



CAUTION: Read the instructions before using the machine.



Power Max 3 Model 520000 Install & Owner's Guide

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Thank you for your purchase of an IVS Vacuum!

Our heavy-duty vacuum systems are engineered and manufactured to tackle the toughest vacuuming jobs.

The following are original Instructions for the Power Max 3 Model 520000 along with detailed safety, warranty and installation information.

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SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

When using 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 pick up anything 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.

GROUND FAULT CIRCUIT INTERRUPTER PROTECTION

To provide additional protection from the risk of electric shock, this product shall only be connected to a circuit that is protected by a ground fault circuit interrupter (GFCI).

DANGER

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.



LIMITED WARRANTY

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



Vacuum Motor Warranty

Effective March 2014

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.

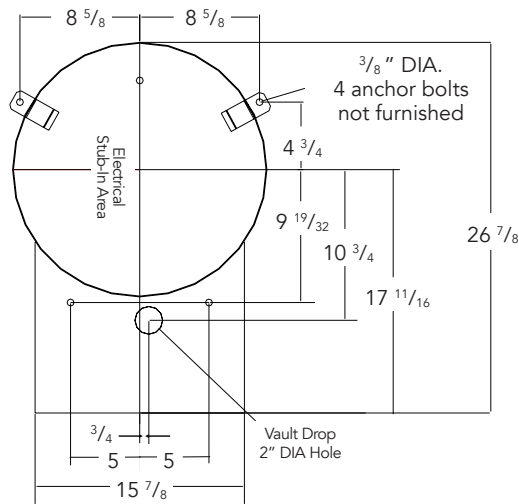
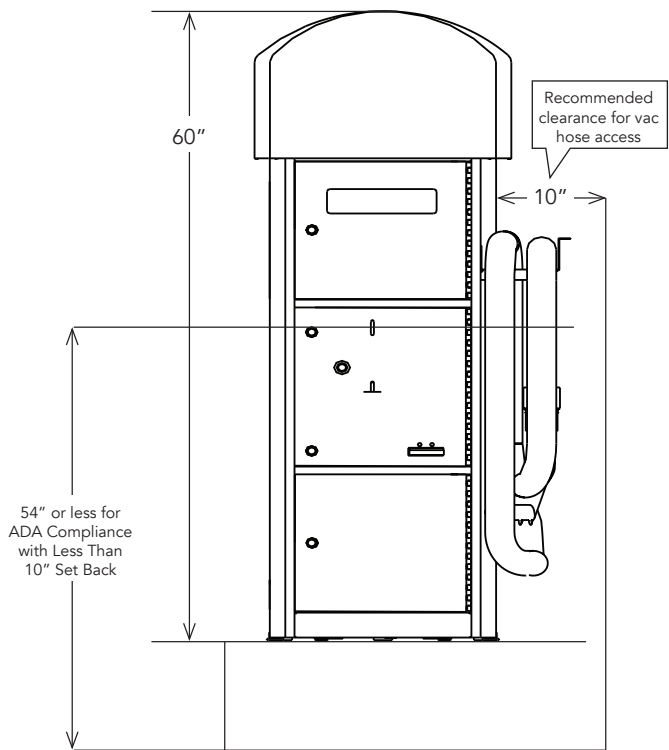
Warranty claims must be evaluated by GinSan. Replacement Motor(s) and/or Motor Brush Kit(s) must first be ordered and invoiced as a service part. An RMA number will be issued at that time. The customer is required to return the failed Motor and/or Motor Brushes to GinSan with the RMA number prominently 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.

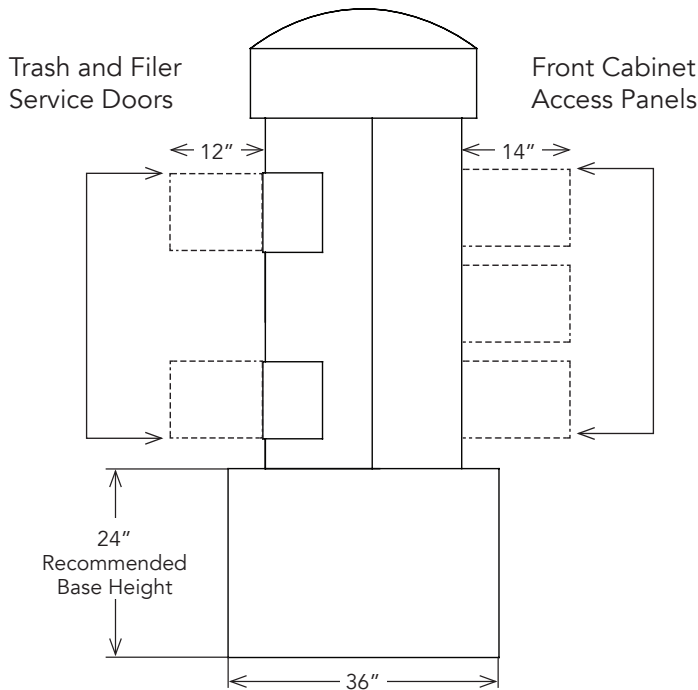
This warranty shall apply only to vacuum motors GinSan Part Number 105111 and 105112 and the Motor Brushes installed in them.





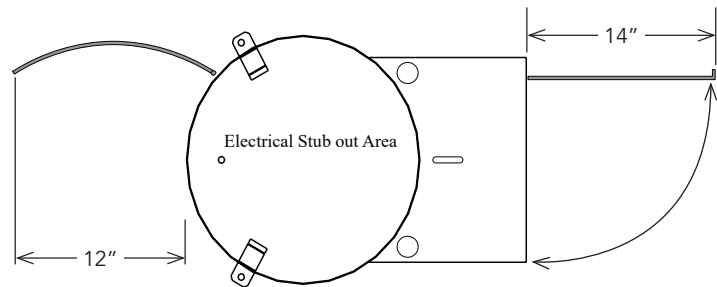
Mounting and Stub-in Area

Consider vehicle traffic, ease of access, weather protection and lighting to enhance vacuum serviceability and income. Refer to the SAFETY INSTRUCTIONS sheet on page 1 for restrictions concerning placement of these units in gasoline dispensing locations and service stations. For more information on ADA Clearances please contact the sales department at 1-800- 968-8227.



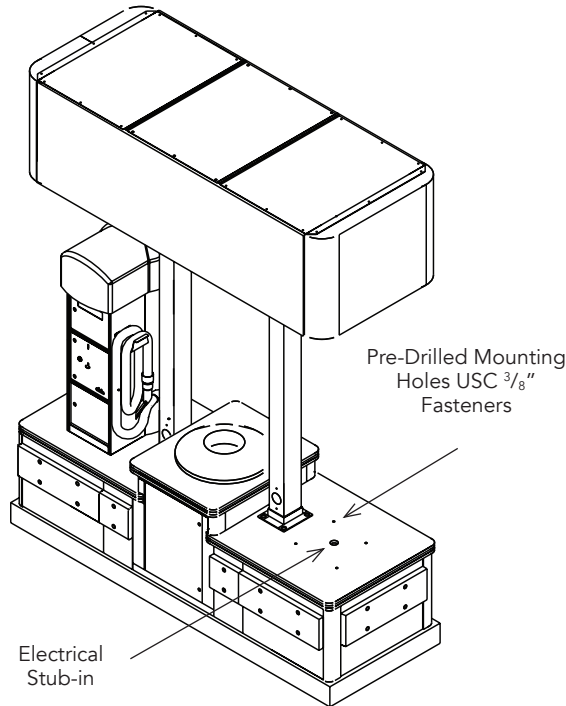
Site Planning

Select and prepare a solid, level site for a concrete or similar base. Consult local codes for foundation requirements. Note: Although we recommend 24" base height above grade, 20" base height above surrounding surface provides minimum protection from typical bumper damage and 30" base height should be considered maximum, considering coin acceptor position.



Recommended Clearance
access for door openings





Caution! Electrical Shock Hazard.

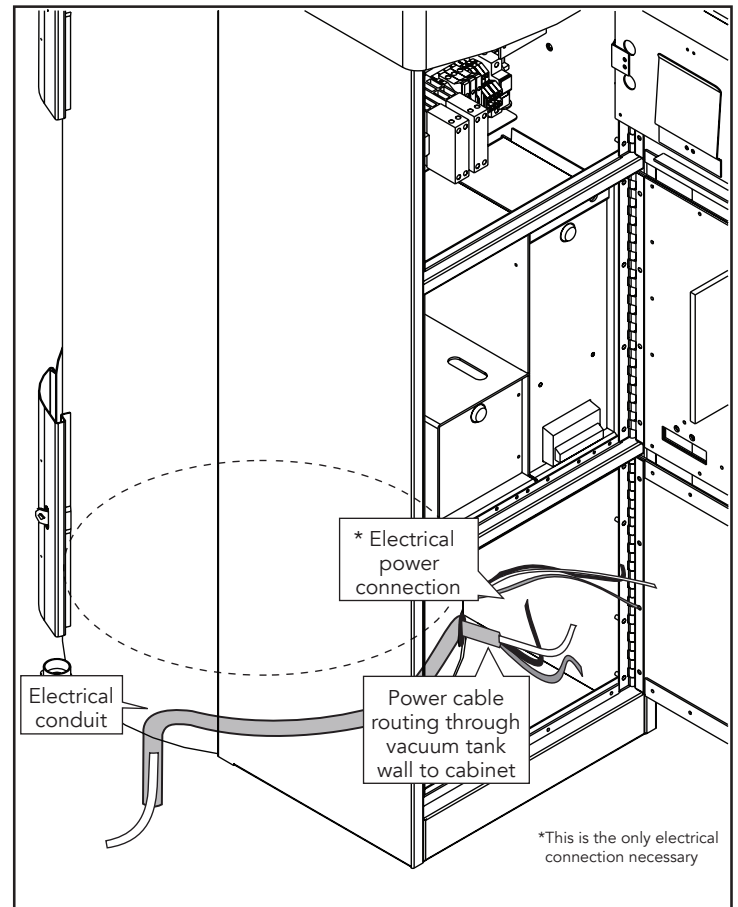
Disconnect power prior to beginning. Any service or installation work. Get Assistance if you are unsure of these procedures.

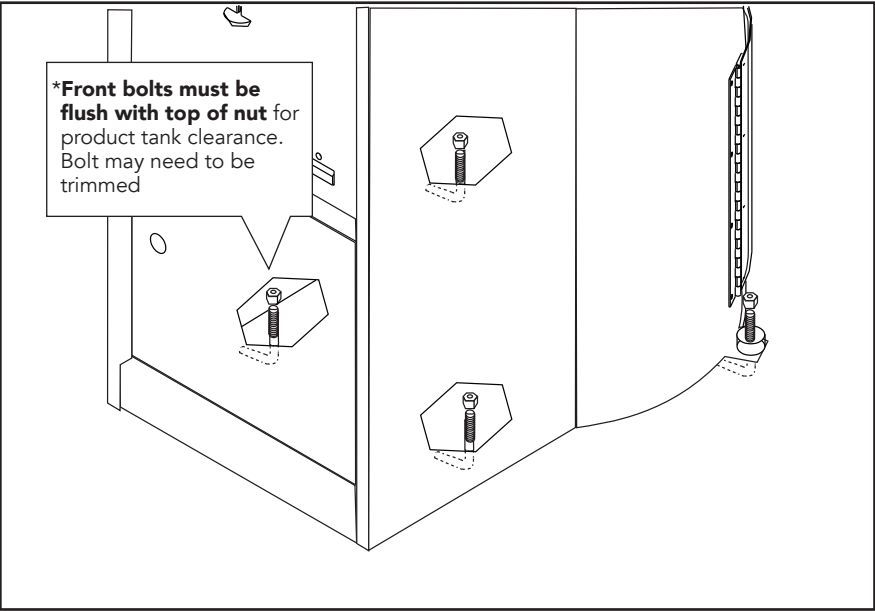
Connect to electrical service. Refer to the data label on the outside of the vacuum for electrical rating. Customer is responsible for compliance with all applicable codes and ordinances. The Vacuum should be connected to a dedicated service. Check local codes and requirements. Refer to the **IMPORTANT SAFETY INSTRUCTIONS** on page 1.

*Connect to a properly dedicated power source. Installation should be performed by a qualified electrician.

Unit installation must comply with local and national codes.

1. The electrical power should be stubbed in under the 18" vacuum tank cylinder (See Image to the right).
2. Maintain approximately 2" of clearance from the edge of the vacuum cylinder. There is 4 inches of vertical clearance from the mounting surface to the underside of the vacuum.
3. Route the power cable through the large hole to the right in the vacuum tank wall, through the front cabinet to the electrical power connection.
4. A make-up box is not provided, when wiring power source into vacuum. Please keep the connection in the lower door, the far right corner is recommended.

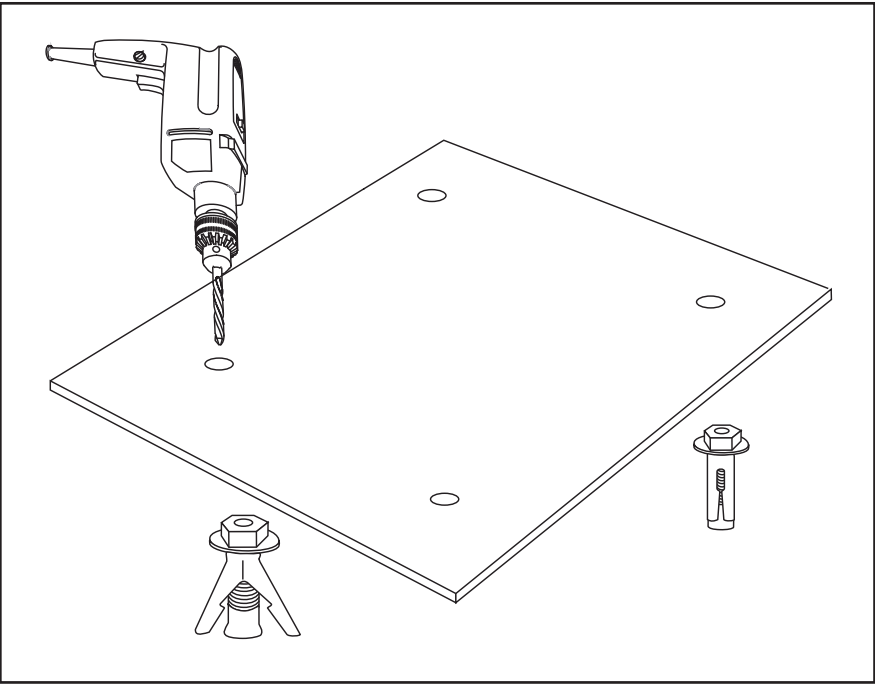
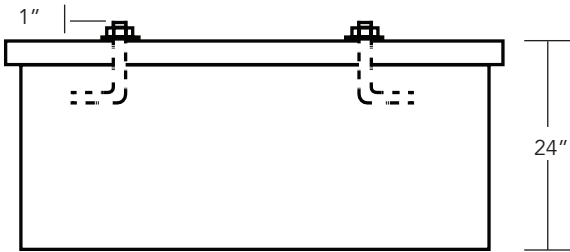




Using "J" Bolts

J-Bolts (new construction only). Carefully locate 4 "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.

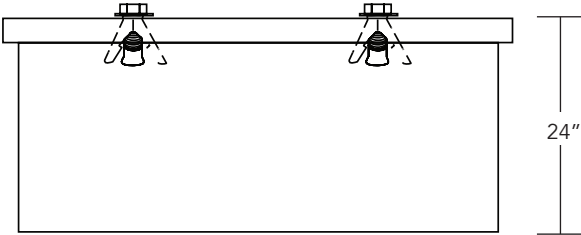
See illustration to the left.

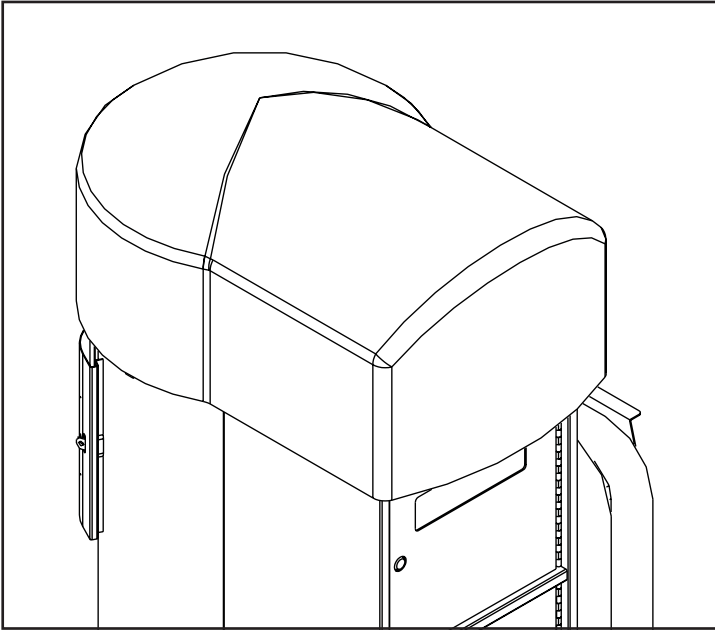


Masonry Anchors

Anchors are used for existing construction only. Drill and install suitable masonry anchors to accommodate a 3/8 inch 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 left.





This machine employs a dual-mode timer, which features a built-in L.E.D. Digital display assembly

The dual mode of the timer is like 2 timers running simultaneously. They communicate with each other to inform the user of the monetary credit remaining. This allows the user to switch between the 2 timers resulting in a recompiling of time remaining based on the correct service selected. An additional feature includes the grace time feature, giving the customer 20 seconds to insert more coins for additional time.

Each mode of the dual mode timer is programmable for COINS TO START and CYCLE TIME. They are preprogrammed from the factory as follows, unless specified by customers:

- Timer A: \$1.00 (4 coins)
2 minute Turbo Mode
- Timer B: \$1.00 (4 coins)
4 minute of Vacuum Mode

The display feature of these timers is of the scrolling message type and includes three (3) different programmable messages pre-programmed at the factory:

- Welcome Message: Turbo Deposit \$1.00 to Start
- Sales Message: Vacuum, Turbo
- Exit Message: Thank You

To change or adjust these settings, refer to page 9 for programming instructions.

Program Settings for LED9 Display

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To adjust the cash, time, and display properties of your vacuum, locate the LED display of the unit. Remove the rubber plugs from the back of the display housing using a non-metallic item and press **S2** to activate program mode.

When in program mode, use **S2** to toggle through the available settings.

Pressing **S1** will increase the value of a setting, holding **S1** will decrease the value.

Any setting with a message can be customized. With your desired setting selected, press and hold **S2** to edit the message. Press **S1** to change the active character space and **S2** to change the character itself. Use the " / " character to indicate the end of your message



COIN VALUE \$.25 for U.S. and Canada. \$1 for Australia / New Zealand.

A Default - **:30** seconds, message "Turbo"
(optional 3 motor mode)
May be customized with up to 32 characters

B Default - **1:00** minute, message "Vacuum",
standard 2 motor mode
May be customized with up to 32 characters

C - F May be customized with up to 32 characters

A 4 Coins required to start turbo.

B 4 Coins required to start vacuum.

C 4 Coins required to start turbo mode.

D - F Not used.

Ax 04 Auxiliary coin input, not used.

BONUS COIN Can be set to offer a time bonus after a coin minimum has been met. Default value is **9**.

BONUS TIME Amount of bonus time given.
Default value is **00:00**.

SINGLE BONUS / Multiple Determines if time bonus can be given only once or multiple times.

DELAYED START Number of seconds before startup.
Default value is **2** seconds.

HL Determines how long the warning horn sounds with 1 minute left on the timer. Default value is **10** seconds.

PULSED HORN Timer pulses the horn.

RE-START Controls a 20 second grace periods to restart vacuum with 1 or more coins. Default value is **OFF**.

STD Can be changed to USER or MIX to program in your own message, up to 64 characters.

M Wash down cycle time. Default value is **5:00**.

1 2 3 4 Wash down code. Use optional remote to access.

CC Credit card system. **Y** for yes, **N** for auxiliary coin input. Default value is **Y**.

CC PULSE VALUE The amount each credit card pulse is worth. Default value is \$.25.

ENG For English display, **SPH** for Spanish or **E & S** for English and Spanish. Default value is **ENG**.

DM Dimming mode. Default value is **0**.

EXIT Exit programming mode.

Access to coin counts and manual cycles:

Inventory screen, press **S1** and the inventory counts will scroll across the display. To reset the counts, press and hold **S2** until CLR? displays. Press and hold **S2** until DONE appears. All counts are reset.

Optional remote for easy access to the programming, inventory and wash down features. Part #5280030



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Initiating Programming Mode

1. Remove the bill magazine
2. Use a pencil or a screwdriver to press this button to enter configuration mode (figure A), then reattach the bill magazine to initiate Coupon mode:
3. When coupon mode is activated, the bezel lights will rapidly flash Insert a completed configuration coupon



Figure A

Using the Coupon to Program

Fill out the coupon using a #2 (HB) pencil. Fill in one block for each line. Do not mark the back of the coupon.

Section 1: Bill Ways

- 1 - Face up in one direction (green seal first)
- 2 - Face up in either direction
- 4 - Face up or down in either direction

Section 2 - Bill Enables

Fill in on or off to enable or disable a bill.

\$50 and \$100 - T8 Models Only

Fill in on or off to enable or disable a bill

Section 3 - Pulse Width

Sets the width of the pulse, check with your machine manufacturer for details. "Gaming Short" recommended.

Sections 4 - Pulses per Dollar

Credit pulses per dollar accepted, check with your machine manufacturer for details. 4 pulses recommended.

Section 5 - Interface Mode

Harness Enable - Requires an input from the controller to enable and accept bills. "Always Enable" is recommended.

Always Enable - allows for acceptance at all times, a host or controller cannot disable the unit.

Section 6 - Acceptance Mode

Mode 0 is default. Increasing Acceptance Mode increases security, but may also impact performance. Please contact CPI Technical Support for details.

66mm

T6/T8 Coupon

156mm

Sections 1-5 must be filled in, section 6 is optional

1 Bill ways accepted

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

2 Bill enables on off

\$1	<input type="checkbox"/>	<input type="checkbox"/>	
\$2	<input type="checkbox"/>	<input type="checkbox"/>	
\$5	<input type="checkbox"/>	<input type="checkbox"/>	
\$10	<input type="checkbox"/>	<input type="checkbox"/>	
\$20	<input type="checkbox"/>	<input type="checkbox"/>	

3 Pulse width

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gaming Short	Gaming Long	Vending Short	Vending Long

4 Pulses per dollar

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4

5 Interface mode

<input type="checkbox"/>	<input type="checkbox"/>		
	Harness Enable	Always Enable	

6 Acceptance mode

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mode 0	Mode 1	Mode 2	Mode 3

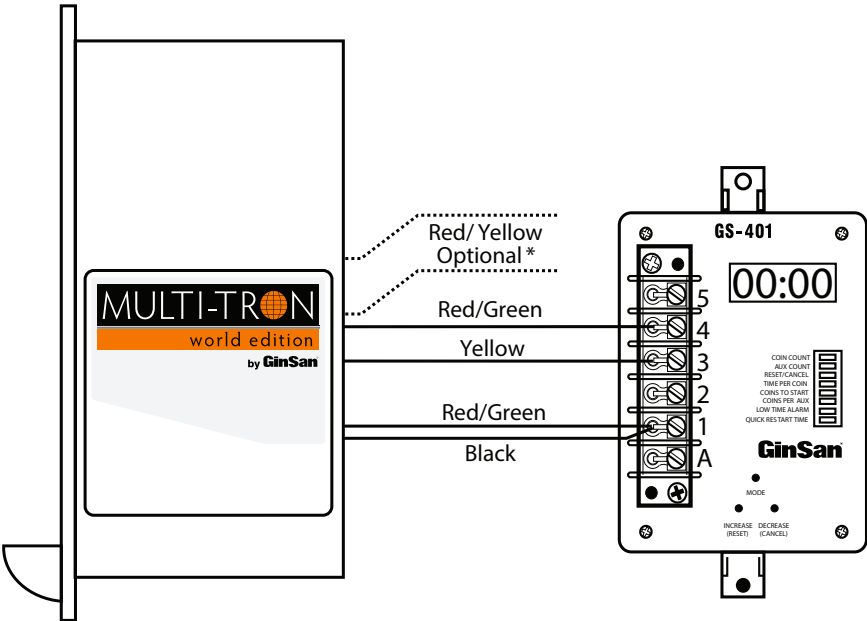
Wire Color Function

- Red/Green Solid state relay common. See note below.
- Black 24 VAC hot. Recommended supply voltage of 22-30 VAC.
- Yellow 24 VAC common Recommended supply voltage of 22-30 VAC.
- Red/Yellow Solid state relay common. See note below)

Note: Outputs for all coins are sent via the Red/Green and Red/Yellow wires.

*The Red/Yellow wire is a solid state output to be used with any auxiliary product

PLEASE NOTE: EACH UNIT SHIPS PRE-PROGRAMMED FOR THE DOMESTIC CURRENCY SPECIFIED WHEN ORDERING.



Programming Instructions for Tokens or Non-Domestic Coins

1. Power down the Multitron GS-44WE coin acceptor.
2. Switch "on" the six (6) dip switches located on the side coin acceptor.
3. Power up the coin acceptor.
4. Insert 2 of the coin to be programmed.
5. Turn off all dip switches (except the one that equals the value of your coin.) See Table A.
6. Insert 15 more of the coin to be programmed.
7. Turn "off" the switch left on in Step 5.
8. Power down for a minimum of 5 seconds then power up.
9. Repeat above steps to program additional coins.

Dip Switch		Pulses
1	=	1
2	=	4
3	=	5
4	=	6
5	=	7
6	=	8

Table A

Specifications:

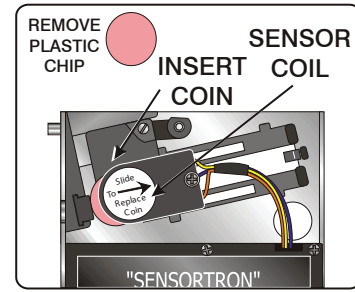
- Accepts 30+ different coins
- Accepts coin size 0.64 - 1.26" diameter (16 mm - 31.5 mm)
- No permanent sample coin required
- 24 VAC and 24 DC compatible
- Adjustable output pulse (with programmer)
- Program with or without external programmer
- Power loss will not affect memory
- Corrosion proof chassis
- 2" mounting footprint
- 2 year warranty

*If a value other than the preset amount is needed, a handheld programmer is required.
Part Number: 1102800



To Install Sample Coin Or Token

1. Slide sensor coil to the right and replace plastic chip with coin or token
2. Release sensor coil, making sure sample coin or token is held firmly in place
3. Do not use a 1965 or 1974 quarter as a sample



Selectivity Adjustments

Sensortrons are Preset for Use With U.S. Quarters



The selectivity control is designed to enable field adjustments for closer coin scrutiny, thereby providing greater rejection of slugs.

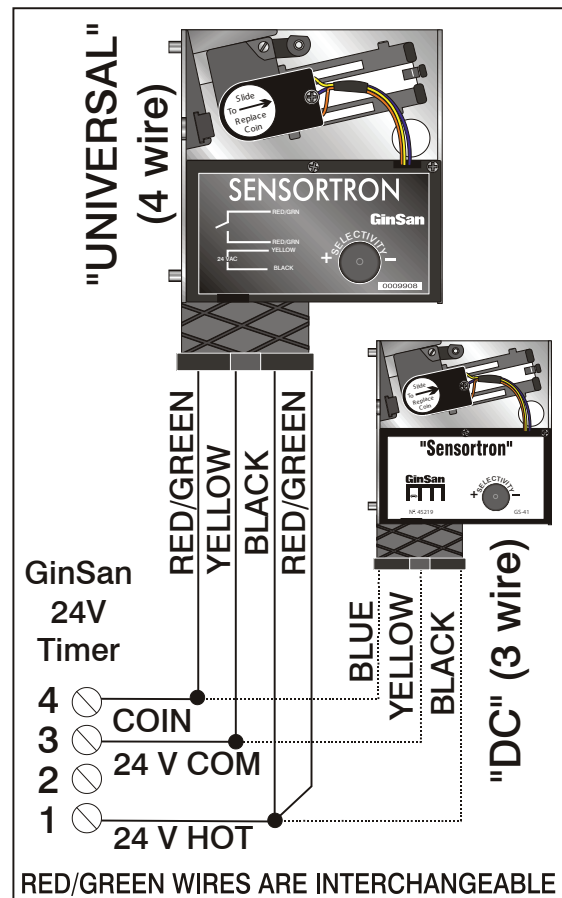
1. Remove black rubber plug



2. Using small screwdriver, locate adjusting slot on potentiometer (pot.). (Slot is difficult to see in the jelly-like substance.)
3. Turn pot. clockwise as far as it will go
4. Turn pot. counterclockwise (a little at a time until it rejects all unwanted coins)
5. Replace rubber plug



Wiring



NOTE: YOU MUST HAVE AT LEAST 24 VOLTS AC ACROSS BLACK AND YELLOW WIRES.

Coin Learn Procedure for the IDX MA-850

Slide the front cover up and identify the three controls to be used in coin memory storage procedure.

- Black or red button located near bottom right corner.
- Rotary switch with sixteen positions (0 to 6 are memory positions) also located near bottom right corner.
- LED half way up on right side (green in RUN mode and red memory mode).

1. Turn the Rotary switch to one of the learn positions (1 to 6) and observe the LED turn red to indicate that the MA-800 is ready to store data.
2. Push black or red button once for each credit pulse you wish to have issued for this coin. Example, a \$1 coin would be equaled to 4 pulses.
3. Slide the cover back on the unit to make sure outside light does not interfere with the sensors; light shield must click into place.
4. Deposit the coin through the acceptor between 6 to 10 times until the LED flashes red and green; this indicates the acceptor is storing.
5. Once LED starts to flash red and green, slide cover back up and turn rotary switch back to position 0. Be careful not to turn the switch too far or the acceptor will not accept coins.
6. Once the switch is back in the zero position slide the cover back to closed position and the programming is complete.

THE COIN YOU DO NOT WANT TO ACCEPT MUST BE STORED IN POSITION ONE.

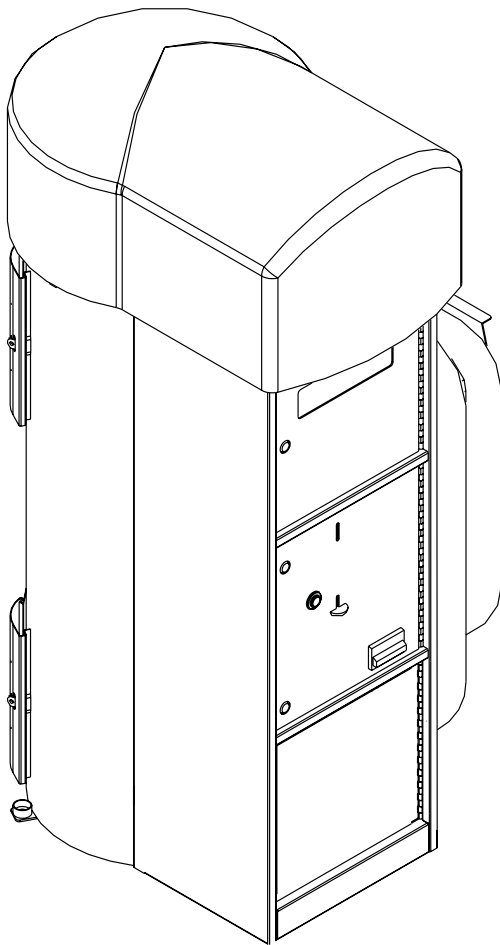
Turn rotary dial to position one and press black or red button 13 times, then drop coin that you don't want to accept through 6 to ten times until LED flashes. Turn Dial back to 0 and close light shield.

Coin De-Learn Procedure

1. Slide the front cover up and turn rotary switch to the coin # position you wish to remove from memory
2. Push the black or red button once to initiate the memory storage sequence.
3. Turn the rotary switch back to position #0 without depositing any coins to signal the unit that you wish to erase.
4. The LED will flash red-green to indicate completion.
5. Slide the front cover back down.



- Keep the outward appearance of the unit looking good by using a glass cleaner to clean the front door and lexan faceplate in front of the visual display.
- Apply a stainless steel polish to the cabinet to maintain the appearance.
- Take care not to use abrasive cleaners or rags for these applications to avoid scratching the surfaces.
- ***DO NOT USE STEEL WOOL OR OTHER FERROUS BRUSHES TO CLEAN STAINLESS STEEL SURFACES***
- Check motor Brushes for wear and replace as necessary
- If three (3) motor vacuum, order a special nozzle.
- Inspect gasket and replace with factory replacements.



Daily / Weekly Maintenance

- Remove dirt & debris from vacuum.
HINT: consider ordering a debris catcher from your distributor to simplify this process.
- Empty & shake bags weekly
- Exchange bags and wash bi-monthly
- Check hand tools, as suction will be impaired if vacuum nozzle wears excessively
- Always make sure vacuum doors are closed.
- Check hose for signs of wear, replace if excessive.
- Test Vacuum suction and airflow
- Suction Test: Place hand over cuff feel for "pull"
- Air Test: Hold cupped hand near hose inlet feel for "breeze"



Symptom	Problem	Correction
Poor Performance	Poor Suction	Test by placing hand over end - feel for "pull". With hose end sealed, use plastic bag or sheet to test for leaks at door opening. (Move sheet lightly past suspected areas, plastic will "stick" at leaks.) MAKE SURE VACUUM DOORS ARE SEALED.
	Poor Airflow	Check for overfilled debris areas or hose clog. Clean filters. Check motors to be sure that both are working.
Vending Problems Coins	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. Clean coin path of coin acceptor.
Dollar Bill Problems	Bill Jams	Remove bill stacker and reinstall for soft reset. Reset main power for hard reset.
	Doesn't accept specific denomination (\$1 or \$5)	Reprogram bill acceptor (see instruction manual)
	Doesn't accept any bills	Check for bill jams in both acceptor and stacker.
Unit does not start	Test for line power to unit	Check 120VAC LED on lower right corner of control board.
	Test for 24v circuit power.	Check 24 VAC LED on control chassis.
	Text to timer operation	Check for proper timer display activity.
Unit does not operate properly.	No vacuum cycle operation	Check for tripped circuit breakers. Circuit breaker and relays are both found on the control chassis.
115 vac light is off as well as dome lights.	Main fuse	Check for the indicator light on the main fuse. If the light is on then power is available, but the fuse is blown.
		Test or replace fuse, if voltmeter across fuse reads 110v to 120v, fuse is bad.
Main power indicators lit but timer and mech will not work.	4 amp circuit breaker on transformer	Reset breaker. If breaker continues to trip, check for shorts on 24 VAC lines.
	2 amp 24v. Fuse	Test or replace fuse, use ABC-2 NOTE: this fuse controls power to the display/timer and is needed to establish the purchased credit line
LED timer counts down without vacuum cycle starting.	Vacuum motors won't start or run.	During count down cycle, check for tripped circuit breakers on the chassis panel. Look for overfilled filter bags and other restrictions in the vacuum cycle before restarting the system. NOTE: restrictions to the air flow such as clogged filters cause higher than normal amp draw. This can cause breakers to trip.





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