

## Operator's Instruction Manual

# VORTEX-300



Manual - Portable



**READ AND UNDERSTAND THE OPERATORS INSTRUCTION MANUAL THOROUGHLY BEFORE ATTEMPTING TO OPERATE THIS EQUIPMENT.**



**Death or serious injury could occur if this machine is used improperly.**



**SAFETY MESSAGES**

- Safety Instructions are preceded by a graphic alert symbol of DANGER, WARNING, or CAUTION.



Indicates an imminent hazard which, if not avoided, will result in death or serious injury.



Indicates an imminent hazard which, if not avoided, can result in death or serious injury.



Indicates hazards which, if not avoided, could result in serious injury and or damage to the equipment.

**GASOLINE/PROPANE POWERED EQUIPMENT**



• Engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



• Gasoline is extremely flammable and poisonous. It should only be dispensed in well ventilated areas, and with a cool engine.

- Small gasoline engines produce high concentrations of carbon monoxide (CO) example: a 5 HP 4 cycle engine operation in an enclosed 100,000 cu. ft. area with only one change of air per hour is capable of providing deadly concentrations of CO in less than fifteen minutes. Five changes of air in the same area will produce noxious fumes in less than 30 minutes. Gasoline or propane powered equipment should not be used in enclosed or partially enclosed areas. Symptoms of CO poisoning include, headache, nausea, weakness, dizziness, visual problems and loss of consciousness. If symptoms occur - get into fresh air and seek medical attention immediately.

**ELECTRICAL POWERED EQUIPMENT**



Extreme care must be taken when operating electric models with water present: Ensure power cord is properly grounded, is attached to a Ground-Fault-Interrupter (GFI) outlet, and is undamaged.

- Check all electrical cables - be sure connections are tight and cable is continuous and in good condition. Be sure cable is correctly rated for both the operating current and voltage of this equipment.
- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with qualified electrician or service person if there is any doubt as to whether the outlet is properly grounded. Adhere to all local codes and ordinances.
- **NOTE:** In the event of a malfunction or breakdown, grounding provides a path of least resistance for the electric current to dissipate. The motor is equipped with a grounded plug and must be connected to an outlet that is properly installed and properly grounded. DO NOT modify the plug provided on the motor. If the plug does not fit the outlet have a qualified electrician install the proper receptacle.
- Switch motor OFF before disconnecting power.

- Do not disconnect power by pulling cord. To disconnect, grasp the plug, not the cord.
- Unplug power cord at the machine when not in use and before servicing.

**GENERAL INSTRUCTIONS**

- Equipment should only be operated by trained personnel in good physical condition and mental health (not fatigued). The operator and maintenance personnel must be physically able to handle the bulk weight and power of this equipment.
- This is a one person tool. Maintain a safe operating distance to other personnel. It is the operators' responsibility to keep other people (workers, pedestrians, bystanders, etc.) away during operation. Block off the work area in all directions with roping, safety netting, etc. for a safe distance. Failure to do so may result in others being injured by flying debris or exposing them to harmful dust and noise.
- This equipment is intended for commercial use only.
- For the operator's safety and the safety of others, always keep all guards in place during operation.
- Never let equipment run unattended.



- Personal Protection Equipment and proper safety attire must be worn when operating this machinery. The operator must wear approved safety equipment appropriate for the job such as hard hat and safety shoes when conditions require. Hearing protection MUST be used (operational noise levels of this equipment may exceed 90db). Eye protection MUST be worn at all times.



Keep body parts and loose clothing away from moving parts. Failure to do so could result in dismemberment or death.

- Do not modify the machine.
- Stop motor/engine when adjusting or servicing this equipment.



Maintain a safe operating distance from flammable materials. Sparks from the cutting-action of this machine can ignite flammable materials or vapors.

**DUST WARNING**



Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects, or other reproductive harm. Some examples of these chemicals are:

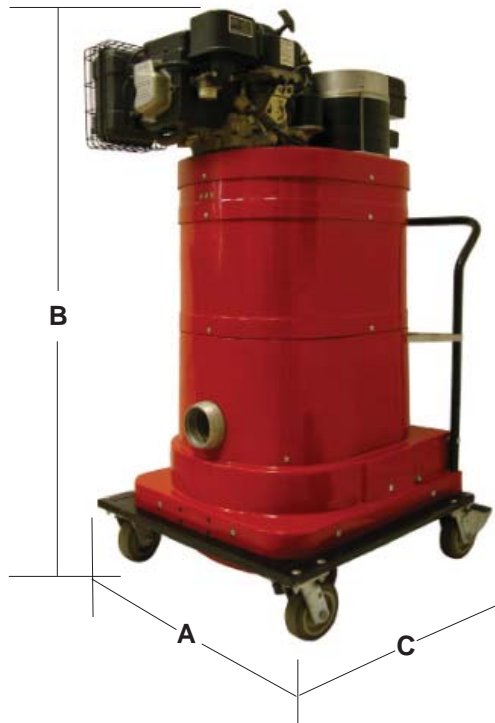
- Lead from lead-based paints, and
- Crystalline silica from bricks and concrete and other masonry products.

Your risk of exposure to these chemicals varies depending on how often you do this type of work. To reduce your risk: work in a well ventilated area, use a dust control system, such as an industrial-style vacuum, and wear approved personal safety equipment, such as a dust/particle respirator designed to filter out microscopic particles.

# SPECIFICATIONS

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Note:  
All dimensions and weights are for **reference only** and subject to change at any time.

**Figure 1**

### HOW TO ORDER REPAIR PARTS

To insure product safety and reliability, always use genuine EDCO replacement parts when making repairs to the equipment.

When ordering parts, please specify the MODEL and SERIAL NUMBER of the machine as given on the NAMEPLATE. In addition, give part number, description and quantity as listed on the parts list.

Please note: Due to improvements and changes in the equipment the illustrations shown may be different from the actual machine.

Toll Free: Phone 1-800-638-3326 • Fax 1-800-447-3326

	VORTEX-300
"A"	25" (63.5cm)
"B"	59" (150cm)
"C"	36" (91.4cm)
Weight	260 lbs. (118kg)



Read and understand this *Operator's Instruction Manual*,  
and the *Engine Manufacturer's Owner's Manual*  
**before** operating this equipment.



Death of serious injury can result if this machine is used improperly.

**DANGER**

**WARNING**

## Safety Guidelines



Eye and ear protection must be worn at all times while the saw is in use. During normal operation, sound pressure levels exceed 92dBA. Use only ANSI approved safety glasses to help prevent eye injury. Standard eyeglasses have only impact resistant lenses; they are NOT safety glasses.



Operator must wear appropriate clothing and footwear. Do not wear loose clothing or jewelry that can get tangled in moving parts. Footwear should provide sure footing and protection from debris that may be dropped. Take steps to insure hair will not be caught in moving parts. If necessary, tie it back.

- When loading or unloading the saw, use caution. Make sure rolling table is locked so that the blade will not be damaged. Do not move the saw while the engine is running.
- Never exceed the maximum operating speed of the blade. Match the blade speed rating with the arbor shaft speed.
- Never leave the saw running unattended.
- Never operate this saw under the influence of drugs, alcohol or when taking medications that impair the senses or reactions, or when excessively tired or under stress.
- Do not lend or rent this equipment without including the Operator's Instruction Manual and the Engine Manufacturer's Manual.
- Make sure all safety decals can be clearly read and understood. Replace damaged or missing decals immediately.



**Dry cutting creates a large volume of airborne dust. For health reasons, the operator should wear an applicable respirator. The dust may contain chemicals known to cause serious illnesses, including Silicosis - a fatal disease of the lungs. Check the chemical properties of the material to be cut and follow all EPA/OSHA regulations.**

## Operating Instructions

### **Before Starting:**

1. Pull up on the foot lever to release the dustpan. Check that the dustpan is completely empty then replace.

CAUTION: Please refer to gasoline engine manufacturers instruction manual, prior to operating vacuum.

2. Check the fuel and oil levels per the enclosed engine manual.

Observe all safety regulations for safe handling of fuel.

WARNING: Do not operate vacuum if there is a fuel leak!

Safety warnings and guidelines do not by themselves eliminate danger.

They are not substitutes for proper accident prevention procedures and good judgement.

3. Set the kill switch to the on position.
4. Set the throttle control to the "Choke" position.
5. Pull the starter recoil with a steady even pull.
6. When the engine starts, set throttle. RPM are not to exceed 3600
7. Note the hour meter reading and follow the service requirements that are dictated by engine run hours.
8. The engine is shut down by setting the kill switch to the off position.
9. The filter should be shaken before and after each use, with the dust pan emptied and locked back in position.

### **Inspection and Maintenance**

#### Standard Filter Inspection

1. Turn the machine off.
2. Knock material off the filter via the hand shaker, motorized shaker or reverse pulse.
3. Pull up on the foot lever to release the dustpan then remove and empty if necessary.
4. Lock the rear casters then carefully tip the machine back onto the push handle.
5. Remove any material between the pleats by hand.

CAUTION: Clogged material should only be removed by hand. Using an instrument to dislodge material may tear the filter. Consult your EDCO representative if material blockage is excessive.

6. Inspect the pleats of the filter for tears and material blockage.
7. Carefully tip the machine back onto the casters and replace the dustpan.

#### Standard Filter Removal

1. Follow the preceding filter inspection procedure to determine if removal is necessary.
2. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
3. Remove filter ring socket truss screws with a 5/32 hex-wrench.
4. Turn the machine off and disconnect the power source.
5. Remove the motor deck and silencer hood together.

CAUTION: The motor deck of this unit can be very heavy. Follow safe lifting procedures.

6. Disconnect the clear differential pressure gage tubes from their respective barbed fittings if so equipped.
7. Remove the HEPA filter housing spacer and HEPA adapter assembly if so equipped.
8. Remove the reverse pulse/motorized shaker assembly and housing spacer if so equipped.
9. Inspect the top of the filter for material.

NOTE: The presence of material on the top of the filter or in the exhaust is often the result of a misaligned seal or damaged filter. Consult your EDCO representative if either is the case.

10. Remove the filter housing spacer assembly.
11. Turn the filter housing spacer assembly over on a table then carefully work the filter off the filter shaker insert.

#### Standard Filter Installation

1. Turn the filter housing spacer assembly over on a table then fit the filter over the filter shaker insert; make sure that each pleat is fully supported.
2. Seat the filter housing spacer assembly on the base oriented as it was removed.
3. Seat each of the housing components and assemblies as removed.
4. Connect the clear differential pressure gage tubes to their respective barbed fittings if so equipped.
5. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
6. Secure all of the housing-components then turn the machine off.

NOTE: All HEPA filter machines are equipped with a differential pressure gage. The gage measures the pressure above against the pressure below the filter, thereby measuring the restriction of airflow due to contamination. HEPA filters should be replaced when the gage consistently measures 4 inches W.C.

1. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
2. Remove the motor deck socket truss screws.
3. Turn the machine off and disconnect the power source.
4. Remove the motor deck and silencer hood together.
5. Remove the four lock nuts retaining the two HEPA filter brackets.
6. Remove the HEPA filter brackets and HEPA filter.
7. Center the new filter on the HEPA adapter plate gasket side down.
8. Position the provided lengths of self-adhering flat gasket material on the HEPA filter frame (if not already done) to cushion the HEPA filter brackets.
9. Replace the HEPA filter brackets then thread the locking nuts over the rods and tighten.

CAUTION: Do not over tighten. The effectiveness of the filter may be compromised if its frame is bent.

10. Seat the motor deck on the HEPA filter housing spacer.
11. Connect the power source.
12. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
13. Secure the motor deck then turn the machine off.

#### Motor Deck Inspection

1. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
2. Remove the motor deck socket truss screws.
3. Turn the machine off and disconnect the power source.
4. Remove the silencer hood assembly and motor deck separately.

CAUTION: The motor deck of this unit can be very heavy. Follow safe lifting procedures.

5. Turn the motor deck over on a table to inspect the belt for cracks, wear, melt, stretch and tension (make sure to support the motor and turbine equally).
6. Use a knife to clear the three turbine mounting slots of silicone.
7. Loosen the three nuts securing the turbine enough to slide the turbine forward.
8. Remove the belt.
9. Check the turbine and motor bearings for noise by hand.

#### Belt Installation

1. After the preceding motor deck inspection.
2. Place the belt over both pulleys making sure to match the grooves in the belt with both pulleys.
3. Use a spanning device between the turbine and motor pulleys to tension the belt.
4. Maintain tension while tightening the three nuts that secure the turbine.
5. Check that the corresponding grooves on the turbine and motor pulleys are aligned using the motor deck as a reference plane.

NOTE: The pulleys are normally aligned at the factory, but if adjustment is needed remove the motor pulley to access to the relevant shims.

6. Seat the motor deck on the housing spacer.

CAUTION: The motor deck of this unit can be very heavy. Follow safe lifting procedures.

7. Fill the three turbine mounting slots with silicone. Allow silicone to set before proceeding.
8. Position the silencer assembly on the motor deck.
9. Reconnect the power source and turn the machine on. Observe the machine for noise. Reinstall the belt if any unusual noises are detected.
10. Block the inlet with a flat and rigid material to place the machine under vacuum pressure.
11. Secure the motor deck then turn the machine off.

### Turbine Maintenance

Turbine maintenance should only be performed in an authorized shop as designated by EDCO due to the precision involved in balancing high rpm devices. This includes and is mainly specific to the replacement of bearing components.

## **Trouble Shooting**

### Engine Will Not Start

- Check if there is fuel in the tank and it is the correct fuel. Make sure there is no water in the fuel.
- Check if the kill switch is in the “on” position.
- Check that the spark plug wire is connected to the spark plug.
- Engine is flooded. Adjust the choke per the engine owner’s manual.
- Check that the choke is in the “on” position for cold starts. Adjust the choke per the engine owner’s manual.
- Check that air filter is not dirty or plugged. See the engine owner’s manual for service.

### Engine Runs Rough, Back Fires or Can Not Reach Full Speed

- Check if there is fuel in the tank and it is the correct fuel. Make sure there is no water in the fuel.
- Check that air filter is not dirty or plugged.
- Check that spark plug is clean and properly gapped.
- Check that throttle lever is properly set.

### Debris is Not Picked Up or Low Vacuum Pressure

- Manually shake the filter with the handle on the side of the vacuum to unclog the filter. Empty the dustpan.
- Check that the dustpan is properly seated.
- Check the drum. Empty debris if necessary.
- Check that the cyclone separator is properly seated and secured on the drum.
- Check that the rubber seal is not damaged on the bottom of the cyclone separator. Replace if damaged.
- Check that the plastic bag is properly installed and not sucked in to the cyclone separator.
- Check the hoses for obstructions or blockage. Remove the hoses and visually look through them.
- Check that the engine is running properly and at full speed or about 3200 rpm.
- Inspect filter for excessive debris or foreign material on top side of filter.
- Make sure all the saw attachment components are installed and working properly in the blade block.
- Check hoses for damage, cuts or holes that could cause a loss of vacuum pressure.
- Block the inlet with a flat and rigid material. Check for air leaks on the entire unit and repair as necessary.
- Make sure there is no debris build up in the saw blade block.
- Check the vacuum exhaust port for air flow. Inspect the turbine drive belt if there is no or low air flow.
- Check that there are no missing bolts on the vacuum assembly.

### Unusual or High Pitched Noises

- Block the inlet with a flat and rigid material. Check for air leaks on the entire unit and repair as necessary.
- Inspect the engine per the enclosed engine manual.
- Inspect the turbine for defective bearings.
- Inspect the turbine drive belt for damage.

**LIMITED EQUIPMENT WARRANTY OF SALE – TERMS & CONDITIONS**

Equipment Development Company, Inc. herein referred to as EDCO (Seller) warrants that each new unit manufactured by EDCO to be free from defects in material and workmanship in normal use and service for a period of (90) ninety days (except for the cutter drum assembly on all model concrete/asphalt planes, in which case the warranty period shall be 90 days) from date of shipment to the original retail or equipment rental center owner.

Accessories or equipment furnished and installed on the product by EDCO but manufactured by others, including, but not limited to engines, motors, electrical components, transmissions etc., shall carry the accessory manufacturers own warranty.

EDCO will, at its option, repair or replace, at the EDCO factory or at a point designated by EDCO, any part which shall appear to the satisfaction of EDCO inspection to have been defective in material or workmanship.

EDCO reserves the right to modify, alter and improve any part or parts without incurring any obligation to replace any part or parts previously sold without such modified, altered or improved part or parts.

This warranty is in lieu of and excludes all other warranties, expressed, implied, statutory, or otherwise created under applicable law including, but not limited to the warranty of merchantability and the warranty of fitness for a particular purpose in no event shall seller or the manufacturer of the product be liable for special, incidental, or consequential damages, including loss of profits, whether or not caused by or resulting from the negligence of seller and/or the manufacturer of the product unless specifically provided herein. In addition, this warranty shall not apply to any products or portions thereof which have been subjected to abuse, misuse, improper installation, maintenance, or operation, electrical failure or abnormal conditions and to products which have been tampered with, altered, modified, repaired, reworked by anyone not approved by seller or used in any manner inconsistent with the provisions of the above or any instructions or specifications provided with or for the product

**FORCE MAJEURE**

Seller's obligation hereunder are subject to, and Seller shall not be held responsible for, any delay or failure to make delivery of all or any part of the Product due to labor difficulties, fires, casualties, accidents, acts of the elements, acts of God, transportation difficulties, delays by a common carrier, inability to obtain Product, materials or components or qualified labor sufficient to timely perform part of or all of the obligations contained in these terms and conditions, governmental regulations or actions, strikes, damage to or destruction in whole or part of manufacturing plant, riots, terrorist attacks or incidents, civil commotions, warlike conditions, flood, tidal waves, typhoon, hurricane, earthquake, lightning, explosion or any other causes, contingencies or circumstances within or without the United States not subject to the Seller's control which prevent or hinder the manufacture or delivery of the Products or make the fulfillment of these terms and conditions impracticable. In the event of the occurrence of any of the foregoing, at the option of Seller, Seller shall be excused from the performance under these Terms and Conditions, or the performance of the Seller shall be correspondingly extended.

This document sets forth the terms and conditions pursuant to which the purchaser ("Purchaser") will purchase and Equipment Development Co. Inc. ("Seller") will sell the products, accessories, attachments (collectively the Products) ordered by the Purchaser. These terms and conditions shall govern and apply to the sale of Seller's Products to Purchaser, regardless of any terms and conditions appearing on any purchase order or other forms submitted by Purchaser to Seller, or the inconsistency of any terms therein and herein.

**1. PRICE**

All prices set forth on any purchase order or other document are F.O.B. Sellers facility or distribution point, as may be determined by Seller (F.O.B. Point). All prices are exclusive of any and all taxes, including, but not limited to, excise, sales, use, property or transportation taxes related to the sale or use of the Products, now or hereafter imposed, together with all penalties and expenses. Purchaser shall be responsible for collecting and/or paying any and all such taxes, whether or not they are stated in any invoice for the Products. Unless otherwise specified herein, all prices are exclusive of inland transportation, freight, insurance and other costs and expenses relating to the shipment of the Products from the F.O.B. point to Purchaser's facility. Any prepayment by Seller of freight insurance and other costs shall be for the account of Purchaser and shall be repaid to Seller.

**2. PAYMENT TERMS**

Payment terms are as follows. 2% 10 days (to approved and qualified accounts). Net 30 days. This is a cash discount for invoices paid within 10 days after the invoice date, regardless of date of receipt of shipment. This is not a trade discount and will not be granted to accounts that do not adhere to stated terms.

\*All past due accounts are subject to a late payment fee of 1.5% per month or a maximum allowed by law if different, along with the expenses incidental to collection including reasonable attorney's fees and costs.

\*Seller reserves the right to hold shipments against past due accounts.

\*Seller reserves the right to alter payment terms.

**3. FREIGHT TERMS**

All shipments will be made F.O.B. shipping point as designated in these Terms and Conditions, and title shall pass at the F.O.B. point. Delivery to the initial common carrier shall constitute delivery to the Purchaser. Any claims for loss or damage during shipment are to be filed with carrier by the Purchaser. Seller will not assume responsibility for the performance of the carrier.

Back orders will be shipped in the most practical fashion with charges consistent with our freight policy established with the original order. UPS, FED EX, MAIL or shipments by other couriers are subject to the same terms and conditions as outlined in paragraph #3 "Freight Terms".

**4. DELIVERY, DAMAGES, SHORTAGES**

Seller shall use reasonable efforts to attempt to cause the Products to be delivered as provided for in these Terms & Conditions. Delivery to the initial common carrier shall constitute the delivery to the Purchaser. Seller's responsibility, in so far as transportation risks are concerned ceases upon the delivery of the Products in good condition to such carrier at the F.O.B. point and all the Products shall be shipped at the Purchaser's risk. Seller shall not be responsible or liable for any loss of income and/or profits, or incidental, special, consequential damages resulting from Seller's delayed performance in shipment and delivery.

**5. RETURN OF DEFECTIVE PRODUCTS**

Defective or failed material shall be held at the Purchaser's premises until authorization has been granted by Seller to return or dispose of Products. Products that are to be returned for final inspection must be returned Freight Prepaid in the most economical way. Credit will be issued for material found to be defective upon Seller's inspection based on prices at time of purchase.

**6. PRODUCTS ORDERED IN ERROR**

Products may be returned, provided that claim is made and Seller is notified within 7 days of receipt of Products, and the Products are in original buyer's possession not more than 30 days prior to return, subject to Seller's approval. If Products are accepted for return, they must be Freight Prepaid and buyer will be charged a minimum of 15% restocking charge, plus a charge back for outbound freight charges if the original order was shipped prepaid. Returns are not accepted for any Products that are specifically manufactured to meet the buyer's requirement of either specifications or quantity.

**AGREEMENTS**

These Terms and Conditions constitute the entire agreement between Seller and Purchaser as it relates to terms and conditions of sale, and supersedes any and all prior oral or written agreements, correspondence, quotations or understandings heretofore in force between the parties relating to the subject matter hereof. There are no agreements between Seller and Purchaser with respect to the Product herein except those specifically set forth in and made part of these terms and conditions. Any additional terms, conditions and/or prices are rejected by Seller.

These terms and conditions may be modified, cancelled or rescinded only by a written agreement of both parties executed by their duly authorized agents.

**USE ONLY GENUINE EDCO PARTS & ACCESSORIES**  
**For your own safety, the safety of others and the life of your machine.**

**Equipment Development Company, Inc.**