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performance proven VACUUM SOLUTIONS™

OPERATOR'S MANUAL FOR THE VecLoader® Trailer Vacuums

VECTOR TECHNOLOGIES LTD.
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VECLoader® VACUUM RECORD OF MODEL AND SERIAL NUMBERS

Customer: ZARNAS Machine Model: 616 HP

Date of Shipment 06/25/07 VIN #: 1V9PT182671090275

Paint Color Code: GREY Length: 18' Width: 96" Height: 11'3"

Gross Vehicle Weight: 14,000 Actual Weight: 10,500

Machine Serial Number: Plate is located on the left front of the frame.

Model Number 07019 Serial Number 275

Engine:

Manufacturer John Deere Serial Number PE6068T627840 Model PE6068H

Engine Description/ Rating EPA # 5JDXLO6.8082

Gross H.P. 170 Cylinders 6 RPM 2,150

Engine Fuel and Oil Capacity:

Fuel Tank: 100 Gallons Approx Run Time: 7 Hours @ 75% load

Fuel: Diesel Oil: 20.1 Quarts with Filter Change Oil: 15W40

Blower: Plate is located on the end opposite the drive shaft.

Manufacturer: ROOTS

Serial Number: 06089335557 Model: 616 DVJ Oil Type: ISO VG 220

Oil Capacity: Drive end 28Oz Gear end 55 Oz

Maximum Pump Ratings 2367 CFM 27" Hg

Belt Tension: 7.60 lbs @ 19" Belt P/N 6296 05

Bag-house Filter Bags—Qty 37 Reorder# 5005 00 Micro-filter—Qty 1 Reorder# 5300 00

Non Standard Options on machine:
Premium Bag House,
Lift cage
Engine Enclosure

Note: A copy of this page must be submitted with all warranty claims

-1- Vecloder Operator's Manual- Rev 0506 May 15, 2006

VECLoader OPERATOR'S MANUAL

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Some models utilize a clutch and belt-drive the vacuum producer and while other units feature a direct-drive coupling between the engine and blower. Care should be taken to insure that proper maintenance procedures are followed for belt-drives including tightening and adjustment as noted. Direct-drive couplings require no maintenance. Information on direct-drive couplings is included in the APPENDIX of the Manual.

NOTE

THE SAFETY INFORMATION PROVIDED IN THIS MANUAL DOES NOT REPLACE SAFETY CODES, INSURANCE REQUIREMENTS, OR FEDERAL, STATE, AND LOCAL LAWS. IT IS THE USER'S RESPONSIBILITY TO OBSERVE ALL FEDERAL, STATE, AND LOCAL RULES AND REGULATIONS APPLICABLE TO THE JOB SITE AND THE EQUIPMENT BEING UTILIZED. IT IS THE USER'S RESPONSIBILITY TO MAINTAIN A SAFE WORK ENVIRONMENT. FAILURE TO FOLLOW THIS PRECAUTION COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.

ADANGER

UNLESS NOTED ON PAGE 1 OF THIS MANUAL, YOUR VECLOADER IS NOT EQUIPPED WITH HEPA FILTERS. DO NOT VACUUM MATERIAL REQUIRING HEPA FILTRATION WITH THIS VACUUM. OBSERVE ALL FEDERAL, STATE, AND LOCAL RULES AND REGULATIONS REGARDING HANDLING OF REGULATED MATERIAL.

ADANGER

VECLOADER VACUUMS ARE FURNISHED WITH AN EMERGENCY SHUTDOWN PENDENT. STANDARD SYSTEMS ARE FURNISHED WITH 100' CORD. ADDITIONAL LENGTHS OF CORD ARE AVAILABLE FROM THE FACTORY OR LOCAL STORES AND MUST BE OBTAINED IF OPERATING CONDITIONS DICTATE LONGER HOSE RUNS. ALL WORKERS AT THE END OF EACH VACUUM HOSE MUST HAVE THIS PENDENT WITHIN THEIR IMMEDIATE REACH WHILE VACUUMING. IF MULTIPLE HOSE OPERATORS ARE ANTICIPATED, AN "E-STOP" SPLITTER IS AVAILABLE FROM THE FACTORY TO ALLOW FOR MULTIPLE E-STOPS. FAILURE TO FOLLOW THIS PRECAUTION COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.

ADANGER

EACH NEW VECLOADER IS FURNISHED WITH A HOSE END GUARD(S). ADDITIONAL HOSE GUARDS ARE AVAILABLE FROM THE FACTORY IN ALL COMMON HOSE DIAMETERS. THE POWERFUL SUCTION IS DANGEROUS. VECLOADERS SHOULD NOT BE USED WITHOUT THIS GUARD INSERT PLACED AT THE END OF THE SUCTION HOSE UNLESS A VECTOR SUPPLIED NOZZLE IS BEING USED. NEW VECTOR BULK NOZZLES ARE FURNISHED WITH SAFETY CROSS-RODS. FAILURE TO FOLLOW THIS PRECAUTION COULD RESULT IN PERSONAL INJURY OR DEATH. CROSS RODS ARE AVAILABLE FOR OLDER NOZZLES.

ADANGER

UNDER NO CIRCUMSTANCES SHOULD ANY MODIFICATIONS BE MADE TO VECTOR TECHNOLOGIES LTD. MACHINERY WITHOUT PRIOR WRITTEN FACTORY AUTHORIZATION. ANY UNAUTHORIZED MODIFICATIONS WILL VOID THE WARRANTY, AND MAY CAUSE HARM TO PERSONS OR PROPERTY.

ADANGER

Do not place hands, face, clothing, or any part of body into or over any suction inlet when operating the VecLoader. The powerful suction can cause severe personal injury or death. Each worker in the vicinity of the vacuum activity should carry a retractable razor knife or other sharp cutting implement. The purpose of the knife would be to cut the vacuum hose open should clothing or a body part be sucked into the hose. Some hoses may not be easily or quickly cut, so carrying a knife is not a substitute for violation of other safety rules, laws and ordinances.

ADANGER

Unless noted on Page i. of this manual, the VecLoader is not equipped with Hepa filters. Do not vacuum material requiring Hepa filtration with this vacuum. Observe all federal, state, and local rules and regulations regarding handling of regulated material.

ADANGER

DO NOT operate or service this machine or permit anyone to operate or service this machine until you or the other persons have read this manual. It is your responsibility to insure that all operators are properly trained for safe operation. Allow only trained operators who have demonstrated the ability to operate and service this machine correctly and safely perform those activities. It is highly recommended that each new operator receive Factory Training. Closely supervise inexperienced operators. Failure to follow safety and or operating instructions and precautions could result in severe personal injury, death, or machine damage.

ADANGER

Operating Precautions:

The vacuum trailer must be level with the tow vehicle. The brakes must be operational and tested for function. Failure to do so could result in severe personal injury, death, or property damage.

ADANGER

Before towing unit, inspect the tires, torque on lug nuts and the hitch mechanism to be sure the trailer is road-worthy. Failure to do so could result in severe personal injury, death, or property damage.

ADANGER

Always tow the VecLoader with the safety chains crossed and attached to the tow vehicle. The emergency break-away cable must also be properly attached to the towing vehicle. Failure to follow these precautions could result in severe personal injury, death or machine damage.

ADANGER

Always tow the machine with the hopper in the lowered and locked position. Failure to follow this precaution could result in severe personal injury, death or machine damage.

ADANGER

Make sure all lights on the trailer are functioning properly before transporting this unit. Failure to follow this precaution could result in severe personal injury, death or machine damage.

ADANGER

Never raise the baghouse under electric wires, near any power cables or under obstructions. Failure to follow this precaution could result in severe personal injury, death or machine damage

▲WARNING

Never stand under the raised hopper unless the safety struts are in place. Failure to do so could result in severe personal injury, or death.

▲DANGER

Always install the safety struts when the hopper is in the raised position. Failure to follow this precaution could result in severe personal injury, death or machine damage.

▲CAUTION

The vacuum hose may suddenly move and cause you to lose balance. ALWAYS secure the hose to prevent severe personal injury, death, or property damage.

▲WARNING

Do not smoke while servicing the batteries. Lead acid batteries give off a highly explosive hydrogen gas which can be ignited by flame, electrical arcing or by smoking. Wear appropriate eye protection. Failure to follow this precaution could result in severe personal injury or death.

▲DANGER

Keep hands, feet, and clothing away from power-driven parts. Contact with moving drive belts, drive couplings or any rotating machinery will result in severe personal injury or death. Ensure that guards, shields, and access doors are in place and secured before operating.

▲WARNING

Always operate the machine with the engine and belt cover in closed in place or the shroud enclosure side doors closed. Failure to follow this precaution could result in severe personal injury or death.

▲DANGER

Do not operate the vacuum if any controls are inoperable or require maintenance. Failure to follow this precaution could result in severe personal injury, death, or property damage.

▲WARNING

Do not operate the unit if dust is visible at the blower discharge. Failure to follow this precaution could result in severe personal injury or death.

▲WARNING

Check the hopper periodically to make sure all the material is discharging and not building up on the inside. Failure to follow this precaution could result in severe personal injury, machine damage, or death.

▲WARNING

Do not attempt to operate the VecLoader if the system has shut down due to low oil pressure or high engine temperature. Repair the cause for shutdown before restarting. Failure to follow this precaution could result in personal injury, death, or property damage.

▲CAUTION

Using the wrong grade and weight of oil and operating at high engine temperature during break-in can cause engine damage. Use correct oil grade and specification, and adequate engine coolant.

SAFETY, OPERATING AND MAINTENANCE DECALS

Safety decals have been placed on the VecLoader to provide warning and instruction to persons working in the area and to protect them and the surrounding environment from harm. Additional decals indicate operating and maintenance instructions. Do not remove, paint over, or otherwise cover the decals. Damaged or weathered decals should be replaced. Decals are noted below:

Item	Quantity	Description
1	ea	WARNING Decal - Vacuum hose may suddenly move...(Part #9182-00)
1	ea	DANGER Decal - DO NOT vacuum flammable material, it may explode...(Part #9172-00)
2	ea	WARNING Decal - DO NOT Open Doors...(Part #9162-00)
1	ea	WARNING Decal-DO NOT remove or install drive belt cover with the engine running. (Part #9181-00)
1	ea	DANGER Decal - Very powerful suction...(Part #9174-00)
5	ea	WARNING DO NOT Raise Cyclone...(Part #9201-00)
1	ea	Diesel Fuel Only (Part #9170-00, where applicable)
2	ea	Drain Daily (Part #9177-00)
1	ea	Lube Clutch Weekly (Part #9176-00)
1	ea	DANGER Remote Emergency Stop instructions on unit (Part #9811-AO)
1	ea	DANGER Remote Emergency Stop instructions on e-stop (Part #9811-AO-1)

Some warning decals will not be applicable on some models.

MAJOR COMPONENT OVERVIEW

ENGINE

Included in this manual is the supplying Manufacturer's "Operator's Manual" and "Parts Catalog". The engine should be maintained per the Manufacturer's instructions. Many model feature Tier II engines with electronic controls. Since these engines are significantly different than "traditional" engines, additional care and time should be spent reviewing the appropriate Manufacturer's manual.

CLUTCH

Clutch Operating and Maintenance Instructions are included with this manual. Models with direct-drive couplings will generally not have a clutch. Follow the supplying manufacturer's instructions as to grease intervals and adjustment procedures. The clutch needs adjustment when there is little or no effort required snapping it over center. Sometimes this means adjusting the clutch every few days for the first 100 hours of operation. If the clutch slips excessively, it will overheat and cause damage. The clutch carries the supplying Manufacturer's limited warranty for 90 days of service.

DRIVE BELTS AND COUPLINGS

Some models belt-drive the vacuum producer and while other units feature a direct-drive coupling between the motor and blower. Care should be taken to insure that proper maintenance procedures are followed for belt-drives including tightening and adjustment as noted. To prevent idler bearing and belt failure, drive belts must be inspected and periodically tightened during the first eight to ten hours of operation. Direct-drive couplings will require no lubrication. Information on direct-drive couplings is included in the **APPENDIX** of the Manual

BLOWER

The component should be maintained as per the supplying manufacturer's Maintenance Instructions included with this manual. The blower is a precision piece of equipment and service should not be attempted by other than qualified personnel. **Blowers require lubrication in both ends.** The blower needs little maintenance other than checking oil levels and changing oil as required. If the blower begins to "knock", **SHUT DOWN THE UNIT IMMEDIATELY AND CONSULT FACTORY.** The blower carries a limited warranty from its manufacturer. See supplied warranty documentations for details.

AIR COMPRESSOR

The air compressor is run off the auxiliary drive of the engine and is lubricated and cooled through the engine. Although the air compressor requires minimal maintenance, reference should be made to the supplying Manufacturer's maintenance instructions.

AIR DRYER

The supplying Manufacturer's bulletin on this component is included in this manual. It is Vector Technologies recommendation that the drier be rebuilt and the desiccant be changed every 500 hours, or if malfunction occurs.

BAGHOUSE TIMER AND DUMP CYCLE TIMER

These components cannot be serviced in the field. Checks are limited to voltage to unit, fuse, and output. If the fuse is good and power is present at the input leads and the unit fails to operate, the circuit board should be replaced.

VACUUM RELIEF VALVE

The vacuum relief is factory set and should not be changed as serious damage may result if unqualified personnel improperly adjust the valve. Models with 28" Hg. may not have vacuum relief valves.

INSTRUMENT REVIEW

The instrument panel or the engine control panel on many Vecloaders contains the following items. Some controls may be abbreviated as shown.

1. "Trailer" Lever - This lever is used to raise and lower the hydraulic cylinder under the front of the trailer for unit set-up. (Not offered on all models)
2. Hydraulic On/Off Switches - Two-position On/Off selector switch
3. "Cyl up/down" Button - Used to raise and lower the collection hopper.
4. Digital Read-out Panel indicating the following:
 - a. Run Hours The hours register when the key is turned on.
 - b. Tachometer - The engine will idle at 800 RPM and has a maximum governed speed as noted for the specific model on the Standard Specifications portion of this manual.
 - c. Oil Pressure - If oil pressure in the engine drops to 15 PSI, the contact will shut off the unit.
 - d. Engine Temperature - The engine temperature will normally run between 180°F and 230°F. The contact will shut the engine off if it reaches 230°F.
 - e. Volt Meter - The meter indicates charge system condition.

5. Air Pressure Gauge - Air pressure should read between 90 and 120 PSI
6. Key/Start Switch- Ignition Switch
7. Vacuum ("VAC") On/Off Switch - The two-position on/off selector switch is used to energize the dump cycle timer system
8. Vibrator ("VIB") On/Off Switch - The two-position on/off selector switch is utilized to turn optional vibrator(s) on or off.
9. Baghouse ("BAG") On/Off Switch - The two-position on/off selector switch initiates the baghouse pulse system by sending power to the timers.
10. Air-dryer Heater On/Off Switch (optional) - Protects controls on Tier II engines (not on all models)
11. Timers - Vacuum time and dump time cycles can be adjusted to accommodate varying materials.

- a. Vacuum Time Knob ("ON") - Selects vacuum cycle duration.
- b. Dump Time Knob ("OFF") - Selects dump cycle duration. Vacuuming can not occur during the dump cycle unless unit is specially equipped with a continuous dump valve.

▲CAUTION

VACUUM AND DUMP TIMES WILL VARY DEPENDING ON DENSITY AND FLOW CHARACTERISTICS OF EACH MATERIAL CONVEYED. OPERATORS MUST MONITOR THE MACHINE DURING SEVERAL DUMP CYCLES TO MAKE CERTAIN THAT ALL MATERIAL IS BEING DISCHARGED FROM THE HOPPER.

12. Electronic throttles - Units feature Tier-II Controls with Electronic throttles. Older Vecloaders models had manual or air throttles.

3. **Baghouse vibrator** - Fill the lubricator for the baghouse vibrator to the full mark and monitor the level periodically throughout the day and add as needed.
4. **Drive Belts** - all drive belts on the machine must be periodically inspected and tightened during the first eight to ten hours of operation

DIESEL ENGINE

1. Check engine oil level.
 1. Locate Dipstick, through the shroud door or engine enclosure opening.
 2. Check radiator coolant level.
 - a. First determine that the engine is cool.
 - b. The radiator cap may then be removed through the opening on the top of the fiberglass shroud or the engine enclosure.
 - c. The coolant level should be to the bottom of the cap opening.

3. Clean or change outer engine air cleaner cartridge
4. Check battery connections (Batteries are service-free)
5. Check radiator fins for dirt and obstructions on the fan side. Keep hands and loose clothing away from fan, belts, and pulleys.

BLOWER

1. Check Blower oil level on both sides of blower.
 - a. Locate sight-glasses on the blower. All blower models have two sight-glasses, with the required lubrication on each side.
 - b. Oil level should be halfway across each sight-glass.
 - c. Add oil on each side as required. Refer to BLOWER LUBRICATING OIL, in EXTENDED MAINTENANCE, this manual.

2. To prevent idler bearing and belt failure, all drive belts on the machine must be periodically inspected and tightened during the first eight to ten hours of operation. Tension should be as specified for the model noted on page i
3. During freezing conditions, check that the blower rotates freely by hand with the engine off, ignition key pulled for safety and the PTO disengaged.

HYDRAULIC SYSTEM

1. Check oil level and maintain from 1/2 to 3/4 full.
2. Check for hydraulic leaks on the various hoses and connections.

EXTENDED MAINTENANCE

⚠ DANGER

ALL INSPECTION PROCEDURES SHOULD BE ACCOMPLISHED WITH ENGINE OFF AND KEY REMOVED! FAILURE TO FOLLOW THIS PRECAUTION COULD RESULT IN SEVERE PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE.

FIRST 10 HOURS

1. Re-torque (if applicable), head bolts on air compressor to 10 ft. pounds.
2. Check belt tension, if applicable. To prevent idler bearing and belt failure, all drive belts on the machine must be inspected and periodically tightened during the first eight to ten hours of operation.

See drive belt discussion at the end of the **Extended Maintenance** section.

⚠ WARNING Belts should be checked each day during initial operating period.

EVERY TIME THE UNIT IS TOWED

Test break-away switch on braking system. **⚠ WARNING** Refer to Manufacturer's manual for other cautions and maintenance procedures.

WEEKLY

1. Verify pulse system on baghouse is working properly.
2. Grease lift arms, PTO if applicable (5 points), axle shackles. See next section for **Fuel and Lubrication** specifications
3. Check pressure on trailer tires.

FIRST 50 HOURS

1. Check removable outer wear plate for wear. Wear life on the removal wear plate will vary greatly dependent on the abrasive qualities of the material being conveyed. Therefore, it is important to inspect the plate in initial stages of vacuum use until the wear pattern is established. Note that the point of impact is not the center of the liner but the lower quadrant so that when the liner is worn, the wear plate can be rotated 180° and used again. This rotation should be made when the liner is worn to approximately 1/8-inch thickness. Inspections should continue every 25 hours until wear pattern is determined. After the wear pattern is established, inspections should match anticipated wear.
2. Re-torque wheel lug-nuts.

FIRST 100 HOURS

1. Change engine oil and engine oil filter. NOTE: Fuel and lubrication specifications follow.
2. Check condition of removable wear plate.
3. Change blower oil.

FIRST 200 MILES AND IN 3,000 MILE INCREMENTS

Check brake-shoe adjustment at the first 200 miles and in 3,000-mile increments or as use and performance requires.

EVERY 5,000 (ROAD) MILES or SIX MONTHS

Insure the "break-away" battery is fully charged.

EVERY 12,000 (ROAD) MILES or TWELVE MONTHS

1. Repack wheel bearings on trailer.
2. Insure the "break-away" battery is fully charged.
3. Inspect condition of tires.

DRIVE BELT INSPECTION AND MAINTENANCE PROCEDURES

To prevent idler bearing and belt failure, drive belts must be inspected and periodically tightened during the first eight to ten hours of operation. If this procedure is not followed, there is the potential for idler bearing and belt failure. Tension should be as specified for the model noted on page 1.

To inspect belts:

1. Open service door or remove applicable belt guard.
2. Inspect belts, looking for glazing and wear.
3. Replace applicable belt guard.
4. Run machine and watch for belt bounce.

⚠ DANGER ⚠

Use extreme care when following this procedure. Keep hands and clothing away from power-driven parts. Contact with moving drive belts or any rotating machinery will result in severe personal injury or death.

5. If belt bounce, slip, or a tendency to roll is evident, the belts need to be adjusted.

To adjust belts:

1. Machine must be shut down and the key removed
2. Using a 15/16" socket wrench, loosen the slide plate bolts, and then with a 3/4" wrench tighten adjuster screw.
3. Inspect belts and readjust as necessary.

⚠ WARNING ⚠

Identical inspection and periodic tightening procedures must be followed when installing new belts. Failure to follow this procedure will cause damage to new belts, idler, and reduce machine production and potentially void the idler warranty.

NOTE

Direct-drive couplings require no maintenance. Information on direct-drive couplings is included in the APPENDIX of the Manual.

9. Run out the Remote Emergency Stop Pendant to the work area. Sufficient cord to reach each vacuum area must be plugged in. Each worker must have a Remote Emergency Stop Pendant within immediate reach.

10. Attach suction hose to inlet port on cylinder and layout hose. Do not attach hose to vacuum inlet port when machine is running. Hose inlet guards or nozzles must be placed at the end of the hose. A discussion of hose layout follows. Each worker in the vicinity of the vacuum hose open should retractable razor knife. The purpose of the razor would be to cut the vacuum hose open should clothing or a body part be sucked into the hose. Some hoses may not be easily or quickly cut, so carrying a knife is not a substitute for violation of other safety rules.

11. Remove rubber strap holding dump door closed and/or any other valve or cylinder retainer.

WARNING

Never raise the cyclone under electric wires, near any power cables or under obstructions. Failure to do so could result in severe personal injury, death, or property damage.

12. Using "CYL" cylinder up control button, raise hopper about 5 feet.
13. Remove the two safety struts at the rear of the trailer from the carrying pins and attach them to the lift arms.
14. Continue raising hopper to the necessary height to clear the collection box, dump truck, or container.

15. When the proper height is reached, place the pins in the uppermost hole on the safety struts, and then gradually lower the hopper until it is resting on the safety strut pins.

16. If not immediately prepared to commence vacuum activities, turn Key/Start Switch to the OFF position.

DANGER

Always install the safety struts when the hopper is in the raised position. Observe all additional safety procedures below. Failure to follow these precautions could result in severe personal injury, death or machine damage.

DANGER

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 the safety struts in place.

Insure the trailer's stabilizing jacks are lowered into position if the trailer is not securely attached to a truck.

Do not leave the collection cylinder in the raised position.

DO NOT PLACE HANDS, FACE, CLOTHING, OR ANY PART OF BODY INTO OR OVER ANY SUCTION INLET WHEN OPERATING THE VECLoader. THE POWERFUL SUCTION CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. EACH WORKER IN THE VICINITY OF THE VACUUM ACTIVITY SHOULD CARRY A RETRACTABLE RAZOR KNIFE FOR CUTTING IMPLEMENT. THE PURPOSE OF THE KNIFE WOULD BE TO CUT THE VACUUM HOSE OPEN SHOULD CLOTHING OR A BODY PART BE SUCKED INTO THE HOSE. SOME HOSES MAY NOT BE EASILY OR QUICKLY CUT, SO CARRYING A KNIFE IS NOT A SUBSTITUTE FOR VIOLATION OF OTHER SAFETY RULES, LAWS AND ORDINANCES.

Procedures—

1. Start engine as noted in SET UP.

2. Verify that the work end of the hose is either manned or otherwise protected to prevent foreign objects from entering the hose or causing injury to personnel in the area.

3. Verify that the Remote Emergency Stop pendant is in the immediate vicinity of each hose end.

4. Select proper Dump Time ("OFF TIME") and Vacuum Time ("ON") settings for the materials being conveyed. The dump time and vacuum time must be set on the instrument panel according to the type of material being vacuumed.

NOTE: Vacuum time and dump time settings control the duration of the vacuum cycle and the length of the dump cycle. The "vacuum time" knob controls the amount of material being

vacuumed into the baghouse and the "dump time" knob controls the time it takes to discharge the vacuumed materials. When first beginning to vacuum a new product or under changing conditions, the system should be closely monitored to insure all vacuumed material is not allowed to fill the cone beyond two thirds level and that the dump time is long enough to allow or the material to completely discharge prior to the subsequent vacuum cycle. Therefore it is best to begin with the vacuum time set to a lower setting and the dump time set to a higher setting. The optimum setting for the vacuum time is when approximately one half of a cubic yard of material is vacuumed before the dump time is initiated. The optimum setting for the dump time is where the collected material is able to completely discharge before the vacuum time restarts. Keep making adjustments until the optimum setting is attained.

Many factors will influence VAC and DUMP cycles such as distance, product density, moisture, etc.

5. Turn "Baghouse ("BAG") pulse system switch to the ON position. Listen to verify that the bags pulse sequence is active.

6. Turn Vibrator ("VIB") switch to the ON position if vibrators are required for the application

7. Engage clutch.

8. Turn vacuum "VAC" switch to the ON position after verifying that the vacuum hose is clear of personnel and obstructions.

9. Connect the Remote Emergency Stop pendant to the twist lock connector.

10. Test Remote Emergency Stop by depressing the Emergency Stop Button on the remote to verify the vacuum stops. **DANGER** Failure to follow these precautions could result in severe personal injury or death.

The VecLoader is not designed or rated for transport with its hopper in a filled or partially filled condition. Therefore the unit must be emptied prior to transport. Failure to do so could result in severe personal injury, death, or property damage and may violate local and federal laws.

ADANGER

1. Attach the safety chains and hook up the trailer lights cord.
2. Install brake-away switch cord to the tow vehicle.
3. Be certain the front trailer hydraulic lift cylinder is fully raised before traveling on the road.
4. Insure all marker lights, brake and turn signals are functioning before traveling on the road.
5. Check pressure on trailer tires before towing.

Always tow the machine with the hopper in the lowered and locked position. Failure to follow this precaution could result in severe personal injury, death or machine damage

ADANGER

Before towing unit, follow all trailer tow precautions noted in the safety section of this manual. Failure to do so could result in severe personal injury, death, or property damage.

ADANGER

Before towing unit, inspect the tires and hitch mechanism to be sure they are road-worthy. Failure to do so could result in severe personal injury, death, or property damage

ADANGER

TRANSPORT

7. If the machine is to be transported the following procedures should be followed.
 - a. Using "Trailer" control lever raise the tongue of the trailer and pin front jackstands in their stowed position.
 - b. Using "Trailer" control lever lower the tongue allowing the rear jackstands to be raised and pinned in their stowed position.
 - c. Using "Trailer" control lever, raise the tongue of the trailer high enough to allow the truck to back under the hitch. Lower the tongue onto the towing vehicle and secure the hitch.
 - d. Attach rubber strap that holds the discharge door closed. Engage any other dump door or cylinder restraints. Where applicable, unpin the lift arm lock bar from the storage position and pin it to the lift arm to secure for transport.
8. Turn the Hydraulics ("HYD") switch to the OFF position.
9. Turn off engine and remove key.

Removal of baghouse lid

1. Proper material handling equipment must be used to remove top of baghouse such as forklift or overhead crane. Some units are equipped with optional baghouse lift features.

DANGER

Abide by all safety warnings and instructions for fork trucks or cranes when removing the baghouse lid. Failure to follow this precaution could result in machine damage, severe personal injury, or death.

2. Disconnect hopper connection hose by removing clamp and hose. Hose should be tied out of the way.

3. Disconnect vacuum bypass cylinder air hose at swivel fitting.
4. Disconnect vacuum bypass cylinder electrical connection at spade connector
5. Secure baghouse lid to material handling device by use of lifting eyes to prevent accidental movement. Mark cylinder and lid for proper positioning upon installation.
6. Remove all 3/8" nuts and bolts using 9/16" wrenches from rim of baghouse lid making note of the position of any wire looms and hose hangers. Store fasteners in good condition in a sealed container for reuse.
7. Clear personnel from area and remove lid with material handler.
8. Place lid on solid ground and detach material handling device.

Filter removal

1. Remove blast pipes by loosening hose clamps on connection hose at cylinder wall side and removing hold-down fasteners. Be sure to place all fasteners, hardware, and tools outside cylinder to prevent loss inside baghouse after filters are removed.

2. Remove air horns, inspect for damage and replace, as necessary.
3. Remove hose clamps from the filters
4. Filters may be wetted from the inside to reduce airborne dust. Push filter and cage assembly downward through tube sheet to remove. Stubborn filters may be loosened by carefully prying at edge where filter and tube sheet meet taking care not to damage tube sheet.
5. Remove filters from cages. Inspect cages for damage or deterioration and replace as necessary.
6. Clean all dust and debris from top of baghouse by vacuuming, or washing leaving a clean dry surface.

Filter Installation

1. Install new filters into the tube-sheet and reinstall hose clamps securely.
2. Insert cages into filters until flush with top of filters.
3. Install air horns.
4. Replace blast tubes and connection hoses, tighten hose clamps, and install hold down hardware.

8. Check that cover gasket is clean and properly seated, replace cover, and install hopper connection hose.
9. Repeat testing procedure noted in **Testing Procedures, above**
10. Completely block vacuum inlet with suitable object (piece of wood, steel plate) DO NOT place any body part over or into vacuum inlet.
11. Check that baghouse magnetic gauge does not rise; if magnetic rises it indicates that dirty side hose, fittings or filter are plugged.
12. Verify vacuum gauge's level does not rise over the machine's rated vacuum as noted on page i of this manual.
13. If maximum vacuum cannot be obtained:
 - a. Check for proper operation of air-operated vacuum relief valve.
 - b. Check for vacuum leaks in baghouse, hopper connection hose or vacuum inlet
 - c. Check blower belt tension and clutch adjustment
 - d. Change spring on vacuum relief valve.
14. Observe vacuum performance while in use. Observe both magnetic gauges, a sudden rise in the baghouse magnetic indicates improper filter pulsing. No reading on baghouse and/or rise in microfilter magnetic indicates bag failure or improper sealing.

TROUBLE-SHOOTING

HYDRAULIC SYSTEM

If the trailer's hydraulic relief valve being out of adjustment - CONSULT FACTORY.

COMPRESSED AIR SYSTEM/FILTRATION

Compressed air is supplied by a compressor, which is run off the engine auxiliary drive. Compressed air is used for pulsing the baghouse filter bags and operating the butterfly valve. The butterfly causes the vacuum to break and the baghouse to dump. Therefore, without compressed air, vacuum cannot be created in the suction hose since to the butterfly valve will not close and the bags will not pulse.

System air pressure should run between 90 and 120 PSI. If this pressure is not present after five minutes of running, the following steps should be performed:

1. Turn on the Baghouse ON switch to start pulse system
2. Verify the pulse system is operating by listening for a click from the solenoid valves. If the pulse system is operating, likely the problem is the result of an air leak.
3. Air leak in the system:
 - a. Listen for obvious leaks inside the fiberglass shroud and at the rear of the machine around the baghouse air manifold.
 - b. If the leak cannot be detected in the above manner, try isolating the leak by pinching off the feeder lines that go to each section of the machine. Located near the compressed air tank is an air manifold with three lines running to different parts of the machine. The three lines are:
 - i. To butterfly valve
 - ii. To baghouse pulsing system
 - iii. To unloader valve on compressor
4. Using vise-grips, pinch off these lines individually and watch to see if the system pressure builds up when a line is pinched off. Once the leak is isolated, necessary repairs can be accomplished. There is a more detailed procedure under "Filtration System" (following page), if the leak is found in this system. If no leak is found and no other problem can be detected, it would likely indicate a faulty compressor - CONSULT FACTORY.

5. If the solenoid valves are not leaking, check the diaphragm valves. Listen to the diaphragm valves for a hissing sound to determine which one is leaking.
6. If a leaking solenoid or diaphragm valve is found, remove and clean the valve per the enclosed instructions, or replace it.
7. If the filter pulse system is not functioning and air pressure is present, check the following:
 - a. Check fuse on instrument panel.
 - b. Check fuse inside timer box mounted on side of filter unit.
 - c. Check wiring from timer circuit to solenoid valves.
 - d. Verify power going from the circuit, using a test meter or test light.
 - e. If all the above are intact, this indicates a malfunction in the timer circuit board.
 - f. Accordingly, replace the entire circuit board.



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VACUUM HOSE AND ACCESSORIES

Common hose and accessories include:

9155-AE	Dust retention sleeve
7316-00	6" Heavy Duty Rubber Hose
7460-AA	6" Q-D Coupling Assembly
7461-BC	6" Female Disconnect at Inlet
7024-00	6" Power Lock Hose Clamp
7237-BC	6" Wear Elbow
7085-CC	Hose Radius Guard
7213-AC1	6" x 5" QD Reducing Coupling
7315-00	5" Heavy Duty Rubber Hose
7450-AA	5" QD Coupling Assembly
7023-00	5" Power Lock Hose Clamps
7236-BC	5" Wear Elbow
7058-DC	Rock Scoop- 5"
7051-AA	5" Floor Nozzle
7052-BC	5" Bulk Nozzle
7217-AC	Wye 5" Male QD x (5) 2-1/2" Female QD
7195-BC	5" x 4" QD Reducer
7314-00	4" Heavy Duty Rubber Hose
7440-AA	4" Q, D, Coupling Assembly
7041-AA	4" Floor Nozzle
7042-BC	4" Bulk Nozzle
7022-00	4" Power Lock Hose Clamps
7216-AC	4" Q, D, x (2) 2.5" O.D. Wye
7312-00	2.5" Heavy Duty Rubber Hose
7013-00	2.5" Hose Clamp (Size 48)
9351-AE	Hopper Discharge Sleeve

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