



CC-16-50066101
REV 3

CACTUS CANYON™ REMAKE



OPERATIONS MANUAL

- For service open a help desk ticket at www.chicago-gaming.com/support
- Parts advanced under warranty are the responsibility of Chicago Gaming Company.
- All parts sales are made exclusively through Planetary Pinball. See www.planetarypinball.com.

Models: 14000-SE, 14000-SE+, 14000-LE

Operations Manual Includes:

Operations & Adjustments • Testing & Problem Diagnosis • Parts Information •
Reference Diagrams & Schematics



PLANETARY
PINBALL SUPPLY

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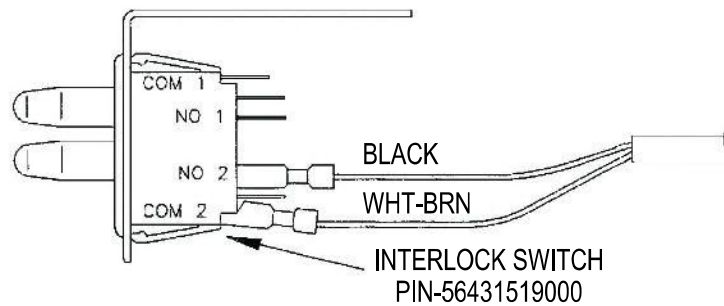
SOLENOID/FLASHER TABLE

Sol. No.	Function	Driver Board	Fuse	Voltage Connections	Drive Xistor	Drive Connections	Drive Wire Color	Part No.
1	AUTO PLUNGER	SOL POWER	F103	J116-12	Q101	J116-1	VIO-WHT	PIN-AE-23800
2	LEFT DROP TARGET	SOL POWER	F103	J116-12	Q102	J116-2	VIO-RED	PIN-AE-261500
3	LEFT CENTER DROP TARGET	SOL POWER	F103	J116-11	Q103	J116-3	VIO-ORG	PIN-AE-261500
4	RT CENTER DROP TARGET	SOL POWER	F103	J116-12	Q104	J116-4	VIO-YEL	PIN-AE-261500
5	RIGHT DROP TARGET	SOL POWER	F103	J116-11	Q105	J116-6	VIO-GRN	PIN-AE-261500
6	MINE POPPER	SOL POWER	F103	J116-12	Q106	J11 6-7	VIO-BLU	PIN-AE-24900
7	NOT USED							
8	SALOON POPPER	SOL POWER	F103	J116-11	Q108	J116-9	VIO-BLK	PIN-AE-261500
9	TROUGH EJECT	SOL POWER	F102	J113-11	Q109	J113-1	BRN-BLK	PIN-AE-261500
10	LEFT SLINGSHOT	SOL POWER	F102	J113-11	Q110	J113-2	BRN-RED	PIN-AE-261200
11	RIGHT SLINGSHOT	SOL POWER	F102	J113-11	Q111	J113-4	BRN-ORG	PIN-AE-261200
12	LEFT JET BUMPER	SOL POWER	F107	J113-12	Q112	J113-5	BRN-YEL	PIN-AE-261200
13	RIGHT JET BUMPER	SOL POWER	F107	J113-12	Q113	J113-6	BRN-GRN	PIN-AE-261200
14	LEFT GUNFIGHT POST	SOL POWER	F102	J113-11	Q114	J113-7	BRN-BLU	PIN-AE-261500
15	RIGHT GUNFIGHT POST	SOL POWER	F102	J113-11	Q115	J113-8	BRN-VIO	PIN-AE-261500
16	BOTTOM JET BUMPER	SOL POWER	F107	J113-12	Q116	J113-9	BRN-WHT	PIN-AE-261200
22	BART HAT	SOL POWER	F117	J120-4	Q136	J120-6	GRA-GRN	PIN-AE-261500
24	SHAKER MOTOR	SOL POWER		J114-1		J114-3	BLU	PIN-MTR-KINMORE
35	TOPPER BART	SOL POWER	F118	J120-1	Q128	J120-7	GRA-BRN	CC-AE-23800
36	MOVE BART TOY	SOL POWER	F117	J120-4	Q126	J120-10	GRA-BLU	PIN-AE-261500
FLASHERS								
1	HIGH NOON FLASHER	PF PCB		PF PCB		PF PCB	N/A	
2	MINE FLASHER	PF PCB		J9-4	Q44B	J9-5	BLU-ORG	PIN-PCB-MOTFLSH
3	FRONT RIGHT FLASHER	PF PCB		J15-4	Q43B	J15-5	BLU-YEL	PIN-PCB-9STROBE
4	NOT USED							
5	LEFT LOOP GATE	PF PCB	F1	J9-1	Q45B	J9-2		PIN-A-2770
6	RIGHT LOOP GATE	PF PCB	F1	J9-1	Q45A	J9-3		PIN-A-2770
7	BEACON FLASHER	PF PCB		PF PCB	Q46A	PF PCB	N/A	CC-PCB-PLAYFLD
7	BEACON FLASHER	CONTROLLER		J4-6		J4-9		PIN-PCB-BBFLASH
8	FRONT LEFT FLASHER	PF PCB		J16-8	Q46B	J16-7	BLU-YEL	PIN-PCB-9STROBE
9	MIDDLE RIGHT FLASHER	PF PCB		J21-1	Q47A	J21-2	BLU	PIN-PCB-3PNFLSH
9	MIDDLE RIGHT FLASHER	PF PCB		J21-1	Q47A	J21-2	BLU	PIN-PCB-BBFLASH
10	SALOON FLASHER	PF PCB		J10-8	Q47B	J10-7	BLU-WHT	PIN-PCB-3PNFLSH
10	SALOON FLASHER	CONTROLLER		J4-5		J4-11	BLU-WHT	PIN-LMP-8LEDCW
11	BACK RIGHT FLASHER	PF PCB		J22-1	Q48A	J22-2	BLU	PIN-PCB-3PNFLSH
11	BACK RIGHT FLASHER	CONTROLLER		J4-6		J4-14	BLU	PIN-PCB-BBFLASH
12	BACK LEFT FLASHER	PF PCB		J20-8	Q78B	J20-7	BLU	PIN-PCB-3PNFLSH
12	BACK LEFT FLASHER	CONTROLLER		J4-6		J4-15	BLU	PIN-PCB-BBFLASH
13	LEFT DROP TARGET RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q49A	J40-3	VIO/WHT	PIN-A-DTSNOID
14	LEFT CENTER DT RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q49B	J40-4	VIO/YEL	PIN-A-DTSNOID
15	RIGHT CENTER DT RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q50B	J40-5	VIO/BLU	PIN-A-DTSNOID
16	RIGHT DROP TARGET RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q50A	J40-6	VIO/ORG	PIN-A-DTSNOID
FLIPPERS								
33	RIGHT FLIPPER POWER	SOL POWER	F115	J119-7	Q124	J119-5	GRA-RED	PIN-FL-11629
17	RIGHT FLIPPER HOLD	SOL POWER	F115	J119-7	Q131	J119-4	GRA-BLK	
34	LEFT FLIPPER POWER	SOL POWER	F116	J119-10	Q125	J119-2	GRA-YEL	PIN-FL-11629
18	LEFT FLIPPER HOLD	SOL POWER	F116	J119-10	Q132	J119-1	GRA-WHT	
MOTORS								
	MINE MOTOR	PF PCB		J23-5	Q55B	J23-6	VIO-BLK	PIN-MTR-HTSO37C
	TRAIN +	PF PCB			U35	J10-9	BLU-BLK	PIN-MTR-HTSO37C
	TRAIN -	PF PCB			U35	J10-10	BLU-RED	
GENERAL ILLUMINATION								
1	LOWER RIGHT PLAYFIELD	PF PCB		PL1-1	Q61A, Q61B, Q62A	PL1-1, PL1-2, PL1-3	RED, GRN, BLU	PIN-LMP-LEDRGB
2	LOWER LEFT PLAYFIELD	PF PCB		PL2-1	Q62B, Q63A, Q63B	PL2-1, PL2-2, PL2-3	RED, GRN, BLU	PIN-LMP-LEDRGB
3	UPPER PLAYFIELD	PF PCB		PL4-1	Q64A, Q64B, Q65B	PL3-1, PL3-2, PL3-4, PL4-1, PL4-2, PL4-3	RED, GRN, BLU	PIN-LMP-LEDRGB
4	TOP INSERT	CONTROLLER		J4-6	Q5A	J4-9	VIO	PIN-PCB-24LEDBR
5	BOTTOM INSERT	CONTROLLER		J4-5	Q7A	J4-13	GRN	PIN-PCB-24LEDBR

IMPORTANT NOTICE

PLEASE READ

This pinball game is equipped with a SAFETY FEATURE to prevent shocks from the solenoid circuit when the coin door is opened. An interlock switch, located at the left of the coin door opening, has been added to the game. When the coin door is opened, this interlock switch opens, breaking the connection to the +50V winding of the transformer secondary.



Safety Notices

The following safety instructions apply to all game operators. We recommend that you read this page before setting up Cactus Canyon. Use the following safety guidelines to help protect the system from potential damage and to ensure your personal safety.

- Cactus Canyon will function at either 115V or 230V. Instructions on changing operating voltage can be found on Page 1-7.
- If operating at 230V, the operator must use a CE certified power cord rated for 240V, 5A.
- To help prevent electric shock, plug the system power cables into properly grounded power sources. These cables are equipped with 3-prong plugs to help ensure proper grounding.
Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a 3-wire cable with properly grounded plugs.
- Do not spill food or liquid on your system.
- Do not push any objects into the openings of the system. Doing so can cause fire or electric shock by shorting out interior components.
- Keep your game far away from radiators and heat sources.
- Do not block cooling vents.
- Before working on the machine be sure to unplug it.
- Be sure to use fuses that meet the specified rating. Using fuses exceeding the specified rating can cause a fire and electrical shock.
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or service agent.
- CAUTION, battery may explode if mistreated. Do not recharge, disassemble or dispose of in fire.
- CAUTION, when you raise the back box, it must be secured in place with the wing bolts provided. These can be found in the cash box. Do not rely on the latch alone. Instructions for lowering the speaker panel to access the mounting holes can be found on page 1-3.

FCC Compliance

Note: 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 instructions 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.

CACTUS CANYON

Information current at time of release.

For your records, write the game serial number in the manual.

We reserve the rights to make modifications and improvements to our products.

The specifications and parts identified in this manual are subject to change without notice.

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CACTUS CANYON

Game Rules

Skill Shot

The Skill shot awards the item that ends up selected by the spinning ball.

- Skill Shot Awards include:
 1. Light Quick Draw
 2. Light Gun Fight
 3. Light Extra Ball
 4. Light Bounty Award
 5. Complete Bronco Loop
 6. Complete River Adventure Ramp
 7. Complete Train Ramp
 8. Complete Trick Shooting Loop
 9. Complete Bank Robbery Ramp
 10. Increase Rank
 11. Increase Bonus Multiplier by 3
 12. 1 million Points
 13. Light Lock, or if already lit, award lock
- Skill Shot awards have been distributed to reduce occurrences of multiple duplicates

Bonus Multiplier

- The bonus multiplier is increased by:
 1. Completing the 2 lanes in the back left corner
 2. The Bonus X Skill Shot award
 3. The Bonus X Bounty Award

Extra Ball

- When lit, the Extra ball is collected by shooting the Gold Mine.
- There are Several Ways to light the Extra Ball:
 1. Complete Save Polly Peril
 2. The Skill Shot
 3. Starting the Showdown Multi-Ball
 4. Shooting the Beer Mug Target

Bounty

Collect your Bounty below the Bart Brothers head.

- There are two ways to light the Bounty Award
 1. The Lasso Skill Shot
 2. By defeating a Bad Guy in Quick Draw

The Bounty Award can be any of these things:

1. Light Extra Ball
2. Light Gun Fight

3. Light Quick Draw
4. Light Lock, or if already lit, Award Lock
5. Plus 5 Bonus Multiplier
6. Increase your rank
7. Various amounts of points (250,000 - 500,000 - etc.)
8. 1 million Bonus

Shoot to Collect

- The Shoot to Collect Indicator is a quick reference to the available awards.
- If Extra Ball is lit, shoot for the Gold Mine.
- If Bounty is lit, shoot for the Bart Brothers.
- If Jackpot is lit, look for the lit Jackpot lights.

Gun Fight

There are two Gun Fight lights located under each gun.

- Gun Fight can be lit in a few ways:
 - By the Bounty Award.
 - By left outlane, when lit.
 - By beating one of the Bart Brothers.
- Gun Fight is triggered in the inlane, where the ball is trapped.
- One of the bad guy targets will pop up, and the ball will be released for your shot.
- The bad guys don't stick around long for a Gun Fight, if you miss you have just a few seconds to try again.
- Winning a Gun Fight increases your rank.

Ranking Up

The light that shows the five ranks is right above the High Noon deputy star.

- These three ways increase your rank.
 1. Bounty Award
 2. The Lasso Skill Shot
 3. Winning the Gun Fight
- Rank Progression:
 - Stranger
 - Partner
 - Deputy
 - Sheriff
 - Marshall
- Your rank affects your score in Quick Draw and High Noon.

Combo

There is a Combo light on all 3 ramps and both loops.

- The Combo light is lit for a short time after each ramp or loop shot.

- The more Combos you rack up at a time, the faster the combo lights go out
- Combo is one of the steps towards High Noon.
- A ramp or loop that is hit when the Combo light is on, counts towards your combo total.
- You must earn 10 Combos to light the Combo on the High Noon badge.

Beer Mug

The Beer Mug is located between the Horse Orbit and the River Adventure Ramp.

- Add two extra balls at 15 and 40 (adjustable) hits.
- Next Bart hit increases to 2X, 3X if Bart is active.
- Activates the interactive topper game play mode at 10 and 30 (adjustable) hits
- New High Score for greatest number of Beer Mugs in a game (displays in the Attract Mode).

Gold Mine Multi-Ball*

Balls are locked in the Gold Mine Located between the River Adventure and Train Ramps

- The lock can be lit a few ways:
 1. If lock is not lit, a shot to the Gold Mine will light the lock
 2. The Bounty Award (Bounty can also Lock a ball)
 3. The Lasso Skill Shot
- When the third ball is locked, Gold Mine Multi-Ball begins.
- When the Multi-Ball starts, each ramp and loop scores a jackpot.
- Each jackpot can only be hit once, until they are all hit. Then they reset and can be hit again.
- Every time you hit all 5 Jackpots in the same Multi-Ball, the Mother Lode is Lit
- New High Score (displays in the Attract Mode).

Mother Lode*

- Mother Lode is part of the Gold Mine Multi-Ball.
- You must hit five jackpots to light Mother Load.
- To collect Mother Lode, shoot the Gold Mine.
- Mother Lode is one of the steps toward High Noon.
- Getting at least one Mother Lode will light the badge.

Save Polly Peril (Train/Center Ramp)

The Train Ramp is in the center of the Playfield, between the Gold Mine and the Bart Brothers.

- To Start Save Polly Peril from the Train, complete the Train/Center Ramp three times.

- When Save Polly Peril Starts, you have to stop the train and save her!
- Shooting the Train Ramp will slow the train down a bit so you have more time.
- You have to shoot the Bank Ramp, the River Adventure Ramp, and the Train Ramp to stop the train and save Polly Peril.
- If you save Polly, the Extra Ball will be lit

Save Polly Peril (River Adventure/Left Ramp) *

The River Adventure Ramp is on the left side, just to the right of the Horse loop.

- To Start Save Polly Peril from the Waterfall, complete the River Adventure/Left Ramp three times.
- When Save Polly Peril Starts, you have to save Polly Peril from going over the Waterfall!
- Shooting the Train Ramp will slow the train down a bit so you have more time.
- You have to shoot the Bank Ramp, Whitewater Ramp, and the Train Ramp to stop the train and save Polly Peril.
- If you save Polly, the Extra Ball will be lit.

Save Polly Peril (Bank Robbery/Right Ramp) *

The Bank Robbery Ramp is on the far-Right side.

- To Start Save Polly Peril from the Bank Robbery, complete the Bank Robbery/Right Ramp three times.
- When Save Polly Peril Starts, you have to save Polly Peril from the bank robbers
- Shoot lit flashing shots to shoot bank robbers.
- Strong flashing shot will indicate which bank robber is holding Polly Peril hostage. Shooting this shot will save Polly Peril

Ride 'Em Cowboy (Horse Loop/Left Orbit) *

The horse loop is on the far left before the River Adventure/Right Ramp

- To start Ride 'Em Cowboy, complete the horse loop three times.
- During Ride 'Em Cowboy, our hero will show off his horse-riding ability.
- Points are awarded for hits in the jets
- To complete Ride 'Em Cowboy, you will need to shoot the horse loop.

Marksman (Trick Shooting Loop/Right Orbit) *

The Trick Shooting Loop is on the right, between the Bart Brothers and the Bank Robbery Ramp.

- To start Marksman, complete the Trick Shooting loop three times.
- During Marksman, our hero will show off his shooting abilities.
- Shoot lit flashing shots to shoot at targets.
- Strong flashing shot will indicate which shot is needed to destroy the target. Destroying the target will prove your Marksman abilities

Stampede Multi-Ball

- When the Horse Loop, River Adventure Ramp, Train Ramp, Trick Shooting Loop, and Bank Robbery Ramp have been completed -- The Stampede begins.
- During the Stampede all 3 ramps and both loops are lit for jackpot.
- Stampede is one of the steps towards High Noon.
- Starting the Stampede Multi-Ball lights that part of the badge.

Bart Brothers*

The Bart Brothers are located in the upper right, between the Train Ramp, and the Trick Shooting Loop.

- Shoot the jump ramp into the face of the Bart Brothers to attack.
- You can also sneak a weak shot in from behind on the loops.
- The Bart Brothers are: Big Bart, Bandolero, Bubba Bart, and Bionic Bart
- The Bart Brothers are one of the steps towards High Noon.
- Defeat the Bart Brothers to Light the Badge.

Bionic Bart (Wizard Mode) *

- Bionic Bart is the final Bart Brother and needs to be defeated to complete the Bart Brothers on the Sheriff Star.
- Bionic Bart requires you to hit jackpot shots, and successfully hit the Bart Brothers toy.

Quick Draw

There are two quick draw lights located in each inlane

- “Quick Draw” is started by successfully completing the targets on the right and left side of the playfield. These targets will change color state to show the player how many hits remain to activate “Quick Draw”. These targets directly correspond to the side of the playfield that “Quick Draw” is located on.
- “Quick Draw” may also be activated by the Lasso Skill Shot
- Once “Quick Draw” is enabled, the return lane will activate the mode causing a “Bad Guy” drop target to appear from the playfield, but the ball does not stop.
- If “Bad Guy” is defeated, the “Bounty” is lit at the saloon.
 - Points for the Quick Draw vary according to your rank.
 - For Stranger, they start at 500,000
 - For Partner, they start at 750,000
 - For Deputy, they start at 1,000,000
 - For Sheriff, they start at 1,500,000
 - For Marshal, they start at 2,000,000Points count down from the starting value to 50,000. The faster you shoot, the higher you score.
- When you "shoot" a bad guy in quick draw, it will stay lit.
- Once all four (4) “Bad Guy” drop targets are defeated, “Showdown” is started.

- New High Score for greatest number of Bad Guys shot in a game (displays in the Attract Mode).

Showdown Multi-Ball

- When all 4 Bad Guys have been "shot" in Quick Draw, the Showdown Begins.
- All 4 Bad Guys pop up to begin the multi-Ball.
- As you shoot each one, they stay down until all 4 are shot.
- After you shoot the fourth Bad Guy, they pop up again and their point value is increased.
- Starting the Showdown Multi-Ball also lights the Extra Ball.
- Showdown is one of the steps towards High Noon.
- By starting a Showdown, that part of the Badge is lit.

High Noon

- When the Sheriff's Badge is completed, it's time for High Noon.
- To complete the Sheriff's Badge, you have to complete: Mother Lode, Showdown, Combo, Stampede, and The Bart Brothers.
- When lit, shoot the Gold Mine to start High Noon.
- All the balls are kicked into play, and will be returned for the duration if lost.
- All the Bad Guy targets pop up.
- All the Jackpots are lit.
- Shoot 20 Bad Guy targets during high noon to win! (20 million Points).
- High Noon is a timed mode. It lasts for 30 seconds, with one additional second for each Bad Guy target hit during the game.
- That includes bad guys from Quickdraws, Gun Fights, and the Showdown Multi-Ball.

SECTION ONE

GAME OPERATION AND TEST INFORMATION

PINBALL GAME ASSEMBLY INSTRUCTIONS

CACTUS CANYON IS A FOUR BALL GAME.

Power: Domestic 115V @ 60Hz
Foreign 230V @ 50Hz

Dimensions: Width: 29" approx.
Depth: 55" approx.
Height: 75" approx.

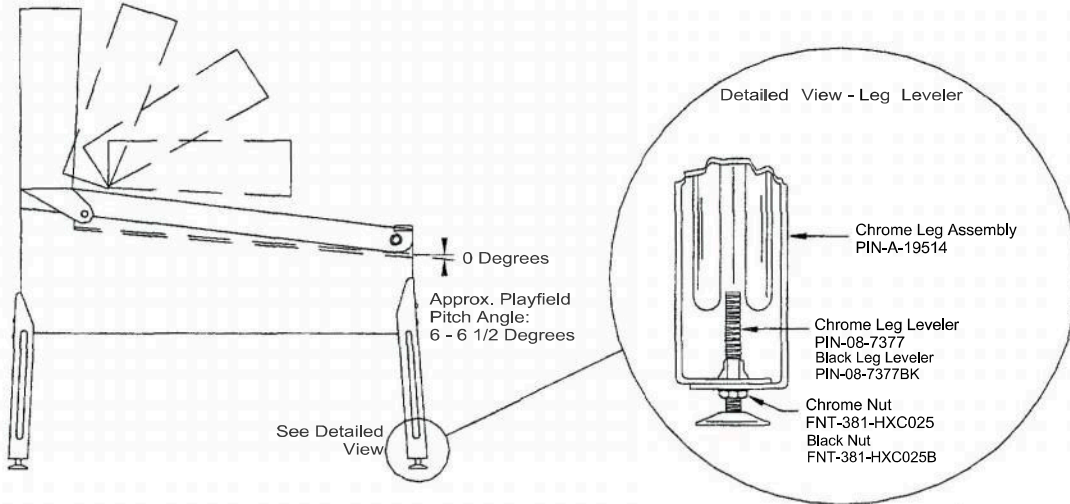
Temp: 32°F to 100° F, (0°C to 38°C)

Humidity: Not to exceed 95% relative.

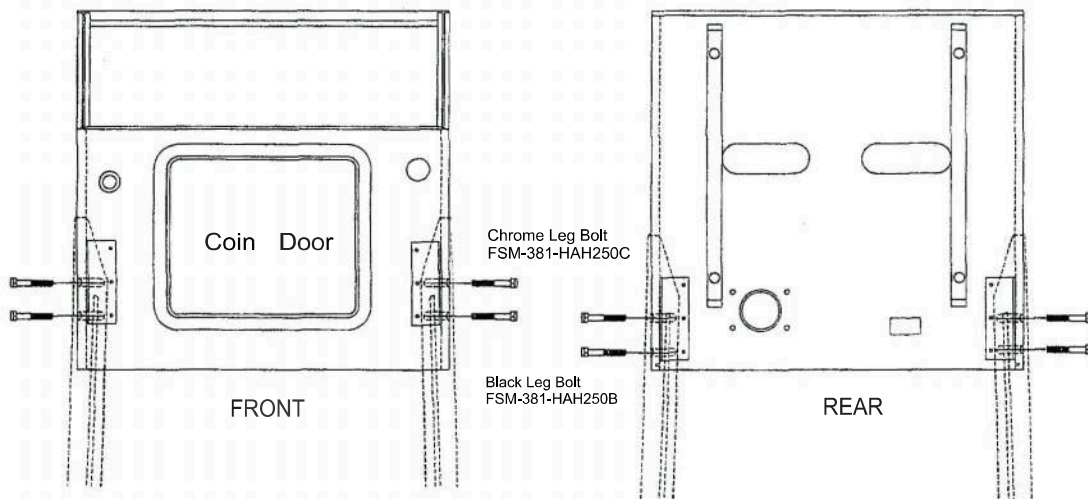
Weight: 325 lb. approx. (crated)

NOTE: FOR TOPPER INSTALLATION INSTRUCTIONS, SEE PAGE 1-6

1. Remove all cartons, parts, and other items from the shipping container and set them aside.
2. Leg levelers come installed in the legs, and the leg bolts are installed in the leg mounting brackets. Remove the leg bolts from the cabinet. Place the cabinet on a support and attach rear legs using leg bolts (View 2).
3. Attach front legs using leg bolts (View 2).



VIEW 1



VIEW 2

Alternate Finish Part Numbers

STAINLESS FRONT MOLDING
PIN-D-12615SS

STAINLESS SIDE MOLDING
PIN-01-89934

STAINLESS LEG ASSEMBLY
PIN-A-19514

GUNMETAL GRAY FRONT MOLDING
CC-D-12615LE

GUNMETAL GRAY SIDE MOLDING
CC-01-89934LE

GUNMETAL GRAY LEG ASSEMBLY
CC-D-12615LE

- Reach into the cabinet and backbox and ensure that the interconnecting cables are not kinked or pinched. Be careful to avoid damaging wires at any stage of the assembly process.
- Raise the hinged backbox upright and latch it into position.

Note: The insert panel is no longer hinged to the backbox; it is attached to the backglass. The backglass and the insert panel are removed from the backbox housing as a single unit.

Unlock the backbox. Carefully, lift the backglass/insert panel from the bottom and slide it out of the backbox. Lay it down on the playfield glass. Unplug the insert panel cable from the controller PCB. Carefully, set the backglass/insert panel aside.

Note: The speaker panel uses a new hinging system. The bottom of the speaker panel remains attached to the backbox unit when released.

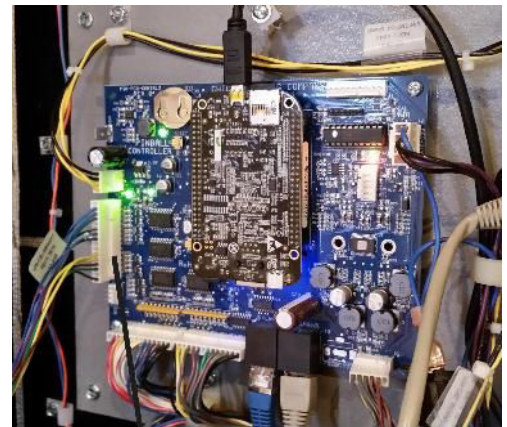
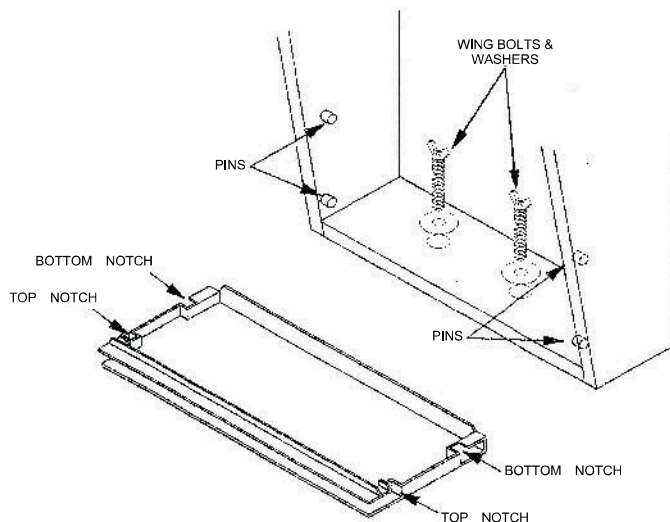
Carefully lift the speaker panel so that the top notches clear the top pins. Rotate it away from the backbox and toward the playfield glass. The bottom of the speaker panel remains attached to the backbox unit.

Lowering the speaker panel allows access to the holes for the bolts used to secure the backbox upright. Install one washer-head mounting bolt with washer through each hole and into the threaded fasteners in the cabinet.

Note: You have the option of removing the speaker panel completely. Lay the speaker panel on the playfield glass.

For Large Display: Unplug the HDMI display cable, speaker cable, monitor power cable, and ground cable. Line up the bottom notches with the bottom backbox pins. Lower the speaker panel through the notches and slide it under the backbox pins.

For Small Display: Unplug the HDMI display cable, speaker cable, monitor power cable, and monitor keyboard cable. Line up the bottom notches with the bottom backbox pins. Lower the speaker panel through the notches and slide it under the backbox pins.



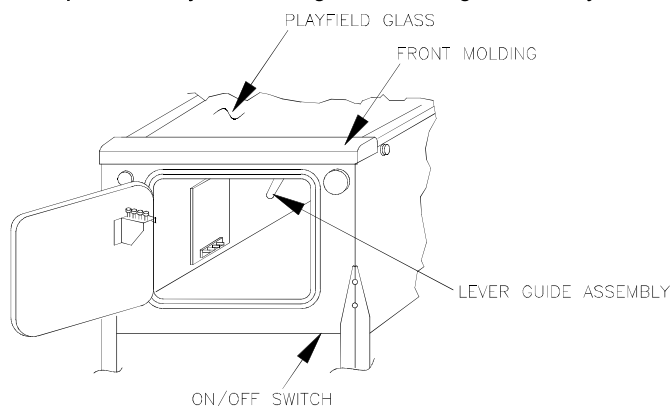
Connector for Insert Panel

- After the wing-head mounting bolts are installed, replace the speaker panel and the backglass/insert panel. Lock the backbox.

CAUTION

FAILURE TO INSTALL the backbox mounting hardware properly can cause personal injury. **NEVER TRANSPORT** a pinball game with the hinged backbox erect. Always lower the backbox forward onto the playfield cabinet on a layer of protective material to prevent marring or damage and possible personal injury.

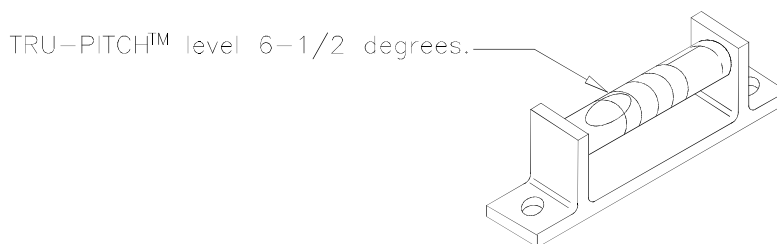
- Unlock and open the coin door. Move the lever guide toward the left side of the game, and lift the front molding off of the playfield cover glass. Slide the lever guide to the right, and close the coin door. Carefully slide the glass downward, until it clears the grooves of the left and right side moldings. Lift the glass up and away from the game, storing it carefully to avoid breakage.



- Place a level or an inclinometer on the playfield surface. Adjust the leg levelers for proper playfield level (side-to-side).

Note: This measurement must be made *ON* the playfield, not the cabinet or the playfield cover glass. Tighten the nut on each leg leveler shaft to maintain this setting.

- The TRU-PITCH™ level is located on the left wood rail. This allows the playfield pitch angle to be properly adjusted **WITHOUT REMOVING THE GLASS**. The first line (closest to the front of the game) on the level is approximately 6 degrees. Every line thereafter is approximately another 1/2 degree of pitch. The recommended pitch is 6-1/2 degrees. The NOSE of the bubble should be between the first and second line on the level (see diagram below).



IMPORTANT!

Playfield pitch angle can affect the operation of the plumb bob tilt.

The unit is factory installed for a 6-1/2 degree angle.

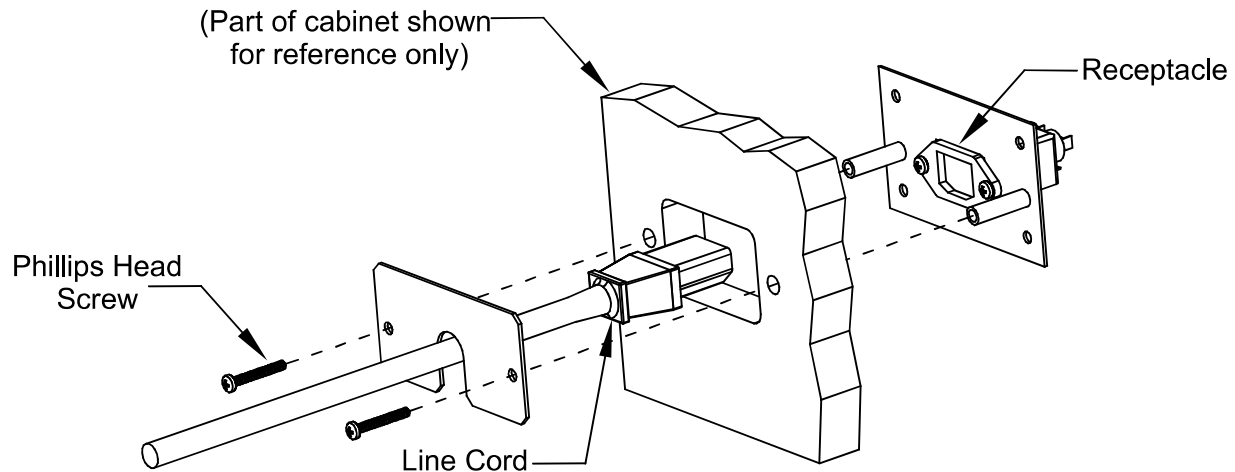
If an adjustment is necessary, loosen the screw at the bottom of the unit.

Move the pointer, one groove at a time to the left or the right, depending on the degree desired.

Hold the pointer in place, and tighten screw.

- Be sure the **required number** of balls is installed. The **CACTUS CANYON** game uses **FOUR** balls.

12. Clean and reinstall the playfield cover glass. Replace and lock the front molding.
13. To attach the line cord, retrieve the line cord cover, and two black Phillips-head screws. To attach the cover from the cash box, match the prongs on the plug with the holes in the receptacle, and push the line cord securely into place. Make sure the cord is aligned with the indentation on the cabinet, indentation should point toward bottom of the cabinet. Slide the cover plate over the line cord, and align the holes with the cabinet, then secure the plate with the two screws.

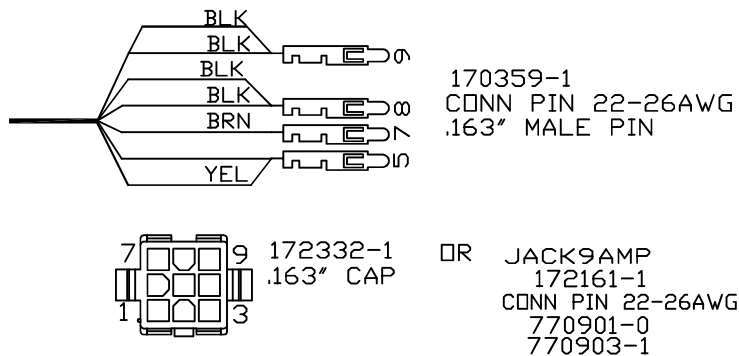


14. Move the game into the desired location; recheck the level and pitch angle of the playfield.
15. IMPORTANT: Fill out and return the warranty registration card.

Bill Acceptor

Cactus Canyon Remake was designed to use a 12V Bill Acceptor.

The connector for the bill acceptor can be found on the left side, inside the cabinet, near the plumb bob tilt mechanism.



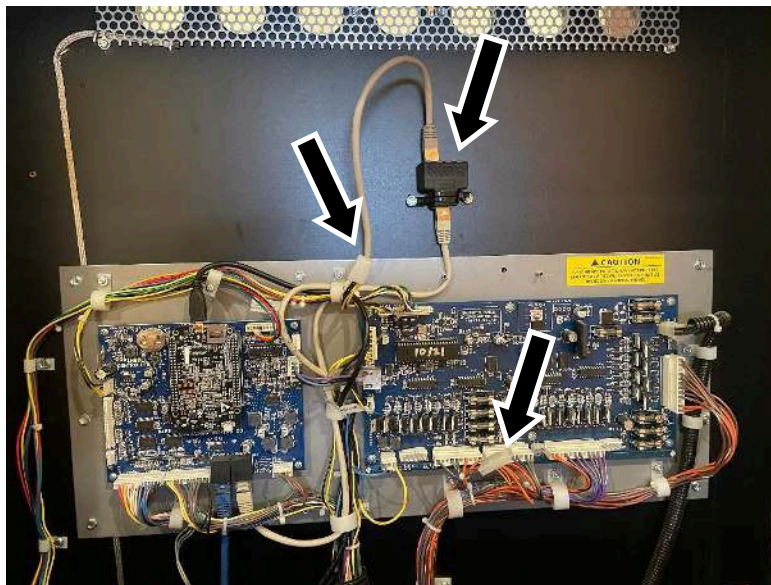
Cactus Canyon Topper Installation

1. Locate keys from the coin door and place in the lock assembly, located on the backbox. Remove back glass assembly by lifting up on the bottom lift channel, and pulling out slowly from the bottom.
2. Once removed, disconnect the back glass assembly connector from the board. (See Figure 2)
3. Place back glass assembly in a safe place temporarily, to re-install later.
4. Locate the black hole plug at the top center of the backbox, and remove. You can place it in the cashbox for safe keeping.
5. Remove Topper from packing box, and inspect to make certain the topper has no physical damage. Remove the small plastic bag containing Hardware, and save for installation on step #7.
6. Place Topper gently on top of the Backbox, and slowly rotate the Topper back to locate the three (3) Topper cables for installation. Place all three cables through the Center Topper hole, and set the Topper flat on back box.
7. Locate the small bag with hardware from step #5, and add them to the 4 recessed holes in the topper by first lining it up with the holes in the Backbox. With a Philips Screwdriver, tighten down all four (4) screws until topper is secure.
8. Connect all three (3) wires from topper, as seen in Figure 2.
9. Locate back glass assembly, and add the connector back to the board, as seen in Figure 2.

Figure 1



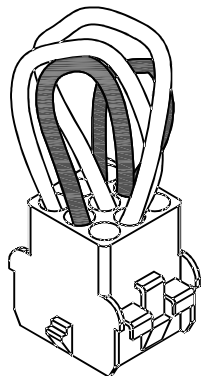
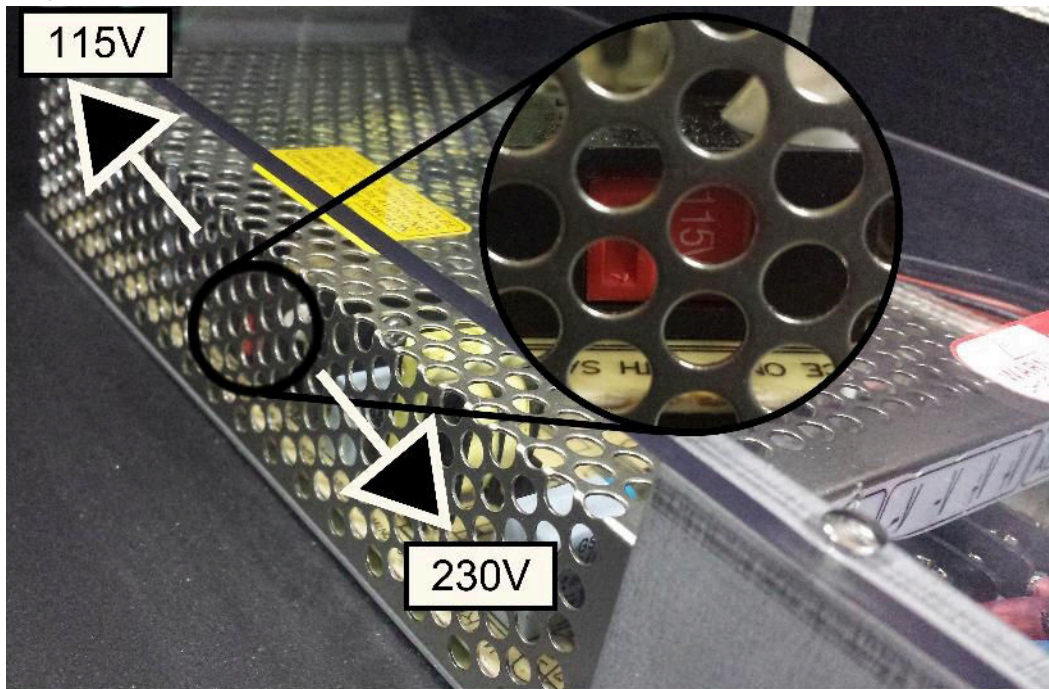
Figure 2



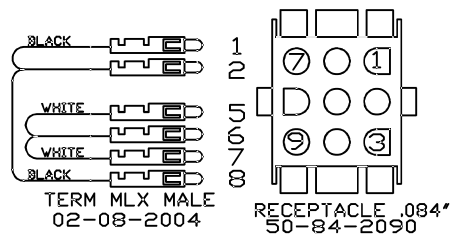
VOLTAGE SELECTION

CAUTION

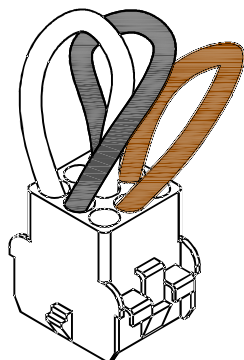
If you are converting a game between 115V and 230V, be sure to change the AC Input Selection switch on the power supply, and use the correct voltage selection block, shown below.



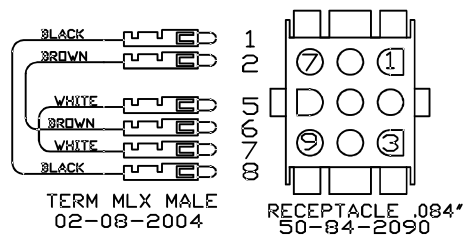
115V Voltage Selection Block
PIN-CBL-VOLT120



Viewed
from top



230V Voltage Selection Block
PIN-CBL-VOLT240



Viewed
from top

GAME CONTROL LOCATIONS

Cabinet Switches

The On-Off Switch is on the bottom of the cabinet near the right front leg. Press the side of the rocker switch closest to the front of the cabinet to power the game on.

The Start Button is a push-button to the left of the coin door on the cabinet exterior. Press the Start button to begin a game, or during the diagnostic mode, to ask for HELP.

Coin Door Buttons

The operator controls all game adjustments, obtains bookkeeping information, and diagnoses problems, using only four push-button switches mounted on the inside of the coin door. The coin door buttons have two modes of operation Normal Function and Test Function.

Normal Function

The Service Credits button puts credits on the games that are not included in any of the game audits.

The Volume Up (+) button raises the sound level of the game. Press and hold the button until the desired level is reached.

The Volume Down (-) button lowers the sound level of the game. Press and hold the button until the desired level is reached. See Adjustment A.1 28 to turn sound off completely.

The Begin Test button starts the Menu System operation and changes the coin door buttons from Normal Function to Test Function.

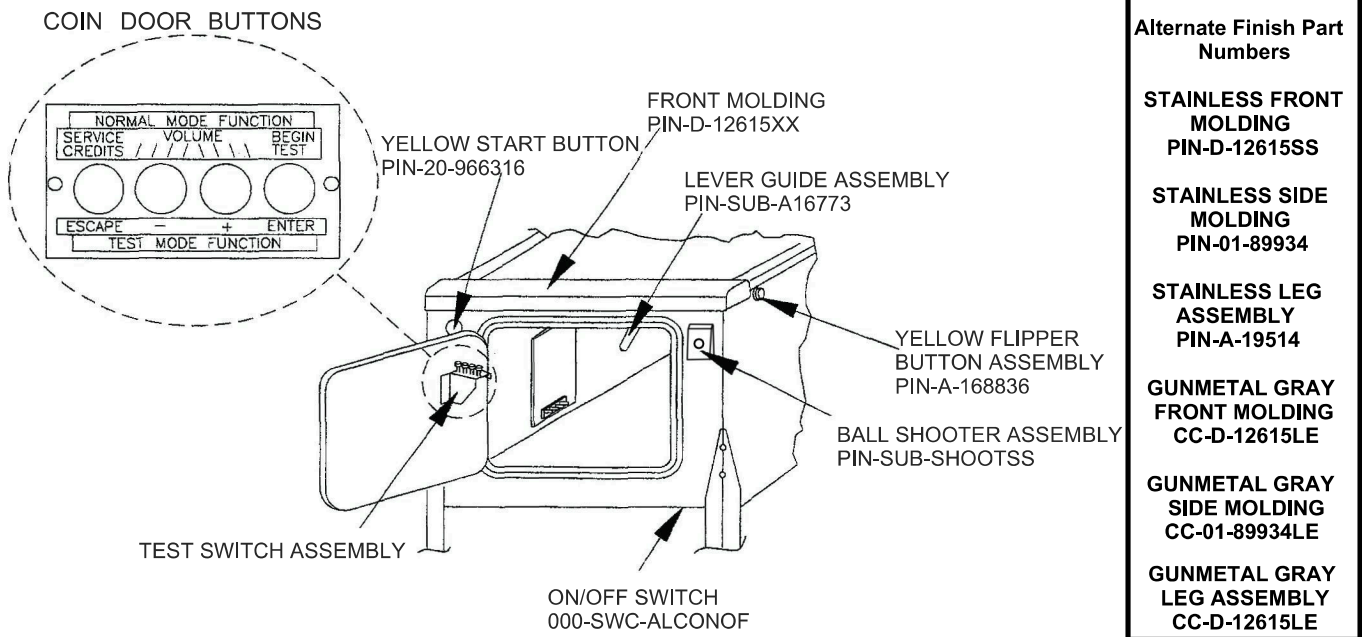
Test Function

The Escape button allows you to get out of a menu selection or return to the Attract mode.

The Up (+) button allows you to cycle forward through the menu selections or adjustment choices.

The Down(-) button allows you to cycle backward through the menu selections or adjustment choices.

The *Enter button allows you to get into a menu selection or lock in an adjustment choice.



GAME OPERATION

CAUTION

After assembly and installation at its site location, this game must be plugged into a properly grounded outlet to prevent shock hazard, and to assure proper game operation. **DO NOT** use a 'cheater' plug to defeat the ground pin on the line cord. **DO NOT** cut off the ground pin.

POWERING UP. With the coin door closed, plug the game in, and switch it on. In normal operation, TESTING shows in the displays as the game performs Start-up tests. Once the Start-up tests have Been successfully completed the last score is displayed and the game goes into the Attract mode.

Note: After the game has been on location for a time, the Start-up tests may contain messages concerning game problems. See 'Error Messages' for more detailed information regarding messages.

Open the coin door and press the Begin Test switch. The display shows the game name, number, and software revision. The message changes and the display will show the sound software revision, the revision level of the system software, and the date the software was revised.

Example:	CACTUS CANYON	Sound Rev.	1.0A
50065	Rev. 1.06B	SY. 0.X0	XX-XX-98

Press the Enter button to enter the Menu System (refer to the section entitled "Menu System Operation" for more information). Perform the entire Test menu routine to verify that the game is operating properly.

In order to operate the tests that use the +50V or +20V circuits, pull the top interlock switch button out. The interlock switches are located on a bracket in the coin door opening.

ATTRACT MODE*. After completing the Test menu routine, press the Escape button three times to enter the Attract mode. During the Attract mode, the display shows a series of messages informing the player of the recent highest scores*, custom messages*, and the score to obtain a replay award*.

CREDIT POSTING. Insert coin(s). A sound is heard for each coin, the music plays for one minute, and the display shows the number of credits purchased. So long as the number of maximum allowable credits* are NOT exceeded by coin purchase or high score, credits are posted correctly.

STARTING A GAME. Press the Start button. A startup sound plays, and the credit amount shown in the display decreases by one. The display flashes 00 (until the first playfield switch is actuated), and shows ball 1. If credits are posted, additional players may enter the game by pressing the Start button once for each player, before the end of play on the first ball.

TILTS. Actuating the cabinet slam tilt switch inside the cabinet ends the current game and proceeds to the Game Over mode. With the third closure* of the plumb bob tilt switch, the player loses the remaining play of that ball, but can complete the game.

END OF A GAME. All earned scores and bonuses are awarded. If a player's final score exceeds the specified value, the player receives a designated award for achieving the current highest score. A random digit set* appears in the display. Credits* may be awarded, when the last two digits of any player's score match the random digits. Match, high score, and game over sounds are made.

GAME OVER MODE. The **Game Over** display shows the high scores and the game proceeds to the Attract Mode.

* - Operator-adjustable feature

RAISING THE PLAYFIELD

CAUTION

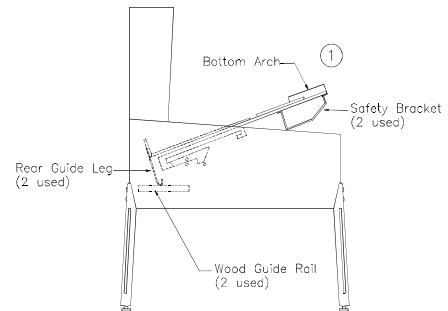
Do not raise the playfield straight up! This game uses a slide assembly to raise and lower the playfield.

Before Raising the Playfield:

Be sure there are no balls present in the ball trough or any of the other ball-holding playfield devices (i.e. poppers). Raising the playfield with balls present in these locations may cause them to come loose and damage the playfield. Use the "Empty Balls Test" to remove all of the balls from these locations.

To Raise the Playfield:

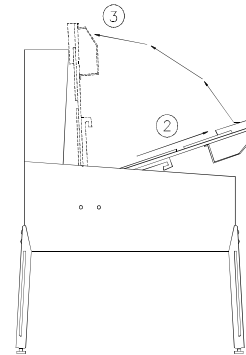
1. Grasp bottom arch and carefully lift up playfield only high enough to clear safety brackets. Rear guide legs should not hit wood guide rails, or be used to slide out playfield.



2. Pull the playfield out toward you until it stops (rest position), and raise it approximately 3".

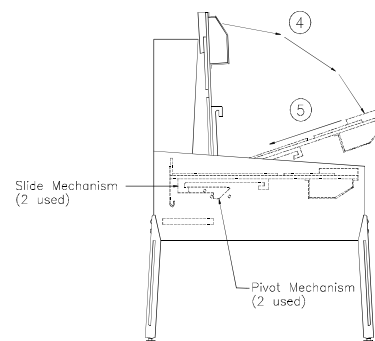
Be sure playfield is in locked position and does not slide back into cabinet. If it does, repeat Step 2 before proceeding to Step 3.

3. Rotate playfield to upright service position (lean on backbox) by pulling toward you and up. Listen for the sound of a click: this ensures locking and pivoting sequence. The latch will engage at the upper position.



To Lower the Playfield

4. Rotate the playfield to the rest position. This unlocks the pivoting mechanism.
5. Push the playfield back into cabinet and into the playing position.



MENU SYSTEM OPERATION

The Main Menu allows you to choose from several options, which in turn leads to other menus to choose from. To access the Main Menu, open the coin door, and then press the Test button. Use the Up and Down buttons to scroll through the Main Menu. To access a sub menu (Adjustments, Test, etc.) from the Main Menu, simply scroll to the desired menu, and press the Enter button. To return to the Main Menu (from Bookkeeping, Utilities, etc.) just press the Escape button. Press the Start button for HELP.

MAIN MENU

A. ADJUSTMENTS MENU

- A1- Standard Adj.
- A2- Feature Adj.
- A3- Pricing Adj.
- A4- H.S.T.D. Adjust
- A5- Audio Adj.
- R- Remake Adj.

B. BOOKKEEPING MENU

- B1- Main Audits.
- B2- Earnings Audits
- B3- Standard Audits
- B4- Feature Audits
- B5- Histograms
- B6- Time-Stamps

T. TEST MENU

- T1- Switch Tests
- T2- Lighting Tests
- T3- Flipper Coil
- T4- Solenoid Test
- T5- Sound+Music
- T6- Topper Drives
- T7- Drop Target
- T8- Mine Test
- T9- Train Test
- T10- Empty Balls

U. UTILITIES MENU

- U1- Clear Audits
- U2- Clear Coins
- U3- Reset H.S.T.D.
- U4- Set Time + Date
- U5- Factory Adjs.
- U6- Factory Reset
- U7- Pre-Sets
- U8- Clear Credit
- U9- Auto Burn-in
- U10- Custom Logo
- U11- Custom Attract

A. ADJUSTMENTS MENU

A.1 Standard Adjustments

A.2 Feature Adjustments

A.3 Pricing Adjustments

A.4 H.S.T.D. Adjustments

A.5 Audio Adjustments

R.1 Remake Adjustments

Use the Up or Down buttons to scroll through the Adjustments menu; to access an adjustment menu option, press the Enter button. To see the setting choices for that option, press the Up and Down buttons; to lock in a setting choice, press the Enter button. If you make a mistake, press the Escape button while "Saving Adjustment Value" is in the display. The original value is retained and the new value is ignored. Press the Escape button to return to the Adjustment menu.

A.1 STANDARD ADJUSTMENTS

A.1 01 BALLS PER GAME

A "game" is defined by specifying the number of balls to be played.

Settings: 1 to 10

Factory Default: 3

A.1 02 TILT WARNINGS

The number of total actuations of the plumb bob that can occur before the game is "tilted".

Settings: 1 to 10

Factory Default: 3

A.1 03 MAXIMUM EXTRA BALLS COUNT

The number of extra balls that a player may accumulate.

Settings: 0 to 10

NO EXTRA BALL - No extra balls may be accumulated.

Factory Default: 4

A.1 04 MAXIMUM EXTRA BALLS PER BALL IN PLAY

The number of extra balls to be awarded per ball in play.

Settings: OFF - No maximum number of extra balls per ball in play.

1 to 10 - 1 through 10 extra balls per ball in play.

Factory Default: OFF

A.1 05 REPLAY SYSTEM

The type of replay system to be used.

Settings: FIXED - Replay value is set and does not change during game play.

AUTO % - Replay starting value is set but changes every 50 games to comply with the percentage of replays desired.

OFF - Disable the replay system. No replays are awarded.

Factory Default: AUTO %

A.1 06 REPLAY PERCENT

The percentage of replays the players are able to earn when Auto Replay is used.

Settings: 5% to 50%
Factory Default: 10%

A.1 07 REPLAY START

Replay Start value when Auto % Replay is used.

Settings: 5,000,000 to 300,000,000
Factory Default: 30,000,000

A.1 08 REPLAY LEVELS

The number of replay levels used by the Auto % Replay mode. When two replay levels are chosen, the second replay level is automatically adjusted to twice the starting replay level. When three of four replay levels are chosen, their values are automatically adjusted to three or four times the starting replay level.

Settings: 1 to 4
Factory Default: 1

A.1 09 REPLAY LEVEL 1

A.1 10 REPLAY LEVEL 2

A.1 11 REPLAY LEVEL 3

A.1 12 REPLAY LEVEL 4

The value to be used for the 1st through 4th Fixed Replay.

Settings: 00 to 300,000,000.

A.1 13 REPLAY BOOST

The replay score can be temporarily boosted by the selected amount EACH time the player reaches or exceeds the replay score. This temporary boost is canceled when credits equal 0; the player inserts another coin, or when Begin Test is pressed.

Settings: AUTO - The Replay Boost value is half of the current Replay value.
ON - Score is boosted between 2,000,000 and 25,000,000 points.
OFF - Replay score is not boosted.

Factory Default: AUTO

A.1 14 REPLAY AWARD

The form of award automatically provided when the player exceeds any replay level for either Auto % Replay or Fixed Replay.

Settings: CREDIT - Reaching each replay level awards credit.
EXTRA BALL - Reaching each replay level awards an extra ball.
AUDIT - Reaching each replay level awards nothing to the player; it does increase the entry value of the audit item(s) maintaining a tally of these awards.

Factory Default: CREDIT

A.1 15 SPECIAL AWARD

This setting changes what reward is achieved for reaching each replay level.

Settings: CREDIT - Reaching each replay level awards credit.
EXTRA BALL - Reaching each replay level awards an extra ball.
POINTS – Reaching each replay level awards points.

Factory Default: CREDIT

A.1 19 MATCH FEATURE

This is the desired percentage for the Match Feature occurring at the end of the game.

Settings: OFF - Match Feature is not available.
1 to 50% - 1% is 'hard'; 50% is 'extremely easy'. The Match Feature selects random points score value at the end of the game and compares each player's score for an identical match. A match of an entire score value results in an award of a Credit.

Factory Default: 7%

A.1 20 CUSTOM MESSAGE

The message displayed during the Attract mode.

Settings: ON - A message is displayed
OFF - A message is not displayed.

Factory Default: ON

A.1 21 LANGUAGE

The language the game uses.

Settings: ENGLISH, DEUTSCH, FRANCAIS, OR ESPANOL

Factory Default: ENGLISH

A.1 22 CLOCK STYLE

The style of clock the game uses.

Settings: A.M./P.M. or 24 hours.

Factory Default: A.M./P.M.

A.1 23 DATE STYLE

The style of dates the game uses.

Settings: MONTH/DATE/YEAR OR DATE/MONTH/YEAR

Factory Default: MONTH/DATE/YEAR

A.1 24 SHOW TIME + DATE

The time and date show in the Attract mode.

Settings: YES - Show the date, time in status report or in the Attract mode.
NO - Do not show date, time in status report or in the Attract mode.

Factory Default: NO

A.1 25 ALLOW DIM ILLUMINATION

The game program dims the general illumination for special effects and during the Attract mode.

Settings: YES - Dim the general illumination during the Attract mode.
NO - Do not dim the general illumination.

Factory Default: YES

A.1 26 TOURNAMENT PLAY

Equalize random game features and global score values during multi-player games.

Settings: YES - Equalize random game features and global score values.
NO - Do not equalize random game features and global score values.

Factory Default: NO

A.1 27 EUROPEAN SCORE FORMAT

Use either commas or dots between digits when numbers are displayed.

Settings: YES - Dots instead of commas, (example- 1.000.000).
NO - Commas instead of dots, (example- 1, 000, 000).

Factory Default: NO

A.1 28 MINIMUM VOLUME OVERRIDE

The volume can be turned off.

Settings: YES - Volume can be turned off.
NO - Volume can be turned down but not off.

Factory Default: NO

A.1 29 GENERAL ILLUMINATION POWER SAVER

This allows the general illumination and controlled lamps to be dimmed following a time interval after a game is played. Power Saver Level (A.1 30) determines dimness of the lamps. Using this feature substantially increases the life of the lamps.

Settings: OFF, 2 to 60 minutes.

Factory Default: 15 minutes

A.1 30 POWER SAVER LEVEL

When General Illumination Power Saver (A.1 29) is set for 2 to 60 minutes, the Power Saver Level controls the intensity of the general illumination and controlled lamps after the game has been idle for the specified period of time.

Settings: 4 to 7 (4 = dimmest, 7 = brightest)

Factory Default: 5

A.1 32 NO BONUS FLIPS

The activation of flippers during the end of ball "bonus" sequence. Setting to "YES" may extend the life of the flipper mechanisms.

Settings: YES, NO

Factory Default: YES

A.1 33 GAME RESTART

When you press the Start button during or after the 2nd ball, the game in progress ends and a new game begins. This adjustment has three settings to determine how to handle this.

Settings: NEVER - Do not allow a new game start until the current game is over.
SLOW - Restart if the Start button is pressed continuously for over 1/2 second.
This helps to prevent the unintended restart of the game in progress.
INSTANTLY - Restart as soon as the Start button is pressed.

When you press the Start button during game over, or during the 1st ball (to add a player), it is always handled instantly.

Factory Default: SLOW

A.1 34 ALLOW CHASE BALL

The Chase Ball feature will attempt to keep a game operational in the event that a ball becomes stuck on the playfield. After a number of unsuccessful ball searches, the game software will end the player's current ball, give a bonus award, then serve a new ball (or end the game if that was the last ball in the player's game). This ball 'chases' the stuck ball on the playfield and will hopefully knock it loose.

Setting this adjustment to NO will revert to the previous behavior of searching endlessly until the stuck ball becomes freed, or the machine's power is turned off and back on.

Settings: YES, NO
Factory Default: YES

A.2 FEATURE ADJUSTMENTS

A.2 01 PLAYER TOURNAMENT MODE

This adjustment determines whether or not lit Specials remain in memory from ball to ball.

Settings: YES - Specials stay lit from ball to ball.
NO - Specials will be turned off at the start of each ball.

A.2 02 BALL SAVES

This adjustment determines the amount of Ball Saves per game.

Settings: OFF, 1-5: 0 to 5 saves.
Factory Default: 1

A.2 03 BALL SAVE TIME

This adjustment determines the number of seconds in which a ball may drain after being launched into play, such that it will be returned to play without a change in the player up number or the ball in play number.

Settings: 02-8: 2 to 8 seconds.
Factory Default: 4

A.2 05 TIMED PLUNGER

This adjustment specifies the number of seconds before automatically plunging a ball onto the playfield that can otherwise be plunged by the player via the launch button.

Settings: OFF, 30-90: 30 to 90 seconds.
Factory Default: OFF

A.2 07 QUICK DRAW DIFFICULTY

This adjustment sets the difficulty of the quick draw feature.

Settings: EX. EASY, EASY, MEDIUM, HARD, EX HARD
Factory Default: EX. EASY

A.2 08 LIGHT QUICK DRAW DIFFICULTY

This adjustment sets the difficulty for starting up the quick draw feature.

Settings: EASY, MEDIUM, HARD
Factory Default: EASY

A.2 09 QUICK DRAWS AT START

This adjustment sets the number of quick draws upon starting a new game.

Settings: 0-1
Factory Default: 0

A.2 10 QUICK DRAWS FOR EB

Number of quick draws required to earn an extra ball

Settings: 3-6
Factory Default: 4

A.2 11 STARTING RANK

This adjustment sets the player's rank upon starting a new game.

Settings: Stranger, Deputy, Sheriff, Marshall
Factory Default: Stranger

A.2 12 COMBOS FOR STAR

This adjustment determines the number of combos required in order to obtain star-point.

Settings: 5-20
Factory Default: 10

A.2 13 NUM BART BROS

This adjustment determines the number of Bart Brother scores needed before Star is awarded

Settings: 1-7
Factory Default: 3

A.2 14 TRAIN MECHANISM

This adjustment allows the train mechanism to be disabled. When the train is disabled with this adjustment, it parks at the end of the track.

Settings: Enabled, Disabled
Factory Default: Enabled

A.2 15 POLLY EB AVAIL.

Allow player to earn Extra Ball from Polly feature.

Settings: Yes, No
Factory Default: Yes

A.2 16 POLLY AWD. SHOTS

This adjustment determines the number of Polly shots that are necessary before the extra ball light is on.

Settings: 3-9
Factory Default: 5

A.2 17 GUNFT. TIME (SEC)

This adjustment determines how long a Gunfight lasts (in seconds), before the drop target falls back down.

Settings: 3-10
Factory Default: 6

A.2 18 BOUNTY LIT BALL1

This adjustment determines whether or not bounty is lit at the start of the first ball.

Settings: Yes, No
Factory Default: No

A.2 19 SPECIAL CARRY

Special status will remain in memory from ball to ball.

Settings: Yes, No
Factory Default: No

A.2 20 L OUTLANE CARRY

Left Outlane status will remain in memory from ball to ball.

Settings: Yes, No
Factory Default: Yes

A.3 PRICING ADJUSTMENTS

A.3 01 GAME PRICING (If set to custom, then 02 to 09 are available).

The cost of a game is selected here from the Standard Pricing Table or by using the custom pricing editor (A.3 27).

A.3 10 COIN DOOR TYPE (If set to custom, then 11 to 15, 20 and 25 are available).

This adjustment is used to preset adjustments 11 through 15, 20 and 25, based on standard coin doors.

A.3 11 COLLECTION TEXT

The coin system is used to display the Earning Audits.

A.3 16 MAXIMUM CREDITS

The maximum number of credits the game can accumulate, either through game plays awards or coin purchases. The range of this setting is 5 through 99. Reaching the specified setting prevents the award of any credits. Factory default is 10.

A.3 17 FREE PLAY

A player can operate the game without a coin (free play), or with a coin.

NO - A coin is necessary for game play.
YES - Game play is free; no coin required.

A.3 18 HIDE COIN AUDITS

The coin audits may, or may not, be displayed.

YES - The coin audits are not displayed.
NO - The coin audits are displayed.
HIDE NAMES - The coin audit value is shown but not the audit name.

A.3 22 DOLLAR BILL SLOT

The system normally requires 150 microseconds between coin pulses. This is too long a delay for a fast-pulsing dollar bill validator. This adjustment may be used to tell the game that there is a fast-pulsing dollar bill validator connected to one of the coin switches.

NONE = No validator connected.
LEFT = Validator connected to left slot.
CENTER = Validator connected to center slot.
RIGHT = Validator connected to right slot
FOURTH = Validator connected to fourth.

A.3 23 MINIMUM COIN MILLISECONDS

This is the minimum width required for coin pulses to be accepted as valid coins. This may be changed to prevent certain kinds of cheating.

A.3 26 CREDIT FRACTION

This determines the smallest fraction used for credits. It must be even to accommodate the extra ball buy-in option of 1/2 credit, and is typically 1/2 but may need to be a different value for modes requiring more coins per credit.

A.3 27 PRICING EDITOR

This function is now used to enter information for a custom pricing mode. The adjustment A.3 26 (Credit Fraction) may need to be set before entering the custom pricing editor. This specifies the smallest fraction available for partial credits.

Because of availability of an extra ball (buy-in) for 1/2 credit, this value is always even (1/2, 1/4, 1/6etc.). The typical setting for A.3 26 is 1/2 (such that there are only full credits and half credits) but you may need to use a different value for other pricing modes.

Please note that formerly, the coin values specified by custom coin doors adjustments A.3 12-15 only affected audit totals that showed collection totals. In the 10/94 pricing system, these coin values are added up for each coin received and credits are awarded based on pricing levels being reached. The pricing editor described here allows you to set these levels, however it may be necessary for you to set A.3 10 (Coin Door Type) to CUSTOM and then change A.3 11-15, 20 and 25 to reflect the value of the coins being used. This is usually NOT NECESSARY, but must be done BEFORE using the custom pricing editor when it is necessary.

Begin the custom pricing function by pressing the Enter button while A.3 27 Pricing Editor is showing in the display.

The pricing editor will now show the data for the currently selected pricing mode. If this is the 1st use of the pricing editor then this will show the last built-in pricing that was selected. Otherwise, it will be the last custom mode created by this function. (Note that A.3 01 will display Custom any time a non-standard pricing has been selected.)

Assuming the last mode installed was 1/\$0.50, 2/\$0.75, 3/\$1.00 the display appears as follows:

CUSTOM PRICING EDITOR		
1)	\$0.25	1/2 cred.
2)	\$0.50	1 cred.
3)	\$0.75	2 cred.
4)	\$1.00	3 cred.

DISPLAY VIEW

The \$0.25 field will be flashing. You may now use the test mode buttons to perform the following functions:

Escape:

Undo any changes to the current field and move to the previous field.

"-" (Down):

Make the current field lower.

"+" (Up):

Make the current field higher.

Enter:

Save any changes to the current field and move to the next field. Note that there are 2 columns of fields. Price levels are in the left column and credit levels are in the right column. Pressing Enter will move from left column to right column before moving to the next line.

Start:

Save the current price mode or start over

By using the above functions, you simply enumerate each pricing level and the number of credits that should be awarded at that level. Please note that you must specify each fractional level in sequence.

- Example: 1/\$0.50 2/\$1.00 4/\$1.50 6/\$2.00
- 1) \$0.25 1/2 cred.
 - 2) \$0.50 1 cred.
 - 3) \$0.75 1 1/2 cred.
 - 4) \$1.00 2 cred.
 - 5) \$1.25 2 1/2 cred.
 - 6) \$1.50 4 cred.
 - 7) \$1.75 4 1/2 cred
 - 8) \$2.00 6 cred.

Also note that once the value of the coins repeat that no further specification is necessary.

- Example: 1/\$0.50 2/\$1.00
- 1) \$0.25 1/2 cred.

In the above example, only one line needs to be specified, indicating that 1/2 credit is awarded for each \$0.25 received.

Special Features:

There are some special features available by pressing the Down button while in the left column. The following words will be displayed instead of a pricing level:

<i>End</i>	<i>Repeat 3</i>	<i>Repeat 9</i>	<i>Repeat 15</i>
<i>Delete</i>	<i>Repeat 4</i>	<i>Repeat 10</i>	<i>Repeat 16</i>
<i>Insert</i>	<i>Repeat 5</i>	<i>Repeat 11</i>	<i>Repeat 17</i>
<i>Clear</i>	<i>Repeat 6</i>	<i>Repeat 12</i>	<i>Repeat 18</i>
<i>Repeat 1</i>	<i>Repeat 7</i>	<i>Repeat 13</i>	<i>Repeat 19</i>
<i>Repeat 2</i>	<i>Repeat 8</i>	<i>Repeat 14</i>	<i>Repeat 20</i>

Pressing Enter with the above words selected will activate the following instructions:

End

This is the same as pressing the Start button. A menu of choices will be provided (see Start Button later in this section).

Delete

This deletes the current level from the pricing mode.

Insert

This inserts a new pricing level ABOVE the current level. The current level will be unaffected. There must be room for at least one coin between the current level and the previous level, and at least one fractional credit unit between the current level and the previous level.

Example:

Inserting a new pricing level.

CUSTOM PRICING EDITOR		
1)	\$0.50	1 cred.
2)	\$1.00	2 cred.
3)	\$1.50	4 cred.
4)	\$2.00	6 cred

DISPLAY VIEW

Use the Enter button to move to the \$1.50 field. Now press the Down button once to create the following display:

CUSTOM PRICING EDITOR		
1)	\$0.50	1 cred.
2)	\$1.00	2 cred.
3)	INSERT	4 cred.
4)	\$2.00	6 cred

DISPLAY VIEW

Now press the Enter button. The display will now show:

CUSTOM PRICING EDITOR		
1)	\$0.50	1 cred.
2)	\$1.00	2 cred.
3)	\$1.25	2 1/2 cred.
4)	\$1.50	4 cred

DISPLAY VI

Note that the line "5) \$2.00 6 cred." No longer fits on the display. Whenever there are more than four pricing levels that the display will scroll up and down as Enter and Escape are used to move from field to field. If you repeatedly press Enter the display will then show:

CUSTOM PRICING EDITOR		
2)	\$1.00	2 cred.
3)	\$1.25	2 1/2 cred.
4)	\$1.50	4 cred.
5)	\$2.00	6 cred

DISPLAY VIEW

Clear

This clears out the current entries to allow a new pricing mode to be entered.

Repeat (1-20)

This causes all of the entries above the current line to be repeated the number of times specified. This is only available when there are no pricing levels below the current line.

Example: 1/\$0.50 2/\$1.00 15/\$5.00

Use the "Edit New Pricing Mode" feature described below to clear out the current levels.

Use the Up and Enter buttons to specify 1/2 credit for \$0.25:

CUSTOM PRICING EDITOR		
1)	\$0.25	1/2 cred.

DISPLAY VIEW

Now, use the Up button until the display shows "Repeat 20". The display looks like this:

CUSTOM PRICING EDITOR		
1)	\$0.50	1 cred.
2)	REPEAT 20	

DISPLAY VIEW

Press the Enter button and the display will show the following:

CUSTOM PRICING EDITOR		
1)	\$0.25	1/2 cred.
2)	\$0.50	1 cred.
3)	\$0.75	1 1/2 cred.
4)	\$1.00	2 cred

DISPLAY VIEW

Actually, by repeating the 1 line 20 times the pricing mode is currently set up as follows, but only the 1 four lines are displayed.

CUSTOM PRICING EDITOR		
1)	\$0.25	1 /2 cred.
2)	\$0.50	1 cred.
3)	\$0.75	1 1/2 cred.
4)	\$1.00	2 cred.
5)	\$1.25	2 1/2 cred.
6)	\$1.50	3 cred.
7)	\$1.75	3 1/2 cred.
8)	\$2.00	4 cred.
9)	\$2.25	4 1/2 cred.
10)	\$2.50	5 cred.
11)	\$2.75	5 1/2 cred.
12)	\$3.00	6 cred.
13)	\$3.25	6 1/2 cred.
14)	\$3.50	7 cred.
15)	\$3.75	7 1/2 cred.
16)	\$4.00	8 cred.
17)	\$4.25	8 1/2 cred
18)	\$4.50	9 cred.
19)	\$4.75	9 1/2 cred.
20)	\$5.00	10 cred

DISPLAY VIEW

Now repeatedly press the Enter button to move the right-hand column to the 20th level. The display will show (with "10 cred." Blinking):

CUSTOM PRICING EDITOR		
17)	\$4.25	8 1/2 cred.
18)	\$4.50	9 cred.
19)	\$4.75	9 1/2 cred.
20)	\$5.00	10 cred

DISPLAY VIEW

Now press the Up button repeatedly until the right-hand column of line 20 reads "15 cred."

Start Button

Once the pricing mode has been specified, you exit the custom pricing editor by pressing the 'Start' button. This will bring up a menu with some or all of the following choices:

Choose an Option: Return to Editor Clear Pricing Ignore Changes Save Changes
--

DISPLAY VIEW

Use the Up and Down buttons to select your choice and press the Enter button to activate it. The selections cause the following actions:

Return To Editor

This option will allow you to continue to edit the pricing information.

Clear Pricing

This option will clear out all pricing levels and bring you back to the pricing editor to create a pricing mode from scratch.

Ignore Changes

This option will discard the work done in the previous pricing editor and leave the previously installed pricing mode in the game.

Save Changes

Press the Enter button to save your custom edited pricing mode and install it as the pricing for the game. Note that this choice will not be displayed if there is not at least one pricing level specified in the pricing editor, or if no changes have been made.

Exit Pricing Editor

This option will appear if no changes have been made. It will exit the Pricing Editor leaving the pricing as is.

Bonus for Special Coins

For most coin modes, the system allows the mixing of any combination of any size coin and awards credits as each appropriate amount is accumulated. With A.3 10 (Coin Door Type) set to "custom", the value of each coin slot may be entered for adjustments A.3 12 (Left Slot Value) through A.3 15 (4th slot value). Whenever these values are changed, the new values are copied to A.3 28 (Left Slot Credit Value) through A.3 31 (4th Slot Credit Value) respectively. To give a bonus for a particular coin, you need to modify the Credit Value adjustment to specify the value to be given for the bonus coin.

For example, in a game with a Left Coin Slot that takes quarters and a center coin slot that takes dollars, if you wish to charge 50 cents for 1 play and \$1.00 for 2 plays, you setup the pricing editor to show:

CUSTOM PRICING EDITOR		
1)	\$0.25	1/2 cred.
2)	\$0.50	1 cred.
3)	\$0.75	1-1/2 cred.
4)	\$1.00	2 cred

DISPLAY VIEW

If you set A.3 10 (Coin Door Type) to Custom you will see the following coin door specifier adjustments:

A.3 12	Left Slot Value	0.25
A.3 13	Center Slot Value	1.00
A.3 28	Left Slot Credit Value	0.25
A.3 29	Center Slot Credit Value	1.00

To change the pricing to 1 play for \$0.50, 2 plays for \$1.00 and 3 plays for a dollar coin, you change A.3 29 (Center Slot Credit Value) to 1.50. This will result in the following settings:

A.3 12	Left Slot Value	0.25
A.3 13	Center Slot Value	1.00
A.3 28	Left Slot Credit Value	0.25
A.3 29	Center Slot Credit Value	1.50

This will cause \$1.50 worth of credits (3) to be awarded for each coin inserted in the center coin slot (dollar coin). This is due to the \$1.50 setting of A.3 29 (Center Slot CREDIT VALUE). Note that the 1.00 setting of A.3 13 tells the game that each coin in the center slot adds \$1.00 to the total collection.

A.3 28 LEFT SLOT CREDIT VALUE

A.3 29 CENTER SLOT CREDIT VALUE

A.3 30 RIGHT SLOT CREDIT VALUE

A.3 31 4TH SLOT CREDIT VALUE

This adjustment specifies the value to be used for awarding credits. It is typically the same value as the corresponding A.3 12 (Left Slot Value) through A.3 15 (4th Slot Value) adjustment.

The A.3 12 through A.3 15 values are used to determine the auditing value of each coin (for collection totals) while the A.3 28 through A.3 31 value determine the coin value for awarding credits. By making this "Credit Value" adjustment higher than the A.3 12 through A.3 15 "Value" adjustment, a bonus may be given for a specific call (see Bonus for Special Coin section for more information).

Pricing Table

COUNTRY	COIN CHUTES				4 TH CHUTE	GAMES/COINS	DISPLAY	PRICING ADJUSTMENTS A3 02 03 04 05 06 07 08 09
	LEFT	CENTER	RIGHT					
USA	25¢	\$1.00*	25¢	\$1.00	1/50¢, 2/75¢, 3/\$1 ²	50¢, 75¢, \$1.00		
	25¢	\$1.00*	25¢	\$1.00	1/75¢, 2/\$1.50, 3/\$2.00 ²	1/75, 3/2.00		
	25¢	\$1.00	25¢	\$1.00	1/3X25¢ ²	USA 1/\$0.75		
	25¢	\$1.00	25¢	\$1.00	1/50¢, 2/\$1 ²	USA 2/\$1.00		
	25¢	\$1.00	25¢	\$1.00	1/50¢, 3/\$1.00 ²	USA 3/\$1.00		
	25¢	\$1.00	25¢	\$1.00	1/2x25¢, 2/\$1.00, 3/\$1.50, 6/\$2.00 ²	USA 6/\$2.00		
	25¢	\$1.00	25¢	\$1.00	1/2x25¢, 2/\$1.00, 3/\$1.50, 5/\$2.00 ^{1,2}	USA 5/\$2.00		
	25¢	\$1.00	25¢	\$1.00	1/3x25¢, 2/\$1.50, 4/\$2.00 ²	1/75, 4/\$2.00		
	25¢	\$1.00	25¢	\$1.00	1/2x25¢, 2/\$1.00, 4/\$1.50, 6/\$2.00 ²	6/\$2.00 4/\$1.50		
	25¢	25¢	25¢	-	1/4x25¢, 6/\$5.00 ²	1/1, 6/5		
	25¢	25¢	25¢	-	1/4x25¢ ²	1/\$1.00		
Canada	25¢	-	\$1.00	-	1/50¢, 2/75¢, 3/\$1 ²	CAN. 50-75-1		
	25¢	-	\$1.00	-	1/50¢, 2/\$1 ²	CAN. 2/\$1.00		
	25¢	-	\$1.00	-	1/50¢, 3/\$1.00 ²	CAN. 3/\$1.00		
	25¢	-	\$1.00	-	1/2x25¢, 2/4x25¢, 3/\$1.00 ²	3/\$1.00 Coin		
	25¢	-	\$1.00	-	1/2x25¢, 2/\$1.00, 3/\$1.50, 6/\$2.00 ²	CAN. 6/\$2.00		
	25¢	-	\$1.00	-	1/2x25¢, 2/\$1.00, 3/\$1.50, 5/\$2.00 ^{1,2}	CAN. 5/\$2.00		
	25¢	-	\$1.00	-	1/2x25¢, 2/\$1.00, 4/\$1.50, 6/\$2.00 ²	6/\$2, 4/1.50		
	25¢	-	\$1.00	-	1/3x25¢, 2/\$1.50, 4/\$2.00 ²	1/75, 4/2.00		
	25¢	-	\$1.00	-	1/75¢, 2/\$1.50, 3/\$2.00 ²	1/75, 3/2.00		
	25¢	-	\$1.00	-	1/3X25¢ ²	CAN. 1/\$0.75		
Canada 3/Dollar Coin	25¢	-	\$1.00	-	1/0.50, 2/\$1.00, 3/\$1.00-Coin	CAN.\$ BONUS		
Austria	5sch	10sch	10sch	-	1/2x5sch, 3/2x10sch ²	AUSTRIA		
	5sch	-	10sch	-	12/5sch, 5/10sch	CUSTOM	02 00 05 00 01 00 01 00	
Australia	20¢	\$1	\$1	\$2	1/\$1, 3/\$2 ²	AUSTRALIA 1		
	20¢	\$1	\$1	\$2	1/\$1, 2/\$2	AUSTRALIA 2		
U.K.	£1.00	50P	20P	10P	1/3x10P, 2/50P, 4/£1 ²	U. KINGDOM		
Switzerland	1Fr	2Fr	5Fr	-	1/1Fr, 3/2Fr, 7/5Fr ²	SWISS 1		
Swiss 2	1Fr	2Fr	5Fr	-	1/2Fr, 2/3Fr, 3/4Fr, 5/5Fr	SWISS 2		
Swiss 3	1Fr	2Fr	5Fr	-	1/1Fr, 5/5Fr	SWISS 3		
Swiss 4	1Fr	2Fr	5Fr	-	1/1Fr, 2/2Fr, 3/3Fr, 4/4Fr, 6/5Fr ¹	SWISS 4		
Swiss 5	1Fr	1Fr	1Fr	-	1/1Fr (all slots = 1Fr)	SWISS 5		
Belgium	5Fr	20Fr	50Fr	-	1/4x5Fr, 1/20Fr, 3/50Fr ²	BELGIUM		
Belgium 2	5Fr	20Fr	50Fr	-	1/20Fr, 3/60Fr, 3/50Fr-Coin	BELG. BONUS		
Germany	1DM	2DM	5DM	-	1/1DM, 2/2DM, 6/5DM ^{1,2}	GER. 6/5DM		
				-	1/2DM, 2/3DM, 3/4DM, 4/5DM ²	GER. 4/5DM		
				-	1/2DM, 2/3DM, 3/4DM, 5/5DM ²	GER. 1/2DM		
				-	1/1DM, 2/2DM, 5/5DM ²	GER. 1/1DM		
Holland	1G	-	1G	-	1/1G ²	HOLLAND		
Sweden	1Kr	5Kr	10Kr	1Kr	1/10Kr, 2/15Kr, 3/20Kr ^{1,2}	SWEDEN 1		
	1Kr	5Kr	10Kr	1Kr	1/5Kr ²	SWEDEN 2		
France	1Fr	5Fr	10Fr	20Fr	1/3x1Fr, 2/5Fr, 5/10Fr, 10/20Fr ^{2,3}	TARIFF 1		
	1Fr	5Fr	10Fr	20Fr	1/2x1Fr, 3/5Fr, 7/10Fr, 14/20Fr ^{2,3}	TARIFF 2		
	1Fr	5Fr	10Fr	20Fr	1/5Fr, 3/10Fr, 7/2x10Fr, 7/20Fr ^{2,3}	TARIFF 3		
	1Fr	5Fr	10Fr	20Fr	2/5Fr, 4/10Fr, 9/2x10Fr, 9/20Fr ^{2,3}	TARIFF 4		
	1Fr	5Fr	10Fr	20Fr	2/5Fr, 5/10Fr, 11/2x10Fr, 11/20Fr ^{2,3}	TARIFF 5		
	1Fr	5Fr	10Fr	20Fr	1/5Fr, 3/10Fr, 6/20Fr ^{2,3}	TARIFF 6		
Italy	500L	500L	500L	-	1/500L ²	ITALY 1		
	500L	500L	500L	-	1/2x500L, 3/4x500L ^{1,2}	ITALY 2		
	500L	500L	500L	-	1/2x500L, 2/4x500L ²	ITALY 3		
Spain	100P	-	500P	-	1/100P, 6/500P ²	SPAIN		
	25P	-	100P	-	1/25P, 5/100P	CUSTOM	01 00 04 00 01 04 01 00	
	25P	-	100P	-	1/25P, 4/100P	CUSTOM	01 00 04 00 01 00 01 00	
	25P	-	100P	-	1/2x25P, 2/100P	CUSTOM	01 00 04 00 02 00 01 00	
	25P	-	100P	-	1/2x25P, 3/100P	CUSTOM	03 00 12 00 04 00 01 06	
Japan	100¥	-	100¥	-	1/100¥ ²	JAPAN		
Chile	Token	-	Token	-	1/1Token ²	CHILE		
Denmark	1Kr	5Kr	10Kr	20Kr	1/2x1 Kr, 3/5 Kr, 7/10 Kr ²	DENMARK 1		
	1Kr	5Kr	10Kr	20Kr	1/5 Kr, 3/10 Kr, 6/20 Kr ^{1,2}	DENMARK 2		
Finland	1Mka	-	5Mka	-	1/2x1Mka, 3/5Mka ²	FINLAND 1		
	1Mka	-	5Mka	-	1/3x1Mka, 2/5Mka ²	FINLAND 2		
New Zealand	\$1.00	-	\$2.00	-	1/\$1, 3/\$2 ²	NEW ZEALAND 1		
	\$2.00	-	\$1.00	-	1/\$1, 3/\$2, (\$2-\$1 door)	NEW ZEALAND 2		
Norway	5Kr	-	10Kr	-	1/5Kr, 2/10Kr, 5/20Kr ²	NORWAY		
Argentina	10¢	10¢	10¢	-	1/1 Token ²	ARGENTINA		
Greece	10D	20D	50D	-	1/2x10D, 1/20D, 3/50D	GREECE		
Antilles	25¢	25¢	1G	-	1/25¢, 4/1G	ANTILLES		
Netherlands 1	1 HFI	2.5 HFI	2.5 HFI	-	1/1Hfi, 3/2.5Hfi	NETHERLANDS		
Netherlands 2	1 HFI	2.5 HFI	2.5 HFI	-	1/1HFI, 3/3HFI, 3/2.5HFI-Coin	NETH. BONUS		
Netherlands 3	1 HFI	2.5 HFI	5 HFI	-	1/1Hfi, 3/2.5Hfi	NETH. CSHFL		
Hungary	20 Old	20 New	50F	-	1/40F, 2/60F, 4/100F	HUNGARY		

1. Factory Default, 2. Standard Setting - Change by pressing Enter button, 3. Other functions are also affected. * Only if Bill Acceptor and Center Chute are available.

A.4 HIGH SCORE TO DATE ADJUSTMENTS

A.4 01 HIGHEST SCORES

The game maintains a record of the four highest scores achieved to date.

OFF - No high scores are recorded, or displayed.

ON - The four highest scores are stored in memory and displayed in Attract Mode.

A.4 02 H.S.T.D. AWARD

This is the award given for achieving the High Score to Date or the Champion High Score to Date. Credit or Ticket

A.4 03 CHAMPION H.S.T.D.

The "Highest" High Score can be displayed in the Attract Mode. This score is not cleared when "High Score Reset Every" occurs.

ON - The "Highest" High Score is retained in memory and displayed.

OFF - The "Highest" High Score is not retained.

A.4 04 CHAMPION CREDITS

The number of credits or tickets awarded for a Grand Champion Score.

Range: 00 to 10.

A.4 05 H.S.T.D. 1 CREDITS

A.4 06 H.S.T.D. 2 CREDITS

A.4 07 H.S.T.D. 3 CREDITS

A.4 08 H.S.T.D. 4 CREDITS

The number of credits or tickets awarded whenever a player exceeds the four highest scores.

Range: 00 to 10.

A.4 09 HIGH SCORE RESET EVERY

The number of games to be played before an automatic reset of the displayed Highest Score occurs. The operator selects the values provided at reset in the Back-up High Scores.

Range: OFF (disabled), 250 to 20,000.

A.4 10 BACKUP CHAMPION

The Back-up Grand Champion Score.

Range: 00 to 200,000,000

A.4 11 BACKUP H.S.T.D. 1

A.4 12 BACKUP H.S.T.D. 2

A.4 13 BACKUP H.S.T.D. 3

A.4 14 BACKUP H.S.T.D. 4

The first through fourth Back-up High Score values. The game automatically restores this value when the "High Score Reset Every" value is reached.

Range: 00 to 200,000,000

A.5 AUDIO ADJUSTMENTS

VOLUME

This setting adjusts the volume of the game.

Settings: 1-30

Factory Default: 8

SUBWOOFER BALANCE

This setting adjusts the balance of the audio system between the backbox and cabinet subwoofer.

Settings: Left/Right Slider

A.1 28 MIN. VOL. OVERRIDE

This setting overrides the default minimum volume

Settings: Yes, No

Factory Default: Yes

R. 35 QUIET DCS BONG

This setting adjusts the DCS Bong to be quieter.

Settings: Yes, No

Factory Default: Yes

S. 89 KNOCKER SOUNDS

This setting adjusts whether the knocker will make sounds.

Settings: On, Off

Factory Default: On

R. REMAKE ADJUSTMENTS

G.1 28 EXTENDED RULES

This setting adjusts the game rules. Classic Rules are the original rules that shipped with Cactus Canyon. Extended Rules are additional game rules developed by Chicago Gaming Company

Settings: Extended, Classic

Factory Default: Extended

DISPLAY ADJ.

R. 07 DISPLAY COLOR

This setting adjusts the default display color scheme.

Settings: Amber, Amber 2, Amber 3, Gold, School Bus, Lime, Green, Cyan, Sky, Blue, Azure, Magenta, Violet, Flamingo, Red, Silver, White, Custom

Factory Default: Amber 3

R. 12 COLORIZE

This setting determines whether or not to colorize the game screen.

Settings: Yes, No

Factory Default: Yes

LIGHTING ADJ.

R. 13 INCANDESCENT EMULATION

This setting adjusts the speed and power state of the incandescent lights.

Settings: Off, Slow, Medium, Fast
Factory Default: Medium

R. 15 PLAYFIELD LED BRIGHTNESS

This setting adjusts the brightness levels for the playfield LEDs.

Settings: -3, -2, -1, Min, Max
Factory Default: Max

R. 16 BACKBOX BRIGHTNESS

This setting adjusts the brightness level for the Backbox lights.

Settings: -3, -2, -1, Min, Max
Factory Default: Max

R. 17 BACKBOX GI CONTROL

This setting adjusts the lighting controls for the Backbox.

Settings: Stock, Always On, Mirror PF. GI
Factory Default: Mirror PF. GI

R. 49 GUN FLASHER BRIGHTNESS

This setting adjusts the brightness levels for the gun flashers.

Settings: Default, Off, -3, -2, -1, +1, +2, +3, Max
Factory Default: Default

R. 24 UPPER STRIP

This setting adjusts the color and power state of the upper LED strip.

Settings: Off, Interactive, Red, Green, Blue, White
Factory Default: Interactive

R. 18 SPEAKER LED

This setting adjusts the color and power state of the Speaker LEDs.

Settings: Off, Interactive, Red, Green, Blue, White
Factory Default: Interactive

R. 19 INTERACTIVE GI

This setting adjusts the color and power state of the interactive GI.

Settings: Yes, No
If no is selected->
White RGB Presets: Warm White, Cool White, CE Upgrade, Custom
Factory Default: Yes

COILS ADJ.

R. 26 FLIPPER STRENGTH

This setting adjusts the strength of the Flipper Coils.

Settings: Min, Max, -18 to +10

Factory Default: Default

R. 27 TROUGH POP STRENGTH

This setting adjusts the strength of the Trough Popper.

Settings: Default, Min, Max, +1

Factory Default: Default

R. 32 JETS STRENGTH

This setting adjusts the strength of the Jet Bumpers.

Settings: Default, Min, Max, +1

Factory Default: Default

R. 33 SLINGS STRENGTH

This setting adjusts the strength of the Slingshots.

Settings: Default, Min, Max, +1

Factory Default: Default

R. 31 AUTO PLUNGER STRENGTH

This setting adjusts the strength of the Auto Plunger.

Settings: Default, Min, Max, +1

Factory Default: Default

R. 28 SHAKER STRENGTH

This setting adjusts the strength of the Shaker Motor.

Settings: Default, Off, Light, Strong

Factory Default: Default

R. 29 MINE POPPER STRENGTH

This setting adjusts the strength of the Mine Popper.

Settings: Default, Min, Max, +1

Factory Default: Default

R. 30 SALOON POPPER STRENGTH

This setting adjusts the strength of the Saloon Popper.

Settings: Default, Min, Max, +1

Factory Default: Default

R. 36 DROP TARGET STRENGTH

This setting adjusts the strength of the Drop Targets.

Settings: 0-32

Factory Default: 32

G. EXTENDED RULES ADJ.

G. 27 COWBOY TIMER

This setting adjusts the length of the Ride 'Em Cowboy Timer.

Settings: 20-40
Factory Default: 30

G. 28 POLLY WATERFALL TIMER

This setting adjusts the length of the Polly Waterfall Timer.

Settings: 20-40
Factory Default: 30

G. 29 POLLY TRAIN TIMER

This setting adjusts the length of the Polly Train Timer.

Settings: 20-40
Factory Default: 30

G. 30 MARKSMAN TIMER

This setting adjusts the length of the Marksman Timer.

Settings: 20-40
Factory Default: 30

G. 31 POLLY BANK TIMER

This setting adjusts the length of the Polly Bank Timer.

Settings: 20-40
Factory Default: 30

G. 32 BIONIC BART HITS

This setting adjusts the amount of hits needed on Bionic Bart to defeat him.

Settings: 3-5
Factory Default: 4

G. 33 BART BROTHERS EB

This setting determines the number of Bart Bros. that need to be defeated to light an Extra Ball.

Settings: Off, 1-4
Factory Default: 3

G. 34 1ST BEER MUG EB

This setting determines the number of Beer Mug hits needed to light an Extra Ball.

Settings: Off, 5-25
Factory Default: 15

G. 35 2ND BEER MUG EB

This setting determines the number of Beer Mug hits needed to light an Extra Ball.

Settings: Off, 30-50

Factory Default: 40

G. 41 BAD GUY CHAMP

Factory default high score for the Bad Guy Champion.

Settings: 5-20

Factory Default: 10

G. 42 BAD GUY CREDITS

The number of credits to award for a new Bad Guy Champion.

Settings: 0-3

Factory Default: 0

G. 43 BEER MUG CHAMP

Factory default high score for the Beer Mug Champion.

Settings: 10-30

Factory Default: 20

G. 44 BEER MUG CREDITS

The number of credits to award for a new Beer Mug Champion.

Settings: 0-3

Factory Default: 0

G. 45 BIONIC CHAMP

Factory default high score for the Bionic Bart Champion.

Settings: 1 million-10 million

Factory Default: 5 million

G. 46 BIONIC CREDITS

The number of credits to award for a new Bionic Bart Champion.

Settings: 0-3

Factory Default: 0

G. 47 GOLD MINE MULTIBALL CHAMP

Factory default high score for the Gold Mine Multiball Champion.

Settings: 1 million-10 million

Factory Default: 5 million

G. 48 GOLD MINE MULTIBALL CREDITS

The number of credits to award for a new Gold Mine Champion.

Settings: 0-3

Factory Default: 0

G. 49 STAMPEDE CHAMP

Factory default high score for the Stampede Champion.

Settings: 1 million-10 million

Factory Default: 5 million

G. 50 STAMPEDE CREDITS

The number of credits to award for a new Stampede Champion.

Settings: 0-3

Factory Default: 0

G. 53 HIGH NOON CHAMP

Factory default high score for the High Noon Champion.

Settings: 10 million-30 million

Factory Default: 20 million

G. 54 HIGH NOON CREDITS

The number of credits to award for a new High Noon Champion.

Settings: 0-3

Factory Default: 0

G. 21 TOPPER INSTALLED

This setting determines whether a Topper is installed on the game.

Settings: No, Yes

Factory Default: No

G. 22 ATTRACT MODE TOPPER

This setting determines whether the Bart figure in the Topper will activate in the attract mode.

Settings: No, Yes

Factory Default: No

G. 23 ATTRACT MODE FLP. TOPPER

This setting determines whether the Bart figure in the Topper will activate in response to the player hitting a flipper button during the attract mode.

Settings: No, Yes

Factory Default: Yes

G. 24 1ST SHOOTOUT

The number of Beer Mug hits needed to light the Topper Shootout at the Saloon.

Settings: 5-20

Factory Default: 10

G. 25 2ND SHOOTOUT

The number of Beer Mug hits needed to light the Topper Shootout at the Saloon.

Settings: 25-35

Factory Default: 30

B. BOOKKEEPING MENU

- B.1 Main Audits**
- B.2 Earning Audits**
- B.3 Standard Audits**
- B.4 Feature Audits**
- B.5 Histograms**
- B.6 Time-Stamps**

Use the Up or Down buttons to scroll through the Bookkeeping menu. To access an audit menu, press the Enter button, and press the Escape button to return to the Bookkeeping Menu.

B.1 MAIN AUDITS

B.1 01	Total Earnings	00	B.1 06	Total Plays	00
B.1 02	Recent Earnings	00	B.1 07	Replay Awards	00
B.1 03	Free Play Percent	00	B.1 08	Percent Replays	00
B.1 04	Average Ball Time	00	B.1 09	Extra Balls	00
B.1 05	Time Per Credit	00	B.1 10	Percent Extra Ball	00

B.2 EARNING AUDITS

B.2 01	Recent Earnings	00	B.2 08	Total Earnings*	00
B.2 02	Recent Left Slot	00	B.2 09	Total Left Slot*	00
B.2 03	Recent Center Slot	00	B.2 10	Total Center Slot*	00
B.2 04	Recent Right Slot	00	B.2 11	Total Right Slot*	00
B.2 05	Recent 4th Slot	00	B.2 12	Total 4th Slot*	00
B.2 06	Recent Paid Credits	00	B.2 13	Total Paid Credits*	00
B.2 07	Recent Service Credits	00	B.2 14	Total Service Credits*	00

*These audits are NOT re-settable. They are a record of the earnings of the game since the "CLOCK 1ST SET" Time-stamp.

B.3 STANDARD AUDITS

B.3 01	Games Started	00	B.3 21	Play Time	00
B.3 02	Total Plays**	00	B.3 22	Minutes On	00
B.3 03	Total Free Play	00	B.3 23	Balls Played	00
B.3 04	Free Play Percent	00	B.3 24	Tilts	00
B.3 05	Replay Awards	00	B.3 25	Replay 1 Awards	00
B.3 06	Percent Replays	00	B.3 26	Replay 2 Awards	00
B.3 09	Match Awards	00	B.3 27	Replay 3 Awards	00
B.3 10	Percent Match	00	B.3 28	Replay 4 Awards	00
B.3 11	H.S.T.D. Credits	00	B.3 29	1 Player Games	00
B.3 12	Percent H.S.T.D.	00	B.3 30	2 Player Games	00
B.3 13	Extra Ball	00	B.3 31	3 Player Games	00
B.3 14	Percent Extra Ball	00	B.3 32	4 Player Games	00
B.3 15	Tickets Awarded	00	B.3 33	H.S.T.D. Reset Count	00
B.3 16	Percent Tickets	00	B.3 34	Burn-in Time†	00:00:00
B.3 17	Left Drains	00	B.3 35	1st Replay Level	00
B.3 18	Right Drains	00	B.3 36	Left Flipper	00
B.3 19	Average Ball Time	00	B.3 37	Right Flipper	00
B.3 20	Average Game Time	00			

**"Total Plays" only counts on completed games. A game is considered complete when the final ball begins. Audit information from incomplete games is ignored. Operation for test and service do not affect audits. †This Audit cannot be reset.

B.4 FEATURE AUDITS

B.4 01 Ball Saves The number of times the ball was saved.	00%	00
B.4 02 Left Loop Shots The number of times the ball has shot through the left loop.	00%	00
B.4 03 Left Ramp Shots The number of times the ball has shot through the left ramp.	00%	00
B.4 04 Mine Hits The number of times the Goldmine has been hit.	00%	00
B.4 05 Center Ramp Shots The number of times the ball has shot through the center ramp.	00%	00
B.4 06 Bart Hits The number of times Bart has been hit.	00%	00
B.4 07 Bart Collected The number of times the Bart bonus has been collected.	00%	00
B.4 08 Right Loop Shots The number of times the ball has shot through the right loop.	00%	00
B.4 09 Right Ramp Shots The number of times the ball has shot through the right ramp.	00%	00
B.4 10 Motherlode Lit The number of times the Motherlode Mine has been lit.	00%	00
B.4 11 Stampede Started The number of times a Stampede has been started.	00%	00
B.4 12 Combos Complete The number of times a combo has been completed.	00%	00
B.4 13 Showdown Start The number of times a Showdown has been started.	00%	00
B.4 14 Bart Brothers Complete The number of times the Bart Brothers Challenge has been completed.	00%	00
B.4 15 High Noon Start The number of times High Noon has been started.	00%	00
B.4 16 High Noon Complete The number of times High Noon has been completed.	00%	00
B.4 17 Stranger (@end) The number of times Stranger rank has been reached by the end of the game.	00%	00
B.4 18 Partner (@end) The number of times Partner rank has been reached by the end of the game.	00%	00

B.4 19 Deputy (@end)	00%	00
The number of times Deputy rank has been reached by the end of the game.		
B.4 20 Sheriff (@end)	00%	00
The number of times Sheriff rank has been reached by the end of the game.		
B.4 21 Marshall (@end)	00%	00
The number of times Marshall rank has been reached by the end of the game.		
B.4 22 Left Quickdraw Lit	00%	00
The number of times the Left Quickdraw has been lit.		
B.4 23 Right Quickdraw Lit	00%	00
The number of times the Right Quickdraw has been lit.		
B.4 24 Left Quickdraw Start	00%	00
The number of times the Left Quickdraw has been started.		
B.4 25 Right Quickdraw Start	00%	00
The number of times the Right Quickdraw has been started.		
B.4 26 Quickdraw Wins	00%	00
The number of times the Quickdraw Challenge has been won.		
B.4 27 Left Gunfight Start	00%	00
The number of times the Left Gunfight has been started.		
B.4 28 Right Gunfight Started	00%	00
The number of times the Right Gunfight has been started.		
B.4 29 Gunfight Wins	00%	00
The number of times a gunfight has been won.		
B.4 30 Skill Extra Ball Lit	00%	00
The number of Extra Balls lit from Skill shots.		
B.4 31 Bounty Extra Ball Lit	00%	00
The number of Extra Balls lit from a Bounty.		
B.4 32 Bounty Extra Ball	00%	00
The number of Extra Balls from a Bounty.		
B.4 33 Polly Extra Ball Lit	00%	00
The number of Extra Balls lit from Polly.		
B.4 34 Quickdraw Extra Ball Lit	00%	00
The number of Extra Balls lit from a Quickdraw.		
B.4 35 Bounty Multiball Start	00%	00
The number of Multiballs started from a Bounty.		
B.4 36 Top Lanes Complete	00%	00
The number of times the Top Lane Challenge has been completed.		

B.4 37	Gold Mine Multiball	00%	00
	The number of Multiballs started from the Gold Mine.		
B.4 38	Gold Mine Jackpot	00%	00
	The number of jackpots earned from the Gold Mine.		
B.4 39	=1 Gold Mine Multiball	00%	00
	The number of games where 1 Gold Mine Multiball was earned.		
B.4 40	=2 Gold Mine Multiball	00%	00
	The number of games where 2 Gold Mine Multiballs were earned.		
B.4 41	>=3 Gold Mine Multiball	00%	00
	The number of games where 3 or more Gold Mine Multiballs were earned.		
B.4 42	Polly Peril Start	00%	00
	The number of times the Polly Peril Challenge has been started.		
B.4 43	Polly Peril Win	00%	00
	The number of times the Polly Peril Challenge has been won.		
B.4 44	All Showdown Targets	00%	00
	The number of times all showdown targets have been hit in a game.		
B.4 45	Bounty Awards	00%	00
	The number of Bounty Awards that have been earned.		
B.4 46	Left Drop Up Req.	00%	00
	The number of times the Left Drop Up requirements have been met.		
B.4 47	Left Drop Up Hits	00%	00
	The number of times the Left Drop Up has been hit.		
B.4 48	Left Center Drop Up Req.	00%	00
	The number of times the Left Center Drop Up requirements have been met.		
B.4 49	Left Center Drop Up Hits	00%	00
	The number of times the Left Center Drop Up has been hit.		
B.4 50	Right Center Drop Up Req.	00%	00
	The number of times the Right Center Drop Up requirements have been met.		
B.4 51	Right Center Drop Up Hits	00%	00
	The number of times the Right Center Drop Up has been hit.		
B.4 52	Right Drop Up Req.	00%	00
	The number of times the Right Drop Up requirements have been met.		
B.4 53	Right Drop Up Hits	00%	00
	The number of times the Right Drop Up has been hit.		
B.4 54	Left Drop Retries	00%	00
	The number of times the Left Drop Retry has been attempted.		

B.4 55	Left Center Drop Retries	00%	00
	The number of times the Left Center Drop Retry has been attempted.		
B.4 56	Right Center Drop Retries	00%	00
	The number of times the Right Center Drop Retry has been attempted.		
B.4 57	Right Drop Retries	00%	00
	The number of times the Right Drop Retry has been attempted.		
B.4 58	Cowboy Start	00%	00
	The number of times the Cowboy Challenge has been started.		
B.4 59	Cowboy Jet Hit	00%	00
	The number of times the Cowboy Jet has been hit.		
B.4 60	Cowboy Award	00%	00
	The number of times a Cowboy Award has been earned.		
B.4 61	Cowboy Complete	00%	00
	The number of times the Cowboy Challenge has been completed.		
B.4 62	Polly Waterfall Start	00%	00
	The number of times the Polly Waterfall Challenge has been started.		
B.4 63	Polly Waterfall Award	00%	00
	The number of times a Polly Waterfall Challenge award has been earned.		
B.4 64	Polly Waterfall Complete	00%	00
	The number of times the Polly Waterfall Challenge has been completed.		
B.4 65	Marksman Start	00%	00
	The number of times the Marksman Challenge has been started.		
B.4 66	Marksman Award	00%	00
	The number of times a Marksman Challenge award has been earned.		
B.4 67	Marksman Complete	00%	00
	The number of times the Marksman Challenge has been completed.		
B.4 68	Polly Bank Start	00%	00
	The number of times the Polly Bank Challenge has been started.		
B.4 69	Polly Bank Award	00%	00
	The number of times a Polly Bank Challenge award has been earned.		
B.4 70	Polly Bank Complete	00%	00
	The number of times the Polly Bank Challenge has been completed.		
B.4 72	Beer Mug Award	00%	00
	The number of times the Beer Mug award has been earned.		
B.4 73	Bionic Lit	00%	00
	The number of times Bionic Bart has been lit.		

B.4 74 Bionic Start	00%	00
The number of times Bionic Bart has been started.		
B.4 75 Bionic Hit	00%	00
The number of times Bionic Bart has been hit.		
B.4 76 Bionic Jackpot	00%	00
The number of times the Bionic Bart jackpot has been earned.		
B.4 77 Bionic Kill	00%	00
The number of times the Bionic Bart has been killed.		
B.4 98 Topper D. Lit	00%	00
The number of times the Topper D has been lit.		
B.4 99 Topper D. Start	00%	00
The number of times the Topper D has been started.		
B.4 100 Topper D. Won	00%	00
The number of times the Topper D has been won.		
B.4 101 Topper R. Lit	00%	00
The number of times the Topper R has been lit.		
B.4 102 Topper R. Start	00%	00
The number of times the Topper R has been started.		
B.4 103 Topper R. Won	00%	00
The number of times the Topper D has been won.		

B.5 HISTOGRAMS

B.5 01	0 to 1 Million Scores	00%	00
B.5 02	1 Million to 2 Million Scores	00%	00
B.5 03	2 Million to 3 Million Scores	00%	00
B.5 04	3 Million to 4 Million Scores	00%	00
B.5 05	4 Million to 5 Million Scores	00%	00
B.5 06	5 Million to 6 Million Scores	00%	00
B.5 07	6 Million to 12 Million Scores	00%	00
B.5 08	12 Million to 18 Million Scores	00%	00
B.5 09	18 Million to 25 Million Scores	00%	00
B.5 10	25 Million to 50 Million Scores	00%	00
B.5 11	50 Million to 75 Million Scores	00%	00
B.5 12	75 Million to 99 Million Scores	00%	00
B.5 13	Over 99 Million Scores	00%	00
B.5 14	Game Time 0.0 to 1.0 Minute	00%	00
B.5 15	Game Time 1.0 Minute to 1.5 Minutes	00%	00
B.5 16	Game Time 1.5 Minutes to 2.0 Minutes	00%	00
B.5 17	Game Time 2.0 Minutes to 2.5 Minutes	00%	00
B.5 18	Game Time 2.5 Minutes to 3.0 Minutes	00%	00
B.5 19	Game Time 3.0 Minutes to 3.5 Minutes	00%	00
B.5 20	Game Time 3.5 Minutes to 4.0 Minutes	00%	00
B.5 21	Game Time 4 Minutes to 5 Minutes	00%	00
B.5 22	Game Time 5 Minutes to 6 Minutes	00%	00
B.5 23	Game Time 6 Minutes to 8 Minutes	00%	00
B.5 24	Game Time 8 Minutes to 10 Minutes	00%	00
B.5 25	Game Time 10 Minutes to 15 Minutes	00%	00
B.5 26	Game Time Over 15 Minutes	00%	00

B.6 TIME-STAMPS

B.6 01	Current Time
B.6 02	Clock 1st Set
B.6 03	Clock Last Set
B.6 04	Audits Cleared
B.6 05	Coins Cleared
B.6 06	Factory Setting
B.6 07	Last Game Start
B.6 08	Last Replay
B.6 09	Last H.S.T.D. Reset
B.6 10	Champion Reset
B.6 11	Last Printout
B.6 12	Last Service Credit

Time-Stamps Menu allows you to view dates and times that are important to game software.

T. TESTS MENU

- T.1 Switch Tests**
- T.2 Lighting Tests**
 - T.2 01- Single Lamps**
 - T.2 02- All Lamp Test**
 - T.2 03- Color LED Test**
 - T.2 04- Flasher Test**
 - T.2 05- General Illumination**
 - T.2 06- Topper LED Test**
- T.3 Flipper Coil**
- T.4 Solenoid Test**
- T.5 Sound+Music**
- T.6 Topper Drives**
- T.7 Drop Target**
- T.8 Mine Test**
- T.9 Train Test**
- T.10 Empty Balls**

Press the Up or Down buttons to scroll through the Test menu, press the Enter button to access a test, and press the Escape button to return to the Test menu.

T.1 SWITCH TESTS

T.1 01 SINGLE SWITCH TEST

This test isolates a single switch and shows its state in the display. A mechanical switch is 'made' when the display reads closed. An opto switch is 'made' (opto beam broken) when the display reads open. Use the Up or Down buttons to select the switch to be tested.

T.1 02 SWITCH EDGES TEST

Press each of the switches one at a time. The name and number of the switch is shown in the display. If a switch other than the one pressed, or no switch at all is indicated, the system has detected a problem with the switch circuit.

T.1 03 SWITCH LEVELS TEST

This test automatically cycles through all switches that are detected closed. The name and number of each switch that is detected is shown in the display.

T.2 LIGHTING TESTS

T.2 01 SINGLE LAMPS

The Single Lamp test checks each lamp circuit individually. Press the Up or Down buttons to scroll through this test. A lamp should light for each name and number that is displayed. Any other results indicate the system has detected a problem.

T.2 02 ALL LAMP TEST

This test causes all the controlled lamps to flash at the same time. Every controlled lamp should flash. Any other results indicate the system has detected a problem.

T.2 03 COLOR LED TEST

GI 1	OFF	BL TARG	OFF
GI 2	OFF	TL TARG	OFF
GI 3	OFF	BR TARG	OFF
SALOON	OFF	TR TARG	OFF
MINE	OFF	L DROP 1	OFF
PF STRIP	OFF	LC DROP 2	OFF
SPEAKER	OFF	RC DROP 3	OFF
		R DROP 4	OFF

T.2 04 FLASHER TEST

This test checks each flasher circuit individually. Press the Up or Down buttons to scroll through this test, and press the Enter button to momentarily flash the indicated light. A lamp should light for each name and number that is displayed; any other results indicate the system has detected a problem.

T.2 05 GENERAL ILLUMINATION

This test checks all of the General Illumination circuits. There are two modes of operation -- Stop and Run.

Stop: The Stop mode allows you to cycle through the General Illumination test manually. Press the Up or Down buttons to advance through the test. All illumination is tested first, followed by an individual circuit test. The circuit name and number show in the display while the corresponding bulbs light. If any other results occur the system has detected an error. Press the escape button to return to the Test menu, and to advance to the next test mode, press the Enter button.

Run: The Run mode cycles through the General Illumination test automatically. For each circuit shown in the display the corresponding bulbs should light. If any other results occur, the system has detected a problem.

T.2 06 TOPPER LED TEST

This test allows you to check that all lamps in the topper are functioning correctly.

T.3 FLIPPER COIL

The Flipper Coil test has three modes -- Repeat, Stop, and Run. Only one flipper should pulse at a time. The system has detected a problem if more than one flipper pulses, a flipper comes on and stays on, or no flippers pulse during the Repeat and Run modes.

Repeat: The Repeat mode pulses an individual flipper. Press the Enter button to begin the test. Press the Up or Down buttons to cycle through the flipper coils one at a time. To return to the Test menu, press the Escape button. To advance to the next test mode, press the Enter button.

Stop: The Stop mode halts the Flipper Coil test. No coils should pulse while the test is stopped. To return to the Test menu, press the Escape button. To advance to the next test mode, press the Enter button.

Run: The Run mode cycles through the flippers automatically. The display shows the name and number of the flipper coil currently being pulsed. To return to the Test menu, press the Escape button. To return to the Repeat mode, press the Enter button.

T.4 SOLENOID TEST

The Solenoid test has three modes -- Repeat, Stop, and Run. Only one solenoid should pulse at a time. The system has detected a problem if more than one solenoid pulses, a solenoid comes on and stays on, or no solenoids pulse during the Repeat and Run modes.

Repeat: The Repeat mode pulses an individual solenoid. Press the Enter button to start this test. The name of the first solenoid shows in the display and the corresponding coil pulses. Press the Up or Down buttons to cycle through the solenoids, one at a time. The same solenoid pulses until you press the Up or Down buttons to advance to the next one. To return the Test menu, press the Escape button. To advance to the next test mode, press the Enter button.

Stop: The Stop mode halts the Solenoid test. No solenoids should be active. To return the Test menu, press the Escape button. To advance to the next test mode, press the Enter button.

Run: The Run mode cycles through the solenoids automatically. The display shows the name and number of the solenoid currently being pulsed. To return the Test menu, press the Escape button. To return to the Repeat mode, press the Enter button.

T.5 SOUND+MUSIC

The Sound and Music test checks the audio circuits. This test has three modes for testing the sound and music circuits -- Run, Repeat, and Stop.

Run: The Run mode steps through a sequence of sounds and music. Press the Up or Down buttons to advance to a particular sound or tune. A sound or tune should be heard for each name and number that appears in the display. Any other results indicate the system has detected a problem. To return to the Test menu, press the Escape button. To advance to the next test mode, press the Enter button.

Repeat: The Repeat mode causes the program to stop and repeat a particular sound/tune. The same sound repeats continuously until you press the Up or Down buttons to advance to the next one. Any other results indicate the system has detected a problem. To return to the Test menu, press the Escape button. To advance to the next test mode, press the Enter button.

Stop: The Stop mode stops this test altogether. Nothing should be heard. Any other results indicate the system has detected a problem. To return to the Test menu, press the Escape button. To return to the Run mode, press the Enter button.

T.6 TOPPER DRIVES

This test lets you independently power the various drivers built in to the topper, if one of the drivers doesn't activate when powered, then the system has found an error with one of the topper drives.

T.7 DROP TARGET

This test cycles through all drop targets, firing them all in sequence until the test mode is exited. If a drop target does not fire when pulsed by the test, then the system has found an error with one of the drop targets.

T.8 MINE TEST

This test activates the mine in sequential pulses, controlled by the user through both the Up, and Down buttons. If the mine does not activate while cycling through the steps, then the system has found an error with the Gold Mine.

T.9 TRAIN TEST

This test activates the Train pulley to reposition the train and ensure function. There are multiple positions to test, as well as a manual mode to allow stepping through the positions. If the train does not function correctly while testing, the system has found an error with the Train system.

T.10 EMPTY BALLS

This test kicks out all balls loaded in troughs, lockups, poppers, and kick-outs until no balls remain in those locations.

Note: *As the trough kicks out balls, they will stack up in the shooter groove, which may require manual clearing in order to allow further balls to be kicked out.*

U. UTILITIES MENU

- U.1 Clear Audits**
- U.2 Clear Coins**
- U.3 Reset H.S.T.D.**
- U.4 Set Time + Date**
- U.5 Factory Adjustments**
- U.6 Factory Reset**
- U.7 Presets**
- U.8 Clear Credit**
- U.9 Auto Burn-in**
- U.10 Custom Logo**
- U.11 Custom Attract**

To scroll through the Utilities menu, press the Up or Down buttons. To access a utility, press the Enter button. To see the setting choices of a utility option, press the Up and Down buttons. Press the Enter button to lock in a choice. If you make a mistake, press Escape while "Saving Adjustment Value" is in the display. The original setting is retained and the new setting is ignored. To return to the Utilities menu, press the Escape button.

U.1 CLEAR AUDITS

Press the Enter button to clear the Standard Audits (except Burn-in Time), Feature Audits, and Histograms.

U.2 CLEAR COINS

Press the Enter button to clear the Earnings Audits.

U.3 RESET H.S.T.D.

Press the Enter button to clear the High Score to Date Table and the Grand Champion.

U.4 SET TIME AND DATE

Press the Enter button to activate the time and date. Use the Up or Down buttons to change the value, then press the Enter button to lock in that value. If you make a mistake press the Escape button while "Saving Adjustment Value" is displayed. The new value is ignored and the original value is retained.

U.5 FACTORY ADJUSTMENT

Press the Enter button to restore the adjustments to factory settings.

U.6 FACTORY RESET

Press the Enter button to restore the adjustments to their factory setting, clear the Audits, H.S.T.D. Table, and Custom Message/Game I.D.

U.7 PRESETS

Use the Up or Down buttons to cycle through the available Presets. When the desired Preset is displayed, press the Enter button to lock in that Preset. If you make a mistake, press the Escape button while "Saving Adjustment Value" is displayed. The new value is ignored and the original value is retained.

Game Difficulty Levels The game play difficulty adjustments can be changed to a combination that is MUCH LESS to MUCH MORE difficult than Factory Settings. The Game Difficulty Setting Table lists the adjustments and settings that comprise the individual group.

- U.7 01 INSTALL EXTRA EASY** MUCH LESS difficult than factory setting.
- U.7 02 INSTALL EASY** Somewhat LESS difficult than factory setting.
- U.7 03 INSTALL MEDIUM** Nearly the SAME as factory setting.
- U.7 04 INSTALL HARD** Somewhat MORE difficult than factory setting.
- U.7 05 INSTALL EXTRA HARD** MUCH MORE difficult than factory setting.

**DIFFICULTY SETTING TABLE FOR
U.S., CANADIAN, FRENCH, GERMAN, AND EUROPEAN GAMES**

Adj. #	Adj. Description	Extra Easy U.9 01	Easy U.9 02	Medium U.9 03 (factory)	Hard U.9 04	Extra Hard U.9 05
A.2 01	BALL SAVES					
A.2 02	BALL SAVE TIME					
A.2 03	EXTRA BALL PERCENT					

- U.7 06 INSTALL 5 BALL**
- U.7 07 INSTALL 3 BALL**

Adjustments U.9 06 and U.9 07 can be used to change a game to 3 or 5 ball play, including changing of certain features to the recommended 3-and 5-ball level. The Preset Game Adjustments Table for U.S./Canadian Games lists the adjustments and settings that comprise the individual groups.

PRESET ADJUSTMENTS TABLE FOR U.S. AND CANADIAN GAMES

Adj. #	Adj. Description	Install 5-ball U.9 06	Install 3-ball U.9 07
A.1 01	BALL PER GAME	05	03
A.1 07	REPLAY START		

U.7 08 INSTALL ADD-A-BALL

This option deletes all Free Play awards and replaces them with Extra Ball awards. Individual adjustments are affected, as follows:

Adjust.	Name	New Settings
A.1 13	Replay Boost	Off
A.1 14	Replay Award	Extra Ball
A.1 15	Special Award	Extra Ball
A.1 17	Extra Ball Ticket	No
A.1 19	Match Feature	Off
A.4 04	Champion Credits	00
A.4 05	High Score 1 Credits	00
A.4 06	High Score 2 Credits	00
A.4 07	High Score 3 Credits	00
A.4 08	High Score 4 Credits	00

U.7 09 INSTALL TICKET

This option deletes Credit awards and replaces them with Ticket awards. Individual adjustments are affected as follows:

Adjust.	Name	New Settings
A.1 14	Replay Award	Ticket
A.1 15	Special Award	Ticket
A.1 16	Match Award	Ticket
A.1 17	Extra Ball Ticket	Yes
A.1 31	Ticket Expansion Board	Yes
A.4 02	H.S.T.D. Award Ticket	Yes

U.7 10 INSTALL NOVELTY

This option removes all Free Play and Extra Ball awards. Individual adjustments are affected as follows:

Adjust.	Name	New Settings
A.1 04	Maximum Extra Ball	Off
A.1 05	Replay system	Fixed
A.1 09	Replay Level 1	Off
A.1 10	Replay Level 2	Off
A.1 11	Replay Level 3	Off
A.1 12	Replay Level 4	Off
A.1 15	Special Award	Points
A.1 19	Match Feature	Off
A.4 01	Highest Score	On
A.4 04	Champion Credit	00
A.4 05	High Score 1 Credits	00
A.4 06	High Score 2 Credits	00
A.4 07	High Score 3 Credits	00
A.4 08	High Score 4 Credits	00

U.8 CLEAR CREDITS

Press the Enter button to clear the game Credits.

U.9 AUTO BURN-IN

Press the Enter button to activate Auto Burn-in. This utility automatically cycles through several tests. This helps in finding intermittent problems. The tests that Auto Burn-in cycles through are: the Display Test, the Sound and Music Test, the All-Lamps Test, the Solenoid Test, the Flashers Test, the General Illumination Test, and the Flipper Coil Test. All of the tests run concurrently. The time spent on the burn-in cycle and the total time the game has spent in burn-in are displayed.

U.10 CUSTOM LOGO

This adjustment allows the user to upload a custom logo via an inserted SD card. The file must be a 320 pixels wide x 80 pixels high 24-Bit Windows BMP.

U.11 CUSTOM ATTRACT

This adjustment allows the user to upload a custom attract message via an inserted SD card. The file must be a 256 pixels wide x 64 pixels high 24-Bit Windows BMP.

ERROR MESSAGES

The game program has the capability to aid the operator and service personnel. At game turn-on, or after pressing the Begin Test switch, once the game has been operating for an extended period, the display may signal with a message, "Press ENTER for Test Report". This indicates the game program has detected a possible problem with the game.

CACTUS CANYON features a new coin door display. When the coin door is open (in Attract mode and game play), the display shows that the high-power has been disabled. It also shows the Test Report (if there is anything to report), and some game specific information. Use the flipper buttons to page through this information.

To obtain details of the problem open the coin door and press the Begin Test switch. Press the Enter button to begin displaying the message(s). The following messages apply to your game.

GAME SPECIFIC ERROR MESSAGES.

CHECK LEFT GATE - STUCK CLOSED.

The game has detected that the Left Gate is stuck closed. Use T.16 (Loop/Gate Test), Loops Mode, to verify that all of the Loop switches and the Left Gate are operating properly.

CHECK LEFT GATE - STUCK OPEN.

The game has detected that the Left Gate is stuck open. Use T.16 (Loop/Gate Test), Jets Mode, to verify that the Right Loop switches and the Left Gate are operating properly.

CHECK RIGHT GATE - STUCK CLOSED.

The game has detected that the Right Gate is stuck closed. Use T.16 (Loop/Gate Test), Loops Mode, to verify that all of the Loop switches and the Right Gate are operating properly.

CHECK RIGHT GATE - STUCK OPEN.

The game has detected that the Right Gate is stuck open. Use T.16 (Loop/Gate Test), Jets Mode, to verify that the Left Loop switches and the Right Gate are operating properly.

GENERAL ERROR MESSAGES.

CHECK SWITCH ##

This message indicates that at least one switch was stuck 'On' at game turn-on or has NOT been actuated during ball play (for 90 balls or apx. 30 games). The game program compensates the game play requirements affected by each disabled switch to allow 'nearly normal' play. This helps keep your game earning, until the service technician can repair the problem. To verify the problem, refer to the Test Menu text describing Switch Testing, and check each reported switch using applicable switch tests. Always check switch operation using a ball, to simulate game conditions. Switch problems may often be resolved by adjusting the wire switch actuators, fixing switch circuitry problems, securing loose connectors, etc. Mechanisms using 'opto switches' (drop targets, etc.) need to be checked for proper power connections.

CHECK FUSES F115 AND F116 AND OPTO 12V SUPPLY

This message will be displayed if the game senses that all optical switches are not functioning. This usually occurs when there is no +12V supply to the playfield optics.

OPTO TROUGH BAD CHECK CONNECTORS, WIRES AND 12V SUPPLY

This message will be displayed if all of the opto switches in the playfield ball trough are not functioning. This is usually caused by a problem with a ball trough connector supplying +12V and ground for the optical circuits.

PINBALL MISSING

This game normally uses four balls, however, it will operate with less. This message announces that a ball is missing or stuck. When the ball is located, return it to the game via the Outhole. Other possibilities for this problem could be malfunctions of the Ball Trough switches or the Ball Shooter switch.

XXXX SW. IS STUCK ON

This message indicates that a switch, which is not usually on, remains in the On position after. The stuck switch is essential for game play (for example, a coin chute switch, the slam tilt switch, and the plumb bob tilt switch), and should be cleared to permit proper game operation.

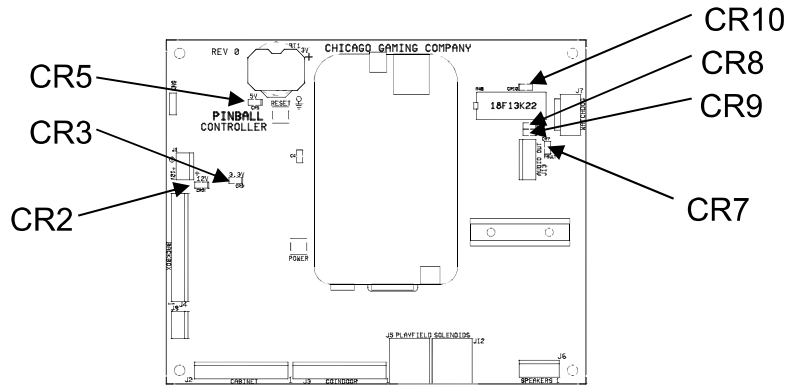
TIME AND DATE NOT SET.

The real time clock is not set. Go to U.4 of the Utilities Menu and set the time and date.

Cactus Canyon LED List

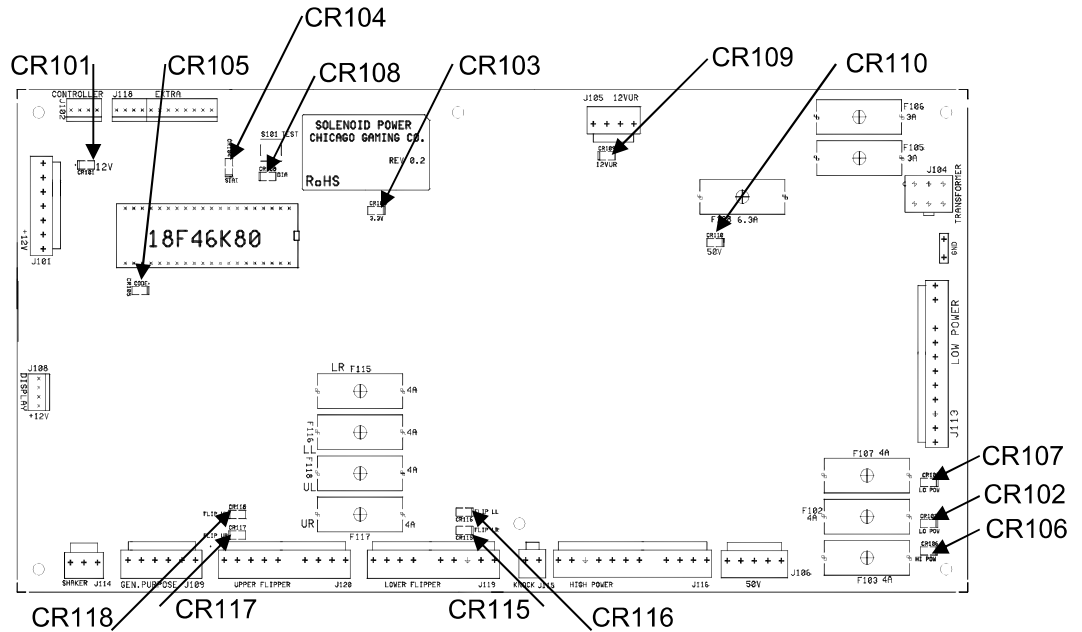
Controller Board

- CR2:** 12V, normally on
- CR3:** 3.3V, normally on
- CR5:** 5V, normally on
- CR7:** Amp Fault, normally off
- CR8:** Heartbeat, flashes normally
- CR9:** Blank, normally off. Yellow ON indicates blank is active.
- CR10:** Reset, normally off. Flashes red on boot and when watchdog hits reset.



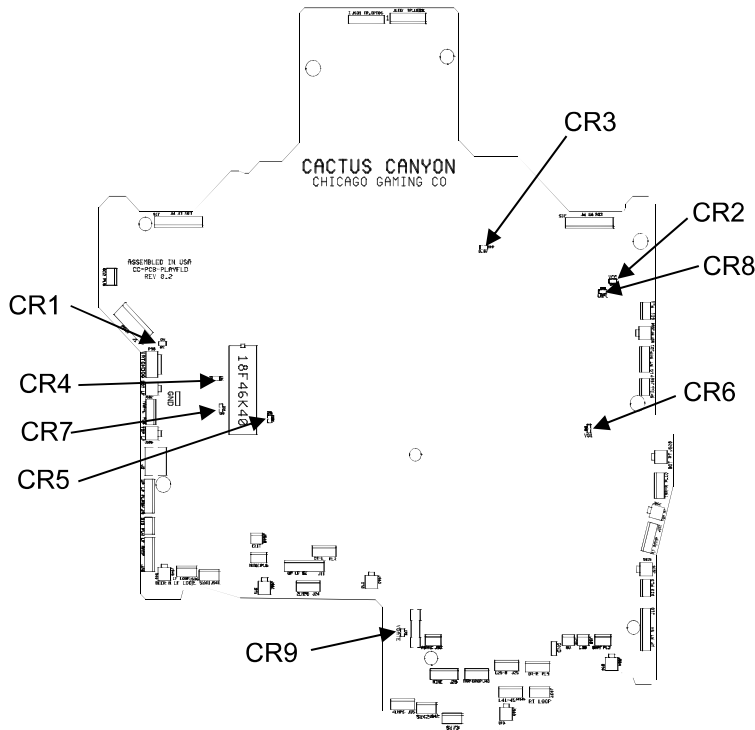
Solenoid Power Board

- CR101:** 12V, normally on
- CR102:** Fuse F102
- CR103:** 3.3V, normally on
- CR104:** STAT, off during boot, normally flashes when game is running
- CR105:** CODE, flashes during boot, normally on.
- CR106:** Fuse F103
- CR107:** Fuse F107
- CR108:** DIA, normally flashes
- CR109:** 12VUR,
- CR110:** 50V, normally on
- CR115:** Fuse F115
- CR116:** Fuse F116
- CR117:** Fuse F117
- CR118:** Fuse F118

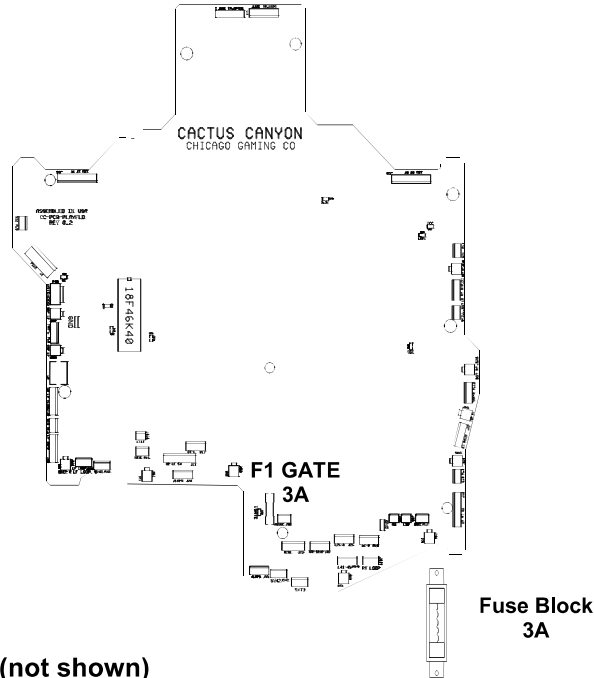
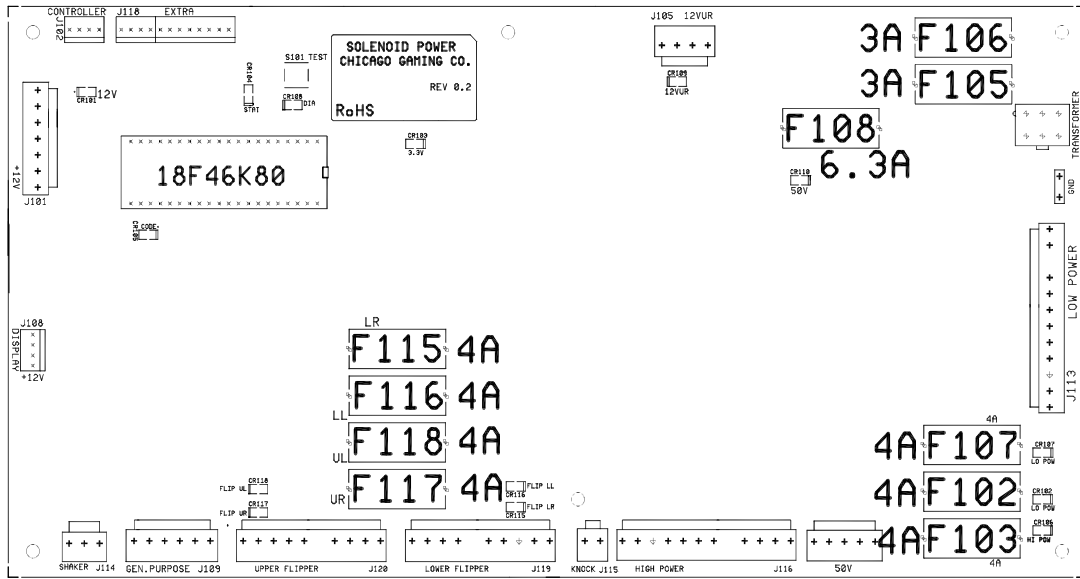


Playfield Board

- CR1:** 12V, normally on
- CR2:** VCC, normally on
- CR3:** 3.3V, normally on
- CR4:** STAT, off during boot, normally flashes when game is running
- CR5:** CODE, normally on
- CR6:** VGI, normally on
- CR7:** DIA, normally flashes
- CR8:** LMPV, normally on
- CR9:** VGATE, normally on, off if fuse is blown



Cactus Canyon Fuse List



Power Interface Assembly (not shown)

LOC.	DESC.	PART NUMBER	VALUE
Panel Mount	AC Input	5ST 5-R	5A 250V Slow Blow

Solenoid Power Board

LOC.	DESC.	PART NUMBER	VALUE
F108	50VAC	5ST 6.3R	6.3A 250V Slow Blow
F105	12VAC	5ST 3-R	3A 250V Slow Blow
F106	12VAC	5ST 3-R	3A 250V Slow Blow
F102	+50V Low Power Solenoids	5ST 4-R	4A 250V Slow Blow
F107	+50V Low Power Solenoids	5ST 4-R	4A 250V Slow Blow
F103	+50V High Power Solenoids	5ST 4-R	4A 250V Slow Blow
F115	+4A Lower Flipper Left	5ST 4-R	4A 250V Slow Blow
F116	+4A Lower Flipper Right	5ST 4-R	4A 250V Slow Blow
F117	+4A (Upper Flipper) Diverter	5ST 4-R	4A 250V Slow Blow
F118	+4A (Upper Flipper) NU	5ST 4-R	4A 250V Slow Blow

Playfield Board

LOC.	DESC.	PART NUMBER	VALUE
F1 GATE	12V Ball Gates	5ST 3-R	3A 250V Slow Blow
Fuse Block	Drop Target Knockdown Coil	3AG 3-R	3A 250V Fast Blow

MAINTENANCE INFORMATION

LUBRICATION

The two main lubrication points of the Ball Release mechanism are the pivots for the arm. The mechanisms of other playfield devices are somewhat similar to the Ball Release device, and have the same lubrication requirements. A medium viscosity oil (switch target grease) is satisfactory for these devices.

Because of the functional design (arm-actuated via solenoid plunger operation), the pivot points of the Left and Right Kickers ("Slingshots") all require lubrication as a regular servicing procedure.

Lubrication to ensure proper operation also applies to the target blades of the Drop Targets. MBI Instrument Grease, also known as Drop Target Switch Lubricant, is a recommended lubricant.

SWITCH CONTACTS

Playfield Switches

For proper game operation, switch contacts should be free of dust, dirt, contamination, and corrosion. Blade switch contacts are plated to resist corrosion. Cleaning blade switch contacts requires gentle closing of the contacts on a clean business card or piece of paper, and then pulling the paper about 2 inches, which should restore the clean contact surface. Adjust the switch contacts to a 1/16-inch gap.

Flipper Switches

This game uses the new Fliptronic II Electronic Flipper System. The End-of-Stroke switches are NORMALLY OPEN. The switch should close when the flipper is energized. All E.O.S. switches are gold flashed computer grade leaf switches. Only low computer current is carried through these switches. DO NOT FILE or abrasively clean these switches! DO NOT REPLACE these switches with the tungsten high current switches, as intermittent operation could occur.

***Note:** Unlike the old style of flipper, an E.O.S. switch failure does not harm the flipper. The game notifies the operator that the switch is improperly adjusted in the test report, but continues to play. The E.O.S. switches are a means by which the new electronic flippers feel and play with all of the subtleties of the old flippers.*

CLEANING

Good game action and extended playfield life are the results of regular playfield cleaning. During each collection stop, the playfield glass should be removed and thoroughly cleaned and the playfield should be wiped off with a clean, lint-free cloth. The game balls should be cleaned and inspected for any chips, nicks, or pits. Replace any damaged balls to prevent playfield damage.

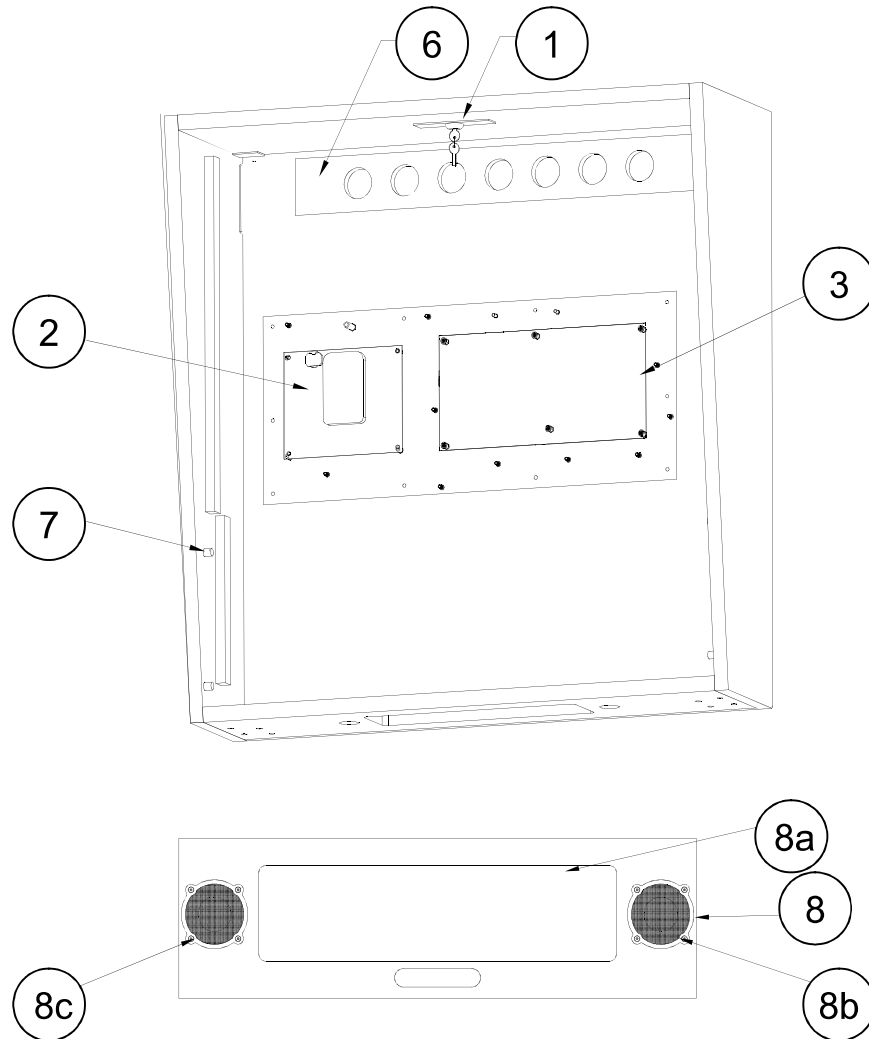
Regular, more extensive, playfield cleaning is recommended. However, avoid excessive use of water and caustic or abrasive cleaners because they tend to damage the playfield surface. Playfield wax (or any carnauba based wax), or polish may be used sparingly, to prevent a buildup on the playfield surface. Do not use cleaners containing petroleum distillates on any playfield plastics because they may dissolve the plastic material or damage the artwork.

SECTION TWO

GAME PARTS INFORMATION

CC-SUB-50066BB

Limited and Special Edition Backbox Assembly



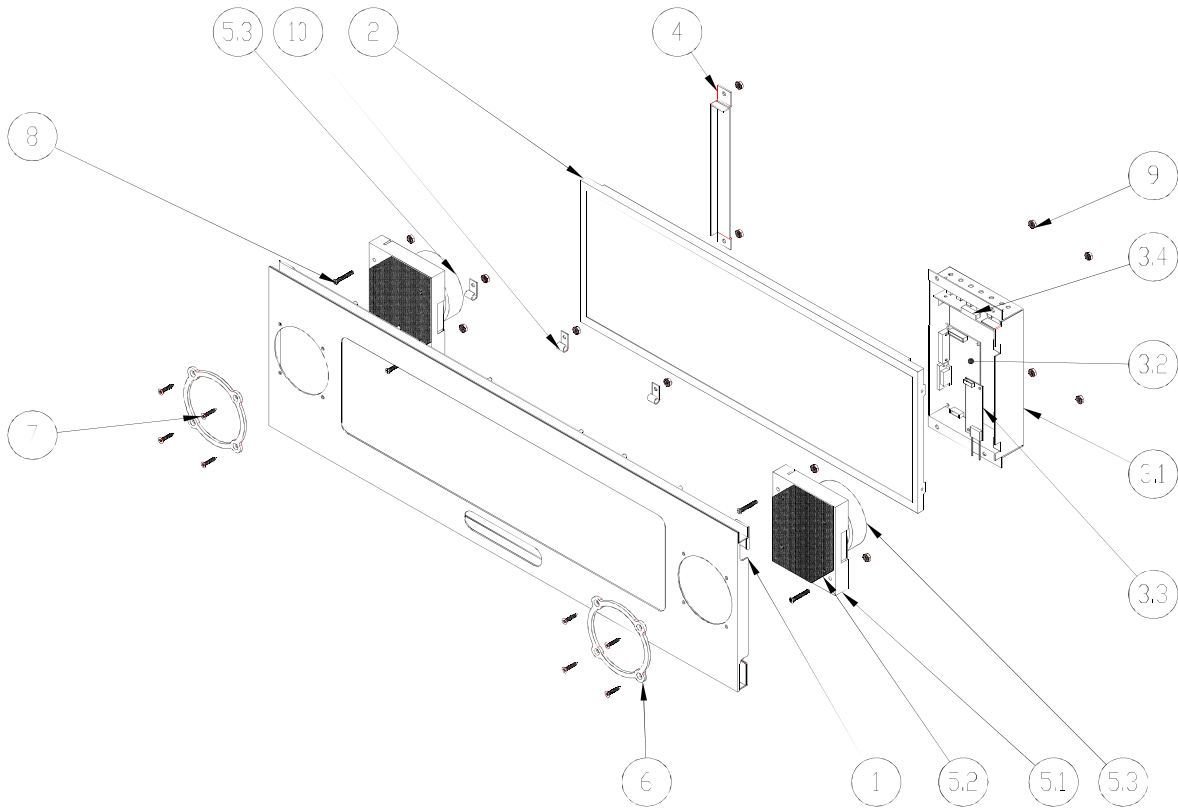
Item	Part Number	Description
1	A-13379	Lock & Plate Assembly
a)	20-9637	Lock & Cam Kit
2	CC-SUB-CONTRLR	CC Controller Board
3	PIN-PCB-SOLPOWR	Solenoid Power Board
6	01-6645	Vent Screen
7	02-5223	Bushing Button, Speaker Panel
8	PIN-SUB-XLCDDIS	XL LCD Display Assembly
a)	PIN-MON-GSD198C	GSD 19.8" Cut LCD Panel
b)	000-SPK-PLG3.2	Pyle PLG3.2, 3.5" 4 Ohm Speaker
c)	000-SPK-PLG3.2	Pyle PLG3.2, 3.5" 4 Ohm Speaker

**Miscellaneous Parts:
(Not Shown)**

08-7456	Backbox Glass, 27" x 18-7/8"
CC-ART-BACKBOX	CC Backbox Marquee Translite
CC-ART-BBLEFT	CC Backbox Decal Left
CC-ART-BBRIGHT	CC Backbox Decal Right

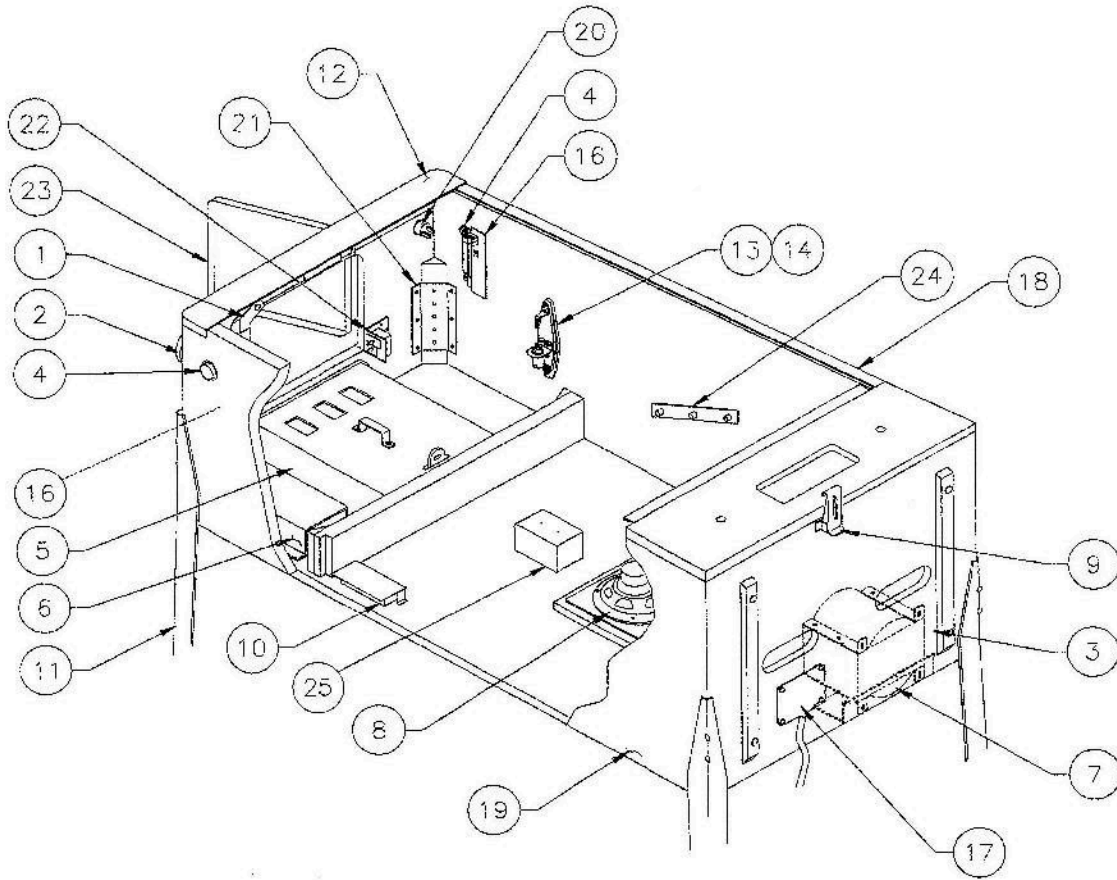
PIN-SUB-XLCDDIS

XL LCD Speaker Panel Assembly



Item	Part Number	Description
1	PIN-MLS-XLCDFRM	XL Pinball Display Frame
2	PIN-MON-GSD198C	GSD 19.8" Cut LCD Display
3.1	PIN-MLS-XLCDBOX	XL Pinball Display Box
3.2	PIN-PCB-LEDCN19	LCD Controller PCB
3.3	PIN-PCB-XLCDPWR	XL Pinball LCD Power Board
3.4	000-PCB-OSDKEY	OSD Keyboard for RT2261.5B
4	PIN-MLS-XLCDBRK	XL Pinball Display – Right Bracket
5.1	PIN-PLS-XLCDSPR	XL LCD Spacer
5.2	PIN-MLS-XLCDGRL	XL LCD Grill
5.3	000-SPK-PLG3.2	Pyle PLG3.2, 3.5" 4 Ohm Speaker
6	PIN-MLS-XLCDBEZ	XL Pinball Display Bezel
7	FSS-N06-XFH075A	#6 x 3/4" Torx Security Screw
8	FSM-063-NSS125C	Steel Speaker Screw, #6 x 1-1/8"
9	FNT-063-KEC0000	6-32 Kep Nut Zinc
10	000-PLM-NC25CLP	1/4" Non-captive Cable Clamp

CC-SUB-50066BB Cabinet Assembly



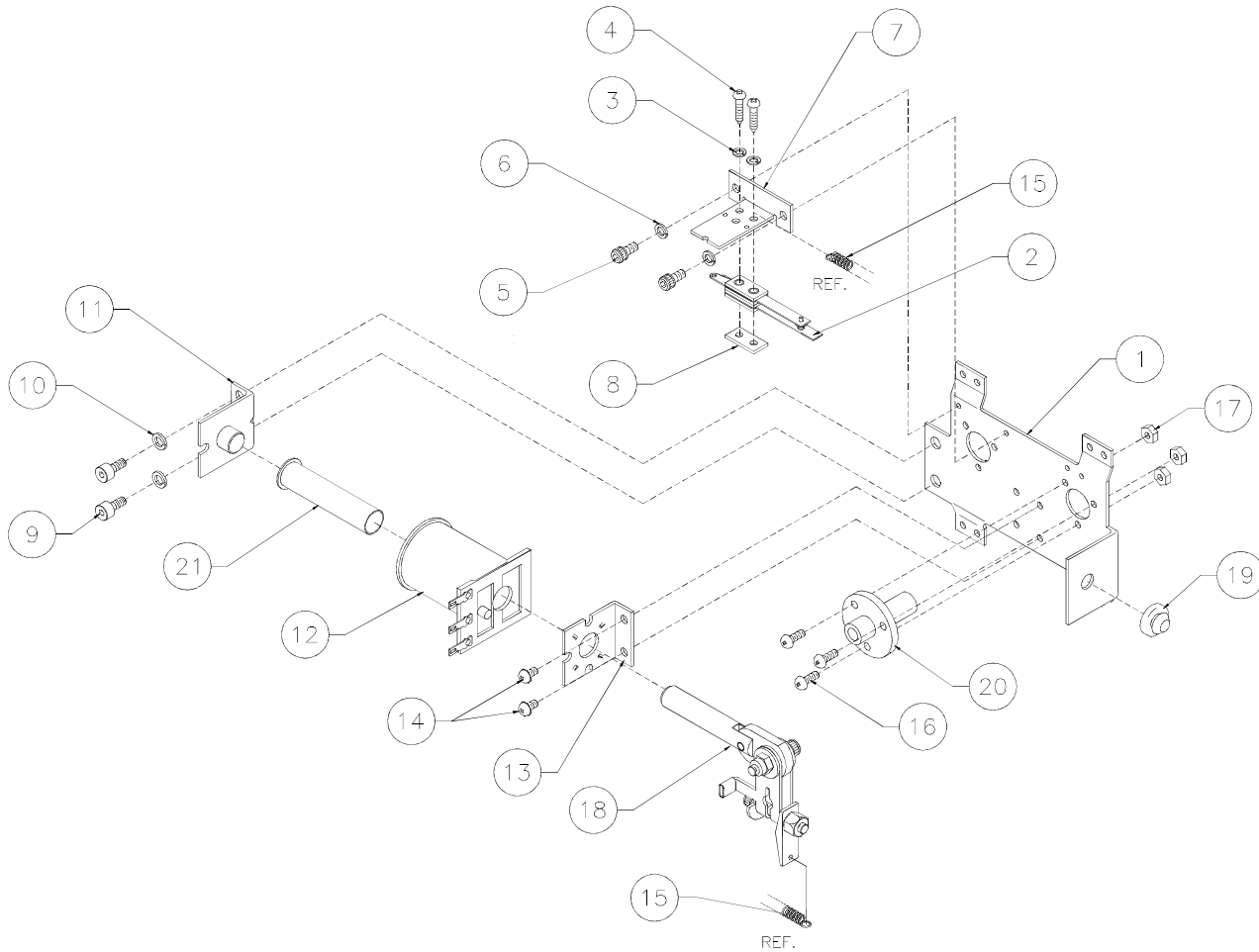
Miscellaneous Parts (Not Shown)

Item	Part Number	Description	Part Number	Description
1	A-16773	Lever Guide Assembly	PIN-A-17195	Tilt Switch Assy.
2	PIN-SUB-SHOOTSS	Ball Shooter Assembly	A-19562.1	Stay Arm Assembly
3	MM-MLS-DRIPPLT	Drip Plate - Narrow	01-12352	Clip Bracket
4	A-16883-6	Flipper Button w/Spring (2)	01-90112-L	Backbox Mtg. Bracket, Left
5	A-20729-5	4-Ball Cashbox Assembly	01-90112-R	Backbox Mtg. Bracket, Right
6	PIN-SUB-POWRBOX	Power Interface Assy.	01-6389-1	Cashbox Lock Bracket
7	PIN-TRF-PTRANS	WPC Transformer	08-7028-T	Playfield Glass
8	000-SPK-8IN4OHM	8" Woofer, 4 Ohms, 190 W	08-7377	Leg Leveler Adjuster, 3"
9	PIN-20-9347	Toggle Latch	20-6500	Steel Ball, 1-1/16" (4)
10	000-ELE-RS15012	Switching Power Supply, 12V, 150W	CC-ART-CABFRNT	CC Cabinet Front Decal
11	A-19514	Leg Assembly, Chrome (4)	CC-ART-CABLEFT	CC Cabinet Left Decal
12	0-12615	Front Molding Assembly	CC-ART-CABRGHT	CC Cabinet Right Decal
13	20-6502-A	Plumb Bob		
14	04-10346	Tilt Mechanism Assembly		
16	PIN-PCB-FLIPBTN	Opto Flipper Assembly (2)		
17	PIN-MLS-INLTCVR	Line Cord Cover		
18	A-12359-3	Side Molding Assembly (2)		
19	CC-SUB-CABDECAL	CC Cabinet with Decals		
20	20-9663-16	Push Button w/Sw., Start		
21	01-11400	Leg Plate (4)		
22	A-18249-3	Cable & Interlock Switch Assy. Coin		
23	PIN-HAP-COINDOR	Door-U.S.A.		
24	01-11408	Plate Spacer (2)		
25	PIN-SUB-SHAKER2	Shaker Motor Assy.		

Cabinet Cables:

PIN-CBL-CABINET	Cabinet Cable
PIN-CBL-ACPOWER	AC Power Cable
PIN-CBL-PFPOWER	Playfield Power Cable

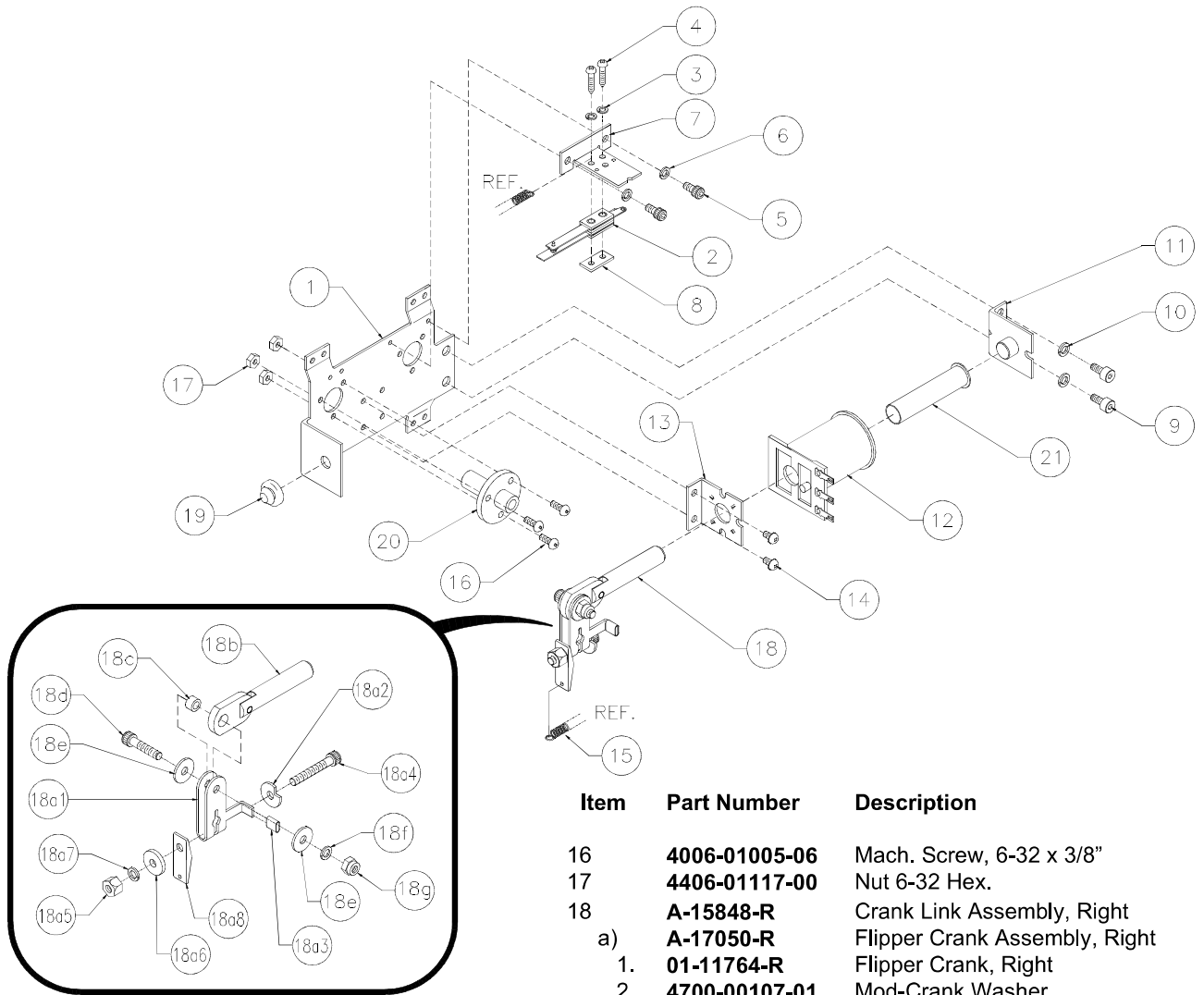
PIN-SUB-A15849L Flipper Assembly



Item	Part Number	Description	Item	Part Number	Description
1	B-13104-L	Flipper Base Assembly, Left	*18	A-15848-L	Crank Link Assembly, Left
2	SW-1A-194	Switch Assembly	a)	A-17050-L	Flipper Crank Assembly, Left
3	4701-00002-00	Lock Washer #6 Split	b)	A-15847	Flipper Link Assembly
4	4105-01019-10	Sh. Metal Screw, #5 x 5/8"	c)	02-4676	Link Spacer Bushing
5	4008-01079-05	Mach. Screw, 8-32 x 5/16"	d)	4010-01086-14	Cap Screw, 10-32 x 7/8"
6	4701-00003-00	Lock Washer #8 Split	e)	4700-00023-00	Flat Washer, 5/8 x 13/64 x 16ga.
7	01-9375	Switch Mounting Bracket	f)	4701-00004-00	Lock Washer #10 Split
8	20-6516	Speednut, Tinnerman	g)	4410-01132-00	Nut 10-32 ESN
9	4010-01066-06	Cap Screw, 10-32 x 3/8"	19	23-6577	Bumper Plug, 5/8"
10	4701-00004-00	Lock Washer #10 Split	20	03-7568	Flipper Bushing
11	A-12390	Flipper Stop Assembly	21	03-7066-5	Coil Tubing
12	FL-11629	Flipper Coil			
13	01-7695-1	Solenoid Bracket			
14	4006-01017-04	Mach. Screw, 6-32 x 1/4"			
15	10-364	Spring			
16	4006-01005-06	Mach. Screw, 6-32 x 3/8"			
17	4406-01117-00	Nut 6-32 Hex.			
			Associated Parts: (Not Shown)		
				23-6695	Flipper Ring
				20-10110-5	Flipper Bat w/Shaft

* See page 2-17 for assembly detail drawing.

PIN-SUB-A22603R Flipper Assembly



Item	Part Number	Description
1	04-12342	Flipper Base Assembly-Mod., R.
2	SW-1A-194	Switch Assembly
3	4701-00002-00	Lock Washer #6 Split
4	4105-01019-10	Sh. Metal Screw, #5 x 5/8"
5	4008-01079-05	Mach. Screw, 8-32 x 5/16"
6	4701-00003-00	Lock Washer #8 Split
7	01-9375	Switch Mounting Bracket
8	20-6516	Speednut, Tinnerman
9	4010-01066-06	Cap Screw, 10-32 x 3/8"
10	4701-00004-00	Lock Washer #10 Split
11	A-12390	Flipper Stop Assembly
12	FL-11629	Flipper Coil
13	01-7695-1	Solenoid Bracket
14	4006-01017-04	Mach. Screw, 6-32 x 1/4"
15	10-364	Spring

Item	Part Number	Description
16	4006-01005-06	Mach. Screw, 6-32 x 3/8"
17	4406-01117-00	Nut 6-32 Hex.
18	A-15848-R	Crank Link Assembly, Right
a)	A-17050-R	Flipper Crank Assembly, Right
1.	01-11764-R	Flipper Crank, Right
2.	4700-00107-01	Mod-Crank Washer
3.	RM-23-06	H.S. Tubing 1/4"
4.	4010-01066-20	Mach. Screw, 10-32 x 1-1/4"
5.	4410-01127-00	Nut, 10-32 Hex.
6.	4700-00107-00	FW: 13/64 x 5/8 x 12ga.
7.	4701-00004-00	Lockwasher #10 Split
8.	01-9376	Spring Retainer Bracket
b)	A-15847	Flipper Link Assembly
c)	02-4676	Link Spacer Bushing
d)	4010-01086-14	Cap Screw, 10-32 x 7/8"
e)	4700-00023-00	Flat Washer, 5/8 x 13/64 x 16ga.
f)	4701-00004-00	Lock Washer #10 Split
g)	4410-01132-00	Nut 10-32 ESN
19	23-6577	Bumper Plug, 5/8"
20	03-7568	Flipper Bushing
21	03-7066-5	Coil Tubing

Associated Parts: (Not Shown)

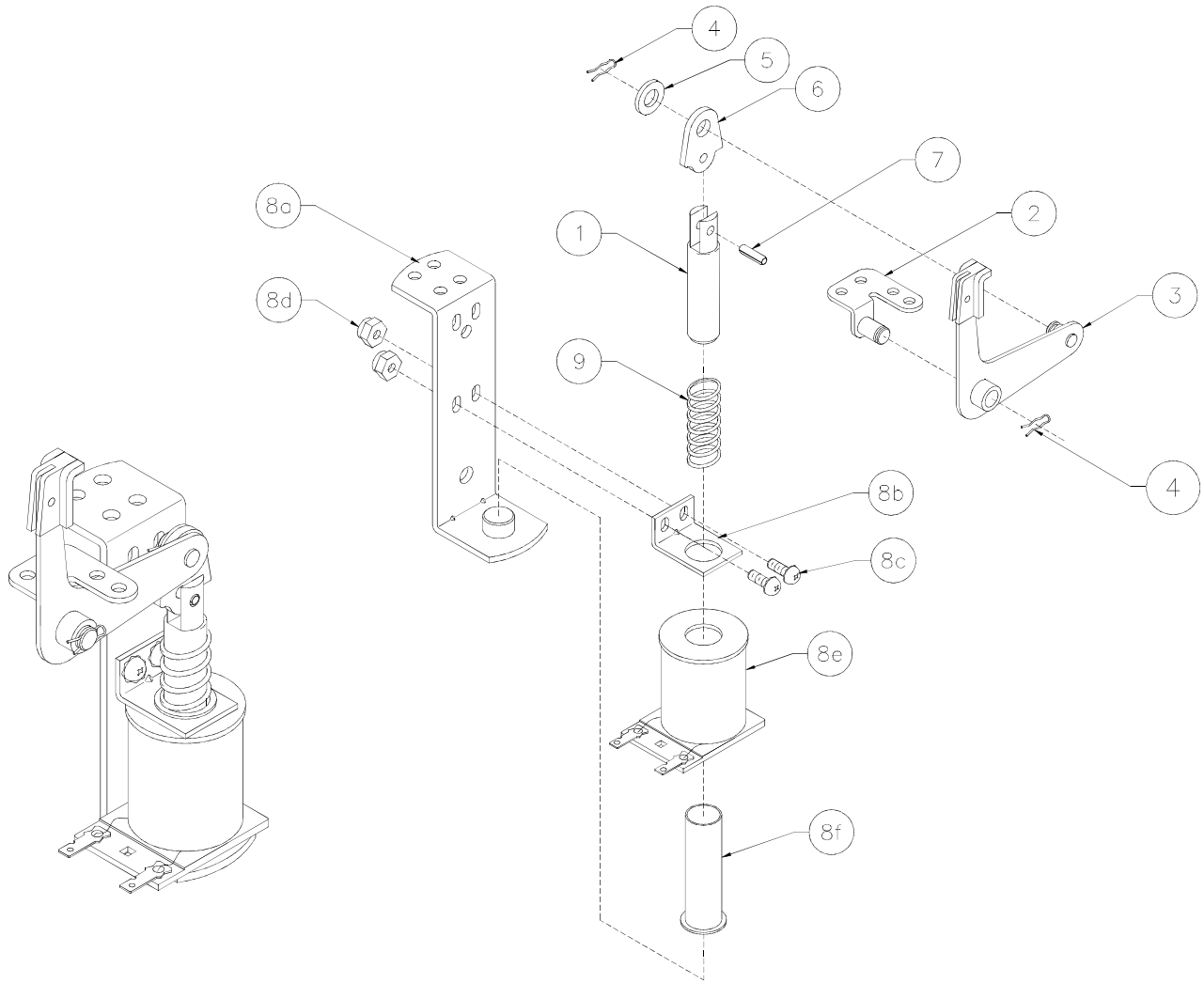
23-6695	Flipper Ring
20-10110-5	Flipper Bat w/Shaft

Flipper Notes...

- Each Flipper Assembly is mounted beneath the playfield, in conjunction with the Plastic Flipper & Shaft, and Flipper Rubber on the upper side of the playfield.
- With the flipper, in the non-activated position, the E.O.S. Switch contacts must have a gap of .062 (±.015) inch. When flipper is activated switch must close.
- Any adjustment of the E.O.S. switch must be made at a minimum distance of 0.25 inch from the switch body.
- Longer blade of E.O.S. switch must be made straight. Gap adjustment is done by adjusting shorter blade.
- All moving elements of the assembly must operate freely without any evidence of binding.
- Apply Loctite™ 245 when reattaching screws to the Flipper Stop Assembly, the Solenoid Bracket, and the Flipper Bushing.

PIN-SUB_A17811L
PIN-SUB_A17811R

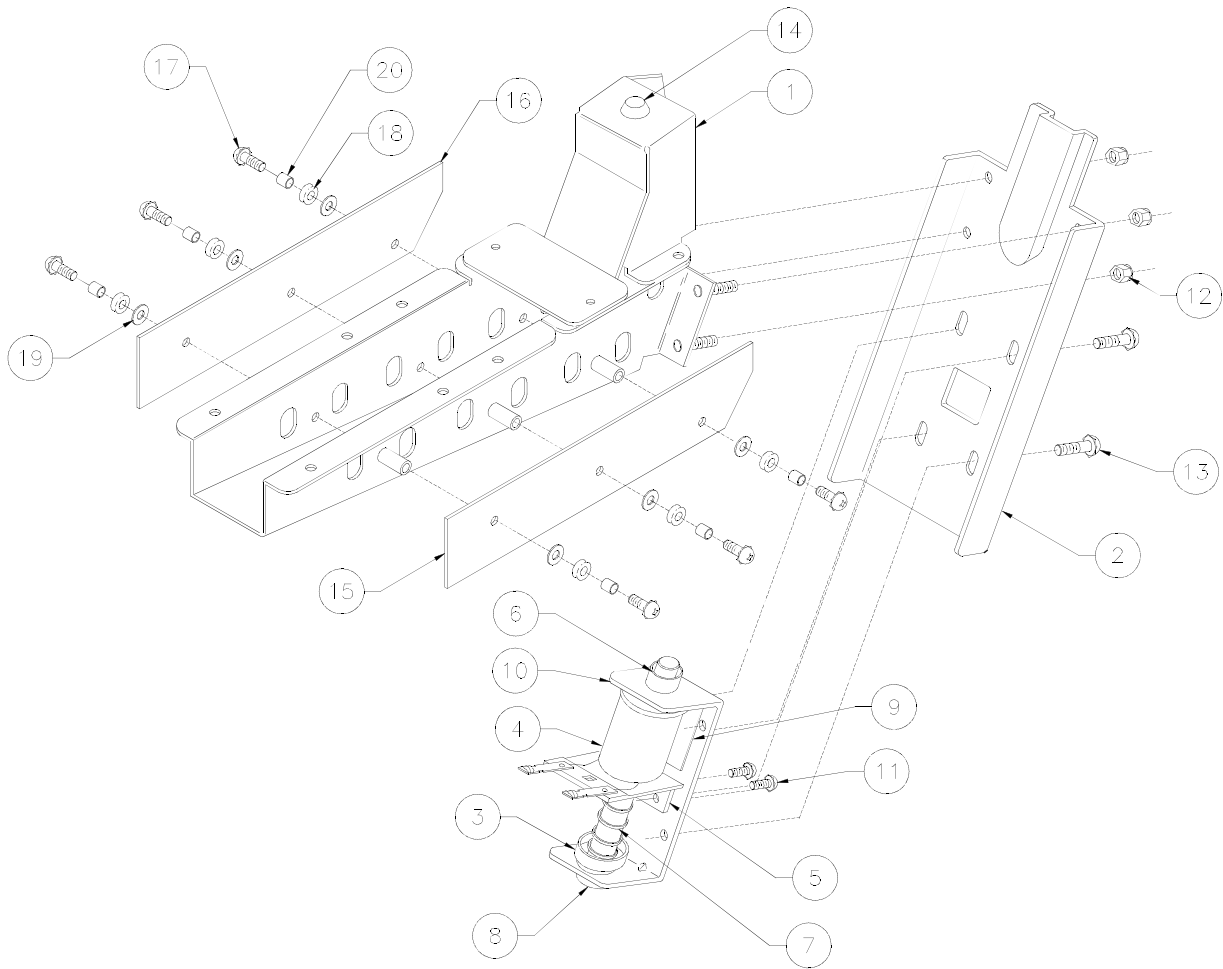
Kicker Arm (Slingshot) Assembly - Left
Kicker Arm (Slingshot) Assembly - Right



Associated Parts for Right & Left Kickers:

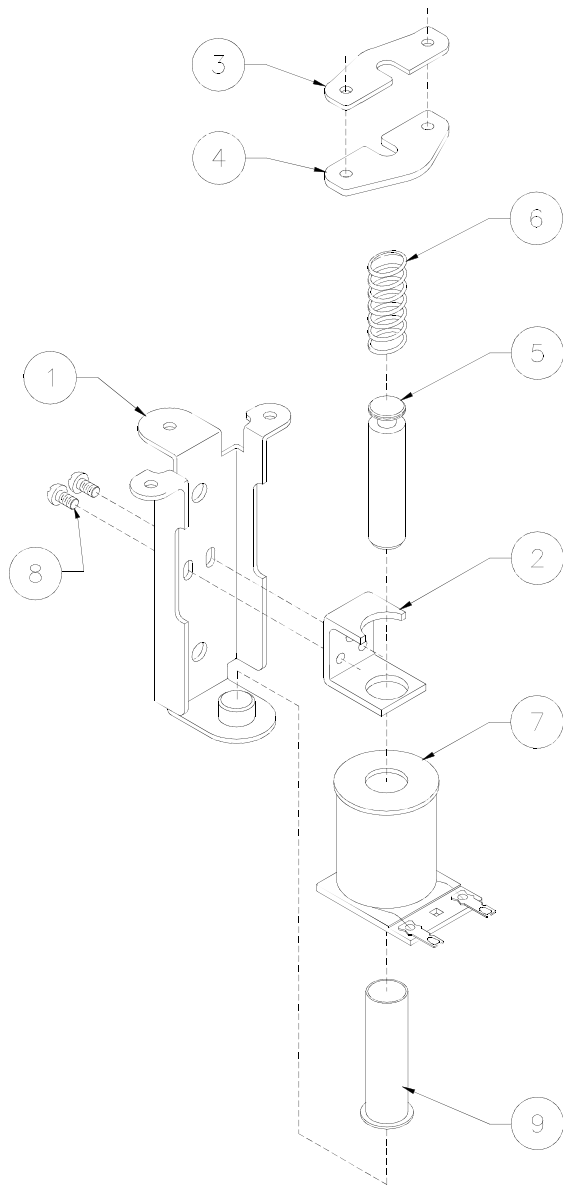
Item	Part Number	Description	Item	Part Number	Description
1	02-2364	Coil Plunger	8	A-22206-2	Coil & Bracket Assembly, R.
2	A-17810	Mounting Bracket Assy.		A-22207-2	Coil & Bracket Assembly, L.
3	A-12664	Kicker Crank Assembly	a)	A-17808	Bracket & Stop Assembly
4	12-6227	Hairpin Clip	b)	01-8-508-S	Coil Retaining Bracket
5	4700-00030-00	FW, 17/64 x 1/2 x 15ga.	c)	4006-01017-06	Mach. Screw, 6-32 x 3/8"
6	03-8085	Armature Link	d)	4406-01119-00	Nut, 6-32 ESN
7	20-8716-5	Roll Pin, 1/8 x 7/16"	e)	AE-26-1200	Coil Assembly
			f)	03-7066	Coil Tubing
			9	10-128	Spring

PIN-SUB-A19963 Ball Trough Assembly Complete



Item	Part Number	Description	Item	Part Number	Description
1	A-16809-2	Ball Trough Welded Assy.	11	4008-01017-05	Mach. Screw, 8-32 x 5/16"
2	01-11587	Ball Trough Front	12	4408-01119-00	Nut 8-32 ESN
3	A-6306-2	Bell Armature Assembly	13	4008-01017-06	Mach. Screw, 8-32 x 3/8"
4	AE-26-1500	Coil Assembly	14	23-6702	Bumper Plug
5	01-8-508-T	Solenoid Assembly	15	PIN-PCB-TRGHLED	Trough IRED LED PCB Assembly
6	03-7067-5	Coil Tubing	16	PIN-PCB-TRGHDET	Trough IRED Transistor PCB Assy.
7	10-135	Spring	17	4006-01003-10	Mach. Screw, 6-32 x 5/8" SEMS
8	23-6420	Rubber Grommet	18	23-6626	Rubber Grommet
9	03-8523	Insulator	19	4700-00004-00	Flat Washer, 9/64 x 7/16 x 21ga.
10	01-11586	Coil Mounting Bracket	20	02-4975	Bushing

PIN-SUB_A94152 Jet Coil & Bracket Assembly

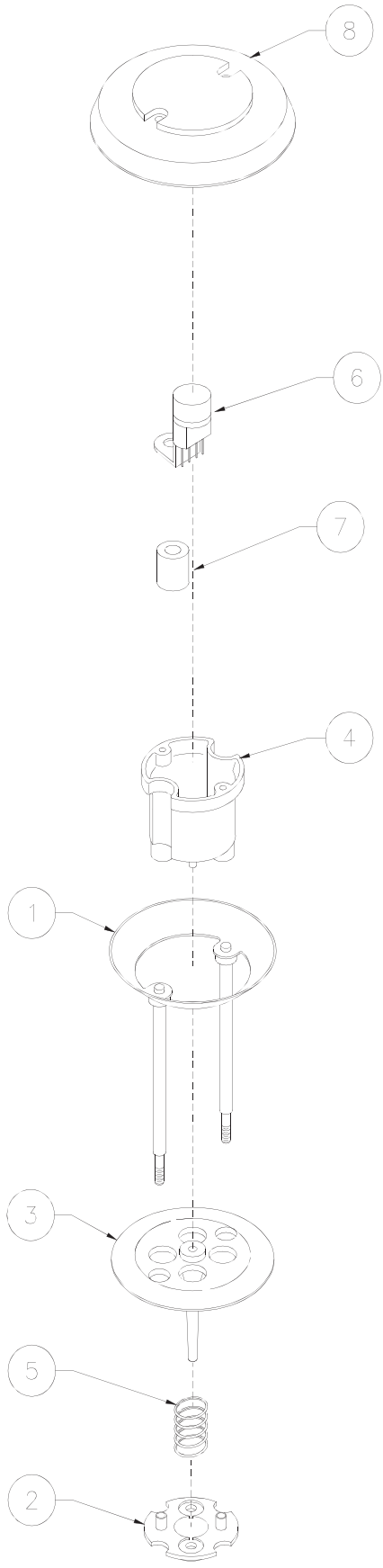


Item	Part Number	Description
1	04-10888	Bracket & Stop Assembly
2	01-1747	Coil Retaining Bracket
3	01-5492	Armature Link, Steel
4	01-5493	Armature Link, Bakelite
5	02-3406-1	Coil Plunger
6	10-326	Armature Spring
7	AE-26-1200	Coil Assembly
8	4006-01017-04	Mach. Screw, 6-32 x 1/4"
9	03-7066	Coil Tubing

Associated Parts: (Not Shown)

10	B-12030-2	Leaf Switch Assembly
a)	A-16443	Switch & Diode Assembly
b)	01-1168	Switch Mounting Bracket
c)	01-3670	Switch Plate
d)	03-7395	Switch Actuator
e)	4005-01003-12	Mach. Screw, 5-40 x 3/4"
f)	4405-01117-00	Nut 5-40 Hex.

CC-SUB-B94145 Jet Bumper Assembly



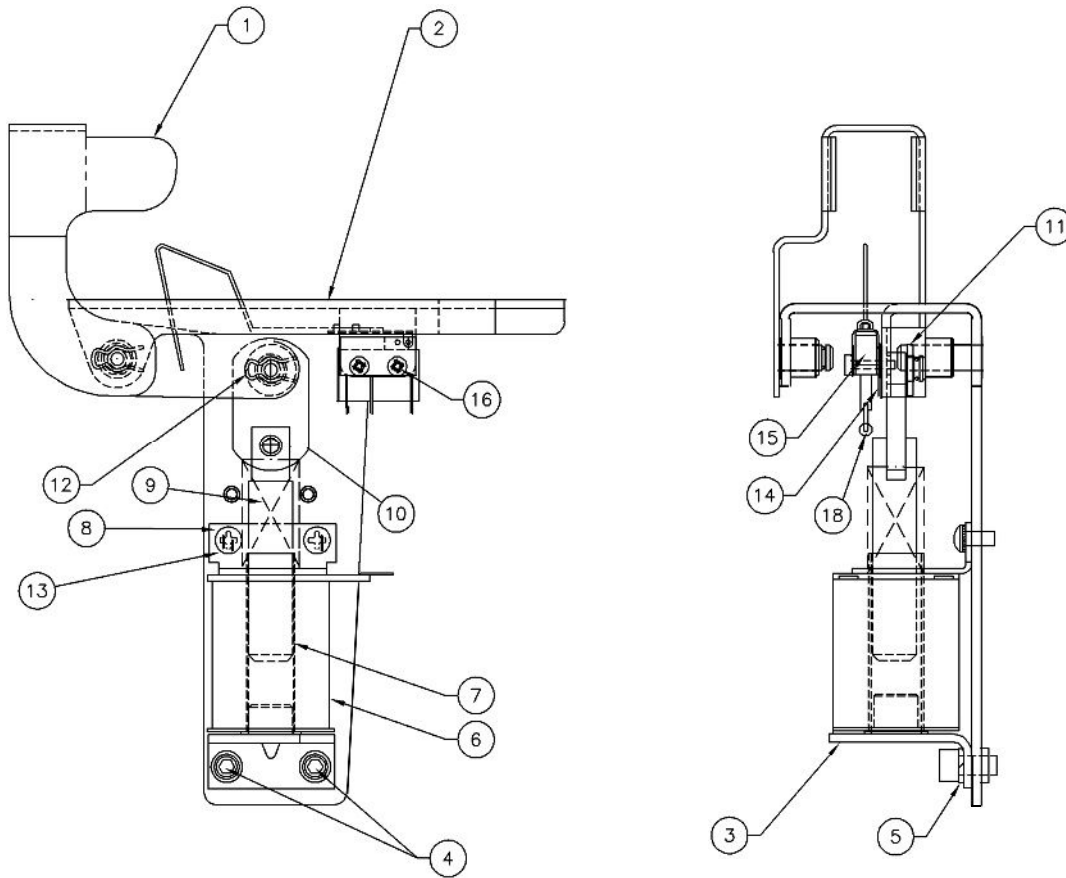
Item	Part Number	Description
1	A-4754	Bumper Ring Assembly
2	03-6009-A5	Bumper Base, White
3	03-6035-27	Bumper Wafer, Teal
4	03-7443-5	Bumper Body, White
5	10-7	Spring
6	PIN-LMP-LEDRGB	RGB GI LED
7	FWC-019-037N037	#10 x 3/8" x 3/8" Spacer
(Not shown)	FSS-N06-PFH125C	Flat Head SMS, #6 x 1-1/4"

Associated Parts:

Limited and Special Edition

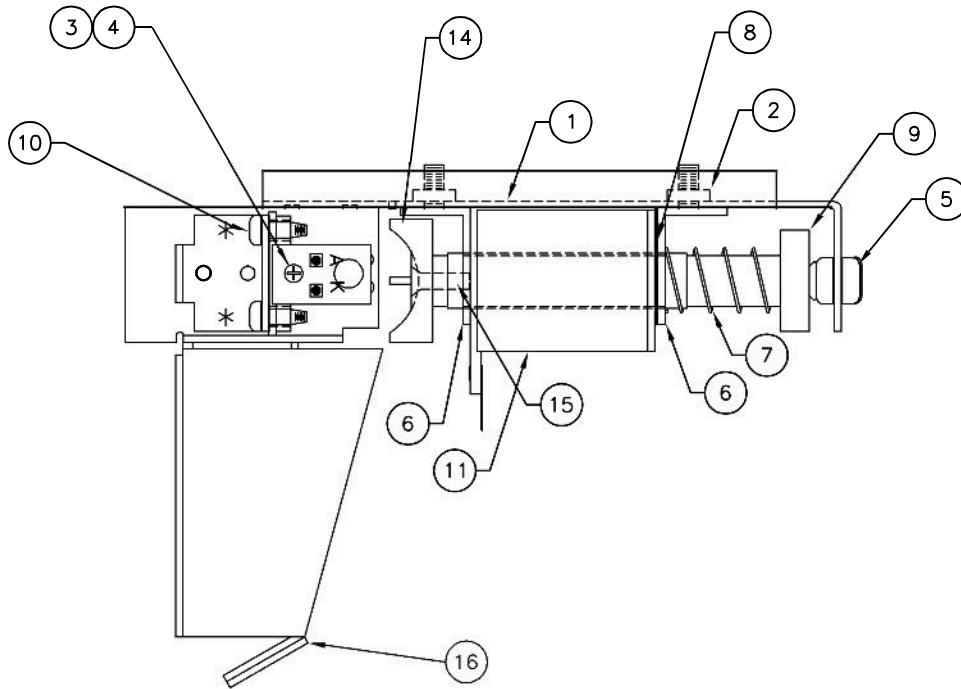
8	PIN-03-900713	Clear Starburst Jet Bumper Cap (2)
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PIN-SUB-A210221 Shooter Lane Kicker Assembly



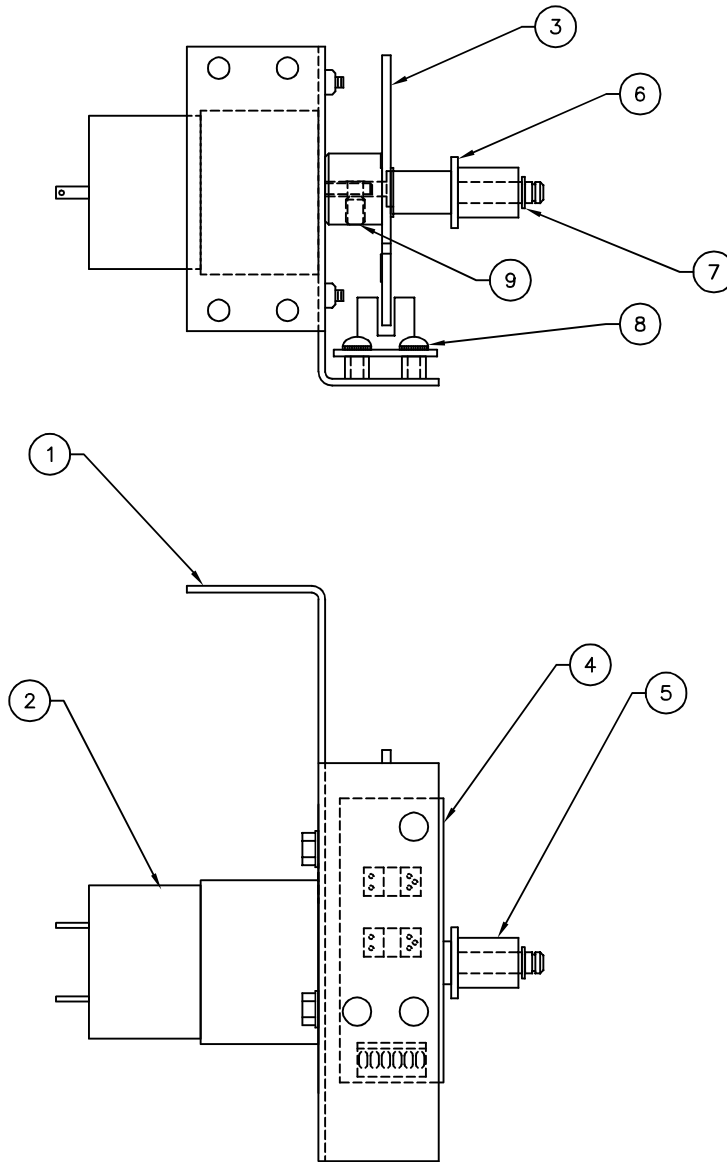
Item	Part Number	Description
1	04-10210.4	Kicker Crank
2	04-10211.5	Coil Mounting Bracket
3	04-10461	Flipper Stop Bracket Assembly
4	4010-01066-06	Cap Screw, #10 x 3/8"
5	4701-00004-00	Lock Washer #10 Split
6	AE-23-800	Coil Assembly
7	03-7066	Coil Tubing
8	01-8413	Coil Mounting Bracket
9	10-128	Spring
10	A-15847	Flipper Link Assembly
11	4700-00104-00	Flat Washer, 23/64 x 1/8" x 16 ga.
12	12-6227	Hair Pin Clip
13	4006-01003-05	Mach. Screw, 6-32 x 5/16"
14	01-8600	Insulator
15	5647-12693-68	Mini-Micro Switch
16	4002-01105-08	Mach. Screw, 2-56 x 1/2"

CC-SUB-A22467 Mine Popper Assembly



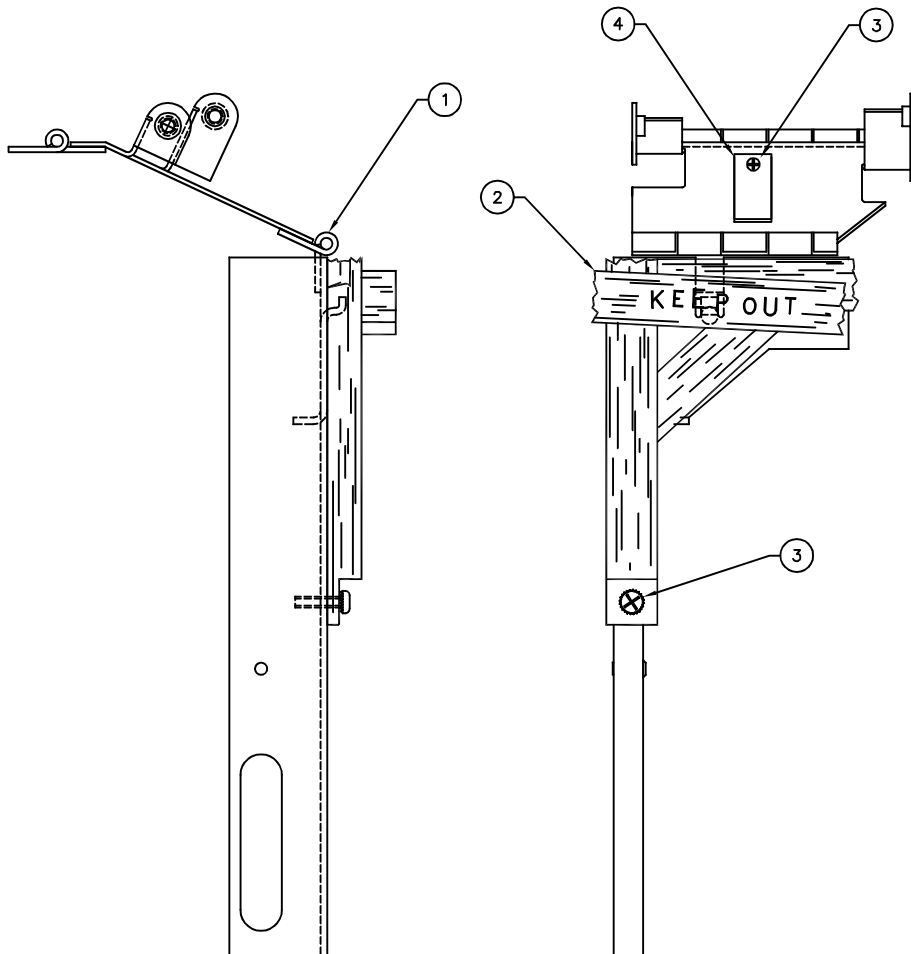
Item	Part Number	Description
1	04-11154	Mine Popper Bracket
2	4408-01119-01	8-32 ESN Nut
3	A-16908	LED Assembly
4	A-16909	Photo Transistor Assembly
5	23-6420	Rubber Grommet
6	04-10322-2	Coil Bracket
7	10-135	Spring
8	03-7067	Coil Tubing
9	04-10291	Bell Armature Assembly
10	4106-01013-06	Sh. Metal Screw: #6 x 3/8"
11	AE-24-900	Coil Assembly
14	03-8561	Ball Popper Cap
15	4106-01152-08	Sh. Metal Screw: #6-32 x 1/2"
16	MB-SUB-POPRLD	RGB LED PCB

CC-SUB-A22255 Mine Assembly



Item	Part Number	Description
1	CC-04-11146	Mine Popper Bracket
2	PIN-14-HTSOG37C	Motor
3	CC-04-11148	Cam
4	CC-PCB-MINEOPT	Mine Opto PCB
5	FWC-N10-037N056	#10 Nylon Spacer, 3/8" OD 9/16" L
6	FWF-203-062059C	Flat Washer, .203 x .625 x .05
7	FER-018-000000A	E-Ring, 3/16"
8	FSM-044-PPH037C	Mach. Screw, 4-40 x 3/8"
9	FSM-083-ASS025A	Set Screw, 8-32 x 1/4"

CC-SUB-A22466 Mine Door Assembly

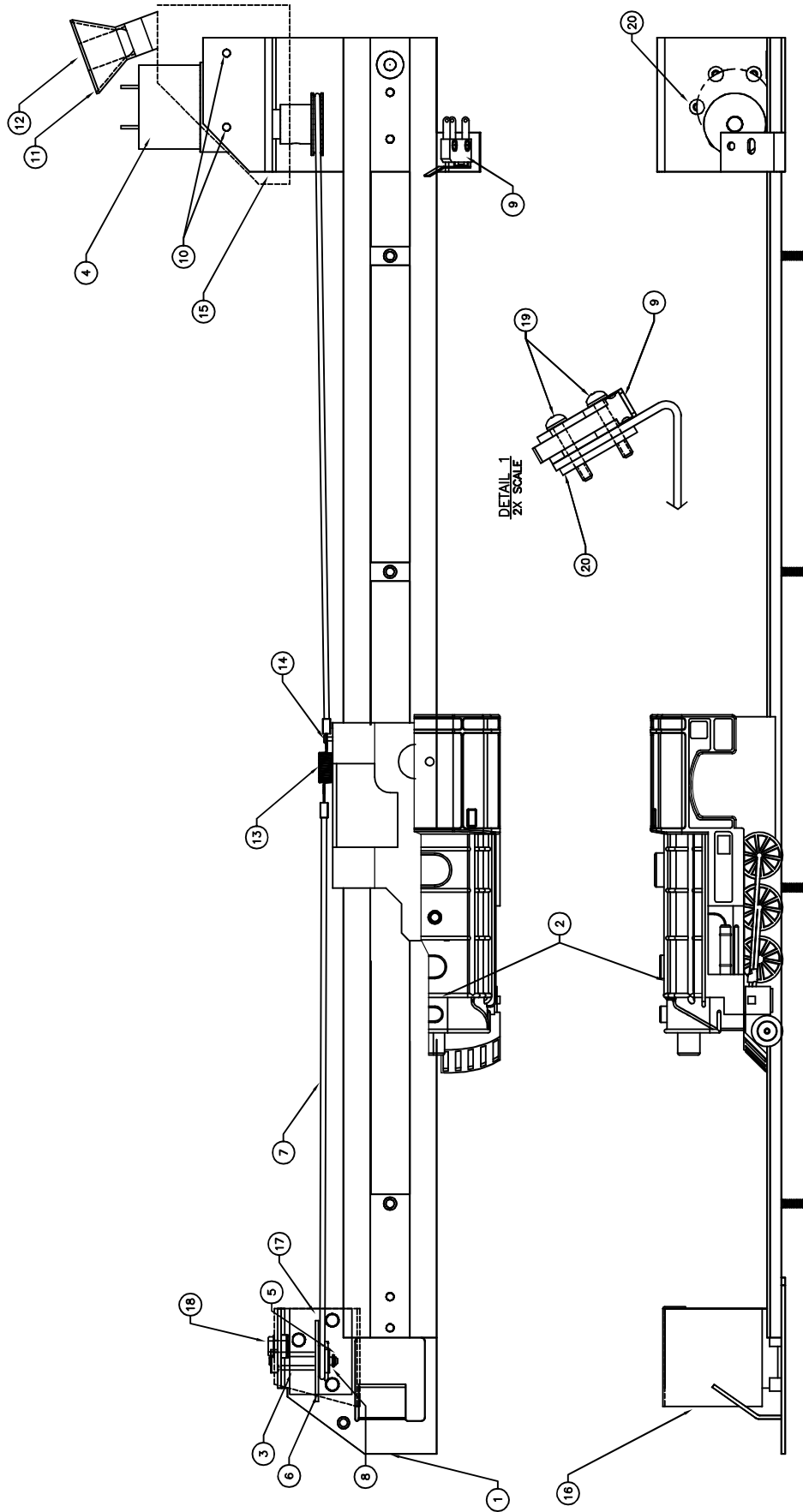


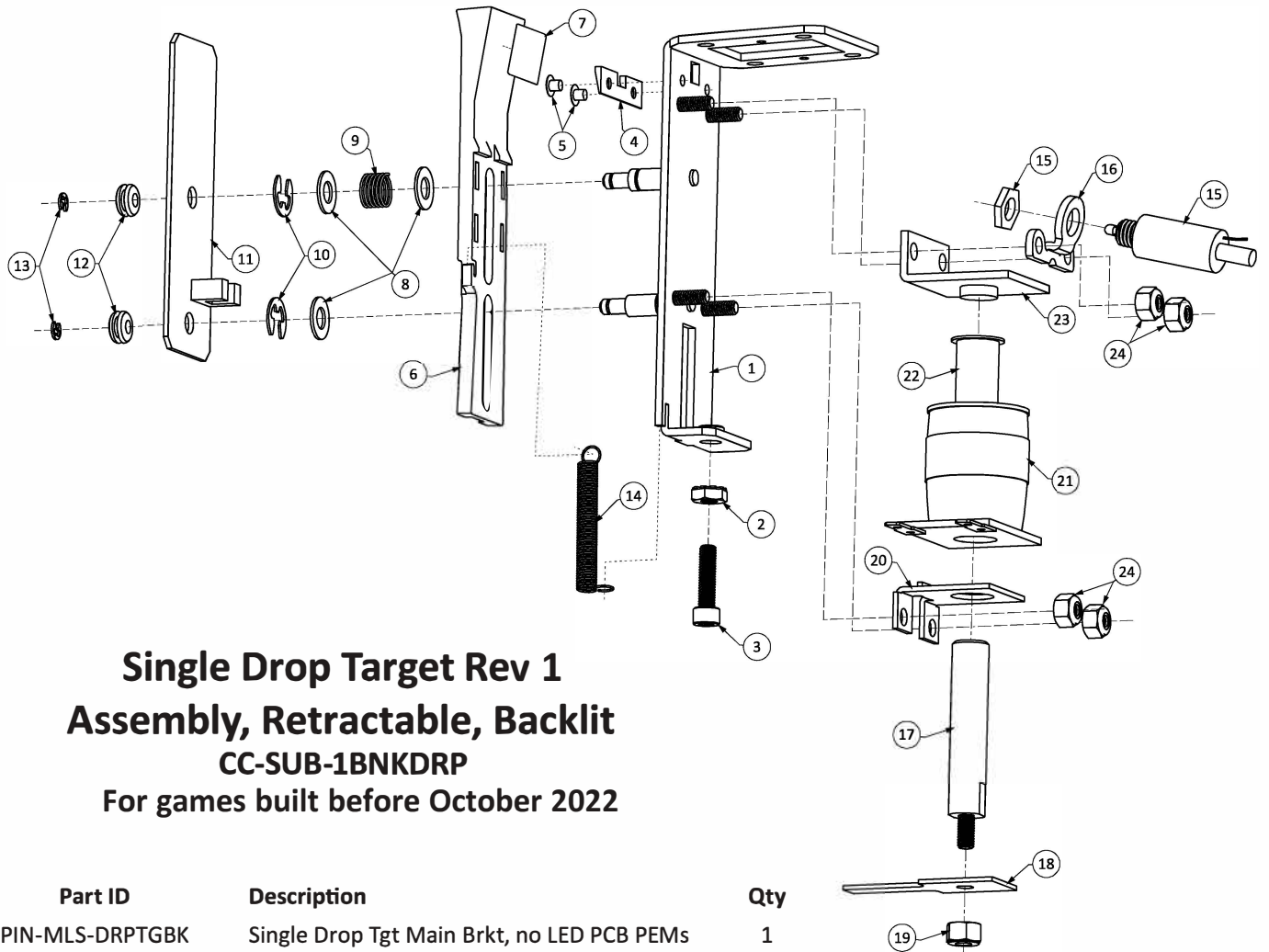
Item	Part Number	Description
1	04-11147.4	Mine Entrance
2	31-3110.2	Keep Out Sign
3	4006-01017-06	Mach. Screw: 6-32 x 3/8"
4	PIN-PCB-MOTFLSH	Flasher PCB

CC-SUB-A22271 Train Assembly

Item	Part Number	Description
1	CC-04-112231	Train Rail
2	CC-SUB-TRAIN	Train Car Assembly
3	CC-02-5460	Opto Wheel Shaft
4	PIN-14-HTSOG37C	Motor
5	PIN-12-7446	Hairpin Cotter, 1/8"
6	PIN-03-9221	Opto Pulley
7	CC-20-10570	Train Cord
8	FWF-146-037032C	Flat Washer, 9/64 x 3/8 x 1/32
9	PIN-56471269366	Switch
10	FSM-063-PPH037C	Mach. Screw, 6-32 x 3/8"
11	PIN-04-100942	Reflector Socket Assy
12	PIN-LMP-8LEDCW	Cool White Flasher
13	PIN-MWF-TRAINS	Spring
14	FSM-044-SHS018A	4-40 x 3/16" Shoulder Screw
15	CC-31-32249	Playfield Plastic
16	CC-01-14999	Opto Shield
17	CC-PCB-TRAINOP	Train Opto PCB
18	FSM-083-HWH038C	Hex Mach. Screw, 8-32 x 3/8
19	FSM-025-PPH050C	Mach. Screw, 2-56 x 1/2"
20	PIN-01-15218	Nut Plate
21	CC-MLM-TRNPULY	Train Pulley
22	FSM-M03-PPHM06C	Mach. Screw, M3 x 6mm

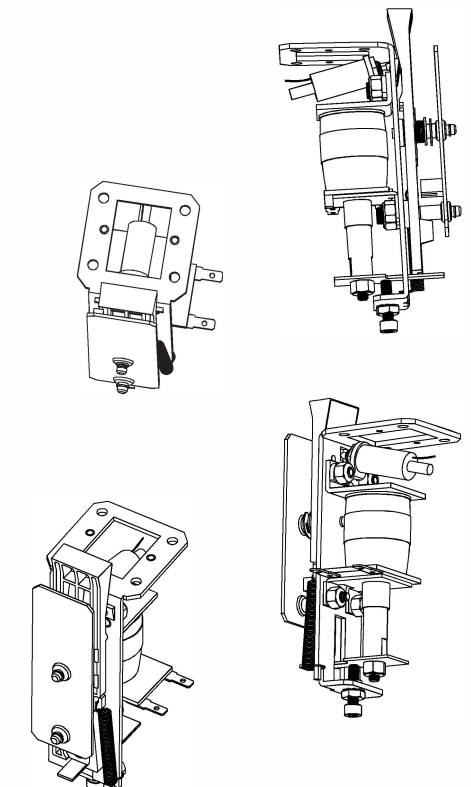
CC-SUB-A22271 Train Assembly

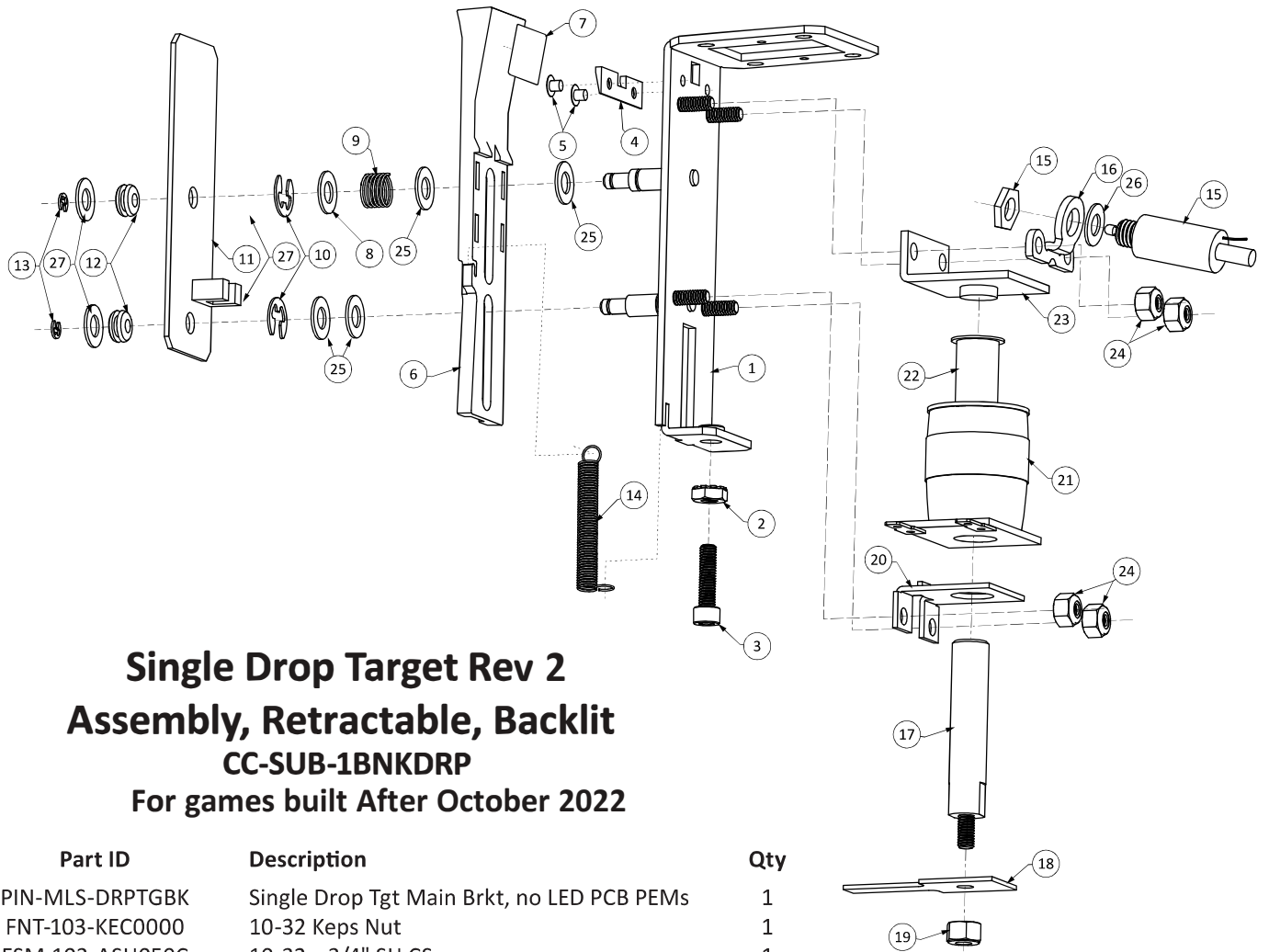




Single Drop Target Rev 1
Assembly, Retractable, Backlit
CC-SUB-1BNKDRP
For games built before October 2022

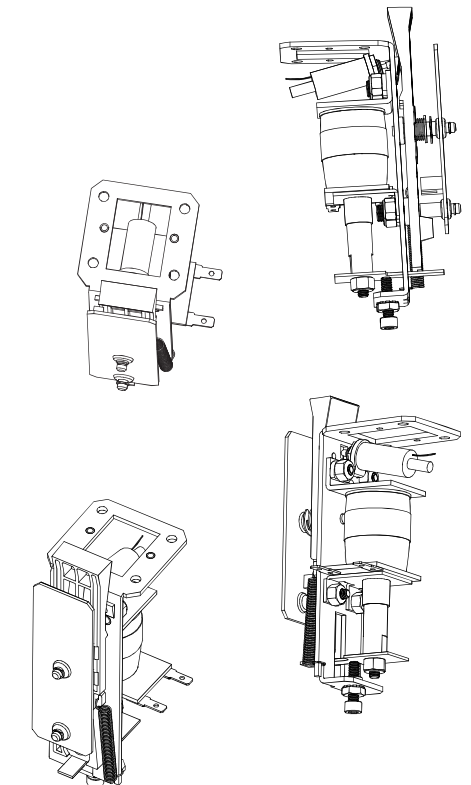
Item	Part ID	Description	Qty
1	PIN-MLS-DRPTGBK	Single Drop Tgt Main Brkt, no LED PCB PEMs	1
2	FNT-103-KEC0000	10-32 Keps Nut	1
3	FSM-103-ASH075C	10-32 x 3/4" SH CS	1
4	PIN-03-8034	Drop Tgt Rest, Single	1
5	RIV-125-218000C	Tube Rivet, 1/8" x 7/32"	2
6	PIN-PLM-DRPTG75	Drop Target, Angled Wedge Top, Clear	1
7	CC-ART-DROPTG1	CC Bad Guy #1 Drop Tgt Decal	1
or	CC-ART-DROPTG2	CC Bad Guy #2 Drop Tgt Decal	1
or	CC-ART-DROPTG3	CC Bad Guy #3 Drop Tgt Decal	1
or	CC-ART-DROPTG4	CC Bad Guy #4 Drop Tgt Decal	1
8	FWF-265-050016Y	Flat Washer, 0.265" ID, 0.5" OD, 0.016" TH	3
9	PIN-MWF-DROPSPR	Drop Target Compression Spring	1
10	FER-025-000000A	E-Clip, 1/4" Shaft, Black	2
11	PIN-PCB-DROPTAR	Drop Target PCB, Single	1
12	PIN-23-6626	Rubber Grommet, 3/16" ID, 3/8" OD, 3/16" TH	2
13	FER-018-000000A	E-Clip, 3/16" Shaft, Black	2
14	PIN-10-433	Single Drop Target Extension Spring	1
15	PIN-A-DTSNOID	Drop Tgt Retract Solenoid & Nut	1
16	PIN-MLS-DRPCLBK	Drop Tgt Retract Solenoid Mtg Brkt	1
17	PIN-02-39721	Drop Target Reset Plunger	1
18	PIN-01-10380	Drop Target Reset Plate, Single	1
19	FNT-103-ESNA000	10-32 Elastic Stop Nut	1
20	PIN-01-84131	Drop Target Coil Retaining Brkt	1
21	PIN-AE-261500	26-1500 (Blue) Coil	1
22	PIN-03-70664	2-1/16" Coil Sleeve	1
23	PIN-A-11397	Drop Target Coil Stop Brkt	1
24	FNT-083-ESNA000	8-32 Elastic Stop Nut	4





Single Drop Target Rev 2
Assembly, Retractable, Backlit
CC-SUB-1BNKDRP
For games built After October 2022

Item	Part ID	Description	Qty
1	PIN-MLS-DRPTGBK	Single Drop Tgt Main Brkt, no LED PCB PEMs	1
2	FNT-103-KEC0000	10-32 Keps Nut	1
3	FSM-103-ASH050C	10-32 x 3/4" SH CS	1
4	PIN-03-8034	Drop Tgt Rest, Single	1
5	RIV-125-218000C	Tube Rivet, 1/8" x 7/32"	2
6	PIN-PLM-DRPTG75	Drop Target, Angled Wedge Top, Clear	1
7	CC-ART-DROPTG1	CC Bad Guy #1 Drop Tgt Decal	1
or	CC-ART-DROPTG2	CC Bad Guy #2 Drop Tgt Decal	1
or	CC-ART-DROPTG3	CC Bad Guy #3 Drop Tgt Decal	1
or	CC-ART-DROPTG4	CC Bad Guy #4 Drop Tgt Decal	1
8	FWF-265-050016Y	Flat Washer, 0.265" ID, 0.5" OD, 0.016" TH	3
9	PIN-10-392	Drop Target Compression Spring	1
10	FER-025-000000A	E-Clip, 1/4" Shaft, Black	2
11	PIN-PCB-DROPTAR	Drop Target PCB, Single	1
12	PIN-23-6626	Rubber Grommet, 3/16" ID, 3/8" OD, 3/16" TH	2
13	FER-018-000000A	E-Clip, 3/16" Shaft, Black	2
14	PIN-10-433	Single Drop Target Extension Spring	1
15	PIN-A-DTSNOID	Drop Tgt Retract Solenoid & Nut	1
16	PIN-MLS-DRPCLBK	Drop Tgt Retract Solenoid Mtg Brkt	1
17	PIN-02-39721	Drop Target Reset Plunger	1
18	PIN-01-10380	Drop Target Reset Plate, Single	1
19	FNT-103-ESNA000	10-32 Elastic Stop Nut	1
20	PIN-01-84131	Drop Target Coil Retaining Brkt	1
21	PIN-AE-261500	26-1500 (Blue) Coil	1
22	PIN-03-70664	2-1/16" Coil Sleeve	1
23	PIN-A-11397	Drop Target Coil Stop Brkt	1
24	FNT-083-ESNA000	8-32 Elastic Stop Nut	4
25	FWF-265-050032C	Flat Washer, 0.265" ID, 0.5" OD, 1/32" Thick	4
26	FWF-038-050C004	Flat Washer, 3/8" ID, 0.5" OD, 0.04" Thick	1
27	FWF-203-047032C	Flat Washer, .203" ID, 0.437" OD, 1/32" Thick	2



CC-SUB-A22432 Bad Guy Mech Assembly

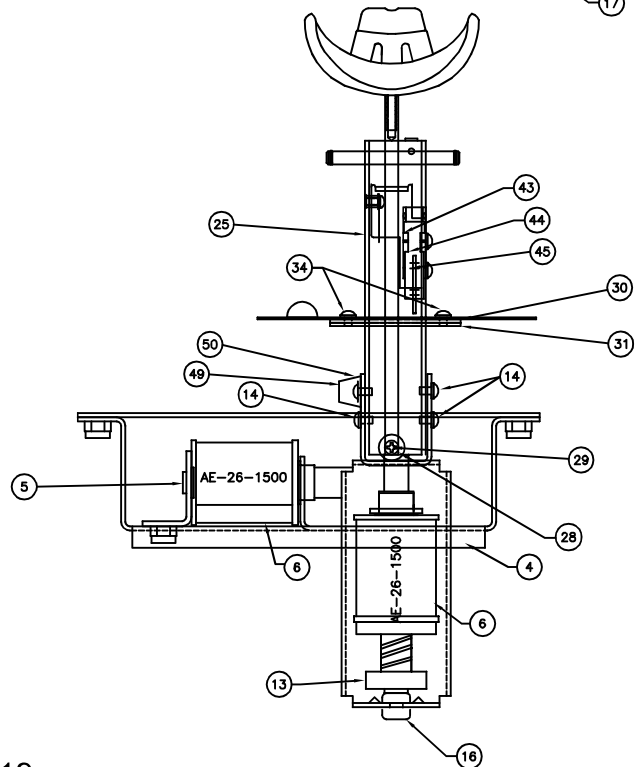
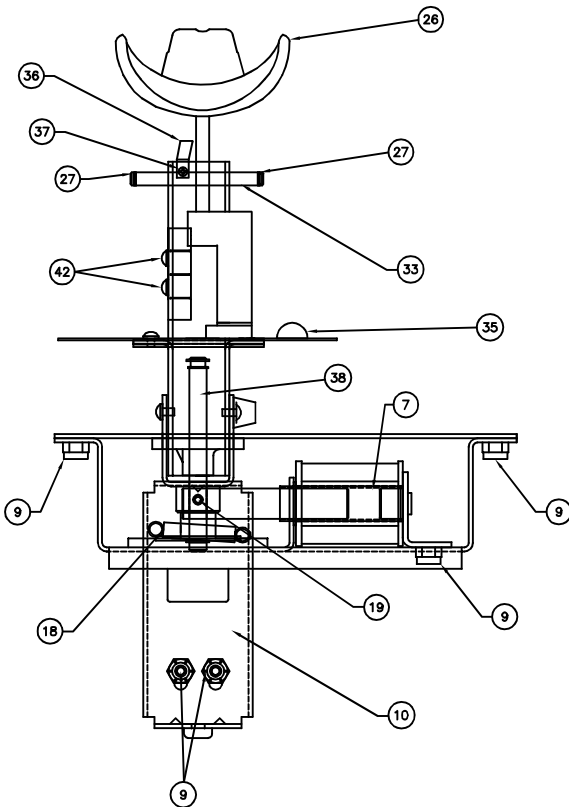
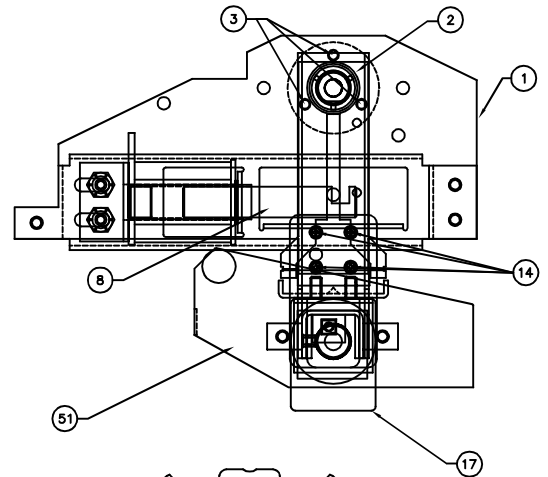
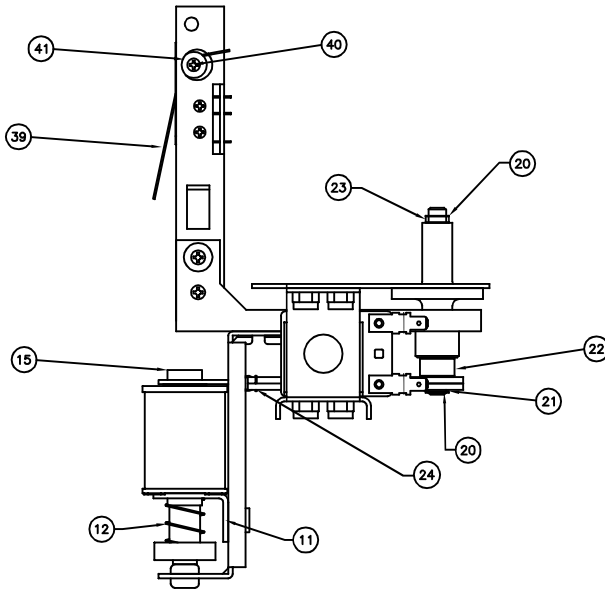
Item	Part Number	Description
1	CC-04-111993	Bad Guy Base Brkt
2	PIN-03-7568	Flipper Bushing
3	RIV-125-250000C	Rivet, 1/8"D x 1/4"L (x3)
4	CC-01-149721	Bad Guy Coil Bracket
5	PIN-04-109104	5-8" Coil Centering Brkt
6	PIN-AE-261500	Coil Assembly 26-1500 (x2)
7	PIN-03-7066	Coil Tubing A = 1.745
8	CC-02-5459	Plunger Rod
9	FNT-083-ESNA000	Nut, 8-32 ESNA/NTM (x7)
10	CC-01-14616	Diverter Assy Bracket
11	PIN-04-109101	5-8" Coil Centering Brkt
12	PIN-10-135	Solenoid Spring
13	PIN-04-10291	Armature & Spring Assy
14	FSM-083-PSM025C	8-32 1/4" PHRH-S (x7)
15	PIN-03-70675	Coil Tubing
16	PIN-23-6420	Rubber Grommet
17	CC-04-11198	Horizontal Arm
18	PIN-10-320	Spring - Eject (Red)
19	FSM-103-AAS025A	10-32 x 1/4" Set Screw
20	FER-025-000000A	E-Ring, 1/4" Shaft Black (x2)
21	FWF-281-050032C	Flat Washer .281 x.500 x .032
22	PIN-03-7973	Nylon Spacer (Bad Guy Mech)
23	FWC-025-050N013	Nylon Spacer, 1/4" x 1/2" x 1/8"
24	CC-01-14971	Left/Right Spring brkt
25	CC-04-112093	Vertical Arm
26	CC-SUB-BARTHAT	Bad Guy Hat and Rod Assembly
27	FER-018-000000A	E-Ring, 3/16" Shaft Black (x2)
28	CC-02-5470	Washer Stop
29	FSM-063-PSM063C	6-32 x 5/8" Phil Pan Sems Zinc
30	CC-01-151551	Bad guy Assy Stop Brkt
31	CC-PLS-HATCNTR	Bad Guy Centering Brkt
33	CC-02-5457	Pivot Shaft #1
34	FSM-083-PSM037C	8-32 x 3/8" Phil Pan Sems Zinc (x2)
35	PIN-23-6828	Rubber Bumper
36	CC-MLS-BDGYSTP	Bad Guy Head Stop Bracket
37	FSM-063-PPH025C	6-32 x1/4" Phil Pan Head C
38	CC-02-5464	Saloon Shaft
39	PIN-10-541	Spring
40	FSM-044-PSM025C	4-40 x 1/4" Phil Pan Sems Clear

CC-SUB-A22432

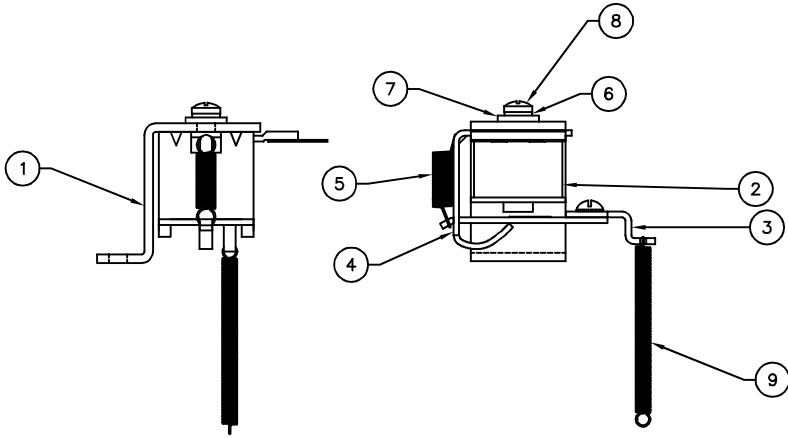
Bad Guy Mech Assembly

- 41 FWF-146-037032C
- 42 FSM-025-PPH043C
- 43 PIN-01-8240
- 44 PIN-01-8600
- 45 PIN-5647-1269358
- 46 CC-PLM-NEWBART
- 47 CC-CBL-BARTSW
- 48 CC-CBL-BARTCOI
- 49 FSM-083-PPH025C
- 50 CC-PLM-BGBUMP
- 51 CC-01-149831

- Flat Washer .146 x .375 x .032
- MS 2-56 x 7/16" PPHS Clear
- Nut Plate – 2-56
- Switch insulator
- Switch Sub Micro
- New Bart – Playfield
- Bart Hit SW Cable (Not Shown)
- Bart Coil Cable (Not Shown)
- 8-32 x 1/4" Socket Hd Cap Screw
- Unthreaded Rubber Bumper
- Bad Guy Shelf Brkt

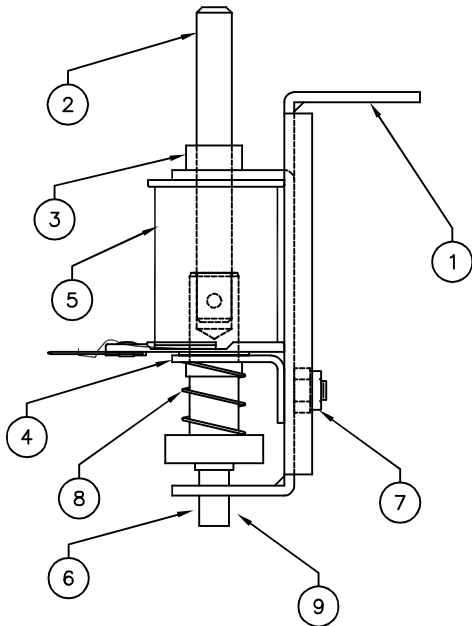


CC-SUB-A22482 Ball Gate Actuator Assembly



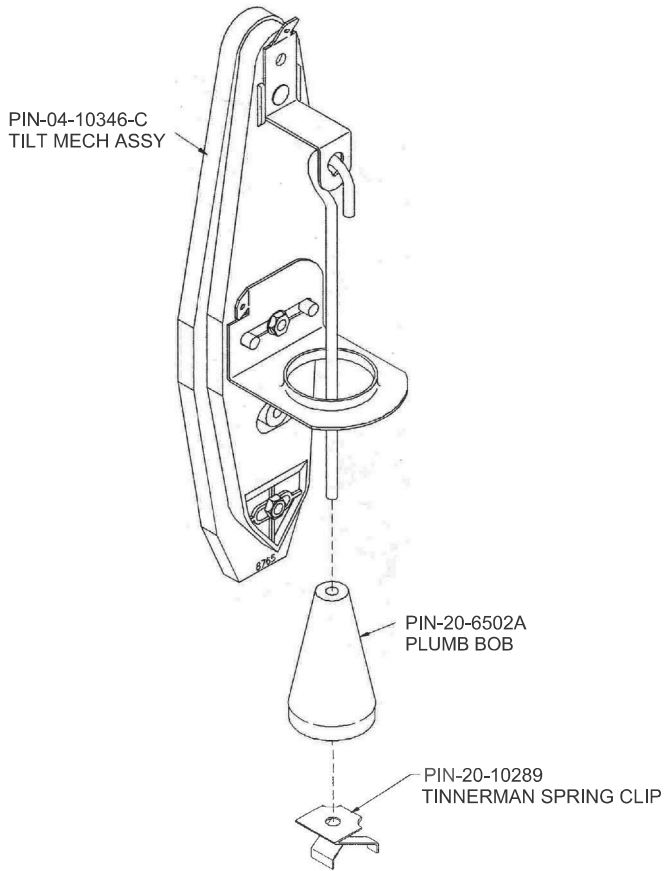
Item	Part Number	Description
1	01-14123	Coil Bracket
2	PIN-A-27700	12V Coil Assembly
3	A-20968	Ball Gate Armature Assy
4	23-6420	Frame & Eyelet
5	04-10322-2	Spring
6	10-135	Lock Washer #8 Split
7	03-7067	Flat Washer: 11/64 x 7/16
8	04-10291	Mach. Screw: 8-32 x 7/16"
9	10-194	Extension Spring

CC-SUB-A22465 Up/Down Post Assembly



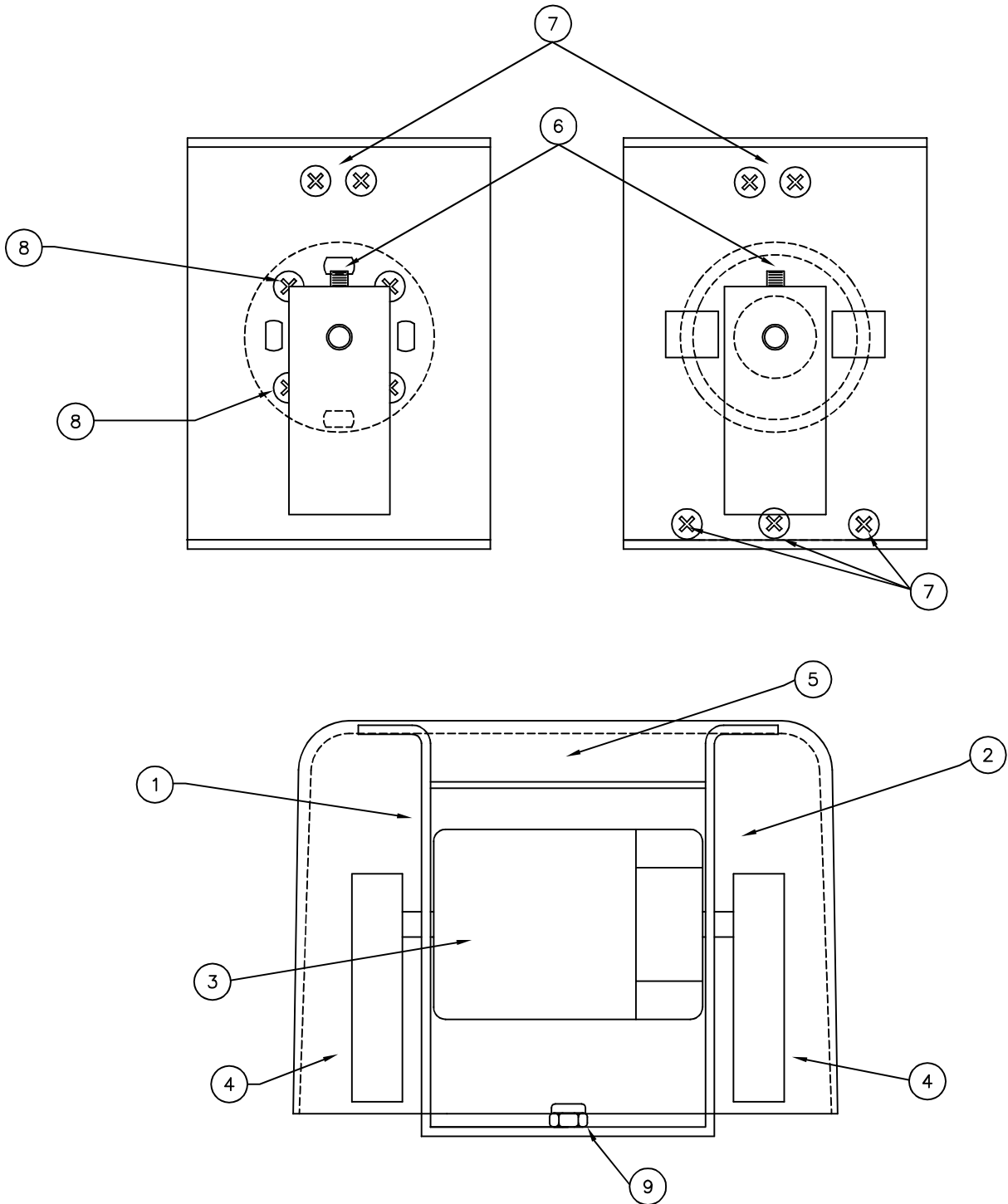
Item	Part Number	Description
1	01-15122	Up/Down Post Bracket
2	A-17986	8-32 ESN Nut
3	03-7067-5	LED Assembly
4	04-10910-1	Photo Transistor Assembly
5	AE-26-1500	Rubber Grommet
6	23-6420	Coil Bracket
7	4408-01119-01	Spring
8	10-135	Coil Tubing
9	FSM-103-ASS075S	10-32 x 3/4" Set Screw

PIN-04-10346-C TILT MECH ASSEMBLY



PIN-SUB-SHAKER2

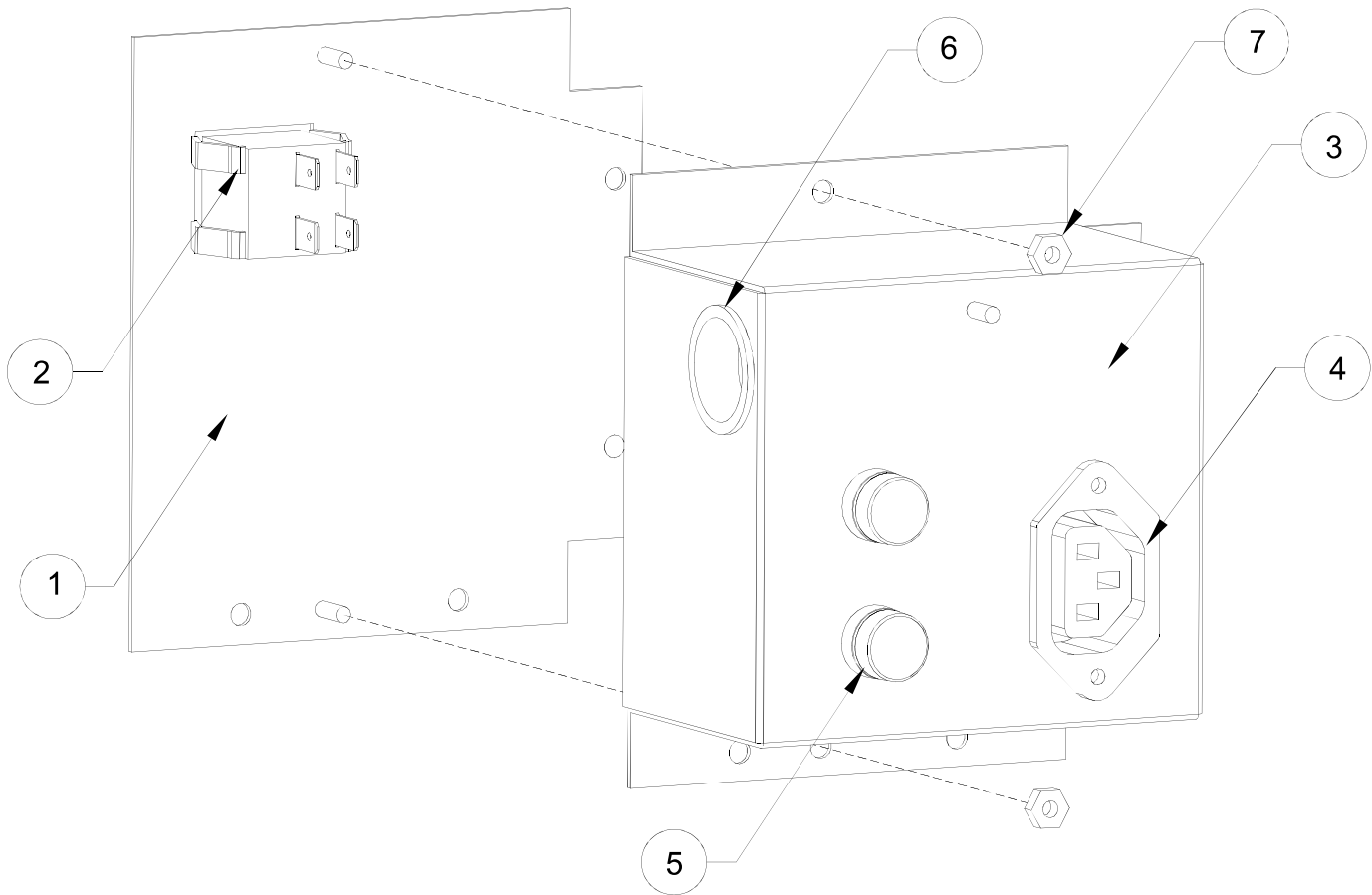
SHAKER MOTOR ASSEMBLY



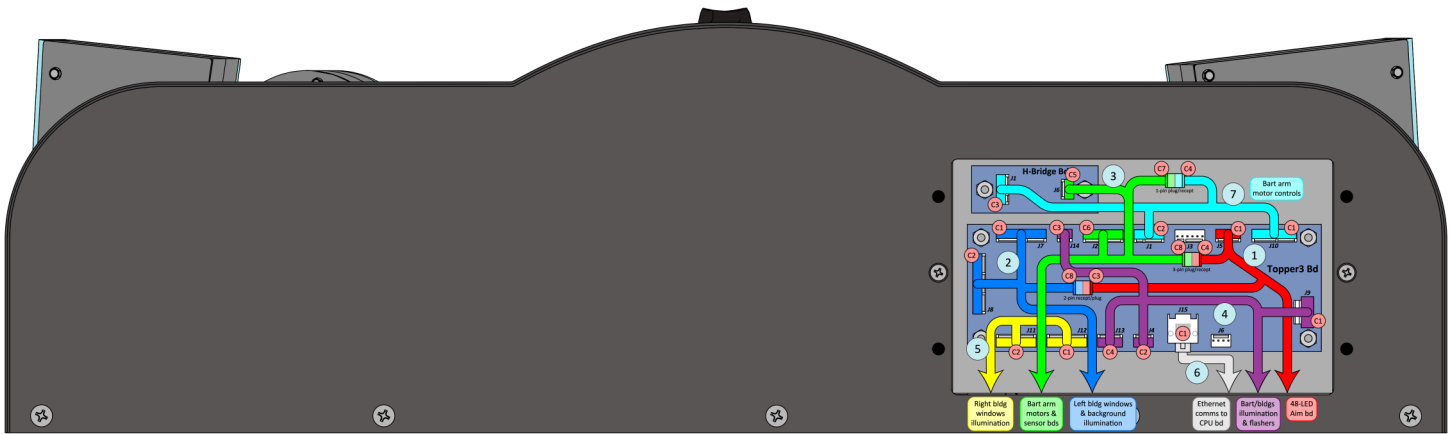
Item	Part Number	Description
1	PIN-MLS-SHKBRK1	Shaker Motor Bracket 1
2	PIN-MLS-SHKBRK2	Shaker Motor Bracket 2
3	PIN-MTR-KINMORE	Shaker Motor
4	PIN-MLS-SHKRWHT	Shaker Weight
5	PIN-MLS-SHKSUP2	Shaker Support Bracket
6	FSM-103-ASS063C	Set Screw, 10-32 X 5/8"
7	FSM-083-PPH025C	MS 8-32 X 1/4" PPH
8	FSM-103-PPH025C	MS 10-32 X 1/4" PPH
9	FNT-083-ESNA000	NUT 8-32 ESN
10	PIN-545-524100	Shaker Motor Cover

PIN-SUB-POWRBOX

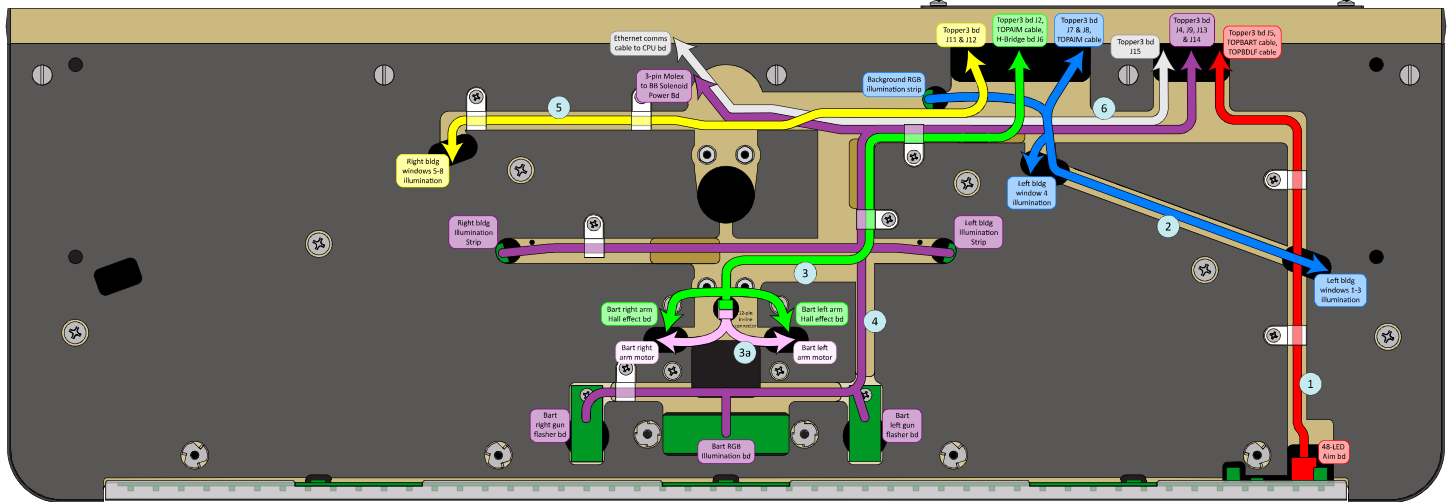
Pinball Power Switch Fuse Box



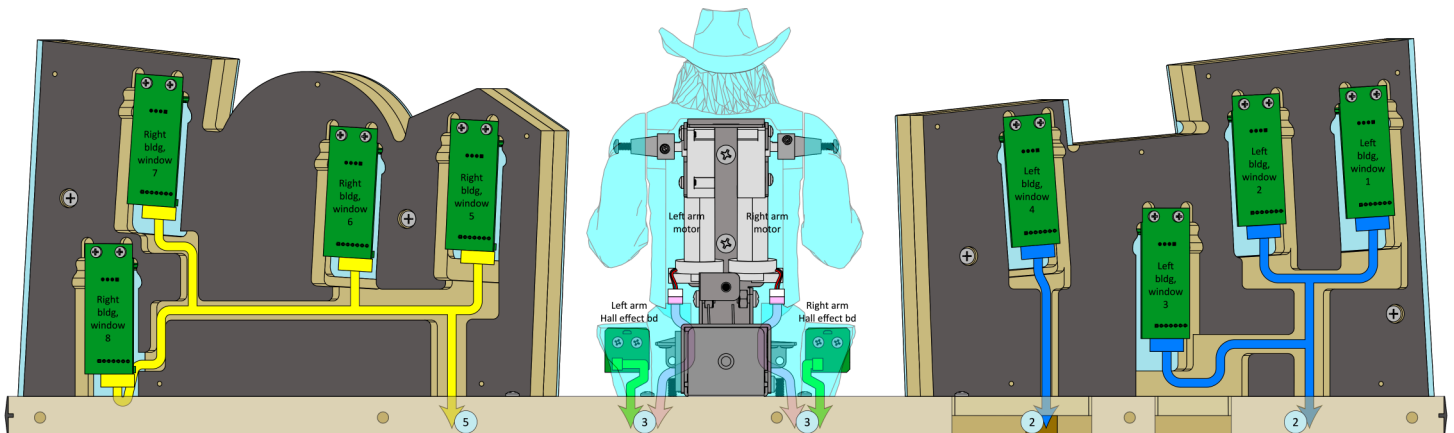
Item	Part Number	Description
1	PIN-MLS-SWCHPLT	Power Switch Plate
2	000-SWC-ALCONOF	Alcoswitch Rocker, 16A DPST
3	PIN-MLS-SWCHBOX	Switch/Fuse Box
4	000-ELE-IECOUFL	IEC Outlet, Female
5	000-ELE-PNLFUSE	5mm Panel Mount Fuse Holder
6	000-PLM-100SBUS	1" Shorty Bushing
7	FNT-063-KEC0000	6-32 Kep Nut



Back View (Control PCB Connections)



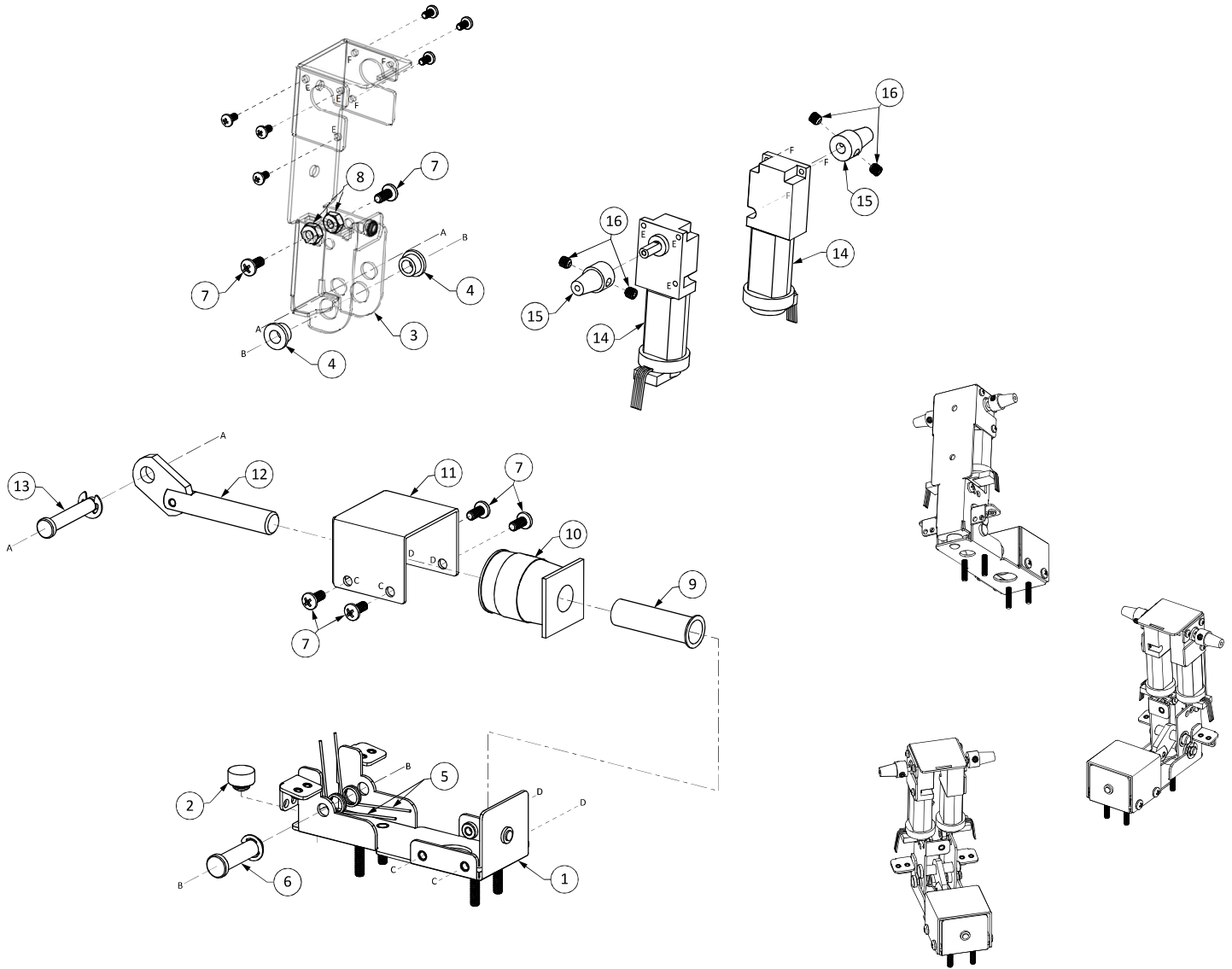
Bottom View (Cable Routing)



Back View (Buildings/Bart Cables Detail)

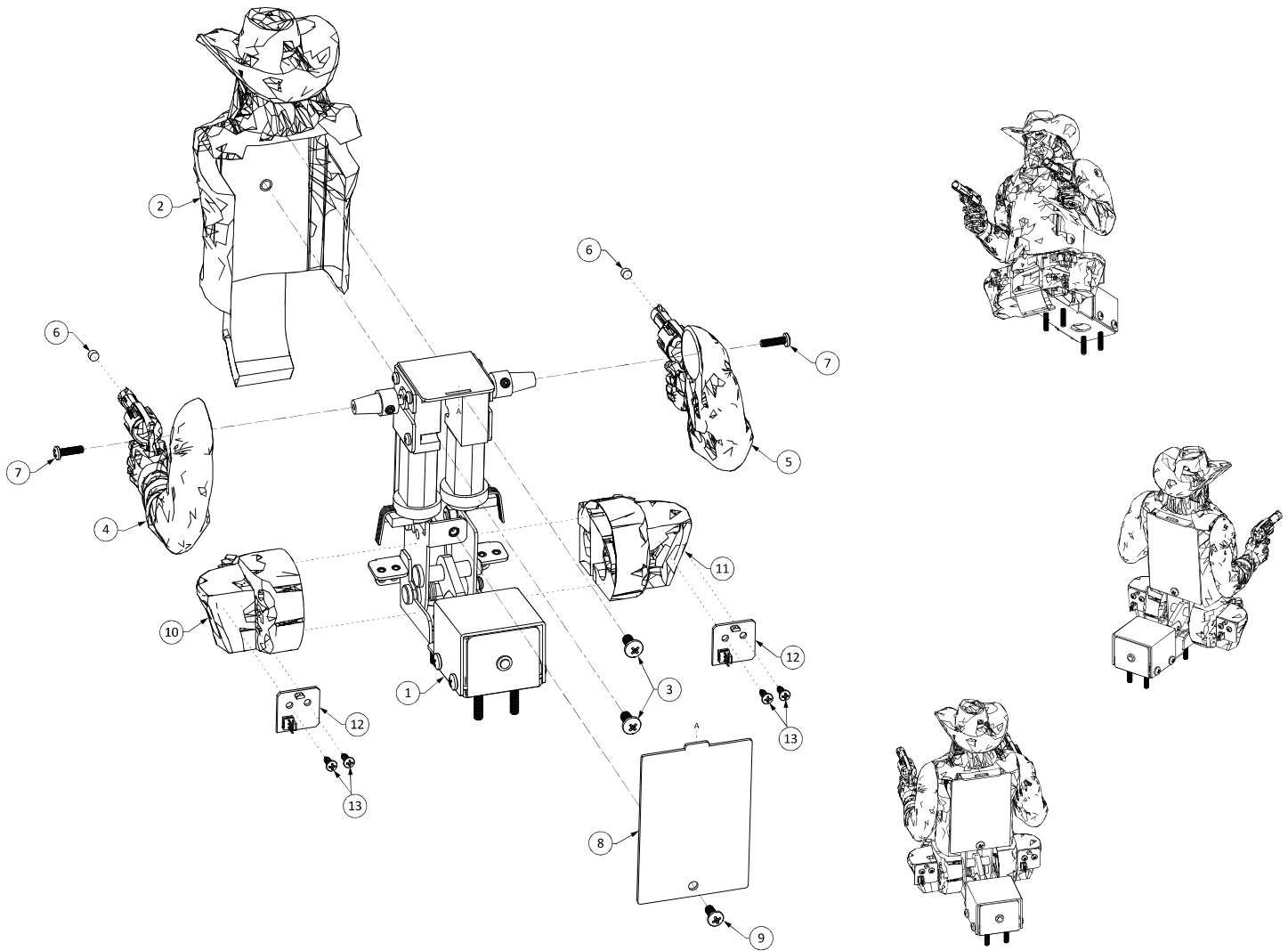
Cactus Canyon LE Topper Cables

Item	Part ID	Description
1	CC-CBL-TOPAIM	CC Topper Aim Board Cable
2	CC-CBL-TOPBDFL	CC Topper Left Bldg Cable
3	CC-CBL-TOPBART	CC Topper Bart Figure Cable
3a	CC-CBL-BARTMTR	CC Topper Bart Arm Motors Cable
4	CC-CBL-TOPLAMP	CC Topper Illumination Cable
5	CC-CBL-TOPBDRT	CC Topper Right Bldg Cable
6	000-CBL-05MCAT5	0.5m Shielded CAT5E Ethernet Cable
7	CC-CBL-TOPHBRG	CC Topper H-Bridge Board Cable



CC Topper Bart Guts Assembly CC-SUB-BARTGUTS

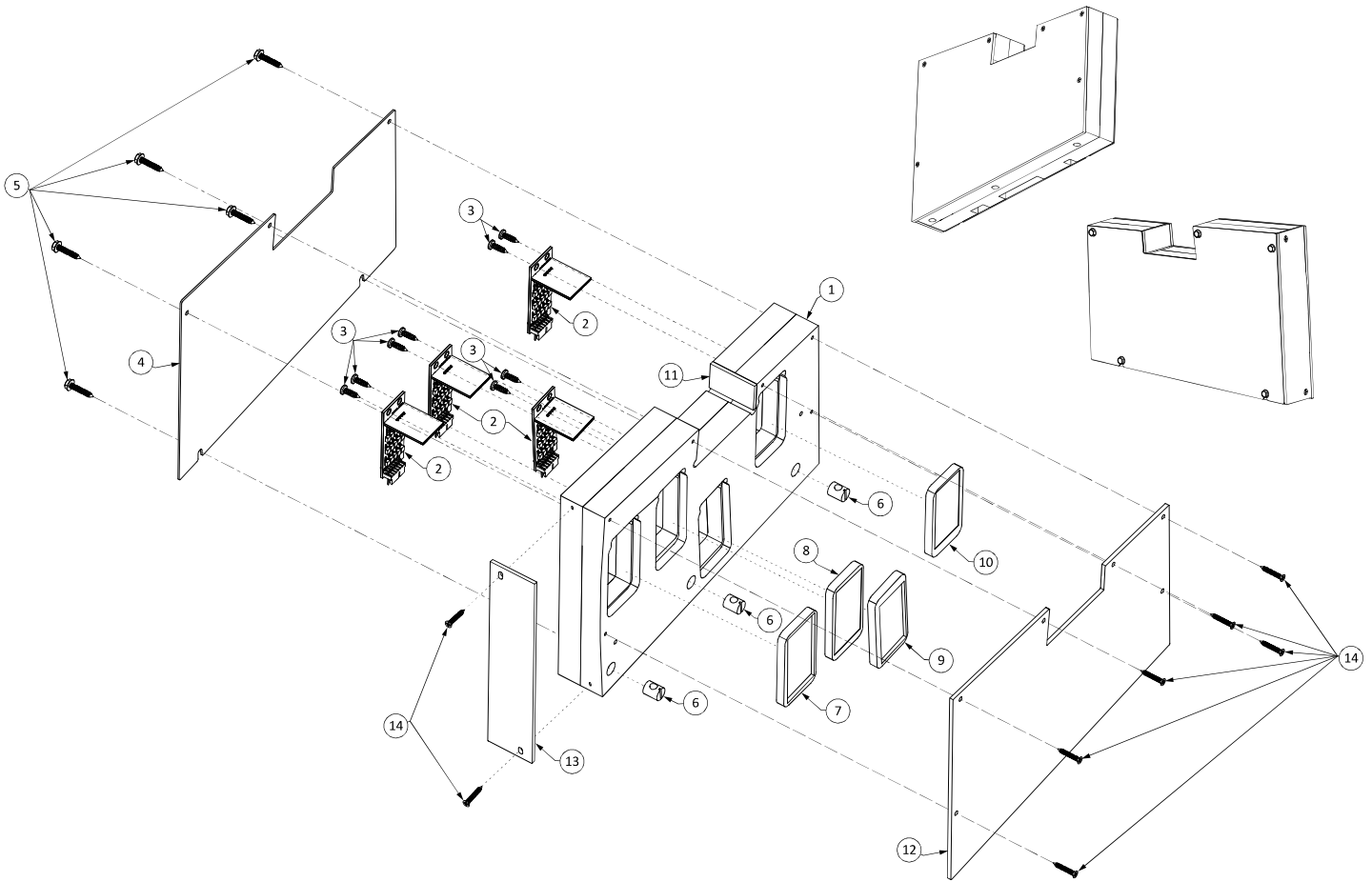
Item	Part ID	Description	Qty
1	CC-MLS-BARTMNT	CC Topper Bart Mtg Brkt	1
2	CC-PLM-BARTBMP	Bart Figure Bumper Stop	1
3	CC-MLS-BARTBOD	CC Topper Bart Body Brkt	1
4	PIN-HDW-SLV037	Oil-Embedded, Flanged Sleeve Bearing	2
5	CC-MWF-BARTSPG	CC Topper Bart Figure Torsion Spring	2
6	CC-HDW-PIN106	Clevis Pin, 5/16" OD, 1-1/16" L, w/E-Clip	1
7	FSM-083-PPH037C	8-32 x 3/8" PPH MS	6
8	FNT-083-ESNA000	8-32 Elastic Stop Nut	2
9	PIN-03-7066	1-3/4" Coil Sleeve	1
10	CC-AE-23800	23-800 Coil w/Wire Leads	1
11	CC-MLS-BARTCVR	CC Topper Bart Coil Cover	1
12	PIN-A-15847	Flipper Coil Plunger & Link Assy	1
13	CC-HDW-PIN137	Clevis Pin, 1/4" OD, 1-3/8" L, w/E-Clip	1
14	PIN-MTR-W0G34A	Worm Gear Motor, 12V, 30RPM	2
15	CC-MLM-ARMINST	CC Topper Bart Arm Motor Shaft Adapter	2
16	FSM-103-ASS018A	10-32 x 3/16" Set Screw	4



CC Topper Bart Figure Assembly CC-SUB-BART

Item	Part ID	Description	Qty
1	CC-SUB-BARTGUTS	CC Topper Bart Guts Assy	1
2	CC-PLM-BARTBOD	CC Topper Bart Figure Torso, Head & Hat	1
3	FSM-103-PPH037C	10-32 x 3/8" PPH MS	2
4	CC-PLM-BARMLFT	CC Topper Bart Figure Left Arm	1
5	CC-PLM-BARMRGT	CC Topper Bart Figure Right Arm	1
6	CC-MSC-MAGNET	CC Topper Pistol Magnet, Neodymium	2
7	FSM-063-PPH050K	6-32 x 1/2" PPH MS, Thread Locking	2
8	CC-MLS-BACKCVR	CC Topper Bart Assy Back Cover	1
9	FSM-083-PPH037C	8-32 x 3/8" PPH MS	1
10*	CC-PLM-HOLSFLT	CC Topper Bart Figure Left Hip/Holster	1
11*	CC-PLM-HOLSRGT	CC Topper Bart Figure Right Hip/Holster	1
12	PIN-PCB-SPINHAL	Spinner Hall Effect Bd	2
13	FSS-N04-PPH037C	#4 x 3/8" PPH SMS	4

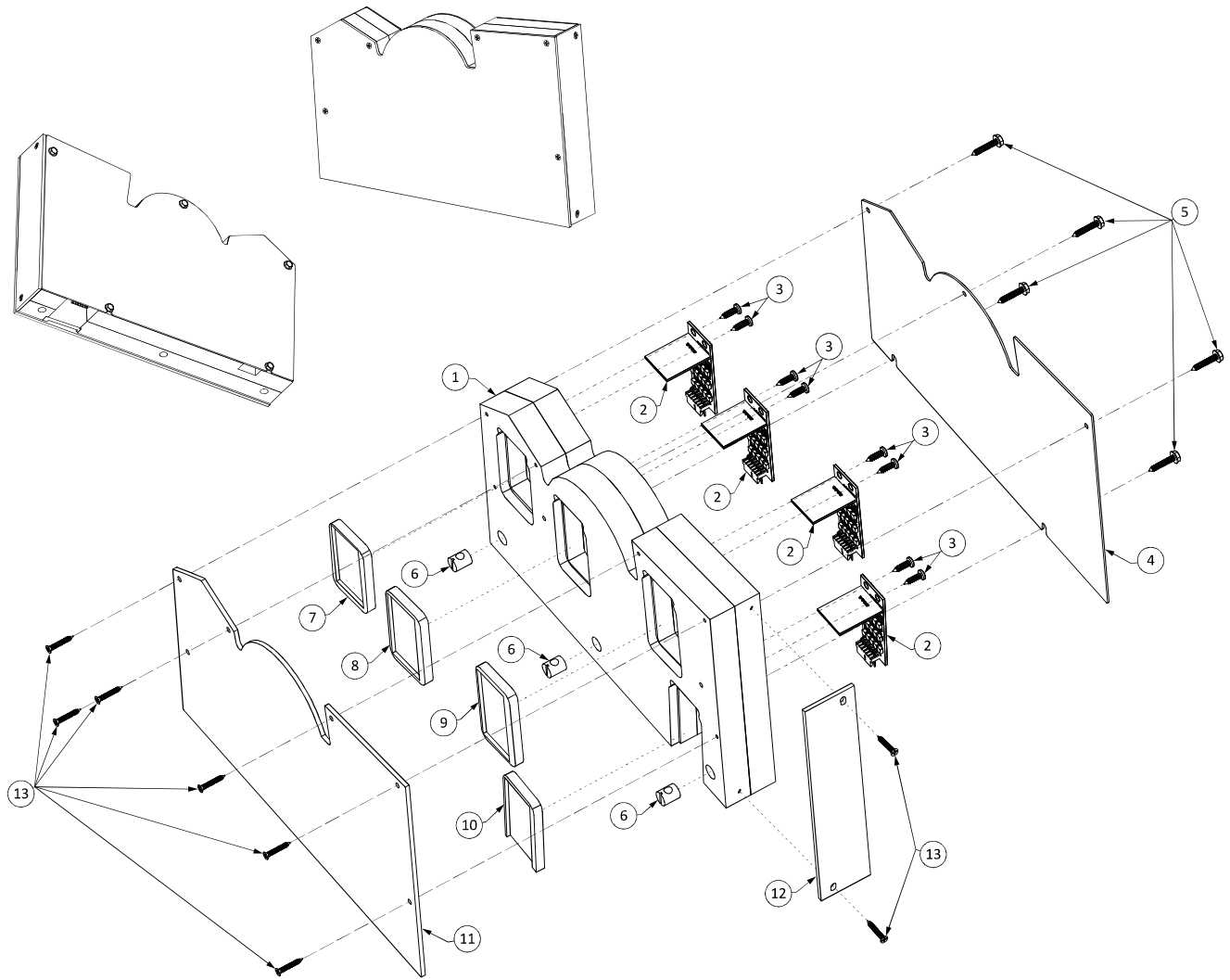
* Items 10 & 11 slide over the left & right tabs on item 1; they attach to the topper base, from underneath, with four #8 sheet metal screws (FSS-N08-PPH100C)



CC Topper Left Bldg Assembly CC-SUB-TOPBDLF

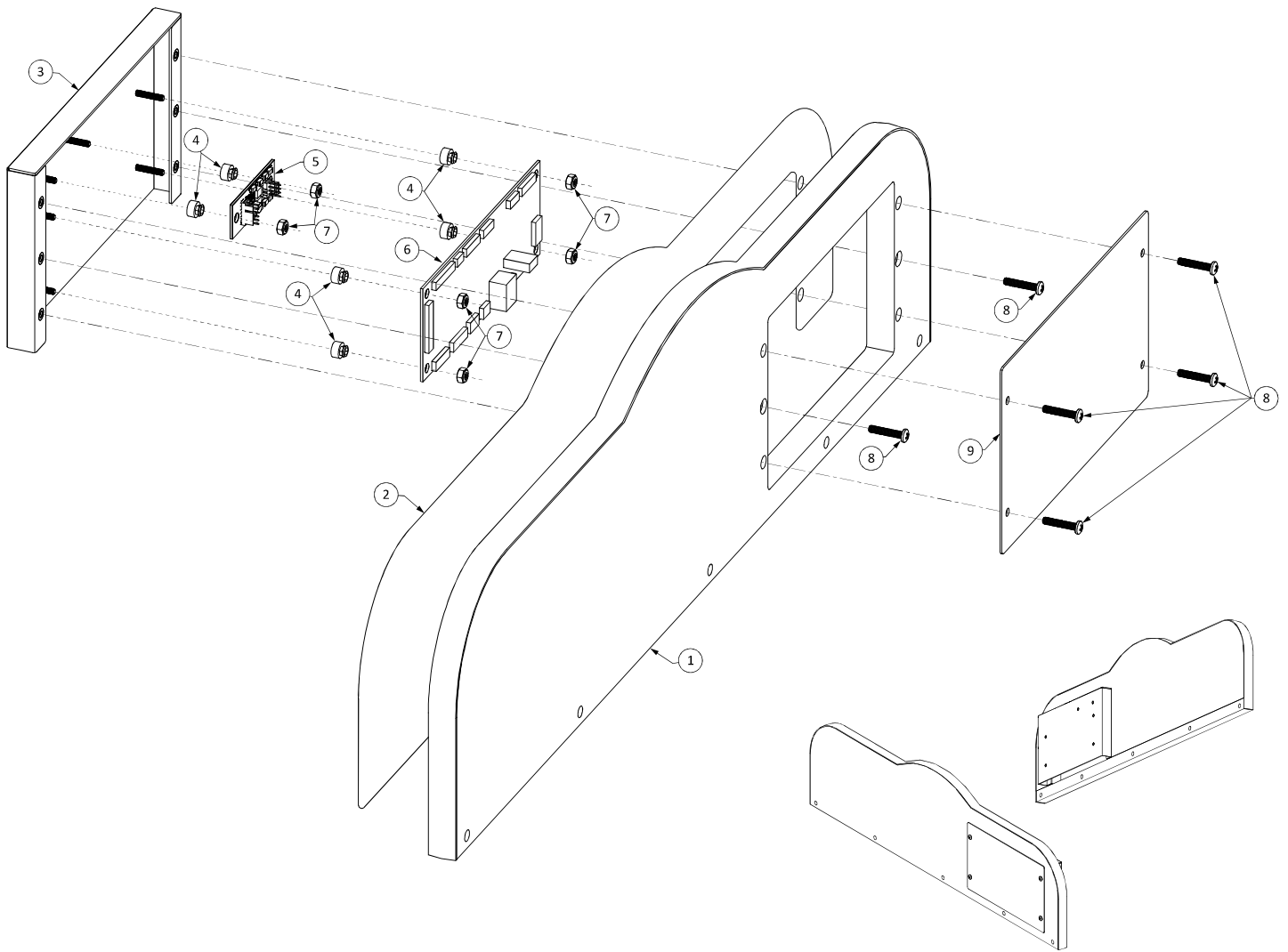
Item	Part ID	Description	Qty
1	CC-CCC-BLDLEFT	CC Topper Left Bldg Wood	1
2	CC-PCB-TOPWINL	CC Topper Bldg Window LED PCB Assy	4
3	FSS-N06-PPH050C	#6 x 1/2" PPH SMS	8
4	CC-MLS-LBLDCVR	CC Topper Left Bldg Back Cover	1
5	FSS-N06-HWH075A	#6 x 3/4" HWH SMS, Black	5
6	FNT-252-CDN4739	1/4-20 Cross Dowel Nut, 0.472" L	3
7	CC-ART-OBADIAH	CC Topper Window #1 Plastic (Obadiah)	1
8	CC-ART-ROXIE	CC Topper Window #2 Plastic (Roxie)	1
9	CC-ART-BLONDIE	CC Topper Window #3 Plastic (Blondie)	1
10	CC-ART-BABYFAC	CC Topper Window #4 Plastic (Baby Face)	1
11*	CC-ART-LBLDSML	CC Topper Left Bldg Small Plastic	1
12	CC-ART-LBLDFRT	CC Topper Left Bldg Front Plastic	1
13	CC-ART-LBLDSID	CC Topper Left Bldg Side Plastic	1
14	FSS-N04-PFH075A	#4 x 3/4" PFH SMS, Black	8

* Item 11 attaches to item 1 with a 1-1/4" strip of two-sided tape (PIN-TAP-4199CS)



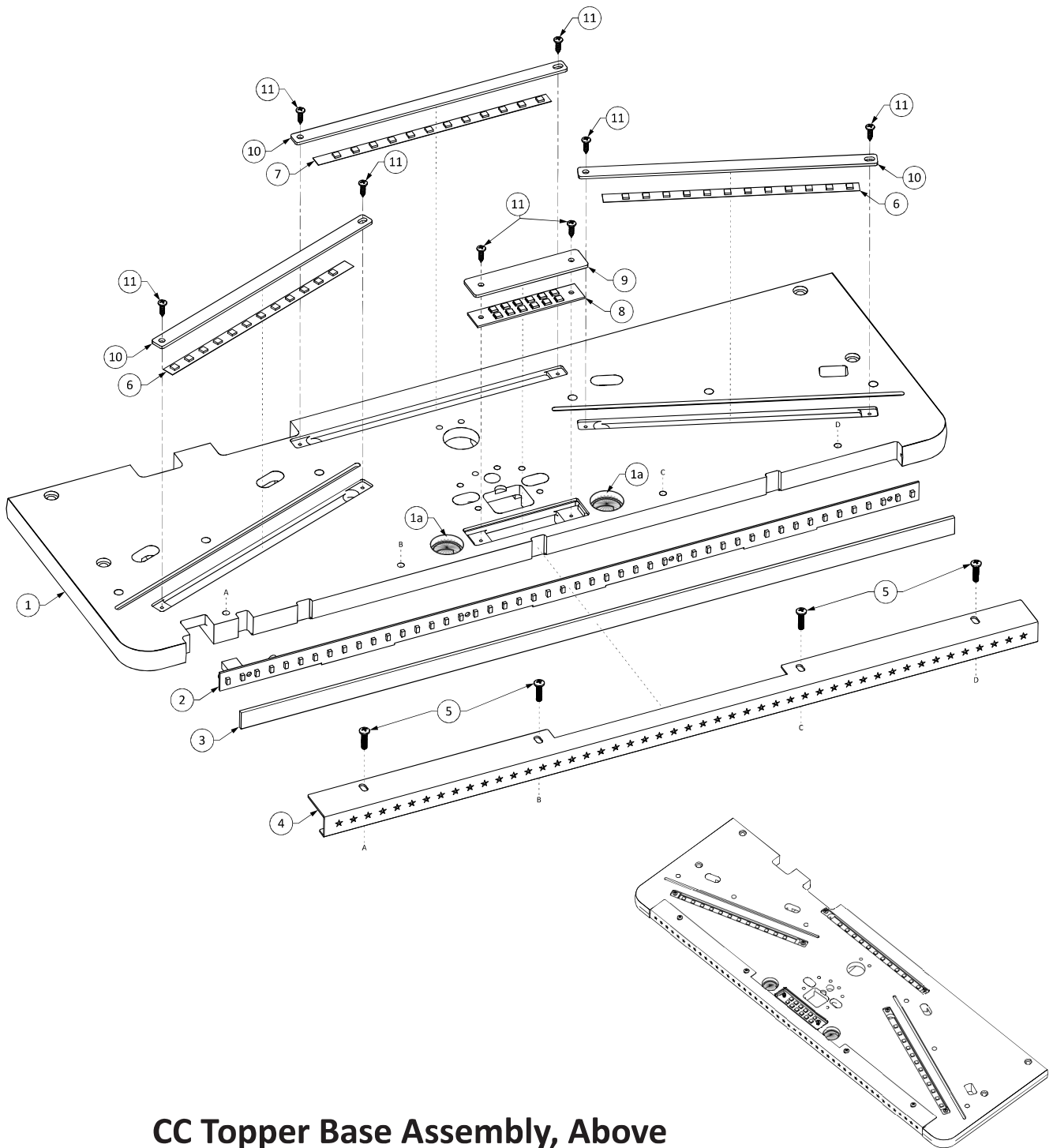
CC Topper Right Bldg Assembly CC-SUB-TOPBDRT

Item	Part ID	Description	Qty
1	CC-CCC-BLDRIGH	CC Topper Right Bldg Wood	1
2	CC-PCB-TOPWINL	CC Topper Bldg Window LED PCB Assy	4
3	FSS-N06-PPH050C	#6 x 1/2" PPH SMS	8
4	CC-MLS-RBLDCVR	CC Topper Right Bldg Back Cover	1
5	FSS-N06-HWH075A	#6 x 3/4" HWH SMS, Black	5
6	FNT-252-CDN4739	1/4-20 Cross Dowel Nut, 0.472" L	3
7	CC-ART-BEANS	CC Topper Window #5 Plastic (Beans)	1
8	CC-ART-BART	CC Topper Window #6 Plastic (Bart)	1
9	CC-ART-MOOSIE	CC Topper Window #7 Plastic (Moosie)	1
10	CC-ART-CONNIE	CC Topper Window #8 Plastic (Connie)	1
11	CC-ART-RBLDFRT	CC Topper Right Bldg Front Plastic	1
12	CC-ART-RBLDSID	CC Topper Right Bldg Side Plastic	1
13	FSS-N04-PFH075A	#4 x 3/4" PFH SMS, Black	8



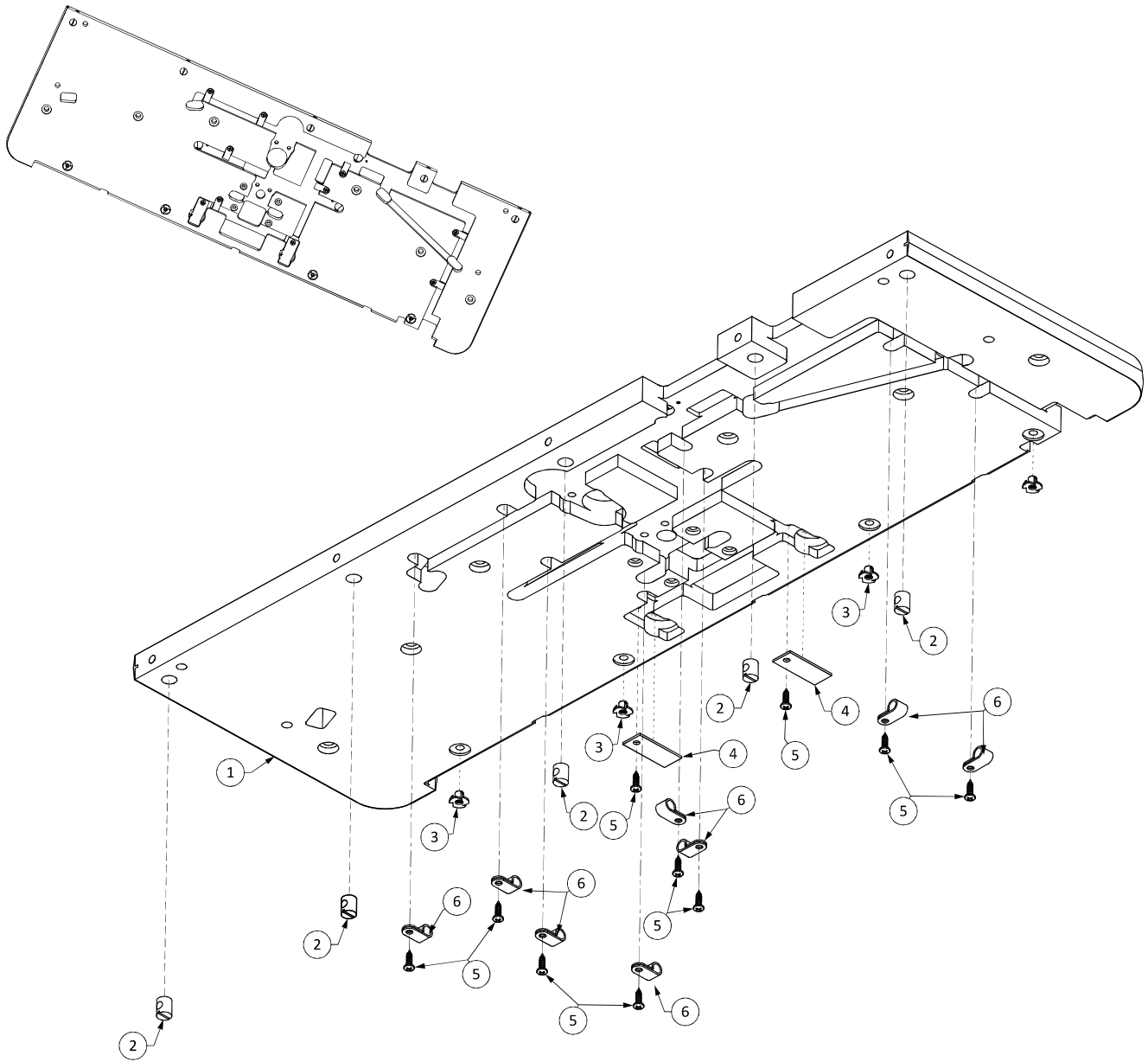
CC Topper Back Panel Assembly CC-SUB-BCKPANL

Item	Part ID	Description	Qty
1	CC-CCC-TOPBACK	CC Topper Back Panel Wood	1
2	CC-ART-TOPBACK	CC Topper Back Panel Decal	1
3	CC-MLS-PCBHOUS	CC Topper PCB Housing	1
4	000-PLM-SR6018	#6 x 3/16" Snap-In Standoff	6
5	CC-PCB-HBRIDGE	H-Bridge Motor Control Board	1
6	PIN-PCB-TOPPER3	CGC Topper 3 Board	1
7	FNT-063-ESNA00	6-32 Elastic Stop Nut	6
8	FSM-083-PPH100A	8-32 x 1" PPH MS, Black	6
9	CC-MLS-PCBCOVR	CC Topper PCB Rear Cover	1



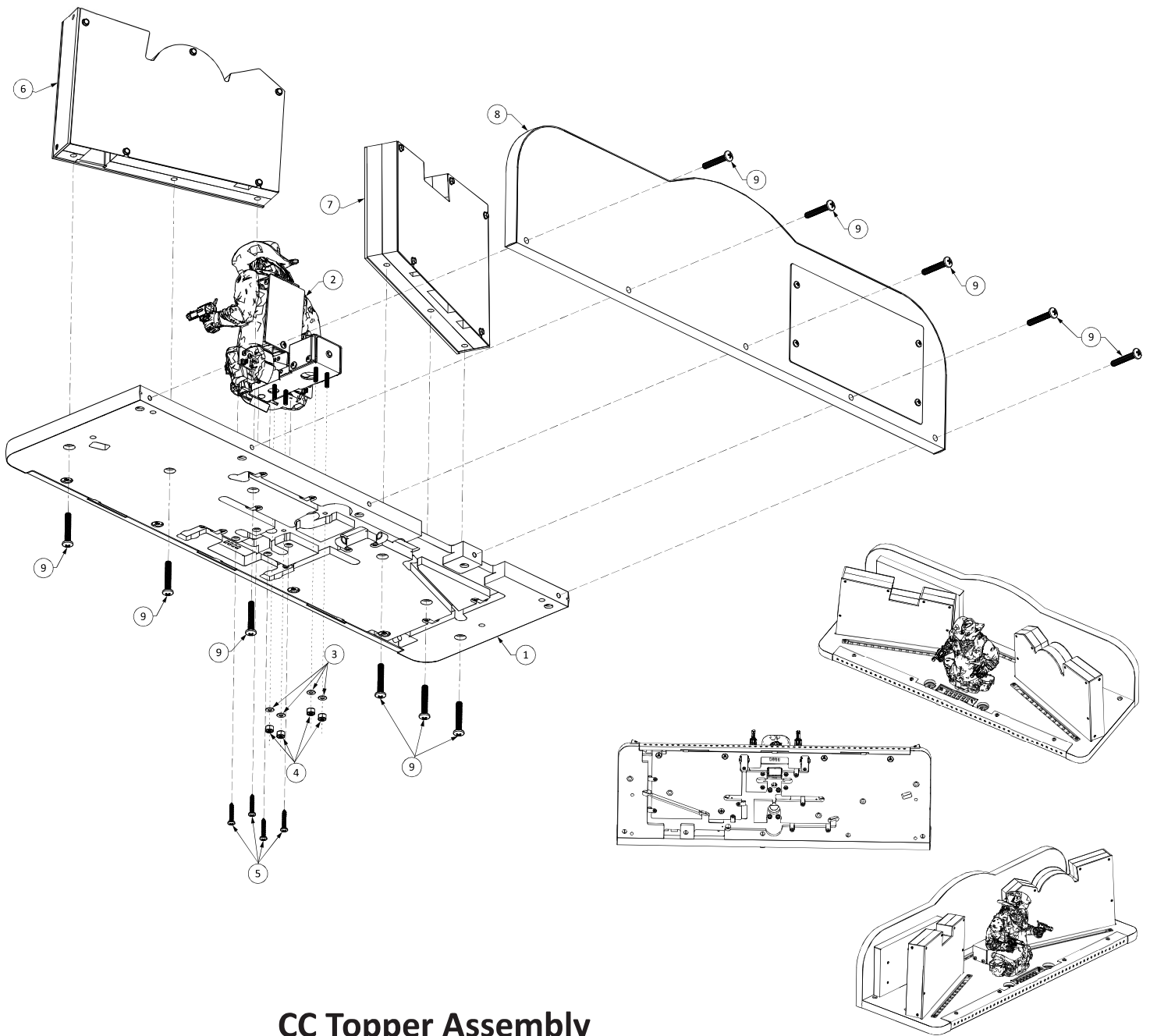
CC Topper Base Assembly, Above CC-SUB-TOPBASEA

Item	Part ID	Description	Qty
1	CC-CCC-TOPBASE	CC Topper Base Wood	1
a)	PIN-INS-502213	1" Round Starburst Insert, Clear	2
2	CC-PCB-48LED	CC Topper 48-LED Aim Board	1
3	CC-PLS-AIMCOVR	CC Topper Aim Board Cover	1
4	CC-MLS-AIMBRKT	CC Topper Aim Board Mtg Brkt	1
5	FSM-083-PPH062A	8-32 x 5/8" PPH MS, Black	4
6	PIN-LMP-WWSTRIP	Warm White LED Strip, 10"	2
7	AFM-CBL-SPKLITE	RGB LED Strip, 10", w/Connector	1
8	MB-PCB-RGBTOPR	RGB Spotlight Board, w/o Cable	1
9	PIN-PLS-RGBLENS	RGB Spotlight Board Cover	1
10	CC-PLS-LSTPCVR	LED Strip Cover	3
11	FSS-N06-PPH050C	#6 x 1/2" PPH SMS	8



CC Topper Base Assembly, Below CC-SUB-TOPBASEB

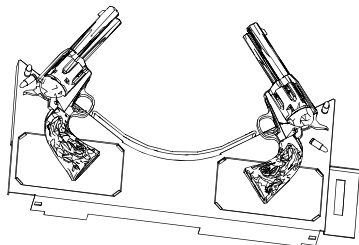
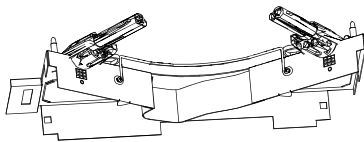
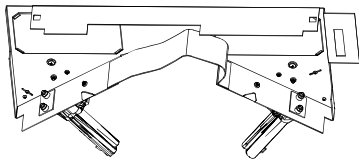
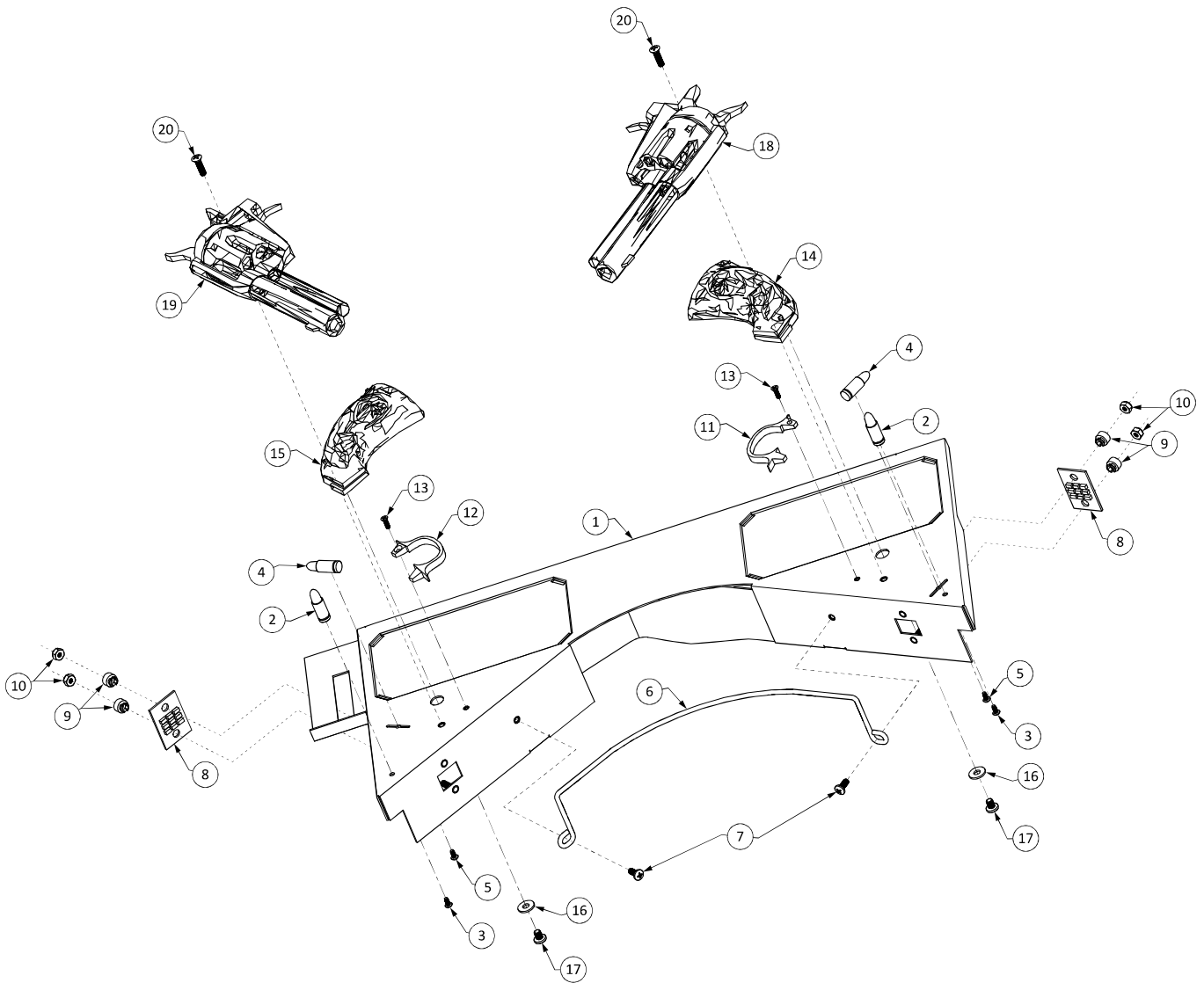
Item	Part ID	Description	Qty
1	CC-CCC-TOPBASE	CC Topper Base Wood	1
2	FNT-252-CDN4739	1/4-20 Cross Dowel Nut, 0.472" L	5
3	FNT-083-TES025	8-32 x 1/4" T-Nut, 1/2" Flange	4
4	PIN-PCB-THINFLS	Thin Flasher Board	2
5	FSS-N06-PPH050C	#6 x 1/2" PPH SMS	10
6	000-PLM-25CLMP	Cable Clamp, 1/4"	8



CC Topper Assembly CC-SUB-TOPPER

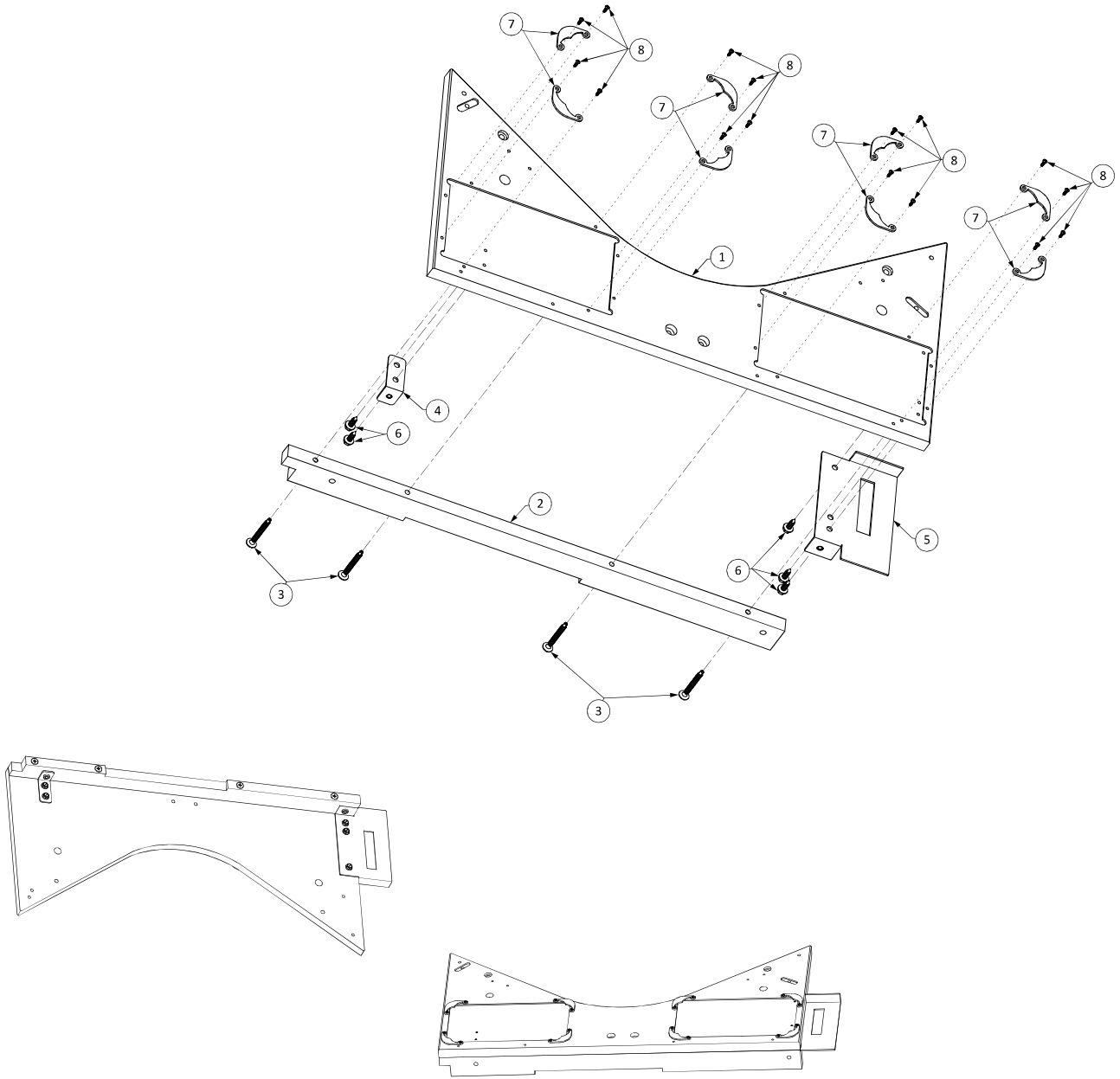
Item	Part ID	Description	Qty
1	CC-SUB-TOPBASE	CC Topper Base Assy	1
2	CC-SUB-BART	CC Topper Bart Figure Assy	1
3	FWF-N08-037S000	#8 Flat Washer, 3/8" OD	4
4	FNT-083-ESNA000	8-32 Elastic Stop Nut	4
5*	FSS-N08-PPH100C	#8 x 1" PPH SMS	4
6	CC-SUB-TOPBDRT	CC Topper Right Bldg Assy	1
7	CC-SUB-TOPBDLF	CC Topper Left Bldg Assy	1
8	CC-SUB-BCKPANL	CC Topper Back Panel Assy	1
9	FSM-252-PPH150A	1/4-20 x 1-1/2" PPH MS, Black	11

* Two of the item 5 screws thread into each hip/holster piece of the Bart figure



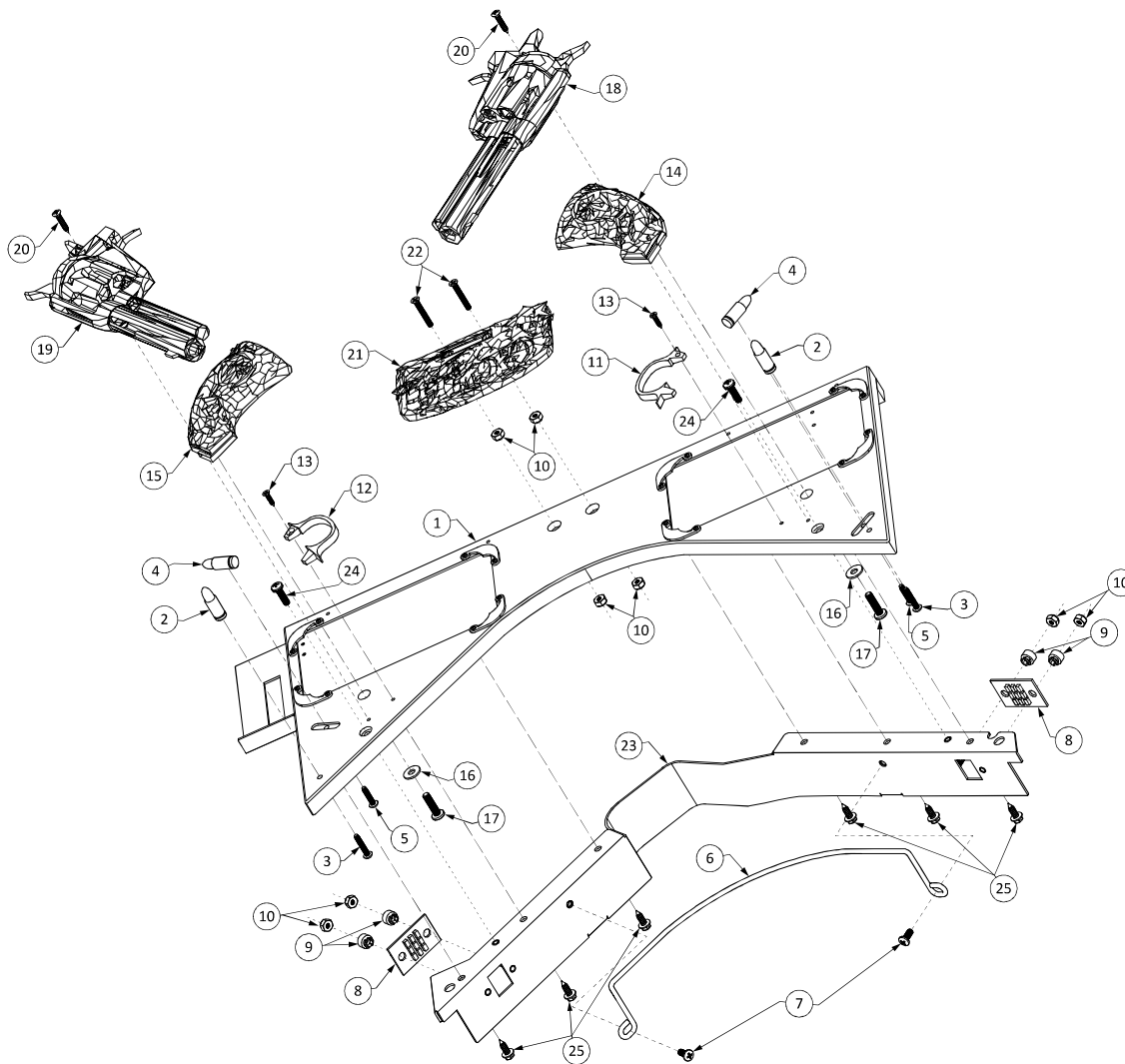
CC Bottom Arch Assembly, SE CC-SUB-A13204

Item	Part ID	Description	Qty
1	CC-MLS-LOWARCH	CC Bottom Arch, SE	1
2	CC-MLM-BULVERT	CC Bullet, Vertical Mnt	2
3	FST-063-PPH037C	6-32 x 3/8" PPH Thrd Form MS	2
4	CC-MLM-BULHORZ	CC Bullet, Horizontal Mnt	2
5	FST-063-PPH025C	6-32 x 1/4" PPH Thrd Form MS	2
6	CC-MWF-ARCFENC	CC Bottom Arch Rail	1
7	FSM-083-PPH037C	8-32 x 3/8" PPH MS	2
8	PIN-PCB-9STROBE	9 LED PCB	2
9	000-PLM-SR6018	#6 Snap-in Standoff, 3/16"	4
10	FNT-063-ESNA000	6-32 Elastic Stop Nut	4
11	CC-MLC-REVOLFL	CC Pistol Trigger Guard, Left	1
12	CC-MLC-REVOLFR	CC Pistol Trigger Guard, Right	1
13	FSM-044-PFH037C	4-40 x 3/8" PFH MS	2
14	CC-PLM-GUNGRPL	CC Pistol Handle, Left	1
15	CC-PLM-GUNGRPR	CC Pistol Handle, Right	1
16	FWF-N10-050C032	#10 Copper Washer, 0.5" OD	2
17	FSM-103-PPH025C	10-32 x 1/4" PPH MS	2
18	CC-PLM-REVOLVL	CC Pistol Barrel, Left	1
19	CC-PLM-REVOLVR	CC Pistol Barrel, Right	1
20	FSM-083-POH062A	8-32 x 5/8" Oval Head MS, Black	2



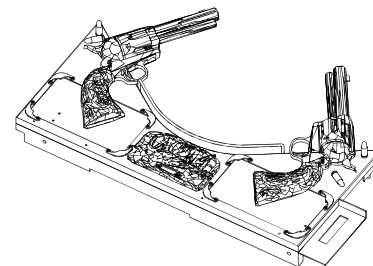
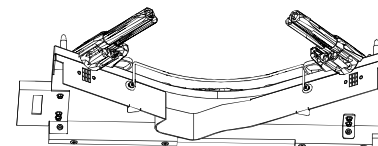
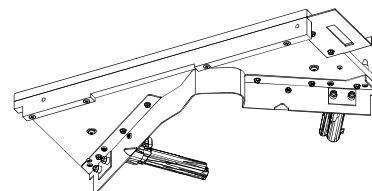
CC Bottom Arch Wood Assembly, LE CC-SUB-ARWDLE

Item	Part ID	Description	Qty
1	CC-CCC-BTMARCH	CC LE Bottom Arch Wood	1
2	CC-CCC-ARCHRAL	CC LE Bottom Arch Wood Rail	1
3	FSW-N06-PFH150A	#6 x 1-1/2" PFH WS	4
4	CC-MLS-HANGSPT	Hanger Support L Brkt	1
5	CC-MLS-SHGAUGE	CC LE Shooter Gauge	1
6	FSS-N08-HWH050C	#8 x 1/2" HWH SMS	5
7	CC-MLS-CARDCLP	CC Instr/Price Card Corner Hldr	8
8	FSS-N04-PPH025C	#4 x 1/4" PPH SMS	16

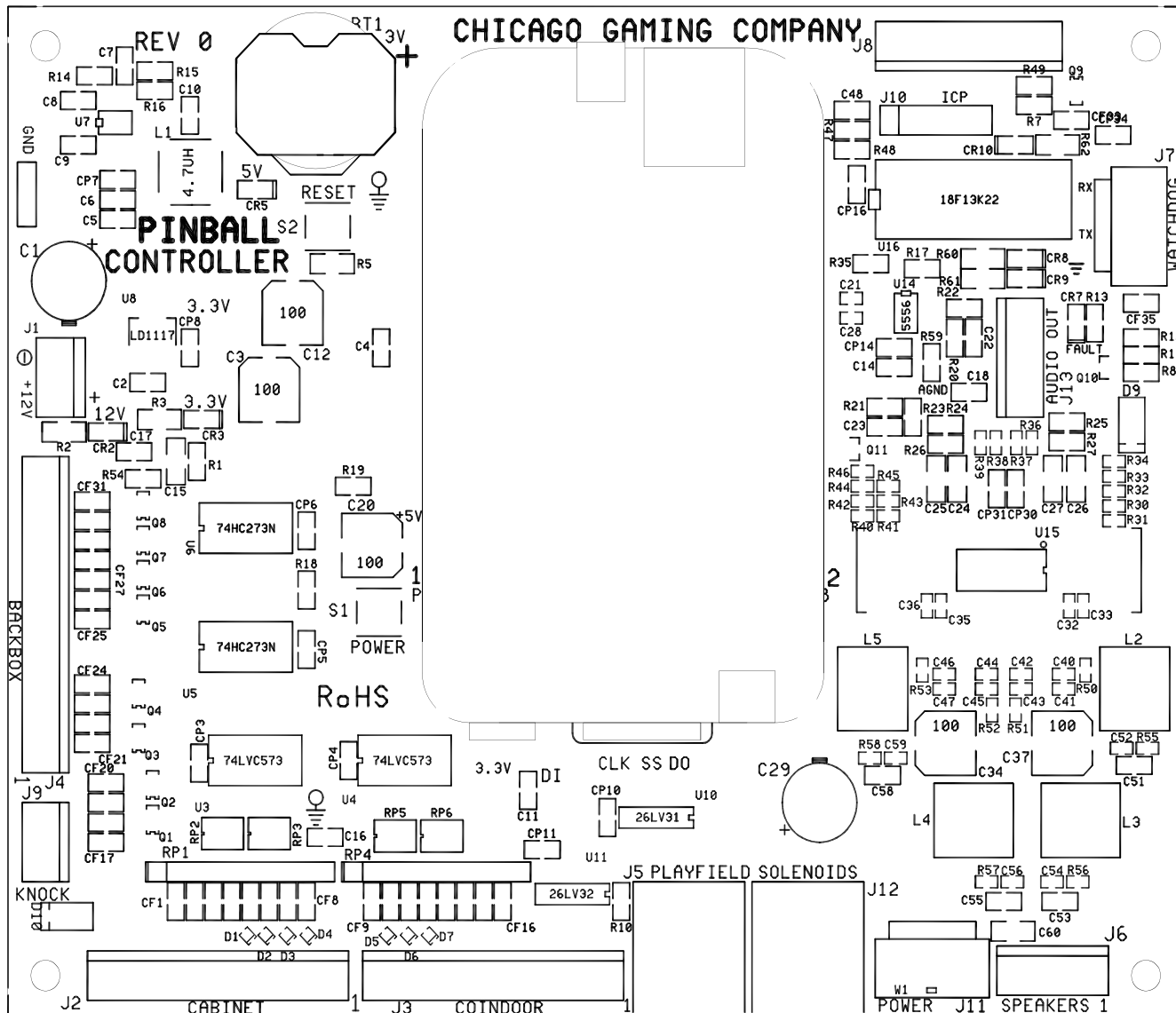


CC Bottom Arch Assembly, LE CC-SUB-ARCHLE

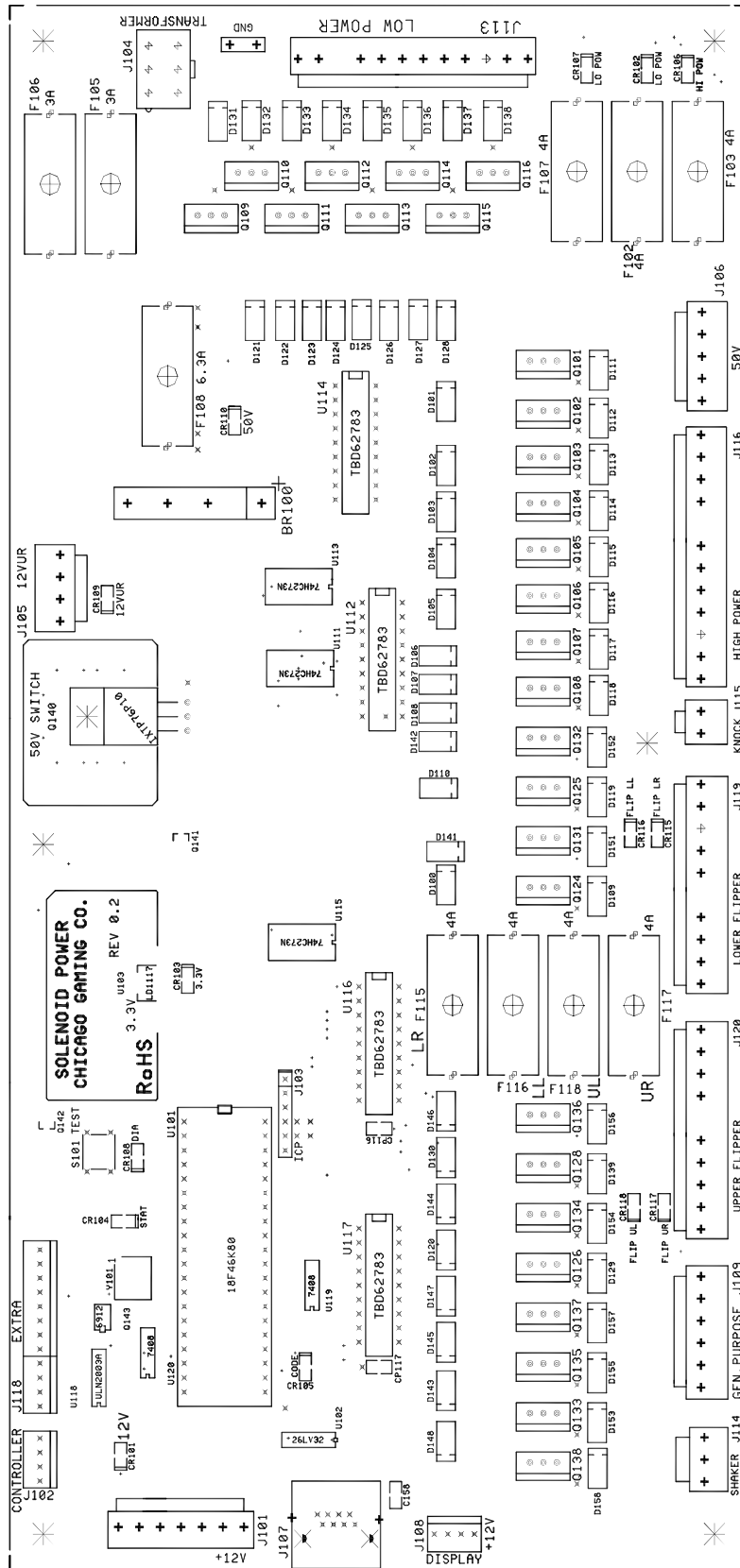
Item	Part ID	Description	Qty
1	CC-SUB-ARWDLE	CC Bottom Arch Wood Assy, LE	1
2	CC-MLM-BULVERT	CC Bullet, Vertical Mnt	2
3	FST-063-PPH075C	6-32 x 3/4" PPH Thrd Form MS	2
4	CC-MLM-BULHORZ	CC Bullet, Horizontal Mnt	2
5	FST-063-PPH063C	6-32 x 5/8" PPH Thrd Form MS	2
6	CC-MWF-ARCFENC	CC Bottom Arch Rail	1
7	FSM-083-PPH037C	8-32 x 3/8" PPH MS	2
8	PIN-PCB-9STROBE	9 LED PCB	2
9	000-PLM-SR6018	#6 Snap-in Standoff, 3/16"	4
10	FNT-063-ESNA000	6-32 Elastic Stop Nut	8
11	CC-MLC-REVOLFL	CC Pistol Trigger Guard, Left	1
12	CC-MLC-REVOLFR	CC Pistol Trigger Guard, Right	1
13	FSS-N04-PFH050C	#4 x 1/2" PFH SMS	2
14	CC-PLM-GUNGRPL	CC Pistol Handle, Left	1
15	CC-PLM-GUNGRPR	CC Pistol Handle, Right	1
16	FWF-N10-050C032	#10 Flat Washer, 0.5" OD	2
17	FSM-103-PPH075C	10-32 x 1" PPH MS	2
18	CC-PLM-REVOLVL	CC Pistol Barrel, Left	1
19	CC-PLM-REVOLVR	CC Pistol Barrel, Right	1
20	FSS-N06-POH075A	#6 x 3/4" Oval Head SMS, Black	2
21	CC-MLC-LEMEDAL	CC LE Bottom Arch Medallion	1
22	FSM-063-PFH100C	6-32 x 1" PFH MS	2
23	CC-MLS-ARCHGD	CC LE Bottom Arch Ball Guide	1
24	FSM-083-PSM062C	8-32 x 5/8" PPH MS, SEMS	2
25	FSS-N08-HWH050C	#8 x 1/2" HWH SMS	6



CC-SUB-CONTRLR Controller Board

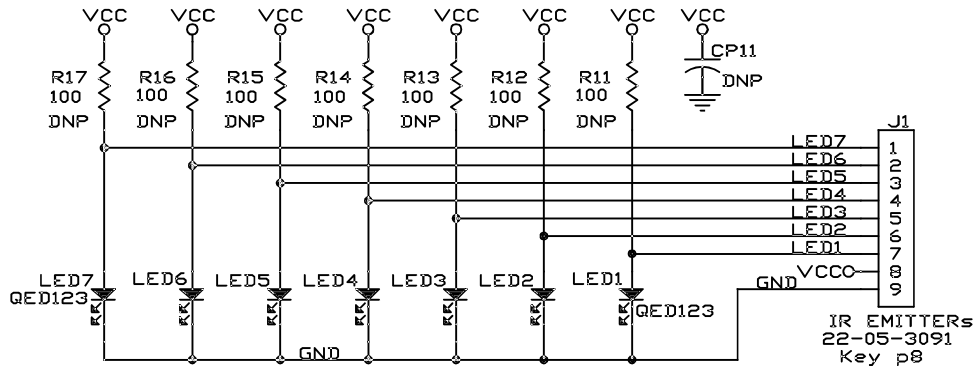
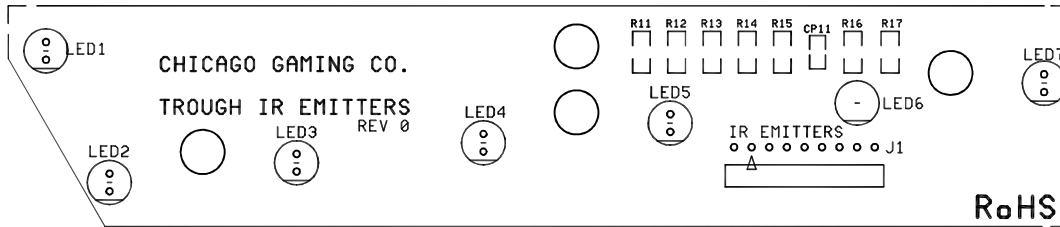


PIN-PCB-SOLPOWER Solenoid Power Board



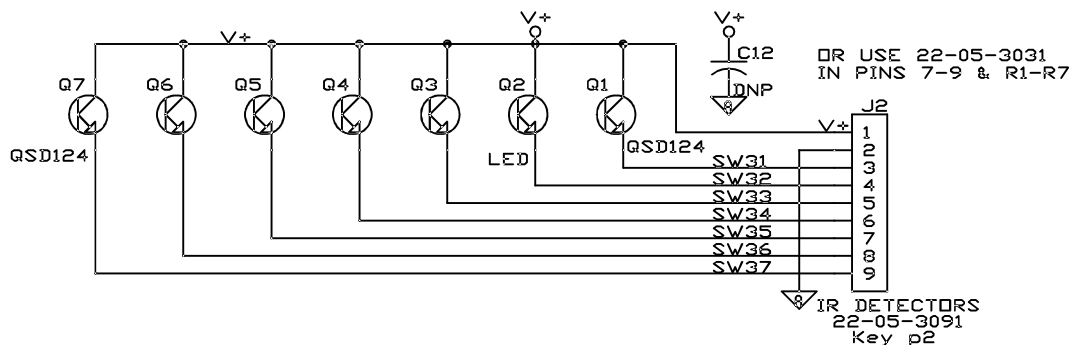
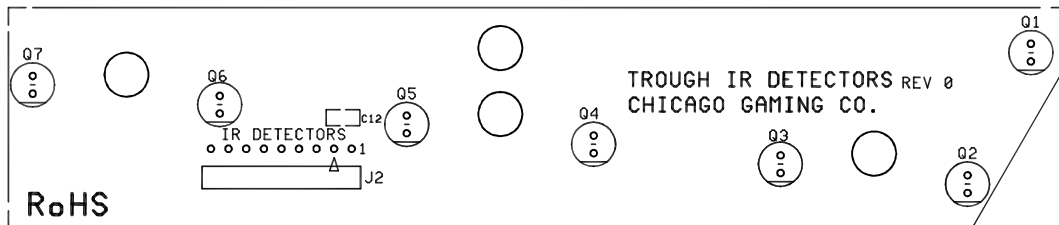
PIN-PCB-TRGHLED

Trough IR LED PCB Assembly



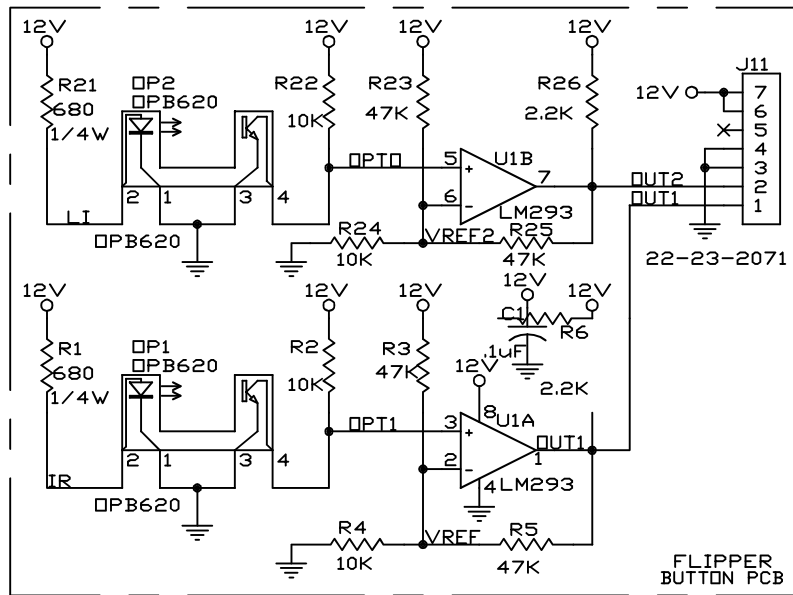
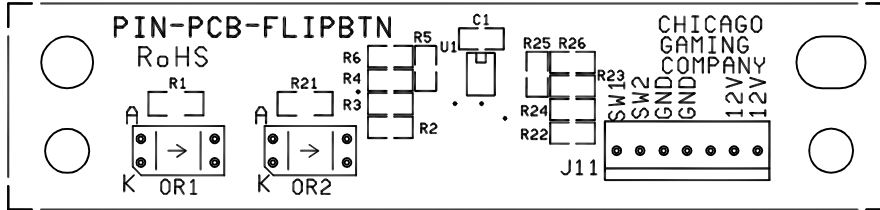
PIN-PCB-TRGHDET

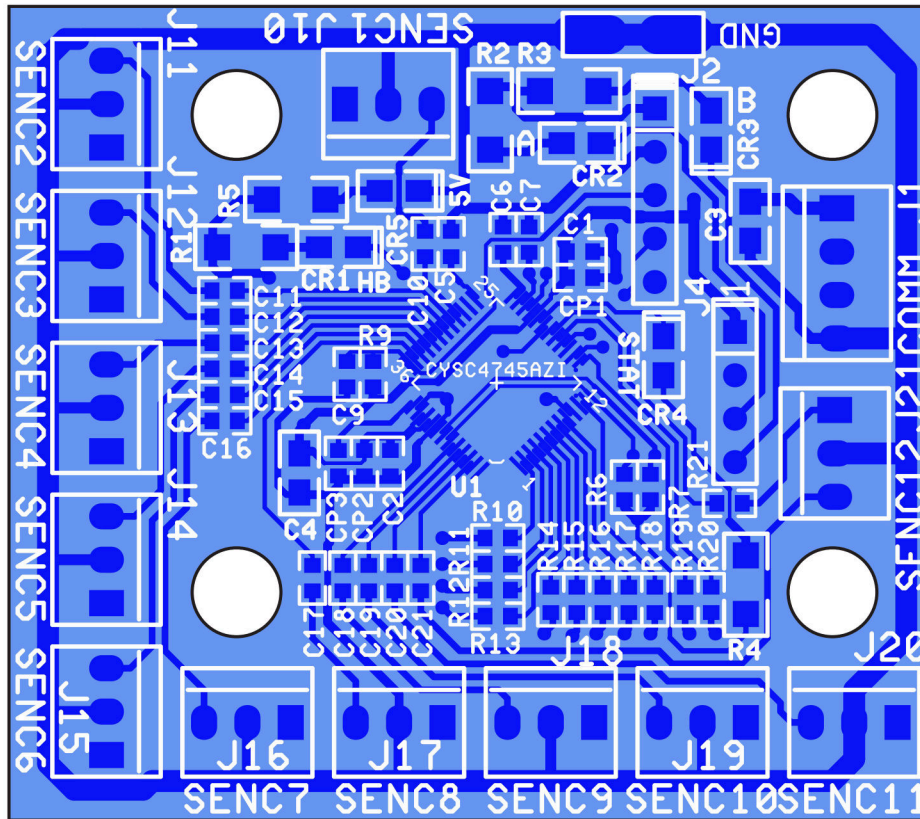
Trough IR Photo Transistor PCB Assembly



PIN-PCB-FLIPBTN

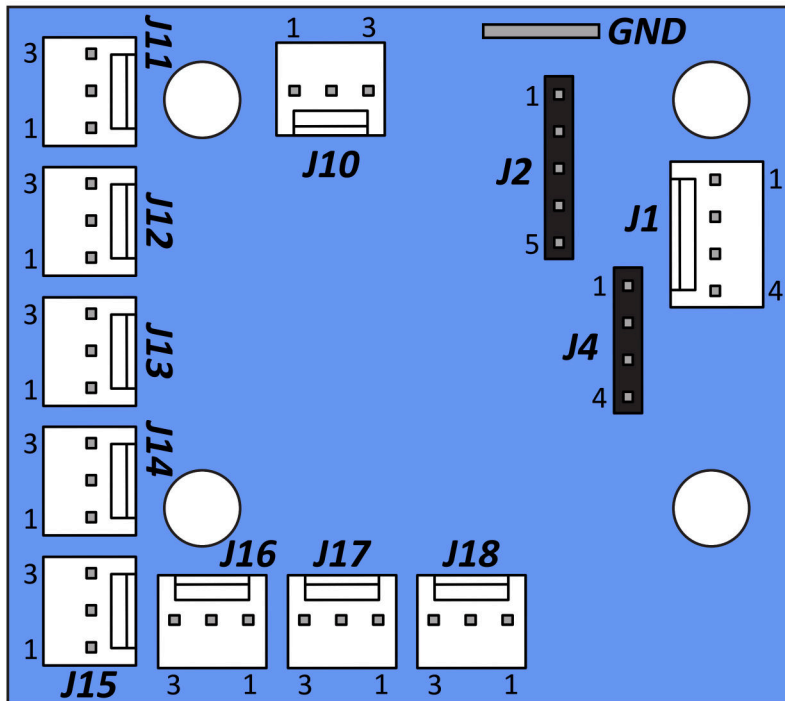
Flipper Opto PCB Assembly





CGC Inductive Monitor/Sense Board PIN-PCB-SENSPCB

Component(s)	Description
C1, C2	Capacitor, MLCC, 0603 SMD, 1 μ F, 16V, 10%
C3, C4	Capacitor, MLCC, 0805 SMD, 22 μ F, 16V, 10%
C5, C6	Capacitor, MLCC, 0603 SMD, 470pF, 16V, 10%
<i>C7</i>	<i>Not Populated</i>
C10-C21	Capacitor, MLCC, 0603 SMD, 10pF, 25V, 1%
CP1-CP3, C9	Capacitor, MLCC, 0603 SMD, 0.1 μ F, 16V, 10%
CR1-CR5	LED, Green, 0805 SMD
GND	Quick Disconnect Male Spade, 0.25"
R1-R5	Resistor, 1206 SMD, 470 Ω , 0.25W, 5%
<i>R6, R7</i>	<i>Not Populated</i>
R10-R21	Capacitor, MLCC, 0603 SMD, 0.1 μ F, 25V, 1%
U1	Microcontroller, 32-bit, 48-TQFP SMD
J1	Header w/Friction Lock, Male, 4-Pin, 2.54mm
J2	Header, Male, 5-Pin, 2.54mm
J4	Header, Male, 4-Pin, 2.54mm
J10-J18	Header w/Friction Lock, Male, 3-Pin, 2.54mm
<i>J19-J21</i>	<i>Not Populated</i>



CGC Inductive Monitor/Sense Board

PIN-PCB-SENSPCB

Connector Pin-Outs

J1 COMM

J1-1	RED	+5VDC from <i>CC Playfield PCB</i> , J90-1
J1-2	BLU	Tx from <i>CC Playfield PCB</i> , J90-2
J1-3	VIO	Rx from <i>CC Playfield PCB</i> , J90-3
J1-4	BLK	GND from <i>CC Playfield PCB</i> , J90-4

J2 Debug

Not Used

J4 PIC Flash

Not Used

J10 SENC1 [PIN-CBL-SENSR7, C1] Sw48/Jets Exit

J10-1	GRY	inductor energize to <i>Ind Sns Inst PCB</i> , S1
J10-2	BLK	GND to <i>Ind Sns Inst PCB</i> , S3
J10-3	WHT	inductor return from <i>Ind Sns Inst PCB</i> , S2

J11 SENC2 [PIN-CBL-SENSR27, C1] Sw83/Left Ramp Made

J11-1	GRY	inductor energize to <i>Ind Sns Ramp PCB</i> , S1
J11-2	BLK	GND to <i>Ind Sns Ramp PCB</i> , S3
J11-3	WHT	inductor return from <i>Ind Sns Ramp PCB</i> , S2

J12 SENC3 [PIN-CBL-SENSR27, C1] Sw85/Left Ramp Enter

J12-1	GRY	inductor energize to <i>Ind Sns Ramp PCB</i> , S1
J12-2	BLK	GND to <i>Ind Sns Ramp PCB</i> , S3
J12-3	WHT	inductor return from <i>Ind Sns Ramp PCB</i> , S2

J13 SENC4 [PIN-CBL-SENSR15, C1] Sw56/Right Loop Top

J13-1	GRY	inductor energize to <i>Ind Sns Inst PCB</i> , S1
J13-2	BLK	GND to <i>Ind Sns Inst PCB</i> , S3
J13-3	WHT	inductor return from <i>Ind Sns Inst PCB</i> , S2

J14 SENC5 [PIN-CBL-SENSR15, C1] Sw66/Right Ramp Enter

J14-1	GRY	inductor energize to <i>Ind Sns Ramp PCB</i> , S1
J14-2	BLK	GND to <i>Ind Sns Ramp PCB</i> , S3
J14-3	WHT	inductor return from <i>Ind Sns Ramp PCB</i> , S2

J15 SENC6 [PIN-CBL-SENSR15, C1] Sw65/Right Ramp Made

J15-1	GRY	inductor energize to <i>Ind Sns Ramp PCB</i> , S1
J15-2	BLK	GND to <i>Ind Sns Ramp PCB</i> , S3
J15-3	WHT	inductor return from <i>Ind Sns Ramp PCB</i> , S2

J16 SENC7 [PIN-CBL-SENSR27, C1] Sw68/Bottom Right Ramp

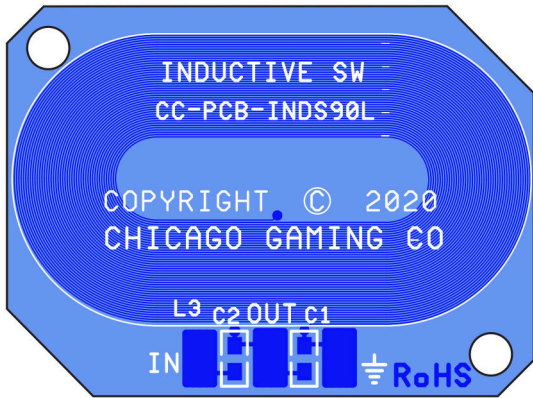
J16-1	GRY	inductor energize to <i>Ind Sns Ramp PCB</i> , S1
J16-2	BLK	GND to <i>Ind Sns Ramp PCB</i> , S3
J16-3	WHT	inductor return from <i>Ind Sns Ramp PCB</i> , S2

J17 SENC8 [PIN-CBL-SENSR15, C1] Sw15/Mine Entrance

J17-1	GRY	inductor energize to <i>Ind Sns 90L PCB</i> , S1
J17-2	BLK	GND to <i>Ind Sns 90L PCB</i> , S3
J17-3	WHT	inductor return from <i>Ind Sns 90L PCB</i> , S2

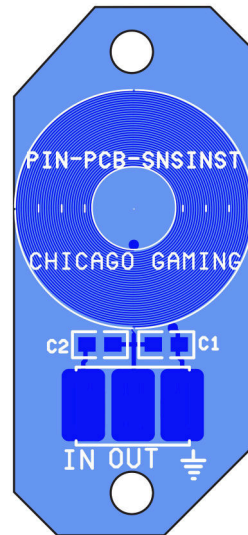
J18 SENC9

Not Used



**CGC Inductive Sense 90L Board
CC-PCB-INDS90L**

Component(s)	Description
C1	Capacitor, MLCC, 0805 SMD, 100pF, 25V, 1%
C2	Resistor, 0805 SMD, 39kΩ, 0.125W, 1%



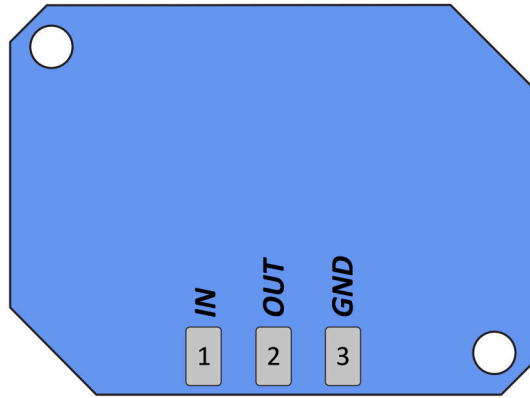
**CGC Inductive Sense Inst Board
PIN-PCB-SNSINST**

Component(s)	Description
C1	Capacitor, MLCC, 0805 SMD, 390pF, 25V, 5%
C2	Resistor, 0805 SMD, 6.8kΩ, 0.125W, 1%



**CGC Inductive Sense Ramp Board
PIN-PCB-SNSRAMP**

Component(s)	Description
C1	Capacitor, MLCC, 0805 SMD, 390pF, 25V, 5%
C2	Resistor, 0805 SMD, 6.8kΩ, 0.125W, 1%

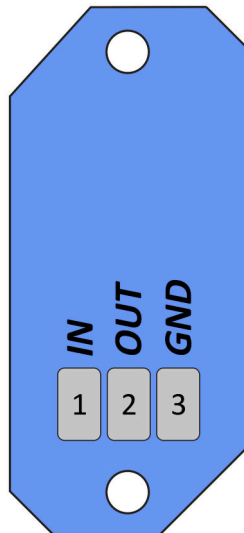


CGC Inductive Sense 90L Large Insert Board
CC-PCB-INDS90L
Connector Pin-Out

Switch 15 (Mine Entrance)

Solder Connections [PIN-CBL-SENSR15]

S1	GRY	inductor energize from <i>Ind Mon/Sns PCB</i> , J17-1
S2	WHT	inductor return to <i>Ind Mon/Sns PCB</i> , J17-3
S3	BLK	GND from <i>Ind Mon/Sns PCB</i> , J17-2 & braided cable shield



CGC Inductive Sense Insert Board
PIN-PCB-SNSINST
Connector Pin-Outs

Switch 48 (Jets Exit)

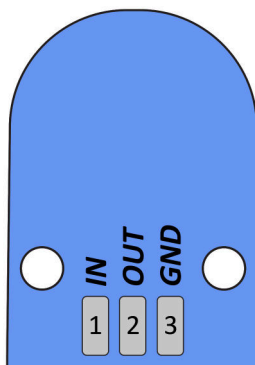
Solder Connections [PIN-CBL-SENSR7]

S1	GRY	inductor energize from <i>Ind Mon/Sns PCB</i> , J10-1
S2	WHT	inductor return to <i>Ind Mon/Sns PCB</i> , J10-3
S3	BLK	GND from <i>Ind Mon/Sns PCB</i> , J10-2 & braided cable shield

Switch 56 (Right Loop Top)

Solder Connections [PIN-CBL-SENSR15]

S1	GRY	inductor energize from <i>Ind Mon/Sns PCB</i> , J13-1
S2	WHT	inductor return to <i>Ind Mon/Sns PCB</i> , J13-3
S3	BLK	GND from <i>Ind Mon/Sns PCB</i> , J13-2 & braided cable shield



CGC Inductive Sense Ramp Board

PIN-PCB-SNSRAMP

Connector Pin-Outs

Switch 83 (Left Ramp Made)

Solder Connections [PIN-CBL-SENSR27]

S1	GRY	inductor energize from <i>Ind Mon/Sns PCB</i> , J11-1
S2	WHT	inductor return to <i>Ind Mon/Sns PCB</i> , J11-3
S3	BLK	GND from <i>Ind Mon/Sns PCB</i> , J11-2 & braided cable shield

Switch 85 (Left Ramp Enter)

Solder Connections [PIN-CBL-SENSR27]

S1	GRY	inductor energize from <i>Ind Mon/Sns PCB</i> , J12-1
S2	WHT	inductor return to <i>Ind Mon/Sns PCB</i> , J12-3
S3	BLK	GND from <i>Ind Mon/Sns PCB</i> , J12-2 & braided cable shield

Switch 66 (Right Ramp Enter)

Solder Connections [PIN-CBL-SENSR15]

S1	GRY	inductor energize from <i>Ind Mon/Sns PCB</i> , J14-1
S2	WHT	inductor return to <i>Ind Mon/Sns PCB</i> , J14-3
S3	BLK	GND from <i>Ind Mon/Sns PCB</i> , J14-2 & braided cable shield

Switch 65 (Right Ramp Made)

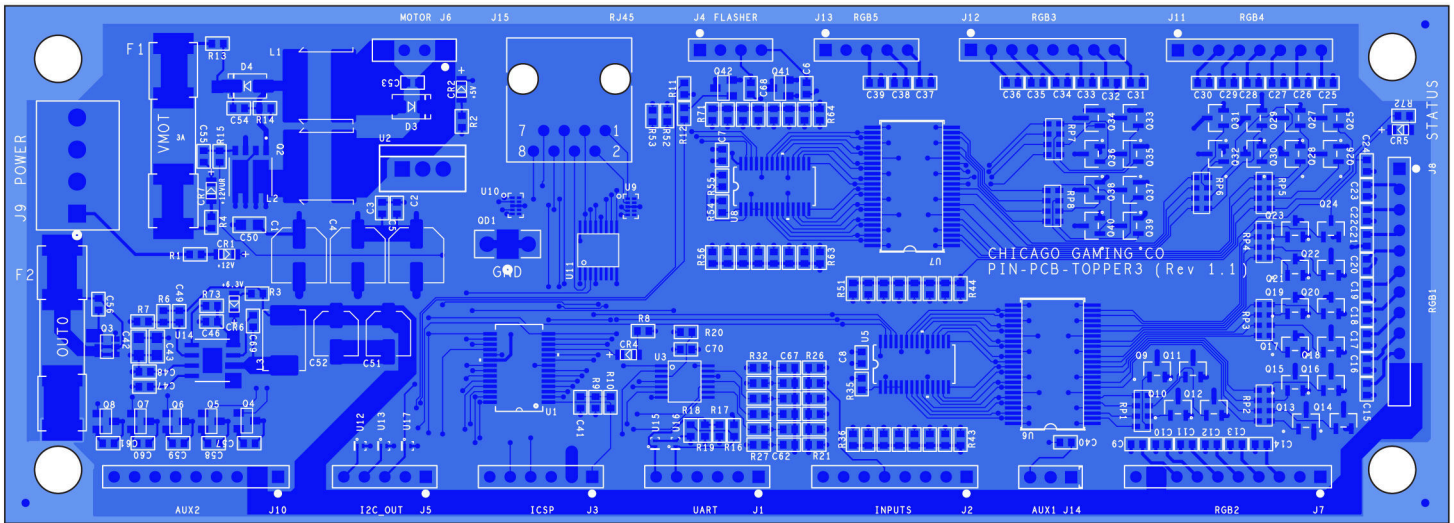
Solder Connections [PIN-CBL-SENSR15]

S1	GRY	inductor energize from <i>Ind Mon/Sns PCB</i> , J15-1
S2	WHT	inductor return to <i>Ind Mon/Sns PCB</i> , J15-3
S3	BLK	GND from <i>Ind Mon/Sns PCB</i> , J15-2 & braided cable shield

Switch 68 (Bottom Right Ramp)

Solder Connections [PIN-CBL-SENSR27]

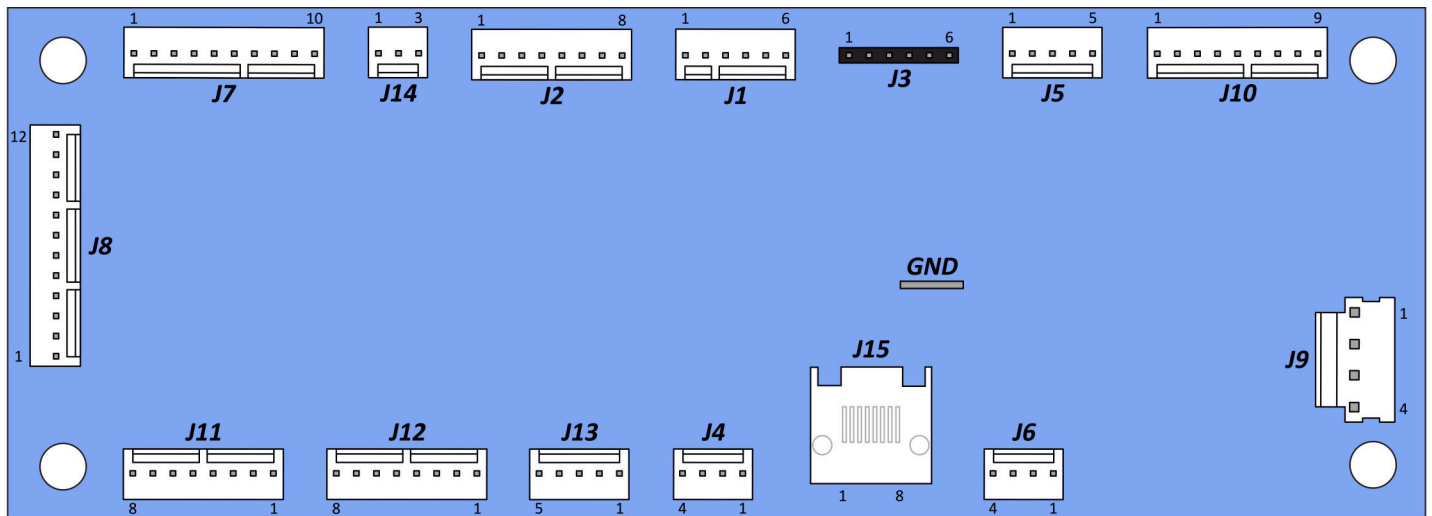
S1	GRY	inductor energize from <i>Ind Mon/Sns PCB</i> , J16-1
S2	WHT	inductor return to <i>Ind Mon/Sns PCB</i> , J16-3
S3	BLK	GND from <i>Ind Mon/Sns PCB</i> , J16-2 & braided cable shield



CGC Topper 3 Board PIN-PCB-TOPPER3

Component(s)	Description
C1	Capacitor, Elect, Radial SMD, 100 μ F, 16V
C2, C41, C46, C53, C62-C67, C70	Capacitor, MLCC, 0603 SMD, 0.1 μ F, 25V
C3	Capacitor, MLCC, 0603 SMD, 1 μ F, 16V
C4, C5	Capacitor, Elect, Radial SMD, 150 μ F, 10V
C6, C9-C40, C56-C61, C68	Capacitor, MLCC, 0603 SMD, 4700pF
C7, C8	Capacitor, MLCC, 0603 SMD, 0.1 μ F
C42, C43, C50	Capacitor, MLCC, 0805 SMD, 10 μ F, 16V
C47	Capacitor, MLCC, 0603 SMD, 8.2nF, 25V
C48	Capacitor, MLCC, 0603 SMD, 0.47 μ F, 16V
C49	Capacitor, MLCC, 0603 SMD, 18pF, 25V
C51, C52	Capacitor, Elect, Radial SMD, 22 μ F, 16V
C54, C55	Capacitor, MLCC, 0603 SMD, 100pF
C69	Capacitor, MLCC, 0603 SMD, 0.1 μ F, 25V
CR1, CR2, CR4-CR7	LED, Green, SMD
D3, D4	Diode, Gen Purp, DO-214AC SMD, 200V, 1A
<i>F1, F2.</i>	<i>Not Populated</i>
L1, L2	Inductor, 3.6 μ H, 4.9A, SMD, 30%
L3	Inductor, 3.3 μ H, 8A, SMD, 20%
Q2	IC, Dual N-Channel MOSFET, SOT-1205 SMD, 40V, 40A
Q3	MOSFET, N-Channel, TSOT-26-6 SMD, 12V, 10A
Q4-Q42	MOSFET, N-Channel, SOT-23-3 SMD, 20V, 5A
QD1	Quick Disconnect Male Spade, 0.25"
R1, R4	Resistor, 0603 SMD, 1.2k Ω , 0.1W, 5%
R2, R10, R72	Resistor, 0603 SMD, 330 Ω , 0.1W, 5%
R3	Resistor, 0603 SMD, 510 Ω , 0.1W, 5%
R6	Resistor, 0603 SMD, 165k Ω , 0.1W, 1%
R7	Resistor, 0603 SMD, 22.1k Ω , 0.1W, 1%
R8	Resistor, 0603 SMD, 620 Ω , 0.1W, 5%

Component(s)	Description
R9, R18, R27-R32	Resistor, 0603 SMD, 10k Ω , 0.1W, 5%
R11, R12, R15, R17, R20	Resistor, 0603 SMD, 100 Ω , 0.1W, 1%
R13, R14	Resistor, 0603 SMD, 2.2k Ω , 0.1W, 5%
R16	Resistor, 0603 SMD, 5.6k Ω , 0.1W, 5%
R19, R36-R51, R56-R71, R73	Resistor, 0603 SMD, 1k Ω , 0.1W, 5%
R21-R26, R52, R53, R55	Resistor, 0603 SMD, 4.7k Ω , 0.1W, 5%
R35, R54	Resistor, 0603 SMD, 3.3k Ω , 0.1W, 5%
RP1-RP8	Resistor Pack, 4 x 100 Ω
U1	Microcontroller, 8-bit, SOIC-28 SMD
U2	Volt Reg, 5V, 1A, TO-220
U3	IC, Hex CMOS Schm Trig Inverter, SOIC-14 SMD
U5, U8	IC, LED Driver, FM+ I2C Bus, TSSOP-28 SMD
U6, U7	IC, 16 Output Tri-State Line Drvr, SSOP-48 SMD
U9, U10	IC, Quad TVS Diode, USON-10 SMD
U11	IC, RS-422 Interface, SSOP-16 SMD
U12, U13, U15-U17	Diode, TVS, 2-X1SON SMD, 5.5VWVM, 14VC
U14	Volt Reg, Adj, SO-PowerPad-8 SMD, 4.5-18V, 4A
J1	Header w/Friction Lock, Male, 6-Pin, 2.54mm
J2, J11, J12	Header w/Friction Lock, Male, 8-Pin, 2.54mm
J3	Header, Male, 6-Pin, 2.54mm
J4, J6	Header w/Friction Lock, Male, 4-Pin, 2.54mm
J5, J13	Header w/Friction Lock, Male, 5-Pin, 2.54mm
J7	Header w/Friction Lock, Male, 10-Pin, 2.54mm
J8	Header w/Friction Lock, Male, 12-Pin, 2.54mm
J9	Header w/Friction Lock, Male, 4-Pin, 3.96mm
J10	Header w/Friction Lock, Male, 9-Pin, 2.54mm
J14	Header w/Friction Lock, Male, 3-Pin, 2.54mm
J15	Header, RJ45 Ethernet, 90°, Low Profile



CGC Topper 3 Board

PIN-PCB-TOPPER3

Connector Pin-Outs

J1 UART [CC-CBL-TOPHBRG cable, C3]

J1-1	YEL	+12VDC to H Bridge PCB , J1-1
J1-2	N/C	
J1-3	BLK	GND to H Bridge PCB , J1-2
J1-4	N/C	
J1-5	N/C	
J1-6	N/C	

J5-2	BLK	GND to left & right arm motor cables, pin 3 thru CC-CBL-TOPAIM , C4-2, CC-CBL-TOPBART , C8-2, C1-6 & 7, CC-CBL-BARTMTR , C3-6 & 7
J5-3	VIO	LED_RES ctrl signal to Aim PCB , J1-3
J5-4	WHT	LED_SDA ctrl signal to Aim PCB , J1-4
J5-5	BLU	LED_SCL ctrl signal to Aim PCB , J1-5

J2 INPUTS [CC-CBL-TOPBART cable, C6]

J2-1	ORN	motor A from left arm motor cable, pin 5 thru CC-CBL-TOPBART , C1-3 & CC-CBL-BARTMTR , C3-3
J2-2	BLU	motor B from left arm motor cable, pin 6 thru CC-CBL-TOPBART , C1-1 & CC-CBL-BARTMTR , C3-1
J2-3	GRY	motor A from right arm motor cable, pin 5 thru CC-CBL-TOPBART , C1-10 & CC-CBL-BARTMTR , C3-10
J2-4	WHT	motor B from right arm motor cable, pin 6 thru CC-CBL-TOPBART , C1-12 & CC-CBL-BARTMTR , C3-12
J2-5	WHT-BLU	arm sense from Left Hall Effect PCB , J1-3
J2-6	WHT-VIO	arm sense from Right Hall Effect PCB , J1-3
J2-7	BLK	GND to Left Hall Effect PCB , J1-4
J2-8	BLK	GND to Right Hall Effect PCB , J1-4

J6 MOTOR

Not Used

J7 RGB2 [CC-CBL-TOPBDFL cable, C1]

J7-1	YEL	+12VDC to wdw4 Window LED PCB , J1-1
J7-2	YEL	+12VDC to backgd RGB strip, P1
J7-3	GRY-VIO	wdw4 backlight, to Window LED PCB , J1-3
J7-4	RED-VIO	wdw4 flasher, to Window LED PCB , J1-4
J7-5	WHT-VIO	wdw4 green edge light, to Window LED PCB , J1-6
J7-6	RED	red ctrl to backgd RGB strip, P4
J7-7	GRN	green ctrl to backgd RGB strip, P2
J7-8	BLU	blue ctrl to backgd RGB strip, P3
J7-9	WHT-RED	+6.3VDC to Aim PCB , J1-1 thru CC-CBL-TOPBDFL cable, C8-1 & CC-CBL-TOPAIM cable, C3-1
J7-10	BLK	GND to Aim PCB , J1-2 thru CC-CBL-TOPBDFL cable, C8-2 & CC-CBL-TOPAIM cable, C3-2

J3 ICSP

Not Used

J4 FLASHER [CC-CBL-TOPLAMP cable, C2]

J4-1	YEL	+12VDC to Bart left Flasher PCB , solder 1
J4-2	N/C	
J4-3	BLU-RED	Bart right Flasher PCB , solder 2
J4-4	BLU-BLK	Bart left Flasher PCB cable, solder 2

J5 I2C_OUT [CC-CBL-TOPAIM cable, C1]

J5-1	RED	+5VDC to left & right arm motor cables, pin 4 thru CC-CBL-TOPAIM , C4-3, CC-CBL-TOPBART , C8-3, C1-5 & 8, CC-CBL-BARTMTR , C3-5 & 8
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J8 RGB1 [CC-CBL-TOPBDFL cable, C2]

J8-1	YEL	+12VDC to wdw1 Window LED PCBs , J1-1
J8-2	GRY-BRN	wdw1 backlight, to Window LED PCB , J1-3
J8-3	RED-BRN	wdw1 flasher, to Window LED PCB , J1-4
J8-4	WHT-BRN	wdw1 green edge light, to Window LED PCB , J1-6
J8-5	GRY	wdw2 backlight, to Window LED PCB , J1-3
J8-6	RED-GRY	wdw2 flasher, to Window LED PCB , J1-4
J8-7	WHT-GRY	wdw2 red edge light, to Window LED PCB , J1-5
J8-8	GRY-RED	wdw3 backlight, to Window LED PCB , J1-3
J8-9	RED	wdw3 flasher, to Window LED PCB , J1-4
J8-10	WHT-RED	wdw3 green edge light, to Window LED PCB , J1-6
J8-11	N/C	
J8-12	N/C	

J9 POWER [CC-CBL-TOPLAMP cable, C1]

J9-1	YEL	+12VDC from Solenoid Power PCB , J118-2 thru CC-CBL-TOPLAMP , C6-1
J9-2	BLK	GND from Solenoid Power PCB , J118-3 thru CC-CBL-TOPLAMP , C6-2
J9-3	N/C	
J9-4	N/C	

J10 AUX2 [CC-CBL-TOPHBRG cable, C1]

J10-1	YEL	+12VDC to Left Hall Effect PCB , J1-1 thru CC-CBL-TOPHBRG , C4-1 & CC-CBL-TOPBART , C7-1
J10-2	N/C	
J10-3	N/C	
J10-4	N/C	
J10-5	WHT-GRN	left arm CW signal, to H Bridge PCB , J1-3
J10-6	WHT-BLU	left arm CCW signal, to H Bridge PCB , J1-4
J10-7	N/C	
J10-8	WHT-RED	right arm CW signal, to H Bridge PCB , J1-5
J10-9	WHT-YEL	right arm CCW signal, to H Bridge PCB , J1-6

J11 RGB4 [CC-CBL-TOPBDRT cable, C2]

J11-1	YEL	+12VDC to wdw5 Window LED PCBs , J1-1
J11-2	N/C	
J11-3	GRY-ORN	wdw5 backlight, to Window LED PCB , J1-3
J11-4	RED-ORN	wdw5 flasher, to Window LED PCB , J1-4
J11-5	WHT-ORN	wdw5 green edge light, to Window LED PCB , J1-6
J11-6	GRY-BLU	wdw6 backlight, to Window LED PCB , J1-3
J11-7	RED-BLU	wdw6 flasher, to Window LED PCB , J1-4
J11-8	WHT-BLU	wdw6 red edge light, to Window LED PCB , J1-5

J12 RGB3 [CC-CBL-TOPBDRT cable, C1]

J12-1	YEL	+12VDC to wdw7 Window LED PCBs , J1-1
J12-2	GRY-GRN	wdw7 backlight, to Window LED PCB , J1-3
J12-3	RED-GRN	wdw7 flasher, to Window LED PCB , J1-4
J12-4	WHT-GRN	wdw7 green edge light, to Window LED PCB , J1-6
J12-5	N/C	
J12-6	GRY-YEL	wdw8 backlight, to Window LED PCB , J1-3
J12-7	RED-YEL	wdw8 flasher, to Window LED PCB , J1-4
J12-8	WHT-YEL	wdw8 green edge light, to Window LED PCB , J1-6

J13 RGB5 [CC-CBL-TOPLAMP cable, C4]

J13-1	YEL	+12VDC to Bart RGB PCB , solder 1
J13-2	N/C	
J13-3	RED-WHT	red ctrl to Bart RGB PCB , solder 2
J13-4	GRN-WHT	green ctrl to Bart RGB PCB , solder 3
J13-5	BLU-WHT	blue ctrl to Bart RGB PCB , solder 4

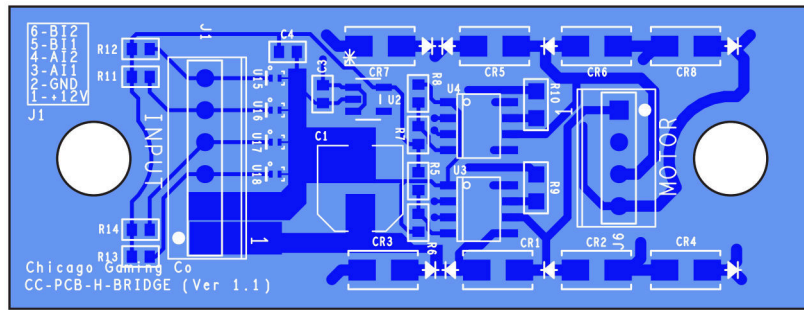
J14 AUX1 [CC-CBL-TOPLAMP cable, C3]

J14-1	YEL	+12VDC to left bldg LED strip, P1
J14-2	N/C	
J14-3	GRY-BLK	cntrl to left bldg LED strip, P2

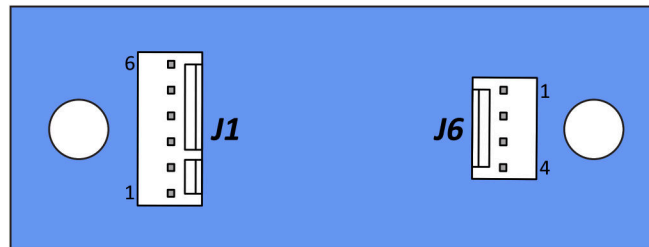
J15 RJ45 [000-CBL-05MCAT5 Ethernet cable]

SPI comms to/from **CPU Bd**

H Bridge Board CC-PCB-HBRIDGE



Component(s)	Description
CR1-CR8	Diode, Schottky, DO-214AC SMA SMD, 45V, 1.5A
C1	Capacitor, Elect, Radial SMD, 100 μ F, 16V, 20%
C3	Capacitor, MLCC, 0603 SMD, 1 μ F, 16V, X7R, 10%
C4	Capacitor, MLCC, 0603 SMD, 2.2 μ F, 10V, X7R, 10%
R5, R7	Resistor, 0603 SMD, 9.1k Ω , 0.1W, 1%
R6, R8	Resistor, 0603 SMD, 2.7k Ω , 0.1W, 1%
R9, R10	Resistor, 0805 SMD, 100m Ω , 0.333W, 1%
R11-R14	Resistor, 0603 SMD, 10k Ω , 0.1W, 1%
U2	Linear Voltage Reg, SOT-23-5 SMD, 5V, 150mA
U3, U4	Brushed Motor Drvr, 8-SOIC SMD, 50V/3A
U15-U18	Diode, TVS, 2-X1SON SMD, 5.5VWVM, 14VC
J1	Header w/Friction Lock, Male, 6-Pin, 2.54mm
J6	Header w/Friction Lock, Male, 4-Pin, 2.54mm



H Bridge Board CC-PCB-HBRIDGE Connector Pin-Outs

J1 INPUT [CC-CBL-TOPHBRG cable, C2]

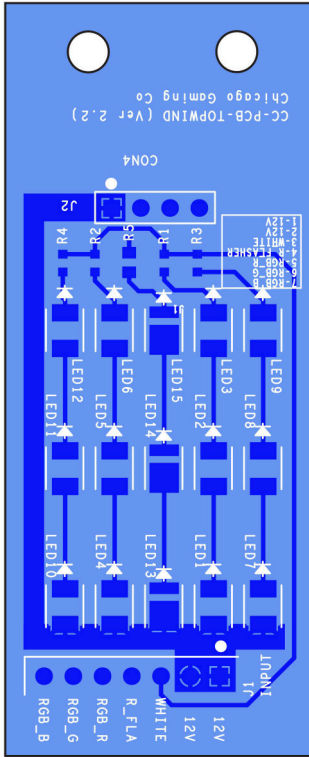
J1-1	YEL	+12VDC from Topper3 PCB , J10-1
J1-2	BLK	GND from Topper3 PCB , J1-3
J1-3	WHT-GRN	Bart left arm, CW from Topper3 PCB , J10-5
J1-4	WHT-BLU	Bart left arm, CCW from Topper3 PCB , J10-6
J1-5	WHT-RED	Bart right arm, CW from Topper3 PCB , J10-8
J1-6	WHT-YEL	Bart right arm, CCW from Topper3 PCB , J10-9

J6 MOTOR [CC-CBL-TOPBART cable, C5]

J6-1	GRN	motor+ to left arm motor cable, pin 1, thru CC-CBL-TOPBART , C1-11 & CC-CBL-BARTMTR , C3-11
J6-2	YEL	motor- to left arm motor cable, pin 2, thru CC-CBL-TOPBART , C1-9 & CC-CBL-BARTMTR , C3-9
J6-3	VIO	motor+ to right arm motor cable, pin 1, thru CC-CBL-TOPBART , C1-2 & CC-CBL-BARTMTR , C3-2
J6-4	BRN	motor- to right arm motor cable, pin 2, thru CC-CBL-TOPBART , C1-4 & CC-CBL-BARTMTR , C3-4

CC Topper Window Board Assembly

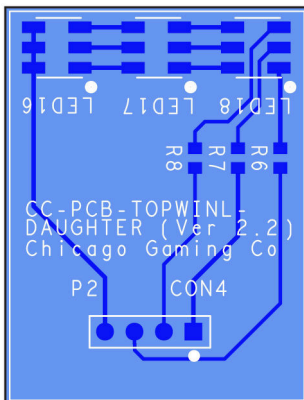
CC-PCB-TOPWIND



CC Topper Window Base Board

CC-PCB-TOPWIND

Component(s)	Description
LED1-LED12	LED, Warm White, SMD
LED13-LED15	LED, Warm White, SMD
R1-R4	Resistor, 0603 SMD, 120Ω, 0.1W, 5%
R5	Resistor, 0603 SMD, 100Ω, 0.1W, 5%
J1	Header w/Friction Lock, Male, 90°, 7-Pin, 2.54mm
J2*	<i>Not Populated</i>



CC Topper Window Daughter Board

CC-PCB-TOPWIND-DAUGHTER

Component(s)	Description
LED16-LED18	LED, RGB, SMD
R6, R8	Resistor, 0603 SMD, 150Ω, 0.1W, 5%
R7	Resistor, 0603 SMD, 330Ω, 0.1W, 5%
P2/CON4*	Header, Male, 90°, 4-Pin, 2.54mm

* the *CC-PCB-TOPWIND-DAUGHTER* P2/CON4 header is soldered into J2 of the *CC-PCB-TOPWIND* board to create an 'L' shaped PCB assembly



CC Topper Window Board Assemblies

CC-PCB-TOPWINL

Connector Pin-Outs

Window 1 (Left Topper Bldg)

J1 INPUT [CC-CBL-TOPBDLF cable, C3]

J1-1	YEL	+12VDC from Topper3 PCB , J8-1
J1-2	YEL	+12VDC to Window 2 PCB , J1-1
J1-3	GRY-BRN	wdw1 backlight from Topper3 PCB , J8-2
J1-4	RED-BRN	wdw1 flasher from Topper3 PCB , J8-3
J1-5	N/C	
J1-6	WHT-BRN	wdw1 green edge light from Topper3 PCB , J8-4
J1-7	N/C	

Window 2 (Left Topper Bldg)

J1 INPUT [CC-CBL-TOPBDLF cable, C4]

J1-1	YEL	+12VDC from Window 1 PCB , J1-2
J1-2	YEL	+12VDC to Window 3 PCB , J1-1
J1-3	GRY	wdw2 backlight from Topper3 PCB , J8-5
J1-4	RED-GRY	wdw2 flasher from Topper3 PCB , J8-6
J1-5	WHT-GRY	wdw2 red edge light from Topper3 PCB , J8-7
J1-6	N/C	
J1-7	N/C	

Window 3 (Left Topper Bldg)

J1 INPUT [CC-CBL-TOPBDLF cable, C5]

J1-1	YEL	+12VDC from Window 2 PCB , J1-2
J1-2	N/C	
J1-3	GRY-RED	wdw3 backlight from Topper3 PCB , J8-8
J1-4	RED	wdw3 flasher from Topper3 PCB , J8-9
J1-5	N/C	
J1-6	WHT-RED	wdw3 green edge light from Topper3 PCB , J8-10
J1-7	N/C	

Window 4 (Left Topper Bldg)

J1 INPUT [CC-CBL-TOPBDLF cable, C7]

J1-1	YEL	+12VDC from Topper3 PCB , J7-1
J1-2	N/C	
J1-3	GRY-VIO	wdw4 backlight from Topper3 PCB , J7-3
J1-4	RED-VIO	wdw4 flasher from Topper3 PCB , J7-4
J1-5	N/C	
J1-6	WHT-VIO	wdw4 green edge light from Topper3 PCB , J7-5
J1-7	N/C	

Window 5 (Right Topper Bldg)

J1 INPUT [CC-CBL-TOPBDRT cable, C3]

J1-1	YEL	+12VDC from Topper3 PCB , J11-1
J1-2	YEL	+12VDC to Window 6 PCB , J1-1
J1-3	GRY-ORN	wdw5 backlight from Topper3 PCB , J11-3
J1-4	RED-ORN	wdw5 flasher from Topper3 PCB , J11-4
J1-5	N/C	
J1-6	WHT-ORN	wdw5 green edge light from Topper3 PCB , J11-5
J1-7	N/C	

Window 6 (Right Topper Bldg)

J1 INPUT [CC-CBL-TOPBDRT cable, C4]

J1-1	YEL	+12VDC from Window 5 PCB , J1-2
J1-2	N/C	
J1-3	GRY-BLU	wdw6 backlight from Topper3 PCB , J11-6
J1-4	RED-BLU	wdw6 flasher from Topper3 PCB , J11-7
J1-5	WHT-BLU	wdw6 red edge light from Topper3 PCB , J11-8
J1-6	N/C	
J1-7	N/C	

Window 7 (Right Topper Bldg)

J1 INPUT [CC-CBL-TOPBDRT cable, C5]

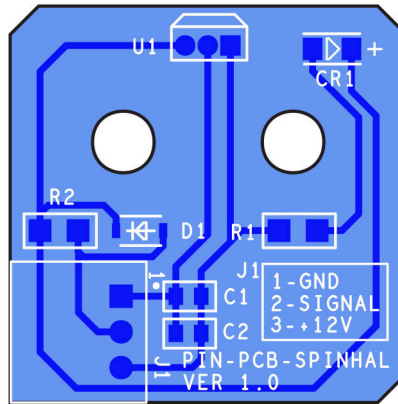
J1-1	YEL	+12VDC from Topper3 PCB , J12-1
J1-2	YEL	+12VDC to Window 8 PCB , J1-1
J1-3	GRY-GRN	wdw7 backlight from Topper3 PCB , J12-2
J1-4	RED-GRN	wdw7 flasher from Topper3 PCB , J12-3
J1-5	N/C	
J1-6	WHT-GRN	wdw7 green edge light from Topper3 PCB , J12-4
J1-7	N/C	

Window 8 (Right Topper Bldg)

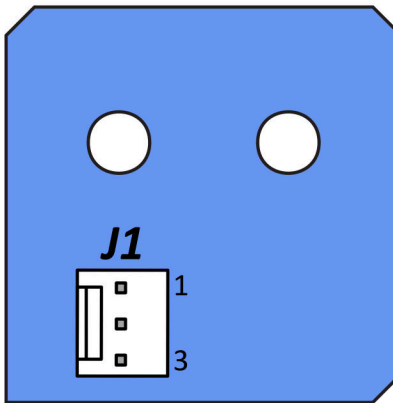
J1 INPUT [CC-CBL-TOPBDRT cable, C6]

J1-1	YEL	+12VDC from Window 7 PCB , J1-2
J1-2	N/C	
J1-3	GRY-YEL	wdw8 backlight from Topper3 PCB , J12-6
J1-4	RED-YEL	wdw8 flasher from Topper3 PCB , J12-7
J1-5	N/C	
J1-6	WHT-YEL	wdw8 green edge light from Topper3 PCB , J12-8
J1-7	N/C	

Spinner Hall Effect Board PIN-PCB-SPINHAL



Component(s)	Description
C1	Capacitor, MLCC, 0603 SMD, 0.1 μ F, 10%
C2	Capacitor, MLCC, 0603 SMD, 1 μ F, 10%
CR1	LED, Green, 0805 SMD
D1	Diode, Schottky, TUMD2M SMD, 30V, 500mA
<i>R1</i>	<i>Not Populated</i>
R2	Resistor, 0805 SMD, 0 Ω
U1	Hall Effect Sensor, TO-92-3
J1	Header w/Friction Lock, Male, 3-Pin, 2mm



Spinner Hall Effect Board PIN-PCB-SPINHAL *Connector Pin-Outs*

Left Spinner Hall Effect Bd

J1 INPUT [CC-CBL-TOPBART cable, C3]

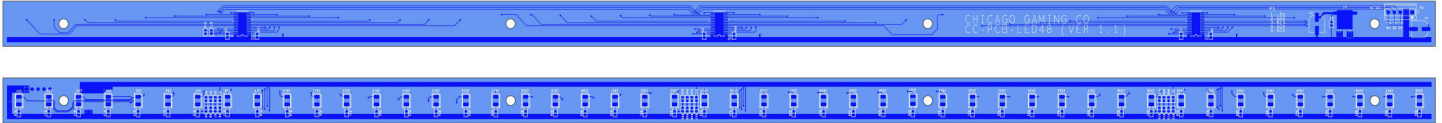
J1-1	BLK	GND from Topper3 PCB , J2-7
J1-2	WHT-BLU	Bart left arm sense signal to Topper3 PCB , J2-5
J1-3	YEL	+12VDC from Topper3 PCB , J1-1 (thru CC-CBL-TOPBART , C7-1)

Right Spinner Hall Effect Bd

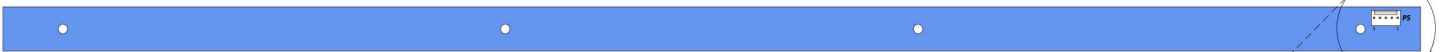
J1 INPUT [CC-CBL-TOPBART cable, C4]

J1-1	BLK	GND from Topper3 PCB , J2-8
J1-2	WHT-VIO	Bart right arm sense signal to Topper3 PCB , J2-6
J1-3	YEL	+12VDC from Left Hall Effect PCB , J1-2

48-LED CC Topper Aim Board CC-PCB-48LED



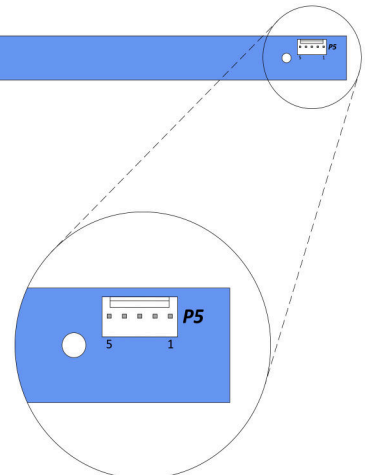
Component(s)	Description
C1, C2	Capacitor, MLCC, 0603 SMD, 1 μ F
C3, C6	Capacitor, MLCC, 0603 SMD, 0.1 μ F
C4	Capacitor, Elect, Radial SMD, 100 μ F, 16V
C5	Capacitor, Elect, Radial SMD, 150 μ F, 10V
CR1-CR48	LED, White, SMD
R1, R46, R71	Resistor, 0603 SMD, 715 Ω , 0.1W, 5%
<i>R2, R3, R5, R8, R42, R43, R49, R50, R67, R69, R70, R73.</i>	<i>Not Populated</i>
R4, R6, R7, R9, R44, R45, R47, R48, R68, R72, R74, R75	Resistor, 0603 SMD, 0 Ω
R10-R41, R51-R66	Resistor, 0603 SMD, 178 Ω , 0.1W, 5%
U1-U3	IC, LED Driver, FM+ I2C Bus, TSSOP-28 SMD
U4-U6	Diode, TVS, 2-X1SON SMD, 5.5VWVM, 14VC
U7	Volt Reg, 3.3V, 1A, TO-253-3 SMD
P5	Header w/Friction Lock, Male, 5-Pin, 2.54mm



48-LED CC Topper Aim Board CC-PCB-48LED Connector Pin-Out

P5 I2C_IN [CC-CBL-TOPAIM cable, C2]

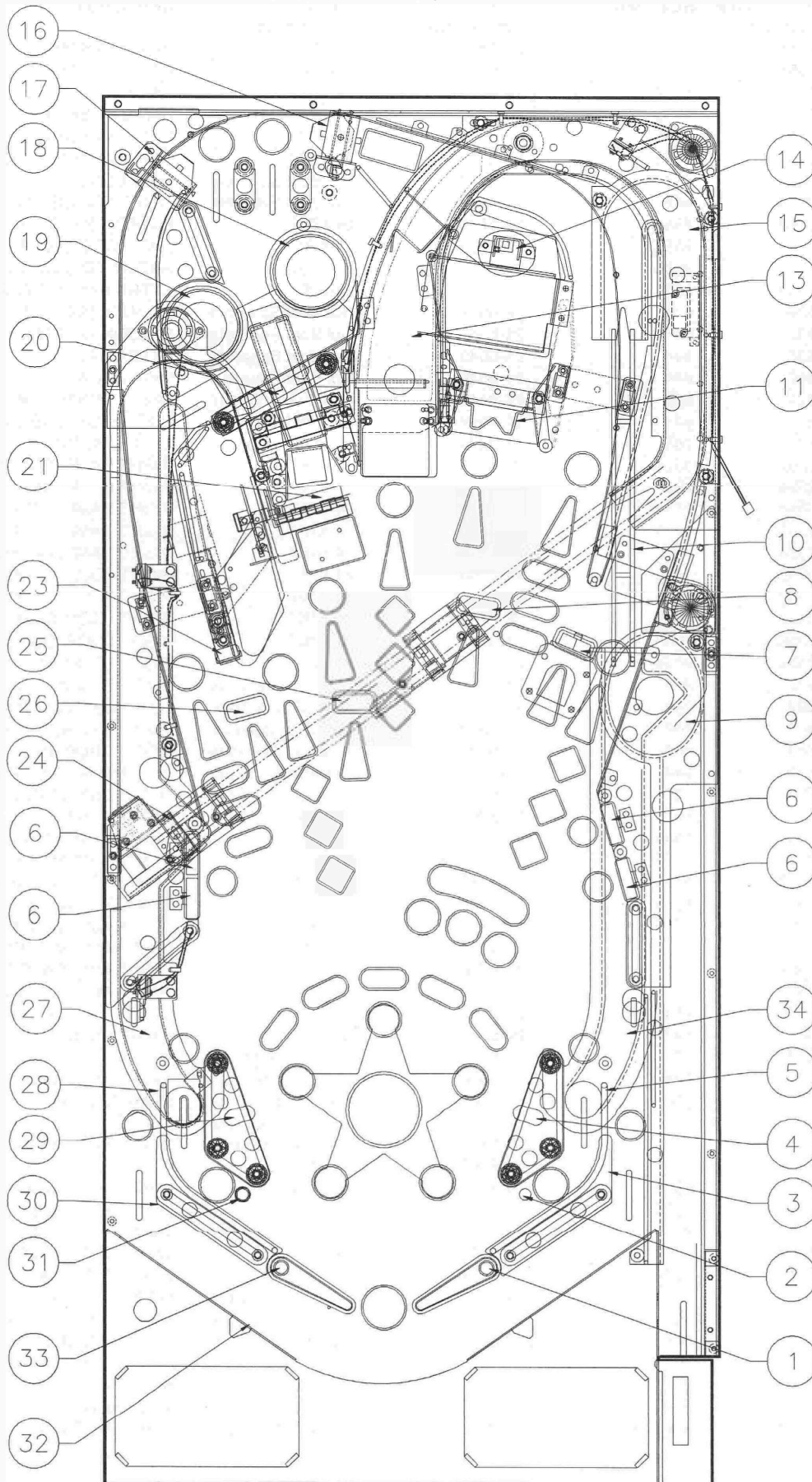
J1-1	WHT-RED	+6.3VDC from Topper3 PCB , J7-9 (thru <i>CC-CBL-TOPAIM</i> , C4-1)
J1-2	BLK	GND from Topper3 PCB , J7-10 (thru <i>CC-CBL-TOPAIM</i> , C4-2)
J1-3	VIO	LED_RES ctrl signal from Topper3 PCB , J5-3
J1-4	WHT	LED_SDA ctrl signal from Topper3 PCB , J5-4
J1-5	BLU	LED_SCL ctrl signal from Topper3 PCB , J5-5



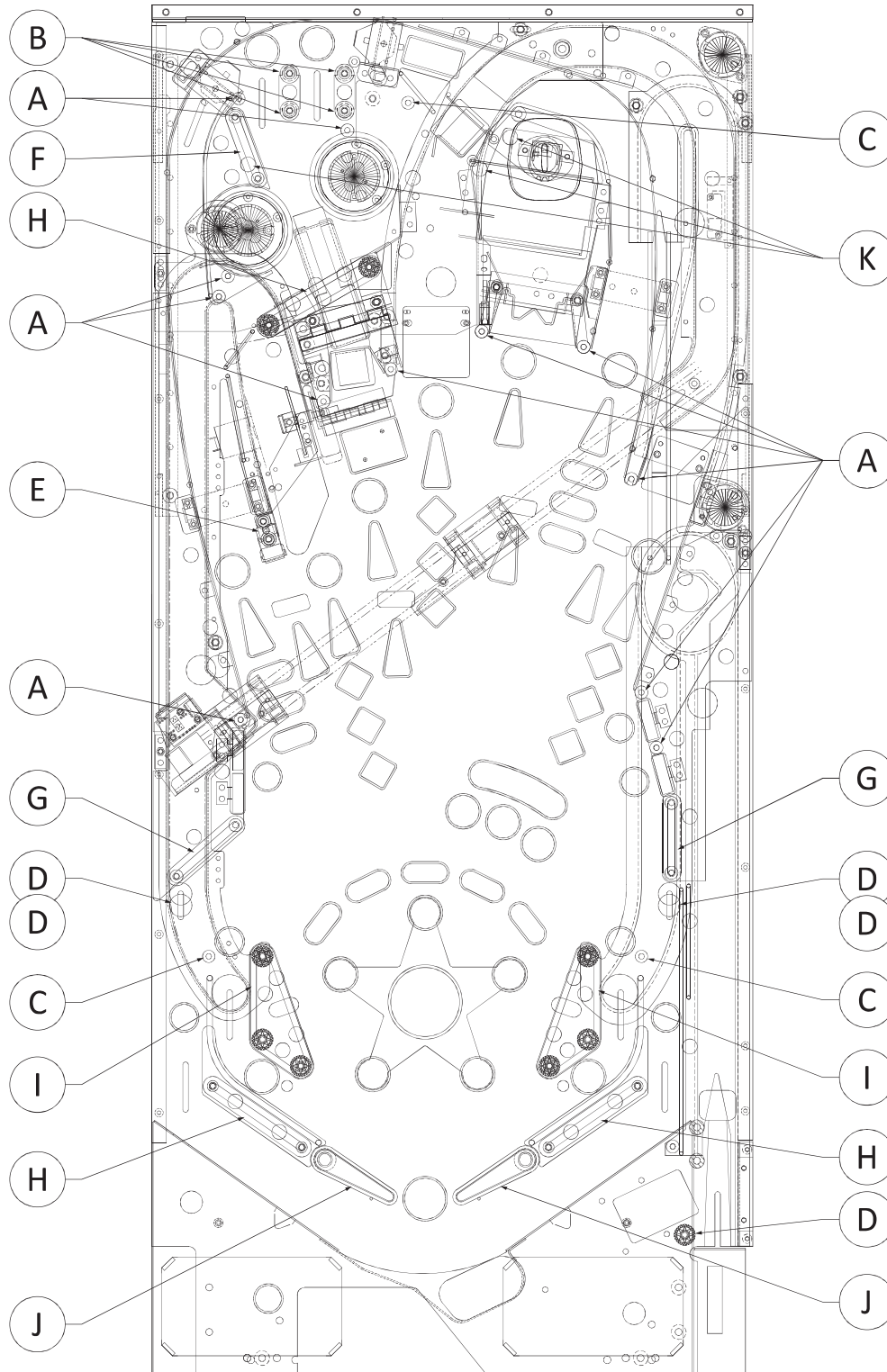
Upper Playfield Parts

Item #	Part #	Description	Item #	Part #	Description
1	A-14876-R	Right Flipper Assembly		A-22466	Mine Door
	20-10110-5	Flipper Bat w/ Shaft		31-3110-2	Keep Out Sign
2	A-22465	Up/Down Post Assembly		A-22467	Mine Popper
	AE-26-1500	Coil		A-22258	Opto Assembly
3	31-3224	Screened Flipper Guide	22	A-20783-7	Pop Target
4	A-17811	Slingshot Assembly	23	CC-SUB-A22271	Train Assembly
	A-17801	Switch Assembly	24	CC-SUB-A22272	Train Car Assembly
	A-22206-2	Coil Assembly		CC-PCB-TRAINOP	Train Opto
5	12-7423-1	Ball Guide		02-5460	Opto Wheel Shaft
6	A-20499-12	Standup Target		CC-04-112231	New Train Rail
7	CC-SUB-1BNKDRP	Right Drop Target		PIN-14-HTSOG37C	Motor
	PIN-PCB-DROPTAR	Opto/Lamp PCB		20-10570	Cord
	AE-26-1500	Coil		5647-12693-66	Switch
8	CC-SUB-1BNKDRP	Right Drop Target	25	CC-SUB-1BNKDRP	Right Drop Target
	PIN-PCB-DROPTAR	Opto/Lamp PCB		PIN-PCB-DROPTAR	Opto/Lamp PCB
	AE-26-1500	Coil		AE-26-1500	Coil
9	A-22285	Skill Shot Ramp Assembly	26	CC-SUB-1BNKDRP	Right Drop Target
	A-14265-13	Receptacle & Skirt		PIN-PCB-DROPTAR	Opto/Lamp PCB
	PIN-PCB-3PNFLSH	Flasher		AE-26-1500	Coil
	5647-12693-21	Switch	27	A-22287	Left Ramp
10	12-7431	Wire Ramp		A-14365-13	Receptacle & Skirt
11	A-22727	Saloon Switch Gate		PIN-PCB-3PNFLSH	Flasher
	12-7443	Wire Ball Gate		PIN-PCB-SNSRAMP	Ball Sensor PCB
	5647-12693-11	Switch	28	12-7423-2	Ball Guide
12	A-22258	Opto Assembly	29	A-17811	Slingshot Assembly
13	A-22289	Center Ramp		A-17801	Switch Assembly
	A-22431	Switch Gate Assembly		A-22207-2	Coil Assembly
	A-14265-13	Receptacle & Skirt	30	31-3224	Screened Flipper Guide
	PIN-PCB-3PNFLSH	Flasher	31	A-22465	Up/Down Post Assembly
	A-23028-4	Switch Assembly		AE-26-1500	Coil
14	A-22432	Bart Assembly	32	CC-SUB-A13204	SE Bottom Arch
	AE-26-1500	Coil (2)		CC-PLM-REVOLVR	Right Gun
	5647-12693-58	Switch		CC-PLM-REVOLVL	Left Gun
	CC-SUB-BARTHAT	Bad Guy Hat		CC-PLM-GUNGRPR	Right Gun Handle
	CC-PLM-NEWBART	Bad Guy		CC-PLM-GUNGRPL	Left Gun Handle
15	A-22288	Right Ramp		CC-MLS-ARCHSE	Screened Bottom Arch
	PIN-PCB-SNSRAMP	Ball Sensor PCB		PIN-PCB-9STROBE	Gun Flasher
16	A-22482	Right Gate Actuator	33	A-15849-L	Left Flipper Assembly
	PIN-A-27700	Coil		20-10110-5	Flipper Bat w/ Shaft
	A-17797-2	Ball Gate Special	34	A-22286	J Ramp
17	A-22482	Left Gate Actuator		PIN-PCB-SNSRAMP	Ball Sensor PCB
	PIN-A-27700	Coil			
	A-17797-2	Ball Gate Special		NOT SHOWN:	
18	A-22205-2	Jet Bumper Coil Assembly		CC-SUB-A22301	Back Panel Assembly
	B-12030-2	Leaf Switch Assembly		MB-PCB-POPLED	RGB PCB
	B-9414-4	Jet Bumper Assembly		01-14613	Backboard Brace
19	A-22205-2	Jet Bumper Coil Assembly		01-14959	Playfield Brace
	B-12030-2	Leaf Switch Assembly		CC-PCB-BONUSX	Bonus X Lamp PCB
	B-9414-4	Jet Bumper Assembly		A-22435	Saloon Popper
20	A-17811	Slingshot Assembly		A-16908	LED Board
	A-23146	Switch Assembly		A-16909	Photo Transistor Board
	A-22206-2	Coil Assembly		AE-26-1500	Coil
21	A-22255	Mine Assembly		03-8633	Level Mount
	PIN-14-HTSOG37C	Motor		04-12491	Beer Mug
	CC-PCB-MINEOPT	Dual Opto Board		CC-PLM-MINEMNT	Mountain

Upper Playfield Parts

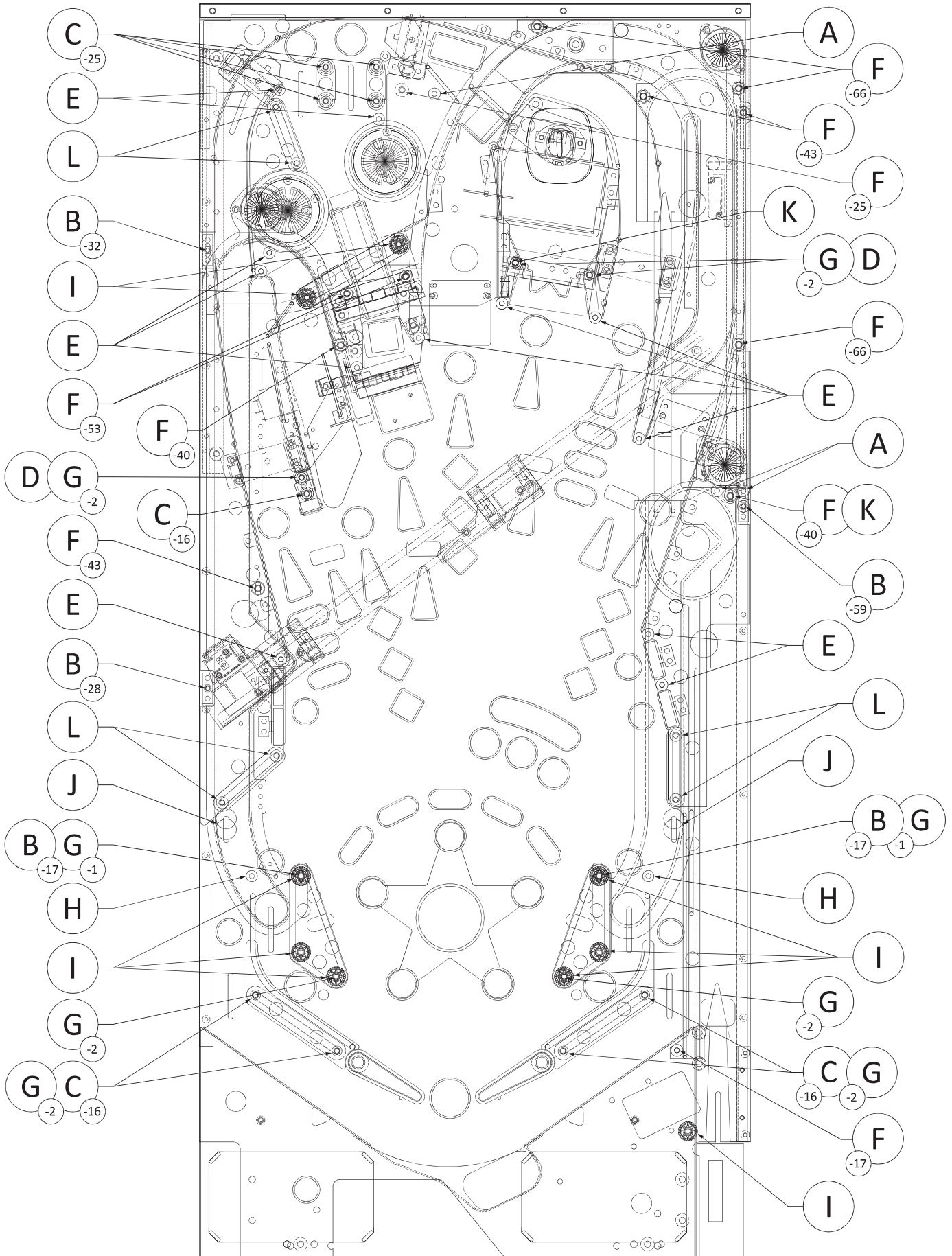


Rubber Rings



Item	Part ID	Description	Qty	Item	Part ID	Description	Qty
A	23-6556	Post Rubber Sleeve, 1-1/16", Black	12	G	23-6694-7	Rubber Ring, 1-1/4" ID, Black	2
B	23-6641	3/16" ID Slim Post Rubber, Black	4	H	23-6694-9	Rubber Ring, 2" ID, Black	3
C	23-6694-1	7/16" OD Mini Post Rubber, Black	3	I	23-6694-10	Rubber Ring, 2-1/2" ID, Black	2
D	23-6694-3	5/16" ID Star Post Rubber, Black	5	J	23-6695	Flipper Rubber Ring, 1-1/2", Black	2
E	23-6694-4	Rubber Ring, 7/16" ID, Black	1	K	23-6828	Rubber Adhesive Pad, Black	3
F	23-6694-6	Rubber Ring, 1" ID, Black	1				

Posts



Posts

A



03-8044-13
Mini Post, Clear
Qty: 3

G



02-4425-1
Post 8-32/8-32 x 2-3/8"
Qty: 2
02-4425-2
Post 8-32/8-32 x 2-1/16"
Qty: 9

B



02-5295-17
1/4 Hex Post F-M 8-32 x 1.06"
Qty: 2
02-5295-28
1/4 Hex Post F-M 8-32 x 1.75"
Qty: 1

02-5295-32
1/4 Hex Post F-M 8-32 x 2"
Qty: 1
02-5295-59
1/4 Hex Post F-M 8-32 x 3.69"
Qty: 1

H



02-4660
Mini Post, 10-32
Qty: 2

C



03-8365-16
Post #8 x 1-3/16", Trans. Yellow
Qty: 5
03-8365-25
Post #8 x 1-3/16", Trans. Teal
Qty: 4

I



03-8319-16
Post #8 Starred, Tr. Yellow
Qty: 9

D



03-9357-13
Post #8 x 1-1/16", Clear
Qty: 3

J



02-5107
Post - Adjusting
Qty: 2

E



02-5222
Sleeve Post, 8-32/10-32
Qty: 12

K



02-5469
1/4 Hex Post F-F 8-32 x 1"
Qty: 2

F



02-5296-17
1/4 Hex Post M-M 8-32 x 1.06"
Qty: 1
02-5296-25
1/4 Hex Post M-M 8-32 x 1.56"
Qty: 1
02-5296-40
1/4 Hex Post M-M 8-32 x 2.5"
Qty: 2

02-5296-43
1/4 Hex Post M-M 8-32 x 2.69"
Qty: 3
02-5296-53
1/4 Hex Post M-M 8-32 x 3.31"
Qty: 2
02-5296-66
1/4 Hex Post M-M 8-32 x 4.13"
Qty: 3

L

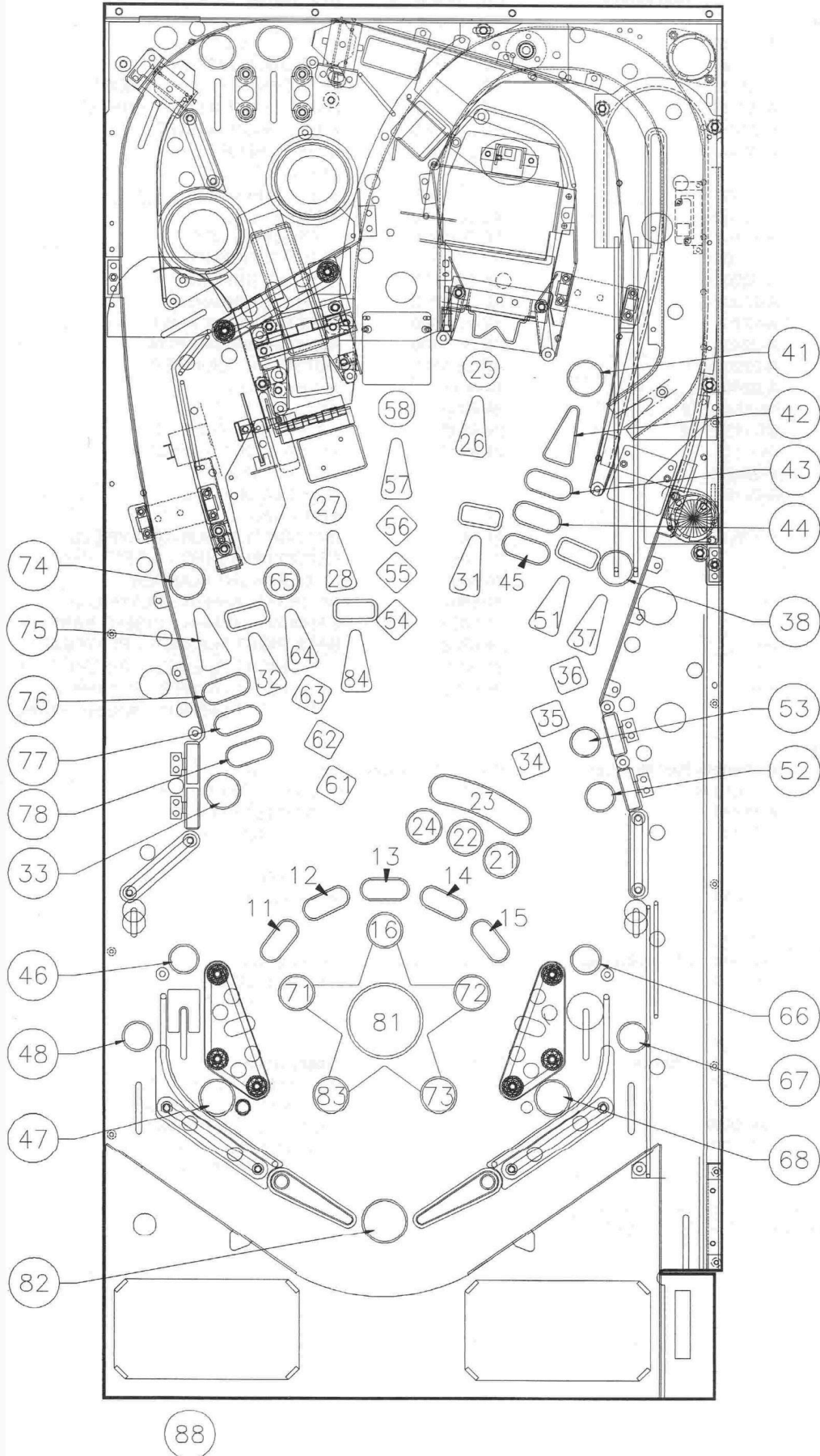


02-5249
Bumper Post, 8-32 Tap/10-32
Qty: 6

Lamp Locations

Item #	Lamp #	PCB #	Description
11	PF 1-1	CC-PCB-PLAYFLD	RANK: STRANGER
12	PF 1-2	CC-PCB-PLAYFLD	RANK: PARTNER
13	PF 1-3	CC-PCB-PLAYFLD	RANK: DEPUTY
14	PF 1-4	CC-PCB-PLAYFLD	RANK: SHERIFF
15	PF 1-5	CC-PCB-PLAYFLD	RANK: MARSHALL
16	PF 1-6	CC-PCB-PLAYFLD	STAR: MOTHER LODE
17	PF 1-7	CC-PCB-TOPINLN	LEFT BONUS 'X' LANE
18	PF 2-1	CC-PCB-TOPINLN	RIGHT BONUS 'X' LANE
21	PF 2-4	CC-PCB-PLAYFLD	BOUNTY BEACON
22	PF 2-2	CC-PCB-PLAYFLD	JACKPOT BEACON
23	PF 2-3	CC-PCB-PLAYFLD	SHOOT TO COLLECT
24	PF 1-8	CC-PCB-PLAYFLD	EXTRA BALL LIT BEACON
25	PF 2-5	CC-PCB-DUALLMP	BOUNTY (SALOON)
26	PF 2-6	CC-PCB-DUALLMP	SALOON ARROW
27	PF 2-7	CC-PCB-DUALLMP	EXTRA BALL
28	PF 2-8	CC-PCB-DUALLMP	MINE LOCK
31	PF 3-1	CC-PCB-DRPTRGT	RIGHT CENTER DROP: BAD GUY 3
32	PF 3-2	CC-PCB-DRPTRGT	LEFT DROP: BAD GUY 1
33	PF 7-6	CC-PCB-PLAYFLD	LEFT STANDUP
34	PF 3-4	CC-PCB-PLAYFLD	RIGHT RAMP: SOUND ALARM
35	PF 3-5	CC-PCB-PLAYFLD	RIGHT RAMP: SHOOT OUT
36	PF 3-6	CC-PCB-PLAYFLD	RIGHT RAMP: SAVE POLLY
37	PF 3-7	CC-PCB-PLAYFLD	RIGHT RAMP: JACKPOT
38	PF 3-8	PIN-PCB-SINGLMP	RIGHT RAMP: COMBO
41	PF 4-1	CC-PCB-PF5LAMP	RIGHT LOOP: COMBO
42	PF 4-2	CC-PCB-PF5LAMP	RIGHT LOOP: JACKPOT
43	PF 4-3	CC-PCB-PF5LAMP	RIGHT LOOP: MARKSMAN
44	PF 4-4	CC-PCB-PF5LAMP	RIGHT LOOP: GUNSLINGER
45	PF 4-5	CC-PCB-PF5LAMP	RIGHT LOOP: GOOD SHOT
46	PF 4-6	CC-PCB-PLAYFLD	LEFT RETURN: QUICK DRAW
47	PF 8-7	PIN-PCB-SINGLMP	LEFT GUNFIGHT PIN
48	PF 8-8	PIN-PCB-SINGLMP	LEFT OUT: GUNFIGHT
51	PF 5-1	CC-PCB-DRPTRGT	RIGHT DROP: BAD GUY 4
52	PF 6-2	CC-PCB-PLAYFLD	BOTTOM RIGHT STANDUP
53	PF 6-1	CC-PCB-PLAYFLD	TOP RIGHT STANDUP
54	PF 5-4	CC-PCB-PLAYFLD	CENTER RAMP: CATCH TRAIN
55	PF 5-5	CC-PCB-PF4LAMP	CENTER RAMP: STOP TRAIN
56	PF 5-6	CC-PCB-PF4LAMP	CENTER RAMP: SAVE POLLY
57	PF 5-7	CC-PCB-PF4LAMP	CENTER RAMP: JACKPOT
58	PF 5-8	CC-PCB-PF4LAMP	CENTER RAMP: COMBO
61	PF 8-3	CC-PCB-PLAYFLD	LEFT RAMP: WHITEWATER
62	PF 5-2	CC-PCB-PLAYFLD	LEFT RAMP: WATERFALL
63	PF 5-3	CC-PCB-PLAYFLD	LEFT RAMP: SAVE POLLY
64	PF 4-7	CC-PCB-DUALLMP	LEFT RAMP: JACKPOT
65	PF 4-8	CC-PCB-DUALLMP	LEFT RAMP: COMBO
66	PF 6-6	CC-PCB-PLAYFLD	RIGHT RETURN: QUICK DRAW
67	PF 6-7	PIN-PCB-SINGLMP	RIGHT OUT: SPECIAL
68	PF 6-8	PIN-PCB-SINGLMP	RIGHT GUNFIGHT PIN
71	PF 8-2	CC-PCB-PLAYFLD	STAR: STAMPEDE
72	PF 7-2	CC-PCB-PLAYFLD	STAR: COMBO
73	PF 7-1	CC-PCB-PLAYFLD	STAR: HIGH NOON
74	PF 7-4	CC-PCB-DUALLMP	LEFT LOOP: COMBO
75	PF 7-3	CC-PCB-DUALLMP	LEFT LOOP: JACKPOT
76	PF 7-5	CC-PCB-PLAYFLD	LEFT LOOP: RIDE 'EM
77	PF 7-7	CC-PCB-PLAYFLD	LEFT LOOP: WILD RIDE
78	PF 7-8	CC-PCB-PLAYFLD	LEFT LOOP: BUCK'N BRONCO
81	PF 8-1	CC-PCB-PLAYFLD	STAR: BART BROTHERS
82	PF 8-6	PIN-PCB-SINGLMP	SHOOT AGAIN
83	PF 8-5	CC-PCB-PLAYFLD	STAR: SHOWDOWN
84	PF 8-4	CC-PCB-DRPTRGT	LEFT CENTER DROP: BAD GUY 2
85	N/A	N/A	NOT USED
86	N/A	N/A	NOT USED
87	N/A	N/A	NOT USED
88	CB 1-2	N/A	START BUTTON

Lamp Locations



Solenoid/Flasher Locations

<u>Item #</u>	<u>Assembly Part #</u>	<u>Coil/Flasher Part #</u>	<u>Description</u>
1	PIN-SUB-A210221	AE-23-800	AUTOPLUNGER
2	CC-SUB-1BNKDRP	AE-26-1500	LEFT DROP TARGET
3	CC-SUB-1BNKDRP	AE-26-1500	LEFT CENTER DROP TARGET
4	CC-SUB-1BNKDRP	AE-26-1500	RIGHT CENTER DROP TARGET
5	CC-SUB-1BNKDRP	AE-26-1500	RIGHT DROP TARGET
6	CC-SUB-A22467	AE-24-900	MINE POPPER
7	-----	-----	NOT USED
8	CC-SUB-A22435	AE-26-1500	SALOON POPPER
9	PIN-SUB-A199631	AE-26-1500	TROUGH EJECT
10	PIN-SUB_A17811L	AE-26-1200	LEFT SLINGSHOT
11	PIN-SUB_A17811R	AE-26-1200	RIGHT SLINGSHOT
12	PIN-SUB_A94152	AE-26-1200	LEFT JET BUMPER
13	PIN-SUB_A94152	AE-26-1200	RIGHT JET BUMPER
14	CC-SUB-A22465	AE-26-1500	LEFT GUNFIGHT POST
15	CC-SUB-A22465	AE-26-1500	RIGHT GUNFIGHT POST
16	PIN-SUB_A17811R	AE-26-1200	BOTTOM JET BUMPER
17	CC-SUB-A22255	PIN-14-HTSOG37C	MINE MOTOR
18	CC-SUB-A22466	PIN-PCB-MOTFLSH	MINE FLASHER
19	CC-SUB-A13204	PIN-PCB-9STROBE	FRONT LEFT FLASHER
20	CC-SUB-A13204	PIN-PCB-9STROBE	FRONT RIGHT FLASHER
21	PIN-SUB-A22482	PIN-A-27700	LEFT LOOP GATE
22	PIN-SUB-A22482	PIN-A-27700	RIGHT LOOP GATE
23	-----	-----	NOT USED
24	CC-PCB-PLAYFLD	PLCC2835-W6-0.5W	BEACON FLASHER- PLAYFIELD
24	CC-SUB-50066IN	PIN-PCB-BBFLASH	BEACON FLASHER- INSERT PANEL
25	CC-SUB-A22285	PIN-PCB-3PNFLSH	MIDDLE RIGHT FLASHER
26	CC-SUB-A22271	PIN-PCB-8LEDCW	SALOON FLASHER- PLAYFIELD
26	CC-SUB-50066IN	PIN-PCB-BBFLASH	SALOON FLASHER- INSERT PANEL
27	CC-SUB-A22289	PIN-PCB-3PNFLSH	BACK RIGHT FLASHER- PLAYFIELD
27	CC-SUB-50066IN	PIN-PCB-BBFLASH	BACK RIGHT FLASHER- INSERT PANEL
28	CC-SUB-A22287	PIN-PCB-3PNFLSH	BACK LEFT FLASHER- PLAYFIELD
28	CC-SUB-50066IN	PIN-PCB-BBFLASH	BACK LEFT FLASHER- INSERT PANEL

FLIPPERS

<u>Item #</u>	<u>Assembly Part #</u>	<u>Coil Part #</u>	<u>Description</u>
29-30	PIN-SUB-A22603R	FL-11629	LOWER RIGHT FLIPPER
31-32	PIN-A_15849L2	FL-11629	LOWER LEFT FLIPPER
33	CC-SUB-A22432	AE-26-1500	MOVE BART TOY
34	-----	-----	NOT USED
35	-----	-----	NOT USED
36	CC-SUB-A22432	AE-26-1500	BART TOY HAT

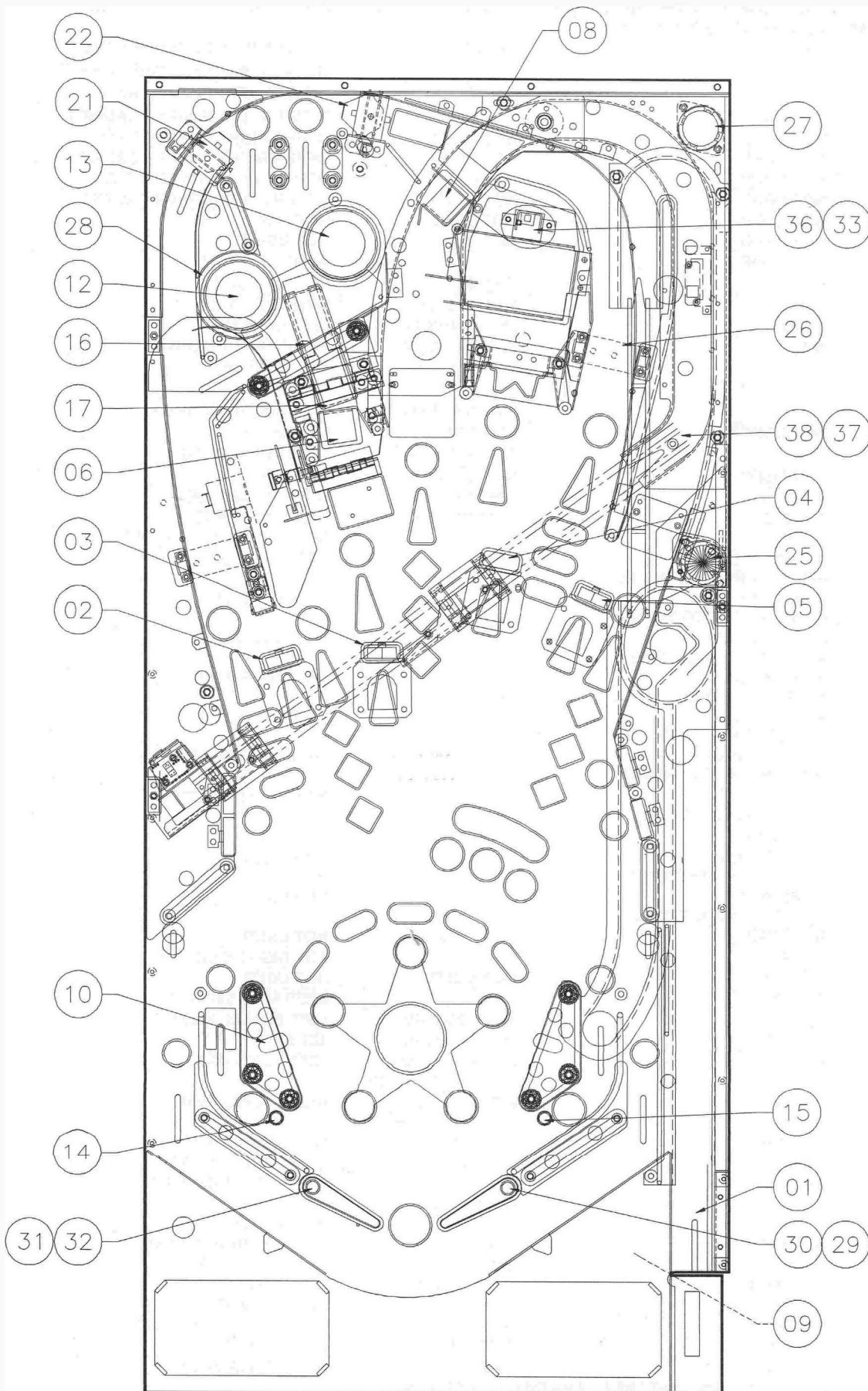
TRAIN MOTOR CIRCUITS

<u>Item #</u>	<u>Assembly Part #</u>	<u>Motor #</u>	<u>Description</u>
37	CC-SUB-A22271	PIN-14-HTSOG37C	TRAIN REVERSE
38			TRAIN FORWARD

GENERAL ILLUMINATION

<u>Item #</u>	<u>Assembly Part #</u>	<u>Bulb Type</u>	<u>Description</u>
1	-----	PIN-LMP-LEDRGB	ILLUMINATION STRING 1
2	-----	PIN-LMP-LEDRGB	ILLUMINATION STRING 2
3	-----	PIN-LMP-LEDRGB	ILLUMINATION STRING 3
4	CC-SUB-50066IN	000-PCB-24LEDBR	ILLUMINATION STRING 4

Solenoid/Flasher Locations



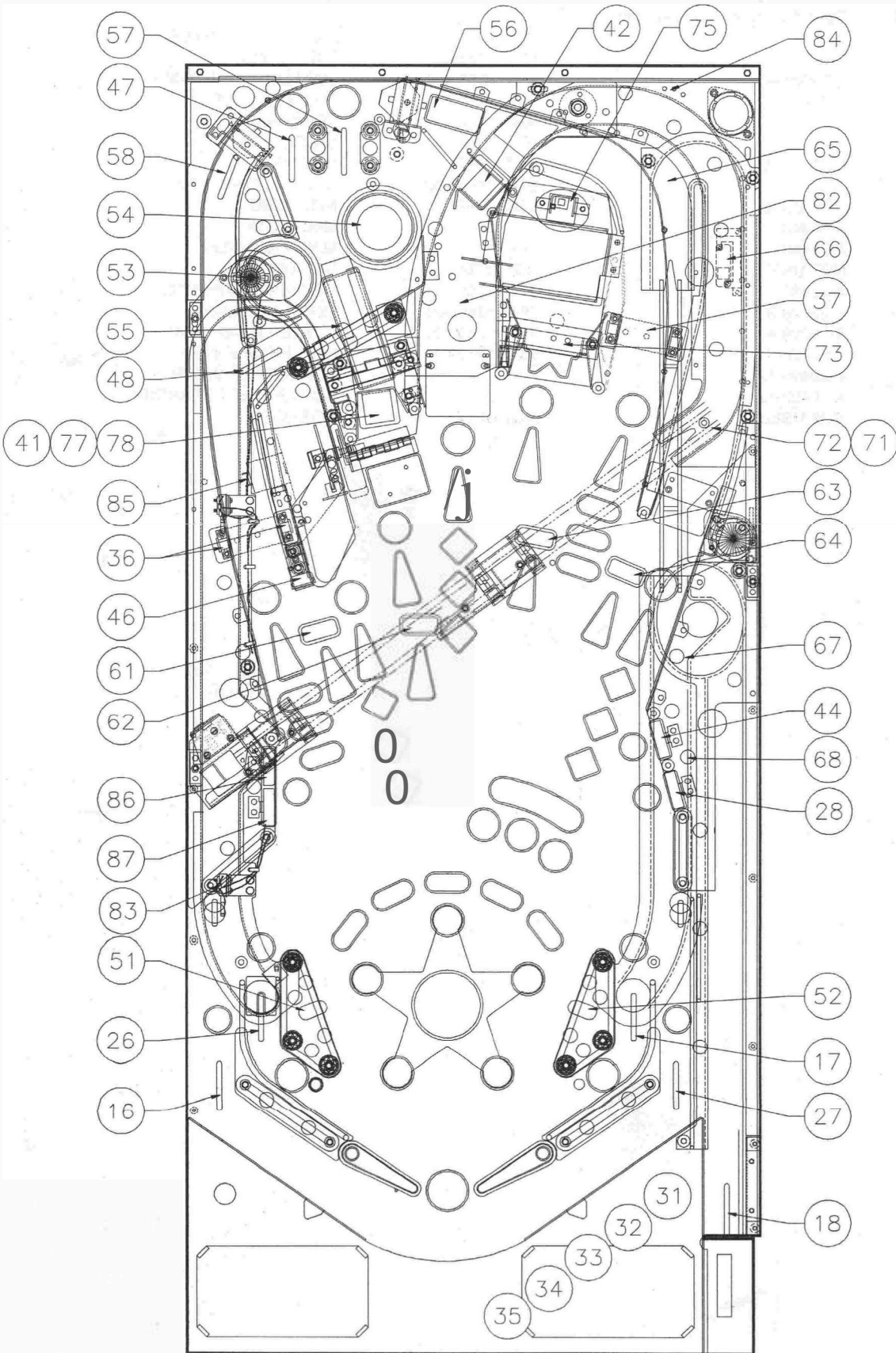
Switch Locations

<u>Item #</u>	<u>Assembly Part #</u>	<u>Switch Part #</u>	<u>Description</u>
F1	-----	SW-1A-194	*LOWER RIGHT FLIPPER EOS
F2	A-17316	-----	*LOWER RIGHT FLIPPER CABINET
F3	-----	SW-1A-194	*LOWER LEFT FLIPPER EOS
F4	A-17316	-----	*LOWER LEFT FLIPPER CABINET
F5	-----	-----	UPPER RIGHT FLIPPER EOS
F6	-----	-----	UPPER RIGHT FLIPPER CABINET
F7	-----	-----	UPPER LEFT FLIPPER EOS
F8	-----	-----	UPPER LEFT FLIPPER CABINET
11	-----	-----	-----
12	-----	-----	-----
13	20-9663-16	-----	START BUTTON
14	-----	04-10346	*PLUMP BOB TILT
15	-----	CC-PCB-INDS90L	MINE ENTRANCE SENSOR
16	A-17813	5647-12693-19	LEFT OUTLANE
17	A-17813	5647-12693-19	RIGHT RETURN LANE
18	-----	5647-12693-68	SHOOTER LANE
21	A-17238	-----	*SLAM TILT
22	-----	5643-09268-00	*COIN DOOR CLOSED
23	NOT USED	NOT USED	NOT USED
24	-----	5643-15190-00	*ALWAYS CLOSED
25	NOT USED	NOT USED	NOT USED
26	A-17813	5647-12693-19	LEFT RETURN LANE
27	A-17813	5647-12693-19	RIGHT OUTLANE
28	A-20499-12	-----	BOTTOM RIGHT STANDUP
31	A-18617-1 (LED) A-18618-1 (PHOTO TRANS)	-----	TROUGH EJECT
32	A-18617-1 (LED) A-18618-1 (PHOTO TRANS)	-----	TROUGH BALL 1
33	A-18617-1 (LED) A-18618-1 (PHOTO TRANS)	-----	TROUGH BALL 2
34	A-18617-1 (LED) A-18618-1 (PHOTO TRANS)	-----	TROUGH BALL 3
35	A-18617-1 (LED) A-18618-1 (PHOTO TRANS)	-----	TROUGH BALL 4
36	A-16908 (LED) A-16909 (PHOTO TRANS)	-----	LEFT LOOP BOTTOM
37	A-16908 (LED) A-16909 (PHOTO TRANS)	-----	RIGHT LOOP BOTTOM
38	NOT USED	NOT USED	NOT USED
41	A-16908 (LED) A-16909 (PHOTO TRANS)	-----	MINE POPPER
42	A-16908 (LED) A-16909 (PHOTO TRANS)	-----	SALOON POPPER
43	NOT USED	NOT USED	NOT USED
44	A-20499-12	-----	TOP RIGHT STANDUP
45	NOT USED	NOT USED	NOT USED
46	A-20783-7	-----	BEER MUG SWITCH
47	A-17813	5647-12693-19	LEFT BONUS 'X' LANE
48	-----	PIN-PCB-SNSINST	JET EXIT SENSOR
51	A-17801	A-17800 (KICK) A-20979 (SCORE)**	LEFT SLINGSHOT

Switch Locations

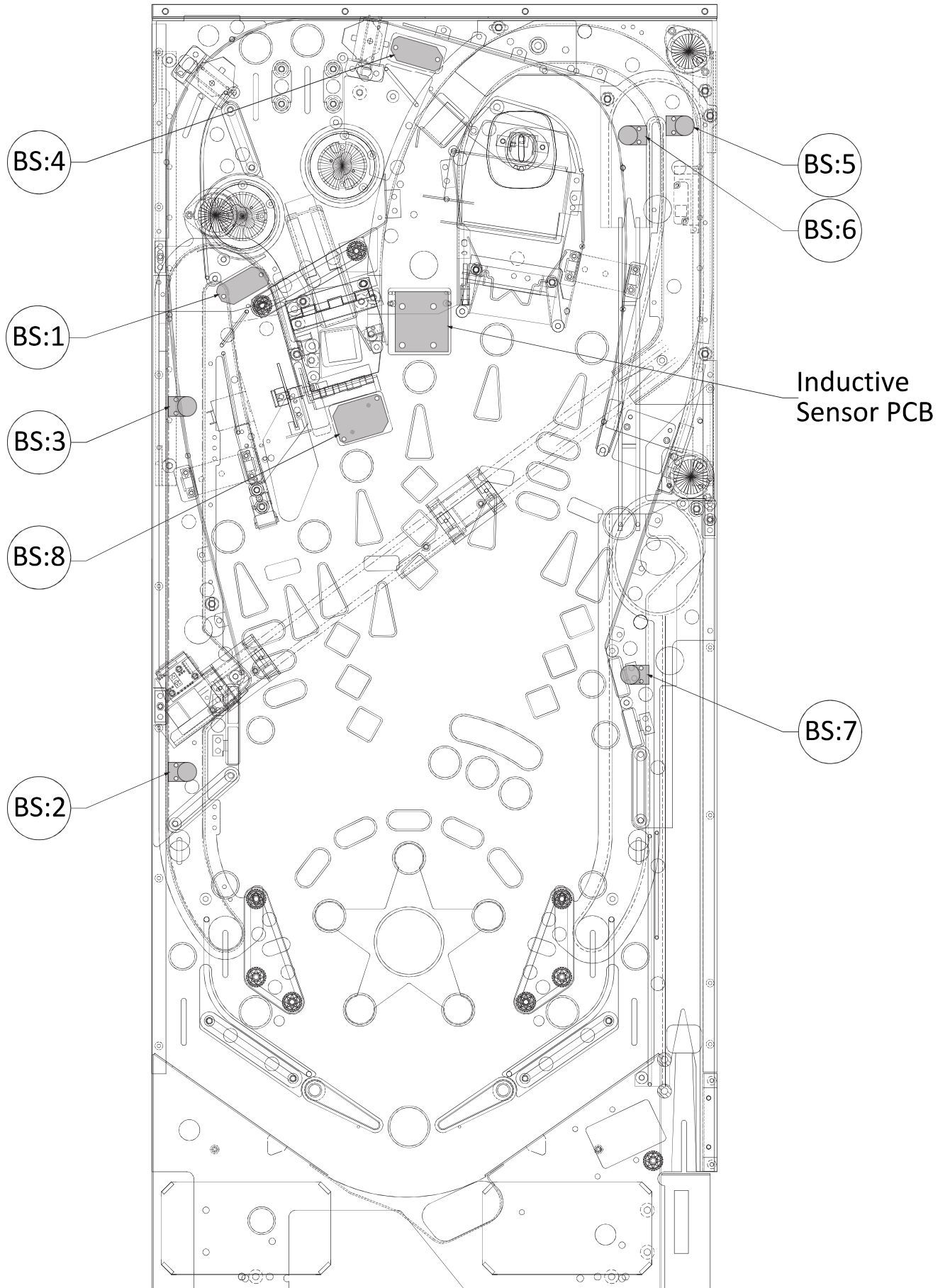
Item #	Assembly Part #	Switch Part #	Description
52	A-17801	A-17800 (KICK) A-20979 (SCORE)**	RIGHT SLINGSHOT
53	B-12030-2	A-16443	LEFT JET BUMPER
54	B-12030-2	A-16443	RIGHT JET BUMPER
55	A-23146	A-17800 (KICK) A-20979 (SCORE)**	BOTTOM JET BUMPER
56	-----	PIN-PCB-SNSINST	RIGHT LOOP TOP
57	A-17813	5647-12693-19	RIGHT BONUS 'X' LANE
58	A-17813	5647-12693-19	LEFT LOOP TOP
61	A-22296-1	5647-12693-21	DROP #1 LEFT
62	A-22296-2	5647-12693-21	DROP #2 LEFT CENTER
63	A-22296-1	5647-12693-21	DROP #3 RIGHT CENTER
64	A-22296-2	5647-12693-21	DROP #4 RIGHT
65	-----	PIN-PCB-SNSRAMP	RIGHT RAMP MAKE
66	-----	PIN-PCB-SNSRAMP	RIGHT RAMP ENTER
67	-----	5647-12693-21	SKILL BOWL
68	A-23028-4	PIN-PCB-SNSRAMP	BOTTOM RIGHT RAMP
71	CC-PCB-TRAINOP	-----	TRAIN ENCODER
72	-----	5647-12693-66	TRAIN HOME
73	-----	5647-12693-11	SALOON GATE
74	NOT USED	NOT USED	NOT USED
75	-----	5647-12693-58	SALOON BART TOY
76	NOT USED	NOT USED	NOT USED
77	CC-PCB-MINEOPT	-----	MINE HOME
78	CC-PCB-MINEOPT	-----	MINE ENCODER
81	NOT USED	NOT USED	NOT USED
82	A-22431	5647-12693-11	CENTER RAMP ENTER
83	-----	PIN-PCB-SNSRAMP	LEFT RAMP MAKE
84	A-23028-4	5647-12693-21	CENTER RAMP MAKE
85	-----	PIN-PCB-SNSRAMP	LEFT RAMP ENTER
86	A-20499-12	-----	TOP LEFT STANDUP
87	A-20499-12	-----	BOTTOM LEFT STANDUP
88	NOT USED	NOT USED	NOT USED

Switch Locations



13

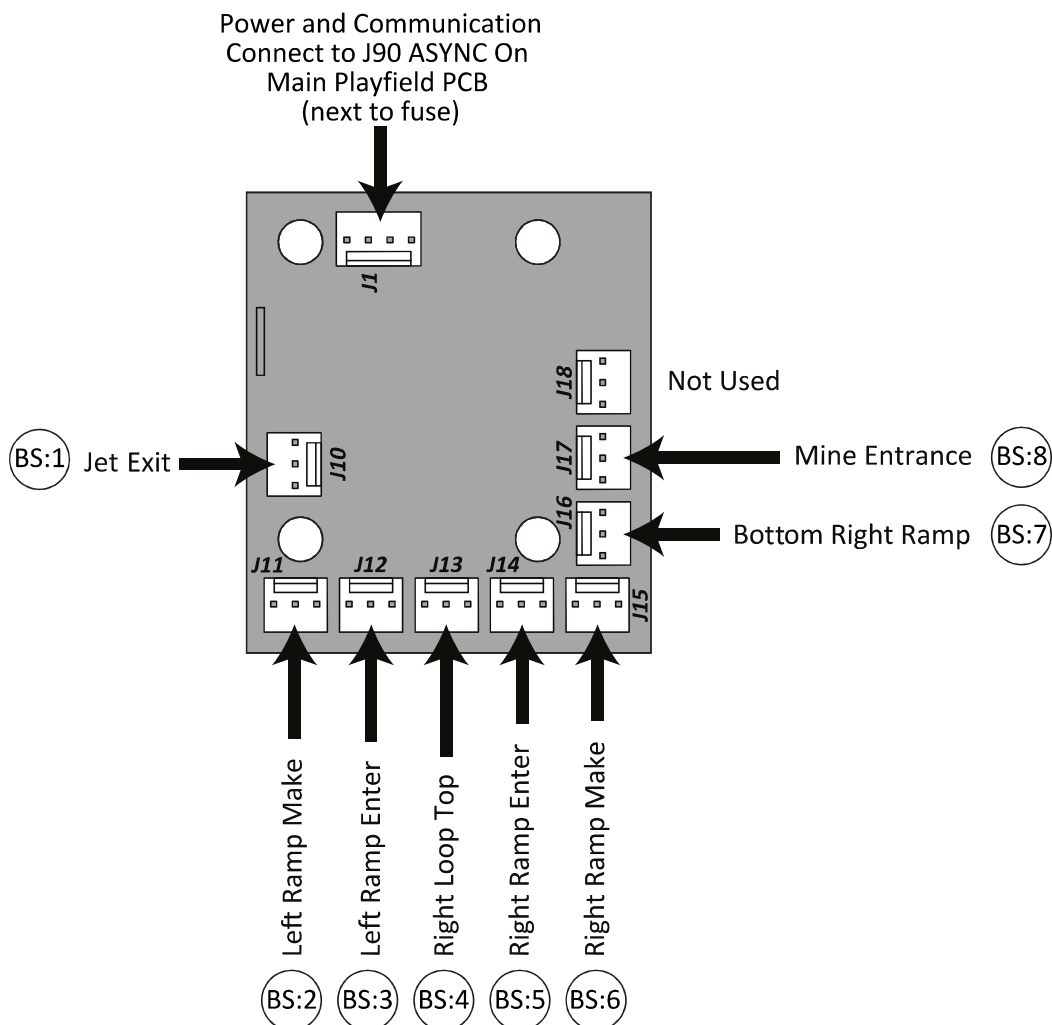
Inductive Sensor Locations



Inductive Sensors

Ball Sensor Switch Number	Part ID	Description	Function
BS:1	PIN-PCB-SNSINST	Playfield Insert Inductive Sensor Board (under playfield)	Jet Exit
BS:2	PIN-PCB-SNSRAMP	Ramp Inductive Sensor Board	Left Ramp Make
BS:3	PIN-PCB-SNSRAMP	Ramp Inductive Sensor Board	Left Ramp Enter
BS:4	PIN-PCB-SNSINST	Playfield Insert Inductive Sensor Board (under playfield)	Right Loop Top
BS:5	PIN-PCB-SNSRAMP	Ramp Inductive Sensor Board	Right Ramp Enter
BS:6	PIN-PCB-SNSRAMP	Ramp Inductive Sensor Board	Right Ramp Make
BS:7	PIN-PCB-SNSRAMP	Ramp Inductive Sensor Board	Bottom Right Ramp
BS:8	PIN-PCB-SNSRAMP	Large Playfield Insert Inductive Sensor Board (under playfield)	Mine Entrance

Inductive Sensor Connections Under Playfield



Cactus Canyon Lamp Table

Controller Board IN1	CB 1-1 COIN SLOTS J3-13	CB 1-2 START BUTTON J2-12 88	CB 1-3 NOT USED	CB 1-4 NOT USED	CB 1-5 NOT USED	CB 1-6 NOT USED	CB 1-7 BB GI UPPER J4-3	CB 1-8 BB GI LOWER J4-4
Controller Board IN2	CB 2-1 NOT USED	CB 2-2 NOT USED	CB 2-3 NOT USED	CB 2-4 NOT USED	CB 2-5 NOT USED	CB 2-6 NOT USED	CB 2-7 NOT USED	CB 2-8 NOT USED
Playfield PCB IN1	PF 1-1 RANK: STRANGER PCB 11	PF 1-2 RANK: PARTNER PCB 12	PF 1-3 RANK: DEPUTY PCB 13	PF 1-4 RANK: SHERIFF PCB 14	PF 1-5 RANK: MARSHALL PCB 15	PF 1-6 STAR: MOTHERLODE PCB 16	PF 1-7 L. BONUS X LANE J9-7 17	PF 1-8 EB LIT BEACON PCB 24
Playfield PCB IN2	PF 2-1 R. BONUS X LANE J9-8 18	PF 2-2 JACKPOT BEACON PCB 22	PF 2-3 SHOOT TO COLLECT PCB 23	PF 2-4 BOUNTY BEACON PCB 21	PF 2-5 BOUNTY (SALOON) J25-3 25	PF 2-6 SALOON ARROW J25-4 26	PF 2-7 EXTRA BALL J25-5 27	PF 2-8 MINE LOCK J25-6 28
Playfield PCB IN3	PF 3-1 RC DROP: BADGUY 3 PCB 31	PF 3-2 L DROP: BADGUY 1 PCB 32	PF 3-3 NOT USED	PF 3-4 R RAMP: SND ALARM PCB 34	PF 3-5 R RAMP: SHOOT OUT PCB 35	PF 3-6 R RAMP: SAVE POLLY PCB 36	PF 3-7 R RAMP: JACKPOT PCB 37	PF 3-8 R RAMP: COMBO J38-3 38
Playfield PCB IN4	PF 4-1 R LOOP: COMBO J4145-2 41	PF 4-2 R LOOP: JACKPOT J4145-3 42	PF 4-3 R LOOP: MARKSMAN J4145-4 43	PF 4-4 R LOOP: GUNSLINGER J4145-5 44	PF 4-5 R LOOP: GOOD SHOT J4145-6 45	PF 4-6 L RET: QUICK DRAW PCB 46	PF 4-7 L RAMP: JACKPOT J24-2 64	PF 4-8 L RAMP: COMBO J24-3 65
Playfield PCB IN5	PF 5-1 R DROP: BADGUY 4 PCB 51	PF 5-2 L RMP: WATER FALL PCB 62	PF 5-3 L RAMP: SAVE POLLY PCB 63	PF 5-4 C RMP: CATCH TRAIN PCB 54	PF 5-5 C RAMP: STOP TRAIN J55-2 55	PF 5-6 C RAMP: SAVE POLLY J55-3 56	PF 5-7 C RAMP: JACKPOT J55-5 57	PF 5-8 C RAMP: COMBO J55-6 58
Playfield PCB IN6	PF 6-1 R STANDUP (TOP) PCB 53	PF 6-2 R STANDUP (BOT) PCB 52	PF 6-3 NOT USED	PF 6-4 NOT USED	PF 6-5 NOT USED	PF 6-6 R RET: QUICK DRAW PCB 66	PF 6-7 R OUT: SPECIAL J15-2 67	PF 6-8 R GUNFIGHT PIN J15-3 68
Playfield PCB IN7	PF 7-1 STAR: HIGH NOON PCB 73	PF 7-2 STAR: COMBO PCB 72	PF 7-3 L LOOP: JACKPOT J24-6 75	PF 7-4 L LOOP: COMBO J24-5 74	PF 7-5 L LOOP: RIDE 'EM PCB 76	PF 7-6 L STANDUP PCB 33	PF 7-7 L LOOP: WILD RIDE PCB 77	PF 7-8 L LOOP: B. BRONCO PCB 78
Playfield PCB IN8	PF 8-1 STAR: BART BROS. PCB 81	PF 8-2 STAR: STAMPEDE PCB 71	PF 8-3 L RMP: WHITE WATER PCB 61	PF 8-4 LC DROP: BADGUY 2 PCB 84	PF 8-5 STAR: SHOW DOWN PCB 83	PF 8-6 SHOOT AGAIN J16-9 82	PF 8-7 L GUNFIGHT PIN J16-10 47	PF 8-8 L OUT: GUN FIGHT J16-11 48

LAMP NUMBER
LAMP DESCRIPTION
CONN/PIN WMS ID

SOLENOID/FLASHER TABLE

Sol. No.	Function	Driver Board	Fuse	Voltage Connections	Drive Xistor	Drive Connections	Drive Wire Color	Part No.
1	AUTO PLUNGER	SOL POWER	F103	J116-12	Q101	J116-1	VIO-WHT	PIN-AE-23800
2	LEFT DROP TARGET	SOL POWER	F103	J116-12	Q102	J116-2	VIO-RED	PIN-AE-261500
3	LEFT CENTER DROP TARGET	SOL POWER	F103	J116-11	Q103	J116-3	VIO-ORG	PIN-AE-261500
4	RT CENTER DROP TARGET	SOL POWER	F103	J116-12	Q104	J116-4	VIO-YEL	PIN-AE-261500
5	RIGHT DROP TARGET	SOL POWER	F103	J116-11	Q105	J116-6	VIO-GRN	PIN-AE-261500
6	MINE POPPER	SOL POWER	F103	J116-12	Q106	J11 6-7	VIO-BLU	PIN-AE-24900
7	NOT USED							
8	SALOON POPPER	SOL POWER	F103	J116-11	Q108	J116-9	VIO-BLK	PIN-AE-261500
9	TROUGH EJECT	SOL POWER	F102	J113-11	Q109	J113-1	BRN-BLK	PIN-AE-261500
10	LEFT SLINGSHOT	SOL POWER	F102	J113-11	Q110	J113-2	BRN-RED	PIN-AE-261200
11	RIGHT SLINGSHOT	SOL POWER	F102	J113-11	Q111	J113-4	BRN-ORG	PIN-AE-261200
12	LEFT JET BUMPER	SOL POWER	F107	J113-12	Q112	J113-5	BRN-YEL	PIN-AE-261200
13	RIGHT JET BUMPER	SOL POWER	F107	J113-12	Q113	J113-6	BRN-GRN	PIN-AE-261200
14	LEFT GUNFIGHT POST	SOL POWER	F102	J113-11	Q114	J113-7	BRN-BLU	PIN-AE-261500
15	RIGHT GUNFIGHT POST	SOL POWER	F102	J113-11	Q115	J113-8	BRN-VIO	PIN-AE-261500
16	BOTTOM JET BUMPER	SOL POWER	F107	J113-12	Q116	J113-9	BRN-WHT	PIN-AE-261200
22	BART HAT	SOL POWER	F117	J120-4	Q136	J120-6	GRA-GRN	PIN-AE-261500
24	SHAKER MOTOR	SOL POWER		J114-1		J114-3	BLU	PIN-MTR-KINMORE
35	TOPPER BART	SOL POWER	F118	J120-1	Q128	J120-7	GRA-BRN	CC-AE-23800
36	MOVE BART TOY	SOL POWER	F117	J120-4	Q126	J120-10	GRA-BLU	PIN-AE-261500
FLASHERS								
1	HIGH NOON FLASHER	PF PCB		PF PCB		PF PCB	N/A	
2	MINE FLASHER	PF PCB		J9-4	Q44B	J9-5	BLU-ORG	PIN-PCB-MOTFLSH
3	FRONT RIGHT FLASHER	PF PCB		J15-4	Q43B	J15-5	BLU-YEL	PIN-PCB-9STROBE
4	NOT USED							
5	LEFT LOOP GATE	PF PCB	F1	J9-1	Q45B	J9-2		PIN-A-2770
6	RIGHT LOOP GATE	PF PCB	F1	J9-1	Q45A	J9-3		PIN-A-2770
7	BEACON FLASHER	PF PCB		PF PCB	Q46A	PF PCB	N/A	CC-PCB-PLAYFLD
7	BEACON FLASHER	CONTROLLER		J4-6		J4-9		PIN-PCB-BBFLASH
8	FRONT LEFT FLASHER	PF PCB		J16-8	Q46B	J16-7	BLU-YEL	PIN-PCB-9STROBE
9	MIDDLE RIGHT FLASHER	PF PCB		J21-1	Q47A	J21-2	BLU	PIN-PCB-3PNFLSH
9	MIDDLE RIGHT FLASHER	PF PCB		J21-1	Q47A	J21-2	BLU	PIN-PCB-BBFLASH
10	SALOON FLASHER	PF PCB		J10-8	Q47B	J10-7	BLU-WHT	PIN-PCB-3PNFLSH
10	SALOON FLASHER	CONTROLLER		J4-5		J4-11	BLU-WHT	PIN-LMP-8LEDCW
11	BACK RIGHT FLASHER	PF PCB		J22-1	Q48A	J22-2	BLU	PIN-PCB-3PNFLSH
11	BACK RIGHT FLASHER	CONTROLLER		J4-6		J4-14	BLU	PIN-PCB-BBFLASH
12	BACK LEFT FLASHER	PF PCB		J20-8	Q78B	J20-7	BLU	PIN-PCB-3PNFLSH
12	BACK LEFT FLASHER	CONTROLLER		J4-6		J4-15	BLU	PIN-PCB-BBFLASH
13	LEFT DROP TARGET RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q49A	J40-3	VIO/WHT	PIN-A-DTSNOID
14	LEFT CENTER DT RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q49B	J40-4	VIO/YEL	PIN-A-DTSNOID
15	RIGHT CENTER DT RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q50B	J40-5	VIO/BLU	PIN-A-DTSNOID
16	RIGHT DROP TARGET RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q50A	J40-6	VIO/ORG	PIN-A-DTSNOID
FLIPPERS								
33	RIGHT FLIPPER POWER	SOL POWER	F115	J119-7	Q124	J119-5	GRA-RED	PIN-FL-11629
17	RIGHT FLIPPER HOLD	SOL POWER	F115	J119-7	Q131	J119-4	GRA-BLK	
34	LEFT FLIPPER POWER	SOL POWER	F116	J119-10	Q125	J119-2	GRA-YEL	PIN-FL-11629
18	LEFT FLIPPER HOLD	SOL POWER	F116	J119-10	Q132	J119-1	GRA-WHT	
MOTORS								
	MINE MOTOR	PF PCB		J23-5	Q55B	J23-6	VIO-BLK	PIN-MTR-HTSO37C
	TRAIN +	PF PCB			U35	J10-9	BLU-BLK	PIN-MTR-HTSO37C
	TRAIN -	PF PCB			U35	J10-10	BLU-RED	
GENERAL ILLUMINATION								
1	LOWER RIGHT PLAYFIELD	PF PCB		PL1-1	Q61A, Q61B, Q62A	PL1-1, PL1-2, PL1-3	RED, GRN, BLU	PIN-LMP-LEDRGB
2	LOWER LEFT PLAYFIELD	PF PCB		PL2-1	Q62B, Q63A, Q63B	PL2-1, PL2-2, PL2-3	RED, GRN, BLU	PIN-LMP-LEDRGB
3	UPPER PLAYFIELD	PF PCB		PL4-1	Q64A, Q64B, Q65B	PL3-1, PL3-2, PL3-4, PL4-1, PL4-2, PL4-3	RED, GRN, BLU	PIN-LMP-LEDRGB
4	TOP INSERT	CONTROLLER		J4-6	Q5A	J4-9	VIO	PIN-PCB-24LEDBR
5	BOTTOM INSERT	CONTROLLER		J4-5	Q7A	J4-13	GRN	PIN-PCB-24LEDBR

Cactus Canyon Switch Table

Controller Board IN1	CB 1-1 START BUTTON	CB 1-2 NOT USED	CB 1-3 PLUMB BOB TILT	CB 1-4 COIN DOOR CLOSED	CB 1-5 L. FLIPPER BUTTON	CB 1-6 R. FLIPPER BUTTON	CB 1-7 U.L. FLIPPER BUTTON	CB 1-8 U.R. FLIPPER BUTTON
	J2-10 13		J2-8 14	J2-7 22	J2-6 F4	J2-5 F2	J2-4 F8	J2-3 F6
Controller Board IN2	CB 2-1 LEFT COIN SLOT	CB 2-2 CENTER COIN SLOT	CB 2-3 RIGHT COIN SLOT	CB 2-4 SLAM TILT	CB 2-5 ESCAPE	CB 2-6 DOWN	CB 2-7 UP	CB 2-8 ENTER
	J3-11 D1	J3-10 D2	J3-9 D3	J3-7 21	J3-6 D5	J3-5 D6	J3-4 D7	J3-3 D8
Playfield PCB IN1	PF 1-1 NOT USED	PF 1-2 NOT USED	PF 1-3 NOT USED	PF 1-4 NOT USED	PF 1-5 NOT USED	PF 1-6 NOT USED	PF 1-7 NOT USED	PF 1-8 NOT USED
Playfield PCB IN2	PF 2-1 C. RAMP MAKE	PF 2-2 NOT USED	PF 2-3 RIGHT RETURN	PF 2-4 SHOOTER LANE	PF 2-5 R. FLIPPER E.O.S.	PF 2-6 R. SLINGSHOT	PF 2-7 RIGHT OUTLANE	PF 2-8 NOT USED
	JS15-1 84		J15-8 17	J15-7 18	J15-11 F1	J15-10 52	J15-9 27	
Playfield PCB IN3	PF 3-1 TROUGH EJECT	PF 3-2 TROUGH BALL 1	PF 3-3 TROUGH BALL 2	PF 3-4 TROUGH BALL 3	PF 3-5 TROUGH BALL 4	PF 3-6 NOT USED	PF 3-7 RIGHT LOOP BOTTOM	PF 3-8 NOT USED
	JS31-8 31	JS31-7 32	JS31-6 33	JS31-4 34	JS31-3 35		JS37-5 37	
Playfield PCB IN4	PF 4-1 SKILL BOWL	PF 4-2 NOT USED	PF 4-3 R. STANDUP (BOT)	PF 4-4 R. STANDUP (TOP)	PF 4-5 NOT USED	PF 4-6 NOT USED	PF 4-7 NOT USED	PF 4-8 NOT USED
	J21-4 67		JS28-1 28	JS44-1 44				
Playfield PCB IN5	PF 5-1 L. BONUS X LANE	PF 5-2 BEER MUG SWITCH	PF 5-3 LEFT JET	PF 5-4 RIGHT JET	PF 5-5 BOTTOM JET	PF 5-6 L. LOOP BOTTOM	PF 5-7 R. BONUS X LANE	PF 5-8 LEFT LOOP TOP
	J11-3 47	J11-2 46	J11-8 53	J11-7 54	J11-6 55	JS36-5 36	J11-5 57	J11-4 58
Playfield PCB IN6	PF 6-1 DROP #1 (L)	PF 6-2 DROP #2 (LC)	PF 6-3 DROP #3 (RC)	PF 6-4 DROP #4 (R)	PF 6-5 MINE HOME	PF 6-6 MINE ENCODER	PF 6-7 MINE POPPER	PF 6-8 SALOON POPPER
	JS61-1 61	JS61-2 62	JS61-3 63	JS61-4 64	J23-2 77	J23-3 78	JS41-5 41	JS42-5 42
Playfield PCB IN7	PF 7-1 NOT USED	PF 7-2 TRAIN HOME	PF 7-3 NOT USED	PF 7-4 NOT USED	PF 7-5 SALOON BART TOY	PF 7-6 NOT USED	PF 7-7 SALOON GATE	PF 7-8 C. RAMP ENTER
		J10-4 72			J10-5 75		J10-2 73	J10-3 82
Playfield PCB IN8	PF 8-1 L. FLIPPER E.O.S.	PF 8-2 LEFT OUTLANE	PF 8-3 L. RETURN	PF 8-4 L. SLINGSHOT	PF 8-5 NOT USED	PF 8-6 L. STANDUP (TOP)	PF 8-7 L. STANDUP (BOT)	PF 8-8 TRAIN ENCODER
	J16-5 F3	J16-4 16	J13-3 26	J16-2 51		JS86-1 86	JS87-1 87	J20-2 71
Playfield PCB IN8	SENC 1 JET EXIT	SENC 2 L. RAMP MAKE	SENC 3 L. RAMP ENTER	SENC 4 RIGHT LOOP TOP	SENC 5 R. RAMP ENTER	SENC 6 R. RAMP MAKE	SENC 7 BOT. R. RAMP	SENC 8 MINE ENTRANCE
	SENC1 48	SENC2 83	SENC3 85	SENC4 56	SENC5 66	SENC6 65	SENC7 68	SENC8 15
Ball Sensor IN1	SENC 1 JET EXIT	SENC 2 L. RAMP MAKE	SENC 3 L. RAMP ENTER	SENC 4 RIGHT LOOP TOP	SENC 5 R. RAMP ENTER	SENC 6 R. RAMP MAKE	SENC 7 BOT. R. RAMP	SENC 8 MINE ENTRANCE
	SENC1 48	SENC2 83	SENC3 85	SENC4 56	SENC5 66	SENC6 65	SENC7 68	SENC8 15

SWITCH NUMBER
SWITCH DESCRIPTION
CONN/PIN WMS ID

SECTION THREE

GAME WIRING AND SCHEMATICS

Cactus Canyon Lamp Table

Controller Board IN1	CB 1-1	CB 1-2	CB 1-3	CB 1-4	CB 1-5	CB 1-6	CB 1-7	CB 1-8
	COIN SLOTS J3-13	START BUTTON J2-12 88	NOT USED	NOT USED	NOT USED	NOT USED	BB GI UPPER J4-3	BB GI LOWER J4-4
Controller Board IN2	CB 2-1	CB 2-2	CB 2-3	CB 2-4	CB 2-5	CB 2-6	CB 2-7	CB 2-8
	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
Playfield PCB IN1	PF 1-1	PF 1-2	PF 1-3	PF 1-4	PF 1-5	PF 1-6	PF 1-7	PF 1-8
	RANK: STRANGER PCB 11	RANK: PARTNER PCB 12	RANK: DEPUTY PCB 13	RANK: SHERIFF PCB 14	RANK: MARSHALL PCB 15	STAR: MOTHERLODE PCB 16	L. BONUS X LANE J9-7 17	EB LIT BEACON PCB 24
Playfield PCB IN2	PF 2-1	PF 2-2	PF 2-3	PF 2-4	PF 2-5	PF 2-6	PF 2-7	PF 2-8
	R. BONUS X LANE J9-8 18	JACKPOT BEACON PCB 22	SHOOT TO COLLECT PCB 23	BOUNTY BEACON PCB 21	BOUNTY (SALOON) J25-3 25	SALOON ARROW J25-4 26	EXTRA BALL J25-5 27	MINE LOCK J25-6 28
Playfield PCB IN3	PF 3-1	PF 3-2	PF 3-3	PF 3-4	PF 3-5	PF 3-6	PF 3-7	PF 3-8
	RC DROP: BADGUY 3 PCB 31	L DROP: BADGUY 1 PCB 32	NOT USED	R RAMP: SND ALARM PCB 34	R RAMP: SHOOT OUT PCB 35	R RAMP: SAVE POLLY PCB 36	R RAMP: JACKPOT PCB 37	R RAMP: COMBO J38-3 38
Playfield PCB IN4	PF 4-1	PF 4-2	PF 4-3	PF 4-4	PF 4-5	PF 4-6	PF 4-7	PF 4-8
	R LOOP: COMBO J4145-2 41	R LOOP: JACKPOT J4145-3 42	R LOOP: MARKSMAN J4145-4 43	R LOOP: GUNSLINGER J4145-5 44	R LOOP: GOOD SHOT J4145-6 45	L RET: QUICK DRAW PCB 46	L RAMP: JACKPOT J24-2 64	L RAMP: COMBO J24-3 65
Playfield PCB IN5	PF 5-1	PF 5-2	PF 5-3	PF 5-4	PF 5-5	PF 5-6	PF 5-7	PF 5-8
	R DROP: BADGUY 4 PCB 51	L RMP: WATER FALL PCB 62	L RAMP: SAVE POLLY PCB 63	C RMP: CATCH TRAIN PCB 54	C RAMP: STOP TRAIN J55-2 55	C RAMP: SAVE POLLY J55-3 56	C RAMP: JACKPOT J55-5 57	C RAMP: COMBO J55-6 58
Playfield PCB IN6	PF 6-1	PF 6-2	PF 6-3	PF 6-4	PF 6-5	PF 6-6	PF 6-7	PF 6-8
	R STANDUP (TOP) PCB 53	R STANDUP (BOT) PCB 52	NOT USED	NOT USED	NOT USED	R RET: QUICK DRAW PCB 66	R OUT: SPECIAL J15-2 67	R GUNFIGHT PIN J15-3 68
Playfield PCB IN7	PF 7-1	PF 7-2	PF 7-3	PF 7-4	PF 7-5	PF 7-6	PF 7-7	PF 7-8
	STAR: HIGH NOON PCB 73	STAR: COMBO PCB 72	L LOOP: JACKPOT J24-6 75	L LOOP: COMBO J24-5 74	L LOOP: RIDE 'EM PCB 76	L STANDUP PCB 33	L LOOP: WILD RIDE PCB 77	L LOOP: B. BRONCO PCB 78
Playfield PCB IN8	PF 8-1	PF 8-2	PF 8-3	PF 8-4	PF 8-5	PF 8-6	PF 8-7	PF 8-8
	STAR: BART BROS. PCB 81	STAR: STAMPEDE PCB 71	L RMP: WHITE WATER PCB 61	LC DROP: BADGUY 2 PCB 84	STAR: SHOW DOWN PCB 83	SHOOT AGAIN J16-9 82	L GUNFIGHT PIN J16-10 47	L OUT: GUN FIGHT J16-11 48

LAMP NUMBER
LAMP DESCRIPTION
CONN/PIN WMS ID

SOLENOID/FLASHER TABLE

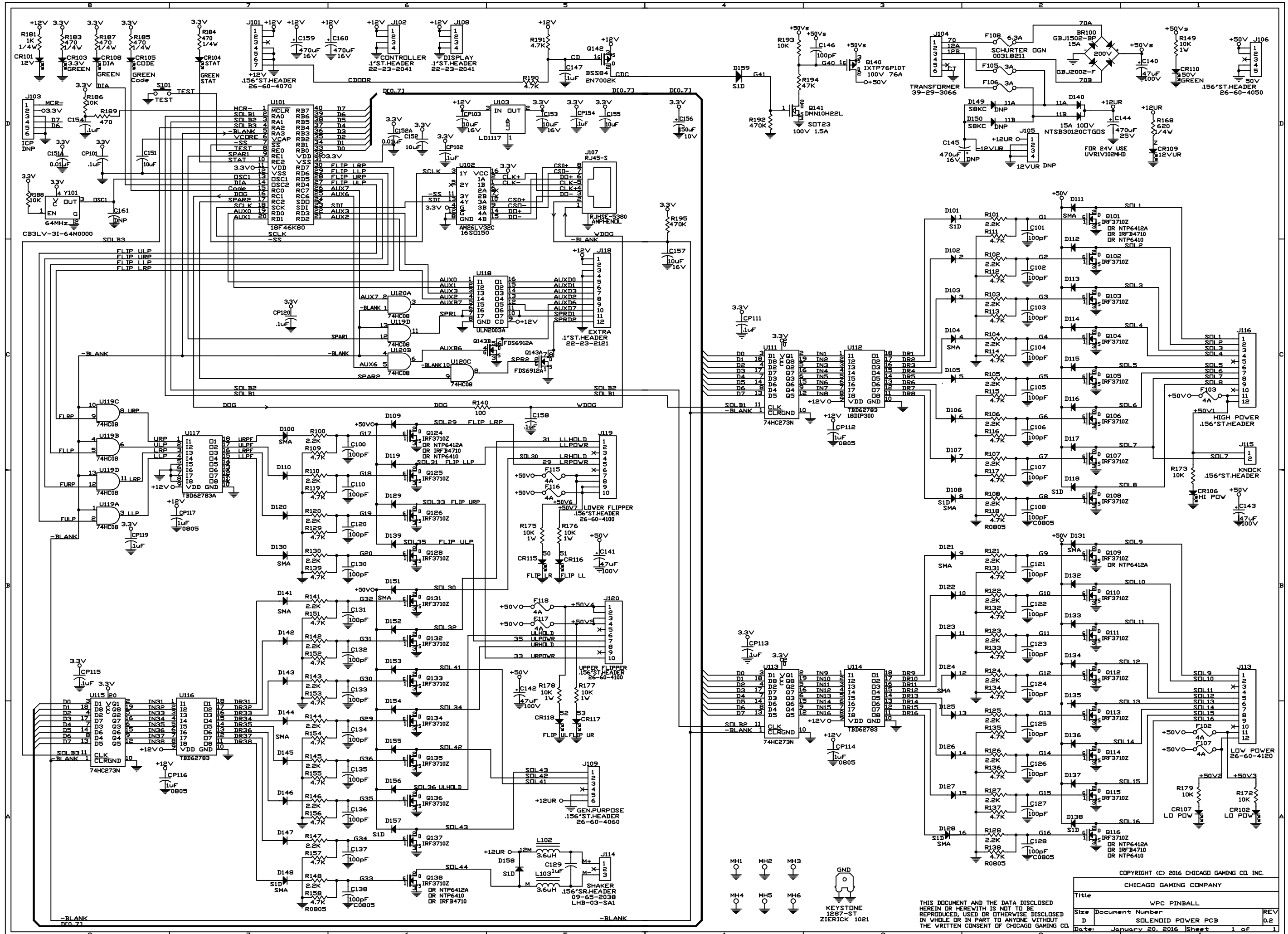
Sol. No.	Function	Driver Board	Fuse	Voltage Connections	Drive Xistor	Drive Connections	Drive Wire Color	Part No.
1	AUTO PLUNGER	SOL POWER	F103	J116-12	Q101	J116-1	VIO-WHT	PIN-AE-23800
2	LEFT DROP TARGET	SOL POWER	F103	J116-12	Q102	J116-2	VIO-RED	PIN-AE-261500
3	LEFT CENTER DROP TARGET	SOL POWER	F103	J116-11	Q103	J116-3	VIO-ORG	PIN-AE-261500
4	RT CENTER DROP TARGET	SOL POWER	F103	J116-12	Q104	J116-4	VIO-YEL	PIN-AE-261500
5	RIGHT DROP TARGET	SOL POWER	F103	J116-11	Q105	J116-6	VIO-GRN	PIN-AE-261500
6	MINE POPPER	SOL POWER	F103	J116-12	Q106	J11 6-7	VIO-BLU	PIN-AE-24900
7	NOT USED							
8	SALOON POPPER	SOL POWER	F103	J116-11	Q108	J116-9	VIO-BLK	PIN-AE-261500
9	TROUGH EJECT	SOL POWER	F102	J113-11	Q109	J113-1	BRN-BLK	PIN-AE-261500
10	LEFT SLINGSHOT	SOL POWER	F102	J113-11	Q110	J113-2	BRN-RED	PIN-AE-261200
11	RIGHT SLINGSHOT	SOL POWER	F102	J113-11	Q111	J113-4	BRN-ORG	PIN-AE-261200
12	LEFT JET BUMPER	SOL POWER	F107	J113-12	Q112	J113-5	BRN-YEL	PIN-AE-261200
13	RIGHT JET BUMPER	SOL POWER	F107	J113-12	Q113	J113-6	BRN-GRN	PIN-AE-261200
14	LEFT GUNFIGHT POST	SOL POWER	F102	J113-11	Q114	J113-7	BRN-BLU	PIN-AE-261500
15	RIGHT GUNFIGHT POST	SOL POWER	F102	J113-11	Q115	J113-8	BRN-VIO	PIN-AE-261500
16	BOTTOM JET BUMPER	SOL POWER	F107	J113-12	Q116	J113-9	BRN-WHT	PIN-AE-261200
22	BART HAT	SOL POWER	F117	J120-4	Q136	J120-6	GRA-GRN	PIN-AE-261500
24	SHAKER MOTOR	SOL POWER		J114-1		J114-3	BLU	PIN-MTR-KINMORE
35	TOPPER BART	SOL POWER	F118	J120-1	Q128	J120-7	GRA-BRN	CC-AE-23800
36	MOVE BART TOY	SOL POWER	F117	J120-4	Q126	J120-10	GRA-BLU	PIN-AE-261500
FLASHERS								
1	HIGH NOON FLASHER	PF PCB		PF PCB		PF PCB	N/A	
2	MINE FLASHER	PF PCB		J9-4	Q44B	J9-5	BLU-ORG	PIN-PCB-MOTFLSH
3	FRONT RIGHT FLASHER	PF PCB		J15-4	Q43B	J15-5	BLU-YEL	PIN-PCB-9STROBE
4	NOT USED							
5	LEFT LOOP GATE	PF PCB	F1	J9-1	Q45B	J9-2		PIN-A-2770
6	RIGHT LOOP GATE	PF PCB	F1	J9-1	Q45A	J9-3		PIN-A-2770
7	BEACON FLASHER	PF PCB		PF PCB	Q46A	PF PCB	N/A	CC-PCB-PLAYFLD
7	BEACON FLASHER	CONTROLLER		J4-6		J4-9		PIN-PCB-BBFLASH
8	FRONT LEFT FLASHER	PF PCB		J16-8	Q46B	J16-7	BLU-YEL	PIN-PCB-9STROBE
9	MIDDLE RIGHT FLASHER	PF PCB		J21-1	Q47A	J21-2	BLU	PIN-PCB-3PNFLSH
9	MIDDLE RIGHT FLASHER	PF PCB		J21-1	Q47A	J21-2	BLU	PIN-PCB-BBFLASH
10	SALOON FLASHER	PF PCB		J10-8	Q47B	J10-7	BLU-WHT	PIN-PCB-3PNFLSH
10	SALOON FLASHER	CONTROLLER		J4-5		J4-11	BLU-WHT	PIN-LMP-8LEDCW
11	BACK RIGHT FLASHER	PF PCB		J22-1	Q48A	J22-2	BLU	PIN-PCB-3PNFLSH
11	BACK RIGHT FLASHER	CONTROLLER		J4-6		J4-14	BLU	PIN-PCB-BBFLASH
12	BACK LEFT FLASHER	PF PCB		J20-8	Q78B	J20-7	BLU	PIN-PCB-3PNFLSH
12	BACK LEFT FLASHER	CONTROLLER		J4-6		J4-15	BLU	PIN-PCB-BBFLASH
13	LEFT DROP TARGET RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q49A	J40-3	VIO/WHT	PIN-A-DTSNOID
14	LEFT CENTER DT RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q49B	J40-4	VIO/YEL	PIN-A-DTSNOID
15	RIGHT CENTER DT RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q50B	J40-5	VIO/BLU	PIN-A-DTSNOID
16	RIGHT DROP TARGET RESET	PF PCB	FUSE BLOCK	CABINET 12V POWER SUPPLY	Q50A	J40-6	VIO/ORG	PIN-A-DTSNOID
FLIPPERS								
33	RIGHT FLIPPER POWER	SOL POWER	F115	J119-7	Q124	J119-5	GRA-RED	PIN-FL-11629
17	RIGHT FLIPPER HOLD	SOL POWER	F115	J119-7	Q131	J119-4	GRA-BLK	
34	LEFT FLIPPER POWER	SOL POWER	F116	J119-10	Q125	J119-2	GRA-YEL	PIN-FL-11629
18	LEFT FLIPPER HOLD	SOL POWER	F116	J119-10	Q132	J119-1	GRA-WHT	
MOTORS								
	MINE MOTOR	PF PCB		J23-5	Q55B	J23-6	VIO-BLK	PIN-MTR-HTSO37C
	TRAIN +	PF PCB			U35	J10-9	BLU-BLK	PIN-MTR-HTSO37C
	TRAIN -	PF PCB			U35	J10-10	BLU-RED	
GENERAL ILLUMINATION								
1	LOWER RIGHT PLAYFIELD	PF PCB		PL1-1	Q61A, Q61B, Q62A	PL1-1, PL1-2, PL1-3	RED, GRN, BLU	PIN-LMP-LEDRGB
2	LOWER LEFT PLAYFIELD	PF PCB		PL2-1	Q62B, Q63A, Q63B	PL2-1, PL2-2, PL2-3	RED, GRN, BLU	PIN-LMP-LEDRGB
3	UPPER PLAYFIELD	PF PCB		PL4-1	Q64A, Q64B, Q65B	PL3-1, PL3-2, PL3-4, PL4-1, PL4-2, PL4-3	RED, GRN, BLU	PIN-LMP-LEDRGB
4	TOP INSERT	CONTROLLER		J4-6	Q5A	J4-9	VIO	PIN-PCB-24LEDBR
5	BOTTOM INSERT	CONTROLLER		J4-5	Q7A	J4-13	GRN	PIN-PCB-24LEDBR

Cactus Canyon Switch Table

Controller Board IN1	CB 1-1 START BUTTON	CB 1-2 NOT USED	CB 1-3 PLUMB BOB TILT	CB 1-4 COIN DOOR CLOSED	CB 1-5 L. FLIPPER BUTTON	CB 1-6 R. FLIPPER BUTTON	CB 1-7 U.L. FLIPPER BUTTON	CB 1-8 U.R. FLIPPER BUTTON
	J2-10 13		J2-8 14	J2-7 22	J2-6 F4	J2-5 F2	J2-4 F8	J2-3 F6
Controller Board IN2	CB 2-1 LEFT COIN SLOT	CB 2-2 CENTER COIN SLOT	CB 2-3 RIGHT COIN SLOT	CB 2-4 SLAM TILT	CB 2-5 ESCAPE	CB 2-6 DOWN	CB 2-7 UP	CB 2-8 ENTER
	J3-11 D1	J3-10 D2	J3-9 D3	J3-7 21	J3-6 D5	J3-5 D6	J3-4 D7	J3-3 D8
Playfield PCB IN1	PF 1-1 NOT USED	PF 1-2 NOT USED	PF 1-3 NOT USED	PF 1-4 NOT USED	PF 1-5 NOT USED	PF 1-6 NOT USED	PF 1-7 NOT USED	PF 1-8 NOT USED
Playfield PCB IN2	PF 2-1 C. RAMP MAKE	PF 2-2 NOT USED	PF 2-3 RIGHT RETURN	PF 2-4 SHOOTER LANE	PF 2-5 R. FLIPPER E.O.S.	PF 2-6 R. SLINGSHOT	PF 2-7 RIGHT OUTLANE	PF 2-8 NOT USED
	JS15-1 84		J15-8 17	J15-7 18	J15-11 F1	J15-10 52	J15-9 27	
Playfield PCB IN3	PF 3-1 TROUGH EJECT	PF 3-2 TROUGH BALL 1	PF 3-3 TROUGH BALL 2	PF 3-4 TROUGH BALL 3	PF 3-5 TROUGH BALL 4	PF 3-6 NOT USED	PF 3-7 RIGHT LOOP BOTTOM	PF 3-8 NOT USED
	JS31-8 31	JS31-7 32	JS31-6 33	JS31-4 34	JS31-3 35		JS37-5 37	
Playfield PCB IN4	PF 4-1 SKILL BOWL	PF 4-2 NOT USED	PF 4-3 R. STANDUP (BOT)	PF 4-4 R. STANDUP (TOP)	PF 4-5 NOT USED	PF 4-6 NOT USED	PF 4-7 NOT USED	PF 4-8 NOT USED
	J21-4 67		JS28-1 28	JS44-1 44				
Playfield PCB IN5	PF 5-1 L. BONUS X LANE	PF 5-2 BEER MUG SWITCH	PF 5-3 LEFT JET	PF 5-4 RIGHT JET	PF 5-5 BOTTOM JET	PF 5-6 L. LOOP BOTTOM	PF 5-7 R. BONUS X LANE	PF 5-8 LEFT LOOP TOP
	J11-3 47	J11-2 46	J11-8 53	J11-7 54	J11-6 55	JS36-5 36	J11-5 57	J11-4 58
Playfield PCB IN6	PF 6-1 DROP #1 (L)	PF 6-2 DROP #2 (LC)	PF 6-3 DROP #3 (RC)	PF 6-4 DROP #4 (R)	PF 6-5 MINE HOME	PF 6-6 MINE ENCODER	PF 6-7 MINE POPPER	PF 6-8 SALOON POPPER
	JS61-1 61	JS61-2 62	JS61-3 63	JS61-4 64	J23-2 77	J23-3 78	JS41-5 41	JS42-5 42
Playfield PCB IN7	PF 7-1 NOT USED	PF 7-2 TRAIN HOME	PF 7-3 NOT USED	PF 7-4 NOT USED	PF 7-5 SALOON BART TOY	PF 7-6 NOT USED	PF 7-7 SALOON GATE	PF 7-8 C. RAMP ENTER
		J10-4 72			J10-5 75		J10-2 73	J10-3 82
Playfield PCB IN8	PF 8-1 L. FLIPPER E.O.S.	PF 8-2 LEFT OUTLANE	PF 8-3 L. RETURN	PF 8-4 L. SLINGSHOT	PF 8-5 NOT USED	PF 8-6 L. STANDUP (TOP)	PF 8-7 L. STANDUP (BOT)	PF 8-8 TRAIN ENCODER
	J16-5 F3	J16-4 16	J13-3 26	J16-2 51		JS86-1 86	JS87-1 87	J20-2 71
Playfield PCB IN8	SENC 1 JET EXIT	SENC 2 L. RAMP MAKE	SENC 3 L. RAMP ENTER	SENC 4 RIGHT LOOP TOP	SENC 5 R. RAMP ENTER	SENC 6 R. RAMP MAKE	SENC 7 BOT. R. RAMP	SENC 8 MINE ENTRANCE
	SENC1 48	SENC2 83	SENC3 85	SENC4 56	SENC5 66	SENC6 65	SENC7 68	SENC8 15
Ball Sensor IN1	SENC 1 JET EXIT	SENC 2 L. RAMP MAKE	SENC 3 L. RAMP ENTER	SENC 4 RIGHT LOOP TOP	SENC 5 R. RAMP ENTER	SENC 6 R. RAMP MAKE	SENC 7 BOT. R. RAMP	SENC 8 MINE ENTRANCE
	SENC1 48	SENC2 83	SENC3 85	SENC4 56	SENC5 66	SENC6 65	SENC7 68	SENC8 15

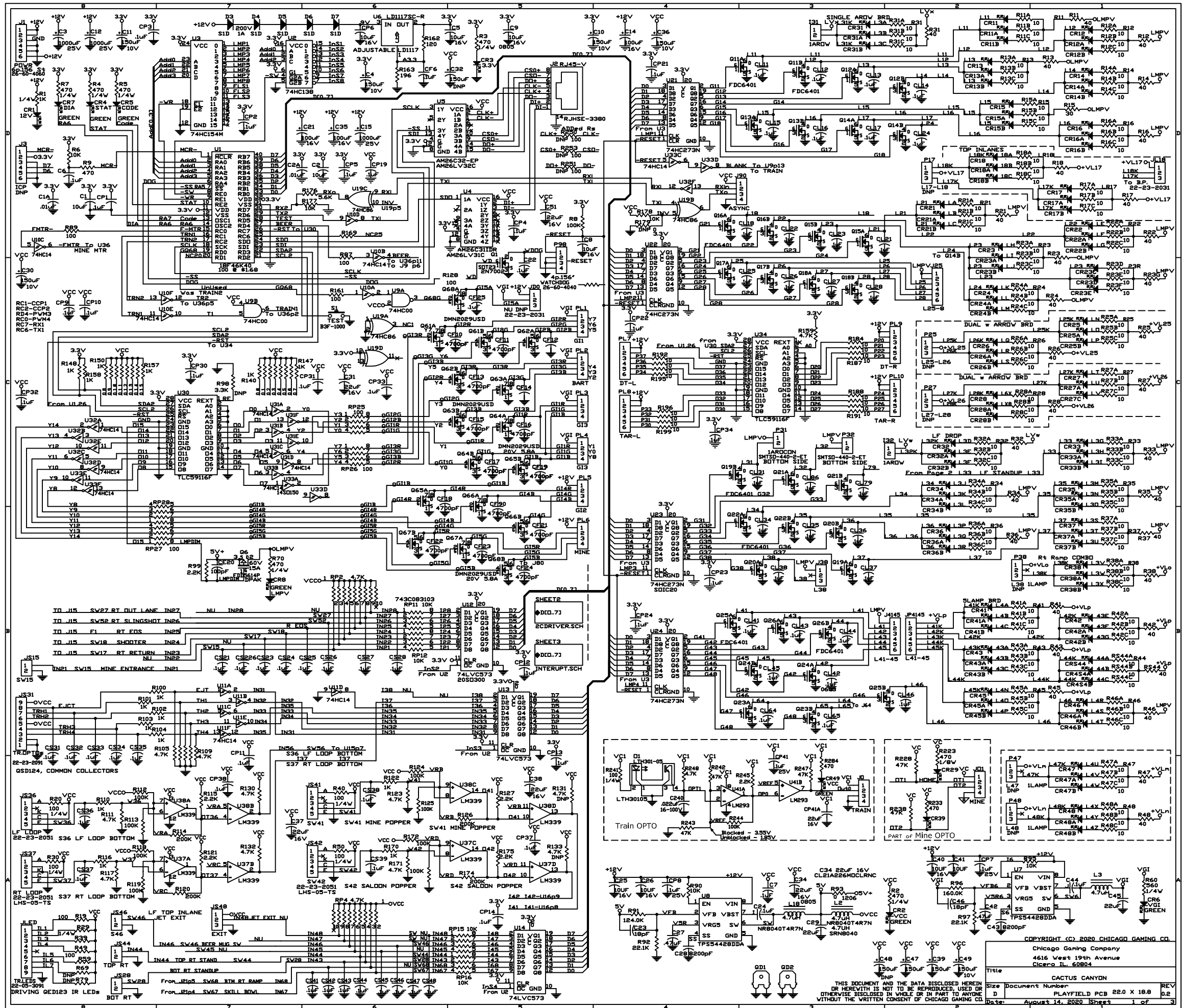
SWITCH NUMBER
SWITCH DESCRIPTION
CONN/PIN WMS ID

CC Solenoid Board Schematic



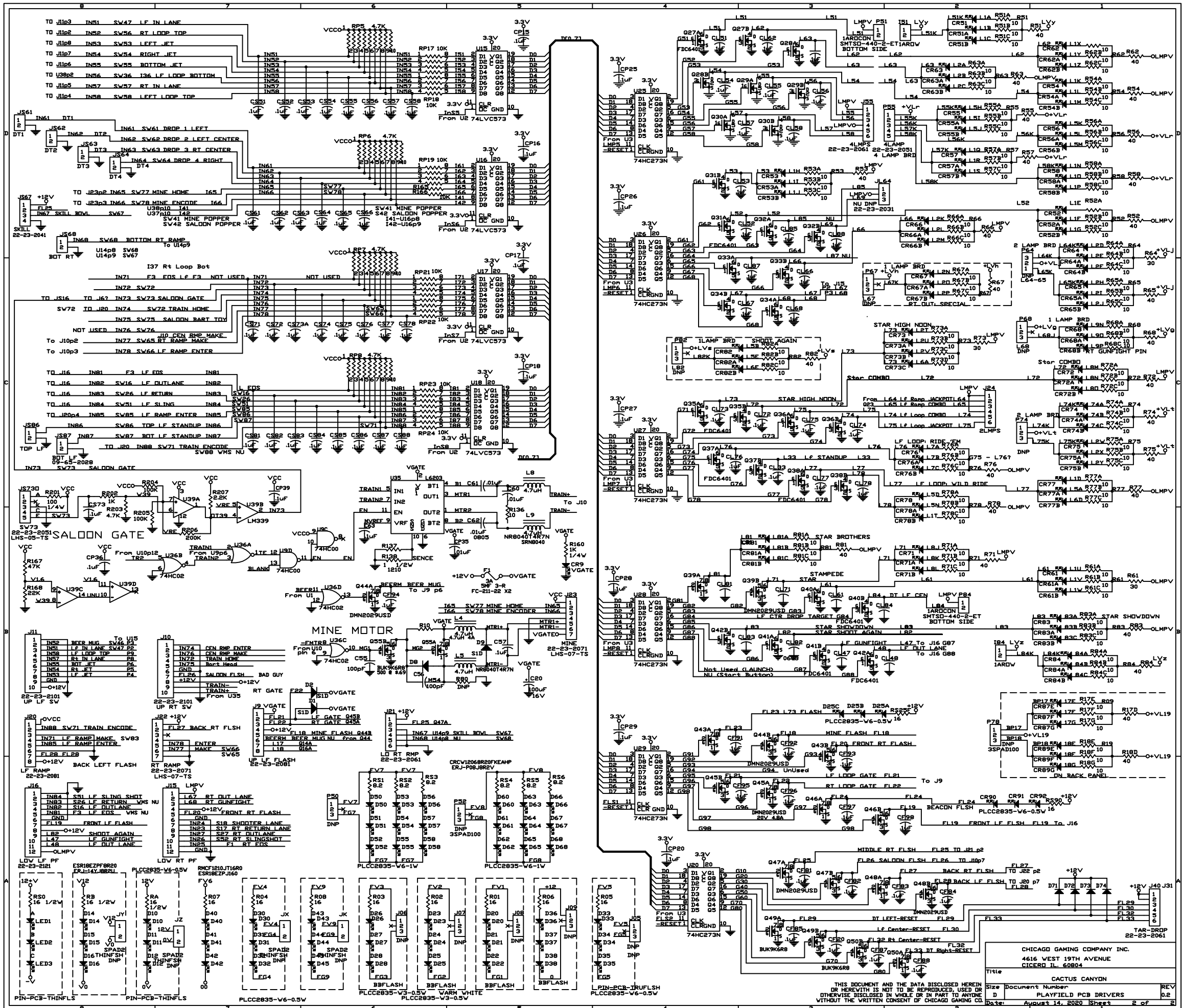
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 Title: WPC PINBALL
 Size: Document Number: SOLENOID POWER PCB
 Date: January 20, 2016 Sheet 1 of 1

CC
Playfield
Schematic
1 of 2

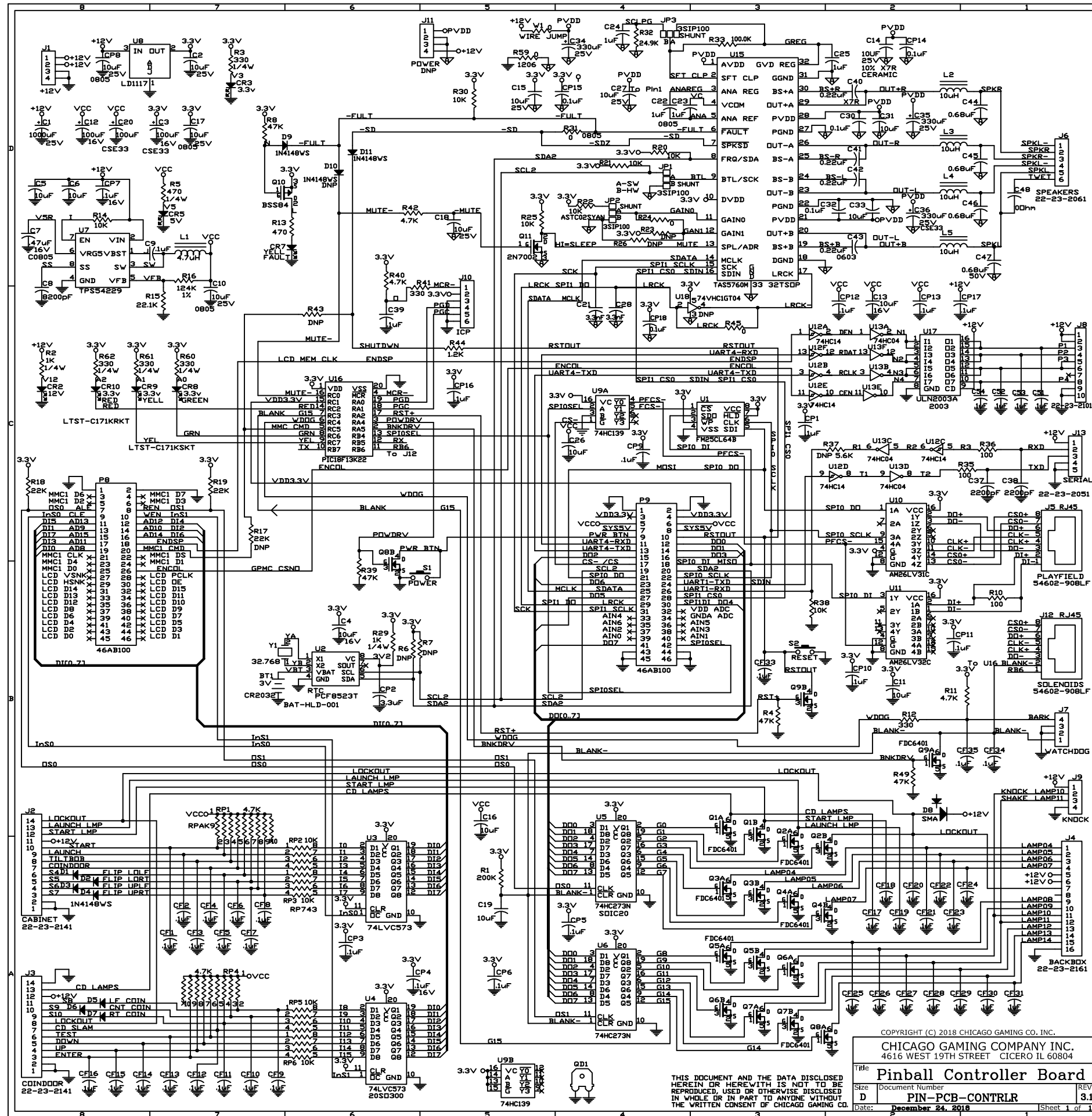


CC Playfield Schematic

2 of 2

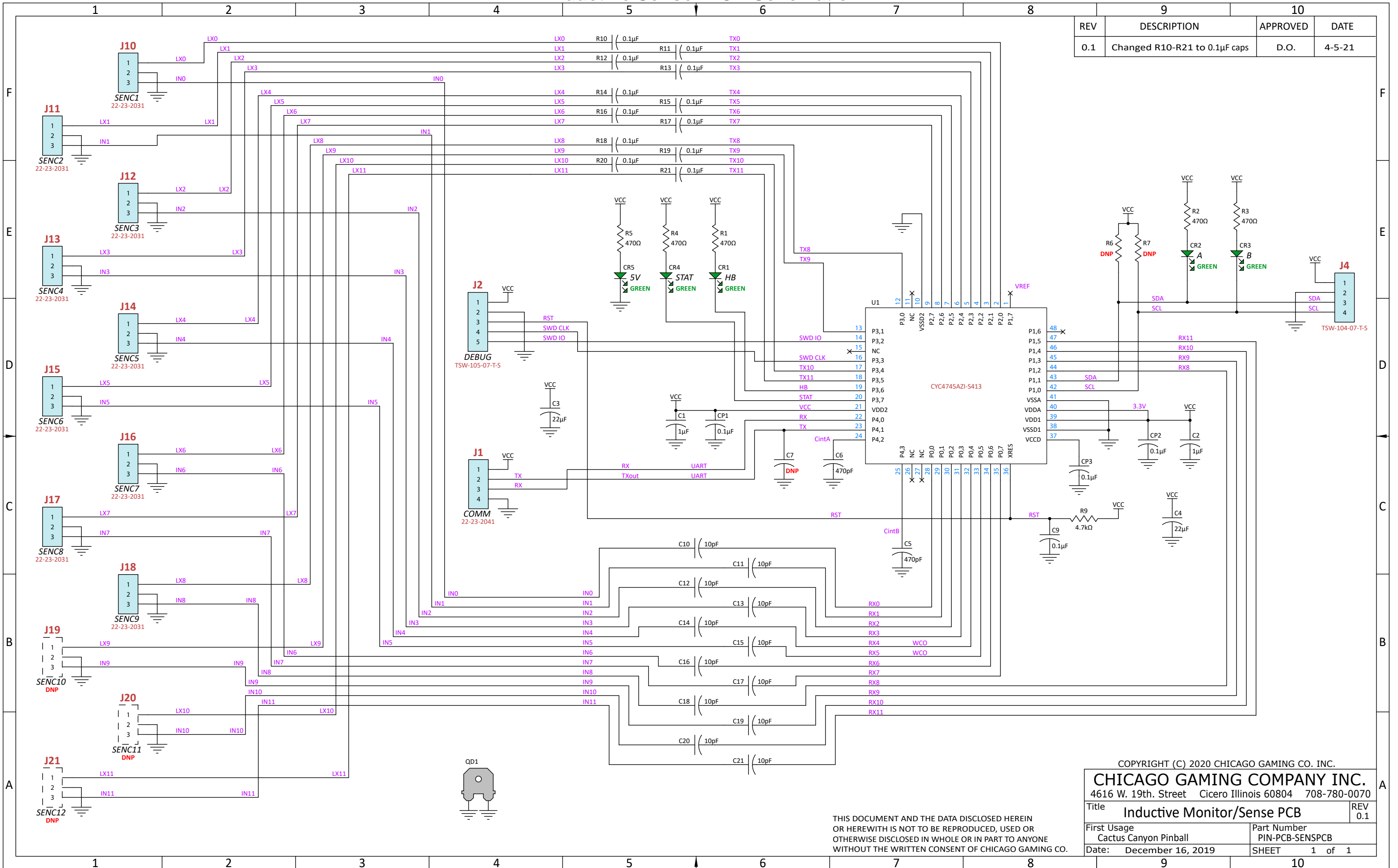


CC Controller PCB Schematic



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 4616 WEST 19TH STREET CICERO IL 60804
Pinball Controller Board
 Size: Document Number
D PIN-PCB-CONTRLR
 Date: December 24, 2018
 REV 3.1
 Sheet 1 of 1

Inductive Sensor PCB Schematic



REV	DESCRIPTION	APPROVED	DATE
0.1	Changed R10-R21 to 0.1μF caps	D.O.	4-5-21

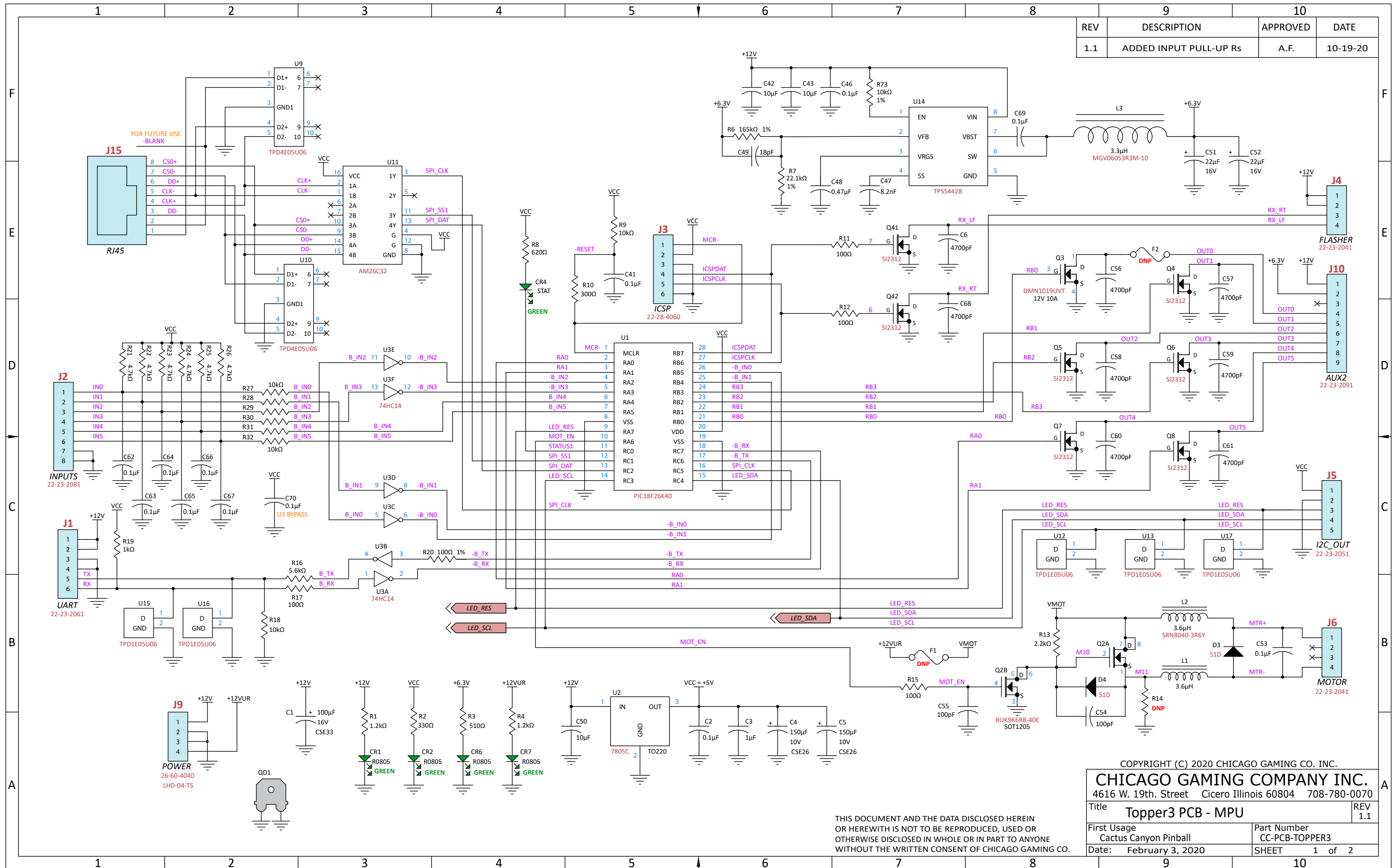
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4616 W. 19th. Street Cicero Illinois 60804 708-780-0070

Title: Inductive Monitor/Sense PCB		REV: 0.1
First Usage: Cactus Canyon Pinball	Part Number: PIN-PCB-SENPCB	
Date: December 16, 2019	SHEET 1 of 1	

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Topper 3 PCB MPU Schematic



REV	DESCRIPTION	APPROVED	DATE
1.1	ADDED INPUT PULL-UP Rs	A.F.	10-19-20

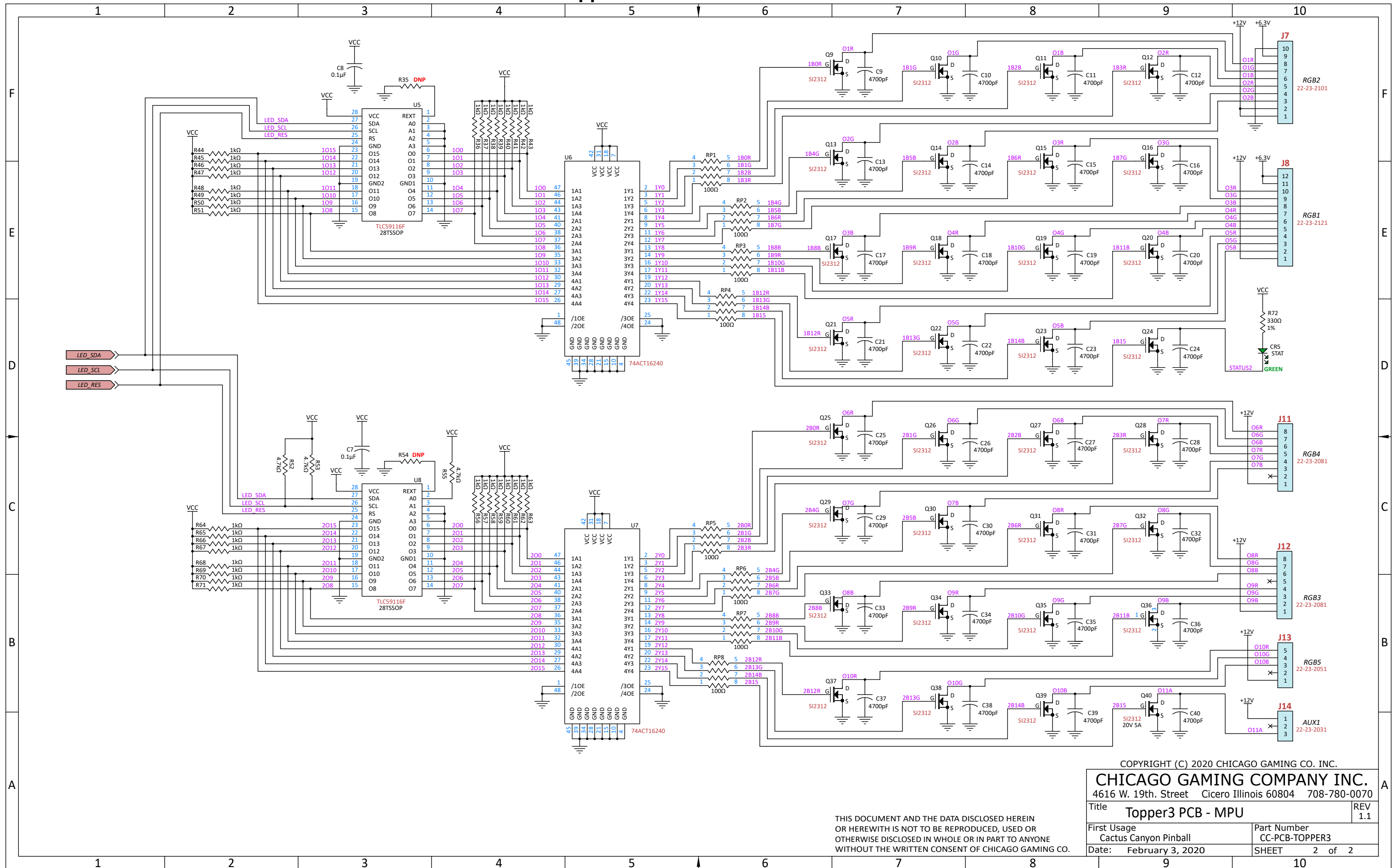
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Title	Topper3 PCB - MPU	REV	1.1
First Usage	Cactus Canyon Pinball	Part Number	CC-PCB-TOPPER3
Date:	February 3, 2020	SHEET	1 of 2

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Topper 3 PCB Driver Schematic



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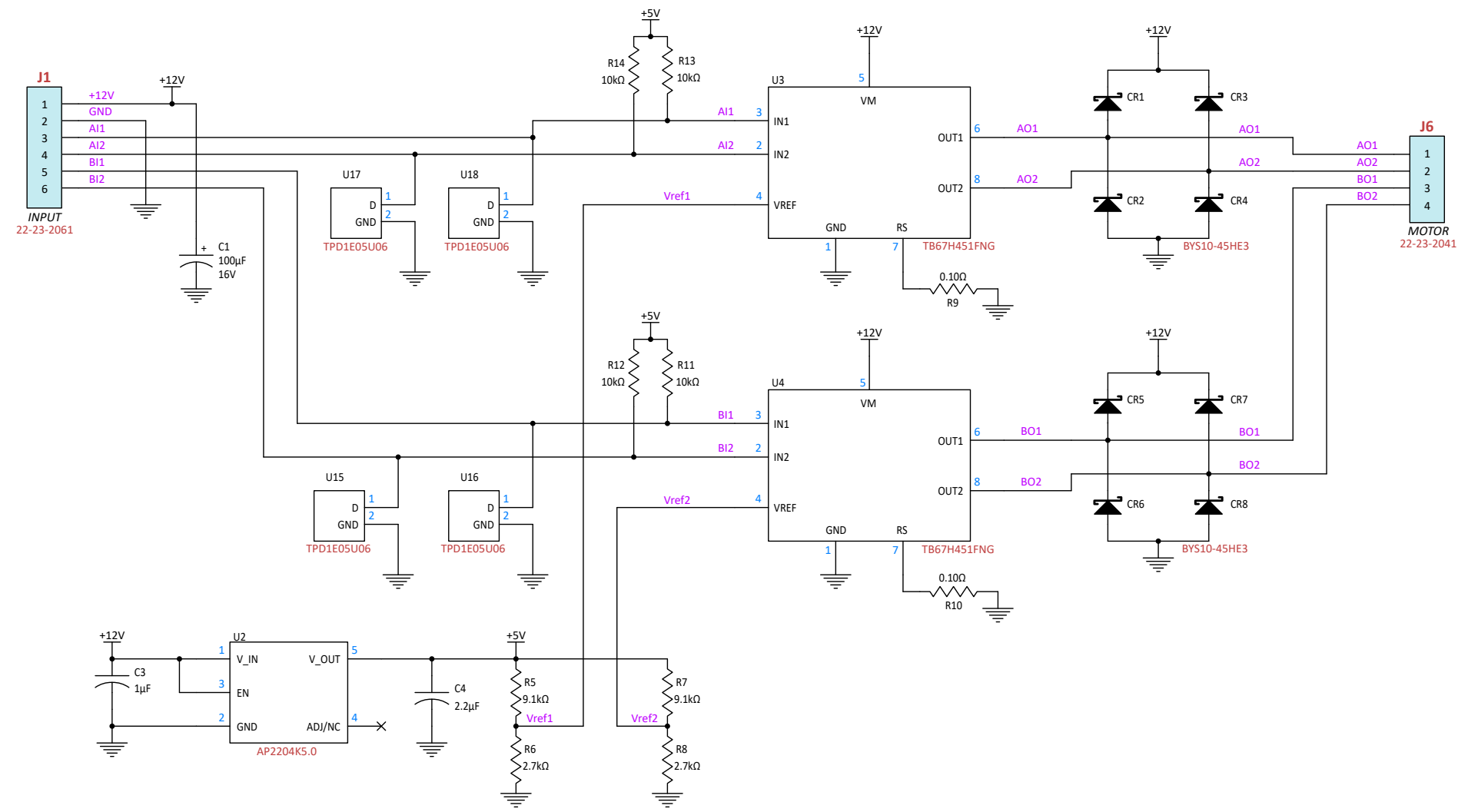
CHICAGO GAMING COMPANY INC.
 4616 W. 19th. Street Cicero Illinois 60804 708-780-0070

Title	Topper3 PCB - MPU	REV	1.1
First Usage	Cactus Canyon Pinball	Part Number	CC-PCB-TOPPER3
Date:	February 3, 2020	SHEET	2 of 2

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Topper Motor H-Bridge PCB Schematic

REV	DESCRIPTION	APPROVED	DATE
1.1	ADDED INPUT PULL-UP Rs	A.F.	10-19-20



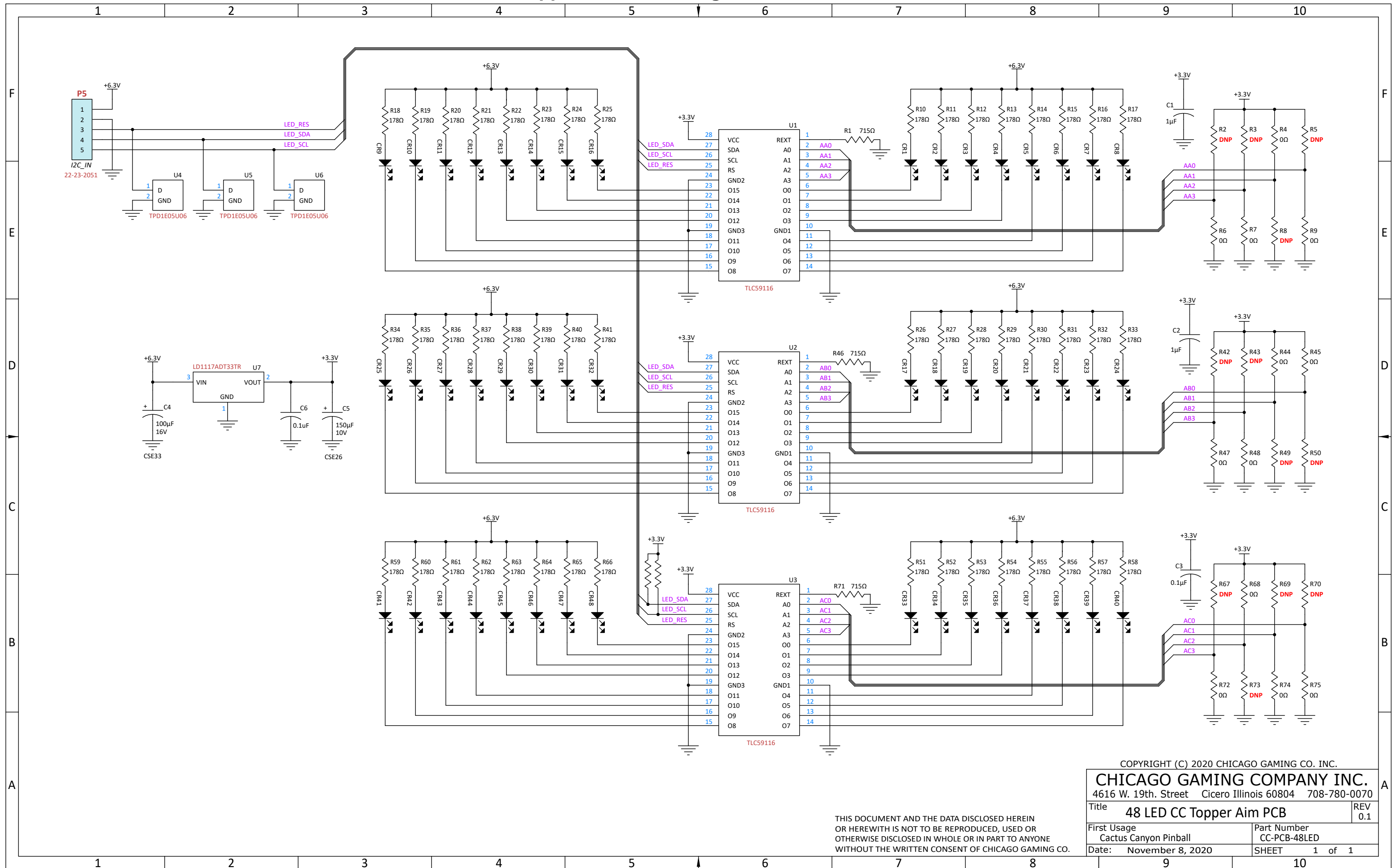
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Title	Motor Driver PCB	REV	1.1
First Usage	Cactus Canyon Pinball	Part Number	CC-PCB-HBRIDGE
Date:	November 19, 2020	SHEET	1 of 1

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Topper 48-LED Aiming PCB Schematic



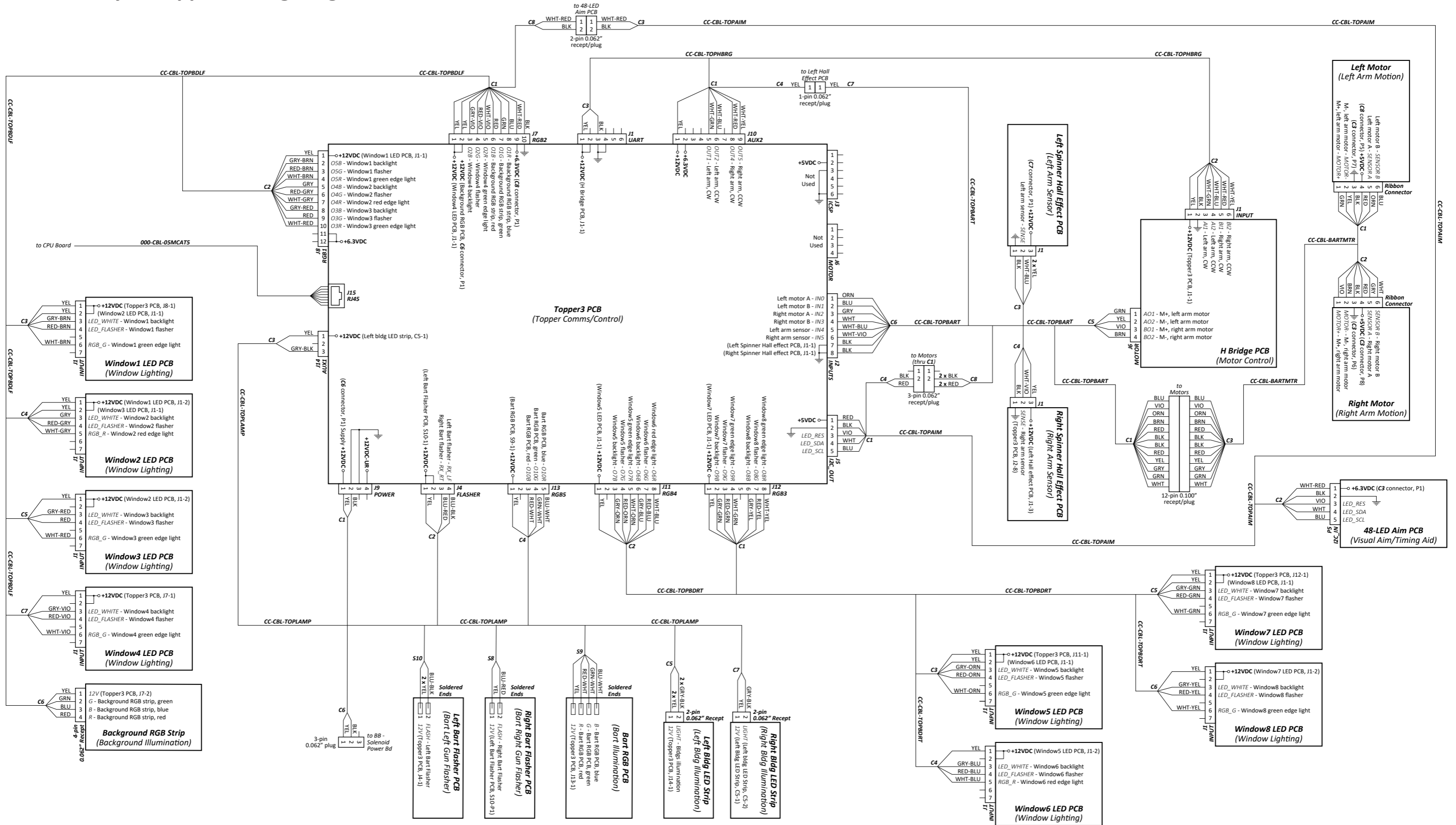
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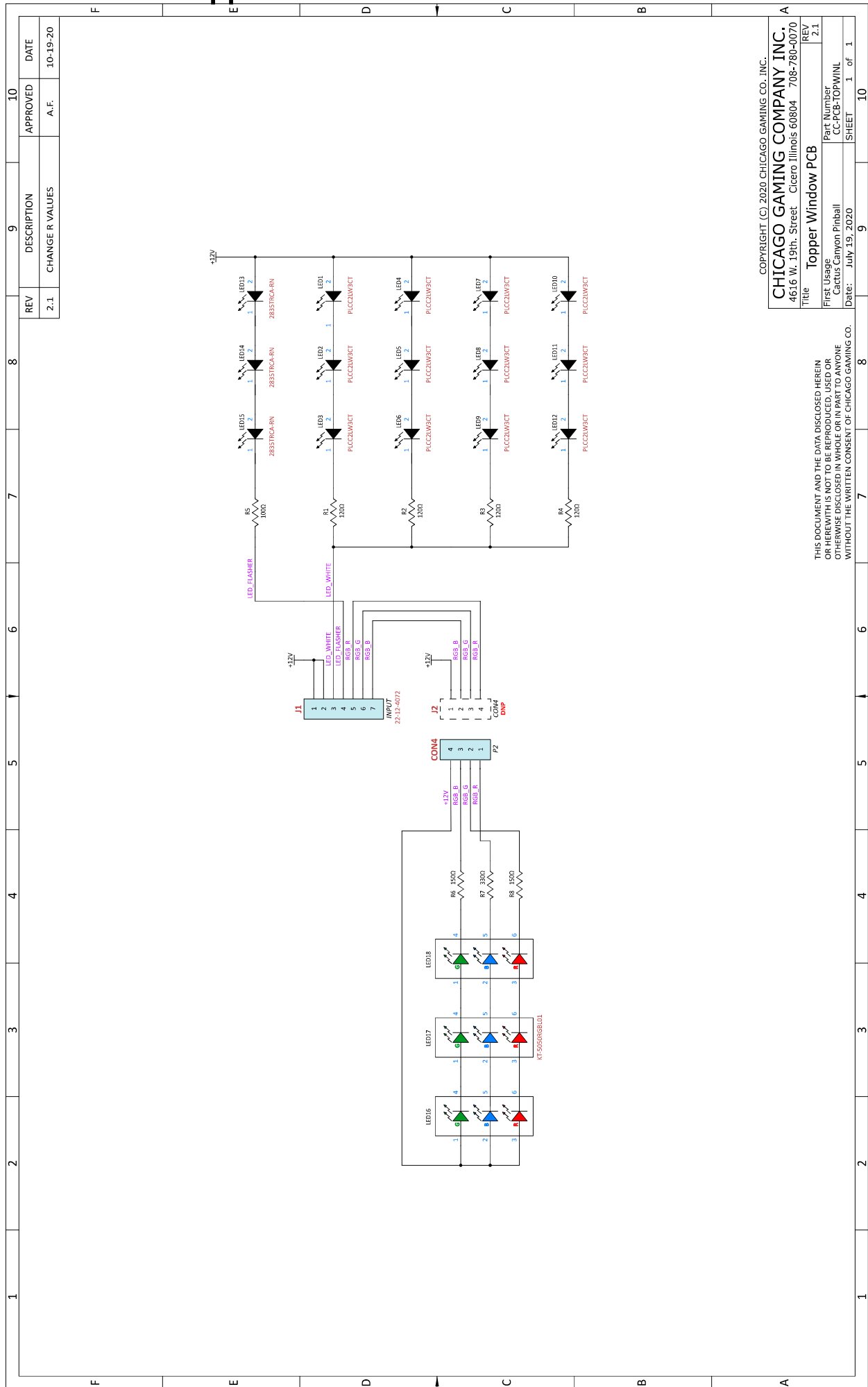
Title 48 LED CC Topper Aim PCB		REV 0.1
First Usage Cactus Canyon Pinball	Part Number CC-PCB-48LED	
Date: November 8, 2020	SHEET 1 of 1	

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Cactus Canyon Topper Wiring Diagram



Topper Window PCB Schematic

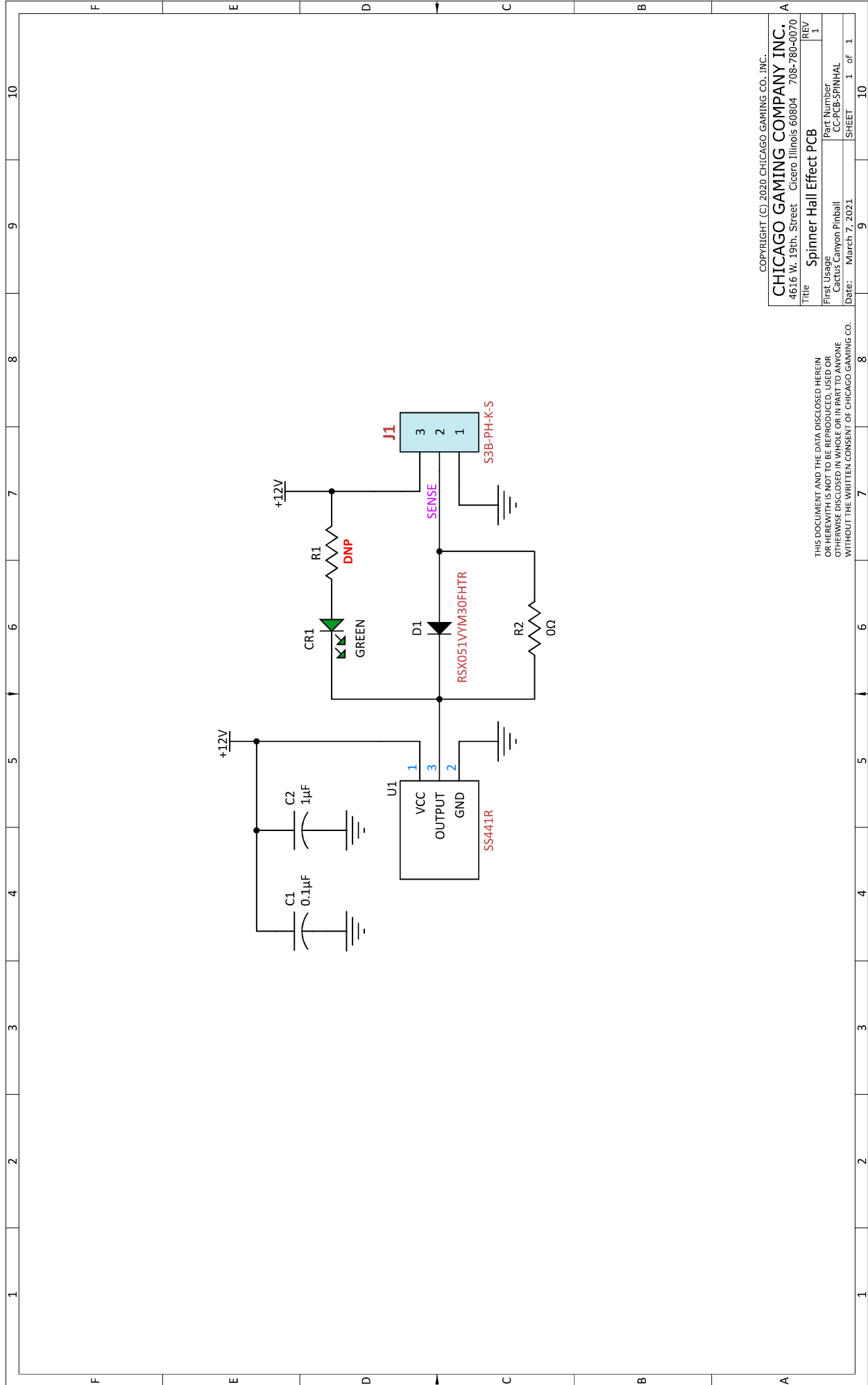


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Title	REV
Topper Window PCB	2.1
First Usage	Part Number
Cactus Canyon Pinball	CC-PCB-TOPWIND
Date: July 19, 2020	SHEET
	1 of 1

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Topper Arm Hall Effect Sensor PCB Schematic

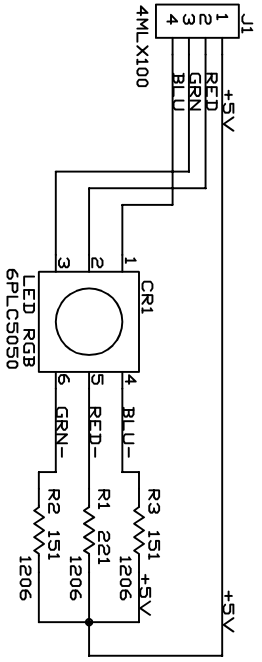
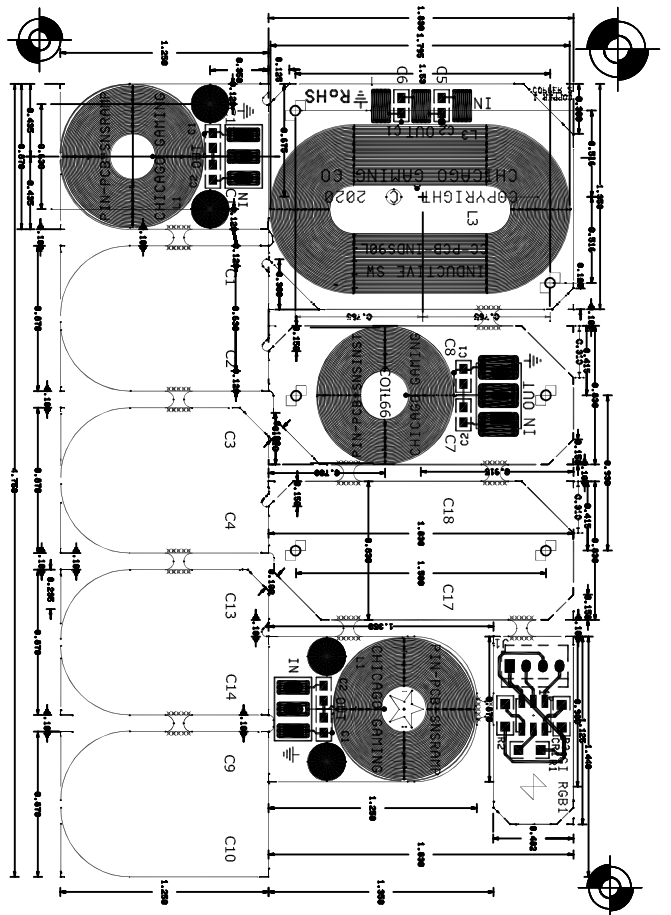


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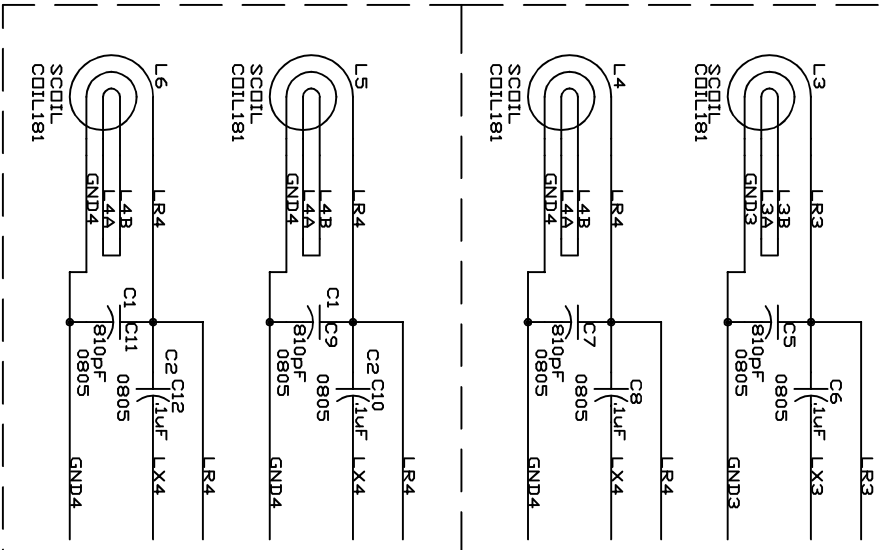
Title	Spinner Hall Effect PCB	REV	1
Part Number	CC-PCB-SPINHAL	Part Number	1
Date:	March 7, 2021	SHEET	1 of 1

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Ball Sensor Coil Schematic



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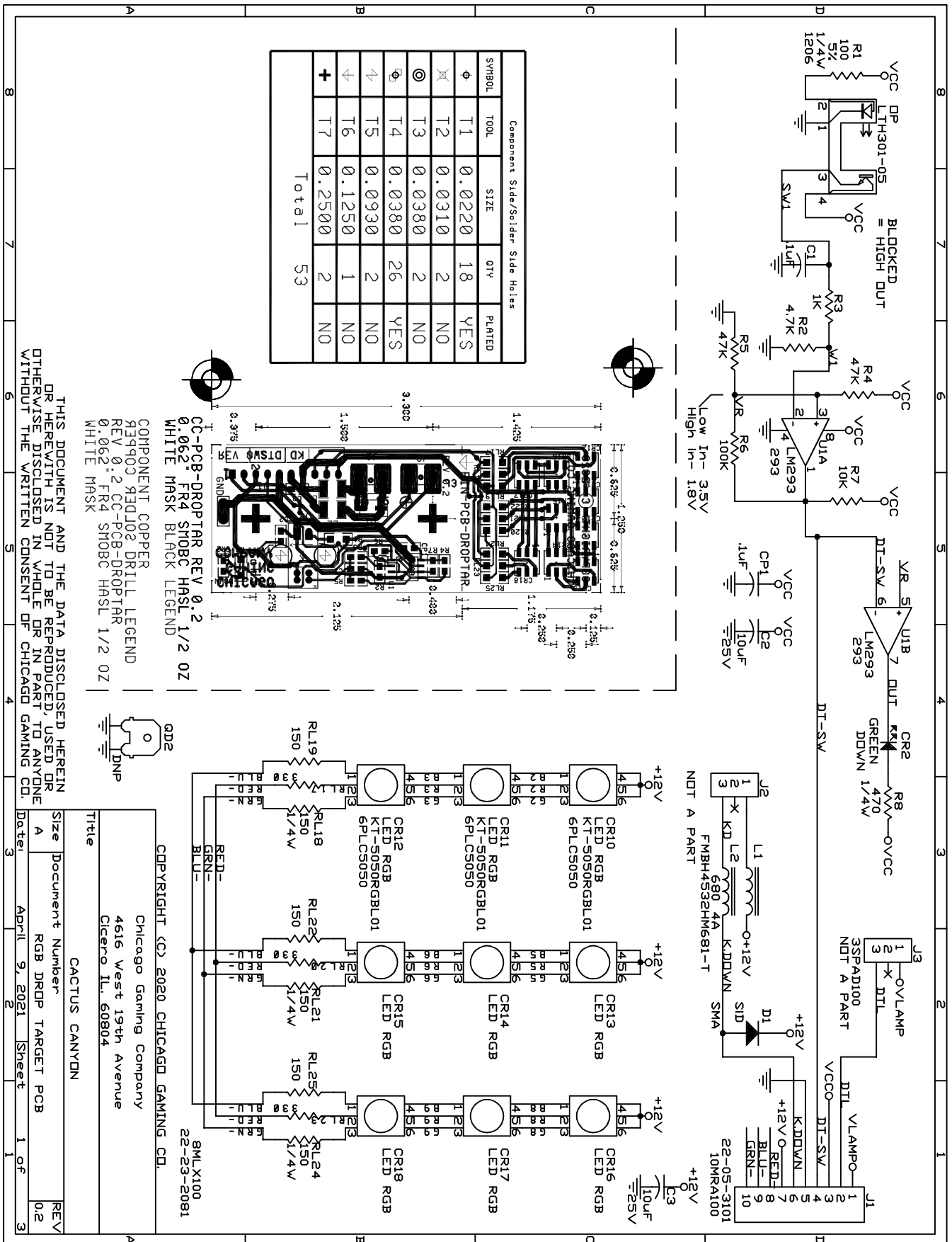
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CACTUS CANYON

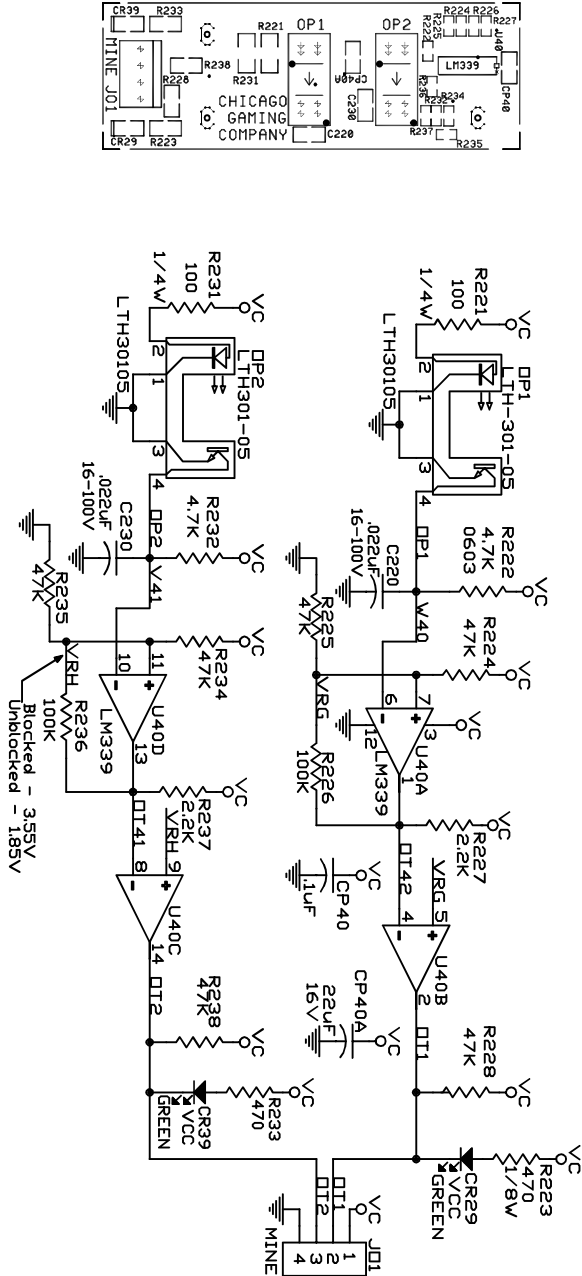
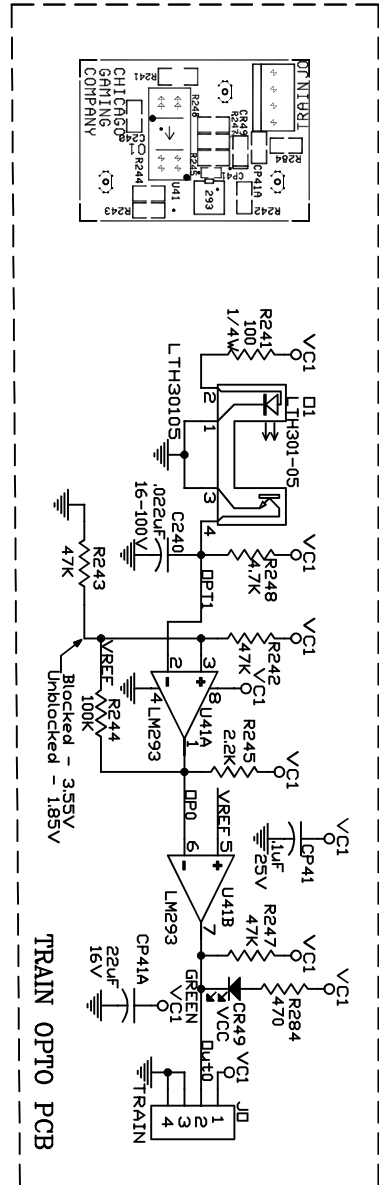
Title	Document Number	REV
A	BALL SENSORS	0.1
Date	October 22, 2020	Sheet 1 of 2

PIN-PCB-DROPTAR Drop Target PCB Schematic



CC-PCB-TRAINOP Train Opto PCB Schematic

CC-PCB-MINEOPT Mine Opto PCB Schematic



REV	DESCRIPTION	APPROVED	DATE
0.2		D-0	8-14-20

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Title: **DUAL OPTO PCB**

Part Number: **CC-PCB-HBRIDGE**

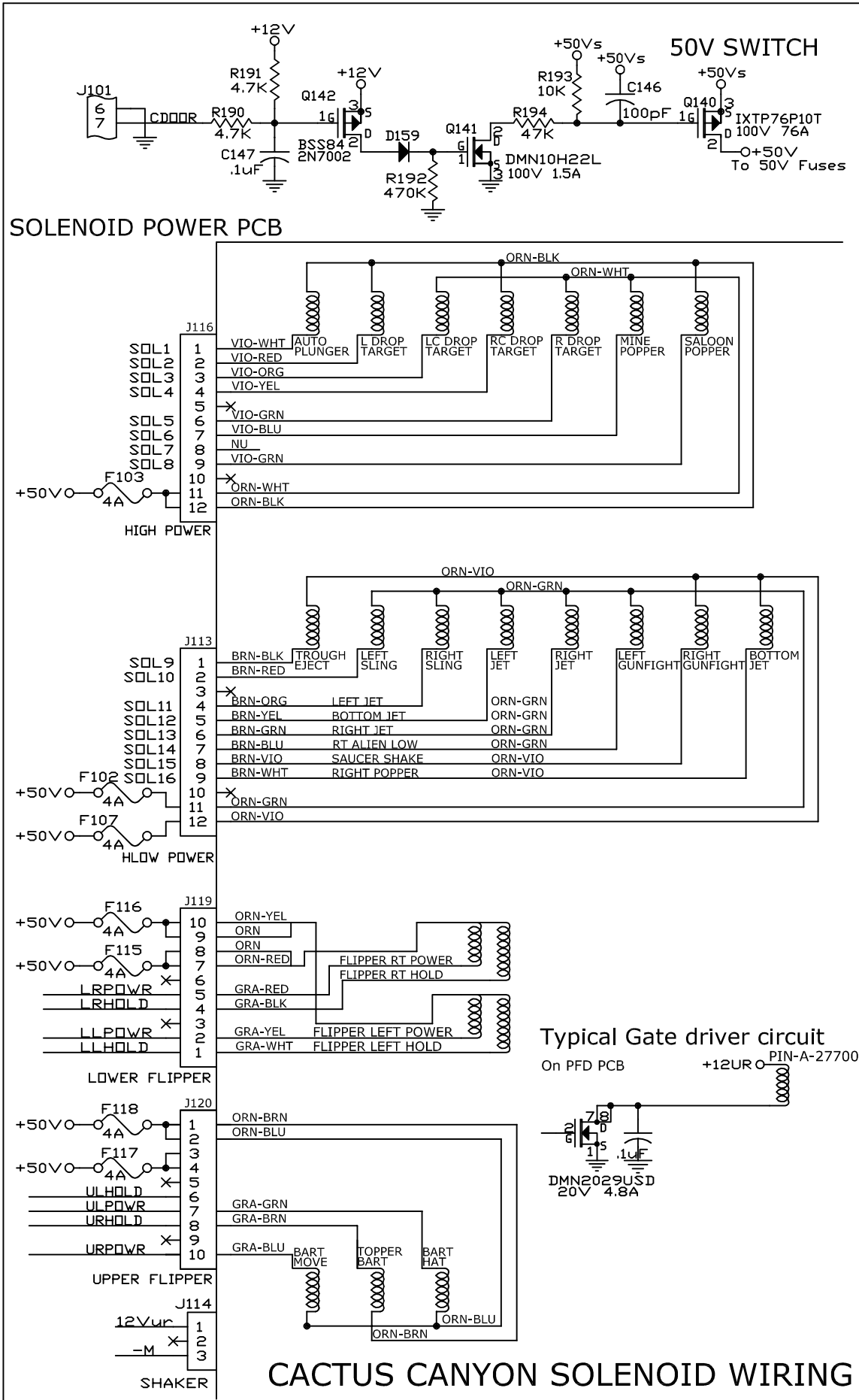
First Usage: **Cactus Canyon Pinball**

Date: **February 22, 2018**

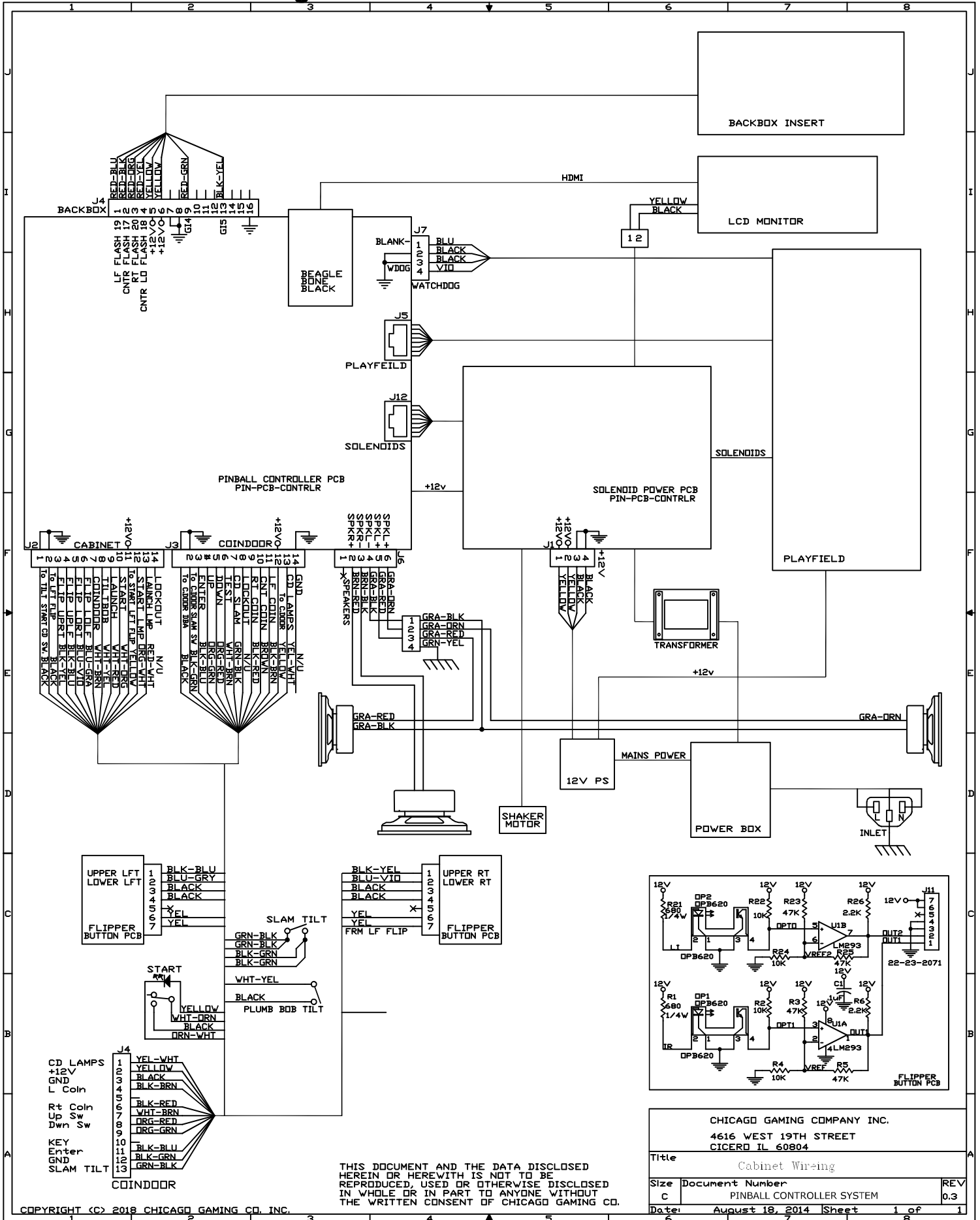
REV: **0.2**

SIZE: **A** SHEET **1** of **1**

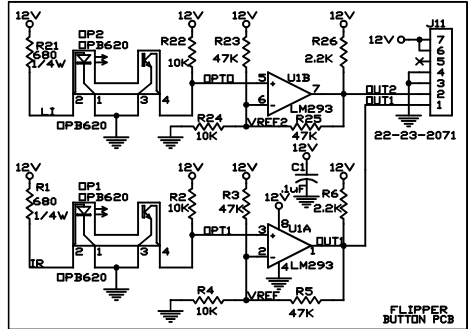
Solenoid Wiring



Cabinet Wiring



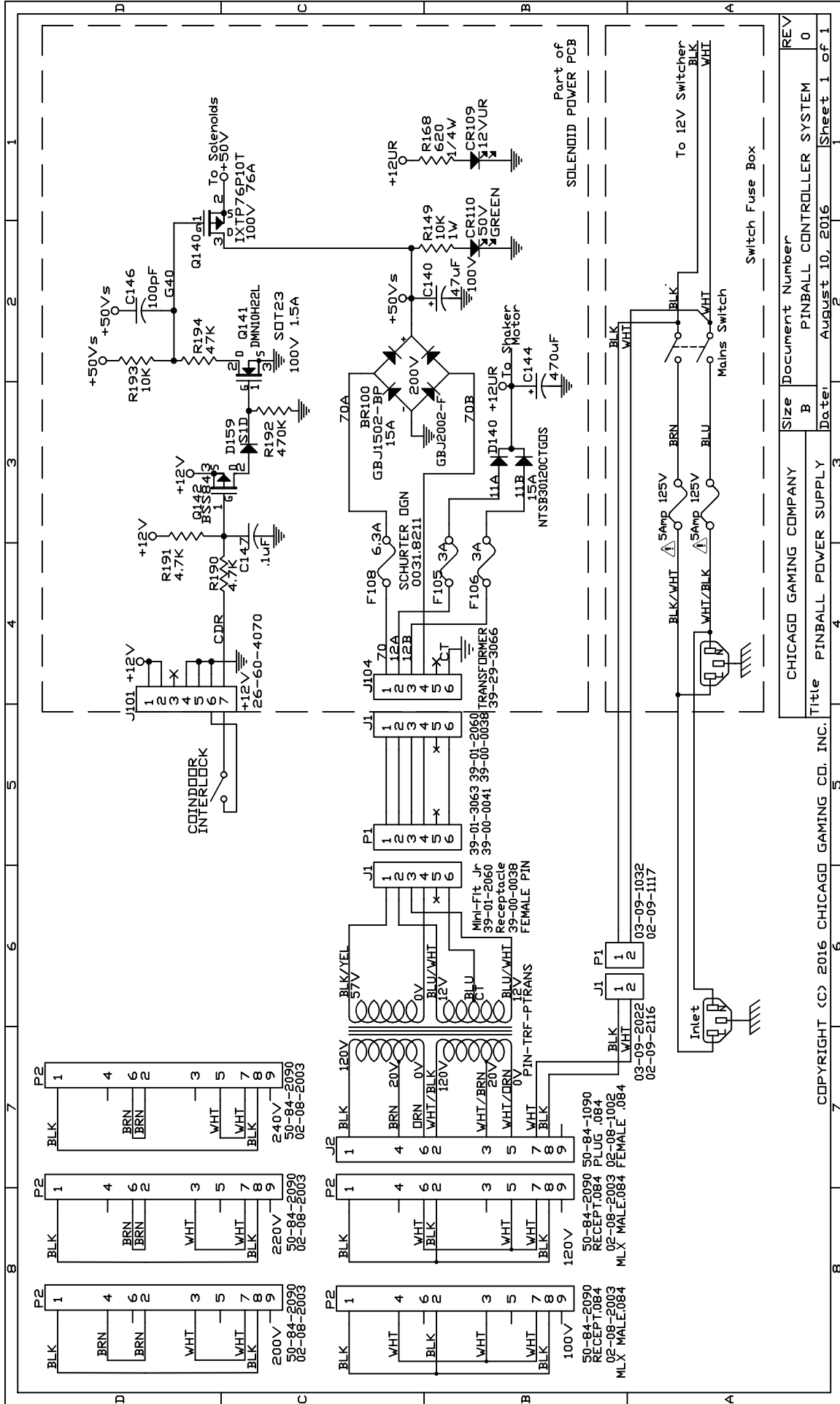
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CICERO IL 60804

Title	Cabinet Wiring	
Size	Document Number	REV
C	PINBALL CONTROLLER SYSTEM	0.3
Date:	August 18, 2014	Sheet 1 of 1

AC Wiring



REV	Document Number	Size	Date
0	PINBALL CONTROLLER SYSTEM	B	August 10, 2016

Title	Document Number	Size	Date
CHICAGO GAMING COMPANY PINBALL POWER SUPPLY	PINBALL CONTROLLER SYSTEM	B	August 10, 2016

Cactus Canyon Lamp Table

Controller Board IN1	CB 1-1	CB 1-2	CB 1-3	CB 1-4	CB 1-5	CB 1-6	CB 1-7	CB 1-8
	COIN SLOTS J3-13	START BUTTON J2-12 88	NOT USED	NOT USED	NOT USED	NOT USED	BB GI UPPER J4-3	BB GI LOWER J4-4
Controller Board IN2	CB 2-1	CB 2-2	CB 2-3	CB 2-4	CB 2-5	CB 2-6	CB 2-7	CB 2-8
	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
Playfield PCB IN1	PF 1-1 RANK: STRANGER PCB 11	PF 1-2 RANK: PARTNER PCB 12	PF 1-3 RANK: DEPUTY PCB 13	PF 1-4 RANK: SHERIFF PCB 14	PF 1-5 RANK: MARSHALL PCB 15	PF 1-6 STAR: MOTHERLODE PCB 16	PF 1-7 L. BONUS X LANE J9-7 17	PF 1-8 EB LIT BEACON PCB 24
	PF 2-1 R. BONUS X LANE J9-8 18	PF 2-2 JACKPOT BEACON PCB 22	PF 2-3 SHOOT TO COLLECT PCB 23	PF 2-4 BOUNTY BEACON PCB 21	PF 2-5 BOUNTY (SALOON) J25-3 25	PF 2-6 SALOON ARROW J25-4 26	PF 2-7 EXTRA BALL J25-5 27	PF 2-8 MINE LOCK J25-6 28
Playfield PCB IN3	PF 3-1 RC DROP: BADGUY 3 PCB 31	PF 3-2 L DROP: BADGUY 1 PCB 32	PF 3-3 NOT USED	PF 3-4 R RAMP: SND ALARM PCB 34	PF 3-5 R RAMP: SHOOT OUT PCB 35	PF 3-6 R RAMP: SAVE POLLY PCB 36	PF 3-7 R RAMP: JACKPOT PCB 37	PF 3-8 R RAMP: COMBO J38-3 38
	PF 4-1 R LOOP: COMBO J4145-2 41	PF 4-2 R LOOP: JACKPOT J4145-3 42	PF 4-3 R LOOP: MARKSMAN J4145-4 43	PF 4-4 R LOOP: GUNSLINGER J4145-5 44	PF 4-5 R LOOP: GOOD SHOT J4145-6 45	PF 4-6 L RET: QUICK DRAW PCB 46	PF 4-7 L RAMP: JACKPOT J24-2 64	PF 4-8 L RAMP: COMBO J24-3 65
Playfield PCB IN5	PF 5-1 R DROP: BADGUY 4 PCB 51	PF 5-2 L RMP: WATER FALL PCB 62	PF 5-3 L RAMP: SAVE POLLY PCB 63	PF 5-4 C RMP: CATCH TRAIN PCB 54	PF 5-5 C RAMP: STOP TRAIN J55-2 55	PF 5-6 C RAMP: SAVE POLLY J55-3 56	PF 5-7 C RAMP: JACKPOT J55-5 57	PF 5-8 C RAMP: COMBO J55-6 58
	PF 6-1 R STANDUP (TOP) PCB 53	PF 6-2 R STANDUP (BOT) PCB 52	PF 6-3 NOT USED	PF 6-4 NOT USED	PF 6-5 NOT USED	PF 6-6 R RET: QUICK DRAW PCB 66	PF 6-7 R OUT: SPECIAL J15-2 67	PF 6-8 R GUNFIGHT PIN J15-3 68
Playfield PCB IN7	PF 7-1 STAR: HIGH NOON PCB 73	PF 7-2 STAR: COMBO PCB 72	PF 7-3 L LOOP: JACKPOT J24-6 75	PF 7-4 L LOOP: COMBO J24-5 74	PF 7-5 L LOOP: RIDE 'EM PCB 76	PF 7-6 L STANDUP PCB 33	PF 7-7 L LOOP: WILD RIDE PCB 77	PF 7-8 L LOOP: B. BRONCO PCB 78
	PF 8-1 STAR: BART BROS. PCB 81	PF 8-2 STAR: STAMPEDE PCB 71	PF 8-3 L RMP: WHITE WATER PCB 61	PF 8-4 LC DROP: BADGUY 2 PCB 84	PF 8-5 STAR: SHOW DOWN PCB 83	PF 8-6 SHOOT AGAIN J16-9 82	PF 8-7 L GUNFIGHT PIN J16-10 47	PF 8-8 L OUT: GUN FIGHT J16-11 48

Cactus Canyon Switch Table

Controller Board IN1	CB 1-1	CB 1-2	CB 1-3	CB 1-4	CB 1-5	CB 1-6	CB 1-7	CB 1-8
	START BUTTON J2-10 13	NOT USED	PLUMB BOB TILT J2-8 14	COIN DOOR CLOSED J2-7 22	L. FLIPPER BUTTON J2-6 F4	R. FLIPPER BUTTON J2-5 F2	U.L. FLIPPER BUTTON J2-4 F8	U.R. FLIPPER BUTTON J2-3 F6
Controller Board IN2	CB 2-1	CB 2-2	CB 2-3	CB 2-4	CB 2-5	CB 2-6	CB 2-7	CB 2-8
	LEFT COIN SLOT J3-11 D1	CENTER COIN SLOT J3-10 D2	RIGHT COIN SLOT J3-9 D3	SLAM TILT J3-7 21	ESCAPE D5	DOWN J3-5 D6	UP J3-4 D7	ENTER J3-3 D8
Playfield PCB IN1	PF 1-1	PF 1-2	PF 1-3	PF 1-4	PF 1-5	PF 1-6	PF 1-7	PF 1-8
	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
Playfield PCB IN2	PF 2-1	PF 2-2	PF 2-3	PF 2-4	PF 2-5	PF 2-6	PF 2-7	PF 2-8
	C. RAMP MAKE J515-1 84	NOT USED	RIGHT RETURN J15-8 17	SHOOTER LANE J15-7 18	R. FLIPPER E.O.S. J15-11 F1	R. SLINGSHOT J15-10 52	RIGHT OUTLANE J15-9 27	NOT USED
Playfield PCB IN3	PF 3-1	PF 3-2	PF 3-3	PF 3-4	PF 3-5	PF 3-6	PF 3-7	PF 3-8
	TROUGH EJECT JS31-8 31	TROUGH BALL 1 JS31-7 32	TROUGH BALL 2 JS31-6 33	TROUGH BALL 3 JS31-4 34	TROUGH BALL 4 JS31-3 35	NOT USED	RIGHT LOOP BOTTOM JS37-5 37	NOT USED
Playfield PCB IN4	PF 4-1	PF 4-2	PF 4-3	PF 4-4	PF 4-5	PF 4-6	PF 4-7	PF 4-8
	SKILL BOWL J21-4 67	NOT USED	R. STANDUP (BOT) JS28-1 28	R. STANDUP (TOP) JS44-1 44	NOT USED	NOT USED	NOT USED	NOT USED
Playfield PCB IN5	PF 5-1	PF 5-2	PF 5-3	PF 5-4	PF 5-5	PF 5-6	PF 5-7	PF 5-8
	L. BONUS X LANE J11-3 47	BEER MUG SWITCH J11-2 46	LEFT JET J11-8 53	RIGHT JET J11-7 54	BOTTOM JET J11-6 55	L. LOOP BOTTOM JS36-5 36	R. BONUS X LANE J11-5 57	LEFT LOOP TOP J11-4 58
Playfield PCB IN6	PF 6-1	PF 6-2	PF 6-3	PF 6-4	PF 6-5	PF 6-6	PF 6-7	PF 6-8
	DROP #1 (L) JS61-1 61	DROP #2 (LC) JS61-2 62	DROP #3 (RC) JS61-3 63	DROP #4 (R) JS61-4 64	MINE HOME J23-2 77	MINE ENCODER J23-3 78	MINE POPPER JS41-5 41	SALOON POPPER JS42-5 42
Playfield PCB IN7	PF 7-1	PF 7-2	PF 7-3	PF 7-4	PF 7-5	PF 7-6	PF 7-7	PF 7-8
	NOT USED	TRAIN HOME J10-4 72	NOT USED	NOT USED	SALOON BART TOY J10-5 75	NOT USED	SALOON GATE J10-2 73	C. RAMP ENTER J10-3 82
Playfield PCB IN8	PF 8-1	PF 8-2	PF 8-3	PF 8-4	PF 8-5	PF 8-6	PF 8-7	PF 8-8
	L. FLIPPER E.O.S. J16-5 F3	LEFT OUTLANE J16-4 16	L. RETURN J13-3 26	L. SLINGSHOT J16-2 51	NOT USED	L. STANDUP (TOP) JS86-1 86	L. STANDUP (BOT) JS87-1 87	TRAIN ENCODER J20-2 71
Playfield PCB IN8	SENC 1	SENC 2	SENC 3	SENC 4	SENC 5	SENC 6	SENC 7	SENC 8
	JET EXIT SENC1 48	L. RAMP MAKE SENC2 83	L. RAMP ENTER SENC3 85	RIGHT LOOP TOP SENC4 56	R. RAMP ENTER SENC5 66	R. RAMP MAKE SENC6 65	BOT. R. RAMP SENC7 68	MINE ENTRANCE SENC8 15
Ball Sensor IN1	SENC 1	SENC 2	SENC 3	SENC 4	SENC 5	SENC 6	SENC 7	SENC 8
	JET EXIT SENC1 48	L. RAMP MAKE SENC2 83	L. RAMP ENTER SENC3 85	RIGHT LOOP TOP SENC4 56	R. RAMP ENTER SENC5 66	R. RAMP MAKE SENC6 65	BOT. R. RAMP SENC7 68	MINE ENTRANCE SENC8 15

