# **REVISION**™ DOOR

#### FOR NATIONAL 157/158/167/168

# **INSTALLATION MANUAL**





Dear Valued Customer,

Thank you for purchasing the REVISION<sup>™</sup> Door. This manual describes how to install the REVISION Door on a NATIONAL 157/158/167/168.

Please read all instructions thoroughly before installing the REVISION Door. If you need any assistance, call 1-800-321-2311.

We appreciate your business and thank you again for making Vendors Exchange® International your choice for innovative vending solutions.



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#### PRECAUTIONARY STATEMENTS

**WARNING**, **CAUTION** and *NOTICE* statements are used in this installation manual to stress important and critical information. The statements, according to the American National Standards Institute (ANSI), are described below.

## WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

#### **A** CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

## **NOTICE**

A NOTICE statement is used to address practices not related to physical injury.

# **REVISION™ DOOR CONTENTS**

#### KIT CONTENTS DESCRIPTION

PART NUMBER	DESCRIPTION	QTY
VE1015506	Flat Washer (.513 ID X .874 OD)	2
VE3855	Bottom Hinge	1
VE4310P	Top Mounting Nut Plate	1
VE4318	Item Tabs 110-189	1
VE4319	Gum and Mint Tray Harness	1
VE1015284	Coin Chute	1
VE4350DX	Switch Contact Bracket	1
VE4350H	Bucket Deflector, Control Side	1
VE4350LB	Lock Bar Latch	2
VE4350Q	Door Bracket	1
VE9314	Bucket Deflector, Hinge Side (included with drop sensor)	1
VE4653K	1/2" Black Nylon Cable Clamp	4
VE4656	8" Cable Tie Holding Clip	4
VE4849	Energy Saving LED Cling-on Label	1
VE5876	Refund Cling on Label (if drop sensor equipped)	1
VE5800	UCB™ Programming Instructions Guide	1
VE5802G	Mounting Plate for Power Supply	1
VE5815	Power Supply Board (PS-65-24)	1
VE5813A	4-40 X 1/4 Phillips Pan Head Screw	4
VE6836	1/4"-20 X 7/8" Flat Head Socket Cap (Hex) Screw	4
VE7203K	#4-40 Hex Nut	10
VE7358	1/4-20 Keps Lock Nut	1
VE7369	1/4-20 X 1" Hex Head Bolt	1
VE7373K	#8-18 X 1/2" Self-Tap Screw	10
VE5888A	110V Power Harness	1
VE8387THK	VE8387 and VE8387A Harness	1
VE8387	Tray Harness	1
VE8387A	Adapter Tray Harness	1
VE1015729	Power Adapter Harness	1
VE1015231	Installation Manual	1

## **TOOLS REQUIRED**

- 5/32" Hex Key
- 7/16" Box-End Wrench •
- Phillips Screwdriver Flashlight
- Flat Head Screwdriver Wire/Side Cutters
- 11/32" Driver
- Standard Socket Set

**NOTE:** Some images are for illustrative purposes only and are not specific to the REVISION<sup>™</sup> Door for NATIONAL 157/158/167/168.

#### **QUESTIONS?**

Contact the Vendors Exchange<sup>®</sup> **Customer Service Team** at 800.321.2311

## **NOTICE**

Test machine for proper operation before proceeding with installation.

#### **AWARNING**

To prevent personal injury and equipment damage, turn machine off and disconnect electrical cord from the wall outlet before installing door. Failure to do so could result in electrical shock.

#### **WARNING**

Do not remove trays from cabinet. The cabinet could become unsteady and result in damage or personal injury.

#### **A** CAUTION

To avoid potential injury, it is highly recommended that installation of the REVISION™ Door is completed with two persons.

1.1 If equipped with an OEM Gum and Mint tray using 3/8" nut driver or socket, remove two bolts, one on each side of delivery bucket (**FIG. 1.1**).



1.2 Disconnect gum and mint tray harness from jumper board on tray motor mount at bottom of delivery bucket (**FIG. 1.2**).



- 1.3 If present, remove validator and coin mech. If they are MDB, set them aside for future reinstallation.
- 1.4 Using 1/4" nut driver or socket for the top screw, remove bucket deflector (**FIG. 1.4**) on left side of delivery bucket. Use 11/32" nut driver or socket for two side screws.



1.5 Remove bucket guard at top of delivery bucket by unfastening two screws on left and right side (**FIG. 1.5**).



1.6 Remove screws holding delivery bucket to factory door on both sides. Up to four screws could be fastened to each side (**FIG. 1.6**). Retain delivery bucket for later installation.



1.7 Using 7/16" nut driver or socket, unbolt door stop arm from bottom of door. Retain door stop arm for later installation on REVISION<sup>™</sup> Door (**FIG. 1.7**).



#### **A** CAUTION

To avoid personal injury, make sure that factory door is supported.

Using 7/16" socket, 1.8 remove top hinge inside from door (FIGS. 1.8A, B). A flat head screwdriver may also be needed.





- 1.9 Lift up and remove door.
- 1.10 Using 7/16" socket and/or flat head screwdriver, if door has hinge similar to top hinge, remove two screws and nuts from bottom of door (FIGS. 1.10A, B).





1.10B

1.11 Disconnect door switch harness from door switch as shown in FIG. 1.11.



1.12 Open swing panel and unfasten flat head screw from display board cover (FIG. 1.12A). Then, remove top ribbon cable only and metal strap (FIG. 1.12B).





1.13 Unfasten nuts in 6 places from swing panel (**FIG. 1.13**). Then, remove swing panel from cabinet.



1.14 Unfasten 1/4" screws to remove bracket from right side of cabinet (**FIG. 1.14**).



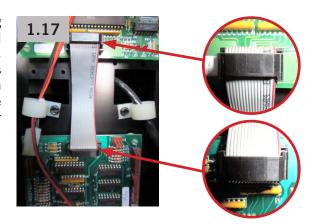
1.15 Remove coin chute screws from existing cash box housing and cabinet (**FIG. 1.15**).



1.16 Loosen 1/4" screws from top and bottom of panel and lift off (**FIG. 1.16**).



1.17 Remove all harnessing from controller and interface boards (FIG. 1.17). Save standoffs and hardware from both boards for future installation of power supply board.



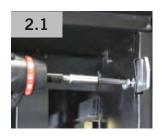
**NOTE:** It is recommended to retain "P" clamps for future use to secure new wiring with new controller assembly, and to maintain a cleaner application.

1.18 Using Phillips or flat head screwdriver (depending on machine), remove four screws that hold two OEM lock bar latches in place (**FIG. 1.18**).



**NOTE:** Latches are adjustable to ensure proper closing and locking of the door. Multiple attempts may be necessary to determine the exact adjustment.

2.1 Install new replacement lock bar latches (kit item) open end up with Phillips screws (kit item) as shown in **FIG. 2.1**.



- 2.2 Using 5/32" hex key, mount nut plate (kit item) and bottom hinge (kit item) to door with hex screws (kit item) as shown in FIGS. 2.2A, B.
- 2.3 Align two washers (kit item) over hole on bottom bracket. Then, insert bottom hinge into bottom bracket hole (FIGS. 2.3A, B).









**NOTE:** Top hinge is fix mounted to cabinet. Original Equipment Manufacturer (OEM) hinge is used and no installation is required.

2.4 Hold door so holes on top align with hinge holes. Then, using 5/32" hex key, fasten top nut plate (kit item) on inside top of door while inserting and tightening flat head screws (kit item) as shown in **FIG. 2.4**.



3.1 Insert door stop arm in door stop bracket as shown in **FIG. 3.1**.



3.2 Mount door stop spacer onto door stop arm (FIG. 3.2A). Then, insert bolt through spacer and bottom hinge plate. Attach nut to bolt and hand tighten with 7/16" box-end wrench (FIG. 3.2B).





- 3.3 Open and close door to verify proper fit.
- 3.4 Remove gum and mint support bar from OEM door (FIG. 3.4A) and hang on hinge side of REVISION Door (FIG. 3.4B).



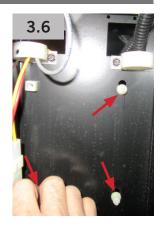


3.5 Fasten coin chute (kit item) to OEM cash box housing (FIG. 3.5).



3.6 Insert 3 standoffs from Step 1.17 in old location of interface board mounting holes as shown in **FIG. 3.6**.

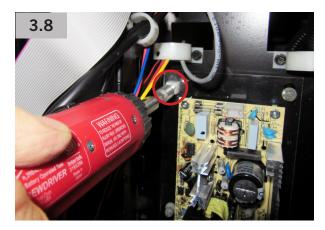
**NOTE:** Standoffs can also be installed directly onto power supply board.



3.7 Orient and mount power supply board (kit item) onto standoffs as shown in **FIG. 3.7**.



3.8 Fasten machine screw from Step 1.17 to upper left stud on power supply mounting plate (FIG. 3.8).



3.9 Connect power cable from cabinet harness (kit item) to power supply board as shown in **FIG. 3.9**.

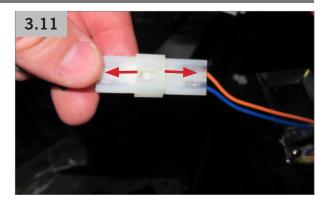


**NOTE:** If OEM power supply <u>does not</u> include harness to connect with new power supply, follow steps 3.10 through 3.15.

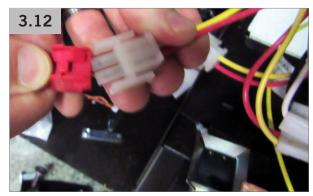
3.10 From inside cabinet, remove cover from main power supply (**FIG. 3.10**).



3.11 Disconnect existing power harness as shown in **FIG. 3.11**.



3.12 Connect power adapter harness (kit item) to male connector as shown in **FIG. 3.12**.



3.13 Guide harness through opening as shown in FIG. 3.13A. Then, route harness upward behind cabinet weldment and push through rectangular cutout as shown in FIG. 3.13B.





3.14 Connect female end of power adapter harness from rectangular cutout to power supply board connector as shown in **FIG. 3.14**.



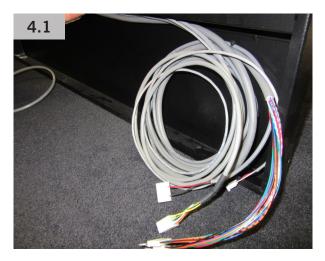
3.15 From inside cabinet, reinstall cover to main power supply (FIGS. 3.15A, B). Ensure that all wires and harness connections are not pinched, and are contained behind main power supply cover.



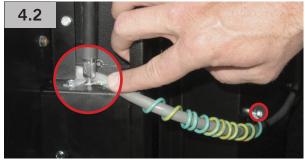


#### ATTACH & ROUTE TRAY HARNESSES

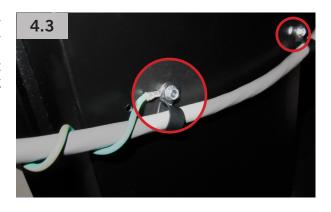
4.1 Uncoil harnesses and separate longer cabinet harnesses and prepare longer harnesses to be routed into cabinet (**FIG. 4.1**).



4.2 Wind green ground wire around main door harness at least six to eight times. Next, secure main door harness to inside of cabinet with cable clamp (kit item) and self-tapping screw (kit item) as shown in **FIG.**4.2. Then, connect ground wire to inside of cabinet.



4.3 Route door harness on side of cabinet as shown in FIG. 4.3 using cable clamps (kit item) and self-tapping screws (kit item).



#### ATTACH & ROUTE TRAY HARNESSES

4.4 Continue routing door harness on side and on back to other side of cabinet wall using cable clamps (kit item) and self-tapping screws (kit item) as shown in FIGS. 4.4A, B. Guide door harness toward power supply side of machine and then through cutout.



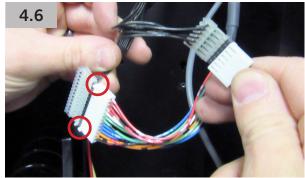


4.5 Pull power supply cable through cutout. Then, connect 24V power supply to power supply board as shown in **FIG. 4.5**.

**NOTE:** Connector wire colors from 24V power supply plug may vary depending on machine model and existing components.



4.6 Connect two tray harnesses from main door harness to existing door harnesses (FIG.
4.6). Ensure that connector pin tabs are in same direction on both plugs.



# ATTACH & ROUTE TRAY HARNESSES

4.7 Replace screws on top and bottom of panel (**FIG. 4.7**).



**NOTE:** Ensure that cover is not pinching wires.

#### **INSTALL DELIVERY BUCKET**

**NOTE:** It is recommended that installation of the delivery bucket is completed with another person to assist with the positioning and aligning of bucket.

- 5.1 If using National 168 delivery bucket, unfasten filler mount attached to hinge side of REVISION™ door (FIGS. 5.1A, B). National 168 delivery bucket has wider profile, and does not require filler mount.
- 5.1A



5.2 Center bucket in opening, aligning mounting holes on door with mounting holes on delivery bucket (**FIG. 5.2**).



5.3 Use self-tapping screws (kit item) to fasten delivery bucket on left and right side at top and bottom (**FIG. 5.3**).



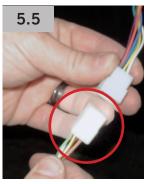


# **INSTALL DELIVERY BUCKET**

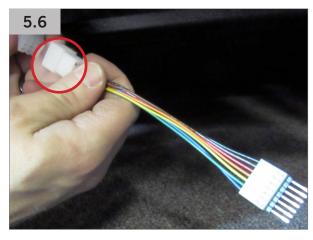
5.4 From under delivery bucket, connect existing gum and mint motor to gum and mint harness (**FIG. 5.4**). For OEM gum and mint harness with 7-pin connector, refer to Step 5.6.



5.5 If VE 7th Tray<sup>™</sup> is used, plug extender into VE 7th Tray motor harness (**FIG. 5.5**).

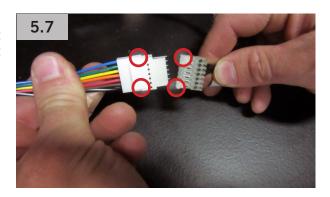


5.6 If OEM gum and mint has 7-pin flat connector, attach gum and mint adapter as shown in **FIG. 5.6**.



# **INSTALL DELIVERY BUCKET**

5.7 When attaching to OEM gum and mint harness, ensure that connector pin tabs are oriented in same direction as shown in **FIG. 5.7**. Use cable tie to secure harnesses together.



## KIT CONTENTS FOR DROP SENSOR

#### DROP SENSOR INSTALLATION KIT FOR NATIONAL 157/158/167/168

PART NUMBER	DESCRIPTION	QTY
VE9300BN147	Drop Sensor Kit	1
VE5901AH	Drop Sensor Harness	1
VE9308A	Magnet	1
VE4650K	4-Way Tie Mount	8
VE4601K	6" Bar Lock Cable Tie	8
VE4679	1/8" Cable Clamp	1
VE7207K	#8-32 Keps Nut	2
VE9314	Plastic Diverter, Bent	1
	Reflective Tape 1-1/2" X 6"	1

#### **TOOLS REQUIRED**

- 5/32" Hex Key
  Phillips Screwdriver

   Nut Drivers
   Standard Socket Set
- Flat Head Screwdriver Crescent Wrench

#### **INSTALL DROP SENSOR**

**NOTE:** Remove National SureVend<sup>™</sup> drop sensor before installing VE drop sensor.

6.1 Remove single screw on hinge side of bucket as shown in **FIG. 6.1**.

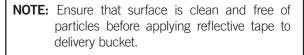


6.2 Mount drop sensor (kit item) to stud and fasten nut (kit item) to bracket on drop sensor (**FIG. 6.2**).

**NOTE:** Check that drop sensor assembly is not tilted or twisted after mounting.



6.3 Apply reflective tape (kit item) to opposite side of delivery bucket, positioning tape as close as possible to rear edge of delivery bucket (**FIG. 6.3**).



6.4 Punch screws through reflective tape holding new deflector (kit item) as shown in **FIG. 6.4**.





## **INSTALL DROP SENSOR**

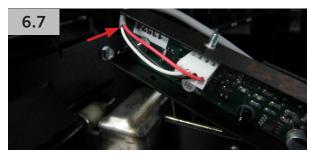
6.5 Using 1/4" driver, unfasten top plate of drop sensor (kit item) by removing nuts from top of sensor bracket and lifting off plate (**FIG. 6.5**).



6.6 Connect 4-pin harness into 4-prong plug on sensor board (**FIG. 6.6**).



6.7 Position drop sensor harness and other cables so they are clear of green LEDs to reduce potential malfunction when machine is operational (FIG. 6.7).



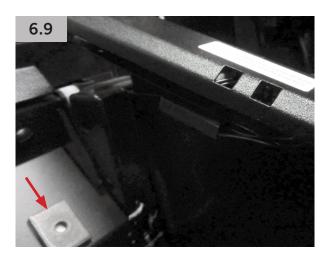
#### **INSTALL DROP SENSOR**

6.8 Peel backing from hinge side plastic diverter (kit item). Then, mount top plate on drop sensor, attach diverter to studs, and tighten nuts on studs as shown in **FIG. 6.8**.

6.8

**NOTE:** Check that drop sensor assembly is not tilted or twisted after mounting.

6.9 Remove two-sided tape from magnet (kit item) and hold in right hand corner delivery of door LED until green illuminates. Next. place magnet in identified location (**FIG. 6.9**). Then. move bucket flap until it touches magnet and release bucket flap.



**NOTE:** Move bucket flap up and down. Green LED on sensor board should illuminate when door is 1/2 to 2/3 open, and LED should turn off when delivery door is 3/4 closed.

#### ADJUST REVISION™ DOOR

#### **NOTICE**

After installation, the door may require adjustment or alignment for a proper fit. When closing door do not force or slam shut. This may cause damage to the door frame or lock bar. This task should be completed with another person.

- 7.1 Ensure that cabinet is on level floor and that cabinet itself is level.
- 7.2 Lift door and line up lock bar and then lock door closed.
- 7.3 Lift and support door in center of cabinet. Tighten inner door bolt on top and bottom hinges.
- 7.4 Carefully open REVISION Door and tighten outer door bolt on top and bottom of door. Tighten hex screws and door stop arm.
- 7.5 Install MDB validator and coin mech.
- 7.6 Open and close door. Check that door is correctly aligned and ensure door locks properly. If problems persist, loosen inner and outer door bolts on top and bottom hinges. Then, repeat steps 7.2 through 7.4.

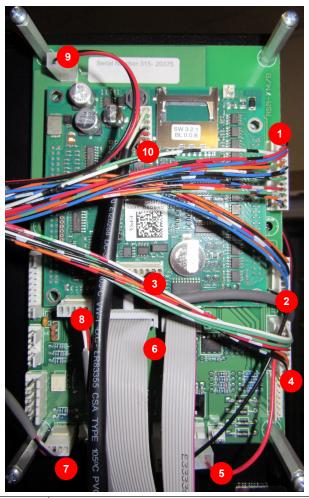
#### **A** CAUTION

Inspect all electrical connections, making sure they are properly attached to their connection points.

- 7.7 Plug machine power into outlet and confirm that Ground Fault Circuit Interrupter (GFCI) is not in reset mode.
- 7.8 Turn on machine power.
- 7.9 Configure UCB™ following programming instructions guide (kit item).
- 7.10 Test all motors for proper operation.

# **APPENDIX**

# UCB™ CONNECTIONS FOR NATIONAL 157/158/167/168



REFERENCE #	DESCRIPTION
1 and 2	Motors
3	Motion Sensor
4	Gum and Mint Motors
5	VE-Supplied LED
6	Display/Keypad
7	VE-Supplied Drop Sensor
8	DEX
9	24V DC Power
10	MDB

# **APPENDIX**

#### **SERVICE PARTS**

#### **DOOR**

PART NUMBER	DESCRIPTION
VE1529A	Door Switch
VE4350N	Lock Bar
VE6816R1	Keypad
VE1015284	Coin Chute
VE3852C	Coin Return Button Assembly

#### **SPIRALS**

PART NUMBER	DESCRIPTION
VE3424	Spiral, 6 Count Candy LH
VE3425	Spiral, 6 Count Candy RH
VE3281A	Spiral, 9 Count Snack LH
VE3281B	Spiral, 9 Count Snack RH
VE3280A	Spiral, 11 Count Snack LH
VE3280B	Spiral, 11 Count Snack RH
VE3455A	Spiral, 15 Count Snack RH
VE3455B	Spiral, 15 Count Snack LH
VE3840A	Spiral, 17 Count Snack RH
VE3840B	Spiral, 17 Count Snack LH

#### **MOTORS**

PART NUMBER	DESCRIPTION
NAT1577038	Vend Motor

#### **GLASS**

PART NUMBER	DESCRIPTION
VE3265	Glass, 42.88" X 27.81" X 0.19" Tempered (5-wide model)
VE3493	Glass, 42.81" X 21.56" X 0.19" Tempered (4-wide model)

# **APPENDIX**

#### **SERVICE PARTS**

#### **DROP SENSOR**

PART NUMBER	DESCRIPTION
VE9300SENSNATU2	Sensor Board and Mounting Bracket
VE5901NH	Drop Sensor Harness
VE9300RTR	Reflective Tape (specify size)

#### **LABELS**

PART NUMBER	DESCRIPTION
VE4318	Item Tabs #110-189
VE3480	Price Rolls - Cents
VE3481	Price Rolls - Dollars

#### **LED**

PART NUMBER	DESCRIPTION
VEL1410RD	LED Light Bar Kit (3 LEDs)
VEL1410	LED Light Bar (1 LED)
VE5829C	LED Motion Sensor

#### **UCB**<sup>™</sup>

PART NUMBER	DESCRIPTION
VE5801	Universal Control Board
VE5816	MDB Harness
VE5802C	Display Harness
VED5886DF	Harness Board Forced
VE6451R1	Display Board
VE6820	DEX Harness

#### **VENDORS EXCHANGE® WARRANTY INFORMATION**

Limited Warranty and Disclaimer. VE warrants that the Products, including without limitation, their component Part(s), sold will be of the kind and quality described herein and will be free of defects in workmanship or material. This Warranty shall extend for the Warranty Period set forth below following the date of delivery of such Products to Buyer. VE MAKES NO WARRANTY, EXPRESS, IMPLIED (INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR INTENDED PURPOSES). OR STATUTORY, OTHER THAN THE FOREGOING EXPRESS WARRANTY.

PRODUCT	WARRANTY PERIOD
A. REPLACEMENT PARTS	
New Replacement Parts	90 DAYS
UCB™ Kits	1 YEAR
Rowe Bill Changer Kits	1 YEAR
CleanLife® LED Bulbs	MANUFACTURER
New MEI/CPI Mechs and Validators	2 YEARS
Reconditioned Mechs and Validators	6 MONTHS
Reconditioned Control Boards	6 MONTHS
B. REPAIR SERVICES	
Standard Warranty	1 YEAR
Flat Rate Repairs	1 YEAR
C. EQUIPMENT	
REVISION™ Door	1 YEAR
A-1 Remanufactured Machine	90 DAYS
Clean, Checked and Working Machine	30 DAYS
As-Is Machine	NO WARRANTY
New	MFG WARRANTY

- a.) Failure of the Buyer to submit any claim hereunder within ten (10) days following expiration of the Warranty Period applicable to such Products shall be an admission by the Buyer and conclusive proof that such articles are in every respect as warranted and shall release VE from any and all claims for damage of loss sustained by the Buyer. In the event the Buyer timely submits a claim for breach of WARRANTY, the parties agree that, at VE's option, the Buyer's sole and exclusive remedies shall be the repair or replacement of the defective Products or Part(s) or a refund of the price of the defective Products or Part(s).
- b.) The Buyer acknowledges that it alone has determined that the Products purchased hereunder shall suitably meet the requirements of its intended function. It is expressly understood that any technical advice or recommended operating practices furnished by VE with respect to the use of the Products is given without charge, and VE assumes no obligation or liability for the advice or recommended operating practices given, or results obtained, all such advice or recommended operating practices being given and accepted at the Buyer's risk.
- c.) This Warranty does not apply to (i) electrical components, wiring, circuits and/or mechanical parts or assemblies damaged as a result of operating the Products at other than 115 volts, 60 Hertz current, (ii) Products damaged due to vandalism, fire, flood or other casualty, (iii) Products not maintained in accordance with the manufacturer's or VE's recommendations, and/or (iv) Products not serviced by VE authorized service personnel or which contain replacement parts not furnished by VE or its authorized service personnel.

For additional information please review the Terms and Conditions of Sale.

# NOTES







At Vendors Exchange®, our mission is to link timeless traditions with the latest innovations. From classics to concepts, old parts to new partnerships, we pride ourselves as the only vending solution you'll ever need.