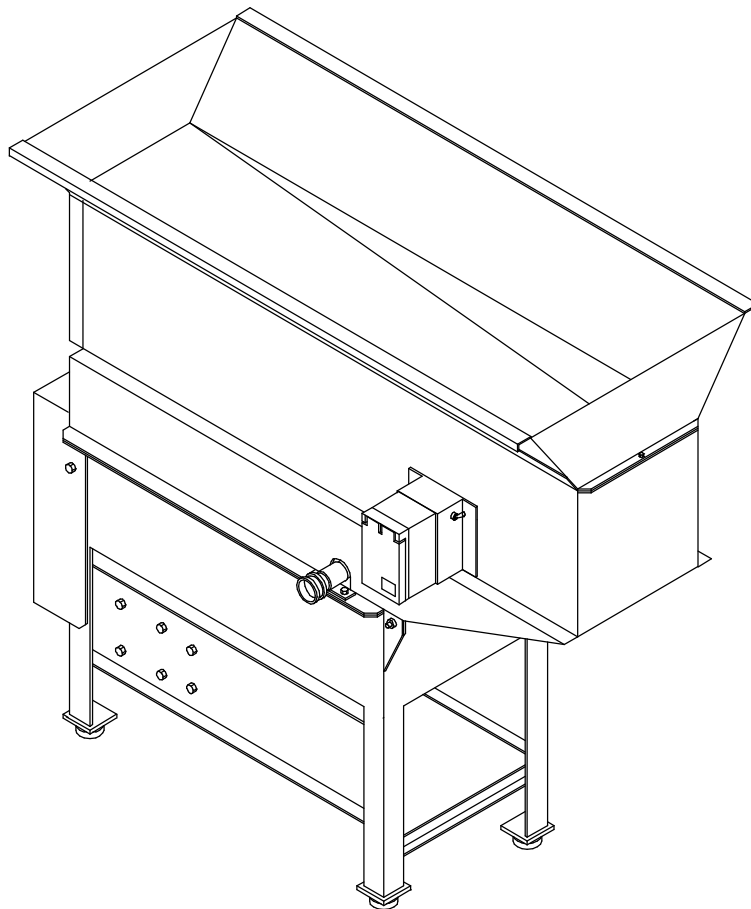




## Easy Picker Golf Products, Inc.

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### INSTALLATION and OPERATION BALL WASHER MODEL NO: BW-001N



KEEP THIS DOCUMENT WITH MACHINE FOR FUTURE REFERENCE

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## Introduction

Welcome to the Easy Picker family. We know you'll find our equipment to be of the highest quality. We are sure you will enjoy many seasons of reliable use. Easy Picker's ball washer is designed to be low maintenance and is manufactured at our own facility to ensure utmost quality.

The Easy Picker ball washer is constructed of heavy-duty aluminum. All exterior panels are treated to resist rust and corrosion, then sealed with an epoxy coating to ensure long life. Our ball washer's interior ball cleaning system has a motor driven feed design. All interior ball washing/delivery components are made of stainless steel and aluminum.

This manual contains instructions for operation, maintenance and troubleshooting for the ball washer, designed and manufactured by Easy Picker Golf Products, Inc., 415 Leonard Blvd. N., Lehigh Acres, FL 33971

## Specifications

Easy Picker offers two sizes for ball washing and will build custom orders to meet almost any customer situation. In addition, Easy Picker can design, for or with you, custom ball handling systems for connections between Easy Picker ball washers, elevator/conveyor systems and ball dispensers.

Cleaning Rate:	22,500 Golf Balls Per Hour
Hopper Capacity:	1,000 Golf Balls
Std. Dimensions:	39"H x 41"L x 19"D
Weight:	90 Pounds
Power Requirement:	110 VAC, 1 PH, 60 Hz, 8.0 FLA

## Warranty

Easy Picker Golf Products, Inc., warrants this product against defects in materials and workmanship for a period of ONE YEAR from the date of purchase. This warranty EXCLUDES any malfunction or damage due to customization and/or abnormal use of the product or product operation not in compliance with the OPERATING INSTRUCTIONS section of this manual.

## Inspection

**Within one (1) business day of delivery**, remove outer protective packaging from ball washer and inspect for any damage which may have occurred during transit . If damage has occurred, **DO NOT** remove ball washer from shipping pallet or discard any packaging materials removed during inspection. Notify the freight carrier immediately to arrange a claim and inspection. Also, notify Easy Picker Golf Products, Inc. of damage. Failure to perform any of the above procedures in a timely fashion may compromise any warranty coverage by either the freight carrier and/or Easy Picker Golf Products, Inc.

## Installation

- Install leveling feet on each tank leg, using two hex nuts and washers provided on each foot.
- Place ball washer on a sheltered, level concrete surface or equivalent. Be sure to allow adequate access clearance on all sides and overhead for loading balls into hopper.
- Level ball washer, if required, by adjusting mounting feet using 9/16" open-end box wrench, until cabinet is level, both side to side and front to back. Allow adequate side clearance for range ball pails.
- Connect facility power to ball washer via input power cord.

## Operating Instructions

- Open tower/hopper assembly to expose tank assembly.
- Close tank ball valve.
- Fill tank with water until fill line is reached.
- Connect water hose to top wash inlet if needed.
- Turn on water to top wash to desired spray, depending on ball dirt condition.
- Adjust tank drain valve to maintain constant tank fill line level, if required. Do not allow water to overflow tank.
- Close tower/hopper assembly to tank assembly and install opposite end fasteners.
- Place a ball storage bin next to the ball washer outlet for clean balls.

- Turn on ball washer by actuating toggle switch to the "ON" position, located on GFI assembly.
- Fill hopper with golf balls.
- Observe balls existing ball washer for proper cleaning and flow rate. If ball flow is too slow, then the ball washer will need to be tipped slightly towards the brush pulley end of the machine. If no balls are exiting from the outlet, then open tower door to observe if balls are jamming in feeder track. If this is the case, then the ball washer will need to be tipped slightly towards the pivot end of the machine. Balls should flow at a smooth, steady pace for normal operation.
- Turn off ball washer when all balls have exited the machine by actuating toggle switch to the "OFF" position, located on GFI assembly.

## **Periodic Inspection and Maintenance**

Periodic inspection and maintenance of the ball washer is necessary to discover any indications of malfunction or failure and to prevent breakdown of the equipment.

These procedures must be performed regularly and thoroughly. Through proper inspection and maintenance, equipment that is not in continuous use is kept ready for operation when necessary and the ball washer is maintained for peak performance for the maximum service life of the machine.

The periodic inspection and maintenance for the various components of the ball washer are listed in the following table. This table gives the inspection interval, inspection point, inspection procedure and service for remedy of defects revealed during inspection. All defects revealed during inspection should be corrected before further operation of ball washer is attempted.

### **WARNING**

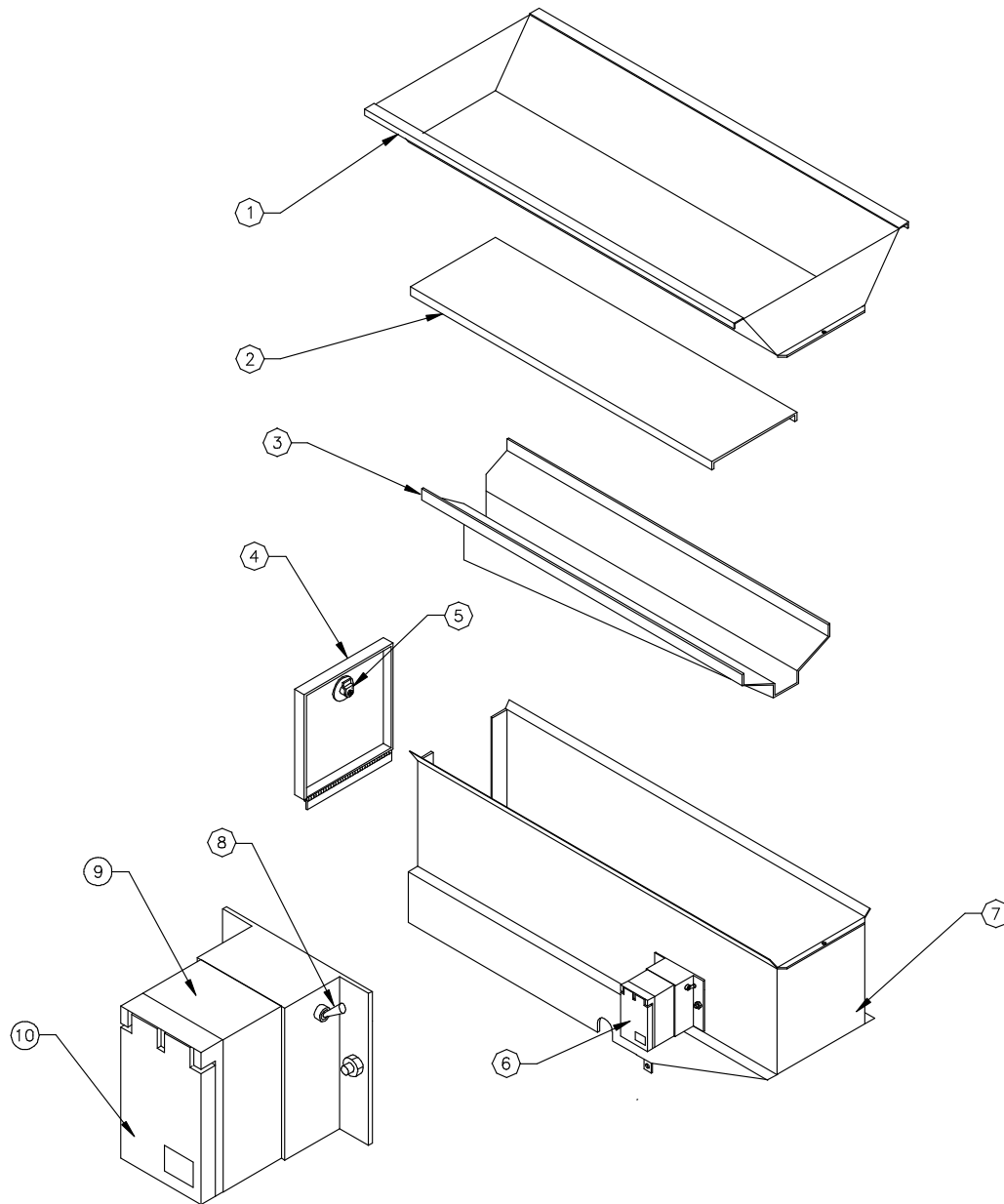
**ENSURE ELECTRICAL POWER HAS BEEN DISCONNECTED BEFORE PERFORMING ANY REPAIR PROCEDURES OR CONTINUITY CHECKS TO AVOID PERSONNEL INJURY. USE CARE WHEN PERFORMING VOLTAGE MEASUREMENTS TO AVOID PHYSICAL CONTACT WITH PARTS OR SURROUNDING CIRCUITS.**

## Table 1: Inspection Guide

Inspection Interval	Inspection Point	Inspection Procedure and Service
<b>Daily</b>	Machine Exterior	<p>Check exterior for evidence of physical damage, loose hardware or input power connection. Tighten and/or repair as necessary.</p> <p>Check electrical wiring for frays, obstructions or deterioration. Replace as necessary.</p>
	Machine Interior	<p>Open tower door and inspect for any foreign debris. Remove.</p> <p>Check tank water level. Fill, if required.</p>
<b>Monthly</b>	Cabinet Interior and Exterior	Inspect for scratched paint areas. Apply touch-up paint as necessary.
	Ground Fault Interrupt	Open GFI housing cover and depress test button. Verify electrical power shutdown by cycling ON/OFF switch. Reset GFI by depressing reset button and verify electrical power has been restored by cycling ON/OFF switch. If GFI will not reset, inspect electrical wiring for shorts or component failure (see Troubleshooting).
	Cabinet Interior and Exterior	Inspect tower/hopper assembly and tank assembly for loose or missing fasteners. Tighten or replace as necessary.

**Table 1: Inspection Guide (continued)**

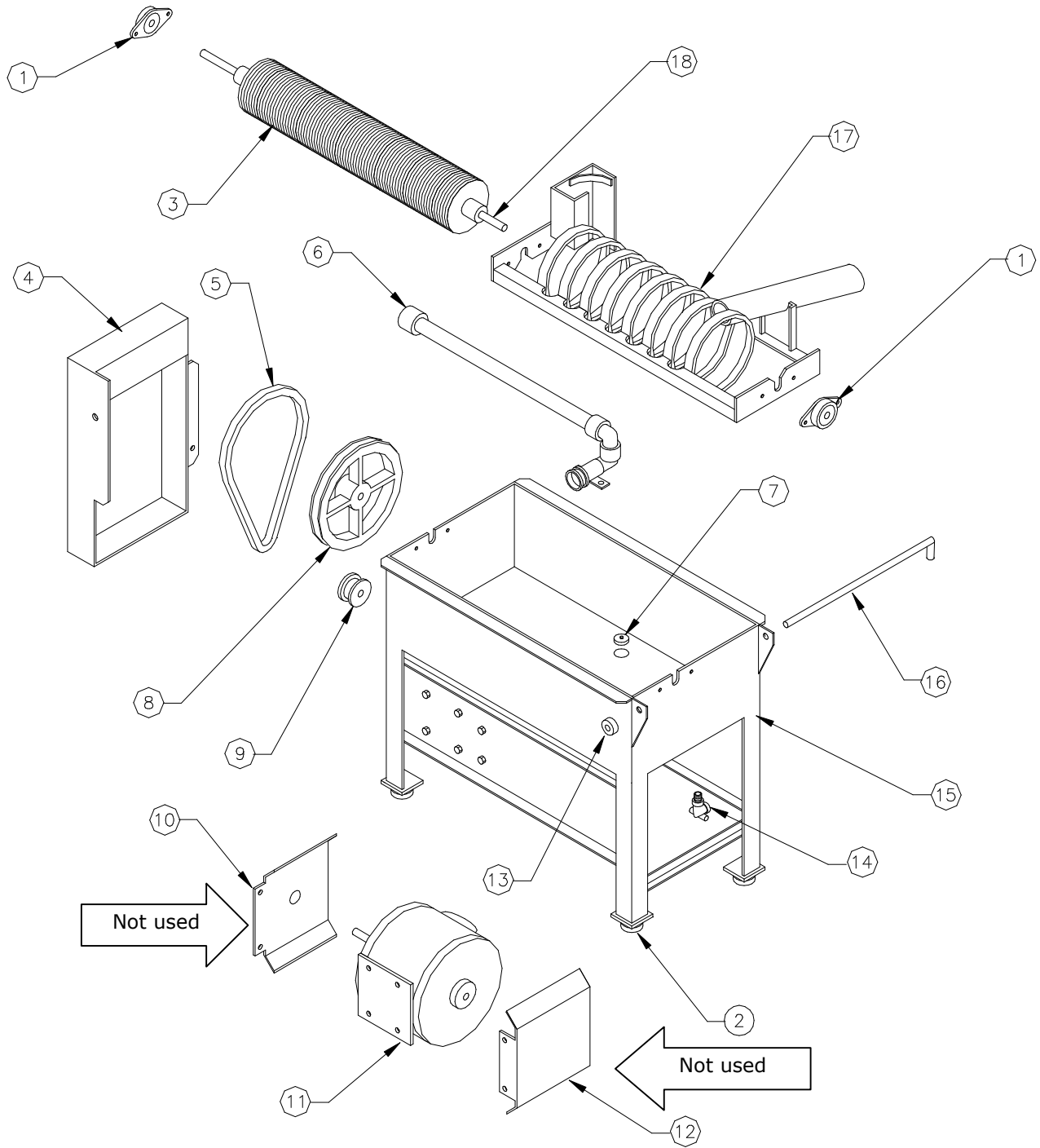
<b>Inspection Interval</b>	<b>Inspection Point</b>	<b>Inspection Procedure and Service</b>
<b>Monthly</b>	<p>Brush Spiral Cage</p> <p>Tank</p> <p>Top Wash</p> <p>Drive Belt</p>	<p>Inspect brush for wear. Replace, if required.</p> <p>Inspect spiral cage for wear . Replace, if required.</p> <p>Drain tank by removing stopper from drain and fully opening hose bib.</p> <p>Clean tank bottom of all debris and wipe clean. Replace drain stopper and close hose bib. Fill tank with clean water to fill line. Hose bib will require readjustment, if top wash is used.</p> <p>With water running, inspect delivery tube slots for clogging. Remove clogs using knife, if required.</p> <p>Remove pulley cover, inspect belt tension. Tension belt for approximately 1/2" deflection. Belt tension adjustment is accomplished by loosening drive motor mounting bolts. Tighten motor mounting bolts after adjustment.</p>



**FIGURE 1: TOWER / HOPPER ASSEMBLY**

Item	Qty	Part No.	Description
1	1	BW-028	Hopper
2	1	BW-101	Floor
3	1	BW-027	Feeder Track
4	1	BW-102	Door, Tower w/ Hinge
5	1	BD-058	Door Lock w/ Key #J0006
6	1	BW-037N	Ground Fault Circuit Interrupter Kit
7	1	BW-026	Tower
8	1	BW-015 BW-029	Switch, Toggle (1989 through 3/2001) Switch, Starter (4/2001 through present)
9	1	HA-49	Ground Fault Interrupter (only)
10	1	HA-48 BW-023	Cover, GFI (1989 through 3/2001) Cover, w/lever (4/2001 through present)

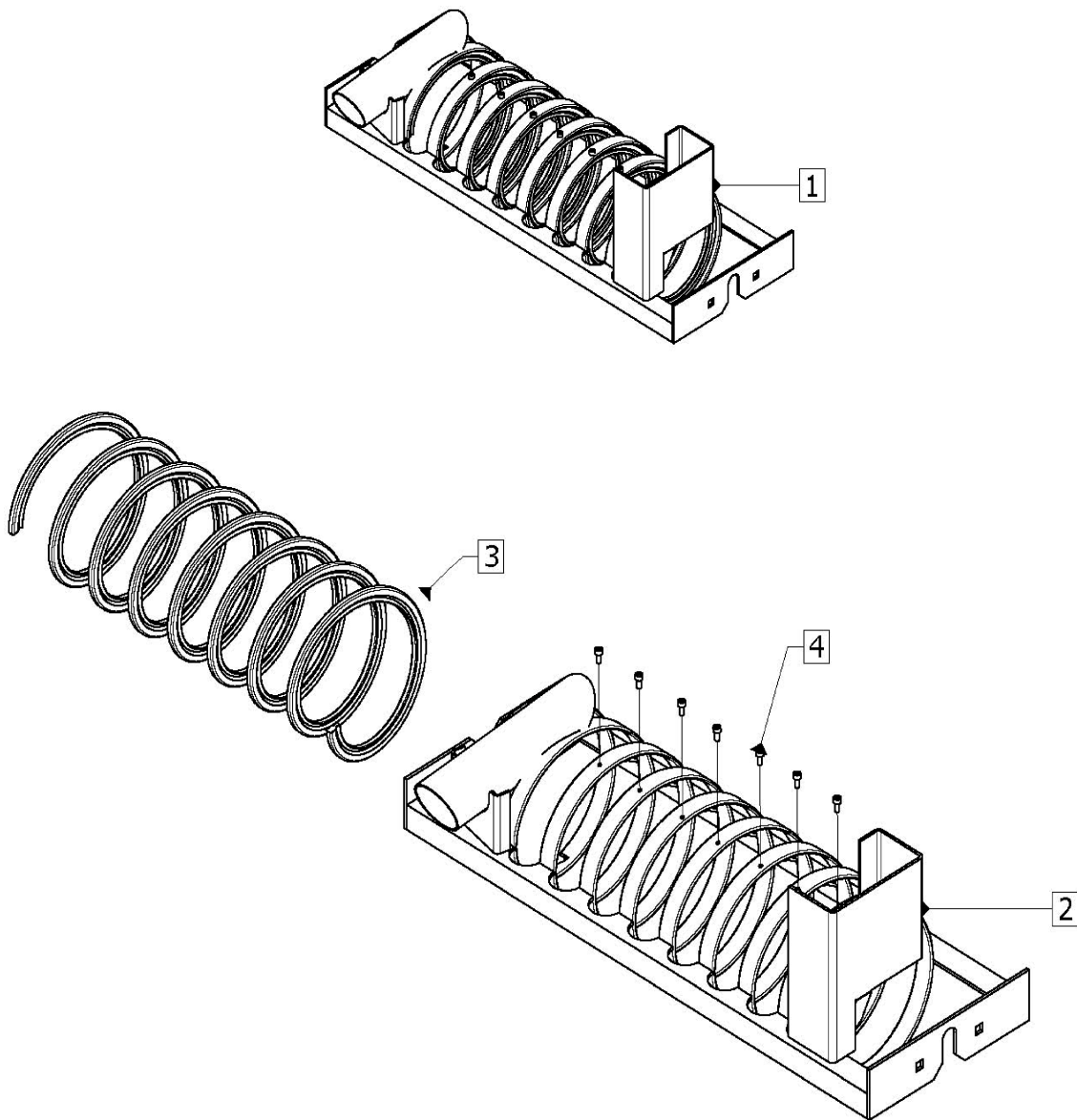




**FIGURE 2: TANK ASSEMBLY**

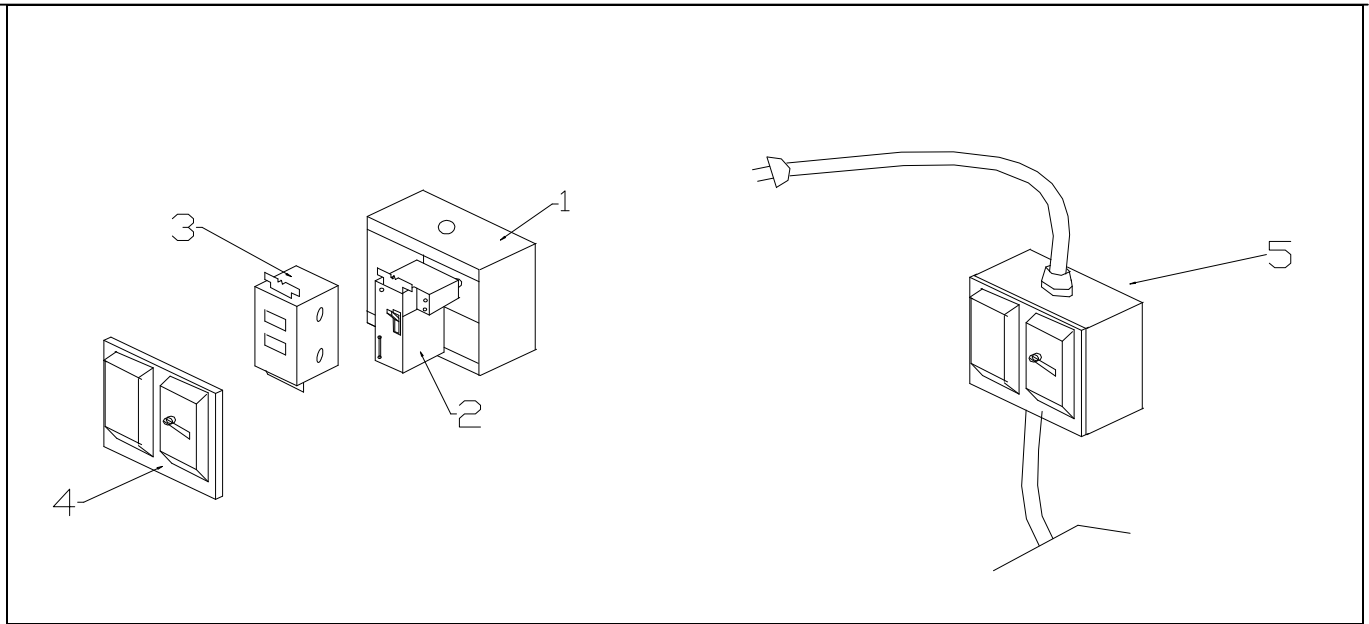
## TANK ASSEMBLY PARTS LIST

Item	Qty	Part No.	Description
1	2	BW-008	Bearing, Shaft
2	4	HA-143	Foot, Adjustable
3	1	BW-003	Brush w/ J-Bolt and Nut
4	1	BW-020N	Cover, Pulley
5	1	BW-007	Belt, Drive 37" (1989 through 3/2001)
		BW-018	Belt, Drive 38" (4/2001 through present)
6	1	BW-033	Top Wash Assembly
7	1	CALL EP	Stopper, 1 ¼" (1989 - 1998)
8	1	BW-004	Pulley, Brush (8")
9	1	BW-011	Pulley, Motor (1½")
10/12	1	CALL EP	Guard, Splash, Front/Rear (1989 - 1997)
11	1	BW-002	Motor, Drive (1989 through 3/2001)
		BW-002W	Motor, Drive, completely enclosed (4/2001 through present)
13	1	HA-145	Collar, Shaft
14	1	BW-021	Hose Bib, ¾" (1989 - 1997)
		HA-376	Valve, gate, brass 1¼" (1999 – present)
15	1	BW-019N	Tank Assembly
16	1	CALL EP	Shaft, Pivot
17	1	BW-010N	Spiral Assembly w/ Inner Brush
18	1	BW-036	Brush w/ Shaft



**FIGURE 3: SPIRAL ASSEMBLY**

Item	Qty	Part No.	Description
1	1	BW-010N	Spiral Assembly (includes items 2 – 4)
2	1	Call	Spiral Assembly w/out Inner brush
3	1	BW-003A	Brush, Inner, Black
4	18	Call	Screw, Self-tapping #6 x <sup>3</sup> / <sub>8</sub>



**FIGURE 4: SWITCH ASSEMBLY**

Item	Qty	Part #	Description
1	1	BW-014	Box, Junction Electrical 4x4
2	1	BW-029	Switch, Starter 2 Pole
3	1	HA-49	Switch, GFI
4	1	BW-023	Cover, GFI
5	1	BW-037N	GFI Kit Assembly.

## Troubleshooting

Any evidence of malfunction, however minor in character, should be investigated and corrected before it develops into a major fault which may disable the ball washer for lengthy and costly repairs. Troubles most likely to be encountered, their probable cause and remedy, are listed in the following table:

### **WARNING**

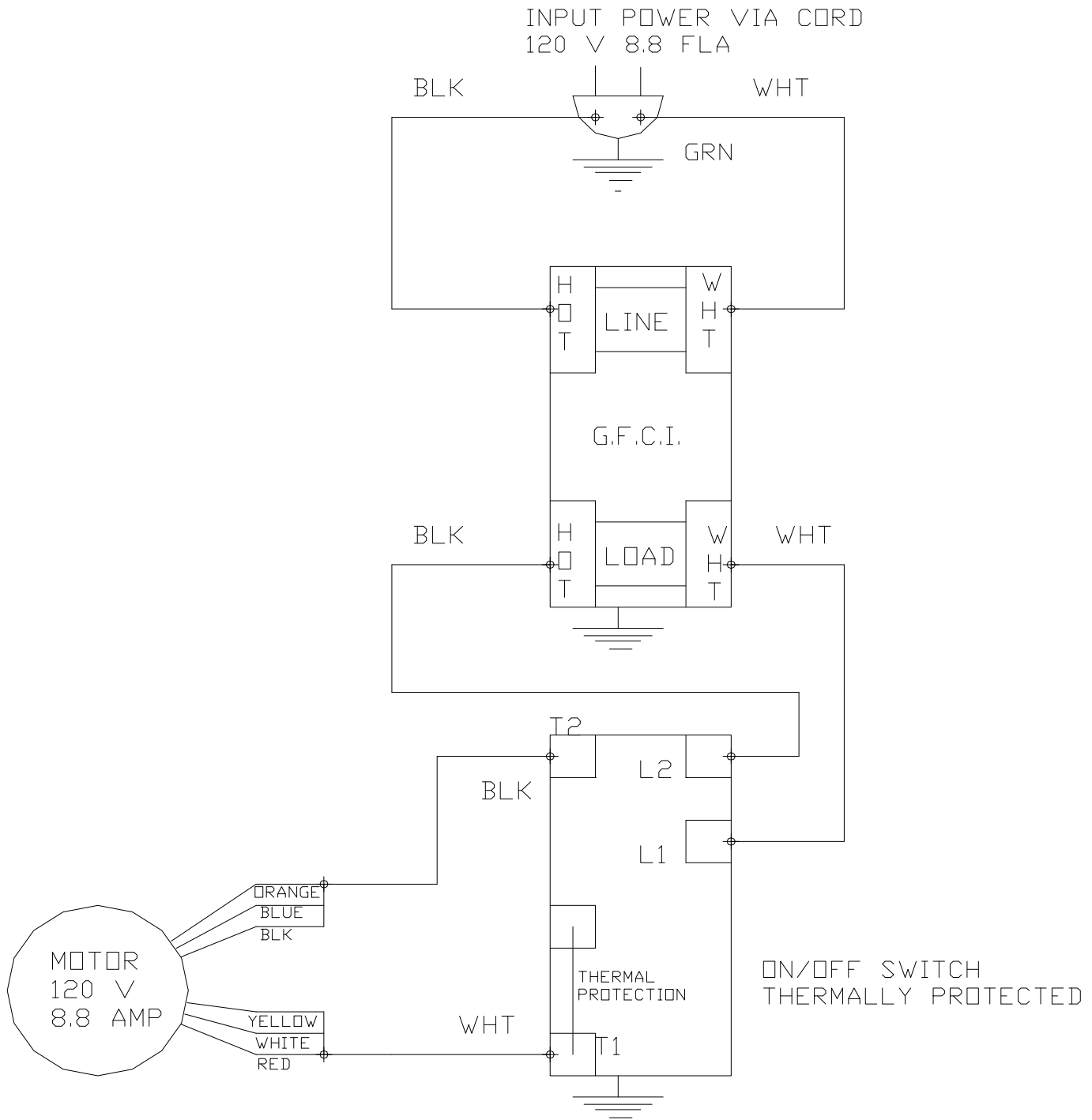
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## Table 2: Troubleshooting Guide

Trouble	Probable Cause	Remedy
Ball Washer will not run when toggle switch is in the "ON" position.	Power Cord	Verify facility power is turned on.  Verify Power Cord is plugged into facility power.
	GFI tripped	Depress GFI reset button. If GFI will not reset, inspect wiring for possible shorting or electrical motor failure. Replace wiring or component.  Using multimeter, or equivalent, check for power at GFI "LOAD" terminals. If power is not present, then GFI is defective and must be replaced.
	Toggle Switch	If power is present, check for power on each terminal on toggle switch, with toggle switch in the "ON" position. If power is not present on both terminals, then toggle switch is defective and must be replaced.  If toggle switch is not defective, then check motor wiring and/or perform continuity check on motor. Replace as required.
No Balls Exiting From Washer	Feeder Track Blocked Spiral Assembly Blocked	Open tower door and inspect for debris and/or broken golf ball(s).
	Machine Not Leveled Properly	See Installation Procedure.
Balls Exiting at a Slow Rate	Machine Not Leveled Properly	See Installation Procedure.
Balls Not Cleaning Properly	No Top Wash	Connect Water Supply and/or Adjust.
	Low Tank Water Level and/or Dirty Water	Fill Tank with Clean Water.
	Worn Brush Assembly.	Replace. See Brush Assembly Replacement Procedure.

## **Brush Assembly Replacement Procedure**

- Open tower/hopper assembly, to expose tank assembly, by removing fasteners on pulley end of tower.
- Remove belt cover to expose 8" pulley.
- Remove belt.
- Remove 8" pulley.
- Remove shaft bearings from each end of spiral cage and remove spiral cage from tank assembly.
- Pull out brush and shaft assembly from end of spiral cage.
- Install replacement brush/shaft assembly. If replacing brush only, then remove J-bolt from brush end and remove brush from shaft. Install new brush onto shaft and install new J-bolt, supplied with brush.
- Install brush back into spiral cage and position spiral cage back onto tank assembly, using fasteners.
- Replace shaft bearing on each end of spiral cage. Center brush/shaft assembly in the spiral cage by aligning shaft bearings in mounting slots and tightening fasteners.
- Replace 8" pulley.
- Replace drive belt and belt cover.
- Close tower/hopper assembly and install pulley end fasteners.



**FIGURE 5: WIRING DIAGRAM**