

GODZILLA

SERVICE AND OPERATION MANUAL



WARNING

IMPORTANT HEALTH WARNING: PHOTOSENSITIVE SEIZURES - A very small percentage of people may experience a seizure when exposed to certain visual images, including flashing lights or patterns. Even people with no history of seizures or epilepsy may have an undiagnosed condition that can cause "photosensitive epileptic seizures" due to certain visual images, flashing lights or patterns. Symptoms can include lightheadedness, altered vision, eye or face twitching, jerking or shaking of arms or legs, disorientation, confusion, momentary loss of awareness, and loss of consciousness or convulsions that can lead to injury from falling down or striking nearby objects.

IMMEDIATELY STOP PLAYING AND CONSULT A DOCTOR IF YOU EXPERIENCE ANY OF THESE SYMPTOMS.

ATTENTION! IMPORTANT WARRANTY INFORMATION

The electronics system, node network architecture, mechanical devices and associated software control systems in this pinball machine are designed to work with genuine Stern Pinball accessories and devices.

Installation of non-authorized accessories, lamps, LED's, motors or other devices or modification of electro-mechanical devices may damage the system and will void your warranty.

Stern Pinball machines are assembled in Elk Grove Village, Illinois, USA. Stern Pinball has inspected each game element to ensure it meets our quality standards.

Each pinball machine has unique characteristics that make it a one-of-a-kind American made product. Each will have variations in appearance resulting from differences in the machine's particular wood parts, individual printed art and mechanical assemblies. No playfield is perfectly flat and varies depending on the season. Game play will result in playfield dimpling as the harder steel ball contacts the wood and coating; over time multiple dimples will blend to make them less noticeable. Normal plastic insert crazing (tiny stress cracks) and ghosting (small cloudy areas around insert edges) are often seen in pinball machines, due to a combination of plastic mold stress, pushing of inserts into purposely undersized holes, and heating and breaking of inserts' plastic "skin" when the playfield is sanded.

TM & © TOHO CO., LTD.  TOHO

Games configured for North America operate on 60 cycle electricity only. These games will not operate in countries with 50 cycle electricity (Europe, UK, Australia).



MANUAL #780-50T6-00
GODZILLA LE #500-55T6-01
GODZILLA PREMIUM #500-55T7-01

1-800-KICKERS - parts.service@sternpinball.com
www.sternpinball.com - facebook.com/sternpinball

1. SETUP AND MOVING

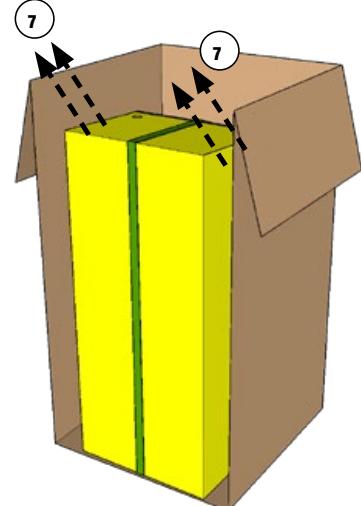
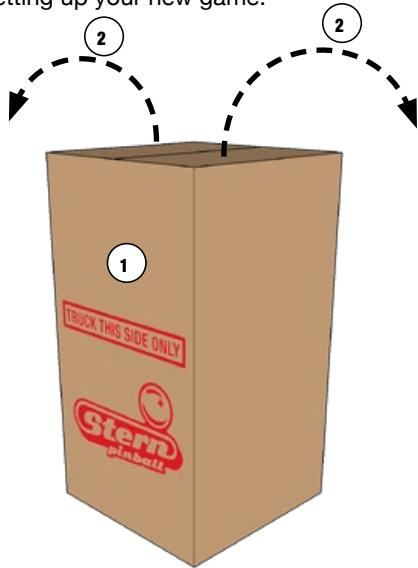
1.1 FIRST-TIME SETUP INSTRUCTIONS

Your brand new Stern Pinball Machine is carefully packed for safety and security. For your safety, exercise caution and use the correct tools and sufficient help when setting up your new game.

TOOLS REQUIRED

- 5/8" Socket Wrench
- Utility Knife
- Snips
- An Assistant

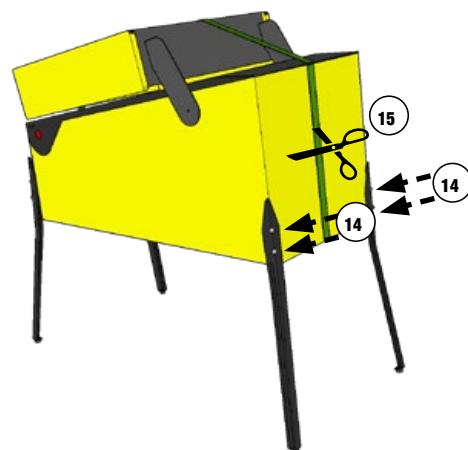
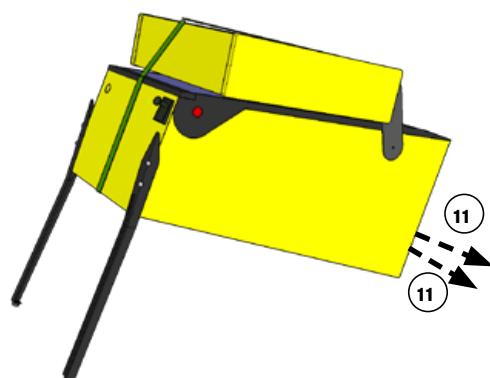
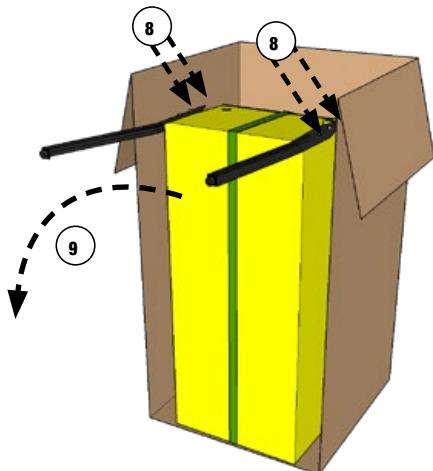
CAUTION: AT LEAST TWO (2) PEOPLE ARE REQUIRED TO MOVE AND MANEUVER THE GAME. USE PROPER MOVING EQUIPMENT AND EXTREME CARE WHILE HANDLING. STERN PINBALL MACHINES WEIGH OVER 250LBS BOXED.



1. Locate the side labeled "TRUCK THIS SIDE ONLY". The bottom of the game faces this side.
2. Open the top box flaps by pulling hard in an upward motion on each flap. If the flaps are taped, cut the tape first, taking care to avoid the box staples.

3. Remove the four (4) foam pieces and two (2) narrow box tubes which contain the four (4) identical legs with levelers.
4. DO NOT CUT STRAPPING YET. Keep backbox secured in the down position.
5. With the utility knife, carefully cut down the left and right corners of the box.

6. Let the face fall forward and remove the entire side by carefully cutting the bottom.
7. With the game still in its folded position, use a $\frac{5}{8}$ " wrench to loosen and remove the 2 leg bolts on each side of the front cabinet. Ensure the leg levelers are screwed all the way into the legs.



8. Install front legs using the bolts removed from the cabinet. Secure tightly.
9. Have someone help you carefully set the game down on the front legs.

10. Set aside the open box.
11. With a $\frac{5}{8}$ " socket wrench, loosen and remove the 2 leg bolts on each side of the rear cabinet, 4 total.

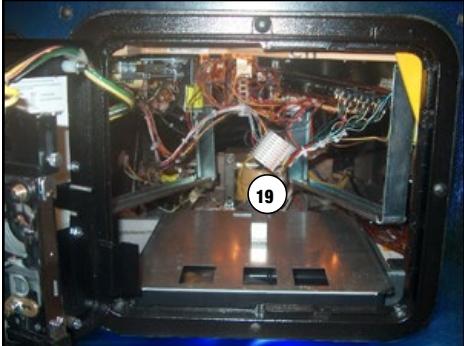
12. Using supports or two people, prop the rear of the cabinet up.
13. Ensure the rear leg levelers are screwed all the way into the legs.
14. Install rear legs using the 4 bolts removed from step 11.

SETUP AND MOVING

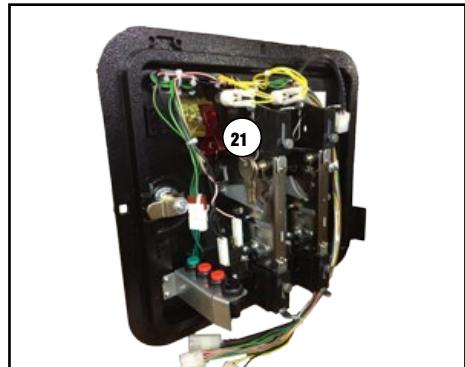
FIRST-TIME SETUP CONTINUED



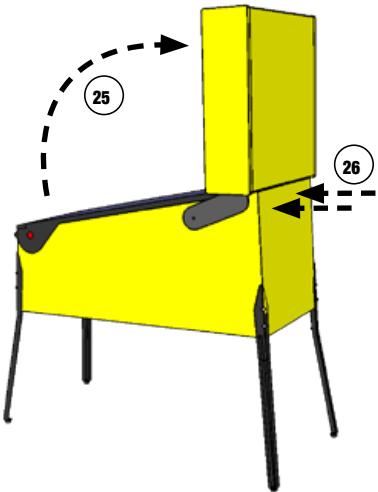
15. Cut nylon strapping and remove protective strap corner guards.
16. Locate the factory keys, either on the shooter rod or taped to the playfield glass.
17. Using snips, cut the tie-wrap securing the keys if required. One set of keys is for the front coin door, the other set of keys is for accessing components in the backbox.



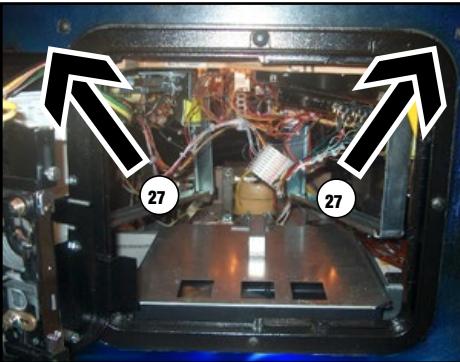
18. Open the front coin door.
19. Reach into the game and remove the retaining clip at the rear of the cash box.
20. Remove the cash box lid by sliding it toward you.



21. Store the backbox keys, if desired, on the metal hook located in the coin door.
22. Locate and remove the pinballs, plumb bob, and backbox bolts from the cash box.
23. Replace the cash box lid and retaining clip for future use.



24. Locate the two (2) backbox bolts in the cash box.
25. Carefully raise backbox to upright position while ensuring that cables are not pinched.
26. Use the $\frac{3}{8}$ " wrench to install the two (2) backbox bolts to secure the backbox as indicated on the back of the cabinet.



27. Reach inside the cabinet and lift the two latches located on either side of the coin door.
28. Remove the front top molding.



29. Remove the playfield glass by sliding it toward you and carefully place it in a safe location. Remove all playfield shipping tie downs, shipping blocks, and packing foam, and follow any game-specific unpacking instructions included in the playfield, if present.



CAUTION: PLAYFIELD GLASS IS MADE FROM HIGH-STRENGTH TEMPERED GLASS. TEMPERED GLASS IS SENSITIVE TO EXTREME TEMPERATURE SHIFTS AND CORNER NICKS, WHICH CAN CAUSE THE GLASS TO FAIL CATASTROPHICALLY. TAKE CARE TO STORE THE GLASS ON A SOFT, ROOM-TEMPERATURE SURFACE AND PREVENT THE CORNERS FROM BEING DAMAGED.

FIRST-TIME SETUP CONTINUED

30. If pinballs were already installed into the lower ball trough, remove them before lifting the playfield.
31. Grasp the lower arch between the flippers, and firmly but gently pull directly up to raise the playfield 8 to 12 inches.
32. While holding the playfield up, pull the playfield toward you until the two playfield supports are over the front edge of the cabinet.
33. Rest the playfield on the front edge of the cabinet.
34. Raise the playfield and rest it against the backbox.
35. Visually inspect all cabinet cables and connector terminations; ensure no wires or cables are pinched and that cable harnesses are not pulled tight.
36. Locate the plumb bob in the parts bag in the cash box.
37. Slide plumb bob onto the hanger wire. Note: the vertical position of the plumb bob affects tilt sensitivity - higher makes the game more sensitive to tilting.
38. Tighten the thumb screw finger-tight.
39. Install the correct number of pinballs. Refer to the decal on the lock down assembly for the correct number of pinballs.

LOCATING, LEVELING, AND FINAL SETUP

1. Select a location that is indoors, out of direct sunlight, and climate controlled. Excessive moisture/humidity can cause long-term damage to your game.
2. Adjust the front or rear levelers as necessary to position the playfield level bubble, located on the front right of the playfield next to the shooter lane, to float between the two (2) black lines. This will place the playfield at the recommended 6.5° pitch. Playfield angles greater than 6.5° can be achieved by turning out the rear leg leveler(s) for increased difficulty and faster gameplay.
3. Use a pinball to roll down the center of the playfield for side-to-side leveling, or use an external bubble level, digital level, or smartphone level app.
4. Plug into a grounded outlet and check for proper operation through DIAGNOSTICS.
5. Check the coin door: With the door closed, insert coins to verify proper operation.
6. Play game: Check for satisfactory operation and adjust game volume (push the Red Buttons inside the Coin Door).
7. If desired, perform any game diagnostics, game adjustments, and pricing settings at this time.

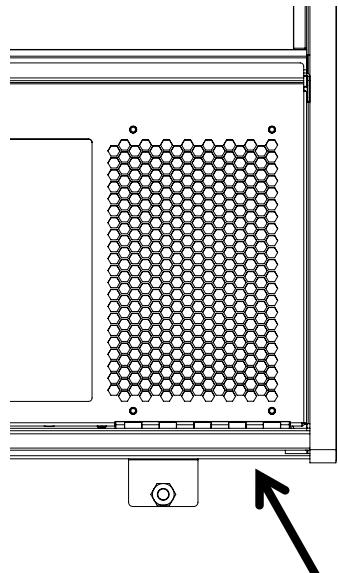


SPIKE PINBALL SOFTWARE UPDATE INSTRUCTIONS

1. Obtain game software update file (filename ends in ".spk") from www.sternpinball.com or from authorized Stern distributor.
2. Place game software update file (" .spk") in root directory of a blank FAT32-formatted USB flash drive
3. Use backbox power switch to turn off game
4. Plug in USB flash drive to CPU board USB connector (CN20 or CN21). Refer to www.sternpinball.com
5. Turn on game
6. The game will automatically begin software update
7. Select the correct .spk update file from list.
8. Press Enter on the service switches to start update
9. When the display indicates "Update Complete", turn off game
10. Remove USB flash drive from CPU board
11. Turn game on to complete the update and play pinball!
12. Detailed instructions and troubleshooting tips are available in the game manual, www.sternpinball.com and authorized Stern distributors.

POWER SWITCH

The game's power switch is located on the right-hand side underneath the backbox.



ON/OFF Switch

SETUP AND MOVING

1.2 ADJUSTMENTS MENU

STANDARD ADJUSTMENTS

Perform the below steps to review the adjustments.

Enter the Service Menu, then enter the Standard Adjustments Menu.

Press SELECT to access the Service Menu. Press BACK to exit or escape at any time.

Press [>]. Go to the ADJ icon. Press SELECT.

Go to the S.P.I. icon. Press SELECT.

STANDARD ADJUSTMENT #1 appears with the adjustment name flashing. While the adjustment name is flashing press [<] [>] to move between adjustments.

To change the adjustment setting press SELECT. While the adjustment setting is flashing, press [<] [>] repeatedly until the desired setting appears. Press the SELECT button to "install" the change. The adjustment comment (bottom line) will indicate if the factory default setting is selected or will display INSTALLED if the change is not a factory default setting.

ID	Adjustment Name	Default Setting
1	REPLAY TYPE	AUTO
2	REPLAY PERCENTAGE	10%
3	REPLAY AWARD	CREDIT
4	REPLAY LEVELS	1
5	AUTO REPLAY START	20,000,000
6	DYNAMIC REPLAY START	60,000,000
7	REPLAY LEVEL #1	15,000,000
8	REPLAY LEVEL #2	30,000,000
9	REPLAY LEVEL #3	45,000,000
10	REPLAY LEVEL #4	60,000,000
11	REPLAY BOOST	YES
12	SPECIAL LIMIT	1
13	SPECIAL PERCENTAGE	10%
14	SPECIAL AWARD	CREDIT
15	FREE GAME LIMIT	5
16	EXTRA BALL LIMIT	5
17	EXTRA BALL PERCENTAGE	25%
18	GAME PRICING	USA 11
19	MATCH PERCENTAGE	9%
20	MATCH AWARD	CREDIT
21	BALLS PER GAME	3
22	TIILT WARNINGS	2
23	TIILT DEBOUNCE	1000
24	CREDIT LIMIT	30
25	ALLOW HIGH SCORES	YES
26	HIGH SCORE AWARD	CREDIT
27	GRAND CHAMPION AWARDS	1
28	HIGH SCORE #1 AWARDS	1
29	HIGH SCORE #2 AWARDS	0
30	HIGH SCORE #3 AWARDS	0
31	HIGH SCORE #4 AWARDS	0
32	GRAND CHAMPION SCORE	75,000,000
33	HIGH SCORE #1	55,000,000
34	HIGH SCORE #2	40,000,000
35	HIGH SCORE #3	30,000,000
36	HIGH SCORE #4	25,000,000
37	HSTD INITIALS	3 INITIALS

ID	Adjustment Name	Default Setting
38	HSTD RESET COUNT	2000
39	FREE PLAY	NO
40	LANGUAGE	ENGLISH
41	PLAYER LANGUAGE SELECT	YES
42	CUSTOM MESSAGE	ON
43	KNOCKER VOLUME	NORMAL
44	GAME START	NO
45	GAME RESTART	YES
46	BALL SAVE TIME	0:05
47	TIMED PLUNGER	OFF
48	FLIPPER BALL LAUNCH	OFF
49	COINDOOR BALL SAVER	OFF
50	COMPETITION MODE	NO
51	FAST BOOT	YES
52	Q24 OPTION	COIN METER
53	TICKET DISPENSER	NO
54	PLAYER COMPETITION MODE	YES
55	LOCATION ID	0
56	GAME ID	0
57	TIME FORMAT	12-HOUR
58	COIN INPUT DELAY	30
59	LOST BALL RECOVERY	YES
60	COINDOOR DISABLE TIILT	NO
61	COINDOOR OPEN NODE BUS POWER	NO
62	PLAY ATTRACT TUTORIAL VIDEOS	YES
63	EXTERNAL VOLUME KNOB FUNCTION	HEADPHONE VOLUME ONLY
64	MUTE CABINET WHEN HEADPHONES DETECTED	YES
65	GI LED BRIGHTNESS	100%
66	GI LED MAX BRIGHTNESS	255
67	INSERT LED BRIGHTNESS	100%%
68	INSTER LED MAX BRIGHTNESS	255%
69	FLASHER LED BRIGHTNESS	100%
70	FLASHER LED MAX BRIGHTNESS	255
71	ATTRACT MODE BACKBOX BRIGHTNESS	100%
72	GAMEPLAY BACKBOX BRIGHTNESS	100%
73	COINDOOR OPEN BACKBOX BRIGHTNESS	2%

FEATURE ADJUSTMENTS

Each table has feature adjustments specific to the characteristics of that game. To access feature adjustments enter the Service Menu and then enter the Adjustments Menu.

Press SELECT to access the Service Menu. Press BACK to exit or escape at any time.

Press [>]. Go to the ADJ icon. Press SELECT.

Go to the game icon. Press SELECT.

FEATURE ADJUSTMENT #1 appears with the adjustment name flashing. With the adjustment name flashing press [<] [>] to move between adjustments. Feature adjustments are changed similarly to standard adjustments using the SELECT button to choose options and the [<] [>] buttons to cycle through available settings.

1.3 TRANSPORTING THE GAME

When transporting the game, such as in the back of a truck or with a hand truck, the game's backbox must be secured to prevent damage to the side rails.

1. SECURE THE BACKBOX

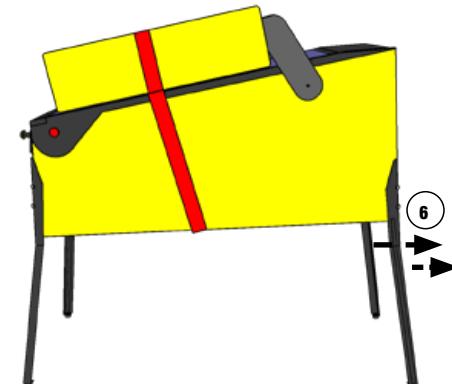
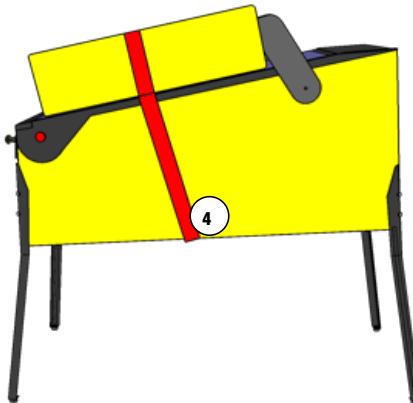
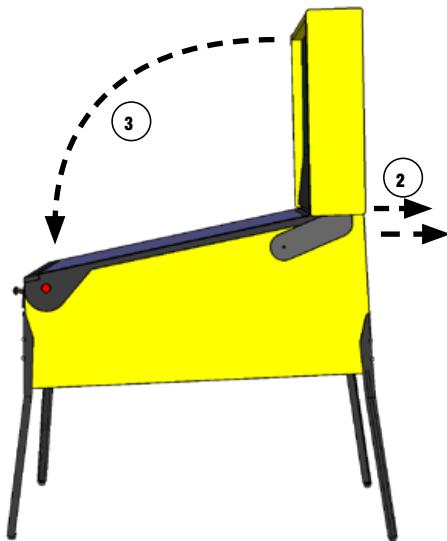
1. Ensure that the pinballs are removed from the playfield, and secure any free-moving mechanisms that may get damaged in transport

TOOLS REQUIRED

- STRAP (500LB OR GREATER)
- AN ASSISTANT
- HAND TRUCK

CAUTION

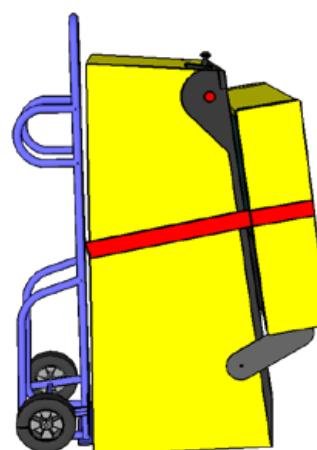
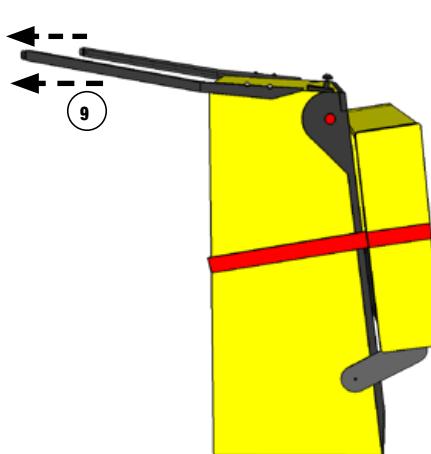
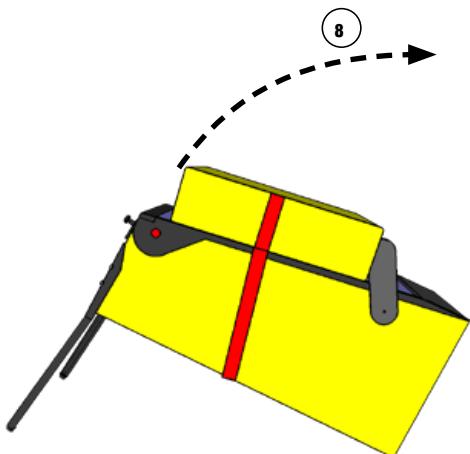
NEVER TRANSPORT THE GAME IN A MOVING VEHICLE WITH THE BACKBOX RAISED! TWO PEOPLE ARE REQUIRED TO REMOVE THE LEGS!



2. Remove the backbox securing bolts
3. Carefully lower the backbox onto the side rails. Use a piece of cardboard or suitable padding between the backbox and the game.

4. Securely strap the back box to the game
5. The game may be transported with the legs on. If the legs must be removed, follow the remaining steps.

6. Remove the legs, rear legs first. Use a stool or a friend to support the rear of the game.
7. Rest the rear of the game on the ground.



8. Stand the game up on its back.

9. Remove the front two legs.

10. Secure all loose parts and transport with a hand truck in the upright position.

1.4 MAINTENANCE

REGULAR MAINTENANCE - (MONTHLY/500 GAMES)

- Remove the playfield glass
- Enter the software diagnostics menu, start lamp test, then clean and wax the playfield.
 - While cleaning the playfield, identify and repair malfunctioning lights, loose parts, cracked plastics and worn rubber parts.
- While in diagnostics, enter the switch test (Select the "SW" Icon, then "TEST" Icon).
 - Use a pinball to actuate all switches and verify the correct switch registers with the switch test.
 - The game will play a sound to confirm the switch.
- Lift the playfield and inspect all assemblies for loose parts, broken wires or excessive wear. Look at the bottom of the cabinet for any parts that may have worked loose, then find the source.
- Check all coin door mechanisms and bill acceptor (if installed) for proper operation
- Play the game to ensure all coils and features are working
- Check the playfield to ensure it is level and set to the proper pitch using the bubble level on the right side wood rail.
- Check game audits: Replay % and Ball Time and note abnormal values which can indicate problems.
- Ensure game volume is set appropriately for the location.
- Clean both sides of the playfield glass and reinstall.
- Check and clean pinballs and replace if excessively worn or scuffed. Dirty pinballs accelerate game wear.

OVERHAUL MAINTENANCE - (5000 GAMES)

- Verify latest game software is installed
- Check flippers for excessive wear. Excessive flipper sloppiness (vertical or horizontal) or weakness indicates a flipper rebuild is required.
- Clean machine inside and out and check leg levelers for free operation.
- Visual check for loose or broken playfield and cabinet parts and repair as necessary.
- Electrical check: Plug into grounded outlet and check for proper operation through DIAGNOSTICS.
- Replace worn or dirty rubbers.
- Replace pinballs.
- Check all playfield switches with a pinball.
- Check all settings (refer to manual for factory settings).
- Check coin door: With door closed, insert coins to verify proper operation.
- Check for proper adjustment of the plumb bob tilt.
- Play game: Check for satisfactory operation.

COMMON PINBALL TOOLS

- Common nut drivers (1/4", 5/16", 11/32", 3/8")
- Phillips screwdriver
- Standard Allen wrench/Hex key set
- 5/8" Socket with ratchet
- Adjustable wrench (5/8" & 9/16")
- 6" Torpedo Level (or use a pinball)
- Flashlight or headlamp
- Soldering Iron (60w with flat tip), lead-free solder
- Wire cutter
- Wire stripper
- Long nose ("needle nose") pliers

1.5 MAINTENANCE KITS

Description	Part Number
Godzilla LE/Premium Maintenance Kit	502-6002-T6 502-6002-T7
• 8 oz pinball playfield wax (Novus # 2) (675-0003-01)	
• Standard Pinball (260-5000-00)	
• Cleaning Cloth	
• All Playfield Rubber Rings	
• Spare Fuses	
Godzilla LE/Premium Deluxe Maintenance Kit	502-6003-T6 502-6003-T7
• All standard kit items, plus:	
• Flipper rebuild kits, Left and Right (500-6307-10,-00)	
Godzilla LE Playfield Plastics Kit	803-5000-T6
Godzilla Premium Playfield Plastics Kit	803-5000-T7
Godzilla LE Playfield Decals Kit	802-5000-T6
Godzilla Premium Playfield Decals Kit	802-5000-T7
Godzilla LE Backbox Decal Left	820-90T6-01
Godzilla Premium Backbox Decal Left	820-76T7-01
Godzilla LE Backbox Decal Right	820-90T6-02
Godzilla Premium Backbox Decal Right	820-76T7-02
Godzilla LE Cabinet Decal Left	820-90T6-03
Godzilla Premium Cabinet Decal Left	820-76T7-03
Godzilla LE Cabinet Decal Right	820-90T6-04
Godzilla Premium Cabinet Decal Right	820-76T7-04
Godzilla LE Cabinet Decal Front	820-90T6-05
Godzilla Premium Cabinet Decal Front	820-76T7-05
Godzilla LE Playfield, Bare	830-5100-T6
Godzilla Premium Playfield, Bare	830-5100-T7
Godzilla LE Mirror Backglass	830-8426-T6
Godzilla Premium Translite Backglass	830-8427-T7

1.6 COMMON PARTS

Description	Part Number
8 oz Pinball Playfield wax (Novus # 2)	675-0003-01
Standard Pinball, 1-1/16 in	260-5000-00
Flipper Rebuild Kit Left (Standard)	500-6307-10
Flipper Base Plate Kit Left	515-6617-01
Flipper Rebuild Kit Right	500-6307-00
Flipper Base Plate Kit Right	515-6617-00
Memory Card - SD 8GB	970-0140-08
Memory Card - MicroSD	970-0141-32
Wi-Fi Adapter	509-2013-00

2. SPIKE SYSTEM AND NODE GUIDE

2.1 SPIKE SYSTEM OVERVIEW

The SPIKE Pinball system is a rugged, distributed, and embedded platform custom-designed for the rigors of the pinball machine environment. SPIKE takes advantage of modern technologies to deliver an immersive pinball experience that supports modern features, reduces cabling, and increases serviceability and reliability.

A Stern Pinball machine based on the SPIKE system will have at least two nodes networked together with the SPIKE node bus, a custom industrial pinball control bus that is designed around industry standards and optimized for the pinball environment. The primary CPU node is networked to one or more input/output nodes over standard Category 5 UTP (unshielded twisted pair) ethernet cabling.

There are five primary types of nodes that are found in the game.

- CPU node (Node 0) - The primary node that controls other nodes in the system. Contains the primary game software for the system and provides SPIKE node bus power for other nodes.
- Cabinet 48V node (Node 1) - Specialized node with specific inputs and outputs for coin doors, tilt mechanisms, and other bottom-cabinet devices.
- 48V playfield node - Controls high power devices such as coils and flashers, and also supports a few switch and low-power outputs. Powered by the system 48V power supply.
- Light and switch node - High-density switch and low-power LED outputs, bus-powered from the node bus. These boards contain as many 32 switch inputs and light outputs.
- Node extensions - These sub-nodes add additional low-power input and outputs to a specific Power or I/O node and are connected with simple serial bus.

2.2 NODE BUS CABLING

The SPIKE node bus utilizes standard Ethernet-style RJ45 8-pin modular jacks, and off-the-shelf Category 5e or better ethernet cabling. The node bus is electrically different from Ethernet and does not utilize Ethernet or TCP/IP protocols or signaling standards. SPIKE nodes are not compatible with standard computer networking equipment.

CAUTION: Plugging a SPIKE Node or CPU board into a standard Ethernet port may damage one or both devices and void your warranty.

2.3 SYSTEM POWER

The SPIKE System is powered from an 48V DC power supply bus. Each SPIKE node converts this voltage to lower voltages required by the node and its specific components. A SPIKE 48V node typically controls high-power outputs such as game coil mechanisms and high-brightness LEDs. These powered nodes are supplied directly with 48V system power. SPIKE standard I/O nodes are low-power nodes that read switch inputs and output to standard-brightness LEDs. Standard I/O nodes use the node bus power, which is supplied by the main CPU node over the node bus modular jack connectors.

2.4 SPIKE NODE ADDRESSES

Each SPIKE node has a unique address ranging from 0 to 15. Not all addresses are used in all games. Nodes can be of the same part number, so the address is specified on the DIP switches on each node. When replacing a node, be certain that the correct address is set. Nodes can have 3-position and 4-position DIP switches. Refer to the appropriate table to set the address for each type of Node. The correct address for a node can be found in the SPIKE node reference section of the manual or in the game diagnostic software. Address 0 is reserved for the backbox CPU node, where the game software resides. Address 1 is reserved for the cabinet node, located inside the coin door. These two nodes do not have DIP switches as their address is not configurable.

Address	1	2	3
8	OFF	OFF	OFF
9	OFF	OFF	ON
10	OFF	ON	OFF
11	OFF	ON	ON
12	ON	OFF	OFF
13	ON	OFF	ON
14	ON	ON	OFF
15	ON	ON	ON

SPIKE node addresses for nodes with 3-position DIP switches. Addresses 0-7 are not used by SPIKE nodes with 3-position DIP switches.

Address	1	2	3	4
8	OFF	OFF	OFF	OFF
9	OFF	OFF	ON	OFF
10	OFF	ON	OFF	OFF
11	OFF	ON	ON	OFF
12	ON	OFF	OFF	OFF
13	ON	OFF	ON	OFF
14	ON	ON	OFF	OFF
15	ON	ON	ON	OFF

SPIKE node addresses for nodes with 4-position DIP switches. Addresses 0-7 are reserved for fixed-function nodes and do not require configuration.

SPIKE SYSTEM AND NODE GUIDE CONTINUED

2.5 SPIKE NODE PROGRAMMING

The SPIKE nodes are smart nodes that have on-board processors and run embedded code. The nodes are programmed automatically by the CPU node whenever software updates are installed to the CPU. When replacing a node, the CPU node will detect and update the node to the latest software with no user intervention. Always replace nodes with the power to the game turned OFF.

2.6 SPIKE SYSTEM TERMINOLOGY

MULTI GENERAL ILLUMINATION LIGHTING

General Illumination Lighting is two or more lights powered by one control source. These are often a number of LEDs connected in parallel and the system controls these as one large LED. A missing LED will not affect these circuits, however a shorted LED can cause the entire string of LEDs to turn off.

SINGLE LIGHTS

Single lights and LEDs are direct-controlled from SPIKE node boards. A common power source is grounded by individual transistors to turn individual LEDs on and off. Groups of LEDs, usually by node connector, share a common power source, so if a group of LEDs is out, check the wiring for the power source.

FLASHERS

SPIKE games treat flashers the same as single LEDs that draw more power. Flashers are controlled from the same circuits that power regular lights.

DRIVERS

A driver is a circuit that controls a high power-device such as a coil, magnet, or motor. Each device has a common 48V power source that is then connected to ground by a dedicated control transistor. Each driver is protected against shorting, static electricity, and over-current conditions. Take caution as 48V is always present on a device even when it is not energized.

OPTOS

Certain types of optical switches ("optos") require external signal conditioning. For these optos, they will interface to a SPIKE node via an opto signal conditioning board. Other optical switches connect directly to the Spike node board.

CAUTION: Unless explicitly directed by an Authorized Stern Repair technician, perform ALL work on your pinball machine with the power disabled!

INPUT/OUTPUT PROTECTIONS

SPIKE features built-in short-circuit, static electricity, and other protections to maximize reliability. If an LED, coil or other device shorts, it will be disabled but will not shut down the entire system in most circumstances. Groups of LEDs, coils, and switches often share common power supplies or other circuits, so it is possible that a bad device will affect the group of related devices and require removal or repair to fix the group. The system diagnostics will inform the technician of shorted or otherwise malfunctioning devices whenever possible. While the system is protected against permanent damage, it is strongly recommended to repair or replace these bad components as soon as possible to minimize downtime and maximize game earnings.

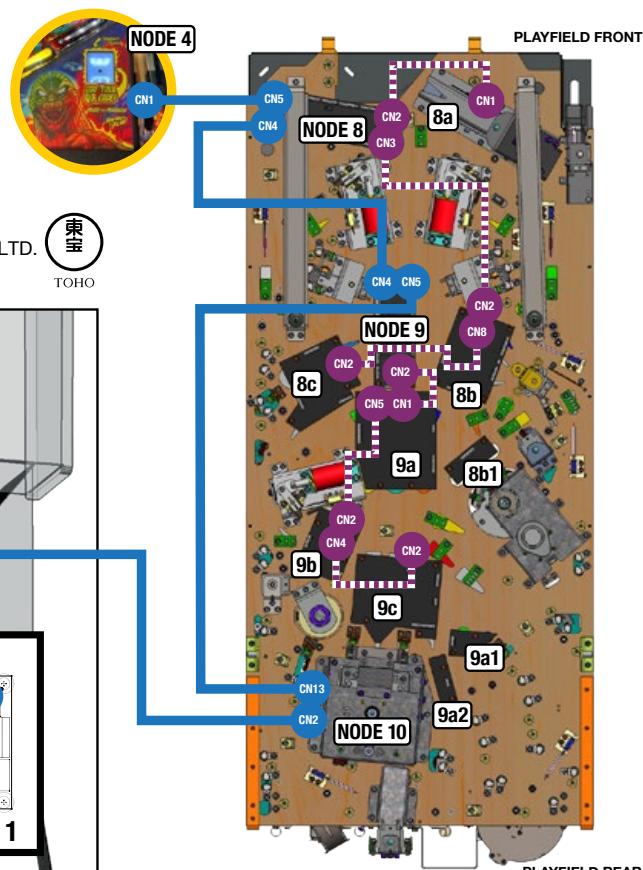
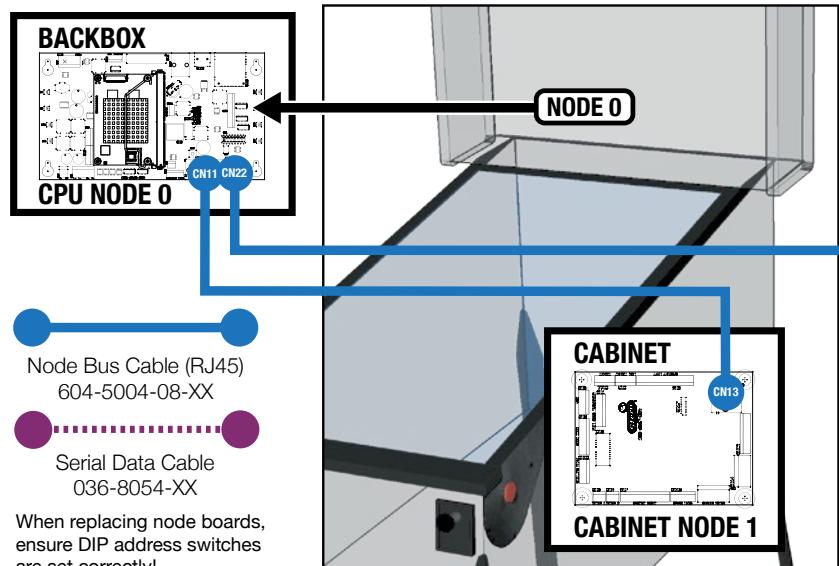
2.7 COMMON SPIKE NODE BOARDS

Description	Type	Part Number
SPIKE CPU Node	Node	509-1003-01
Cabinet Node	Node	520-6967-72
Playfield 48V Core-Driver Node	Node	520-7017-72
Trough Serial Opto Receiver Extension	Extension	520-8516-00

3. LIGHT, SWITCH, AND DRIVER REFERENCE



TM & © TOHO CO., LTD.
TOHO



3.1 SPIKE NODE BOARDS

ID	DIP Address	Description	Location	Part Number
Node 0	n/a	SPIKE 2 CPU Node	Backbox	509-1003-01
Node 1	n/a	Cabinet Node	Cabinet	520-6967-72
Node 4	n/a	QR Reader Node	Bottom Arch	509-2020-00
Node 8	OFF-OFF-OFF-OFF	Playfield 48V Core-Driver Node	Lower Playfield	520-7017-72
8a	n/a	Trough Serial Opto Receiver Extension	Playfield	520-8516-00
8b	n/a	PCB Lower Right LED	Playfield	520-8533-00
8b1	n/a	PCB 3RGB LED	Playfield	520-8535-00
8c	n/a	PCB Lower Left LED	Playfield	520-8532-00
Node 9	OFF-OFF-ON-OFF	Playfield 48V Core-Driver Node	Playfield	520-7017-72
9a	n/a	PCB Center LED	Playfield	520-8534-00
9a1	n/a	PCB 1RGB 2W LED	Playfield	520-8538-00
9a2	n/a	PCB 4W LED	Playfield	520-8539-00
9b	n/a	PCB 1RGB 5W LED	Playfield	520-8536-00
9c	n/a	PCB SW and LED	Playfield	520-8537-00
Node 10	OFF-ON-OFF-OFF	Stepper Motor Node	Playfield	520-5781-02
Node 12	ON-OFF-OFF-OFF	Topper (Optional)	Topper	520-8511-00

3.2 DRIVER REFERENCE

ID	Name	Node	Connector	Ret. Pin	Ret. Wire	Voltage	V+ Pin	V+ Color	Location	Type	Address	Part Number
1	Trough	8	CN8	7	ORG GRY	48V	1-4	GRY ORG	Playfield	Coil - 27-1500	8-DR-1	090-5004-ND
2	Auto Plunger	8	CN8	9	ORG WHT	48V	1-4	GRY ORG	Playfield	Coil - 23-800	8-DR-4	090-5001-ND
3	Left Flipper	8	CN8	6	ORG YEL	48V	1-4	GRY ORG	Playfield	Coil - 22-1080	8-DR-5	090-5032-ND
4	Right Flipper	8	CN8	5	ORG GRN	48V	1-4	GRY ORG	Playfield	Coil - 22-900	8-DR-0	090-5020-20-ND
5	Left Slingshot	8	CN8	11	ORG BLU	48V	1-4	GRY ORG	Playfield	Coil - 26-1200	8-DR-3	090-5044-ND
6	Right Slingshot	8	CN8	10	ORG VIO	48V	1-4	GRY ORG	Playfield	Coil - 26-1200	8-DR-2	090-5044-ND
7	Shaker Motor	1	CN16	1	BLU	48V	5	RED	Cabinet	Motor	1-DR-0	041-5029-04
8	Up Left Flip	8	CN7	3	YEL BLK	48V	1	GRY ORG	Playfield	Coil - 23-1100	8-DR-6	090-5030-ND
9	Pop Bumper	8	CN7	4	YEL BRN	48V	1	GRY ORG	Playfield	Coil - 26-1200	8-DR-7	090-5044-ND
10	Right Scoop	8	CN7	2	YEL RED	48V	1	GRY ORG	Playfield	Coil - 26-1200	8-DR-8	090-5044-ND
11												
12	Shield Motor	9	CN8	10	BRN RED	48V	1-4	GRY BRN	Playfield	Motor-041-5111-00	9-DR-2	511-6968-01
13	Bridge	9	CN8	11	YEL WHT	48V	1-4	GRY BRN	Playfield	Coil - 23-800	9-DR-3	090-5001-ND
14												
15												
16	Godzilla Magnet	9	CN7	3	BRN BLK	48V	1	GRY BRN	Playfield	Coil - 22-650	9-DR-6	511-5065-ND
17	Mechagodzilla Magnet	9	CN7	4	ORG RED	48V	1	GRY BRN	Playfield	Coil - 23-800	9-DR-7	511-7954-00
18	VUK	9	CN8	7	YEL BLU	48V	1-4	GRY BRN	Playfield	Coil - 23-800	9-DR-1	090-5001-ND
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33	Coin Meter	1	CN3	2	BLK	12V	1	RED	Cabinet	Digital Out	1-DR-2	500-9946-00
34	Ticket Meter	1	CN4	2	BLK	12V	1	RED	Cabinet	Digital Out	1-DR-3	500-9946-00
35	Ticket Dispenser	1	CN11	3		12V	1		Cabinet	Digital Out	1-DR-4	

Continued on next page...

DRIVER REFERENCE CONTINUED

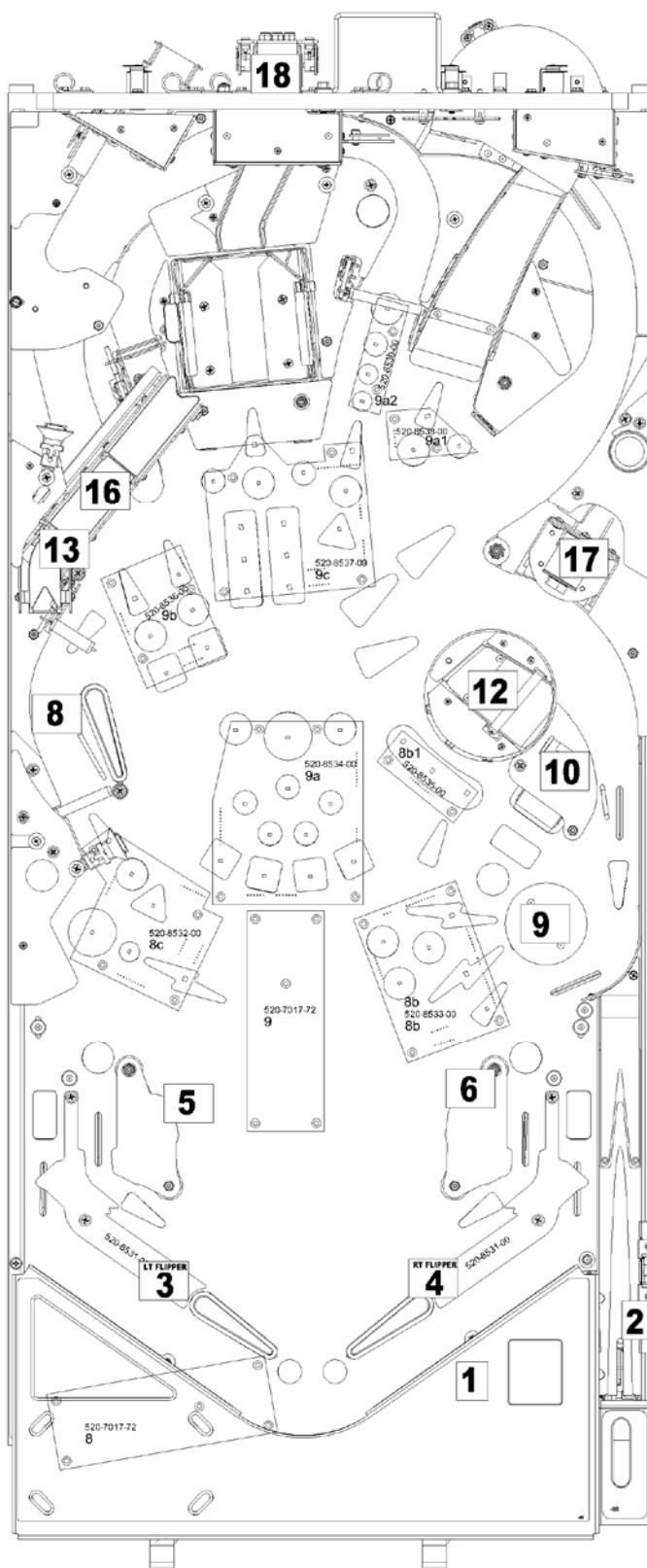


Figure 3.2.1. Playfield driver locations (top view).

SPIKE SYSTEM AND NODE GUIDE

SWITCH REFERENCE CONTINUED

ID	Name	Node	Node Ext	Conn.	Input Pin	Input Wire	GND Pin	Ground Wire	Location	Type	Address	Part Number
C1	DIP 1	0	-	-	-		-		CPU Node		0-SW-0	-
C2	DIP 2	0	-	-	-		-		CPU Node		0-SW-1	-
C3	DIP 3	0	-	-	-		-		CPU Node		0-SW-2	-
C4	DIP 4	0	-	-	-		-		CPU Node		0-SW-3	-
C5	DIP 5	0	-	-	-		-		CPU Node		0-SW-4	-
C6	DIP 6	0	-	-	-		-		CPU Node		0-SW-5	-
C7	DIP 7	0	-	-	-		-		CPU Node		0-SW-6	-
C8	DIP 8	0	-	-	-		-		CPU Node		0-SW-7	-
C9	Service Select	0	-	CN25	4	LGN GRY	6	BLK	Coin Door		0-SW-8	515-1963-00
C10	Service Plus	0	-	CN25	3	LGN VIO	6	BLK	Coin Door		0-SW-9	515-1963-00
C11	Service Minus	0	-	CN25	2	LGN BLU	6	BLK	Coin Door		0-SW-10	515-1963-00
C12	Service Back	0	-	CN25	1	LGN BLK	6	BLK	Coin Door		0-SW-11	515-1963-00
C17	Headphone Detect	0	-	-	-	-	-	-	Coin Door		0-SW-16	-
C18	Headphone Kit Cable Detect	0	-	CN3	5	BLK	4	BLK	CPU Node		0-SW-17	-
C19	Volume Encoder 1	0	-	CN3	6	WHT	1	DRAIN	CPU Node		0-SW-18	-
C20	Volume Encoder 2	0	-	CN3	7	GRN	1	DRAIN	CPU Node		0-SW-19	-
C24	Coin Door Interlock	0	-	CN4	1	GRY	4	GRY RED	Backbox		0-SW-23	180-5248-00

Continued on next page...

SWITCH REFERENCE CONTINUED

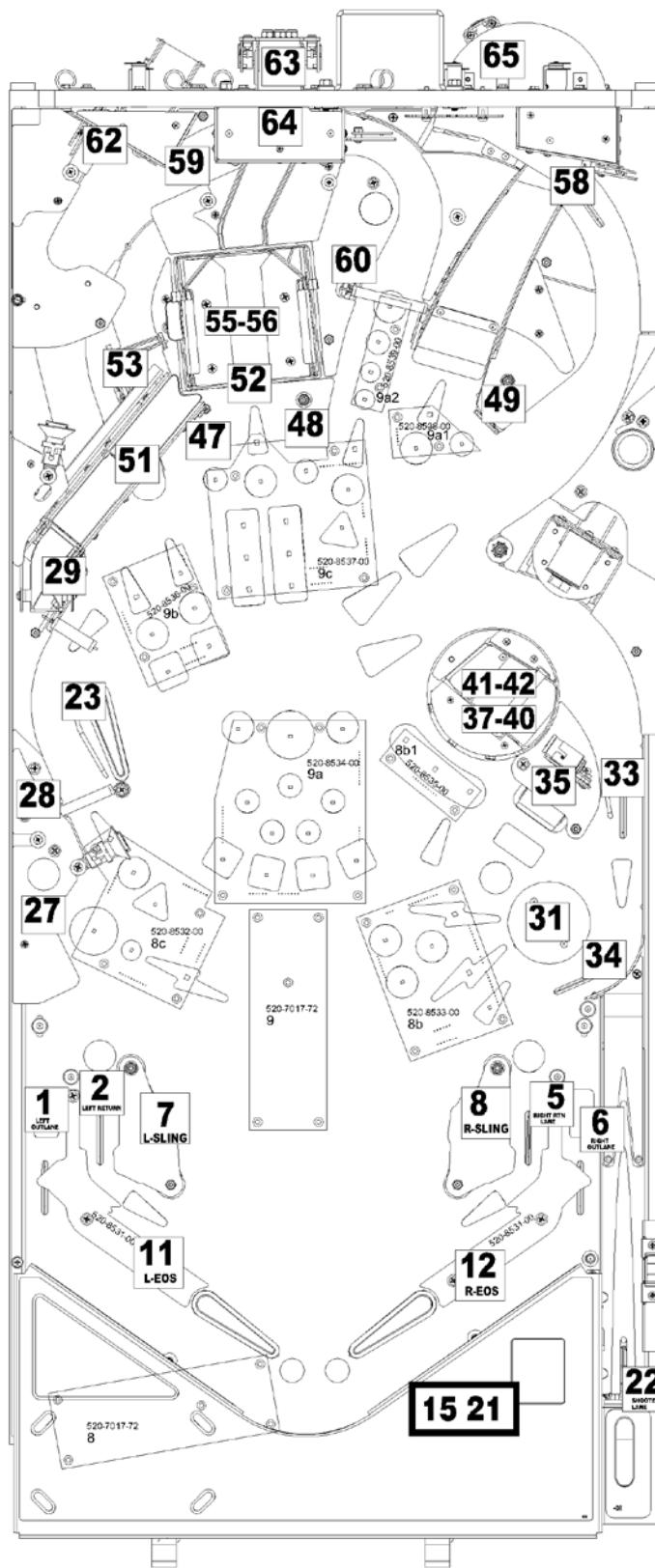


Figure 3.3.1. Playfield switch locations (top view).

SPIKE SYSTEM AND NODE GUIDE

LIGHT REFERENCE CONTINUED

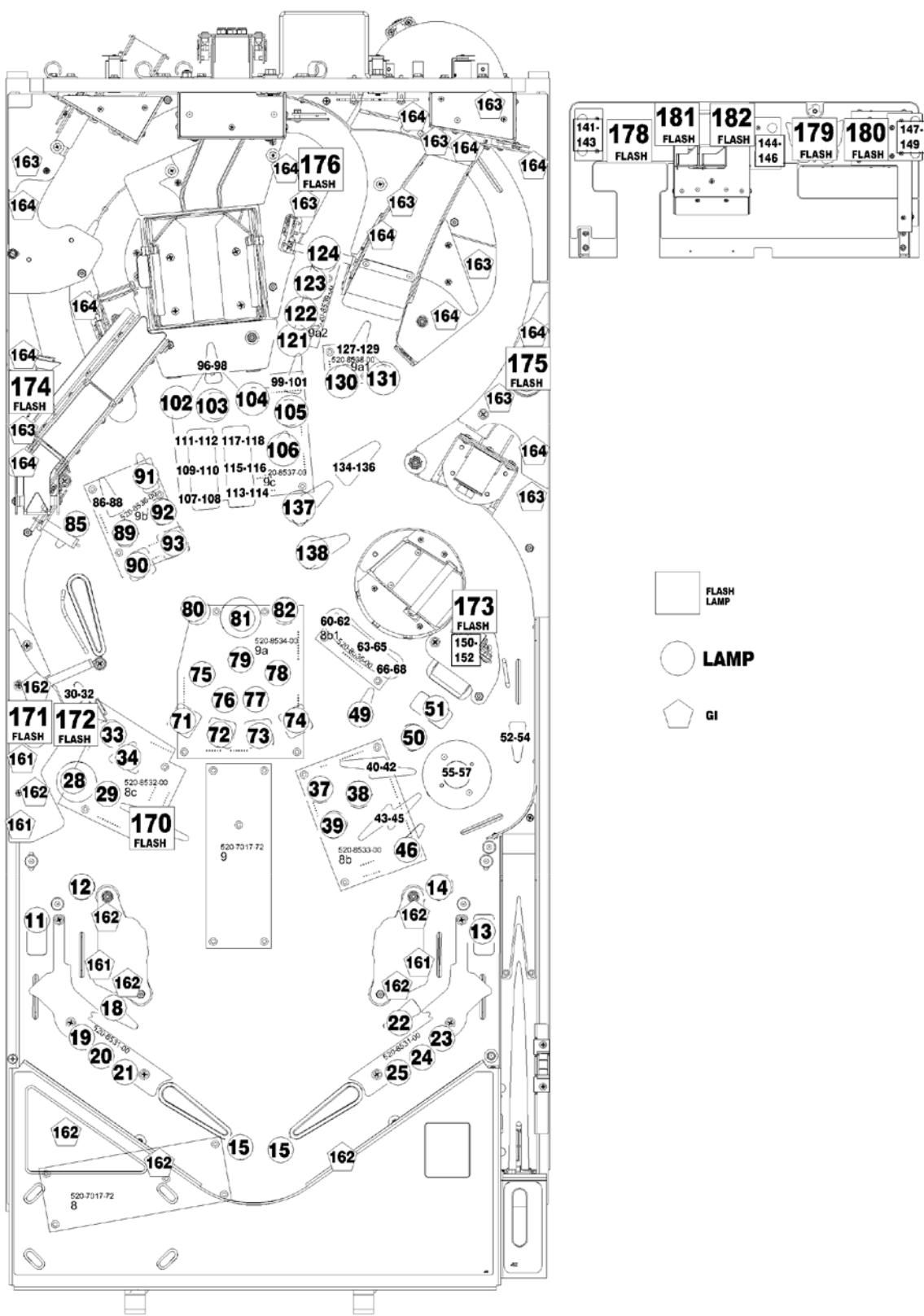
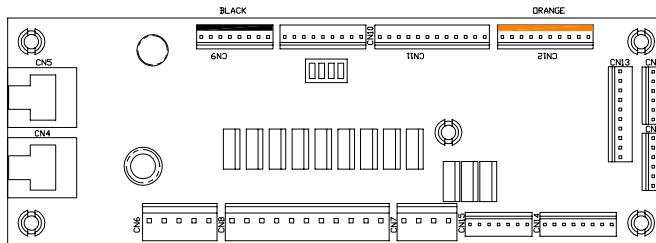


Figure 3.5.1. Playfield light locations (top view).

4.4 MID UPPER PLAYFIELD 48V DRIVER PINOUT NODE 9

520-7017-72



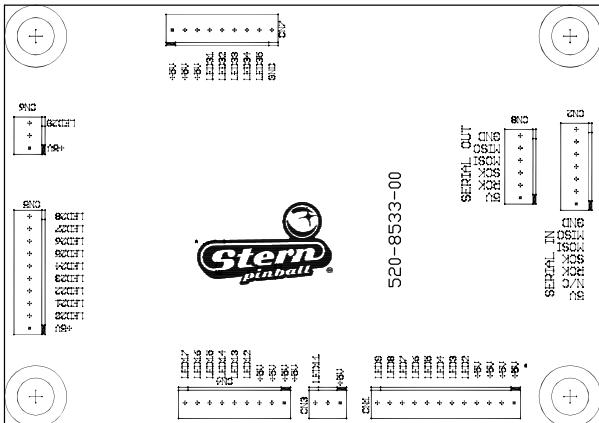
ID	Type	Pin	Description	Wire Color
SW1	Address DIP	-	Node 9 - OFF-OFF-ON-OFF	-
CN4	RJ45	-	SPIKE Node Bus	Multi
CN5	RJ45	-	SPIKE Node Bus	Multi
CN6 .156" 5-Pin Header Node Power	1	Ground	BLK	
	2	Key	Key	
	3	N/C	-	
	4	N/C	-	
	5	48VDC In	GRY	
CN7 .156" 4-Pin Header (White)	1	48V Driver Power	GRY-BRN	
	2	9-DR-8 Driver Return	-	
	3	9-DR-6 Driver Return	BRN-BLK	
	4	9-DR-7 Driver Return	ORG-RED	
CN8 .156 11-Pin Header (White)	1	48V Driver Power	GRY-BRN	
	2	48V Driver Power	GRY-BRN	
	3	48V Driver Power	GRY-BRN	
	4	48V Driver Power	-	
	5	9-DR-0 Driver Return	-	
	6	9-DR-5 Driver Return	-	
	7	9-DR-1 Driver Return	YEL-BLU	
	8	9-DR-8 Driver Return	-	
	9	9-DR-4 Driver Return	-	
	10	9-DR-2 Driver Return	BRN-RED	
	11	9-DR-3 Driver Return	YEL-WHT	
CN9 .100" 8-Pin Header (Black)	1	V+	-	
	2	V+	-	
	3	9-SW-24 Switch	-	
	4	9-SW-25 Switch	-	
	5	9-SW-26 Switch	-	
	6	9-SW-27 Switch	-	
	7	Ground	-	
	8	Ground	-	
CN10 .100" 9-Pin Header	1	V+	-	
	2	9-SW-28 Switch	GRY-BLK	
	3	9-SW-29 Switch	GRY-BRN	
	4	9-SW-30 Switch	GRY-RED	
	5	9-SW-31 Switch	GRY-ORG	
	6	9-SW-16 Switch	-	
	7	Ground	BLK-BLU	
	8	Ground	BLK-BLU	
	9	Ground	BLK-BLU	

CN11 .100" 12-Pin Header	1	V+	RED
	2	9-SW-26 Switch	-
	3	9-SW-27 Switch	-
	4	9-SW-17 Switch	TAN-ORG
	5	9-SW-18 Switch	TAN-YEL
	6	9-SW-19 Switch	TAN-GRN
	7	9-SW-20 Switch	TAN-BLU
	8	9-SW-21 Switch	TAN-VIO
	9	9-SW-22 Switch	TAN-WHT
	10	9-SW-23 Switch	TAN
	11	Ground	BLK-GRY
	12	Ground	BLK-GRY
CN12 .100" 10-Pin Header (Orange)	1	V+	RED
	2	9-SW-8 Switch	WHT-BRN
	3	9-SW-9 Switch	WHT-RED
	4	9-SW-10 Switch	WHT-ORG
	5	9-SW-11 Switch	WHT-YEL
	6	9-SW-12 Switch	WHT-GRN
	7	9-SW-13 Switch	WHT-BLU
	8	9-SW-14 Switch	WHT-VIO
	9	9-SW-15 Switch	WHT-GRY
	10	Ground	BLK-WHT
CN13 .100" 10-Pin Header	1	V+	-
	2	9-SW-0 Switch	-
	3	9-SW-1 Switch	-
	4	9-SW-2 Switch	-
	5	9-SW-3 Switch	-
	6	9-SW-4 Switch	-
	7	9-SW-5 Switch	-
	8	9-SW-6 Switch	-
	9	9-SW-7 Switch	-
	10	Ground	-
CN14 .100" 8-Pin Header	1	Ground	-
	2	9-LP-7 Driver Return	-
	3	9-LP-6 Driver Return	-
	4	9-LP-5 Driver Return	-
	5	9-LP-4 Driver Return	-
	6	9-LP-3 Driver Return	-
	7	LED V+	-
	8	LED V+	-
CN15 .100" 7-Pin Header	1	LED V+	YEL-RED
	2	LED V+	YEL-BLK
	3	LED V+	YEL-BLU
	4	-	-
	5	9-LP-0 GI Return	RED-BLK
	6	9-LP-1 GI Return	WHT-BLK
	7	9-LP-2 GI Return	BLU-BLK
CN2 .100" 6-Pin Header, Node Extension Bus	1	Ground	BLK
	2	DIN	VIO-BLK
	3	DOUT	VIO-BRN
	4	SCK	VIO-RED
	5	RCK	VIO-ORG
	6	V+	RED
CN3 .100" 6-Pin Header, Node Extension Bus	1	Ground	-
	2	DIN	-
	3	DOUT	-
	4	SCK	-
	5	RCK	-
	6	V+	-

ELECTRONIC PINOUTS AND SCHEMATICS

4.5 LOWER RIGHT LED BOARD 8B

520-8533-00

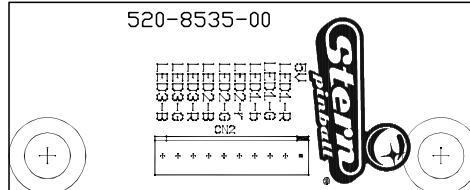


ID	Type	Pin	Description	Wire Color
CN1	.100" 12-Pin Header	1	+5 VDC	RED
		2	+5 VDC	RED
		3	+5 VDC	RED
		4	+5 VDC	-
		5	LED 2	YEL-BRN
		6	LED 3	YEL-RED
		7	LED 4	YEL-ORG
		8	LED 5	YEL-GRN
		9	LED 6	YEL-BLU
		10	LED 7	YEL-VIO
		11	LED 8	YEL-GRY
		12	LED 9	YEL-WHT
CN2	.100" 7-Pin Header	1	Ground	BLK
		2	MISO Output Data	VIO-BLK
		3	MOSI Input Data	VIO-BRN
		4	SCK Serial Clock	VIO-RED
		5	RCK Register Clock	VIO-ORG
		6	NC	-
		7	+5 VDC IN	RED
CN3	.100" 3-Pin Header	1	+5 VDC	-
		2	-	-
		3	LED 11	-
CN4	.100" 9-Pin Header	1	+5 VDC	RED
		2	+5 VDC	RED
		3	+5 VDC	-
		4	LED 12	ORG-RED
		5	LED 13	ORG-YEL
		6	LED 14	ORG-GRN
		7	LED 15	RED-BRN
		8	LED 16	GRN-BRN
		9	LED 17	BLU-BRN

CN5	.100" 10-Pin Header	1	+5 VDC	RED
		2	LED 20	RED-ORG
		3	LED 21	GRN-ORG
		4	LED 22	BLU-ORG
		5	LED 23	RED-YEL
		6	LED 24	GRN-YEL
		7	LED 25	BLU-YEL
		8	LED 26	RED-VIO
		9	LED 27	GRN-VIO
		10	LED 28	BLU-VIO
		11	LED 29	-
		12	LED 30	-
CN6	.100" 3-Pin Header	1	+5 VDC	-
		2	-	-
		3	LED 29	-
		4	LED 31	RED-GRY
		5	LED 32	GRN-GRY
		6	LED 33	BLU-GRY
CN7	.100" 9-Pin Header	7	LED 34	-
		8	LED 35	-
		9	GND	-
		10	LED 36	-
		11	LED 37	-
		12	LED 38	-
		13	LED 39	-
		14	LED 40	-
		15	LED 41	-
CN8	.100" 6-Pin Header	1	Ground	BLK
		2	MISO Output Data	VIO-BLK
		3	MOSI Input Data	VIO-BRN
		4	SCK Serial Clock	VIO-RED
		5	RCK Register Clock	VIO-ORG
		6	V+	RED

4.6 3-RGB LED BOARD 8B1

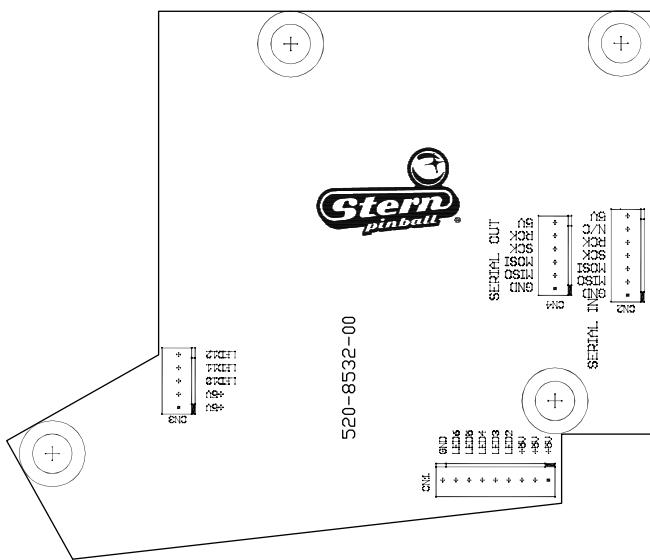
520-8535-00



ID	Type	Pin	Description	Wire Color
CN2	.100" 10-Pin Header	1	+5 VDC	RED
		2	LED 1-R	RED-ORG
		3	LED 1-G	GRN-ORG
		4	LED 1-B	BLU-ORG
		5	LED 2-R	RED-YEL
		6	LED 2-G	GRN-YEL
		7	LED 2-B	BLU-YEL
		8	LED 3-R	RED-VIO
		9	LED 3-G	GRN-VIO
		10	LED 3-B	BLU-VIO

4.7 LOWER LEFT LED BOARD 8C

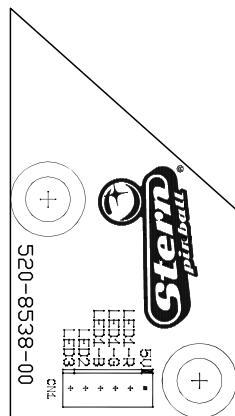
520-8532-00



ID	Type	Pin	Description	Wire Color
CN1	.100" 9-Pin Header	1	+5 VDC	RED
		2	+5 VDC	RED
		3	+5 VDC	RED
		4	LED 2	YEL-BRN
		5	LED 3	YEL-RED
		6	LED 4	YEL-ORG
		7	LED 5	YEL-GRN
		8	LED 6	ORG-BRN
		9	GND	-
CN2	.100" 7-Pin Header	1	Ground	BLK
		2	MISO Output Data	VIO-BLK
		3	MOSI Input Data	VIO-BRN
		4	SCK Serial Clock	VIO-RED
		5	RCK Register Clock	VIO-ORG
		6	NC	-
		7	+5 VDC IN	RED
CN3	.100" 5-Pin Header	1	+5 VDC	RED
		2	+5 VDC	RED
		3	LED 10	ORG-VIO
		4	LED 11	ORG-WHT
		5	LED 12	-
CN4	.100" 6-Pin Header	1	Ground	-
		2	MISO Output Data	-
		3	MOSI Input Data	-
		4	SCK Serial Clock	-
		5	RCK Register Clock	-
		6	V+	-

4.8 1-RGB 2-W LED BOARD 9A1

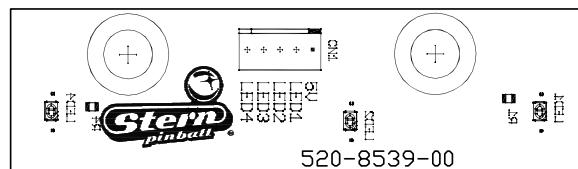
520-8538-00



ID	Type	Pin	Description	Wire Color
CN1	.100" 6-Pin Header	1	+5 VDC	RED
		2	LED 1-R	RED-BRN
		3	LED 1-G	GRN-BRN
		4	LED 1-B	BLU-BRN
		5	LED 2	ORG-BLU
		6	LED 3	ORG-VIO

4.9 4-W LED BOARD 9A2

520-8539-00

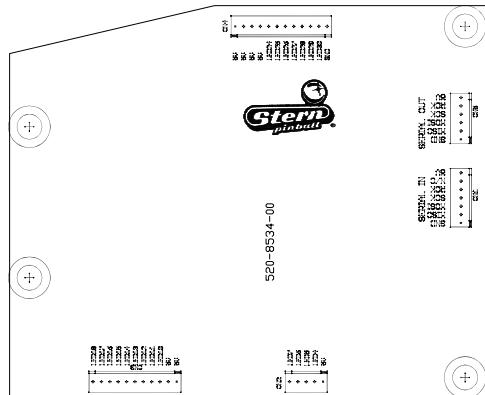


ID	Type	Pin	Description	Wire Color
CN1	.100" 5-Pin Header	1	+5 VDC	RED
		2	LED 1	YEL-GRY
		3	LED 2	YEL-VIO
		4	LED 3	YEL-BLU
		5	LED 4	YEL-GRN

ELECTRONIC PINOUTS AND SCHEMATICS

4.10 CENTER LED BOARD 9A

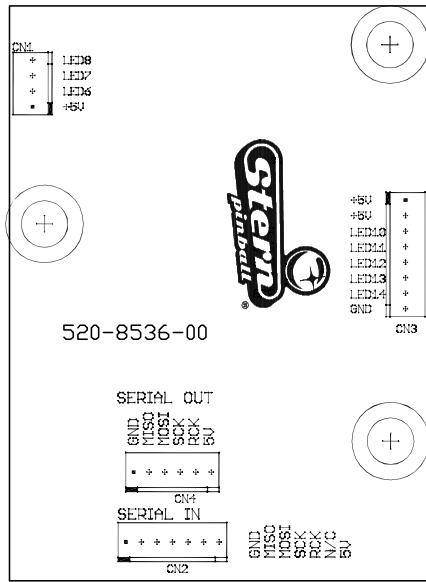
520-8534-00



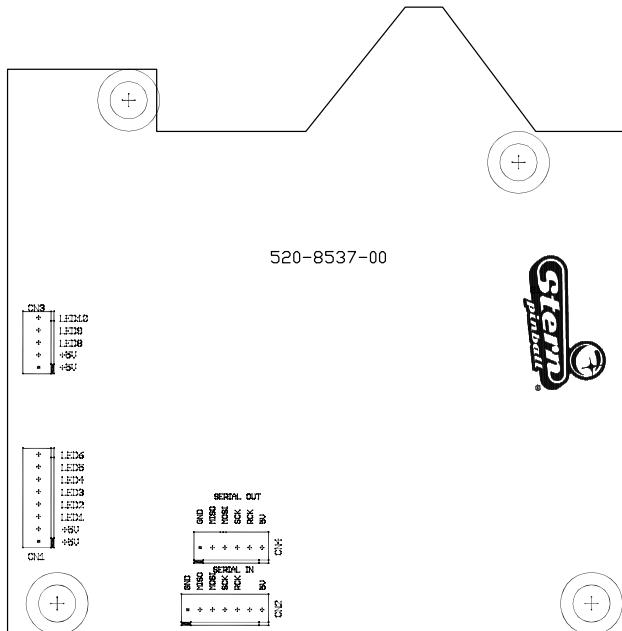
ID	Type	Pin	Description	Wire Color
CN1	.100" 7-Pin Header	1	Ground	BLK
		2	MISO Output Data	VIO-BLK
		3	MOSI Input Data	VIO-BRN
		4	SCK Serial Clock	VIO-RED
		5	RCK Register Clock	VIO-ORG
		6	NC	-
		7	+5 VDC IN	RED
CN2	.100" 5-Pin Header	1	+5 VDC	RED
		2	LED 4	ORG-BRN
		3	LED 5	ORG-RED
		4	LED 6	ORG-YEL
		5	LED 7	ORG-GRN
CN3	.100" 11-Pin Header	1	+5 VDC	RED
		2	+5 VDC	RED
		3	LED 10	RED-BRN
		4	LED 11	GRN-BRN
		5	LED 12	BLU-BRN
		6	LED 13	ORG-BLU
		7	LED 14	ORG-VIO
		8	LED 15	YEL-GRN
		9	LED 16	YEL-BLU
		10	LED 17	YEL-VIO
		11	LED 18	YEL-GRY
CN4	.100" 12-Pin Header	1	+5 VDC	RED
		2	+5 VDC	RED
		3	+5 VDC	RED
		4	+5 VDC	-
		5	LED 24	RED-WHT
		6	LED 25	GRN-WHT
		7	LED 26	BLU-WHT
		8	LED 27	YEL-BRN
		9	LED 28	YEL-RED
		10	LED 29	YEL-ORG
		11	LED 30	-
		12	GND	-
CN5	.100" 6-Pin Header	1	Ground	BLK
		2	MISO Output Data	VIO-BLK
		3	MOSI Input Data	VIO-BRN
		4	SCK Serial Clock	VIO-RED
		5	RCK Register Clock	VIO-ORG
		6	V+	RED

4.11 1-RGB 5-W LED BOARD 9B

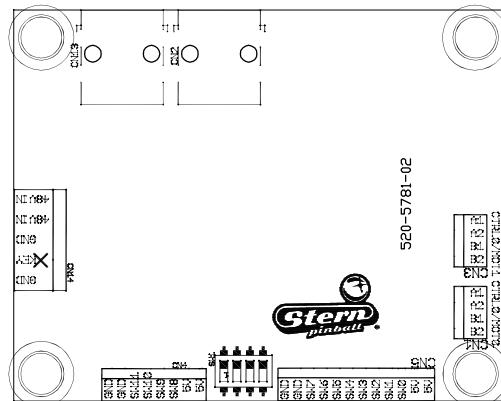
520-8536-00



ID	Type	Pin	Description	Wire Color
CN1	.100" 4-Pin Header	1	+5 VDC	RED
		2	LED 6	-
		3	LED 7	-
		4	LED 8	ORG
CN2	.100" 7-Pin Header	1	Ground	BLK
		2	MISO Output Data	VIO-BLK
		3	MOSI Input Data	VIO-BRN
		4	SCK Serial Clock	VIO-RED
		5	RCK Register Clock	VIO-ORG
		6	NC	-
		7	+5 VDC IN	RED
CN3	.100" 8-Pin Header	1	+5 VDC	RED
		2	+5 VDC	RED
		3	LED 10	BLU-RED
		4	LED 11	BLU-ORG
		5	LED 12	BLU-YEL
		6	LED 13	ORG-BLU
		7	LED 14	ORG-VIO
		8	GND	-
CN4	.100" 6-Pin Header	1	Ground	BLK
		2	MISO Output Data	VIO-BLK
		3	MOSI Input Data	VIO-BRN
		4	SCK Serial Clock	VIO-RED
		5	RCK Register Clock	VIO-ORG
		6	V+	RED

4.12 SW & LED BOARD 9C**520-8537-00**

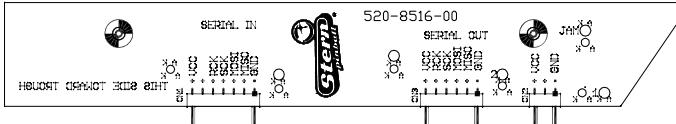
ID	Type	Pin	Description	Wire Color
CN1	.100" 8-Pin Header	1	+5 VDC	RED
		2	+5 VDC	RED
		3	LED 1	GRN-RED
		4	LED 2	GRN-ORG
		5	LED 3	GRN-YEL
		6	LED 4	ORG-GRY
		7	LED 5	ORG-WHT
		8	LED 6	-
CN2	.100" 7-Pin Header	1	Ground	BLK
		2	MISO Output Data	VIO-BLK
		3	MOSI Input Data	VIO-BRN
		4	SCK Serial Clock	VIO-RED
		5	RCK Register Clock	VIO-ORG
		6	NC	-
		7	+5 VDC IN	RED
CN3	.100" 5-Pin Header	1	+5 VDC	-
		2	+5 VDC	-
		3	LED 8	-
		4	LED 9	-
		5	LED 10	-
CN4	.100" 6-Pin Header	1	Ground	-
		2	MISO Output Data	-
		3	MOSI Input Data	-
		4	SCK Serial Clock	-
		5	RCK Register Clock	-
		6	V+	-

4.13 STEPPER MOTOR NODE BOARD**520-5781-02**

ID	Type	Pin	Description	Wire Color
SW1	Address DIP	-	Node 10 - OFF-ON-OFF-OFF	-
CN2	RJ45	-	SPIKE Node Bus	Multi
CN13	RJ45	-	SPIKE Node Bus	Multi
CN1	.100" 4-Pin Header	1	COM0A1	RED
		2	COM0A2	BLU
		3	COM0B1	GRN
		4	COM0B2	BLK
CN3	.100" 4-Pin Header	1	COM1A1	-
		2	COM1A2	-
		3	COM1B1	-
		4	COM1B2	-
CN4	.100" 8-Pin Header	1	V+	-
		2	V+	-
		3	10-SW-8 Switch	-
		4	10-SW-9 Switch	-
		5	10-SW-10 Switch	-
		6	10-SW-11 Switch	-
		7	Ground	-
		8	Ground	-
CN5	.100" 12-Pin Header	1	V+	-
		2	V+	-
		3	10-SW-0 Switch	WHT-VIO
		4	10-SW-1 Switch	WHT-GRY
		5	10-SW-2 Switch	-
		6	10-SW-3 Switch	-
		7	10-SW-4 Switch	-
		8	10-SW-5 Switch	-
		9	10-SW-6 Switch	-
		10	10-SW-7 Switch	-
		11	Ground	BLK-WHT
		12	Ground	BLK-WHT
CN14	.156" 5-Pin Header	1	GND	BLK
		2	KEY	-
		3	GND	-
		4	+48V	-
		5	+48V	GRY

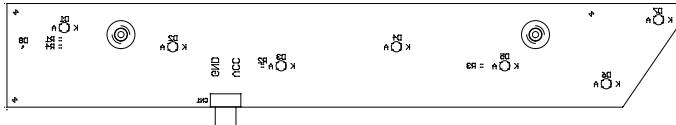
ELECTRONIC PINOUTS AND SCHEMATICS

4.14 TROUGH SERIAL OPTO RECEIVER 8A 520-8516-00



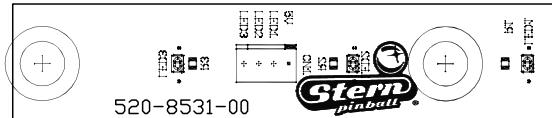
ID	Type	Pin	Description	Wire Color
CN1	.100" 7-Pin Header	1	Ground	BLK
		2	MISO Output Data	VIO-BLK
		3	MOSI Input Data	VIO-BRN
		4	SCK Serial Clock	VIO-RED
		5	RCK Register Clock	VIO-ORG
		6	N/C	-
		7	+5 VDC IN	RED
CN2	.100" 3-Pin Header	1	Ground	-
		2	N/C	-
		3	+5 VDC IN	-
CN3	.100" 6-Pin Header	1	Ground	-
		2	MISO Output Data	-
		3	MOSI Input Data	-
		4	SCK Serial Clock	-
		5	RCK Register Clock	-
		6	V+	-

4.15 TROUGH SERIAL OPTO TRANSMITTER 520-5344-00



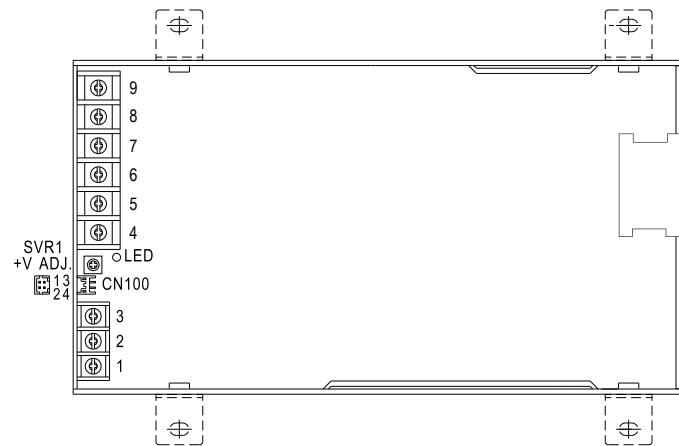
ID	Type	Pin	Description	Wire Color
CN1	.100" 3-Pin Header	1	Ground	BLK
		2	N/C	-
		3	+5 VDC IN	RED

4.16 OUTLANE 3-W LED BOARD 520-8531-00



ID	Type	Pin	Description	Wire Color
CN1	.100" 4-Pin Header	1	+5 VDC	RED
		2	LED 1	YEL-BRN
		3	LED 2	YEL-RED
		4	LED 3	YEL-ORG

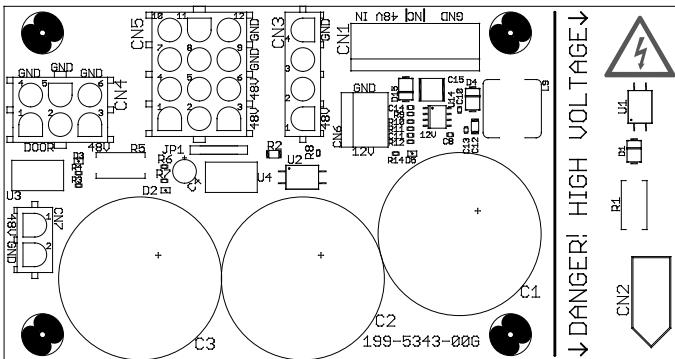
4.17 MAIN POWER SUPPLY 011-5003-00



ID	Type	Pin	Description	Wire Color
CN1	Screw Terminal	1	AC Line Hot In	BLK
		2	AC Line Neutral In	WHT
		3	Earth Ground In	GRN
		4	DC Ground	BLK
		5	DC Ground	BLK
		6	DC Ground	BLK
		7	+48 V System Power	GRY
		8	+48 V System Power	GRY
		9	+48 V System Power	GRY

4.18 POWER DISTRIBUTION BOARD

520-8096-00



ID	Type	Pin	Description	Wire Color
CN1	.156 in 7-Pin Housing	1	+48 VDC IN	GRY
	Plug: 045-5259-07	2	+48 VDC IN	GRY
	Pin: 055-5331-00	3	+48 VDC IN	GRY
	Key: 060-5013-00	4	Key (n/c)	-
		5	Ground	BLK
		6	Ground	BLK
		7	Ground	BLK
CN2	.093 in 3-Pos Plug	1	Line In (100-240 VAC)	BLK
	Plug: 045-5003-03	2	Neutral	WHT
	Pin: 055-5013-09	3	Earth Ground	GRN
CN3	0.084 in 4-Pos Plug	1	+48 VDC to CPU Node	GRY
	Plug: 045-5200-04	2	Door Interlock Switch Status	GRY/RED
	Pin: 055-5033-08	3	Line Voltage Status	VIO
		4	Ground	BLK
CN4	0.084 in 6-Pos Plug	1	Door Interlock Switch +48V	GRY
	Plug: 045-5200-06	2	Door Interlock Switch +48V	-
	Pin: 055-5033-08	3	Switched 48V Out (to Node 1)	GRY/YEL
		4	Door Interlock Return Ground	GRY/RED
		5	Door Interlock Return Ground	-
		6	Ground (to Node 1)	BLK
CN5	0.084 in 12-Pos Plug	1	Switched 48V Node Power	GRY
	Plug: 045-5200-12	2	Switched 48V Node Power	GRY
	Pin: 055-5033-08	3	Switched 48V Node Power	GRY
		4	Switched 48V Node Power	GRY
		5	Switched 48V Node Power	GRY
		6	Switched 48V Node Power	GRY
		7	Node Ground	BLK
		8	Node Ground	BLK
		9	Node Ground	BLK
		10	Node Ground	BLK
		11	Node Ground	BLK
		12	Node Ground	BLK
CN6	.156 in 3-Pos	1	Ground	-
	Plug: 045-5259-03	2	Ground	-
	Pin: 055-5331-00 (18awg)	3	+12VDC	-
CN7	.084 2-Pos	1	+48 VDC to Topper Node	GRY
	Plug: 045-5200-02	2	Ground	BLK

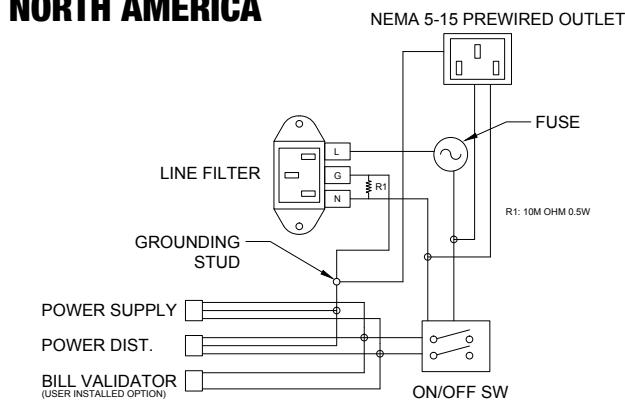
4.19 POWER PLUG WIRING

CAUTION

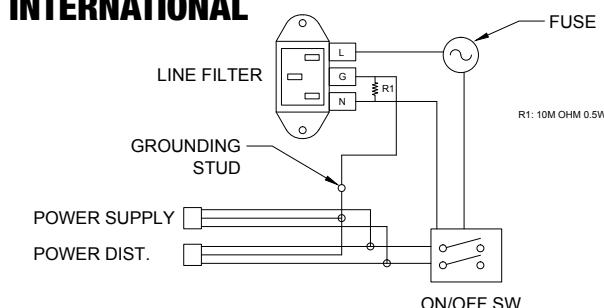
TO MAINTAIN SAFETY, GROUND WIRE FROM LINE FILTER IS TO BE MOUNTED FIRST ON GROUNDING STUD AND SECURED WITH NUT. ALL OTHER GROUNDS MAY THEN BE ATTACHED TO GROUNDING STUD.

REPLACE ALL FUSES WITH CORRECT CURRENT RATINGS!

NORTH AMERICA



INTERNATIONAL



LINE CORDS

Part Number	Description
034-6012-00	Line Cord, 3m, 5-15P USA
034-6012-01	Line Cord, 3m, CEE77P EUROPE
034-6012-02	Line Cord, 3m, BS1363P United Kingdom
034-6012-03	Line Cord, 3m, AS-NZS4417P Australia
034-6012-04	Line Cord, 3m, CEI23-16P Italy
034-6012-05	Line Cord, 3m, SEV1011P Switzerland
034-6012-06	Line Cord, 3m, JIS8303P Japan
034-6012-07	Line Cord, 3m, SI32P Israel
034-6012-08	Line Cord, 3m, BS546P S Africa, India
034-6012-09	Line Cord, 3m, IS6538P S. India

LINE FUSES

Line Voltage (Region)	Fuse Current	Type	Part Number
120V (North America)	8 A	Slow Blow 30G	200-5000-05
220/240v (Europe, Australia, UK)	5 A	Slow Blow 5 x 20mm	200-5003-00

PARTS REFERENCE

5. PARTS REFERENCE

5.1 PLAYFIELD RUBBER PARTS

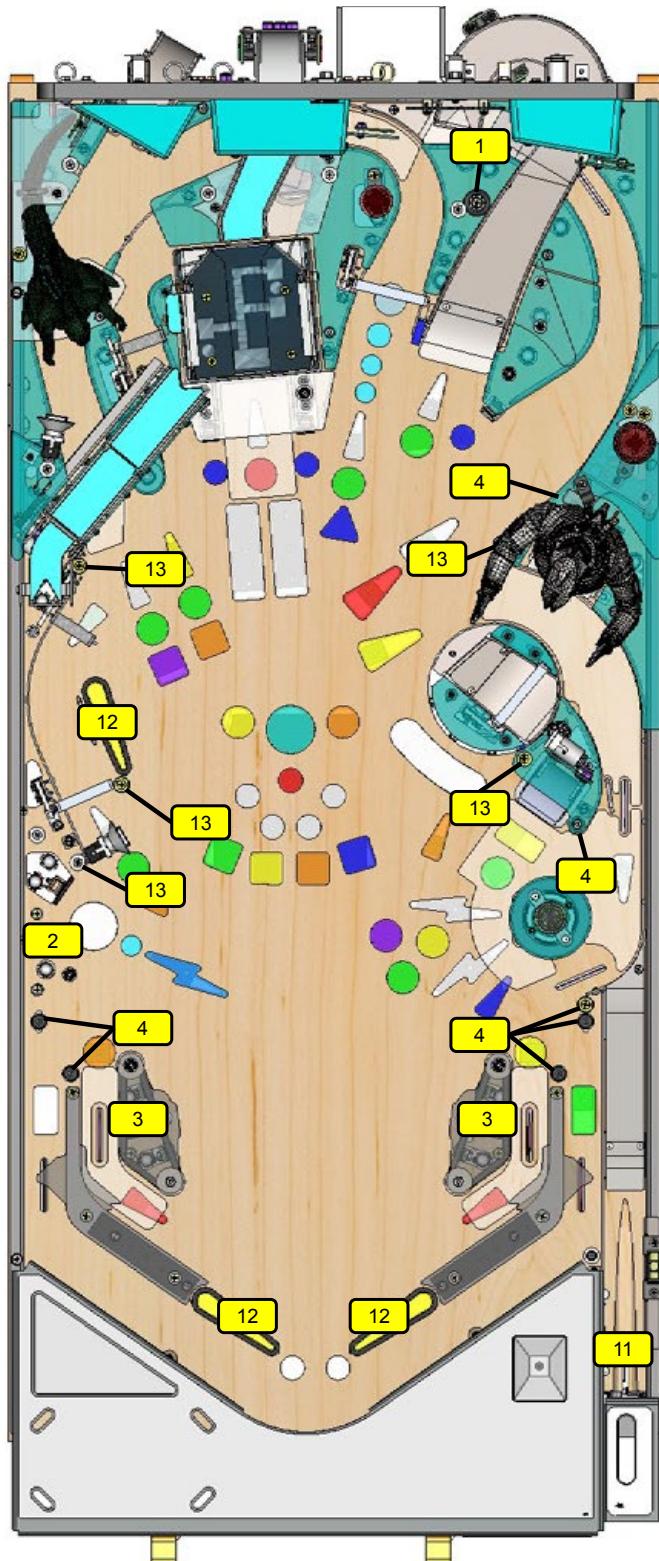


Figure 5.1.1. Rubber o-ring part locations

RUBBER O-RINGS

ID	Qty	Size (ID)	Size (OD)	Durometer	Color	Part Number
1	1	3/8"		50	Black	545-5348-03
2	1	1-1/2"		50	Black	545-5348-07
3	2	2-1/2"		50	Black	545-5348-09
4	7		7/16"	50	Black	545-5348-17

Figure 5.1.2. Rubber o-ring part numbers and usage. ID: Inner Diameter, OD: Outer Diameter, Durometer: Higher number is firmer, less bounce, and more durable.

ID	Qty	Description	Color	Part Number
11	1	Plunger Tip	Black	545-5276-00
12	3	Flipper Rubber	Black	545-5277-00
13	5	Post Sleeve	Black	545-5308-00
14	2	Bumper Pad (Sub assemblies)	Black	545-5105-00
15	3	Bumper Pad (Flippers)	Black	545-5428-00

Figure 5.1.3. Other rubber part numbers and usage

5.2 RUBBER SIZE CHART

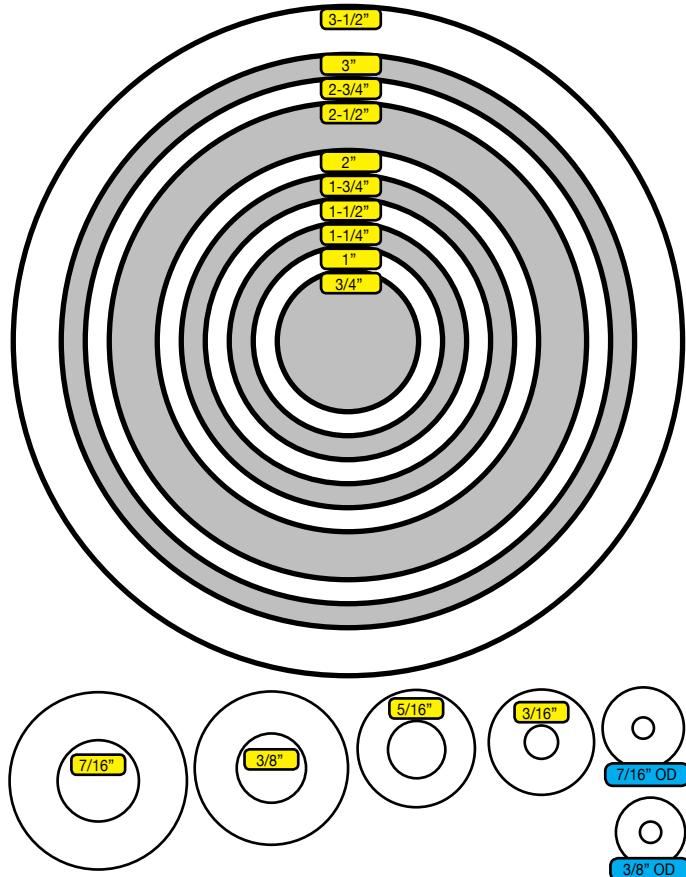
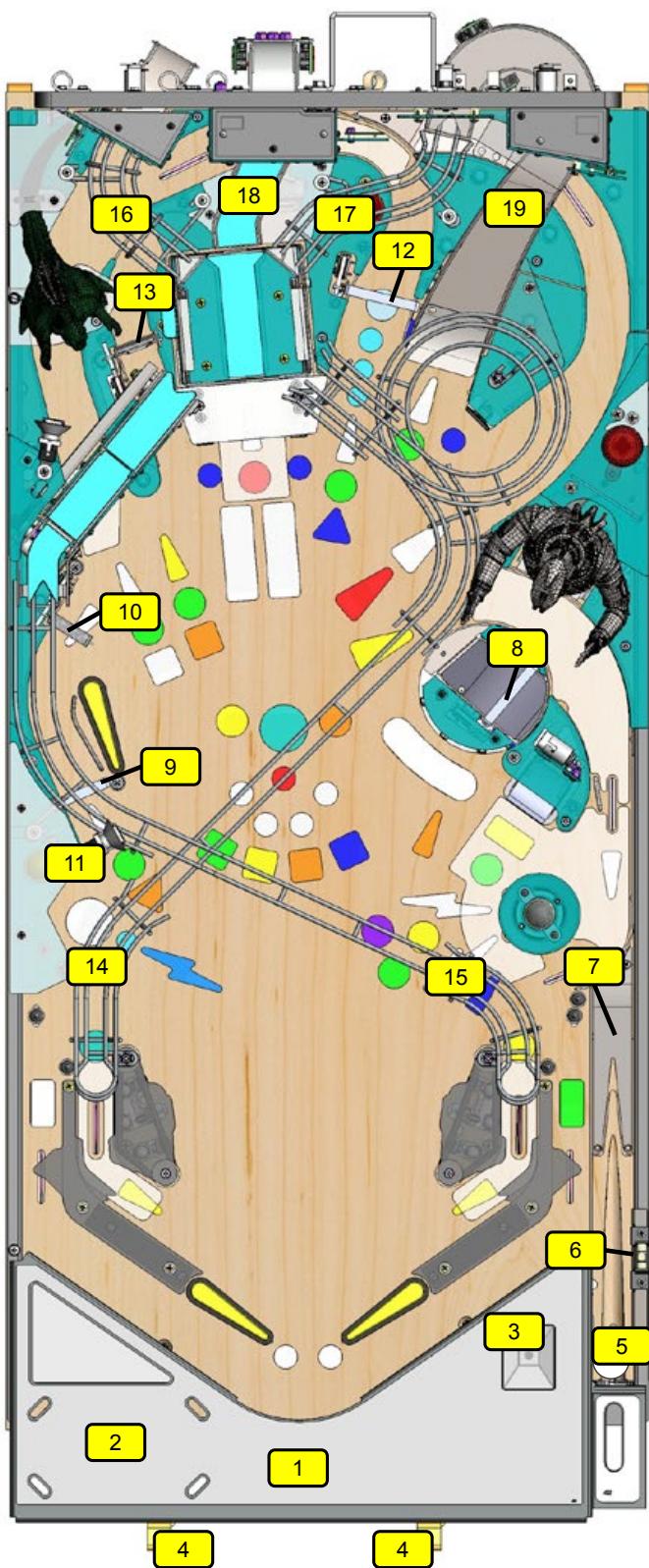


Figure 5.2.1. Rubber ring inner diameter sizing tool. Hold ring up to chart and read largest size on inside of ring. Dimensions are Inner Diameter (ID) unless otherwise noted as Outer Diameter (OD).

5.3 PLAYFIELD ASSEMBLIES, TOP

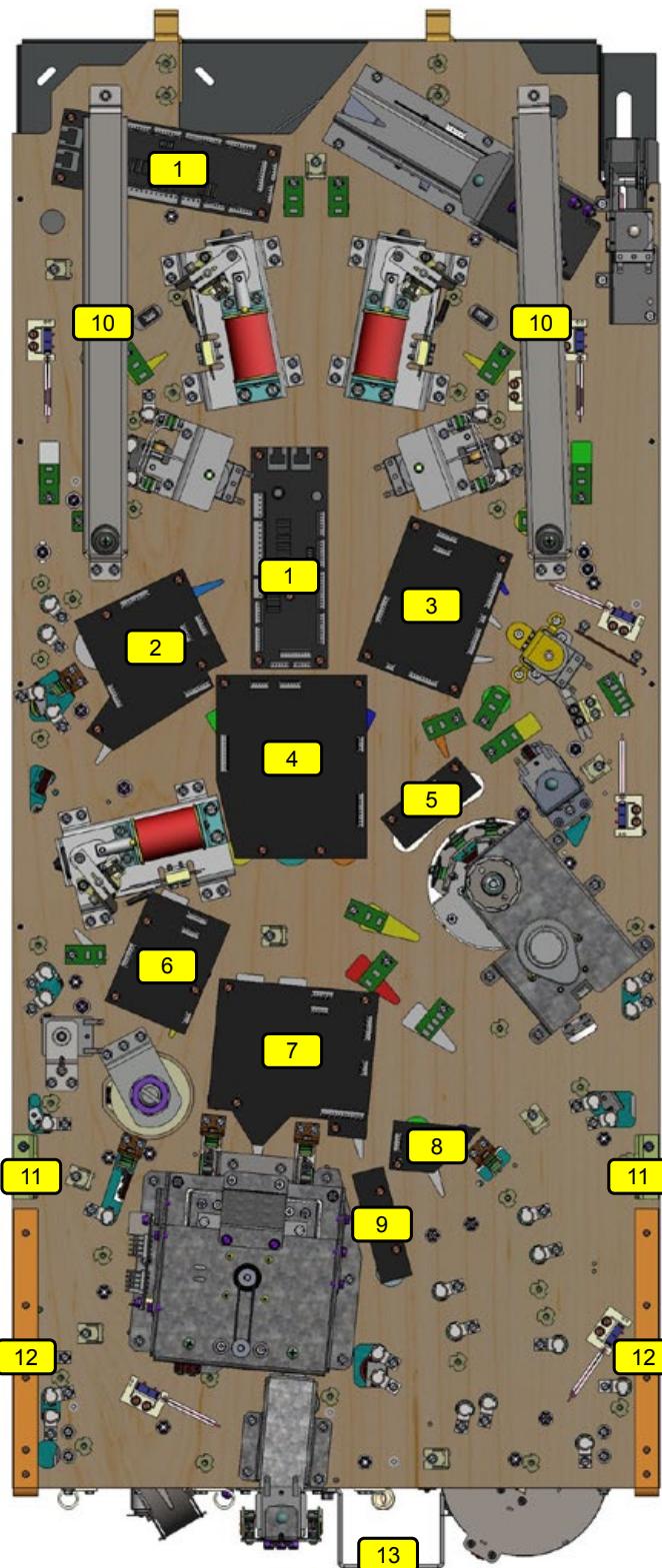


ID	Part Number	Description	Qty
1	500-2505-T6	Bottom Arch Assembly [LE]	1
	500-2548-T7	Bottom Arch Assembly [Premium]	1
2	755-51T6-12-Y	Instruction Card	1
3	509-2020-00	QR Reader	1
4	535-8385-00	Welded Hanger Bracket	2
5	260-5000-00	Pinballs	6
6	500-6815-00	Bubble Level Assembly	1
7	510-7834-17	Shooter Lane Ramp	1
8	535-2593-00	Spinner Bracket	1
	515-7088-01	Spinner Target	1
9	535-0179-00	Spinner Bracket	1
	515-7088-00	Spinner Target	1
10	535-2056-00	Gate Bracket	1
	535-2057-00	Gate	1
11	545-5409-01	Reflector	1
	535-1324-01	Retaining Clip	1
12	535-2550-00	Spinner Bracket	1
	515-7088-01	Spinner Target	1
13	535-2689-00	Gate Bracket	1
	535-2057-00	Gate	1
14	515-2417-00	Right Exit Wire Ramp	1
15	515-2416-00	Left Exit Wire Ramp	1
16	515-2414-00	Left Entrance Wire Ramp	1
17	515-2415-00	Right Entrance Wire Ramp	1
18	535-2564-00	Load Chute	1
19	500-2562-00	Right Ramp	1

Figure 5.3.1. Major playfield assemblies, Top locations.

PARTS REFERENCE

5.4 PLAYFIELD ASSEMBLIES, BOTTOM



ID	Part Number	Description	Qty
1	520-7017-72	Core Node Driver Board	2
2	520-8532-00	LED Board - 8c	1
3	520-8533-00	LED Board - 8b	1
4	520-8534-00	LED Board - 9a	1
5	520-8535-00	LED Board - 8b1	1
6	520-8536-00	LED Board - 9b	1
7	520-8537-00	LED Board - 9c	1
8	520-8538-00	LED Board - 9a1	1
9	520-8539-00	LED Board - 9a2	1
10	535-0781-01	Playfield Support Rail	2
11	530-5133-00	Pivot Pin	2
12	535-5988-01	Edge Slide Bracket	2
13	535-2288-00	Handle	1

Figure 5.4.1. Major playfield assemblies, Bottom locations.

5.5 BACKBOX PARTS

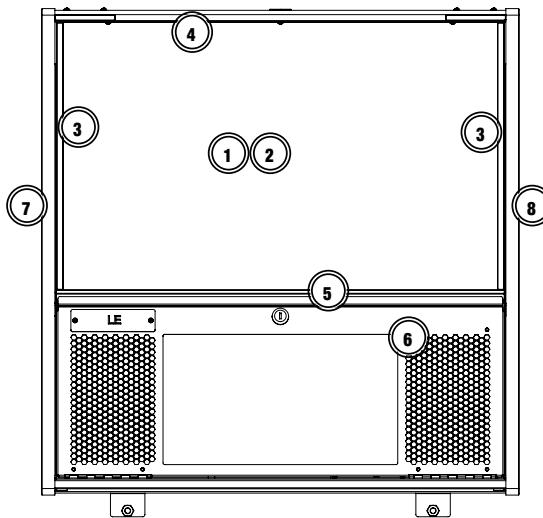


Figure 5.5.1. Backbox external assemblies and components

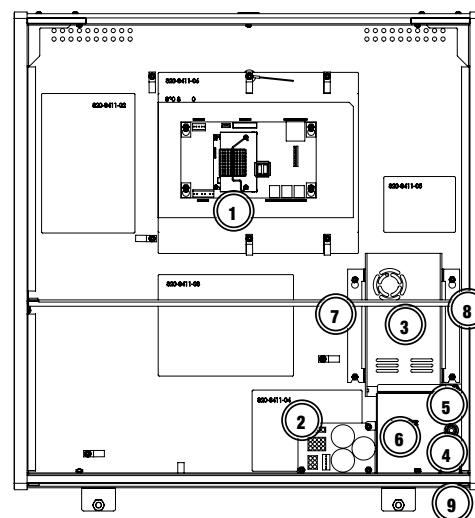


Figure 5.5.2. Backbox internal assemblies and components

EXTERNAL

ID	Part Number	Description	Qty
1	660-5052-00	Backglass	1
2	830-8426-T6	Mirror Backglass [LE]	1
	830-8427-T7	Translite Art [Premium]	1
3	545-5018-17	Plastic Extrusion 15-.450"	2
4	545-5018-15	Glass Channel 26"	1
5	545-6313-01	Glass Lift Channel 26"	1
6	500-9996-00	LCD Speaker Panel Assembly	1
7	820-90T6-01	Left Backbox Decal [LE]	1
	820-76T7-01	Left Backbox Decal [Premium]	1
8	820-90T6-02	Right Backbox Decal [LE]	1
	820-76T7-02	Right Backbox Decal [Premium]	1

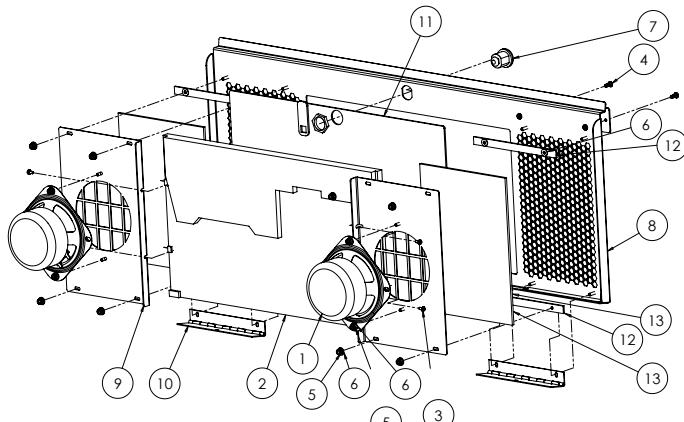
INTERNAL

ID	Part Number	Description	Qty
1	509-1003-01	CPU Node Board	1
2	520-8096-00	Power Distribution Board	1
3	011-5003-00	Power Supply 48V/500W	1
4	515-9769-00	Utility Outlet (USA)	1
5	205-5001-00	Fuse Holder - Screw In	1
	200-5000-05	8A SB Fuse	1
6	535-1130-00	Cover AC	1
7	535-1129-00	Power Supply Bracket	1
8	535-1129-01	Power Supply Bracket	1
9	180-5001-03	Power Switch	1

5.6 SPEAKER PANEL PARTS

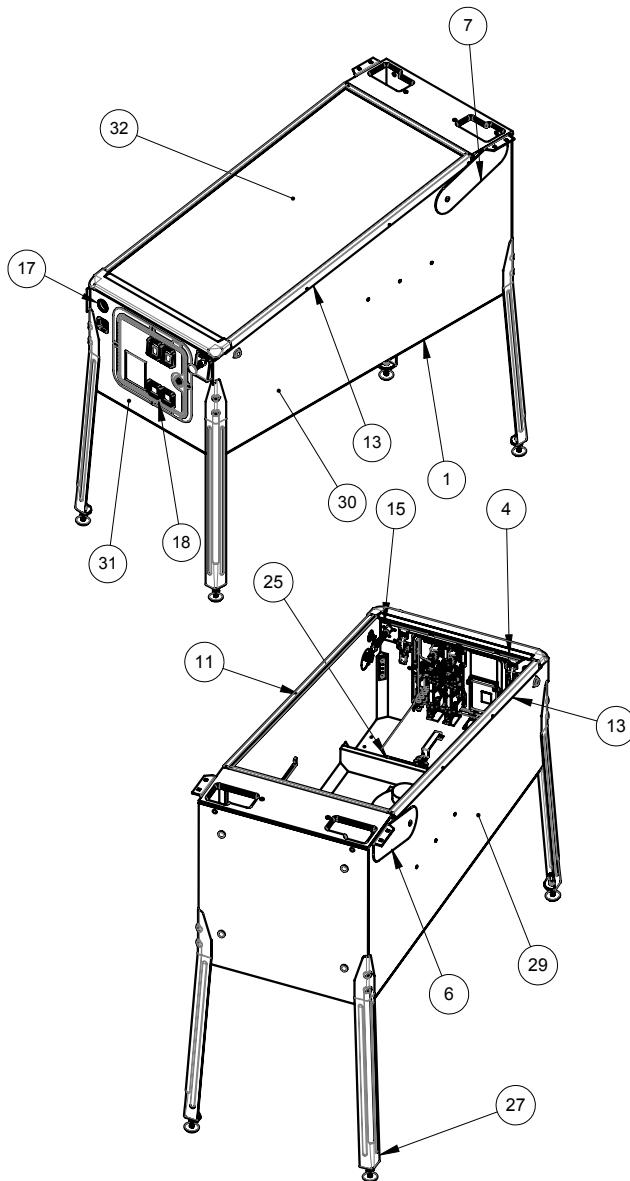
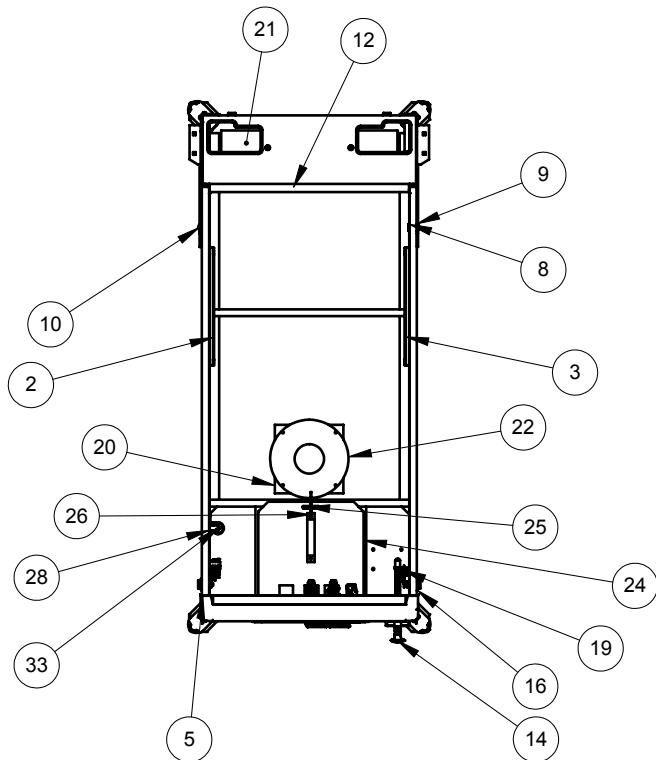
500-9996-00 / 500-2442-T6

ID	Part Number	Description	Qty
1	031-5004-02	Speaker [Premium]	2
	031-5017-00	Speaker Upgrade 35w 4ohm 5-1/4" Dia. [LE]	2
2	116-0023-00	1366 x 768 Display LCD Panel	1
3	237-6188-01	Screw, M3x0.5 X 6MM PPH Sems Zinc	4
4	237-6307-06	6-32 X 3/8" Torx Stainless Steel Screw	2
5	240-5005-00	6-32 Nylon Stop Nut	12
6	242-5001-00	#6 Washer	16
7	355-5168-00-00	Nut: Lock w/ Cam	1
8	515-9842-00	Speaker Panel - LCD	1
9	515-9843-00	Speaker Plate [Premium]	2
	515-1941-00	Speaker Plate 5-1/4" [LE]	2
10	515-9845-00	Hinge, Speaker Panel, LCD	2
11	545-9877-00	LCD Window	1
12	545-9877-01	Spacer, Small - LCD Speaker Panel	4
13	626-5109-00	Speaker Foam - LCD Panel [Premium]	2
14	545-1046-02	Speaker Red Ring [LE]	2
15	626-5113-00	Speaker Gasket [LE]	2



PARTS REFERENCE

5.7 CABINET PARTS

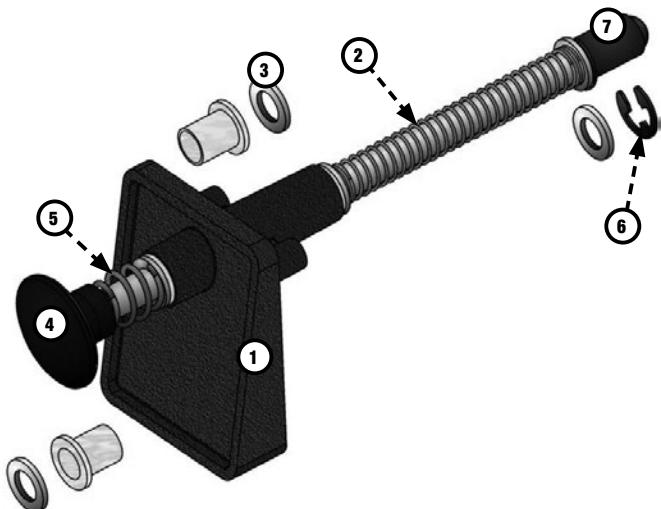


ID	Part Number	Description	Qty
1	525-6026-01	Cabinet (Melamine Single Button)	1
2	535-5989-00	Slide & Pivot Bracket - Left Side	1
3	535-5990-00	Slide & Pivot Bracket - Right Side	1
4	535-2051-00	Cabinet Playfield Support Bracket	1
5	500-2440-65	Front Molding Assembly - Sparkle Silver [LE]	1
	500-2440-00	Front Molding Assembly - Wrinkle Black [Premium]	1
6	535-7999-65L	Pivot Hinge, Left - Sparkle Silver [LE]	1
	535-7999-00	Pivot Hinge, Left - Wrinkle Black [Premium]	1
7	535-7999-65R	Pivot Hinge, Right - Sparkle Silver [LE]	1
	535-7999-01	Pivot Hinge, Right - Wrinkle Black [Premium]	1
8	254-5042-00	Spacer Nut, Hex, 1/2"OD, 1/4-20	2
9	242-5084-00	Washer, 1/2" I.D., 3/16" THK	2
10	231-5072-00	1/4-20 X 1/2" Carriage Bolt	2
11	545-5017-00	Plastic Channel	2
12	545-9802-00	Glass Rear Extrusion	1
13	535-0902-01-65	Side Armor Left - Sparkle Silver [LE]	1
	535-0902-02-65	Side Armor Right - Sparkle Silver [LE]	1
	535-7297-02	Side Armor - Wrinkle Black [Premium]	2
14	500-2600-04	Ball Shooter Assembly	1
15	535-5027-01	Plunger Support Plate, Notched	1
16	500-1169-32	Flipper Button Assembly (Red) [LE]	2
	500-1169-36	Flipper Button Assembly (Yellow) [Premium]	2
17	500-1060-44-LED	Start Button	1
18	501-5018-173	Coin Door 2-Chute No Emboss	1
19	180-5160-01	Flipper Switch, Single	1
	180-5164-01	Flipper Switch, Double	1
20	545-5072-03	Grill - Speaker / Vent	1
21	545-5072-02	Grill - Speaker / Vent	1
22	031-5007-01	Speaker, Cabinet 8" Round, 4 ohm	1

23	545-5090-00	Cash Box - Plastic	1
24	535-5013-03	Cash Box Cover	1
25	535-7562-00	Cash Box Lock Bracket Wire	1
26	535-7772-00	Hair Pin Clip	1
27	500-5921-65	Leg Assembly - Sparkle Silver [LE]	4
	500-5921-50	Leg Assembly - Wrinkle Black [Premium]	4
28	516-0007-00	Tilt Assembly	1
29	820-90T6-03	Decal, Cabinet Left, Godzilla LE	1
	820-76T7-03	Decal, Cabinet Left, Godzilla Premium	1
30	820-90T6-04	Decal, Cabinet Right, Godzilla LE	1
	820-76T7-04	Decal, Cabinet Right, Godzilla Premium	1
31	820-90T6-05	Decal, Cabinet Front, Godzilla LE	1
	820-76T7-05	Decal, Cabinet Front, Godzilla Premium	1
32	660-5001-00	Playfield Glass [Premium]	1
	660-5053-00	High Resolution Glass [LE]	1
33	520-6967-72	Cabinet Node Board	1
34	031-5016-00	Woofer 8" RD 4 OHM	1
	820-90T6-XX 820-76T7-XX	Cabinet Decal Replacement Set	

5.8 BALL SHOOTER ASSEMBLY

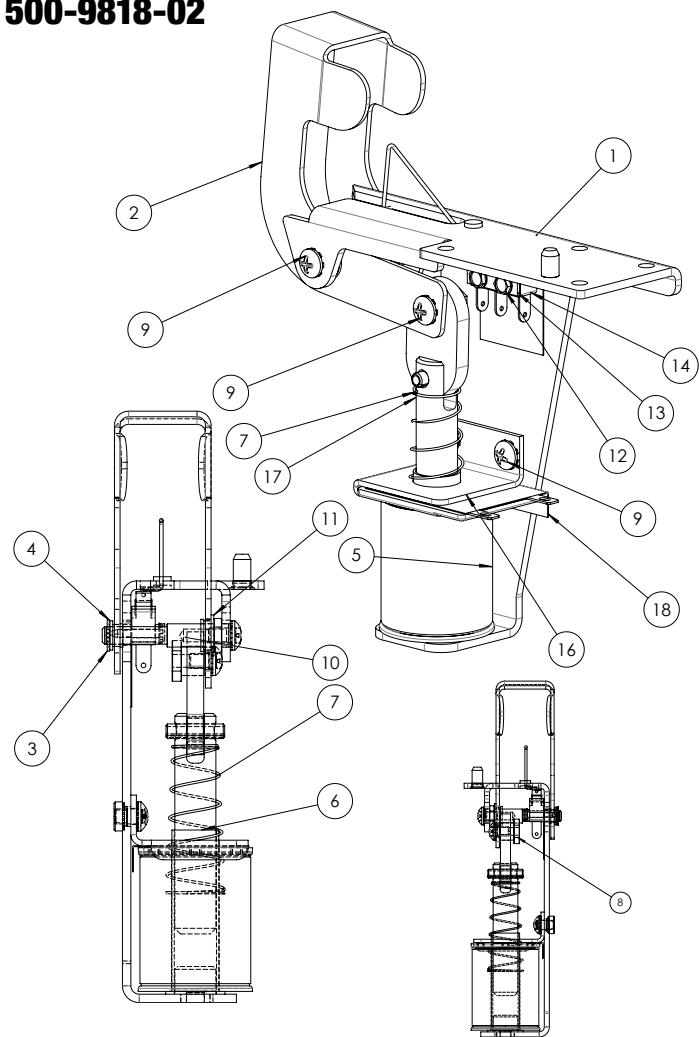
500-2600-04



ID	Part Number	Description	Qty
1	535-5067-02	HOUSING ASSEMBLY	1
2	266-5001-04	COMPRESSED SPRING (LONG) - GREEN	1
3	242-5014-00	WASHER 3/8 ID X 5/8 OD X 1/16"	3
4	515-6557-00	ROD ASSEMBLY	1
5	266-5010-00	COMPRESSED SPRING (SHORT)	1
6	270-5012-00	RETAINING RING, 3/8"	1
7	545-5276-00	RUBBER TIP	1

5.9 AUTO LAUNCH ASSEMBLY

500-9818-02

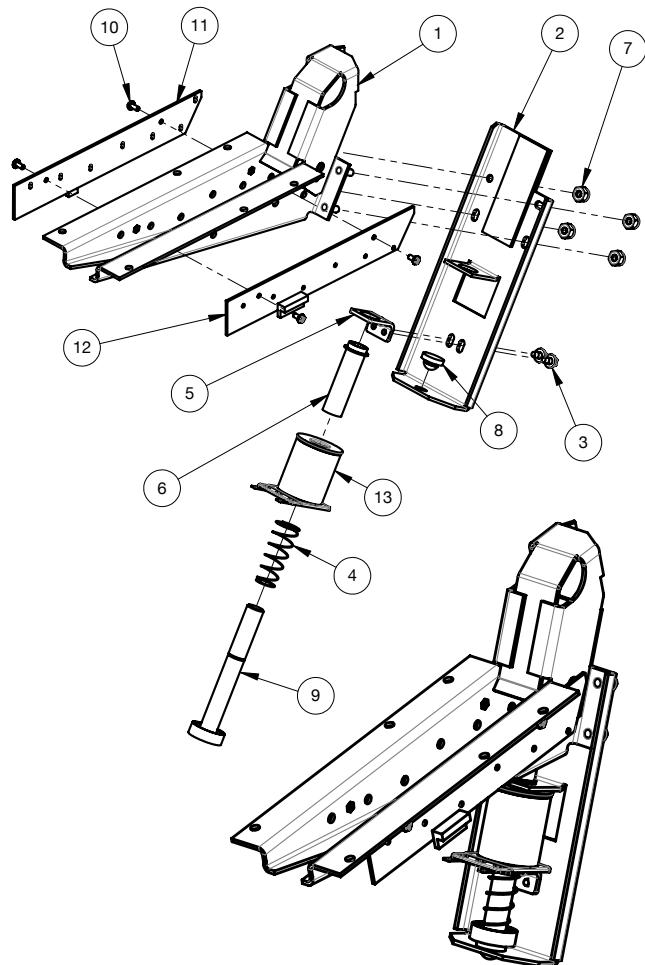


ID	Part Number	Description	Qty
1	515-9689-00	MAIN BRKT: AUTO-PLUNGER	1
2	535-0728-00	KICKER ARM, AUTO-PLUNGER	1
3	270-5001-00	RETAINING E-RING, 3/16" SHAFT OD	1
4	545-5352-00	NYLINER, 3/16" SHAFT	1
5	090-5044-ND	COIL - 23-800, NO DIODE	1
6	545-5411-00	COIL SLEEVE	1
7	266-5020-00	COMPRESSION SPRING-CONICAL	1
8	530-7834-00	PIN: KICKER ARM, AUTO-PLUNGER	1
9	232-5300-00	SCREW, 8-32 X 1/4" PPH SEMS	4
10	530-7835-00	PIVOT, AUTO-PLUNGER	1
11	545-5423-00	NYLINER, 1/4" SHAFT, 4L1-FF	1
12	237-5937-02	SCREW, 2-56 X 1/2" HWH MS	2
13	535-6539-00	SWITCH BODY PROTECT PLATE	1
14	180-5157-01	SHOOTER SWITCH - SHORT ARM	1
15	545-6268-00	FISCHE PAPER	1
16	535-0762-00	COIL BRACKET-AUTOPLUNGER	1
17	515-6304-03	PLUNGER / LINK ASSEMBLY	1
18	545-0762-00	FISCHE PAPER: AUTO-LAUNCHER	1

PARTS REFERENCE

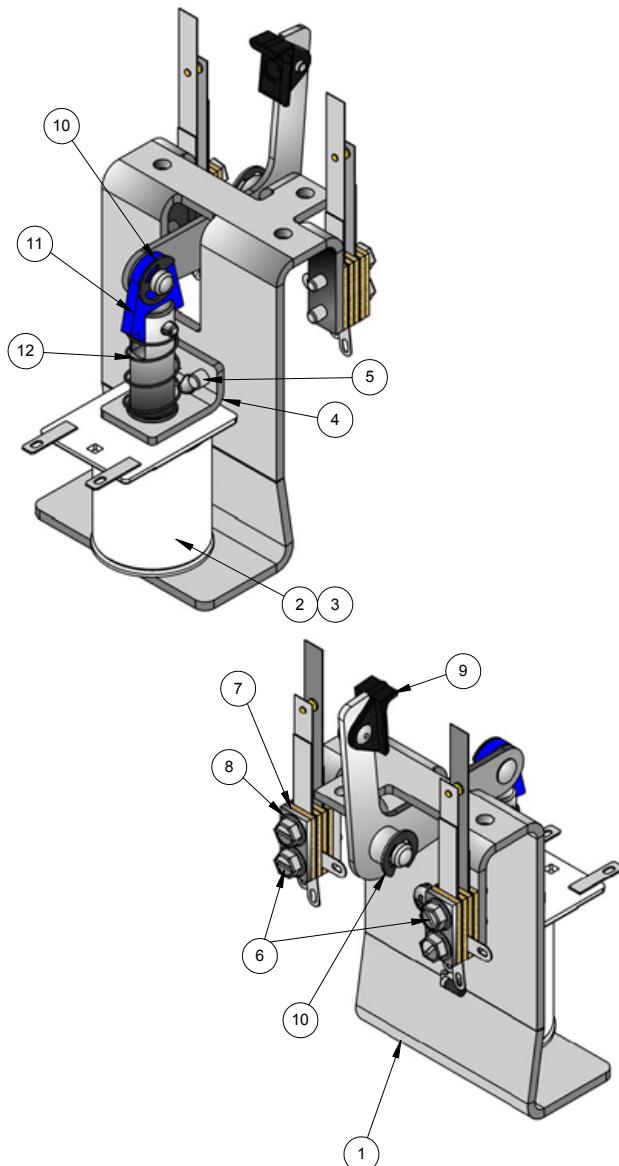
5.10 BALL TROUGH ASSEMBLY

500-9820-01



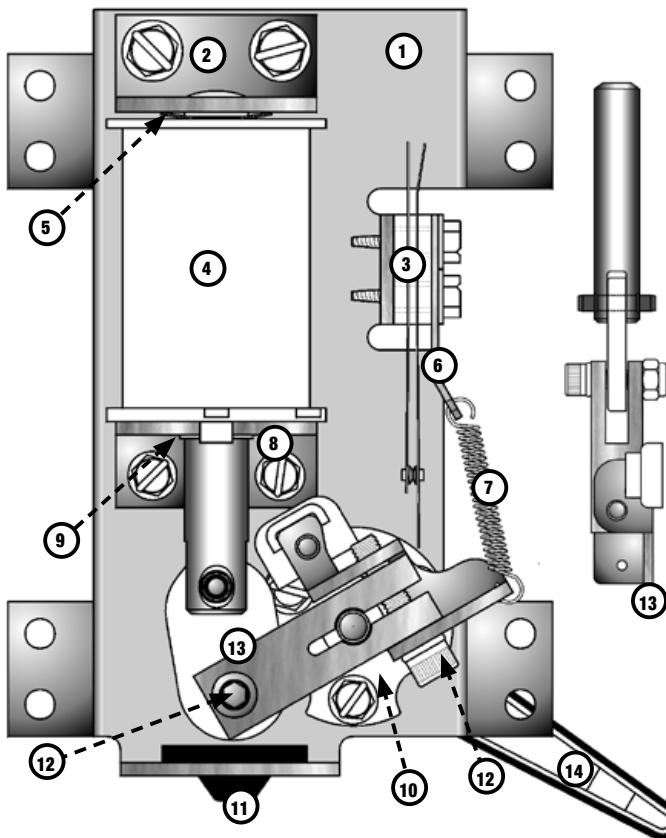
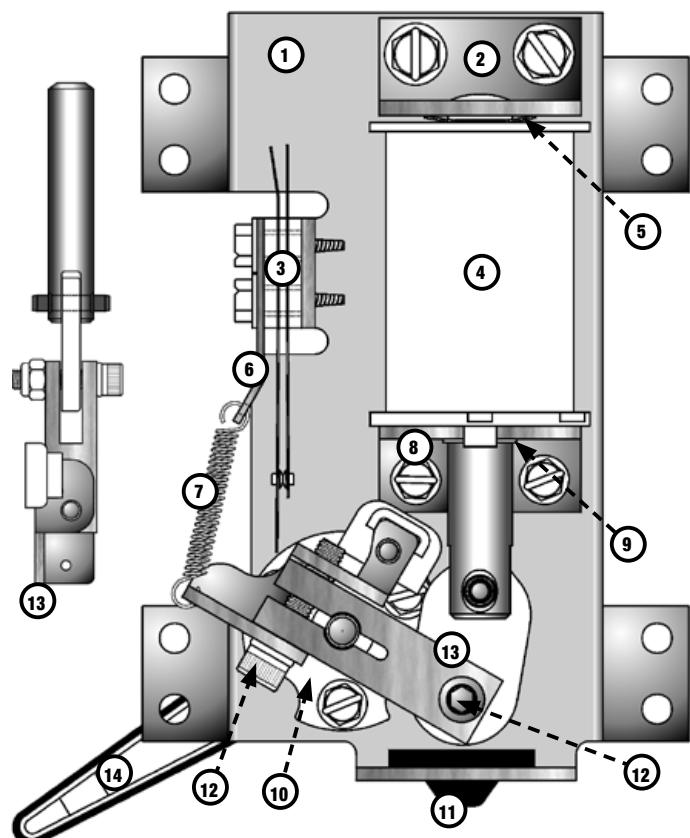
5.11 SLINGSHOT ASSEMBLY

500-9920-01



ID	Part Number	Description	Qty
1	515-7811-00	MAIN BRKT. BALL TROUGH	1
2	515-7812-00	COIL BRACKET, BALL TROUGH	1
3	237-5975-04	SCREW, 8-32 X 1/4" HWH SWAGE SERR	2
4	266-5020-00	COMPRESSION SPRING-CONICAL	1
5	535-5203-03	COIL RETAINING BRACKET	1
6	545-5076-01	COIL SLEEVE	1
7	240-5102-00	8-32 NYLON LOCK NUT	4
8	545-5105-00	RUBBER BUMPER	1
9	515-7309-01	PLUNGER ASSEMBLY	1
10	237-5909-00	SCREW, 4-40 X 1/4" PPH SEMS	4
11	520-5344-00	TROUGH BOARD #1 - ILED TRANSMITTER	1
12	520-8516-00	TROUGH BOARD #2 - RECEIVER	1
13	090-5004-ND	COIL 27-1500 - NO DIODE	1
98*	605-5006-00	SHRINK TUBING 1/8"	.42 FT.
99*	036-5611-11-F5	CABLE TROUGH OPTOS	1

ID	Part Number	Description	Qty
1	515-5339-01	SLINGSHOT BRACKET ASSEMBLY	1
2	090-5044-ND	COIL 26-1200 - NO DIODE	1
3	545-5031-00	COIL SLEEVE	1
4	535-5203-03	COIL RETAINER BRACKET	1
5	232-5301-00	8-32 X 3/8 PPH MS EXT SEMS ZC	2
6	180-5231-00	SWITCH SLING SHOT 2 LUG CENTER	2
7	535-5045-00	SWITCH PLATE	2
8	237-5976-04	6-32 X 5/8 SLOT SER HWH SW	4
9	515-5340-01	ARM & TIP ASSEMBLY	1
10	270-5002-00	RETAINING RING - 1/4 DIA	2
11	515-5338-00	PLUNGER & LINK ASSEMBLY	1
12	266-5020-00	COMP SPRING CONICAL	1
13	036-5604-00	4" GENERIC JUMPER	2

5.12 FLIPPER ASSEMBLY, LEFT**LOWER: 500-6543-12-ND****UPPER: 500-6543-14-ND****5.13 FLIPPER ASSEMBLY, RIGHT****500-6543-01-ND**

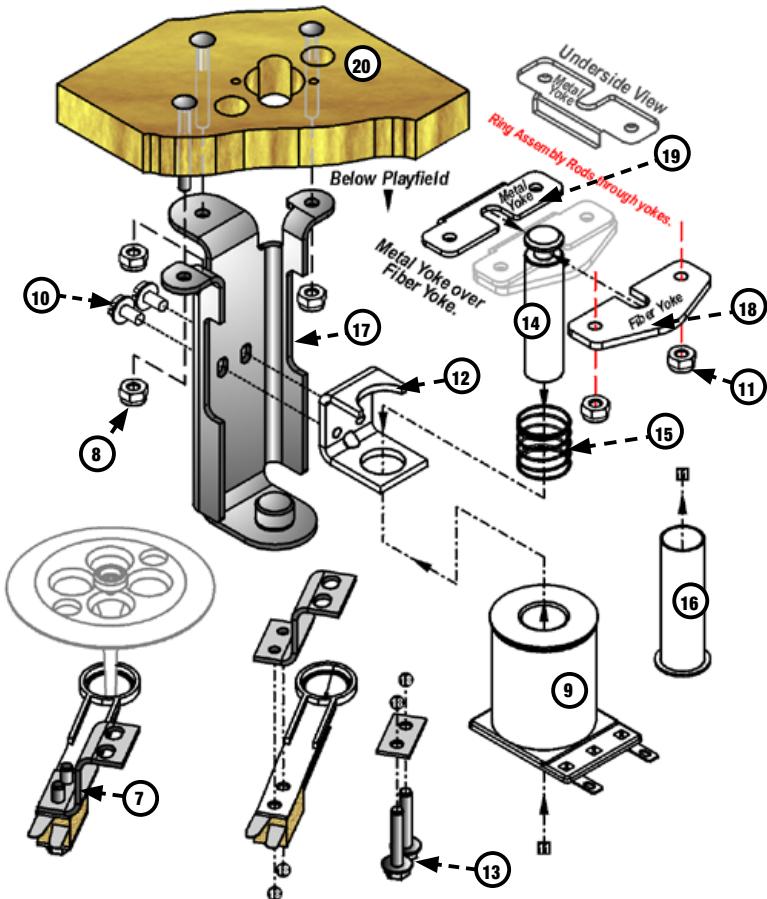
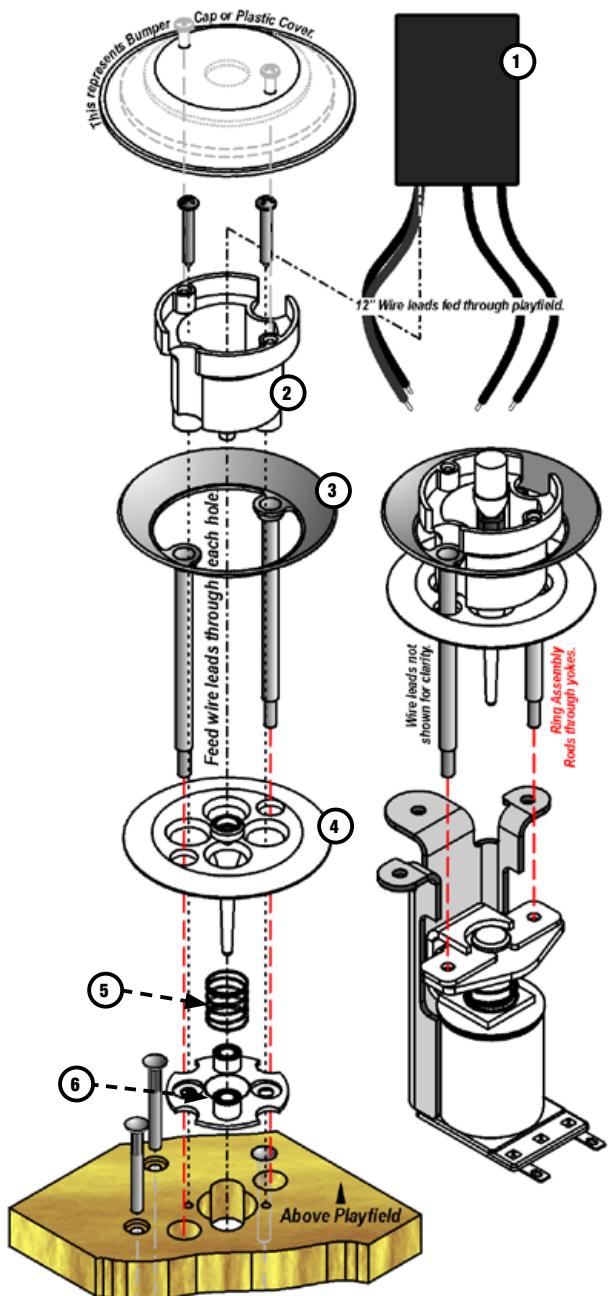
ID	Part Number	Description	Qty
1	515-6617-01	FLIPPER BASE PLATE LEFT KIT W/ BRACKET MOUNT HARDWARE	1
2	515-6308-01	COIL STOP BRACKET	1
3	180-5149-00	SWITCH - END OF STROKE N/C	1
4	090-5032-ND	COIL [LOWER]	1
	090-5030-ND	COIL [UPPER]	1
5	269-5002-00	SPRING WASHER	1
6	535-7354-00	SWITCH RETURN SPRING BRACKET	1
7	265-5035-00	SPRING FLIPPER RETURN	1
8	535-7356-00	COIL SUPPORT BRACKET	1
9	545-5388-00	COIL SLEEVE, FLIPPER	1
10	545-5070-00	FLIPPER BAT BUSHING	1
11	545-5428-00	FLIPPER BUMPER PAD	1
12	237-6144-00	SET SCREW #10-32 x 3/4" SOCKET	2
13	515-7203-01	PLUNGER/CRANK ASSEMBLY, LEFT	1
14	515-5133-06-06	FLIPPER BAT AND SHAFT*	1
	500-6307-10	FLIPPER REBUILD KIT, LEFT	
		* Refer to game rubber chart for flipper rubber color and part number.	

ID	Part Number	Description	Qty
1	515-6617-00	FLIPPER BASE PLATE RIGHT KIT W/ BRACKET MOUNTING HARDWARE	1
2	515-6308-01	COIL STOP BRACKET	1
3	180-5149-00	SWITCH - END OF STROKE N/C	1
4	090-5020-20-ND	COIL	1
5	269-5002-00	SPRING WASHER	1
6	535-7354-00	SWITCH RETURN SPRING BRACKET	1
7	265-5035-00	SPRING FLIPPER RETURN	1
8	535-7356-00	COIL SUPPORT BRACKET	1
9	545-5388-00	COIL SLEEVE, FLIPPER	1
10	545-5070-00	FLIPPER BAT BUSHING	1
11	545-5428-00	FLIPPER BUMPER PAD	1
12	237-6144-00	SET SCREW #10-32 x 3/4" SOCKET	2
13	515-7203-00	PLUNGER/CRANK ASSEMBLY	1
14	515-5133-06-06	FLIPPER BAT AND SHAFT*	1
	500-6307-00	FLIPPER REBUILD KIT, RIGHT	
		* Refer to game rubber chart for flipper rubber color and part number.	

PARTS REFERENCE

5.14 POP BUMPER ASSEMBLY

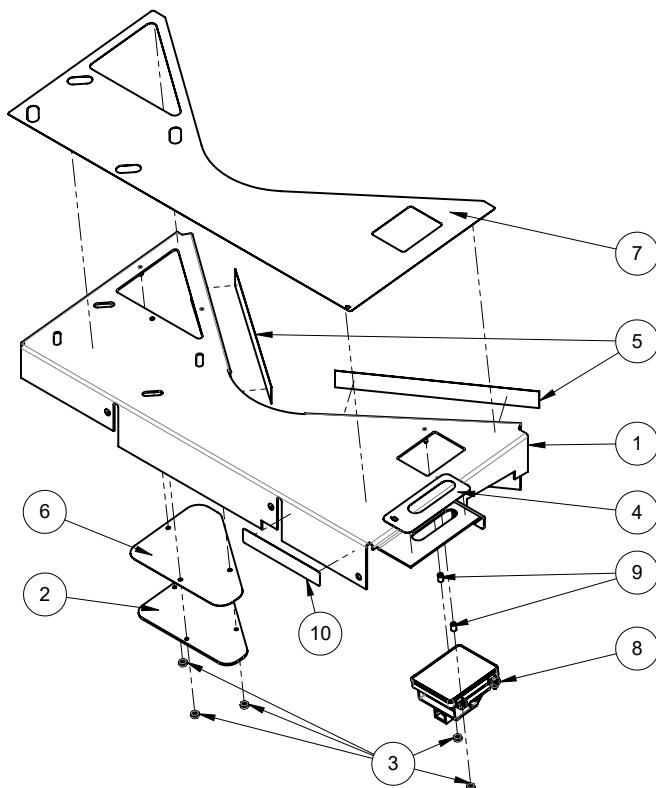
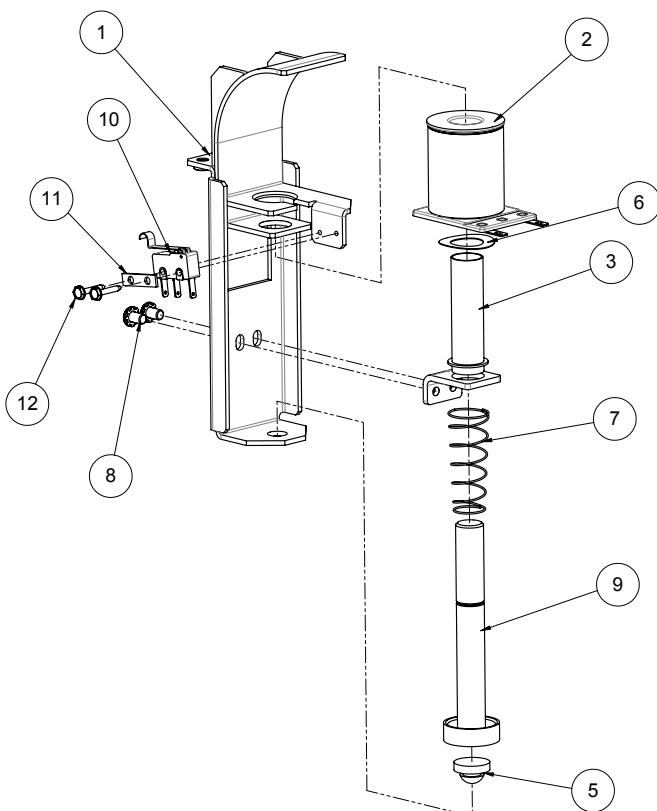
516-6784-XX



Part Number	Description	Qty
515-6459-01L	BUMPER/RING TOP ASSY, W/ LED 1	1
515-6459-04-ND	BUMPER BOTTOM ASSY, NO DIODE	1

ID	Part Number	Description	Qty
1	520-5307-03	POP BUMPER LED MODULE	1
2	545-5197-00	BUMPER BODY	1
3	515-5085-00	RING AND ROD ASSY	1
4	545-5607-00	BUMPER SKIRT	1
5	266-5048-00	BUMPER SKIRT COMP SPRING	1
6	545-5195-00	BUMPER BASE	1

ID	Part Number	Description	Qty
7	500-9934-01	POP BUMPER SWITCH ASSY-2 - LUG-LEFT	1
8	240-5005-00	6-32 NYLON STOP NUT	3
9	090-5044-ND	COIL - 26-1200	1
10	237-5976-01	#6-32 X 1/4" SHWH SWAGE ZN	2
11	240-5005-00	#6-32 NYLON STOP NUT	2
12	535-7347-00	METAL YOKE STOP	1
13	234-5101-00	* 8 X 1/2 SLT	6
14	530-5348-00	PLUNGER, POP BUMPER	1
15	266-5047-00	COMPRESSION SPRING, POP BUMPER	1
16	545-5031-00	COIL SLEEVE	1
17	515-5939-00	COIL BRACKET POP BUMPER ASSY	1
18	545-5609-00	FIBER YOKE	1
19	535-7346-00	METAL YOKE	1
20	237-5957-00	#6-32 x 1-3/16" SPIRAL FIN SHANK SCREW	3

5.15 BOTTOM ARCH ASSEMBLY**500-2505-XX****5.16 EJECT VUK ASSEMBLY****500-1050-00**

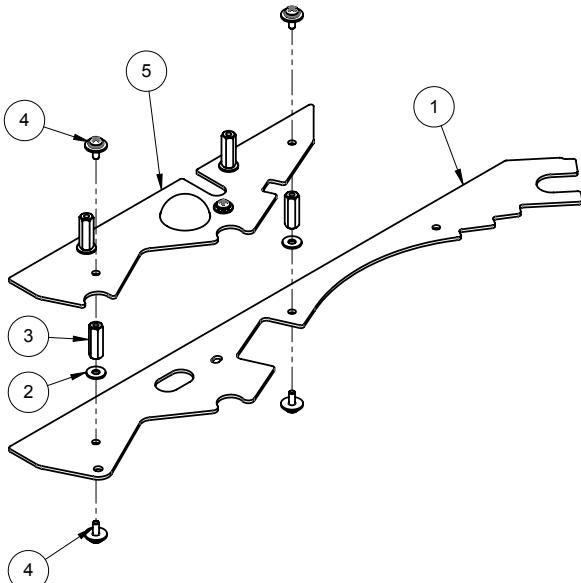
ID	Part Number	Description	Qty
1	510-7805-00	BOTTOM ARCH, STEEL W/ SPADE BOLT, QR READY	1
2	830-8502-XX	LEFT SIDE ARCH PLASTIC	1
3	240-5303-00	4-40 NYLON LOCK NUT	5
4	820-97XX-02	METAL ARCH DECAL SET -02	1
5	545-5212-04	MYLAR PROTECT STRIP 7-5/8"	2
6	545-9923-00	COVER, SIGNATURE PROTECTOR, METAL ARCH	1
7	820-97XX-01	METAL ARCH DECAL SET -01	1
8	509-2020-00	QR SCANNER M306 ASSEMBLY	1
9	254-5090-04	PLASTIC SPACER #4 SCREW, 3/16" OD - 9/32" LENGTH	2
10	820-5422-00	WARNING DECAL, BOTTOM ARCH, QR READER	1

ID	Part Number	Description	Qty
1	515-9984-00	BRACKET - EJECT - 2 FIN	1
2	090-5044-ND	COIL 26-1200 - NO DIODE	1
3	545-5076-01	COIL SLEEVE	1
4	535-5203-03	COIL RETAINING BRACKET	1
5	545-5105-00	RUBBER BUMPER	1
6	269-5002-00	SPRING WASHER	1
7	266-5020-00	COMPRESSION SPRING-CONICAL	1
8	232-5300-00	SCREW, 8-32 X 1/4" PPH SEMS	2
9	515-7309-00	PLUNGER ASSEMBLY	1
10	180-5209-00	SUB MINIATURE SWITCH - SIM. ROLLER	1
11	535-6539-00	SWITCH BODY PROTECT PLATE	1
12	237-5937-02	SCREW, 2-56 X 1/2" HWH MS	2

PARTS REFERENCE

5.17 PLASTIC 07 ASSEMBLY

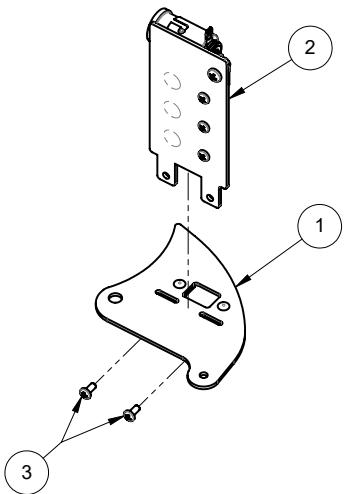
511-5772-07



ID	Part Number	Description	Qty
1	830-8505-07	PLASTIC, GODZILLA, -07	1
2	242-5001-00	#6 WASHER	2
3	254-5008-04	HEX SPACER - 3/4 "	2
4	237-6378-00	#6-32 X 3/8 PAN PHILLIPS w/DOUBLE SEMS	4
5	511-5772-57	PLASTIC ASM, GODZILLA. -57	1

5.18 PLASTIC 08 ASSEMBLY

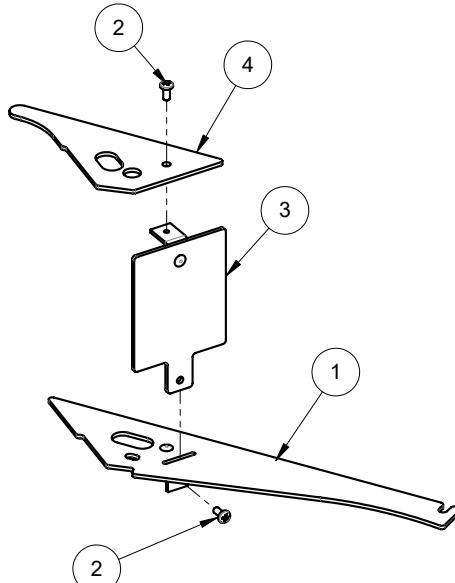
511-5772-08



ID	Part Number	Description	Qty
1	510-7835-08	RIVETED PLASTIC ASM, GODZILLA, -08	1
2	511-5772-71	PLASTIC ASM, GODZILLA, -71	1
3	237-6331-00	SCREW, 4-40 X 1/4" PPH MS BLACK	2

5.19 PLASTIC 10 ASSEMBLY

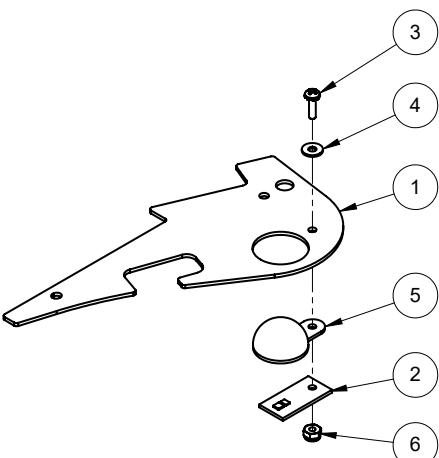
511-5772-10



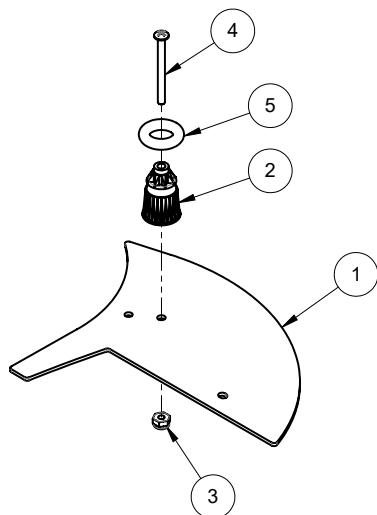
ID	Part Number	Description	Qty
1	510-7835-10	RIVETED PLASTIC ASM, GODZILLA, -10	1
2	237-6331-00	SCREW, 4-40 X 1/4" PPH MS BLACK	2
3	510-7835-24	RIVETED PLASTIC ASM, GODZILLA, -24	1
4	830-8505-23	PLASTIC, GODZILLA, -23	1

5.20 PLASTIC 13 ASSEMBLY

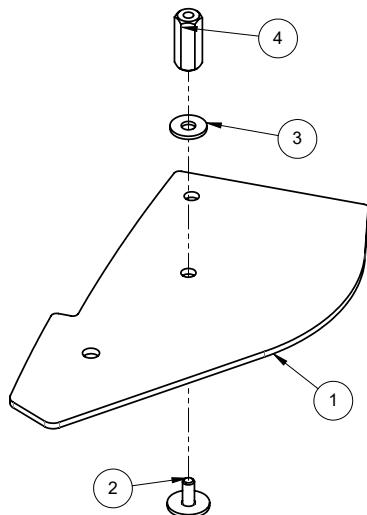
511-5772-13



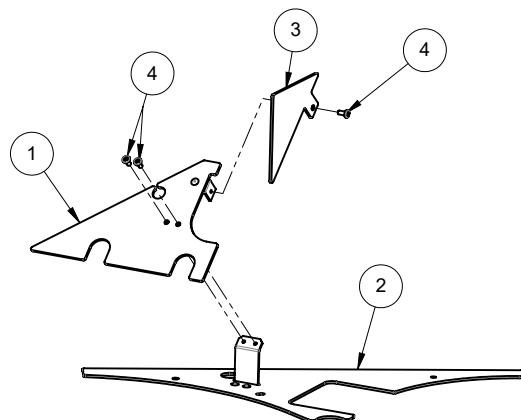
ID	Part Number	Description	Qty
1	830-8505-13	PLASTIC, GODZILLA, -13	1
2	520-7000-00	SINGLE FLASH LED BOARD	1
3	232-5202-00	SCREW, 6-32 X 1/2" PPH MS SEMS	1
4	242-5001-00	#6 WASHER	1
5	550-5510-02	HAT - TRIMMED - RED SB	1
6	240-5005-00	6-32 NYLON STOP NUT	1

5.21 PLASTIC 14 ASSEMBLY**511-5772-14**

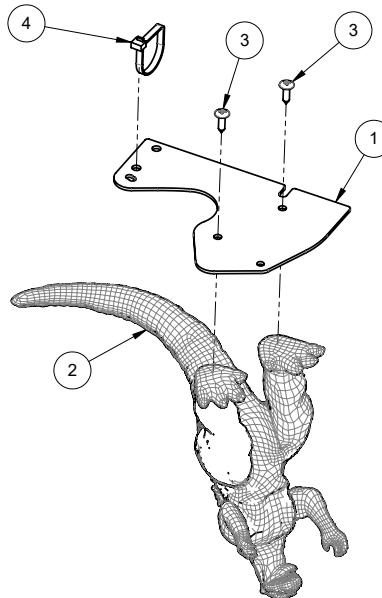
ID	Part Number	Description	Qty
1	830-8505-14	PLASTIC, GODZILLA, -14	1
2	550-5034-01	GROOVED JEWEL PLASTIC POST, CLEAR	1
3	240-5005-00	6-32 NYLON STOP NUT	1
4	237-5510-00	SCREW, 6-32 X 1-1/2" PPH MS	1
5	545-5348-03	3/8" I.D., BLACK RUBBER	1

5.22 PLASTIC 16 ASSEMBLY**511-5772-16**

ID	Part Number	Description	Qty
1	830-8505-16	PLASTIC, GODZILLA PREM, -16	1
2	237-6378-00	#6-32 X 3/8 PAN PHILLIPS w/DDOUBLE SEMS	1
3	242-5001-00	#6 WASHER	1
4	254-5008-02	HEX SPACER - 5/8 "	1

5.23 PLASTIC 19 ASSEMBLY**511-5772-19**

ID	Part Number	Description	Qty
1	510-7835-65	RIVETED PLASTIC ASM, GODZILLA, -65	1
2	510-7835-19	RIVETED PLASTIC ASM, GODZILLA, -19	1
3	830-8505-66	PLASTIC, GODZILLA, -66	1
4	237-6331-00	SCREW, 4-40 X 1/4" PPH MS BLACK	3

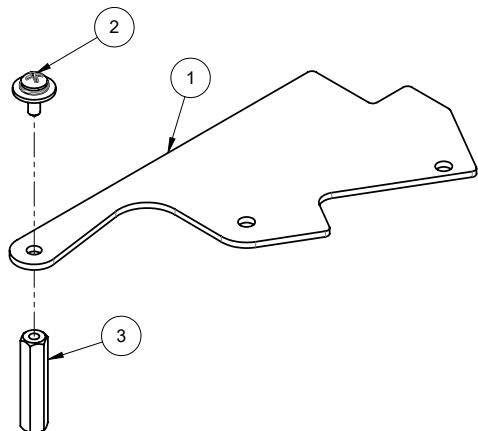
5.24 PLASTIC 22 ASSEMBLY**511-5772-22**

ID	Part Number	Description	Qty
1	830-8505-22	PLASTIC, GODZILLA, -22	1
2	880-6261-00	TOY, GODZILLA	1
3	237-5809-00	SCREW, #6 X 1/2" PTH A	2
4	040-5001-02	CABLE TIE, BLACK	1

PARTS REFERENCE

5.25 PLASTIC 25 ASSEMBLY

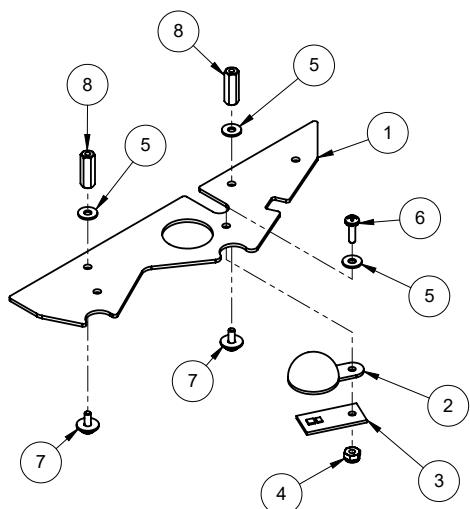
511-5772-25



ID	Part Number	Description	Qty
1	830-8505-25	PLASTIC, GODZILLA, -25	1
2	237-6378-00	#6-32 X 3/8 PAN PHILLIPS w/DDOUBLE SEMS	1
3	254-5008-17	HEX SPACER - 1 1/8 "	1

5.26 PLASTIC 57 ASSEMBLY

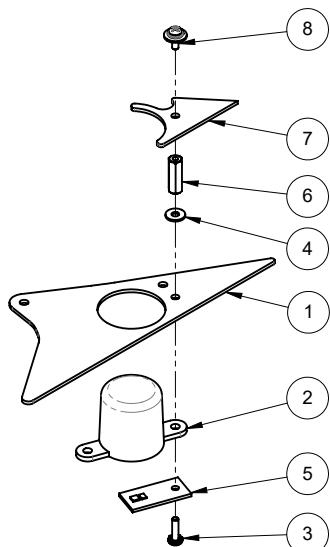
511-5772-57



ID	Part Number	Description	Qty
1	830-8505-57	PLASTIC, GODZILLA, -57	1
2	550-5510-06	HAT - TRIMMED - YELLOW SB	1
3	520-7000-00	SINGLE FLASH LED BOARD	1
4	240-5005-00	6-32 NYLON STOP NUT	1
5	242-5001-00	#6 WASHER	3
6	232-5202-00	SCREW, 6-32 X 1/2" PPH MS SEMS	1
7	237-6378-00	#6-32 X 3/8 PAN PHILLIPS w/DDOUBLE SEMS	2
8	254-5008-04	HEX SPACER - 3/4 "	2

5.27 PLASTIC 64 ASSEMBLY

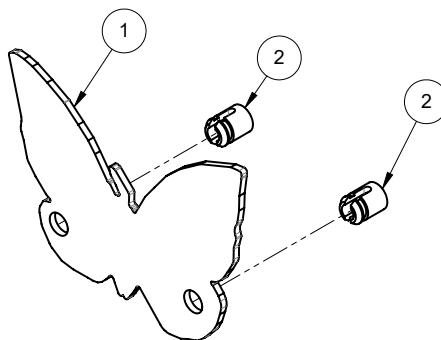
511-5772-64



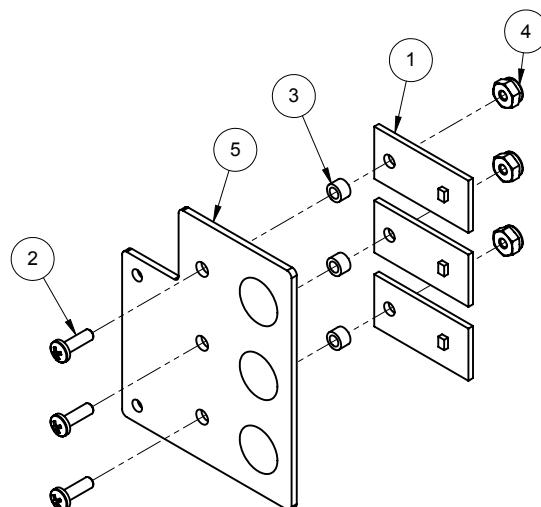
ID	Part Number	Description	Qty
1	830-8505-64	PLASTIC, GODZILLA, -64	1
2	550-5031-02	MINI MARS W/ EARS - RED SB	1
3	232-5202-00	SCREW, 6-32 X 1/2" PPH MS SEMS	1
4	242-5001-00	#6 WASHER	1
5	520-7000-00	SINGLE FLASH LED BOARD	1
6	254-5008-04	HEX SPACER - 3/4 "	1
7	830-8505-60	PLASTIC, GODZILLA, -60	1
8	237-6378-00	#6-32 X 3/8 PAN PHILLIPS w/DDOUBLE SEMS	1

5.28 PLASTIC 67 ASSEMBLY

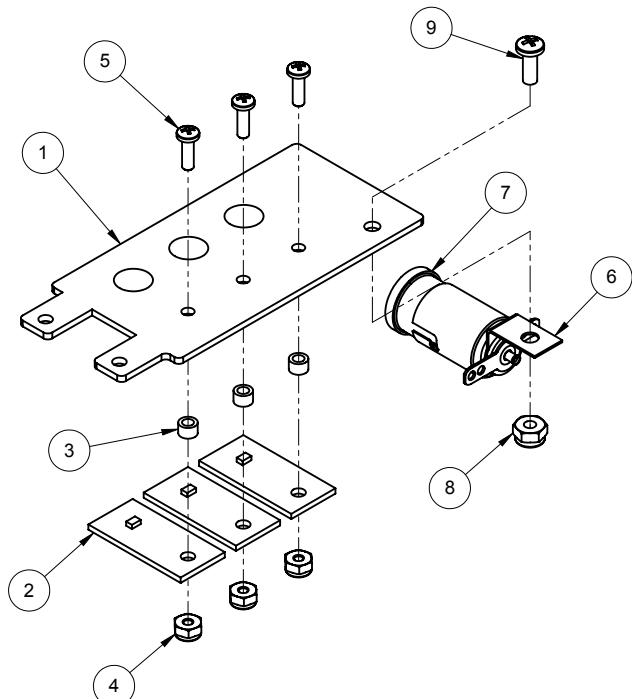
511-5772-67



ID	Part Number	Description	Qty
1	830-8505-67	PLASTIC, GODZILLA, -67	1
2	254-5007-02	1/4" SELF RETAINING SPACER	2

5.29 PLASTIC 70 ASSEMBLY**511-5772-70**

ID	Part Number	Description	Qty
1	520-5307-00	SINGLE LED PCB	3
2	237-5997-00	SCREW, 4-40 X 3/8" PPH MS BLACK	3
3	254-5090-03	PLASTIC SPACER #4 SCREW, 3/16" OD - 1/8" LENGTH	3
4	240-5303-00	4-40 NYLON LOCK NUT	3
5	830-8505-70	PLASTIC, GODZILLA, -70	1

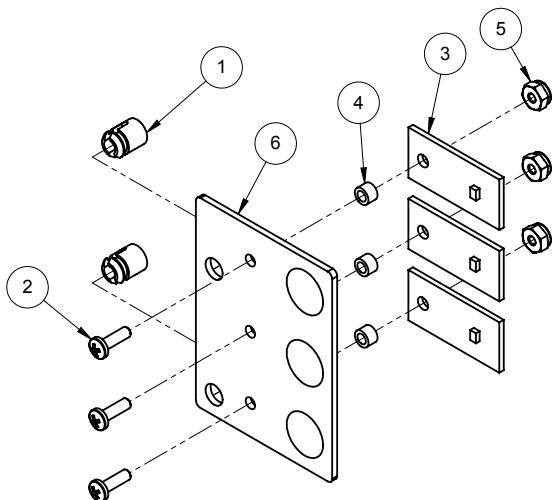
5.30 PLASTIC 71 ASSEMBLY**511-5772-71**

ID	Part Number	Description	Qty
1	830-8505-71	PLASTIC, GODZILLA, -71	1
2	520-5307-00	SINGLE LED PCB	3
3	254-5090-03	PLASTIC SPACER #4 SCREW, 3/16" OD - 1/8" LENGTH	3
4	240-5303-00	4-40 NYLON LOCK NUT	3
5	237-5997-00	SCREW, 4-40 X 3/8" PPH MS BLACK	3
6	077-5100-00	LAYDOWN STANDARD SOCKET	1
7	113-5045-08	MULTI-LED FLASHER, 5 VDC - WHITE	1
8	240-5005-00	6-32 NYLON STOP NUT	1
9	237-5012-00	SCREW, 6-32 X 3/8" PPH 18-8 BLK OX	1

PARTS REFERENCE

5.31 PLASTIC 77 ASSEMBLY

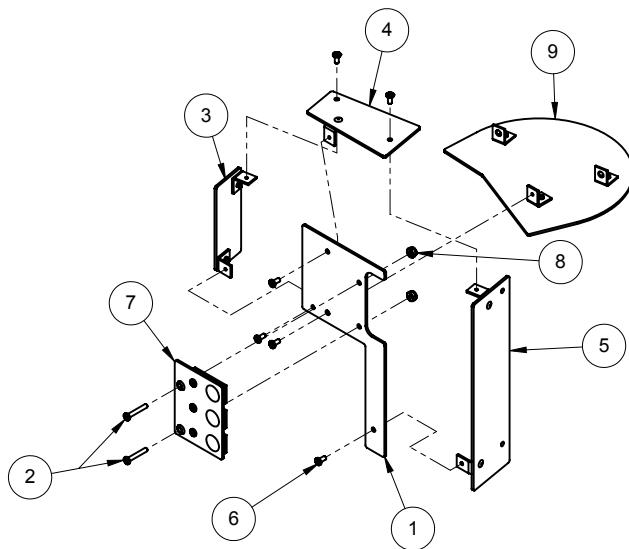
511-5772-77



ID	Part Number	Description	Qty
1	254-5007-02	1/4" SELF RETAINING SPACER	2
2	237-5997-00	SCREW, 4-40 X 3/8" PPH MS BLACK	3
3	520-5307-00	SINGLE LED PCB	3
4	254-5090-03	PLASTIC SPACER #4 SCREW, 3/16" OD - 1/8" LENGTH	3
5	240-5303-00	4-40 NYLON LOCK NUT	3
6	830-8505-77	PLASTIC, GODZILLA, -77	1

5.33 PLASTIC 84 ASSEMBLY

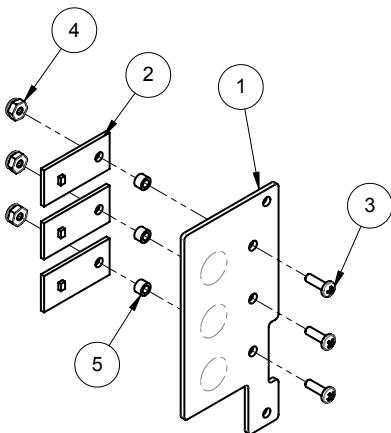
511-5772-84



ID	Part Number	Description	Qty
1	830-8505-84	PLASTIC GODZILLA, -84	1
2	237-5887-01	SCREW, 4-40 X 3/4" PPH MS BLACK	2
3	510-7835-68	RIVETED PLASTIC ASM, GODZILLA, -68	1
4	510-7835-78	RIVETED, PLASTIC ASM, GODZILLA, -78	1
5	510-7835-79	RIVETED PLASTIC ASM, GODZILLA, 79	1
6	237-6331-00	SCREW, 4-40 X 1/4" PPH MS BLACK	6
7	511-5772-77	PLASTIC ASM, GODZILLA, 77	1
8	240-5303-00	4-40 NYLON LOCK NUT	2
9	510-7835-62	RIVETED PLASTIC ASM, GODZILLA, -62	1

5.32 PLASTIC 83 ASSEMBLY

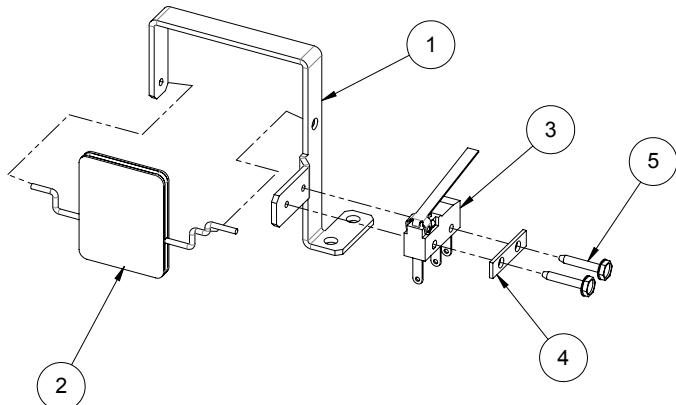
511-5772-83



ID	Part Number	Description	Qty
1	830-8505-83	PLASTIC, GODZILLA, -83	1
2	520-5307-00	SINGLE LED PCB	3
3	237-5997-00	SCREW, 4-40 X 3/8" PPH MS BLACK	3
4	240-5303-00	4-40 NYLON LOCK NUT	3
5	254-5090-03	PLASTIC SPACER #4 SCREW, 3/16" OD - 1/8" LENGTH	3

5.34 LEFT NARROW SPINNER ASSEMBLY

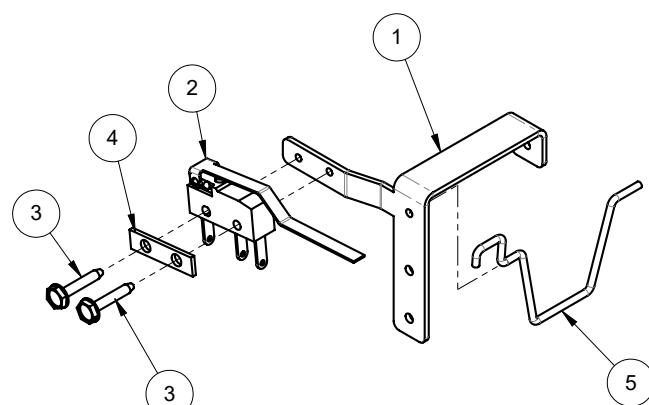
511-7655-00



ID	Part Number	Description	Qty
1	535-0179-00	SPINNER BRACKET, SIDE MOUNT	1
2	515-7088-00	SPINNER TARGET, NARROW	1
3	180-5010-04	MICRO-SWITCH	1
4	535-6539-00	SWITCH BODY PROTECT PLATE	1
5	237-5937-02	SCREW, 2-56 X 1/2" HWH MS	2

5.36 ROLLUNDER SWITCH ASSEMBLY

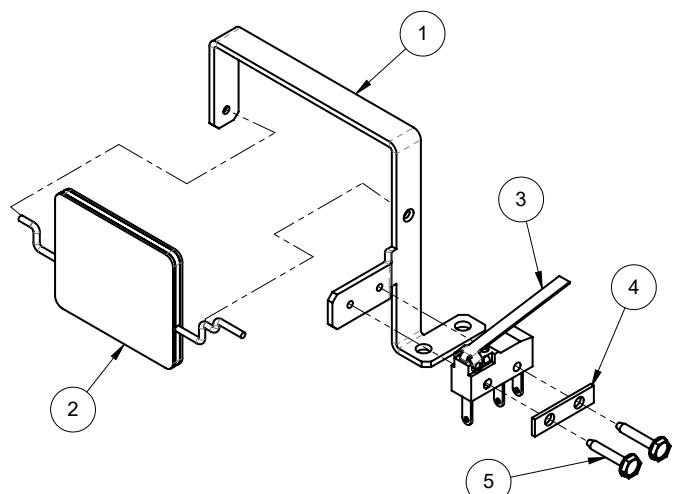
511-7963-00



ID	Part Number	Description	Qty
1	535-2056-00	BRACKET, ROLLUNDER GATE, BG MNT	1
2	180-5087-00	SWITCH - GATE	1
3	237-5937-02	SCREW, 2-56 X 1/2" HWH MS	2
4	535-6539-00	SWITCH BODY PROTECT PLATE	1
5	535-2057-00	WIRE, ROLLUNDER GATE, BG MNT	1

5.35 LEFT WIDE SPINNER ASSEMBLY

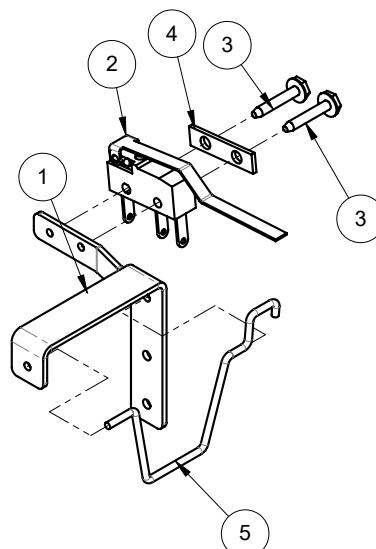
511-5786-00



ID	Part Number	Description	Qty
1	535-2550-00	SPINNER BRACKET, SIDE MOUNT, WIDE	1
2	515-7088-01	SPINNER TARGET, LARGE	1
3	180-5010-04	MICRO-SWITCH	1
4	535-6539-00	SWITCH BODY PROTECT PLATE	1
5	237-5937-02	SCREW, 2-56 X 1/2" HWH MS	2

5.37 ROLLUNDER GATE ASSEMBLY

511-9753-00

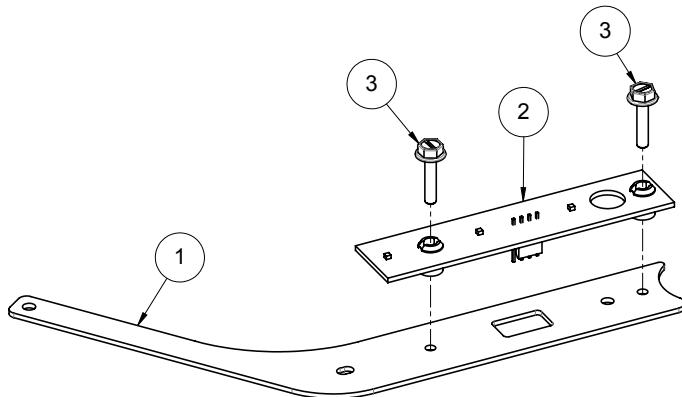


ID	Part Number	Description	Qty
1	535-2689-00	BRACKET, ROLLUNDER GATE, BG MNT	1
2	180-5087-00	SWITCH - GATE	1
3	237-5937-02	SCREW, 2-56 X 1/2" HWH MS	2
4	535-6539-00	SWITCH BODY PROTECT PLATE	1
5	535-2057-00	WIRE, ROLLUNDER GATE, BG MNT	1

PARTS REFERENCE

5.38 BALL GUIDE 01 ASSEMBLY

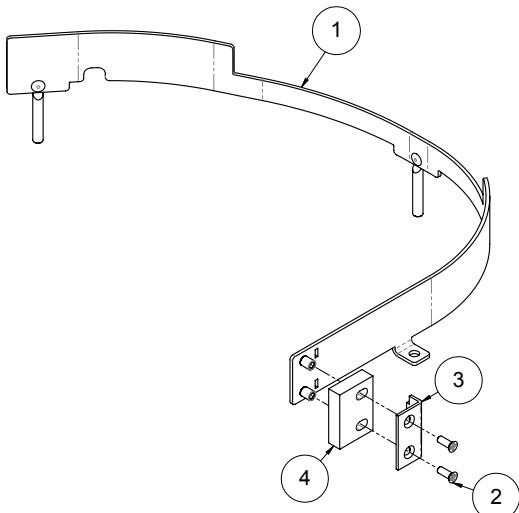
511-5773-01



ID	Part Number	Description	Qty
1	535-2477-02	BALL GUIDE, INLANE, LIGHTED	1
2	520-8531-00	PCA INLANE 3W LED BOARD	1
3	237-5976-04	SCREW, 6-32 X 5/8" HWH SWAGE	2

5.40 BALL GUIDE 03 ASSEMBLY

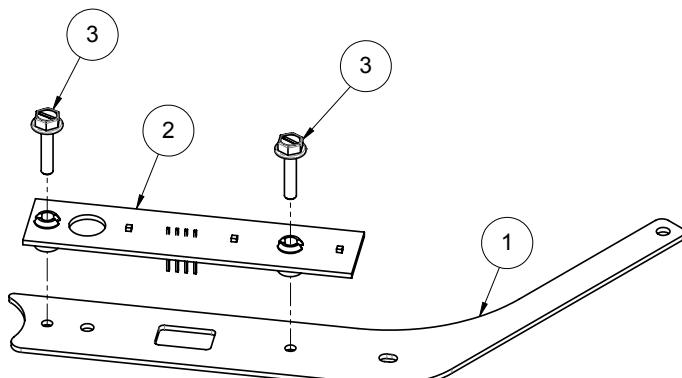
511-5773-03



ID	Part Number	Description	Qty
1	535-2477-03	BALL GUIDE, GODZILLA, -03	1
2	237-6151-00	SCREW, 4-40 X 5/16" PFH U/C MS	2
3	535-9366-01	BUMPER HOLDER	1
4	626-5057-01	RUBBER BUMPER - BLUE	1

5.39 BALL GUIDE 02 ASSEMBLY

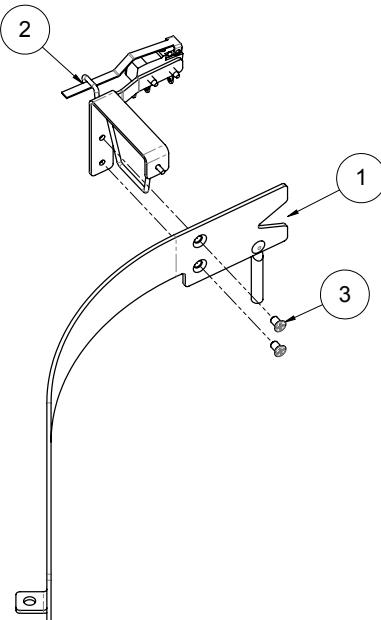
511-5773-02



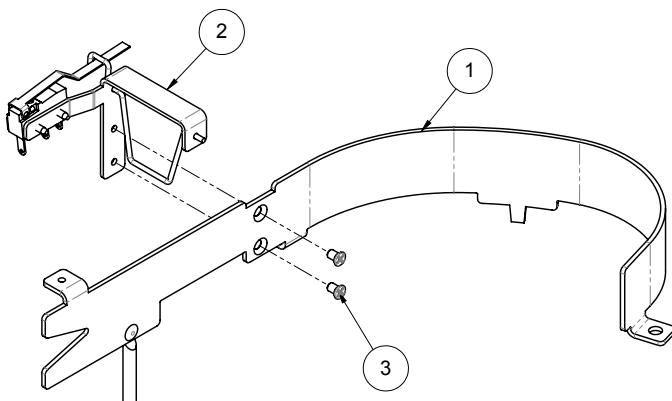
ID	Part Number	Description	Qty
1	535-2477-02	BALL GUIDE, INLANE, LIGHTED	1
2	520-8531-00	PCA INLANE 3W LED BOARD	1
3	237-5976-04	SCREW, 6-32 X 5/8" HWH SWAGE	2

5.41 BALL GUIDE 05 ASSEMBLY

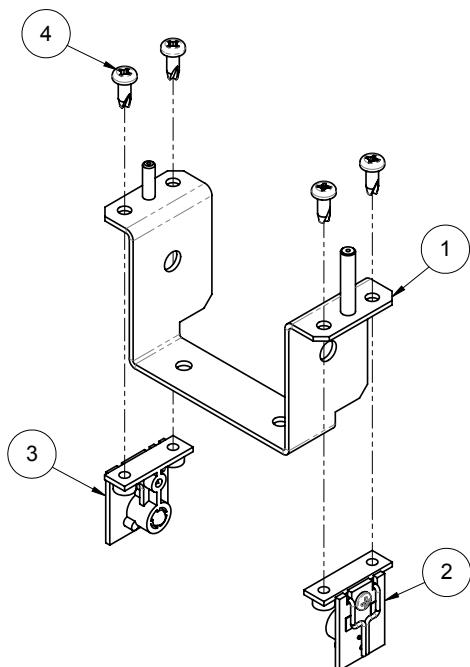
511-5773-05



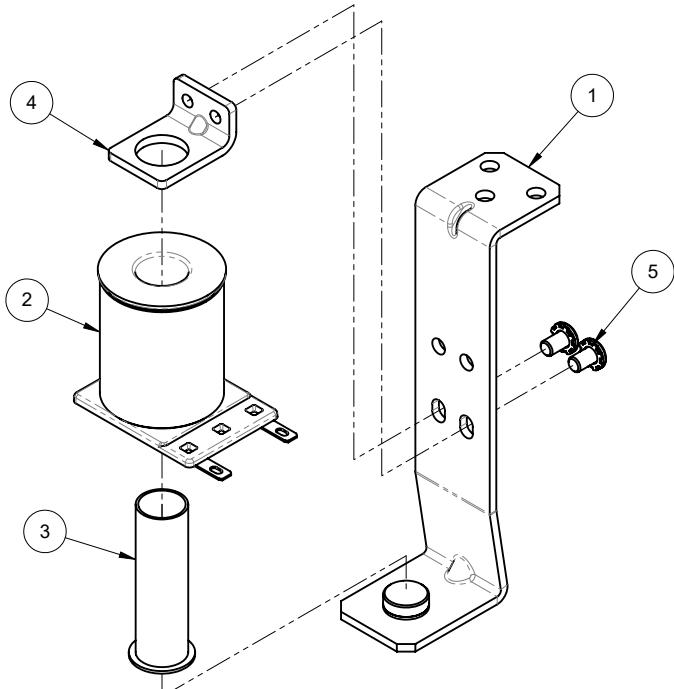
ID	Part Number	Description	Qty
1	535-2477-05	BALL GUIDE, GODZILLA, -05	1
2	511-7963-00	RAMP ROLLUNDER GATE, ASM	1
3	237-6087-00	4-40 X 3/16 PFH MS - ZINC	2

5.42 BALL GUIDE 07 ASSEMBLY**511-5773-07**

ID	Part Number	Description	Qty
1	535-2477-07	BALL GUIDE, GODZILLA, -07	1
2	511-9753-00	RAMP ROLLUNDER GATE, ASM	1
3	237-6087-00	4-40 x 3/16 PFH 82° U/C MS - ZINC	2

5.43 BALL GUIDE 12 ASSEMBLY**511-5773-12**

ID	Part Number	Description	Qty
1	535-2477-12	BALL GUIDE, GODZILLA, -12	1
2	515-0215-00	LONG RANGE OPTO Emitter ASSEMBLY	1
3	515-0215-01	LONG RANGE OPTO RECEIVER ASSEMBLY	1
4	237-5880-00	SCREW, #6 X 3/8 PPH T-25	4

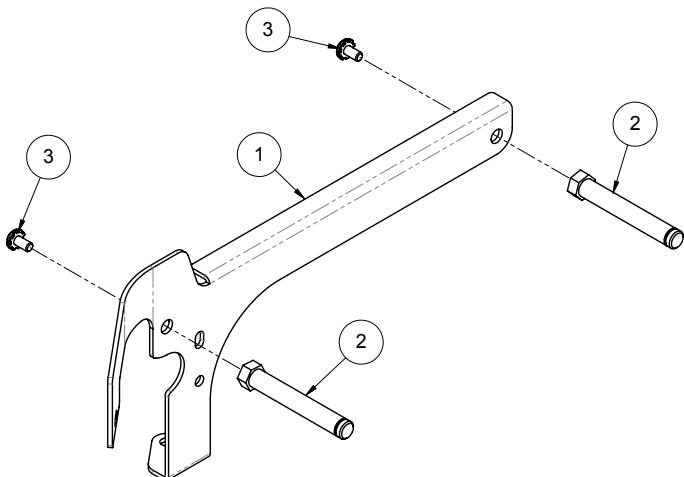
5.44 BRIDGE DOWNPOST ASSEMBLY**511-5794-00**

ID	Part Number	Description	Qty
1	515-2008-00	BRACKET, BK SHIELD, DOWNPOST ASM	1
2	090-5001-ND	COIL, 23-800, NO DIODE	1
3	545-5411-00	COIL SLEEVE	1
4	535-5203-03	COIL RETAINING BRACKET	1
5	232-5300-00	SCREW, 8-32 X 1/4" PPH SEMS	2
6	266-5102-01	COMPRESSION SPRING - 2.0 LBS	1
7	242-5081-00	WASHER - NYLON .75 OD x .44 ID	1
8	270-5005-00	RETAINING E-RING, 7/16" SHAFT OD	1

PARTS REFERENCE

5.45 BRIDGE FRAME ASSEMBLY

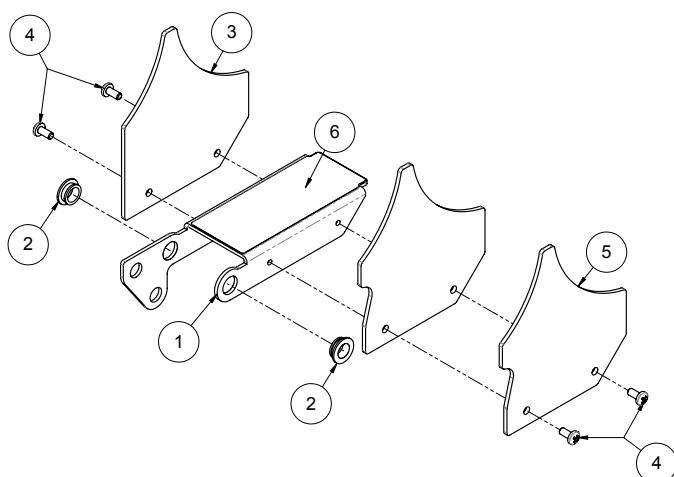
511-5826-00



ID	Part Number	Description	Qty
1	535-2539-00	BRACKET, BRIDGE, BACK	1
2	530-1104-00	PIN, PIVOT	2
3	232-5200-00	SCREW, 6-32 X 1/4" PPH SEMS	2

5.47 BRIDGE LEFT HALF ASSEMBLY

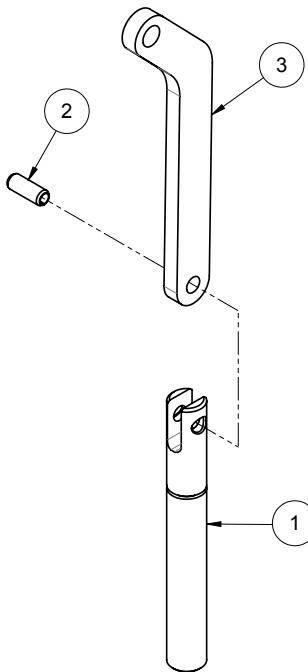
511-5824-00



ID	Part Number	Description	Qty
1	535-2540-00	BRIDGE, FLOOR, LEFT	1
2	545-5423-00	NYLINER, 1/4" SHAFT, 4L1-FF	2
3	830-8505-88	PLASTIC, GODZILLA LE, -88	1
4	237-6331-00	SCREW, 4-40 X 1/4" PPH MS BLACK	4
5	830-8505-87	PLASTIC, GODZILLA LE, -87	1
6	820-5893-61	DECAL, GODZILLA, -61	1
7	830-8505-84	PLASTIC, GODZILLA LE, -84	1

5.46 BRIDGE PLUNGER ASSEMBLY

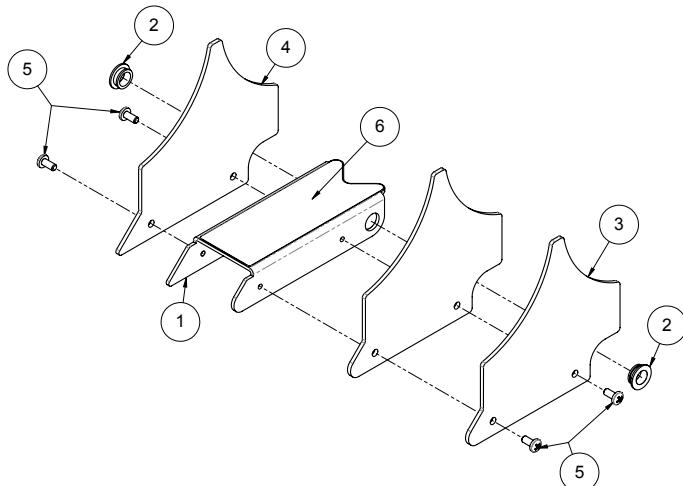
511-5827-00



ID	Part Number	Description	Qty
1	530-6253-00	PLUNGER, BRIDGE	1
2	251-5042-00	.188 x .50 ROLL PIN	1
3	545-1281-00	LINK, BRIDGE, COIL	1

5.48 BRIDGE RIGHT HALF ASSEMBLY

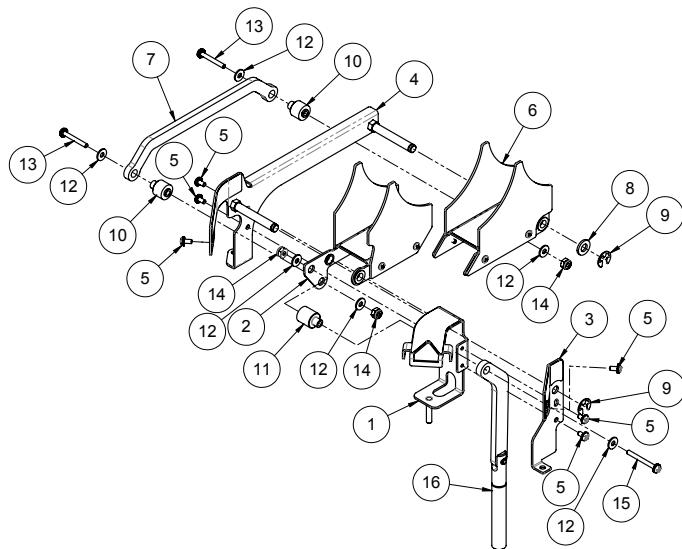
511-5825-00



ID	Part Number	Description	Qty
1	535-2541-00	BRIDGE, FLOOR, RIGHT	1
2	545-5423-00	NYLINER, 1/4" SHAFT, 4L1-FF	2
3	830-8505-85	PLASTIC, GODZILLA LE, -85	1
4	830-8505-86	PLASTIC, GODZILLA LE, -86	1
5	237-6331-00	SCREW, 4-40 X 1/4" PPH MS BLACK	4
6	820-5893-62	DECAL, GODZILLA, -62	1
7	830-8505-89	PLASTIC, GODZILLA LE, -89	1

5.49 COLLAPSING BRIDGE ASSEMBLY

511-5796-00

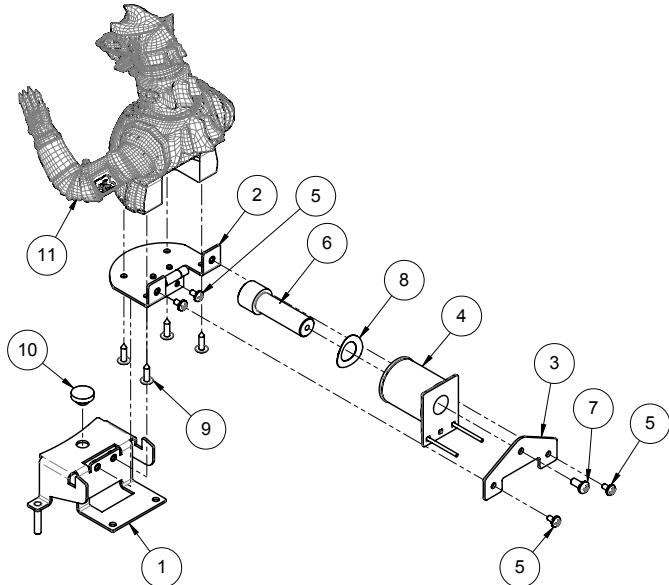


ID	Part Number	Description	Qty
1	535-2538-00	BRACKET, BRIDGE, CENTER	1
2	511-5824-00	BRIDGE SECTION ASSEMBLY, LEFT	1
3	535-2537-00	BRACKET, BRIDGE, FRONT	1
4	511-5826-00	BRIDGE PIVOT ASSEMBLY	1
5	232-5200-00	SCREW, 6-32 X 1/4" PPH SEMS	6
6	511-5825-00	BRIDGE SECTION ASSEMBLY, RIGHT	1
7	545-1278-00	LINK, BRIDGE, CROSS OVER	1
8	242-5008-00	WASHER, 1/4" ID X 1/2" OD X 1/16" THICK	1
9	270-5002-00	RETAINING RING - 1/4"	2
10	530-1105-XX	PIVOT PIN SPACER	2
11	530-1105-XX	PIVOT PIN SPACER	1
12	242-5001-00	#6 WASHER	6
13	232-5206-00	SCREW, 6-32 X 1" PPH SEMS	2
14	240-5005-00	6-32 NYLON STOP NUT	3
15	232-5207-00	SCREW, 6-32 X 1-1/4" PPH SEMS	1
16	511-5827-00	GODZILLA BRIDGE PLUNGER ASM	1
17	820-5893-60	DECAL, GODZILLA, -60	1
18	820-5893-63	DECAL, GODZILLA, -63	1
19	820-5893-64	DECAL, GODZILLA, -64	1
20	820-5893-65	DECAL, GODZILLA, -65	1

PARTS REFERENCE

5.50 MECHAGODZILLA ASSEMBLY

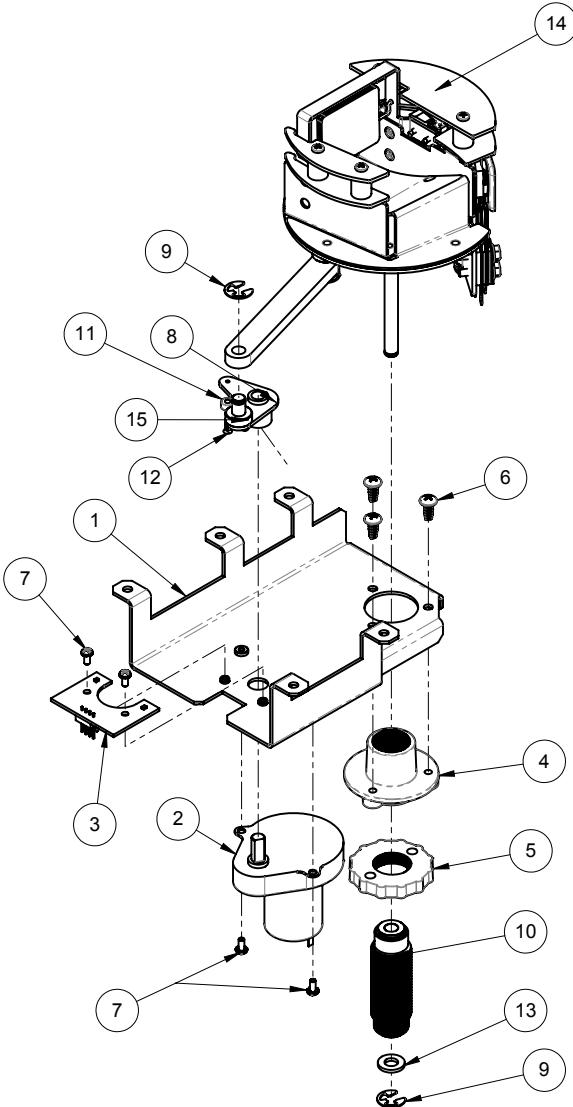
500-2585-00



ID	Part Number	Description	Qty
1	535-2605-00	BRACKET, MG BASE	1
2	510-7922-00	MG TILT RIVETED ASM	1
3	535-2607-00	BRACKET, MG COIL	1
4	090-5088-00	COIL, 23-800, NO DIODE, LUGLESS	1
5	232-5200-00	SCREW, 6-32 X 1/4" PPH SEMS	4
6	530-1115-00	MAGNET CORE, MECHAGODZILLA	1
7	232-5301-00	SCREW, 8-32 X 3/8" PPH SEMS	1
8	269-5002-00	SPRING WASHER	1
9	237-5809-00	SCREW, #6 X 1/2" PTH A	4
10	545-5105-00	RUBBER BUMPER	1
11	880-6260-00	TOY, MECHAGODZILLA	1

5.51 ROTO 3-BANK ASSEMBLY

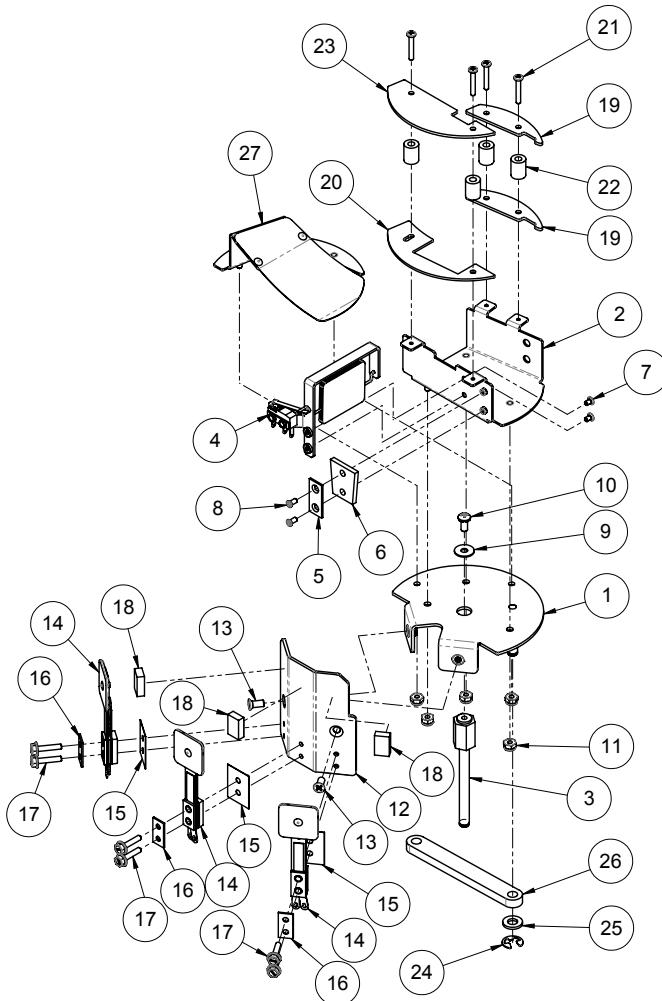
500-2578-00



ID	Part Number	Description	Qty
1	535-2542-00	BRACKET, ROTO BANK	1
2	041-5111-00	MOTOR, 24 VDC, 12 RPM - CLUTCHED	1
3	520-8470-00	PCA MAG SENSOR DUAL 180 OMNI	1
4	545-1231-00	LEVELING BUSHING	1
5	545-1232-00	LOCKING LEVELING NUT	1
6	237-6375-00	#8 X 1/2" PRH THREAD FORMING	3
7	237-5909-00	SCREW, 4-40 X 1/4" PPH SEMS	4
8	515-2419-00	CRANK, ROTO 3 BANK	1
9	270-5002-00	RETAINING RING - 1/4"	2
10	515-2340-00	SHAFT, LEVELING BUSHINGS	1
11	090-5097-00	MAGNET, 1/4" X .125", #2 CSINK, AXIAL	1
12	237-6366-00	2-56 x 1/4" PFH MS	1
13	242-5008-00	WASHER, 1/4" ID X 1/2" OD X 1/16" THICK	1
14	511-5822-00	ROTO 3 BANK CARRRIAGE ASM	1
15	237-6317-00	10-32 X 3/16 SS CUP POINT SET SCREW	1

5.52 ROTO 3-BANK CARRIAGE ASSEMBLY

511-5822-00

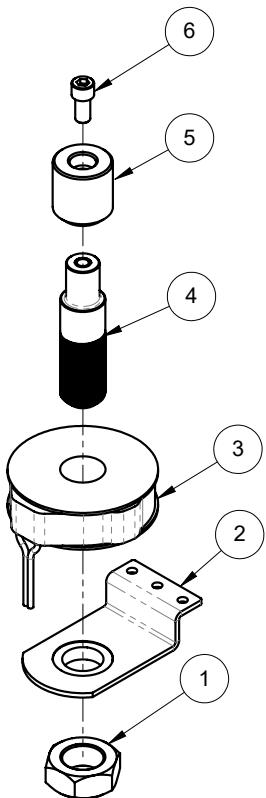


ID	Part Number	Description	Qty
1	515-2418-00	ROTO 3 BANK CARRIAGE ASM	1
2	535-2545-00	FRAME, ROTO RAMP GUIDES	1
3	530-1111-00	SHAFT, ROTO 3 BANK	1
4	511-5823-00	SPINNER ASSY, BALL GUIDE MNT, LEFT, .125" HEIGH OFFSET	1
5	535-9648-00	BUMPER HOLDER - FASTENED	1
6	626-5067-00	RUBBER BUMPER - BLUE - FASTENED	1
7	237-6197-00	SCREW, 4-40 X 3/16 PFH U/C 18-8 SS	2
8	237-5983-02	SCREW, 4-40 x 1/4" PFH MS - BLACK	2
9	242-5015-00	#8 WASHER - .170 ID X 1/2 OD X .042	1
10	232-5301-00	SCREW, 8-32 X 3/8" PPH SEMS	1
11	240-5005-00	6-32 NYLON STOP NUT	5
12	535-2543-00	BRACKET, TARGET BACKER	1
13	237-5902-00	8-32 x 3/8 PFH MS	2
14	515-9783-00-00	1" SQ. TARGET SWITCH - ANTILOFT- 2 LUG - BLACK	3
15	545-9782-00	FISCHE PAPER-SYMMETRICAL	3
16	535-7344-00	SWITCH PLATE	3
17	237-5976-04	SCREW, 6-32 X 5/8" HWH SWAGE	6
18	626-5078-00	3/16" FOAM PAD	3
19	830-8505-59	PLASTIC, GODZILLA LE, -59	2
20	535-2667-00	GUIDE, ROTO 3 BANK EXIT	1
21	237-5887-01	SCREW, 4-40 X 3/4" PPH MS BLACK	4
22	254-5000-01	NYLON SPACER - BLACK - 3/8 OD X .175 ID X 1/2"	4
23	830-8505-61	PLASTIC, GODZILLA LE, -61	1
24	270-5002-00	RETAINING RING - 1/4"	1
25	242-5008-00	WASHER, 1/4" ID X 1/2" OD X 1/16" THICK	1
26	545-1279-00	LINK, ROTO BANK	1
27	510-5800-00	ROTO 3 BANK RAMP, RIVETED	1

PARTS REFERENCE

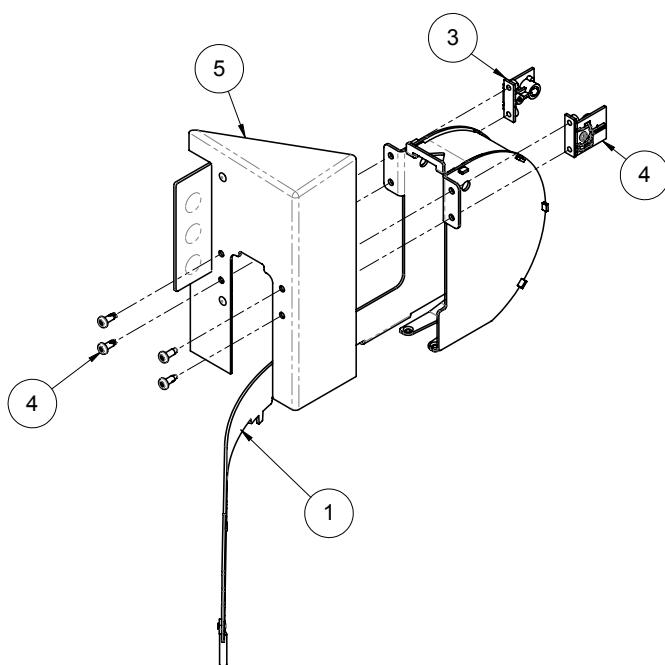
5.53 NEWTON MAGNET ASSEMBLY

511-5806-00



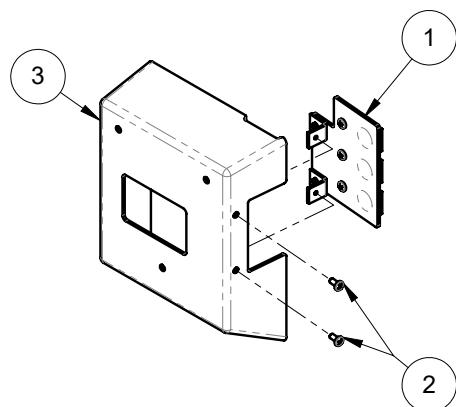
5.54 LEFT RAMP ASSEMBLY

500-2561-00

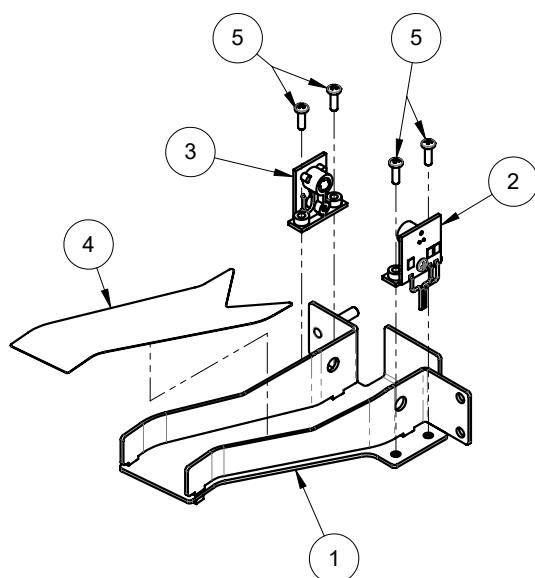


ID	Part Number	Description	Qty
1	240-5315-00	3/4-16 HEX JAM NUT	1
2	515-2435-00	BRACKET, MAGNET, SINGLE SIDED ASM	1
3	090-5076-00	MAGNET COIL, 22-650	1
4	530-1116-00	MAGNET CORE, MAGNETIC NEWTON BALL	1
5	530-1108-00	CAP, MAGNET	1
6	237-6348-00	SCREW, 1/4-20 X 1/2" SHCS	1

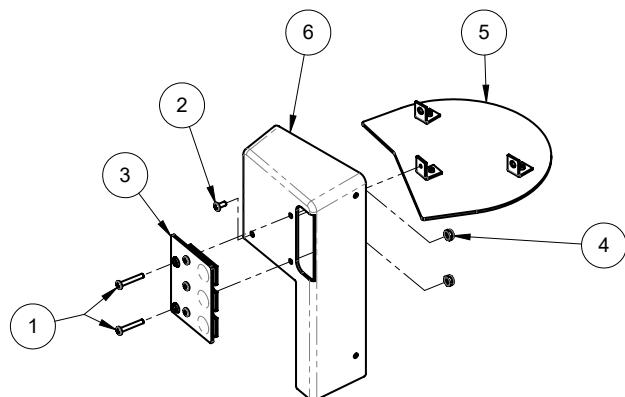
ID	Part Number	Description	Qty
1	515-2410-00	RAMP, GODZILLA, LEFT	1
2	237-5880-00	SCREW, #6 X 3/8 PPH T-25	4
3	515-0215-00	LONG RANGE OPTO Emitter ASSEMBLY	1
4	515-0215-01	LONG RANGE OPTO RECEIVER ASSEMBLY	1
5	511-5963-00	LEFT BUILDING ASM, LE	1

5.55 CENTER BUILDING ASSEMBLY**511-5962-00**

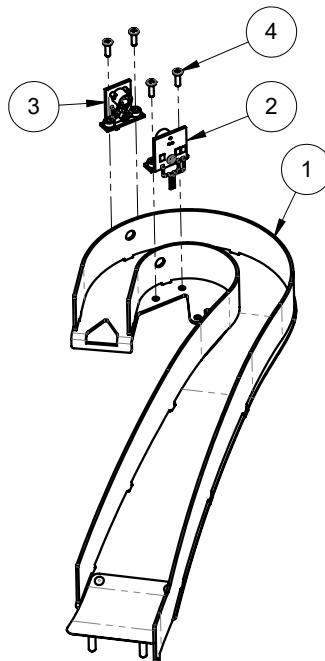
ID	Part Number	Description	Qty
1	511-5772-70	PLASTIC ASM, GODZILLA, -70	1
2	237-6331-00	SCREW, 4-40 X 1/4" PPH MS BLACK	2
3	545-1302-02	VAC-FORM GODZILLA, CENTER BUILDING	1

5.56 LOAD RAMP ASSEMBLY**511-5808-00**

ID	Part Number	Description	Qty
1	535-2564-00	LOAD CHUTE, GODZILLA	1
2	515-0215-01	LONG RANGE OPTO RECEIVER ASSEMBLY	1
3	515-0215-00	LONG RANGE OPTO Emitter ASSEMBLY	1
4	820-5893-40	DECAL, GODZILLA, -40	1
5	237-5997-00	SCREW, 4-40 X 3/8 PPH MS BLACK	4

5.57 RIGHT BUILDING ASSEMBLY**511-5961-00**

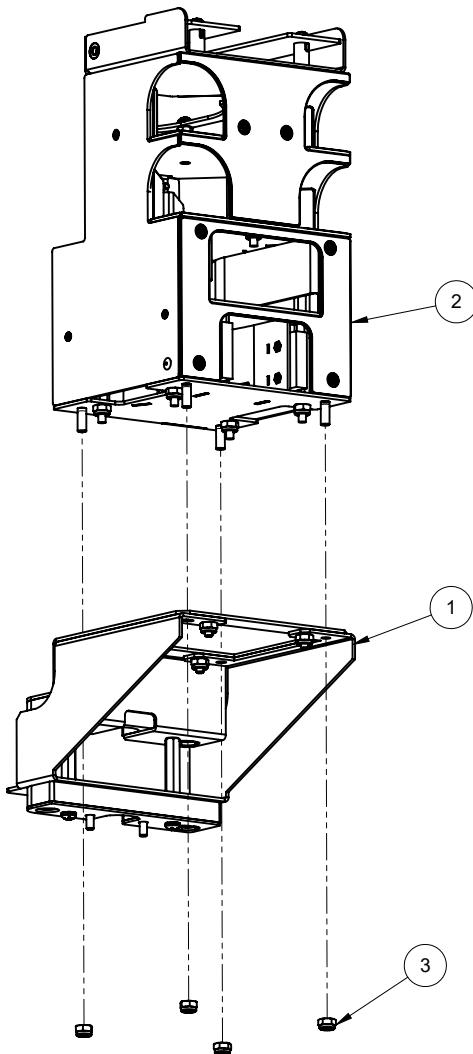
ID	Part Number	Description	Qty
1	237-5887-01	SCREW, 4-40 X 3/4" PPH MS BLACK	2
2	237-6331-00	SCREW, 4-40 X 1/4" PPH MS BLACK	1
3	511-5772-77	PLASTIC ASM, GODZILLA, 77	1
4	240-5303-00	4-40 NYLON LOCK NUT	2
5	510-7835-62	RIVETED PLASTIC ASM, GODZILLA, -62	1
6	545-1302-03	VAC FORMED BUILDING, GODZILLA, RIGHT	1

5.56 LOAD RAMP ASSEMBLY**511-5808-00****5.58 RIGHT RAMP ASSEMBLY****500-2562-00**

ID	Part Number	Description	Qty
1	510-7837-00	RIVETED RAMP ASM, GODZILLA, RIGHT	1
2	515-0215-01	LONG RANGE OPTO RECEIVER ASSEMBLY	1
3	515-0215-00	LONG RANGE OPTO Emitter ASSEMBLY	1
4	237-5997-00	SCREW, 4-40 X 3/8 PPH MS BLACK	4

PARTS REFERENCE

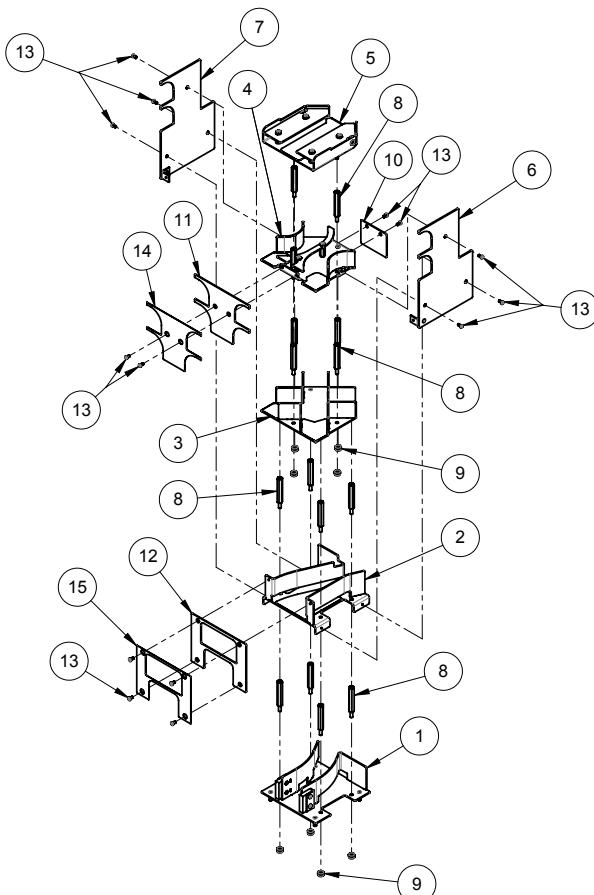
5.59 BUILDING LIFT PLATFORM ASSEMBLY 511-8000-00



ID	Part Number	Description	Qty
1	511-5797-00	LIFT PLATFORM ASM	1
2	511-5798-00	BUILDING ASM	1
3	240-5005-00	6-32 NYLON STOP NUT	4

5.60 BUILDING ASSEMBLY

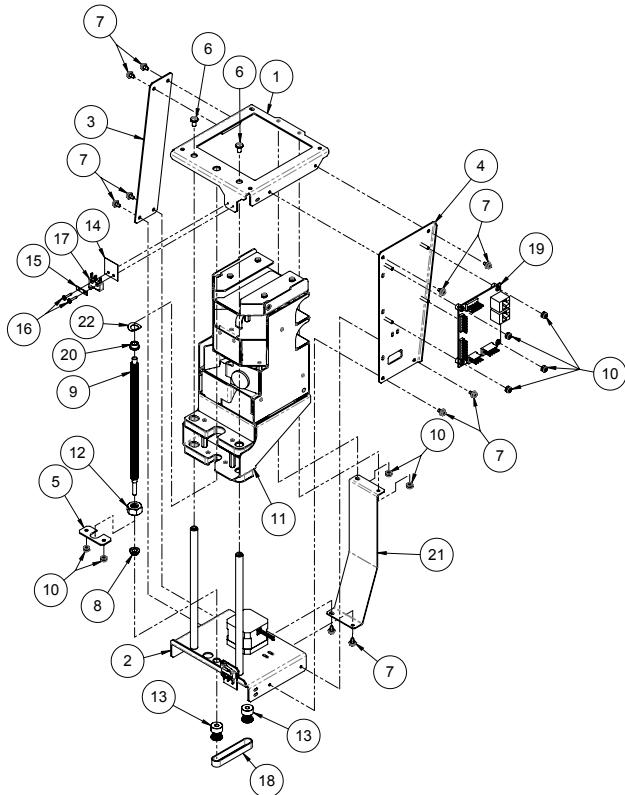
511-5798-00



ID	Part Number	Description	Qty
1	511-5938-01	BUILDING FLOOR ASM, FIRST	1
2	511-5938-02	BUILDING FLOOR ASM, SECOND	1
3	511-5938-03	BUILDING FLOOR ASM, THIRD	1
4	511-5938-04	BUILDING FLOOR ASM, FOURTH	1
5	511-5938-05	BUILDING FLOOR ASM, FIFTH	1
6	510-7835-92	RIVETED PLASTIC ASM, GODZILLA, -92	1
7	510-7835-94	RIVETED PLASTIC ASM, GODZILLA, -94	1
8	254-5024-09	HEX SPACER MALE/FEMALE - 1 1/2"	15
9	240-5005-00	6-32 NYLON STOP NUT	8
10	830-8505-96	DECAL, GODZILLA, -96	1
11	535-2654-00	PLATE, BUILDING FRONT, UPPER	1
12	535-2662-00	PLATE, BUILDING FRONT, LOWER	1
13	237-5983-04	SCREW, 4-40 X 1/4" PFH - BLACK - 82° UC	14
14	820-5893-41	DECAL, GODZILLA, -41	1
15	820-5893-42	DECAL, GODZILLA, -42	1

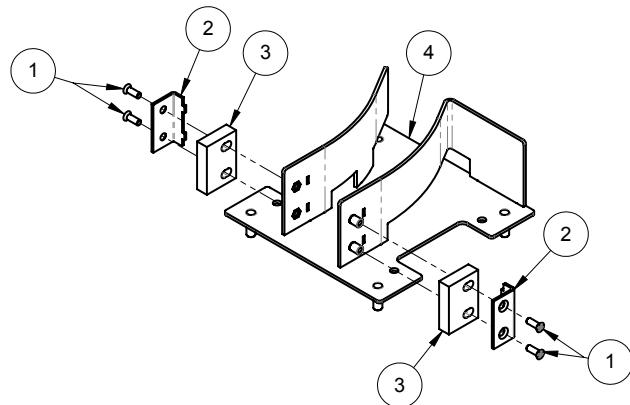
5.61 COLLAPSING BUILDING ASSEMBLY

500-2573-00



5.62 FLOOR 1 SUBASSEMBLY

511-5938-01

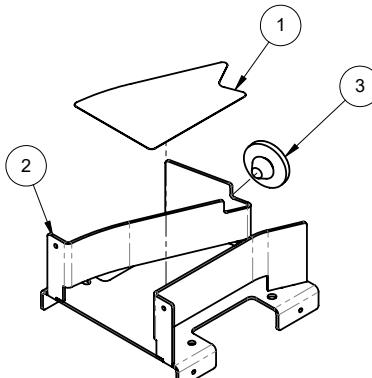


ID	Part Number	Description	Qty
1	237-6151-00	SCREW, 4-40 X 5/16" PFH U/C MS	4
2	535-9366-01	BUMPER HOLDER	2
3	626-5057-01	RUBBER BUMPER - BLUE	2
4	535-2571-00	BUILDING FLOOR, FIRST	1

5.63 FLOOR 2 SUBASSEMBLY

511-5938-02

ID	Part Number	Description	Qty
1	535-2581-00	BRACKET, LIFT, TOP	1
2	511-5819-00	BUILDING LIFT MOTOR ASM	1
3	535-2583-00	BRACE, BUILDING LIFT	1
4	535-2584-00	BRACE, BUILDING LIFT	1
5	535-2586-00	PLATE, LEAD NUT CAPTURE	1
6	232-5401-00	SCREW, 10-32 X 3/8 PPH SEMS	2
7	237-5975-04	SCREW, 8-32 X 1/4" HWH SWAGE SERR	10
8	283-5018-01	1/4 ID X 3/8 OD X 3/16 LG. BUNTING SAE 841 BRONZE FLANGED BEARING-PART #EF040603	1
9	530-8043-00	LEAD SCREW, BUILDING	1
10	240-5005-00	6-32 NYLON STOP NUT	8
11	511-8000-00	BUILDING LIFT PLATFORM ASM	1
12	240-5418-00	3/8-8 ACME LEAD NUT	1
13	042-5007-00	PULLEY, GT2-2MM, 9MM WIDE, 20T	2
14	545-6268-00	FISCHE PAPER	1
15	535-6539-00	SWITCH BODY PROTECT PLATE	1
16	237-5937-02	SCREW, 2-56 X 1/2" HWH MS	2
17	180-5119-02	MICRO-SWITCH - LIGHT ACTUATION	1
18	545-1288-76	TIMING BELT, GT2 2mm, 9mm WIDE, SINGLE SIDED, 76T	1
19	520-8526-00	PCA DUAL STEPPER DRIVER BOARD	1
20	283-5018-06	1/4 ID X 3/8 OD X 1/4 LG. BUNTING SAE 841 BRONZE FLANGED BEARING-PART #EF040604	1
21	535-2668-00	BRACKET, BALL CONTAINMENT, BUILDING	1
22	266-5121-00	WAVE WASHER, .400 ID, .672 OD	1

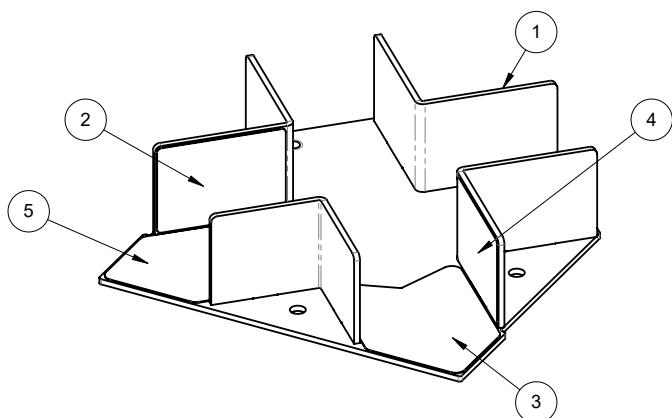


ID	Part Number	Description	Qty
1	820-5893-53	DECAL, GODZILLA, -53	1
2	535-2572-00	BUILDING FLOOR, SECOND	1
3	545-5428-00	RUBBER BUMPER	1

PARTS REFERENCE

5.64 FLOOR 3 SUBASSEMBLY

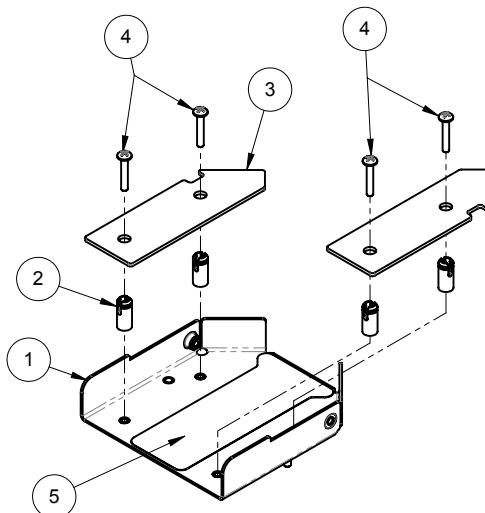
511-5938-03



ID	Part Number	Description	Qty
1	535-2573-00	BUILDING FLOOR, THIRD	1
2	820-5893-50	DECAL, GODZILLA, -50	1
3	820-5893-51	DECAL, GODZILLA, -51	1
4	820-5893-49	DECAL, GODZILLA, -49	1
5	820-5893-52	DECAL, GODZILLA, -52	1

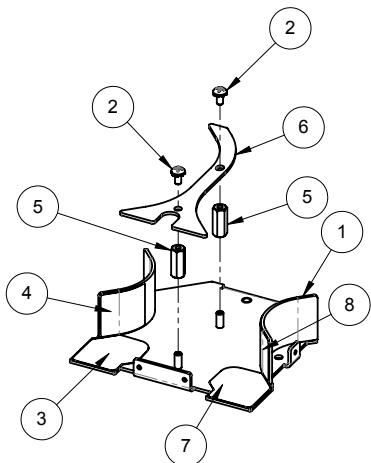
5.66 FLOOR 5 SUBASSEMBLY

511-5938-05



5.65 FLOOR 4 SUBASSEMBLY

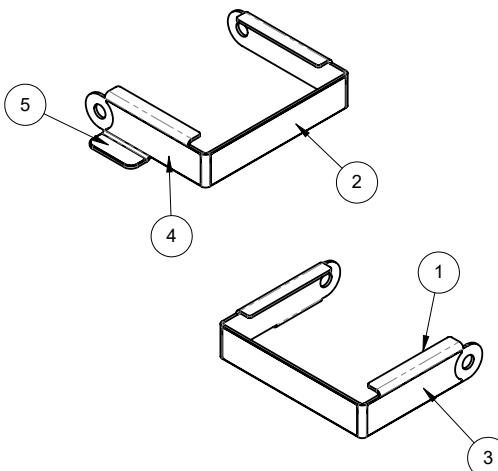
511-5938-04



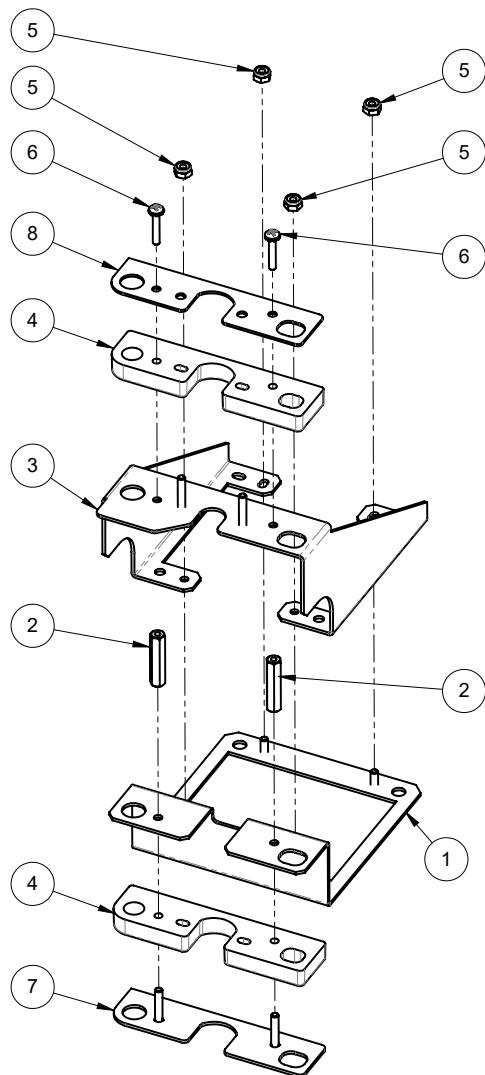
ID	Part Number	Description	Qty
1	535-2574-00	BUILDING FLOOR, FOURTH	1
2	232-5200-00	SCREW, 6-32 X 1/4" PPH SEMS	2
3	820-5893-54	DECAL, GODZILLA, -54	1
4	820-5893-57	DECAL, GODZILLA, -57	1
5	254-5008-02	HEX SPACER - 5/8 "	2
6	535-2576-00	BUILDING GUIDE, FOURTH FLOOR	1
7	820-5893-55	DECAL, GODZILLA, -55	1
8	820-5893-56	DECAL, GODZILLA, -56	1

5.67 LOCK GATE SUBASSEMBLY

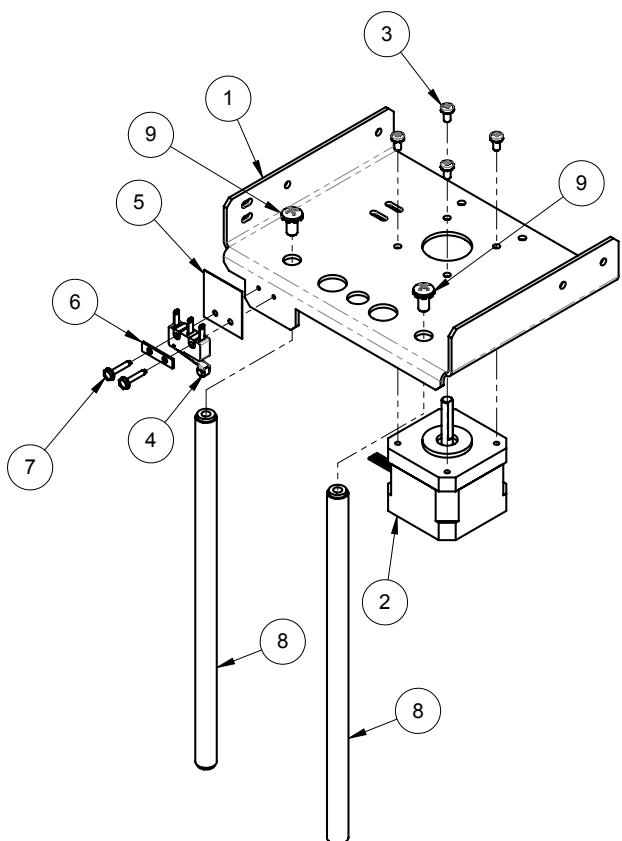
511-5938-06



ID	Part Number	Description	Qty
1	535-2570-00	BUILDING LOCK GATE	1
2	820-5893-43	DECAL, GODZILLA, -43	1
3	820-5893-44	DECAL, GODZILLA, -44	1
4	820-5893-45	DECAL, GODZILLA, -45	1
5	820-5893-47	DECAL, GODZILLA, -47	1

5.68 LIFT PLATFORM ASSEMBLY**511-5797-00**

ID	Part Number	Description	Qty
1	535-2588-00	LIFT PLATFORM, TOP	1
2	254-5008-17	HEX SPACER - 1 1/8 "	2
3	535-2587-00	LIFT PLATFORM, BOTTOM	1
4	545-1287-00	SLIDE BUSHING,BOTTOM	2
5	240-5005-00	6-32 NYLON STOP NUT	4
6	232-5204-00	SCREW, 6-32 X 3/4" PPH SEMS	2
7	535-2613-00	PLATE, TOP BEARING RETAINER	1
8	535-2671-00	PLATE, BOT BEARING RETAINER	1

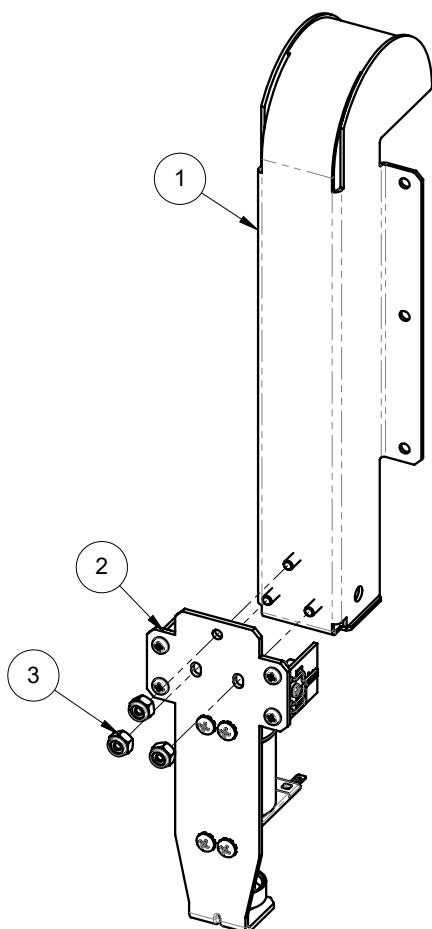
5.69 MOTOR GUIDE SUBASSEMBLY**511-5819-00**

ID	Part Number	Description	Qty
1	535-2582-00	BRACKET, LIFT, MOTOR	1
2	041-5149-00	BIPOLAR STEPPER MOTOR, .67A, 42 OZ-IN	1
3	237-6188-01	SCREW, M3x0.5 X 6MM PPH SEMS ZINC	4
4	180-5119-02	MICRO-SWITCH - LIGHT ACTUATION	1
5	545-6268-00	FISCHE PAPER	1
6	535-6539-00	SWITCH BODY PROTECT PLATE	1
7	237-5937-02	SCREW, 2-56 X 1/2" HWH MS	2
8	530-8042-00	GUIDE ROD	2
9	232-5401-00	SCREW, 10-32 X 3/8 PPH SEMS	2

PARTS REFERENCE

5.70 BACKPANEL VUK ASSEMBLY

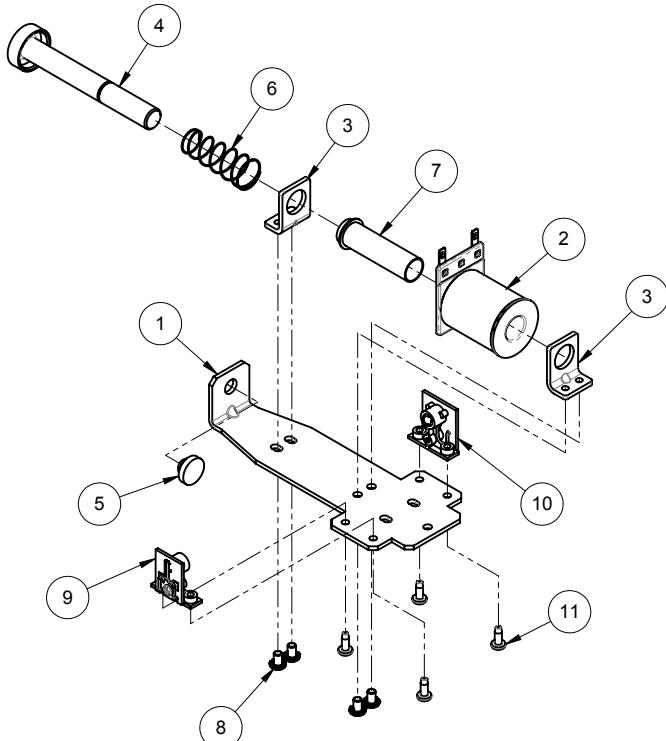
500-2582-00



ID	Part Number	Description	Qty
1	535-2562-00	BACKPANEL VUK CHUTE	1
2	511-5793-00	BACKPANEL VUK LOWER ASM	1
3	240-5102-00	8-32 NYLON LOCK NUT	3

5.71 BACKPANEL VUK KICKER ASSEMBLY

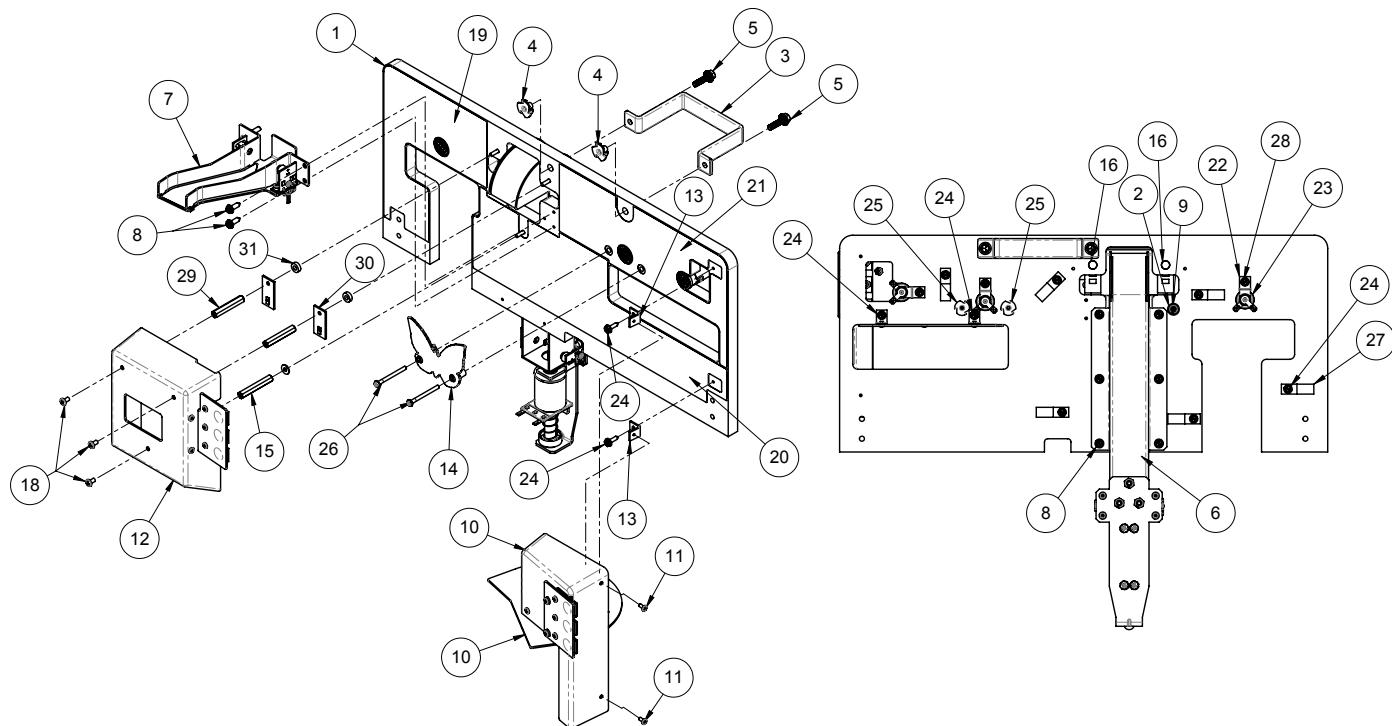
511-5793-00



ID	Part Number	Description	Qty
1	535-2563-00	BRACKET, BACKPANEL, VUK	1
2	090-5001-ND	COIL, 23-800, NO DIODE	1
3	535-5203-03	COIL RETAINING BRACKET	2
4	515-7309-00	PLUNGER ASSEMBLY	1
5	545-5105-00	RUBBER BUMPER	1
6	266-5020-00	COMPRESSION SPRING-CONICAL	1
7	545-5076-01	COIL SLEEVE	1
8	232-5300-00	SCREW, 8-32 X 1/4" PPH SEMS	4
9	515-0215-00	LONG RANGE OPTO Emitter ASSEMBLY	1
10	515-0215-01	LONG RANGE OPTO RECEIVER ASSEMBLY	1
11	237-5880-00	SCREW, #6 X 3/8 PPH T-25	4

5.72 BACKPANEL ASSEMBLY

500-2560-00

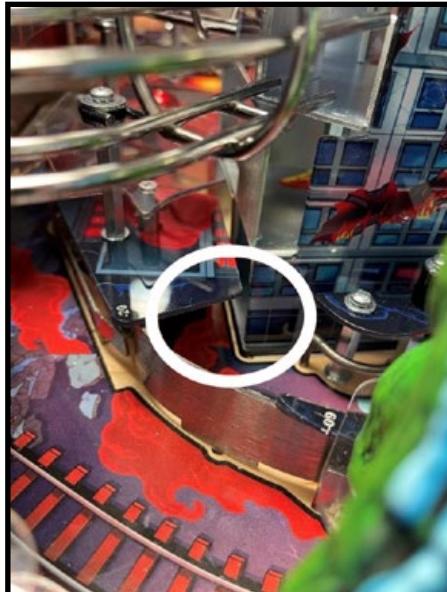
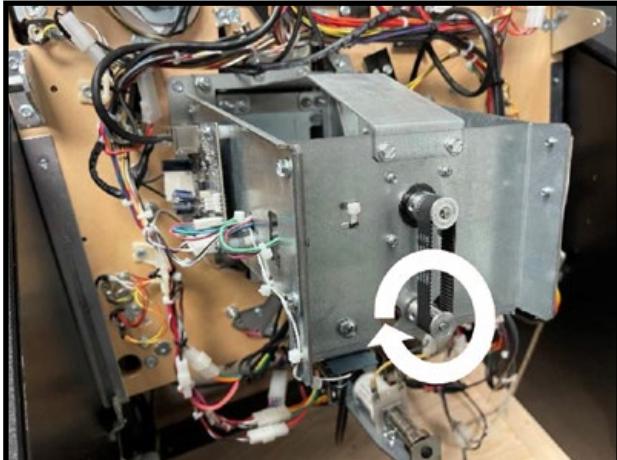


ID	Part Number	Description	Qty
1	525-9739-00	BACK PANEL, GODZILLA, LE	1
2	242-5005-00	#8 WASHER	1
3	535-2288-00	HANDLE, BACKPANEL	1
4	240-5204-00	#10-32 T-NUT	2
5	237-6362-00	10-32 x 3/4" HWH MS SERR	2
6	500-2582-00	BUILDING VUK ASM	1
7	511-5808-00	LOAD RAMP ASM	1
8	234-5101-00	SCREW, #8 X 1/2" SLT HWH AB ZINC	8
9	240-5102-00	8-32 NYLON LOCK NUT	1
10	511-5961-00	PLASTIC ASM, GODZILLA, -77	1
11	237-6331-00	SCREW, 4-40 X 1/4" PPH MS BLACK	2
12	511-5962-00	CENTER BUILDING ASM	1
13	535-1305-06	BRACKET - PLASTIC MTG - 85°	2
14	511-5772-67	PLASTIC ASM, GODZILLA, -67	1
15	254-5008-13	HEX SPACER - 1 5/8 "	1
16	237-5921-04	FIN SHANK SCREW - 7/8" LG.	3
17	242-5001-00	#6 WASHER	1
18	237-5500-01	SCREW, 6-32 X 1/4" PPH MS BLACK	3
19	820-5893-80	DECAL, GODZILLA LE, -80	1
20	820-5893-81	DECAL, GODZILLA LE, -81	1
21	820-5893-82	DECAL, GODZILLA LE, -82	1
22	077-5101-00	STAND-UP SOCKET, #89 - SHORT	3
23	113-5045-08	MULTI-LED FLASHER, 5 VDC - WHITE	3
24	234-5001-02	SCREW, #6 X 1/2" HWH	10
25	240-5002-00	6-32 T-NUT	2
26	237-5510-02	SCREW, 6-32 X 1-1/2" PPH MS BLACK	2
27	040-5000-06	1/2" CABLE CLAMP	6
28	234-5000-00	SCREW, #6 X 3/8" HWH	3
29	254-5008-09	HEX SPACER - 1 1/2 "	2
30	520-7000-00	SINGLE FLASH LED BOARD	2
31	254-5000-19	NYLON SPACER - BLACK - 3/8 OD X .175 ID X 1/8"	2

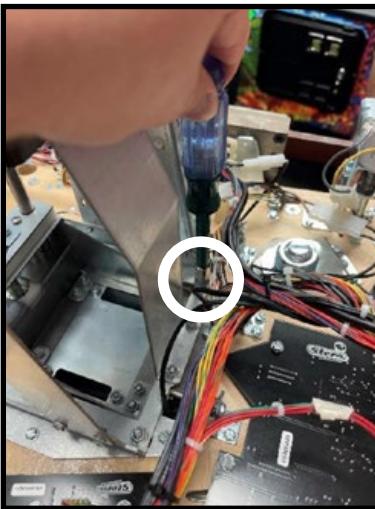
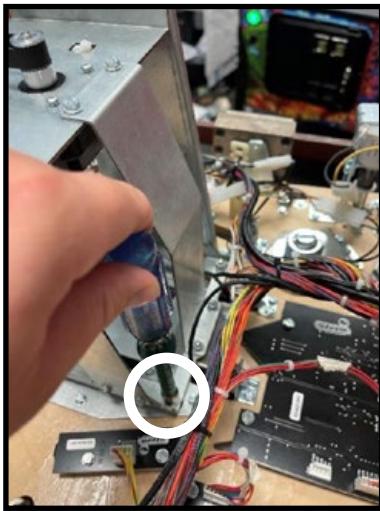
5.73 COLLAPSING BUILDING ADJUSTMENT PROCEDURE

PART 1: PHYSICAL ADJUSTMENT

1. With the game powered off, manually turn the building pulley so that the back left corner of Floor 1 is flush with the playfield.



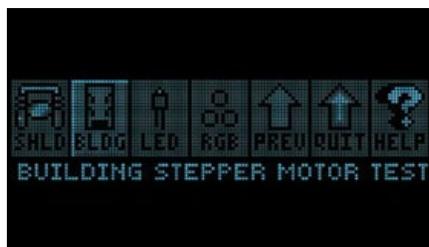
2. Using a 11/32" nut driver, manually turn the two 8-32 nuts indicated below until the front edge of Floor 1 is level with the playfield.



COLLAPSING BUILDING ADJUSTMENT PROCEDURE CONTINUED

PART 2: SOFTWARE LEVELING

1. Power on the game. Proceed to the BUILDING STEPPER MOTOR TEST Menu by entering the Service Menu -> DIAG -> GAME -> BUILDING STEPPER MOTOR TEST.



2. The BUILDING STEPPER MOTOR TEST has two modes, MOVE and ADJUST. The test menu can be toggled between these two modes by pressing START on the game cabinet.
 - a. MOVE Mode: + and – service buttons will cycle through the four floor heights of the building. Current step position will be reported in the top right corner of the test menu. Pressing SELECT on the service menu buttons will begin a motor homing sequence and return the mechanism to the Floor 1 position.



- b. ADJUST Mode: + and – service buttons will add or subtract 10 steps to the Floor 1 position bias. Alter this number until the front edge of the building is in the preferred Floor 1 position. Ideal Floor 1 position is flush with the top playfield surface. Pressing the BACK service button will save this adjustment to the cabinet CPU board.



SPECIFICATIONS

6. SPECIFICATIONS

500-55T6-01

SPECIFICATIONS, MECHANICAL, GAME SETUP

Specification	Imperial	Metric
Weight	210 lbs	96 kg
Max dimensions, leg levellers extended (h, w, d)	78 x 27.75 x 57 in	198 x 70.5 x 145 cm
Minimum game dimensions (h, w, d)	76 x 27.75 x 57 in	193 x 70.5 x 145 cm
Minimum room dimensions per game (h, w, d)	80 x 36 x 84 in	203 x 91 cm x 214 cm

- (h, w, d) = height, width, depth.

SPECIFICATIONS, MECHANICAL, BOXED

Specification	Imperial	Metric
Weight, boxed (without pallet)	230 lbs	105 kg
Box dimensions (h, w, d)	56.5 x 31 x 31 in	144 x 79 x 79 cm
Minimum dimensions (h, w, d)	76 x 26 x 57 in	193 x 66 x 145 cm

- (h, w, d) = height, width, depth.

SPECIFICATIONS, ELECTRICAL

Specification	North America - 120VAC	International - 240VAC
Line Voltage, Nominal	120 VAC	240 VAC
Line Voltage Range	90 VAC - 250 VAC	90 VAC - 250 VAC
Line Frequency *	60 Hz	50 Hz, 60 Hz
Line Power, Current - attract mode	70 W, 0.6 A @ 120 VAC	70 W, 0.3 A @ 240 VAC
Line Power, Current - nominal	360 W, 3 A @ 120 VAC	360 W, 1.5 A @ 240 VAC
Line Power, Current - peak, <100 ms	540 W, 4.5 A @ 120 VAC	540 W, 2.25 A @ 240 VAC

* NOTE: Games designed for 60hz operation (e.g. North America games) will not function correctly on 50hz power and vice versa.

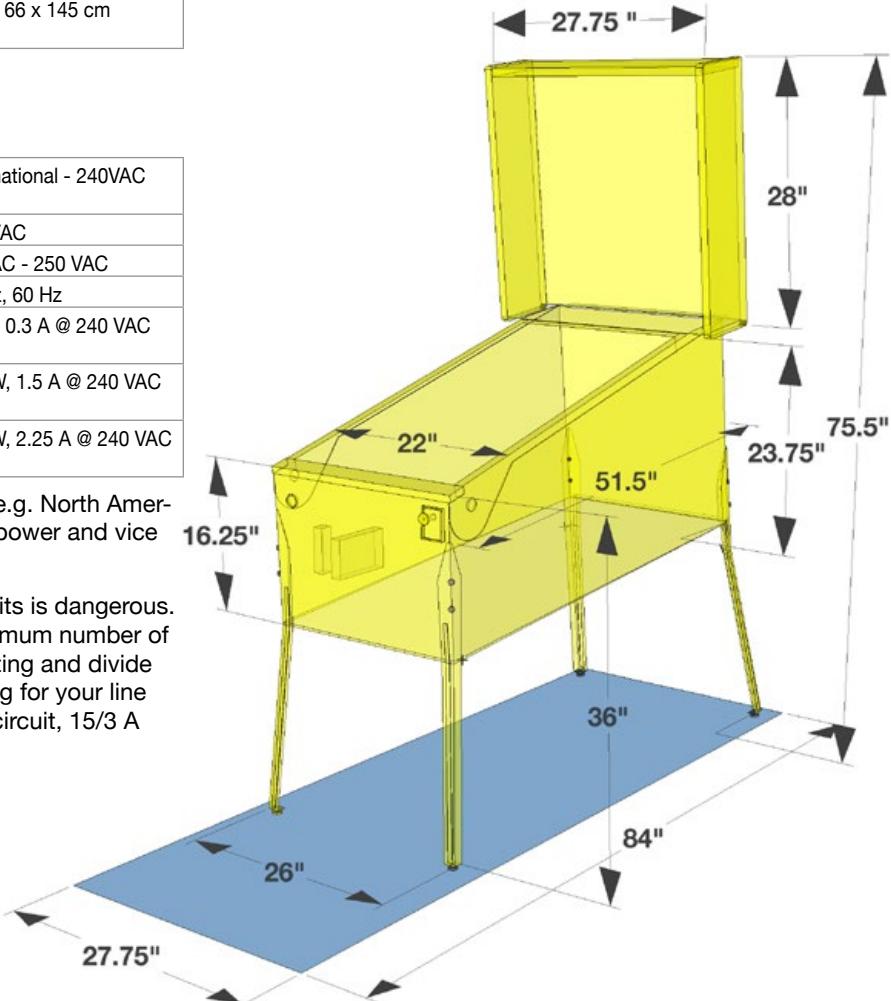
WARNING: Overloading electrical supply circuits is dangerous. Do not overload circuits. To calculate the maximum number of games for a circuit, check circuit amperage rating and divide by the game Nominal Line Power Current rating for your line voltage. For example, a 15A 120V household circuit, 15/3 A (nominal current) = 5 games maximum.

SPECIFICATIONS, ENVIRONMENT

	Minimum	Maximum
Temperature, Operating	32 °F / 0 °C	104°F / 40 °C
Temperature, Storage	32 °F / 0 °C	104°F / 40 °C
Relative Humidity, Operating	5%	95% non-condensing
Relative Humidity, Storage	5%	95% non-condensing

- (a) "The appliance has to be placed in a horizontal position."
- (b) If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified person in order to avoid hazard.

6.1 GAME DIMENSIONS



6.2 WARRANTY

500-55T6-01

Stern Pinball machines are assembled in Elk Grove Village, Illinois, USA; each pinball machine has unique characteristics that make it a one-of-a-kind American-made product. Each machine will have variations in appearance resulting from differences in the machine's particular wood parts, individual silk screened art and mechanical assemblies. Stern Pinball has inspected each game element to ensure it meets stringent quality and playability standards.

STERN PINBALL INC LIMITED WARRANTY

Stern Pinball Inc ('SELLER') warrants only to the initial purchaser of its products that the items listed below are free from defects in material and workmanship under normal use and service for the warranty period specified:

- Printed circuit boards (game logic): 2 months
- Dot Matrix / LCD Display: 9 months

No other parts of seller's product are warranted.

Warranty periods are effective from the initial date of shipment from seller to its authorized distributors.

Seller's sole liability shall be, at its option, to repair or replace products which are returned to seller during the warranty periods specified, provided:

1. Seller is notified promptly upon discovery by purchaser that stated products are defective.
2. Such products are properly packaged and then returned freight prepaid, to seller's plant.

This warranty does not apply to any parts damaged during shipment and/or due to improper handling, or due to improper installation or usage, or alteration. In no event shall the seller be liable for any anticipated profits, loss of profits, loss of use, accidental or consequential damages, or any other losses incurred by the customer in connection with the purchase of a Stern Pinball Inc Product.

WARRANTY DISCLAIMER

Except as specifically provided in a written contract between seller and purchaser, there are no other warranties, express or implied, including any implied warranties of merchantability or fitness for a particular purpose.

This Game Service Manual and all other documents relating to this product, playfield components, features, rules, programming, and operation are subject to change without notice (Service Bulletins, if applicable, available through official Stern Pinball website).

ATTENTION!

IMPORTANT WARRANTY INFORMATION

The electronics system, node network architecture, mechanical devices and associated software control systems in this pinball machine are designed to work with genuine Stern Pinball accessories and devices.

Installation of non-authorized accessories, lamps, LED's, motors or other devices or modification of electro-mechanical devices may damage the system and will void your warranty.

6.3 WARNINGS, COMPLIANCE, AND LEGAL NOTICES

PHOTOSENSITIVE SEIZURES HEALTH WARNING



A very small percentage of people may experience a seizure when exposed to certain visual images, including flashing lights or patterns. Even people with no history of seizures or of epilepsy may have an undiagnosed condition that can cause "photosensitive epileptic seizures" due to certain visual images, flashing lights or patterns. Symptoms can include lightheadedness, altered vision, eye or face twitching, jerking or shaking of arms or legs, disorientation, confusion, momentary loss of awareness, and loss of consciousness or convulsions that can lead to injury from falling down or striking nearby objects.

IMMEDIATELY STOP PLAYING AND CONSULT A DOCTOR IF YOU EXPERIENCE ANY OF THESE SYMPTOMS.

PARTS SUBSTITUTIONS



For safety and reliability, substitute parts and equipment modifications are not recommended and may void any and all warranties. Use of Non-Stern Pinball Inc Parts or Modifications of game circuitry may adversely affect game play or game safety. Transport pinball machines with hinged backbox in the down position only! Always take great care when servicing any game. Always ready the service manual before replacing or servicing components. Substitutions of parts or equipment modifications may void FCC type acceptance.

Always disconnect the line voltage before servicing. Some parts may remain energized when unplugged. Take great caution when servicing any electrical components.

PERCHLORATE MATERIAL

- Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate

FCC CLASS A SUBPART J COMPLIANCE



This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

RF INTERFERENCE NOTICE

The cable harness placements, ground strap routing, and other shielding have been designed to keep RF radiation and conduction within levels accepted by FCC rules. To maintain these levels, factory harness position, shielding, and ground straps must be installed in their factory locations should they become disconnected during maintenance.

COPYRIGHT AND INTELLECTUAL PROPERTY NOTICE

This document and the data disclosed herein or herewith is not to be reproduced (Except where noted), used, or otherwise disclosed in whole or in part to anyone without written consent of Stern Pinball Inc.

Products in this manual, the company name and devices and the design of the manual itself are protected by federal patents (and patents pending), design registrations, trademarks, and copyrights. Action will be taken in the event of infringement or imitation. The right is reserved to change specifications without prior notice.

SPECIFICATIONS

6.4 STERN PINBALL END USER LICENSE AGREEMENT

This limited software license Agreement (“Agreement”) applies to your use of Stern Pinball Software pre-installed on a Stern Pinball Machine and any Authorized Updates made available to you.

BY USING YOUR STERN PINBALL MACHINE, YOU AGREE TO THE TERMS OF THIS AGREEMENT. If you do not agree to the terms of this Agreement, do not use your Stern Pinball Machine or any Authorized Updates. Please read this entire Agreement, which governs your use of the Stern Pinball Machine, Stern Pinball Software and all Authorized Updates.

ADULT CONSENT

TO ENTER INTO THIS AGREEMENT, YOU MUST BE AN ADULT OF THE LEGAL AGE OF MAJORITY IN YOUR COUNTRY OF RESIDENCE. YOU ARE LEGALLY AND FINANCIALLY RESPONSIBLE FOR ALL ACTIONS USING YOUR STERN PINBALL MACHINE AND SOFTWARE AND ACCESSING OR USING ANY ONLINE GAMING PLATFORM, INCLUDING THE ACTIONS OF ANYONE YOU ALLOW TO USE AND ACCESS TO YOUR MACHINE AND ANY ASSOCIATED ACCOUNT. YOU AFFIRM THAT YOU HAVE REACHED THE LEGAL AGE OF MAJORITY, UNDERSTAND AND ACCEPT THIS AGREEMENT. IF YOU ARE UNDER THE LEGAL AGE OF MAJORITY, YOUR PARENT OR LEGAL GUARDIAN MUST CONSENT TO THIS AGREEMENT.

DEFINITIONS

- a. “Stern Pinball Machine” means a Stern Pinball arcade game machine.
- b. “Stern Pinball Software” means software (including but not limited to firmware) pre-installed in the Stern Pinball Machine, including all Authorized Content and any Authorized Updates that Stern Pinball may make available to You from time to time.
- c. “Authorized Content” means all Stern Pinball and third-party owned software and content incorporated into or used with the Stern Pinball Software or otherwise embedded in or utilized by a Stern Pinball Machine, including but not limited to graphics, images, music, vocals and voices.
- d. “Authorized Update” means an update to the Stern Pinball Software distributed by Stern Pinball or otherwise made available by Stern Pinball, including for download on its website.
- e. “Unauthorized Content” means all content, including but not limited to graphics, images, music, vocals and voices, that does not comprise Authorized Content or an Authorized Update.
- f. “Unauthorized Software” means any software (including but not limited to firmware) not pre-installed by Stern Pinball on a Stern Pinball Machine or that does not comprise Authorized Content or Authorized Update.
- g. “You” means the purchaser or current owner of a Stern Pinball Machine.

LICENSE

Stern Pinball hereby grants You a nonexclusive, non-transferable, limited, and revocable right and license to use one copy of the Stern Pinball Software and Authorized Content and any Authorized Update solely for your personal use, or that of your patrons and customers if you are a commercial entity, for playing a single Stern Pinball Machine. The Stern Pinball Software, Authorized Content and Authorized Updates are licensed, not sold, to You, and no ownership rights are transferred by this Agreement. The Stern Pinball Software Authorized Content and Authorized Updates are protected by U.S. and international copyright. All rights not explicitly granted to you in this Agreement are reserved by Stern Pinball.

- a. As a condition to this Stern Pinball Software license, You agree that:
 - i. You will not copy, reproduce, alter, replace, distribute, reverse engineer, decompile, disassemble, display, perform, create derivative works based on, or otherwise modify the Stern Pinball hardware or Stern Pinball Software or any Authorized Update, in whole or in part; and will not commercially exploit any of the foregoing.
 - ii. **You will not use or install any Unauthorized Content or Unauthorized Software. Use of Unauthorized Content or Unauthorized Software may result in your Stern Pinball Machine ceasing to work permanently and/or losing access to Stern Pinball's online game network, either immediately or after a later installed Authorized Update.**

- iii. You will not create, develop, distribute or assist anyone else in creating, developing or distributing any Unauthorized Content or Unauthorized Software intended for use with a Stern Pinball Machine, whether to add to or modify the gameplay, any audio content (whether music, sound or voice), or any video content of any Stern Pinball Machine, or to gain advantage in any online or other game modes, or otherwise.
- iv. You will not share any Stern Pinball Software, Authorized Content or Authorized Update with any other person or company and will not permit anyone else to access or copy any Stern Pinball Software or Authorized Content or Authorized Update installed on your Machine for any purpose.
- v. In view of the rights held by third-party owners of Authorized Content (e.g., music and video clips), Stern does not have the legal authority to give permission to stream the gameplay of Stern Pinball Machines.
- vi. You will not attempt to defeat or circumvent any anti-piracy, security, and/or technical measures to control access to the Stern Pinball Software, features, functions or content, prevent unauthorized use, or otherwise prevent anyone from exceeding the limited license rights granted under this Agreement, "Security Measures". Attempting to defeat or circumvent any Security Measure may result in your Stern Pinball Machine ceasing to work permanently either immediately or after a later installed Authorized Update.
- vii. **Stern Pinball may update the Stern Pinball Software from time to time without further notice to You, for example, to update any anti-piracy, security, and technical measure.**

PRIVACY POLICY

Your use of the Stern Pinball Machine, Stern Pinball Software and any Authorized Updates is subject to Stern Pinball's Privacy Policy which can be found at <https://sternpinball.com/privacy-policy>.

WARRANTY

EXCEPT AS PROVIDED HEREIN, THE STERN PINBALL SOFTWARE, AUTHORIZED CONTENT AND AUTHORIZED UPDATES ARE PROVIDED "AS IS" AND, TO THE MAXIMUM EXTENT ALLOWABLE UNDER LAW, STERN PINBALL DISCLAIMS ALL WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT. WITHOUT LIMITING THE FOREGOING, STERN PINBALL DOES NOT WARRANT THAT OPERATION OF THE STERN PINBALL MACHINE OR ANY ONLINE OR CONNECTED GAME NETWORK WILL BE UNINTERRUPTED OR ERROR-FREE.

EXCLUSION OF CERTAIN DAMAGES

STERN PINBALL IS NOT RESPONSIBLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES; ANY LOSS OF DATA, PRIVACY, CONFIDENTIALITY, OR PROFITS; OR ANY INABILITY TO USE THE STERN PINBALL MACHINE, STERN PINBALL SOFTWARE OR ANY AUTHORIZED UPDATE. THESE EXCLUSIONS APPLY EVEN IF STERN PINBALL HAS BEEN ADVISED OF THE POSSIBILITY OF THESE DAMAGES, AND EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE. Some countries do not allow the exclusion or limitation of incidental or consequential damages, so this limitation or exclusion may not apply to You.

These terms apply to the maximum extent permitted by law and unless prohibited by law. These terms do not change your rights under the laws of your country if those laws do not permit that change.

TERRITORY AND CHOICE OF LAW

This License is valid only in the country in which you purchased your Stern Pinball Machine. This License will be subject to and construed in accordance with the laws of the State of Illinois, U.S.A., regardless of conflict of laws principles. You agree to submit to the exclusive jurisdiction of the state and federal courts in Cook County, Illinois, U.S.A. for the resolution of any dispute regarding this Agreement or the subject matter of this Agreement and to waive any jurisdictional, venue, or inconvenient forum objections to such courts.

This Agreement may be updated by Stern Pinball from time to time with the current version posted at www.sternpinball.com/EULA. Your continued use of the Stern Pinball Software and Authorized Update after an updated Agreement has been posted constitutes your acceptance of all of its terms.





1-800-KICKERS
PARTS.SERVICE@STERNPINBALL.COM
WWW.STERNPINBALL.COM
FACEBOOK.COM/STERNPINBALL

GODZILLA LE #500-55T6-01
GODZILLA PREMIUM #500-55T7-01
MANUAL #780-50T6-00

