

 **CAUTION:** Read the instructions before using the machine. 



# PowerVac

## Model 140000 & 140001

### Installation & Owner's Guide



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**INDUSTRIAL VACUUM SYSTEMS**

[www.IVS-Vacuum.com](http://www.IVS-Vacuum.com)

800.968.8227



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## **INDUSTRIAL VACUUM SYSTEMS**

### ***Thank You for your Purchase of an IVS Vacuum!***

These heavy-duty vacuum systems were engineered and manufactured to tackle the toughest vacuuming jobs.

**Original Instructions** follow for the PowerVac 140000 Series along with detailed safety, warranty and installation information.



MODEL 140000

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# IMPORTANT SAFETY INSTRUCTIONS

When using an electrical machine, basic precautions should always be followed, including the following:

## READ ALL INSTRUCTIONS BEFORE USING THIS MACHINE

This machine is not intended for household use. It is intended for commercial use.

This machine is not intended for wet pick up use.

### **WARNING – To reduce the risk of fire, electric shock, or injury:**

1. This machine must be connected to a permanent electrical power supply in full compliance with all applicable codes and ordinances by qualified personnel only. Read Grounding Instructions.
2. Do not use on wet surfaces.
3. Do not allow to be used as a toy. Close attention is necessary when used by or near children.
4. Use only as described in this manual. Use only manufacturer's recommended attachments
5. Do not operate or handle machine with wet hands.
6. Do not put any object into any openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
7. Keep hair, loose clothing, fingers, and all parts of the body away from openings and moving parts.
8. Do not use to pick up flammable or combustible liquids, such as gasoline, or use in areas where they may be present.
9. Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
10. Do not pick up hazardous dust or particulate.
11. Do not use without dust bags or filters in place.

## GROUNDING INSTRUCTIONS

This machine must be connected to a grounded metal, permanent wiring system; or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the machine.

## DANGER

This machine incorporates parts such as switches, motors, or the like that tend to produce arcs or sparks that can cause an explosion. When located in gasoline-dispensing and service stations, install and use at least 20 ft (6 M) horizontally from the exterior enclosure of any dispensing pump and at least 18 in (450 mm) above a driveway or ground level.

European Installations: Installation of this machine must incorporate and provide full disconnection of all poles in the event an overvoltage category III condition. Such incorporation to the fixed wiring must be in accordance with the wiring rules.

## SAVE THESE INSTRUCTIONS





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# Limited Warranty

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Industrial Vacuum Systems (Company) provides a limited one year warranty on components and piece of equipment produced by the Company to be free from defects in material and workmanship. Electrical assemblies see Appendix A, have a limited two year warranty on the controller to be free from defects in material and workmanship. This limited warranty does not cover equipment that has been damaged due to misuse, misapplication, modification, altered, neglected, attempted theft, vandalism, connection to improper voltage supply, modification, or such parts that are commonly recognized to be subject to wear in normal usage. Normal use products are, but not limited to, those listed on Appendix B; which are warranted for 90 days. Every component and piece of equipment is packaged to assist in safe handling of the product.

Claims must be submitted in writing within the appropriate coverage period as covered by this warranty, from date of shipment, to the Company's warranty/repair department. If the return is approved an RMA and labeling instructions will be issued and the product can be returned. Returned product without the appropriate RMA and label will be issued to scrap and all warranties/replacements will be considered null and void. If the product receiving the RMA is not returned within 20 days from date of issuing the RMA then any credit toward the product will be reduced by 25%. If the product is not returned within 30 days of issuing the RMA then any credit will be reduced by 50%. A testing fee of \$20.00 will be applied, if the product passes all tests related to the written claim, then the fee will be applied and paid prior to return of the product. If the product fails the test then the fee will not be applied. The Company may charge a 20% restocking fee for returned product and/or an order, which is canceled and/or material has already been ordered and/or received to fill such order.

The Company's warranty/repair department will inspect all components, submitted under warranty. Warranty replacement will be based solely on the analysis and confirmation that the product defect was caused by material and/or workmanship. The company reserves the right to change the design of the product without assuming any obligation to modify any product previously manufactured or to replace warranted product other than with redesigned product. In some cases it is easier for the customer to send a Company purchased product direct to the manufacturer for replacement. In those cases the customer will be notified that their product falls under that process and should work with that manufacturer directly. Appendix C shows the purchased parts that falls under this case.

This warranty covers the product replacement only; charges for damages, freight and/or labor will not be accepted. There are no warranties expressed or implied which extend beyond this Limited Warranty. The loss of use of the product, loss of time, inconvenience, commercial loss, incidental or consequential damages is not covered. The Company shall not be liable for incidental, special, or consequential damages including without limitation damages resulting from personal, bodily injury or death or damages to or loss of use of property.

#### APPENDIX A

2-Year Warranty Controllers

Sensortron, Multitron, Touchtron, Timers, Liberator

#### APPENDIX B

90-Day Warranty Components

Pressure Hoses, Swivels, Nozzles, Safety Shut-off Guns, Seals, O-Rings, Shop Vac

#### APPENDIX C

Purchased Products that are Handled Direct with the Manufacturer

Shop Vac, IDX Big Timer, Bill Acceptors, Compressors, Pump Motors





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# Vac Motor Warranty Policy

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Applies to Vacuums and Combination Vacuums and Service Part Kits containing the GinSan Vacuum Motor part number 105111 or 105112.

GinSan will warrant Vacuum motors against defect in original manufacture for a period of one year from the date the vacuum or service part motor ships from GinSan. Additionally, Vacuum Motor Brushes installed in these 2 motors will be warranted against defect in original manufacture for a period of 90 days from the date of shipment from GinSan.

This warranty requires that the vacuum and motor must receive proper operational maintenance that includes proper filter, motor gasket, filter screen, and motor brush maintenance.

GinSan's liability is limited to replacement parts only. Labor for removal or installation is not covered.

Motor or Brush failure resulting from abuse, misuse, filter failure, or improper or inadequate maintenance will not be covered. Motor or Brush failure that is due to brushes worn beyond the physical wear life of the brush is not covered. Except in the case of original factory installation, Motor or Brush failure due to improper or inadequate installation will not be covered.

Warranty claims must be evaluated by GinSan. Replacement Motor(s) and/or Motor Brush Kit(s) must first be ordered and invoiced as a service part. An RMA number will be issued at that time. The customer is required to return the failed Motor and/or Motor Brushes to GinSan with the RMA number prominently on the outside of the package. Failed motors must be shipped within 14 calendar days of the shipping date of the replacement Motor and/or Brushes. Customers are encouraged to record a tracking number from the shipper. Shipper data will be the only data used to determine adherence to this policy.

When received, failed Motors and/or Brushes will be evaluated within 5 business days. Motors and/or Brushes that are evaluated as being under warranty will have the invoice for the replacement parts, including shipping, credited within 5 business days of the completion of the evaluation. If a Motor or Brush kit is evaluated to be not covered by this warranty, the customer will be notified within 2 business days. At that time, the customer will have the option to have the failed Motor and/or Brushes returned to them at their expense or they can instruct GinSan to dispose of the components locally.

Motors and/or Motor Brushes that are covered by warranty will be retained by GinSan and processed according to its internal policies.

This warranty shall apply only to vacuum motors GinSan Part Number 105111 and 105112 and the Motor Brushes installed in them.





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# Installation Guide for Model 140000

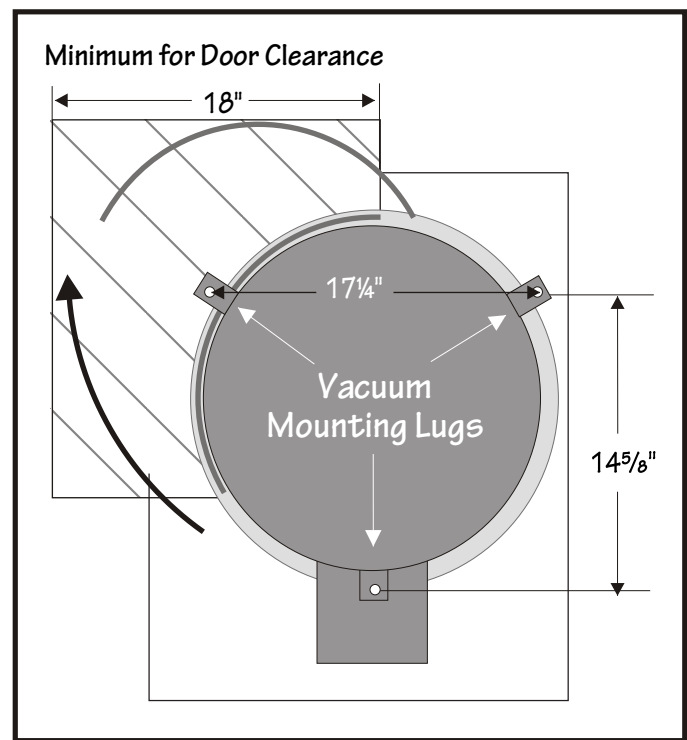
## SITE PREPARATION

Select and prepare a solid, level site for a concrete or similar base. Consider: Vehicle traffic, ease of access, weather protection and lighting to enhance vacuum performance and income. Consult local code for foundation requirements. Note: 20" base height above surrounding surface provides minimum protection against typical vehicle bumper damage. 30" base height is maximum considering the ON/OFF switch position.



**CAUTION ELECTRICAL SHOCK HAZARD - DISCONNECT POWER PRIOR TO BEGINNING ANY SERVICE OR INSTALLATION WORK. CONTACT A TRAINED ELECTRICIAN IF YOU ARE UNSURE OF THESE PROCEDURES.**

- 1** Determine the best orientation for each vacuum. Consider the traffic flow through the vacuum and detailing area along with the best sequencing of extra services. Contact your distributor for assistance.
- 2** Make sure that vacuums will be easily accessible for customer use and servicing. Customers should have easy access to the ON/OFF switch and be able to reach the hose and replace the hose after use. NOTE: The hatched area in the drawing to the right shows the clearance area required for service door opening.



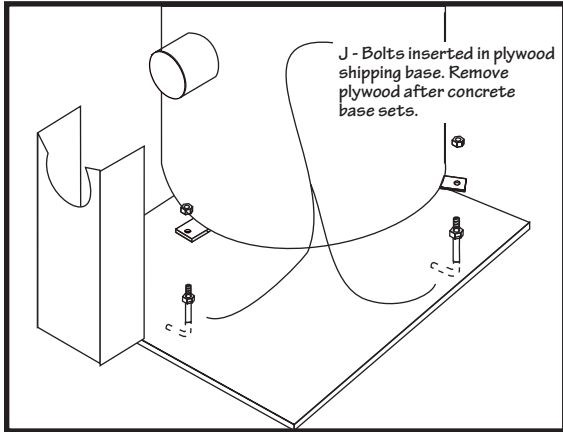




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# Easy Installation Guide

## USING "J" BOLTS:

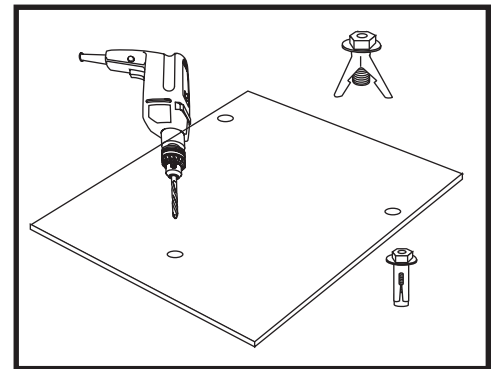


J-Bolts (new construction only). Carefully locate 3 "J" bolts while forming concrete or masonry base. The plywood shipping base can be used as a locating fixture for the "J" bolts while the concrete is formed. See illustration to the left.

## MASONRY ANCHORS:

Anchors are used for existing construction only. Drill and install suitable masonry anchors to accommodate a 3/8" lag screw. Check anchor supplier information for proper drill size.

**HINT:** Use the plywood base as a template for drilling the anchoring pilot holes. See illustration to the right.





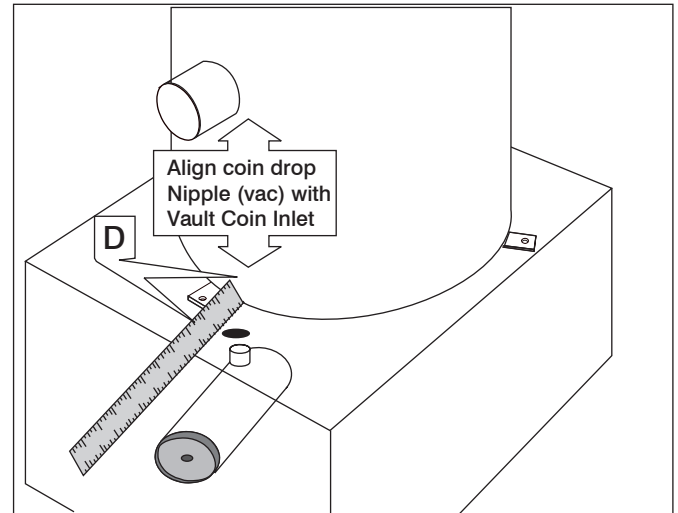


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# Easy Installation Guide

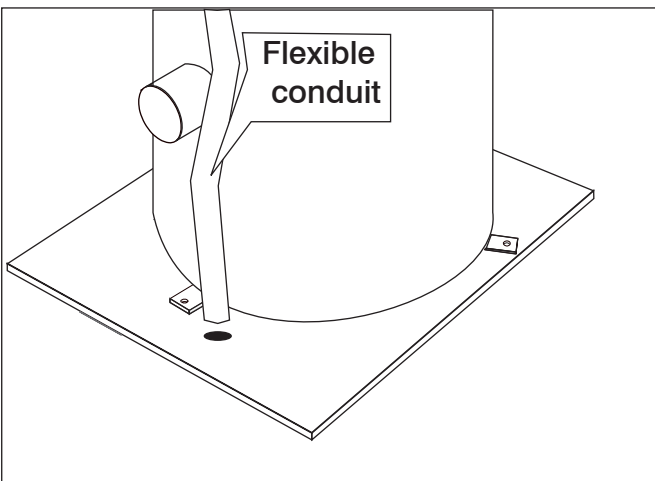
## LOCATE VAULT DROP:

Refer to vault manufacturer's drawings or specifications to accurately determine the position of the vacuum required to align the coin inlet on the vault with the coin drop nipple on the vacuum. Dimension "D" in drawing represents required 'set back' from the front edge of the base to the center of coin drop opening in the vault. The front mounting lug of the vacuum should be located 1" to the right and  $2\frac{3}{16}$ " in front of this point. See illustration (and inset) to the right.



## COIN CONNECTION METHOD

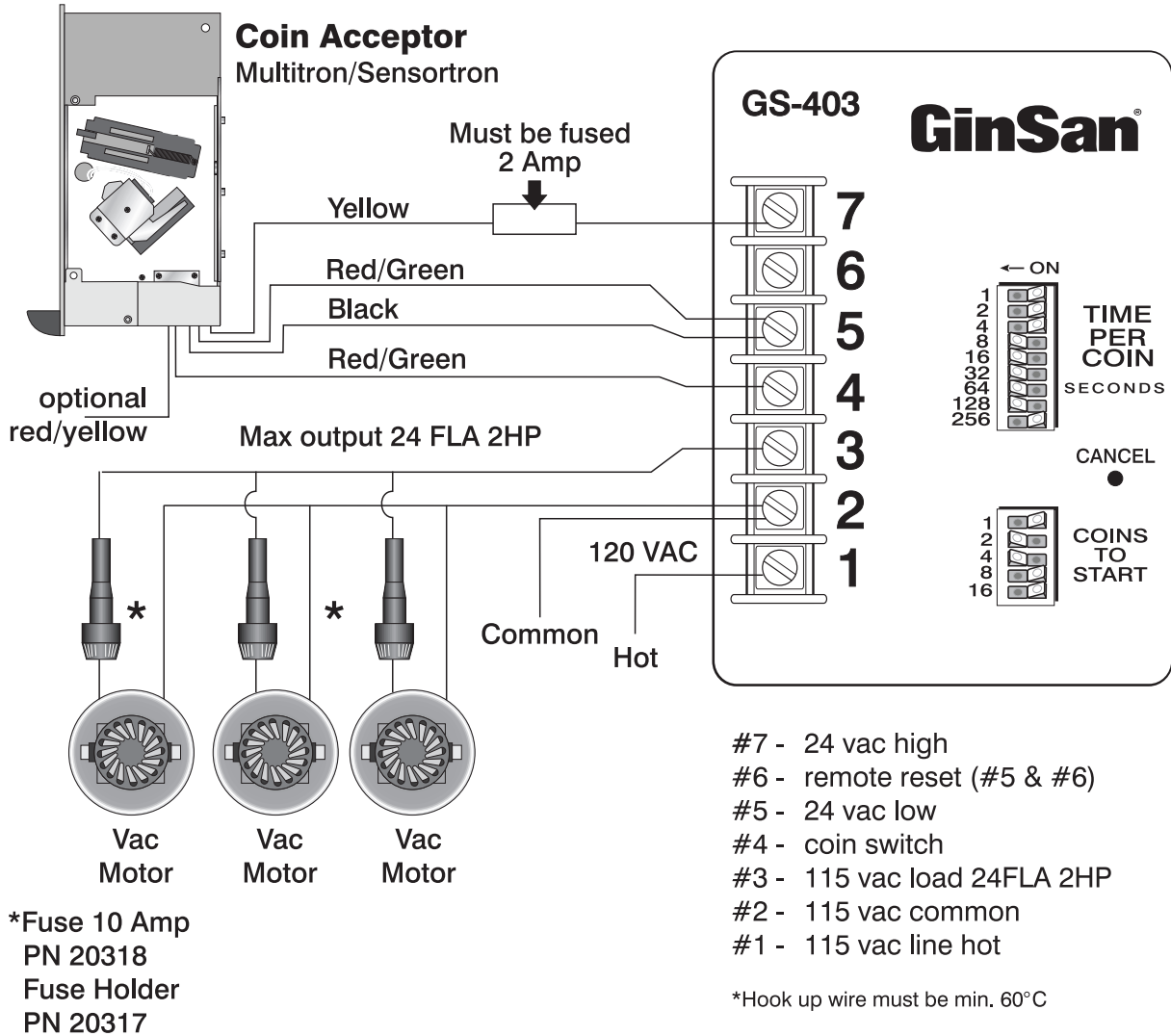
Customer supplied conduit: Connect coin conduit from vault to  $1\frac{1}{2}$ " nipple on the bottom of the meter/control box (flexible conduit can be used to avoid creating any kinks or obstructions that can cause coin jams in the tube). Channel will conceal this tubing for security. See illustration to the left.





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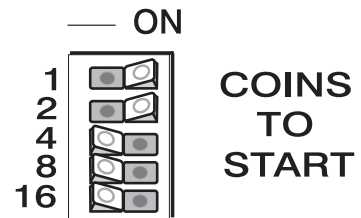
# Standard GS-403 Timer Setup



## Setting the COIN to START Switch

The *Coins to Start* is determined by adding the total number of switches in the "On" position.

**Example: 1 + 2 = 3 coins to start**





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# Standard GS-403 Timer Setup

## Starting the Timer

Jump a wire between terminals #4 and #5. A count will register in the timer for every jump, which is the same as putting coins in the coin acceptor

## If Timer Fails to Start

Disconnect the switch wire on terminal #5 and repeat starting procedure.

### If timer starts at this point, the trouble may be...

1. A bad coin switch or acceptor.
2. Broken wire or bad connection.
3. Wires shorted between terminals #4 and #5 or shorted between #5 and #6.

## Timer Starts on One Less Coin than Setting

Coin switch wired wrong (should be wired to normally open terminal & common terminal).

## Setting the *TIME PER COIN* Switch

Determine amount of coins to start the timer.

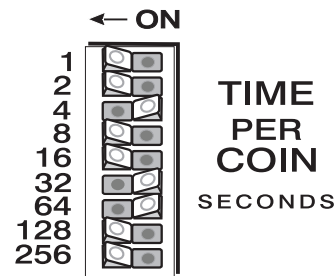
**Example:** 3 coins to start

Convert time desired to seconds.

**Example:** 5 min. = 300 seconds

Divide the total time (seconds) by the coins to start the timer.

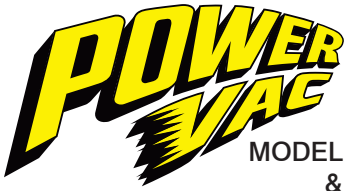
**Example:** 300 sec. / 3 = 100 seconds per coin



The *Time per Coin* is determined by adding the total seconds of the switches in the “On” position. If for instance, the desired time is 100 seconds, switch on the number of switches needed to add up to 100 seconds.

**Example:** 100 sec. = 64 + 32 + 4



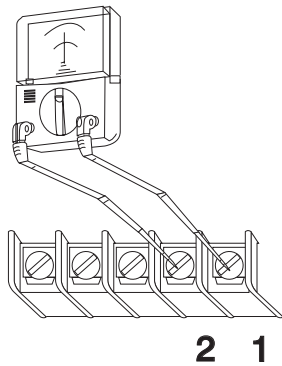
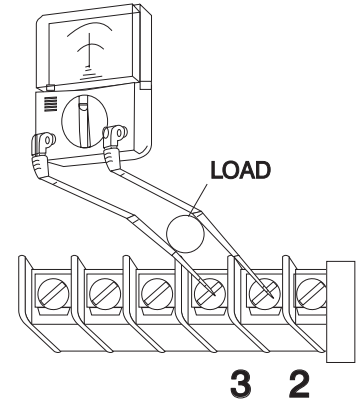


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# Standard GS-403 Timer Setup

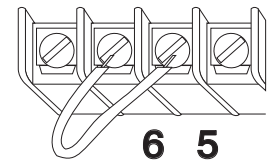
## Checking Power Out to Motors

A load of no less than .5 amps has to be hooked across terminals #2 and #3, to indicate time turning on. Without a load on the timer, it may not turn on or shut off. A volt meter across terminals #2 and #3 will indicate timer turning on and read output voltage. Check amp draw of motors using a clamp-on type amp meter.



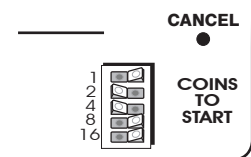
## Checking Power to Timer

Using a volt meter across terminals 1 and 2 will indicate incoming voltage.



## Stopping the Timer

Use a jumper wire and touch across terminals #5 and #6. Or Press the Cancel button.



## If Timer will Not Stop

All time switches are in the off position.





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# IDX411E Timer Setup

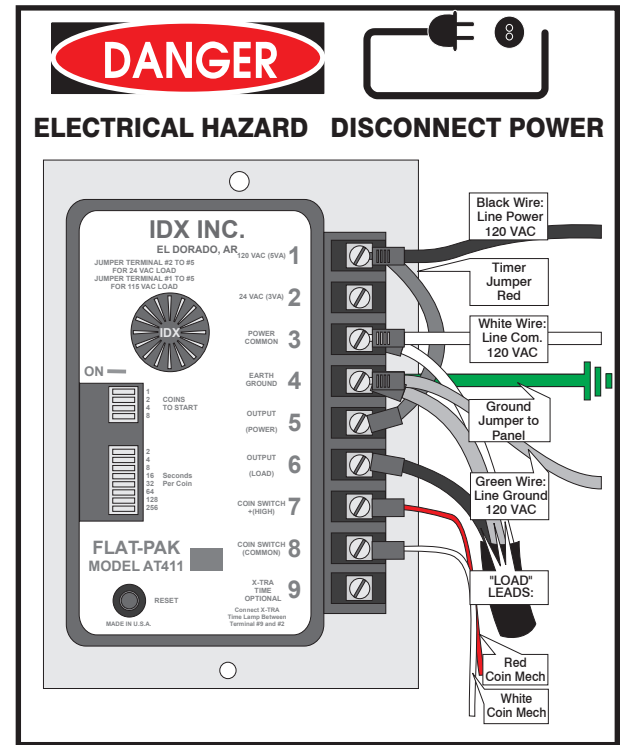
## TIMER INSTALLATION:

"LINE" CONNECTIONS: (These may need to be reconnected after first removing the test cable supplied from the factory. Directly connect power lead as illustrated and listed below):

- Connect the Line Power Lead (black) to Terminal #1
- Connect the Line Common Lead (white) Terminal #3
- Connect Line Ground Lead (green) to Terminal #4

"LOAD" CONNECTIONS: (These are pre-wired at the factory and are only listed for service purposes.)

- Common Motor Lead (white) is connect to Terminal #3
- Power Lead to Motors (black) is connected to Terminal #6
- Ground Lead from Motors is connected to Terminal #4
- Ground Jumper Wire is connect from Terminal #4 to Meter Panel/Coin Acceptor mounting screw
- "CONTROL CONNECTIONS": Normally open "NO" coin switch wire is connected to Terminal #7; Common Coin Switch to #8.



## TIMER PROGRAMMING:

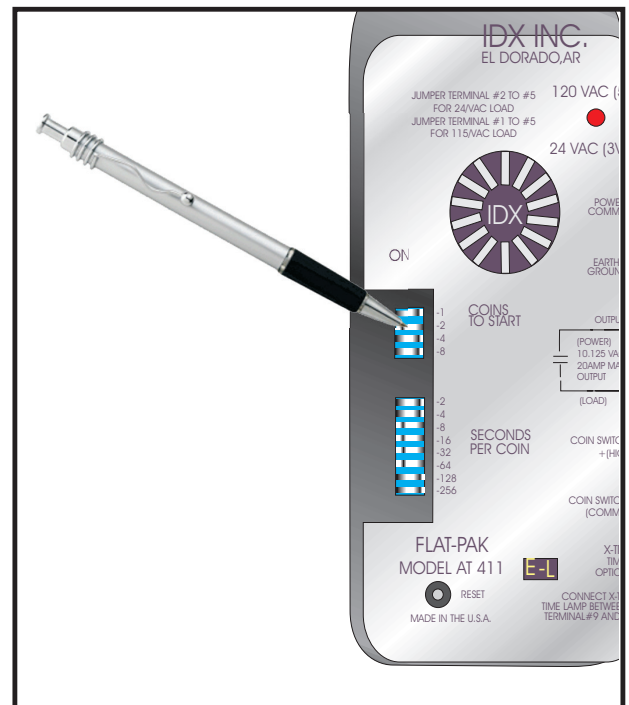
The vacuum vending price and cycle time values are set by two banks of switches located on the timer. See the illustration to the right.

### SETTING THE "COINS TO START":

Determine a set for the number of coins to start (vend price). Use combination of switches to obtain the desired vend price. Example: \$.75 vend (3 quarters) to start is set by switching "on" "1" and "2".

### SETTING THE CYCLE TIME ("SECONDS PER COIN"):

Determine the "time per coin" in seconds. Example: 4½ minute vend at \$.75 start-up price equals 90 seconds per coin. Calculation: (4½ minutes = 270 seconds; divided by 3 (coins) = 90 seconds per coin to start). Set 90 seconds per coin by switching "64", "16", "8" and "2" to "on".





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# Troubleshooting

## SYMPTOM:

## PROBLEM:

## CORRECTION:

Won't start:

No power at unit test at "line" connection point on timer terminal.

Check electrical supply, fuses, breakers, etc. Make sure that breaker is not in a "tripped" position. Check for loose connections at service panel and at vacuum connection to service.

Improper voltage.

Use volt meter to determine that voltage is correct. Check at circuit breaker for correct voltage. (one vacuum per circuit)

No power at motors.

Use volt meter or circuit tester to determine that power is available at timer. Bypass coin switch (use jumper wire) to start timer cycle.

Erratic start:

Coin mechanism not generating accurate "pulse" to timer.

Check coin switch trip wire for free travel. Check initial position of trip wire. Check coin switch wires for correct connection. (see "Timer Set-up section of this manual for details.

Vending Problems:

Coin jams.

Check for "overfilled" coin box. Check for clearance of coin path to coin box (remove obstructions). Check "cradle" area of coin mechanism for severely bent coins. Check magnet for Canadian (magnetic) coins

Poor performance:

Poor suction:

Test by placing hand over hose end. Feel for "pull" with hose end sealed. Use a plastic bag or sheet to test for leaks at door opening. (Move sheet lightly past suspected areas - plastic will "stick" at leaks.

Poor airflow:

Test for airflow (see "maintenance" section). An old golf ball or similar sized stone makes a great testing device. Problem is usually overfilled debris area or hose clog. Clean filters, check motors to be sure that both are working.

Other problems:

How to get additional technical help.

Call IVS at 800.442.7267 and ask for technical support. Please have serial number or the vacuum ready. Serial plate is located at the base of the tank near the hose and electrical connection cover.





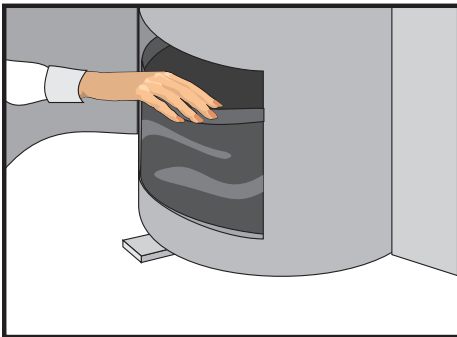
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# Routine Maintenance

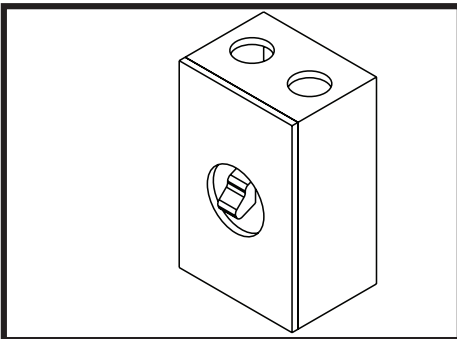
Maintenance requirements are dependent on usage. It is best to time routine maintenance prior to peak usage periods and schedule service intervals according to business levels.



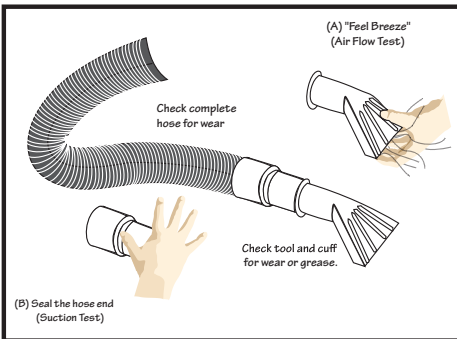
- 1 Inspect vacuum exterior. Clean equipment invites usage. Rinse with plain (preferably softened) water as necessary. (Be careful not to spray water upward under the dome-to-tank vent areas). **DO NOT USE STEEL WOOL OR OTHER FERROUS BRUSHES TO CLEAN STAINLESS STEEL SURFACES.**



- 2 Remove dirt and debris from vacuum. HINT: Consider ordering a debris catcher (p/n 100700) from your distributor to simplify this process. **WEEKLY** - Shake filter. Clean or replace every 120 days depending on usage.



- 3 Check starter (or control) by activating the vacuum with the switch or starter.



- 4 Check hose for signs of wear, replace if excessive. Test vacuum suction and airflow. Suction test: place hand tightly over cuff - feel for "pull". Airflow test: Hold cupped hand near hose inlet - feel for "breeze".

