

GF9-H

TROUBLESHOOTING SECTION

SandenVendo Warranty Process

1. Advance warranty: Order is placed using normal ordering payment methods. Once defective parts have been returned and inspected, a credit is issued, and all applicable charges are reimbursed. **If your company uses POs – a PO number is required.**

2. Replace upon receipt: Defective parts are to be returned for inspection. Once defective parts have been returned and inspected, replacement parts will be shipped as applicable.

RETURN POLICY

All parts returned must be accompanied by a Return Goods Authorization Number received from your SandenVendo Customer Service Representative at 1-800-344-7216.

All parts must be properly wrapped and packed securely to avoid further damage. Failure to do so may void your warranty.

Mark all packages with the Returns Goods Authorization number provided by your CSR and send it by the most inexpensive method of transportation (Federal Express Ground or Overnight Transportation). SandenVendo can also provide pick up service upon request. Please ask your CSR about this option.

Return package(s) to:

SANDENVENDO

Attn: Warranty Returns Department

10710 Sanden Drive

Dallas, TX 75238

If you have requested 'replace upon receipt,' a like part will be shipped at no charge if our inspection shows that the inoperative part became defective during the warranty period.

If you have requested 'advance warranty,' a credit will be issued to cancel the invoice on which the replacement part was shipped. This credit will include any applicable prepaid transportation charges.

To receive credit the inoperative part must be returned within 30 days from the date the replacement was shipped or the RG was requested.

SandenVendo does not issue cash credit for the return of any part or accessory.

The GF9-H vendor provides self-diagnostics to aid you in the trouble shooting process. Error codes are stored in the controller's memory when a system error is sensed. These codes can be accessed in the Diagnostic section of Programming.

VMC – Vending Machine Controller **DMC**- Delivery Mechanism Controller

IMPORTANT INFORMATION:

General Process Description:

Ready to Vend Position: The catcher is at the bottom corner towards the hinge side of the machine – the fork on the catcher is pointing towards the trays.

Initialization Process: This process is activated during power up and Door Close scenario.

The catcher will rotate 90 Degrees clockwise, to confirm Z movement.

The catcher will move sideways about 3 inches away from the hinge side and will move back to the original position – to confirm X-location.

The catcher will move up about 4 inches and back to the base – to confirm the Y-location.

The catcher will perform a vend drop movement – to confirm that there is no product in the catcher.

The catcher will move up along the hinge side of the machine then towards the right and diagonally back to the original position – to confirm the shelf locations.

The catcher will rotate 90 degrees anti-clockwise to return to the Ready to Vend Position.

Recovery Process: This process is activated anytime there is a physical obstruction during the catcher or elevator movement. The vendor will initiate the initialization process on any motor jam. The vendor retries 5 times before terminating the recovery process. If the vendor fails to recover during its 5 retries, the machine is out of order.

Elevator Trouble Shooting Guide

ERROR TYPE	DESCRIPTION OF ERROR CODE	ROOT CAUSE	CHECKING METHOD	CORRECTIVE ACTION
Products Dropped	Products laying in the bottom of the cabinet below the X-Rail	The release mechanism in the catcher did not work	Check the product release “U-shaped stopper” on the delivery eyelet	Adjust the U-shaped stopper towards the right of bucket side of the machine. Technical Bulletin Available.
			Check the X-Roller Bracket on the left side of XY Rail to make sure it's making contact with the inner liner of the cabinet during the product drop.	Raise the X-rail to the eyelet position, adjust the X-roller so it's slightly making contact with the inside liner.
			Check X – Belt tension.	If the belt needs tightening, use the right side screw on the rail to tighten it. Technical Bulletin Available.
			Check the X ribbon cable for the catcher.	Remove the catcher from the base and confirm the X-ribbon cable is not creased. Check continuity on the ribbon cable. Confirm the ribbon cable is routed from the cutout further away from the hinge side of the machine. Technical Bulletin Available.
	Products not advancing	Back pusher did not disengage from the lock mechanism	Make sure the product pushers have disengaged after loading	Disengage the pusher – Make sure the back sheet metal strip is not bent
		Pusher sticking in its guide	Debris or syrup in the guide	Move the pusher on its track to remove all dust particles. Clean the pusher path to remove any sticky syrup / re-apply grease
	Product(s) in the bottom of the cabinet below the X-Rail	Incorrect loading of product. If the bottles lean forward, it is knocked off the column by the rail as it moves to vend another product.	Make sure the products are not tilting forward after a product reload.	Load the bottles correctly. Pull the tray - Push and lock Spacer to the back. Load products from behind. Push the tray in place- the pusher will automatically snap back (see decal on top drawer panel). Add spacers if needed (see Setup Section)
Products Not Dispensing	Catcher fingers are interfering with the shelf and lifting the shelf.	X-rail is pushed to the right because the roller is out of adjustment.	Make sure that the roller does not touch the left wall when the X-rail moves up and down.	Adjust the roller so that the clearance between the wall and the roller is between 0.01” to 0.03”.
Products Not Dispensing	The catcher forks are unable to drop the product into the bucket.	The U-shaped stop is too far to the right.	Make sure that the catcher fork release mechanism is triggered as it approaches the eyelet.	Adjust the U-shaped stop so catcher fork release mechanism makes contact and triggers to drop the product into the bucket.
XY Failure	Display reads - “Now dispensing” the XY rail does not move.	The flap is not fully closed.	Check for any interference blocking the flap	Remove any interference
			Make sure the flap pivot is not tight and preventing the flap from closing	Loosen the top two screws on flap pivot pin.

			Check for the LED Hopper light harness connector is not in the way of flap close	Wire tie the harness away from the flap
		The magnet on the flap is missing / fallen off	Check the back side of the bottom middle part of the flap for a magnet	Replace the flap or re-insert the magnet if it has fallen off.
ERROR TYPE	DESCRIPTION OF ERROR CODE	ROOT CAUSE	CHECKING METHOD	CORRECTIVE ACTION
XY Failure	X Rail moves to a location and stops abruptly : Error Code " Axis Motor Locked: Y"	The counter weight is dragging along the side brackets - causing the Y motor to overload	Turn off the power. Run the X Rail up and down slowly to see if there any obstruction - The Rail should run freely and evenly at both ends of the elevator	Check for proper installation of the elevator
	X Rail moves to a location and stops abruptly : Error Code " Axis Motor Locked: X"	The catcher is not able to move in X direction	Turn off the power. Push the catcher towards the bucket side to check for any obstruction - Repeat the same checking method towards the hinge side of the machine.	Remove any physical obstructions.
		Damaged Ribbon Cable	Check the X ribbon cable for the catcher.	Remove the catcher from the base and confirm the X-ribbon cable is not creased. Check continuity on the ribbon cable. Confirm the ribbon cable is routed from the cutout further away from the hinge side of the machine. Technical Bulletin Available.
		X - Motor not working	The X motor is defective	Change X motor
	X Rail fails to move up during initialization and the teeth slipping at the Y-motor gear		Check for any broken teeth at the Y Motor area	Change Y motor or Y Motor assembly or elevator gear
	Error Code: Axis Motor Locked Jammed between Shelf # X and Y	The X rail jammed between Shelf X and Y where X and Y are actual shelf number (top one being # 1)	Move the Rail to the top of the machine and let it drop down - Check for any interference in the shelf locating U-Shaped sensor and the shelf tab at the right side of the shelf	Bend the shelf tabs so that it passes through the center of the U-shaped sensor
			Check for any bottle tipping forward towards the door	Check the product gates are working properly. Add spacers if needed (see Setup Section).
X Failure	Catcher Moves to the right and does not move back - error code : Switch Off	The X-Sensor in the X-Rail assembly is not working	check to make sure there is no debris in the X-Home sensor and retest	Change the X-Rail or X-Home Sensor
Z Failure	No movement on the catcher	No power to the motors	Check the fuse on the 24 v power supply	Change fuse if blown
	Vendor picks up a product but keeps rotating, the catcher is unable to move towards drop location	Failed on catcher rotation	Check continuity on the x-axis ribbon cable - the wires are broken	Change the ribbon cable Technical Bulletin Available.

Bucket	Bucket opening and closing after a vend	Bucket base is not engaging the bucket base switch	Make sure to check the harness and connectors are out of the bucket path	
		Bucket side is hitting the door side while opening	Check the bucket side for any scraping	Take appropriate measure to avoid the scraping
ERROR TYPE	DESCRIPTION OF ERROR CODE		CHECKING METHOD	CORRECTIVE ACTION
Bucket	Bucket stays open after a vend	The bucket vend optics have been blocked	Check for any debris inside the bucket	Remove debris and wipe the inside of the bucket to remove any dirt
Y Switch	During initialization , Y Rail Moves down and pushes down when it reaches the bottom - led light turns off momentarily	The rail is trying to push down although it is physically at the bottom	Y -switch not working or not activated	Check the Y-home switch
Operator	Error Code "Door Opened - Movement"	The door was opened while the elevator was in motion	This is a flag to indicate that the door was opened during movement	Reset the error code
Door Switch Mismatch	Door Switch signal between the VMC and DMC board does not match	Door Switch mis-wired	Make sure the door switch is wired correctly – Refer to Wiring Diagram	Correct wiring on door switch
DMC not Available	The VMC and DMC communication broken	Communication link disconnected or not working	Check the Y-MDB plug from VMC is connected to the DMC controller	Replace harness if the wires are broken.
	No power to DMC	Fuse Blown	Check the fuse for the DMC board	Replace fuse if blown
		No power to DMC board	Check 8v power supply and make sure there is power into the DMC board (refer to wiring diagram)	Replace power supply if necessary
		DMC Board Defective	DMC board is not working	Replace DMC board if necessary
Vending Wrong #	Selection # not matching the shelf #, e.g. Pressing 11 vends 21 , 22 vends 32	DMC did not detect the correct number of shelves in the vendor	Check the Shelf position under diagnostics and confirm the distance of each shelf from the bottom tray.	If the number of shelves shown is less than the actual then the sensor did not detect one of the shelves. Look for missing shelf tab and confirm the shelf tab passes in between the U sensor's arms during initialization process. Confirm the shelf tabs covers more than half of the U-sensor during the shelf scanning process. Replace U-Sensor if required.
X/Y Failure	Jerky Movement on X/Y direction	Wire not connected properly Wire not connected tightly in place at the board Wire not connected at the back of the drawer	Check the connectors in the DMC board and Relay board are connected properly and locked into its housing. Perform a pull test on the wires to make sure they are locked in its pin slots.	Re-connect the connectors into its corresponding housing. Re-connect the pins in its housing. Replace the harness if required.

General Machine Troubleshooting

ERROR	PROBABLE CAUSE	CORRECTIVE ACTION
COIN ACCEPTANCE/PAYOUT (Record all errors for reference if Vendo Technical Service is required)		
Coin mechanism will not accept coins.	No power to control board.	Check to make sure the red LED on the control board is flashing red. If flashing, check MDB harness connections. If connections are good, replace changer.
	Harness from coin mech to board is cut or disconnected.	Use a meter and check each wire for continuity and ground.
	Short in coin mechanism.	Replace coin changer/acceptor.
	Acceptor is dirty or other problem may exist (not tuned).	Clean acceptor or contact your local coin mech dealer.
	Defective control board.	Replace control board.
No acceptance or rejects a percentage of good coins.	Coin return lever pressing down on acceptor's coin plunger.	Make sure changer is mounted correctly and the coin return lever is in the proper position.
	Acceptor is dirty or foreign matter is in the path.	Clean acceptor or contact dealer.
	Coin changer is improperly tuned (if tunable).	Contact manufacturer for tuning.
	Defective controller board.	Replace/test controller.
Always accepts coins but gives erratic/no credit.	If NO CREDIT: Defective harness between coin mech and control board (will have "CC" error).	Check harness for cut wires or wrong/bad connections. Test each wire for continuity or test to ground. If found to be defective, replace.
	If ERRATIC OR NO CREDIT: Acceptor or coin mech.	Replace coin mech and test.
	If NO CREDIT: Defective controller.	Replace/test controller.
Changers will not pay out coins.	Defective harness between coin mech and control board.	Test vendor's manual coin payout. If vendor won't pay out using the Coin Payout mode or during sales, check harness for cuts, bad continuity or wrong connections. If defective, replace and test.
	Defective coin mech.	Replace coin mech and test.
	Defective controller board.	If coin mech won't payout coins manually in the Coin Payout mode or during the Sales Mode and the above two procedures have failed, replace the control board and test payout both in the Coin Payout mode and during a sale.
	Changer payout buttons are disabled while door is closed or while in Open-Door Sales Mode.	Enter the Service Mode or access the Coin Payout Mode.
BILL ACCEPTANCE		
Bill Acceptor will not pull bill in.	No power to validator.	Unplug power. Wait for 10 seconds. Reconnect power and see if bill acceptor cycles. If not, check acceptor harnessing or replace the bill acceptor.
	Acceptance disabled by coin mech (if present), or bad harnessing.	Make sure that the coin mech is plugged in (accepts coins) and that the coin tubes have enough coins to enable bill acceptance.
	Coin mech is not operative.	Make sure that the changer harnessing is correctly connected and has continuity. Repair or replace if necessary.
	Replace acceptor and test.	If acceptor accepts, bill acceptor was defective.
Bill acceptor takes a bill but does not establish credit.	Defective acceptor harness (credit not getting from acceptor to control board through the harness).	Make sure that the acceptor and harnessing is correct for your style of acceptor and it is plugged in and wired properly.

	Defective acceptor.	Replace/test acceptor.
	Defective controller.	Replace/test controller.
Bill acceptor takes a bill and credits but not erasing credit.	Defective bill acceptor.	Replace acceptor and test acceptance and erasure of credit.
	Defective controller.	Replace/test controller for erasure of credit.
	Both vend sensors are defective	Replace vend sensor.
Acceptor takes a bill and allows payback of coins without a selection.	Controller's configurations not set properly.	Access vendor configuration mode and check the "Forced Vend" setting.
MISCELLANEOUS PROBLEMS		
Vendor appears dead; no digital display and no lights.	Defective main harness.	If red light on control board is off, check fuse and transformer.
No digital display; vendor lights on.	Defective display or display harness.	Check display and display harness. Replace if necessary.
	Check for a flashing red light on control board.	If no light, replace control board.
Vendor scrolls message on display but does not accept money.	Changer out of tune.	See "Tuning Changer".
	Defective changer.	Replace changer.
	Defective controller board.	Replace control board.
ERROR	PROBABLE CAUSE	CORRECTIVE ACTION
Vendor accepts money but does not display credit.	Defective changer.	Replace changer.
	Defective controller board.	Replace board.
Vendor accepts and credits money but does not vend (does not indicate a sold-out).	Defective selection switch.	Replace switch.
	Defective selection switches harness.	Repair or replace harness.
	Defective controller board.	Replace board.
REFRIGERATION		
Refrigeration unit will not run.	Defective temperature sensor.	1. Check connection.
		2. Replace temperature sensor.
	Defective control board.	Replace board.
Refrigeration unit will not run at all.	No power to vendor.	Check power supply, also check service cord connections.
Unit will only run in the compressor relay test mode. (Located under Test Mode)	Defective door switch.	Open and close the door and drawer to make sure lights and fan come on. If not, then check the cabinet switch.
	Defective temperature sensor.	Follow the same steps detailed above about the temperature sensor.
	Wait for 3-minute delay once the cabinet door is closed.	Wait to see if unit comes on.
	Defective control board.	If unit still does not come on, then replace the control board.
Unit will not run in the compressor relay test mode. **NOTE: Leave the compressor relay test mode on, in order to check for voltage.	Defective control board.	Unplug unit at power distribution panel. Remove air dam. Reconnect power. Enable compressor relay through Test Mode. Check 2-pin connection on power distribution for 110V.
	Defective relay.	Upon opening the drawer, the lights and fans should shut off. If they don't, replace the door switch.

Refrigeration unit runs constantly.	Defective door switch.	Upon opening the door, the display should read either errors, summary sales, or none. If it does not, then replace the door switch.
	Defective control board.	Replace the control board.
	Defective relay - contacts are welded together.	Replace relay.
Compressor will not start.	Overload protector inoperative.	Check overload (apply insulated jumper across terminal, if compressor starts, replace overload).
	Defective door switch.	Check for error codes. Replace the door switch.
Compressor will not start, condenser fan motor running - unit hot (power to compressor).	Defective overload relay	Replace the overload relay.
	Compressor motor locked	Replace the refer unit
	Defective capacitor	Replace the capacitor.
	Defective PTC relay	Replace the PTC relay.
Compressor starts but does not run.	Loss of refrigerant	Replace the refrigeration unit.
	Smashed tubing and capillary	Replace the refrigeration unit.
	Defective overload relay	Replace the overload relay.
ERROR	PROBABLE CAUSE	CORRECTIVE ACTION
Compressor runs but cabinet temperature warm.	Loss of refrigerant	Replace the refrigeration unit.
	Smashed tubing	Replace the refrigeration unit.
	Defective drainage – Evaporator frozen	Make sure the drain hose is not kinked or clogged.
	Defective temperature sensor	Replace the temperature sensor.
	Poor air flow	Make sure nothing is sitting in front of the evaporator.
	Defective control board	Replace the control board.
	Defective door seal	Make sure the vend flap closes and the door gasket is in place.
	Defective heat exchange on condenser/ Blocking air flow by dust, lint or damaged fins	Clean the surface of the condenser fins or straighten the bent fins.
Both compressor and condenser fan motors will not operate.	Bad refrigeration control relay.	Test relay using relay test function of the electronic controller. Replace relay if necessary.
	Bad connection at power board.	Check wiring connections. Make corrections if necessary.
Evaporator frosted over.	Loss of refrigerant	Replace the refrigeration unit.
	Smashed tubing	Replace the refer unit.
	Defective drainage	Make sure the drain hose is not kinked or clogged. Re-install hose correctly if kinked or clogged or has come out of the drain pan.
	Defective temperature sensor	Replace the temperature sensor.
	Defective control board	Replace the board.
	Poor sealing	Check door gasket, vend flap, and refrigeration tubing seal on the bulkhead.
Product freezing up (too cold).	Temperature setting too low.	Adjust set point in control board.
	Defective temperature sensor	Replace the temperature sensor.
	Defective control board	Replace the control board.
Excessive noise.	Fan blade hitting shroud or deformation or loose fitting	Replace the fan blade or re-install correctly.
	From the inside of fan motor or loose fitting	Re-install or replace the motor.
	From the inside of compressor or loose fitting	Replace the refrigeration unit.

Error Codes

Error Codes are flagged if the vendor detects an error during its operation.

Procedure to view error codes:

1.Open the door 2.Press Mode Switch 3.Display will read “Diagnostics” – Press 4 to view top level error – Press “4” again to view the detailed error

ERROR CODES	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Product Catcher – Y-Rail : Top level Error : DMC Error			
Excessive Pulse	Motor Encoder pulse is more than expected	Power Up and Initialize the vendor	Replace Related Motor.
Pulse Stop	Motor Encoder cannot detect the encoder signal	Check for wire continuity between the motor pins and the DMC board (Ref wiring diagram)	Replace harness if necessary.
		Motor Disconnected	Re-connect motor
		Motor Malfunction	Replace Motor
Switch On	Motor Home Switch Always On	Power Up and Initialize the vendor – Check to see the Home switch is connected	Re connect home switch
		Switch Malfunction	Replace Home switch
Switch Off	Motor Home Switch Always Off	Power Up and Initialize the vendor – Check to see the Home switch is connected	Re connect home switch
		Switch Malfunction	Replace Home switch
Axis Motor Lock: X/Y/Z	(X/Y/Z) Motor failed to move	Reset power – Let it finish its initialize or recovery routine. Open the door and check error code for related motor failure	Details Below
Axis Motor Locked: X Mtr Jam at Tray #	X Movement Failed around Tray #	Check for obstruction on X-rail (Screws / Debris)	Remove any obstruction – Test Replace Motor if necessary
Axis Motor Locked Y Jammed between Shelf # and #	Y Movement Failed	Checks for any obstruction on Y-Rail – Common reasons are and not limited to interference between the Shelf Sensor and Sensor Tabs.	Re-adjust the tabs so that the U-sensor does not interfere during the initialization. Adjust the X-Roller Bracket if necessary
	The XY rail jammed between Shelf # and # where # is actual shelf number (top one being # 1)	Move the Rail to the top of the machine and let it drop down - Check for any interference in the shelf locating U-Shaped sensor and the shelf tab at the right side of the shelf	Bend the shelf tabs so that the it passes through the center of the U-shaped sensor
		Check for any bottle tipping towards the door	Check the product gates are working properly. Add product spacers if needed.
		Unable to move elevator	Remove any obstruction – Test Replace Y-Motor if necessary
Axis Motor Locked Z Motor Jam	Z Movement Failed	Check for any obstruction in Z-direction	Remove any obstruction – Test Replace motor if necessary
Shelf Not detected	Shelf not detected during initialization	Power Up and Initialize the vendor	
		Check U-Sensor Connectivity	Confirm U-sensor connectivity
		Confirm the shelf tabs are installed	Install shelf tabs
Shelf out of Range	Shelf detected is out of shelf position limits	Power Up and initialize the vendor	Confirm connectivity of the U-sensor in the Y-Rail.
			Check to make sure the U-sensor passed through the shelf tabs during initialization.
ERROR CODES	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
VMC Error : Top Level Code : VMC Error			
Escrow Motor Switch	Coin Return motor switch not working	Check connectivity on the Coin Return motor switch.	Change harness if required
		Plug in coin return switch connector. Press Coin Return	Check the Coin Return Switch and change if necessary

		Button. Confirm the motor moves full 360 Degrees in clockwise direction. Test it twice to make sure the cam stops at exactly the same position.	
Escrow Motor Jam	Coin Return Motor not working	Check for any obstruction on the coin return mechanism that might prevent the cam rotation. eg. Wire harnesses	Clear obstruction and test. Change motor if necessary
Hopper Bucket Switch	Hopper Bucket Switch not working	Check connectivity on the hopper bucket motor harness	Change harness if necessary
		Check that the hopper switch is connected	Connect switch
		Bucket switch stuck due to syrup on the switch	Change motor assembly
Hopper Bucket Jam	Hopper bucket motor not working	Check to see if the bucket Cam is broken	Replace bucket cam if broken
		Unlock the bucket cam and push the bucket open Test hopper in test mode with bucket pushed open – the bucket open cam should turn clockwise and stop for 2 seconds and return back to original position	If the bucket motor cam does not run as described – change the motor
Hopper Base Switch	Hopper did not close properly	Test hopper operation in test mode – The hopper should open – wait for 2 seconds and close. The display should read “Hopper Test Successful”	
		If the hopper test fails -	Check for connectivity of hopper switch wire
			Check for any interference that could prevent the activation of hopper base switch lever – eg. Optics harness
			Check to make sure the hopper base switch is properly connected
Escrow Switch	Coin Return switch not working	Press Coin Return switch – the coin return motor should turn 360 Degree clockwise	Check connectivity on the coin return switch , Make sure the switch is connected properly and the coin return button activates the switch
Escrow Mtr No Cur	No power to the Coin Return motor	Press coin return button to test	Check to make sure the Coin Return motor connector is connected
			Replace motor if necessary
Hop. Buck No Current	No power to the Coin Return motor	Test Hopper operation	Check to make sure the Hopper motor connector is connected
			Replace motor if necessary

ERROR CODES	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Selection Switches – Top Level Code : Selection Switch Error			
Stuck Selection SW on Keypad	Bad Selection Switch - Selection switch within the Keypad is actuated for more than 15 seconds while in the Customer Mode or Door Open Sales Test Mode.	Check the selection switch number shown in the detailed error code “nn” to see if: 1) if the Keypad is defective; 2) the harness is wired wrong/shorted	Try to correct the problem if one of the two items is found. If you can't correct it, then replace the component in question.

Coin Changer : Top Level Code: Coin Changer Error			
Coin Communication	Changer communication error - no changer communication for more than 2 seconds.	Check that red light is flashing on control board.	If light is not flashing, there is no power to board. Check and replug any unplugged connections.
		Check fuse.	If fuse is blown replace it.
		Defective acceptor.	Replace transformer. Replace acceptor.
Tube Sensor	Tube sensor is defective - reported by changer	Check changer tubes for blockage	Clear tube blockage. If no blockage is found, replace changer.
Coin Inlet	Changer inlet chute blocked - no coins sensed for over 96 hours by the changer.	Check inlet chute for blockage. Drop coins in Sales Mode or Tube Fill Mode to test acceptance. Manually clear the error.	Clear inlet chute blockage. If no blockage found, replace changer. If acceptance rate is acceptable, system is OK. If acceptance rate is low or changer will not accept coins, replace changer.
Tube Jam	Tube pay out jam – reported by changer.	Check changer tubes and payout for blockage.	Clear blockage, if found. If no blockage is found, replace changer.
Coin Read Only Memory	Changer check sum incorrect - reported by changer.	Unplug machine, wait at least five seconds, replug machine. Manually clear the error	If error does not clear, replace changer/acceptor.
			Replace acceptor
Excessive Escrow	Excessive escrow requests - more than 255 requests since the last coin was sensed.	Check escrow lever and associated mechanisms.	Manually clear the lever and error.
		Close door then reopen. Check to see if error still occurs.	Replace changer/acceptor.
Coin Jam	Coin jam - reported by changer	Check changer/acceptor for jammed coins or other obstructions.	If no obstructions are apparent, replace changer/acceptor
Low Acceptance	Low acceptance rate – coin acceptance has fallen below 80%	Check changer/acceptor for obstructions or dirt	If no obstructions are apparent, and acceptance appears to be OK, this may be an indication of cheating attempts.
		Drop coins test acceptance.	If no obstructions are apparent and coins do not accept, or acceptance rate is poor, replace changer/acceptor.
Accept Disconnect	Disconnected acceptor - indicates that an acceptor is unplugged.	Check coin mechanism plugs. Check for faulty harness wiring (see wiring diagram for circuit).	Correct connections.
Routing	Coin routing - indicates a coin was routed incorrectly.	Verify acceptor set-up using manufacturer's recommendations.	If acceptor was set up correctly, replace acceptor.

ERROR CODES	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Dollar Bill Validator : Top Level Code : Bill Validator Error			
Bill Validator Communication	Bill validator communications - No bill validator communication for 5 seconds.	If changer or card reader is being used, check for "CC" or "rC" errors.	If there are no "CC" or "rC" errors: 1) Check bill acceptor harness; 2) Replace bill acceptor. If there is a "C" or "rC" error: 1) Check control board MDB harness.
		Turn off door switch and wait at least five seconds. Turn on door switch.	
Bill Validator Full	Bill validator full – reported by validator (STACKER command).	Insure bill cashbox is empty and that the cashbox is properly closed and in place.	If cashbox appears to be OK, replace bill acceptor.

Bill Validator Motor	Bill validator motor is reported as defective by validator.	No test available	Replace bill acceptor.
Bill Validator Jammed	Bill jammed - reported by validator.	Check bill validator for obstructions or dirt.	If no obstructions are apparent, replace bill validator.
Bill Validator ROM	Bill validator check sum is incorrect.	Turn power switch off. Wait at least five seconds. Turn power switch on. Manually clear the error.	If error does not clear, replace bill acceptor.
Bill Validator Open	Bill validator is open.	Check that bill cashbox is closed and in correct position.	If cashbox appears to be OK, replace bill acceptor.
Bill Validator Sensor	Bill validator sensor is not functioning.	Check bill validator for obstructions or dirt.	If no obstructions are apparent, replace bill validator.

Card Reader : Top Level Code: Card Reader Error			
Card Reader Communication	There is no card reader communication for 5 seconds.	If card reader/bill acceptor is being used, check for "rC" or "bC" errors.	If there is no "rC" or "bC" error: 1) Check changer harness. 2) Replace changer.
		Turn power switch off. Wait at least five seconds. Turn power switch on.	If there is a "rC" or "bC" error: 3) Check control board MdB harness.
Card Reader	Most recent "non-transient error" from the card reader.	No test available.	Refer to card reader manual for corrective action.
Refrigeration : Top Level Code : Refrigeration Error			
Temp Sensor	The temperature sensor is defective or unplugged.	Check to see that temperature sensor harness is plugged into door harness at air dam area.	If the sensor is unplugged, replug it.
		Check for temperature sensor connection J7 on control board is plugged in.	If the connection is unplugged, replug it.
Compressor	System has failed to decrease temperature 1° per hour while the compressor is running.	Check refrigeration settings (refer to refrigeration section of programming manual).	Change settings as required.
		Check if evaporator is frozen.	Check seal around cabinet.
		Verify evaporator fan is running.	Check harness to fan motor and check output voltage.

ERROR CODES	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Miscellaneous Error : Top Level Code : Other Error			
Door Switch	Outer door has been open for more than one hour.	Check the vendor's door switch to see if it's sticking or miswired.	Replace the door switch, if defective.
Ram Error	Ram check sum for service mode settings stored in nonvolatile memory has been corrupted.	No test available.	If error shows up frequently, replace the control board.

AC Low	AC voltage to the controller is less than 20Vrms for more than 30 seconds.	Check for low voltage at the wall outlet at unit start-up.	Contact a qualified electrician.
Scale	Scaling Factor error – one of the credit peripherals has introduced a scaling factor that is not compatible with the current configuration.	Check the connections of changer harness; make sure changer is plugged in and working.	Make corrections to harness or replace the changer if necessary.
Inlet Sensor	Machine's coin inlet sensor is blocked for more than 1 minute.	Check changer harnessing for cut, pinched or crimped wires.	Replace harnesses or changer.
Escrow Return Mech.	3 successive coins are detected at the inlet but do not make it into the changer in 10 seconds.	Check inlet for blockage. If nothing is found, check changer harnessing for cut, pinched or crimped wires.	Clear blockage or replace harness or changer.
Flap Open / Flap Switch	Flap Opened before vending	The Vending mechanism will not work if the flap is open before vending	Check to make sure the flap is closed. Check to make sure there is no obstruction during flap open / close eg. Wiring for hopper optics.
	Flap Switch Malfunction	Check to make sure the flap switch is connected	Connect flap switch if it is disconnected.
		Check the flap hinge	Confirm the flap is closed
Door Switch Mismatch	The VMC and DMC door signal did not match	Door Switch faulty or mis-wired. Check wiring diagram for correct wiring	Reset Error – Re connect the connectors in right orientation. Replace door switch if necessary
Door Opened - Movement	The door was opened while the elevator was in motion	This is a flag to indicate that the door was opened during movement	Reset the error Code