# GAME OF THRONES
## 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 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 light-headedness, 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.

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 insure it meets our quality standards.

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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 #780-50G5-00
GAME OF THRONES LE #500-55G5-01
GAME OF THRONES PREMIUM #500-55G6-01

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

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# 1. SETUP AND MOVING

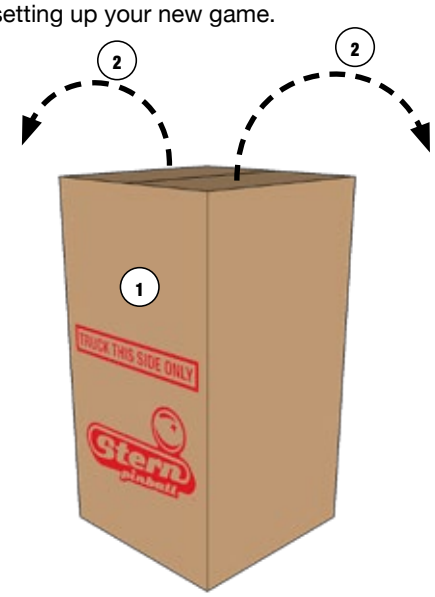
## 1.1 FIRST-TIME SETUP INSTRUCTIONS

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**

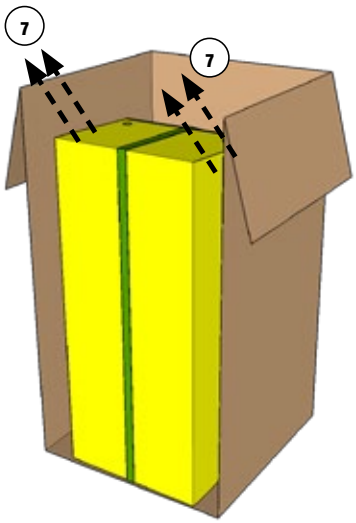
- 5/8" Socket Wrench
- Utility Knife
- Snips
- An Assistant

**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.**

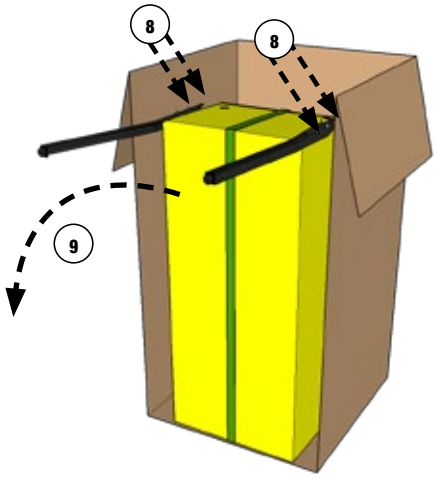



1. Locate the side labeled "TRUCK THIS SIDE ONLY". The bottom of the game faces this side.
2. Open the top box flaps by pulling hard in an upward motion on each flap. If the flaps are taped, cut the tape first, taking care to avoid the box staples.

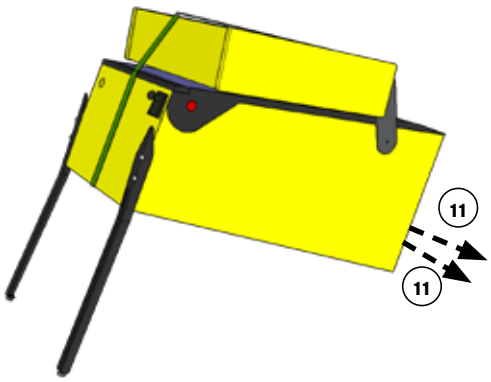
3. Remove the four (4) foam pieces and two (2) narrow box tubes which contain the four (4) identical legs with levelers.
4. DO NOT CUT STRAPPING YET. Keep backbox secured in the down position.
5. With the utility knife, carefully cut down the left and right corners of the box.



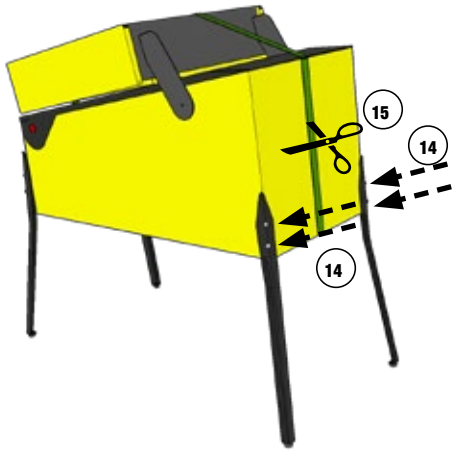

6. Let the face fall forward and remove the entire side by carefully cutting the bottom.
7. With the game still in its folded position, use a ⅝" wrench to loosen and remove the 2 leg bolts on each side of the front cabinet. Ensure the leg levelers are screwed all the way into the legs.




8. Install front legs using the bolts removed from Step 5. Secure tightly.
9. Use a helper to carefully set the game down on the front legs.




10. Set aside the open box.
11. With a ⅝" 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.

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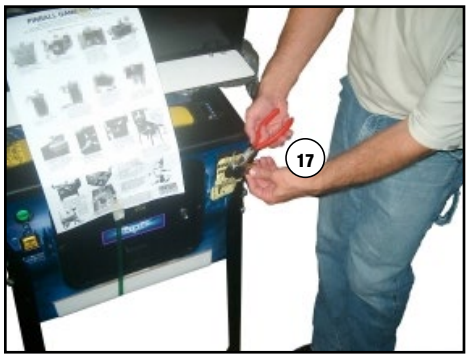
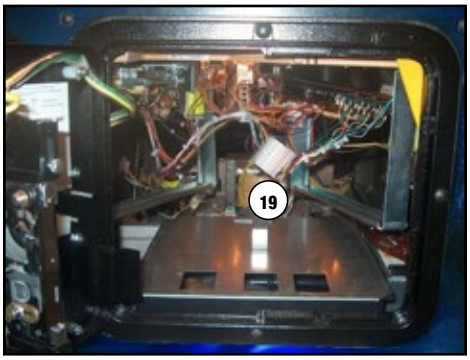
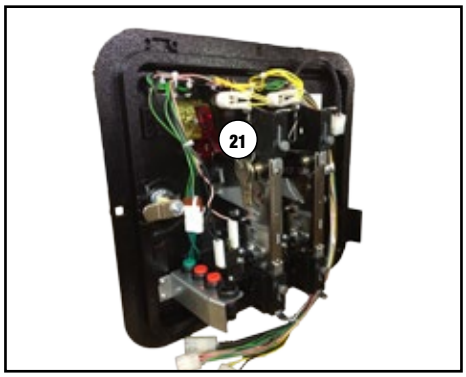
# FIRST-TIME SETUP CONTINUED



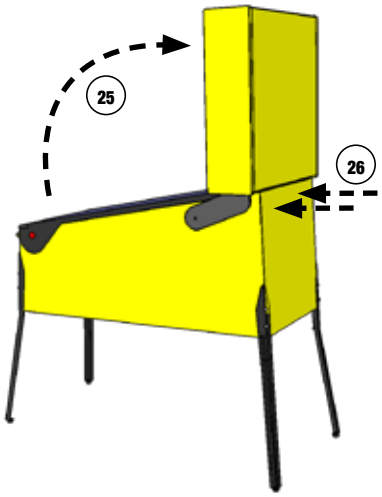

15. Cut nylon strapping and remove protective strap corner guards.
16. Locate the factory keys, either on the shooter rod or taped to the playfield glass.
17. Using the snips, cut the tie-wrap securing the keys if required. One set of keys is for the front coin door, the other set of keys is for accessing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



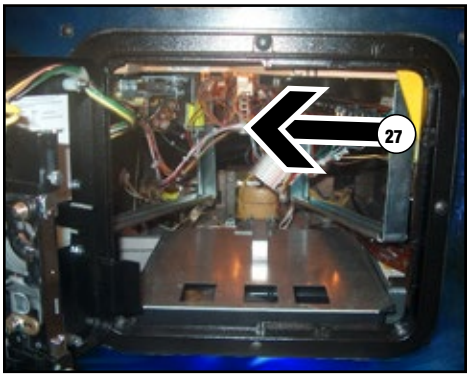

18. Open the front coin door.
19. Reach into the game and remove the retaining clip at the rear of the cash box.
20. Remove the cash box lid by sliding it toward you.




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 ⅝" 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 hold and move the yellow top molding lock handle to the left.
28. Remove the front top molding and then release the handle.

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.**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# 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 8-12 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.


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# 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. 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 | TILT WARNINGS | 2 |
| 23 | CREDIT LIMIT | 30 |
| 24 | ALLOW HIGH SCORES | YES |
| 25 | HIGH SCORE AWARD | CREDIT |
| 26 | GRAND CHAMPION AWARDS | 1 |
| 27 | HIGH SCORE #1 AWARDS | 1 |
| 28 | HIGH SCORE #2 AWARDS | 0 |
| 29 | HIGH SCORE #3 AWARDS | 0 |
| 30 | HIGH SCORE #4 AWARDS | 0 |
| 31 | GRAND CHAMPION SCORE | 75,000,000 |
| 32 | HIGH SCORE #1 | 55,000,000 |
| 33 | HIGH SCORE #2 | 40,000,000 |

| ID | Adjustment Name | Default Setting |
|---|---|---|
| 34 | HIGH SCORE #3 | 30,000,000 |
| 35 | HIGH SCORE #4 | 25,000,000 |
| 36 | HSTD INITIALS | 3 INITIALS |
| 37 | HSTD RESET COUNT | 2000 |
| 38 | FREE PLAY | NO |
| 39 | LANGUAGE | ENGLISH |
| 40 | PLAYER LANGUAGE SELECT | YES |
| 41 | CUSTOM MESSAGE | ON |
| 42 | FLASH LAMP POWER | NORMAL |
| 43 | COIL PUSLE POWER | NORMAL |
| 44 | KNOCKER VOLUME | NORMAL |
| 45 | GAME RESTART | YES |
| 46 | BILL VALIDATOR | NO |
| 47 | MUSIC VOLUME | 1 |
| 48 | BALL SAVE TIME | 0:05 |
| 49 | TIMED PLUNGER | OFF |
| 50 | FLIPPER BALL LAUNCH | OFF |
| 51 | COINDOOR BALL SAVER | NO |
| 52 | COMPETITION MODE | NO |
| 53 | CONSOLATION BALL | YES |
| 54 | FAST BOOT | YES |
| 55 | Q24 OPTION | COIN METER |
| 56 | TICKET DISPENSER | NO |
| 57 | PLAYER COMPETITION | YES |
| 58 | TEAM SCORES | NO |
| 59 | LOCATION ID | 0 |
| 60 | GAME ID | 0 |
| 61 | TIME FORMAT | 12-HOUR |
| 62 | COIN INPUT DELAY | 30 |
| 63 | LOST BALL RECOVERY | YES |
| 64 | COIN DOOR DISABLE TILT | NO |
| 65 | BACKBOX BRIGHTNESS | 100% |
| 66 | COIN DOOR OPEN B.BOX BRIGHTNESS | 10% |


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## 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.

## 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.

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# 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.

**CAUTION**

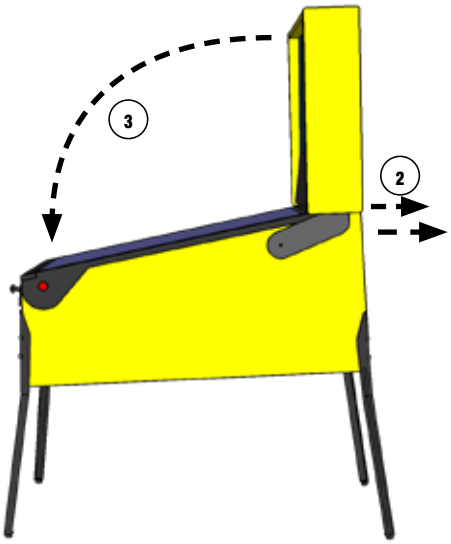
**NEVER TRANSPORT THE GAME IN A MOVING VEHICLE WITH THE BACKBOX RAISED! TWO PEOPLE ARE REQUIRED TO REMOVE THE LEGS!**

## 1. SECURE THE BACKBOX

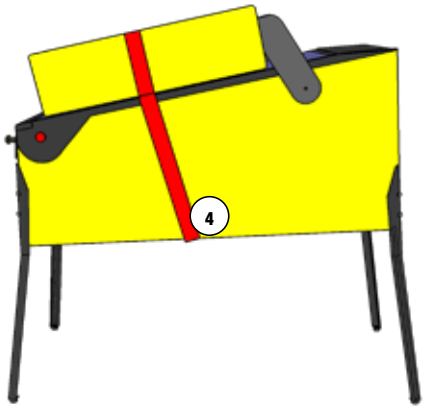
**TOOLS REQUIRED**

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

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

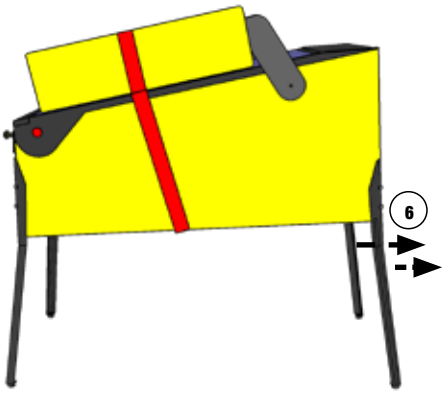



2. Remove the backbox securing bolts
3. Carefully lower the backbox onto the side rails. Use a piece of cardboard or suitable padding between the backbox and the game.

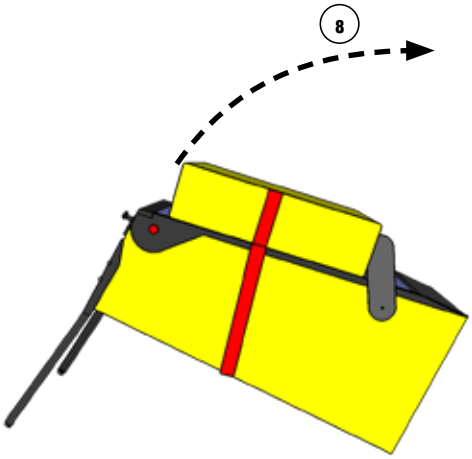



4. Securely strap the back box to the game
5. The game may be transported with the legs on. If the legs must be removed, follow the remaining steps.

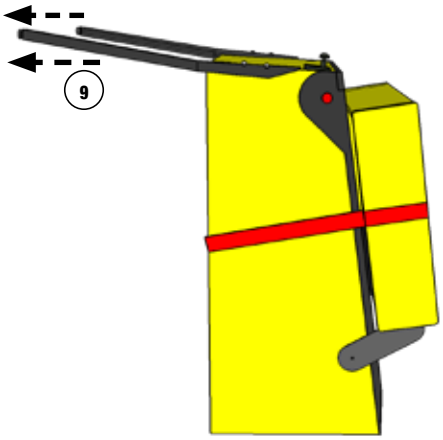
## 2. REMOVE THE LEGS AND STAND UP



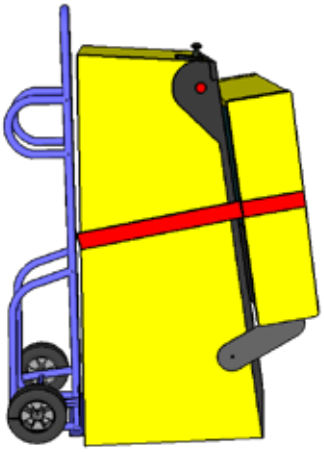

6. Remove the legs, rear legs first. Use a stool or a friend to support the rear of the game.
7. Rest the rear of the game on the ground.




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.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# 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 (¼", 5/16", 11/32", ⅜")
- Phillips screwdriver
- Standard Allen wrench/Hex key set
- ⅝" 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 |
|---|---|
| Game of Thrones LE/Premium Maintenance Kit<br>8 oz pinball playfield wax (Novus # 2) (675-0003-01)<br>Standard Pinball (260-5000-00)<br>Cleaning Cloth<br>All Playfield Rubber Rings<br>Spare Fuses | 502-6002-G5<br>502-6002-G6 |
| Game of Thrones LE/Premium Deluxe Maintenance Kit<br>All standard kit items, plus:<br>Flipper rebuild kits, Left and Right (500-6307-10,-00) | 502-6003-G5<br>502-6003-G6 |
| Game of Thrones LE Playfield Plastics Kit | 803-5000-G5 |
| Game of Thrones Premium Playfield Plastics Kit | 803-5000-G6 |
| Game of Thrones LE Playfield Decals Kit | 802-5000-G5 |
| Game of Thrones Premium Playfield Decals Kit | 802-5000-G6 |
| Game of Thrones LE Backbox Decal Left | 820-71G5-01 |
| Game of Thrones Premium Backbox Decal Left | 820-71G6-01 |
| Game of Thrones LE Backbox Decal Right | 820-71G5-02 |
| Game of Thrones Premium Backbox Decal Right | 820-71G6-02 |
| Game of Thrones LE Cabinet Decal Left | 820-71G5-03 |
| Game of Thrones Premium Cabinet Decal Left | 820-71G6-03 |
| Game of Thrones LE Cabinet Decal Right | 820-71G5-04 |
| Game of Thrones Premium Cabinet Decal Right | 820-71G6-04 |
| Game of Thrones LE Cabinet Decal Front | 820-71G5-05 |
| Game of Thrones Premium Cabinet Decal Front | 820-71G6-05 |
| Game of Thrones LE Playfield, Bare | 830-5000-G5 |
| Game of Thrones Premium Playfield, Bare | 830-5000-G6 |
| Game of Thrones LE Mirror Backglass | 830-52G5-00 |
| Game of Thrones Premium Translite Backglass | 830-52G6-00 |

# 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 |

# 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 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.

### COIN-DOOR SAFETY INTERLOCK

To protect the system and for user safety, power to the playfield is disabled when the front coin door is opened. 48V system power and 9V node bus power is disabled to all playfield components until the switch is closed.

## 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 |

Figure 2.4.1. 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 |

Figure 2.4.2. SPIKE node addresses for nodes with 4-position DIP switches. Addresses 0-7 are reserved for fixed-function nodes and do not require configuration.

## 2.5 SPIKE NODE PROGRAMMING

The SPIKE nodes are smart nodes that have on-board processors and run embedded code. The nodes are programmed


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# SPIKE SYSTEM AND NODE GUIDE CONTINUED

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.

System Protections

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.

### FUSES

Nodes that have 48 V power are fused individually. Fuse voltage ratings are a safety rating and always must be higher than the circuit the fuse is protecting. Never replace a fuse with a lower voltage-rated fuse. Fuse current ratings must be replaced with the same current value. A higher current value fuse could cause catastrophic failures, and a lower-value fuse will cause premature fuse failures.

Common fuses

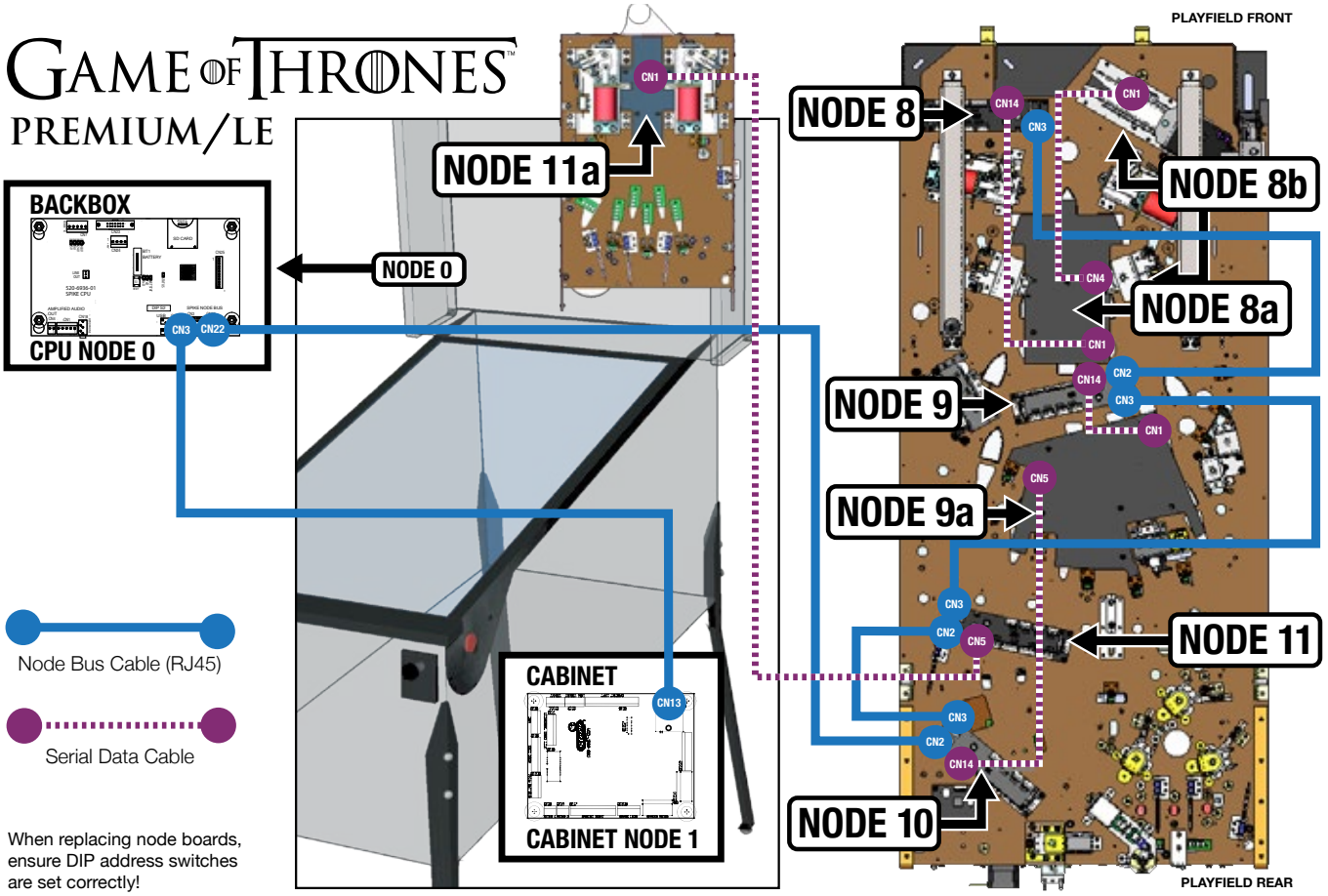
| Fuse Rating (Amps) | Type | Part Number |
|---|---|---|
| 3 A | Slow Blow MDL | 200-5000-08 |
| 4 A | Slow Blow MDL | 200-5000-06 |
| 5 A | Slow Blow MDL | 200-5000-01 |
| 7 A | Slow Blow MDL | 200-5000-03 |
| 8 A | Slow Blow MDL | 200-5000-05 |

CAUTION: Always replace fuses with the exact current specifications.

## 2.7 COMMON SPIKE NODE BOARDS

| Description | Type | Part Number |
|---|---|---|
| SPIKE CPU Node | Node | 520-6936-01 |
| SPIKE CPU Node w/ Video Out Support (Backward compatible with -00) | Node | 520-6936-10 |
| Cabinet Node | Node | 520-6967-00 |
| 48V 8-Driver Node | Node | 520-6935-10 |
| 48V 4-Driver Node | Node | 520-5329-10 |
| SPIKE 32 Light and Switch Node | Node | 520-5322-10 |
| Through Serial Opto Receiver Extension | Extension | 520-5345-01 |

# 3. LIGHT, SWITCH, AND DRIVER REFERENCE




## 3.1 SPIKE NODE BOARDS

| ID | DIP Address | Description | Location | Part Number |
|---|---|---|---|---|
| Node 0 | n/a | SPIKE CPU Node | Backbox | 520-6936-01 |
| Node 1 | n/a | Cabinet Node | Cabinet | 520-6967-00 |
| Node 8 | OFF-OFF-OFF-OFF | Lower Playfield 48V 8-Driver Node | Lower playfield | 520-6935-10 |
| 8a | n/a | Serial LED board - PLFD-lower | playfield | 520-6979-00 |
| 8b | n/a | Trough Serial Opto Receiver Extension | Lower playfield ball trough | 520-5345-01 |
| Node 9 | OFF-OFF-ON | Playfield 48V 4-Driver Node | playfield | 520-5329-10 |
| 9a | n/a | Serial LED board - PLFD-center | playfield | 520-6980-00 |
| Node 10 | OFF-ON-OFF | Playfield 48V 4-Driver Node | playfield | 520-5329-10 |
| Node 11 | OFF-ON-ON-OFF | Upper Playfield 48V 8-Driver Node | playfield | 520-6935-10 |
| 11a | n/a | Serial LED & SW board - Mini Plyfld | Mini playfield | 520-6978-00 |

## 3.2 DRIVER REFERENCE

| ID | Name | Node | Connector | Ret. Pin | Ret. Wire | Voltage | V+ Pin | V+ Color | Location | Type | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Trough | 9 | CN9 | 3 | ORG GRY | 48V | 4 | GRY RED | Playfield | Coil - 27-1500 | 9-DR-2 | 090-5004-ND |
| 2 | Auto Plunger | 9 | CN7 | 3 | ORG WHT | 48V | 4 | GRY RED | Playfield | Coil - 23-800 | 9-DR-1 | 090-5001-ND |
| 3 | Left Flipper Power | 8 | CN5 | 3 | ORG YEL | 48V | 4 | GRY ORG | Playfield | Coil - 22-1080 | 8-DR-0 | 090-5032-ND |
| 4 | | | | | | | | | | | | |
| 5 | Left Slingshot | 8 | CN7 | 3 | ORG BLU | 48V | 4 | GRY ORG | Playfield | Coil - 26-1200 | 8-DR-1 | 090-5044-ND |
| 6 | | | | | | | | | | | | |
| 7 | Shaker Motor | 1 | CN2 | 1 | BLU | 48V | 5 | RED | Cabinet | Motor | 1-DR-0 | 041-5029-04 |

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## DRIVER REFERENCE

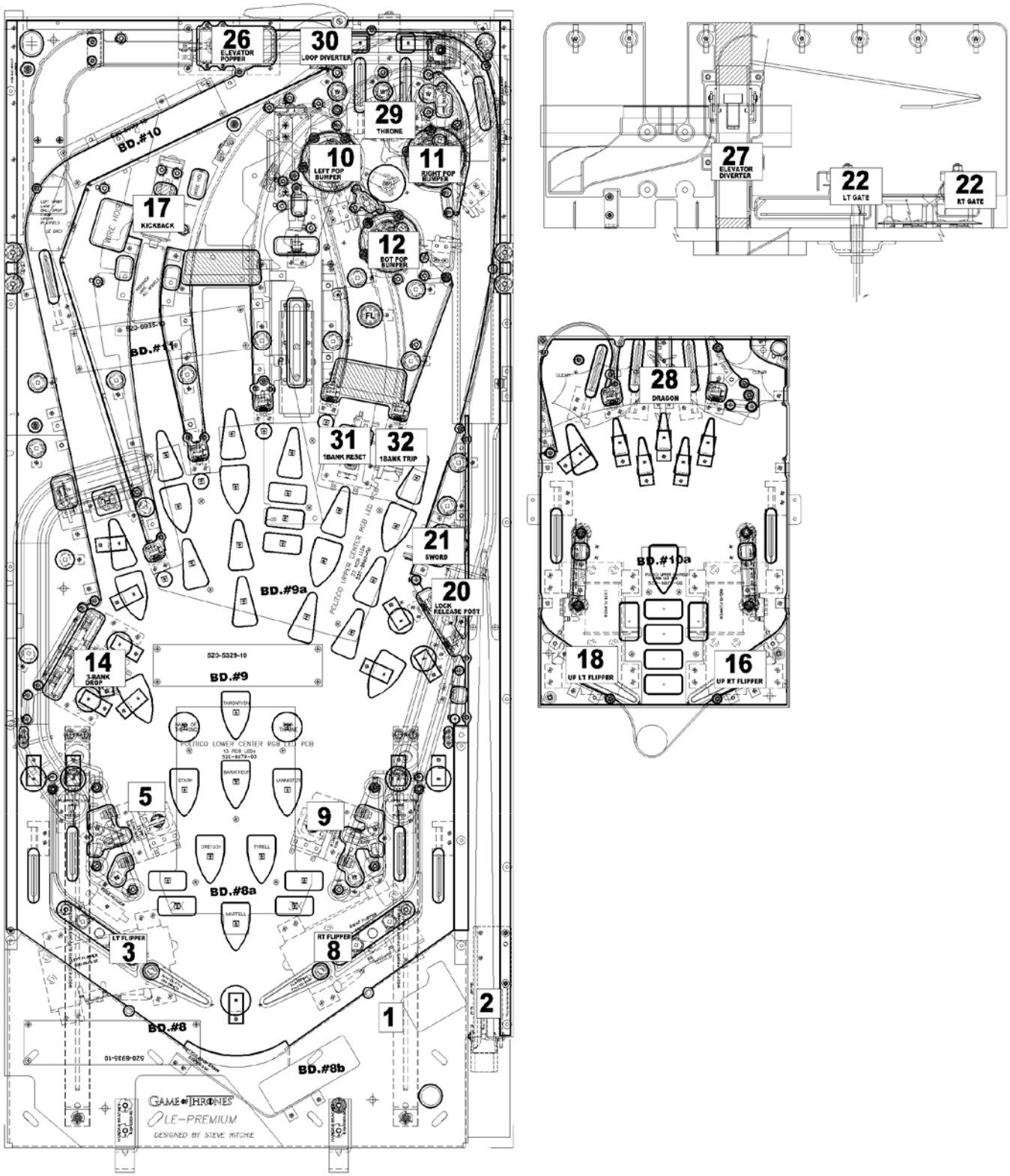


Figure 3.2.1. Playfield driver locations (top view).

Continued on next page

## DRIVER REFERENCE CONTINUED

| ID | Name | Node | Connector | Ret. Pin | Ret. Wire | Voltage | V+ Pin | V+ Color | Location | Type | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | Right Flipper Power | 8 | CN8 | 5 | ORG GRN | 48V | 6 | GRY ORG | Playfield | Coil - 22-1080 | 8-DR-5 | 090-5032-ND |
| 9 | Right Slingshot | 8 | CN6 | 5 | ORG VIO | 48V | 6 | GRY ORG | Playfield | Coil - 26-1200 | 8-DR-4 | 090-5044-ND |
| 10 | Left Pop Bumper | 10 | CN7 | 3 | ORG BLK | 48V | 4 | GRY BRN | Playfield | Coil - 26-1200 | 10-DR-1 | 090-5044-ND |
| 11 | Right Pop Bumper | 10 | CN9 | 3 | ORG BRN | 48V | 4 | GRY BRN | Playfield | Coil - 26-1200 | 10-DR-2 | 090-5044-ND |
| 12 | Bottom Pop Bumper | 10 | CN11 | 3 | ORG RED | 48V | 4 | GRY BRN | Playfield | Coil - 26-1200 | 10-DR-3 | 090-5044-ND |
| 13 | | | | | | | | | | | | |
| 14 | 3-Bank Drop Reset | 8 | CN9 | 3 | BLU BLK | 48V | 4 | GRY ORG | Playfield | Coil - 25-1240 | 8-DR-2 | 090-5034-ND |
| 15 | | | | | | | | | | | | |
| 16 | U/P Right Flipper | 8 | CN12 | 5 | YEL BRN | 48V | 6 | GRY ORG | Playfield | Coil - 23-900 | 8-DR-7 | 090-5020-30-ND |
| 17 | Kickback | 8 | CN11 | 3 | BLU BRN | 48V | 4 | GRY ORG | Playfield | Coil - 23-800 | 8-DR-3 | 090-5001-ND |
| 18 | U/P Left Flipper | 8 | CN10 | 5 | YEL BLK | 48V | 6 | GRY ORG | Playfield | Coil - 23-900 | 8-DR-6 | 090-5020-30-ND |
| 19 | | | | | | | | | | | | |
| 20 | Lock Release Post | 9 | CN11 | 3 | BLU GRN | 48V | 4 | GRY RED | Playfield | Coil - 26-1200 | 9-DR-3 | 090-5044-ND |
| 21 | Sword | 9 | CN5 | 3 | BLU YEL | 48V | 4 | GRY RED | Playfield | Coil - 26-1200 | 9-DR-0 | 090-5044-ND |
| 22 | L/R Control Gates | 10 | CN5 | 3 | BLU RED | 48V | 4 | GRY BRN | Back Panel | Coil - 32-1250 | 10-DR-0 | 090-5060-01-ND |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 26 | Elevator Popper | 11 | CN7 | 3 | VIO BRN | 48V | 4 | GRY VIO | Playfield | Coil - 26-1200 | 11-DR-1 | 090-5044-ND |
| 27 | Elevator Diverter | 11 | CN5 | 3 | VIO BLK | 48V | 4 | GRY VIO | Playfield | Coil - 26-1200 | 11-DR-0 | 090-5044-ND |
| 28 | | | | | | | | | | | | |
| 29 | Throne | 11 | CN12 | 5 | VIO GRN | 48V | 6 | GRY VIO | Playfield | Coil - 27-950 | 11-DR-7 | 090-5084-01 |
| 30 | Loop Diverter | 11 | CN10 | 5 | YEL RED | 48V | 6 | GRY VIO | Playfield | Coil - 26-1200 | 11-DR-6 | 090-5044-ND |
| 31 | 1 Bank Drop Reset | 11 | CN8 | 5 | VIO ORG | 48V | 6 | GRY VIO | Playfield | Coil - 25-1240 | 11-DR-5 | 090-5034-ND |
| 32 | 1 Bank Drop Trip | 11 | CN11 | 3 | VIO YEL | 48V | 4 | GRY VIO | Playfield | Coil - 32-1800 | 11-DR-3 | 515-9702-01-ND |
| 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 | |

# 3.3 SWITCH REFERENCE

| ID | Name | Node | Node Ext | Conn. | Input Pin | Input Wire | GND Pin | Ground Wire | Location | Type | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Left Return Lane | 9 | - | CN15 | 3 | PNK BRN | 14 | BLK VIO | Playfield | Rollover | 9-SW-5 | 500-9935-03 |
| 2 | Right Return Lane | 9 | - | CN15 | 4 | PNK RED | 14 | BLK VIO | Playfield | Rollover | 9-SW-6 | 500-9935-04 |
| 3 | Left Outlane | 9 | - | CN15 | 2 | PNK BLK | 14 | BLK VIO | Playfield | Rollover | 9-SW-4 | 500-9935-04 |
| 4 | Right Outlane | 9 | - | CN15 | 5 | PNK ORG | 14 | BLK VIO | Playfield | Rollover | 9-SW-7 | 500-9935-04 |
| 5 | Right Flipper EOS | 8 | - | CN8 | 4 | GRY GRN | 3 | BLK GRN | Playfield | Leaf | 8-SW-5 | 180-5149-00 |
| 6 | Right Slingshot | 8 | - | CN6 | 4 | GRY VIO | 3 | BLK GRN | Playfield | Leaf | 8-SW-4 | 180-5231-00 |
| 7 | 3-Bank Drop Tgt Top | 9 | - | CN15 | 11 | WHT BRN | 14 | BLK VIO | Playfield | Opto | 9-SW-13 | 520-5252-13 |
| 8 | 3-Bank Drop Tgt Mid | 9 | - | CN15 | 12 | WHT RED | 14 | BLK VIO | Playfield | Opto | 9-SW-14 | 520-5252-13 |
| 9 | 3-Bank Drop Tgt Btm | 9 | - | CN15 | 13 | WHT ORG | 14 | BLK VIO | Playfield | Opto | 9-SW-15 | 520-5252-13 |
| 10 | L Flipper Button | 8 | - | CN9 | 2 | GRY BRN | 1 | BLK GRN | Cabinet | Leaf | 8-SW-2 | 180-5164-01 |
| 11 | R Flipper Button | 8 | - | CN11 | 2 | GRY RED | 1 | BLK GRN | Cabinet | Leaf | 8-SW-3 | 180-5164-01 |
| 12 | UP Left Flipper Button | 8 | - | CN10 | 4 | VIO | 3 | VIO BLK | Cabinet | Leaf | 8-SW-6 | 180-5164-01 |
| 13 | UP Right Flipper Button | 8 | - | CN12 | 4 | VIO WHT | 3 | VIO BLK | Cabinet | Leaf | 8-SW-7 | 180-5164-01 |
| 14 | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |
| 16 | Left Flipper EOS | 8 | - | CN5 | 2 | GRY YEL | 1 | BLK GRN | Playfield | Leaf | 8-SW-0 | 180-5149-00 |
| 17 | Left Slingshot | 8 | - | CN7 | 2 | GRY BLU | 1 | BLK GRN | Playfield | Leaf | 8-SW-1 | 180-5231-00 |
| 18 | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | |
| 20 | Trough 6 | 8 | 8a | CN14 | - | | - | | Playfield | Opto | 8-SW-9 | 520-5344-00 tx<br>520-5345-01 rx |
| 21 | Trough 5 | 8 | 8a | CN14 | - | | - | | Playfield | Opto | 8-SW-10 | 520-5344-00 tx<br>520-5345-01 rx |

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## SWITCH REFERENCE CONTINUED

| ID | Name | Node | Node Ext | Conn. | Input Pin | Input Wire | GND Pin | Ground Wire | Location | Type | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | Trough 4 | 8 | 8a | CN14 | - | | - | | Playfield | Opto | 8-SW-11 | 520-5344-00 tx 520-5345-01 rx |
| 23 | Trough 3 | 8 | 8a | CN14 | - | | - | | Playfield | Opto | 8-SW-12 | 520-5344-00 tx 520-5345-01 rx |
| 24 | Trough 2 | 8 | 8a | CN14 | - | | - | | Playfield | Opto | 8-SW-13 | 520-5344-00 tx 520-5345-01 rx |
| 25 | Trough 1 | 8 | 8a | CN14 | - | | - | | Playfield | Opto | 8-SW-14 | 520-5344-00 tx 520-5345-01 rx |
| 26 | Trough Jam | 8 | 8a | CN14 | - | | - | | Playfield | Opto | 8-SW-15 | 520-5344-00 tx 520-5345-01 rx |
| 27 | Shooter Lane | 9 | - | CN7 | 2 | LGN YEL | 1 | BLK VIO | Playfield | Rollover | 9-SW-1 | 180-5157-01 |
| 28 | | | | | | | | | | | | |
| 29 | Left Spinner | 10 | - | CN15 | 5 | WHT YEL | 14 | BLK BRN | Playfield | Micro | 10-SW-7 | 180-5010-02 |
| 30 | Left Loop | 10 | - | CN15 | 8 | WHT VIO | 14 | BLK BRN | Playfield | Rollover | 10-SW-10 | 500-9935-03 |
| 31 | Right Loop | 10 | - | CN15 | 9 | WHT GRY | 14 | BLK BRN | Playfield | Rollover | 10-SW-11 | 500-9935-03 |
| 32 | Target 1 | 10 | - | CN15 | 6 | WHT GRN | 14 | BLK BRN | Playfield | Leaf, Target | 10-SW-8 | 515-9785-00-00 |
| 33 | Target 2 | 10 | - | CN15 | 7 | WHT BLU | 14 | BLK BRN | Playfield | Leaf, Target | 10-SW-9 | 515-9785-00-00 |
| 34 | Target 3 | 10 | - | CN5 | 2 | PNK YEL | 1 | BLK BRN | Playfield | Leaf, Target | 10-SW-0 | 515-9785-00-00 |
| 35 | Target 4 | 9 | - | CN15 | 6 | PNK GRN | 14 | BLK VIO | Playfield | Leaf, Target | 9-SW-8 | 515-9785-00-00 |
| 36 | Target 5 | 9 | - | CN15 | 7 | PNK BLU | 14 | BLK VIO | Playfield | Leaf, Target | 9-SW-9 | 515-9785-00-00 |
| 37 | Kickback | 10 | - | CN15 | 12 | LGN BRN | 14 | BLK BRN | Playfield | Opto | 10-SW-14 | 515-0215-00 tx 515-0215-01 rx |
| 38 | Left Ramp Entrance | 10 | - | CN15 | 3 | TAN YEL | 14 | BLK BRN | Playfield | Opto | 10-SW-5 | 515-0215-00 tx 515-0215-01 rx |
| 39 | Left Ramp Exit | 10 | - | CN15 | 4 | TAN GRN | 14 | BLK BRN | Playfield | Opto | 10-SW-6 | 515-0215-00 tx 515-0215-01 rx |
| 40 | Battering Ram | 10 | - | CN15 | 2 | TAN ORG | 14 | BLK BRN | Playfield | Rollover | 10-SW-4 | 515-9836-00 |
| 41 | Right Ramp Entrance | 11 | - | CN10 | 4 | TAN BLU | 3 | BLK ORG | Playfield | Opto | 11-SW-6 | 515-0215-00 tx 515-0215-01 rx |
| 42 | Right Ramp Exit | 10 | - | CN15 | 13 | LGN RED | 14 | BLK BRN | Playfield | Micro | 10-SW-15 | 180-5197-00 |
| 43 | Right 2-Bank Top | 9 | - | CN15 | 8 | PNK VIO | 14 | BLK VIO | Playfield | Leaf, Target | 9-SW-10 | 515-9784-00-00 |
| 44 | Right 2-Bank Bottom | 9 | - | CN15 | 9 | PNK GRY | 14 | BLK VIO | Playfield | Leaf, Target | 9-SW-11 | 515-9784-00-00 |
| 45 | 10 Points | 9 | - | CN15 | 10 | PNK WHT | 14 | BLK VIO | Playfield | Leaf, Target | 9-SW-12 | 180-5231-00 |
| 46 | Lock 1 | 9 | - | CN5 | 2 | LGN ORG | 1 | BLK VIO | Playfield | Rollover | 9-SW-0 | 180-5119-02 |
| 47 | Lock 2 | 9 | - | CN9 | 2 | LGN BLU | 1 | BLK VIO | Playfield | Rollover | 9-SW-2 | 180-5119-02 |
| 48 | Lock 3 | 9 | - | CN11 | 2 | LGN VIO | 1 | BLK VIO | Playfield | Rollover | 9-SW-3 | 180-5119-02 |
| 49 | | | | | | | | | | | | |
| 50 | Left Pop Bumper | 10 | - | CN7 | 2 | TAN BLK | 1 | BLK BRN | Playfield | Leaf | 10-SW-1 | 180-5232-00 |
| 51 | Right Pop Bumper | 10 | - | CN9 | 2 | TAN | 1 | BLK BRN | Playfield | Leaf | 10-SW-2 | 180-5232-00 |
| 52 | Bottom Pop Bumper | 10 | - | CN11 | 2 | TAN RED | 1 | BLK BRN | Playfield | Leaf | 10-SW-3 | 180-5232-00 |
| 53 | Left Top Lane | 10 | - | CN15 | 10 | WHT | 14 | BLK BRN | Playfield | Rollover | 10-SW-12 | 500-9935-03 |
| 54 | Right Top Lane | 10 | - | CN15 | 11 | LGN BLK | 14 | BLK BRN | Playfield | Rollover | 10-SW-13 | 500-9935-03 |
| 55 | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | |
| 60 | Lockdown Button | 1 | - | CN7 | 8 | TAN WHT | 5 | BLK WHT | Cabinet | Leaf | 1-SW-2 | 180-5218-00 |
| 61 | | | | | | | | | | | | |
| 62 | | | | | | | | | | | | |
| 63 | Start Button | 1 | - | CN6 | 10 | GRY | 5 | BLK WHT | Cabinet | Micro | 1-SW-11 | 180-5174-00 |

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## SWITCH REFERENCE CONTINUED

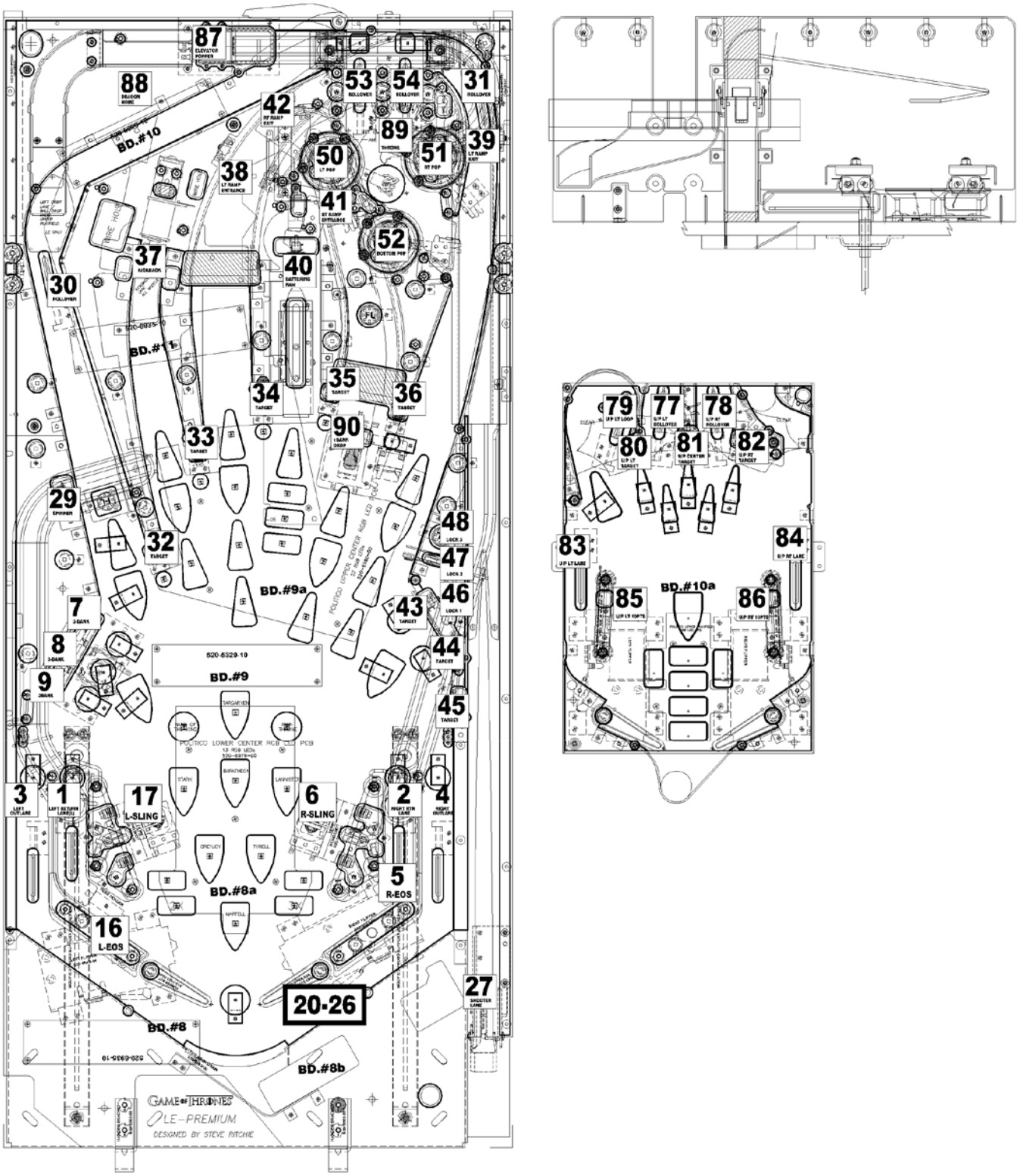


Figure 3.3.1. Playfield switch locations (top view).

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## SWITCH REFERENCE CONTINUED

| ID | Name | Node | Node Ext | Conn. | Input Pin | Input Wire | GND Pin | Ground Wire | Location | Type | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 64 | Tournament Start Button | 1 | - | CN6 | 9 | GRY WHT | 5 | BLK WHT | Cabinet | Micro | 1-SW-12 | 180-5174-00 |
| 65 | | | | | | | | | | | | |
| 66 | Left Coin | 1 | - | CN5 | 9 | PNK BRN | 3 | BLK | Cabinet | Micro | 1-SW-16 | |
| 67 | Right Coin | 1 | - | CN5 | 8 | PNK RED | 3 | BLK | Cabinet | Micro | 1-SW-18 | |
| 68 | Center Coin | 1 | - | CN5 | 7 | PNK ORG | 3 | BLK | Cabinet | Micro | 1-SW-17 | |
| 69 | Fourth Coin | 1 | - | CN5 | 6 | | - | | Cabinet | - | 1-SW-19 | |
| 70 | Fifth Coin | 1 | - | CN5 | 5 | | - | | Cabinet | - | 1-SW-20 | |
| 71 | Tilt Pendulum | 1 | - | CN6 | 7 | WHT | 5 | BLK WHT | Cabinet | Plumb Bob | 1-SW-14 | 516-0007-00 |
| 72 | Sixth Coin | 1 | - | CN9 | 5 | | - | | Cabinet | - | 1-SW-21 | |
| 74 | Ticket Notch | 1 | - | CN11 | 5 | | - | | Cabinet | - | 1-SW-8 | |
| 75 | Slam Tilt | 1 | - | CN5 | 4 | LGN RED | 3 | BLK | Cabinet | - | 1-SW-22 | |
| 76 | | | | | | | | | | | | |
| 77 | U/P Left Rollover | 11 | 11a | CN7 | 1 | WHT BLK | CN4-9 | BLK | U/P Playfield | Rollover | 11-SW-17 | 500-9935-03 |
| 78 | U/P Right Rollover | 11 | 11a | CN7 | 2 | WHT BRN | CN4-9 | BLK | U/P Playfield | Rollover | 11-SW-18 | 500-9935-04 |
| 79 | U/P Left Loop | 11 | 11a | CN7 | 3 | WHT RED | CN4-9 | BLK | U/P Playfield | Rollover | 11-SW-21 | 500-9935-04 |
| 80 | U/P Left Target | 11 | 11a | CN7 | 4 | WHT ORG | CN4-9 | BLK | U/P Playfield | Leaf, Target | 11-SW-22 | 515-9785-00-00 |
| 81 | U/P Center Target | 11 | 11a | CN7 | 5 | WHT YEL | CN4-9 | BLK | U/P Playfield | Leaf, Target | 11-SW-23 | 515-9785-00-00 |
| 82 | U/P Right Target | 11 | 11a | CN7 | 6 | WHT GRN | CN4-9 | BLK | U/P Playfield | Leaf, Target | 11-SW-8 | 515-9785-00-00 |
| 83 | U/P Left Lane | 11 | 11a | CN5 | 3 | WHT VIO | 1 | BLK | U/P Playfield | Rollover | 11-SW-9 | 500-9935-04 |
| 84 | U/P Right Lane | 11 | 11a | CN6 | 3 | WHT VIO | 1 | BLK | U/P Playfield | Rollover | 11-SW-19 | 500-9935-04 |
| 85 | U/P Left 10pt | 11 | 11a | CN5 | 2 | WHT | 1 | BLK | U/P Playfield | Leaf | 11-SW-10 | 180-5231-01 |
| 86 | U/P Right 10pt | 11 | 11a | CN6 | 2 | WHT | 1 | BLK | U/P Playfield | Leaf | 11-SW-20 | 180-5231-02 |
| 87 | Elevator Popper | 11 | - | CN7 | 2 | WHT RED | 1 | BLK ORG | Playfield | | 11-SW-1 | 180-5209-00 |
| 88 | Dragon Home | 11 | - | CN6 | 4 | WHT BRN | 3 | BLK ORG | Playfield | | 11-SW-4 | 180-5119-02 |
| 89 | Throne | 11 | - | CN12 | 4 | WHT ORG | 3 | BLK ORG | Playfield | | 11-SW-7 | 180-5119-02 |
| 90 | 1 Bank Drop | 11 | - | CN11 | 2 | TAN WHT | 1 | BLK ORG | Playfield | Opto | 11-SW-3 | 520-5252-01 |
| 91 | | | | | | | | | | | | |
| C1 | DIP 1 | 0 | - | - | - | | - | | CPU Node | | 0-SW-0 | - |
| C10 | Service Plus | 0 | - | CN25 | 3 | LGN VIO | 6 | BLK | Coin Door | | 0-SW-9 | 180-5192-02 |
| C11 | Service Minus | 0 | - | CN25 | 2 | LGN BLU | 6 | BLK | Coin Door | | 0-SW-10 | 180-5192-02 |
| C12 | Service Back | 0 | - | CN25 | 1 | LGN BLK | 6 | BLK | Coin Door | | 0-SW-11 | 180-5192-00 |
| C16 | DC Sense | 0 | - | CN7 | 4 | GRY RED | 1 | BLK | | | 0-SW-16 | - |
| 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 | 180-5192-04 |

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# 3.4 LIGHT REFERENCE

| ID | Name | Node | Node Ext. | Conn. | Ret. Pin | Ret. Wire | Src. Pin | Src. Wire | Location | Type | Light Color | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Coin Enable | 1 | - | CN8 | 6 | BLK GRY | 2 | GRY RED | Coin Door | Digital Out | | 1-LP-0 | |
| 2 | Start Button | 1 | - | CN6 | 3 | YEL BRN | 1 | RED | Cabinet | Feature | White | 1-LP-2 | 112-5033-08 |
| 3 | Tournament Start | 1 | - | CN6 | 2 | YEL RED | 1 | RED | Cabinet | Feature | White | 1-LP-3 | 112-5033-08 |
| 4 | Lockdown Button-R | 1 | - | CN7 | 2 | RED WHT | 1 | RED | Cabinet | Feature | RGB | 1-LP-5 | 520-5333-00 |
| 5 | Lockdown Button-G | 1 | - | CN7 | 3 | GRN WHT | 1 | RED | Cabinet | Feature | RGB | 1-LP-4 | 520-5333-00 |
| 6 | Lockdown Button-B | 1 | - | CN7 | 4 | BLU WHT | 1 | RED | Cabinet | Feature | RGB | 1-LP-7 | 520-5333-00 |
| 7 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | Left Outlane-R | 8 | 8a | CN2 | 3 | RED VIO | 1 | RED | Playfield | Feature | RGB | 8-LP-17 | 520-5333-00 |
| 12 | Left Outlane-G | 8 | 8a | CN2 | 4 | GRN VIO | 1 | RED | Playfield | Feature | RGB | 8-LP-18 | 520-5333-00 |
| 13 | Left Outlane-B | 8 | 8a | CN2 | 5 | BLU VIO | 1 | RED | Playfield | Feature | RGB | 8-LP-19 | 520-5333-00 |
| 14 | Left Return Lane-R | 8 | 8a | CN2 | 6 | RED WHT | 1 | RED | Playfield | Feature | RGB | 8-LP-20 | 520-5333-00 |
| 15 | Left Return Lane-G | 8 | 8a | CN2 | 7 | GRN WHT | 1 | RED | Playfield | Feature | RGB | 8-LP-21 | 520-5333-00 |
| 16 | Left Return Lane-B | 8 | 8a | CN2 | 8 | BLU WHT | 1 | RED | Playfield | Feature | RGB | 8-LP-22 | 520-5333-00 |
| 17 | Left 3-Bank-R (Bot.) | 10 | 10a | CN4 | 2 | RED BRN | 1 | YEL | Playfield | Feature | RGB | 10-LP-32 | 520-5333-00 |
| 18 | Left 3-Bank-G (Bot.) | 10 | 10a | CN4 | 3 | GRN BRN | 1 | YEL | Playfield | Feature | RGB | 10-LP-48 | 520-5333-00 |
| 19 | Left 3-Bank-B (Bot.) | 10 | - | CN16 | 13 | BLU BRN | 1 | YEL | Playfield | Feature | RGB | 10-LP-12 | 520-5333-00 |
| 20 | Left 3-Bank-R (Mid.) | 10 | - | CN16 | 14 | RED ORG | 1 | YEL | Playfield | Feature | RGB | 10-LP-13 | 520-5333-00 |
| 21 | Left 3-Bank-G (Mid.) | 10 | - | CN16 | 15 | GRN ORG | 1 | YEL | Playfield | Feature | RGB | 10-LP-14 | 520-5333-00 |
| 22 | Left 3-Bank-B (Mid.) | 10 | - | CN16 | 16 | BLU ORG | 1 | YEL | Playfield | Feature | RGB | 10-LP-15 | 520-5333-00 |
| 23 | Left 3-Bank-R (Top) | 11 | - | CN8 | 1 | RED YEL | 1 | YEL | Playfield | Feature | RGB | 11-LP-1 | 520-5333-00 |
| 24 | Left 3-Bank-G (Top) | 11 | - | CN10 | 1 | GRN YEL | 1 | YEL | Playfield | Feature | RGB | 11-LP-2 | 520-5333-00 |
| 25 | Left 3-Bank-B (Top) | 11 | - | CN12 | 1 | BLU YEL | 1 | YEL | Playfield | Feature | RGB | 11-LP-3 | 520-5333-00 |
| 26 | Left 3-Bank Sigil-R | 8 | - | CN6 | 1 | RED GRN | 2 | YEL | Playfield | Feature | RGB | 8-LP-0 | 520-5333-00 |
| 27 | Left 3-Bank Sigil-G | 8 | - | CN8 | 1 | GRN | 2 | YEL | Playfield | Feature | RGB | 8-LP-1 | 520-5333-00 |
| 28 | Left 3-Bank Sigil-B | 8 | - | CN10 | 1 | BLU GRN | 2 | YEL | Playfield | Feature | RGB | 8-LP-2 | 520-5333-00 |
| 29 | Hand of the King-R | 8 | 8a | CN14 | LED3 | - | - | - | Playfield | Feature | RGB | 8-LP-14 | 520-6979-00 |
| 30 | Hand of the King-G | 8 | 8a | CN14 | LED3 | - | - | - | Playfield | Feature | RGB | 8-LP-15 | 520-6979-00 |
| 31 | Hand of the King-B | 8 | 8a | CN14 | LED3 | - | - | - | Playfield | Feature | RGB | 8-LP-16 | 520-6979-00 |
| 32 | Targaryen Sigil-R | 8 | 8a | CN14 | LED2 | - | - | - | Playfield | Feature | RGB | 8-LP-11 | 520-6979-00 |
| 33 | Targaryen Sigil-G | 8 | 8a | CN14 | LED2 | - | - | - | Playfield | Feature | RGB | 8-LP-12 | 520-6979-00 |
| 34 | Targaryen Sigil-B | 8 | 8a | CN14 | LED2 | - | - | - | Playfield | Feature | RGB | 8-LP-13 | 520-6979-00 |
| 35 | Iron Throne-R | 8 | 8a | CN14 | LED1 | - | - | - | Playfield | Feature | RGB | 8-LP-8 | 520-6979-00 |
| 36 | Iron Throne-G | 8 | 8a | CN14 | LED1 | - | - | - | Playfield | Feature | RGB | 8-LP-9 | 520-6979-00 |
| 37 | Iron Throne-B | 8 | 8a | CN14 | LED1 | - | - | - | Playfield | Feature | RGB | 8-LP-10 | 520-6979-00 |
| 38 | Stark Sigil-R | 8 | 8a | CN14 | LED6 | - | - | - | Playfield | Feature | RGB | 8-LP-29 | 520-6979-00 |
| 39 | Stark Sigil-G | 8 | 8a | CN14 | LED6 | - | - | - | Playfield | Feature | RGB | 8-LP-30 | 520-6979-00 |
| 40 | Stark Sigil-B | 8 | 8a | CN14 | LED6 | - | - | - | Playfield | Feature | RGB | 8-LP-31 | 520-6979-00 |
| 41 | Baratheon Sigil-R | 8 | 8a | CN14 | LED5 | - | - | - | Playfield | Feature | RGB | 8-LP-26 | 520-6979-00 |
| 42 | Baratheon Sigil-G | 8 | 8a | CN14 | LED5 | - | - | - | Playfield | Feature | RGB | 8-LP-27 | 520-6979-00 |
| 43 | Baratheon Sigil-B | 8 | 8a | CN14 | LED5 | - | - | - | Playfield | Feature | RGB | 8-LP-28 | 520-6979-00 |
| 44 | Lannister Sigil-R | 8 | 8a | CN14 | LED4 | - | - | - | Playfield | Feature | RGB | 8-LP-23 | 520-6979-00 |
| 45 | Lannister Sigil-G | 8 | 8a | CN14 | LED4 | - | - | - | Playfield | Feature | RGB | 8-LP-24 | 520-6979-00 |
| 46 | Lannister Sigil-B | 8 | 8a | CN14 | LED4 | - | - | - | Playfield | Feature | RGB | 8-LP-25 | 520-6979-00 |
| 47 | Greyjoy Sigil-R | 8 | 8a | CN14 | LED9 | - | - | - | Playfield | Feature | RGB | 8-LP-38 | 520-6979-00 |
| 48 | Greyjoy Sigil-G | 8 | 8a | CN14 | LED9 | - | - | - | Playfield | Feature | RGB | 8-LP-39 | 520-6979-00 |
| 49 | Greyjoy Sigil-B | 8 | 8a | CN14 | LED9 | - | - | - | Playfield | Feature | RGB | 8-LP-40 | 520-6979-00 |
| 50 | Tyrell Sigil-R | 8 | 8a | CN14 | LED11 | - | - | - | Playfield | Feature | RGB | 8-LP-47 | 520-6979-00 |
| 51 | Tyrell Sigil-G | 8 | 8a | CN14 | LED11 | - | - | - | Playfield | Feature | RGB | 8-LP-48 | 520-6979-00 |
| 52 | Tyrell Sigil-B | 8 | 8a | CN14 | LED11 | - | - | - | Playfield | Feature | RGB | 8-LP-49 | 520-6979-00 |
| 53 | Martell Sigil-R | 8 | 8a | CN14 | LED10 | - | - | - | Playfield | Feature | RGB | 8-LP-44 | 520-6979-00 |

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## LIGHT REFERENCE CONTINUED

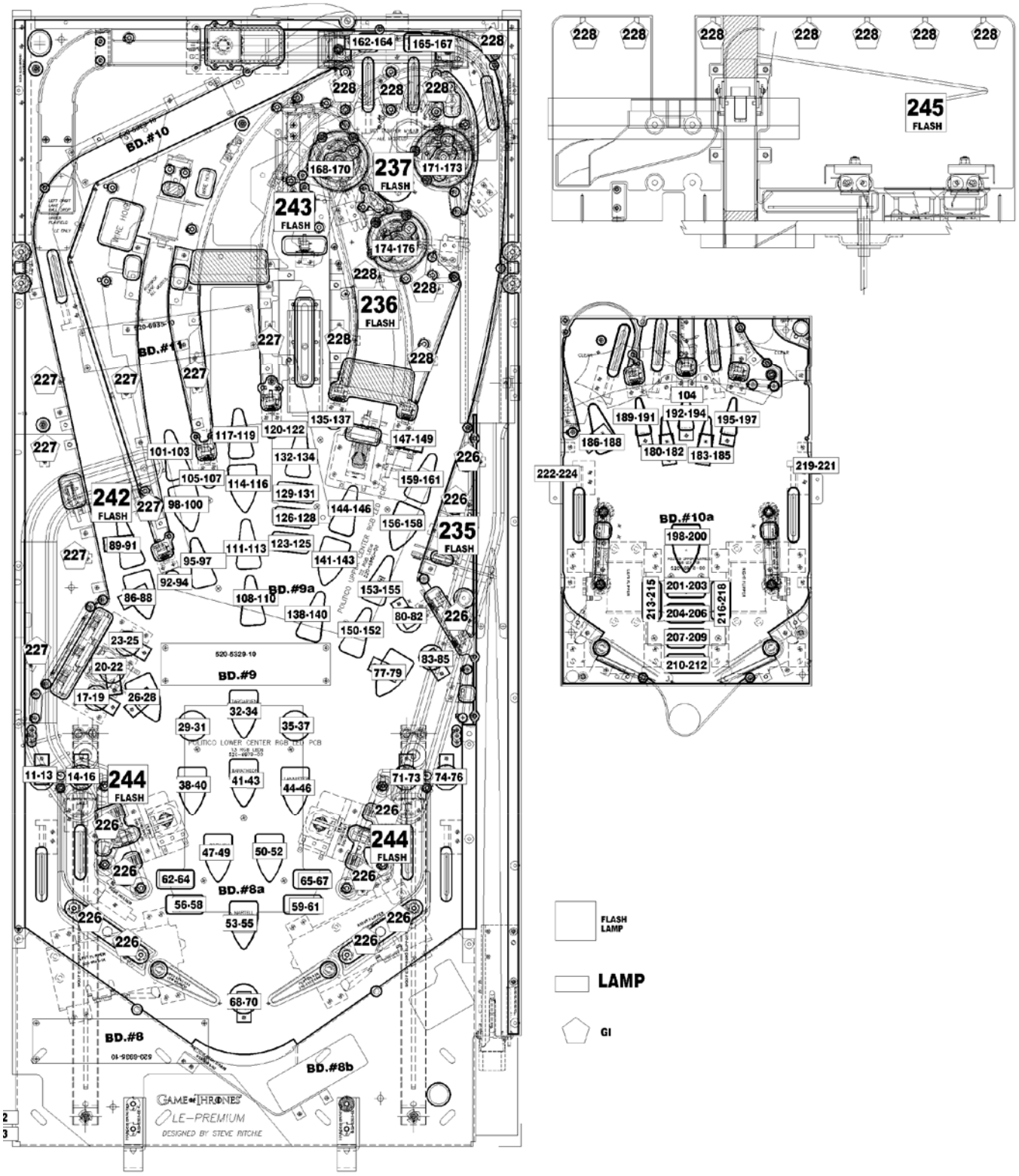


Figure 3.4.1. Playfield light locations (top view).

Continued on next page

## LIGHT REFERENCE CONTINUED

| ID | Name | Node | Node Ext. | Conn. | Ret. Pin | Ret. Wire | Src. Pin | Src. Wire | Location | Type | Light Color | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54 | Martell Sigil-G | 8 | 8a | CN14 | LED10 | - | - | - | Playfield | Feature | RGB | 8-LP-45 | 520-6979-00 |
| 55 | Martell Sigil-B | 8 | 8a | CN14 | LED10 | - | - | - | Playfield | Feature | RGB | 8-LP-46 | 520-6979-00 |
| 56 | 2x-R | 8 | 8a | CN14 | LED8 | - | - | - | Playfield | Feature | RGB | 8-LP-35 | 520-6979-00 |
| 57 | 2x-G | 8 | 8a | CN14 | LED8 | - | - | - | Playfield | Feature | RGB | 8-LP-36 | 520-6979-00 |
| 58 | 2x-B | 8 | 8a | CN14 | LED8 | - | - | - | Playfield | Feature | RGB | 8-LP-37 | 520-6979-00 |
| 59 | 3x-R | 8 | 8a | CN14 | LED12 | - | - | - | Playfield | Feature | RGB | 8-LP-50 | 520-6979-00 |
| 60 | 3x-G | 8 | 8a | CN14 | LED12 | - | - | - | Playfield | Feature | RGB | 8-LP-51 | 520-6979-00 |
| 61 | 3x-B | 8 | 8a | CN14 | LED12 | - | - | - | Playfield | Feature | RGB | 8-LP-52 | 520-6979-00 |
| 62 | 4x-R | 8 | 8a | CN14 | LED7 | - | - | - | Playfield | Feature | RGB | 8-LP-32 | 520-6979-00 |
| 63 | 4x-G | 8 | 8a | CN14 | LED7 | - | - | - | Playfield | Feature | RGB | 8-LP-33 | 520-6979-00 |
| 64 | 4x-B | 8 | 8a | CN14 | LED7 | - | - | - | Playfield | Feature | RGB | 8-LP-34 | 520-6979-00 |
| 65 | 5x-R | 8 | 8a | CN14 | LED13 | - | - | - | Playfield | Feature | RGB | 8-LP-53 | 520-6979-00 |
| 66 | 5x-G | 8 | 8a | CN14 | LED13 | - | - | - | Playfield | Feature | RGB | 8-LP-54 | 520-6979-00 |
| 67 | 5x-B | 8 | 8a | CN14 | LED13 | - | - | - | Playfield | Feature | RGB | 8-LP-55 | 520-6979-00 |
| 68 | Shoot Again-R | 8 | 8a | CN3 | 2 | RED GRY | 1 | RED | Playfield | Feature | RGB | 8-LP-41 | 520-5333-00 |
| 69 | Shoot Again-G | 8 | 8a | CN3 | 3 | GRN GRY | 1 | RED | Playfield | Feature | RGB | 8-LP-42 | 520-5333-00 |
| 70 | Shoot Again-B | 8 | 8a | CN3 | 4 | BLU GRY | 1 | RED | Playfield | Feature | RGB | 8-LP-43 | 520-5333-00 |
| 71 | Right Return Lane-R | 9 | - | CN16 | 11 | RED GRN | 1 | YEL | Playfield | Feature | RGB | 9-LP-10 | 520-5333-00 |
| 72 | Right Return Lane-G | 9 | - | CN16 | 12 | GRN | 1 | YEL | Playfield | Feature | RGB | 9-LP-11 | 520-5333-00 |
| 73 | Right Return Lane-B | 9 | - | CN16 | 13 | BLU GRN | 1 | YEL | Playfield | Feature | RGB | 9-LP-12 | 520-5333-00 |
| 74 | Right Outlane-R | 9 | - | CN16 | 14 | RED BLU | 1 | YEL | Playfield | Feature | RGB | 9-LP-13 | 520-5333-00 |
| 75 | Right Outlane-G | 9 | - | CN16 | 15 | GRN BLU | 1 | YEL | Playfield | Feature | RGB | 9-LP-14 | 520-5333-00 |
| 76 | Right Outlane-B | 9 | - | CN16 | 16 | BLU | 1 | YEL | Playfield | Feature | RGB | 9-LP-15 | 520-5333-00 |
| 77 | Right 2-Bank Sigil-R | 9 | - | CN16 | 8 | RED YEL | 1 | YEL | Playfield | Feature | RGB | 9-LP-7 | 520-5333-00 |
| 78 | Right 2-Bank Sigil-G | 9 | - | CN16 | 9 | GRN YEL | 1 | YEL | Playfield | Feature | RGB | 9-LP-8 | 520-5333-00 |
| 79 | Right 2-Bank Sigil-B | 9 | - | CN16 | 10 | BLU YEL | 1 | YEL | Playfield | Feature | RGB | 9-LP-9 | 520-5333-00 |
| 80 | Right 2-Bank-R (Top) | 9 | - | CN16 | 2 | RED BRN | 1 | YEL | Playfield | Feature | RGB | 9-LP-1 | 520-5333-00 |
| 81 | Right 2-Bank-G (Top) | 9 | - | CN16 | 3 | GRN BRN | 1 | YEL | Playfield | Feature | RGB | 9-LP-2 | 520-5333-00 |
| 82 | Right 2-Bank-B (Top) | 9 | - | CN16 | 4 | BLU BRN | 1 | YEL | Playfield | Feature | RGB | 9-LP-3 | 520-5333-00 |
| 83 | Right 2-Bank-R (Bot) | 9 | - | CN16 | 5 | RED ORG | 1 | YEL | Playfield | Feature | RGB | 9-LP-4 | 520-5333-00 |
| 84 | Right 2-Bank-G (Bot) | 9 | - | CN16 | 6 | GRN ORG | 1 | YEL | Playfield | Feature | RGB | 9-LP-5 | 520-5333-00 |
| 85 | Right 2-Bank-B (Bot) | 9 | - | CN16 | 7 | BLU ORG | 1 | YEL | Playfield | Feature | RGB | 9-LP-6 | 520-5333-00 |
| 86 | Left Loop Sigil-R | 10 | 10a | CN7 | 7 | RED BRN | 1 | RED | Playfield | Feature | RGB | 10-LP-36 | 520-5333-00 |
| 87 | Left Loop Sigil-G | 10 | 10a | CN7 | 8 | GRN BRN | 1 | RED | Playfield | Feature | RGB | 10-LP-37 | 520-5333-00 |
| 88 | Left Loop Sigil-B | 10 | 10a | CN7 | 9 | BLU BRN | 1 | RED | Playfield | Feature | RGB | 10-LP-38 | 520-5333-00 |
| 89 | Left Loop Arrow-R | 10 | 10a | CN7 | 4 | RED GRY | 1 | RED | Playfield | Feature | RGB | 10-LP-33 | 520-5333-00 |
| 90 | Left Loop Arrow-G | 10 | 10a | CN7 | 5 | GRN GRY | 1 | RED | Playfield | Feature | RGB | 10-LP-34 | 520-5333-00 |
| 91 | Left Loop Arrow-B | 10 | 10a | CN7 | 6 | BLU GRY | 1 | RED | Playfield | Feature | RGB | 10-LP-35 | 520-5333-00 |
| 92 | Standup Target #1-R (L) | 10 | 10a | CN14 | LED16 | - | - | - | Playfield | Feature | RGB | 10-LP-19 | 520-6980-00 |
| 93 | Standup Target #1-G (L) | 10 | 10a | CN14 | LED16 | - | - | - | Playfield | Feature | RGB | 10-LP-20 | 520-6980-00 |
| 94 | Standup Target #1-B (L) | 10 | 10a | CN14 | LED16 | - | - | - | Playfield | Feature | RGB | 10-LP-21 | 520-6980-00 |
| 95 | Kickback Lane Arrow-R (Bot) | 10 | 10a | CN14 | LED15 | - | - | - | Playfield | Feature | RGB | 10-LP-16 | 520-6980-00 |
| 96 | Kickback Lane Arrow-G (Bot) | 10 | 10a | CN14 | LED15 | - | - | - | Playfield | Feature | RGB | 10-LP-17 | 520-6980-00 |
| 97 | Kickback Lane Arrow-B (Bot) | 10 | 10a | CN14 | LED15 | - | - | - | Playfield | Feature | RGB | 10-LP-18 | 520-6980-00 |
| 98 | Kickback Lane Sigil-R | 10 | 10a | CN14 | LED19 | - | - | - | Playfield | Feature | RGB | 10-LP-28 | 520-6980-00 |
| 99 | Kickback Lane Sigil-G | 10 | 10a | CN14 | LED19 | - | - | - | Playfield | Feature | RGB | 10-LP-29 | 520-6980-00 |
| 100 | Kickback Lane Sigil-B | 10 | 10a | CN14 | LED19 | - | - | - | Playfield | Feature | RGB | 10-LP-30 | 520-6980-00 |
| 101 | Kickback Lane Arrow-R (Top) | 10 | 10a | CN14 | LED20 | - | - | - | Playfield | Feature | RGB | 10-LP-42 | 520-6980-00 |
| 102 | Kickback Lane Arrow-G (Top) | 10 | 10a | CN14 | LED20 | - | - | - | Playfield | Feature | RGB | 10-LP-43 | 520-6980-00 |
| 103 | Kickback Lane Arrow-B (Top) | 10 | 10a | CN14 | LED20 | - | - | - | Playfield | Feature | RGB | 10-LP-44 | 520-6980-00 |
| 104 | Dragon Fire-R | 11 | - | CN6 | 1 | BRN | 2 | YEL | Playfield | Feature | Red | 11-LP-0 | 112-5049-02 |
| 105 | Standup Target #2-R | 10 | 10a | CN14 | LED21 | - | - | - | Playfield | Feature | RGB | 10-LP-39 | 520-6980-00 |
| 106 | Standup Target #2-G | 10 | 10a | CN14 | LED21 | - | - | - | Playfield | Feature | RGB | 10-LP-40 | 520-6980-00 |
| 107 | Standup Target #2-B | 10 | 10a | CN14 | LED21 | - | - | - | Playfield | Feature | RGB | 10-LP-41 | 520-6980-00 |
| 108 | Left Ramp Arrow-R (Bot) | 10 | 10a | CN14 | LED17 | - | - | - | Playfield | Feature | RGB | 10-LP-22 | 520-6980-00 |

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## LIGHT REFERENCE CONTINUED

| ID | Name | Node | Node Ext. | Conn. | Ret. Pin | Ret. Wire | Src. Pin | Src. Wire | Location | Type | Light Color | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 109 | Left Ramp Arrow-G (Bot) | 10 | 10a | CN14 | LED17 | - | - | - | Playfield | Feature | RGB | 10-LP-23 | 520-6980-00 |
| 110 | Left Ramp Arrow-B (Bot) | 10 | 10a | CN14 | LED17 | - | - | - | Playfield | Feature | RGB | 10-LP-24 | 520-6980-00 |
| 111 | Left Ramp Lock-R | 10 | 10a | CN14 | LED18 | - | - | - | Playfield | Feature | RGB | 10-LP-25 | 520-6980-00 |
| 112 | Left Ramp Lock-G | 10 | 10a | CN14 | LED18 | - | - | - | Playfield | Feature | RGB | 10-LP-26 | 520-6980-00 |
| 113 | Left Ramp Lock-B | 10 | 10a | CN14 | LED18 | - | - | - | Playfield | Feature | RGB | 10-LP-27 | 520-6980-00 |
| 114 | Left Ramp Sigil-R | 10 | 10a | CN14 | LED22 | - | - | - | Playfield | Feature | RGB | 10-LP-45 | 520-6980-00 |
| 115 | Left Ramp Sigil-G | 10 | 10a | CN14 | LED22 | - | - | - | Playfield | Feature | RGB | 10-LP-46 | 520-6980-00 |
| 116 | Left Ramp Sigil-B | 10 | 10a | CN14 | LED22 | - | - | - | Playfield | Feature | RGB | 10-LP-47 | 520-6980-00 |
| 117 | Left Ramp Arrow-R (Top) | 10 | 10a | CN14 | LED10 | - | - | - | Playfield | Feature | RGB | 10-LP-52 | 520-6980-00 |
| 118 | Left Ramp Arrow-G (Top) | 10 | 10a | CN14 | LED10 | - | - | - | Playfield | Feature | RGB | 10-LP-53 | 520-6980-00 |
| 119 | Left Ramp Arrow-B (Top) | 10 | 10a | CN14 | LED10 | - | - | - | Playfield | Feature | RGB | 10-LP-54 | 520-6980-00 |
| 120 | Standup Target #3-R | 10 | 10a | CN14 | LED11 | - | - | - | Playfield | Feature | RGB | 10-LP-49 | 520-6980-00 |
| 121 | Standup Target #3-G | 10 | 10a | CN14 | LED11 | - | - | - | Playfield | Feature | RGB | 10-LP-50 | 520-6980-00 |
| 122 | Standup Target #3-B | 10 | 10a | CN14 | LED11 | - | - | - | Playfield | Feature | RGB | 10-LP-51 | 520-6980-00 |
| 123 | Battering Ram 3-Bot-R | 9 | 9a | CN14 | LED8 | - | - | - | Playfield | Feature | RGB | 9-LP-52 | 520-6980-00 |
| 124 | Battering Ram 3-Bot-G | 9 | 9a | CN14 | LED8 | - | - | - | Playfield | Feature | RGB | 9-LP-53 | 520-6980-00 |
| 125 | Battering Ram 3-Bot-B | 9 | 9a | CN14 | LED8 | - | - | - | Playfield | Feature | RGB | 9-LP-54 | 520-6980-00 |
| 126 | Battering Ram 2-Mid-R | 9 | 9a | CN14 | LED7 | - | - | - | Playfield | Feature | RGB | 9-LP-49 | 520-6980-00 |
| 127 | Battering Ram 2-Mid-G | 9 | 9a | CN14 | LED7 | - | - | - | Playfield | Feature | RGB | 9-LP-50 | 520-6980-00 |
| 128 | Battering Ram 2-Mid-B | 9 | 9a | CN14 | LED7 | - | - | - | Playfield | Feature | RGB | 9-LP-51 | 520-6980-00 |
| 129 | Battering Ram 1-Top-R | 9 | 9a | CN14 | LED6 | - | - | - | Playfield | Feature | RGB | 9-LP-45 | 520-6980-00 |
| 130 | Battering Ram 1-Top-G | 9 | 9a | CN14 | LED6 | - | - | - | Playfield | Feature | RGB | 9-LP-46 | 520-6980-00 |
| 131 | Battering Ram 1-Top-B | 9 | 9a | CN14 | LED6 | - | - | - | Playfield | Feature | RGB | 9-LP-47 | 520-6980-00 |
| 132 | Battering Ram Arrow-R | 10 | 10a | CN14 | LED13 | - | - | - | Playfield | Feature | RGB | 10-LP-55 | 520-6980-00 |
| 133 | Battering Ram Arrow-G | 10 | 10a | CN14 | LED13 | - | - | - | Playfield | Feature | RGB | 10-LP-56 | 520-6980-00 |
| 134 | Battering Ram Arrow-B | 10 | 10a | CN14 | LED13 | - | - | - | Playfield | Feature | RGB | 10-LP-57 | 520-6980-00 |
| 135 | Standup Target #4-R | 10 | 10a | CN14 | LED12 | - | - | - | Playfield | Feature | RGB | 10-LP-58 | 520-6980-00 |
| 136 | Standup Target #4-G | 10 | 10a | CN14 | LED12 | - | - | - | Playfield | Feature | RGB | 10-LP-59 | 520-6980-00 |
| 137 | Standup Target #4-B | 10 | 10a | CN14 | LED12 | - | - | - | Playfield | Feature | RGB | 10-LP-60 | 520-6980-00 |
| 138 | Right Ramp Arrow-R (Bot) | 9 | 9a | CN14 | LED9 | - | - | - | Playfield | Feature | RGB | 9-LP-57 | 520-6980-00 |
| 139 | Right Ramp Arrow-G (Bot) | 9 | 9a | CN14 | LED9 | - | - | - | Playfield | Feature | RGB | 9-LP-58 | 520-6980-00 |
| 140 | Right Ramp Arrow-B (Bot) | 9 | 9a | CN14 | LED9 | - | - | - | Playfield | Feature | RGB | 9-LP-59 | 520-6980-00 |
| 141 | Right Ramp Sigil-R | 9 | 9a | CN14 | LED4 | - | - | - | Playfield | Feature | RGB | 9-LP-29 | 520-6980-00 |
| 142 | Right Ramp Sigil-G | 9 | 9a | CN14 | LED4 | - | - | - | Playfield | Feature | RGB | 9-LP-30 | 520-6980-00 |
| 143 | Right Ramp Sigil-B | 9 | 9a | CN14 | LED4 | - | - | - | Playfield | Feature | RGB | 9-LP-31 | 520-6980-00 |
| 144 | Right Ramp Arrow-R (Top) | 9 | 9a | CN14 | LED5 | - | - | - | Playfield | Feature | RGB | 9-LP-33 | 520-6980-00 |
| 145 | Right Ramp Arrow-G (Top) | 9 | 9a | CN14 | LED5 | - | - | - | Playfield | Feature | RGB | 9-LP-34 | 520-6980-00 |
| 146 | Right Ramp Arrow-B (Top) | 9 | 9a | CN14 | LED5 | - | - | - | Playfield | Feature | RGB | 9-LP-35 | 520-6980-00 |
| 147 | Standup Target #5 (R)-R | 9 | 9a | CN2 | 2 | RED WHT | 1 | RED | Playfield | Feature | RGB | 9-LP-25 | 520-5333-00 |
| 148 | Standup Target #5 (R)-G | 9 | 9a | CN2 | 3 | GRN WHT | 1 | RED | Playfield | Feature | RGB | 9-LP-26 | 520-5333-00 |
| 149 | Standup Target #5 (R)-B | 9 | 9a | CN2 | 4 | BLU WHT | 1 | RED | Playfield | Feature | RGB | 9-LP-27 | 520-5333-00 |
| 150 | Right Loop Arrow-R (Bot) | 9 | 9a | CN14 | LED14 | - | - | - | Playfield | Feature | RGB | 9-LP-60 | 520-6980-00 |
| 151 | Right Loop Arrow-G (Bot) | 9 | 9a | CN14 | LED14 | - | - | - | Playfield | Feature | RGB | 9-LP-61 | 520-6980-00 |
| 152 | Right Loop Arrow-B (Bot) | 9 | 9a | CN14 | LED14 | - | - | - | Playfield | Feature | RGB | 9-LP-62 | 520-6980-00 |
| 153 | Right Loop Arrow-R (Mid) | 9 | 9a | CN14 | LED1 | - | - | - | Playfield | Feature | RGB | 9-LP-16 | 520-6980-00 |
| 154 | Right Loop Arrow-G (Mid) | 9 | 9a | CN14 | LED1 | - | - | - | Playfield | Feature | RGB | 9-LP-17 | 520-6980-00 |
| 155 | Right Loop Arrow-B (Mid) | 9 | 9a | CN14 | LED1 | - | - | - | Playfield | Feature | RGB | 9-LP-18 | 520-6980-00 |
| 156 | Right Loop Sigil-R | 9 | 9a | CN14 | LED2 | - | - | - | Playfield | Feature | RGB | 9-LP-19 | 520-6980-00 |
| 157 | Right Loop Sigil-G | 9 | 9a | CN14 | LED2 | - | - | - | Playfield | Feature | RGB | 9-LP-20 | 520-6980-00 |
| 158 | Right Loop Sigil-B | 9 | 9a | CN14 | LED2 | - | - | - | Playfield | Feature | RGB | 9-LP-21 | 520-6980-00 |
| 159 | Right Loop Arrow-R (Top) | 9 | 9a | CN14 | LED3 | - | - | - | Playfield | Feature | RGB | 9-LP-22 | 520-6980-00 |
| 160 | Right Loop Arrow-G (Top) | 9 | 9a | CN14 | LED3 | - | - | - | Playfield | Feature | RGB | 9-LP-23 | 520-6980-00 |
| 161 | Right Loop Arrow-B (Top) | 9 | 9a | CN14 | LED3 | - | - | - | Playfield | Feature | RGB | 9-LP-24 | 520-6980-00 |
| 162 | Left Top Lane-R | 9 | 9a | CN5 | 2 | RED BLU | 1 | RED | Playfield | Feature | RGB | 9-LP-36 | 520-5333-00 |
| 163 | Left Top Lane-G | 9 | 9a | CN5 | 3 | GRN BLU | 1 | RED | Playfield | Feature | RGB | 9-LP-37 | 520-5333-00 |

Continued on next page


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## LIGHT REFERENCE CONTINUED

| ID | Name | Node | Node Ext. | Conn. | Ret. Pin | Ret. Wire | Src. Pin | Src. Wire | Location | Type | Light Color | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 164 | Left Top Lane-B | 9 | 9a | CN5 | 4 | BLU | 1 | RED | Playfield | Feature | RGB | 9-LP-38 | 520-5333-00 |
| 165 | Right Top Lane-R | 9 | 9a | CN5 | 5 | RED VIO | 1 | RED | Playfield | Feature | RGB | 9-LP-39 | 520-5333-00 |
| 166 | Right Top Lane-G | 9 | 9a | CN5 | 6 | GRN VIO | 1 | RED | Playfield | Feature | RGB | 9-LP-40 | 520-5333-00 |
| 167 | Right Top Lane-B | 9 | 9a | CN5 | 7 | BLU VIO | 1 | RED | Playfield | Feature | RGB | 9-LP-41 | 520-5333-00 |
| 168 | Left Pop Bumper-R | 10 | - | CN16 | 2 | RED VIO | 1 | YEL | Playfield | Feature | RGB | 10-LP-1 | 520-6971-00 |
| 169 | Left Pop Bumper-G | 10 | - | CN16 | 3 | GRN VIO | 1 | YEL | Playfield | Feature | RGB | 10-LP-2 | 520-6971-00 |
| 170 | Left Pop Bumper-B | 10 | - | CN16 | 4 | BLU VIO | 1 | YEL | Playfield | Feature | RGB | 10-LP-3 | 520-6971-00 |
| 171 | Right Pop Bumper-R | 10 | - | CN16 | 5 | RED GRY | 1 | YEL | Playfield | Feature | RGB | 10-LP-4 | 520-6971-00 |
| 172 | Right Pop Bumper-G | 10 | - | CN16 | 6 | GRN GRY | 1 | YEL | Playfield | Feature | RGB | 10-LP-5 | 520-6971-00 |
| 173 | Right Pop Bumper-B | 10 | - | CN16 | 7 | BLU GRY | 1 | YEL | Playfield | Feature | RGB | 10-LP-6 | 520-6971-00 |
| 174 | Bottom Pop Bumper-R | 10 | - | CN16 | 8 | RED WHT | 1 | YEL | Playfield | Feature | RGB | 10-LP-7 | 520-6971-00 |
| 175 | Bottom Pop Bumper-G | 10 | - | CN16 | 9 | GRN WHT | 1 | YEL | Playfield | Feature | RGB | 10-LP-8 | 520-6971-00 |
| 176 | Bottom Pop Bumper-B | 10 | - | CN16 | 10 | BLU WHT | 1 | YEL | Playfield | Feature | RGB | 10-LP-9 | 520-6971-00 |
| 177 | | | | | | | | | | | | | |
| 178 | | | | | | | | | | | | | |
| 179 | | | | | | | | | | | | | |
| 180 | Left Rollover-R | 11 | 11a | CN4 | 2 | RED VIO | 1 | RED | Up Playfield | Feature | RGB | 11-LP-46 | 520-5333-00 |
| 181 | Left Rollover-G | 11 | 11a | CN4 | 3 | GRN VIO | 1 | RED | Up Playfield | Feature | RGB | 11-LP-47 | 520-5333-00 |
| 182 | Left Rollover-B | 11 | 11a | CN4 | 5 | BLU VIO | 1 | RED | Up Playfield | Feature | RGB | 11-LP-48 | 520-5333-00 |
| 183 | Right Rollover-R | 11 | 11a | CN4 | 6 | RED GRY | 1 | RED | Up Playfield | Feature | RGB | 11-LP-49 | 520-5333-00 |
| 184 | Right Rollover-G | 11 | 11a | CN4 | 7 | GRN GRY | 1 | RED | Up Playfield | Feature | RGB | 11-LP-50 | 520-5333-00 |
| 185 | Right Rollover-B | 11 | 11a | CN4 | 8 | BLU GRY | 1 | RED | Up Playfield | Feature | RGB | 11-LP-51 | 520-5333-00 |
| 186 | U/P Left Loop-R | 11 | 11a | CN2 | 1 | RED BRN | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-25 | 520-5333-00 |
| 187 | U/P Left Loop-G | 11 | 11a | CN2 | 2 | GRN BRN | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-26 | 520-5333-00 |
| 188 | U/P Left Loop-B | 11 | 11a | CN2 | 3 | BLU BRN | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-27 | 520-5333-00 |
| 189 | U/P Left Target-R | 11 | 11a | CN2 | 4 | RED ORG | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-28 | 520-5333-00 |
| 190 | U/P Left Target-G | 11 | 11a | CN2 | 5 | GRN ORG | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-29 | 520-5333-00 |
| 191 | U/P Left Target-B | 11 | 11a | CN2 | 6 | BLU ORG | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-30 | 520-5333-00 |
| 192 | U/P Center Target-R | 11 | 11a | CN2 | 7 | RED YEL | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-34 | 520-5333-00 |
| 193 | U/P Center Target-G | 11 | 11a | CN2 | 8 | GRN YEL | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-35 | 520-5333-00 |
| 194 | U/P Center Target-B | 11 | 11a | CN2 | 9 | BLU YEL | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-36 | 520-5333-00 |
| 195 | U/P Right Target-R | 11 | 11a | CN2 | 10 | RED GRN | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-37 | 520-5333-00 |
| 196 | U/P Right Target-G | 11 | 11a | CN2 | 11 | GRN | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-38 | 520-5333-00 |
| 197 | U/P Right Target-B | 11 | 11a | CN2 | 12 | BLU GRN | CN4-1 | RED | Up Playfield | Feature | RGB | 11-LP-39 | 520-5333-00 |
| 198 | U/P Sigil-R | 11 | 11a | CN14 | LED15 | - | - | - | Up Playfield | Feature | RGB | 11-LP-52 | 520-6978-00 |
| 199 | U/P Sigil-G | 11 | 11a | CN14 | LED15 | - | - | - | Up Playfield | Feature | RGB | 11-LP-53 | 520-6978-00 |
| 200 | U/P Sigil-B | 11 | 11a | CN14 | LED15 | - | - | - | Up Playfield | Feature | RGB | 11-LP-54 | 520-6978-00 |
| 201 | U/P Battle Mode 1-R | 11 | 11a | CN14 | LED12 | - | - | - | Up Playfield | Feature | RGB | 11-LP-43 | 520-6978-00 |
| 202 | U/P Battle Mode 1-G | 11 | 11a | CN14 | LED12 | - | - | - | Up Playfield | Feature | RGB | 11-LP-44 | 520-6978-00 |
| 203 | U/P Battle Mode 1-B | 11 | 11a | CN14 | LED12 | - | - | - | Up Playfield | Feature | RGB | 11-LP-45 | 520-6978-00 |
| 204 | U/P Battle Mode 2-R | 11 | 11a | CN14 | LED8 | - | - | - | Up Playfield | Feature | RGB | 11-LP-31 | 520-6978-00 |
| 205 | U/P Battle Mode 2-G | 11 | 11a | CN14 | LED8 | - | - | - | Up Playfield | Feature | RGB | 11-LP-32 | 520-6978-00 |
| 206 | U/P Battle Mode 2-B | 11 | 11a | CN14 | LED8 | - | - | - | Up Playfield | Feature | RGB | 11-LP-33 | 520-6978-00 |
| 207 | U/P Battle Mode 3-R | 11 | 11a | CN14 | LED4 | - | - | - | Up Playfield | Feature | RGB | 11-LP-19 | 520-6978-00 |
| 208 | U/P Battle Mode 3-G | 11 | 11a | CN14 | LED4 | - | - | - | Up Playfield | Feature | RGB | 11-LP-20 | 520-6978-00 |
| 209 | U/P Battle Mode 3-B | 11 | 11a | CN14 | LED4 | - | - | - | Up Playfield | Feature | RGB | 11-LP-21 | 520-6978-00 |
| 210 | U/P Battle Mode 4-R | 11 | 11a | CN14 | LED3 | - | - | - | Up Playfield | Feature | RGB | 11-LP-16 | 520-6978-00 |
| 211 | U/P Battle Mode 4-G | 11 | 11a | CN14 | LED3 | - | - | - | Up Playfield | Feature | RGB | 11-LP-17 | 520-6978-00 |
| 212 | U/P Battle Mode 4-B | 11 | 11a | CN14 | LED3 | - | - | - | Up Playfield | Feature | RGB | 11-LP-18 | 520-6978-00 |
| 213 | U/P 2x-R | 11 | 11a | CN14 | LED5 | - | - | - | Up Playfield | Feature | RGB | 11-LP-22 | 520-6978-00 |
| 214 | U/P 2x-G | 11 | 11a | CN14 | LED5 | - | - | - | Up Playfield | Feature | RGB | 11-LP-23 | 520-6978-00 |
| 215 | U/P 2x-B | 11 | 11a | CN14 | LED5 | - | - | - | Up Playfield | Feature | RGB | 11-LP-24 | 520-6978-00 |
| 216 | U/P 3x-R | 11 | 11a | CN14 | LED11 | - | - | - | Up Playfield | Feature | RGB | 11-LP-40 | 520-6978-00 |
| 217 | U/P 3x-G | 11 | 11a | CN14 | LED11 | - | - | - | Up Playfield | Feature | RGB | 11-LP-41 | 520-6978-00 |
| 218 | U/P 3x-B | 11 | 11a | CN14 | LED11 | - | - | - | Up Playfield | Feature | RGB | 11-LP-42 | 520-6978-00 |

Continued on next page...


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## LIGHT REFERENCE CONTINUED

| ID | Name | Node | Node Ext. | Conn. | Ret. Pin | Ret. Wire | Src. Pin | Src. Wire | Location | Type | Light Color | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 219 | Right Flood-R | 11 | 11a | CN9 | 3 | RED BLK | 1 | RED | Up Playfield | Feature | RGB | 11-LP-10 | 520-6981-00 |
| 220 | Right Flood-G | 11 | 11a | CN9 | 4 | GRN BLK | 1 | RED | Up Playfield | Feature | RGB | 11-LP-11 | 520-6981-00 |
| 221 | Right Flood-B | 11 | 11a | CN9 | 5 | BLU BLK | 1 | RED | Up Playfield | Feature | RGB | 11-LP-12 | 520-6981-00 |
| 222 | Left Flood-R | 11 | 11a | CN9 | 6 | RED WHT | 2 | RED | Up Playfield | Feature | RGB | 11-LP-13 | 520-6981-00 |
| 223 | Left Flood-G | 11 | 11a | CN9 | 7 | GRN WHT | 2 | RED | Up Playfield | Feature | RGB | 11-LP-14 | 520-6981-00 |
| 224 | Left Flood-B | 11 | 11a | CN9 | 8 | BLU WHT | 2 | RED | Up Playfield | Feature | RGB | 11-LP-15 | 520-6981-00 |
| 225 | Coin Door GI | 1 | - | CN5 | 2 | YEL | 1 | YEL-WHT | Coin Door | G.I. | White | 1-LP-1 | 112-5033-08 |
| 226 | Lower Playfield GI | 8 | - | CN13 | 1 | WHT BLK | 3 | YEL BLK | Playfield | G.I. | White | 8-LP-4 | 112-5034-08 |
| 227 | Left Playfield GI | 9 | - | CN13 | 1 | RED BLK | 3 | YEL RED | Playfield | G.I. | White | 9-LP-0 | 112-5034-08 |
| 228 | Up Right Playfield GI | 10 | - | CN13 | 1 | BLU BLK | 3 | YEL BLU | Playfield/ Backpanel | G.I. | White | 10-LP-0 | 112-5034-08 |
| 229 | | | | | | | | | | | | | |
| 230 | | | - | | | | | | | | | | |
| 231 | | | | | | | | | | | | | |
| 232 | | | | | | | | | | | | | |
| 233 | | | | | | | | | | | | | |
| 234 | | | | | | | | | | | | | |
| 235 | Sword Lock | 9 | 9a | CN2 | 5 | ORG BLK | 1 | RED | Playfield | Flash | White | 9-LP-28 | 113-5045-08 |
| 236 | Right Ramp | 9 | 9a | CN5 | 8 | ORG BRN | 1 | RED | Playfield | Flash | White | 9-LP-42 | 113-5045-08 |
| 237 | Pop Bumpers | 9 | 9a | CN5 | 9 | ORG RED | 1 | RED | Playfield | Flash | White | 9-LP-43 | 113-5045-08 |
| 238 | | | | | | | | | | | | | |
| 239 | | | | | | | | | | | | | |
| 240 | | | | | | | | | | | | | |
| 241 | | | | | | | | | | | | | |
| 242 | Left Loop | 10 | 10a | CN7 | 3 | ORG BLU | 1 | RED | Playfield | Flash | White | 10-LP-31 | 113-5045-08 |
| 243 | Battering Ram | 9 | 9a | CN5 | 10 | ORG VIO | 1 | RED | Playfield | Flash | Red | 9-LP-44 | 113-5045-02 |
| 244 | Left/Right Sling | 8 | - | CN12 | 1 | BRN BLU | 2 | YEL | Playfield | Flash | White | 8-LP-3 | 113-5032-00 |
| 245 | Throne | 11 | - | CN13 | 1 | YEL BLK | 3 | YEL | Backpanel | Flash | White | 11-LP-4 | 113-5045-08 |

# 3.5 MOTOR REFERENCE

| ID | Name | Node | Node Ext. | Conn. | Ret. Pin | Ret. Wire | Src. Pin | Src. Wire | Location | Type | Light Color | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Dragon Motor 1 | 10 | - | CN16 | 11 | BRN YEL | 1 | RED | Playfield | Stepper | | 10-LP-10 | |
| 2 | Dragon Motor 2 | 10 | - | CN16 | 12 | BRN GRN | 1 | RED | Playfield | Stepper | | 10-LP-11 | |


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# 4. ELECTRONIC PINOUTS AND SCHEMATICS

## 4.1 SPIKE CPU NODE 0

### 520-6936-01

### DIRECT SWITCH MAPPING (CN25)

The coin-door diagnostic switches are connected directly to the CPU node via the Cabinet Node. Note that both the CPU and Cabinet nodes are required for diagnostic switch operation.

| ID | Name | Conn. | Input Pin | Input Wire | GND Pin | Ground Wire | Location | Type | Address | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| C1 | DIP 1 | - | - | - | - | - | CPU Node | | 0-SW-0 | - |
| C2 | DIP 2 | - | - | - | - | - | CPU Node | | 0-SW-2 | - |
| C3 | DIP 3 | - | - | - | - | - | CPU Node | | 0-SW-3 | - |
| C4 | DIP 4 | - | - | - | - | - | CPU Node | | 0-SW-4 | - |
| C5 | DIP 5 | - | - | - | - | - | CPU Node | | 0-SW-5 | - |
| C6 | DIP 6 | - | - | - | - | - | CPU Node | | 0-SW-6 | - |
| C7 | DIP 7 | - | - | - | - | - | CPU Node | | 0-SW-7 | - |
| C8 | DIP 8 | - | - | - | - | - | CPU Node | | 0-SW-8 | - |
| C9 | Service Select | CN25 | 1 | LGN-GRY | 11 | BLK-WHT | Coin Door | | 0-SW-9 | 180-5192-04 |
| C10 | Service Plus | CN25 | 2 | LGN-VIO | 11 | BLK-WHT | Coin Door | | 0-SW-10 | 180-5192-02 |
| C11 | Service Minus | CN25 | 3 | LGN-BLU | 11 | BLK-WHT | Coin Door | | 0-SW-11 | 180-5192-02 |
| C12 | Service Back | CN25 | 4 | LGN-BLK | 11 | BLK-WHT | Coin Door | | 0-SW-12 | 180-5192-00 |
| C16 | Playfield Power Interlock | CN7 | 4 | GRY | 5 | GRY-RED | Cabinet | Interlock | 0-SW-16 | 180-5136-00 |

### CONNECTORS

| ID | Connector Type | Description |
|---|---|---|
| CN1 | 5-Pin .156” Header | Backbox 2-channel amplified speaker out |
| CN3 | RJ45 | SPIKE node bus - to cabinet node N1 |
| CN4 | 2-Pin .156” | Cabinet 1-channel amplified speaker out |
| CN7 | 5-Pin .156” Header | 48V supply from main power supply |
| CN18 | 3.5mm Stereo TRS jack | Headphone Jack |
| CN20 | USB | USB connector - for software updates, audit dumps, and expansion modules |
| CN21 | USB | USB connector - for software updates, audit dumps, and expansion modules |
| CN22 | RJ45 | SPIKE node bus - to playfield node, N8 |
| CN23 | 14-Pin .100” Header | Dot matrix display connector |
| CN24 | 4-Pin .156” Header | 5V DC and ground out to the LED display |
| CN25 | 12-Pin .100” Header | Dedicated switch inputs - service, volume switches |

### COMPONENTS

| ID | Name |
|---|---|
| S1 | Reset Switch |
| S2 | DIP Switches |
| SD CARD | For system SD card. Note: only to be removed if instructed to by Stern Service. |
| BT1 | CR232 3V Lithium battery for game clock between power cycles |

### STATUS LEDS

| LED ID | Name | Color | Description |
|---|---|---|---|
| 48V | +48V Supply In | Red | ON: Main system power is connected, OFF: No 48V system power. Check power supply connections, cables, and fuses. |
| 24V | +24V Audio Power | Red | ON: Audio power supply is good, OFF: Audio power supply off, call tech support. |
| 9V | +9V Node Bus Power | Red | ON: Node bus power supply is good, OFF: Node bus power supply bad, call tech support. |
| 5V | | Red | ON: Logic power supply is good. OFF: Logic power supply bad, call tech support. |
| TxD | Node bus transmit | Red | Node bus transmit activity |
| RxD | Node bus receive | Red | Node bus receive activity |
| Status | System status | Red | Constant double blink - game software running |
| Netstat | Network status | Red | Communication bridge activity |


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# SPIKE CPU NODE 0 CONTINUED

## AUDIO PINOUTS

| ID | Type | Pin | Description | Minimum Impedance | Max Power (RMS) |
|---|---|---|---|---|---|
| CN18 | TRS 3.5mm Headphone Jack | Tip | Headphone Left | 8 Ohms | 200mW |
| | | Ring | Headphone Right | 8 Ohms | 200mW |
| | | Sleeve | Audio Ground | - | - |
| CN1 | .156" 5-pin Header | 1 | Speaker Right Ground (-) | 4 Ohms | - |
| | | 2 | Speaker Right (+) | 4 Ohms | 20W |
| | | 3 | n/c | - | - |
| | | 4 | Speaker Left Ground (-) | 4 Ohms | - |
| | | 5 | Speaker Left (+) | 4 Ohms | 20W |
| CN4 | .156" 2-pin Header | 1 | Woofer Ground (-) | 8 Ohms | - |
| | | 2 | Woofer Out (+) | 8 Ohms | 40W |
| CN27 | .100" 3-pin header | 1 | Line Out Left (+) | 600 Ohms | - |
| | | 2 | Line Out Ground | - | - |
| | | 3 | Line Out Right (-) | 600 Ohms | - |

## COUNTRY CODES (DIP S2)

| | DIP S2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Country** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| USA | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| Austria | ON | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| Australia | ON | OFF | ON | ON | OFF | OFF | OFF | OFF |
| Belgium | OFF | ON | OFF | OFF | OFF | OFF | OFF | OFF |
| Canada 1 | ON | ON | OFF | OFF | OFF | OFF | OFF | OFF |
| Canada 2 | OFF | ON | OFF | ON | ON | OFF | OFF | OFF |
| Croatia | OFF | ON | ON | OFF | ON | OFF | OFF | OFF |
| Denmark | ON | OFF | OFF | ON | OFF | OFF | OFF | OFF |
| Finland | ON | OFF | ON | OFF | OFF | OFF | OFF | OFF |
| France | OFF | ON | ON | OFF | OFF | OFF | OFF | OFF |
| Germany | ON | ON | ON | OFF | OFF | OFF | OFF | OFF |
| Greece | ON | ON | ON | ON | OFF | OFF | OFF | OFF |
| Italy | OFF | OFF | OFF | ON | OFF | OFF | OFF | OFF |
| Japan | ON | OFF | ON | OFF | ON | OFF | OFF | OFF |
| Middle East | ON | ON | ON | OFF | ON | OFF | OFF | OFF |
| Netherlands | OFF | OFF | ON | OFF | OFF | OFF | OFF | OFF |
| New Zealand | OFF | OFF | OFF | OFF | ON | OFF | OFF | OFF |
| Norway | OFF | ON | OFF | ON | OFF | OFF | OFF | OFF |
| Portugal | ON | OFF | OFF | OFF | OFF | ON | OFF | OFF |
| Russia | ON | OFF | OFF | ON | ON | OFF | OFF | OFF |
| S. Africa | OFF | OFF | ON | OFF | ON | OFF | OFF | OFF |
| Spain | OFF | ON | OFF | OFF | ON | OFF | OFF | OFF |
| Sweden | ON | ON | OFF | ON | OFF | OFF | OFF | OFF |
| Switzerland | OFF | OFF | ON | ON | OFF | OFF | OFF | OFF |
| Taiwan | OFF | OFF | OFF | ON | ON | OFF | OFF | OFF |
| United Kingdom | OFF | ON | ON | ON | OFF | OFF | OFF | OFF |

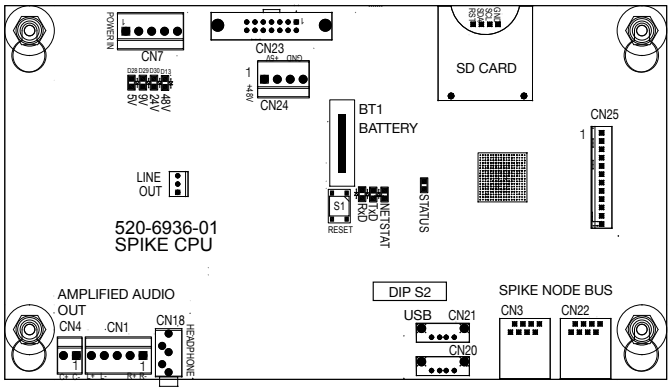



Figure 4.1.1. SPIKE CPU Node connector detail.

## COIN DOOR SERVICE SWITCH WIRING

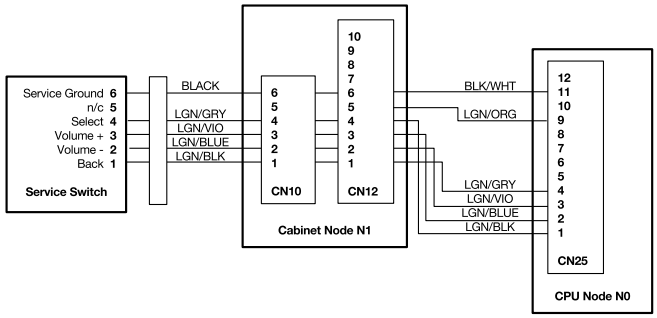
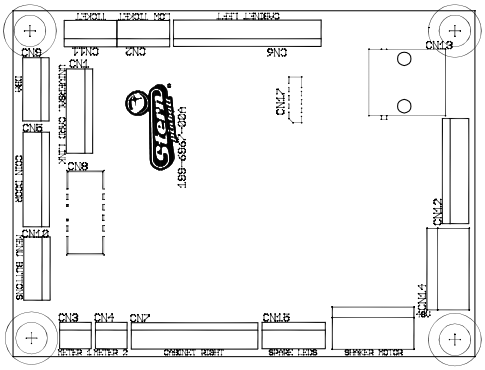



Figure 4.1.2. Service switch wiring. Note that the Cabient Node must be present and CN10 and CN12 connected for the Coin Door Service Switches to function correctly.

# 4.2 NODE 1 CABINET

## 520-6967-00

| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN1 | .100" 8-Pin Header Universal Card Link | 1 | 12V | - |
| | | 2 | Coin 1 | - |
| | | 3 | Meter 1 | - |
| | | 4 | N/C | - |
| | | 5 | Notch | - |
| | | 6 | Coin Enable | - |
| | | 7 | Ticket Enable | - |
| | | 8 | Ground | - |
| CN2 | .100" 5-Pin Header low ticket | 1 | Ground | - |
| | | 2 | Ticket Low sw. | - |
| | | 3 | Key | - |
| | | 4 | Ticket Low | - |
| | | 5 | 5V Out | - |
| CN3 | .100" 3-Pin Header Meter 1 | 1 | Meter 12V (+) | RED |
| | | 2 | Meter (-) | BLK |
| | | 3 | N/C | - |
| CN4 | .100" 3-Pin Header Meter 2 | 1 | Meter 12V (+) | RED |
| | | 2 | Meter (-) | BLK |
| | | 3 | N/C | - |
| CN5 | .100" 9-Pin Header | 1 | 5V Out | YEL/WHT |
| | | 2 | Coin LED Out | YEL |
| | | 3 | Ground | BLK |
| | | 4 | Slam Tilt In | LGN/RED |
| | | 5 | Coin 5 | PNK/GRN* |
| | | 6 | Coin 4 | PNK/YEL* |
| | | 7 | Coin 3 | PNK/ORN* |
| | | 8 | Coin 2 | PNK/RED* |
| | | 9 | Coin 1 | PNK/BRN* |
| CN6 | .100" 14-Pin Header Cabinet Left | 1 | 5V LED Power | RED |
| | | 2 | Start 2 LED | YEL-RED |
| | | 3 | Start 1 LED | YEL-BRN |
| | | 4 | Spare LED | - |
| | | 5 | Ground | BLK-WHT |
| | | 6 | Spare Left | - |
| | | 7 | Tilt Input | WHT |
| | | 8 | Door Open | - |
| | | 9 | Start 2 Switch | GRY-WHT |
| | | 10 | Start 1 Switch | GRY |
| | | 11 | N/C | - |
| | | 12 | N/C | - |
| | | 13 | N/C | - |
| | | 14 | N/C | - |
| CN7 | .100" 12-Pin Header Cabinet Right | 1 | 5V LED Power | RED |
| | | 2 | Plunge 2 LED | RED-WHT |
| | | 3 | Plunge 1 LED | GRN-WHT |
| | | 4 | Spare LED 2 | BLU-WHT |
| | | 5 | Ground | BLK-WHT |
| | | 6 | Spare Right In | - |
| | | 7 | Plunge 2 Switch | - |
| | | 8 | Plunge 1 Switch | TAN-WHT |
| | | 9 | N/C | - |
| | | 10 | N/C | - |
| | | 11 | N/C | - |
| | | 12 | N/C | - |



| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN9 | .100" 6-Pin Header Dollar Bill Acceptor | 1 | Coin Enable/DBA Inhibit (-) | - |
| | | 2 | Coin Enable/DBA Inhibit (+) | - |
| | | 3 | Key | Key |
| | | 4 | DBA 12V | - |
| | | 5 | Coin 6 / DBA Credit | - |
| | | 6 | Ground | - |
| CN10 | .100" 6-Pin Header Service Switch In | 1 | Service Back (To Coindoor) | LGN-BLK |
| | | 2 | Service Down (To Coindoor) | LGN-BLU |
| | | 3 | Service Up (To Coindoor) | LGN-VIO |
| | | 4 | Service Select (To Coindoor) | LGN-GRY |
| | | 5 | Key | Key |
| | | 6 | Service Ground (To Coindoor) | BLK |
| CN11 | .100" 5-Pin Header Ticket Dispenser | 1 | 12V | RED |
| | | 2 | N/C | - |
| | | 3 | Ticket Dispenser Enable | WHT |
| | | 4 | Ground | BLK |
| | | 5 | Ticket Dispenser Notch | BLU |
| CN12 | .100" 10-Pin Header CPU Direct Switches | 1 | Service Back (To CPU) | LGN-BLK |
| | | 2 | Service Down (To CPU) | LGN-BLU |
| | | 3 | Service Up (To CPU) | LGN-VIO |
| | | 4 | Service Select (To CPU) | LGN-GRY |
| | | 5 | Power Present | LGN-ORG |
| | | 6 | Service Ground (To CPU) | BLK-WHT |
| | | 7 | N/C | - |
| | | 8 | N/C | - |
| | | 9 | N/C | - |
| | | 10 | N/C | - |
| CN14 | .156" 5-Pin Header Power Input | 1 | Ground | BLK |
| | | 2 | Key | Key |
| | | 3 | N/C | - |
| | | 4 | N/C | - |
| | | 5 | 48VDC In | GRY-YEL |
| CN15 | .100" 6-Pin Header Spare LED's | 1 | 5V LED Power | - |
| | | 2 | Key | Key |
| | | 3 | Spare LED 3 | - |
| | | 4 | Spare LED 4 | - |
| | | 5 | Spare LED 5 | - |
| | | 6 | Spare LED 6 | - |
| CN16 | .156" 5-Pin Header Shaker Motor | 1 | Shaker Motor (-) | BLU |
| | | 2 | Shaker Motor (-) | - |
| | | 3 | Shaker Motor (+) | - |
| | | 4 | Key | Key |
| | | 5 | Shaker Motor (+) | RED |
| | | | | |
| | | | *Varies by country model | |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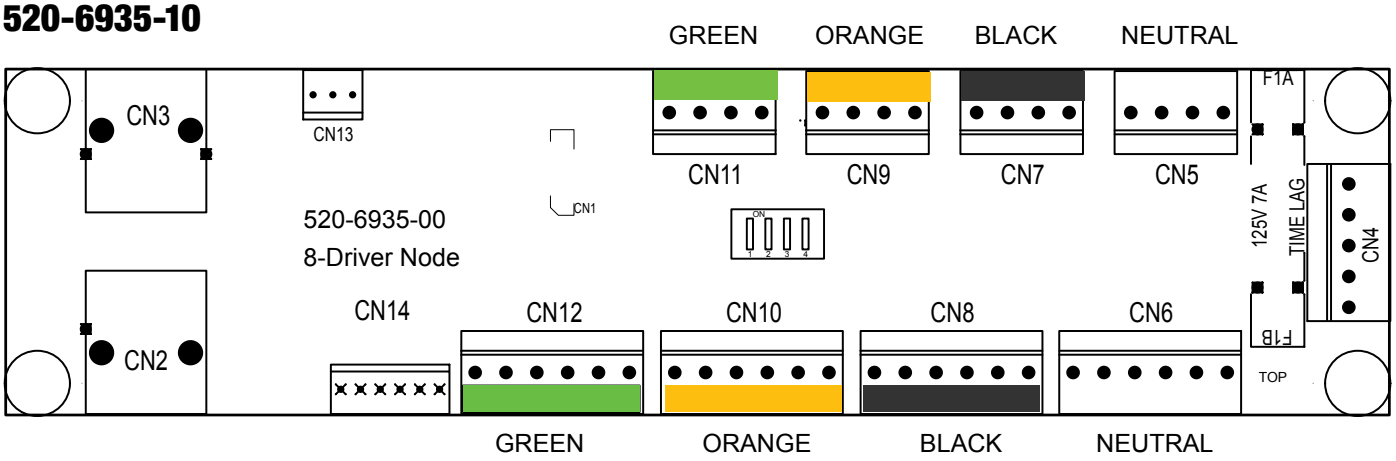
# 4.3 LOWER PLAYFIELD 48V 8-DRIVER PINOUT NODE 8

## 520-6935-10

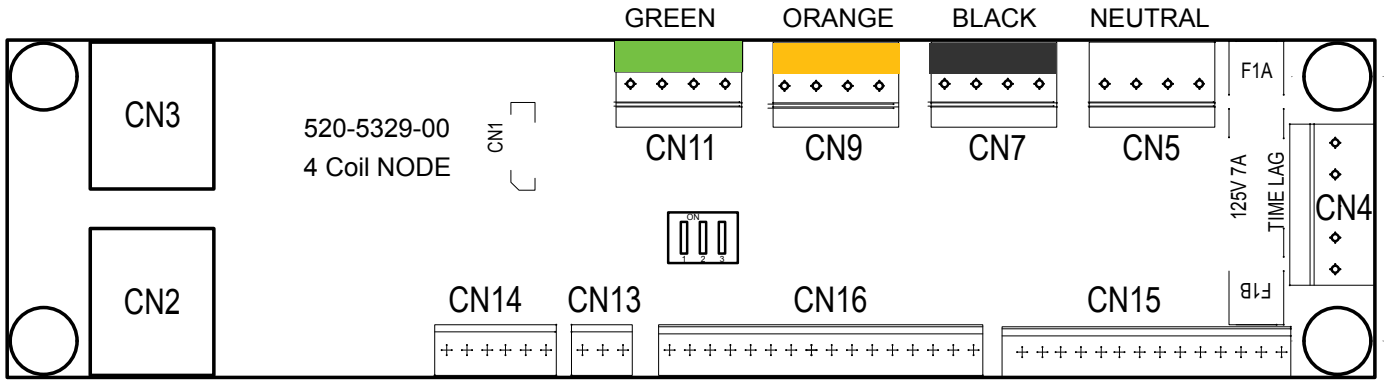



| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| SW1 | Address DIP | - | Node 8 - OFF-OFF-OFF-OFF | - |
| CN2 | RJ45 | - | SPIKE Node Bus | n/a |
| CN3 | RJ45 | - | SPIKE Node Bus | Multi |
| CN4 | .156" 5-Pin Header Node Power | 1 | Ground | BLK |
| | | 2 | Key | Key |
| | | 3 | N/C | - |
| | | 4 | N/C | - |
| | | 5 | 48VDC In | GRY |
| CN5 | .156" 4-Pin Header (White) | 1 | Switch Ground | BLK-GRN |
| | | 2 | 8-SW-0 Switch Return | GRY-YEL |
| | | 3 | 8-DR-0 Driver Return | ORG-YEL |
| | | 4 | 48V Driver Power | GRY-ORG |
| CN6 | .156 6-Pin Header (White) | 1 | 8-LP-0 Light Return | RED-GRN |
| | | 2 | LED V+ | YEL |
| | | 3 | Switch Ground | BLK-GRN |
| | | 4 | 8-SW-4 Switch Return | GRY-VIO |
| | | 5 | 8-DR-4 Driver Return | ORG-VIO |
| | | 6 | 48V Driver Power | GRY-ORG |
| CN7 | .156" 4-Pin Header (Black) | 1 | Switch Ground | BLK-GRN |
| | | 2 | 8-SW-1 Switch | GRY-BLU |
| | | 3 | 8-DR-1 Driver Return | ORG-BLU |
| | | 4 | 48V Driver Power | GRY-ORG |
| CN8 | .156 6-Pin Header (Black) | 1 | 8-LP-1 Light Return | GRN |
| | | 2 | LED V+ | - |
| | | 3 | Switch Ground | BLK-GRN |
| | | 4 | 8-SW-5 | GRY-GRN |
| | | 5 | 8-DR-5 Driver Return | ORG-GRN |
| | | 6 | 48V Driver Power | GRY-ORG |
| CN9 | .156" 4-Pin Header (Orange) | 1 | Switch Ground | BLK-GRN |
| | | 2 | 8-SW-2 Switch | GRY-BRN |
| | | 3 | 8-DR-2 Driver Return | BLU-BLK |
| | | 4 | 48V Driver Power | GRY-ORG |

| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN10 | .156" 6-Pin Header (Orange) | 1 | 8-LP-2 Light Return | BLU-GRN |
| | | 2 | LED V+ | - |
| | | 3 | Switch Ground | VIO-BLK |
| | | 4 | 8-SW-6 Switch Return | VIO |
| | | 5 | 8-DR-6 Driver Return | YEL-BLK |
| | | 6 | 48V Driver Power | GRY-ORG |
| CN11 | .156" 4-Pin Header (Green) | 1 | Switch Ground | BLK-GRN |
| | | 2 | 8-SW-3 Switch | GRY-RED |
| | | 3 | 8-DR-3 Driver Return | BLU-BRN |
| | | 4 | 48V Driver Power | GRY-ORG |
| CN12 | .156" 6-Pin Header (Green) | 1 | 8-LP-3 Light Return | BRN-BLU |
| | | 2 | LED V+ | YEL |
| | | 3 | Switch Ground | VIO-BLK |
| | | 4 | 8-SW-7 Switch Return | VIO-WHT |
| | | 5 | 8-DR-7 Driver Return | YEL-BRN |
| | | 6 | 48V Driver Power | GRY-ORG |
| CN13 | .100" 3-Pin Header | 1 | 8-LP-4 GI Return (1A Max) | WHT-BLK |
| | | 2 | GI Ground | - |
| | | 3 | LED V+ | YEL-BLK |
| CN14 | .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 |
| F1 | Fuse | - | 7A SB, 125V | n/a |

# 4.4 PLAYFIELD 48V 4-DRIVER PINOUT NODE 9

## 520-5329-10




| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| SW1 | Address DIP | - | Node 9 - OFF-OFF-ON | |
| CN1 | - | - | N/C | - |
| CN2 | RJ45 | - | SPIKE Node Bus | Multi |
| CN3 | RJ45 | - | SPIKE Node Bus | Multi |
| CN4 | .156" 5-Pin Header Node Power | 1 | Ground | BLK |
| | | 2 | Key | KEY |
| | | 3 | N/C | - |
| | | 4 | N/C | - |
| | | 5 | 48VDC In | GRY |
| CN5 | .156" 4-Pin Header (White) | 1 | Switch Ground | BLK-VIO |
| | | 2 | 9-SW-0 Switch Return | LGN-ORG |
| | | 3 | 9-DR-0 Driver Return | BLU-YEL |
| | | 4 | 48V Driver Power | GRY-RED |
| CN7 | .156" 4-Pin Header (Black) | 1 | Switch Ground | BLK-VIO |
| | | 2 | 9-SW-1 Switch Return | LGN-YEL |
| | | 3 | 9-DR-1 Driver Return | ORG-WHT |
| | | 4 | 48V Driver Power | GRY-RED |
| CN9 | .156" 4-Pin Header (Orange) | 1 | Switch Ground | BLK-VIO |
| | | 2 | 9-SW-2 Switch Return | LGN-BLU |
| | | 3 | 9-DR-2 Driver Return | ORG-GRY |
| | | 4 | 48V Driver Power | GRY-RED |
| CN11 | .156" 4-Pin Header (Green) | 1 | Switch Ground | BLK-VIO |
| | | 2 | 9-SW-3 Switch Return | LGN-VIO |
| | | 3 | 9-DR-3 Driver Return | BLU-GRN |
| | | 4 | 48V Driver Power | GRY-RED |
| CN13 | .100" 3-Pin Header | 1 | 9-LP-0 GI Return (1A Max) | RED-BLK |
| | | 2 | GI Ground | - |
| | | 3 | LED V+ | YEL-RED |
| CN14 | .100" 6-Pin Header | 1 | Ground | BLK |
| | | 2 | DIN | VIO-BLK |
| | | 3 | DOUT | VIO-BRN |
| | | 4 | SCK | VIO-RED |
| | | 5 | RCK | VIO-ORG |
| | | 6 | V+ | RED |

| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN15 | .100" 14-Pin Header | 1 | +5V | RED |
| | | 2 | 9-SW-4 Switch Return | PNK-BLK |
| | | 3 | 9-SW-5 Switch Return | PNK-BRN |
| | | 4 | 9-SW-6 Switch Return | - |
| | | 5 | 9-SW-7 Switch Return | TAN-BLU |
| | | 6 | 9-SW-8 Switch Return | PNK-GRN |
| | | 7 | 9-SW-9 Switch Return | PNK-BLU |
| | | 8 | 9-SW-10 Switch Return | PNK-VIO |
| | | 9 | 9-SW-11 Switch Return | PNK-GRY |
| | | 10 | 9-SW-12 Switch Return | PNK-WHT |
| | | 11 | 9-SW-13 Switch Return | WHT-BRN |
| | | 12 | 9-SW-14 Switch Return | WHT-RED |
| | | 13 | 9-SW-15 Switch Return | WHT-ORG |
| | | 14 | Switch Ground | BLK-VIO |
| CN16 | .100" 16-Pin Header | 1 | +6V | YEL |
| | | 2 | 9-LP-1 Light Return | BRN-BLK |
| | | 3 | 9-LP-2 Light Return | BRN |
| | | 4 | 9-LP-3 Light Return | BRN-RED |
| | | 5 | 9-LP-4 Light Return | BRN-VIO |
| | | 6 | 9-LP-5 Light Return | BRN-GRY |
| | | 7 | 9-LP-6 Light Return | BRN-WHT |
| | | 8 | 9-LP-7 Light Return | YEL-BLK |
| | | 9 | 9-LP-8 Light Return | YEL-BRN |
| | | 10 | 9-LP-9 Light Return | YEL-RED |
| | | 11 | 9-LP-10 Light Return | YEL-ORG |
| | | 12 | 9-LP-11 Light Return | YEL-GRN |
| | | 13 | 9-LP-12 Light Return | YEL-BLU |
| | | 14 | 9-LP-13 Light Return | YEL-VIO |
| | | 15 | 9-LP-14 Light Return | ORG-BLK |
| | | 16 | 9-LP-15 Light Return | ORG-BRN |
| F1 | Fuse | | 7A SB, 125V | n/a |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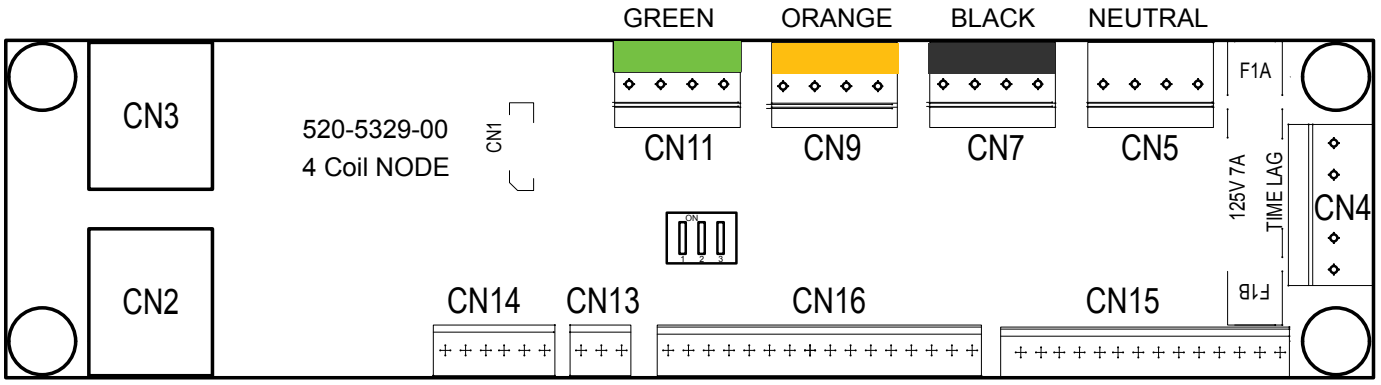
# 4.5 PLAYFIELD 48V 4-DRIVER PINOUT NODE 10

## 520-5329-10




| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| SW1 | Address DIP | - | Node 10 - OFF-ON-OFF | |
| CN1 | - | - | Not Used | - |
| CN2 | RJ45 | - | SPIKE Node Bus | Multi |
| CN3 | RJ45 | - | SPIKE Node Bus | Multi |
| CN4 | .156" 5-Pin Header Node Power | 1 | Ground | BLK |
| | | 2 | Key | KEY |
| | | 3 | N/C | - |
| | | 4 | N/C | - |
| | | 5 | 48VDC In | GRY |
| CN5 | .156" 4-Pin Header (White) | 1 | Switch Ground | BLK-BRN |
| | | 2 | 9-SW-0 Switch Return | PNK-YEL |
| | | 3 | 9-DR-0 Driver Return | BLU-RED |
| | | 4 | 48V Driver Power | GRY-BRN |
| CN7 | .156" 4-Pin Header (Black) | 1 | Switch Ground | BLK-BRN |
| | | 2 | 9-SW-1 Switch Return | TAN-BLK |
| | | 3 | 9-DR-1 Driver Return | ORG-BLK |
| | | 4 | 48V Driver Power | GRY-BRN |
| CN9 | .156" 4-Pin Header (Orange) | 1 | Switch Ground | BLK-BRN |
| | | 2 | 9-SW-2 Switch Return | TAN |
| | | 3 | 9-DR-2 Driver Return | ORG-BRN |
| | | 4 | 48V Driver Power | GRY-BRN |
| CN11 | .156" 4-Pin Header (Green) | 1 | Switch Ground | BLK-BRN |
| | | 2 | 9-SW-3 Switch Return | TAN-RED |
| | | 3 | 9-DR-3 Driver Return | ORG-RED |
| | | 4 | 48V Driver Power | GRY-BRN |
| CN13 | .100" 3-Pin Header | 1 | 9-LP-0 GI Return (1A Max) | BLU-BLK |
| | | 2 | GI Ground | - |
| | | 3 | LED V+ | YEL-BLU |
| CN14 | .100" 6-Pin Header | 1 | Ground | BLK |
| | | 2 | DIN | VIO-BLK |
| | | 3 | DOUT | VIO-BRN |
| | | 4 | SCK | VIO-RED |
| | | 5 | RCK | VIO-ORG |
| | | 6 | V+ | RED |

| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN15 | .100" 14-Pin Header | 1 | +5V | RED |
| | | 2 | 9-SW-4 Switch Return | TAN-ORG |
| | | 3 | 9-SW-5 Switch Return | TAN-YEL |
| | | 4 | 9-SW-6 Switch Return | TAN-GRN |
| | | 5 | 9-SW-7 Switch Return | WHT-YEL |
| | | 6 | 9-SW-8 Switch Return | WHT-GRN |
| | | 7 | 9-SW-9 Switch Return | WHT-BLU |
| | | 8 | 9-SW-10 Switch Return | WHT-VIO |
| | | 9 | 9-SW-11 Switch Return | WHT-GRY |
| | | 10 | 9-SW-12 Switch Return | WHT |
| | | 11 | 9-SW-13 Switch Return | LGN-BLK |
| | | 12 | 9-SW-14 Switch Return | LGN-BRN |
| | | 13 | 9-SW-15 Switch Return | LGN-RED |
| | | 14 | Switch Ground | BLK-BRN |
| CN16 | .100" 16-Pin Header | 1 | +6V | YEL |
| | | 2 | 9-LP-1 Light Return | BRN-BLK |
| | | 3 | 9-LP-2 Light Return | BRN |
| | | 4 | 9-LP-3 Light Return | BRN-RED |
| | | 5 | 9-LP-4 Light Return | YEL-BLK |
| | | 6 | 9-LP-5 Light Return | YEL-BRN |
| | | 7 | 9-LP-6 Light Return | YEL-ORG |
| | | 8 | 9-LP-7 Light Return | YEL-GRN |
| | | 9 | 9-LP-8 Light Return | YEL-BLU |
| | | 10 | 9-LP-9 Light Return | RED-ORG |
| | | 11 | 9-LP-10 Light Return | GRN-ORG |
| | | 12 | 9-LP-11 Light Return | BLU-ORG |
| | | 13 | 9-LP-12 Light Return | ORG-BLU |
| | | 14 | 9-LP-13 Light Return | ORG-VIO |
| | | 15 | 9-LP-14 Light Return | ORG-GRY |
| | | 16 | 9-LP-15 Light Return | ORG-WHT |
| F1 | Fuse | | 7A SB, 125V | n/a |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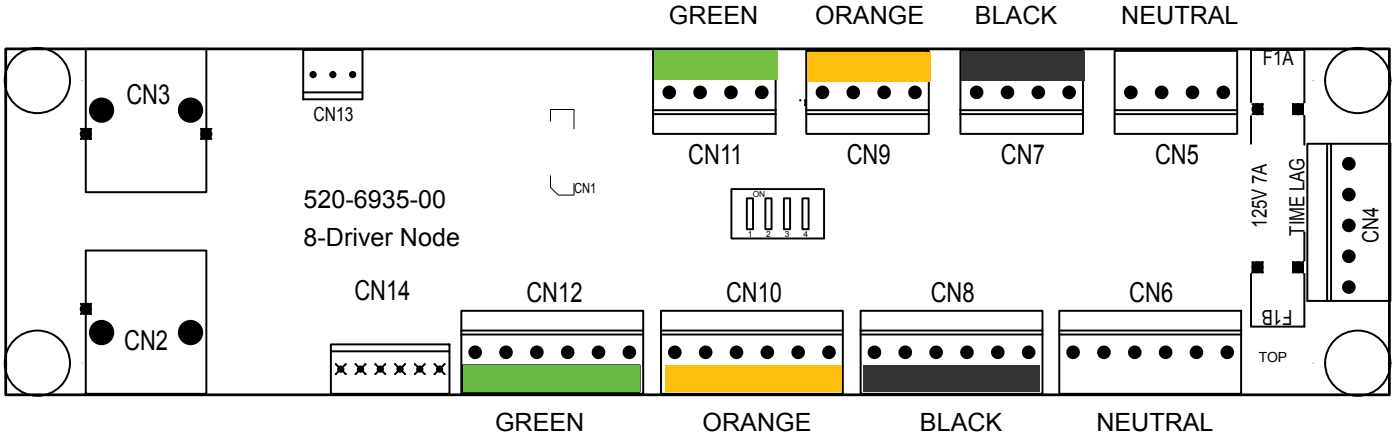
# 4.6 UPPER PLAYFIELD 48V 8-DRIVER PINOUT NODE 11

## 520-6935-10




| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| SW1 | Address DIP | - | Node 11 - OFF-ON-ON-OFF | - |
| CN2 | RJ45 | - | SPIKE Node Bus | n/a |
| CN3 | RJ45 | - | SPIKE Node Bus | Multi |
| CN4 | .156" 5-Pin Header Node Power | 1 | Ground | BLK |
| | | 2 | Key | Key |
| | | 3 | N/C | - |
| | | 4 | N/C | - |
| | | 5 | 48VDC In | GRY |
| CN5 | .156" 4-Pin Header (White) | 1 | Switch Ground | - |
| | | 2 | 8-SW-0 Switch Return | - |
| | | 3 | 8-DR-0 Driver Return | VIO-BLK |
| | | 4 | 48V Driver Power | GRY-VIO |
| CN6 | .156 6-Pin Header (White) | 1 | 8-LP-0 Light Return | BRN |
| | | 2 | LED V+ | YEL |
| | | 3 | Switch Ground | BLK-ORG |
| | | 4 | 8-SW-4 Switch Return | WHT-BRN |
| | | 5 | 8-DR-4 Driver Return | - |
| | | 6 | 48V Driver Power | - |
| CN7 | .156" 4-Pin Header (Black) | 1 | Switch Ground | BLK-ORG |
| | | 2 | 8-SW-1 Switch | WHT-RED |
| | | 3 | 8-DR-1 Driver Return | VIO-BRN |
| | | 4 | 48V Driver Power | GRY-VIO |
| CN8 | .156 6-Pin Header (Black) | 1 | 8-LP-1 Light Return | RED-YEL |
| | | 2 | LED V+ | YEL |
| | | 3 | Switch Ground | BLK-ORG |
| | | 4 | 8-SW-5 | - |
| | | 5 | 8-DR-5 Driver Return | VIO-ORG |
| | | 6 | 48V Driver Power | GRY-VIO |
| CN9 | .156" 4-Pin Header (Orange) | 1 | Switch Ground | - |
| | | 2 | 8-SW-2 Switch | - |
| | | 3 | 8-DR-2 Driver Return | - |
| | | 4 | 48V Driver Power | - |

| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN10 | .156" 6-Pin Header (Orange) | 1 | 8-LP-2 Light Return | GRN-YEL |
| | | 2 | LED V+ | YEL |
| | | 3 | Switch Ground | BLK-ORG |
| | | 4 | 8-SW-6 Switch Return | TAN-BLU |
| | | 5 | 8-DR-6 Driver Return | YEL-RED |
| | | 6 | 48V Driver Power | GRY-VIO |
| CN11 | .156" 4-Pin Header (Green) | 1 | Switch Ground | BLK-ORG |
| | | 2 | 8-SW-3 Switch | TAN-WHT |
| | | 3 | 8-DR-3 Driver Return | VIO-YEL |
| | | 4 | 48V Driver Power | GRY-VIO |
| CN12 | .156" 6-Pin Header (Green) | 1 | 8-LP-3 Light Return | BLU-YEL |
| | | 2 | LED V+ | - |
| | | 3 | Switch Ground | BLK-ORG |
| | | 4 | 8-SW-7 Switch Return | WHT-ORG |
| | | 5 | 8-DR-7 Driver Return | VIO-GRN |
| | | 6 | 48V Driver Power | GRY-ORG |
| CN13 | .100" 3-Pin Header | 1 | 8-LP-4 GI Return (1A Max) | ORG |
| | | 2 | GI Ground | - |
| | | 3 | LED V+ | YEL |
| CN14 | .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 |
| F1 | Fuse | - | 7A SB, 125V | n/a |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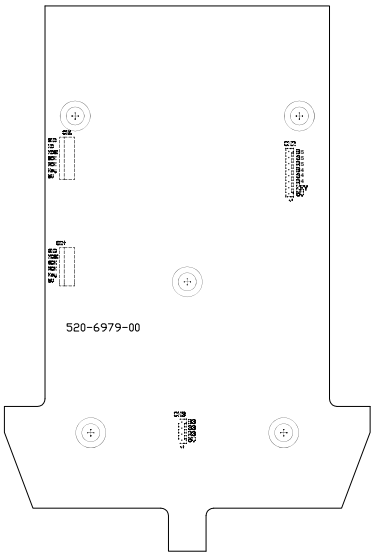
# 4.7 LOWER PLAYFIELD SERIAL LED BOARD 8A

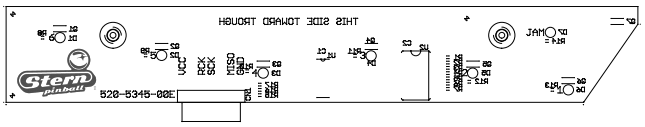
## 520-6979-00




| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN1 | .100" 7-Pin Housing | 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" 8-Pin Housing | 1 | V+ | RED |
| | | 2 | Key | - |
| | | 3 | LP-4R Light Return | RED-VIO |
| | | 4 | LP-4G Light Return | GRN-VIO |
| | | 5 | LP-4B Light Return | BLU-VIO |
| | | 6 | LP-5R Light Return | RED-WHT |
| | | 7 | LP-5G Light Return | GRN-WHT |
| | | 8 | LP-5B Light Return | BLU-WHT |
| CN3 | .100" 3-Pin Housing | 1 | V+ | RED |
| | | 2 | LP-12R Light Return | RED-GRY |
| | | 3 | LP-12G Light Return | GRN-GRY |
| | | 4 | LP-12B Light Return | BLU-GRY |
| CN4 | .100" 6-Pin Header | 1 | Ground | BLK |
| | | 2 | DIN | VIO-BLK |
| | | 3 | DOUT | - |
| | | 4 | SCK | VIO-RED |
| | | 5 | RCK | VIO-ORG |
| | | 6 | V+ | RED |

# 4.8 THROUGH OPTO RECEIVER

## 520-5345-01

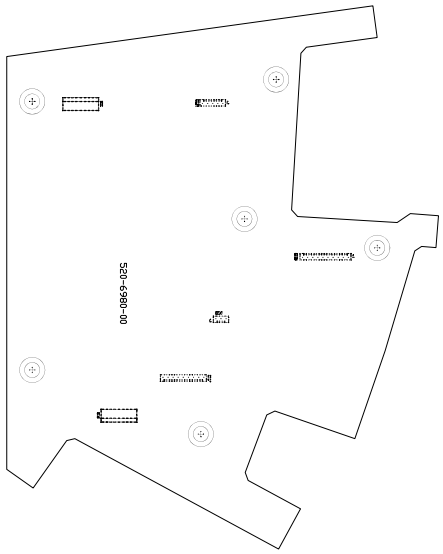



| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN1 | .100" 7-Pin Header | 1 | Ground | BLK |
| | | 2 | MISO Output Data | VIO-BLK |
| | | 3 | MOSI Input Data | - |
| | | 4 | SCK Serial Clock | VIO-RED |
| | | 5 | RCK Register Clock | VIO-ORG |
| | | 6 | N/C | - |
| | | 7 | +5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

Continued on next page

# 4.9 CENTER PLAYFIELD SERIAL LED BOARD 9A

## 520-6980-00




| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN1 | .100 in 7-Pin Housing | 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 in 5-Pin Housing | 1 | V+ | RED |
| | | 2 | LP-1R Light Return | RED-WHT |
| | | 3 | LP-1G Light Return | GRN-WHT |
| | | 4 | LP-1B Light Return | BLU-WHT |
| | | 5 | LP-1 Flash Light Return | ORG-BLK |
| CN3 | .100 in 10-Pin Housing | 1 | V+ | RED |
| | | 2 | LP-2R Light Return | RED-BLU |
| | | 3 | LP-2G Light Return | GRN-BLU |
| | | 4 | LP-2B Light Return | BLU |
| | | 5 | LP-3R Light Return | RED-VIO |
| | | 6 | LP-3G Light Return | GRN-VIO |
| | | 7 | LP-3B Light Return | BLU-VIO |
| | | 8 | LP-2 Flash Light Return | ORG-BRN |
| | | 9 | LP-3 Flash Light Return | ORG-RED |
| | | 10 | LP-4 Flash Light Return | ORG-VIO |
| CN4 | .100 in 3-Pin Housing | 1 | V+ | RED |
| | | 2 | LP-6 Flash Light Return | RED-BRN |
| | | 3 | LP-7 Flash Light Return | GRN-BRN |

| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN5 | .100 in 7-Pin Housing | 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 |
| CN6 | .100 in 9-Pin Housing | 1 | V+ | RED |
| | | 2 | KEY | KEY |
| | | 3 | LP-5 Flash Light Return | ORG-BLU |
| | | 4 | LP-4R Light Return | RED-GRY |
| | | 5 | LP-4G Light Return | GRN-GRY |
| | | 6 | LP-4B Light Return | BLU-GRY |
| | | 7 | LP-5R Light Return | RED-BRN |
| | | 8 | LP-5G Light Return | GRN-BRN |
| | | 9 | LP-5B Light Return | BLU-BRN |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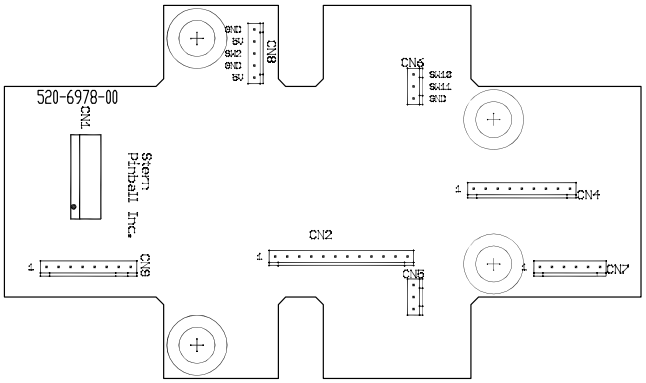
# 4.11 UPPER MINI PLAYFIELD SERIAL LED BOARD 11A

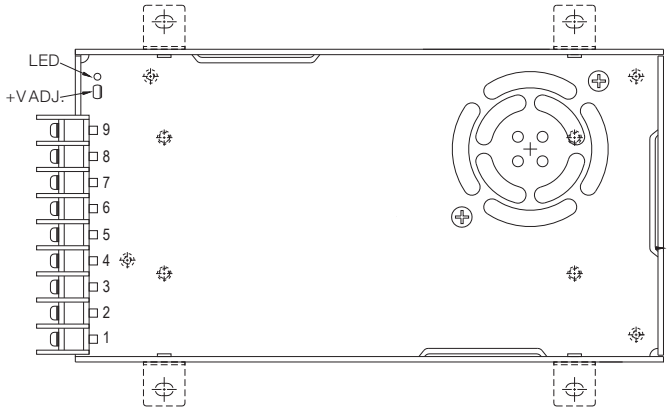
## 520-6978-00




| ID | Type | Pin | Description | Wire Color |
|---|---|---|---|---|
| CN1 | .100" 7-Pin Housing | 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" 12-Pin Header | 1 | LP-6R Light Return | RED-BRN |
| | | 2 | LP-6G Light Return | GRN-BRN |
| | | 3 | LP-6B Light Return | BLU-BRN |
| | | 4 | LP-7R Light Return | RED-ORG |
| | | 5 | LP-7G Light Return | GRN-ORG |
| | | 6 | LP-7B Light Return | BLU-ORG |
| | | 7 | LP-9R Light Return | RED-YEL |
| | | 8 | LP-9G Light Return | GRN-YEL |
| | | 9 | LP-9B Light Return | BLU-YEL |
| | | 10 | LP-10R Light Return | RED-GRN |
| | | 11 | LP-10G Light Return | GRN |
| | | 12 | LP-10B Light Return | BLU-GRN |
| CN4 | .100" 9-Pin Header | 1 | +5 VDC | RED |
| | | 2 | LP-13R Light Return | RED-VIO |
| | | 3 | LP-13G Light Return | GRN-VIO |
| | | 4 | Key | KEY |
| | | 5 | LP-13B Light Return | BLU-VIO |
| | | 6 | LP-14R Light Return | RED-GRY |
| | | 7 | LP-14G Light Return | GRN-GRY |
| | | 8 | LP-14B Light Return | BLU-GRY |
| | | 9 | Ground | BLK |
| CN5 | .100" 3-Pin Housing | 1 | Ground | BLK |
| | | 2 | sw1 | WHT |
| | | 3 | sw0 | WHT-VIO |
| CN6 | .100" 3-Pin Housing | 1 | Ground | BLK |
| | | 2 | sw11 | WHT |
| | | 3 | sw10 | WHT-VIO |
| CN7 | .100" 6-Pin Housing | 1 | sw8 | WHT-BLK |
| | | 2 | sw9 | WHT-BRN |
| | | 3 | sw12 | WHT-RED |
| | | 4 | sw13 | WHT-ORG |
| | | 5 | sw14 | WHT-YEL |
| | | 6 | sw15 | WHT-GRN |
| CN9 | .100" 8-Pin Housing | 1 | +5 VDC | RED |
| | | 2 | +5 VDC | RED |
| | | 3 | LP-1R Light Return | RED-BLK |
| | | 4 | LP-1G Light Return | GRN-BLK |
| | | 5 | LP-1B Light Return | BLU-BLK |
| | | 6 | LP-2R Light Return | RED-WHT |
| | | 7 | LP-2G Light Return | GRN-WHT |
| | | 8 | LP-2B Light Return | BLU-WHT |

# 4.10 MAIN POWER SUPPLY

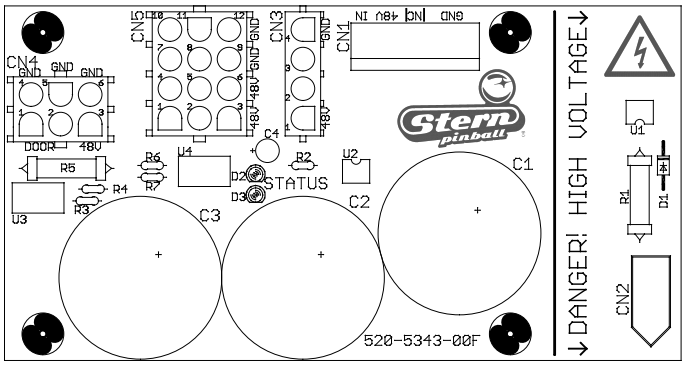
## 011-5001-00




| 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 |

# 4.12 POWER DISTRIBUTION BOARD

## 520-5343-01




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

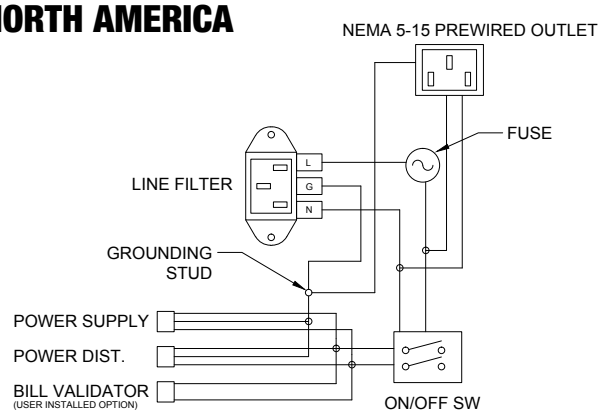
# 4.13 POWER PLUG WIRING

**CAUTION**

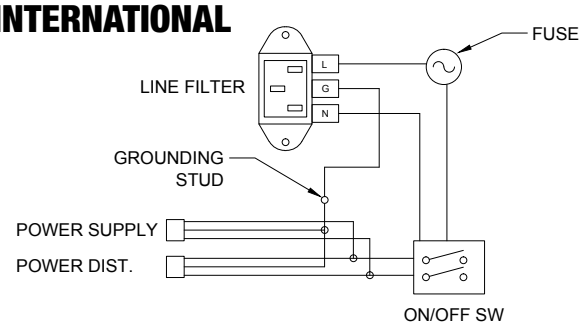
**TO MAINTAIN SAFETY, GROUND WIRE FROM LINE FILTER IS TO BE MOUNTED FIRST ON GROUNDING STUD AND SECURED WITH NUT. ALL OTHER GROUNDS MAY THEN BE ATTACHED TO GROUNDING STUD.**

**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 MDL | 200-5000-05 |
| 220/240v (Europe, Australia, UK) | 5 A | Slow Blow MDL | 200-5000-01 |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# 5. PARTS REFERENCE

## 5.1 PLAYFIELD RUBBER PARTS

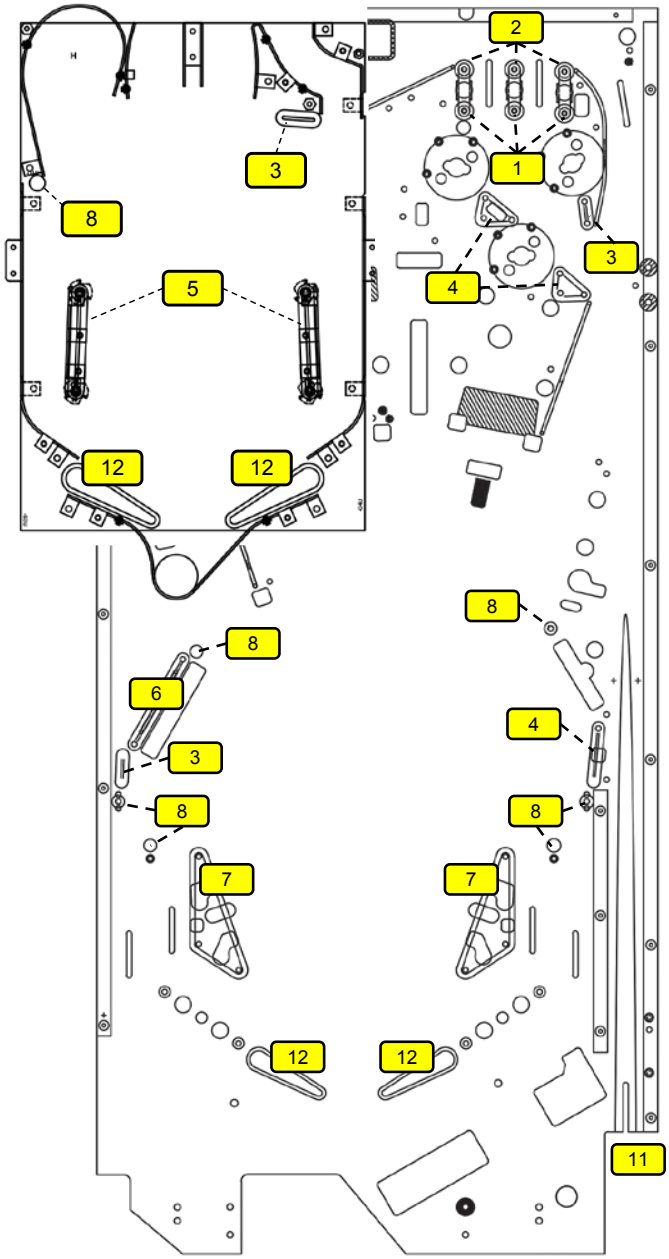



Figure 5.1.1. Rubber o-ring part locations

### RUBBER O-RINGS

| ID | Qty | Size (ID) | Size (OD) | Durometer | Color | Part Number |
|---|---|---|---|---|---|---|
| 1 | 3 | 3/16" | | 50 | Black | 545-5348-01 |
| 2 | 3 | 5/16" | | 50 | Black | 545-5348-02 |
| 3 | 3 | 7/16" | | 50 | Black | 545-5348-18 |
| 4 | 3 | 3/4" | | 50 | Black | 545-5348-04 |
| 5 | 2 | 1-1/4" | | 50 | Black | 545-5348-06 |
| 6 | 1 | 1-3/4" | | 50 | Black | 545-5348-21 |
| 7 | 2 | 2-1/2" | | 50 | Black | 545-5348-09 |
| 8 | 7 | | 7/16" | 50 | Black | 545-5348-17 |

Figure 5.1.2. Rubber o-ring part numbers and usage. ID: Inner Diamter, 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 | 4 | Flipper Rubber | Black | 545-5277-00 |
| 13 | 6 | Bumper Pad (Sub assemblies) | Black | 545-5105-00 |
| 14 | 5 | Bumper Pad (Flippers) | Black | 545-5428-00 |

Figure 5.1.3. Other rubber part numbers and usage

## 5.2 RUBBER SIZE CHART

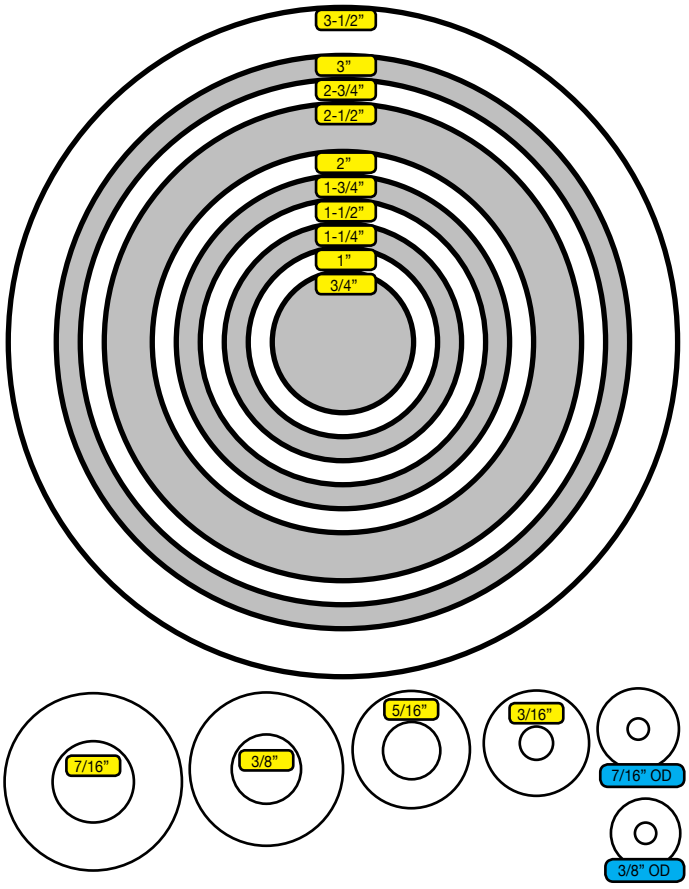
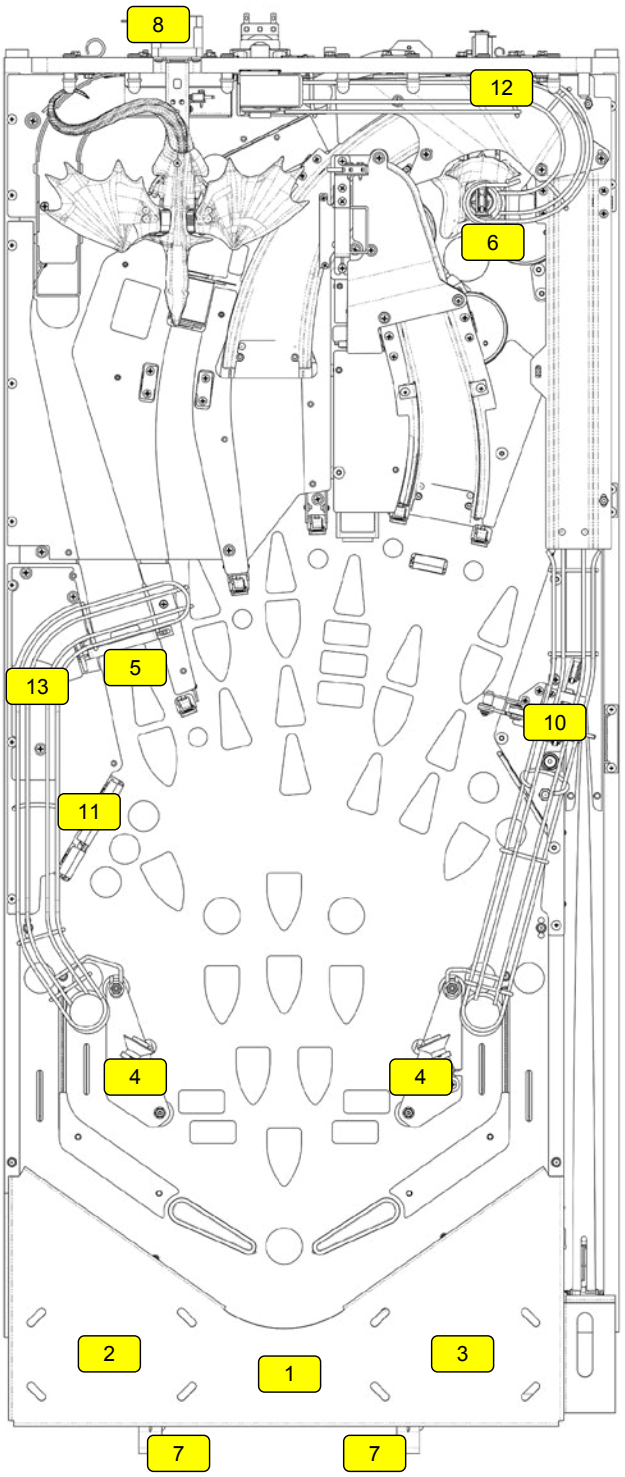



Figure 5.2.1. Rubber ring inner diameter sizing tool. Hold ring up to chart and read largest size on inside of ring. Dimensions are Inner Diameter (ID) unless otherwise noted as Outer Diamter (OD).

# 5.3 PLAYFIELD ASSEMBLIES, TOP




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 545-5995-02 | Bottom Arch Assembly | 1 |
| 2 | 755-51G4-12-Y | Instruction Card | 1 |
| 3 | 755-5400-02-Y | Coin Card (USA) | 1 |
| 4 | 545-5409-01 | Light Reflector | 2 |
| 5 | 500-9957-00-GE | Spinner Assembly -Left Hand | 1 |
| 6 | 500-6697-02-ND | Kicker Assembly -Left Lugs | 1 |
| 7 | 535-8385-00 | Welded Hanger Bracket | 2 |
| 8 | 041-5105-00 | Stepper Motor | 1 |
| 9 | 520-6981-00 | Flood LED | 2 |
| 10 | 500-9927-00 | Right Wireform Assembly | 1 |
| 11 | 500-7216-13 | 3-Bank Drop Target Assembly | 1 |
| 12 | 515-9823-00 | Back Throne Ramp | 1 |
| 13 | 515-9802-00 | Left Ramp | 1 |

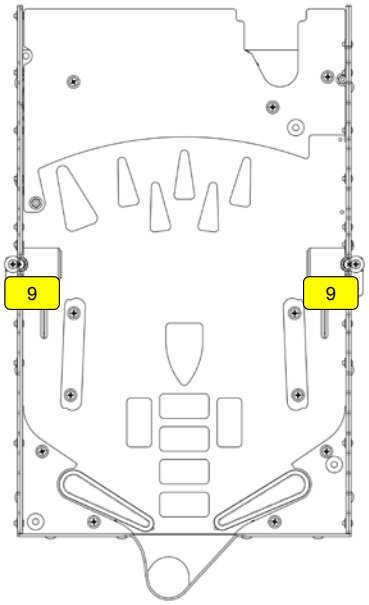



Figure 5.3.1. Major playfield assemblies, Top locations.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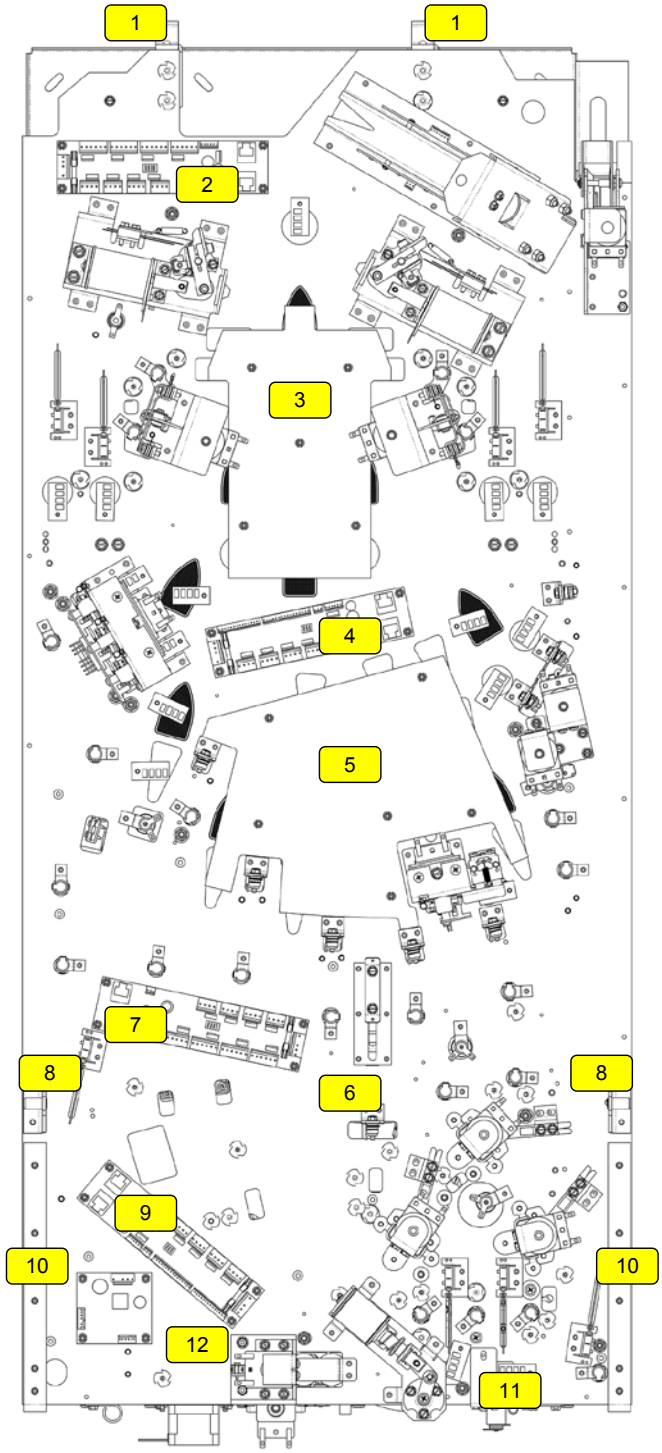
# 5.4 PLAYFIELD ASSEMBLIES, BOTTOM




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-8385-00 | Welded Hanger Bracket | 2 |
| 2 | 520-6935-10 | Lower Playfield 8-Driver Node Board | 1 |
| 3 | 520-6979-00 | Lower Playfield Serial LED Board | 1 |
| 4 | 520-5329-10 | 4-Driver Node Board | 1 |
| 5 | 520-6980-00 | Center Playfield LED Board | 1 |
| 6 | 055-5204-04 | 4 Pos Terminal Strip | 1 |
| 7 | 520-6935-10 | Upper Playfield 8-Driver Node Board | 1 |
| 8 | 500-5329-03 | Bracket Pivot Pin | 2 |
| 9 | 520-5329-10 | Upper Playfield 4-Driver Node Board | 1 |
| 10 | 535-5988-01 | Edge Slide Bracket | 2 |
| 11 | 535-8964-01 | Back Panel Support Bracket | 1 |
| 12 | 055-5203-00 | 2 Pos Terminal Strip | 1 |
| 13 | 520-6978-00 | Mini Playfield Serial LED Board | 1 |

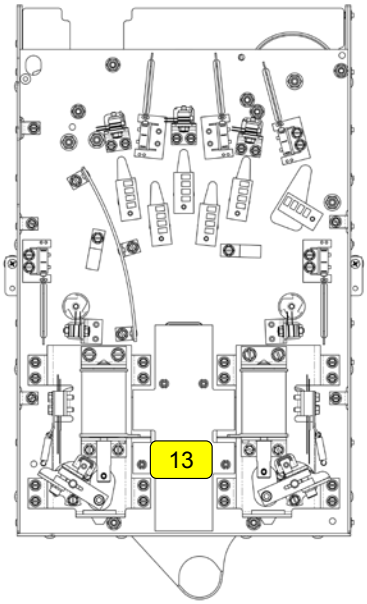



Figure 5.4.1. Major playfield assemblies, Bottom locations.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# 5.5 BACKBOX PARTS

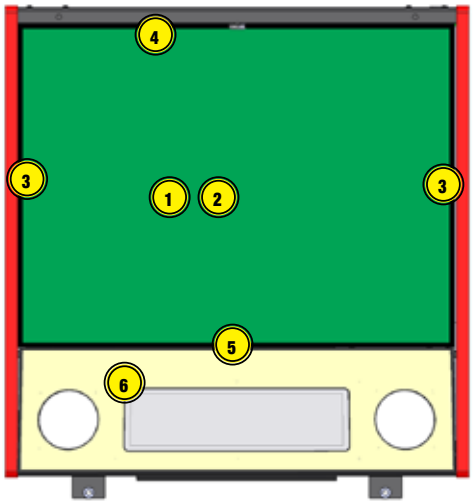



Figure 5.5.1. Backbox external assemblies and components

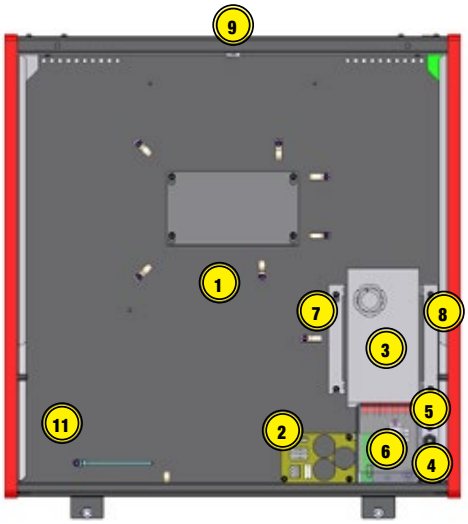



Figure 5.5.2. Backbox internal assemblies and components

## EXTERNAL

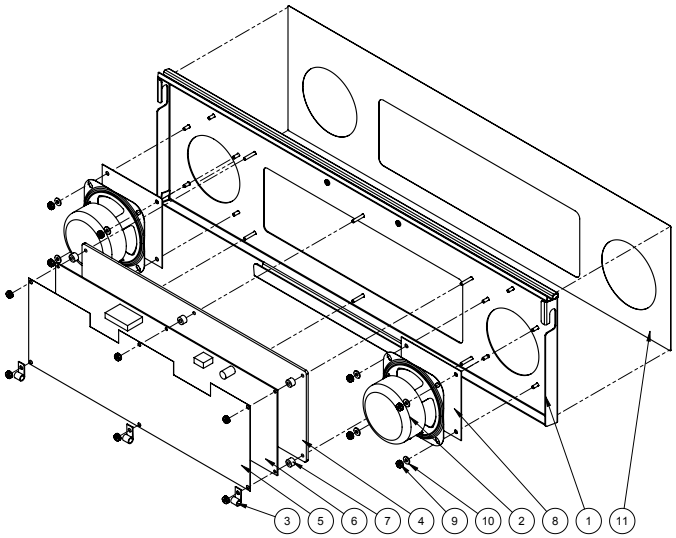
| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 830-52G5-00 | Mirror Backglass - GoT LE | 1 |
| | 830-52G6-00 | Translite Art - GoT Premium | 1 |
| 2 | 660-5038-02 | Back Glass - Premium | 1 |
| 3 | 545-5018-14 | Plastic Extrusion 18-1/8" | 2 |
| 4 | 545-5018-15 | Glass Channel 26" | 1 |
| 5 | 545-6313-01 | Glass Lift Channel 26" | 1 |
| 6 | 500-9854-G5 | Speaker Panel Assembly - LE | 1 |
| 7 | 500-9902-16 | T-Molding Gold - LE | 1 |
| | 500-9902-17 | T-Molding Chrome - Premium | 1 |
| 8 | 820-71G5-01 | Decal Backbox Left - LE | 1 |
| | 820-71G5-02 | Decal Backbox Right - LE | 1 |
| | 820-71G6-01 | Decal Backbox Left - Premium | 1 |
| | 820-71G6-02 | Decal Backbox Right - Premium | 1 |

## INTERNAL

| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 520-6936-01 | CPU Node Board -10 | 1 |
| 2 | 520-5343-00 | 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 |
| 6 | 535-1130-00 | Cover AC | 1 |
| 7 | 535-1129-00 | Power supply bracket | 1 |
| 8 | 535-1129-01 | Power supply bracket | 1 |
| 9 | 355-5168-00 | Backbox Lock, 5/8 in | 1 |
| 10 | 180-5001-03 | Power Switch | 1 |
| 11 | 511-7666-00 | High Pass FIlter Assembly | 1 |
| | 034-6012-00 | Line Cord-3M 5-15P/C13RA* | 1 |

# 5.6 SPEAKER PANEL PARTS

| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 515-9763-01 | Speaker Panel LE | 1 |
| | 515-9763-00 | Speaker Panel | 1 |
| 2 | 031-5004-02 | Speaker | 2 |
| 3 | 040-5000-03 | 1/4" Cable Clamp | 3 |
| 4 | 545-7849-00 | Display Lens | 1 |
| 5 | 545-7856-00 | Fische Paper LED Display | 1 |
| 6 | 520-5052-15 | LED Display | 1 |
| 7 | 254-5000-09 | Nylon Spacer | 6 |
| 8 | 535-8081-01 | Speaker Grill | 2 |
| 9 | 240-5008-00 | 6-32 KEPS Nuts | 14 |
| 10 | 242-5001-00 | # 6 Washer | 8 |
| 11 | 820-8398-G5 | Decal: Speaker Panel, Game of Thrones LE | 1 |
| | 820-8369-G4 | Decal: Speaker Panel, Game of Thrones Premium | 1 |





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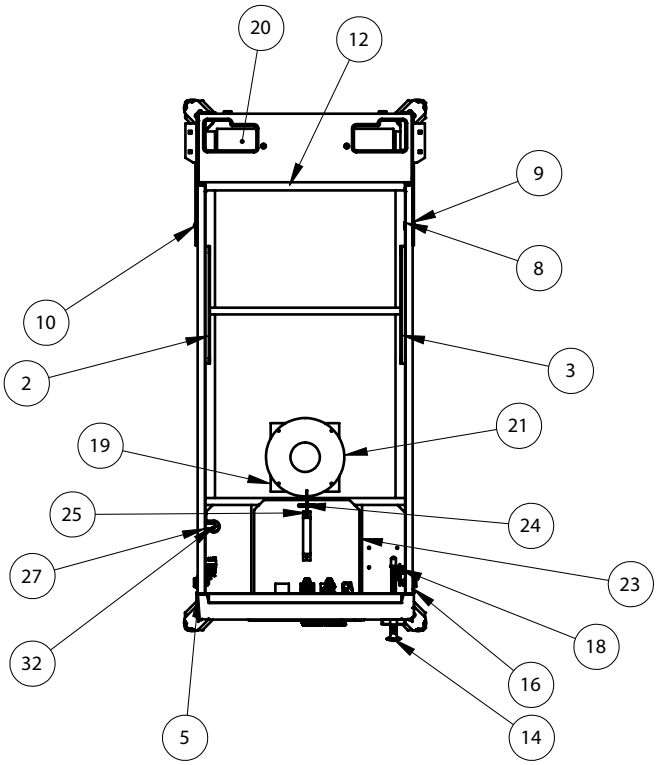
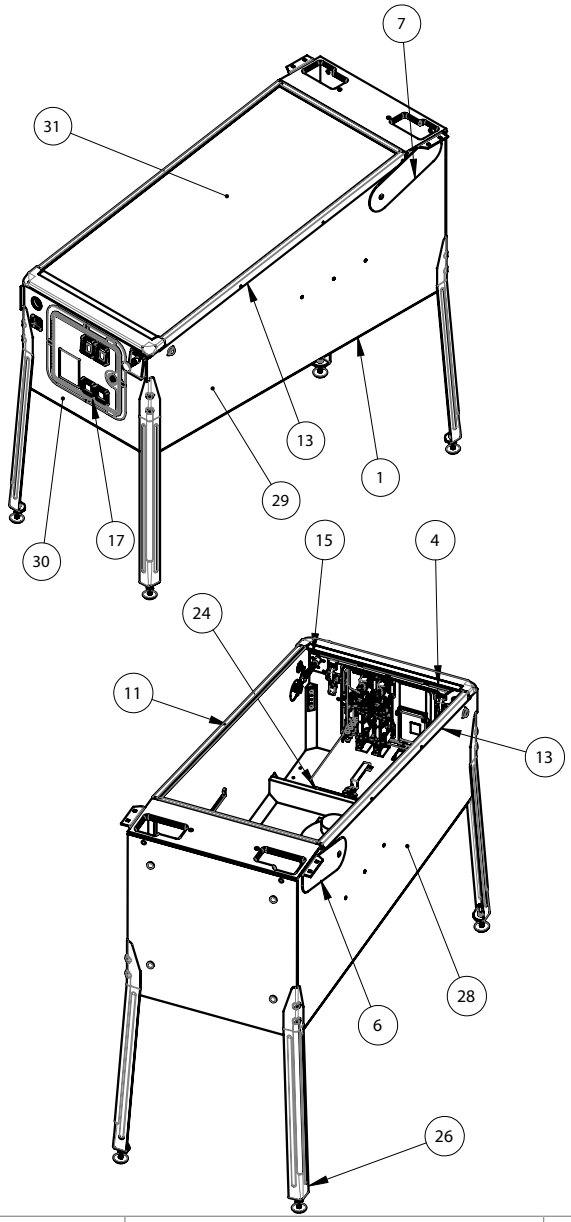
# 5.7 CABINET PARTS



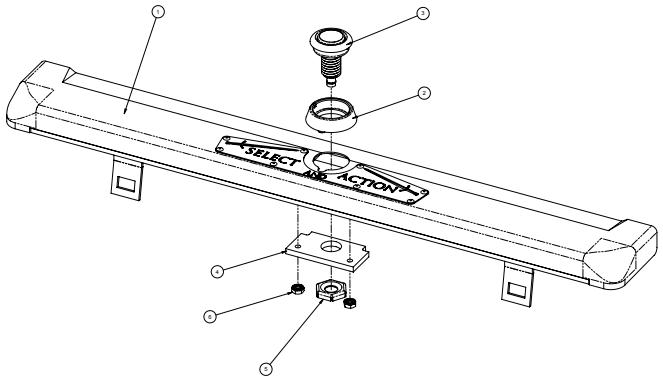

| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 525-5844-00 | CABINET, GoT (PLUNGER & TWO BUTTONS) | 1 |
| 2 | 535-5989-00 | SLIDE & PIVOT BRACKET - LEFT SIDE | 1 |
| 3 | 535-5990-00 | SLIDE & PIVOT BRACKET - RIGHT SIDE | 1 |
| 4 | 500-6881-00 | LOCK DOWN NU STYLE ASSEMBLY | 1 |
| 5 | 500-6882-03-00 | FRONT MOLDING ASSMEMBLY - NO HOLE - BLACK | 1 |
| 6 | 535-7999-25L | PIVOT HINGE, LEFT - GLOSSY BLACK - LE | 1 |
| | 535-7999-00 | PIVOT HINGE, LEFT - WRINKLE BLACK - PREMIUM | 1 |
| 7 | 535-7999-25R | PIVOT HINGE, RIGHT - GLOSSY BLACK - 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 | 231-5014-00 | 1/4-20 X 7/8" CARRIAGE BOLT | 2 |
| 11 | 545-5017-00 | PLASTIC CHANNEL | 2 |
| 12 | 545-9802-00 | GLASS REAR EXTRUSION | 1 |
| 13 | 511-7730-01 | TARGARYEN SIDE ARMOR RIGHT - LE | 1 |
| | 511-7730-00 | TARGARYEN SIDE ARMOR LEFT - LE | 1 |
| | 535-7297-02 | SIDE ARMOR - PREMIUM | 2 |
| 14 | 500-6146-00-07 | BALL SHOOTER ASSEMBLY | 1 |
| 15 | 535-5027-01 | PLUNGER SUPPORT PLATE, NOTCHED | 1 |
| 16 | 500-5026-32 | FLIPPER BUTTON ASSY (Red) | 2 |
| 17 | 501-5018-173 | COIN DOOR 2-CHUTE NO EMBOSS | 1 |
| 18 | 180-5160-01 | FLIPPER SWITCH, Single | 2 |
| 19 | 545-5072-03 | GRILL - SPEAKER / VENT | 1 |
| 20 | 545-5072-02 | GRILL - SPEAKER / VENT | 1 |




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 21 | 031-5007-01 | SPEAKER, CABINET 8" ROUND, 4 OHM | 1 |
| 22 | 545-5090-00 | CASH BOX - PLASTIC | 1 |
| 23 | 535-5013-03 | CASH BOX COVER | 1 |
| 24 | 535-7562-00 | CASH BOX LOCK BRACKET | 1 |
| 25 | 535-7772-00 | HAIR PIN CLIP | 1 |
| 26 | 500-5921-XX | LEG ASSEMBLY - BLACK | 4 |
| 27 | 516-0007-00 | TILT ASSEMBLY | 1 |
| 28 | 820-71G5-03 | DECAL, CABINET LEFT, GoT LE | 1 |
| | 820-71G6-03 | DECAL, CABINET LEFT, GoT PREMIUM | 1 |
| 29 | 820-71G5-04 | DECAL, CABINET RIGHT, GoT LE | 1 |
| | 820-71G6-04 | DECAL, CABINET RIGHT, GoT PREMIUM | 1 |
| 30 | 820-71G5-05 | DECAL, CABINET FRONT, GoT LE | 1 |
| | 820-71G6-05 | DECAL, CABINET FRONT, GoT PREMIUM | 1 |
| 31 | 660-5001-00 | PLAYFIELD GLASS | 1 |
| 32 | 520-5319-00 | CABINET NODE BOARD | 1 |
| | 820-71G5-XX<br>820-71G6-XX | Cabinet Decal Replacement Set, Speaker Panel Decal Not Included | |

# 5.8 FRONT MOLDING ASSEMBLY

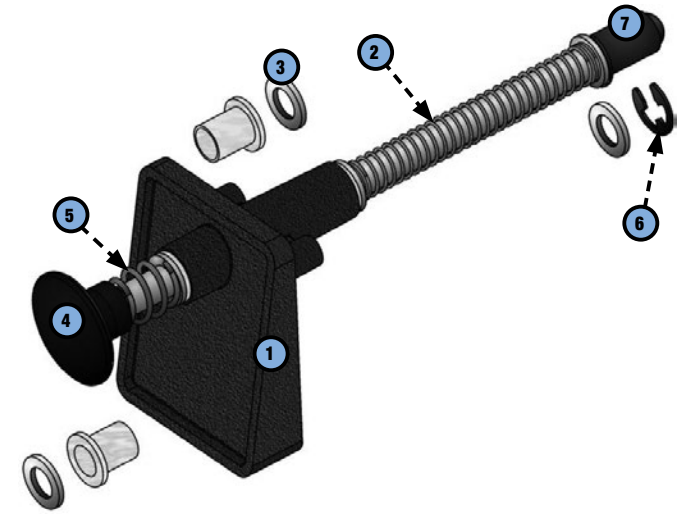
## LE: 500-7238-25-G5
## PREMIUM: 500-7238-00-G6




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 500-7235-03-G5 | FRONT MOLD ASSEMBLY - LATCHED LE | 1 |
| | 500-7235-03-G6 | FRONT MOLD ASSEMBLY - LATCHED PREMIUM | 1 |
| 2 | 545-7292-10 | TOP BUTTON SPACER-MOLDED | 1 |
| 3 | 515-7791-00 | BUTTON ASSY - CLEAR | 1 |
| 4 | 545-7291-00 | TOP BUTTON BAR | 1 |
| 5 | 240-5003-01 | PAL NUT | 1 |
| 6 | 240-5104-00 | 8-32 KEPS NUT | 2 |

# 5.9 BALL SHOOTER ASSEMBLY

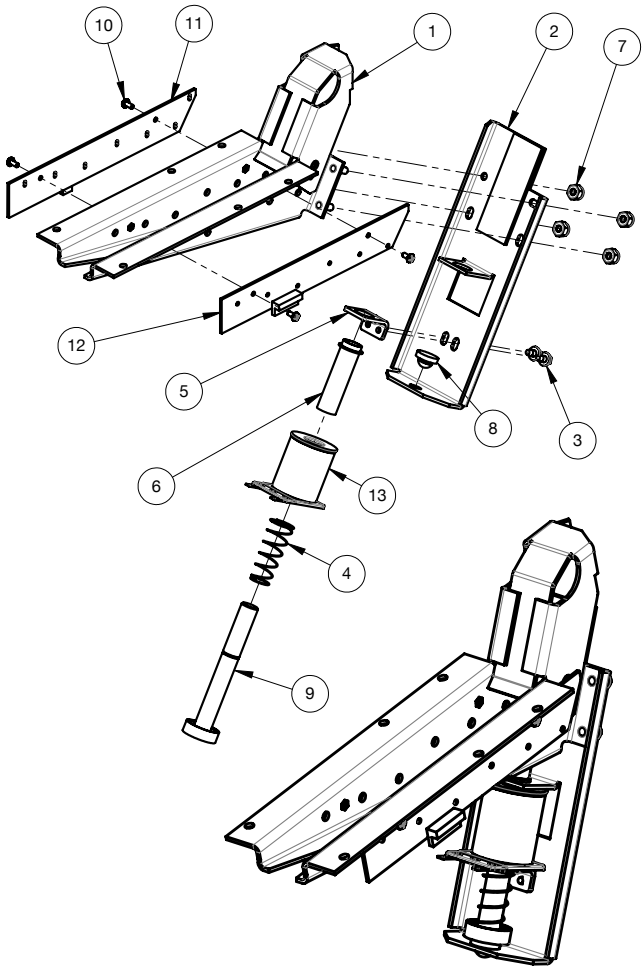
## 500-6146-00-07




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-5067-02 | Housing Assembly | 1 |
| 2 | 266-5001-07 | Compressed Spring (Long) - Orange | 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 |

# 5.10 BALL TROUGH ASSEMBLY

## 500-9820-00




| 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 | 520-5345-00 | 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 |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# 5.11 FLIPPER ASSEMBLY, LEFT

## 500-6543-83-ND

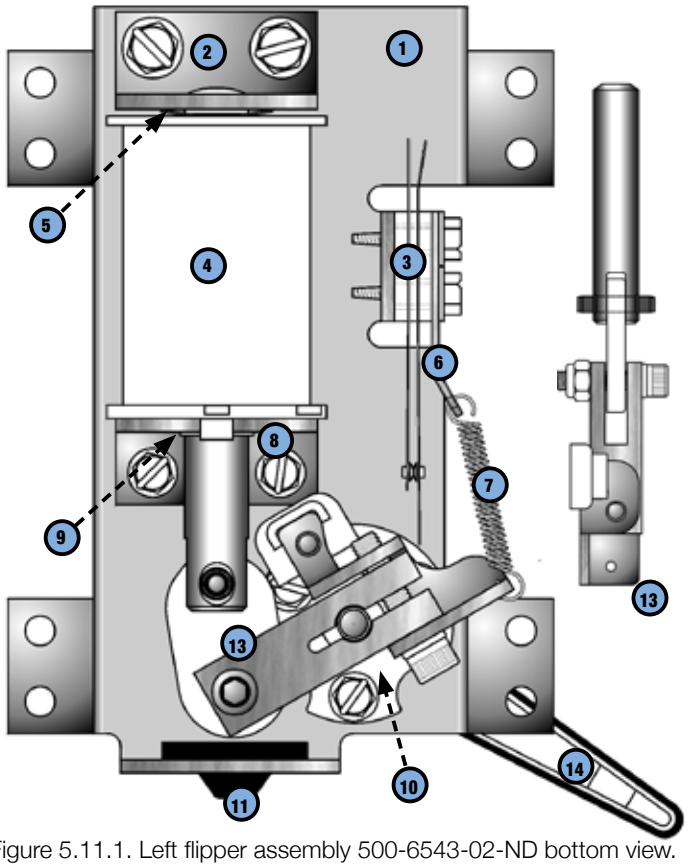


Figure 5.11.1. Left flipper assembly 500-6543-02-ND bottom view.

| 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 |
| | 090-5020-30-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 | 515-5133-08-06 | FLIPPER BAT AND SHAFT* | 1 |
| | 500-6307-10 | FLIPPER REBUILD KIT, LEFT | |
| | | * Refer to game rubber chart for flipper rubber color and part number. | |

# 5.12 FLIPPER ASSEMBLY, RIGHT

## 500-6543-82-ND

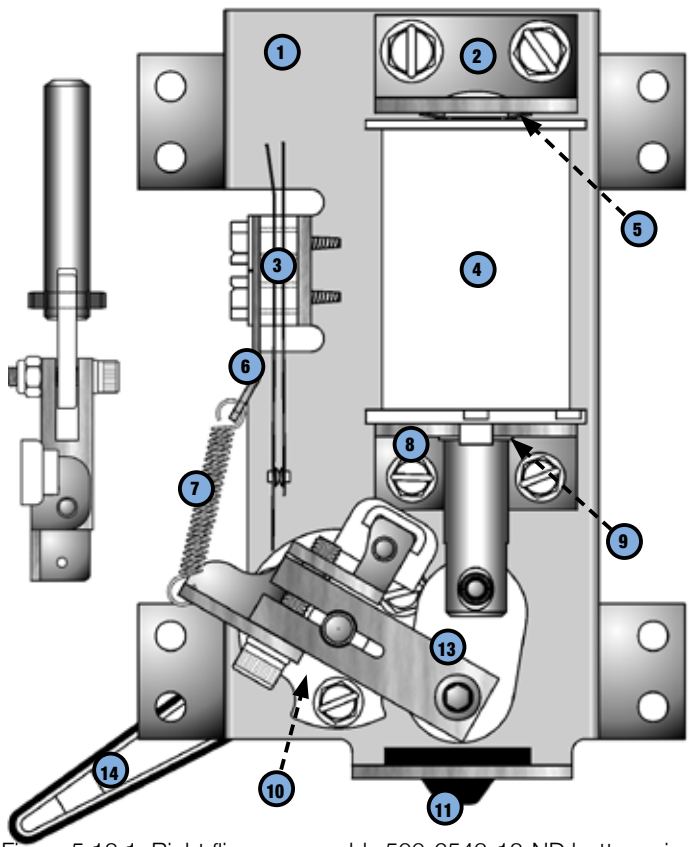


Figure 5.12.1. Right flipper assembly 500-6543-12-ND bottom view.

| 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 | 090-5032-ND | COIL - LOWER | 1 |
| | 090-5020-30-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 | 515-7203-00 | PLUNGER/CRANK ASSEMBLY | 1 |
| 14 | 515-5133-08-06 | FLIPPER BAT AND SHAFT* | 1 |
| | 500-6307-00 | FLIPPER REBUILD KIT, RIGHT | |
| | | * Refer to game rubber chart for flipper rubber color and part number. | |

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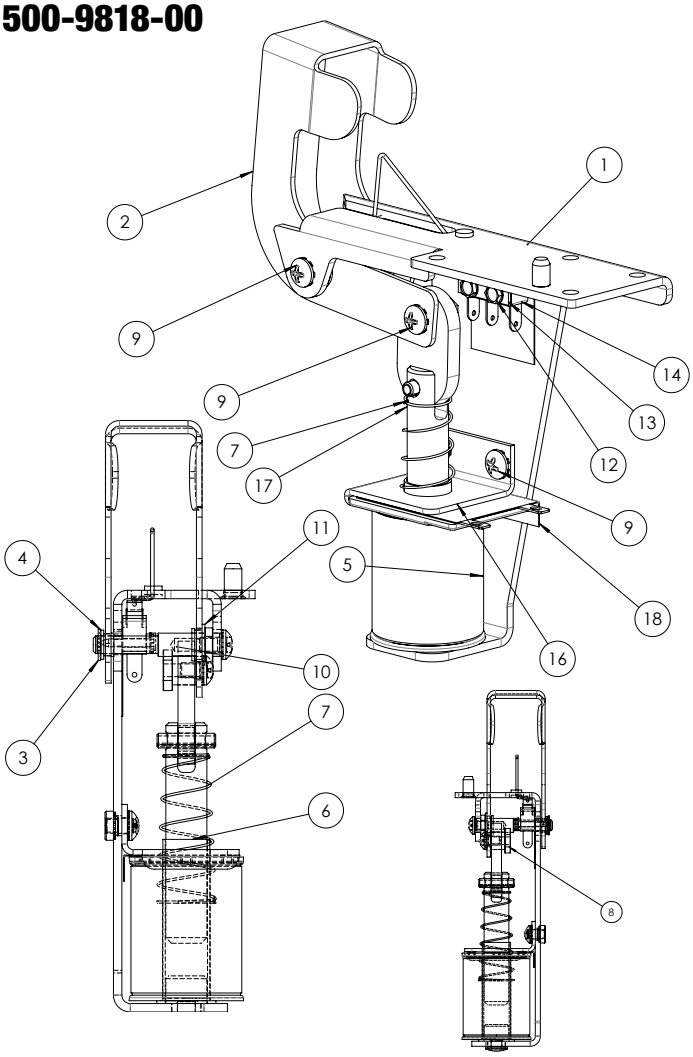
# 5.13 AUTO LAUNCH ASSEMBLY

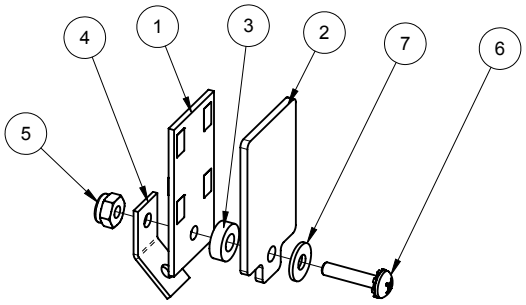
## 500-9818-00




| 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 | 090-5001-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 |

# 5.14 FLOOD LIGHT ASSEMBLY - TARGARYEN

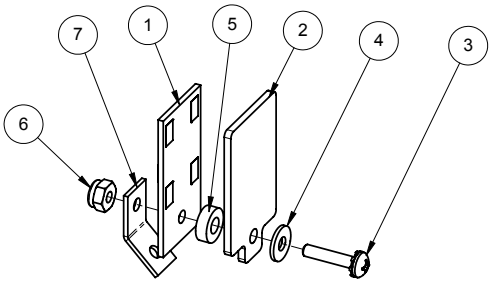
## LE: 511-7611-37
## PREMIUM: 511-7739-37




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 520-6981-00 | RGB FLOOD LAMP | 1 |
| 2 | 830-6951-37 | BUTY # 37 - TARGARYEN - G O T L E | 1 |
| | 830-6954-37 | BUTY # 37 - TARGARYEN - G O T PREMIUM | 1 |
| 3 | 254-5000-19 | NYLON SPACER - BLACK - 3/8 OD X .175 ID X 1/8" | 1 |
| 4 | 535-8941-06 | BRACKET - PLASTIC MTG | 1 |
| 5 | 240-5005-00 | 6-32 NYLON STOP NUT | 1 |
| 6 | 232-5203-00 | SCREW, 6-32 X 5/8" PPH SEMS ZINC | 1 |
| 7 | 242-5001-00 | #6 WASHER | 1 |

# 5.15 FLOOD LIGHT ASSEMBLY - STARK

## LE: 511-7611-38
## PREMIUM: 511-7739-38




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 520-6981-00 | RGB FLOOD LAMP | 1 |
| 2 | 830-6951-38 | BUTY # 38 - STARK - G O T L E | 1 |
| | 830-6954-38 | BUTY # 38 - STARK - G O T PREMIUM | 1 |
| 3 | 232-5203-00 | SCREW, 6-32 X 5/8" PPH SEMS ZINC | 1 |
| 4 | 242-5001-00 | #6 WASHER | 1 |
| 5 | 254-5000-19 | NYLON SPACER - BLACK - 3/8 OD X .175 ID X 1/8" | 1 |
| 6 | 240-5005-00 | 6-32 NYLON STOP NUT | 1 |
| 7 | 535-8941-06 | BRACKET - PLASTIC MTG | 1 |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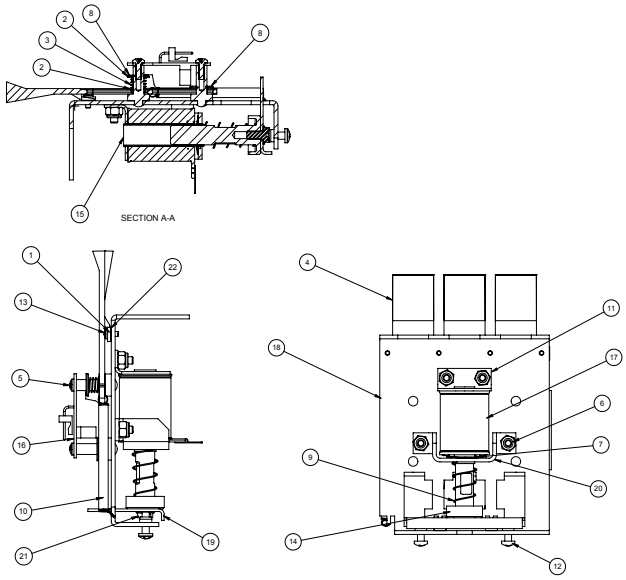
# 5.16 3-BANK DROP TARGET ASSM W/ RIGHT ANGLE CONN

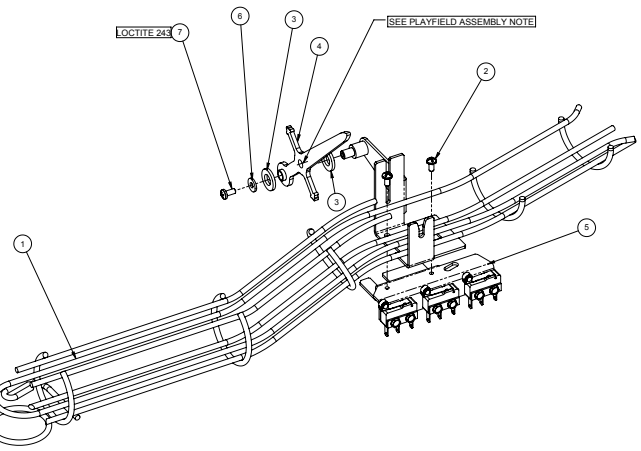
## 500-7216-13




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 545-6163-03 | LEDGE, 3-BANK DROP TARGET | 1 |
| 2 | 242-5091-00 | WASHER, 1/2 X 17/64 X .03 - DT | 9 |
| 3 | 266-5089-00 | SPRING COMPRESSION - DT | 3 |
| 4 | 545-6305-00 | TARGET - ROLLOVER - BLACK | 3 |
| 5 | 237-5501-00 | SCREW, 6-32 X 3/8" PPH MS ZINC | 6 |
| 6 | 240-5102-00 | 8-32 NYLON LOCK NUT | 4 |
| 7 | 269-5002-00 | SPRING WASHER | 1 |
| 8 | 270-5002-00 | RETAINING RING - 1/4" | 6 |
| 9 | 266-5020-00 | COMPRESSION SPRING-CONICAL | 1 |
| 10 | 265-5003-02 | TARGET RESET SPRING | 3 |
| 11 | 535-9959-00 | STOP BRKT | 1 |
| 12 | 237-5602-00 | SCREW, 8-32 X 1/2" PPH MS ZINC | 2 |
| 13 | 237-6169-00 | SCREW, 4-40 X 1/4 PPH MS | 4 |
| 14 | 530-5757-00 | PLUNGER - D.T. ASSY. | 1 |
| 15 | 545-5076-01 | COIL SLEEVE | 1 |
| 16 | 520-5252-13 | 3 BANK DROP TARGET PCB-OPTO, W/ RIGHT ANGLE CONN | 1 |
| 17 | 090-5036-ND | COIL - 24-940, NO DIODE | 1 |
| 18 | 515-7784-03 | DROP TARGET FRAME ASSY -3-BANK | 1 |
| 19 | 535-9996-03 | LIFT BRACKET - 3 BANK | 1 |
| 20 | 535-9995-01 | COIL BRACKET | 1 |
| 21 | 237-5985-00 | SCREW, 10-32 X 3/8" HWH SWAGE | 1 |
| 22 | 545-6798-00 | SHIM - FICHE PAPER - D.T. SINGLE | 2 |

# 5.17 RIGHT WIREFORM ASSEMBLY

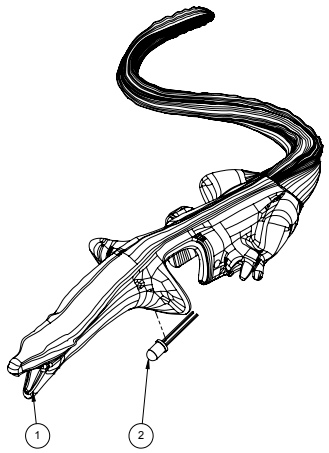
## 500-9927-00




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 515-9801-00 | WIRE RAMP - RIGHT - G O T | 1 |
| 2 | 237-5909-00 | SCREW, 4-40 X 1/4" PPH SEMS | 2 |
| 3 | 242-5008-00 | WASHER, 1/4" ID X 1/2" OD X 1/16" THICK | 2 |
| 4 | 535-1081-00 | SWORD | 1 |
| 5 | 511-7605-00 | SWITCH BRACKET ASSEMBLY | 1 |
| 6 | 242-5002-00 | #4 FLAT WASHER - 5/16" O.D. | 1 |
| 7 | 237-6169-00 | SCREW, 4-40 X 1/4 PPH MS | 1 |

# 5.18 RAPTOR TOY ASSEMBLY

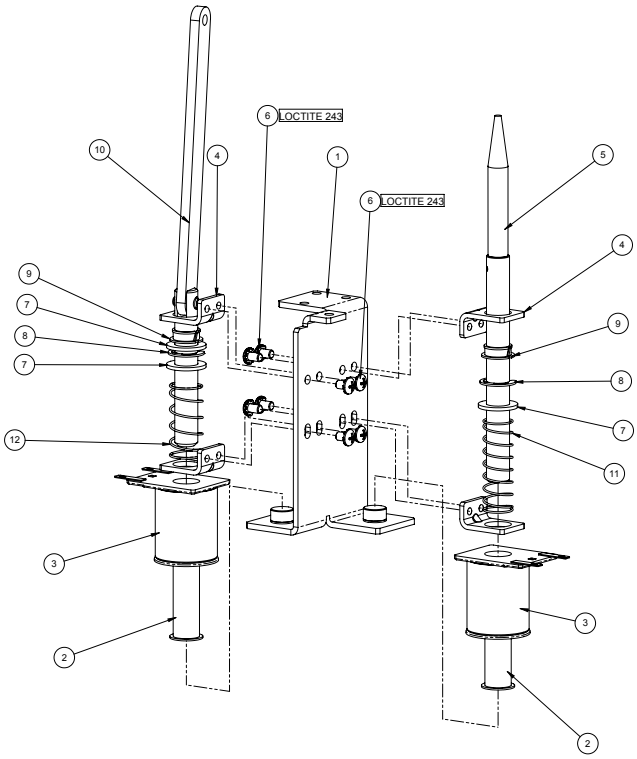
## 511-7696-00



| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 515-9851-00 | RAPTOR TOY ASSEMBLY | 1 |
| 2 | 112-5049-02 | T1 3/4 /5mm ROUND LED W/RESISTOR-RED | 1 |
| 3 | *036-6259-25-G4 | DRAGON LED CABLE | |
| 4 | *605-5002-00 | SHRINK TUBING - 1/8 ID BLACKB3 | |

# 5.19 DOWN POST ACTUATOR

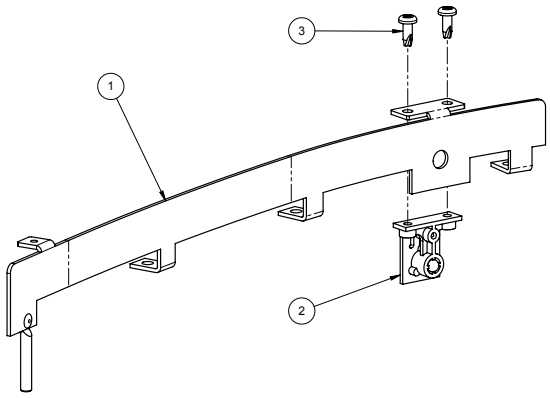
## 500-9933-00




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 515-9805-01 | BRACKET ASSEMBLY - SWORD/DOWN POST ASSEMBLY | 1 |
| 2 | 545-5411-00 | COIL SLEEVE | 2 |
| 3 | 090-5044-ND | COIL 26-1200 - NO DIODE | 2 |
| 4 | 535-5203-03 | COIL RETAINING BRACKET | 4 |
| 5 | 515-9806-00 | PLUNGER ASSEMBLY - SWORD DOWN POST | 1 |
| 6 | 232-5300-00 | SCREW, 8-32 X 1/4" PPH SEMS | 8 |
| 7 | 242-5081-00 | WASHER - NYLON .75 OD x .44 ID | 3 |
| 8 | 270-5005-00 | RETAINING E-RING, 7/16" SHAFT OD | 2 |
| 9 | 545-5418-01 | NYLINER - PLASTIC, 7/16" | 2 |
| 10 | 511-7612-00 | PLUNGER ASSEMBLY - SWORD ACTUATOR | 1 |
| 11 | 266-5081-00 | COMPRESSION SPRING | 1 |
| 12 | 266-5076-02 | SPRING, COMPRESSION | 1 |

# 5.20 BALL GUIDE ASSEMBLY #2

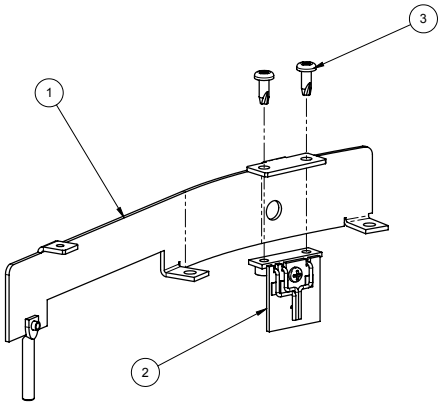
## 511-7592-02



| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-1041-02 | BALL GUIDE # 02 - G O T | 1 |
| 2 | 515-0215-00 | LONG RANGE OPTO EMITTER ASSEMBLY | 1 |
| 3 | 237-5880-00 | SCREW, #6 X 3/8 PPH T-25 | 2 |

# 5.21 BALL GUIDE ASSEMBLY #3

## 511-7592-03



| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-1041-03 | BALL GUIDE #03 - G O T | 1 |
| 2 | 515-0215-01 | LONG RANGE OPTO RECEIVER ASSEMBLY | 1 |
| 3 | 237-5880-00 | SCREW, #6 X 3/8 PPH T-25 | 2 |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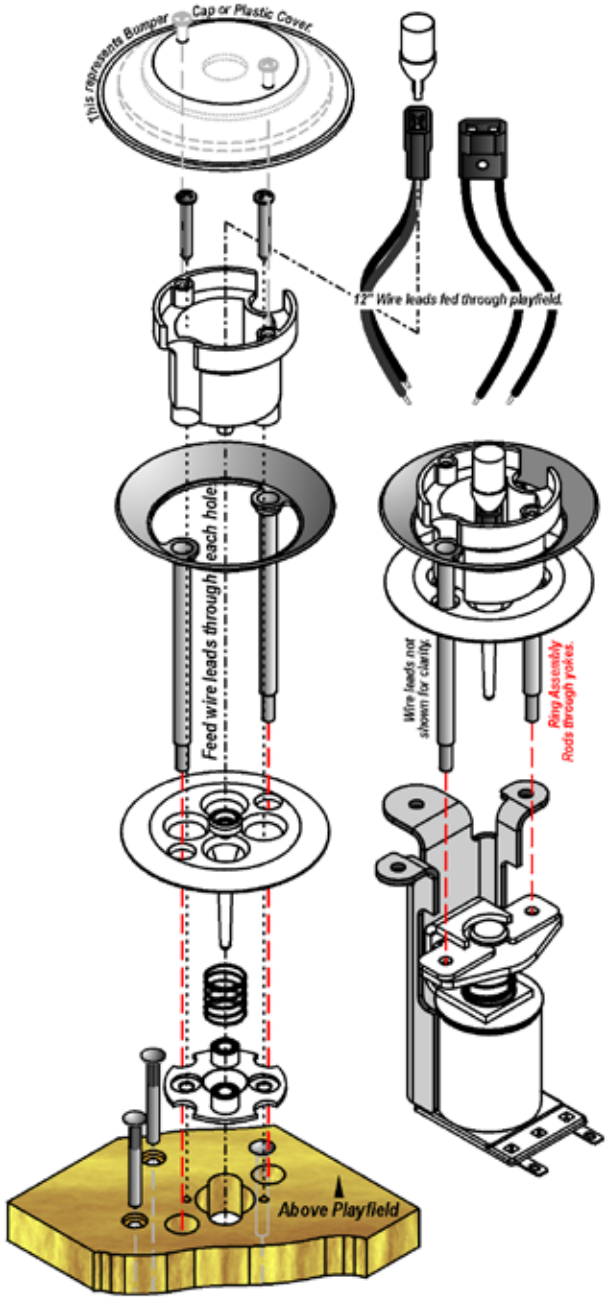
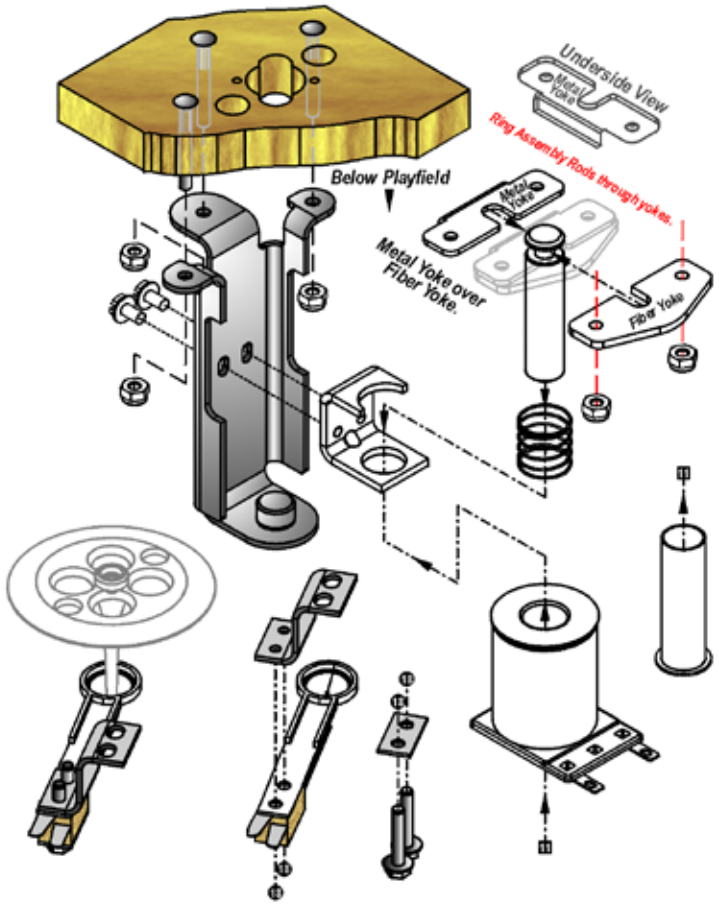
# 5.22 POP BUMPER ASSEMBLY

## 516-6784-XX




| 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 |




| 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 |
|---|---|---|---|
| 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 |

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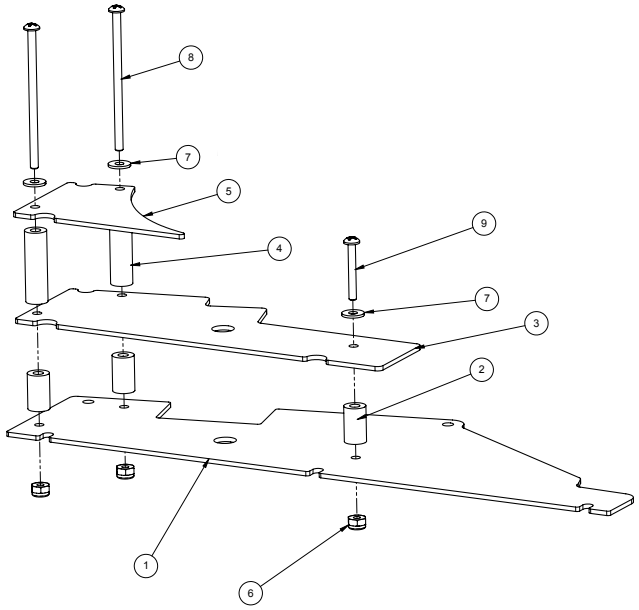
# 5.23 PLASTIC ASSEMBLY #6

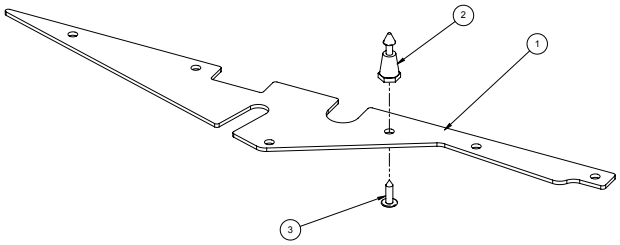
## LE: 511-7611-06
## PREMIUM: 511-7739-06




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 830-6951-06 | BUTY # 06 - G O T L E | 1 |
| | 830-6954-04 | BUTY # 06 - G O T PREMIUM | 1 |
| 2 | 254-5000-14 | NYLON SPACER - BLACK - 3/8 OD X .175 ID X 5/8" | 3 |
| 3 | 830-6951-25 | BUTY # 25 - G O T L E | 1 |
| | 830-6954-25 | BUTY # 25 - G O T PREMIUM | 1 |
| 4 | 254-5000-05 | NYLON SPACER - BLACK - 3/8 OD X .175 ID X 1-1/4" | 2 |
| 5 | 830-6951-22 | BUTY # 22 - G O T L E | 1 |
| | 830-6954-22 | BUTY # 22 - G O T PREMIUM | 1 |
| 6 | 240-5005-00 | 6-32 NYLON STOP NUT | 3 |
| 7 | 242-5001-00 | #6 WASHER | 3 |
| 8 | 237-5514-01 | SCREW, 6-32 X 2-1/2" PPH MS (ZINC) | 2 |
| 9 | 237-5506-00 | SCREW, 6-32 X 1" PPH MS | 1 |

# 5.24 PLASTIC ASSEMBLY #7

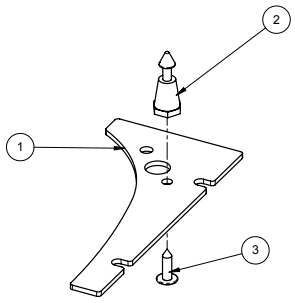
## LE: 511-7611-07
## PREMIUM: 511-7739-07




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 830-6951-07 | BUTY # 07 - G O T L E | 1 |
| | 830-6954-07 | BUTY # 07 - G O T PREMIUM | 1 |
| 2 | 550-5052-01 | MINI POST - CLEAR | 1 |
| 3 | 237-5809-00 | SCREW, #6 X 1/2" PTH A | 1 |

# 5.25 PLASTIC ASSEMBLY #20

## LE: 511-7611-20
## PREMIUM: 511-7739-20




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 830-6951-20 | BUTY # 20 - G O T L E | 1 |
| | 830-6954-20 | BUTY # 20 - G O T PREMIUM | 1 |
| 2 | 550-5052-01 | MINI POST - CLEAR | 1 |
| 3 | 237-5809-00 | SCREW, #6 X 1/2" PTH A | 1 |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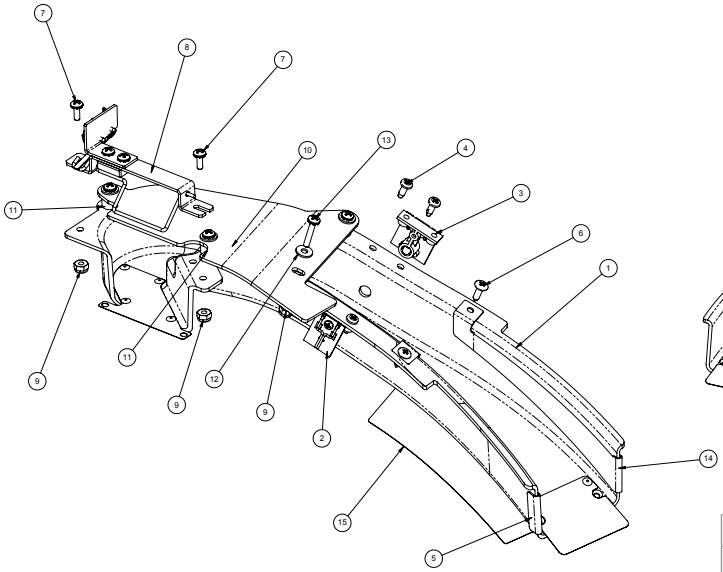
# 5.26 LEFT RAMP ASSEMBLY

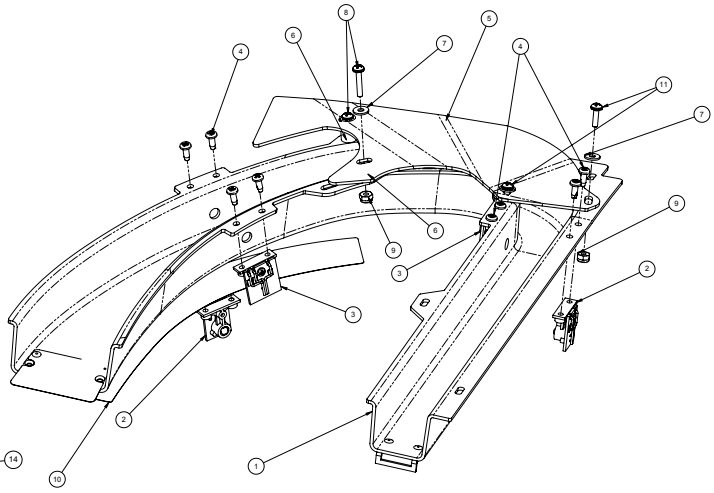
## LE: 500-9931-00
## PREMIUM: 500-9931-01



| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 510-7509-00 | RIVETED ASSEMBLY - LEFT RAMP - G O T L E | 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 | 535-1100-00 | RAMP PROTECTOR - LEFT - LEFT RAMP - G O T L E | 1 |
| 6 | 237-5809-00 | SCREW, #6 X 1/2" PTH A | 2 |
| 7 | 232-5201-00 | SCREW, 6-32 X 3/8" PPH MS SEMS | 2 |
| 8 | 511-7618-00 | R/U SWITCH/ONE WAY GATE ASSEMBLY | 1 |
| 9 | 240-5005-00 | 6-32 NYLON STOP NUT | 6 |
| 10 | 830-6951-23 | RAMP COVER - LEFT RAMP - G O T L E | 1 |
| | 830-6954-23 | RAMP COVER - LEFT RAMP - G O T PREMI-UM | 1 |
| 11 | 254-5000-20 | NYLON SPACER - BLACK - 3/8 OD X .175 ID X 5/16" | 4 |
| 12 | 242-5001-00 | #6 WASHER | 4 |
| 13 | 232-5204-00 | SCREW, 6-32 X 3/4" PPH SEMS | 4 |
| 14 | 535-1100-01 | LEFT RAMP PROTECTOR, RIGHT WALL, G O T LE | 1 |
| 15 | 820-8046-00 | DECAL - LEFT RAMP - G O T L E/PREM | 1 |

# 5.27 RIGHT RAMP ASSEMBLY

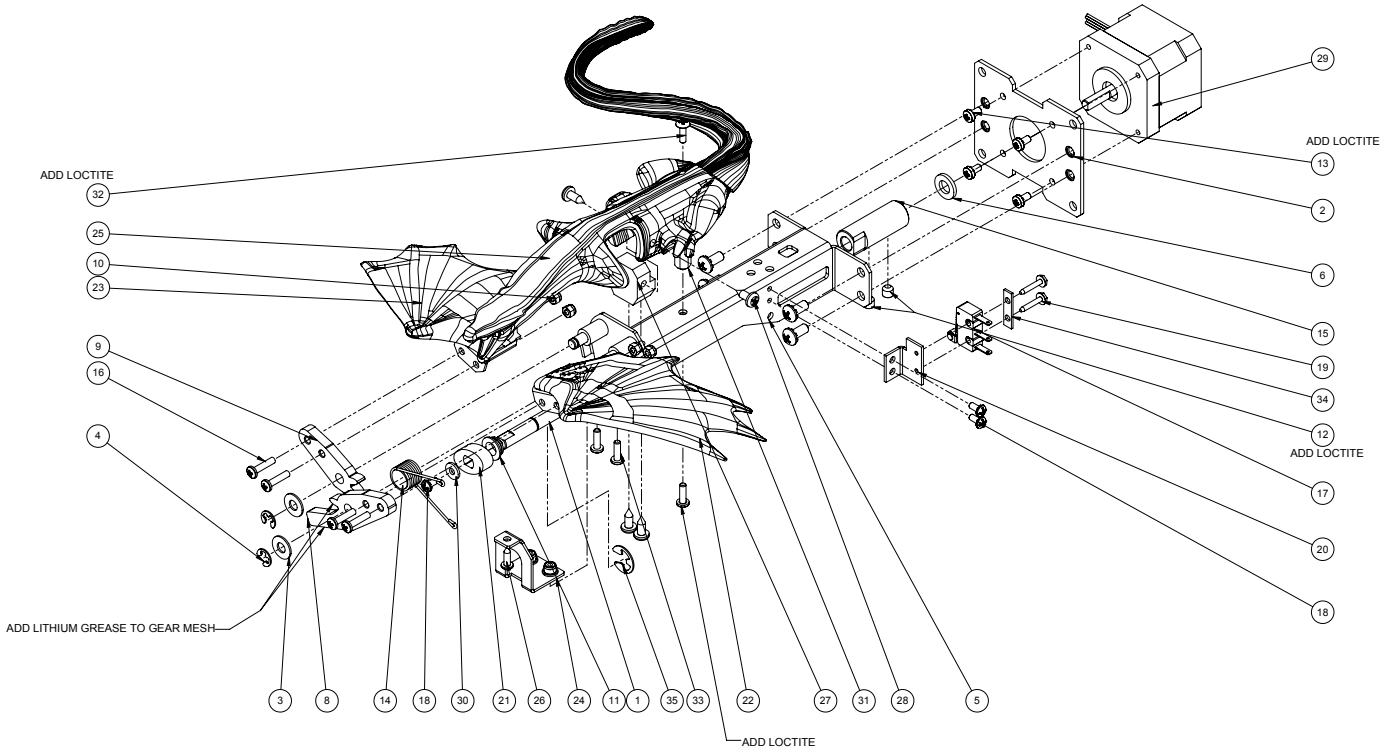
## LE: 500-9932-00
## PREMIUM: 500-9932-01



| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 510-7503-00 | RIVETED ASSEMBLY - RIGHT RAMP - G O T | 1 |
| 2 | 515-0215-00 | LONG RANGE OPTO EMITTER ASSEMBLY | 2 |
| 3 | 515-0215-01 | LONG RANGE OPTO RECEIVER ASSEMBLY | 2 |
| 4 | 237-5880-00 | SCREW, #6 X 3/8 PPH T-25 | 8 |
| 5 | 830-6951-27 | BUTY # 27 - RAMP COVER - RIGHT - G O T L E | 1 |
| | 830-6954-27 | BUTY # 27 - RAMP COVER - RIGHT - G O T PREMIUM | 1 |
| 6 | 254-5000-20 | NYLON SPACER - BLACK - 3/8 OD X .175 ID X 5/16" | 2 |
| 7 | 242-5001-00 | #6 WASHER | 4 |
| 8 | 232-5204-00 | SCREW, 6-32 X 3/4" PPH SEMS | 2 |
| 9 | 240-5005-00 | 6-32 NYLON STOP NUT | 4 |
| 10 | 820-8044-00 | DECAL - RIGHT RAMP - G O T | 1 |
| 11 | 232-5202-00 | SCREW, 6-32 X 1/2" PPH MS SEMS | 2 |

# 5.28 RAPTOR MOTOR WING ASSEMBLY

## 511-7569-00




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 530-7892-00 | DRIVE SHAFT-RAPTOR | 1 |
| 2 | 515-9798-00 | MOTOR MOUNTING BRACKET | 1 |
| 3 | 242-5088-00 | NYLON WASHER .195" X .437" X .031" | 2 |
| 4 | 270-5001-00 | RETAINING E-RING, 3/16" SHAFT OD | 2 |
| 5 | 515-9797-00 | WING CHASSIS WELDMENT | 1 |
| 6 | 242-5072-01 | NYLON WASHER .252 ID X .472 OD | 1 |
| 7 | 232-5301-00 | SCREW, 8-32 X 3/8" PPH SEMS | 4 |
| 8 | 550-7367-00 | RAPTOR GEAR SEGMENT-DRIVER | 1 |
| 9 | 550-7368-00 | RAPTOR GEAR SEGMENT-DRIVEN | 1 |
| 10 | 240-5303-00 | 4-40 NYLON LOCK NUT | 4 |
| 11 | 545-5423-00 | NYLINER, 1/4" SHAFT, 4L1-FF | 1 |
| 12 | 237-6317-00 | 10-32 X 3/16 SS CUP POINT SET SCREW | 2 |
| 13 | 237-6188-01 | SCREW, M3x0.5 X 6MM PPH SEMS ZINC | 4 |
| 14 | 265-5079-00-00 | TORSION SPRING-LEFT HAND | 1 |
| 15 | 530-7912-00 | COLLAR/SWITCH ACTUATOR | 1 |
| 16 | 237-5997-01 | 4-40 X 1/2 PPH BLACK OXIDE | 4 |
| 17 | 180-5119-02 | MICRO-SWITCH - LIGHT ACTUATION | 1 |

| ID | Part Number | Description | Qty |
|---|---|---|---|
| 18 | 237-5909-00 | SCREW, 4-40 X 1/4" PPH SEMS | 3 |
| 19 | 237-5937-02 | SCREW, 2-56 X 1/2" HWH MS | 2 |
| 20 | 535-1236-00 | SWITCH MOUNT | 1 |
| 21 | 550-7369-00 | CAM-RAPTOR | 1 |
| 22 | 510-7541-00 | RAPTOR WING RIVET ASSEMBLY | 1 |
| 23 | 510-7541-01 | RAPTOR WING RIVET ASSEMBLY | 1 |
| 24 | 535-1256-00 | RAPTOR SUPPORT BRACKET | 1 |
| 25 | 511-7696-00 | RAPTOR TOY ASSEMBLY | 1 |
| 26 | 237-5815-00 | SCREW, #4 X 3/8" PPH AB | 1 |
| 27 | 545-1011-00 | RAPTOR MOUNTING BLOCK | 1 |
| 28 | 232-5000-00 | SCREW, #6 X 3/8 PPH AB ZINC | 4 |
| 29 | 041-5105-00 | UNIPOLAR STEPPER MOTOR | 1 |
| 30 | 242-5002-00 | #4 FLAT WASHER - 5/16" O.D. | 1 |
| 31 | 254-5088-05 | 1/4 IN. HEX SPACER - 4-40 THRD. X 7/8 LG. | 1 |
| 32 | 237-6154-01 | SCREW, 4-40 X 3/8" PTH MS - BLACK | 1 |
| 33 | 237-5997-00 | SCREW, 4-40 X 3/8" PPH MS BLACK | 3 |
| 34 | 535-6539-00 | SWITCH BODY PROTECT PLATE | 1 |
| 35 | 270-5002-00 | RETAINING RING - 1/4" | 1 |
| 36 | *036-6242-10 | 10" GENERIC SW 2 PIN | |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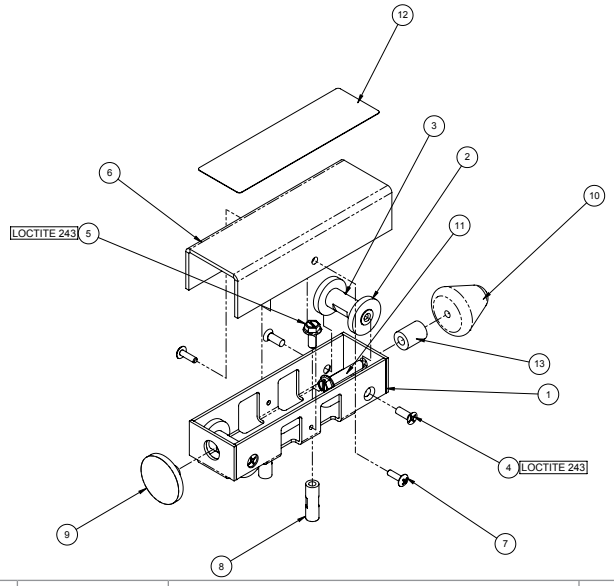
# 5.29 RAM ASSEMBLY

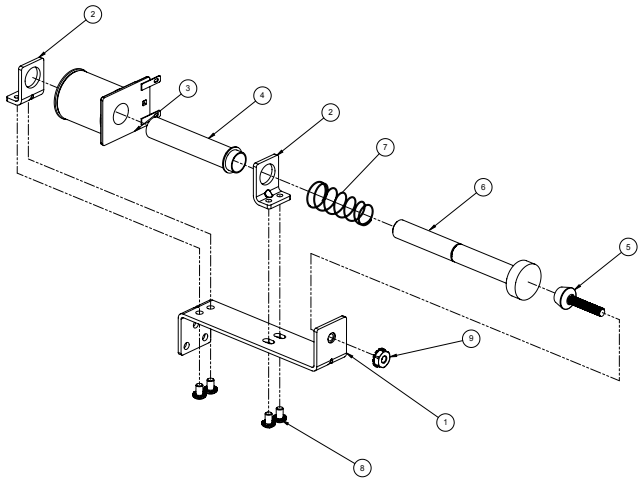
## 500-9963-01




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-1189-00 | RAM BODY | 1 |
| 2 | 242-5078-00 | WASHER, NYLON, .75 X .32 X .13 | 4 |
| 3 | 530-7908-00 | WHEEL AXLE | 2 |
| 4 | 237-5871-00 | SCREW, 6-32 X 3/8" PFH 82° U/C ZINC | 4 |
| 5 | 237-5903-00 | SCREW, 8-32 X 3/8" HWH | 2 |
| 6 | 545-9812-00 | TIMBER COVER | 1 |
| 7 | 237-6154-01 | SCREW, 4-40 X 3/8" PTH MS - BLACK | 2 |
| 8 | 530-7909-00 | GUIDE PIN | 2 |
| 9 | 545-5428-00 | RUBBER BUMPER | 1 |
| 10 | 545-9817-00 | RAM HEAD - G O T | 1 |
| 11 | 234-5105-00 | SCREW, #8 X 1" HWH SLOT SERR AB ZINC | 1 |
| 12 | 820-8363-43 | DECAL - BATTERING RAM - G O T L E/ PREMIUM | 1 |
| 13 | 254-5000-01 | NYLON SPACER - BLACK - 3/8 OD X .175 ID X 1/2" | 1 |

# 5.30 BALL DEFLECTOR ASSEMBLY

## 500-7081-01




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-9248-00 | BRACKET | 1 |
| 2 | 535-5203-03 | COIL RETAINING BRACKET | 2 |
| 3 | 090-5044-ND | COIL 26-1200 - NO DIODE | 1 |
| 4 | 545-5847-00 | COIL SLEEVE | 1 |
| 5 | 280-5014-00 | ADJUSTABLE BUMPER/STOP | 1 |
| 6 | 515-7653-00 | PLUNGER ASSEMBLY | 1 |
| 7 | 266-5020-00 | COMPRESSION SPRING-CONICAL | 1 |
| 8 | 232-5300-00 | SCREW, 8-32 X 1/4" PPH SEMS | 4 |
| 9 | 240-5208-00 | 10-32 KEPS NUT | 1 |

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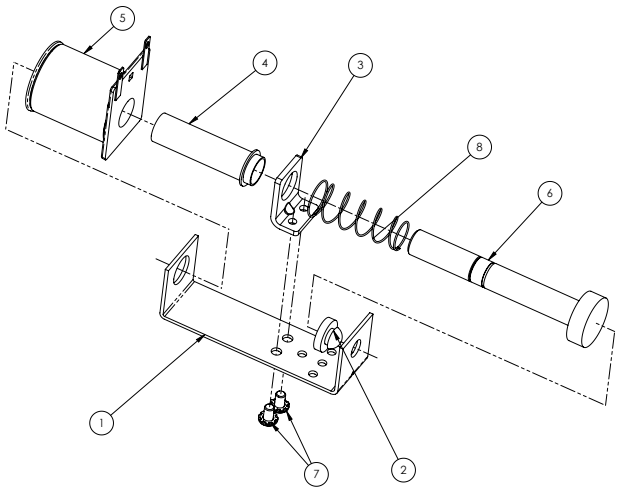
# 5.31 KICKER ASSEMBLY

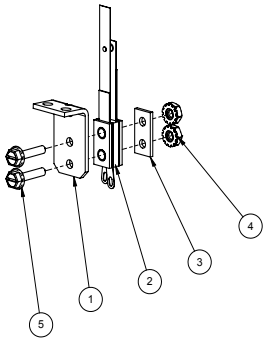
## 500-6697-02-ND




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-6730-00 | FRAME - KICK BIG BRACKET | 1 |
| 2 | 545-5105-00 | RUBBER BUMPER | 1 |
| 3 | 535-5203-03 | COIL RETAINING BRACKET | 1 |
| 4 | 545-5076-01 | COIL SLEEVE | 1 |
| 5 | 090-5001-ND | COIL - 23-800, NO DIODE | 1 |
| 6 | 515-7318-00 | PLUNGER ASSEMBLY | 1 |
| 7 | 232-5300-00 | SCREW, 8-32 X 1/4" PPH SEMS | 2 |
| 8 | 266-5020-00 | COMPRESSION SPRING-CONICAL | 1 |
| NOT SHN | 036-5542-00 | CABLE - GENERIC - COIL | 1 |

# 5.32 10PT SWITCH ASSEMBLY

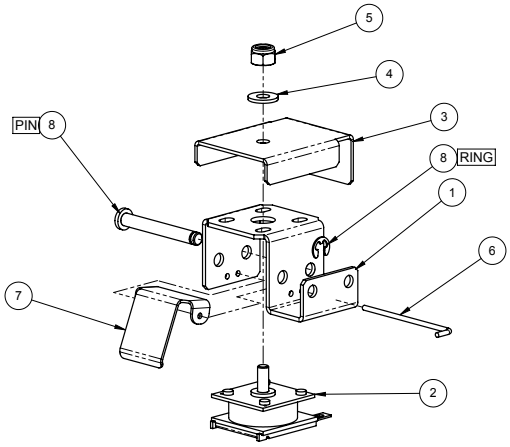
## 511-7580-XX




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-6896-00 | TARGET BRACKET | 1 |
| 2 | 180-5231-XX | SWITCH - SLING SHOT - 2 LUG | 1 |
| 3 | 535-5045-00 | SWITCH PLATE | 1 |
| 4 | 240-5008-00 | 6-32 KEPS NUT | 2 |
| 5 | 237-5976-04 | SCREW, 6-32 X 5/8" HWH SWAGE | 2 |

# 5.33 ASSEMBLY, ELEC GAT, B.P. MT

## 511-7656-XX




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-0134-01 | BRACKET, ELEC GATE, BK. PANEL MNT | 1 |
| 2 | 090-5060-01-ND | MINI-COIL W/CORE, ND - 32-1250, YELLOW | 1 |
| 3 | 535-9577-00 | COVER, ELECTRIC GATE | 1 |
| 4 | 242-5005-00 | #8 WASHER | 1 |
| 5 | 240-5102-00 | 8-32 NYLON LOCK NUT | 1 |
| 6 | 535-5372-00 | REBOUND HINGE PIN | 1 |
| 7 | 535-9682-00 | GATE - ELECTRIC (MAGNET) | 1 |
| 8 | 530-5702-01 | CLEVIS PIN W/ RING, 3/16"D X 1-1/2" | 1 |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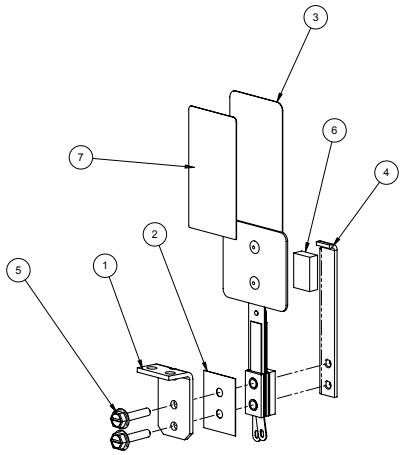
# 5.34 S/U TARGET ASSEMBLY - RAM

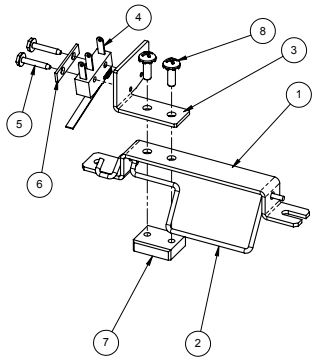
## 500-9966-01



| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-6896-00 | TARGET BRACKET | 1 |
| 2 | 545-9782-00 | FISCHE PAPER-SYMMETRICAL | 1 |
| 3 | 515-9836-00 | TARGET SWITCH ASSEMBLY - RAM | 1 |
| 4 | 535-9823-01 | SWITCH BACK PLATE | 1 |
| 5 | 237-5976-04 | SCREW, 6-32 X 5/8" HWH SWAGE | 2 |
| 6 | 626-5078-00 | 3/16" FOAM PAD | 1 |
| 7 | 820-8363-42 | DECAL - CASTLE GATE - G O T LE/PREMIUM | 1 |

# 5.35 R/U SWITCH/ONE WAY GATE ASSEMBLY

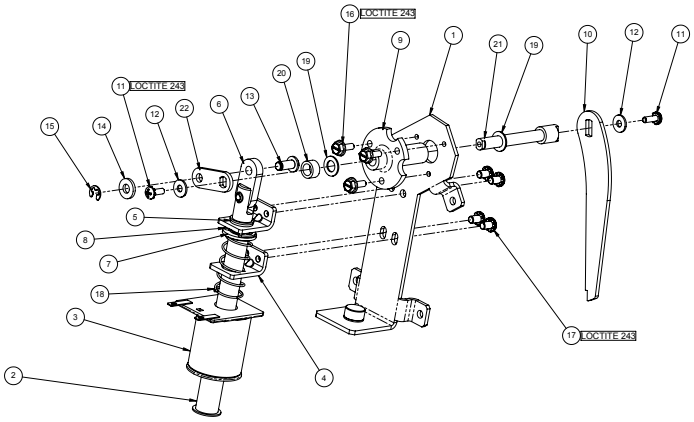
## 511-7618-00



| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 535-1102-00 | BRACKET - ONE WAY GATE | 1 |
| 2 | 535-1103-00 | WIRE FORM GATE | 1 |
| 3 | 535-1101-01 | SWITCH BRACKET | 1 |
| 4 | 180-5010-04 | MICRO-SWITCH | 1 |
| 5 | 237-5937-02 | SCREW, 2-56 X 1/2" HWH MS | 2 |
| 6 | 535-6539-00 | SWITCH BODY PROTECT PLATE | 1 |
| 7 | 535-1104-00 | SPACER | 1 |
| 8 | 232-5201-00 | SCREW, 6-32 X 3/8" PPH MS SEMS | 2 |

# 5.36 DIVERTER ASSEMBLY

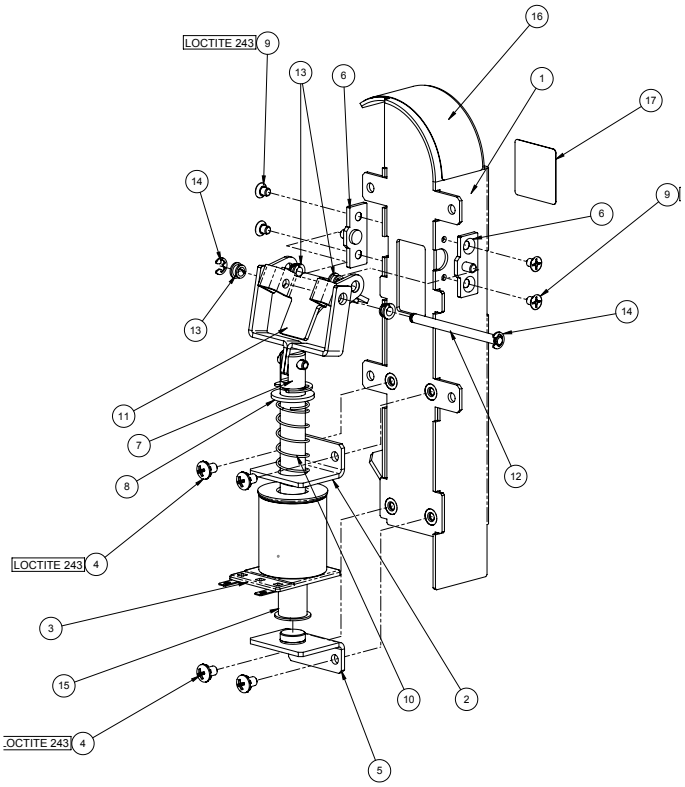
## 500-9945-00




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 515-9816-00 | DIVERTER BRACKET ASSEMBLY | 1 |
| 2 | 545-5411-00 | COIL SLEEVE | 1 |
| 3 | 090-5044-ND | COIL 26-1200 - NO DIODE | 1 |
| 4 | 535-5203-03 | COIL RETAINING BRACKET | 2 |
| 5 | 545-5418-01 | NYLINER - PLASTIC, 7/16" | 1 |
| 6 | 511-7638-00 | PLUNGER ASSEMBLY | 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 |
| 9 | 545-5070-00 | FLIPPER BUSHING | 1 |
| 10 | 535-1140-00 | DIVERTER GATE | 1 |
| 11 | 232-5201-00 | SCREW, 6-32 X 3/8" PPH MS SEMS | 2 |
| 12 | 242-5001-00 | #6 WASHER | 2 |
| 13 | 530-7898-00 | CLEVIS PIN | 1 |
| 14 | 242-5020-00 | #10 FIBER WASHER | 1 |
| 15 | 270-5001-00 | RETAINING E-RING, 3/16" SHAFT OD | 1 |
| 16 | 237-5976-02 | SCREW, 6-32 X 3/8" HWH SWAGE | 3 |
| 17 | 232-5300-00 | SCREW, 8-32 X 1/4" PPH SEMS | 4 |
| 18 | 266-5076-04 | SPRING, COMPRESSION | 1 |
| 19 | 242-5012-00 | WASHER, 1/4 X 7/16 X 1/32 | 2 |
| 20 | 254-5087-00 | NYLON SPACER | 1 |
| 21 | 530-7902-00 | DIVERTER GATE SHAFT | 1 |
| 22 | 535-1139-00 | DIVERTER GATE LINK | 1 |

# 5.37 ELEVATOR ASSEMBLY LE

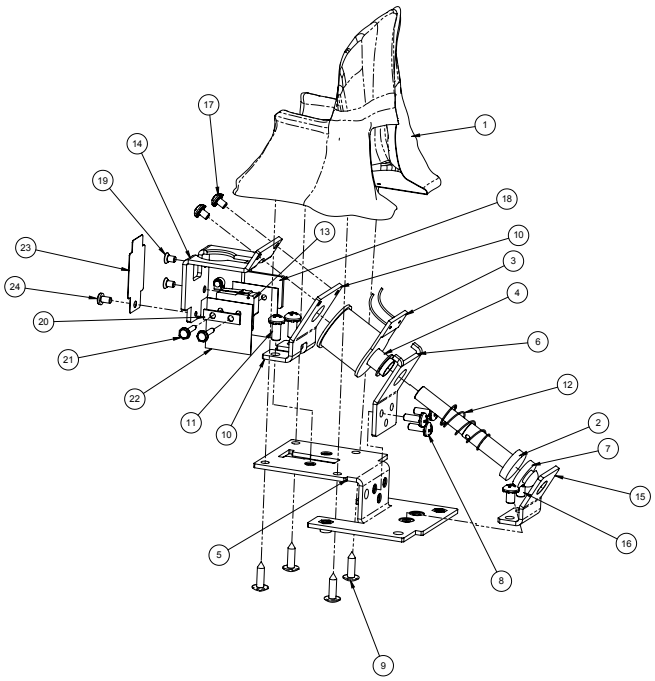
## 500-9938-00




| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 515-9811-00 | ELEVATOR SHAFT ASSEMBLY | 1 |
| 2 | 535-1119-00 | COIL BRACKET | 1 |
| 3 | 090-5044-ND | COIL 26-1200 - NO DIODE | 1 |
| 4 | 232-5300-00 | SCREW, 8-32 X 1/4" PPH SEMS | 4 |
| 5 | 515-9844-00 | PLUNGER STOP BRACKET | 1 |
| 6 | 515-9812-00 | HINGE PIN PLATE | 2 |
| 7 | 511-7625-00 | PLUNGER ASSEMBLY - ELEVATOR | 1 |
| 8 | 242-5081-00 | WASHER - NYLON .75 OD x .44 ID | 1 |
| 9 | 237-6315-00 | SCREW 6-32 X 3/16 82° PFH U/C ZINC | 4 |
| 10 | 266-5102-00 | COMPRESSION SPRING | 1 |
| 11 | 515-9813-00 | DEFLECTOR WELDMENT | 1 |
| 12 | 530-7901-00 | PIVOT PIN | 1 |
| 13 | 545-9794-00 | SPLIT BEARING - 4MM | 4 |
| 14 | 270-5021-15 | RETAINING RING, 5/32", 5133-15 | 2 |
| 15 | 545-5411-00 | COIL SLEEVE | 1 |
| 16 | 820-8363-16 | DECAL - ELEVATOR - TOP | 1 |
| 17 | 820-8363-17 | DECAL - ELEVATOR - FRONT | 1 |

# 5.38 THRONE ASSEMBLY LE

## 511-7675-01



| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 880-6176-02 | THRONE - TRIMMED - G O T L E | 1 |
| 2 | 515-7594-02 | MINI-PLUNGER ASSY | 1 |
| 3 | 090-5084-01 | MINI-COIL 27-950 | 1 |
| 4 | 545-5500-00 | MINI - COIL SLEEVE | 1 |
| 5 | 515-9848-00 | EJECT BRACKET - THRONE | 1 |
| 6 | 535-1231-00 | LOWER COIL BRACKET | 1 |
| 7 | 545-5105-00 | RUBBER BUMPER | 1 |
| 8 | 232-5201-00 | SCREW, 6-32 X 3/8" PPH MS SEMS | 3 |
| 9 | 237-5809-00 | SCREW, #6 X 1/2" PTH A | 4 |
| 10 | 535-1232-00 | UPPER COIL BRACKET | 1 |
| 11 | 232-5301-00 | SCREW, 8-32 X 3/8" PPH SEMS | 2 |
| 12 | 266-5043-00 | MINI EJECT SPRING | 1 |
| 13 | 180-5119-02 | MICRO-SWITCH - LIGHT ACTUATION | 1 |
| 14 | 535-1232-01 | BALL SEAT | 1 |
| 15 | 535-1230-00 | PLUNGER STOP BRACKET | 1 |
| 16 | 232-5300-00 | SCREW, 8-32 X 1/4" PPH SEMS | 2 |
| 17 | 232-5209-00 | SCREW, 6-32 X 3/16" PPH SEMS | 2 |
| 18 | 535-1232-02 | SWITCH BRACKET | 1 |
| 19 | 237-6197-00 | SCREW, 4-40 X 3/16 PFH U/C 18-8 SS | 2 |
| 20 | 535-6539-00 | SWITCH BODY PROTECT PLATE | 1 |
| 21 | 237-5937-02 | SCREW, 2-56 X 1/2" HWH MS | 2 |
| 22 | 545-6268-00 | FISCHE PAPER | 2 |
| 23 | 535-1287-00 | BALL CATCHER | 1 |
| 24 | 237-5912-00 | SCREW, 4-40 X 3/16 PPH MS | 1 |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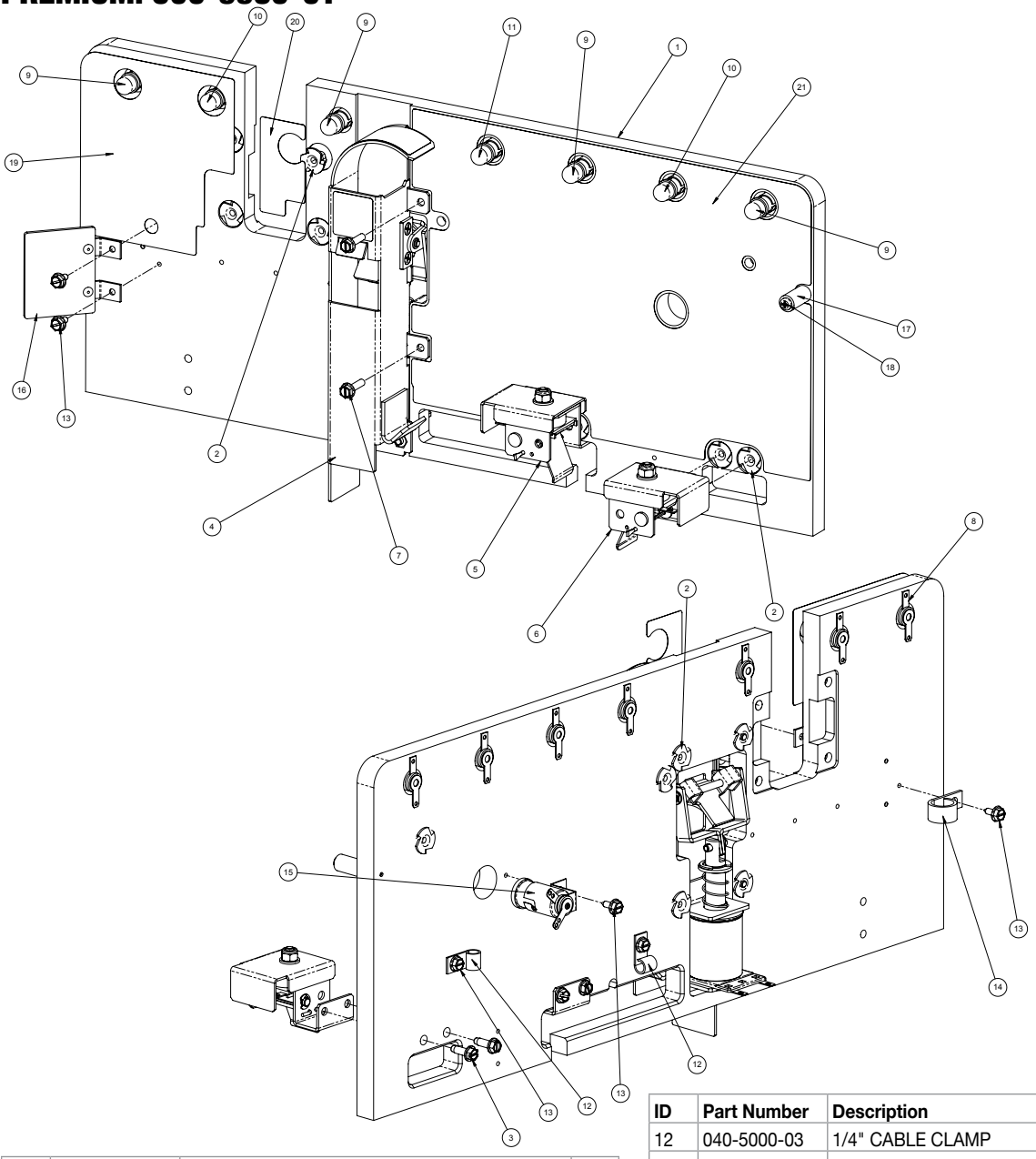
# 5.39 BACK PANEL ASSEMBLY

## LE: 500-9930-00
## PREMIUM: 500-9930-01



| ID | Part Number | Description | Qty |
|---|---|---|---|
| 1 | 525-5843-01 | BACK PANEL - G O T L E | 1 |
| 2 | 240-5101-00 | 8-32 T-NUT | 14 |
| 3 | 237-5975-01 | SCREW, 8-32 x 1/2 HWH SLOT SERR SW ZINC | 4 |
| 4 | 500-9938-00 | ELEVATOR ASSEMBLY - G O T L E | 1 |
| 5 | 511-7656-00 | ASSY, ELEC GATE LEFT, B.P. MT - UP | 1 |
| 6 | 511-7656-01 | ASSY, ELEC GATE RIGHT, B.P. MT - UP | 1 |
| 7 | 237-5975-03 | SCREW, 8-32 X 5/8" HWH SWAGE | 4 |
| 8 | 077-5000-00 | SOCKET - STAPLED - 2 LUGS | 7 |
| 9 | 112-5034-08 | DOUBLE LED, BAYONET BASE - WHITE | 4 |
| 10 | 112-5034-05 | DOUBLE LED, BAYONET BASE - BLUE | 2 |
| 11 | 112-5034-02 | DOUBLE LED, BAYONET BASE - RED | 1 |

| ID | Part Number | Description | Qty |
|---|---|---|---|
| 12 | 040-5000-03 | 1/4" CABLE CLAMP | 2 |
| 13 | 234-5000-00 | SCREW, #6 X 3/8" HWH | 6 |
| 14 | 040-5000-06 | 1/2" CABLE CLAMP | 1 |
| 15 | 518-5101-88-LED | SOCKET/LED FLASH ASSEMBLY - WHITE | 1 |
| 16 | 510-7508-21 | BUTY ASSEMBLY # 21 - G O T L E | 1 |
| | 510-7547-21 | BUTY ASSEMBLY # 21 - G O T PREMIUM | 1 |
| 17 | 254-5000-07 | NYLON SPACER - BLACK - 3/8 OD X .175 ID X 3/4" | 1 |
| 18 | 232-5006-00 | SCREW, #6 X 1-1/4" PPH AB ZINC | 1 |
| 19 | 820-8363-13 | DECAL - BACK PANEL - LEFT | 1 |
| 20 | 820-8363-14 | DECAL - BACK PANEL - CENTER | 1 |
| 21 | 820-8363-15 | DECAL - BACK PANEL - RIGHT | 1 |

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# 6. SPECIFICATIONS

500-55G5-01

## SPECIFICATIONS, MECHANICAL, GAME SETUP

| Specification | Imperial | Metric |
|---|---|---|
| Weight | 210 lbs | 96 kg |
| Max dimensions, leg levelers 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.

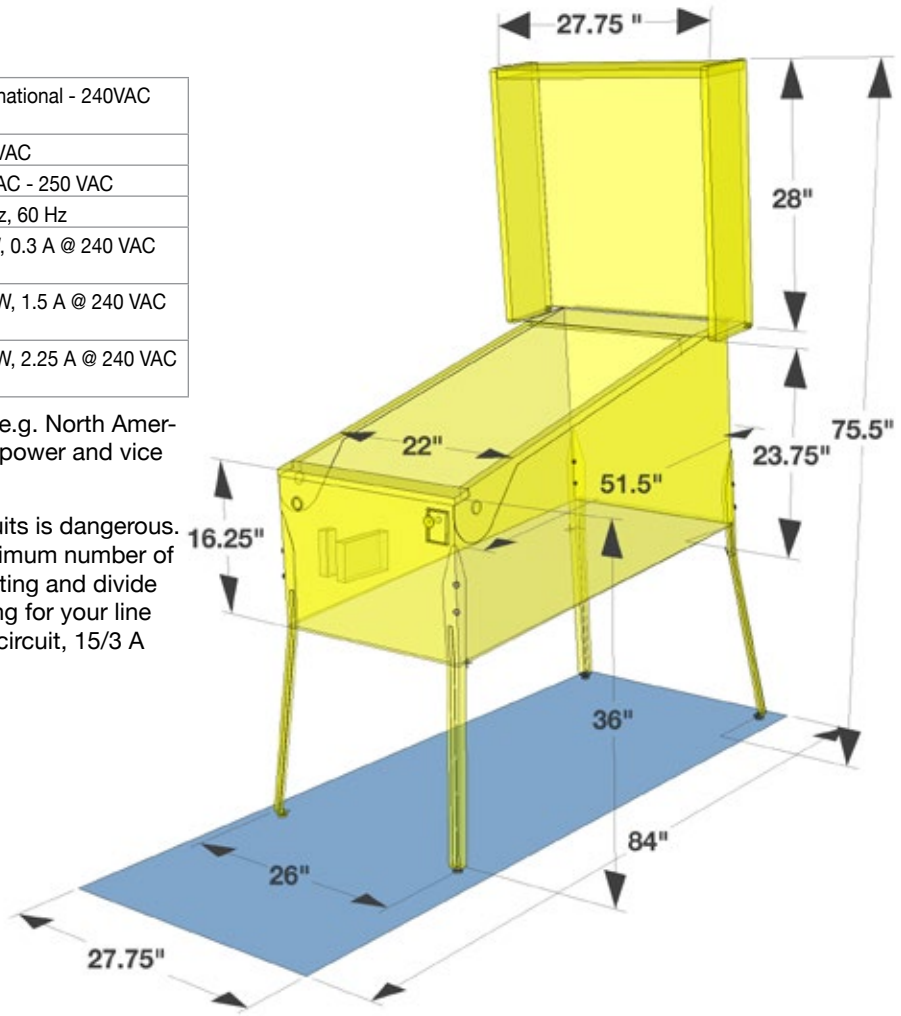
WARNING: Overloading electrical supply circuits is dangerous. Do not overload circuits. To calculate the maximum number of games for a circuit, check circuit amperage rating and divide by the game Nominal Line Power Current rating for your line voltage. For example, a 15A 120V household circuit, 15/3 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) "This appliance is not to be cleaned by a Water Jet."
- (i) "Do not locate this appliance in an area where a Water Jet is used."
- (ii) "Do not clean this appliance with a Water Jet."
- (b) If the supply cord is damaged, it must be replaced in order to avoid a hazard.

# 6.1 GAME DIMENSIONS





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# 6.2 WARRANTY

500-55G5-01

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 insure 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 Display boards: 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.

## 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 serving any electrical components.

## 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

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# 6.3 WARNINGS, COMPLIANCE, AND LEGAL NOTICES

500-55G5-01

## 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 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 light-headedness, 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.

Stern pinball®

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GAMES OF THRONES LE 500-55G5-01
GAME OF THONES PREMIUM 500-55G6-01
MANUAL PART 780-50G5-00
03/10/16 EDITION