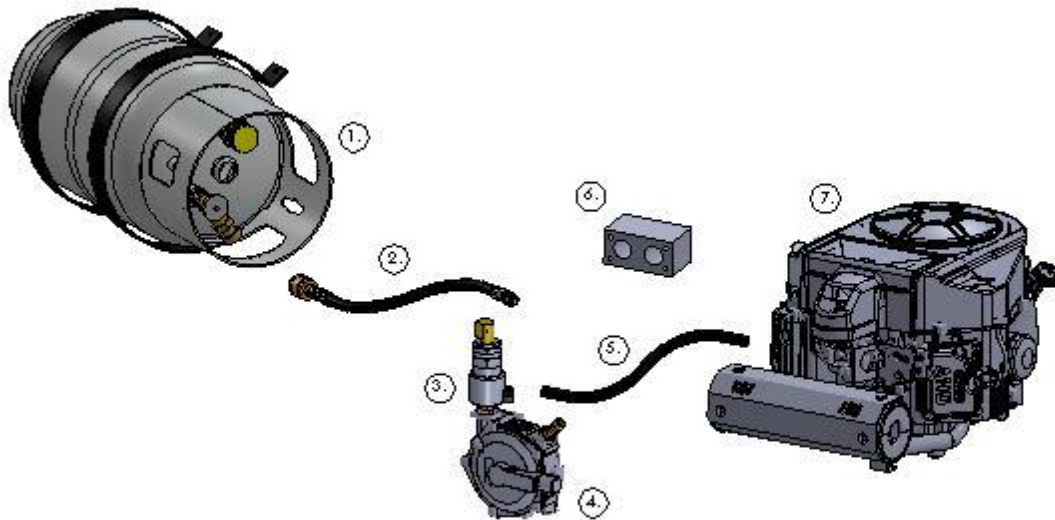
its side (with the muffler down) and reset by taking up the slack in the belt and tighten the Tensioner.

6. STARTER BARELY TURNS THE ENGINE OVER or THE SOLENOID JUST CLICKS ON 12 VOLT MODELS –
 The battery is likely low in charge. This can be remedied by recharging the battery using a 12 volt battery charger at 4.12 amperes. The battery is located under the frame at the rear of the buffer. The positive post is the one with the RED cable attached to it. Follow the instructions that came with the battery charger. REMINDER: this will continue to happen unless the buffer's engine is run for sufficient time between starts to recharge the battery.

7. KAWASAKI V-TWIN – *ENGINE BEGINS TO BACKFIRE REGULARLY/SUDDENLY* -
 Check the sparkplug boots. One is likely cracked, possibly due to contacting a corner of a shelf or a door frame. Remove the sparkplug lead from the sparkplug and replace the boot. The engine should now run smoothly. IF IT DOES NOT then contact our Technical Support department for further assistance.



**PROPANE POWERED ENGINE
 SUPPLEMENTAL PARTS DIAGRAM
 LPG FUEL SYSTEM COMPONENTS**



EnviroGuard Component List

<u>Item Number</u>	<u>Description</u>	<u>Part Number</u>
1.	Propane Cylinder (Vertical Depending on Application).....	W2502
1.	Propane Cylinder (Horizontal Depending on Application).....	W2512
2.	High Pressure Hose.....	W2670-15
3.	Fuel Lock-Off.....	W2608
4.	Regulator.....	W2606
5.	Low Pressure Hose.....	W2689
6.	Carburetor/LPG Mixer.....	W2628-V-603-C
7.	Engine Kawasaki 603cc.....	W3132

TROUBLESHOOTING CHART:

Note: When trouble occurs be sure to check for simple causes, which at first may seem too obvious to be considered. For example, a starting problem could be caused by propane starvation due to an empty propane cylinder or an unopened service valve. If you don't check for this, starter burnout could result.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Starter Motor Does Not Operate	Weak or Dead Battery	Recharge or Replace Battery
	Ignition Switch Faulty	Check or Replace Switch
	Dead Man Switch Not Engaged*	Engage Dead Man Switch Prior to Engaging Starter
	Dead Man Switch Faulty*	Check or Replace Dead Man Switch
	For Additional Causes	See Engine Manual or Dealer
Engine Turns Over But Does Not Start or Run	Fuel Tank Not Connected	Disconnect and Reconnect Tank
	Fuel Tank Empty	Refill or Replace Tank
	No Fire at Spark Plug	Replace Spark Plug
	Engine Oil Pressure Low	Check and Fill Oil To Correct Level
	Oil Pressure Switch Faulty*	Check or Replace Oil Pressure Switch
	For Additional Causes	See Engine Manual or Dealer
Engine Runs with Loss of Power or Excessive Exhaust Fumes	Restriction in Air Cleaner	Service Air Cleaner
	Ignition System Misfire	Check or Replace Ignition Coils
	Poor Compression or Timing	See Engine Manual or Dealer
Engine Running Hot or Over Heating	Intake Screen or Bonnet Filter Clogged	Clean Screen and or Bonnet Filter
	Cooling Fins Clogged	See Engine Manual for Cleaning
High Oil Consumption	Numerous Causes	See Engine Manual or Dealer
Engine Knocks and Other Engine Noises	Numerous Causes	See Engine Manual or Dealer
Electric Clutch Will Not Engage*	Loose or Faulty Wiring	Check Wiring
	Clutch Switch Faulty	Check or Replace Clutch Switch
	Clutch Out of Adjustment	See Your Dealer
(*If Unit Is Equipped With This Option)		

SECTION (7) WARRANTY POLICY & PROCEDURES:



LIMITED WARRANTY POLICY & PROCEDURES FOR ONYX FLOOR MACHINES

TO QUALIFY FOR WARRANTY CONSIDERATION:

1. Machine must be registered at the time of purchase via the ONYX website www.onyx-solutions.com/warranty **OR** by providing the service center with The Proof of Purchase (ie. Purchase Receipt)
2. The machine must have been purchased from ONYX or an authorized ONYX Distributor.
3. This warranty extends to the end purchaser only and is not transferable to subsequent owners.
4. **ANY WARRANTY REPAIRS TOTALING OVER \$300 MUST BE PRE-AUTHORIZED BY CALLING TECHNICAL SUPPORT @ (800)858-3533 OR THE CLAIM WILL BE DENIED. THANK YOU.**

WARRANTY TIME PERIODS: **ONE (1) YEAR OR 1000 HOURS WARRANTY – This includes: Propane components (except what is listed under the (90) days), Regulator, Fuel Lock-off, Carburetor, Clutch, Frame, Deck, Cylinder carrier, and all non-expendable parts. Machine warranted to be free from defects in material and workmanship for a period of one (1) year from the date of purchase by the original end user. (See Exclusions) ****THREE (3) YEAR WARRANTY (KAWASAKI)** – Kawasaki engines are warranted by engine manufacturer through a certified Kawasaki service center unless it is diagnosed and determined to be a result of a warrantable failure regarding Onyx's fuel system or workmanship which would then result in Onyx taking the responsibility of the warranty compensation. (See Engine Manual for Kawasaki warranty policy and procedures). ****NINETY (90) DAYS OR (125) HOURS WARRANTY (WEARABLE PARTS)** – Belts, Deck Skirts, Pad Drivers, Front Spindle Assembly Bearings, Wheel Bearings & Wheels, Hoses, Clutch Trigger Assembly, Battery, Starting Solenoid, Throttle & Choke Cables and REGO Fitting to Cylinder & Cylinder.

EXCLUSIONS (Not Covered by Warranty):

1. **TRAVEL EXPENSES:** The end user is responsible transporting the machine to a repair facility or paying the travel expenses.
2. Parts that fail through normal wear by reason of their characteristics (pads, brushes, bumpers, body molding, skirting, spark plugs, filters, or other consumable parts).
3. This warranty does not extend to parts affected by misuse, neglect, abuse or improper maintenance. All defective parts must be returned to ONYX for credit unless instructed otherwise.

THE OBLIGATION OF ONYX ENVIRONMENTAL SOLUTIONS INC.:

1. The obligation of ONYX under this Warranty is limited to repairing or replacing, at its option, any part which is proven to be defective in material or workmanship under normal use for the applicable period stated above.
2. Warranty repairs will be made by your local ONYX Distributor without charge for parts and labor.
3. Parts repaired or replaced under this Warranty are warranted only during the balance of the original warranty period. All defective parts replaced under these warranties become the property of ONYX and must be returned to ONYX (UNLESS OTHERWISE ADVISED)

WARRANTY SERVICE: To obtain Warranty service, take your machine and proof of purchase to any authorized ONYX Distributor. ONYX will not reimburse expenses for service calls or travel. To locate the Distributor in your area, call ONYX customer support at **1-800-858-3533** or **1-704-827-9368**. If you are dissatisfied with the service you receive, call or write ONYX customer service department for further assistance. ***ONYX DEALERS AND DISTRIBUTORS: YOUR COMPANY WILL BE BILLED FOR THE REPLACEMENT WARRANTY PART(S) INITIALLY. YOUR ACCOUNT WILL BE CREDITED UPON RECEIVING THE DAMAGED PART(S) IF AND WHEN DEEMED WARRANTABLE. IF QUESTIONABLE, PLEASE CALL ONYX TECHNICAL SUPPORT FOR AUTHORIZATION. 1-800-858-3533**

DISCLAIMER OF CONSEQUENTIAL: ONYX ENVIRONMENTAL SOLUTIONS INC. DISCLAIMS ANY RESPONSIBILITY FOR LOSS OF USER TIME OF THE ONYX MACHINE OR ANY OTHER INCIDENTAL CONSEQUENTIAL DAMAGE EXCEPT AS STATED IN THE WARRANTY APPLICABLE TO EACH MACHINE. EXCEPT AS STATED IN SUCH WARRANTIES, THE COMPANY DOES NOT OTHERWISE WARRANT ANY MACHINE AND NO WARRANTY, EXPRESS, IMPLIED OR STATUTORY IS MADE BY THE COMPANY. COPYRIGHT 2008 – POLICY UPDATED 8/2013

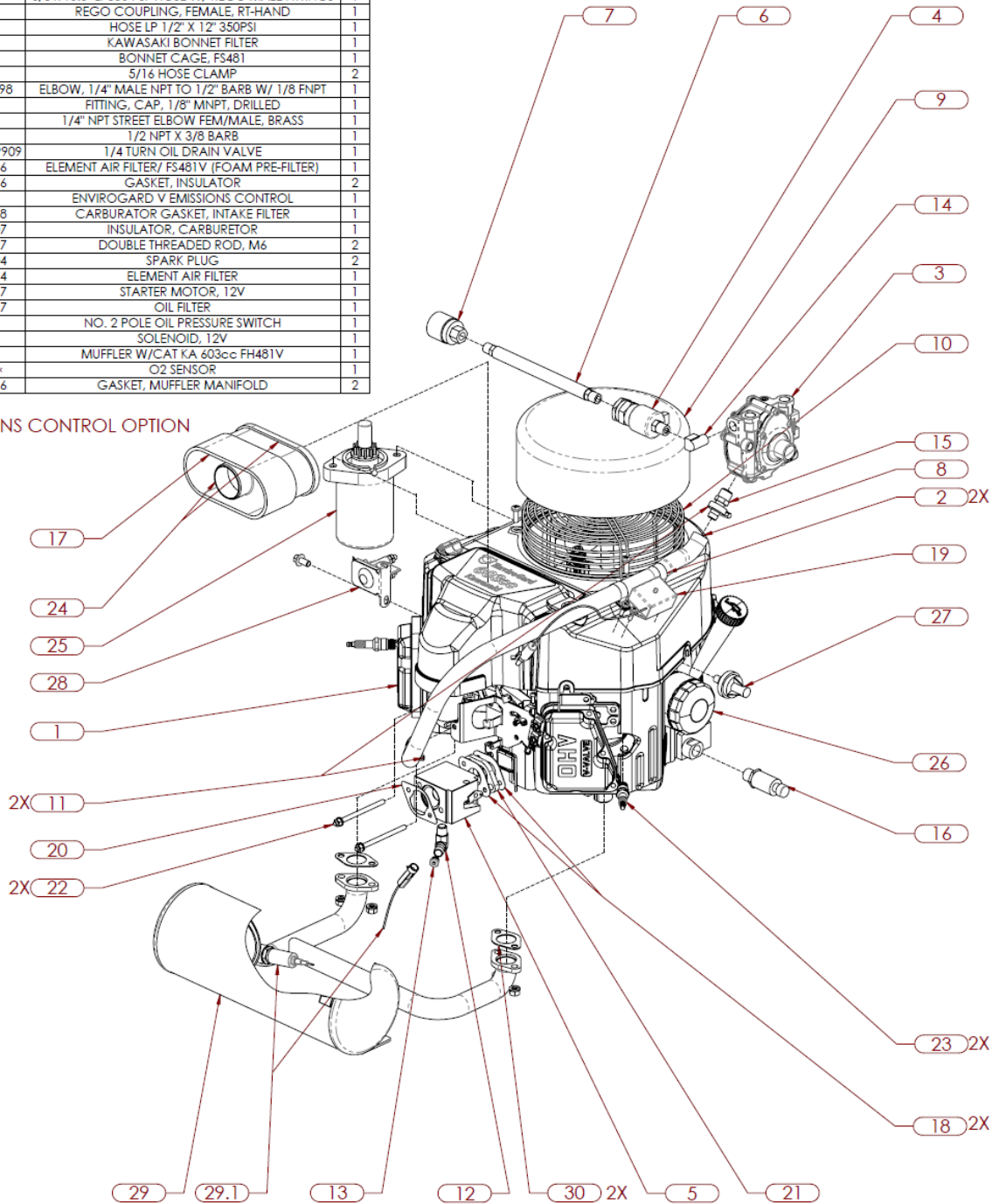


18 HP 603cc Engine

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	W3132	KAWASAKI FS481V-AS10-M 18H 12V	1
2	W1324	7/8 NYLON HOSE STRAP	2
3	W2606	N51-SA-C-3.0-NT REGULATOR	1
4	W2608	12V A152 LP FUEL LOCKOFF	1
5	W2628	PROPANE CARBURATOR, 603cc ENGINE	1
6	W2648-10.5	3/8 x 10.5" LP350 PSI HOSE W/ REGO MALE FITTINGS	1
7	W2650	REGO COUPLING, FEMALE, RT-HAND	1
8	W2660	HOSE LP 1/2" X 12" 350PSI	1
9	W3305	KAWASAKI BONNET FILTER	1
10	W3311B	BONNET CAGE, FS481	1
11	F62004	5/16 HOSE CLAMP	2
12	F12634-00098	ELBOW, 1/4" MALE NPT TO 1/2" BARB W/ 1/8 FNPT	1
13	F68612	FITTING, CAP, 1/8" MNPT, DRILLED	1
14	F69881	1/4" NPT STREET ELBOW FEM/MALE, BRASS	1
15	F69932	1/2 NPT X 3/8 BARB	1
16	FE17409029909	1/4 TURN OIL DRAIN VALVE	1
17	K11013-7046	ELEMENT AIR FILTER/ FS481V (FOAM PRE-FILTER)	1
18	K11061-7096	GASKET, INSULATOR	2
19	W2804 **	ENVIROGARD V EMISSIONS CONTROL	1
20	K11061-7018	CARBURATOR GASKET, INTAKE FILTER	1
21	K16073-7007	INSULATOR, CARBURETOR	1
22	K92004-7027	DOUBLE THREADED ROD, M6	2
23	K92070-7004	SPARK PLUG	2
24	K99999-0384	ELEMENT AIR FILTER	1
25	K21163-0727	STARTER MOTOR, 12V	1
26	K49065-7007	OIL FILTER	1
27	W1325	NO. 2 POLE OIL PRESSURE SWITCH	1
28	W1305 *	SOLENOID, 12V	1
29	W3240A	MUFFLER W/CAT KA 603cc FH481V	1
29.1	W2803 **	O2 SENSOR	1
30	K11060-7016	GASKET, MUFFLER MANIFOLD	2

* OPTION

** EMISSIONS CONTROL OPTION





21" Black Diamond

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1 *	W5021A	21" BLACK DIAMOND DECK ASSY	1
1.1	W5021	21" FRAME CAST ALUMINUM	1
1.2	W1060A-1	FRONT END BEARING ASSY	1
1.3	W2060	PULLEY 6", BK62	1
1.4	W1101A-C	ROTARY TENSIONER ASSY	1
1.4.1	W1101	ROTARY TENSIONER	1
1.4.2	W1102	ROTARY TENSIONER PULLEY	1
1.4.3	F13111	HEX BOLT, 3/8-16 X 2"	1
1.4.4	W1103	18.7mm x 9.7mm BORE TENSIONER SPACER	1
1.5	W1193	NAME PLATE W/ SERIALIZATION	1
1.6	W4241	REAR CASTER	2
1.7 **	W4210A	DLXE WHEEL BRKT ASSY VAC	2
1.7.1	W4210	DELUXE WHEEL BRACKET (5 HOLE)	1
1.7.2	W4220	RUBBER WHEEL, 6" x 1 1/2"	1
1.7.3	W4218	3/8" COLSON WHEEL BUSHING	1
1.7.4	F37023	3/8-16 SELF-LOCKING HEX JAM NUT	1
1.7.5	W4221	AXLE FOR COLSON WHEEL	1
1.8	W4108	21" FRONT BUMPER STRIP	1
1.9	F58969	6mm X 32mm PARALLEL KEY	1
1.10	MC8507K24	NEOPRENE RUBBER EDGING	1
1.11	MC93625K95	NATURAL GUM FOAM-ADHESIVE	1
2 @	W3102-1B	KAWASAKI FS60018HP12V ASSY	1
3 *	W4057A	12V BOTTLE CARRIER ASM.	1
3.1	W4057	BOTTLE CARRIER - VORTEX	1
3.2	W4060-1	T-HANDLE ASSY	1
3.2.1	W4050	HANDLE GRIP FOR T-HANDLE	2
3.2.2	W1454	T-HANDLE PIN W/ LANYARD, 3/8" X 4"	1
3.2.3	W4110	THROTTLE W/ CABLE 53 INCH - WESCON	1
3.2.4	W4060	18" T-HANDLE	1
3.3	W4312	RECTANGULAR HOUR METER	1
3.4	W1302-1	12V BATTERY & WIRE CONNECTOR	1
3.5	W4274	BATTERY BOX	1
3.6	W4359	MBTX 12V12A BATTERY	1
3.7	W1301	IGNITION SWITCH W/ HARDWARE KEY	1
3.8	F26362	SHOULDER BOLT, 1/2" X 4" (3/8-16)	1
3.9	F37024	HEX NUT, SELF-LOCKING, 3/8-16	1
3.10	F33006	FLAT WASHER, WIDE, 5/16"	1
4	W1551A	21" PREMIUM PAD DRIVER ASSY	1
4.1	ON216	21" BURNISHING PAD	1
5	W2035	PULLEY, 3 1/2" BK34-1 W/2 SS	1
6	W1220	CLUTCH WASHER	1
7	WB41	V-GROOVE BELT, 5/8" X 41"	1
8	W2502	PROPANE TNK P#5461TC -20LB.RT	1
9	F0216763	C-LOOP, 1/4"	1
10	MB10	MOTOR SHAFT SPACER	3
11	F58969	6mm X 32mm PARALLEL KEY	1

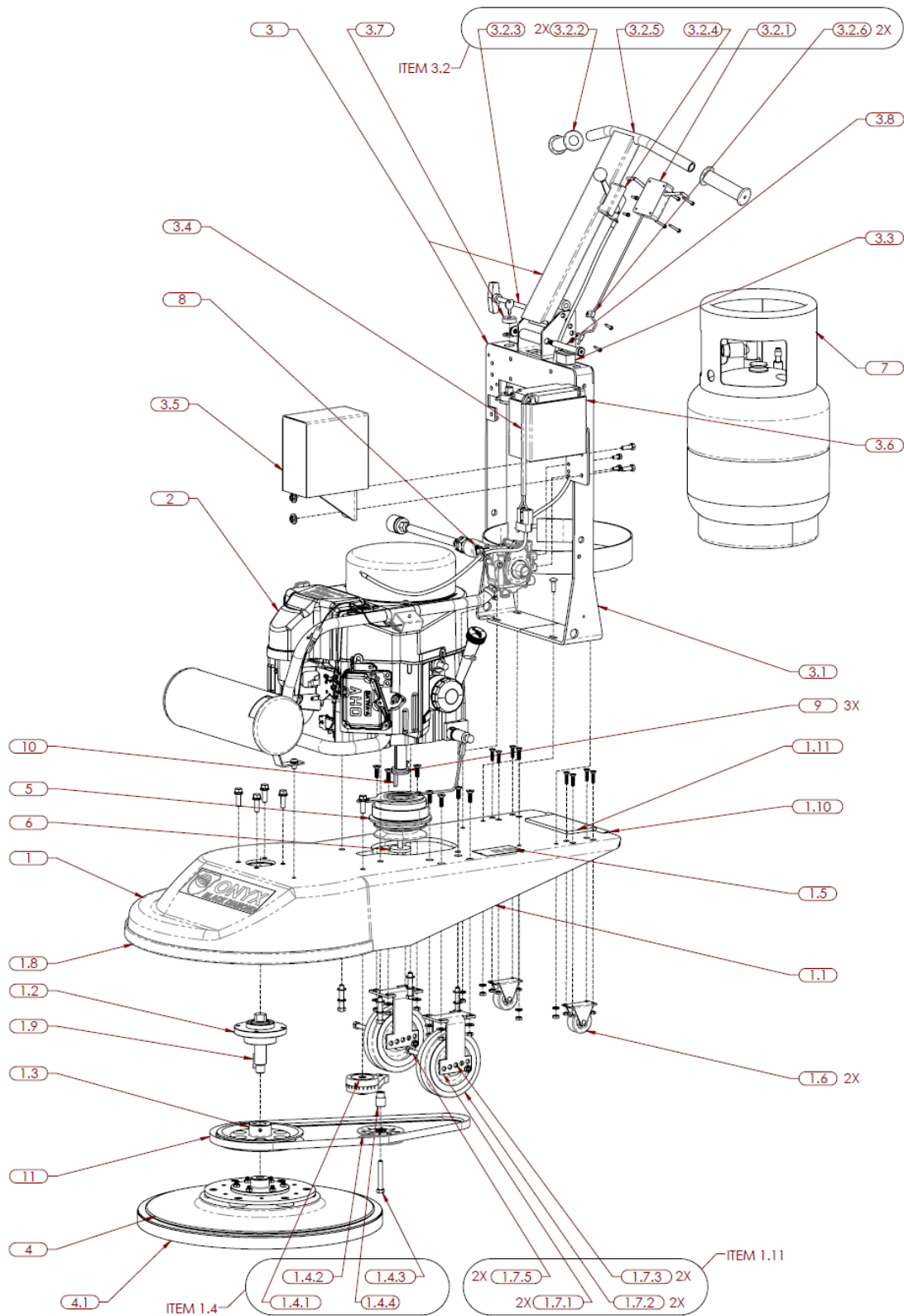
* ITEMS 1 & 3 ARE INCLUSIVE OF ALL ITEMS BEARING THE RESPECTIVE ITEM NUMBER PREFIX.

** QUANTITIES OF INCLUDED ITEMS ARE AS PER SUBASSEMBLY.

@ ITEM 2 IS DETAILED ON FIRST ILLUSTRATED PARTS SHEET SEPARATELY.



21" Black Diamond with Electric Clutch





21" Black Diamond with Electric Clutch

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1 *	W5021A-C	21" BLACK DIAMOND WITH CLUTCH DECK ASSY	1
1.1	W5021	21" FRAME CAST ALUMINUM	1
1.2	W1060A-1	FRONT END BEARING ASSY	1
1.2.1	W1060-1	FRONT END BEARING HOUSING	1
1.2.2	W1055	BEARING 62052RS-C3	2
1.2.3	W1015	SHAFT 1 X 5-1/8	1
1.2.4	F68019	RETAINING RING, EXTERNAL, 1" SHAFT	2
1.3	W2075	PULLEY-7.5" BK77- 1 W/2 SS	1
1.4	W1101A-C	ROTARY CLUTCH TENSIONER ASSY	1
1.4.1	W1101	ROTARY TENSIONER	1
1.4.2	W1102	ROTARY TENSIONER PULLEY	1
1.4.3	13113	HEX BOLT, 3/8-16 X 2 1/2"	1
1.4.4	W1104	31.4mm x 9.7mm BORE TENSIONER SPACER	1
1.5	W1193	NAME PLATE W/ SERIALIZATION	1
1.6	W4241	REAR CASTER	2
1.7 **	W4210A	DLXE WHEEL BRKT ASSY VAC	2
1.7.1	W4210	DELUXE WHEEL BRACKET (5 HOLE)	1
1.7.2	W4220	RUBBER WHEEL, 6" x 1 1/2"	1
1.7.3	W4218	3/8" COLSON WHEEL BUSHING	1
1.7.4	F37023	3/8-16 SELF-LOCKING HEX JAM NUT	1
1.7.5	W4221	AXLE FOR COLSON WHEEL	1
1.8	W4108	21" FRONT BUMPER STRIP	1
1.9	F58969	6mm X 32mm PARALLEL KEY	1
1.10	MC8507K24	NEOPRENE RUBBER EDGING	1
1.11	MC93625K95	NATURAL GUM FOAM-ADHESIVE	1
2 @	W3102-1B	KAWASAKI FS60018HP12V ASSY	1
3 *	W4057A	12V BOTTLE CARRIER ASM.	1
3.1	W4057	BOTTLE CARRIER - VORTEX	1
3.2	W4060-1	T-HANDLE ASSY	1
3.2.1	W1318A	CLUTCH BOX SWITCH ASSY	1
3.2.2	W4050	HANDLE GRIP FOR T-HANDLE	2
3.2.3	W1454	T-HANDLE PIN W/ LANYARD, 3/8" X 4"	1
3.2.4	W4110	THROTTLE W/ CABLE 53 INCH - WESCON	1
3.2.5	W4060	18" T-HANDLE	1
3.2.6	F0708750	C-LOOP, 3/16"	2
3.3	W4312	RECTANGULAR HOUR METER	1
3.4	W1302-1	12V BATTERY & WIRE CONNECTOR	1
3.5	W4274	BATTERY BOX	1
3.6	W4359	MBTX 12V12A BATTERY	1
3.7	W1301	IGNITION SWITCH W/ HARDWARE KEY	1
3.8	F26362	SHOULDER BOLT, 1/2" X 4" (3/8-16)	1
3.9	F37024	HEX NUT, SELF-LOCKING, 3/8-16	1
3.10	F33006	FLAT WASHER, WIDE, 5/16"	1
4	W1551A	21" PREMIUM PAD DRIVER ASSY	1
4.1	ON216	21" BURNISHING PAD	1
5	W1210	ELECTRIC CLUTCH	1
6	W1220	CLUTCH WASHER	1
7	W2502	PROPANE TNK P#5461TC -20LB.RT	1
8	F0216763	C-LOOP, 1/4"	1
9	MB10	MOTOR SHAFT SPACER	3
10	F58969	6mm X 32mm PARALLEL KEY	1
11	WBX53	V-GROOVE BELT, 5/8" X 53"	1

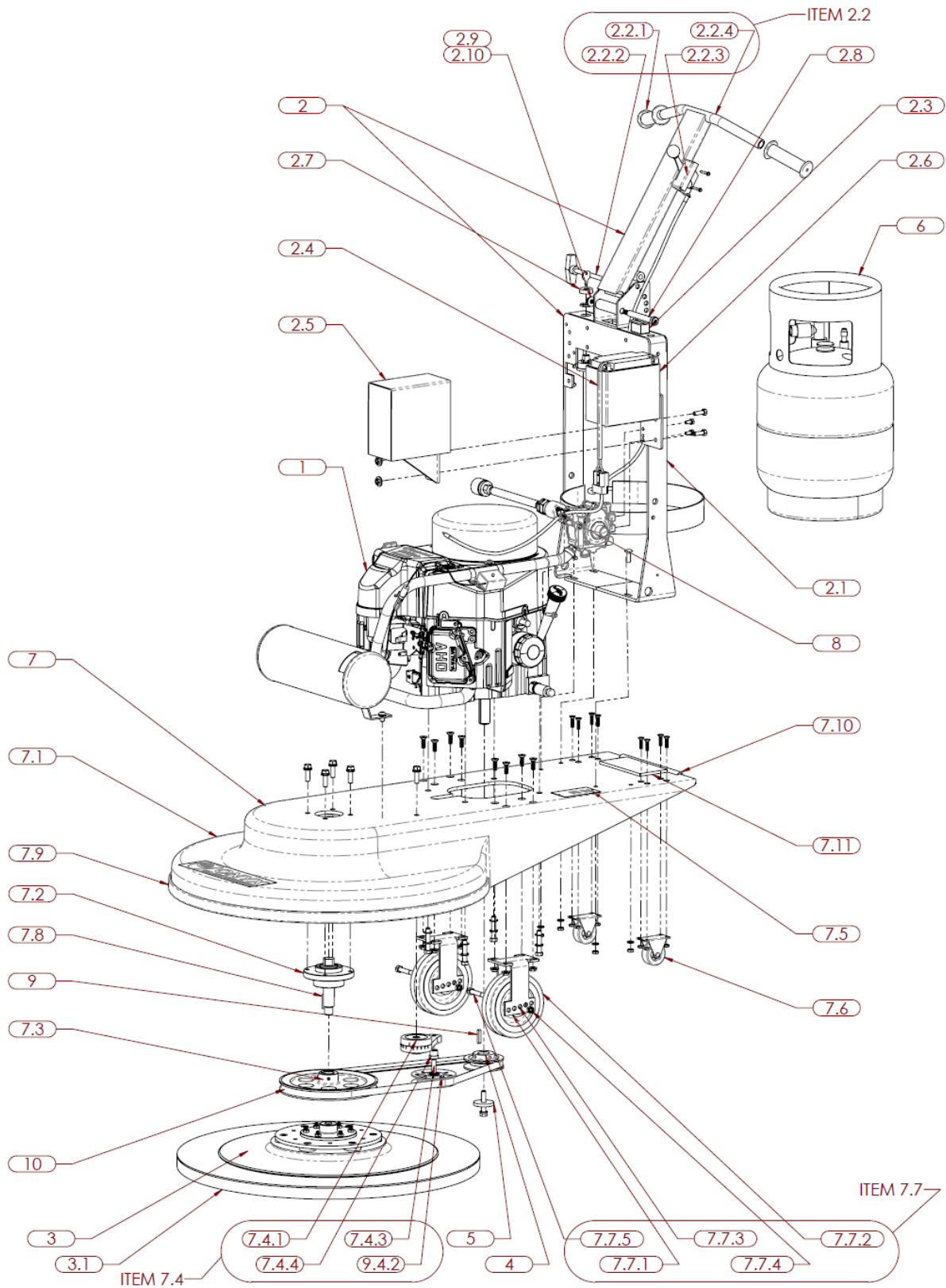
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** QUANTITIES OF INCLUDED ITEMS ARE AS PER SUBASSEMBLY.

@ ITEM 2 IS DETAILED ON FIRST ILLUSTRATED PARTS SHEET SEPARATELY.



24" & 27" Black Diamond





24" & 27" Black Diamond

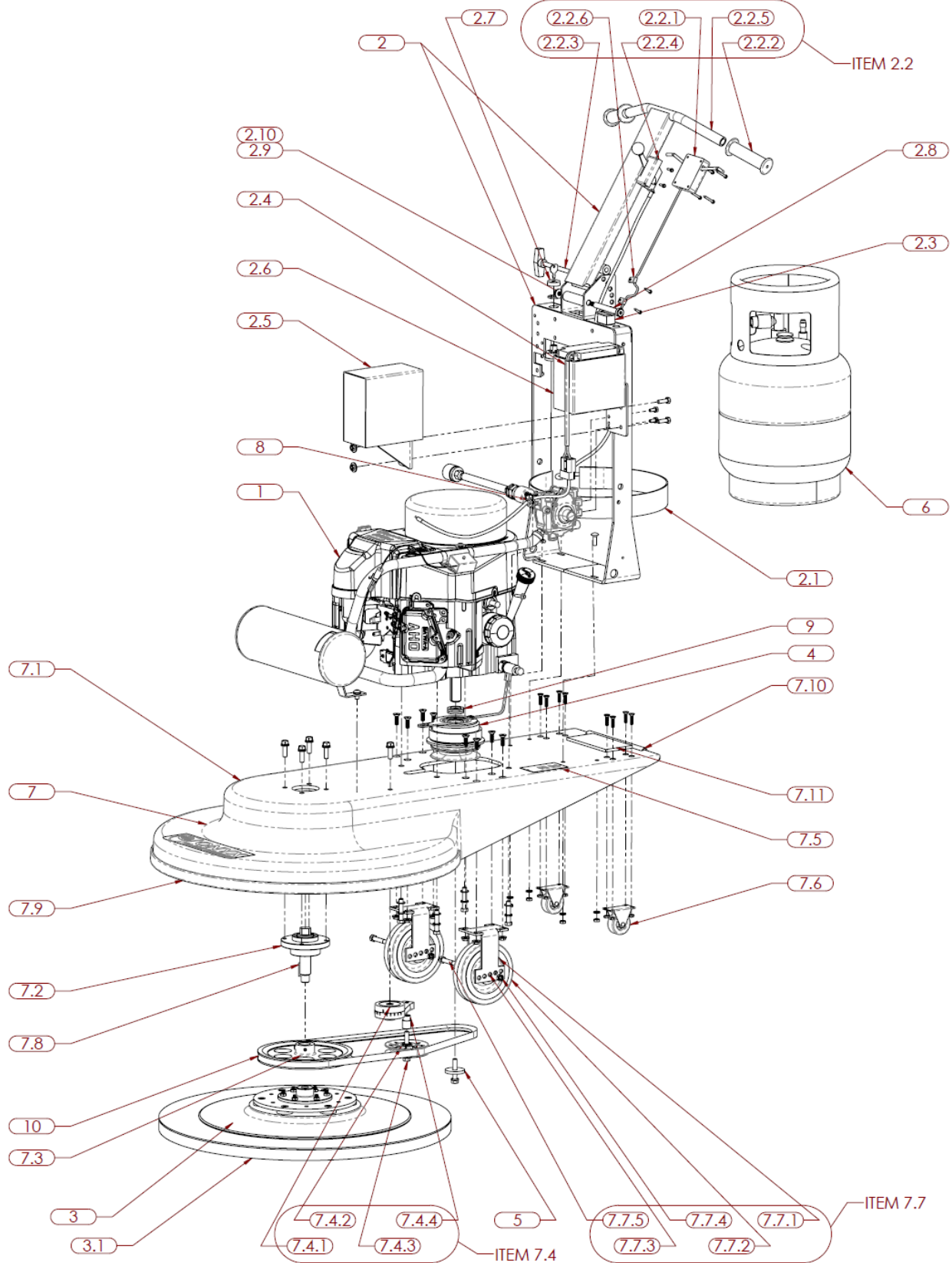
ITEM NO.	PART NUMBER	DESCRIPTION	QTY 24"	QTY 27"
1	W3102-1B ©	KAWASAKI FS60018HP12V ASSY	1	1
2	W4057A *	12VBOTTLE CARRIER ASM.	1	1
2.1	W4057	BOTTLE CARRIER - VORTEX	1	1
2.2	W4060-1	T-HANDLE ASSY	1	1
2.2.1	W4050	HANDLE GRIP FOR T-HANDLE	2	2
2.2.2	W1454	T-HANDLE PIN W/ LANYARD, 3/8" X 4"	1	1
2.2.3	W4110	THROTTLE W/ CABLE 53 INCH - WESCON	1	1
2.2.4	W4060	18" T-HANDLE	1	1
2.3	W4312	RECTANGULAR HOUR METER	1	1
2.4	W1302-1	12VBATTERY & WIRE CONNECTOR	1	1
2.5	W4274	BATTERY BOX	1	1
2.6	W4359	MBTX 12V12A BATTERY	1	1
2.7	W1301	IGNITION SWITCH W/ HARDWARE KEY	1	1
2.8	F26362	SHOULDER BOLT, 1/2" X 4" (3/8-16)	1	1
2.9	F37024	HEX NUT, SELF-LOCKING, 3/8-16	1	1
2.10	F3006	FLAT WASHER, WIDE, 5/16"	1	1
3	W1554A	24" PREMIUM PAD DRIVER ASSY	1	
	W1557A	27" PREMIUM PAD DRIVER ASSY		1
3.1	ON246	24" BURNISHING PAD	1	
	ON276	27" BURNISHING PAD		1
4	W2035	PULLEY, 3 1/2" BK34-1 W/2 SS	1	1
5	W1220	CLUTCH WASHER	1	1
6	W2502	PROPANE TANK # 5461TC -20LB.RT	1	1
7	W5024A *	24" BLACK DIAMOND DECK ASSY	1	
	W5027A *	27" BLACK DIAMOND DECK ASSY		1
7.1	W5024-1	24" FRAME CAST ALUMINUM	1	
	W5027-1	27" FRAME CAST ALUMINUM		1
7.2	W1060A-1	FRONT END BEARING ASSY	1	1
7.3	W2075	PULLEY 7 1/2" BK77 1 W/2 SS	1	
	W2085	PULLEY 8 3/4" BK90 1 W/2 SS		1
7.4	W1101A-C	ROTARY TENSIONER ASSY	1	1
7.4.1	W1101	ROTARY TENSIONER	1	1
7.4.2	W1102	ROTARY TENSIONER PULLEY	1	1
7.4.3	F13111	HEX BOLT, 3/8-16 X 2"	1	1
7.4.4	W1103	18.7mm x 9.7mm BORE TENSIONER SPACER	1	1
7.5	W1193	NAME PLATE W/ SERIALIZATION	1	1
7.6	W4241	REAR CASTER	2	2
7.7	W4210A **	DLXE WHEEL BRKT ASSY VAC	2	2
7.7.1	W4210	DELUXE WHEEL BRACKET (5 HOLE)	1	1
7.7.2	W4220	RUBBER WHEEL, 6" x 1 1/2"	1	1
7.7.3	W4218	3/8" COLSON WHEEL BUSHING	1	1
7.7.4	F37023	3/8-16 SELF-LOCKING HEX JAM NUT	1	1
7.7.5	W4221	AXLE FOR COLSON WHEEL	1	1
7.8	F58969	6mm X 32mm PARALLEL KEY	1	1
7.9	W4108	27" FRONT BUMPER STRIP	1	1
7.10	MC8507K24	NEOPRENE RUBBER EDGING	1	1
7.11	MC93625K95	NATURAL GUM FOAM-ADHESIVE	1	1
8	F0216763	C-LOOP, 1/4"	1	1
9	F58969	6mm X 32mm PARALLEL KEY	1	1
10	WB43	V-GROOVE BELT, 5/8" X 43"	1	
	WB51	V-GROOVE BELT, 5/8" X 51"		1

* ITEMS 2 & 7 ARE INCLUSIVE OF ALL ITEMS BEARING THE RESPECTIVE ITEM NUMBER PREFIX.

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© ITEM 1 IS DETAILED ON FIRST ILLUSTRATED PARTS SHEET SEPARATELY.

24" & 27" Black Diamond with Electric Clutch





24" & 27" Black Diamond with Electric Clutch

ITEM NO.	PART NUMBER	DESCRIPTION	QTY 24"	QTY 27"
1	W3102-1B ©	KAWASAKI F560018HP12V ASSY	1	1
2	W4057A *	12V BOTTLE CARRIER ASM.	1	1
2.1	W4057	BOTTLE CARRIER - VORTEX	1	1
2.2	W4060-1	T-HANDLE ASSY	1	1
2.2.1	W1318A	CLUTCH BOX SWITCH ASSY	1	1
2.2.2	W4050	HANDLE GRIP FOR T-HANDLE	2	2
2.2.3	W1454	T-HANDLE PIN W/ LANYARD, 3/8" X 4"	1	1
2.2.4	W4110	THROTTLE W/ CABLE 53 INCH - WESCON	1	1
2.2.5	W4060	18" T-HANDLE	1	1
2.2.6	F0708750	C-LOOP, 3/16"	2	2
2.3	W4312	RECTANGULAR HOUR METER	1	1
2.4	W1302-1	12V BATTERY & WIRE CONNECTOR	1	1
2.5	W4274	BATTERY BOX	1	1
2.6	W4359	MBTX 12V12A BATTERY	1	1
2.7	W1301	IGNITION SWITCH W/ HARDWARE KEY	1	1
2.8	F26362	SHOULDER BOLT, 1/2" X 4" (3/8-16)	1	1
2.9	F37024	HEX NUT, SELF-LOCKING, 3/8-16	1	1
2.1	F33006	FLAT WASHER, WIDE, 5/16"	1	1
3	W1557A	27" PREMIUM PAD DRIVER ASSY	1	1
3.1	ON276	27" BURNISHING PAD	1	1
4	W1210	ELECTRIC CLUTCH	1	1
5	W1220	CLUTCH WASHER	1	1
6	W2502	PROPANE TNK P#5461TC -20LB.RT	1	1
7	W5024A-C	24" BLACK DIAMOND WITH CLUTCH DECK ASSY	1	
	W5027A-C	27" BLACK DIAMOND WITH CLUTCH DECK ASSY		1
7.1	W5024-1 *	24" FRAME CAST ALUMINUM	1	
	W5027-1 *	27" FRAME CAST ALUMINUM		1
7.2	W1060A-1	FRONT END BEARING ASSY	1	1
7.3	W2085	PULLEY 8 7/8" BK90 X 1 W/2SS	1	
	W2090	PULLEY 10" BK100 X 1 W/2SS		1
7.4	W1101A-C	ROTARY CLUTCH TENSIONER ASSY	1	1
7.4.1	W1101	ROTARY TENSIONER	1	1
7.4.2	W1102	ROTARY TENSIONER PULLEY	1	1
7.4.3	13113	HEX BOLT, 3/8-16 X 2 1/2"	1	1
7.4.4	W1104	31.4mm x 9.7mm BORE TENSIONER SPACER	1	1
7.5	W1193	NAME PLATE W/ SERIALIZATION	1	1
7.6	W4241	REAR CASTER	2	2
7.7	W4210A **	DLXE WHEEL BRKT ASSY VAC	2	2
7.7.1	W4210	DELUXE WHEEL BRACKET (5 HOLE)	1	1
7.7.2	W4220	RUBBER WHEEL 6" x 1 1/2"	1	1
7.7.3	W4218	3/8" COLSON WHEEL BUSHING	1	1
7.7.4	F37023	3/8-16 SELF-LOCKING HEX JAM NUT	1	1
7.7.5	W4221	AXLE FOR COLSON WHEEL	1	1
7.8	F5B969	6mm X 32mm PARALLEL KEY	1	1
7.9	W4108	27" FRONT BUMPER STRIP	1	1
7.1	MC8507K24	NEOPRENE RUBBER EDGING	1	1
7.1.1	MC93625K95	NATURAL GUM FOAM-ADHESIVE	1	1
8	F0216763	C-LOOP, 1/4"	1	1
9	MB10	MOTOR SHAFT SPACER	3	3
10	WBX45	V-GROOVE BELT, 5/8" X 45"	1	
	WBX53	V-GROOVE BELT, 5/8" X 53"		1

* ITEMS 2 & 7 ARE INCLUSIVE OF ALL ITEMS BEARING THE RESPECTIVE ITEM NUMBER PREFIX.

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