

HURRICANE 300

INSPECTION/MAINTENANCE MANUAL



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OPERATION / MAINTENANCE MANUAL

HURRICANE 300

INTRODUCTION

The *Hurricane* is designed for rugged, reliable operation featuring powerful vacuuming capability with a very minimum daily maintenance. The *Hurricane* will pneumatically convey material from distances in excess of 100 feet. Any material that is flowable, whether liquid, slurry or solid, or able to move through a 2" to 4" diameter hose can be handled with this equipment.

THE HURRICANE SHOULD NEVER BE USED OR MOVED WITHOUT REFERENCE TO THE SAFETY PROCEDURES NOTED BELOW.

DANGER

THE HURRICANE SHALL NOT BE USED TO VACUUM/CONVEY FLAMMABLE OR COMBUSTIBLE HYDROCARBON LIQUIDS.

This equipment is self-contained and powered by a 30 HP motor. It will provide excellent service if properly maintained. There are no unique or complicated parts that require sophisticated maintenance procedures under normal operation.

The Hurricane 300 has fork pockets for loading and unloading the vacuum.

Because of its ease of set-up and maneuverability, the *Hurricane* is a very flexible and effective piece of industrial vacuum cleaning equipment.





FILTER SWITCH

VACUUM INLET PIPE

HURRICANE 300



SAFETY PROTOCOL

Failure to follow the safety rules in this manual can result in personal injury, death or property damage. Please observe the same common sense precautions used with any machine, where carelessness, inattention or poor maintenance could be hazardous to people or property. Carefully read the safety precautions below and within this manual.

Towing Safety Instructions

- Due to the *Hurricane*'s height caution is required for overhead clearance.
- The *Hurricane*'s height does not permit shipping or transporting via semi-truck trailer. The *Hurricane* must be towed using an appropriate motor vehicle. Caution must be used when towing the *Hurricane* due its weight.
- The *Hurricane* is not engineered to be lifted or lowered by a crane or similar lifting devices.
- Be sure all lights on the trailer are functioning properly before travel.
- Always tow the *Hurricane* with the safety chains and the emergency brake chain attached to the towing vehicle.
- Before towing the *Hurricane*, inspect the tires and the hitch mechanism to be sure they are road-worthy.
- Always tow the *Hurricane* with the Hopper in the lowered and locked position.
- Always tow the unit with the Hopper completely empty and the discharge door secured closed.

Set-up Safety Instructions

- Be sure to block the wheels before detaching the unit from the towing vehicle.
- Always position the unit on solid, stable ground. Locate planks underneath the jack stands to distribute the weight of the unit evenly.
- Always position the unit so that it is set no more than 5° off level in any direction.
- Never raise the Hopper under electrical power wires.
- Always pin when the hopper is in the raised position
- Never stand under the raised Hopper unless pinned and secured in place.
- Lower and pin the rear jack stands so that each bears weight before raising the hopper.



SAFETY PROTOCOL

Follow Safety Sticker Instructions

- Carefully read all safety stickers on unit. Keep safety stickers in good, readable condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety stickers. Replacement safety stickers are available through the manufacturer.

Prepare For Emergencies

- Be prepared if a fire starts
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for doctors, ambulance services, hospital and fire department near your telephone.

Wear Protective Clothing

- Wear close-fitting clothing and safety equipment appropriate to the job.
- Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphone while operating machine.

Protect Against Noise

- Prolonged exposure to loud noise can cause impairment or loss of hearing.
- Wear OSHA approved person protective equipment to protect against objectionable or uncomfortable noise.



SAFETY PROTOCOL

Handle Chemical Products Safely

- Direct exposure to hazardous chemical can cause serious injury. Potentially hazardous chemicals used with this unit include such items as lubricants, coolants, paints and adhesives.

Stay clear of Rotation Components

- Keep rotating shields in place at all times.
- Always operate the machine with access doors closed and locked.
- Shut unit down and be sure all moving parts have stopped rotating before making adjustments or performing service on machine.
- Keep hands, feet and clothing from power driven parts.

Practice Safe Maintenance

- Understand service procedure before performing work. See specific components service manual, located in *Hurricane's* owner manual for instructions and additional safety requirements.
- Vacuum creates (VERY HIGH SUCTION – EXTREME CAUTION IS REQUIRED) when handling suction inlet locations.
- When vacuuming certain materials static electricity can be generated. PROPER STEPS SHOULD BE TAKEN TO PROPERLY BOND AND GROUND HOSES, UNIT, ETC.
- Never lubricate, service, or adjust machine while it is operating.
- Maintain all parts in good operating condition. Replace worn or broken parts immediately.
- Keep all parts in good operating condition. Immediately replace worn or broken parts.
- Disconnect battery ground cable (-) before making adjustment on electrical systems.
- Do not look into the discharge door or the hopper inlet pipe when unit is operating.
- Always wear safety glasses or goggles when performing maintenance on unit.
- Whenever vacuuming sticky materials, such as thick slurry, check the hopper often to verify all the material is discharging and not building up on the inside. Utilize vibrator often to minimize material build-up.

Engine Exhaust

- Engine exhaust fumes can cause sickness or death. DO NOT operate engine in an enclosed area without proper ventilation or exhaust pipe extension to the atmosphere.



SAFETY PROTOCOL

Avoid High-Pressure Fluids

- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Avoid the hazard by relieving pressure before disconnecting hydraulic hoses or other lines. Tighten all connections before applying pressure.
- Search for leaks with a piece of cardboard, protect hands and body from high pressure.
- If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.

Blower Discharge Dust

- DO NOT operate the unit if dust is visible at the blower discharge.
- Shut unit down and contact Industrial Vacuum Equipment Corp. before continuing.

Dispose of Waste Properly

- Follow OSHA, State and Federal guidelines pertaining to the disposal of waste associated with vacuum process.

INSTRUMENTATION

The instrument panel on the *Hurricane* contains the following items:

- Key switch
- Tachometer
- Hour meter
- Warning lights
- Battery
- Temperature
- Low oil pressure



MAINTENANCE PROCEDURES / INFORMATION

Filter Bag Change – this vacuum has 12 – FN9261 filters

1. Open door on shaker baghouse.
2. Press in on the bottom of filter and remove from hook.
3. Remove all filters.
4. Install filters using the same method, only in reverse.
5. Completed



DAILY MAINTENANCE CHECKS

1. Check engine oil.
2. Check around vacuum for oil leaks.
3. Be sure vacuum on/off valve is in the open position (horizontal handle position).
4. Check fuel level.
5. Check engine air cleaner.
6. Check for air leakage on components and fix if needed.
7. Make sure there are no obstructions around inlet and outlet connections.
8. Monitor and empty collection area.
9. Check filter cleaning system to make sure its pulsing properly.
10. Inspect filter bags for blockage or leaks.
11. Check belt tension, adjust as required.
12. Grease blower

EXTENDED MAINTENANCE

FIRST 50 HOURS

1. Change engine oil.

FIRST 100 HOURS

1. Change engine oil, engine oil filter and blower oil.
2. Check filterbags and blower safety filter * Check every 100 hours - replace if needed. See maintenance procedure.

EVERY 200 HOURS

1. Change engine oil and engine oil filter.
2. Check filterbags and blower safety filter – replace if needed. See maintenance procedure.
3. Check upper deflector plate inside collection hopper for excessive wear.

EVERY 300 HOURS

1. Change blower safety filter.
2. Change filter bags if needed. See maintenance procedure.
3. Change engine oil, engine oil filter and fuel filters.

EVERY 500 HOURS

1. Check engine fuel filter, filter bags and blower safety filter – replace if needed. See maintenance procedure.
2. Change blower oil. Refer to Blower Manual. **NOTE: apply pipe joint compound sealant to blower oil threaded plug before re-installation.**
3. Check condition of removable wear plate for excessive wear.

SETTING UP FOR VACUUMING

Operation

1. When trailer is in position, set the wheel chocks so it cannot move when disconnected from the truck.
2. Using the adjustable jack on the front of the trailer, raise tongue of *Hurricane* off 2" ball to disconnect the truck. Lower front of trailer, then lower and pin rear jack stands in such a way that trailer will sit level. Make sure the jack stand pads are sitting on a concrete surface; use heavy planks as required to maintain a stable foundation.
3. Raise front of trailer so that the rear jack stands are carrying weight and the vacuum is level.

WARNING: DO NOT STAND UNDER THE COLLECTION HOPPER OR GET BETWEEN THE COLLECTION HOPPER AND THE TRAILER WHEN THE CYLINDER IS IN THE RAISED POSITION WITHOUT PINS INSTALLED.

4. Attach vacuum suction hose to inlet port on collection hopper.
5. With fork truck raise hopper and pin.
6. Place a container under the dump valve to catch the vacuumed material.
7. Open vacuum on/off valve (horizontal handle position)
8. Start engine by turning key switch until glow plug light comes on, hold for 5 seconds Then crack engine until it starts.
9. Turn filter switch.
10. Throttle unit up to desired RPM. We recommend running units at full RPM or 3200 RPM when vacuuming.
11. Close vacuum valve (vertical handle position) to initiate vacuum.
12. When hopper is full open vacuum valve to dump material. When all material has been discharged close the vacuum valve to restart the vacuum and begin filling the hopper.

SHUTTING DOWN VACUUM

1. Allow all material to clear from suction hose.
2. Open vacuum on/off valve to relieve the vacuum (horizontal handle position)
3. Allow all material to clear the collection hopper and cone.
4. Throttle engine down, let run for 5 minutes to cool down.
5. Turn off filter switch
6. Turn off engine.
7. Remove drum or container from underneath hopper.
8. Using a fork truck, lower collection hopper all the way to bottom position until it stops.
9. Remove 4" vacuum hose.
10. Lower front of trailer.
11. Raise and pin rear jack stands.
12. Prepare vacuum for travel.

PREPARING FOR TRANSPORTATION

1. Remove vacuum hose from vacuum.
2. Be sure the trailer's adjustable rear jacks are fully raised and pinned in uppermost position before traveling on the road.
3. Latch hitch, be sure safety chains are attached to towing vehicle before travel
4. Attach the break-away cable and plug light harness
5. Be sure all marker lights, brake and turn signals are functioning properly before travel.

ROUTINE MAINTENANCE

1. Refer to engine manual for engine maintenance required.
2. Refer to Roots blower manual for maintenance required.
3. Check belt tension and adjust as required.
4. Inspect blower safety filter and replace as required.

******WARNING: REMOVING VACUUM FROM TRAILER**

- 1. UNBOLT 4 BOLTS FROM TRAILER**
- 2. USING A FORK TRUCK LIFT VACUUM SKID FROM TRAILER.**

SPECIFICATIONS

Hurricane 300 Trailer

Weight:
3500 pounds

Height:
114”

Frame Length:
152”

Frame Width:
79”

Motor:
30HP Kubota diesel

Blower Drive Belt:
VP300D-050

Blower Oil Type:
Synthetic Amsoil R & O, AW gear and bearing ISO-220 (RCM)

Blower Bearing Grease:
NLGI #2 premium grade petroleum base

RECOMMENDED SPARE PARTS

<u>QTY</u>	<u>Part</u>	<u>Part Number</u>
1	blower drive belt	VP300D-050
1	blower safety filter	FN0035
12	filterbags	FN9261
1	dump timer	EC2000
1	butterfly solenoid	AR4201-1
1	oil filter	VP300D-11
1	fuel filter – primary	VP300D-13
1	fuel filter – secondary	VP300D-12
1	air cleaner kit	VP300D-14

WARRANTY

INDUSTRIAL VACUUM EQUIPMENT CORP.

LIMITED WARRANTY

Seller warrants each new product to be free from defects in material and workmanship under normal use and maintenance as herein described. This warranty does not apply to commercial items manufactured by others, which are covered by existing warranties of the respective manufacturers thereof. Seller's sole obligation under this warranty shall be limited to repairing, replacing or allowing credit for, at Seller's option, any part which under normal and proper use and maintenance proves defective in material or workmanship within twelve (12) months after delivery to Buyer. In the event of defects developing within that period, the Seller will furnish, F.O.B. its plant, without charge, parts required to replace material found defective. Beyond this, the Seller assumes no responsibility.

This warranty is in lieu of all other warranties (except of title), expressed or implied, and there is not an implied warranty of merchantability or fitness for a particular purpose. In no event shall Seller be liable for consequential or special damages.

Used products are sold on an "as is" basis and there is no implied warranty of merchantability or of fitness for a particular purpose, unless otherwise expressly stated on the face of this form.



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