FORTIS
SECURITY PRODUCTS

5000 DS
Remote Teller System
Installation and Service Manual

September 2010

5000 DS Remote Teller System

Installation and Service Manual

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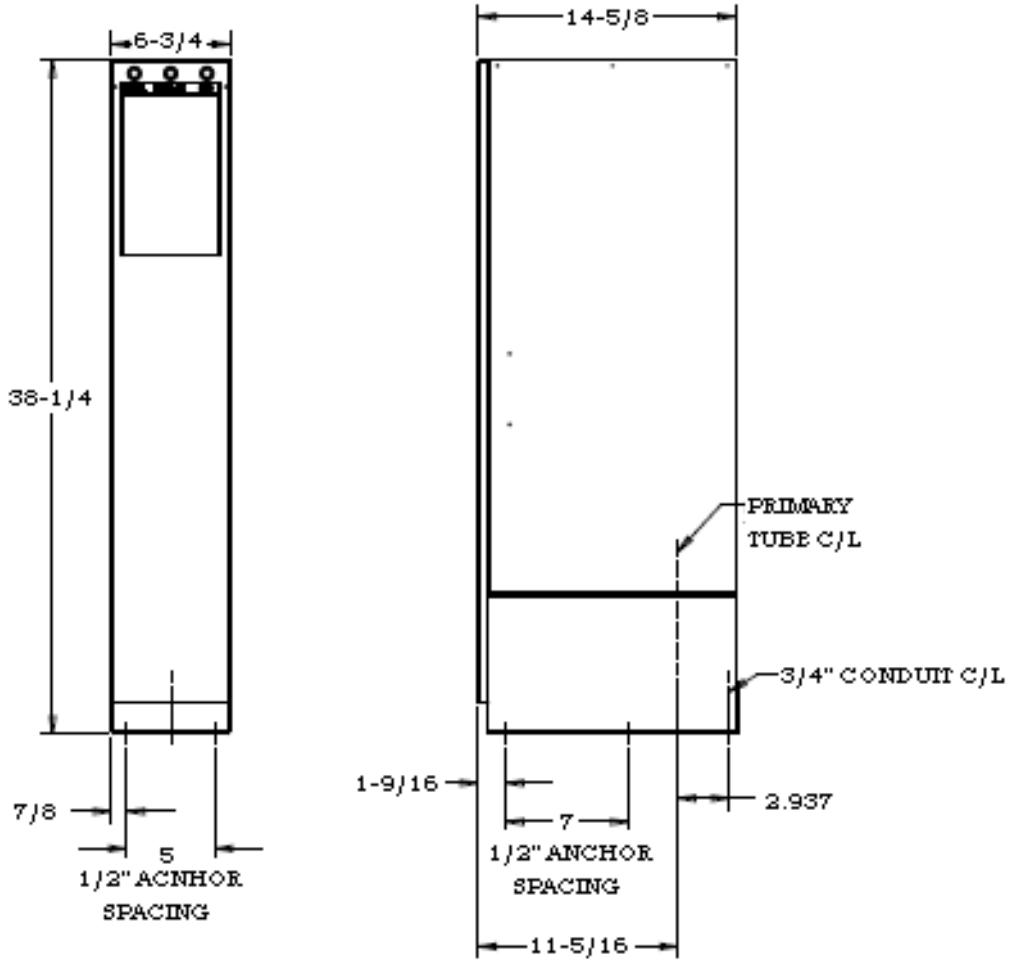
Specifications

Teller Unit

Dimensional Specifications

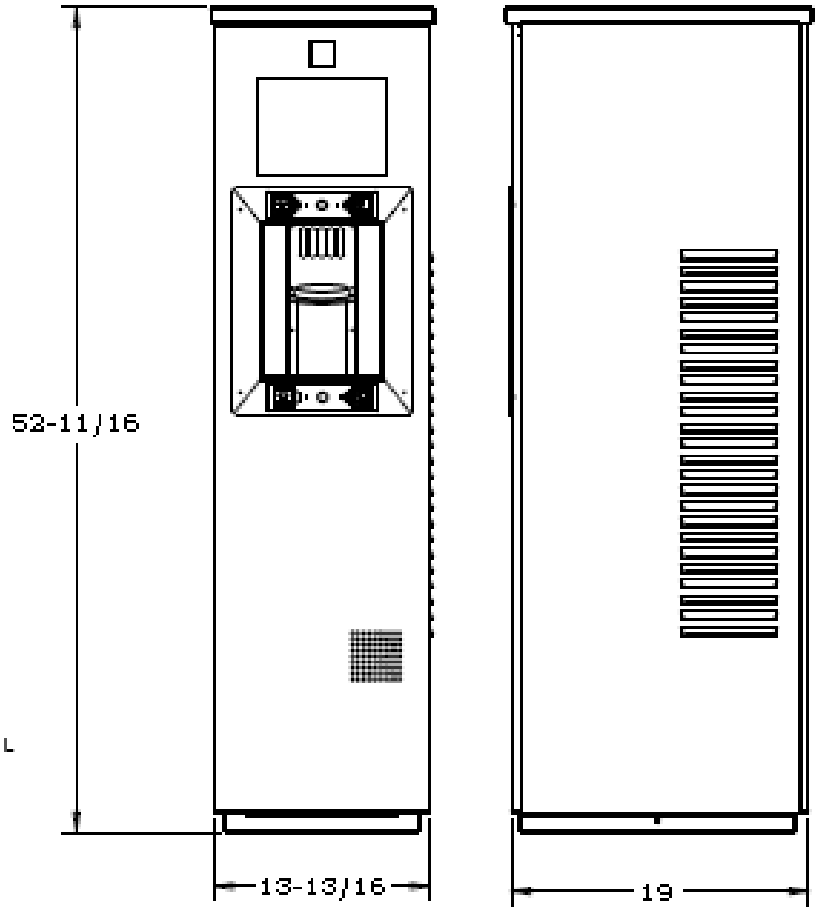


Electrical Specifications

120 volt 15 amp circuit

Customer Unit

Dimensional Specifications



Electrical Specifications

120 volt 20 amp circuit (dedicated circuit) Standard turbine
120 volt 30 amp circuit (dedicated circuit) Quad turbine

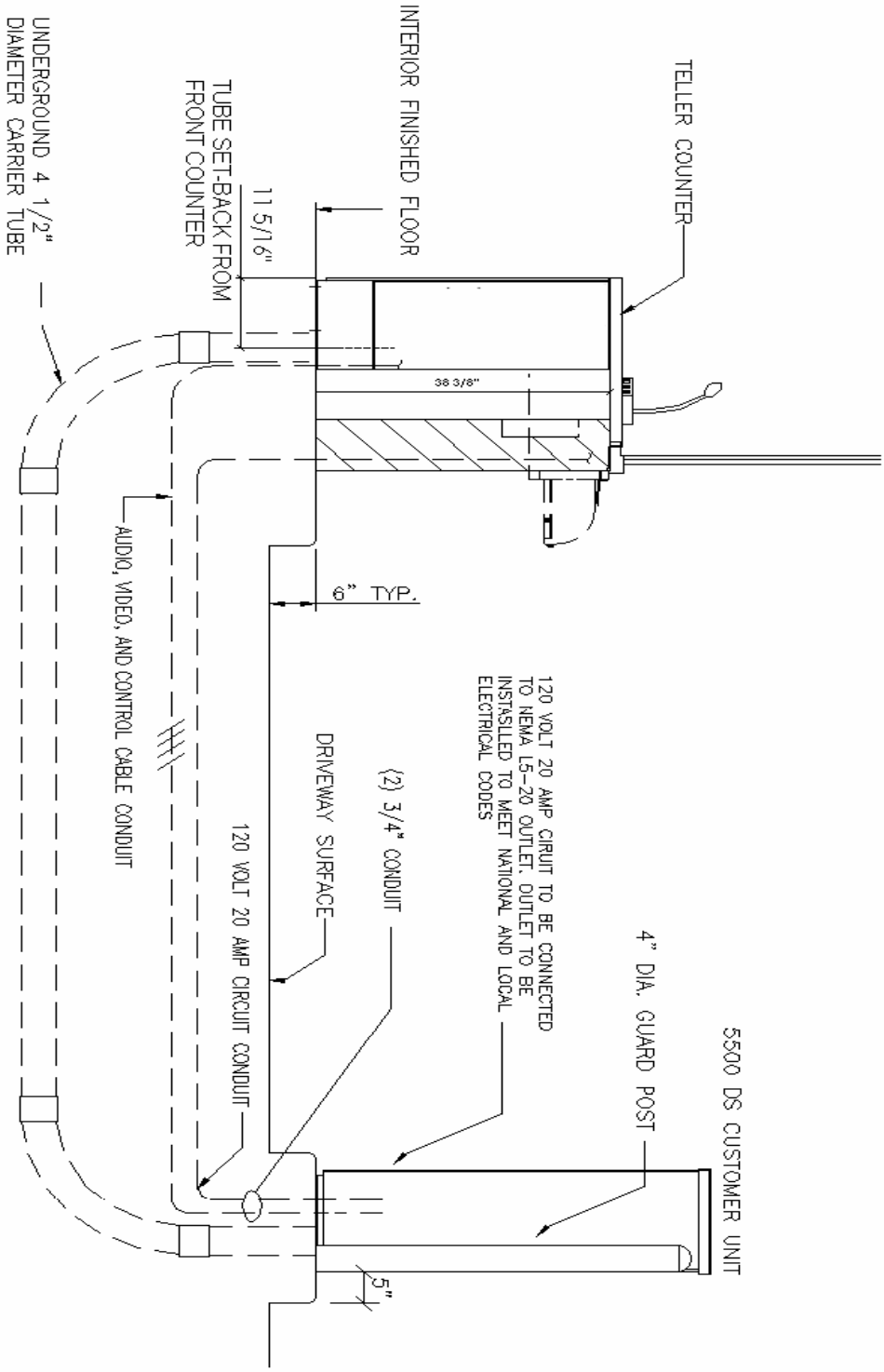
Control Cable

8 conductor 20 gauge min. For cable lengths over 200 ft use 18 gauge min.

Audio

Speaker: 8 ohm
Microphone: 2 K Impedance condenser type

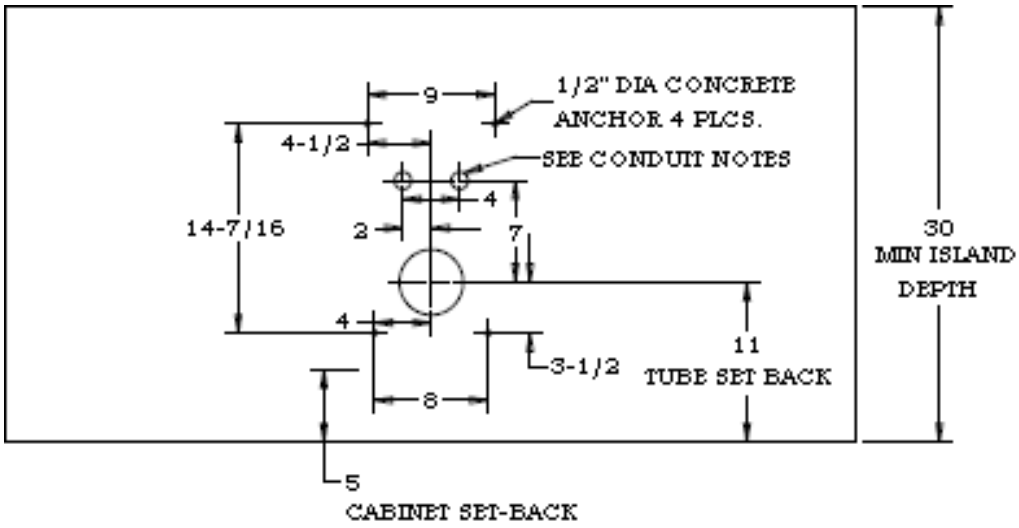
Typical System Specifications



Installation

Customer Unit Installation

Island Layout



Conduit – (1) ¾" conduit for electrical requirements.
Standard system 20 Amp 120 Volt (L5-20 outlet)
Quad Turbine System 30 Amp 120 Volt (L5-30 outlet)

Conduit – (1) ¾" conduit for Audio/Video and Control cable

Mounting the Customer Unit

1. Remove side service panel and turbine base from unit.
2. Using four ½" dia concrete anchors secure unit to island. Before final tightening of base anchors check level of base front to back and left to right. Make sure base is not twisted once fully tightened down to island.
3. Re install turbine base, make electrical connections *(Pg 5)*, install turbine *(Pg. 20)*.
4. Replace service panel.

Electrical Connections

The main power connection; for standard turbine is a 120V 20A twist and lock plug connected to an L5 20 outlet, for a Quad turbine it's a 120V 30A twist and lock plug connected to a L5 30 outlet, hardwired by an electrician.

Each system is shipped with a field wiring harness. This harness should be cut in two and connected to the field wiring cable that runs between each station. Connect these wires color for color. The cable plugs into the back of the electrical panel.

The microphone, speaker, and call buttons are wired into the main harness and the pigtail is located towards the top of the unit.
The microphone wire (shielded cable): Positive (red) negative (black) and common (bare).
The speaker wires (two red, two black wires): Positive (red) and negative (black).
The call button wires (two sets of red and black twisted together): Signal (red) and common (black).

Install and connect optional components. *(pg 26 - 30)*

Teller Unit Installation

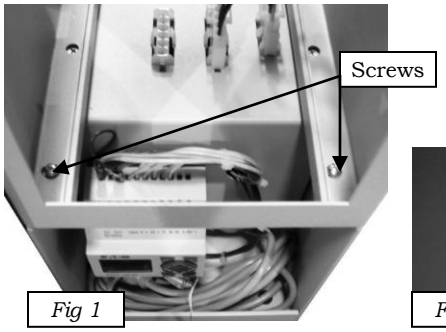


Fig 1

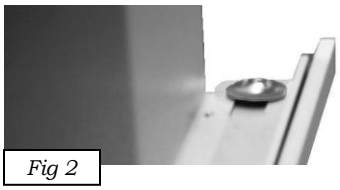


Fig 2

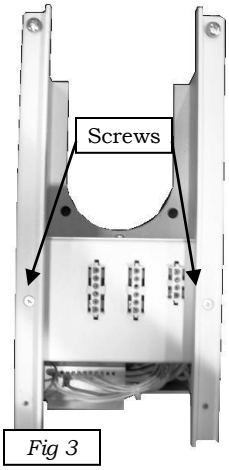


Fig 3

Fig 4

Mounting the Teller Unit

1. Remove the two screws securing the teller unit face (near buttons), pull face towards you and up to remove.
2. Remove the two screws securing the main housing to the base *(Fig 1)*.
3. Disconnect motor and switch wiring from the electrical box and separate the main housing from the base by sliding the main housing forward until in clears the large screws on the rear of the base *(Fig 2)*.
4. Remove the two screws securing the electrical box and remove the box *(Fig 3)*.
5. Mount the base to the floor using four ½" anchors *(Fig 4, 5)*.
6. Reinstall the electrical box and connect the electrical connections (below).
7. Attach the teller adapter tube to the underground tubing. Reinstall the main housing, sliding it back until the housing is flush with the base and re attach to the base using the two small screws.
8. Make final tubing connections *(Fig 6)*. (The motor bracket can be removed to make the tubing connections easier. *(pg. 18)*) Reconnect the motor and switch harnesses to the electrical box.
9. Replace front cover.

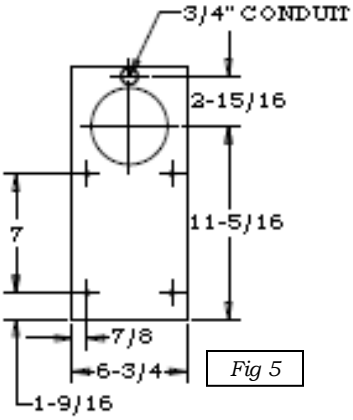


Fig 5

Fig 6

Electrical Connections

The main power is 120V 15A, located at the bottom of the unit, and should be plugged into an outlet hardwired by an electrician.
Each system is shipped with a field wiring harness. This harness should be cut in two and connected to the field wiring cable that runs between each station. Connect these wires color for color. The cable plugs into the top left of the electrical panel.

Care and Maintenance

New Installation

Fortis Security Products recommends leaving any protective film on the unit during installation to protect finished surfaces.

In the case of new construction, adding protective coverings while construction is underway is advised. Dust, fine debris, and chemicals used to clean concrete and masonry, can be harmful to the finish and interfere with equipment functionality.

Once installation, construction, and project cleanup are complete:

- Remove all surface dirt and dust using a soft cloth
- General purpose surface cleaners can then be used on all Painted surfaces. Stainless Steel surfaces should only be cleaned using a Stainless Steel cleaner such as “3M Stainless Steel Cleaner”.
- **Never use a hose or pressure washer to clean the equipment!**

Annual Maintenance

Fortis Security Products recommends cleaning and inspecting the equipment as required. Minor scratches can be fixed by cleaning the surface and using enamel based paint. Stainless Steel blemishes can be repaired using a Stainless Steel Cleaner.

Additional Care maybe required if equipment is installed in harsh conditions such as; coastal regions (high salt), dust, industrial pollution.

5000 DS Operation

Customer Unit Operation

Customer Send

Lighted button sends carrier from the customer station to the teller station. There are two send buttons located on the front of the unit; one is located above the carrier for higher vehicles, the other is located below the carrier for normal height vehicles.

Customer Call

Lighted button activates the call signal on the audio system. There are two call buttons located on the front of the unit; one is located above the carrier for higher vehicles, the other is located below the carrier for normal height vehicles.

Teller Unit Operation

Teller Send

- Send carrier from teller station to customer station.

Teller Night Lock

- Closes inside teller door and disables system
- Activates the condensate feature (if turned on) *(pg 13)*

Teller Recall

- Retrieves carrier from customer unit.

System Operational Sequence

Teller Send-

1. Teller door closes.
2. Vacuum turbine runs for a preset amount of time.
3. Customer door opens.

Teller Recall /Customer Send-

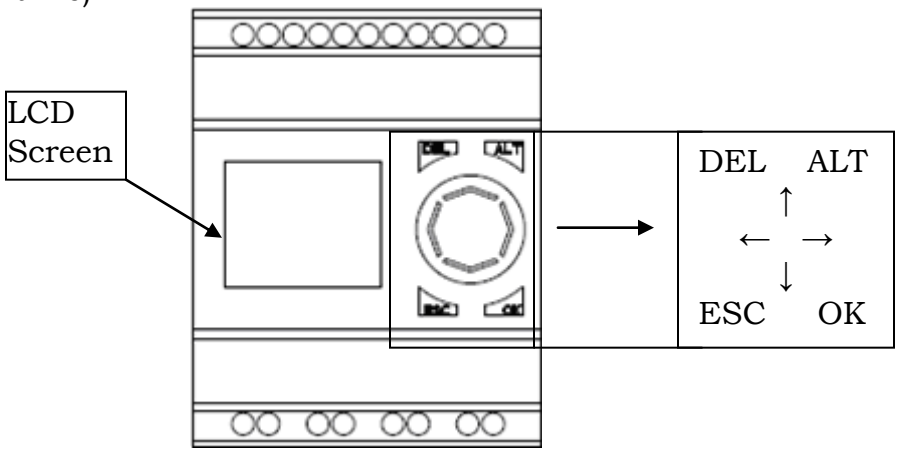
1. Customer door closes.
2. Pressure turbines run for a preset amount of time.
3. Teller Door opens.

Night Lock-

1. Teller door closes.
2. Teller send and recall functions are disabled.

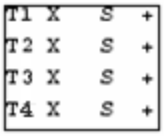
Turbine Run Time Adjustment

Remove the front cover off of the teller unit if it has not already been removed. Towards the bottom of the electrical panel you will see the control module which has a LCD screen on the front of it. Once the unit is powered up you should see a 5 and 6 in the upper part of the control modules screen. (If the teller safety or customer safety is activated is displayed you will need to determine the cause of those errors before adjusting run time)

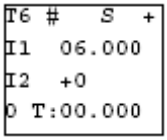


To change the timer settings you must go to the parameters screen. By holding the OK key down momentarily the LCD Screen with display the following.

Password will be flashing.
Using the ↓ key move down until Parameter is flashing.
Press OK.
The timer screen will appear.



The cursor will be flashing on T1. T1 is not adjustable.
Use the ↓ key to move the cursor to the appropriate timer.
T3 is outbound T5 is inbound *(see list on page 11)*
Press OK.
The adjustment screen appears.



The curser will be flashing on the first number of the I1 Line
Press OK to edit the value.
Use the ← and → keys to select the number to edit and the ↑ and ↓ keys to add or subtract time.
When the desired value is set press OK.

Press the ESC button three times to exit parameters.

You may now test the system to check your timing.

Control Timer Descriptions

T-2 – Delays the start of the turbines once the teller send is depressed. This setting allows the teller door time to fully close before the turbines start. This timer should be set at **2 seconds**.

T-3 – Turbine run time for when the carrier is traveling from the teller unit to the customer unit. Factory setting is **6.5 seconds**.

T-4 – Delays the start of the turbines once the teller recall or customer send are depressed. This setting allows time for the customer door to fully close before the turbines start. This timer should be set at **2 seconds**.

T-5 – Turbine run time for when the carrier is traveling from the customer unit to the teller unit. Factory setting is **6 seconds**.

T-7 – Determines how long the customer send and teller recall inputs are ignored after the carrier arrives at the customer unit. This setting allows time for the entire cycle to complete before the recall can be activated. This timer should be set at **2 seconds**.

Input-Output assignment

Inputs
I-1 = Teller Send. When highlighted the switch is depressed.
I-2 = Teller Recall. When highlighted the switch is depressed.
I-3 = Customer Send. When highlighted the switch is depressed.
I-4 = Night Lock. When highlighted the switch is depressed.
I-5 = Teller Door Safety. Should be highlighted at all times.
I-6 = Customer Door Safety. Should be highlighted at all times.

Outputs
Q-1 = Vacuum Turbine. When highlighted turbine is activated
Q-2 = Pressure Turbine. When highlighted turbine is activated
Q-3 = Customer Door Relay. When highlighted relay is energized
Q-4 = Teller Door Relay. When highlighted relay is energized

Test Cycle Procedure

Systems with the Eaton controller can be set up to auto cycle. This will send the carrier back and forth as well as operate the teller and customer doors for a pre-set number of cycles. This feature can be used to observe the system for a malfunction as well as testing the system before turning it over to the customer.

Please follow these instructions carefully when placing the system in to test mode.

Before starting the test cycle three things must be done.

1. Set the proper amount of turbine runtime for both the inbound and outbound directions *(pg 10-11)*.
2. Test both customer and teller door safety switches and make sure that they are operational.
3. Set the cycle counter for the amount of test cycles you would like to run. (The factory setting is 100 cycles.) A procedure similar to that is used for adjusting the turbine runtime *(pg 10)*, is used for adjusting the cycle count. Scroll down to and select C-12 and edit the cycle count. Note: One cycle is counted when the carrier returns from the customer to the teller.

The test mode can be turned on from the teller unit when the carrier is in the teller unit and the customer door is closed.

1. Make sure when you are using the test cycle that anyone around either end of the system is aware that the unit will function automatically.
2. Turn night lock on.
3. Press and hold the send and recall buttons for 10 seconds. When the teller door opens deactivate the night lock, and the test cycle is started.
4. The system will then cycle the carrier back and forth until the test counter (displayed on the screen reaches the preset count).
5. When the test cycle is complete the carrier will be in the teller unit.

Test mode can be halted at any time by holding the send and recall buttons in for 1 second.

Condensate Feature

The 5000 series system has a built in feature that will help keep condensation from forming inside the tubing during off hours. The system does this by turning on the pressure turbine periodically to keep inside air from migrating out through the tubing. Starting fifteen seconds after the night lock is turned on the system will cycle the pressure turbine on for four seconds every 90 minutes.

The interval between cycles or the runtime of the turbine during the cycle can be changed by editing T-16 in the control parameter list. (Review the procedure on pg. 10 for changing the turbine runtime.) Use the ↓ button to scroll down to and select T-16. The value of I1 controls how long the pressure turbine will run in seconds. The value of I2 is the interval between the cycles of the turbine in minutes.

If you do not want the turbine to cycle at all set the I1 value to 0.

Troubleshooting and Repair

General Troubleshooting

Problem	Possible cause	Correction
"Teller Safety is activated" is displayed on the control module	Teller door is jammed causing door motor to trip switch	Un-jam door
	Safety switch is out of adjustment	Adjust switch so that it is only activated when the door motor raises up
	Safety switch is bad (this circuit is NC so the input on the control module should be on all of the time unless the switch is tripped)	Replace switch *(pg 19)*
Teller door will not open when the carrier arrives in teller terminal	Night lock is on	Turn night lock off
	Door motor has gone out on a thermal overload - Is motor hot?	Check the door closed limit switch Make sure it is being activated when the door is closed
Teller door starts up after pressing the send switch but goes right back down	Safety switch is being tripped when the door is going up	Remove obstruction
	Safety switch is too sensitive	Re adjust switch
Teller door starts up after pressing the Night Lock switch but goes right back down	Safety switch is being tripped when the door is going up	Remove obstruction
	Safety switch is too sensitive	Re adjust switch
Teller door opens before carrier arrives in terminal. Carrier lands Hard	Adjust Timer T-5	Increase time *(pg 10)*
Carrier will not leave teller terminal after the send is depressed	Vacuum turbine is not running	Check the top motor in turbine box. It should be running. Check fuse

Problem	Possible cause	Correction
"Customer Safety is activated" is displayed on the control module	Customer door is jammed causing door motor to trip switch	Un-jam door
	Safety switch is out of adjustment	Adjust switch so that it is only activated when the door motor raises up
	Safety switch is bad (this circuit is NC so the input on the control module should be on all of the time unless the switch is tripped)	Replace switch *(pg 17)*
Customer door starts up after pressing the send switch but opens right back up	Safety switch is being tripped when the door is going up	Remove obstruction
	Safety switch is too sensitive	Re adjust switch
Carrier does not travel to teller unit	Air leak in customer unit.	When turbine runs check for excess air around the door and tubing connections.
	Teller check valve not opening all of the way	Inspect teller check valve for obstruction
One of the customer send switches does not work.	Bad switch	Replace switch
	Bad connection	Check wiring between switch and electrical box
Customer Door opens before carrier arrives	Adjust Timer T-3	Increase time *(pg 10)*

Replacing Customer Door Motor and Switches

Replacing the Motor

1. Turn off power to the unit.
2. Remove the service panel and set aside if it hasn't been already.
3. From the inside, top, front, locate the two thumbscrews *(Fig 1)* and turn them to release the stainless front fascia. Once released disconnect the switch and microphone wiring *(Fig 2)* from the fascia and set aside.
4. From the front, just below the door opening is the motor access. On the right side there are two screws, remove them. *(Fig 3)*
5. Inside to the left there are two 11/32 nuts, loosen them. *(Fig 4)*
6. Grabbing from the bottom, push the motor assembly back and turn it clockwise. *(Fig 5)*
7. Move the motor assembly down and disconnect the motor wiring harness. *(Fig 6)*
8. Slowly pull the motor assembly up and around the tube, through the opening.
9. Remove the gate arm from the motor spindle. *(Fig 7)*
10. Use a screw driver to carefully remove the spring from the motor mount.
11. Turn the motor bracket over and disconnect the wiring from the harness and capacitor.
12. Remove the screws securing the motor to the bracket.
13. Installation is reverse of removal. Use thread locker on all screws.

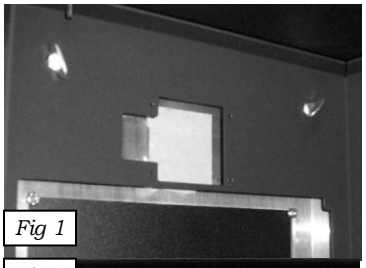


Fig 1

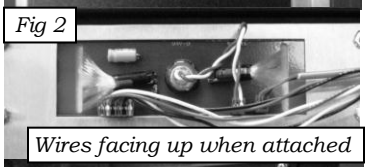
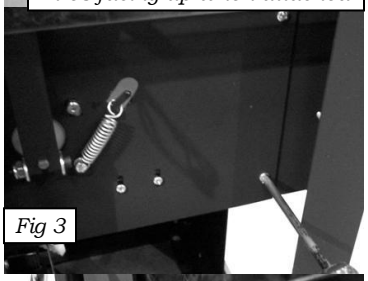


Fig 2



Wires facing up when attached

Fig 3

Fig 4

Fig 5

Fig 6

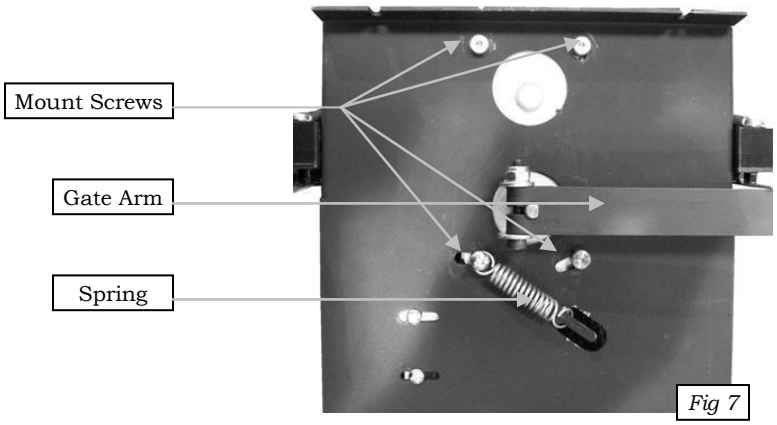
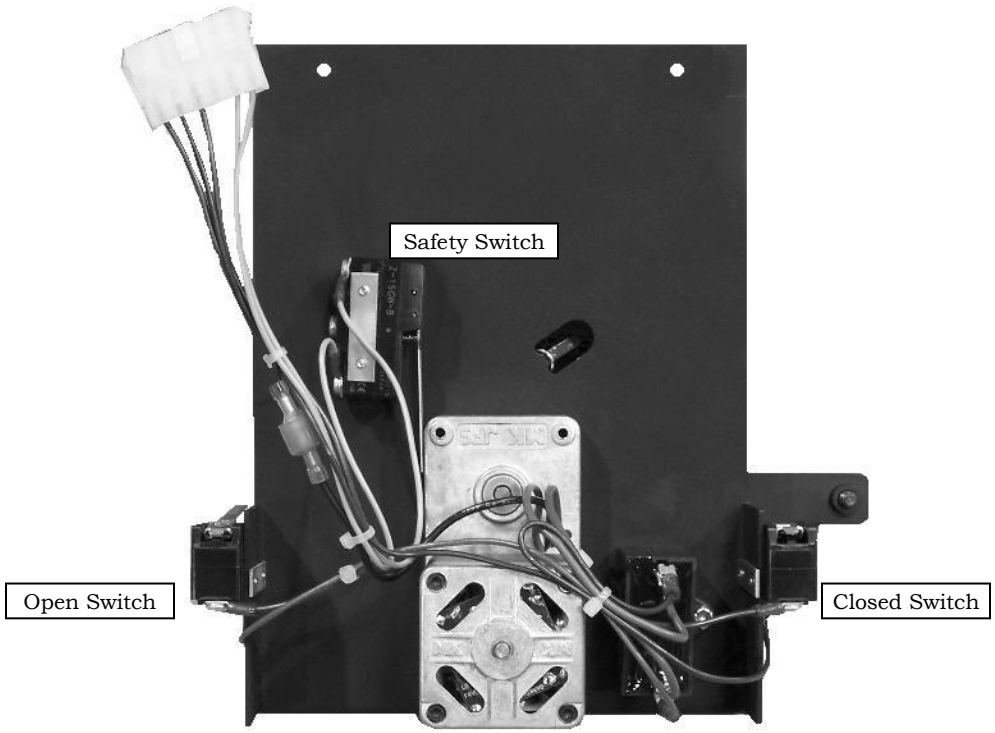


Fig 7

Replacing Switches

1. Remove the motor assembly from the unit by completing steps 1-8 on pg 16.
2. Remove the wires from the switch being replaced and attach them to the new switch in the same position.
3. Note the position of the old switch and replace it with the new switch in the same position use thread locker on the screws.
4. Installation is reverse of removal, except before replacing the front fascia and side covers, test door movement to ensure proper switch placement.



Replacing Teller Door Motor and Switches

Replacing the Motor

1. Turn off power to the unit.
2. Disconnect the motor harness from the electrical box.
3. Remove the two screws securing the teller unit face (near buttons), pull face towards you and up to remove.
4. Remove the shoulder bolt attaching the gate arm to the door.
5. Remove the two 11/32 nuts from the right side of the motor bracket. *(Fig 2)*
6. Loosen the two 11/32 nuts from the left side of the bracket. *(Fig 3)* You will most likely need to move the gate arm to the middle to make accessing the nuts easier, reach around to the other side of the motor and lightly depress the brake to move the arm. *(Fig 4)*
7. Push back on the left side and turn the assembly clockwise to remove it from the unit. *(Fig 5)*
8. Remove the gate arm from the motor spindle. *(Fig 6)*
9. Carefully remove the spring.
10. Detach the motor from the harness and switches.
11. Remove the shoulder bolts securing the motor to the bracket.
12. Installation is reverse of removal. Make sure to use thread locker on all screws.

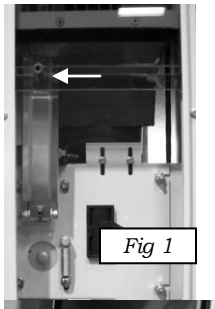


Fig 1

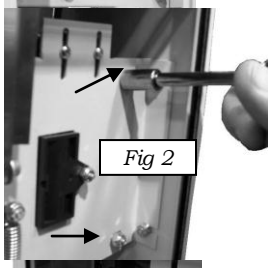


Fig 2

Fig 3

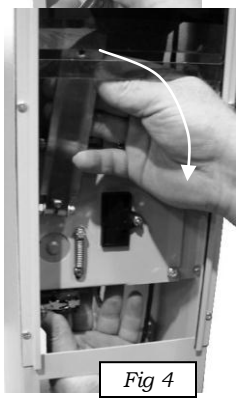


Fig 4

Fig 5

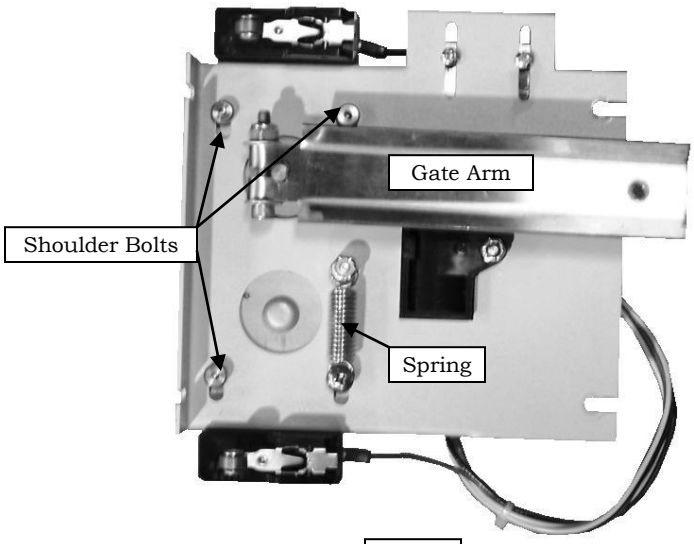
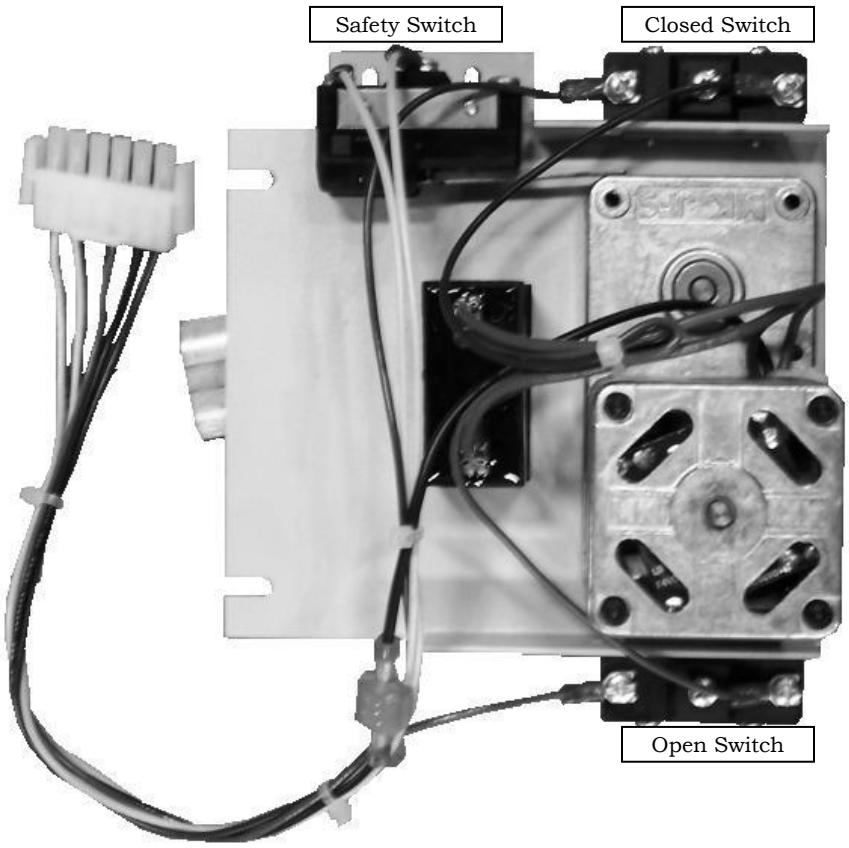


Fig 6

Replacing Switches

1. Remove the motor assembly from the unit by completing steps 1-7 on pg 18.
2. Remove the wires from the switch being replaced and attach them to the new switch in the same position.
3. Note the position of the old switch and replace it with the new switch in the same position use thread locker on the screws.
4. Installation is reverse of removal, except before replacing the front cover, test door movement to ensure proper switch placement.



Turbine Unit Installation Removal and Repair

Turbine Installation

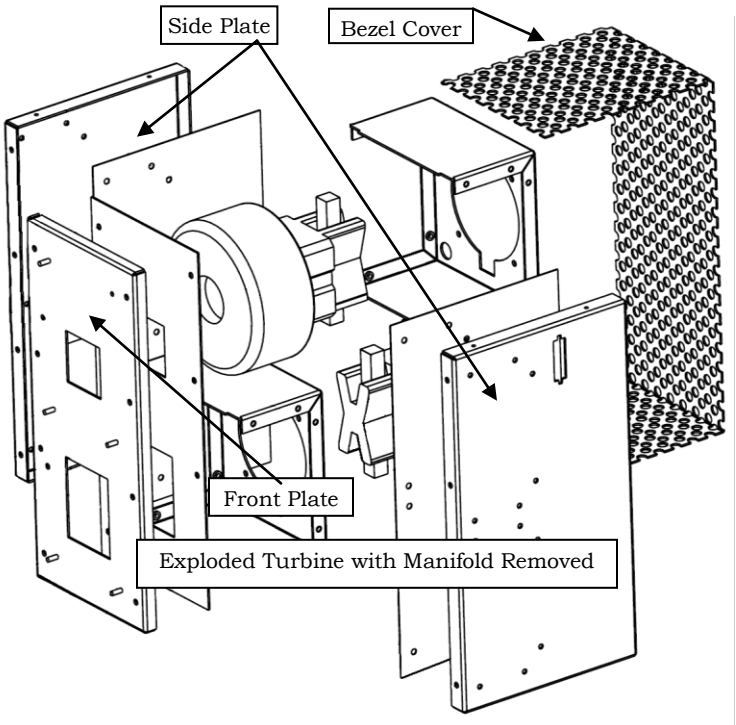
1. Position the standard or quad turbine so that the manifold is facing into the unit and place it onto the turbine base located on the lower right hand side.
2. Connect the tubing from the carrier compartment to the manifold of the turbine.
3. Position the turbine into the unit so that the bezel cover is all the way into the unit.
4. The turbine may now be attached to the base from beneath with four 8-32 screws.
5. Connect the electrical connector(s) to the turbine unit. (Quad turbine connectors are labeled “U” for upper and “L” for lower.)

Removing the Turbine Unit

1. Turn off power to the unit.
2. Remove the service panel if it isn’t already.
3. Disconnect the hose from the turbine.
4. Remove any screws securing the turbine to the mounting bracket.
5. Disconnect the power connection(s) from the side of the turbine and lift the unit from the system.

Turbine Motor Replacement (Standard Turbine)

1. Follow the steps outlined for removing the turbine unit.
2. Detach and remove the front plate. (Manifold may be left attached to front plate.)
3. Detach and remove the Side Plate that DOES NOT contain the wiring plug.
4. Remove the Bezel Cover.
5. From here both motors are accessible, detach the motor to be replaced from it’s bracket, detach the wiring, and remove the motor.
6. Installation is reverse of removal.



Exploded Turbine with Manifold Removed

Turbine Motor Replacement (Quad Turbine)

1. Remove the turbine as outlined on pg. 20.
2. With the bezel side facing you, remove the screw on the lower left hand side. *(Fig 1)* Slide the vent cover up and off of the unit. *(Fig 2)* (Note that the wiring connections are through this side of the unit and that the ground is attached to the topmost motor. *(Fig 3)*)
3. Without removing the manifold; locate and remove the screws securing the end cap. Separate and remove the end cap as shown and remove *(Fig 3, 4)*.
4. From here all four motors are accessible. The motors are mounted with four screws; remove the screws, detach the wiring. *(Fig 3, 6)*
5. Installation is reverse of removal.

Fig 1

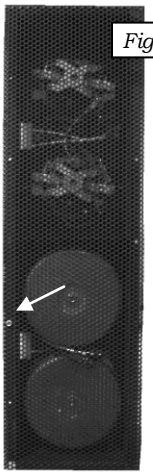


Fig 2

Fig 3

Ground

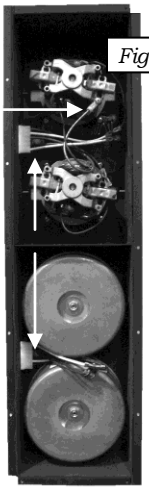


Fig 4

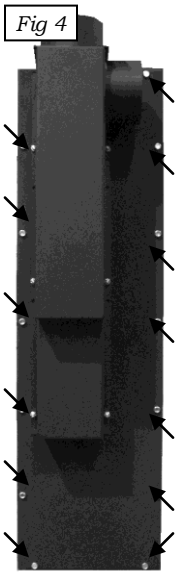


Fig 5

Manifold

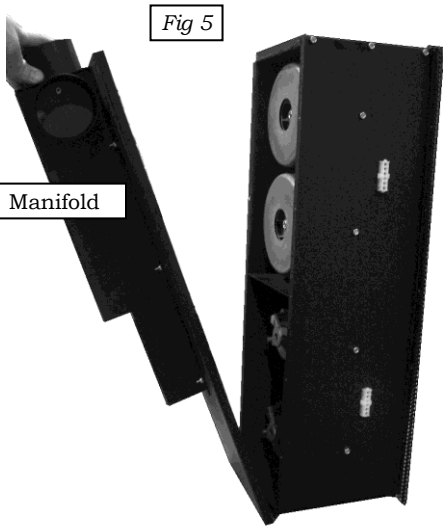
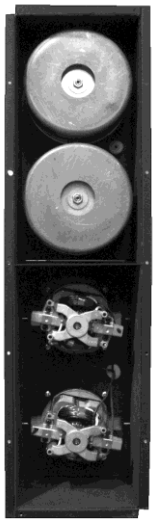


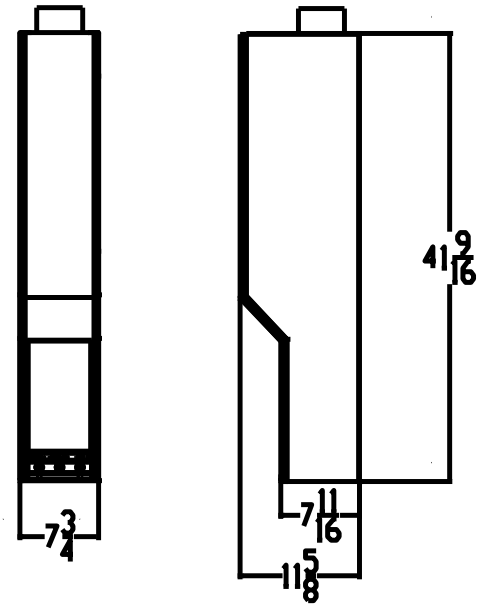
Fig 6



Optional Equipment

Optional Overhead Teller

Dimensional Specifications

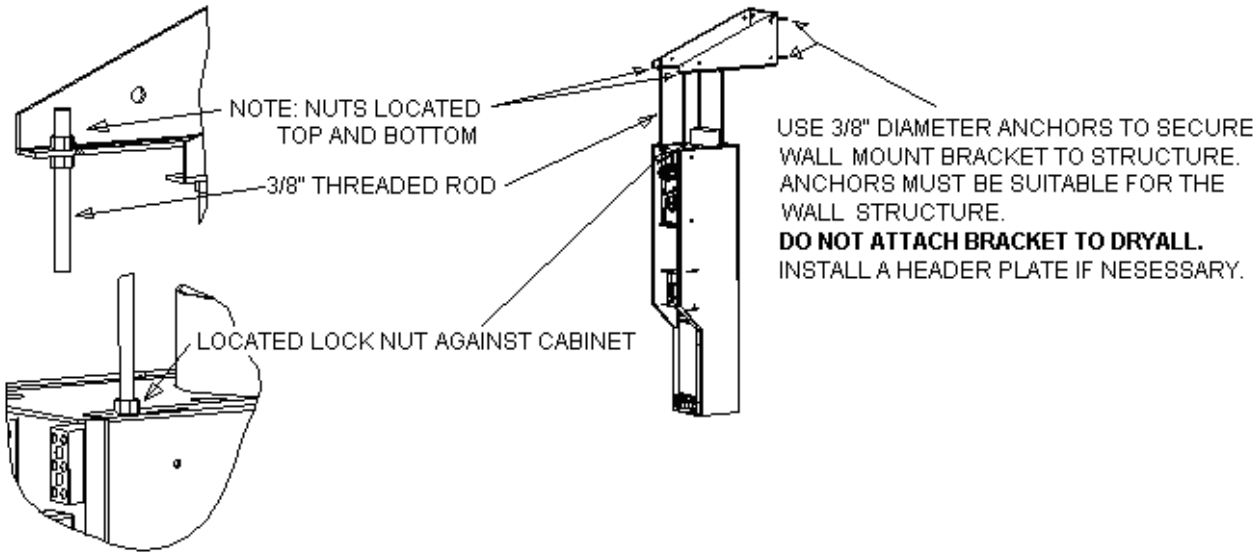


Electrical Specifications

120 volt 15 amp circuit

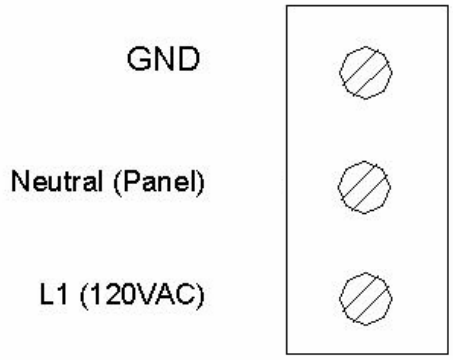
Installation

Mounting the Teller Unit



1. Mark centerline of tube for teller unit.
2. Determine the height off of the floor for the wall mount bracket. The bracket is typically mounted above the finished ceiling. The length of the threaded rod should be no longer than two feet.
3. Once the bracket location has been determined hold the bracket in place and mark the location for the four mounting bolts.
4. Drill 4 holes for securing the bracket to the wall. If the wall construction is wood framing there should be a header plate (usually a 2 x 12) located horizontally behind the bracket. This will allow the bracket to be secured properly with 3/8” lag bolts. If there is no header plate in the wall you will then need to attach a 2 x 12 externally against the drywall which is secured to the wall studs with 3/8” dia x 4” long lag bolts. If the wall construction is concrete use a suitable 3/8” dia concrete anchor.
5. Once the wall mount bracket is secured to the wall determine the length of all thread which is required to locate the teller unit at the proper height above the counter.
6. Secure the all thread to the teller unit and wall mount bracket with jam nuts. See illustration.
7. Adjust the length of each piece of all thread in order to level the bottom of the teller unit.
8. Make sure all jam nuts are tightened after leveling.

Electrical Connections



The electrician should wire the main power. Connections should be made using 12GA wire minimum.

Each station (customer and teller) has a pigtail plugged into the field wiring connectors. Each pigtail has six color coded wires which are to be connected to the field wiring cable that runs between each station.

Connect these wires color for color.

Tubing Installation

Use the TU-11 to attach the steel tube coming from the top of the teller unit to the PVC tubing. (A steel clamp sleeve: TU-014 when attaching to steel tubing)

Replacing Door Motor and Switches

Replacing Switches

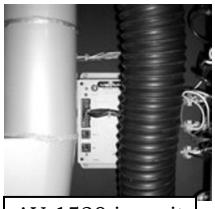
1. Turn off power to the unit.
2. Remove the service panel if it isn't already.
3. The gate switches are attached to the top and bottom of the motor bracket.
4. Remove the switch to be replaced and detach the wiring.
5. Attach the wires to the new switch in the same positions of the previous switch and replace the switch.

Replacing the Motor

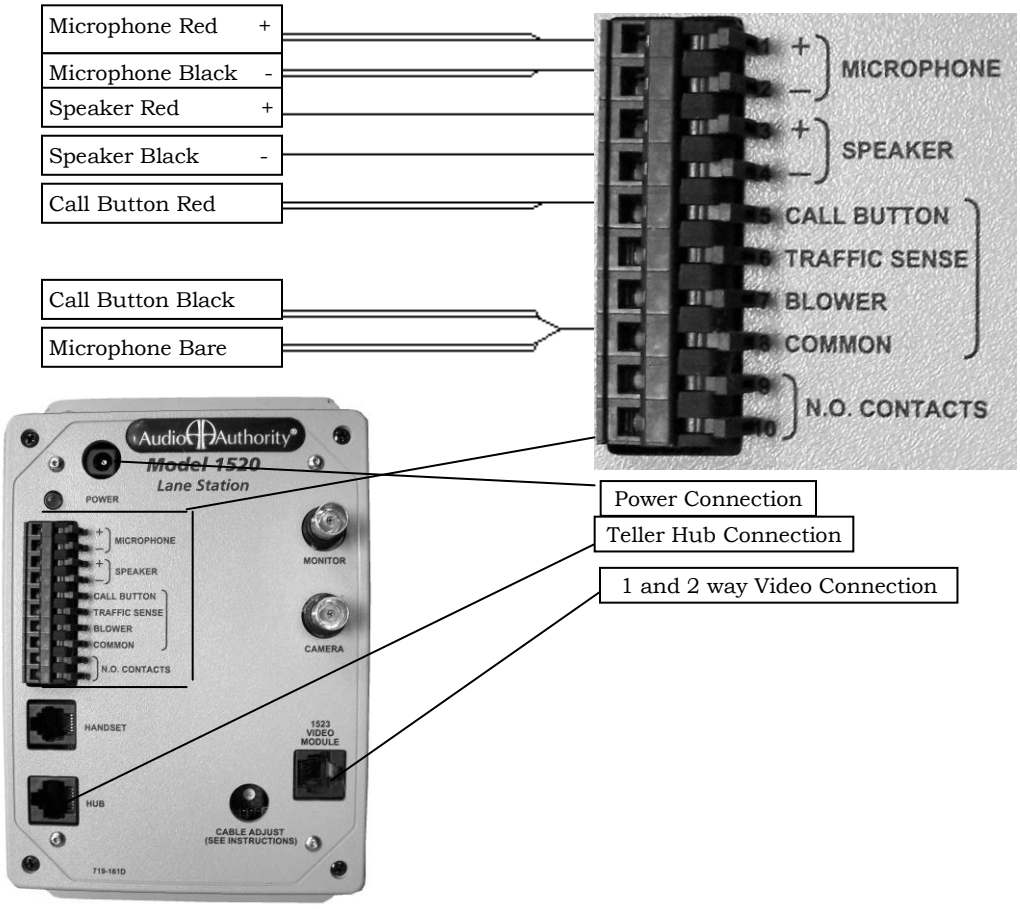
1. Turn off power to the unit.
2. Remove the service panel if it isn't already.
3. Detach the motor and safety switch harness from the electrical panel.
4. Loosen the four nuts securing the motor bracket to the unit.
5. Lift the motor bracket, detach the gate arm from the door, and remove the motor bracket assembly.
6. Remove the wires from the capacitor.
7. Detach the black common wire from the motor harness.
8. Remove the linkage arm from the motor spindle.
9. Remove the 4 screws that attach the motor to the motor bracket.
10. Installation is the reverse of removal. Make sure to leave the screws attaching the motor are loose enough to allow the motor to pivot, also take note of the safety switch spring pressing against the motor.

AV-1520 Lane Station

The 5000 DS is designed to have audio and video communications from customer unit run through the AV-1520 Lane Station.
The microphones, call buttons, and speaker are hard wired within the 5000 DS to be connected to a lane station module.
The module is mounted on four studs near the electrical panel. The module's power supply is plugged into the video power outlet on the electrical panel and connected to the module.


AV-1520 in unit

The microphone wires (two shielded cables):
Positive (red) negative (black) and common (bare)
The speaker wires (two red, two black wires):
Positive (red) and negative (black)
The call button wires (two sets of red and black twisted together):
Signal (red) and common (black)



AV-0550 1-Way Video w/ Motorized Tilt Camera

The AV-0550 contains a motorized tilt camera, one Cat 5 cable, and hardware. System is powered by an AV-1520 Lane Station.

Installation

1. Turn off power to the unit.
2. Remove the side service panel.
3. The stainless fascia is attached at the top by two thumbscrews *(Fig 1)*. Once detached from the screws pull it forward and detach the wiring harness from the keypads.
4. On the camera attach the Cat5 cable to the connector on the board, remove lens cap, and any screws in the four mount holes. *(Fig 2)*
5. Route the Cat5 cable through the video opening routing it to the left around the tube and towards the back of the unit. Follow with the camera to the right and up towards the top.
6. Make sure that the wiring is not pinched behind the camera and carefully slide the camera between the tube and the inner frame into place within the camera opening. *(Fig 3)*
7. Attach the camera with the provided hardware to the frame. *(Fig 4)*
8. Remove the protective film from the back of the camera lens (if any).
9. Place the stainless front back into the base of the unit and re-attach the wiring harness to the keypads. *(Fig 5)*
10. Push the fascia back into place making sure not to pinch or leave any exposed wires, and re-attach it to the frame with the thumbscrews.
11. Take the CAT-5 cable and plug it into the port labeled 1523 Video Module on the AV-1520 lane station.

Fig 1

Fig 2

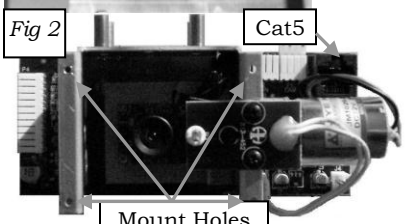


Fig 3

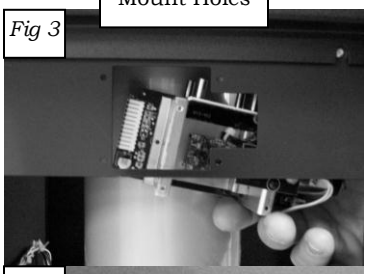


Fig 4

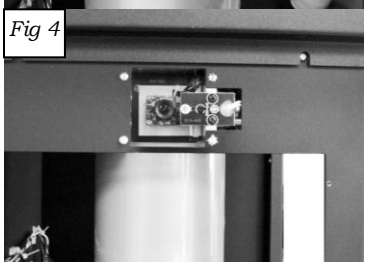
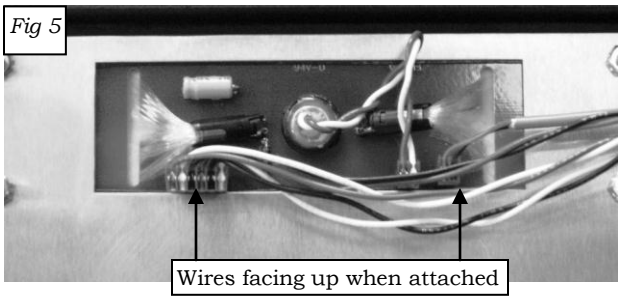


Fig 5

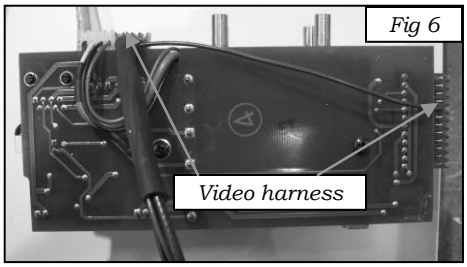


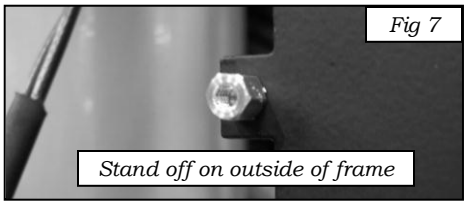
AV-0510 2-Way Video w/ Motorized Tilt Camera

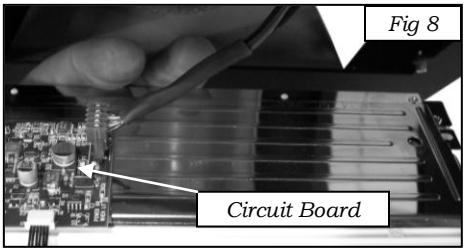
The AV-0510 kit contains a tilt camera module, a 10” display lens w/ gasket, a 10” video monitor, a camera to video harness, a Cat5 cable, and a hardware kit. System is powered by an AV-1520 Lane Station.

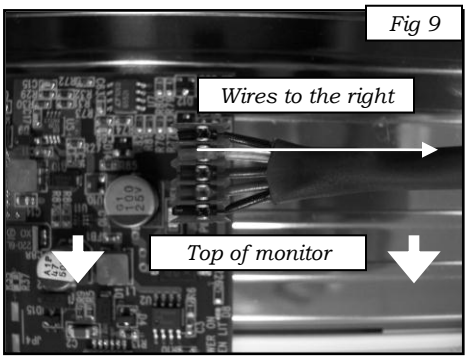
Installation

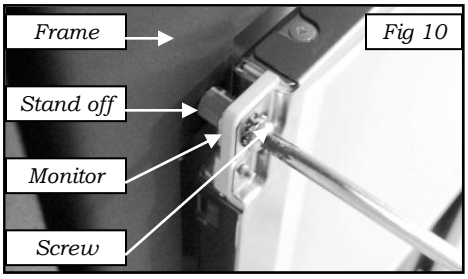
1. Follow steps 1-4 on pg 27.
2. Attach the video harness to the camera as shown. *(Fig 6)*
3. Follow steps 5-7 on pg 27 to complete camera installation.
4. Included in the hardware kit are 4 stand-off screws, attach them to the four holes around the video opening. *(Fig 7) (Fig 11)*
5. With the screen facing you locate the board on lower left hand corner of the back side of the video panel. *(Fig 8)* Attach the video harness to the four pins on the right of that panel with the wires coming out the right side as shown. *(Fig 9)*
6. Attach the video panel to the stand off screws using the provided hardware. *(Fig 10)*
7. On the stainless front remove the cover from the video opening.
8. Clean and dry the inside edge of the video opening on the stainless.
9. Peel the protective paper off the gasket and attach the monitor lens from behind.
10. Remove any protective paper from either side of both the camera and video lenses. Remove any protective film from the video panel.
11. Follow steps 10-13 on pg 27 to finish installation.

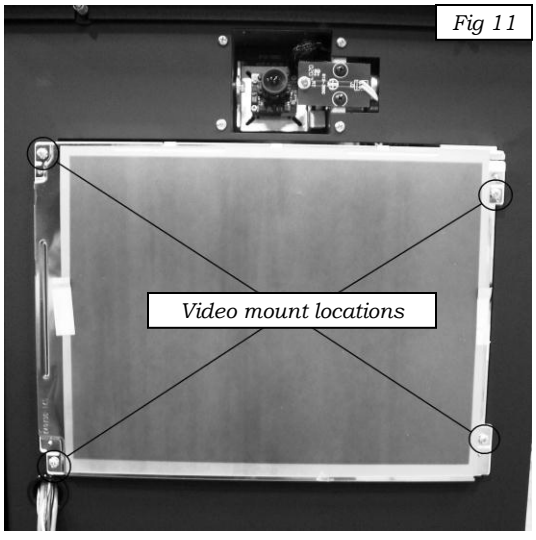












AV-1547-H Traffic Sensor

Kit includes a sensor, connector, and housing.

Installation

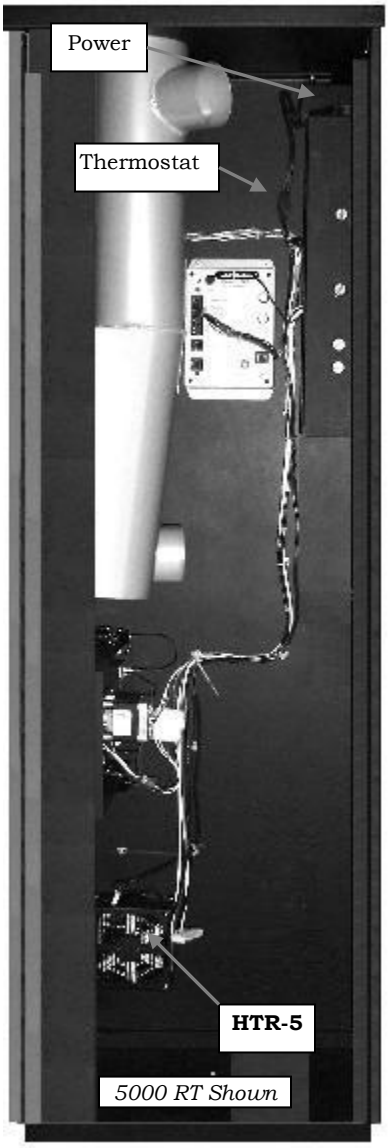
1. Using a flat blade screwdriver, carefully remove the knockout from the bottom of the AV-1520 lane station. (This is where the sensor will connect)
2. On the right side of the unit, measure 18 ½“ from the ground and 8” from the Stainless front. Mark the location. (1)
3. From that location measure up and down 9/16” and an additional 3/16” in from the front. Mark both locations. (2)
4. At the first marked location (1) drill a 9/16” hole for the cable. At the other two locations (2) drill 5/32” holes for the mounting studs.
5. Once the holes are drilled, feed the cable thru the 9/16” hole and attach the sensor to the unit.
6. Remove the mounting screw from the cover of the assembly.
7. Slide the cover off to expose the sensor.
8. Connect the cable to the lane station.
9. A green LED on the sensor indicates that power is supplied to the sensor. The orange LED indicates the sensor is tripped.
10. Adjust the sensor so that an object approximately 5’ from the face of the sensor trips the output. Set an object 5’ from the sensor.
11. Adjust the potentiometer (close to the front of the sensor) so that the orange LED illuminates. Move the object in and out several times to make sure the sensor is tripped.
12. The selector switch on the sensor should stay in the “D” position.

HTR-5 Heater

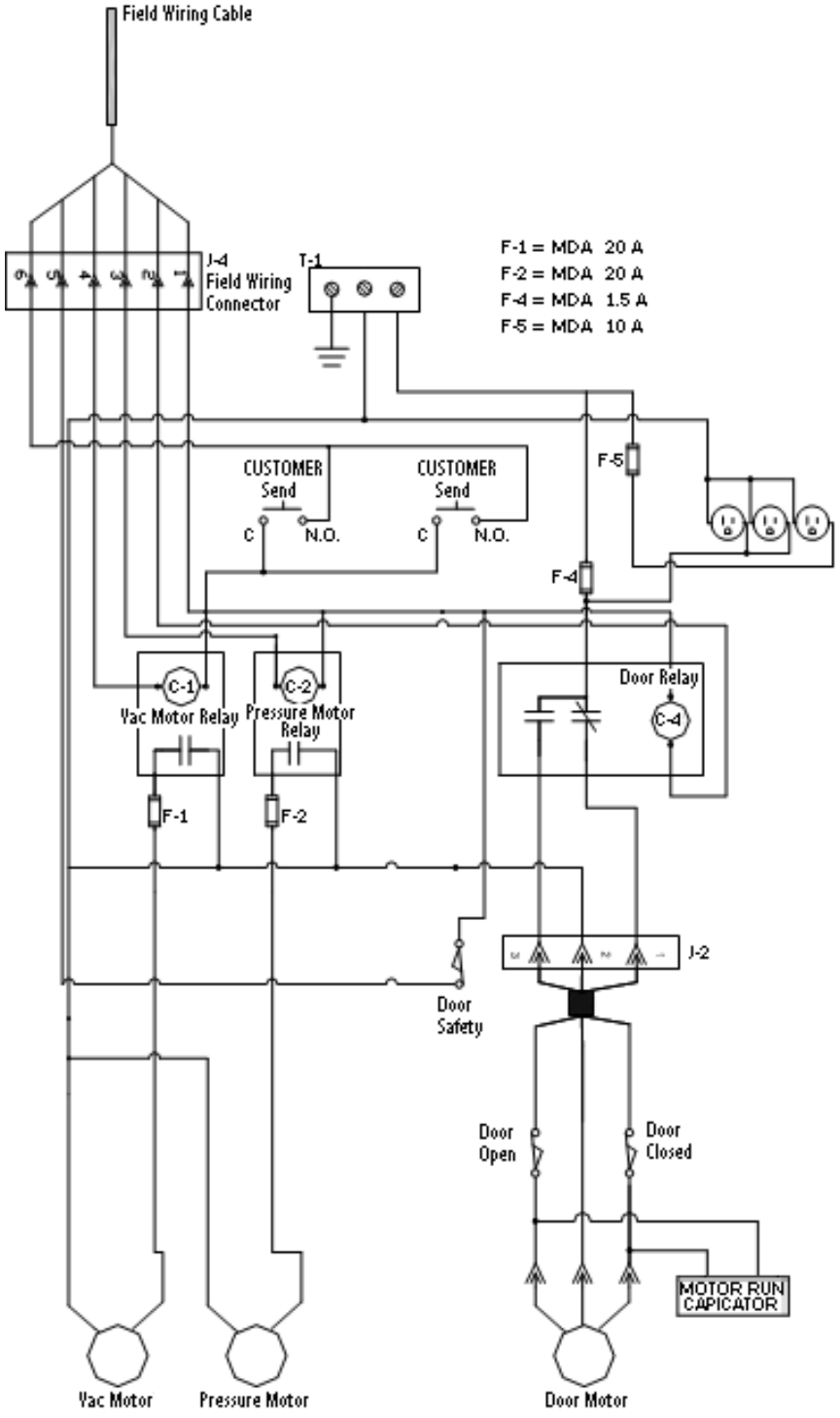
The heater unit is 800w, thermostat controlled, and all wiring is provided. Thermostat is preset at 50° (heater and fan will run until cabinet temperature around thermostat reaches approximately 70°).

Installation

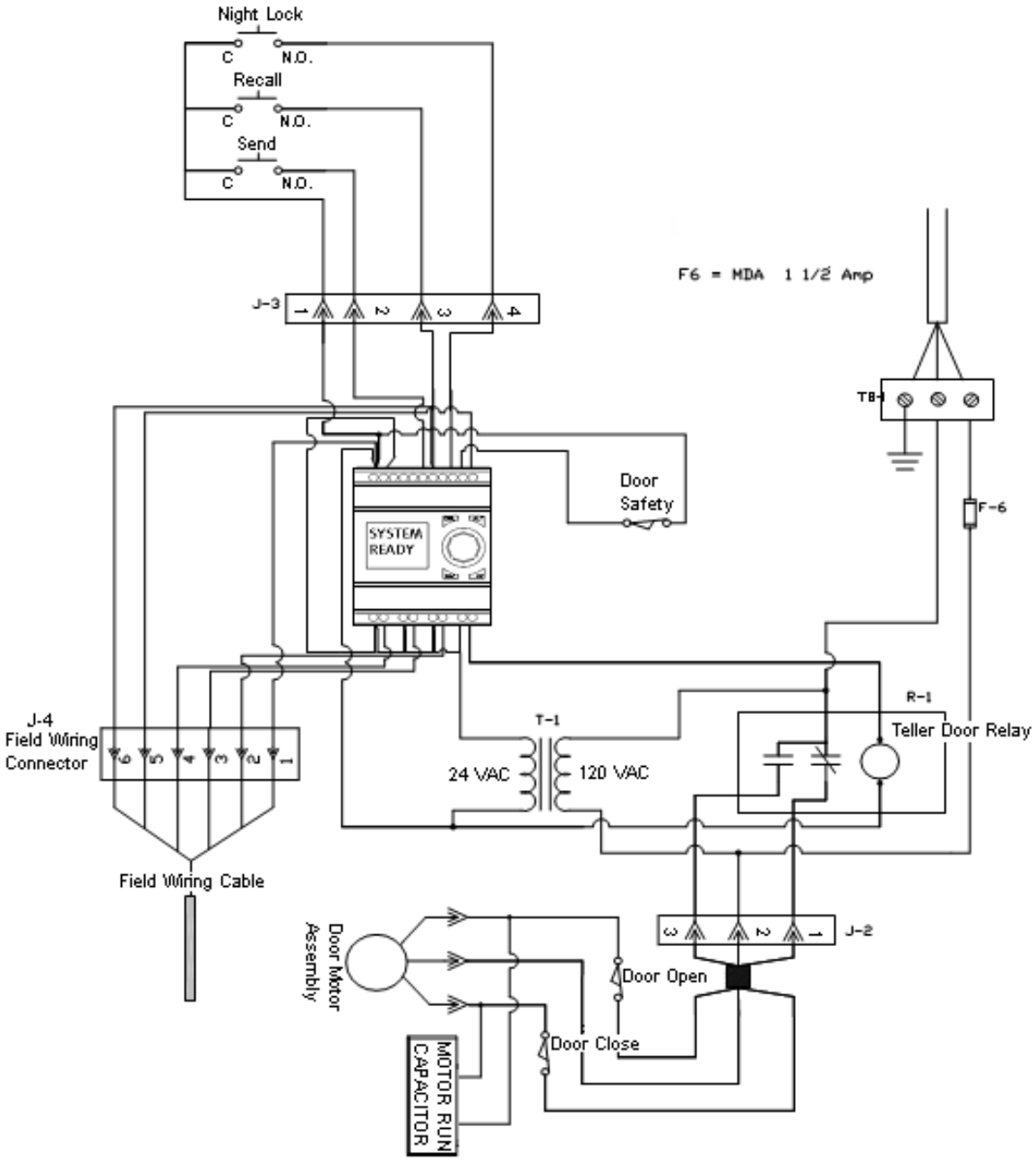
1. Remove the service panel if it isn't already.
2. Remove the turbine unit and the hose.
3. Locate the heater mounting location towards the bottom of the unit.
4. The heater unit has four bolts and nuts that hold the assembly together; remove the nuts
5. Position the heater assembly so that the wiring is towards the top of the unit, the fan is against the frame, the heat coil is facing inward, and the 4 bolts are aligned with the mounting holes.
6. Tighten the bolts to secure the heater.
7. The wiring should be routed towards the top of the unit with the existing wiring. The thermostat should be located towards the top of the unit. The remaining wiring will plug into the heater outlet of the electrical panel.
8. Reinstall the turbine and tubing connections.
9. Put the service panel back into place.



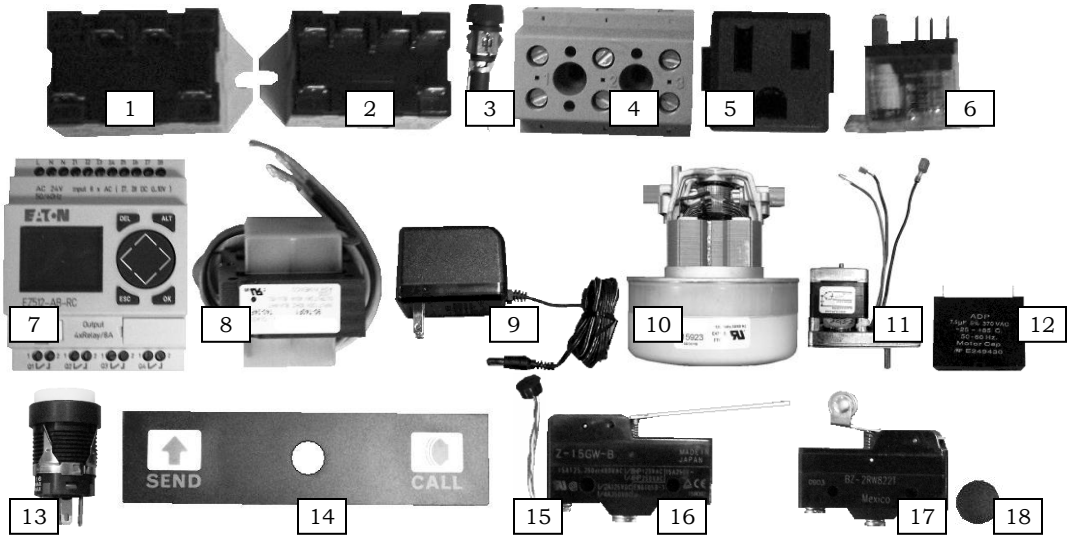
Appendix A – 5000 DS Customer Electrical Diagram



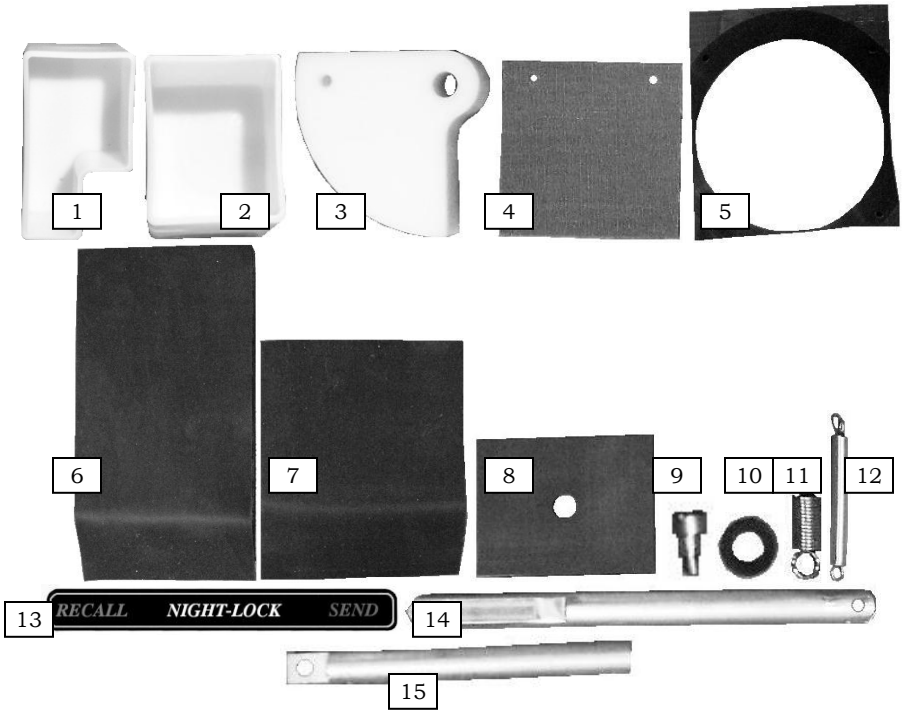
Appendix B – 5000 DS Teller Electrical Diagram



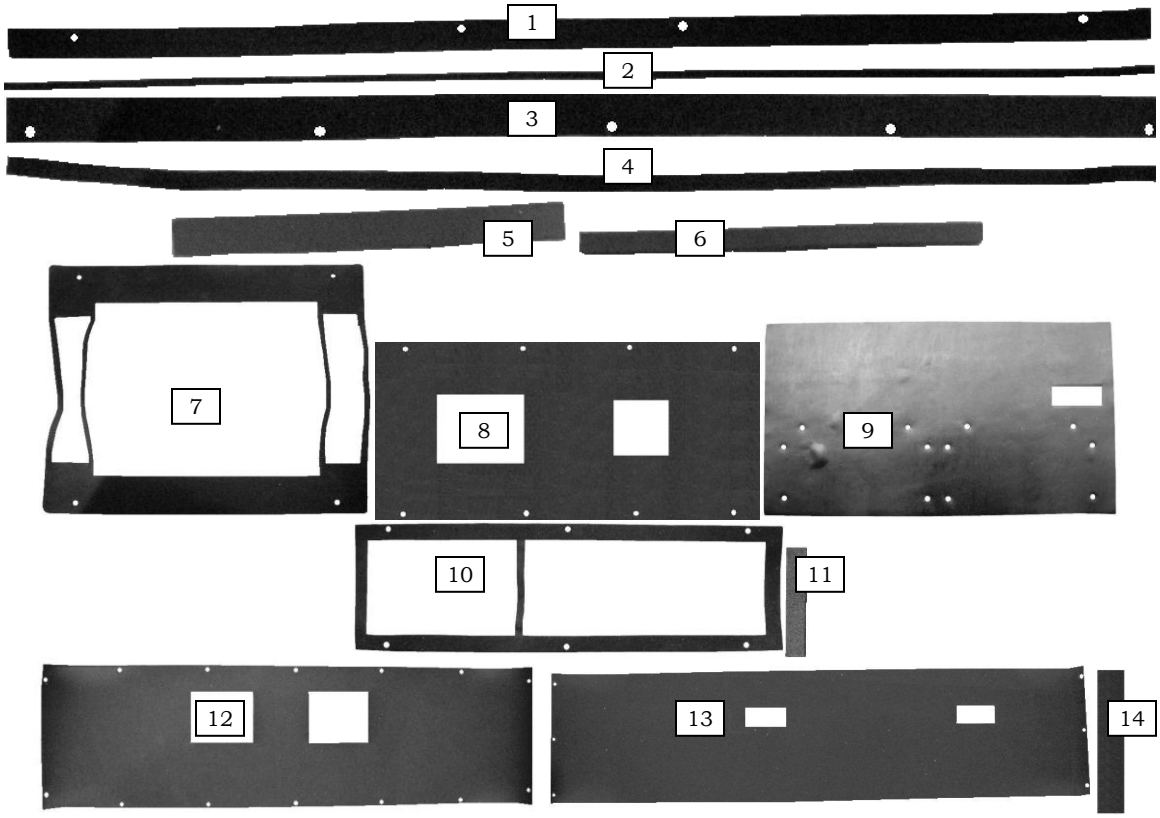
Appendix C – Parts



NUM	Description	Part Number
1	Omron G7L 1A Relay (Standard Turbine)	SR-0014
2	Omron G7L 2A Relay (Quad Turbine)	SR-0060
3	Fuse Holder Thru Panel	SR-0026
4	Terminal Block	SR-0027
5	Thru Panel Outlet	SR-0029
6	Relay for Door Motor Control	SR-0045
7	Eaton Control Module	SR-0107
8	Transformer	SR-0045
9	Keypad Power Supply	MT-019
10	Vac Motor	MT-001
11	Gate Motor	MT-002
12	Motor Run Capacitor	MT-005
13	Send (Green) Recall (Red) Night lock (White)	SR-0001(2,3)
14	Customer Keypad	FS30-0041
15	5000 Series Microphone Assembly	FS30-0071
16	Micro Switch BZ-7RW-T80 Gate Limit Switch	SR-0006
17	Micro Switch BZ-2RW822T Roll Limit Switch	SR-0008
18	Plastic Bushing	CN-017



NUM	Description	Part Number
1	Turbine Upper Spool Valve	FS30-0030
2	Turbine Lower Spool Valve	FS30-0061
3	5500 Carrier Catch Block	FS30-0621
4	5500 Hopper Valve Flap	FS30-0627
5	5500 Teller Carrier Funnel	FS30-0027
6	5500 Teller Landing Pad	FS30-0730
7	5500 Customer Landing Pad	FS30-0644
8	5500 Carrier Catch Spool Valve Flap	FS30-0625
9	Motor Mount Shoulder Screw	
10	Spool Valve Neoprene Washer	
11	Safety Spring	
12	Spool Valve Spring	
13	Teller Label	FS01-0214
14	5500 Carrier Catch Lower Trip Arm	FS30-0622
15	5500 Carrier Catch Press Stem	FS30-0624



NUM	Description	Part Number
1	5500 Teller Door Seal With Holes	FS30-0729
2	5500 Teller Door Seal W/O Holes	FS30-0728
3	5000 Series Customer Door Seal With Holes	FS30-0032
4	5000 Series Customer Door Seal W/O Holes	FS30-0033
5	5000 Series Lower Door Seal	FS30-0047
6	5000 Series Upper Door Seal	FS30-0048
7	5000RT Front Trim Seal	FS30-0098
8	5000RT Turbine Front Seal	FS30-0034
9	5000RT Turbine Side Seal	FS30-0035
10	5000RT Turbine Manifold Seal	FS30-0036
11	5000RT Lower Valve Bumper	FS30-0083
12	Quad Turbine Front Seal	FS30-0594
13	Quad Turbine Side Seal	FS30-0595
14	Quad Turbine Motor Seal	FS30-0596