



Operators Manual

“Designed by Operators for Operators”



The Really Big Crane Company
800 Roosevelt Road
Building D Suite #103
Glen Ellyn, IL 60137
#{800} 457-8761 <http://bigcranes.com>

SAFETY PRECAUTIONS

Disregarding this text could result in serious injury and damage.

BE SURE TO READ THE FOLLOWING

WARNING

Always turn OFF the Main AC power and unplug the game before servicing, opening, or replacing any parts.

The power cord must not be exposed to the surface (floor, ground, etc.) to avoid tripping hazards.

Always connect the Game Cabinet to a grounded electrical outlet.

Always use a Digital Multi-meter, logic tester, or oscilloscope for testing integrated circuits or logic PC boards.

Ensure the power input specifications stated on the machine matches the intended power outlet (VAC & Amperage requirements)

Be sure the fuses you are replacing ARE THE CORRECT specified rating.

Do Not place in the following areas:

- Do not block fire exits
- Extreme cold or wet conditions
- Areas of High humidity
- Next to sources of heat

BEFORE POWERING ON

- Be sure the machine is installed on level ground and is stable
- Be sure no connections are loose or disconnected from transit

The Really Big Crane Company

800 Roosevelt Road
Building D Suite #103
Glen Ellyn, IL 60137
(800) 457-8761

<http://bigcranes.com>

sales@bigcranes.com

service@bigcranes.com



Figure 1: Zombie Jam Cabinet

Table of Contents

No table of contents entries found.

Safety

Operation

Before operating game, read this manual. Failure to properly install and operate this game could result in malfunction or an accident. Operate the game in accordance with the manual

Transporting

The cabinet is very heavy and contains fragile components. Use appropriate care when moving or transporting cabinets. Avoid rough handling.

Manual

Keep this manual available and ready for use. If the game fails to function properly, turn off the machine and unplug the AC line cord. Contact your local distributor.

Specifications

For reasons such as performance, this product's specifications may change without notice. Federal patent, copyright and other intellectual property laws protect the content, devices and design of the game and its equipment.

Connectors

Ensure all connectors mate properly. If connectors do not slip in easily, do not force them. Connectors are often keyed and only connect one way. Check for correct orientation.

Handling Components

Many components are extremely sensitive to handling, environmental and Electrostatic Discharge (ESD) events—especially the computer. Do not handle it roughly. Before servicing, call your distributor and inquire about the PC warranty. Use proper ESD procedures when servicing. Protect components from harmful environmental conditions, such as extreme temperatures, excessive moisture or other damaging effects.

Disconnect Power

Warning: Before obtaining access to terminals, all supply circuits must be disconnected.

Always turn off the power and unplug the units before servicing or making adjustments unless otherwise instructed. Installing or repairing components while power is on can damage the components and void the warranty.

Grounding

Avoid electrical shock. Do not plug in AC power until you have inspected and properly grounded the unit. Only plug into a grounded, three-wire outlet. Do not use a "cheater" plug or cut off the ground pin on the line cord.

Electrical Shocks

There is no isolation transformer in the cabinet. Disconnect AC power before servicing. However, be aware that lethal voltages can remain in the electronic components even when AC power is disconnected. Use extreme caution when servicing. Verify that there is a working ground connection. If the unit sustains water damage, cease using it immediately and unplug AC power.

Monitor

The monitor contains no user-serviceable parts. Do not attempt to service the monitor.

Power Cord

If the power cord is damaged or lost, replace it with an identical one supplied by the manufacturer or an authorized service agent.

Surge Suppressor

It is recommended that you plug your game's power cord into a surge suppressor to help protect from power surges that may damage sensitive electronic components.

Water and Other Liquid

Do not install the game near sprinklers or other water jet sources. Do not use a water jet to clean the game. Keep minimum clearance behind the game and wall for proper ventilation but also prevent access of liquid from spills and sprays from entering ventilation holes.

Computer

The computer contains sensitive components, including a hard drive. Refrain from handling it roughly. Call your distributor before servicing its internal components. Ask about warranty information as it relates to the PC. Do not turn the PC power switch on or off. It should remain permanently in the ON position. Cycle AC power on or off with the cabinet power switch. A dongle has been inserted into one of the USB ports. This is required for gameplay. Do not remove the dongle except for troubleshooting purposes.

Tempered Glass Warning

For reasons such as performance, this product's specifications may change without notice. Federal patent, copyright, and other intellectual property laws protect the content, devices, and design of the game and its equipment.

Product Specifications

Electrical Power

United States, International, and Japan
Operating AC Current: 5/2.5 Amps
Voltage: 115/230 ~ VAC 50/60Hz

Weight

Temperature

50° to 104° Fahrenheit (10° to 40° Celsius)

Humidity

Must not exceed 95% relative humidity

Cabinet Dimension	Width	Length	Height
Assembled Dimensions	42"	100"	104"
Shipping Dimensions	49"	45"	92.125"

Maintenance

Hard Drive Recovery

Symptoms requiring hard drive recovery include:

- Game fails to finish loading during startup
- After resetting the AC power, an error is reported
- Erratic Game or Attract Mode
- A screen indicating data files corrupted

Computer

The computer contains sensitive components, including a hard drive. Do not handle roughly. Call your distributor before servicing its internal components. Ask about warranty information as it relates to the PC.

Do **not** use the PC on/off switch. Turn the AC power on or off with the main cabinet power switches

Flash Drive Restore

1. Turn both cabinet AC power switches off
2. Connect the USB flash drive to an open USB port inside the coin door.
3. Turn both cabinet AC power switches to ON.
4. Initial software loading may take several minutes. Check progress periodically.
Do not interrupt power or reset the game during recovery.
5. When the software has finished loading, a message indicates that the restore is complete.
6. Follow the on-screen instructions
7. After restarting, the game will be restored with factory defaults.

Setup

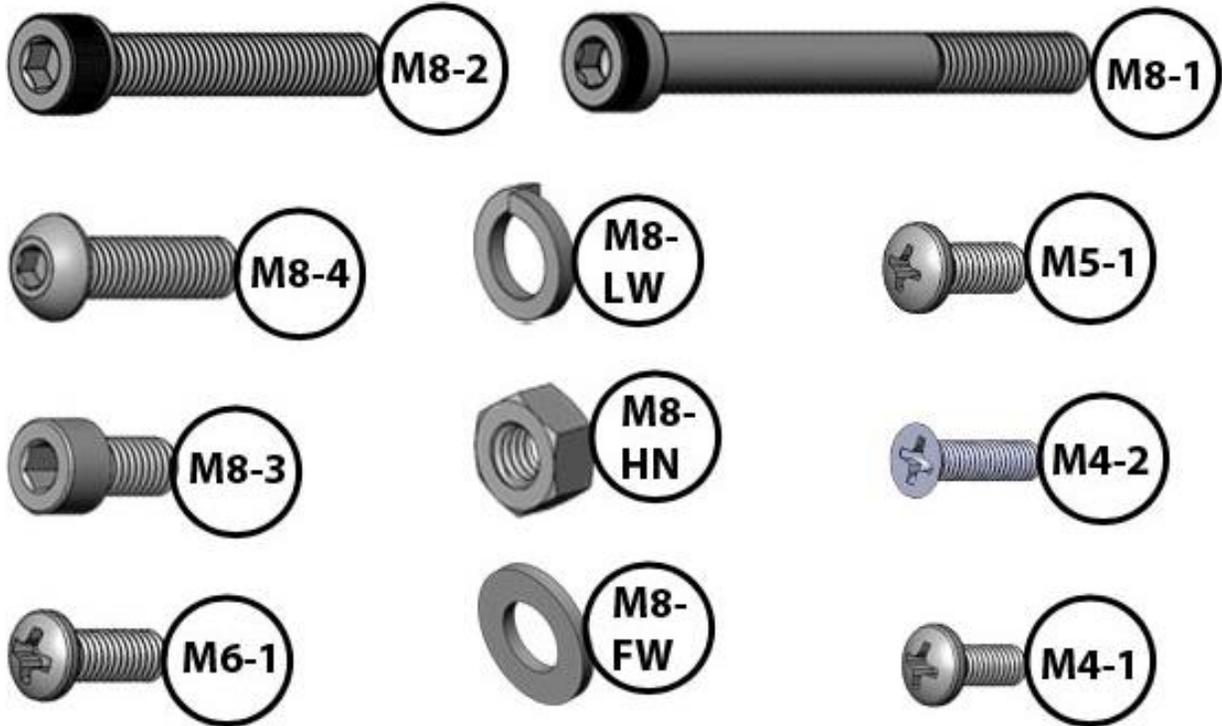
Unpack Carton

- Mid-Section, Left & Right Extension Wings
- Angled Panels, Left & Right
- Top Cage, Left & Right Sides
- Top Cage, Center
- Top Sign, Acrylic Sign
- Top Sign, Mounting Bracket
- Deflector Cage, for ball gate
- Top Box Assembly
- Acrylic Barrier
- Blanking Plates for Top Box
- Blanking Plates for Angled Panels
- Control Console
- Mid-Section Assembly
- Hardware (in coin box)
- Computer Box
- AC Power Cable (in coin box)
- PC Power Brick Clamp (in coin box)
- Shackle style Lock Bracket (in coin box)

Steps to Unpack

1. Remove the stretch wrap.
2. Cut straps securing Mid-Section, Extension Wings.
3. From the front, cut the outermost straps and remove the Angled Panels and Top Cage Sides.
4. Now remove the Top Box Assembly.
5. Cut the bottom strap and remove Control Console from the rear of the machine.
6. Cut the final strap from the rear of the cabinet, the centerpiece of the Top Cage will drop off the rear when cut.
7. From the front, pull off the Acrylic Barrier and then the Mid-Section Assembly
8. The Top Sign mounting bracket can then be taken from behind the Mid-Section Assembly
9. Using a Ladder, retrieve the Top Box Internal Covers, Deflector Cage, and Acrylic top sign from the upper hoop section of the cabinet.

Hardware Identification Sheet



Designation	Description	Thread Pitch	Head Type	Drive Type
M8-1	M8 x 80mm Bolt	1.25	Socket Cap	6mm Hex
M8-2	M8 x 50mm Bolt	1.25	Socket Cap	6mm Hex
M8-3	M8 x 15mm Bolt	1.25	Socket Cap	6mm Hex
M8-4	M8 x 30mm Bolt	1.25	Pan Head	5mm Hex
M8-FW	M8 Flat Washer	N/A	N/A	N/A
M8-LW	M8 Split Lock Washer	N/A	N/A	N/A
M8-HN	M8 x 1.25 Hex Nut	1.25	Hex Socket	13mm Socket
M6-1	M6 x 15mm Machine Screw	1.0	Pan Head	Phillips #3
M5-1	M5 x 12mm Machine Screw	.80	Pan Head	Phillips #2
M4-1	M4 x 8mm Machine Screw	.70	Pan Head	Phillips #2
M4-2	M4 x 15mm Machine Screw	.70	Flat Head	Phillips #2
*	M3 x 15mm Wood Screw	N/A	Flat Head	Phillips #2

***IMPORTANT** All socket cap M8 bolts should be fastened using M8-FW and M8-LW on both the socket head and Hex nut sides. i.e., for each machine fasten should use one M8 bolt, one M8-HN, two M8-FW, and two M8-LW.

Wiring Connections & I/O Diagram

I/O Board Diagram

Wiring Connections

J1 - Power

Pin No.	Label	Wire Color	Connection	Remark
1	12VDC	YEL	Connects to main power supply +12VDC	Check if I/O board has no power
2	GND	BLK	Connects to GND or -V power supply	Check if I/O board has no power
3	M_V+	YEL	Connects to the secondary power supply	Check if I/O board has no power
4	M_GND	BLK	Connects to GND or -V on the secondary power supply	Check if I/O board has no power

J2 - RS232-LED

Pin No.	Label	Wire Color	Connection	Remark
1	RX	RED	Receives data from sensor board	Check if basket sensors are not working
2	TX	WHT	Transmits data to the sensor board	Check if basket sensors are not working
3	GND	BLK	GND for sensor board	Check if basket sensors are not working

J3 - Serial (RS232 to PC)

Connects the I/O board to the PC using a female serial to USB-A adapter, which plugs into any of the USB-A ports

J4 - RGB-LED

This I/O board jack is not used

J5 - Motor

Pin No.	Label	Wire Color	Connection	Remark
1	M-	BLK	Ball-gate motor -12VDC	Check if the motor won't run
2	M+	YEL	Ball-gate motor +12VDC	Check if the motor won't run
3	M_OFF	Not used	Not used	Not used
4	GND	BLK	Motor Microswitch GND	Check if the motor runs continuously
5	M_ON	WHT	Motor microswitch N. O	Check if the motor runs continuously

J6 - Signals

Pin No.	Label	Wire Color	Connection	Remark
---------	-------	------------	------------	--------

1	S_GND	BLK	Ball sensor board GND	Check if the sensor board has no power
2	S_12VDC	YEL	Ball sensor board VCC	Check if the sensor board has no power
3	S7	not used	not used	not used
4	S6	not used	not used	not used
5	S5	not used	not used	not used
6	S4	PUR	<i>unknown</i>	<i>unknown</i>
7	S3	BLU	<i>unknown</i>	<i>unknown</i>
8	S2	GRN	<i>unknown</i>	<i>unknown</i>
9	S1	BRN	<i>unknown</i>	<i>unknown</i>

J7 - Counter

Pin No.	Label	Wire Color	Connection	Remark
1	CNT-12VDC	YEL	12VDC in Power supply	Check if meters won't count
2	CNT_B	GRN/WHT	Bill In meter pulse	Check if the coin meter won't count
3	CNT_T	BRN/GRY	Ticket meter pulse	Check if the ticket meter won't count
4	CNT_P	PNK	Prize meter pulse	Check if the ticket meter won't count
5	CNT_C	WHT	Coin in meter pulse	Check if the coin meter won't count

J9 - Player 1

Pin No.	Label	Wire Color	Connection	Remark
14	LED V+	N/A		
13	LAMP V+	YEL	P1 start lamp 12VDC	Check if P1 start button is not illuminated
12	LAMP GND	PUR/WHT	P1 start lamp GND	Check if P1 start button is not illuminated
11	SW_START	BLU/WHT	N.O. on P1 Start	Check if P1 start button is not working
10	SW_1	GRY	N.O. on SETUP	Check if SETUP button is not working
9	SW_2	PUR	N.O. on volume +	Check if Volume + is not working
8	SW_3	BLU	N.O. on volume -	Check if Volume - not working
7	SW_GND	BLK	Service panel & P1 Start GND	Check if buttons are not working
6	COIN V+	YEL	12VDC for coin comparator	Check if the coin comparator has no power
5	T_DRV	GRN/WHT	Ticket drive pulse signal	Check if the machine can't drive tickets out
4	COIN_IN	BRN	Coin comparator signal	Check if the Coin comparator can't coin up the machine
3	T_NOTCH	WHT	Ticket notch pulse signal	Check if the machine can't drive tickets out

2	BILL_IN	GRN	DBV pulse signal	Check if DBV can't coin up the machine
1	COIN_GND	BLK	Coin comparator GND	Check if the coin comparator has no power

J-10 - Player 2

Pin No.	Label	Wire Color	Connection	Remark
14	LED V+	N/A		
13	LAMP V+	YEL	P1 start lamp 12VDC	Check if P1 start button is not illuminated
12	LAMP GND	GRN	P1 start lamp GND	Check if P1 start button is not illuminated
11	SW_START	BRN	N.O. on P1 Start	Check if P1 start button is not working
10	SW_1	N/A		
9	SW_2	N/A		
8	SW_3	N/A		
7	SW_GND	BLK	Service panel & P1 Start GND	Check if buttons are not working
6	COIN V+	YEL	12VDC for coin comparator	Check if the coin comparator has no power
5	T_DRV	WHT	Ticket drive pulse signal from I/O board	Check if the machine can't drive tickets out
4	COIN_IN	PUR	Coin comparator signal from the comparator	Check if the coin comparator can't coin up the machine
3	T_NOTCH	BLU	Ticket notch pulse signal from Ticket Mech.	Check if the machine can't drive tickets out.
2	BILL_IN	N/A		
1	COIN_GND	BLK	Coin comparator GND	Check if the coin comparator has no power

Diagnostic Menu System

Menu Interface

The service panel has two 6-digit electromagnetic meters, the main AC rocker switch, and three buttons: Setup, Volume down, and Volume up. Pressing and holding the SETUP button at any point while the game is running will enter the diagnostic menu. This menu can be navigated using the buttons above and the player 2 start button (the right button on the control panel).

An on-screen message acknowledges changes or when you exit a selection without making a change.

At the bottom of each screen is a brief description of the highlighted menu option.

Navigating Menu

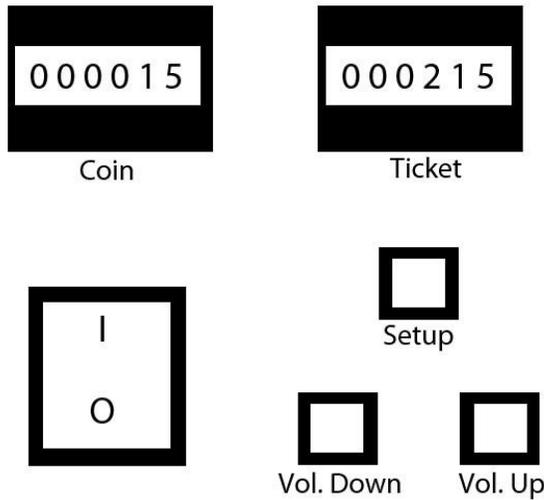


Figure 3 Right Start Button on Control Panel

- SETUP Selects the highlighted menu option or sub-menu
- RIGHT START Exits the current menu or option
- VOLUME DOWN Moves down through the menu or setting choices
- VOLUME UP Moves up through the menu or setting choices

Menu Screens and Descriptions

Main Menu	Brief Description
Exit	Exit back to attract
Factory Setup	Setup region and Dongle Serial #.
Adjustments	View & Adjust settings such as Cost, Volume, etc.
Audits	View Machine Statistics such as money earned, etc.
Resets	Reset various machine audits and settings.
System Information	View system information such as hardware or software revision.
Tests	Test machine hardware.
Utilities	Troubleshooting tool.

Main Menu → Adjustments

Menu Items	Brief Description
Player Cost Adjustments	View and adjust player cost settings.
Redemption Award Adjustments	View and adjust redemption award settings.
Sound Adjustments	View and adjust sound settings.
Gameplay Adjustments	View and adjust gameplay settings.
Coin Adjustments	View and adjust coin settings.
Date & Time Adjustments	View and adjust date & time settings.

Main Menu → Adjustments → Player Cost Adjustments

Menu Items	Brief Description	Default Value	Adjustment Options
Back	Returns to the previous menu		
Freeplay	Toggle freeplay on or off	off	on, off
Game Cost	Cost to play a single game	\$ 1.00	All increments of coin base value

Main Menu → Adjustments → Redemption Award Adjustment

Menu Items	Brief Description	Default Value	Adjustment Options
Back	Returns to the previous menu		
Award Label	Change the label associated with the award	Tickets	Tickets, Coupons, Points
Ticket Award Mode	Change how the game awards tickets	Variable Amount (Default)	
Ticket Value	The monetary value of one ticket	\$ 0.0100	Increments every \$0.0001
Award Values	Set the Min. and Max tickets awarded per game		
Min. Tix. (0-2 kills)	Min tickets awarded per game	10	Increments by 1
Max. Tix. (18+ kills)	Max tickets awarded per game	40	Increments by 1

Main Menu → Adjustments → Sound Adjustments

Menu Items	Brief Description	Default Value	Adjustment Options
Back	Returns to the previous menu		
Game Volume	Adjust game mode volume	50	0-100
Attract Volume	Adjust attract mode volume	30	0-100
Attract Sound Frequency	Adjust how often the attract mode plays sounds	Occasionally	Never, Occasionally, Frequently, Always

Main Menu → Adjustments → Gameplay Adjustments

Menu Items	Brief Description	Default Value	Adjustment Options
Back	Returns to the previous menu		
Zombie Idle Time	Adjust the time zombies idle before disappearing (in seconds)	5 Seconds	0-100 Seconds
Game Timer	Adjust the game timer (in seconds)	45 Seconds	0-120 Seconds
Double Pts Start Time	How many seconds are left when double points mode is started	15 Seconds	0-100 Seconds
Coin Door Configuration	Choose coin door configuration (1 or 2)	Two Coin Doors	One Coin Door, Two Coin Doors

Main Menu → Adjustments → Coin Adjustments

Menu Items	Brief Description	Default Value	Adjustment Options
Back	Returns to the previous menu		
Currency Type	Change the currency type	US Dollar	30 currencies, Coins, Tokens Swipes
Coin Base Unit	Change the base coin adjustment unit	\$0.25	Increment every \$0.01
Coin Slot 1 Value	Set the value for coin slot 1	\$0.25	Increment every Coin Base Unit
Coin Slot 2 Value	Set the value for coin slot 2	\$0.25	Increment every Coin Base Unit
DBV Pulse Value	Set the value for each DBV pulse	\$1.00	Increment every Coin Base Unit
Service Credit Value	Set the value for each service credit switch press	\$0.25	Increment every Coin Base Unit

Main Menu → Adjustments → Date/ Time Adjustments

Menu Items	Brief Description	Default Value	Adjustment Options
Back	Returns to the previous menu		
Month	Adjust the current month		1-12
Day	Adjust the current day		1-31
Year	Adjust the current year		Increments by 1 year

Time	Adjust the current time (24-hour format)	CST	Increments by 1 minute
------	---	-----	------------------------

Main Menu → Audits

Menu Items	Brief Description
Coin Audits	View coin statistics
System Audits	View system statistics
Gameplay Audits	View gameplay statistics
Redemption Award Audits	View and audits redemption award settings

Main Menu → Resets

Menu Items	Brief Description
Reset Credits	Reset credits in the coin box
Reset Coin Audits	Reset coin audits
Reset Adjustments	Reset adjustments to default values
Reset Gameplay Audits	View and audits reset gameplay settings
Reset Tickets Owed	Reset unpaid ticket error
Factory Reset	Reset to factory defaults

Main Menu → Tests

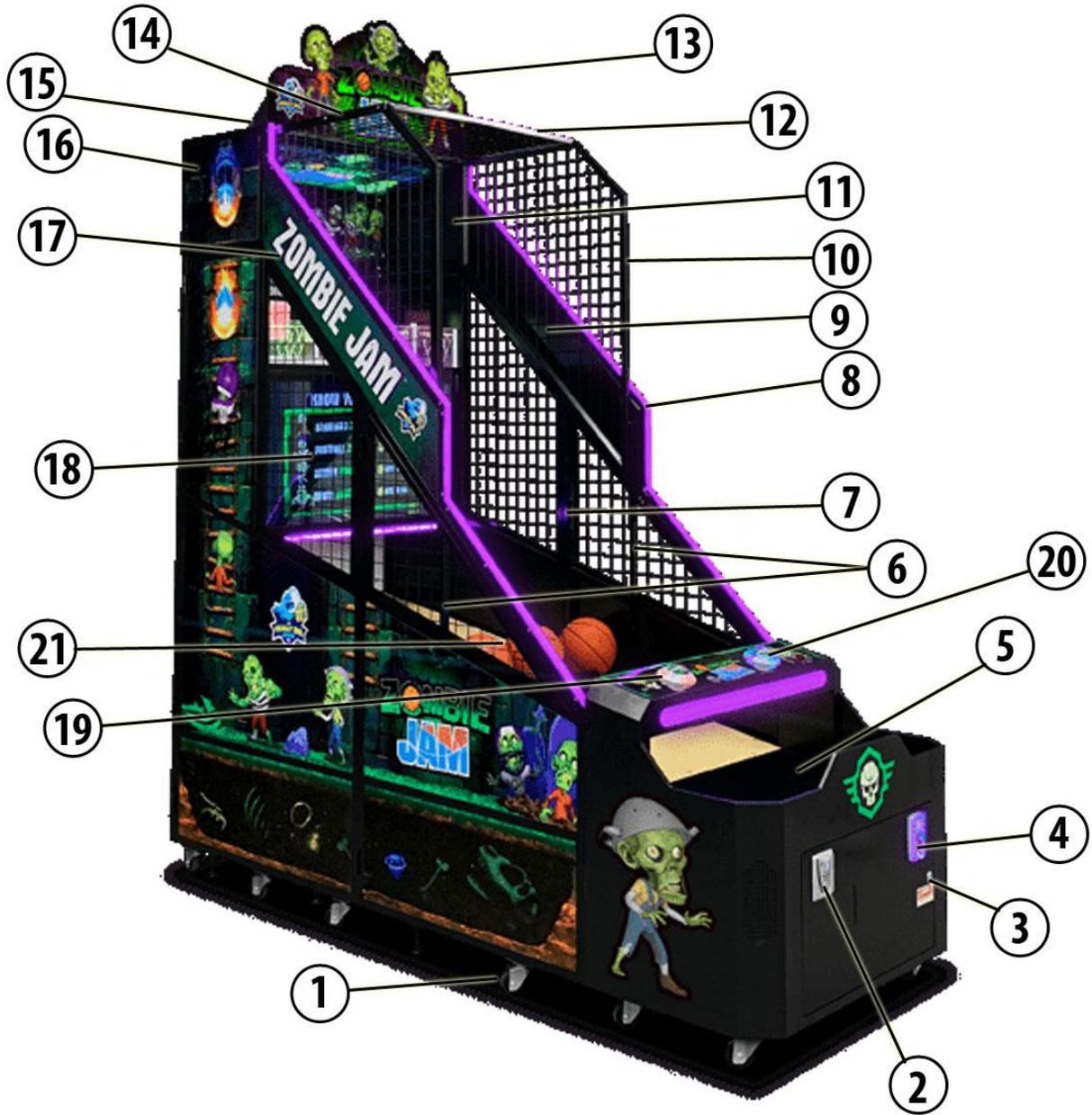
Menu Items	Brief Description
File Test	Test for corrupted or missing files.
Ticket Dispenser Test	Test ticket dispenser operation.
Lamp Test	Test various lamps on the machine.
Sound Test	Test various sound channels in the machine.
Switch Test	Test various switches on the machine.
Ball-Gate Motor Test	Test the ball gate motor operation.
I/O Board Test	Test various operations handled by the I/O board.

Main Menu → Utilities

Menu Items	Brief Description
Copy Data to Flash	Copy the game log to flash drive for external review of the log.

Parts List

Cabinet



Item	Part Number	Description
1		Castor
*		Leg leveler
2		ZBJ ticket dispenser
3		X - Lock
*		X - Key
4		Coin comparator
5		Control panel
6		Barrier brackets (C-Channel)
7		Acrylic Barrier
8		Right side panel
9		Right side panel, inside cover
10		Cage, right side
11		Right inside cover (top box)
12		Cage, center
13		ZBJ Marquee
14		Cage, left side
15		Marquee bracket (w/LEDs)
16		Top Box Assembly
*		Left inside cover (top box)
17		Left side panel
*		Left side panel, inside cover
18		ZBJ Monitor Assembly
19		Player 1 start button
20		Player 2 start button
21	RBC-714-00009-01	ZBJ basketball
*		RGB strand for either side panel
*		RGB strand for control panel
*		RGB strand for under monitor

Control Panel

Item	Part Number	Description
1	90-AP-554	HP ProDesk 400 G6
2		ZBJ I/O PCB
3		Amplifier PCB
4		LED driver PCB
5		Speaker
6		Sub-Woofer
7	RBC-402-00001-01	Power switch
8	RBC-411-00003-01	Electromagnetic counter
9	RBC-402-00003-01	Operator UI buttons
10		I/O to Computer adapter cable
11		Power cable
12		3.5mm audio cable
13		Serial cable

Ball Gate Assembly

Item	Part Number	Description
1		Motor (Ball gate)
2		Ball Gate
3		Motor bracket
4		Motor assembly cover
*		Ball gate cage deflector

Basket Assembly

Item	Part Number	Description
*		Basket sensor PCB
*	RBC-413-00002-01	ZBJ: Ball sensors
*		Addressable LED strand (hoops)
*		Addressable LED strand (backboard)

Troubleshooting

Contact Information
