Easy Picker Golf Products, Inc.

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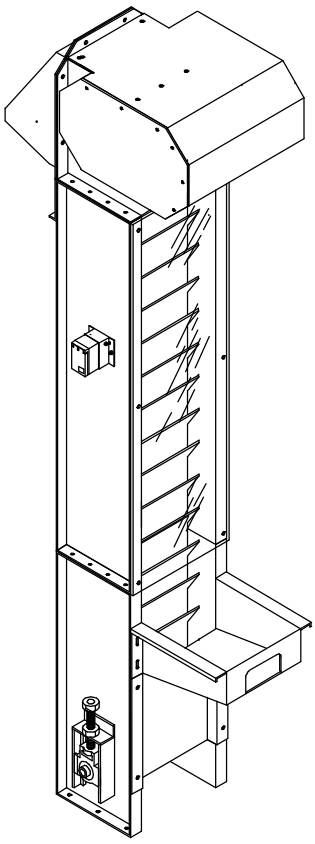
INSTALLATION and OPERATION

RANGE BALL CONVEYOR

MODEL NO: BC-001



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 and will enjoy many seasons of reliable use. Easy Picker's range ball conveyor is designed to eliminate handling of range balls by loading the ball dispenser from your ball washer automatically. Also, Easy Picker's range ball conveyor is designed to be low maintenance and is manufactured at our facility to insure the utmost quality.

The Easy Picker range ball conveyor is constructed of heavy duty steel. All exterior panels are treated to resist rust and corrosion, then sealed with an epoxy coating to ensure long life. Our range ball conveyor's interior belt system is motor driven.

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

Specifications

Easy Picker offers a standard size range ball conveyor to fit standard size range ball dispenser / range ball washer combinations. Easy Picker will build custom orders to meet almost any customer situation. In addition, Easy Picker can design, with you or for you, custom ball handling systems for connections to Easy Picker range ball washers, elevator/conveyor systems and range ball dispensers.

Convey Rate:	45,000 Golf Balls Per Hour
Weight:	175 Lbs.
Std. Dimensions:	88½" H x 19" L x 31" D
Power Requirement:	115 VAC, 1 PH, 60 Hz, 4.6 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 conveyor and inspect for any damage which may have occurred during transit . If damage has occurred, **DO NOT** remove ball conveyor 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

- Place range ball conveyor on a sheltered, level concrete surface or equivalent. Be sure to allow adequate clearance on all sides, and overhead for loading balls into inlet hopper from ball washer, located at bottom, and balls exiting from the conveyor outlet, located at top.
- Level range ball conveyor, if required, by shimming conveyor base, until cabinet is level, both side-to-side and front-to-back.
- Position ball washer outlet ramp to feed balls into conveyor inlet hopper.
- Position ball dispenser hopper opening directly under conveyor outlet opening.
- Connect facility power to range ball conveyor via input power cord.

Operating Instructions

- Turn on range ball conveyor by actuating toggle switch to the "ON" position, located on GFI assembly.
- Turn on ball washer to feed balls into conveyor.
- Turn off range ball conveyor 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 range ball conveyor 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 range ball conveyor is maintained for peak performance for the maximum service life of the machine.

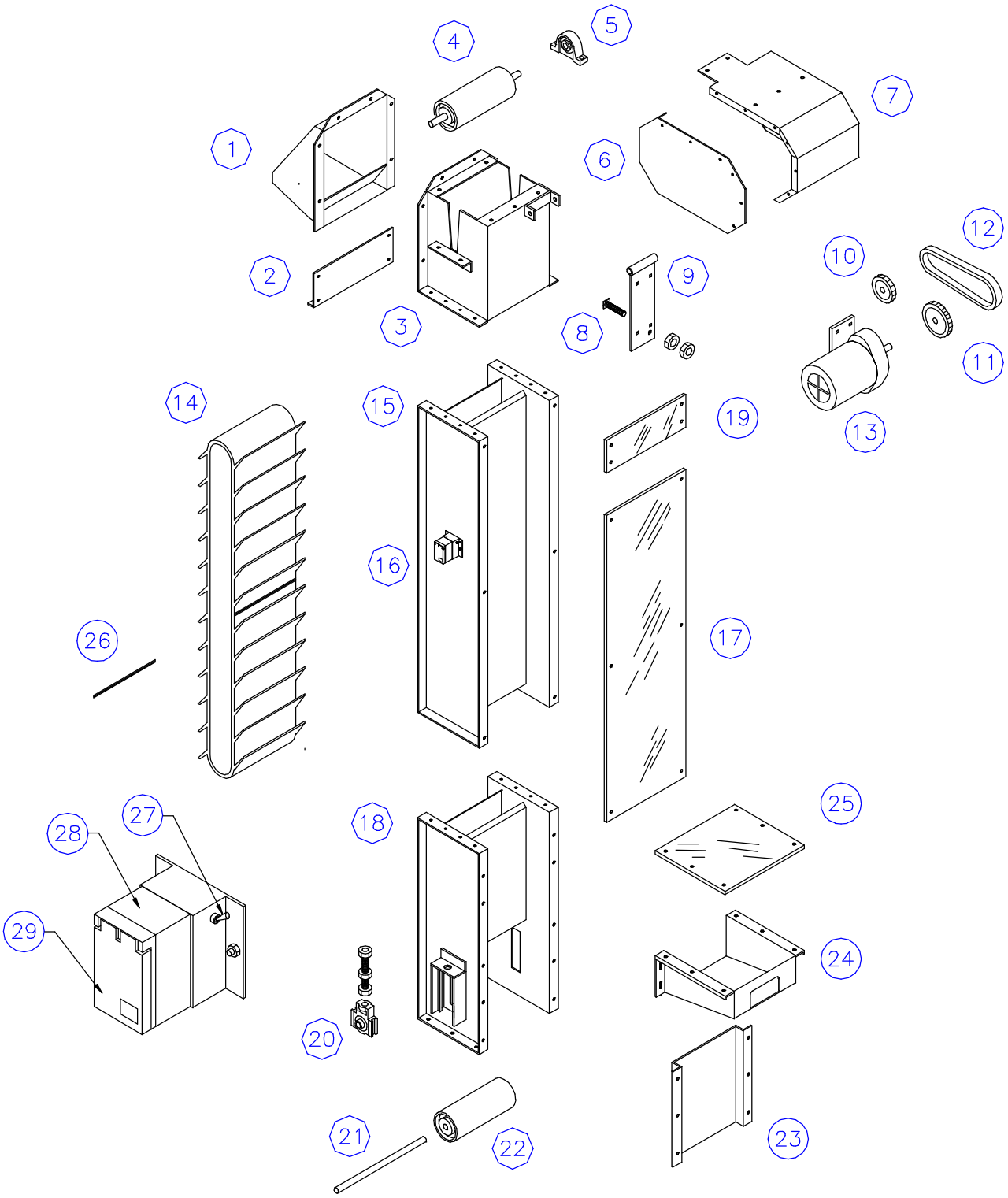
The periodic inspection and maintenance of the various components of the range ball conveyor are listed in the following table. This table gives the inspection interval, inspection point, inspection procedure and service for remedy of defects revealed during inspection. All defects revealed during inspection shall be corrected before further operation of range ball conveyor 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
Daily	Machine Exterior	Check exterior for evidence of physical damage, loose hardware or input power connection. Tighten and/or repair as necessary. Check electrical wiring for frays, obstructions or deterioration. Replace as necessary.
Monthly	Ground Fault Interrupt	Open GFI housing cover and depress test button. Verify electrical power shutdown by cycling "ON/OFF" toggle switch. Reset GFI by depressing reset button and verify electrical power has been restored by cycling ON/OFF" toggle switch. If GFI will not reset, inspect electrical wiring for shorts or component failure (see Troubleshooting).
	Cabinet Interior and Exterior	Inspect conveyor assembly for loose or missing fasteners. Tighten or replace as necessary.
	Conveyor Belt	Inspect Belt for wear. Replace, if required.
	Upper and Lower Roller Shaft Bearings	Lubricate bearings with axle grease as required.
	Drive Motor Chain and Pulleys	Lubricate chain with axle grease as required. **WARNING: REMOVE POWER WHEN GREASING CHAIN.**



[In later models, parts #21 & #22 are one piece - #12]

FIGURE 1: CONVEYOR ASSEMBLY (1994 – 2002)

CONVEYOR ASSEMBLY PARTS LIST (1994 – 2002)

Item	Qty	Part No.	Description
1	1	EL5	Exit, chute
2	1	EL6	Mounting plate
3	1	Call	Head assembly
4	1	PS11	Roller assembly, upper
5	2	HA-114	Pillow block
6	1	Call	Cover, side, motor
7	1	Call	Cover, motor
8	1	HA-79 & HA-21	Tensioner,drive chain (bolt: -13x2½ & nut:½-13)
9	1	PS9	Base, motor
10	1	HA-127	Sprocket, roller, 24 tooth
11	1	HA-110	Sprocket, motor, 20 tooth
12	1	Call	Chain, drive (measure chain length to order)
13	1	HA-93	Motor, drive
14	1	EL10	Belt, conveyor 164½"
15	1	Call	Tower, upper assembly
16	1	Call	Tower, middle assembly
17	1	EL16	Guard, lower, lexan 13½" x 48"
18	1	Call	Tower, lower assembly 13½" x 10"
19	1	EL15	Guard, upper, lexan
20	2	HA-96	Bearing, take-up
21	1	PS12	Shaft, lower roller
22	1	PS12	Roller, lower
23	1	EL12	Panel, lower
24	1	EL13	Hopper, inlet
25	1	EL17	Guard, hopper inlet, lexan 13½" x 12"
26	1	EL11	Pin, seam, conveyor belt
27	1	BW-015	Switch, toggle (1994 – 2001)
28	1	HA-49	Ground Fault Interrupter (only)
29	1	HA-48	Cover, junction box

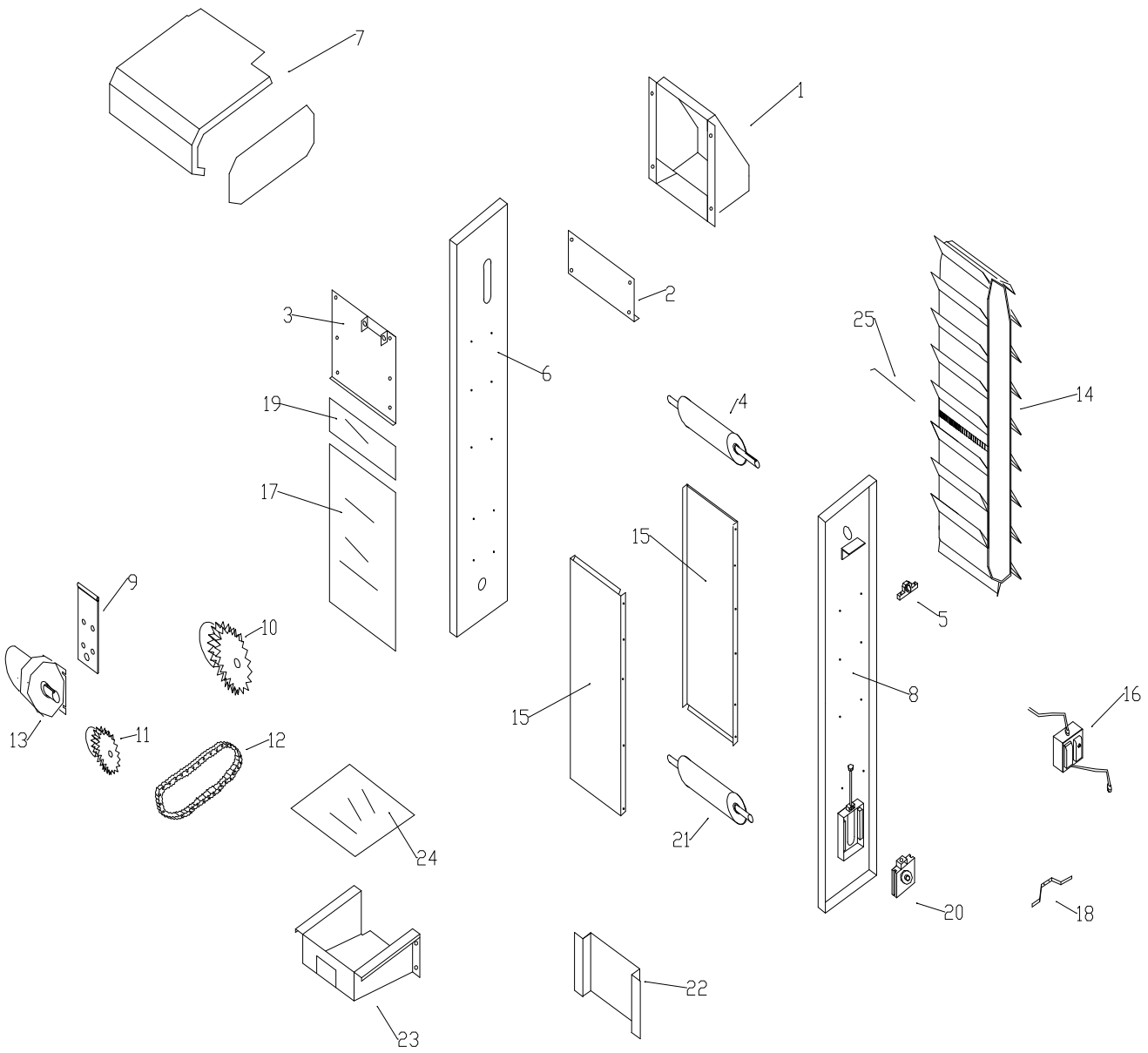


FIGURE 2: CONVEYOR ASSEMBLY (2003 - PRESENT)

CONVEYOR ASSEMBLY PARTS LIST (2003 - PRESENT)

Item	Qty	Part No.	Description
1	1	EL5	Exit, chute
2	1	EL6	Mounting, plate
3	1	PS9	Motor, mounting plate
4	1	PS11	Roller, top assembly
5	2	HA-114	Bearing, pillow block
6	1	EL1	Panel, side left
7	1	PS8	Cover, motor
8	1	EL2	Panel, side right
9	1	PS10	Plate, motor
10	1	HA-127	Sprocket, roller 24 tooth
11	1	HA-110	Sprocket, motor 20 tooth
12	1	Call For Info	Chain roller #40
13	1	HA-93	Motor, gear drive
14	1	EL10	Belt assembly 164½"
15	2	EL3	Panel, inner
16	1	BW-037N	GFI assembly
17	1	EL16	Guard, lower lexan
18	1	EL18	Cord, holder
19	1	EL15	Guard, upper lexan
20	2	HA-96	Bearing, take-up
21	1	PS12	Roller, bottom assembly
22	1	EL12	Plate, kick lower
23	1	EL13	Tray, feed inlet
24	1	EL17	Guard, feed inlet lexan
25	1	EL11	Connector pin

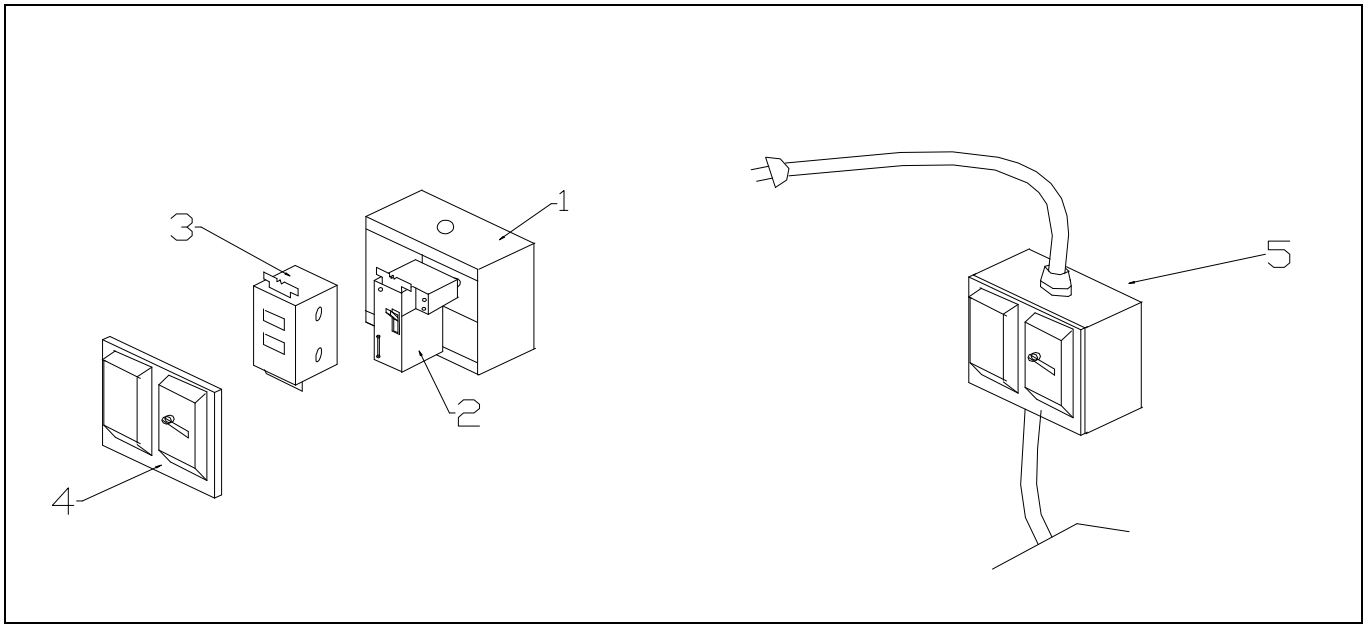


FIGURE 3: GFI ASSEMBLY

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 Range ball conveyor for lengthy and costly repairs. Troubles most likely to be encountered, their probable cause and remedy are listed in the following Table:

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 2: Troubleshooting Guide

Trouble	Probable Cause	Remedy
Range ball conveyor 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 G.F.I. is defective and must be replaced.

	Toggle Switch	If power is present, press down on toggle to reset thermal load protection, then 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 Conveyor	Inlet Hopper Blocked	Inspect hopper for debris and/or broken golf ball(s). Remove.
	Fiber gear in gear motor worn out	Remove gear motor and replace worn fiber gear inside motor.
Balls Exiting at a Slow Rate	Conveyor Belt Tension	Inspect belt for slippage. Adjust lower roller take-up bearings to tighten belt tension.
Belt Drifts to side.	Lower Roller Tension Uneven.	Inspect lower roller take-up bearing for equal tension on both sides of the roller. Adjust opposite bearing from belt drift direction.

Conveyor Belt Replacement Procedure

- Remove front Lexan guard from conveyor.
- Remove inlet hopper and lower filler panel from conveyor to expose lower belt roller.
- Remove top motor cover side panel and motor cover to expose upper belt roller.
- Rotate conveyor belt so the seam pin is easily accessible.
- Loosen belt tension by backing off lower belt roller takeup bearings adjustment bolt.
- Remove belt seam pin and remove belt from conveyor.
- Install new belt from topside of conveyor and pull one end of belt from rear of lower roller so both ends of belt meet in front.
- Insert seam pin through belt ends.
- Adjust belt tension by tightening lower belt roller takeup bearings adjustment bolt evenly on both sides of roller.
- Turn on conveyor; belt should travel straight. Inspect belt for travel to one side or the other. If belt drifts to one side, then adjust opposite side roller take-up bearing until straight travel occurs.
- Replace conveyor cabinet components in reverse order as removal.

Conveyor Motor Replacement Procedure

-WARNING-
REMOVE POWER BEFORE SERVICING

Tools needed

1/4" Nut driver
5/16"Nut driver
3/4" Open wrench
3/4"Socket
Needle nose pliers
15/16" open wrench or crescent wrench
1/8" Allen wrench.

- Remove chain and head cover from conveyor item #7 from conveyor assembly. Tool needed 5/16 driver
- Disconnect wiring from motor
- Note tension on chain
- Loosen ¾" adjusting nut and loosen chain
- Remove master link from chain and remove chain
- Remove ¾" main bolt and remove motor w/plate
- Remove sprocket from old motor
- Remove old motor from plate
- Install sprocket on new motor
- Install new motor on plate
- Install new motor w/plate onto conveyor
- Re-install chain and adjust tension to original position
- Re-install electrical
- Re-install covers.

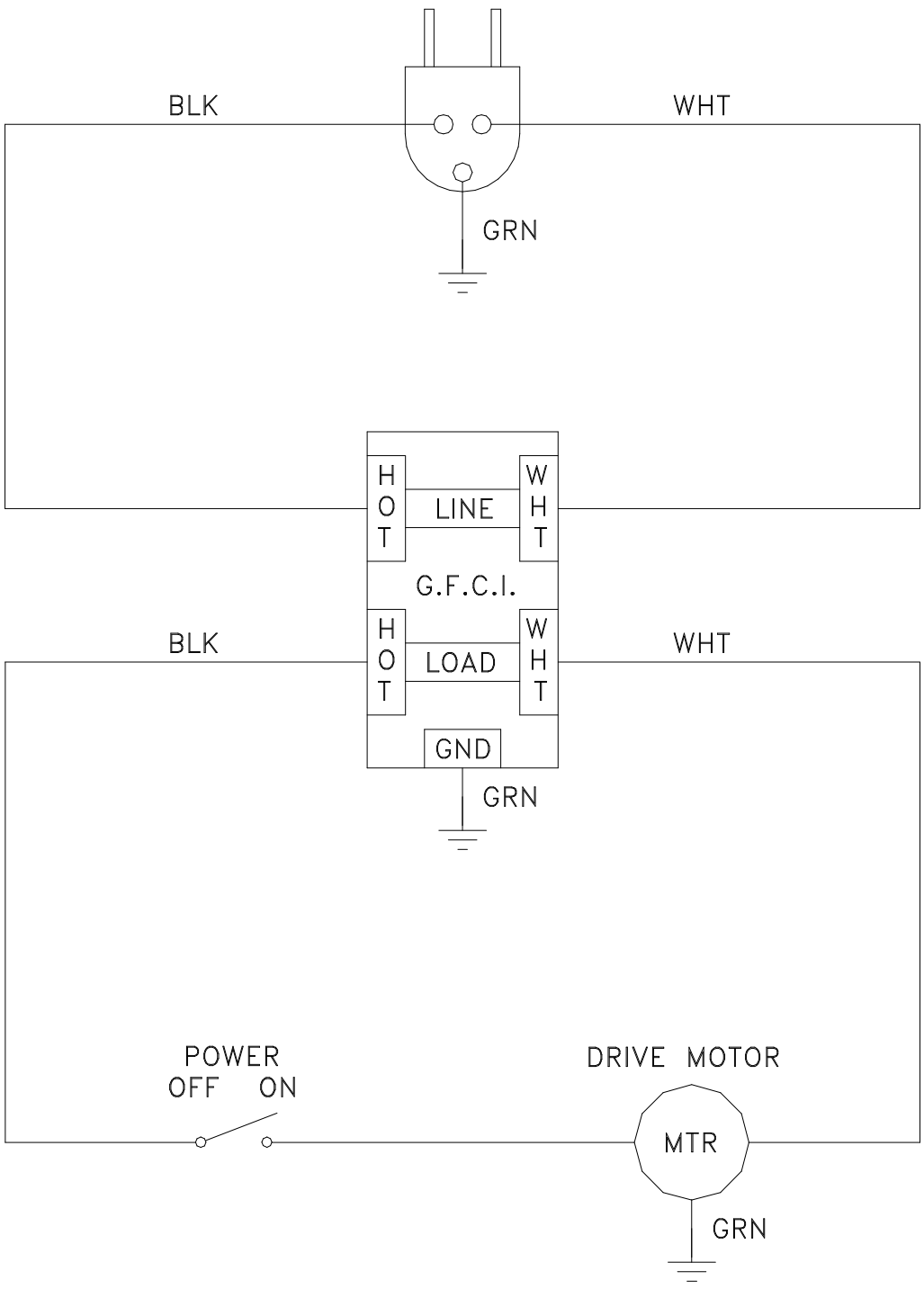


Figure 4: Wiring Diagram models 1994-2001

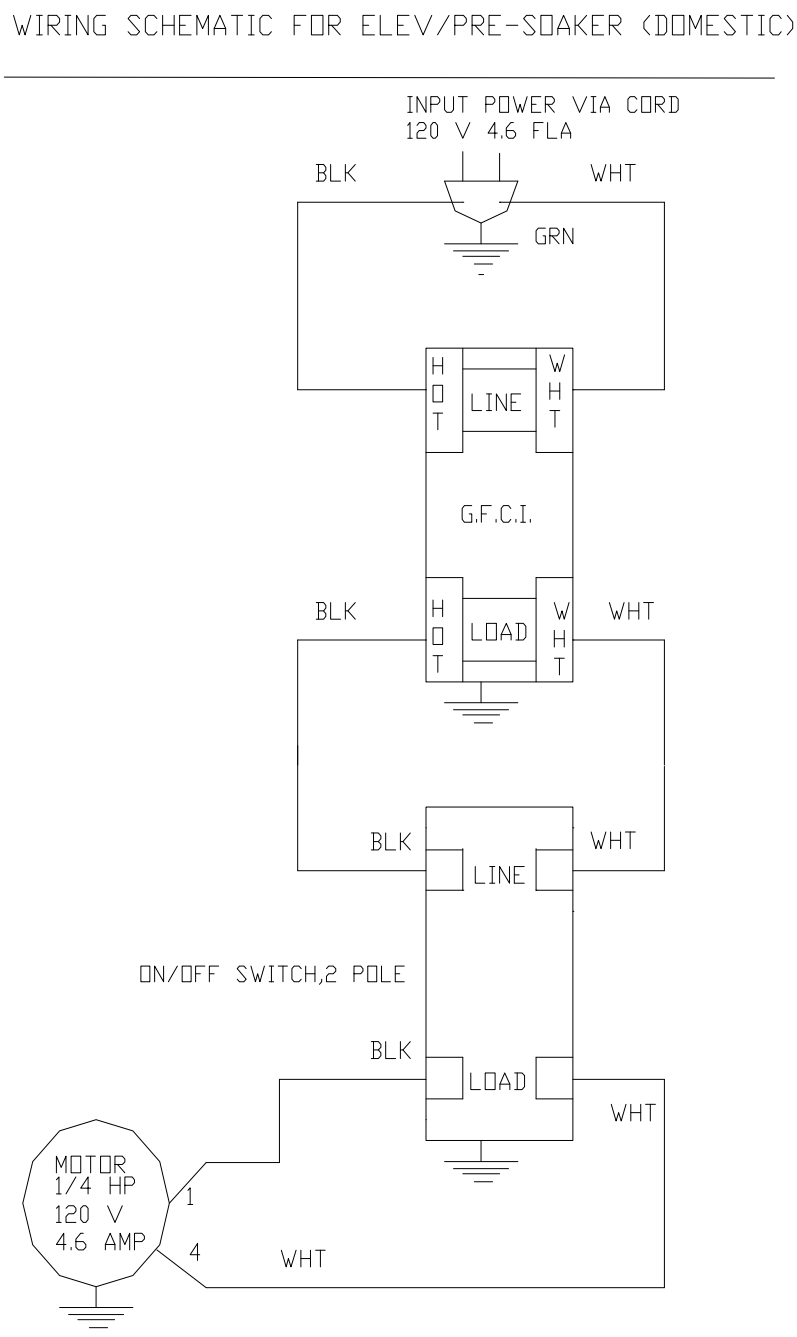


Figure 5: Wiring Diagram models 2002 - present