



# Vestil Manufacturing Corp.

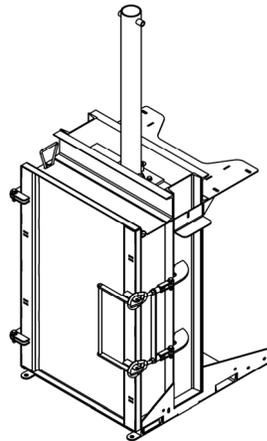
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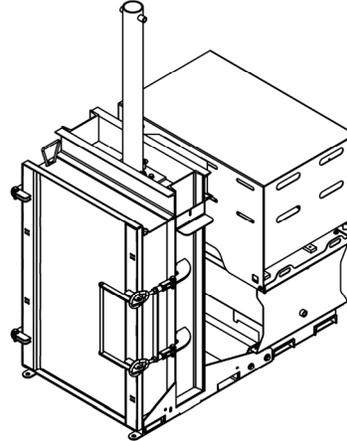
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## HDC-905 Series Hydraulic Drum Crushers Instruction Manual



HDC-905-IDC



HDC-905-HC

### Receiving instructions:

After delivery, IMMEDIATELY remove the packaging from the product. Then, inspect the unit closely to determine whether it sustained damage during transport. **If damage is discovered, immediately record a complete description of the damage on the bill of lading.** If the product is undamaged, discard the packaging.

### Notes:

- 1) Compliance with laws, regulations, codes, and non-voluntary standards enforced in the location where the product is used is exclusively the responsibility of the owner/end-user.
- 2) VESTIL is **not liable** for any injury or property damage that occurs as a consequence of failing to apply either:
  - a) Instructions in this manual; or b) information provided on product labels.

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**Signal Words:**

This manual uses SIGNAL WORDS to indicate the likelihood of personal injuries, as well as the probable seriousness of those injuries, if the product is misused in the ways described. Other signal words call attention to uses of the product likely cause property damage. The signal words used appear below along with the meaning of each word:



**Identifies a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY.**



**Identifies practices likely to result in product/property damage, such as operation that might damage the product.**

**Safe Use Recommendations:**

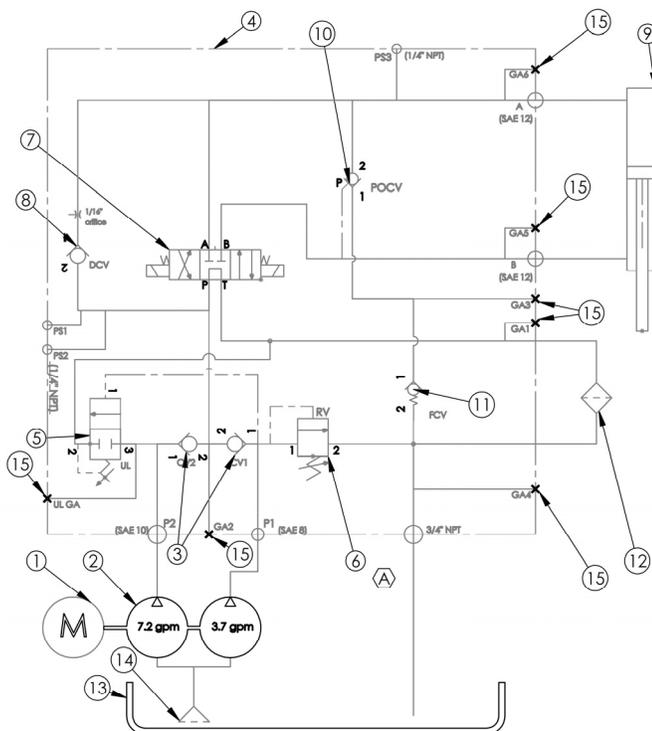
Vestil strives to identify foreseeable hazards associated with the use of its products. However, material handling is dangerous and no manual can address every conceivable risk. Ultimately, the most effective way to avoid injury is for the operator to exercise sound judgment whenever using this machine.



**Improper or careless operation might result in serious personal injuries or death.**

- Failure to read and understand the entire manual before installing, using or servicing the product constitutes misuse.
- Read the manual to refresh your understanding of proper use and maintenance procedures.
- Do not operate the crusher with the loading door open.
- Do not operate the machine if the emergency stop switch does not function properly.
- Do not stand in front of the door during operation.
- Keep clear of all moving parts during operation.
- High pressure oil easily punctures skin which can cause injury such as gangrene. If a hose or coupling develops a leak, repair the leak before operating the crusher.
- Do not continue to use the crusher if it is damaged or makes unusual noises during operation.
- Do not change the pressure relief valve setting! In particular, do not increase the setting.
- Do not clean out drum crusher unless power is disconnected.
- Do not attempt to crush smooth-walled drums with this machine. Drums must be ribbed to crush properly.
- Do not attempt to crush drums filled with items or materials. Only use this unit to crush empty drums.
- Do not use brake fluids or jack oils in the hydraulic system. Only use AW-32 hydraulic oil or its equal.
- Do not modify the product in any way. Unauthorized modifications might make the lifter unsafe to use and automatically void the Limited Warranty (see p. 18 and 19).
- DO NOT use this device unless every label is in place and easily readable. (See "Labeling Diagram" on p. 17)

**Hydraulic circuit diagram:**

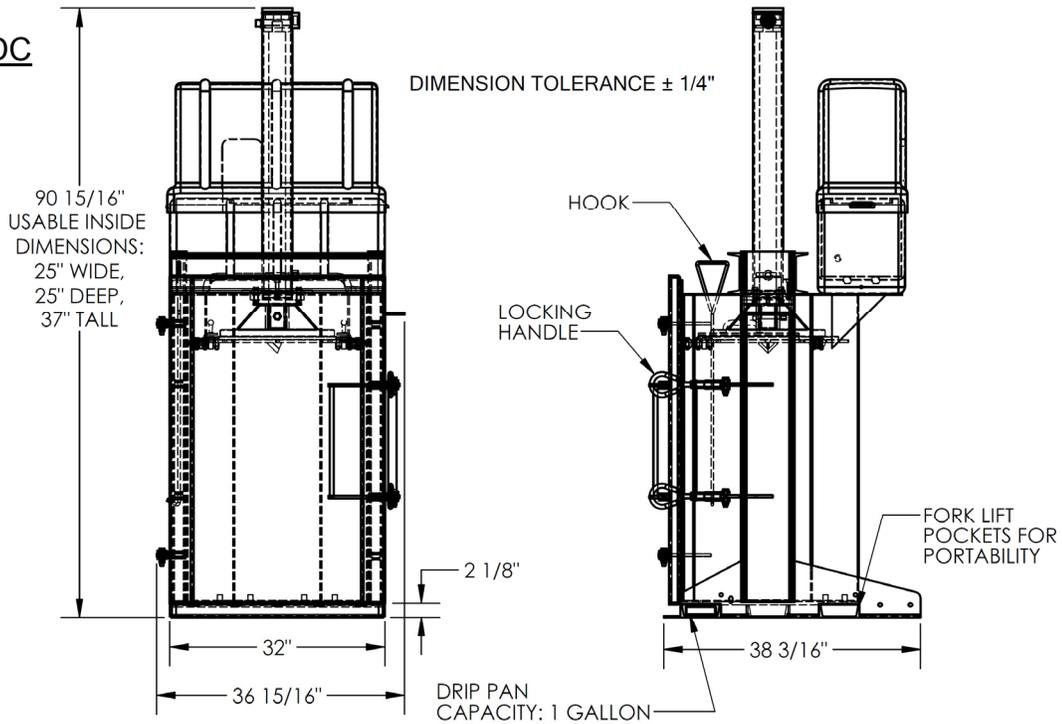


Item	Part no.	Description	Qty.
1	22-135-010	6.5HP, 3-phase, 1740/1440RPM, 184T, 9T spline, 230/460TEFC	1
2	22-143-001	Pump, 0.97/0.499in <sup>3</sup> , 9T spline shaft, 2-section	1
3	99-153-035	Cartridge valve, check, nose-in, side-out, size 10	2
4	22-127-015	Manifold, HDC-905 with decompression check valve	1
5	99-153-028	Valve, sequence, internal pilot + drain	1
6	99-153-037	Relief valve, 200-350bar, size 10	1
7	99-153-065	4-way, 3-position motor spool, DO5	1
8	ZCO-42	Check valve, nose it, side out, size 08	1
9	99-021-926	Piston cylinder, 4"x36", flange mount	1
10	1710	Valve, check, pilot-to-open, 30psi crack, 3:1, size 10	1
11	1808-65	Check valve, 08, 25psi cracking	1
12	22-031-007	Spin-on filter, 10 micron	1
13	22-514-010	Reservoir, hydraulic, steel, 15gal.	1
14	99-031-035	Inlet screen, 100mesh, 1" FNPT inlet	1
15	6408-H-04	O-ring plug, socket-head, size 04	7

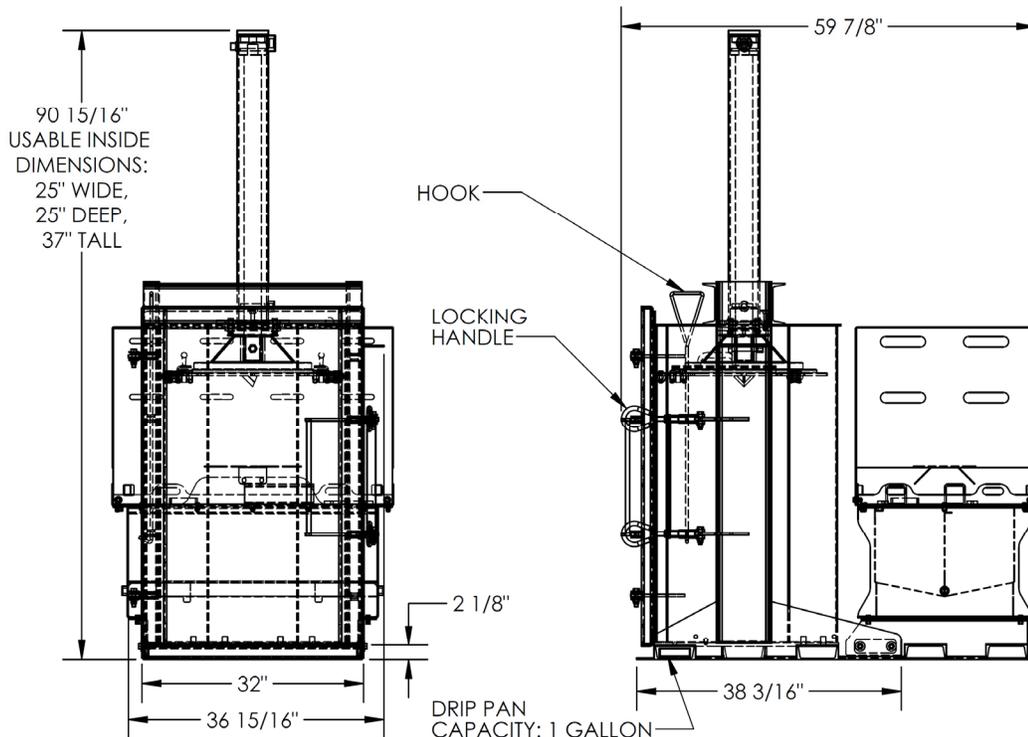
**Specifications:**

Dimensions and other specifications appear in the diagrams and table below.

**HDC-905-IDC**



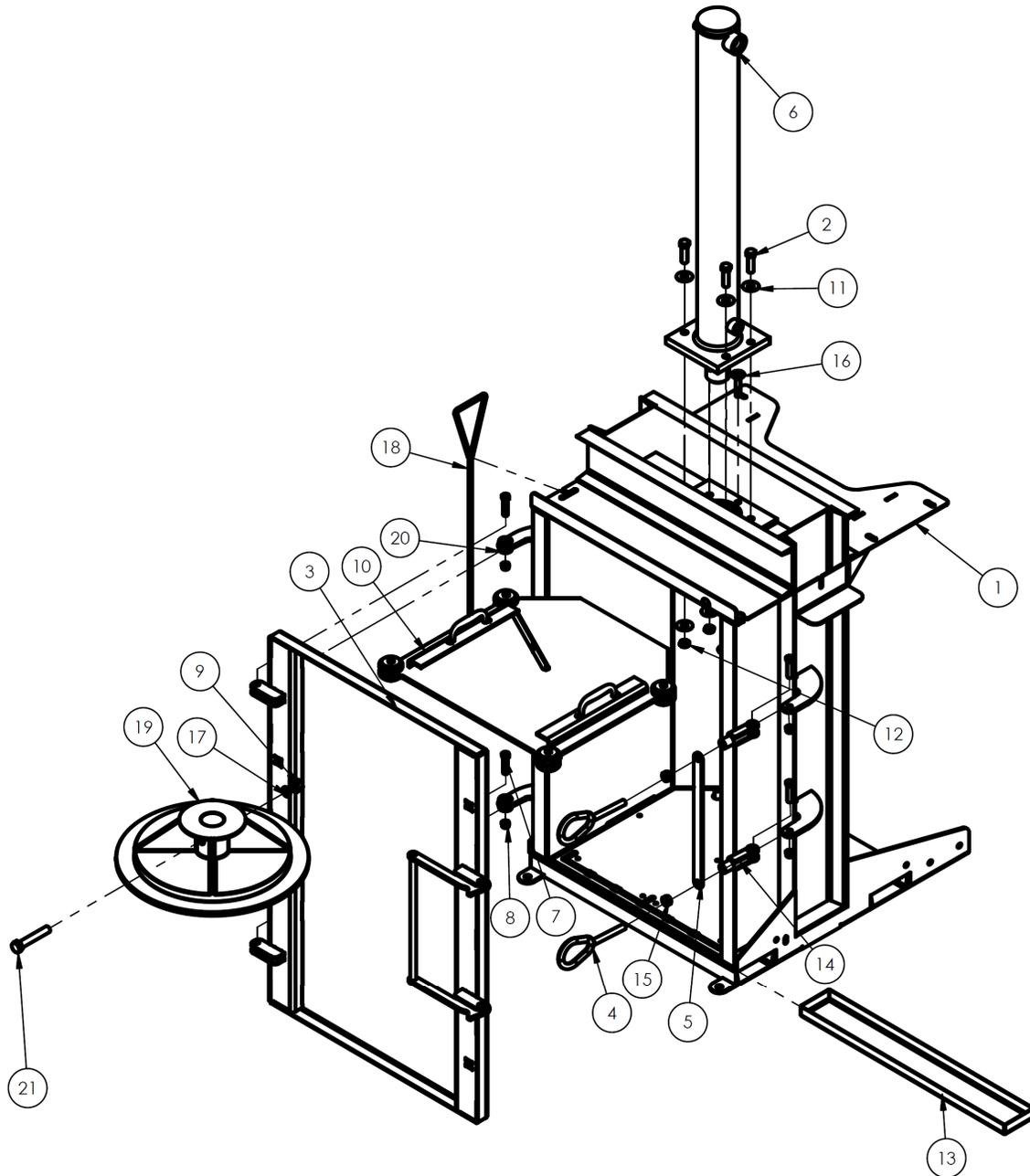
**HDC-905-HC**



**Standard features (both models):**

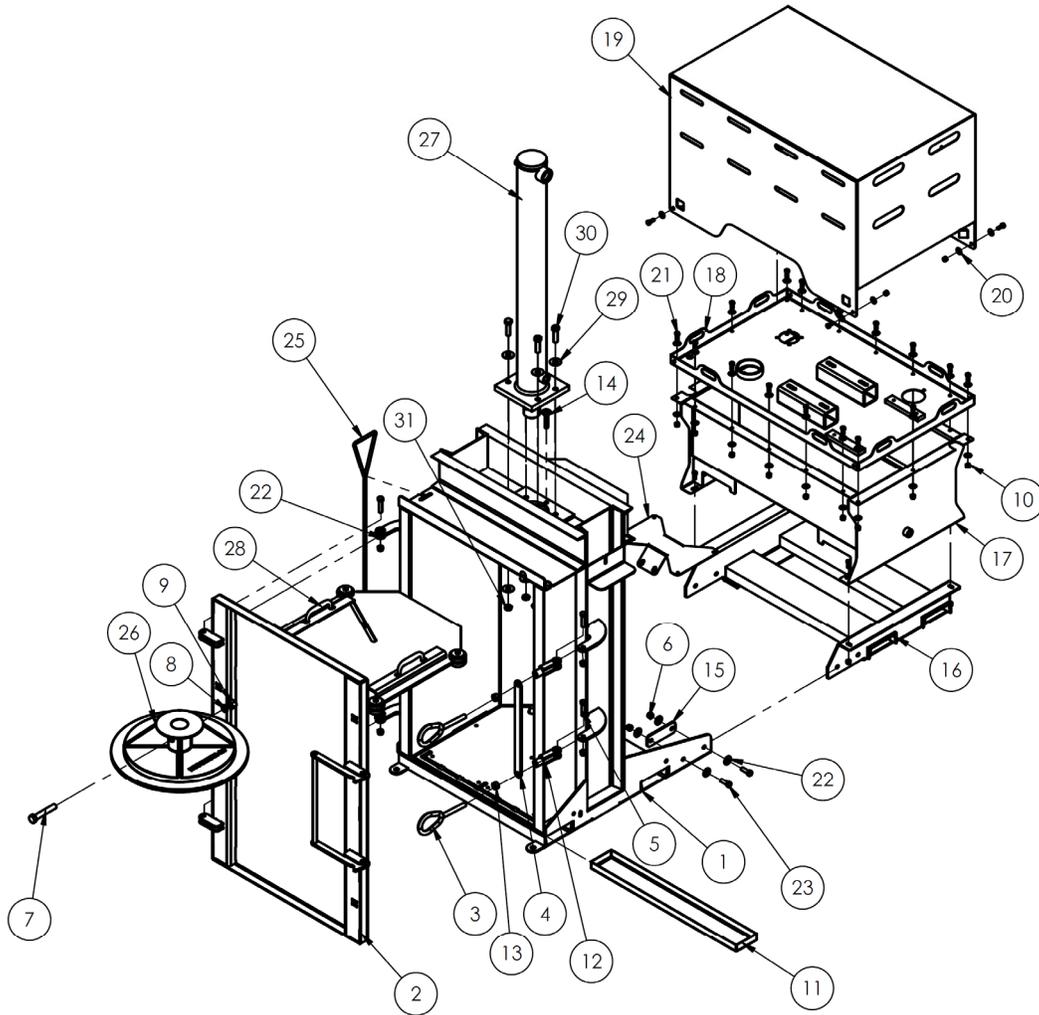
1. Crushing chamber large enough to accept 55gal. drums
2. Drum head piercer to release internal drum pressure
3. 2-speed hydraulic gear pump moves 11gal/min.
4. Hydraulics rated for 3,000psi with relief valve
5. Door interlock switch
6. 24V control circuit: ON/OFF switch, cycle start button, CRUCH/COMPACT selector switch; 2 pressure switches (high pressure for drum crushing; low pressure for compacting contents *inside* a drum.
7. Positive drum positioning for proper ram alignment
8. 6.5HP, 3-phase, prewired for 208VAC
9. 4" dia. piston cylinder; 36" stroke; 25sec. cycle time
10. 38,000 lb. crushing force reduces drums to 6" height

**FIG. 1:** HDC-905-IDC exploded parts diagram and bill of materials



Item no.	Part no.	Description	Qty.	Item no.	Part no.	Description	Qty.
1	22-514-042	Weldment, frame, hull	1	12	37036	Nylon nut, zinc-plated, 5/8"-11	4
2	13312	HHCS, #5 zinc-plated, 5/8"-11x2 1/4"	4	13	20-014-105	Drip pan, formed	1
3	22-514-040	Weldment, door	1	14	22-037-004	Adjustable yoke end	2
4	22-514-039	Weldment, door latch	2	15	36114	Hex nut, zinc plated, 5/8"-11UNC	2
5	22-014-108	Frame, tie bar	1	16	22-645-003	Actuator, bolt, limit switch	1
6	99-021-926-001	Cylinder, hydraulic, 4"x36" piston style with flange mount	1	17	33632	3/4" lock washer	1
7	11212	Hex bolt, grade A, zinc finish, 1/2"-13x2 1/4"	4	18	07-025-001	Handle, deck positioner	1
8	37030	1/2"-13 Nylon insert lock nut	5	19	22-014-056	Frame, casting	1
9	36116	3/4"-10 hex nut	1	20	33012	Flat washer, low carbon, zinc finish, 1/2"	4
10	22-514-054	Weldment, platen	1	21	HBOLT 0.7500-10x4.5x1.75-N	Hex bolt	1
11	33016	Flat washer, low carbon, USS, zinc-plated, 5/8"	8				

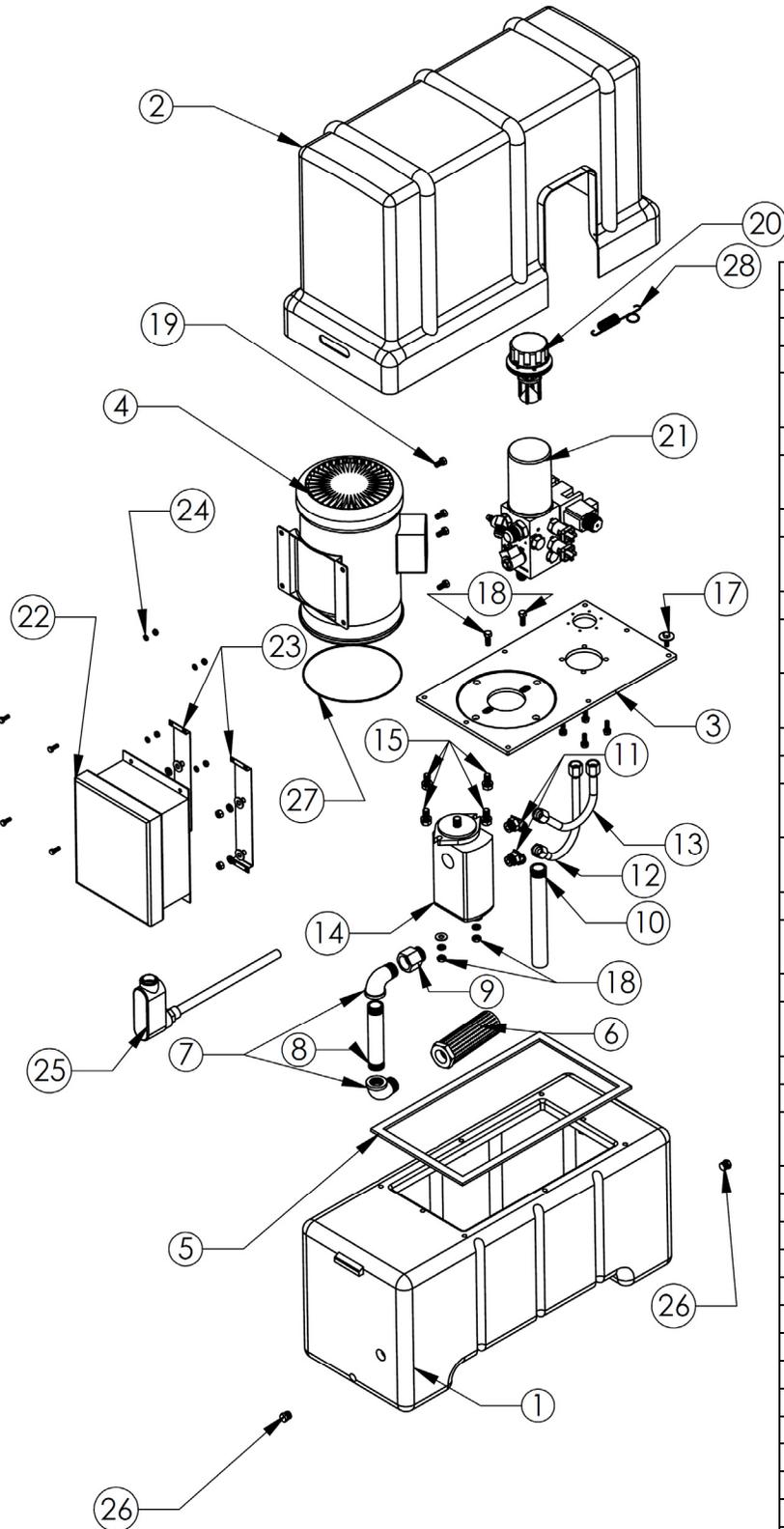
**FIG. 2:** HDC-905-HC exploded parts diagram and bill of materials



**CAST PLATEN 22-014-056 CAN BE  
SUBSTITUTED WITH WELDED PLATEN 22-514-004.**

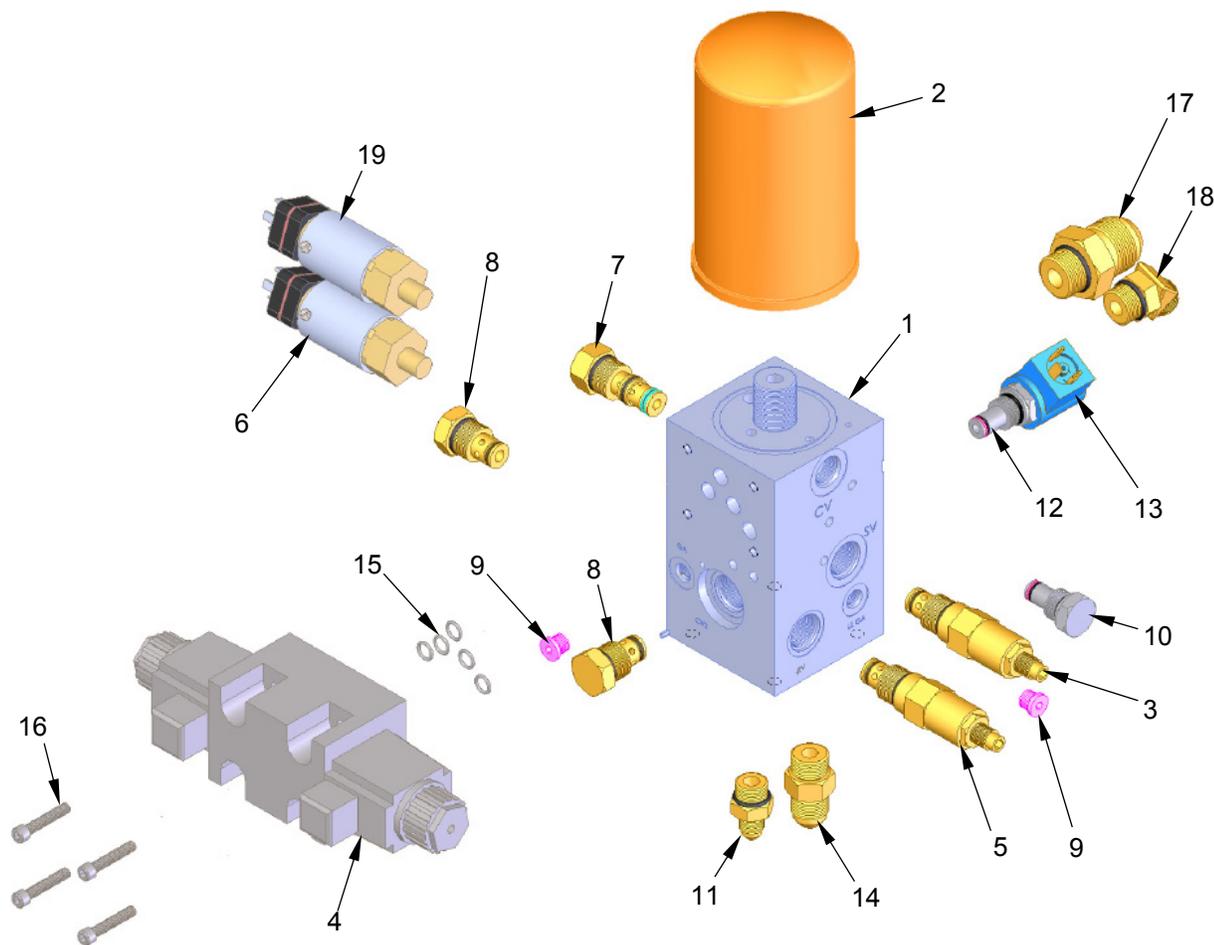
Item no.	Part no.	Description	Qty.	Item no.	Part no.	Description	Qty.
1	22-514-052	Weldment, frame, hull	1	17	22-514-050	Weldment, tank	1
2	22-514-040	Weldment, door	1	18	22-514-051	Weldment, top motor mount plate	1
3	22-514-039	Weldment, door latch	2	19	22-524-003	Weldment, cover	1
4	22-014-108	Frame, tie bar	1	20	33008	Flat washer, low carbon, USS zinc-plated, $\frac{3}{8}$ "	40
5	11212	Hex bolt, grade A, zinc-finish, $\frac{1}{2}$ "-13x $2\frac{1}{4}$ "	4	21	11105	Hex bolt, grade A, zinc-plated, $\frac{3}{8}$ "-16x1"	24
6	37030	$\frac{1}{2}$ "-13 Nylon insert lock nut	9	22	33012	Flat washer, low carbon, zinc finish, $\frac{1}{2}$ "	12
7	HBOLT 0.7500-10x4.5x1.75-N	Hex bolt	1	23	11209	$\frac{1}{2}$ "-13x $1\frac{1}{2}$ " HHCS, ASTM A307 grade A, zinc-plated	4
8	33632	$\frac{3}{4}$ " lock washer	1	24	22-016-075	Bracket, power box, formed	1
9	36116	$\frac{3}{4}$ "-10 hex nut	1	25	07-025-001	Handle, deck positioner	1
10	37024	Nylon insert lock nut, grade 2, zinc finish, $\frac{3}{8}$ "-16	24	26	22-014-056	Frame casting	1
11	22-014-105	Drip pan, formed	1	27	99-021-926-001	Cylinder, hydraulic, 4"x36" piston style with flange mount	1
12	22-037-004	Adjustable yoke end	2	28	22-514-054	Weldment, platen	1
13	36114	Hex nut, zinc-plated, $\frac{5}{8}$ "-11UNC	2	29	33016	Flat washer, low carbon, USS, zinc-plated, $\frac{5}{8}$ "	8
14	22-645-003	Actuator, bolt, limit switch	1	30	13312	Bolt, HHCS, #5 zinc-plated, $\frac{5}{8}$ "-11x $2\frac{1}{4}$ "	4
15	22-016-074	Bracket, shim	2	31	37036	Nylock nut, zinc-plated, $\frac{5}{8}$ "-11	4
16	22-514-049	Weldment, base frame	1				

**FIG. 3: Power Unit Exploded Parts Diagram & Bill of Materials**



Item	Part no.	Description	Qty.
1	22-023-004	Reservoir	
2	22-024-003	Cover	1
3	22-031-010	Adapter plate	1
4	22-135-010	6.5HP, 3-phase Motor	1
5	LP-113	Gasket	1
6	PS-08	1" NPT thread inlet strainer	1
7	1STEL	1" street elbow	2
8	JDN2000065	1"x7" NIP pipe nipple	1
9	6405-16-16-0	Adapter	1
10	JDN2000066	3/4" x 7" NIP pipe nipple	1
11	6802-10-10NWO	Fitting	2
12	22-623-019	Tube	1
13	22-623-018	Tube	1
14	SPD11608-1H9R	Pump	1
15	11207	1/2"-13x1 1/4" zinc-plated bolt	4
	33625	1/2" lock washer	4
16	11055	5/16"-18x1" hex bolt	4
	33620	5/16" lock washer	4
17	11055	5/16"-18x1" hex bolt	8
	33006	5/16" flat washer	8
	33620	5/16" lock washer	8
18	11107	3/8"-16x1 1/4" hex head bolt	2
	33008	3/8" flat washer	2
	33622	3/8" lock washer	2
	36106	3/8"-16 hex nut	2
19	11005	1/4" lock washer	4
	33618	1/4" lock washer	4
	36102	1/4"-20 hex nut	4
	33004	1/4" flat washer	8
20	AB-1164S	Filler breather	1
21	22-627-008	Manifold assembly	1
22	22-529-003	Electrical panel	1
23	22-016-017	Bracket	2
24	11005	1/4"-20x1" hex bolt	4
	33618	1/4" lock washer	4
	36102	1/4"-20 hex nut	4
	33004	1/4" flat washer	4
25	ET2L-252	230V heater	1
25	ET3L-504	460V heater	1
26	5406-P-06	Pipe plug	2
27	OR-172-N70	O-ring	1
28	121201JY	Spring	1

**FIG. 4:** Detailed Parts Breakdown of Manifold Assembly (Item No. 21 on p. 6)



Item	Part no.	Description	Quantity
1	22-127-008	Manifold	1
2	22-031-007	Filter	1
3	99-153-028	Unloading valve	1
4	SHD-03G-3C60-A24D	4-way valve	1
5	99-153-037	Relief valve	1
6	99-022-004	Pressure switch	1
7	1710	PO check	1
8	99-153-035	Check valve	2
9	6408-H-04	Plug	2
10	1808-25	25psi check valve	1
11	6400-10-10	Fitting	1
12	99-153-015	2-way valve	1
13	99-034-008	24VAC coil	1
14	6400-10-08-0	Fitting	1
15	2-154	O-ring	4
16	23209	¼ in. – 20 x 1 ½ in. SHCS bolt	4
17	6400-16-12	Fitting	1
18	10/10/6802	Fitting	1
19	99-022-005	Pressure switch	1

### Manifold, Pressure Switches, and Valves

(Reference Diagrams for Adjustment Procedure on Following Page)

The manifold assembly shown in Figures 1 – 4 below corresponds to item no. 21 on p. 6; item 1 on p. 7.

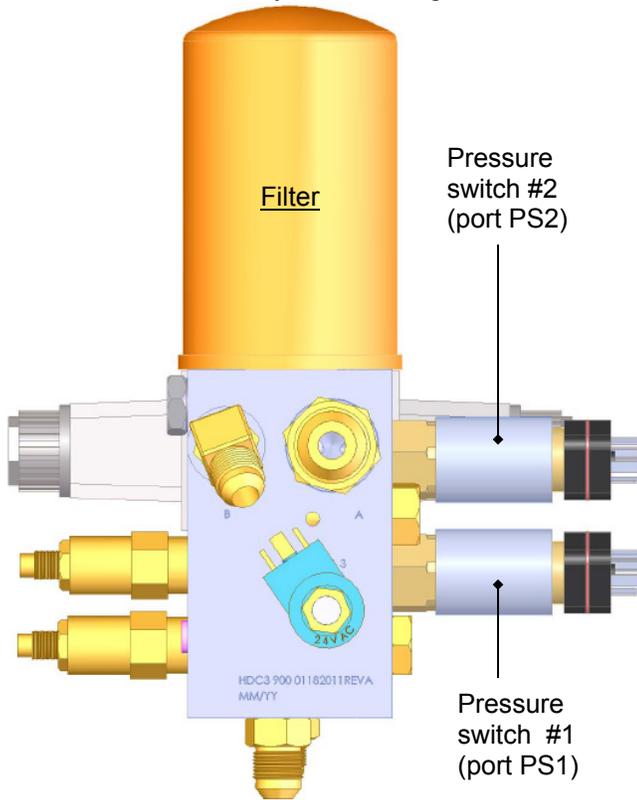


FIG. 5: Front view

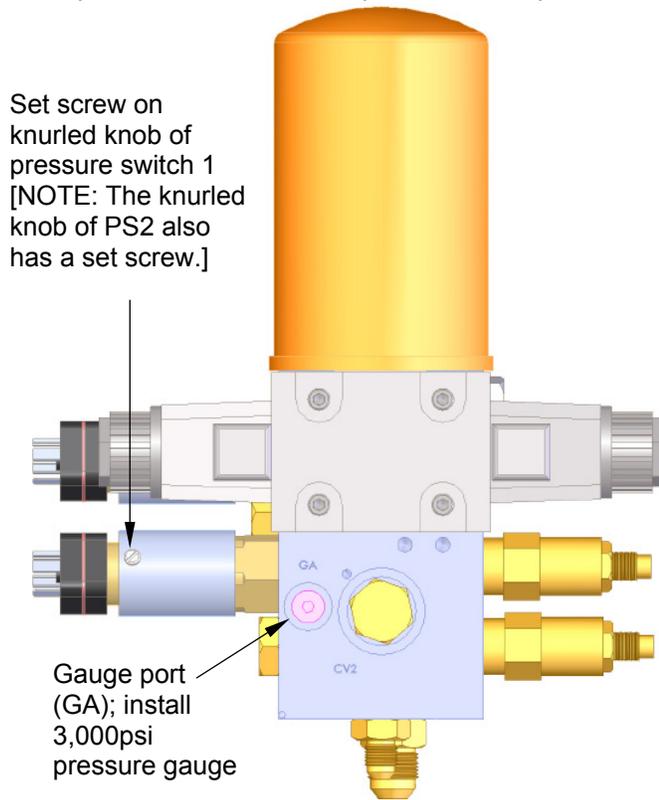


FIG. 6: Rear view

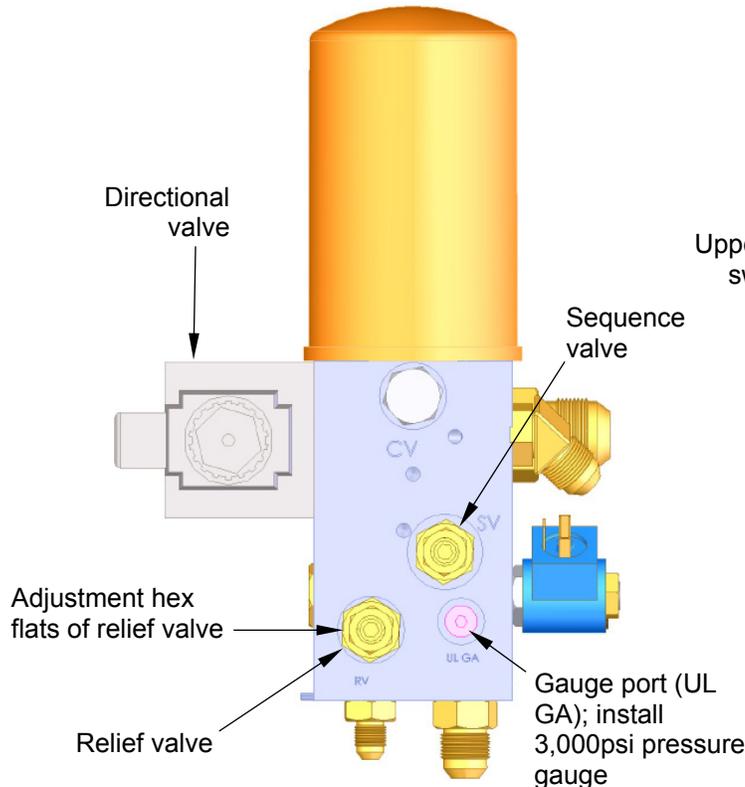


FIG. 7: Left side view

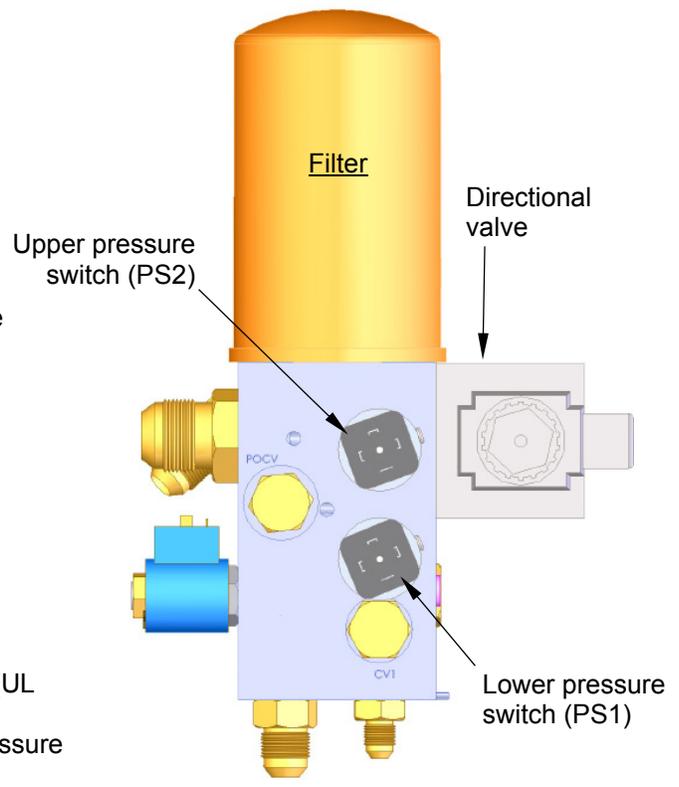


FIG. 8: Right side view

## Valve and pressure switch adjustment procedure:

For locations of valves and switches referred to in the following instructions refer to the figures on page 8.

NOTE: These instructions apply to all HDC-900-IDC units manufactured after June 2011, i.e. units equipped with manifold 22-127-008 rev C and wired according to electrical circuit diagram 22-124-024 rev D.

1. Install pressure gauges in ports GA and UL GA. [NOTE: Hose fittings and adapters might be necessary to connect gauges to these ports.]
  - a. Remove cap plug from GA port (located under directional valve; see FIG. 6) and install a 3000 psi gauge.
  - b. Remove cap plug from UL GA port (located under sequence valve and pointing towards motor; see FIG. 7) and install a 3000 psi gauge.
2. Prepare the pressure switches (see FIGS. 5 & 6):
  - a. Using a standard screwdriver, loosen the set screws on both of the pressure switches (connected to ports PS1 and PS2);
  - b. Turn the knurled knobs of both pressure switches clockwise by hand until they stop.
3. Adjust the relief valve, which is connected to port RV as shown in FIG. 7. Turn the relief valve counterclockwise using an adjustable wrench on the adjustment hex of the valve.
4. Turn the selector-switch on the control box to "COMPACT"
5. Press the "CYCLE START" button on the control box and hold it until the motor engages. As the motor operates, the piston rod extends causing the platen to descend towards the bottom of the drum enclosure.
6. Turn the relief-valve clockwise until the pressure at the GA port is 1100 psi.
7. While the motor continues to run and the piston rod is fully extended (platen at the bottom of its cycle), adjust the unload valve. The valve is connected to port SV (see FIG. 7).
  - a. Turn the unload valve with an adjustable wrench on the adjustment hex. Typically, adjustment requires turning the valve clockwise. Turn the valve until the UL GA pressure gauge shows 1000 psi.
  - b. At this point, the gauge pressure drops approximately to zero, which indicates that the valve shifted. The shift is also indicated by a change in the sound produced by the motor.
  - c. The large pump section is now "unloaded", allowing fluid to return to the tank. The small pump section, however, remains loaded.
8. Adjust the compacting force:
  - a. Observe the pressure on the gauge connected to the GA port. Turn the relief-valve clockwise until the GA gauge shows 1500 psi. The power unit is now operating at 1500 psi pressure.
  - b. Decrease the setting on PS2—the upper pressure switch shown in FIGS. 5 & 6. Rotate the knurled knob counterclockwise until it clicks. The click indicates that the directional valve shifted. Consequently, the piston rod retracts and the platen returns to the raised position. When the platen is fully retracted, the power unit turns off. The compacting force is now adjusted.
9. Adjust the crushing force:
  - a. Turn the selector switch on the control box to "CRUSH";
  - b. Press the cycle-start button and hold it until the motor engages.
  - c. While the power unit operates:
    - i. Increase the relief valve (RV) setting. Turn the valve clockwise until the GA port gauge displays 3000 psi.
    - ii. As the power unit runs, turn the knurled knob on the lower pressure switch connected to port PS1 (see FIGS. 5 & 6) counterclockwise until it "clicks". The click indicates that the switch is open. Simultaneously, the valve shifts and the piston retracts (platen rises).
    - iii. Turn the knob counterclockwise an additional full turn.
    - iv. Cycle the crusher. As the platen descends, hydraulic pressure will increase until it matches the pressure switch setting. The goal of this procedure is to adjust the switch setting to 2,500psi. As the crusher cycles, observe the pressure gauge. Make note of the highest pressure reading achieved during the cycle. If the highest pressure is not within the range of 2,500psi  $\pm$  100psi, adjust the pressure setting: turn the knob counterclockwise to decrease the setting or clockwise to increase the setting.
  - d. The crushing force is now adjusted.
10. Return the unit to service:
  - a. Run the unit through a complete cycle in both modes (COMPACT and CRUSH) to confirm that the machine is functioning properly.
  - b. Remove the pressure gauges and reinstall the cap plugs in ports GA and UL GA.
  - c. Tighten the set screws of the pressure switches PS1 and PS2 to fix the positions of the knurled knobs.

## Electrical controls sequence of operation:

NOTE: These instructions apply to all HDC-905-IDC units manufactured after June 2011, i.e. units equipped with manifold 22-127-008 rev C and wired according to electrical circuit diagram 22-124-024 rev D.

- 1) Press "Cycle start" button
  - 1M energizes;
  - Aux. contacts 13 and 14 close;
  - Terminal 8 energizes;
  - Power at CR2 9&1;
  - Power reaches 2LS normally open, held closed switch (NO, HC);
  - Power on 11 to CR1, 13 and 14;
  - CR1, 5 and 9 close (latch);
  - CR1, 2 and 10 open (timer);
  - Energize 2 SOL H (4-way, 3-position);
  - Ram and platen descend.
- 2) As the ram and platen descend:
  - 2 LS normally closed, held open switch (NC, HO) closes;
  - 2 LS NO, HC opens;
  - Motor runs without button contact.
- 3) At full extension of piston rod and platen:
  - PS1 (if in "CRUSH" mode) or PS2 (if in "COMPACT" mode) make;
  - Energizes CR2, 13 and 14;
  - CR2, 9 and 1 open;
  - 2 SOL H de-energizes;
  - CR1, 13 and 14 de-energize;
  - CR1, 2 and 10 close and the timer starts.
- 4) Timer cycle:
  - CR1, 3 and 11 close;
  - Power reaches decompression valve 3 SOL H;
  - 1-2 second delay after which power reaches CR3, 13 & 14;
  - CR3, 2 and 10 open;
  - 3 SOL H de-energizes and closes;
  - CR3, 5 and 9 close;
  - Power to 1 SOL H causing the ram and platen to ascend.
- 5) As the piston rod retracts and returns the platen to the ready position:
  - 2 LS normally closed switch opens; and
  - 1M de-energizes.

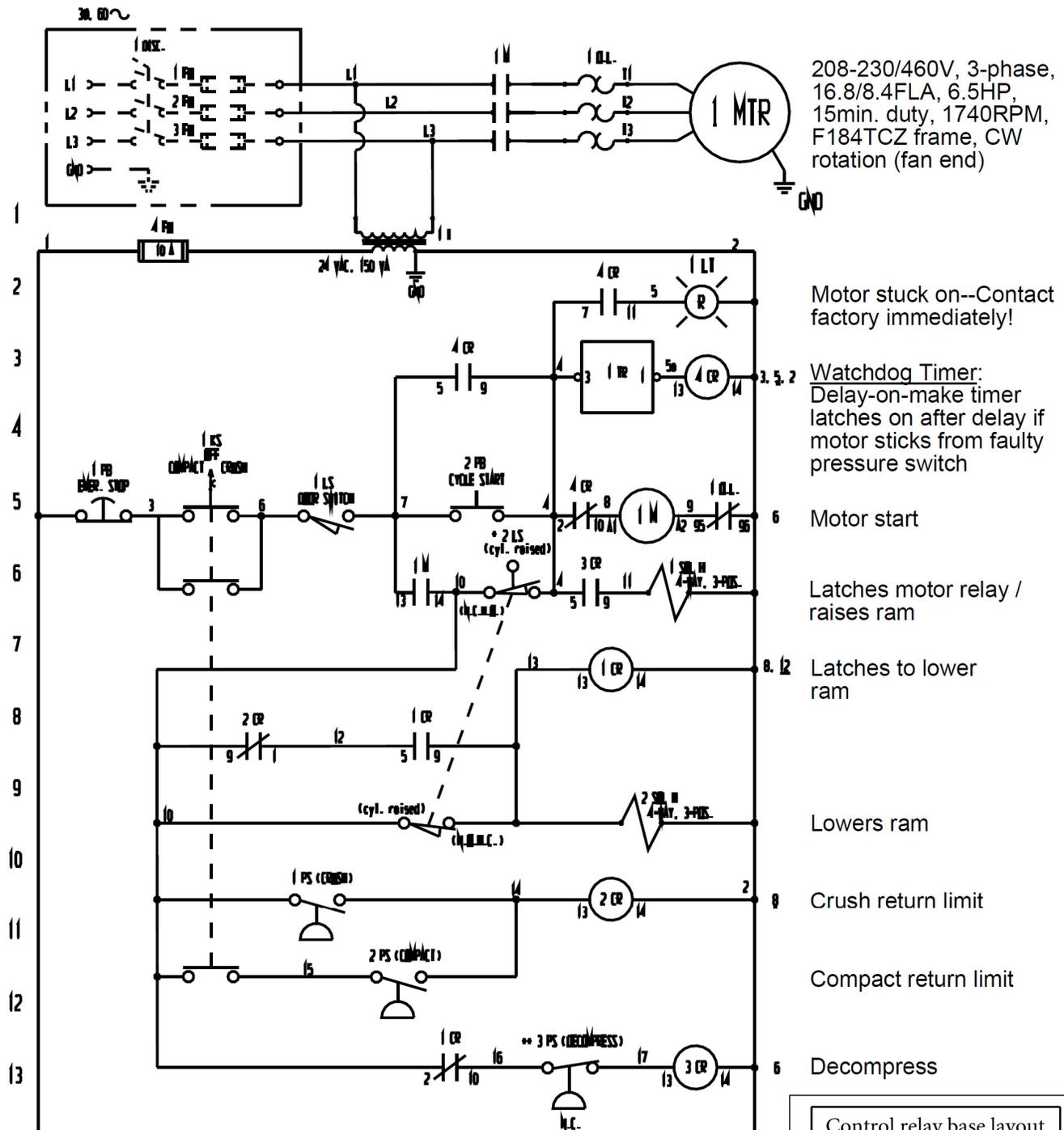
## Electrical system specifications:

This drum crusher was tested at the voltage specified at the time of order. To adapt to applications requiring voltages that differ from your original specifications requires rewiring the motor and control transformer. Refer to the appropriate electrical circuit diagram on pp. 11-14. Failure to rewire the motor and/or transformer automatically voids the "Limited Warranty" (see p. 18 or 19) and might significantly damage the electrical system.

This table indicates how to wire 3-phase motors for 208-230VAC and 460VAC:

208-230VAC, 3-phase		460VAC, 3-phase	
Motor wire	Connect to contactor lead	Motor wire	Connect to contactor lead
1 & 7	T1	1	T1
2 & 8	T2	2	T2
3 & 9	T3	3	T3
4,5, & 6	Tie together with wire nut	4 & 7	Tie together
		5 & 8	Tie together
		6 & 9	Tie together

FIG. 9: Standard 3-phase electrical circuit diagram (22124024 rev. F)



208-230/460V, 3-phase,  
16.8/8.4FLA, 6.5HP,  
15min. duty, 1740RPM,  
F184TCZ frame, CW  
rotation (fan end)

Motor stuck on--Contact  
factory immediately!

Watchdog Timer:  
Delay-on-make timer  
latches on after delay if  
motor sticks from  
faulty pressure switch

Motor start

Latches motor relay /  
raises ram

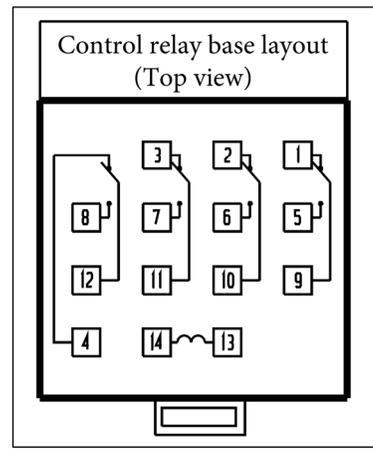
Latches to lower  
ram

Lowers ram

Crush return limit

Compact return limit

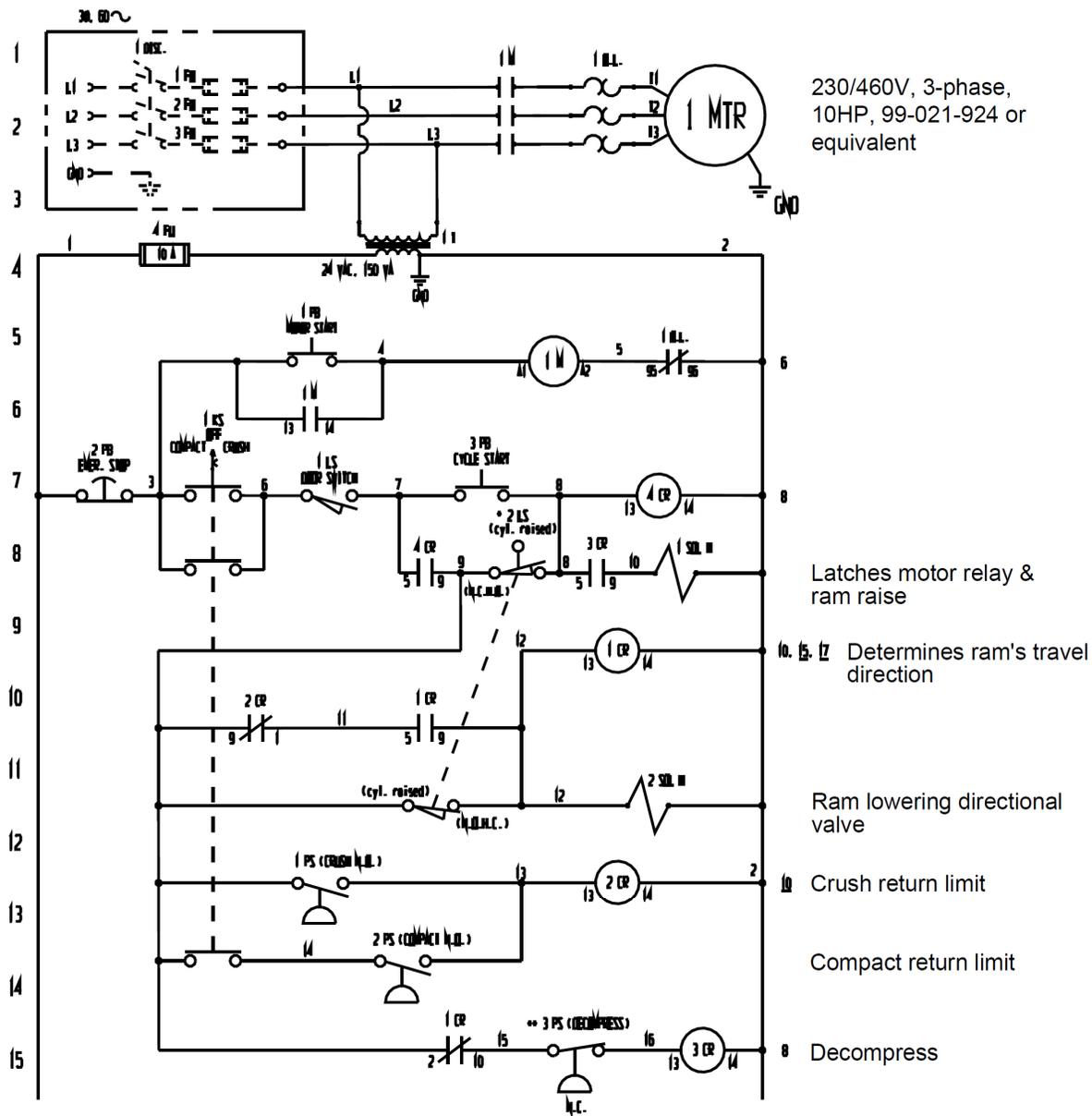
Decompress



**NOTES:**

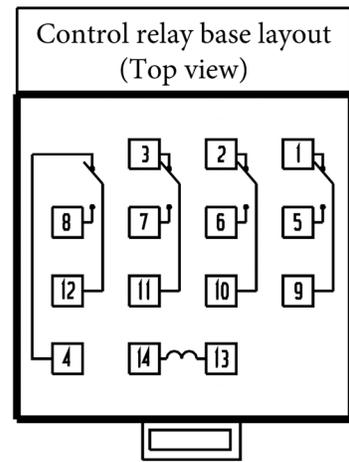
- Indicates wire and/or components not included with unit
- \*All components shown with unit in normal starting position, i.e. ram fully raised and cabinet door open.
- 1TR is ICM Controls: part no. ICM1028; Delay-on-make set for 2 minutes.
- 1T is ACME part no. TB-81324; 150VA control transformer or equivalent.

FIG. 10: 3-phase continuous run electrical circuit diagram (22124025 Rev. C)

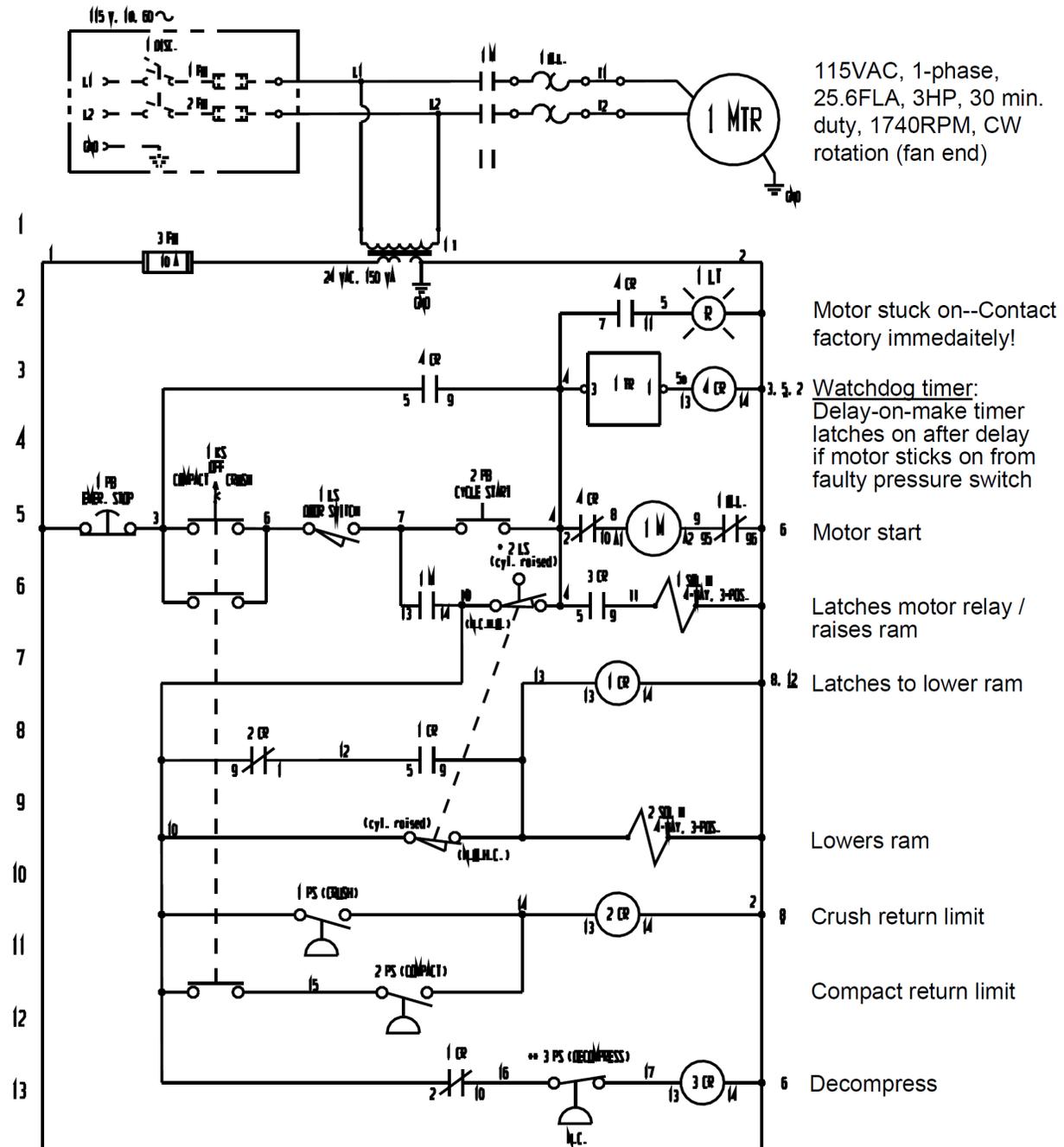


NOTES:

- Indicates wire and/or components not included with unit
- \*All components shown with unit in normal starting position, i.e. ram fully raised and cabinet door open.
- All part numbers are for reference.
- 1T is ACME part no. TB-81324; 150VA control transformer or equivalent.
- Oil cooler: Emmegi 2024K-MM-IP-JE
- Reservoir: Sentinel 031815-SA2
- Pump: 22-143-001
- Special motor/pump adapter & coupling
- Manifold 040615-SA1
- Oil filter assembly in tank: SLF212SO
- \*\*When pressure exceeds 350PSI, switch is open to allow compression before ram rises.

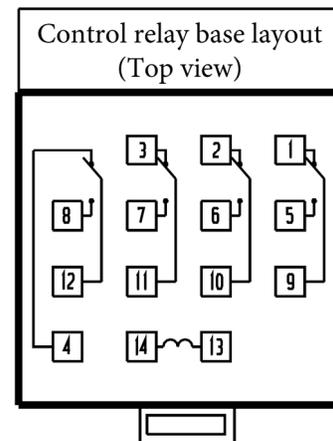


**FIG. 11: Single phase 115VAC electrical circuit diagram (22124026 Rev. D)**



**NOTES:**

- Indicates wire and/or components not included with unit
- \*All components shown with unit in normal starting position, i.e. ram fully raised and cabinet door open.
- 1TR is ICM Controls: part no. ICM1028; Delay-on-make set for 2 minutes.
- 1T is ACME part no. TB-81324; 150VA control transformer or equivalent.
- Manifold part no. 22-127-015.
- \*\*When pressure exceeds 350PSI, switch is open to allow compression before ram rises.





**Installation:**

The following items are necessary to install the device:

- Fork truck.
- Lag bolts, masonry drill, masonry bit, and wrench for lag bolt, grout, and steel shims.
- Power circuit with voltage matching the voltage of the unit including fuses and disconnect or circuit breakers. Minimize voltage drop by using adequate wire size. Refer to NEC 70 for power circuit specifications.

Move the crusher to its installation location. If using a fork truck, insert the forks into the fork tubes. Drive as far forward as possible while being careful not to damage the door hinges or door closure mechanism. Once the unit is placed in its installation location, anchor it to the floor with anchor bolts selected by your building engineer. To complete the installation:

1. Connect the power source as shown in the appropriate electrical circuit diagram on pp. 11-14.
2. Cycle the unit a few times; then check the oil level in the reservoir. Add oil, if necessary. NOTE: Only use ISO AW-32 hydraulic fluid or its equivalent.

**Loading the chamber:**

In crushing mode, this device will crush standard 55 gallon (or smaller) ribbed steel drums. It should not be used to crush smooth-walled drums (without ribs), which are more resistant to crushing and require much higher crushing forces. [NOTE: The machine might not crush a particular ribbed steel drum. It is also possible that the crusher will sustain minor damage during normal operation.]

In compaction mode, the machine should be used to reduce easily compressible materials loaded inside a drum. [NOTE: Crushing and compacting operations must be performed independently. Do not attempt to crush drums loaded with material. For instance, do not fill drums with scrap metal, paint cans, oil filters, etc. and then attempt to crush the drum and the contents. The crusher might be severely damaged in the process.]

Before operating the machine:

1. Confirm that the platen is properly configured for the task. The 2 platen configurations are described on p. 16.
2. Carefully center the item to be crushed or compacted below the platen. An offset can cause uneven loading and damage the cylinder rod.
3. Make sure the drum is *empty* if operating in CRUSH mode.

**Operation:**

To operate the crusher: 1) select the appropriate platen configuration (see "Platen configurations" on p. 16); 2) place a drum inside the crusher and center it beneath the platen; 3) close the door and latch the door; 4) turn the key switch on the control box to the appropriate mode, i.e. either CRUSH or COMPACT; 5) pull out the red emergency stop button; 6) press the "CYCLE START" button and hold it until the motor engages. NOTE: Each unit is equipped with a momentary contact control. To begin a crushing or compacting cycle, simply press the START button and hold it until the motor engages. The ram will extend and retract without having to hold down the button.

The direction of travel is determined by the starting position of the platen. If the platen is fully raised to the top of the cabinet (cylinder fully retracted), the cylinder will extend when the start button is pressed causing the platen to move downwards. Otherwise, the cylinder will retract and raise the platen to the "Home" position. The power unit will turn off at that point. Pressing the cycle start button again will begin a new cycle. The operator must hold the button for a few seconds to latch the circuit (wait until you hear the motor turn on) and begin the cycle.

When the crusher is in home position and the cycle start button is pressed, the cylinder pushes the platen down onto (or into if operating in COMPACT mode) the drum. In order to achieve a short cycle time, both sections of the pump in the power unit drive oil to the cylinder until the cylinder pressure reaches approximately 1000 PSI. At that time, the higher-displacement section recycles oil to the reservoir while the low-displacement, high-pressure section continues to pump oil to the cylinder. This arrangement creates a typical High-Low circuit.

As the platen crushes a drum, or compacts the contents of a drum, the cylinder pressure increases until it reaches the set-point of a particular pressure switch. The valve shifts to center and a timer activates to control the period of decompression. When the decompression period ends, the directional valve shifts and reverses the direction of oil flow to the cylinder. Reversing the flow of oil causes the cylinder to retract and raise the platen to the home position. When the cylinder returns the platen all the way to the top of the cabinet, the power unit turns off. At this point, the cabinet door can be opened to empty the chamber.

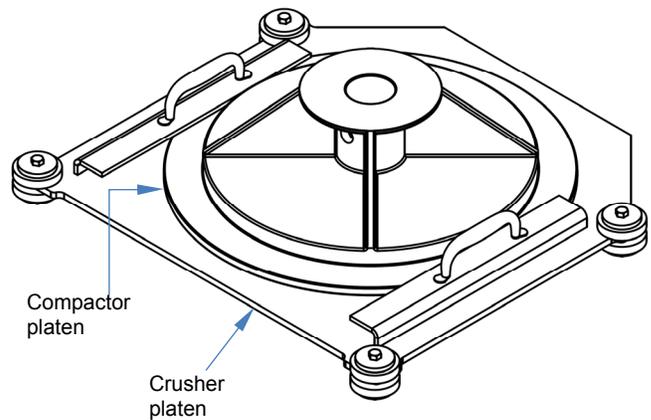
The ram can be stopped at any point during a cycle. To stop the ram, press the red emergency stop button located on the control panel. Pressing the button instantly stops the motor and prevents the cylinder from cycling any further. To disengage the stop button, pull it out. Press the cycle start button again to retract the cylinder and returns the platen to the home position. The crusher is again ready for normal operation.

### Platen configurations:

Configure the platen to match your application. The compactor platen is circular and fastens to the end of the cylinder rod; the crusher platen slides onto the edge of the compactor platen and is roughly square shaped.

**Compaction Mode:** Remove the crusher platen. Press the START button and lower the platen to an ergonomic level. Then, press the red emergency stop button to make the ram stop. Remove the crusher platen by sliding it off of the circular compactor platen. The crusher platen is heavy, so we recommend that at least 2 people perform this task together.

**Crush mode:** Install the crusher platen by sliding it onto the compactor platen. Center the crusher attachment on the circular platen as shown in the graphic to the right.



### Maintenance:

Regular maintenance is necessary to keep the ladder in normal working condition. After installing the crusher and *before* using it for the first time, create a written record that describes the appearance of each feature. Press the START button. Watch the ram and listen to the motor as the ram cycles. Record your observations. This written record establishes “normal operating condition”. When conducting future inspections, compare current observations to the written record to determine if a component requires repair or replacement.

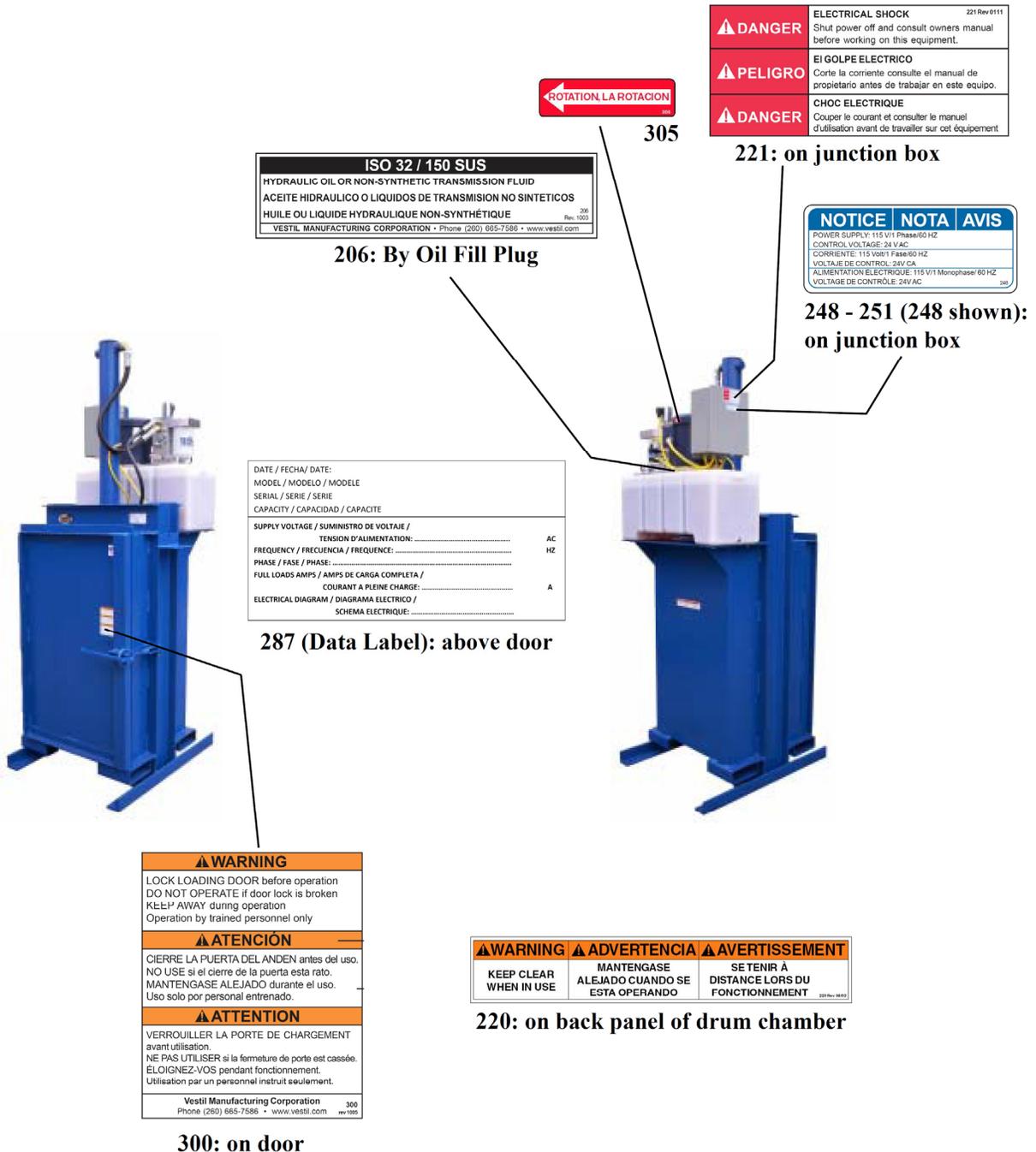
At least once per month (once per week for units used more than 5 times per week), evaluate the condition of the crusher. Repair all issues *before* returning it to service.

1. Examine the electrical system for damaged wires/cables.
2. Inspect hydraulic hoses and fittings for kinks, punctures, tears, or other damage causing oil leaks.
3. Empty the crushing chamber and cycle the ram. Listen for unusual noises and watch for cylinder binding during the cycle. Check the cylinder to make sure that it is not bent or cracked.
4. Check the oil level in the reservoir. With the ram in the home position (cylinder fully retracted), oil should be 2” – 2½” below the top of the tank. If oil is needed, add ISO AW-32 hydraulic fluid or its equal.
5. Make sure that all labels are in place and easily readable (see “Labeling Diagram” on p. 17).
6. Disconnect the crusher from the electrical power source. Open the door and inspect the platens, cylinder, and crushing chamber. Make sure that the circular compactor platen is securely pinned to the end of the cylinder. Determine the condition of whichever platen(s) will be used. Look for broken weld, cracks, and other damage. Clean the chamber surfaces as needed.
7. Inspect the fork tubes. Tubes should be square and rigid and free of significant rust and corrosion.
8. Repair areas where the finish has been damaged. Use steel wool or a steel bristle brush to remove rust before applying touchup paint to the affected areas

Change the hydraulic oil at least once per year, or immediately if it darkens, looks milky, or becomes gritty. To replace the hydraulic oil, remove the oil fill plug and drain oil from the reservoir. Then, flush the reservoir with fresh hydraulic fluid *before* filling it. Install the drain plug and fill the reservoir with new hydraulic fluid. Only use ISO AW-32 hydraulic oil or its equal.

**Labeling diagram:**

The unit should always be labeled as shown in the diagrams below. Replace any label that is missing, incomplete, or not easily readable.



## LIMITED WARRANTY

Vestil Manufacturing Corporation (“Vestil”) warrants HDC-905 series hydraulic drum crushers, excluding “Wash-down” model HDC-905-WD (see limited warranty on following page), to be free of defects in material and workmanship during the warranty period. Our warranty obligation is to provide a replacement for a defective original part if the part is covered by the warranty, after we receive a proper request from the warrantee (you) for warranty service.

### Who may request service?

Only a warrantee may request service. *You are a warrantee if* you purchased the product from Vestil or from an authorized distributor AND Vestil has been fully paid.

### What is an “original part”?

An original part is a part used to make the product as shipped to the warrantee.

### What is a “proper request”?

A request for warranty service is proper if Vestil receives: 1) a photocopy of the Customer Invoice that displays the shipping date; AND 2) a written request for warranty service including your name and phone number. Send requests by any of the following methods:

Mail  
Vestil Manufacturing Corporation  
2999 North Wayne Street, PO Box 507  
Angola, IN 46703

Fax  
(260) 665-1339  
Phone  
(260) 665-7586

Email  
sales@vestil.com

In the written request, list the parts believed to be defective and include the address where replacements should be delivered.

### What is covered under the warranty?

After Vestil receives your request for warranty service, an authorized representative will contact you to determine whether your claim is covered by the warranty. Before providing warranty service, Vestil may require you to send the entire product, or just the defective part or parts, to its facility in Angola, IN. The warranty covers defects in the following *original* dynamic components: motors, hydraulic pumps, electronic controllers, switches and cylinders. It also covers defects in *original* parts that wear under normal usage conditions (“wearing parts”): bearings, hoses, wheels, seals, brushes, batteries, and the battery charger.

### How long is the warranty period?

The warranty period for original dynamic components is 1 year. For wearing parts, the warranty period is 90 days. The warranty periods begin on the date when Vestil ships the product to the warrantee. If the product was purchased from an authorized distributor, the periods begin when the distributor ships the product. Vestil may, at its sole discretion, extend the warranty periods for products shipped from authorized distributors by *up to* 30 days to account for shipping time.

### If a defective part is covered by the warranty, what will Vestil do to correct the problem?

Vestil will provide an appropriate replacement for any *covered* part. An authorized representative of Vestil will contact you to discuss your claim.

### What is not covered by the warranty?

1. Labor;
2. Freight;
3. Occurrence of any of the following, which automatically voids the warranty:
  - Product misuse;
  - Negligent operation or repair;
  - Corrosion or use in corrosive environments;
  - Inadequate or improper maintenance;
  - Damage sustained during shipping;
  - Collisions or other incidental contacts causing damage to the product;
  - Unauthorized modifications: DO NOT modify the product IN ANY WAY without first receiving written authorization from Vestil. Modification(s) might make the product unsafe to use or might cause excessive and/or abnormal wear.

### Do any other warranties apply to the product?

Vestil Manufacturing Corp. makes no other express warranties. All implied warranties are disclaimed to the extent allowed by law. Any implied warranty not disclaimed is limited in scope to the terms of this Limited Warranty.



## LIMITED WARRANTY

Vestil Manufacturing Corporation (“Vestil”) warrants this HDC-905-WD “Wash-down” hydraulic drum crusher to be free of defects in material and workmanship during the warranty period. Our warranty obligation is to provide a replacement for a defective original part if the part is covered by the warranty, after we receive a proper request from the warrantee (you) for warranty service.

### Who may request service?

Only a warrantee may request service. *You are a warrantee if* you purchased the product from Vestil or from an authorized distributor AND Vestil has been fully paid.

### What is an “original part”?

An original part is a part used to make the product as shipped to the warrantee.

### What is a “proper request”?

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Angola, IN 46703

Fax  
(260) 665-1339  
Phone  
(260) 665-7586

Email  
sales@vestil.com

In the written request, list the parts believed to be defective and include the address where replacements should be delivered.

### What is covered under the warranty?

After Vestil receives your request for warranty service, an authorized representative will contact you to determine whether your claim is covered by the warranty. Before providing warranty service, Vestil may require you to send the entire product, or just the defective part or parts, to its facility in Angola, IN. The warranty covers defects in the following *original* dynamic components: motors, hydraulic pumps, electronic controllers, switches and cylinders. It also covers defects in *original* parts that wear under normal usage conditions (“wearing parts”): bearings, hoses, wheels, seals, brushes, batteries, and the battery charger.

### How long is the warranty period?

The warranty period for original dynamic components is 30 days. For wearing parts, the warranty period is 30 days. The warranty periods begin on the date when Vestil ships the product to the warrantee. If the product was purchased from an authorized distributor, the periods begin when the distributor ships the product. Vestil may, at its sole discretion, extend the warranty periods for products shipped from authorized distributors by *up to* 30 days to account for shipping time.

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  - Unauthorized modifications: DO NOT modify the product IN ANY WAY without first receiving written authorization from Vestil. Modification(s) might make the product unsafe to use or might cause excessive and/or abnormal wear.

### Do any other warranties apply to the product?

Vestil Manufacturing Corp. makes no other express warranties. All implied warranties are disclaimed to the extent allowed by law. Any implied warranty not disclaimed is limited in scope to the terms of this Limited Warranty.

