

100 Series  
GOLF BALL DISPENSER

Installation & Service Manual



***Fore-Par Group***

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## **SPECIFICATIONS:**

- **Height – 54 1/2"**
- **Width - 37"**
- **Depth - 31"**
- **Weight: 375 Lbs. (Empty)**
- **Power Requirements: 120 VAC, 15A, 60 Hz**
- **Capacity: 5,000 Balls**
- **Exterior Finish: Galvanized or Traffic Green Powder Coating,**
- **Interior Finish: Galvanized**
- **Delivery Rate: Greater Than 400 Balls/Minute (100 Balls in Less Than 15 Seconds)**
- **Number of Selections: 1 Dispense Per Token or Coin**
- **Minimum Bucket Size: 10 Balls**
- **Maximum Bucket Size: 999 Balls**
- **Accuracy: +/- 2 Balls**
- **Dispense Method: Offset Rotary Tines**
- **Tokens: High Security Type; Sizes = 0.0837", 0.917", 0.984" Diameter**
- **U.S. Quarters can be used in lieu of Tokens**

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## **INTRODUCTION:**

This Installation and Service Manual is intended as a working tool for the installation, routine maintenance, and occasional service or repair of your Model 100 golf ball vending machine. It is the best way to familiarize yourself with the machine before you install and operate it. However, for those of you anxious to get going, see the QUICK INSTALLATION GUIDE on the next page to get up and running in 30 minutes.

For the most part, ordinary hand tools are used to install, adjust, maintain, and/or repair the Model 100. Generally, someone can accomplish most service and repairs with moderate mechanical and electrical skills.

To insure years of trouble free service from your Model 100, we strongly urge you to read this manual completely. Every effort has been made to make it simple and easy to understand and use.

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## QUICK INSTALLATION GUIDE

### 10 Easy Steps

**Step 1: UNPACK** - Use a razor type knife to remove plastic wrap and cardboard shields from the cabinet.

**Step 2: LOCATE** - Place the machine at the desired location.

**Step 3: SET** - With the assistance of another person, tilt the dispenser slightly to adjust the leveling feet and level the dispenser. If your dispenser was ordered and came with casters your dispenser will need to be leveled with spacers (not provided). Channel locks or an adjustable wrench may be necessary. When leveling, make sure that the dispenser is level and stable against tipping.

**Step 4: OPEN** - The dispenser selection door. The area behind this door is referred to as the electrical box. Here you will find the four keys to the dispenser locks, remove the keys. The dispenser comes with a total of five cam locks, these locks have all been keyed the same. Use one of the keys to open the dispensing mechanism access door (see).

**Step 5: POWER** - Plug the power cord into a standard wall 120 vac 15 amp electrical outlet.

**Step 6: REMOVE** - To reduce the chance of damage the basket hood has been removed from the dispenser mechanism access door. Open the dispenser lid and remove the basket hood, and tokens from the package you will find in the ball storage area.

**Step 7: Install** - Remove the protective wrapping and the #10 nuts from the basket hood. The basket hood mounts on the front of the dispenser mechanism access door in the holes pre located in the panel. Start the six #10 nuts by hand, once they have been started use a 3/8" socket or wrench to tighten firmly. One installed, shut the dispensing mechanism access door.

**Step 8: LOAD** - Load at least 500 golf balls into the hopper.

**Step 9: TEST** - Close dispenser selection door and deposit a token. Put a basket under the basket chute and press the bottom selection button. For vend size calibration instructions see

**Step 10: LABELS** - From the inside of the front door, remove the labels from the vend buttons. Use a felt tip pen to mark the ball count and tokens required for each selection. Replace labels and close and lock both doors. Your dispenser is now ready to operate.

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## 1.0 PICTORIAL ORIENTATION

The following three pictorial views identify the major cabinet assemblies and components of the Model 100 Series Golf Ball Dispenser Cabinet.

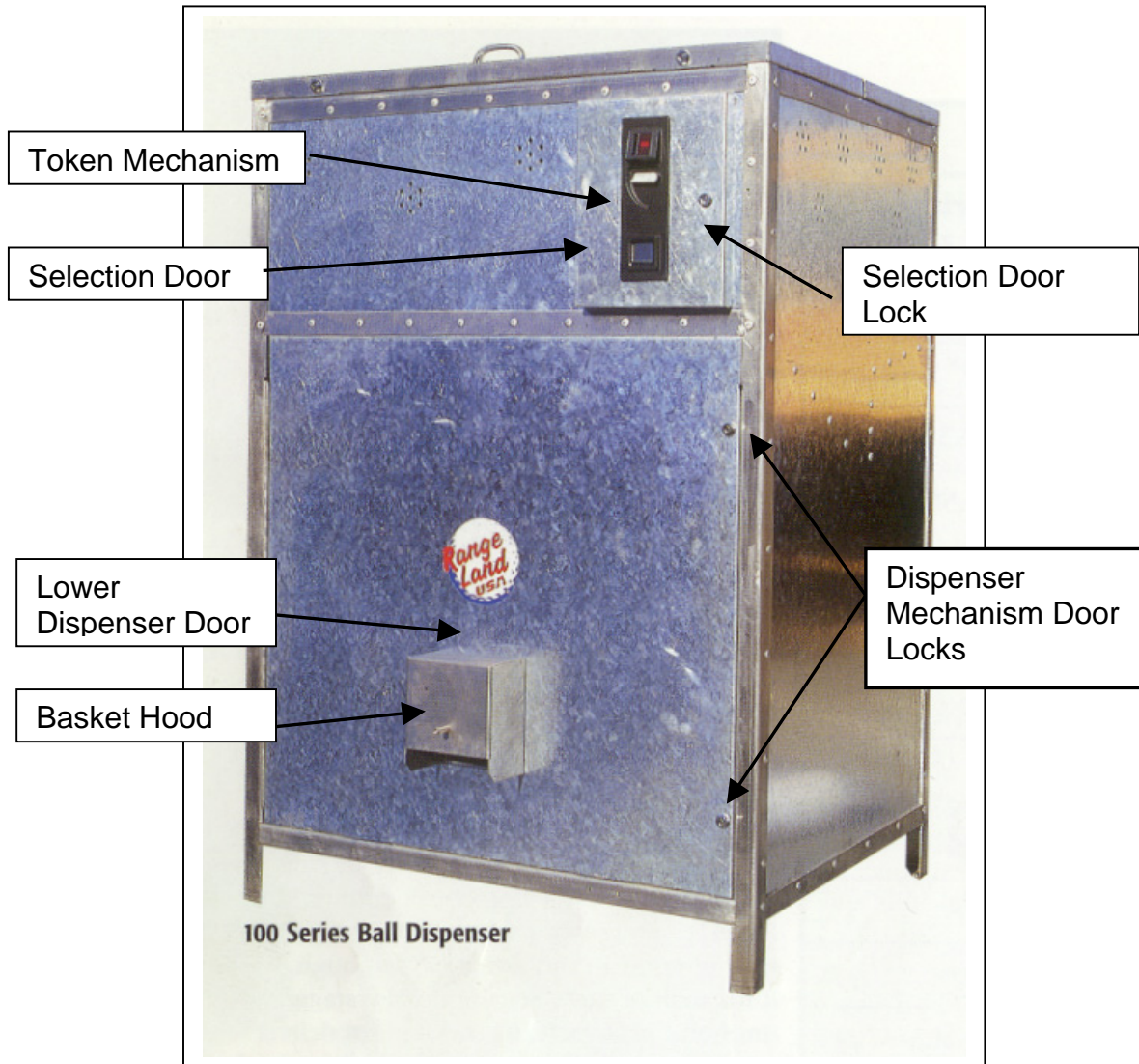
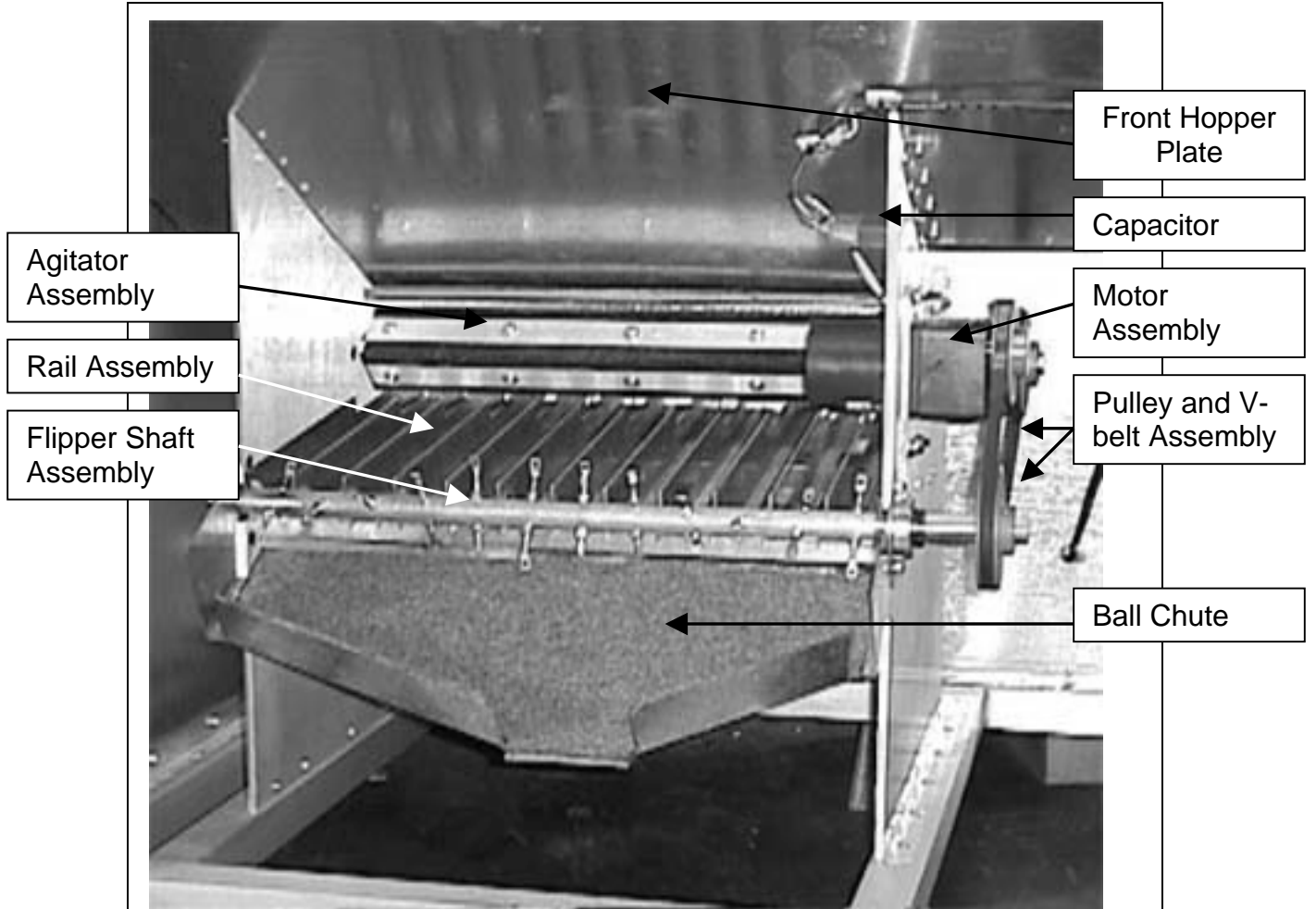
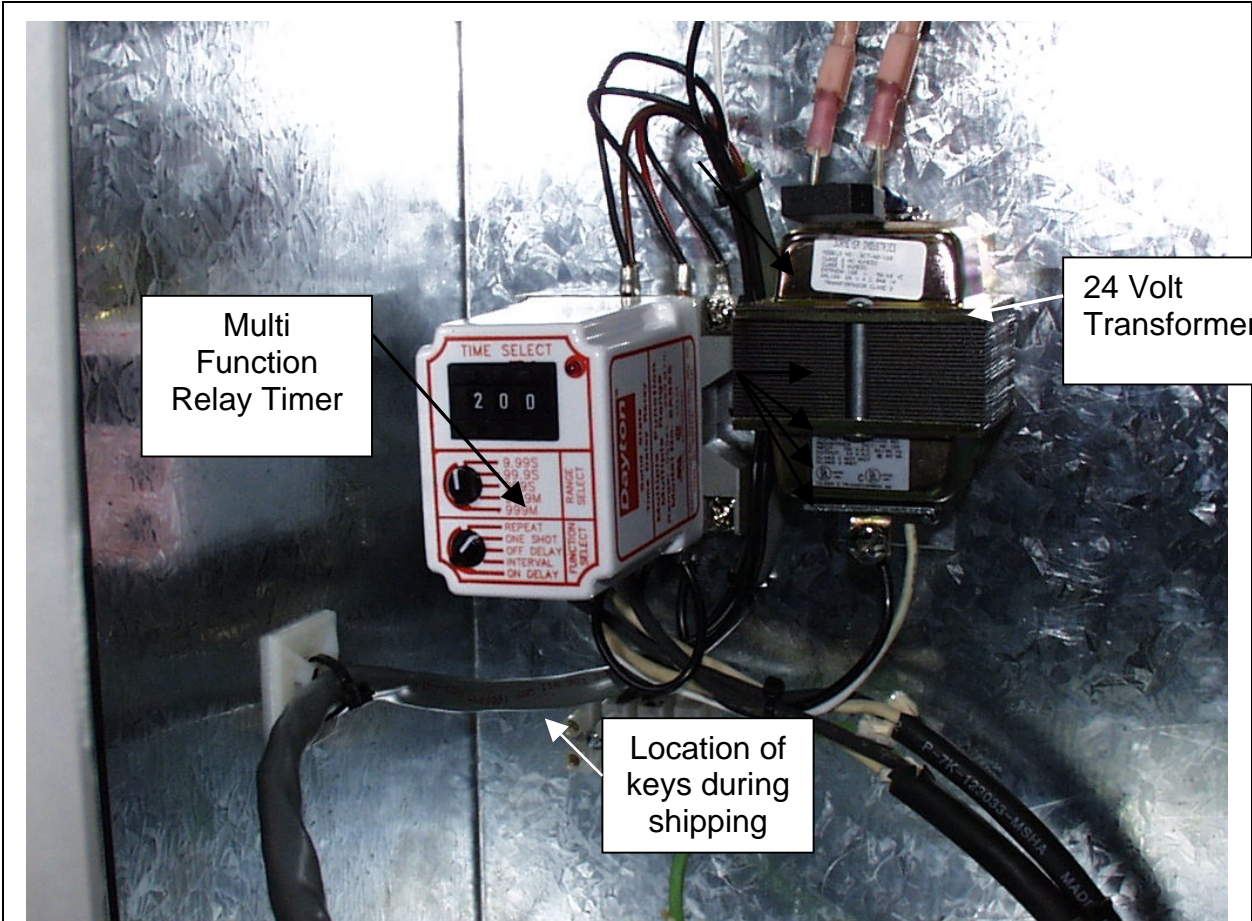


Figure 1 - 100 Series Dispenser Cabinet



**Figure 2 - Dispensing Mechanism**



**Figure 3 - Electrical Box**

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## 2.0 INSTALLATION

### 2.1 Unpacking The Dispenser

1. Remove the plastic wrap from the cabinet exterior. Should you use a knife or sharp object, proceed with caution as this may damage the cabinet.
  2. Remove the cardboard protector from the front panel.
- K Caution: If the cabinet is to be stored outside for an extended period in direct sunlight or above 75 degrees Fahrenheit, remove the plastic outer wrapping to prevent adhesion to the cabinet exterior.

### 2.2 Placing The Dispenser

The Series 100 should be placed on solid ground. Concrete or any flooring capable of supporting 200 pounds per square foot is ideal. To insure a solid and reasonably level placement, the cabinet rests on four leveling feet. With the help of another person, carefully move the unit to the desired location, use a construction grade level to level it from side to side and from front to back. To extend the leveling feet, turn them counter clockwise with an adjustable wrench. If required, use shims or blocks to insure that the dispenser is level and does not rock back and forth.

- K **Important note: To insure proper operation, the dispenser must be level.**

### 2.3 Minimum Clearance Requirements

For ease of accessibility, the minimum clearance specifications are as follows:

Front of Cabinet = 4 Feet  
Sides and Back of cabinet = 6 inches  
Top of the cabinet = 2 feet

The front or back of the unit should remain accessible to facilitate the loading of golf balls.

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## 2.4 Opening Access Doors

The unit is equipped with five security cam locks. Each lock is keyed the same. One lock are on the selection door, two on the lid and two on the dispensing mechanism door.

Each dispenser is shipped with four security cam lock keys. The keys for the locks are attached to the wiring harness in the electrical box by plastic tie wraps.

Remove the keys and insert in the dispenser mechanism door lock, turn clockwise 1/4 turn and remove the key. Repeat for the other dispenser mechanism door lock. You will want to follow the same procedure and unlock the dispenser lid at this time.

## 2.5 Installing The Basket Hood

Once the dispenser lid is unlocked you will want to remove the package that contains the basket hood and tokens from the ball storage area. Unwrap the basket hood and remove the six 10/32" nuts.

Install the basket hood on the outside of the dispensing mechanism door so that the basket hood opening faces the ground and the six studs insert into the dispensing mechanism door (see Figure 1). Using a 3/8" wrench, tighten the six 10/32" nuts. This should firmly seat the basket hood to the outside of the dispensing mechanism door.

## 2.6 Power Requirements

A 115 VAC circuit capable of supplying 15 Amps is required to operate the Series 100 dispenser. The 14-3 SJOW power input cord can be wired directly to an appropriate electrical box or plugged into a suitable receptacle. A sufficient earth ground is essential. Inadequate grounding could result in voltage present at the metal surface of the cabinet and a possible electrical shock hazard.

**K      Caution: Failure to comply with electrical installation instructions may result in hazardous conditions, which can result in damage to the system.**

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## 3.0 DISPENSER SETUP

### 3.1 Configuring Basket Sizes

The number of balls dispensed per token or quarter is governed by a programmable timing relay which determines the length of time that the vend motor is activated during the vend cycle for each token or coin drop. There are two adjustments; Time Select and Range Select.

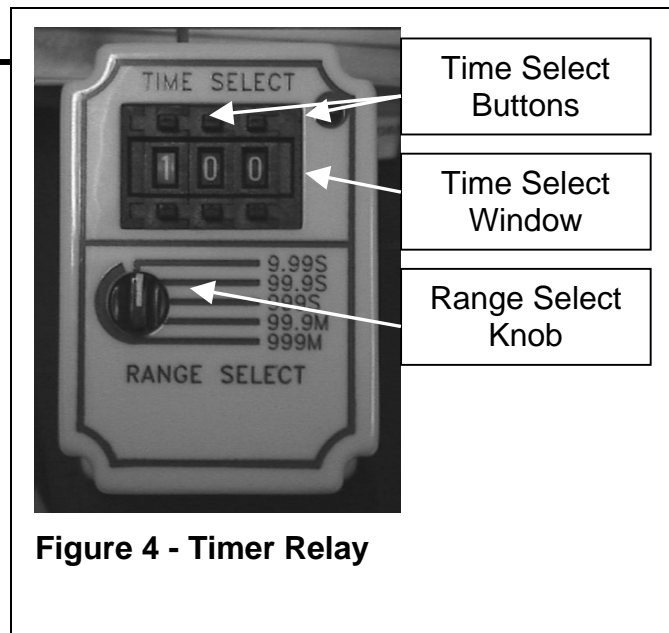
The Range Select Knob determines the time range that the timer will function within. The following is the corresponding time ranges for each range setting:

9.99s	0.01 to 9.99 seconds
99.9s	0.10 to 99.9 seconds
999s	1.00 to 999 seconds
99.9M	0.10 to 99.9 minutes
999M	1.00 to 999 minutes

In most cases you will want to set the range select to 9.99s. This will allow you to set the ball count anywhere between 1 and 110.

The Time Select adjustment is the three-digit readout on the face of the timer. This is used to set the actual value or time that the timer will operate for when activate. If you have the Range Select knob set to 9.99s, setting the Time Select to 500 would mean that the timer would operate for 5.00 seconds. With the Time Select still at 500 but changing the Range Select to 99.9s would change the operation time to 50.0 seconds.

To set the Time Select you will find that each digit has two corresponding buttons, one above and one below. To increase the value of a digit, push the lower button, to decrease, push the top button.



**Figure 4 - Timer Relay**

### 3.1.1 Calibrating Vend Times

The number of balls dispensed for each bucket size is a factor of how long the vend motor is on.

Each bucket size has a corresponding timer that controls the amount of time that the vending motor is on for that selection. The dispenser will vend approximately 7 balls for every second the vending motor runs.

Here are some approximate times for various ball counts:

Number of Balls	Setting (Time)	Number of Balls	Setting (Time)
20 Balls	2.8 Seconds	55 Balls	7.8 Seconds
30 Balls	4.2 Seconds	60 Balls	8.6 Seconds
35 Balls	5 Seconds	75 Balls	10.7 Seconds
40 Balls	5.7 Seconds	90 Balls	12.8 Seconds
45 Balls	6.4 Seconds	95 Balls	13.5 Seconds
50 Balls	7.1 Seconds	100 Balls	14.2 Seconds

Example: Assume that you would like to have 35 balls per token or coin drop. This would mean for each coin drop you would have 35 balls dispensed. Therefore, for a small bucket 35 balls would be dropped for the first token deposited, 70 balls for two tokens deposited and 105 balls for three tokens deposited. This would suggest initial calibration times of 5 seconds for each deposit.

Enter the appropriate time on the timer.

Verify the time by vending a bucket of balls and counting the balls dispensed. If the count is too high, reduce the time slightly on the timer, if it is too low, increase

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the time.

Once the correct time has been established, record the values for each bucket size and tape it to the inside of the machine for future reference.

## **4.0 USER INSTRUCTION**

### **4.1 Token Mechanism Usage**

The Token Mechanism accepts our high security metal alloy tokens. Token sizes available include 0.837", 0.917" and 0.984" diameter. Upon deposit of this token, the machine will immediately begin dispensing the golf balls.

The Token Mechanism has a lock out solenoid that prevents the deposit of more than 1 token at a time. Additionally, it will prevent the deposit of a token during a vending cycle when there is no power to the dispenser.

If the balls are not vended upon deposit of a token, the token has been rejected and will be released when the customer presses the Token Return Lever.

## **5.0 MECHANICAL OPERATION**

Balls are loaded through an opening at the top of the cabinet and stored in the hopper area between the top of the cabinet and the top of the dispensing mechanism. The gravity fed balls are deflected by a 12-inch wide angled shelf across the back of the cabinet, then a similar shelf 6 inches lower across the front. The balls funnel through these shelves at the top of the dispensing unit to the bottom of the dispensing unit where they are aligned on an inclined rack of parallel rails.

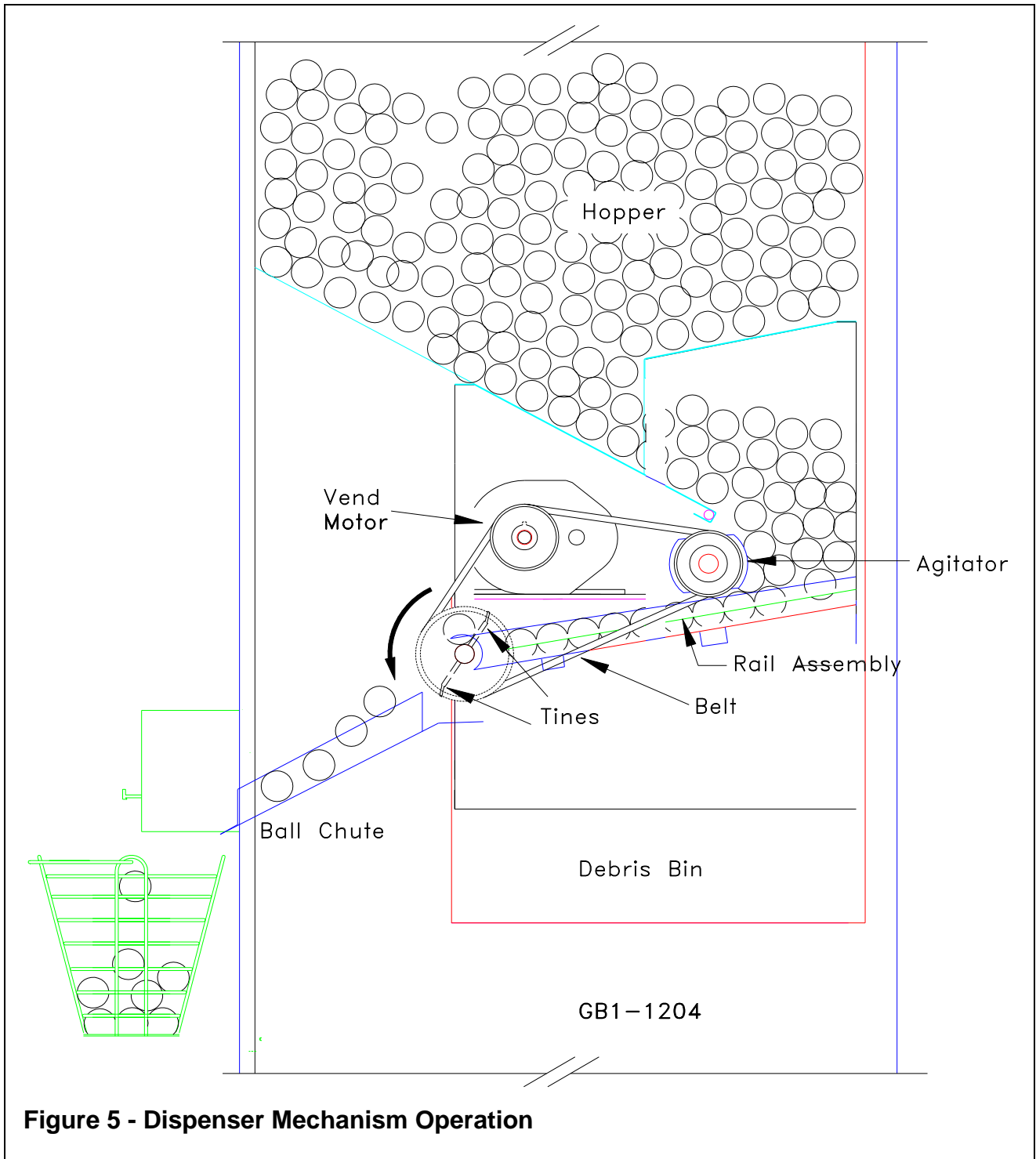
The dispensing assembly consists of a parallel arrangement of rails, which create channels that feed the balls down to a perpendicular dispensing shaft. A perpendicular shaft, acting as an agitation device, transfers the balls from the hopper to the rack across the top of the channels to insure the free flow of balls. It rotates simultaneously with the dispensing shaft as balls are dispensed at the bottom of the rack. An induction gear motor drives motion of the agitation shaft and the dispensing shaft on a 3-pulley V-belt system.

At the bottom of the dispensing assembly, a curved tine extends from the

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dispensing shaft opposite each channel. As the shaft rotates, the tines scoop the balls from each channel and discharge them into a funnel, which directs the balls through the basket hood into the user's basket.

As the balls move, the dispensing mechanism assembly allows any small foreign particles, debris and/or water to fall through the dispensing mechanism to the ground below.



**Figure 5 - Dispenser Mechanism Operation**

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## 6.0 ELECTRICAL OPERATION

### 6.1 Electrical Components

The Vend Controller is a multifunction timer relay that controls the vending operation of the dispenser. It has two terminal strips for wire connection of the other electrical components that make up the vend control circuitry. In **Error! Reference source not found.**, these connections are indicated, labeled and their appropriate connections are illustrated.

**K     Caution: Failure to unplug the machine to cut power when working on any aspect of the electrical system can result in hazardous electrical conditions. Always take the necessary precautions to avoid the hazard of electrical shock.**

#### 6.1.1 Token Mechanism

The token mechanism is a electromechanical device that screens tokens and provides a switch closure when a token is accepted. The electrical aspects of the token mechanism are a SPDT micro switch in which the NO contact closes briefly as a token drops into the coin box and an electromagnetic solenoid coil that, when energized, allows a token to be inserted and accepted.

#### 6.1.2 Vend Motor

The vend motor is an induction motor with a counter clockwise rotation that drives the dispensing mechanism. The length of time that the motor rotates determines the number of balls that will be dispensed.

#### 6.1.3 Timer Relays

The time control relay (T1), controls how long the Vend Motor is on. This device is an ON-DELAY Multi-time range relays. They change states (No contacts close and No contacts open) after power is applied and the selected time elapses.

#### 6.1.4 Token Counter (Optional)

An electromechanical device that registers the number of tokens deposited. This 6 digit, non-resettable counter increments by 1 with each token deposited.

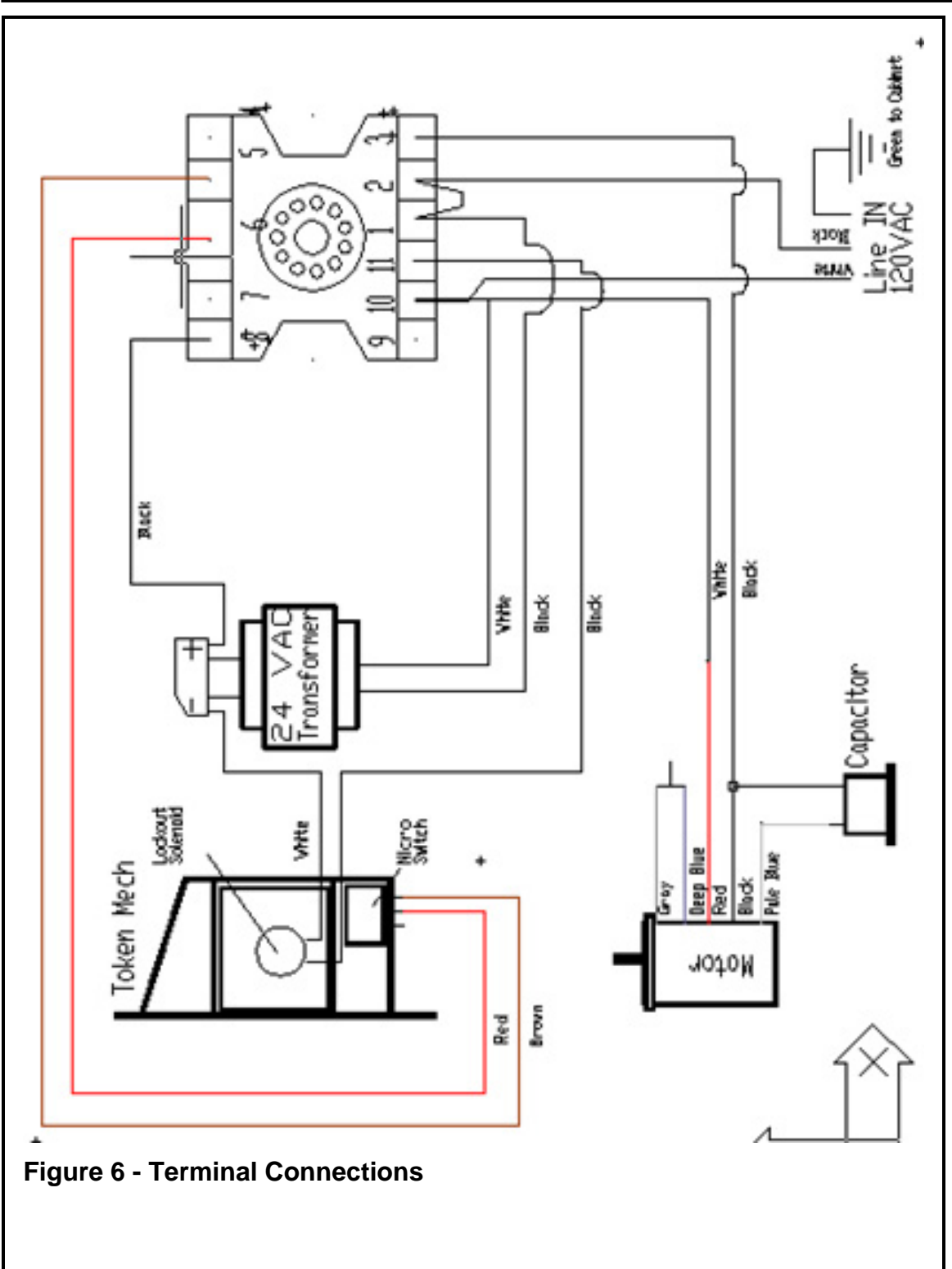


Figure 6 - Terminal Connections

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## 7.0 ROUTINE MAINTENANCE:

The Series 100 golf ball-dispensing machine was designed for minimum maintenance. Below are listed suggested maintenance intervals.

### 7.1 As Required

- √ Fill with golf balls.
- √ Remove tokens from dispenser.

### 7.2 Daily

- √ Examine and remove any obstructions from the dispensing rack.

### 7.3 Weekly (Outdoors) or BI-Monthly (Indoors):

- √ Wash cabinet exterior with mild soap or detergent, rinse with water and buff dry.
- √ Clean Token mechanism magnetic sensors (see *7.5 Token Mechanism Maintenance*)

### 7.4 Every 6 Months:

- √ Verify ball counts and recalibrate if required.
- √ Examine drive belt and dispensing tines, tighten or replace if required.
- √ Examine cabinet for scratches or nicks, if required, touch up.

Ⓚ **Important: Unwashed golf balls and field debris can severely affect machine performance.**

### 7.5 Token Mechanism Maintenance

The optional high security token mechanism uses a combination of mechanical

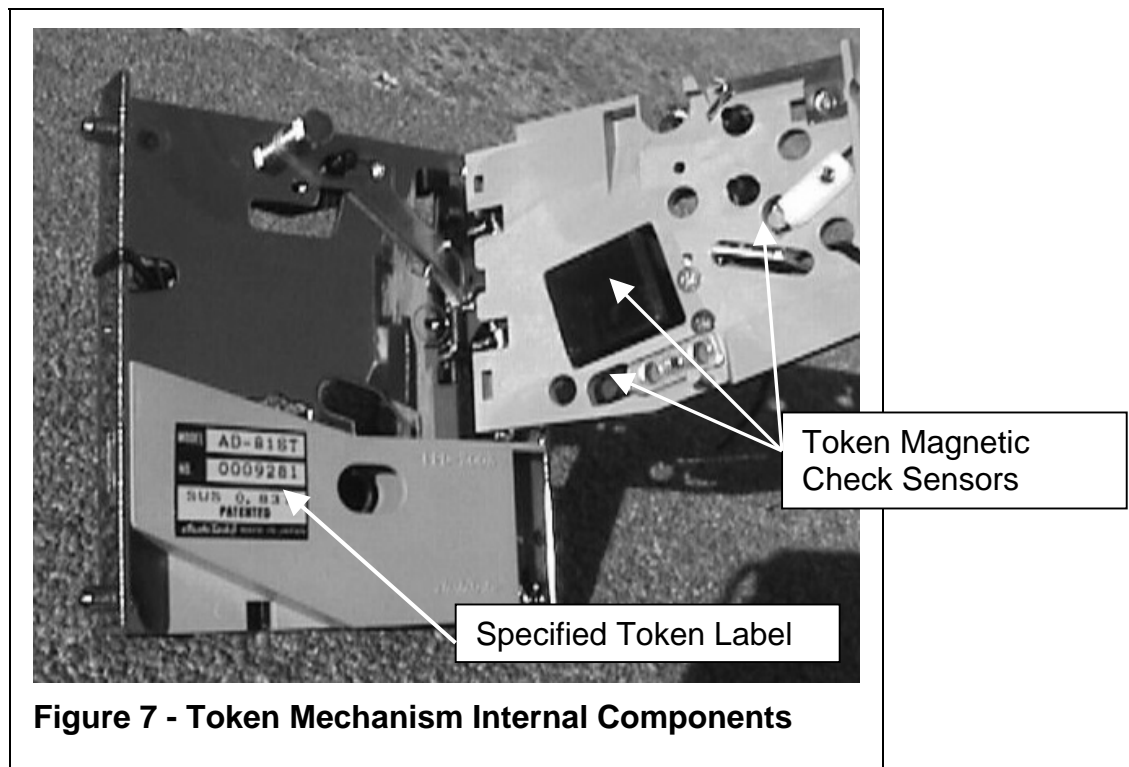
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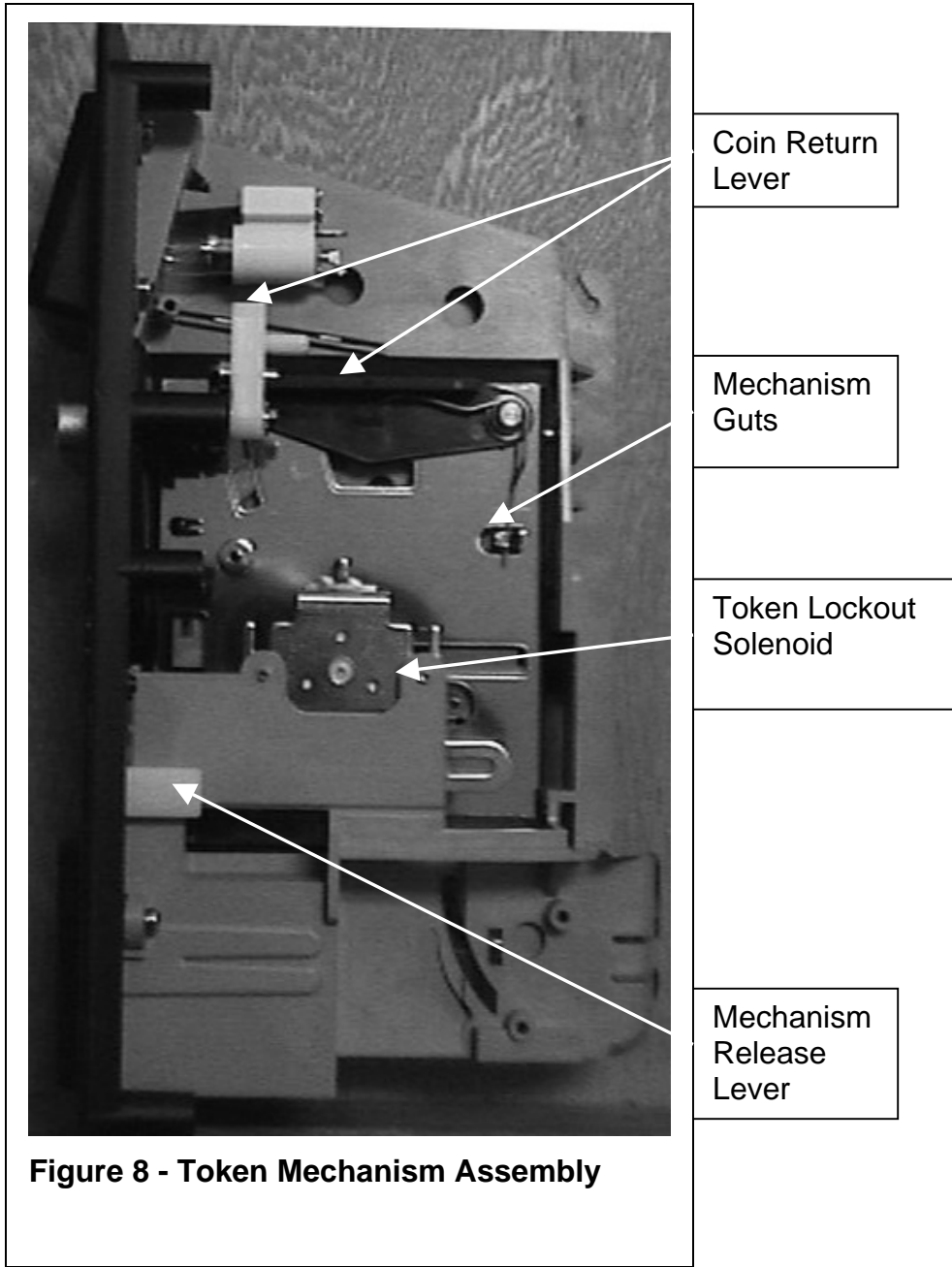
size detectors and magnetic sensors to determine the validity of a token. With normal use, a build up will be deposited onto the magnetic sensors causing valid tokens to be rejected. Cleaning these magnets once a month will prevent this problem from occurring at even the busiest driving ranges.

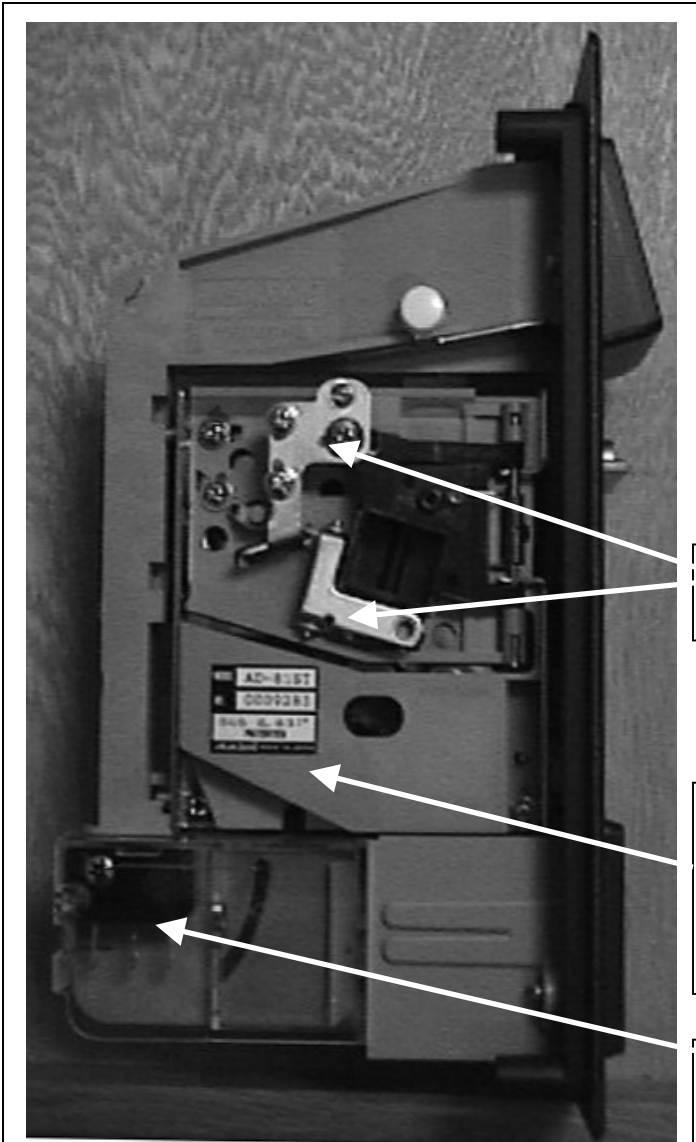
To clean the magnetic sensors, lift the mechanism release lever (see **Error! Reference source not found.**). Lift the middle section of the token mechanism (known as the 'mechanism guts') up and to the right to remove.

Open the mechanism guts to their full extent as viewed in **Error! Reference source not found.**. Locate the lower magnetic check sensor in **Error! Reference source not found.**. The lower magnetic sensor can be pushed forward through the oblong hole and into the token path for better access. Use a alcohol soaked cotton swab to clean around the circumference of the sensor (the token contacts the outside edge of this sensor, not the flat surface). Clean any other areas in the token path where a buildup is present, especially on and around the upper and middle magnetic check sensors. Insert the mechanism guts into the token



mechanism frame.





MECHANICAL  
MECHANISM

Model Number  
Serial Number  
Token Size

Micro Switch

**Figure 9 - Token Mechanism Assembly**

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## 8.0 TROUBLESHOOTING

Logical troubleshooting minimizes effort caused by removing and replacing the wrong part. If a failure occurs, it will probably be caused by a minor defect such as loose connections or dirty electrical contacts. Check that all plugs and relays are firmly seated before replacing any parts.

This troubleshooting guide will help you isolate problems and return the machine to service as quickly as possible. It assumes that power is available to the machine and that the machine is connected to an electrical power source. The tables listed below indicate a symptom, the most common cause and the most likely defective part.

Symptom	Probable Cause
No power to machine.	<ul style="list-style-type: none"><li>• Power Cord is broken, cut, or has a bad connection on terminals 2 or 10 (see Figure 6).</li><li>• Examine power cord and replace if necessary.</li></ul>
Dispenser will not accept tokens consistently.	<ul style="list-style-type: none"><li>• Token mechanism sensors are dirty, see <i>7.5 Token Mechanism Maintenance</i> for cleaning instructions.</li></ul>
Dispenser will not accept tokens.	<ul style="list-style-type: none"><li>• No power to dispenser, refer to first symptom.</li><li>• Token Mechanism coil is not activated. Check wiring between the 24 volt transformer, token mechanism lockout solenoid, the token mechanism, and the wire between terminal #11 and the token mechanism lockout solenoid(see Figure 6). If connections or wire is faulty replace or repair. Unplug the machine before performing any wiring on the machine as high voltage is present.</li><li>• If wiring is okay, measure the voltage on the secondary coil of the</li></ul>

	<p>transformer. Voltage should be between 23 and 27 VAC. If no voltage is present, replace the transformer.</p> <ul style="list-style-type: none"> <li>• If wiring &amp; transformer are okay, contacts in the multifunction timer relay are bad. Relay contains no serviceable parts.</li> </ul>
<p>Dispenser accepts tokens but will not vend.</p>	<ul style="list-style-type: none"> <li>• Ball dispenser is out of golf balls</li> <li>• Ball or foreign object causing a ball jam. Open the dispenser mechanism access door (see Figure 1) and examine the ball path. Look for broken or lodged golf balls under dispenser tines (see Figure 2). Check around and behind the agitator for a foreign object that may be lodged in the agitator assembly (see Figure 2). Remove anything that is found and check for damage that may have been caused by the lodged object.</li> <li>• If no balls are present in the dispenser mechanism but the dispenser has an adequate supply of balls there is a ball bridge on the front hopper plate. With your hand, push up on the front hopper plate to break ball bridge. If this does not work there may be a foreign object (such as a ball basket) that is blocking the ball path to the dispenser mechanism. Remove golf balls from the dispenser until you can remove the object.</li> <li>• Dispenser drive belt is slipping. Check the drive belt for slippage. If belt is slipping, loosen the four retaining bolts on the motor mount plate and slide motor towards front of dispenser until tension on belt is</li> </ul>

	<p>tight. Tighten retaining bolts. If belt continues to slip, replace belt.</p> <ul style="list-style-type: none"> <li>• Pulley is slipping on shaft. With the vend switch to the on position. Check the three dispenser mechanism pulleys (see Figure 2). If a pulley is slipping, rotate pulley until set-screw is over flat surface of shaft and tighten set-screw with hex key.</li> <li>• Dispenser motor has been damaged. If the motor will not operate when the vend switch is turned on and during a normal dispense cycle, check the motor wire harness for broken wires and loose connections. If the harness is okay, replace the motor.</li> <li>• Test motor &amp; wiring harness by placing a jumper wire between terminals 2 &amp; 3. (Remember, high voltage is present, so unplug the machine before placing or removing any jumper wires). If motor operates properly, remove jumper &amp; replace multi function timer.</li> <li>• Dispenser motor or wiring harness has been damaged. Check wiring for loose or broken connections. If wiring is okay, replace the motor / capacitor.</li> </ul>
<p>Depositing tokens does not activate relay logic.</p>	<ul style="list-style-type: none"> <li>• Token Mechanism switch is not connected or defective.</li> <li>• One of the three timer relays (T1 thru T3) is defective (see Figure 6).</li> <li>• Logic relay(s) has dirty contacts or is defective, clean or replace.</li> </ul>
<p>Short Ball Count.</p>	<ul style="list-style-type: none"> <li>• Chute(s) blocked, clear.</li> <li>• Tine(s) broken, replace.</li> <li>• Drive belt slipping, tighten.</li> </ul>

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	<ul style="list-style-type: none"><li>• Brush clogged, clean.</li><li>• Timer(s) misadjusted. Refer to Section 3.1.1 <i>Calibrating Vend Times</i> for recalibration instructions.</li></ul>
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## 9.0 PARTS LIST

<u>Item</u>	<u>P/N</u>	<u>Description</u>	<u>Qty</u>
<b><u>Cable Harnesses</u></b>			
1.	HXN005	Cable tie mount (large)	5
2.	HXN003	Cable tie (large)	10
3.	HXN004	Cable tie mount (small)	1
4.	HXN002	Cable tie (small)	5
<b><u>Token Mechanism</u></b>			
5.	DUP001	HS Token Mech 837	1
6.	DUP002	HS Token Mech 917	
7.	DUP003	HS Token Mech 984	
8.	DUP042	Token mechanism lockout (included with token mechanism)	1
9.	HXZ002	Mounting clamps (included with token mechanism)	5
10.	HSZ009	3/4" mounting screws (included with token mechanism)	5
<b><u>Controller SubAssembly Bill of Materials</u></b>			
11.	D5P002	On Delay Timers (T1-T3)	1
12.	DUP036	24VAC 40 VA Transformer	1
13.	HSZ007	6-32 X 3/4" Pan head screw	2
14.	HNZ010	6/32 Kep nut	2
15.	HWZ006	#6 USS flat washer	1
16.	HEW004	52" Motor harness (18/2 SJ cable)	1
17.	HEW003	120" Power wire (14/3 SJ Cable)	1
18.	DUP028	Industrial strength three prong plug w/no slip grip	1
19.	HEC004	Closed end connector (18-22 AWG)	1
20.	HEC009	.250 F disconnect (14-16AWG)	10
21.	HEC001	.250 F disconnect (18-22AWG)	2
22.	HEC010	.250 M disconnect (18-22AWG)	2
23.	HEC011	Butt connector (14-16AWG)	3
24.	HEC012	Butt connector (18-22AWG)	2
25.	HEC013	#6 Spade connector (18-22AWG)	2
26.	HEC014	Ring connector (14-16AWG)	1
27.	HEW002	22AWG stranded wire, white (feet)	1
28.	HEW001	22AWG stranded wire, black (feet)	1

<b>Item</b>	<b>P/N</b>	<b>Description</b>	<b>Qty</b>
29.	HXN005	Tie strap mount (large)	10
30.	HXN003	Tie strap (large)	15
31.	HXN004	Tie strap mount (small)	5
32.	HXN002	Tie strap (small)	10
<b>100 Series Ball Dispenser Cabinet</b>			
33.	DUF028	Main frame (Stainless Steel)	1
34.	DUP025	2" leg leveler	4
35.	DUF010	Panel, Left side GV	1
36.	DUF011	Panel, Left side PC	
37.	HRA001	1/4" rivet .125"-.250" aluminum/aluminum	64
38.	DUF008	Panel, Right side GV	1
39.	DUF009	Panel, Right side PC	
40.	HRA001	1/4" rivet .125"-.250" aluminum/aluminum	64
41.	DUF014	Panel, Rear GV	1
42.	DUF015	Panel, Rear PC	
43.	HXZ001	5/8" romex connector	1
44.	HRA001	1/4" rivet .125"-.250" aluminum/aluminum	68
45.	DUF002	Panel, Upper Front GV	1
46.	DUF003	Panel, Upper Front PC	
47.	HRA001	1/4" rivet .125"-.250" aluminum/aluminum	36
48.	DUF005	Access door, Lower front GV	1
49.	DUF006	Access door, Lower front PC	
50.	DUF029	1" X 1" Lower door piano hinge	1
51.	DUP032	5/8" Cam lock HS	2
52.	DUP020	Hook cams	2
53.	DUF019	Basket hood	1
54.	HNZ005	10-32 ny-lock nuts	6
55.	HXS001	5/16-18 X 1" shoulder bolt	1
56.	HNZ006	5/16"-18 ny-lock	1
57.	HRA001	1/4" rivet .125"-.250" aluminum/aluminum	31
58.	DUF056	Side Panel Rail Assemblies	1 SET
59.	DUF017	Lid, Top front	1
60.	DUF018	Lid, Top rear	1
61.	DUF030	1" X 1" top lid piano hinge	1
62.	DUP032	HS Cam locks	2
63.	DUP020	Hook cams	2
64.	DUP027	4" Handle	1
65.	HSZ002	8-32 X 1/2" machine screws	4
66.	HNZ007	8-32 ny-lock nuts	4

<b>Item</b>	<b>P/N</b>	<b>Description</b>	<b>Qty</b>
67.	HRA001	1/4" rivet .125"-.250" aluminum/aluminum	23
68.	DUF020	Hopper, front	1
69.	DUF021	Hopper, rear	1
70.	DUF022	Slant plate, left	1
71.	DUF023	Slant plate, right	1
72.	HXZ001	5/8" romex connector	1
73.	HRA001	1/4" rivet .125"-.250" aluminum/aluminum	43
74.	DUF032	Electrical box	1
75.	DUF035	Controller mounting panel	1
76.	HXZ001	5/8" romex connector	1
77.	HRA001	1/4" rivet .125"-.250" aluminum/aluminum	46
78.	DUF016	Selection door	1
79.	DUF031	HS door hinges	2
80.	HSZ003	10-24 X 3/8" cap screw	8
81.	HWZ003	#10 USS flat washer	8
82.	DUP032	HS cam locks	2
83.	DUP021	3/8" offset cam	2
<b>Dispensing Mechanism</b>			
84.	DUF040	Support plate, left	1
85.	DUF041	Support plate, right	1
86.	DUF042	Back plate	1
87.	DUF059	1/2"-13 X 26" threaded rod	1
88.	HNZ001	1/2"-13 finish hex nuts	2
89.	HRA001	1/4" rivet .125"-.250" aluminum/aluminum	60
90.	DUF043	Rail bridge	2
91.	DUF044	Rail, left	1
92.	DUF045	Rail, right	1
93.	DUF046	Rail, center	9
94.	HRA002	1/8" rivet .125"-.250" aluminum/aluminum	96
95.	DUF048	Agitator shaft	1
96.	DUF055	Agitator support strips	8
97.	DUF057	Agitator pads	4
98.	HXN001	1/4" I.D. X 3/4" nylon spacer	20
99.	HSZ004	1/4"-20 slotted truss head screw	20
100.	HWZ004	5/16" USS flat washer	20
101.	DUP034	1" pillow block bearing	2
102.	HSZ005	5/16"-18 X 3/4" flathead cap screws	4
103.	HNZ002	5/16"-18 serrated flange nut	4
104.	DUP033	1" X 4.95" agitator pulley	1

<b>Item</b>	<b>P/N</b>	<b>Description</b>	<b>Qty</b>
105.	DUF049	Flipper shaft	1
106.	DUP035	1/4"-20 X 2" tines	24
107.	HNZ008	1/4"-20 ny-lock nuts	24
108.	DUP034	1" pillow block bearing	2
109.	HSZ005	5/16"-18 X 3/4" flathead cap screws	4
110.	HNZ002	5/16"-18 serrated flange nut	4
111.	DUP033	1" X 4.95" Flipper pulley	1
112.	DUF047	Motor mounting bracket	1
113.	DUP018	Induction motor	1
114.	DUP019	Motor gear head	1
115.	HNZ009	1/4"-20 Nut (included with motor)	4
116.	HWZ005	1/4" E.T. Washer (included with motor)	4
117.	HSZ006	1/4"-20 X 3 1/2" Pan head screw (included with motor)	4
118.	HEC005	8uF Capacitor (included with motor)	1
119.	HEC006	Capacitor cover (included with motor)	1
120.	HSZ007	6-32 X Machine screw	1
121.	HNZ010	6-32 kep nut	1
122.	DUP026	1/2" X 3.95" motor pulley	1
123.	HEC001	.250 F. disconnect 18-22AWG	2
124.	HEC002	.187 F. disconnect 14-16AWG	1
125.	HEC003	.187 F. disconnect 18-22AWG	1
126.	HEW001	22AWG stranded wire, black (feet)	5
127.	HXN002	Cable ties (small)	10
128.	HEC004	Closed end connector 18-22AWG	1
129.	HSZ005	5/16"-18 X 3/4" flathead cap screws	4
130.	HNZ002	5/16"-18 serrated flange nut	4
131.	DUP029	Drive belt, 4L420	1
132.	DUF050	Chute, CBG	1
133.	DUF058	Felt for complete ball chute	1
<b>Bill of Materials for Dispenser Cabinet Extention</b>			
134.	DUF052	Front/Back panel GV	
135.	DUF053	Front/Back panel PC	
136.	DUF061	Left/Right Panel GV	
137.	DUF062	Left/Right Panel PC	
138.	HRA001	1/4" Rivet .125"-.250" Aluminum/Aluminum	30



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## WARRANTY

Range Land USA, Inc. warrants this machine, manufactured by it to be free from defects in material or workmanship under normal use. Our obligation under this warranty is to the original purchaser only and is limited to making good at our factory any part or parts thereof which shall, within one (1) year after delivery of such product to the original purchaser, be returned to us or our authorized dealer or distributor from whom purchased with all transportation charges prepaid to our factory, and which our examination shall disclose to our satisfaction to have been defective.

This warranty does not extend;

1. To any of our products which have been subjected to misuse, neglect, accident, incorrect wiring, improper installation, or to use in violation of instructions furnished by us;
2. To units which have been repaired or altered outside our factory;
3. To cases where the serial number of the product has been removed, defaced or changed;
4. To electrical components, displays, lamps, tubes or circuit breakers;
5. To accessories not of our own manufacture used with our products.

Any part manufactured by Range Land USA, Inc., found by us to be defective within the warranty period will be exchanged by Range Land USA, Inc. or their authorized dealer or distributor without charge to the owner, excluding freight charges.

This warranty is in lieu of all warranties expressed or implied, including, but not limited to implied warranties of merchantability or fitness for a particular purpose, and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

Range Land USA, Inc. reserves the right to make any changes or improvements in its products without notice and without obligation, and without being required to make corresponding changes or improvements in products heretofore manufactured or sold.

Accessories, parts, or components, not of our own manufacture, are specifically excluded from this warranty but may carry their own manufacturer's warranty. Our warranty neither enhances or limits any other warranty.

*Range Land USA, Inc.*  
2331 S. 7th St.  
San Jose, California 95112  
(408)280-1188

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## **WARRANTY REGISTRATION**

To register your new Range Land dispenser and validate your warranty, please complete the enclosed warranty card and mail it back to us today.

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