

Cannonball Blast



passion in ★ fun out

Service Manual



PLACE SERIAL NUMBER LABEL HERE

FACTORY CONTACT INFORMATION



Our Vision:

We aspire to be the best in the world at developing and manufacturing coin operated games for our customers.

BAY TEK GAMES INC.
Pulaski Industrial Park
1077 East Glenbrook Drive
Pulaski, WI 54162 U.S.A.
www.baytekgames.com

JOIN SERVICE FIRST NETWORK!

This free service is intended to keep you up to date on the latest game information, early notification of parts specials, pertinent technical bulletins, updates on retro fit parts, software upgrades, & much more. Log on to:
www.baytekgames.com/parts
& then click on the Service First icon.

8 AM - 5 PM C.S.T. MON - FRI



SALES

P: 920.822.3951
F: 920.822.8936
sales@baytekgames.com

PARTS

P: 920.822.3951 x 1101
F: 920.822.1496
parts@baytekgames.com

SERVICE:

P: 920.822.3951 X 1102
F: 920.822.1496
service@baytekgames.com

TABLE OF CONTENTS

FACTORY CONTACT INFORMATION	2
TABLE OF CONTENTS	3
INTRODUCTION	4
INSPECTION	4
DIMENSIONS	5
AIR COMPRESSION REQUIREMENTS	6
SAFETY PRECAUTIONS	6
INSTALLATION COMPONENTS	7
MAIN CABINET COMPONENTS	8
ASSEMBLY ISTRUCTIONS	9/12
HOW TO PLAY	13
PROGRAMMING	14/18
PREVENTATIVE MAINTENANCE SECTION	19
TROUBLE SHOOTING	20/25
SERVICE AND REPAIR	26/28
WIRING DIAGRAMS	29/32
SCHEMATICS	33/40
MAINTENANCE LOG	41
TECHNICAL SUPPORT	42
WARRANTY	43

CANNONBALL BLAST

Arrrggghhh Matey!

Congratulations on your Cannonball Blast purchase!

This piece is sure to serve as a great addition to your existing shooting games, and more importantly, will offer your clientele great entertainment value! We can proudly say our shooting game line up: Horse Play, Cannonball Blast & Sky Masters, is viewed as a staple in family entertainment centers across the globe. And now, because you've made an investment in quality, this pirate ship is ready to make waves at your own location!

We hope you take a few moments to read through this manual, and encourage you to contact the factory with any further questions you may have .

Thank you for your business and we wish you great success!

Your Friends at Bay Tek Games



GAME INSPECTION

Inspect the game for any damaged, loose, or missing parts. If damage is found, please contact your freight carrier first. Then, contact Bay Tek Games Service Department at 920.822.3951 or e-mail them at service@baytekgames.com for further assistance.

IMPORTANT! Complete your new game registration card located inside the cashbox for an additional 3 months FREE WARRANTY!

DIMENSIONS

WEIGHT

Weight: 875 lbs.

Shipping Weight: 1115 lbs.

DIMENSIONS:

47.5" W x 100" D x 88" H

(Without Stools 80" D)



Order with: BAYTEK GAMES PART # AAGM-CBB

AIR COMPRESSION REQUIREMENTS

AIR COMPRESSION (supplied / built into the facility)









1. Set air pressure at the regulator for 70 PSI (4.83 bars)
2. A pneumatic air supply system, with minimum pressure of 85 PSI (5.86 bars), is required to operate this game.
3. A 1/2"- 1/4" pipe reducer has been supplied for the air connection*

AIR COMPRESSION (portable / available through BayTek parts dept.)

1. 20 gallon (p/n A5AC1003) *220 conversion available*

*Customers must supply any other fittings and/or piping needed.

SAFETY PRECAUTIONS

	DANGER	
DO NOT perform repairs or maintenance on this game with the power ON. Unplug the unit from the wall outlet or shut off the power at the power strip located inside the game cabinet.		
	WARNING	
Use of flammable substances can cause severe burns or serious injury. Always use NON-FLAMMABLE solvents for cleaning. DO NOT use gasoline, kerosene, or thinners.		
	CAUTION	
Lifting heavy objects can cause back, neck, or other injuries. Be sure adequate lifting and moving devices are available when unloading, unpacking, and moving this game.		
	ATTENTION	
Be sure the electrical power matches the game requirements. See the serial number decal located on the back of the game cabinet. Always plug game into a grounded circuit. If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service		

INSTALLATION COMPONENTS

HARDWARE

You will find the following pieces of hardware in a sealed bag in the cashbox.

A. 1/4 – 20 x 1-1/2” Bolts

B. Washers

C. 5/16" Lock washers

D. #10 x 5/8 Black wood screws

E. #10 – 24 x 1/2” Black self-tapping screws

F. #10 – 32 Nylon Locknuts

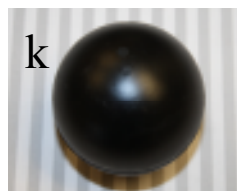
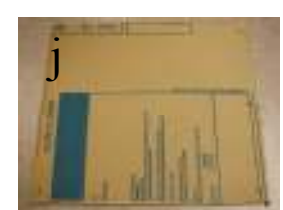
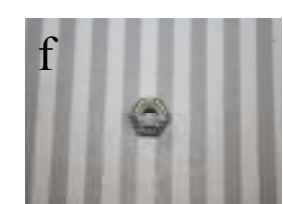
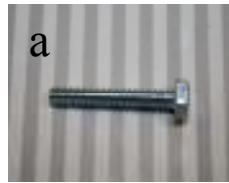
G. #2 Square bit

H. A5BK7004-1 brackets (4)

I. 1/2” to 1/4" Pipe Reducer

J. A5AC7002 Frosted Acrylic

K. Black Teflon balls (48)



MAIN CABINET COMPONENTS



REAR CABINET



MIDDLE CABINET



FRONT CABINET



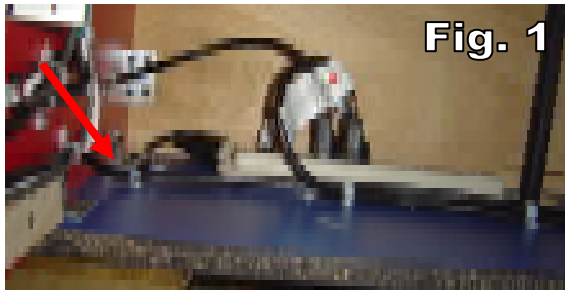
MARQUEE



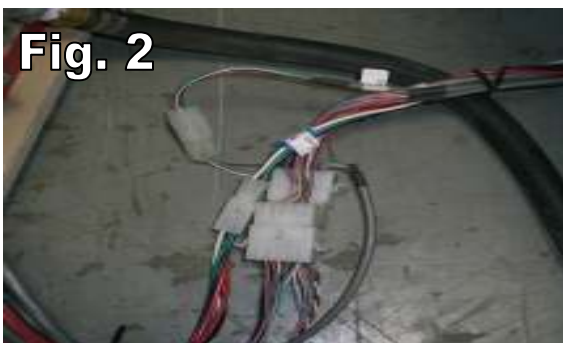
TICKET PLATE BOX

Assembly Instructions

1. Place the rear cabinet near or at its final location.
2. Open the rear cabinet door, uncoil the power cord and feed the cord through the hole. Uncoil other wiring cables. *Do not plug the power cord into the wall outlet at this time.* See figure 1.



3. Move middle cabinet in front of Rear cabinet. Plug in all cables between middle and front, matching connectors. See figure 2.



4. Attach the ticket plate box to the middle cabinet using black wood screws (D). Plug in light cable. See figure 3.



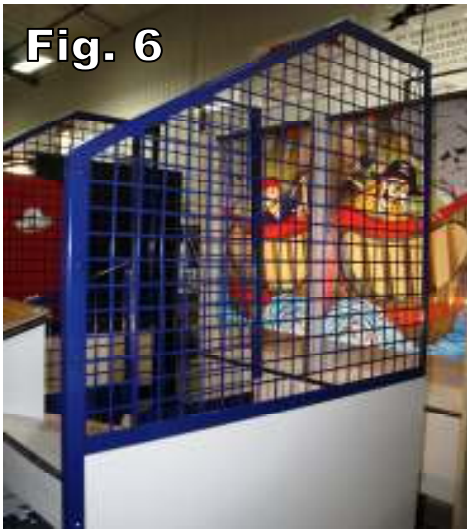
- a. Peel the paper coating off of the frosted acrylic piece and attach to the back of the ticket plate box with black wood screws (D).
5. Install the metal screens.
 - a. Install the middle screen by placing it over the two threaded studs on the ball grate. Secure with two nylon locknuts (F). You will need a 3/8" socket. See figure 5.



- b. Attach the front of the screen to the ramp with two black wood screws (D).

Assembly Instructions

6. Install the outer metal screens. They are marked left and right. Place the screens on the middle cabinet frame and push tight up against the rear cabinet. See figure 6.



- c. Install the two top rails which overlap the tops of the outside screens and the rear cabinet. Attach the front of the rails to the screens using 4 black self-tapping screws (E). Attach the rails to the recessed nuts in the top of the cabinet with bolts (A) and lock washers (C). Secure remaining holes with 6 black wood screws (D).

7. Push the middle and rear cabinets together, securing both left and right sides with brackets (H), attaching with bolts (A), lock washers (C) and flat washers (B).

Be careful not to pinch any wiring.
See figure 4

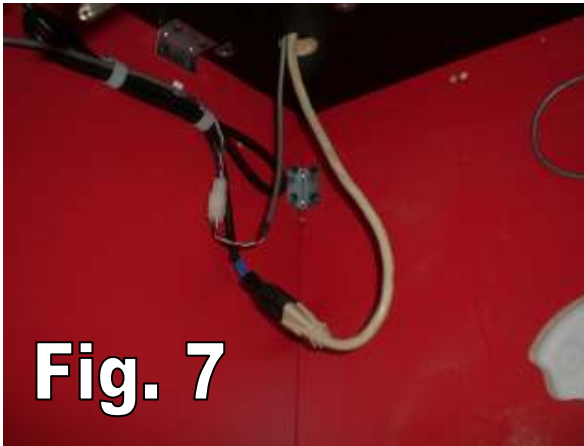
- a. The grates in the bottom of the middle cabinet attach to the rear cabinet with 6 black wood screws (D).
- b. Secure the vertical legs of the screens to the front of the middle cabinet with 16 black wood screws (D). Secure the screen to the horizontal edge of the cabinet with 6 black wood screws (D) through holes on the inside of the screen frame.



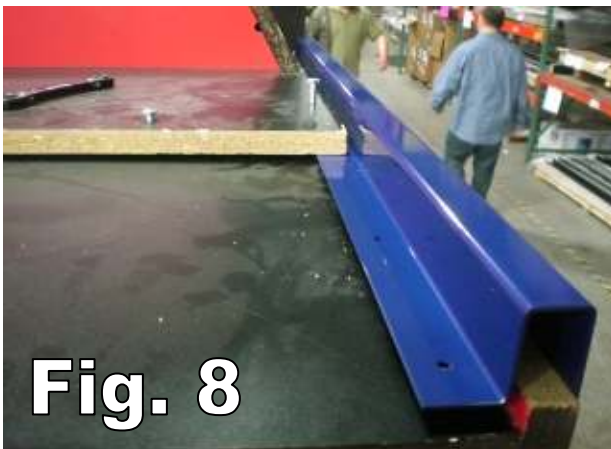
Assembly Instructions

8. Install the Marquee

- a. Position the marquee on top of the metal rails and pass the power cord and speaker cable through the hole and plug in. See figure 7.



- b. Secure the marquee to recessed nuts in the top of the rear cabinet with 4 bolts (A) and lock washers (C). See figure 8.



- c. Secure the middle screen to the marquee with 2 black wood screws (D). See figure 9



9. Install the Front Cabinet

Position the front cabinet near the middle cabinet. Uncoil and pull the air hose through the middle cabinet and out the hole in the bottom of the rear cabinet.

- a. Tip the cabinet to align and install the dowel pins in the stool bases with holes in the bottom of the cabinet, and attach the seat.
- b. Plug all cable connectors from the middle cabinet into plugs in the front cabinet. Plug the gray phone cable into left cable socket on the main board.
- c. Connect the cabinets together with blue brackets, securing with 2 bolts (A) and lock washers (C).
- d. Attach air hose to the building's air supply or portable air compressor. Set the air pressure regulator to 70 PSI (4.83 bars).

Assembly Instructions

10. Fill the ticket tray. The 'low' ticket light will illuminate when there is approximately 1 1/2 stacks of tickets left in the ticket tray.
11. Inside each front door will be a bag of 8 balls. Empty one bag into each side of the ramp. Both barrels are pre-loaded with 16 balls.
12. Plug the power cord into the wall outlet and turn on the power strip.

Ball Maintenance

Rubber Balls

The black rubber balls are coated with Teflon® to increase the life of the ball. While very durable, the coating will eventually wear off and the rubber material will then begin to wear rapidly. As the balls wear down they will not provide a good seal in the firing tube and miss-fires will occur. This can be corrected somewhat by increased air pressure to the fire cylinder, but at some point it will be necessary to replace the balls due to wear.



WARNING: The ball chute air cylinder can pinch, cut or sever fingers during ball removal. Insure air pressure is OFF and system pressure is released before attempting to remove balls from the lift system.

TO REPLACE BALLS

Turn off the air supply shut off valve located in the front cabinet. Release the air system pressure by firing the gun once. Pull toggle to release the balls. Use a short stick to push the balls out into the chute where they can be removed. See figure 10



Fig. 10

HOW TO PLAY CANNONBALL BLAST

Players have fun shooting balls at the pirate ship in hopes of knocking down the wooden planks. Knock down all six planks in three shots or less and get a chance at the bonus by hitting all six planks again with the remaining shots!



6 PLANKS



NOTE: Hitting the planks slightly will not score a hit. The planks need to be knocked down fully. Also, there is a 2.5 second delay before each ball can be shot. If the game does not register a shot after three minutes, the game ends and all credits clear.

The score table, dip switch selectable, should match the tickets owed decal on the game panel (shown below)

Hawrrrrrrrr Matey...		<div>2</div>	
Knock Down the Planks On the Pirate Ship		Per Play	
To Win Yourself Some Tickets!			
You Get	<div>6</div>	Shots	
0-1	<div>8</div>	Tickets	
2-3	<div>12</div>	Tickets	
4-5	<div>16</div>	Tickets	
6	<div>20</div>	Tickets	
		BONUS	
		Knock Down ALL 6 Planks	
		In 3 Shots Or Less	
		Planks Will Result	
		Knock Down ALL 6 Planks	
		With the Remaining Shots	
		Win	
		<div>50</div>	
		Bonus Tickets!	

Factory default as shown

Programming Section

The number of coins required for each game credit, free play, number of balls per credit, tickets payout, etc., are programmable by dipswitches located on the main circuit board.

The main circuit board is located on the inside back wall of the cabinet. Be sure power is off before setting these switches.

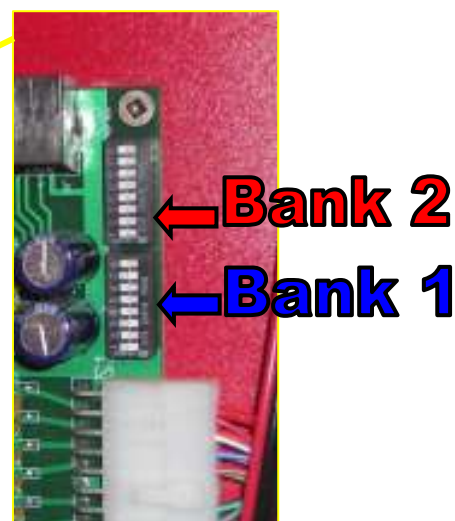
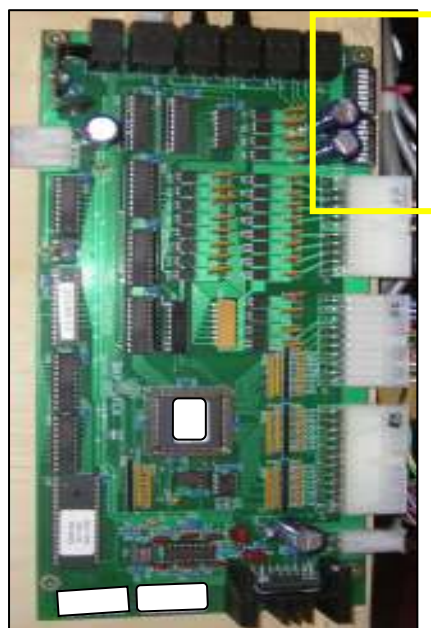


Factory Settings Bank 1

Dip 1	Dip 2	Dip 3	Dip 4	Dip 5	Dip 6	Dip 7	Dip 8
ON	OFF	ON	OFF	OFF	ON	ON	OFF

Factory Settings Bank 2

Dip 1	Dip 2	Dip 3	Dip 4	Dip 5	Dip 6	Dip 7	Dip 8
OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF



IMPORTANT! Power must be OFF to the game when setting dipswitches. Turn OFF the power strip inside the cabinet. Set the dipswitches to the desired settings, wait 30 seconds and then turn ON power at the power strip.

PROGRAMMABLE SETTINGS

TICKET PAYOUT

ALLOWS YOU TO CHOOSE BETWEEN A SELECTABLE TICKET TABLE (SEE TICKET PATTERNS) OR A FIXED TICKET TABLE

BANK 2	DIP 6
SELECTABLE TICKET PATTERNS (factory default)	OFF
FIXED TICKET PATTERN	ON

SELECTABLE TICKET PATTERNS

***** Ticket amounts are multiplied by credits per play *****

IF YOU CHOOSE TO USE A SELECTABLE TICKET PATTERN, USE THE FOLLOWING CHART TO SELECT WHICH PATTERN YOU WOULD LIKE TO USE.

PAT- TERN	PLANK	TICKETS	PLANK	TICKETS	BANK 1 DIP 1	BANK 1 DIP 2	BANK 1 DIP 3
1	0 TO 1	1	4 TO 5	3	OFF	OFF	OFF
	2 TO 3	2	6	4			
2	0 TO 1	1	4 TO 5	5	OFF	OFF	ON
	2 TO 3	2	6	6			
3	0 TO 1	2	4 TO 5	6	OFF	ON	OFF
	2 TO 3	4	6	8			
4	0 TO 1	3	4 TO 5	5	OFF	ON	ON
	2 TO 3	4	6	6			
5	0 TO 1	3	4 TO 5	7	ON	OFF	OFF
	2 TO 3	5	6	9			
6	0 TO 1	4	4 TO 5	8	ON	OFF	ON
	2 TO 3	6	6	10			
7	0 TO 1	4	4 TO 5	12	ON	ON	OFF
	2 TO 3	8	6	16			

PROGRAMMABLE SETTINGS

FIXED TICKET PAYOUT

IF YOU CHOOSE A FIXED TICKET PATTERN, CHOOSE ONE OF THE FOLLOWING PATTERNS. NOTE: THE PLAYER MAY PLAY THE BONUS ROUND IF IT IS ACHIEVED, BUT NO BONUS TICKETS WILL BE WON.

FIXED TICKETS	BANK 1 DIP 1	BANK 1 DIP 2	BANK 1 DIP 3
1	OFF	OFF	OFF
2	OFF	OFF	ON
3	OFF	ON	OFF
4	OFF	ON	ON
5	ON	OFF	OFF
6	ON	OFF	ON
7	ON	ON	OFF
8	ON	ON	ON

BONUS TICKETS

SET THE NUMBER OF BONUS TICKETS TO BE DISPENSED IN THE BONUS ROUND

BONUS TICKETS	BANK 1 DIP 4	BANK 1 DIP 5	BANK 1 DIP 6
25	OFF	OFF	OFF
50 (factory default)	OFF	OFF	ON
75	OFF	ON	ON
100	ON	OFF	OFF
150	ON	OFF	OFF
200	ON	OFF	ON
250	ON	ON	OFF
300	ON	ON	ON

PROGRAMMABLE SETTINGS

CREDITS PER PLAY

SET THE NUMBER OF COIN/CREDITS PER GAME.

CREDITS	BANK 2 DIP 1	BANK 2 DIP 2	BANK 2 DIP 3
1	OFF	OFF	OFF
2 (factory default)	OFF	OFF	ON
3	OFF	ON	OFF
4	OFF	ON	ON
5	ON	OFF	OFF
6	ON	OFF	ON
FREE PLAY	ON	ON	OFF
8	ON	ON	ON

ATTRACT MODE

WHEN THE GAME IS NOT IN PLAY, AN ATTRACT AUDIO MODE LOOPS TO ATTRACT PLAYERS

BANK 1	DIP 7
ENABLED (factory default)	ON
DISABLED	OFF

CLEAR EEPROM

ALLOWS YOU TO CLEAR ANY UNUSED CREDITS AND TICKET OWED. FIRST TURN GAME OFF. SET DIP TO ON. TURN GAME ON AND WAIT FOR 10 SECONDS. TURN GAME OFF. TURN DIP OFF

BANK 2	DIP 7
ENABLED	ON
DISABLED	OFF

PROGRAMMABLE SETTINGS

NOT USED	
THIS DIP IS NOT USED AND SHOULD REMAIN IN THE OFF POSITION	
BANK 1	DIP 8
ENABLED	ON
DISABLED	OFF

NOT USED	
THIS DIP IS NOT USED AND SHOULD REMAIN IN THE OFF POSITION	
BANK 2	DIP 4,5,6
ENABLED	ON
DISABLED	OFF

PREVENTATIVE MAINTENANCE SECTION

Maintenance Chart

Use the following maintenance chart as a guide only. Actual maintenance intervals will depend on usage and environmental conditions at the location of the game.

Keep a log of all inspections, even if no problem exists, with date and time of inspection, action taken. A sample Repair Record is located at the end of this manual.

IMPORTANT: Do not use cleaning solvents on game graphics. Use only a mild soap solution and dry with a clean lint free cloth.

IMPORTANT: Use glass cleaner and a soft clean cloth to clean all the acrylic and metal surfaces on the game. Use an anti-static cleaner polisher on the black ramp surface to protect it and keep it slippery. **IMPORTANT:** The game should be shut OFF for cleaning and maintenance.



CAUTION: Use of flammable substances can cause severe burns or personal injury.

Always use non-flammable solvents for cleaning parts and surfaces of this game. Do not use flammable substances such as gasoline, kerosene or thinners.

TASK	DAILY	WEEKLY	MONTHLY
Fill ticket tray.	✓		
Empty coin box.	✓		
Play the game to ensure it is working properly.	✓		
Inspect air system to ensure pressure is set between 40-50 PSI	✓		
Clean outside surfaces and stools. Balls leave black marks on surfaces.	✓		
Inspect the game for physical damage. Repair as needed.		✓	
Inspect game lighting, replace lamps as needed.		✓	
Clean outside surfaces.		✓	
Clean the ticket dispenser with compressed air. Clean the opto sensor using a cotton swab and isopropyl alcohol.		✓	
Clean and vacuum ball track.		✓	
Check to ensure correct number of balls are present.		✓	
Check all hardware for tightness.			✓
Check balls for wear.			✓
Non-filtered air pump: drain water from hoses.			✓
Clean gun barrels with compressed air.			✓

TROUBLESHOOTING GUIDE AND DIAGNOSTIC SECTION

No power to the game.	<ul style="list-style-type: none"> a. Unplugged. b. Blown fuse c. Outlet strip or building circuit breaker tripped. d. Bad power supply. 	<ul style="list-style-type: none"> a. Check wall outlet. b. Check transformer fuse (220v applications only). c. Check voltage at outlets. Try to determine cause then reset the circuit breaker. d. See power supply diagnostic. Replace if faulty. (A5PS1001)
No Audio	<ul style="list-style-type: none"> a. Volume too low. b. Loose wire. c. Defective Potentiometer. d. Main circuit board malfunction. 	<ul style="list-style-type: none"> a. Increase the volume at the volume control at the inside of the front door panel. b. Check audio cable connections to speaker, volume control and main circuit board. c. Replace pot. (A5PO1K) d. Replace main board with board from another Gen 5 game if possible to isolate the problem to the main circuit board.
Orange low ticket light on.	<ul style="list-style-type: none"> a. Ticket tray empty. b. Faulty low ticket switch. c. Broken/loose wires. 	<ul style="list-style-type: none"> a. Load tickets. Make sure ticket stack rests on top of wire actuator of switch. b. Replace switch. (AASW200) c. Check cable connections from switch to main circuit board.
<p>Teeth will not reset.</p> <p>Game will only try to reset teeth once. Then it will error out and not try again until game powered down, then on.</p>	<ul style="list-style-type: none"> a. In-line fuse blown. b. Motor faulty. c. Linkage problem. d. Power game off and then back on and see if it turn the 1st time. 	<ul style="list-style-type: none"> a. Replace fuse located in the wiring near the main circuit board. b. Replace motor. (AAMO3901) c. Inspect the linkage between the reset arm and gear motor. Check connector cam setscrew, ensure it is tight. d. If it turns that 1st time – then refer to “teeth reset bar rotates

TROUBLESHOOTING GUIDE AND DIAGNOSTIC SECTION

Teeth reset bar rotates up multiple times.		<p>a. Motor home sensor dirty or faulty.</p> <p>b. White cam is dirty or too far away from sensor.</p> <p>c. Faulty/broken wires.</p> <p>d. Faulty main board.</p>	<p>a. Clean sensor, replace if necessary. (AABD5010)</p> <p>b. Clean cam. Measure 5 Volts DC when cam is away from sensor, and it drops to 0 Volts when cam is covering sensor.</p> <p>c. Check cable connections from sensor to main circuit board.</p> <p>d. Replace main board with board from another Gen 5 game if possible to isolate the problem to the main circuit board</p>
Game does not score.		<p>a. Teeth opto's dirty, mis-aligned, or faulty.</p> <p>b. Faulty/broken wires.</p>	<p>a. Clean, align, or replace opto boards. (AASE3900)</p> <p>b. Check cable connections from sensors to main circuit board. Look at where there are 2 wires crimped to one terminal. Ensure both wires are making connection with the termi-</p>
Game does not coin up.	Coin switch problem	<p>a. Coin switch faulty.</p> <p>b. Bad connection or broken coin switch wire.</p> <p>c. Faulty main board.</p>	<p>a. Check that coin actually triggers switch. Replace switch if necessary. (A5SW4000)</p> <p>b. Check connections from coin switch to main circuit board.</p> <p>c. Replace main board with board from another Gen 5 game if possible to isolate the problem to the main circuit board.</p>
	Teeth sensor or motor problem.	<p>a. Reset motor problem.</p> <p>b. Teeth sensor problem.</p> <p>c. Motor home position sensor dirty or faulty.</p>	<p>a. Refer to "Teeth do not reset" section.</p> <p>b. Refer to "Game does not score" section</p> <p>c. Clean opto sensor and white cam that the sensor looks at. Replace sensor if necessary. (AABD5010)</p>

TROUBLESHOOTING GUIDE AND DIAGNOSTIC SECTION

<p>No air blast out of cannon.</p>	<ul style="list-style-type: none"> a. No air pressure. b. Incorrect air pressure. c. Trigger not working. d. Boom valve faulty. e. Bad connection or broken wire. f. Faulty main board. 	<ul style="list-style-type: none"> a. Check air line, air compressor. Ensure gauge on air line input is working. b. Adjust compressor to output 90 PSI. Adjust game air pressure to 50 – 55 PSI. c. Check trigger button, wires to main board. Replace switch (A5PB7100) by removing barrel from gun, reach inside and remove right handle. Switch is then accessible. d. Check for 12 Volt DC pulse at boom valve. Replace boom valve (A5VA7100) if pulse is present. Check wire continuity back to main board if no pulse. e. Check connections from boom valve and trigger to main circuit board. f. Replace main board with board from another Gen 5 game if possible to isolate the problem to the main circuit board.
<p>Wrong number of tickets dispensed.</p>	<ul style="list-style-type: none"> a. Ticket Pattern or other ticket dipswitches set wrong. b. Dirty opto-sensor on ticket dispenser. c. Many tickets in memory. If ticket meter is counting the tickets coming out, then reset tickets owed. d. Faulty ticket dispenser. e. Main circuit board malfunction. 	<ul style="list-style-type: none"> a. Check and reset dipswitches for proper setting. b. Clean with compressed air or wipe with isopropyl alcohol on a cotton swab. c. Loop tickets and let dispenser run. Or remove memory chip from main board. Position U3. Leave chip out of board and turn power on game. The game can run fine with this chip removed. d. Replace with spare working dispenser. e. Replace main board with a spare Gen 5 board if possible to isolate the problem to the main circuit board.