Two Player

Setup and Operation
Service Manual

Revision Halo-1.1.2-03.07

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This software is based in part on the work of the Independent JPEG Group.
This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.openssl.org/)
This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)
This product includes audio software developed by FMOD Studio. (https://www.fmod.com/)

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Safety

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

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

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

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

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

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

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

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

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

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

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Connectors

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

Computer

The computer contains sensitive components, including a hard drive. Do not handle it roughly. Call your distributor before servicing its internal components. Ask about warranty information as it relates to the PC.
Cycle AC power on or off with the cabinet power switch.
A dongle has been inserted into one of the USB ports. This is required for game play.
Do not remove the dongle except for troubleshooting purposes.

Tempered glass warning

When handling the LCD display glass cover take special care and set the glass down softly on a flat surface free of debris. The edge of the glass is sensitive to hard impact. Shattered glass from the monitor can travel long distances and cause bodily injury. Use proper procedures when handling broken materials.

Hazard to Epileptics

A small portion of the population has an epileptic condition that may cause seizures. Affected persons experience seizure while watching some television pictures or playing certain video games. People who have not had seizures may still have an undetected epileptic condition. If anyone in your family has experienced epilepsy symptoms (seizures or loss of awareness), consult your physical before using video games. While children play video games, a parent should observe. Be alert to the following symptoms: dizziness, altered vision, eye or muscle twitching, involuntary movements, loss of awareness, disorientation or convulsions. If you or your child experiences these symptoms, discontinue use immediately and consult your physician.

Manual

Keep this manual available and ready for use. If the game fails to function properly, turn off the machine and unplug the AC line cord. Contact your local distributor. You may not reproduce this document or any of its contents without written authorization from Raw Thrills™, Inc. or PlayMechanix™ Inc.

Specifications

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

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Product Specifications

Electrical Power

Unites States, International and Japan

Operating AC Current: 5/2.5 Amps

Voltage: 115/230 ~ VAC 50/60Hz

Temperature

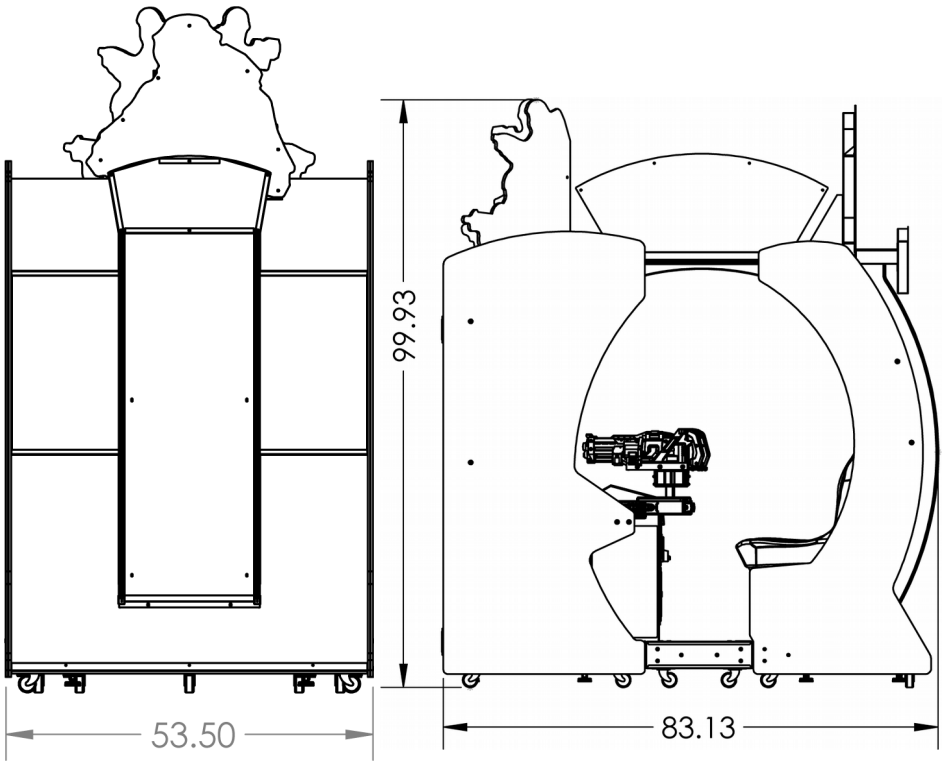
50° to 104° Fahrenheit (10° to 40° Celsius)

Humidity

Must not exceed 95% relative humidity

Cabinet Dimensions

Height	Width	Depth
99.93” (253.8222 cm)	53.50” (135.89 cm)	83.13” (211.1502 cm)



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Fuse Replacement Guide

NOTE: FOR CONTINUED PROTECTION AGAINST FIRE AND ELECTRICAL DAMAGE,
USE ONLY SPECIFIED FUSE TYPE AND VALUE.

Please see unit for specified fuse labeling. Abbreviations:

5A 250V	5A, 250VAC Fast Acting 3AG Fuse	Littlefuse 0312005.MXP (or equivalent)
5A-SB 250V	5A, 250 VAC Slow Blow 3AG Fuse	Littlefuse 0313005.HXP (or equivalent)
2A-SB 250V	2A, 250VAC Slow Blow 3AG Fuse	Littlefuse 0313002.HXP (or equivalent)

Setup

Tools Requires

- T- 27 Security bit and driver
- 7/16” sickdet wrench
- 7/16” hex nut driver
- 3/8” hex nut driver
- 1/4” driver
- #2 Phillips Screwdriver
- 6’ ladder

Unpack Carton

1. Unpack all cartons and locate cabinet components
    - Main Cabinet assembly
    - Seat Cabinet assembly
    - Floor Spacer assembly
    - Master Chief light box assembly
    - Roof Marquee assembly
    - Ultra Board assembly

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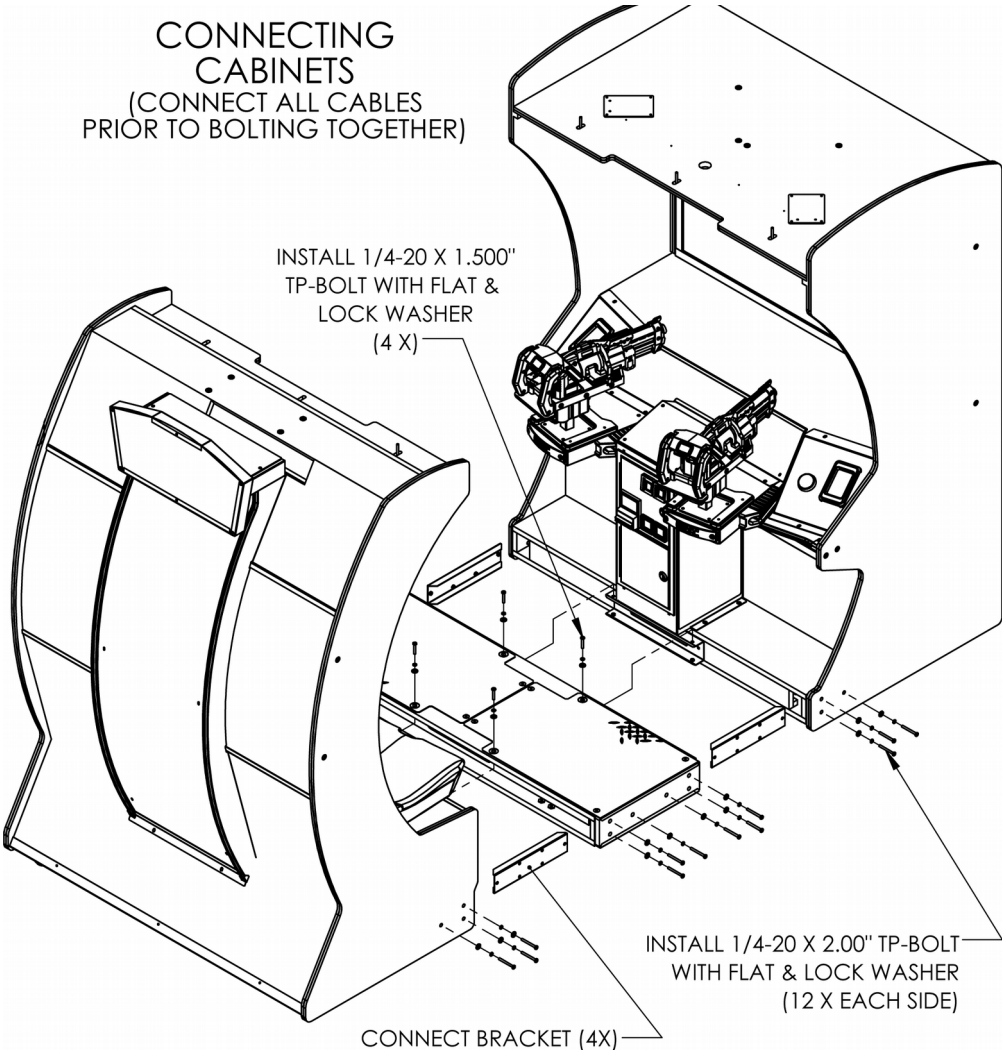
Connect Cables

1. Position seat cab assembly, main cab assembly, and floor spacer assembly.
2. Connect all cables running between main cab and seat cab, routing through the floor spacer.



Attach Brackets to Floor Spacer

1. Attach four mounting brackets to floor spacer using twelve 1/4-20 x 2” TP-bolts with flat and lock washers.

Attach Floor Spacer to Main Cabinet

1. Slide floor assembly mounting brackets into main cabinet. Be careful not to pinch cables.
2. Secure mounting brackets using six 1/4-20 x 2” TP-bolts with flat and lock washers.
3. Secure floor spacer using two 1/4-20 x 1.5” TP-bolts with flat and lock washers.

Attach Seat Cabinet to Floor Spacer

1. Slide seat cabinet onto floor spacer mounting brackets. Be careful not to pinch cables.
2. Secure mounting brackets using six 1/4-20 TP-bolts with flat and lock washers.
3. Secure floor spacer using two 1/4-20 x 1.5” TP-bolts with flat and lock washers.

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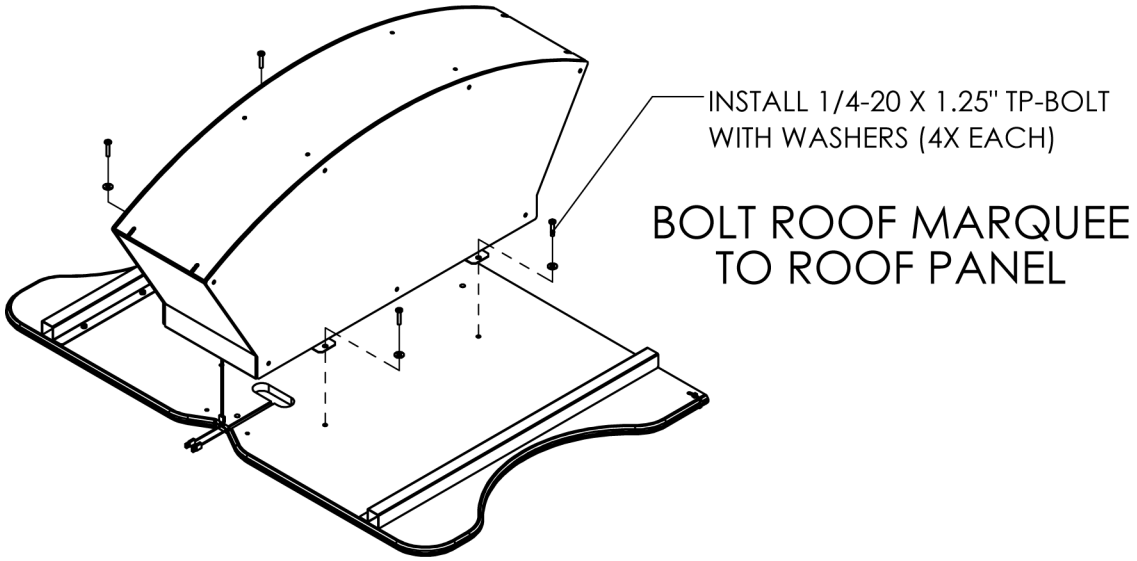
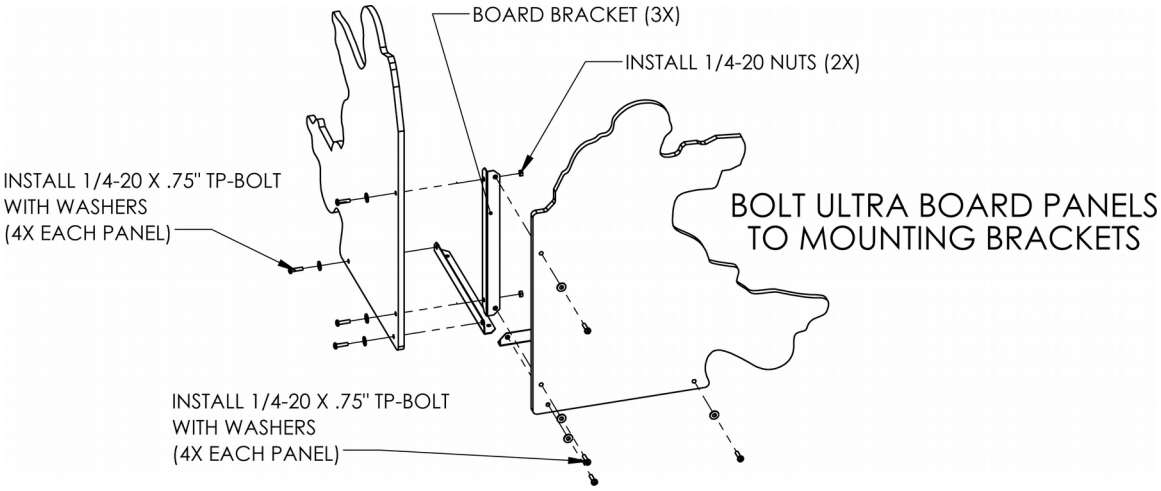
Attach Roof Marquee to Roof Panel

1. Locate the Roof Marquee and Roof Panel
2. Attach Roof Marquee to Roof Panel with four 1/4-20 x 1.25” TP-bolts and four washers.



Attach Ultra Board Panels to Mounting Brackets

1. Locate two Ultra Board Panels and three mounting brackets.
2. Attach bottom brackets to each panel using four 1/4-20 x .75” TP-bolts and washers.
3. Attach vertical mounting bracket to both panels using four 1/4-20 x .75” TP-bolts and washers.
4. Secure vertical mounting bracket with two 1/4-20 nuts.



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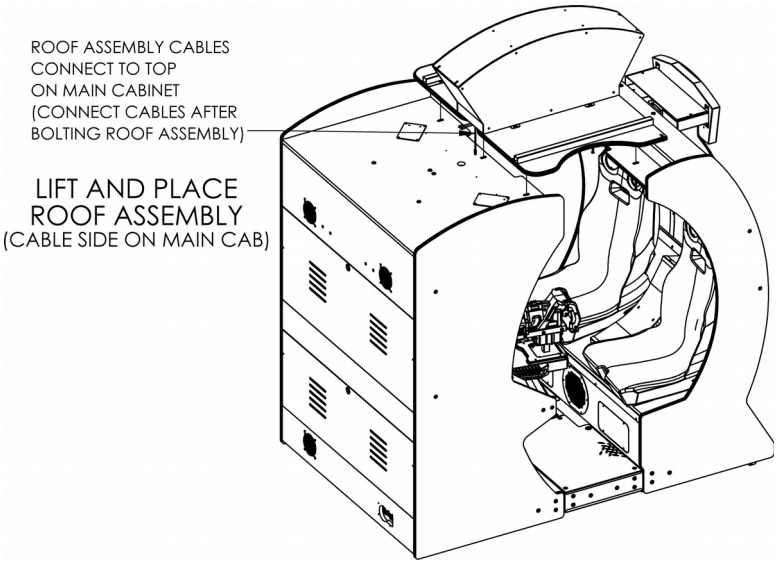
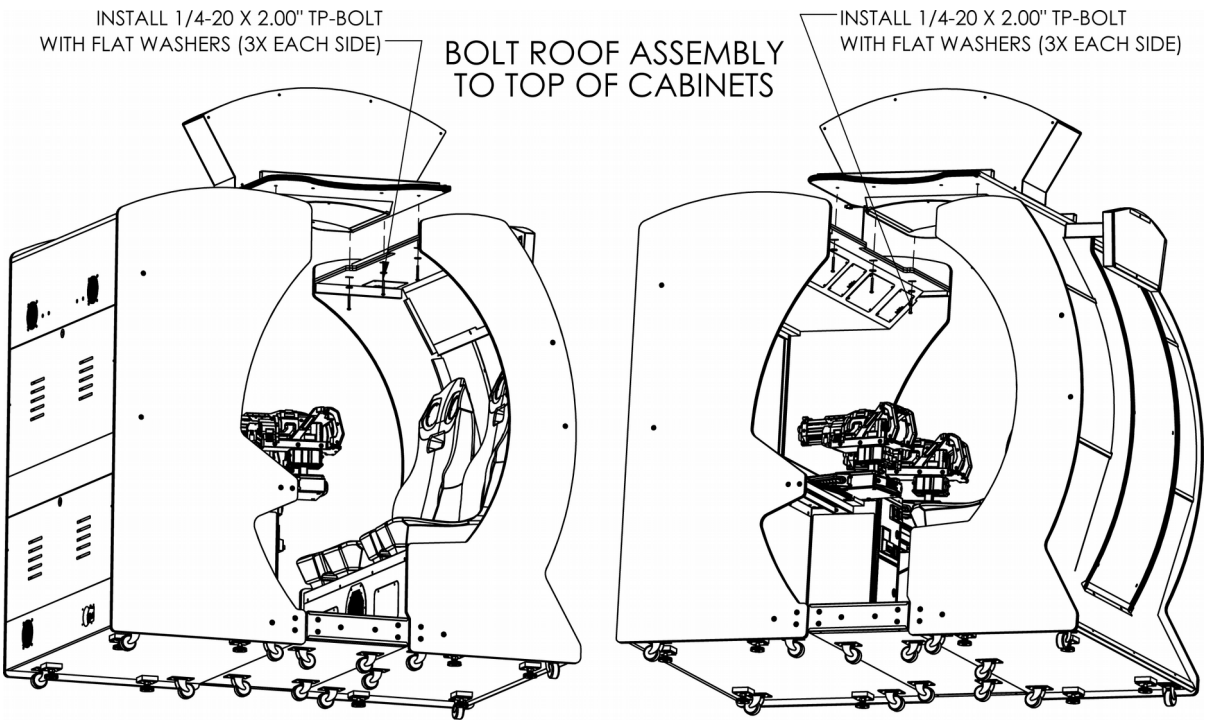
Attach Roof Marquee Assembly

1. Lift and position Roof Marquee assembly on top of cabinet.



2. Secure Roof Marquee assembly to cabinet using six 1/4-20 x 2” TP-bolt and flat washers.



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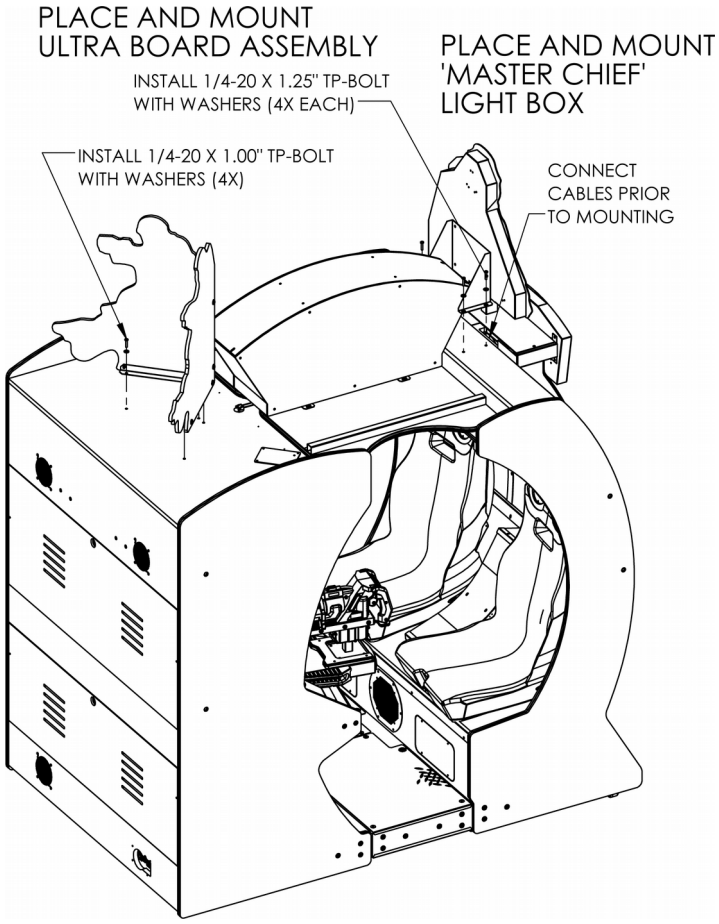
Attach the Master Chief Light box

1. Lift and position Master Chief Light box on top of cabinet.
2. Connect light box cable.
3. Secure light box using four ¼ x 1.25” TP-bolts with washers.



Attach Ultra Board Assembly

1. Lift and position Ultra Board assembly on top of cabinet.
2. Secure using four ¼ x 1” TP-bolts with washers.

Verify Cabinet Functionality

1. Verify the voltage in the nearest AC outlet.
2. Verify the AC outlet ground connection is present and working.
3. Verify that the specified operating current will not overload the supply circuits.
4. Plug the line cords into AC outlet.
5. Turn the main cabinet power switch to ON.
6. Verify that the cooling fans on the cabinet are working.
   If not, turn off AC power and disconnect line cord. Contact Betson service
7. Check that no component is excessively hot or emitting foul odors.
   If so, turn off AC power and disconnect line cord. Contact Betson service.
8. Once software loads, you will be asked to setup the cabinet software.

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Game Software Setup

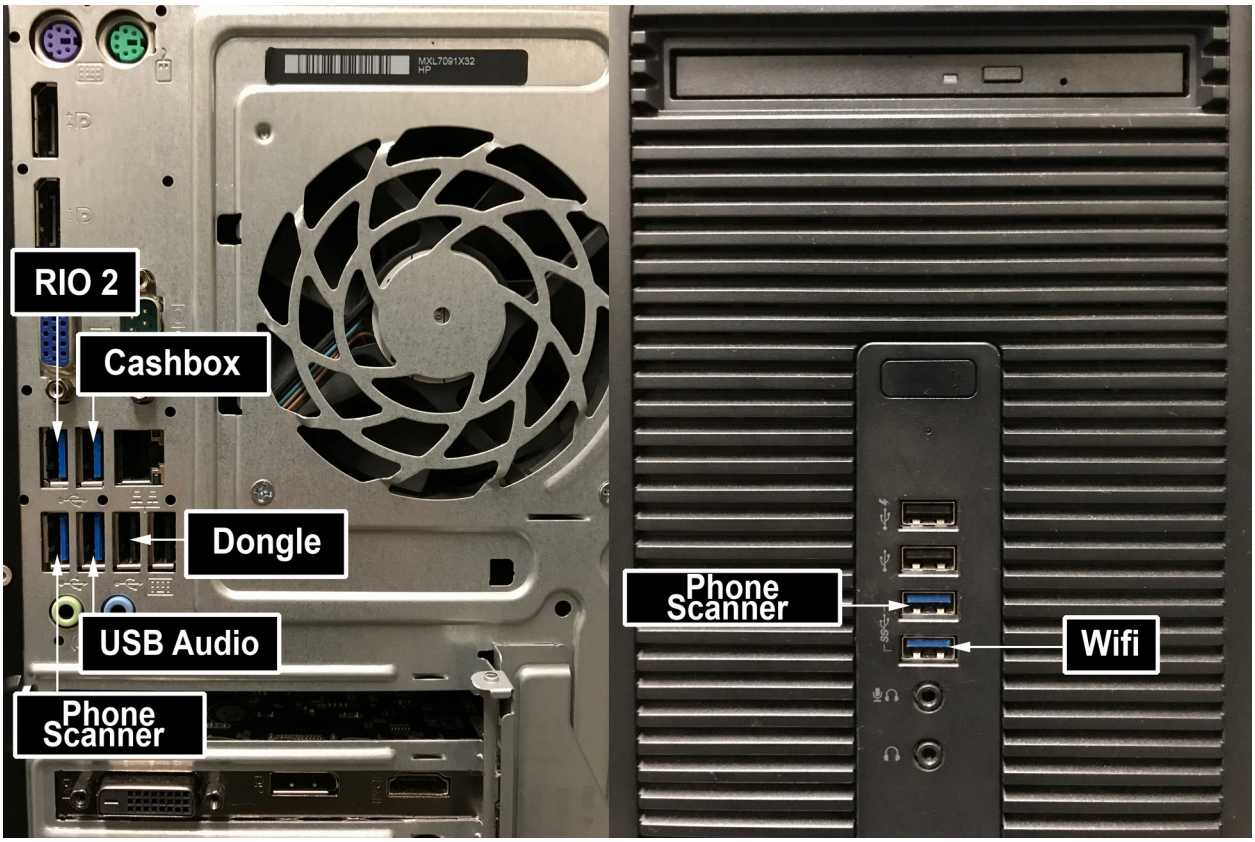
Initial Setup

When first turned on, follow the onscreen prompts to complete initial game setup.

Verify Input and Output Functionality

1. Enter the Diagnostic menu
2. Enter the INPUT TESTS menu and verify all switches and inputs function.
3. Enter the VIDEO TESTS menu and verify that video is acceptable.
4. Enter the COIN METER TEST and verify the operation of the coin meter.
5. Enter the LAMP TESTS menu and verify that the lamps of the buttons work correctly.
6. Enter the SOUND TEST menu and verify the audio works and is not distorted.
7. Enter the WATCHDOG TEST menu, which re-boots the game.
8. Upon a successful re-boot, you are ready to make adjustments to pricing, volume and other functions found in the Diagnostic menu.

PC USB Connection Guide



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Maintenance

Hard Drive Recovery

Symptoms requiring hard drive recovery include:

- File Test reports bad or missing files
- Game fails to finish loading during startup
- After resetting the AC power, an error is reported
- You are prompted to insert a boot DVD
- Erratic Game or Attract Mode
- A screen indicating Data Files Corrupted

COMPUTER

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

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

Flash Drive Restore

1. Turn both cabinet AC power switches to OFF.
2. Connect USB flash drive to an open USB port found inside the coin door.
3. Turn both cabinet AC power switches to ON.
4. Initial software loading may take several minutes. Check progress periodically.
   Do not interrupt power or reset the game during recovery.
5. When software has finished loading, a message indicates that restore is complete.
6. Turn both cabinet power switches to OFF and disconnect USB flash drive.
7. After 30 seconds, turn both cabinet power switches to ON.
8. After game restarts, the game will proceed through the Setup wizard with factory defaults.

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Regular Gun Maintenance Procedure

In order to maximize income potential, keep the cabinet in optimal working order by performing the following procedure every time you empty the cash box.

1. **Verify trigger functionality**
   Press the Test button on the service panel, select Tests, select Input Tests, and then select Switch Test (described earlier in this manual) to ensure the triggers are functioning properly.

2. **Verify reload functionality**
   Verify reload mechanisms are functional on all guns.

3. **Calibrate, calibrate, calibrate**
   Return to the Main Menu screen and select Gun Calibration. Follow the instructions earlier in this manual or on screen to calibrate all guns.

Calibrate the guns any time the game is moved or the guns are repaired, replaced or swapped.
Note: It is not advisable to replace or swap devices while power is on. Shut AC power off before connecting or disconnecting any components. If, for some reason, guns are changed while power is on, shut off AC power and reboot, after the guns are connected again. Failure to do so may result in incorrect functionality.

Following these procedures is *critical* to maintaining your guns and maximizing revenue. Perform regular maintenance to keep your game in top working order.

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Troubleshooting

Warning: Review safety chapter before making any adjustments to game.

General Troubleshooting

Problem	Possible Cause	Solution
Game will not power up	Game not plugged in.	Plug game into outlet.
	Game not turned on.	Turn on main power switch.
	Game fuse is blown.	Check and replace fuse.
	Game power line circuit breaker tripped.	Check and reset game power line circuit breaker.
	No power to receptacle.	Test outlet and plug game into powered outlet.
	PC not turned on.	Ensure IEC cable tightly plugged in. Trace cable back to source to ensure continuity.
	PC BIOS set incorrectly.	Set PC BIOS to boot on power.
NO VIDEO message	Video cables not plugged in properly	Reattach and/or tighten video cable to monitor. Reattach and/or tighten video cable to PC.
	Faulty video cable	Replace video cable
No sound	Bad Connection	Check connection to speakers and amplifier board.
	USB Sound adapter Disconnected	Check USB cable and connection
Game does not load	Hard drive failure	Recover hard drive. See procedure on pg 12.
Hard drive test reports “bad” or “missing” files.		
Game fails to finish loading.		
After resetting, game still reports an error.		
Game suggests inserting a boot DVD.		
Erratic game mode or attract mode.		
WARNING! Data Files Corrupted. (Game Operation May Become Unstable.) Use “Test” Switch to Enter Test Mode and Run “File Test.” Press Start To Continue.		
Game resets	Bad file.	Run File Test. Restore hard drive.

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Problem	Possible Cause	Solution
Coin meter does not click	No pulse to meter	Check all wiring from meter to I/O board
	Faulty meter	Replace coin meter
Exits Test Mode every 3 seconds	Test button stuck in ON position	Slide or toggle button off after Test Menu appears
Dongle Not Present	Dongle missing or disconnected	Find dongle usb connection and reseat in USB port
	Faulty USB port	Connect dongle to another USB port
Connect I/O Board or *I/O Board Missing*	USB cable disconnected	Check USB connection from PC to I/O board Try connecting to a different USB port
	Blown fuse	Check and replace fuse.
	No power to RIO2 board	Check for proper voltage (+12V) at RIO2 P1 connector
	Bad RIO2 Board	Replace RIO2 board with known functional board
Gun Recoil not functional	Cable Disconnected	Verify all cables are connected
	Blown fuse	Check and replace fuse.

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Online Troubleshooting

Problem	Possible Cause	Solution
Game cannot connect to CoinUp® server. No IP address appears under Test Connections menu	No broadband internet service	Contact a local ISP to setup either cable modem or DSL service.
	Wrong router configuration	Configure router for DHCP (Dynamic Host Configuration Protocol).
	Disconnected Ethernet cable	Check that Ethernet cables are tightly connected at both ends. An audible click confirms tightness. Reboot game. In Diagnostic mode, select Online, then Test Connection. Confirm that IP address appears. The phrase eth0 must follow IP address.
	Faulty Ethernet cable	Test cable by connecting it from another PC into router or wall jack. Replace cable if faulty.
	Faulty Ethernet wall jack.	Plug Ethernet cable into a different jack.
	Broadband service is down.	Contact ISP.
	Faulty router	Plug Ethernet cable into different jacks in router. Plug Ethernet cable directly into DSL or cable modem instead of router. Replace router if faulty.
	Faulty network card	Call CoinUp® service

Problem	Possible Cause	Solution
Game has IP address and screen says *Server Ping Success* but Test Connection screen reports Database Ping failure or File Server Ping failure.	Firewall is blocking communication with server.	Read firewall documentation. Ensure configuration allows ICMP Echo. If router has built-in firewall, check router configuration. Enable communication on ports 80, 443, 7786, and 7787.
	Database or File Server is down	Wait 30 minutes and revisit Test Connection screen. If still reporting failure, call CoinUp® service.

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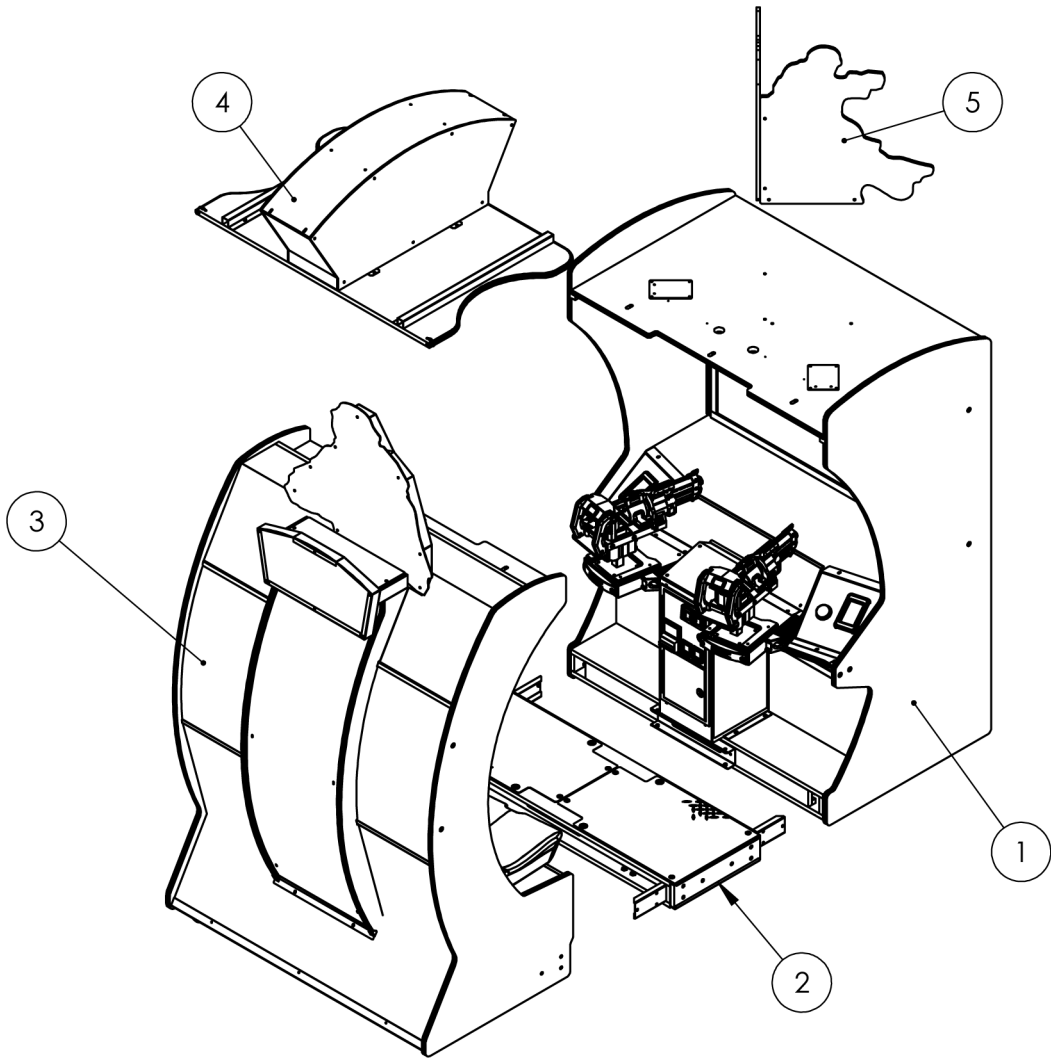
Parts

Halo – Two Player – Cabinet Assembly



Halo – Two Player – Cabinet Assembly Part Numbers

Item	Part No.	Description	QTY
1	HALO-55-MAINCAB-ASSY	Halo 55” Main cabinet assembly	1
2	HALO-55-FLOOR_BOX_ASSY	Halo 55” Floor assembly	1
3	HALO-55-SEATCAB-ASSY	Halo 55” Seat cabinet assembly	1
4	HALO-55-ROOF-ASSY	Halo 55” Roof assembly	1
5	HALO-55-ULTRA-BOARD-ASSY	Halo 55” Cabinet topper	1

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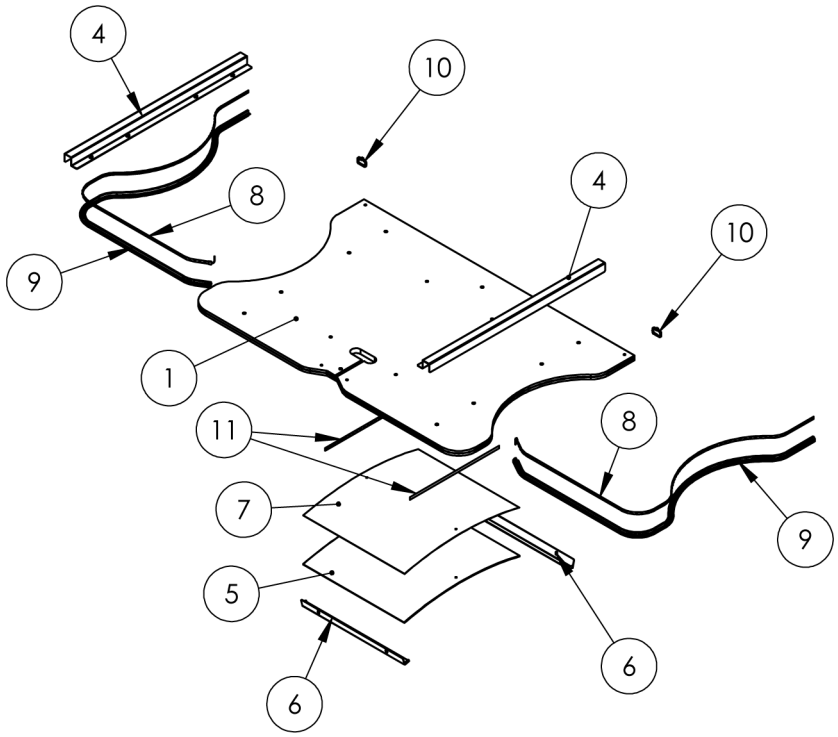
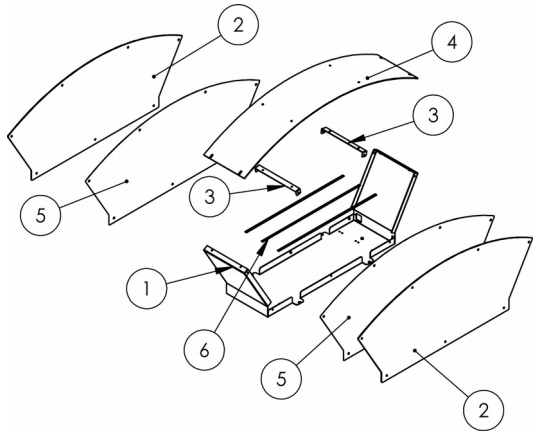
Halo – Two Player – Roof Panel Assembly



Halo – Two Player – Roof Panel Assembly Part Numbers

Item	Part No.	Description	QTY
1	601-00847-01	HALO-55-ROOF-PANEL	1
2	601-00847-01-SIDE-PANEL	601-00847-01-LEFT-SIDE-PANEL	2
3	601-00847-01-END-PANEL	601-00847-01-END-PANEL	2
4	600-02352-01	STRUT-ROOF-HALO-55	2
5	603-00953-01	PETG-ROOF-HALO-55	1
6	600-02360-01	RETAINER-ROOF-HALO-55	2
7	606-01614-01	TRANSLITE-ROOF-RING-HALO-55	1
8	500-00131-01	RGB-LED-STRIP-40CM-33LEDS	2
9	603-00718-01	¾ LED T-MOLD(HOUSING 114”)	2
10	TIE-WRAP	TIE-WRAP	2
11	40CM LED STRIP(WHITE)	40CM LED STRIP (WHITE	2

Halo – Two Player – Roof Marquee Assembly



Halo – Two Player
Roof Marquee Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-02350-01	LIGHTBOX-ROOF-HALO-55	1
2	603-00938-01	PETG-ROOF-MARQUEE-HALO-55	2
3	600-02351-01	BRACKET-COROPLAST-HALO-55	2
4	603-00946-01	COROPLAST-ROOF-HALO-55	1
5	606-01590-01	TRANSLITE-ROOF-MARQUEE	2
6	60cm-WHITE-LED-STRIP	60 cm LED Strip (WHITE)	3

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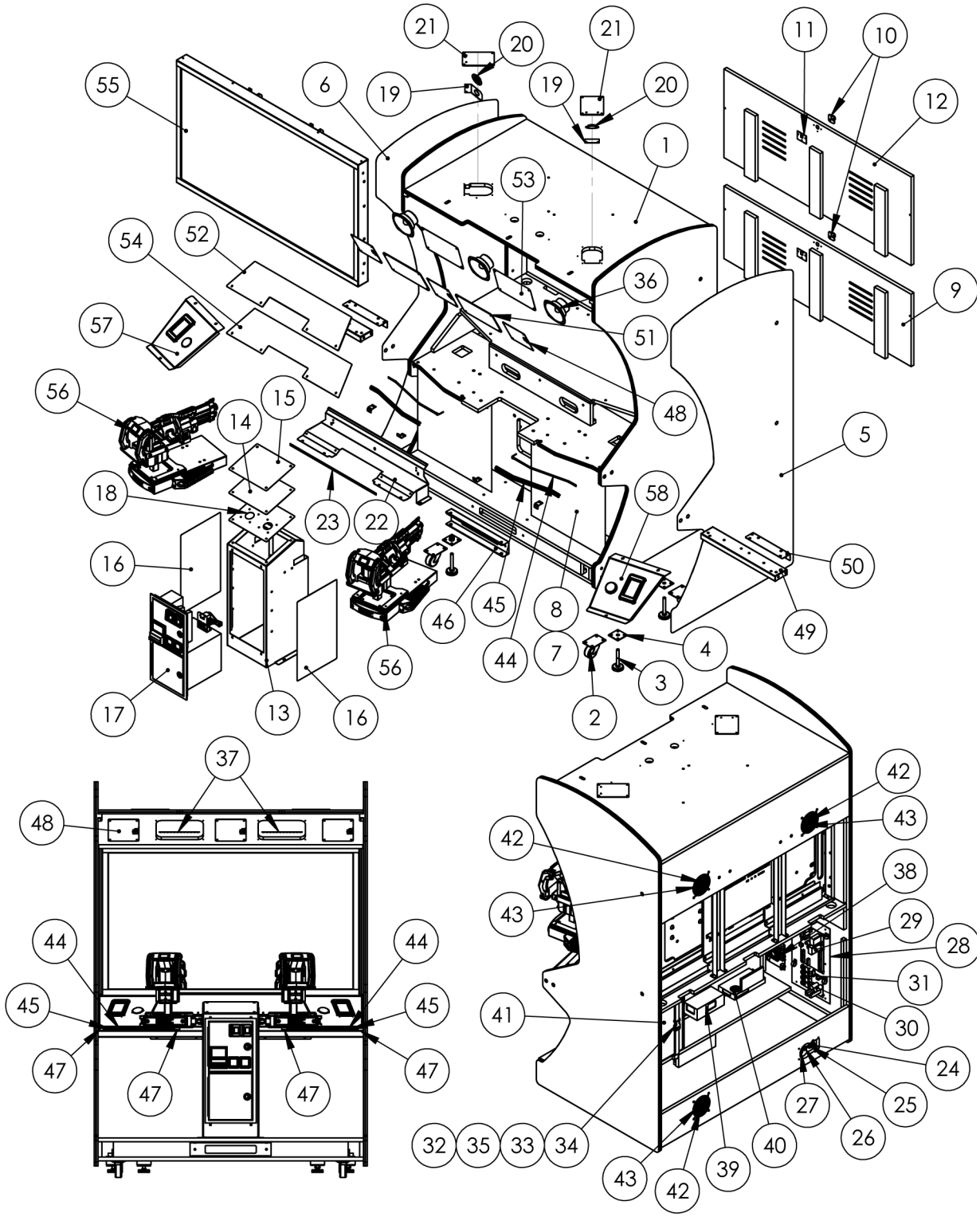
Halo – Two Player - Main Cab Assembly



Halo – Two Player - Main Cab Assembly Part Numbers

Item	Part No.	Description	QTY
1	601-00844-01	ASSY-MAINCAB-HALO-55	1
2	CASTER 2’5	2-1/2” CASTER	4
3	LEG LEVELER – 1/2” - 13 X 4.00LG	LEG LEVELER – 1/2” - 13 X 4.00LG	4

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4	Leg leveler plate	2.50 x 2.50 x 1/2-13 CTR – LEVELER PLATE	4
5	606-01572-01	DECAL-RIGHT-MAINCAB-SIDE-PANEL-HALO-55	1
6	606-01571-01	DECAL-LEFT-MAINCAB-SIDE-PANEL-HALO-55	1
7	606-01573-01	DECAL-LEFT-FOOT-PANEL-HALO-55	1
8	606-01574-01	DECAL-RIGHT-FOOT-PANEL-HALO-55	1
9	601-00762-01	MAINCAB-REAR-DOOR-HALO-55	1
10	Lock 7/8” w/ 1.25 Cam	LOCK STANDARD	2
11	LOCK RETAINER N202-130	LOCK RETAINER N202-130	2
12	601-00763-01	MAINCAB-LCD-DOOR-HALO-55	1
13	600-02334-01	VAULT-COIN-HALO-55	1
14	600-02353-01	PLATE-BLANK-VAULT-HALO-55	1
15	606-01588-01	DECAL-VAULT-TOP-HALO-55	1
16	606-01585-01	DECAL-COIN-VAULT-SIDE-HALO-55	2
17	800-00005-01	MID-WIDTH COINDOOR – BBHD	1
18	600-02359-01	PLATE-CARD-READER-HALO-55	1
19	600-00768-01	BRACKET-LIGHT-BBHD	2
20	500-00205-01	White LED Superpuck PCB-36LEDS	2
21	603-00942-01	PETG-PUCK-LIGHT-HALO-55	2
22	600-02338-01	BRACKET-CP-HALO-55	1
23	60CM-WHITE-LED-STRIP	60cm LED Strip (WHITE)	1
24	600-01681-01	PLATE, AC – LINE FILTER, CIRCUIT BRAKER, ON/OFF SW	1
25	Power Inlet Receptacle	IEC Appliance Inlet, Front Side, Quick-connect, 10A	1
26	T9-611-5A	5A-Circuit Breaker, Snap-in, Fuseholder style, 1 pole	1
27	1832-33-12	AC-SWITCH-15AMP-125V-HEILAND-ELECT	1
28	RIO-HARDWARE-ASSY-HALO	RIO-PLATE-SUB-WOOFER-GUN-PCB	1
29	500-00199-05 verC	RIO2-board	1
30	SUB-WOOFER-BOARD	SUBWOOFER-PCB-ASSY	1
31	GUN-SOLENOID-PCB	GUN-SOLENOID-PCB	4
32	600-00891-01	Securing Nylon Strap Plate	2
33	87425K76 (56 length)-for-HP	Nylon Strip 0.075” Thick, 1” Width, Black (56” Length)	2
34	29705T86 (male)	Plastic Buckle-W-Release for 1” Wide Webbing (Male)	2
35	29705T86 (female)	Plastic Buckle-W-Release for 1” Wide Webbing (Female)	2
36	2-1-10-00-00-000	5.25 FULL RANGE SPEAKER	3
37	20CM LED STRIP (WHITE)	20cm Flexible LED Strip (Red)	2
38	380-00008-01	SURE-AMP-BOARD	1
39	330-00003-01	600W-12V-POWER-SUPPLY-MEANWELL	1
40	330-00005-01	320W-24V-POWER-SUPPLY-MEANWELL	1
41	HP 705	HP 705 PC ASSY	1
42	800-00001-00	120mm Wire Fan Guard	3
43	820-00001-00	FAN, 120VAC, 19/15W	3
44	500-00131-01	RGB-LED-STRIP-40CM-33LEDS	2
45	603-00718-01	LED-TMOLD-CP-HALO-55 (40CM)	2
46	600-01458-01	JP-55-CTR-CONNECT-BRACKET	1
47	600-01899-01	CLIP-LED-WD	4
48	600-02196-01	GRILL-SPEAKER-PROJECT-RING	3
49	600-02339-01	BEAM-CP-HALO-55	2
50	600-02340-01	ANGLE-CP-HALO-55	2
51	603-00940-01	PETG-UPPER-MAINCAB-HALO-55	2
52	603-00941-01	PETG-CONTROL-PANEL-HALO-55	1
53	606-01595-01	TRANSLITE-UPPER-MAINCAB-HALO-55	2
54	606-01594-01	TRANSLITE-CONTROL-PANEL-HALO-55	1
55	HALO-55-LCD-ASSY	HALO-55-LCD-ASSY	1
56	HALO-55-GUN-MOUNT-ASSY	HALO-55-GUN-MOUNT-ASSY	2
57	HALO-55-LEFT-CP-ASSY	HALO-55-LEFT-CP-ASSY	1
58	HALO-55-RIGHT-CP-ASSY	HALO-55-RIGHT-CP-ASSY	1

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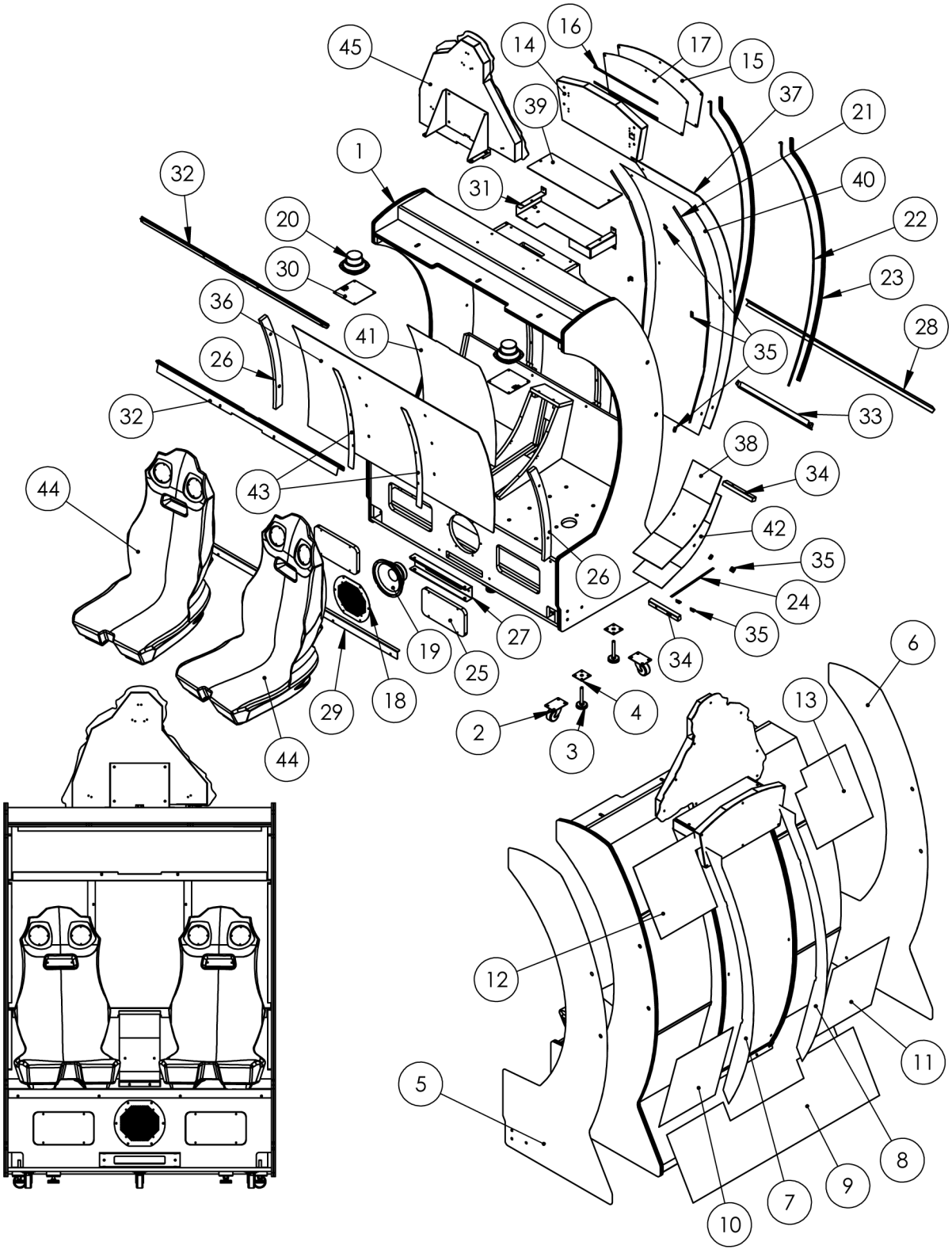
Halo – Two Player - Seat Cab Assembly



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Halo – Two Player – Seat Cab Assembly Part Numbers

Item	Part No.	Description	QTY
1	601-00845-01	ASSY-SEATCAB-HALO-55	1
2	CASTER 2’5	2-1/2” CASTER	5
3	LEG LEVELER – 1/2”-13 X 4.00LG	LEG LEVELER – 1/2”-13 X 4.00LG	4
4	Leg leveler plate	2.50 x 2.50 x 1/2-13 CTR – LEVELER PLATE	4
5	606-01575-01	DECAL-LEFT-SEATCAB-SIDE-PANEL-HALO-55	1
6	606-01576-01	DECAL-RIGHT-SEATCAB-SIDE-PANEL-HALO-55	1
7	606-01582-01	DECAL-LEFT-RING-SIDE-HALO-55	1
8	606-01583-01	DECAL-RIGHT-RING-SIDE-HALO-55	1
9	606-01577-01	DECAL-SEATCAB-LOWER-HALO-55	1
10	606-01578-01	DECAL-SEATCAB-LEFT-MID-HALO-55	1
11	606-01579-01	DECAL-SEATCAB-RIGHT-MID-HALO-55	1
12	606-01580-01	DECAL-SEATCAB-LEFT-UPPER-HALO-55	1
13	606-01581-01	DECAL-SEATCAB-RIGHT-UPPER-HALO-55	1
14	600-02344-01	LIGHTBOX-MINI-MARQUEE-HALO-55	1
15	603-00937-01	PETG-MINI-MARQUEE-HALO-55	1
16	45CM LED STRIP (WHITE)	45CM LED STRIP (WHITE)	2
17	606-01589-01	TRANSLITE-MINI-MARQUEE-HALO-55	1
18	600-01526-01	GRILL-WOOFER-JP-55	1
19	2-1-18-00-00-000	8” WOOFER, 4 Ohm, Poly-Mica Cone	1
20	2-1-10-00-00-000	5.25 FULL RANGE SPEAKER	2
21	125CM-WHITE-SEGMENTED-LED-STRIP-HALO	125CM-WHITE-SEGMENTED-LED-STRIP-HALO	2
22	500-00131-155	155CM-RGB-LED-STRIP	2
23	603-00718-01	¾ LED T-MOLD (HOUSING – 114”)	2
24	30CM-WHITE-LED-STRIP	30cm Flexible LED Strip (White)	1
25	601-00850-01	DOOR-ACCESS-SEATCAB-HALO	2
26	601-00851-01	CLEAT-CURVED-SEATCAB-HALO-55	2
27	600-01458-01	JP-55-CTR-CONNECT-BRACKET	1
28	600-02193-01	TRIM-SEATCAB-BASE-PROJECT-RING	1
29	600-02194-01	TRIM-SEAT-PANEL-PROJECT-RING	1
30	600-02196-01	GRILL-SPEAKER-PROJECT-RING	2
31	600-02345-01	BRACKET-MINI-HALO-55	1
32	600-02346-01	RETAINER-WINDOW-HALO-55	2
33	600-02347-01	RETAINER-RING-HALO-55	1
34	600-02348-01	RETAINER-CONSOLE-HALO-55	2
35	600-02349-01	CLIP-PETG-HALO-55	10
36	603-00935-01	ACRYLIC-WINDOW-HALO-55	1
37	603-00936-01	PETG-RING-HALO-55	1
38	603-00939-01	PETG-CONSOLE-HALO-55	1
39	603-00944-01	ABS-CABLE-COVER-HALO-55	1
40	606-01591-01	DECAL-RING-HALO-55	1
41	606-01592-01	TRANSLITE-RING-INSIDE-HALO-55	1
42	606-01593-01	TRANSLITE-CONSOLE-HALO-55	1
43	600-02399-01	RETAINER-INSIDE-RING-HALO-55	2
44	ASSY-SEAT-HALO-55	ASSY-SEAT-HALO-55	2
45	ASSY-MC-LIGHTBOX-HALO-55	ASSY-MC-LIGHTBOX-HALO-55	1

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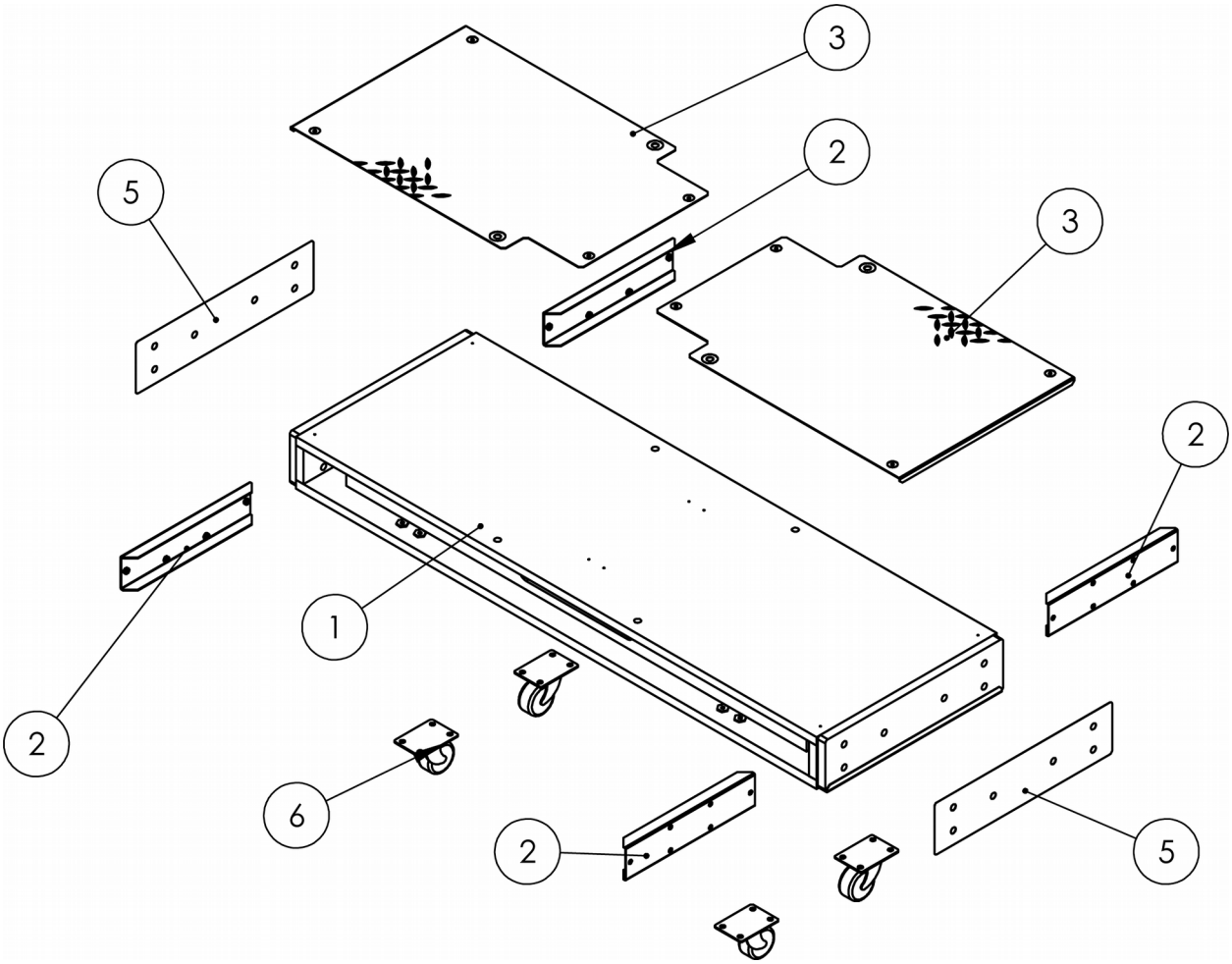
Halo – Two Player - Floor Assembly



Halo – Two Player – Floor Assembly Part Numbers

Item	Part No.	Description	QTY
1	601-00846-01	HALO-55-WOOD-FLOOR-BOX	1
2	600-01457-01	JP-55-CONNECT-BRACKET	4
3	600-01863-01	DIAMOND-PLATE-WD	2
4	600-01864-01	TRIM-FLOOR-WD	3
5	606-01584-01	DECAL-FLOOR-SIDE-HALO-55	2
6	CASTER 2.50”	CASTER 2.50”	4

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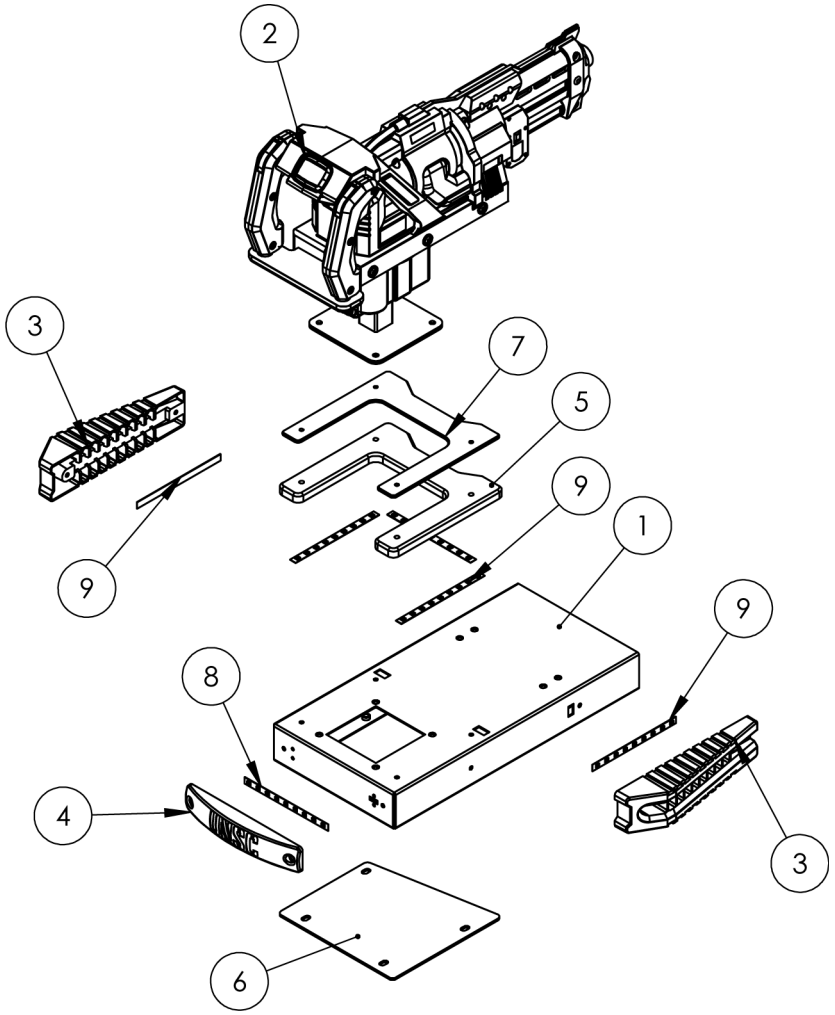
Halo – Two Player – Gun Mount Assembly



Halo – Two Player – Gun Mount Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-02335-01	MOUNT-GUN-HALO-55	1
2	HALO-MECH-ASSY	HALO-GUN-MECH-ASSY	1
3	603-00934-01	MOLDED-LIGHT-BAR-CP-HALO-55	2
4	603-00896-01	COVER-MOLDED-PROJECT-RING	1
5	603-00943-01	ACRYLIC-GUN-BASE-HALO-55	1
6	603-00945-01	ABS-GUN-BASE-COVER-HALO-55	2
7	603-00956-01	ABS-COVER-GUN-BASE-HALO-55	1
8	15CM LED STRIP	15CM LED STRIP (RGB)	1
9	15CM LED STRIP (WHITE)	15CM LED STRIP (WHITE)	5

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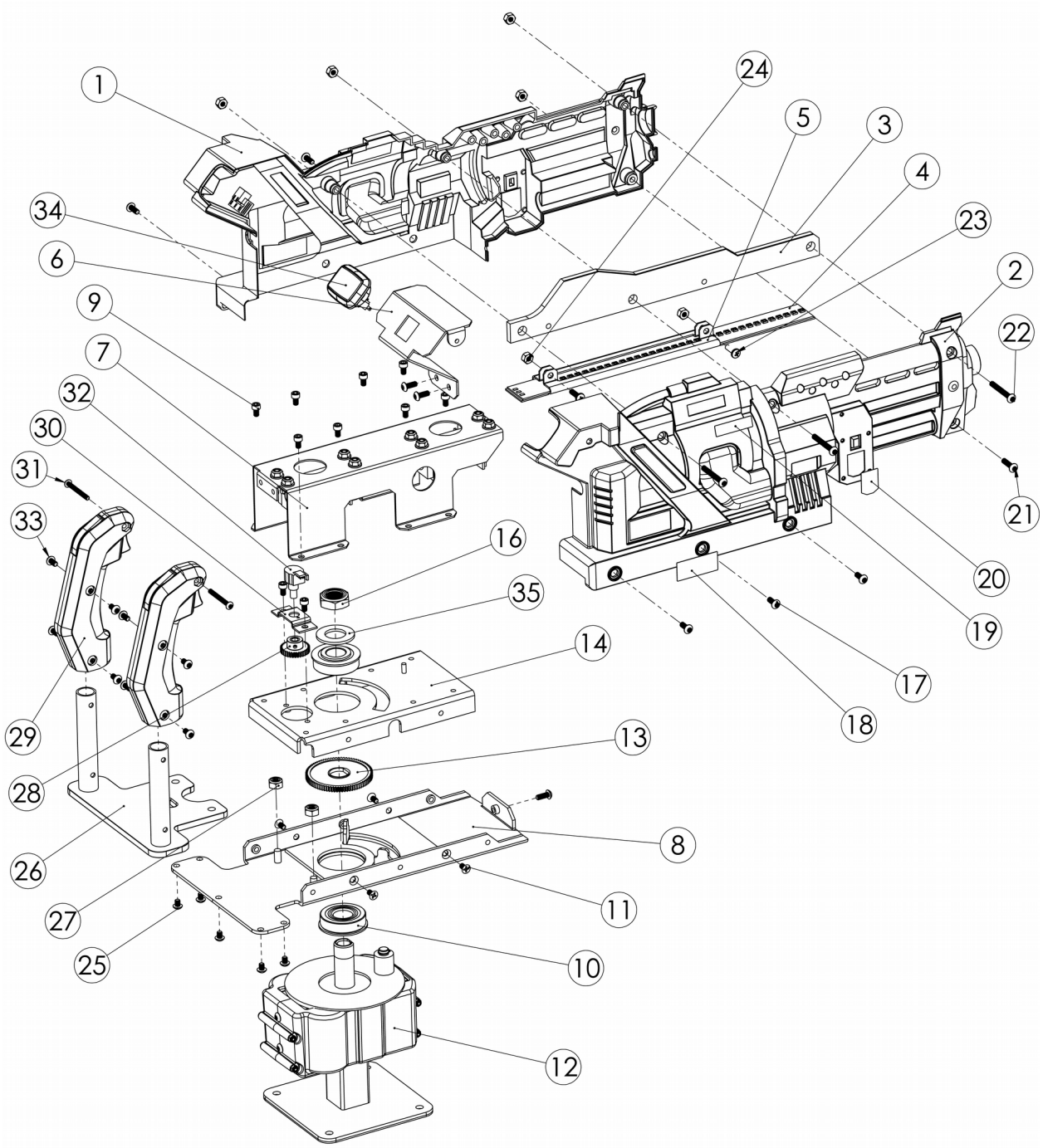
Halo Gun Main Assembly



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Halo Gun Main Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-02160-01	LEFT GUN SHELL	1
2	600-02161-01	RIGHT GUN SHELL	1
3	600-02162-01	GUN EDGE GLOW	1
4	500-00240-01	GUN PCB	1
5	600-02167-01	PCB MOUNTING BRACKET	1
6	600-02166-01	GRIP TOP BRACKET	1
7	SHAKER ASSEMBLY	SHAKER ASSEMBLY	1
8	600-02163-01	LOWER BASE BRACKET WELDMENT	1
9	MMC 91251A337	10-32 X 5/16” CAP SCREW	10
10	MMC 6384K369	3/4” FLANGED BEARING	2
11	MMC 90273A827	10-32 X 3/8” FLATHEAD SCREW	4
12	LOWER GUN ASSEMBLY	LOWER GUN ASSEMBLY	1
13	600-01420-01	LARGE GEAR	1
14	600-02164-01	UPPER BASE BRACKET	1
16	MMC 91342A240	3/4” LOCKNUT	1
17	MMC 91355A077	10-32 X 1/2” BLACK TP SCREW	9
18	606-01498-01	DECAL-LABEL	2
19	606-01496-01	DECAL-TOP	2
20	606-01497-01	DECAL-SIDE	2
21	MMC 96075A191	10-32 X 3/4” BLACK TP SCREW	1
22	MMC 96075A203	10-32 X 1.5” BLACK TP SCREW	3
23	MMC 90272A830	10-32 X 5/8” BLACK TP SCREW	2
24	MMC 90631A411	10-32 BLACK LOCKNUT	6
25	MMC 96075A182	10-32 X 1/4” BLACK TP SCREW	5
26	600-02171-01	GRIP MOUNT WELDMENT	1
27	MMC 90652A029	1/4-20 THIN LOCKNUT	2
28	600-02174-01	34 TOOTH SMALL GEAR	1
29	GRIP ASSEMBLY	GRIP ASSEMBLY	2
30	600-02172-01	POT BRACKET	1
31	MMC 96075A155	8-32 X 1.5” BLACK TP SCREW	2
32	HAPP 50-2670-01	POT – 5K	1
33	MMC 96075A183	10-32 X 3/8” TP BLACK SCREWS	8
34	702-00091-01	LIGHTED RECT. BUTTON	1
35	MMC 90126A036	3/4” WASHER	1

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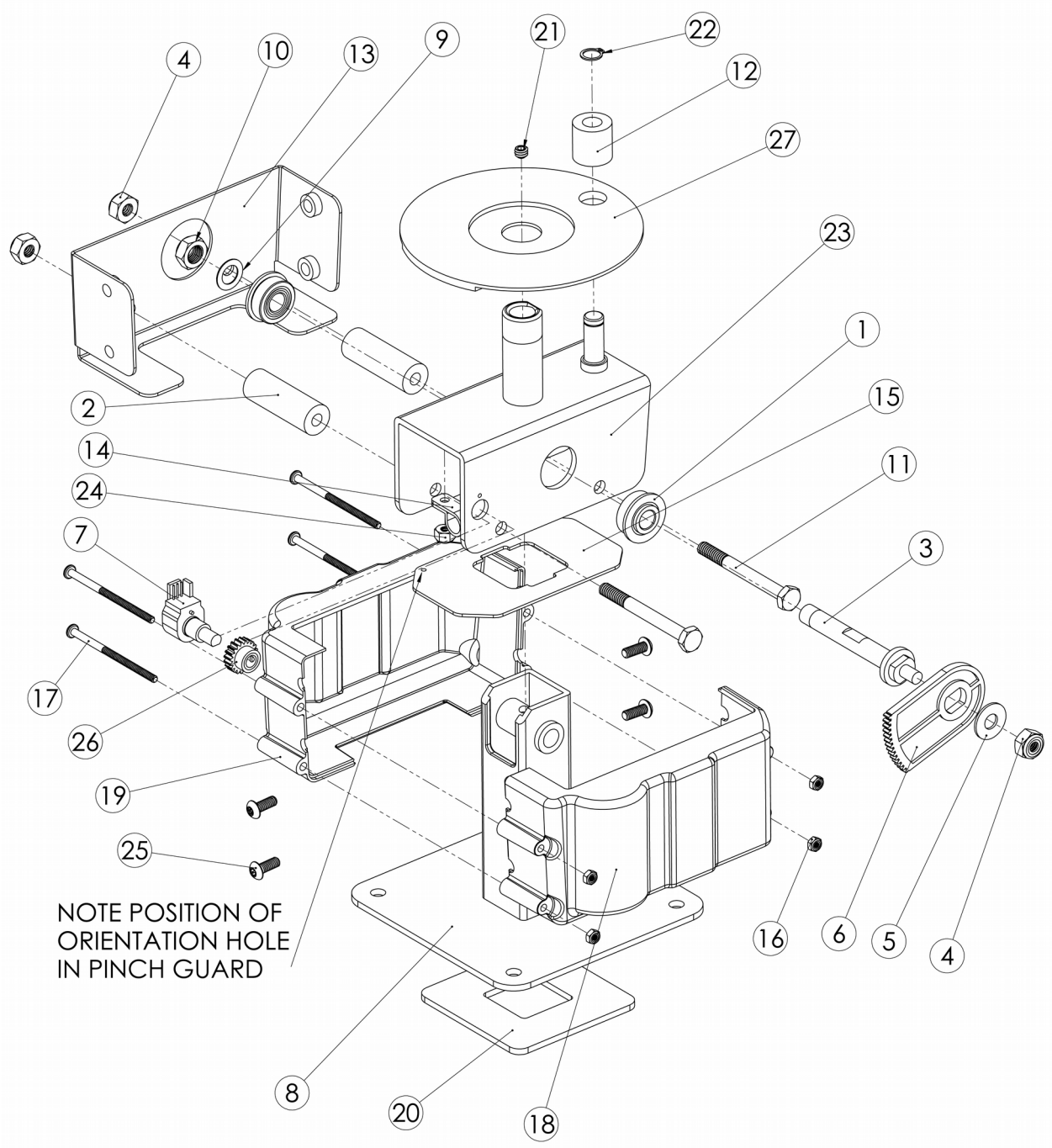
Lower Gun Assembly



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Lower Gun Assembly Part Numbers

Item	Part No.	Description	QTY
1	MMC 6384k344	3/8” FLANGED BEARING	2
2	600-01418-01	TUBE STOP BUMPER – 5/8” OD	2
3	600-01424-01	SIDE PIN	1
4	MMC 90652A029	1/4-20 THIN LOCKNUT	3
5	MMC 90108A413	1/4-20 WASHER	1
6	HAPP 96-4907-00	SEGMENT GEAR	1
7	HAPP 50-2670-01	POT – 5K	1
8	600-01426-01	LOWER TUBE WELDMENT	1
9	MMC 95229A480	3/8” WASHER	1
10	MMC 90566A220	3/8” THIN LOCKNUT	1
11	MMC 91257A552	1/4-20 X 2 ½ HEX HEAD – GRADE 8	2
12	600-02173-01	SIDE STOP BUMPER – 3/4” OD	1
13	600-01496-01	LOWER MOUNTING BRACKET	1
14		CABLE CLAMP	1
15	600-01419-01	PINCH GUARD	1
16	999-00021-01	6-32 BLACK LOCKNUT	4
17	999-00017-01	6-32 X 2.4” BLACK PHILLIPS SCREW	4
18	600-01739-01	LOWER COVER – RIGHT	1
19	600-01738-01	LOWER COVER – LEFT	1
20	600-01577-01	GUN ISOLATOR	1
21	MMC 92313A532	1/4-20 X 3/16” SET SCREW	1
22	MMC 97633A170	RETAINER CLIP	1
23	600-02169-01	ROCKER BRACKET WELDMENT	1
24	MMC 90631A009	8-32 LOCKNUT	1
25	MMC 96075A211	1/4-20 X 1/2” BLACK TP SCREW	4
26	600-01567-01	SMALL POT GEAR	1
27	600-02170-01	ROTATIONAL PINCH GUARD	1

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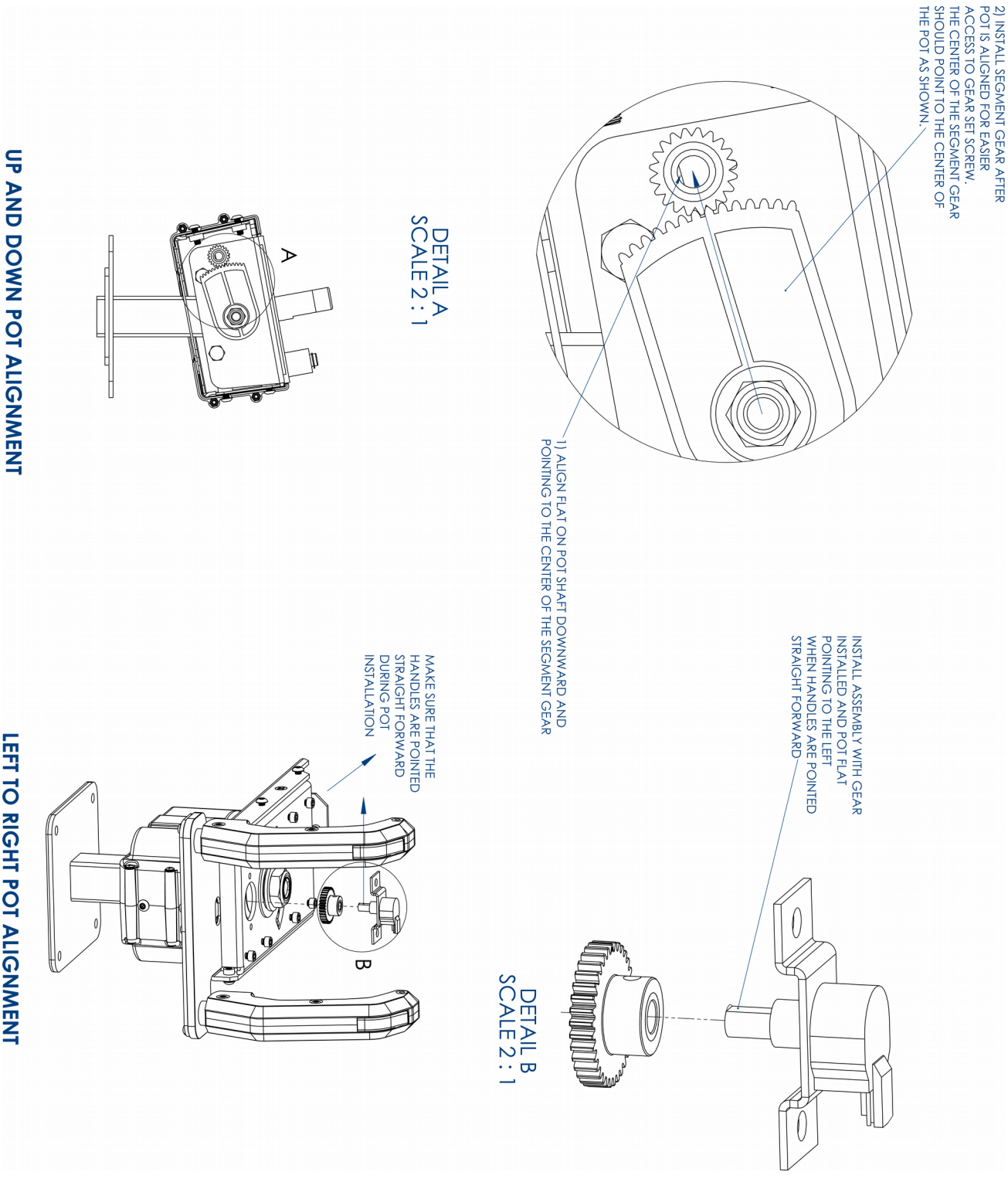
Gun Pot Alignment



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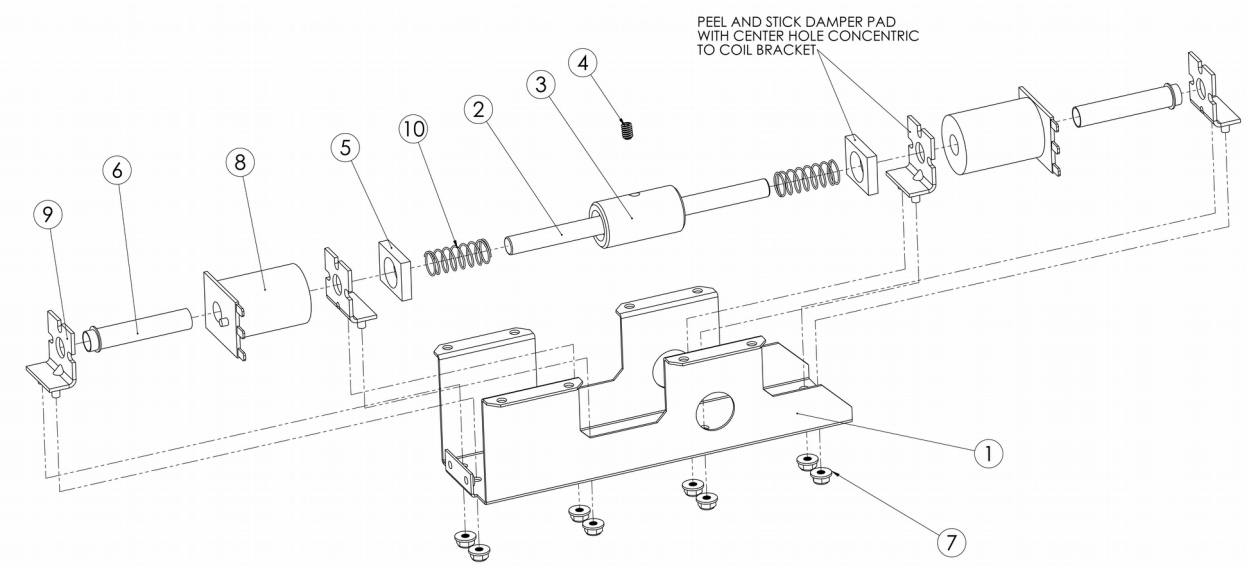
Shaker Assembly



Shaker Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-02165-01	COIL BRACKET	1
2	600-01413-01	COIL ROD	1
3	600-01414-01	COIL WEIGHT	1
4	MMC 91375A535	1/4-20 X 3/8” SET SCREW	1
5	680-00214-01	BLUE DAMPER PAD	2
6	HAPP #95-0637-00	COIL SLEEVE	2
7	MMC 93298A109	10-32 FLANGED LOCKNUT	8
8	HAPP FL11629	COIL	2
9	600-01576-01	COIL MOUNT BRACKET	4
10	608-00210-01	COIL SPRING	2

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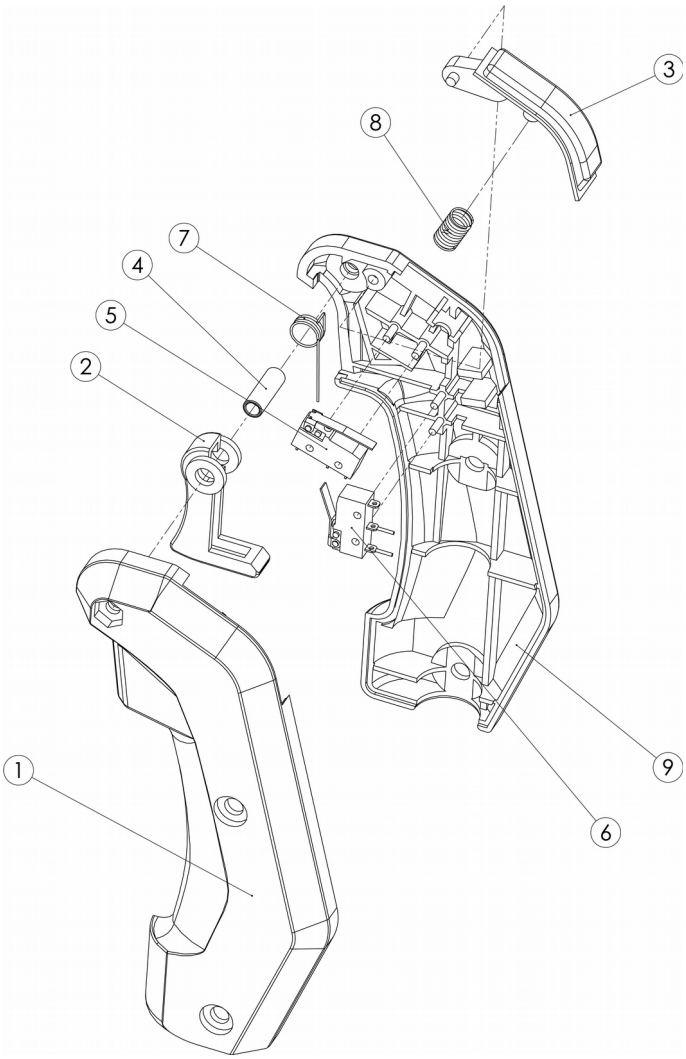
Grip Assembly



Grip Assembly Part Numbers

Item	Part No.	Happ No.	Description	QTY
1	608-00201-01	95-1294-00	GRIP-LEFT HALF	1
2	608-00204-01	95-1295-00	RED TRIGGER	1
3	608–00203-01	95-1439-00	LARGE TUMB BUTTON	1
4	608-00205-01	95-1315-00	SHAFT TRIGGER	1
5	608-00215-01	95-0259-ST	SWITCH ASSY FOR THUMB SWITCH	1
6	608-00220-01	95-0028-00	SWITCH ASSY FOR SHAFT TRIGGER	1
7	608-00206-01	95-1297-00	TORSION SPRING	1
8	608-00207-01	95-1298-00	COMPRESSION SPRING	1
9	608-00202-01	95-1293-00	GRIP-RIGHT HALF	1

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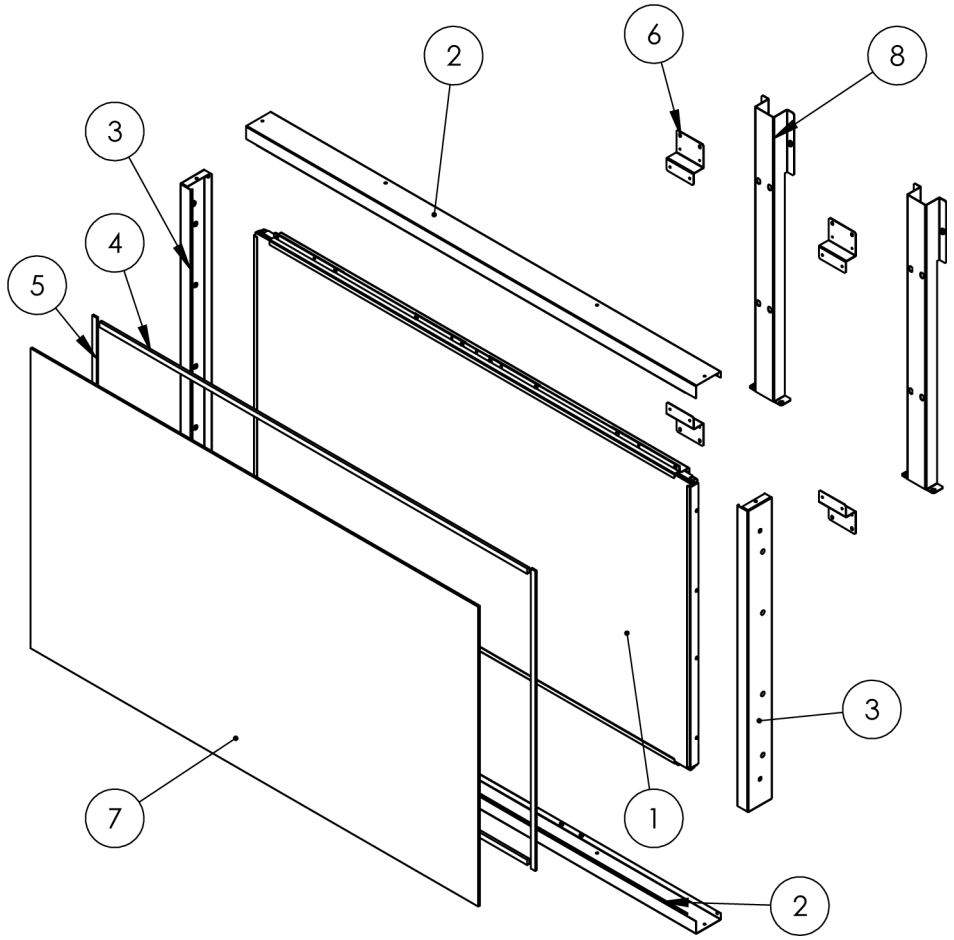
Halo – Two Player – LCD Panel Assembly



Halo – Two Player – LCD Assembly Part Numbers

Item	Part No.	Description	QTY
1	1_550_imperial_assy_asm	55" KORTEK LCD ASSY	1
2	600-01206-01	BRACKET-FRAME-HORIZ-55LCD-ALIENS	2
3	600-01205-01	BRACKET-FRAME-VERT-55LCD-ALIENS	2
4	Foamtape-horz	.25 x .50 x 47.74LG FOAM TAPE	2
5	Foamtape-vert	.25 X .50 X 29.00LG FOAM TAPE	2
6	600-01137-01	BRACKET-MOUNT-55LCD-OPEN-FRAME	4
7	600-01138-01	GLASS-SHIELD-55LCD	1
8	600-01482-01	JP-55-STRUT-LCD	2

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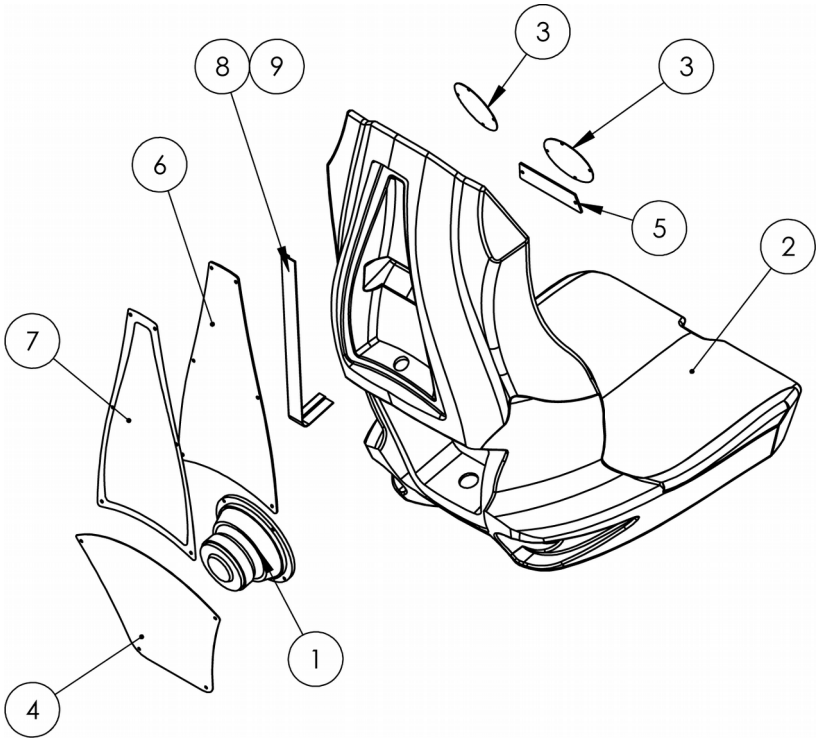
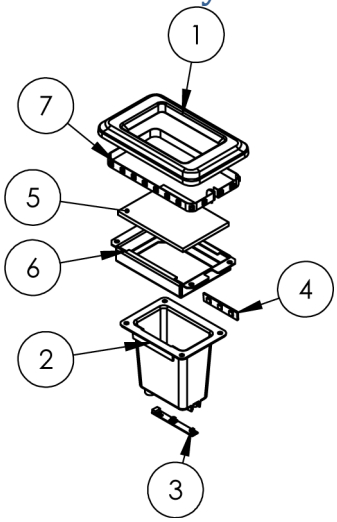
Halo – Two Player – Seat Assembly



Halo – Two Player - Seat Assembly Part Numbers

Item	Part No.	Description	QTY
1	2-1-11-00-00-000	SPEAKER WOOFER-6.5" 4 OHM	1
2	603-00523-01	PLASTIC-GRAY-ROTO-SEAT	1
3	600-00105-01	SEAT-HEADREST-SPEAKER-GRILL	2
4	600-00106-01	WOOFER-GRILL	1
5	600-00109-01	SEAT-BACK-PLATE-LOW	1
6	600-01840-01	Cruis'n Seatback Clear Overlay	1
7	606-01495-01	TRANSLITE-SEATBACK-PROJECT-RING	1
8	603-00762-00 (16in)	LED-EXTRUSION-16INCH	1
9	500-00093-01 (35 CM)	LED-STRIP – WHITE – 35CM	1

Halo – Two Player – Scanner Module Assembly



Halo – Two Player – Scanner Module Assembly Part Numbers

Item	Part No.	Description	QTY
1	603-00897-01	Card Reader Bezel	1
2	603-00924-01	Camera Holder – IN BLACK	1
3	500-00213-01	Card Reader Webcam (10CM focus) - CM-020-10CM	1
4	500-00162-01 (5 CM)	White Flexible LED Tape, w/ FOAM	1
5	600-02236-01	GLASS-SHIELD-PHONE-SCANNER-BEZEL	1
6	600-02228-01	SPACER-SCANNER-PROJECT-RING	1
7	40CM LED STRIP (RGB)	40CM-RGB-LED-STRIP-PHONE-SCANNER	40

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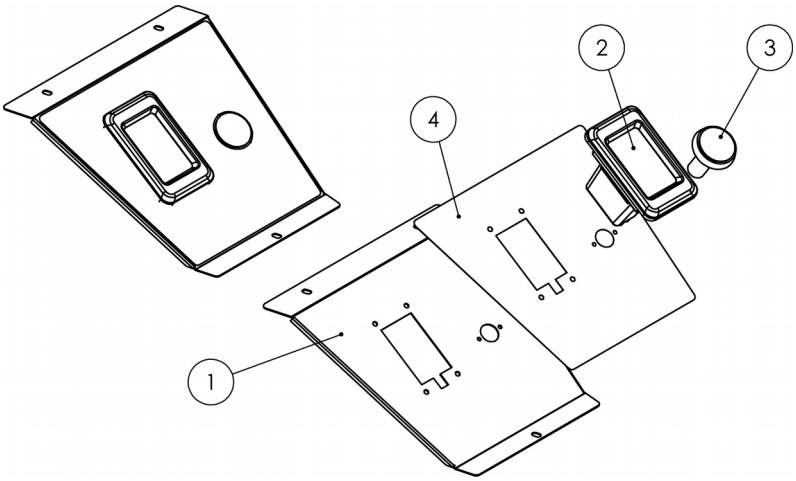
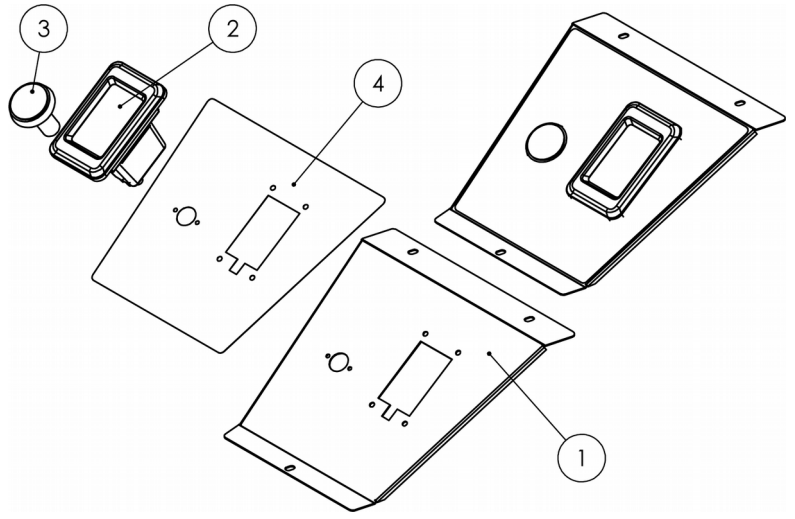
Halo – Two Player – Left Control Panel Assembly



Halo – Two Player – Left Control Panel Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-02336-01	BRACKET-LEFT-CP-HALO-55	1
2	HALO-Scanner_Module_Assy	HALO-Card_Scanner_Module_Assy	1
3	702-00094-00	HALO – LARGE RND – GREEN – PUSH – BUTTON – START	1
4	606-01586-01	DECAL-LEFT-CONTROL-PANEL-HALO-55	1

Halo – Two Player – Right Control Panel Assembly



Halo – Two Player – Right Control Panel Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-02337-01	BRACKET-RIGHT-CP-HALO-55	1
2	HALO-Scanner_Module_Assy	HALO-Card_Scanner_Module_Assy	1
3	702-00095-00	HALO – LARGE RND – PURPLE – PUSH – BUTTON – START	1
4	606-01587-01	DECAL-RIGHT-CONTROL-PANEL-HALO-55	1

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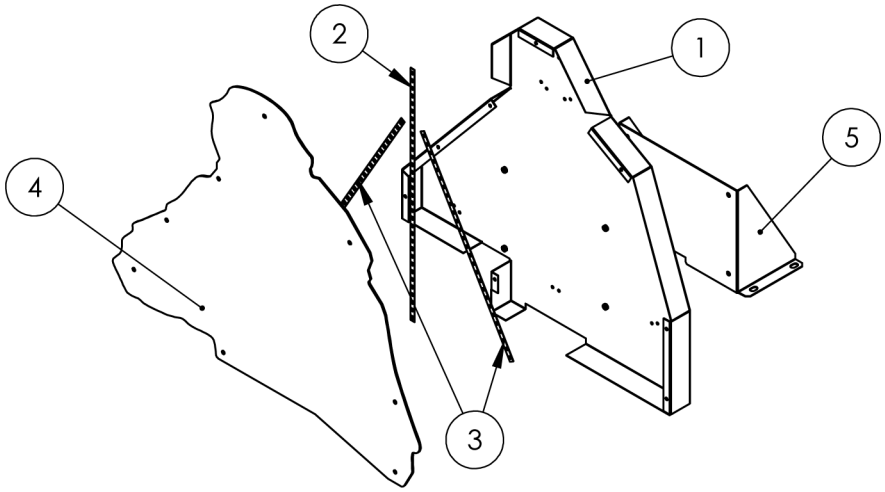
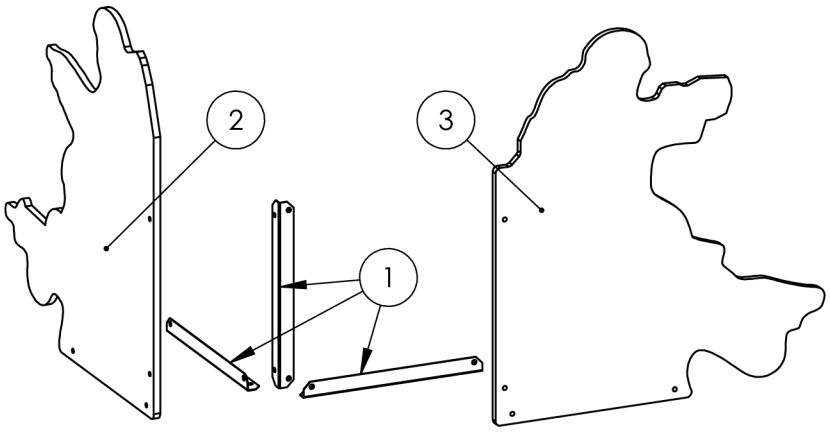
Halo – Two Player – Master Chief Lightbox Assembly



Halo – Two Player – Master Chief Lightbox Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-02342-01	LIGHTBOX-MC-HALO-55	1
2	55CM LED STRIP (WHITE)	55CM LED STRIP (WHITE)	1
3	45CM LED STRIP (WHITE)	45CM LED STRIP (WHITE)	2
4	606-01499-01	SCREENED-PETG-TOPPER-PROJECT-RING	1
5	600-02343-01	BRACKET-LIGHTBOX-HALO-55	1

Halo – Two Player – Ultra Board Assembly



Halo – Two Player – Ultra Board Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-02341-01	BRACKET-BOARD-HALO-55	3
2	606-01596-01	LEFT-ULTRABOARD-PANEL-HALO-55	1
3	606-01597-01	RIGHT-ULTRABOARD-PANEL-HALO-55	1

System Diagrams

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TO SHEET 3
/3.J1

TO SHEET 2
/2.G1

Audio Amplifier [A]
Sure AA-AB33182

18-AWG-WHT — FRONT LEFT +
18-AWG-GRN — FRONT LEFT -
18-AWG-RED — FRONT RIGHT +
18-AWG-BLK — FRONT RIGHT -
18-AWG-WHT — REAR LEFT +
18-AWG-GRN — REAR LEFT -
18-AWG-RED — REAR RIGHT +
18-AWG-BLK — REAR RIGHT -
GND
12VDC_F7
18-AWG-BLK
18-AWG-ORG-WHT

FRONT LEFT — RCA_MONO
FRONT RIGHT — RCA_MONO
REAR LEFT — RCA_MONO
REAR RIGHT — RCA_MONO

Audio Amplifier [B]
Sure AA-AB33182

18-AWG-BLU — CENTER WOOFER +
18-AWG-BRN — CENTER WOOFER -
18-AWG-WHT — CABINET WOOFER +
18-AWG-GRN — CABINET WOOFER -
18-AWG-RED — SEAT WOOFERS +
18-AWG-BLK — SEAT WOOFERS -
GND
12VDV_F8
18-AWG-BLK
18-AWG-ORG-PNK

SUBS LEFT — RCA_MONO
SUB RIGHT (1) — RCA_MONO
SUB RIGHT (2) — RCA_MONO

RCA SPLITTER
SUB RIGHT (1)
SUB RIGHT (2)

USB AUDIO
NBA-2000

CENTER / BASS
SURROUND
FRONT
AUDIO USB
USB

XA1-PS-1 SUBS LEFT — 1/8"_STEREO — RCA_MONO
XA1-PS-1 SUB RIGHT — RCA_MONO
XA1-PS-1 REAR LEFT — 1/8"_STEREO — RCA_MONO
XA1-PS-1 REAR RIGHT — RCA_MONO
XA1-PS-1 FRONT LEFT — 1/8"_STEREO — RCA_MONO
XA1-PS-1 FRONT RIGHT — RCA_MONO

DONGLE
USB

HP 705 G3
850-00025-01

USB — RIO2 USB
USB — CASHBOX USB
USB — P2 SCANNER USB
USB — P1 SCANNER USB
USB — WIFI USB
USB — AUDIO USB
USB — DONGLE USB
DVI — DVI
AC — AC

USB WIFI

500-00199-05
[RIO2]

22-AWG-BLK-BLU — TEST
22-AWG-PUR-WHT — SERVICE
22-AWG-RED-PUR — VOLUME UP
22-AWG-RED-PNK — VOLUME DOWN
22-AWG-GRY-PNK — COIN 1 / P1 - UCL:2
22-AWG-GRY-PUR — COIN 2 / P2 - UCL:2
22-AWG-GRY-ORG — EXT
21-AWG-GRY-WHT — P1 START
22-AWG-GRY-YEL — P2 START
22-AWG-GRN-BLK — P1 ETICKET - DRIVE / P1 - UCL:8
22-AWG-GRN-BLU — P1 ETICKET - NOTCH / P1 - UCL:8
22-AWG-GRN-BRN — P2 ETICKET - DRIVE / P2 - UCL:8
22-AWG-GRN-GRY — P2 ETICKET - NOTCH / P2 - UCL:8
22-AWG-PNK-ORG — P1 GUN X
22-AWG-PNK-PUR — P1 GUN Y
22-AWG-PNK-WHT — P2 GUN X
22-AWG-PNK-YEL — P2 GUN Y
22-AWG-GRN-RED — P1 GUN TRIGGER
22-AWG-GRN-WHT — P1 GUN RELOAD
22-AWG-BRN-PUR — P2 GUN TRIGGER
22-AWG-BRN-RED — P2 GUN THUMB
22-AWG-BRN-WHT — P2 GUN RELOAD

55917-3810 — 51353-3800

RIO2 USB — USB

P1 GUN - LED CTRL — 22-AWG-BRN-ORG
P2 GUN - LED CTRL — 22-AWG-BRN-PNK

55917-1610 — 51353-1600

18-AWG-ORG-RED — 12VDC_F5
22-AWG-RED — 5VDC
22-AWG-RED — 5VDC
22-AWG-RED-WHT — AC_RELAY_HI
22-AWG-RED-BLK — AC_RELAY_LO
18-AWG-BLK — GND
18-AWG-BLK — GND
18-AWG-BLK — GND
22-AWG-BLK — GND
22-AWG-BLK — GND
18-AWG-BLK — GND
18-AWG-ORG-RED — 12VDC_F5
22-AWG-RED — 5VDC
18-AWG-BLK — GND
18-AWG-BLK — GND
18-AWG-BLK — GND
18-AWG-BLK — GND
18-AWG-BLK — GND
18-AWG-BLK — GND

39-01-2240 — 39-28-1243

ROOF RING BACKLIGHT
CONTROL
P1 SOLENOID - 1 (OUTPUT)
P1 SOLENOID - 2 (OUTPUT)
P2 SOLENOID - 1 (OUTPUT)
P2 SOLENOID - 2 (OUTPUT)

39-28-1103 — 39-01-2100

18-AWG-BLK-GRY
18-AWG-BLK-PNK
18-AWG-PUR-PNK
18-AWG-PUR-RED
18-AWG-PUR-GRY
18-AWG-PUR-ORG

COIN METER — 22-AWG-BRN-YEL

REAR SOLDIER SPOTLIGHT (LEFT)
REAR SOLDIER SPOTLIGHT (RIGHT)
P2 SCANNER - RED LED
P2 SCANNER - WHT LED
P1 START LAMP
P2 START LAMP
P1 SEAT LEDS
P2 SEAT / RELOAD LAMP
P1 GUN - RELOAD LAMP
P2 GUN - RELOAD LAMP
RING RGB T-MOLD - RED
RING RGB T-MOLD - GRN
RING RGB T-MOLD - BLU
MINI LOGO / REAR RING BACKLIGHT
MAIN LOGO / FRONT RING BACKLIGHT
UPPER TRANSLITES (MAIN CAB)

22-AWG-BRN-BLU
22-AWG-BRN-GRN
22-AWG-BLU-PNK
22-AWG-BLU-GRY
22-AWG-WHT-BLK
22-AWG-WHT-PNK
22-AWG-YEL-BLK
22-AWG-YEL-GRY
22-AWG-YEL-BRN
22-AWG-YEL-PNK
22-AWG-YEL-RED
22-AWG-GRY-GRN
22-AWG-GRY-BLU
22-AWG-YEL-ORG
22-AWG-YEL-WHT

39-28-1223 — 39-01-2220

P1 CTRL PANEL T-MOLD - RED — 22-AWG-WHT-BRN,
P1 CTRL PANEL T-MOLD - GRN — 22-AWG-WHT-GRY,
P1 CTRL PANEL T-MOLD - BLU — 22-AWG-BLU-BRN,
P2 CTRL PANEL T-MOLD - RED — 22-AWG-BLU-RED,
P2 CTRL PANEL T-MOLD - GRN — 22-AWG-BLU-GRN,
P2 CTRL PANEL T-MOLD - BLU — 22-AWG-BLU-YEL,
P1 SCANNER EDGE RGB - RED — 22-AWG-WHT-RED
P1 SCANNER EDGE RGB - GRN — 22-AWG-WHT-GRN
P1 SCANNER EDGE RGB - BLU — 22-AWG-WHT-BLU
P2 SCANNER EDGE RGB - RED — 22-AWG-YEL-RED
P2 SCANNER EDGE RGB - GRN — 22-AWG-YEL-GRN
P2 SCANNER EDGE RGB - BLU — 22-AWG-YEL-BLU
CTRL PANEL INSTRUCTION — 22-AWG-WHT-ORG
P1 CTRL PANEL WEDGE — 22-AWG-BLU-BLK,
P2 CTRL PANEL WEDGE — 22-AWG-BLU-WHT,
ROOF RGB T-MOLD - RED — 22-AWG-PNK-RED,
ROOF RGB T-MOLD - GRN — 22-AWG-PNK-GRN,
ROOF RGB T-MOLD - BLU — 22-AWG-PNK-BLU,
P1 GUN - BASE EDGELIGHT — 22-AWG-PUR-BLK,
P2 GUN - BASE EDGELIGHT — 22-AWG-PUR-BLU,

39-26-1203 — 39-01-2200

FAN
820-00001-00

18-AWG-BLK — GND
18-AWG-ORG-YEL, — 12VDC_F6

03-09-2021 — 03-09-1022

AC Relay
6210AXXZSZ-DC3

22-AWG-RED-BLK — AC_RELAY_LO AC_L — 18-AWG-BLK
22-AWG-RED-WHT — AC_RELAY_HI AC_L — 18-AWG-BLK

12V PSU
HRP-600-12

18-AWG-BLK — AC_L
18-AWG-WHT — AC_N
18-AWG-GRN — AC_EARTH

GND — 18-AWG-BLK,
GND — 18-AWG-BLK,
GND — 18-AWG-BLK,
12VDC — 18-AWG-ORG,
12VDC — 18-AWG-ORG,
12VDC — 18-AWG-ORG,

24V PSU
LRS-150F-24

18-AWG-PUR — 24VDC
18-AWG-PUR — 24VDC
18-AWG-BLK — GND
18-AWG-BLK — GND
18-AWG-GRN — AC_EARTH
18-AWG-WHT — AC_N
18-AWG-BLK — AC_L

AC INPUT

DPST 16A SWITCH
MARQUARDT
1823.3312
AC_N_SWITCHED — 18-AWG-WHT
AC_N_UNSWITCHED
AC_L_SWITCHED — 18-AWG-BLK
AC_L_UNSWITCHED

10A BREAKER
SCHURTER
T9-611P-10A
AC_L_FUSED — 18-AWG-BLK
AC_L_UNFUSED — 18-AWG-WHT

10A/250VAC
C14 RECEPTACLE
QUALTEK
703W-00/08
AC_L_UNFUSED — 18-AWG-BLK
AC_N — 18-AWG-WHT
AC_EARTH — 18-AWG-GRN

AC POWER LINE FILTER
CORCOM 6MV1

AC_N_SWITCHED — AC_L
AC_L_SWITCHED — AC_N
AC_EARTH — AC_EARTH

18-AWG-GRN

Grounding Stud
AC_EARTH

18-AWG-BLK — AC_L — 18-AWG-BLK, 18-AWG-BLK, 18-AWG-BLK, 18-AWG-BLK
18-AWG-WHT — AC_N — 18-AWG-WHT, 18-AWG-WHT, 18-AWG-WHT, 18-AWG-WHT
18-AWG-GRN — AC_EARTH — 18-AWG-GRN, 18-AWG-GRN, 18-AWG-GRN, 18-AWG-GRN

-P1_SOL1
18-AWG-PUR-PNK — P1 SOLENOID - 1 (OUTPUT) — 2-520183-4 — P1 SOLENOID - 1 — 2A/250V,3AG,SLO-BLO 0313002.MXP — 2-520183-4 — 18-AWG-PUR-PNK

-P1_SOL2
18-AWG-PUR-RED — P1 SOLENOID - 2 (OUTPUT) — 2-520183-4 — P1 SOLENOID - 2 — 2A/250V,3AG,SLO-BLO 0313002.MXP — 2-520183-4 — 18-AWG-PUR-RED

-P2_SOL1
18-AWG-PUR-GRY — P2 SOLENOID - 1 (OUTPUT) — 2-520183-4 — P2 SOLENOID - 1 — 2A/250V,3AG,SLO-BLO 0313002.MXP — 2-520183-4 — 18-AWG-PUR-GRY

-P2_SOL2
18-AWG-PUR-ORG — P2 SOLENOID - 2 (OUTPUT) — 2-520183-4 — P2 SOLENOID - 2 — 2A/250V,3AG,SLO-BLO 0313002.MXP — 2-520183-4 — 18-AWG-PUR-ORG

-12VDC_F1
18-AWG-ORG — 12VDC — 5A/250V,3AG,FAST 0312005.MXP — 12VDC_F1 — 18-AWG-ORG-BLK,

-12VDC_F2
18-AWG-ORG — 12VDC — 5A/250V,3AG,FAST 0312005.MXP — 12VDC_F2 — 18-AWG-ORG-BLU,

-12VDC_F3
18-AWG-ORG — 12VDC — 5A/250V,3AG,FAST 0312005.MXP — 12VDC_F3 — 18-AWG-ORG-BRN,

-12VDC_F4
18-AWG-ORG — 12VDC — 5A/250V,3AG,FAST 0312005.MXP — 12VDC_F4 — 18-AWG-ORG-GRN,

-12VDC_F5
18-AWG-ORG — 12VDC — 5A/250V,3AG,FAST 0312005.MXP — 12VDC_F5 — 18-AWG-ORG-RED,

-12VDC_F6
18-AWG-ORG — 12VDC — 5A/250V,3AG,FAST 0312005.MXP — 12VDC_F6 — 18-AWG-ORG-YEL,

-12VDC_F6B
18-AWG-ORG — 12VDC — 5A/250V,3AG,FAST 0312005.MXP — 12VDC_F6B — 18-AWG-ORG-PUR,

-12VDC_F7
18-AWG-ORG — 12VDC — 5A/250V,3AG,SLO-BLO 0313005.MXP — 12VDC_F7 — 18-AWG-ORG-WHT

-12VDC_F8
18-AWG-ORG — 12VDC — 5A/250V,3AG,SLO-BLO 0313005.MXP — 12VDV_F8 — 18-AWG-ORG-PNK

-24VDC_F1
18-AWG-PUR — 24VDC — 5A/250V,3AG,SLO-BLO 0313005.MXP — 24VDC_F1 — 18-AWG-PUR-YEL

-24VDC_F2
18-AWG-PUR — 24VDC — 5A/250V,3AG,SLO-BLO 0313005.MXP — 24VDC_F2 — 18-AWG-PUR-YEL

PART #	JTN	2019.03.27	B
Initial	JTN	2019.02.07	A
DESCRIPTION	BY	DATE	REV

Designed: JTN
Date: 2019.02.07
REV: B

Raw Thrills, Inc.
5441 Fargo Ave.
Skokie, IL 60077
USA
rawthrills.com
tel: 847.679.8373
fax: 847.679.

ANSI D

TITLE: Halo Fireteam Raven Two Player
DWG: System Diagram
SHEET: 1
SHEETS: 3

CONTROL PANEL

WHT LEDS: CA-4716
RGB LEDS: CA-4264
WEBCAM: 500-00213-01
WEBCAM USB: 810-00162-01

P1 Scanner Assembly [AS-3464]
- P1 SCANNER USB
- 12VDC_F1 — P1 SCANNER - WHT LED — 39-01-3028
- P1 SCANNER EDGE RGB - RED
- P1 SCANNER EDGE RGB - GRN
- P1 SCANNER EDGE RGB - BLU — 03-06-2042 — 03-06-1042

[P1 START] [702-00094-00]
- LED (+) — 5VDC
- LED (-) — P1 START LAMP
- SW-NO — P1 START
- SW-COM — GND

LED STRIP [CA-4113] — 12VDC_F6B — P1 CTRL PANEL WEDGE — 39-01-3028

LED STRIP [CA-4113] — 12VDC_F6B — P1 CTRL PANEL BASE — 39-01-3028

P1 GUN [AS-3291]
- P1 GUN Y
- GND
- 5VDC
- 5VDC
- GND
- P1 GUN X
- P1 GUN TRIGGER
- P1 GUN RELOAD
- P1 GUN - RELOAD LAMP
- P1 GUN - RELOAD CTRL
- 12VDC_F1
- P1 SOLENOID - 1
- P1 SOLENOID - 2
- EARTH GND
- 39-01-2160

LED STRIP [CA-4113] — 12VDC_F6B — P1 CTRL PANEL BASE — 39-01-3028

LED STRIP [CA-4113] — 12VDC_F6B — P1 CTRL PANEL WEDGE — 39-01-3028

LED STRIP [CA-3985] — 12VDC_F1 — CTRL PANEL INSTRUCTION — 39-01-3028

LED STRIP [CA-4113] — 12VDC_F6B — P2 CTRL PANEL WEDGE — 39-01-3028

LED STRIP [CA-4113] — 12VDC_F6B — P2 CTRL PANEL BASE — 39-01-3028

P2 GUN [AS-3291]
- P2 GUN Y
- GND
- 5VDC
- 5VDC
- GND
- P2 GUN X
- P2 GUN TRIGGER
- P2 GUN RELOAD
- P2 GUN - RELOAD LAMP
- P2 GUN - RELOAD CTRL
- 12VDC_F2
- P2 SOLENOID - 1
- P2 SOLENOID - 2
- EARTH GND
- 39-01-2161

LED STRIP [CA-4113] — 12VDC_F6B — P2 CTRL PANEL BASE — 39-01-3028

LED STRIP [CA-4113] — 12VDC_F6B — P2 CTRL PANEL WEDGE — 39-01-3028

[P2 START] [702-00095-00]
- LED (+) — 5VDC
- LED (-) — P2 START LAMP
- SW-NO — P2 START
- SW-COM — GND

WHT LEDS: CA-4716
RGB LEDS: CA-4264
WEBCAM: 500-00213-01
WEBCAM USB: 810-00162-01

P2 Scanner Assembly [AS-3464]
- P2 SCANNER USB
- 12VDC_F1 — P2 SCANNER - WHT LED — 39-01-3028
- P2 SCANNER EDGE RGB - RED
- P2 SCANNER EDGE RGB - GRN
- P2 SCANNER EDGE RGB - BLU — 03-06-2042 — 03-06-1042

USB

RGB LED STRIP [CA-4745] — 12VDC_F1 — P1 CTRL PANEL T-MOLD - RED / GRN / BLU — 03-06-2042 — 03-06-1042

RGB LED STRIP [CA-4320] — 12VDC_F1 — P1 CTRL PANEL T-MOLD - RED / GRN / BLU — 03-06-2042 — 03-06-1042

RGB LED STRIP [CA-4320] — 12VDC_F1 — P2 CTRL PANEL T-MOLD - RED / GRN / BLU — 03-06-2042 — 03-06-1042

RGB LED STRIP [CA-4745] — 12VDC_F1 — P2 CTRL PANEL T-MOLD - RED / GRN / BLU — 03-06-2042 — 03-06-1042

P1 UCL

12VDC_F6 — COIN 1 / P1 - UCL2 — P1 ETICKET - NOTCH / P1 - UCL6 — P1 ETICKET - DRIVE / P1 - UCL8 — GND — 03-09-1094

P2 UCL

12VDC_F6 — COIN 2 / P2 - UCL2 — P2 ETICKET - NOTCH / P2 - UCL6 — P2 ETICKET - DRIVE / P2 - UCL8 — GND — 03-09-1094

/1.G19

P2 SEAT

- SPEAKER [2-1-11-00-00-000] — SEAT WOOFERS + / SEAT WOOFERS -
- LED STRIP [CA-4455] — 12VDC_F1 — P2 SEAT LEDS — 39-01-3028

REAR SPEAKERS

- SPEAKER [2-1-10-00-00-000] — REAR LEFT + / REAR LEFT -
- SPEAKER [2-1-10-00-00-000] — REAR RIGHT + / REAR RIGHT -

MASTER CHIEF

- LED STRIP [CA-4780] — 12VDC_F3 — MASTER CHIEF BACKLIGHT — 39-01-3028
- LED STRIP [CA-4780] — 12VDC_F3 — MASTER CHIEF BACKLIGHT — 39-01-3028
- LED STRIP [CA-4780] — 12VDC_F3 — MASTER CHIEF BACKLIGHT — 39-01-3028

MINI LOGO

- 12VDC_F2 — MINI LOGO / REAR RING — 39-01-3028 — [CA-4605] LED STRIP
- 12VDC_F2 — MINI LOGO / REAR RING — 39-01-3028 — [CA-4065] LED STRIP

COIN DOOR

12VDC_F6 / DBV / GND — 03-09-2032

TEST BRACKET [AS-1870]
- SERVICE
- GND
- TEST
- VOLUME DOWN
- GND
- VOLUME UP
- COIN METER
- 5VDC
- CASHBOX USB

LIGHT — GND / 5VDC

COIN 1(SW) — COIN 1 / P1 - UCL2 / GND

COIN 2(SW) — COIN 2 / P2 - UCL2 / GND

LIGHT — GND / 5VDC

CABINET SUBWOOFER

SUBWOOFER [2-1-18-00-00-000] — CABINET WOOFER + / CABINET WOOFER -

REAR RING

- 12VDC_F2 — RING RGB T-MOLD - RED / GRN / BLU — 03-06-1042 — 03-06-2042 — [CA-4748] RGB LED STRIP
- 12VDC_F2 — MINI LOGO / REAR RING — 39-01-3028 — [CA-4749] LED STRIP
- 12VDC_F2 — MINI LOGO / REAR RING — 39-01-3028 — [CA-4749] LED STRIP
- 12VDC_F2 — RING RGB T-MOLD - RED / GRN / BLU — 03-06-1042 — 03-06-2042 — [CA-4748] RGB LED STRIP

P1 SEAT

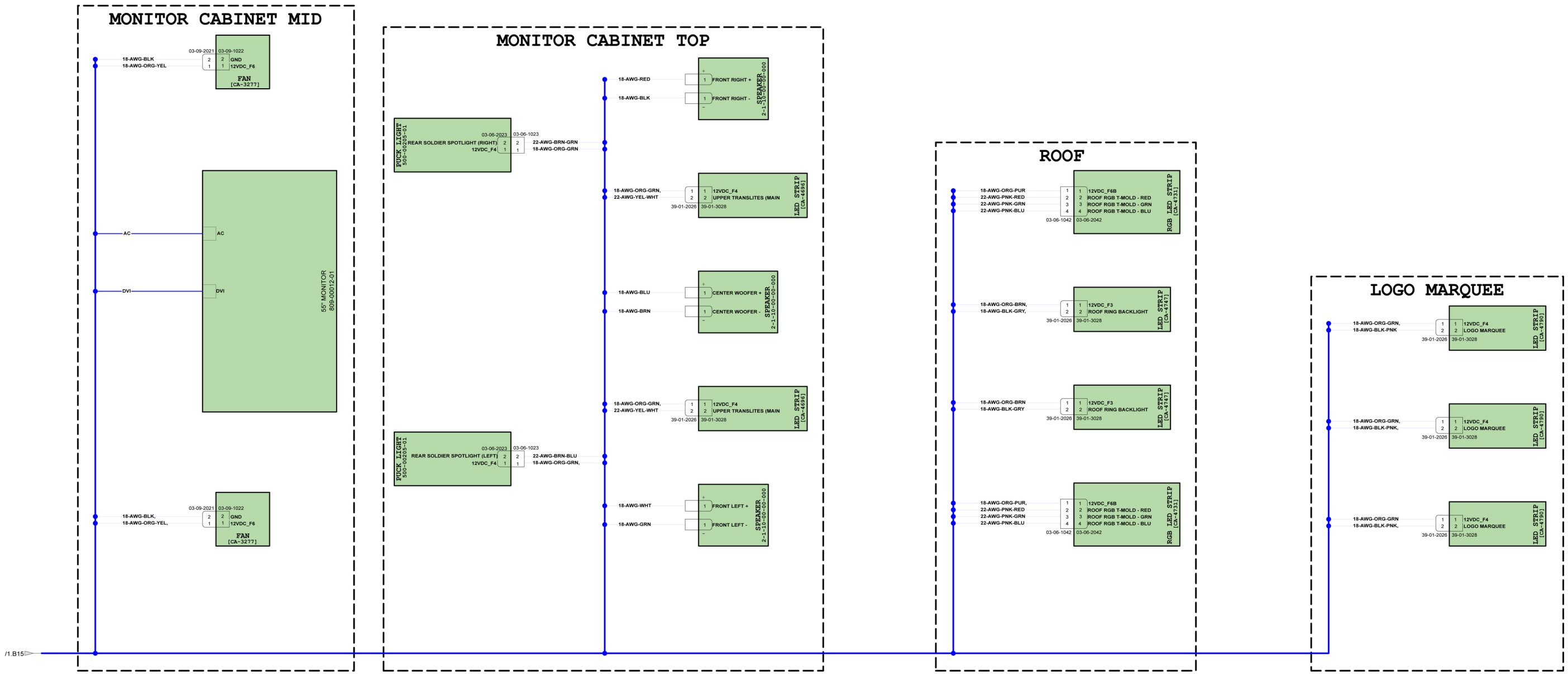
- SPEAKER [2-1-11-00-00-000] — SEAT WOOFERS + / SEAT WOOFERS -
- LED STRIP [CA-4455] — 12VDC_F1 — P2 SEAT LEDS — 39-01-3028

			F	
			E	
			D	
			C	
PART #'s	JTN	2019.03.27	B	
Initial	JTN	2019.02.07	A	
DESCRIPTION	BY	DATE	REV	

Designed: JTN | Date: 2019.02.07 | REV: B | ANSI D

Raw Thrills, Inc.
5441 Fargo Ave, Skokie, IL 60077 USA
rawthrills.com
tel: 847.679.8373
fax: 847.679.

TITLE: Halo Fireteam Raven Two Player
DWG: System Diagram
SHEET: 2 | SHEETS: 3



			F	
			E	
			D	
			C	
PART #'S	JTN	2019.02.07	B	
Initial	JTN	2019.02.07	A	
DESCRIPTION	BY	DATE	REV	

Designed: JTN
Date: 2019.02.07
REV: B

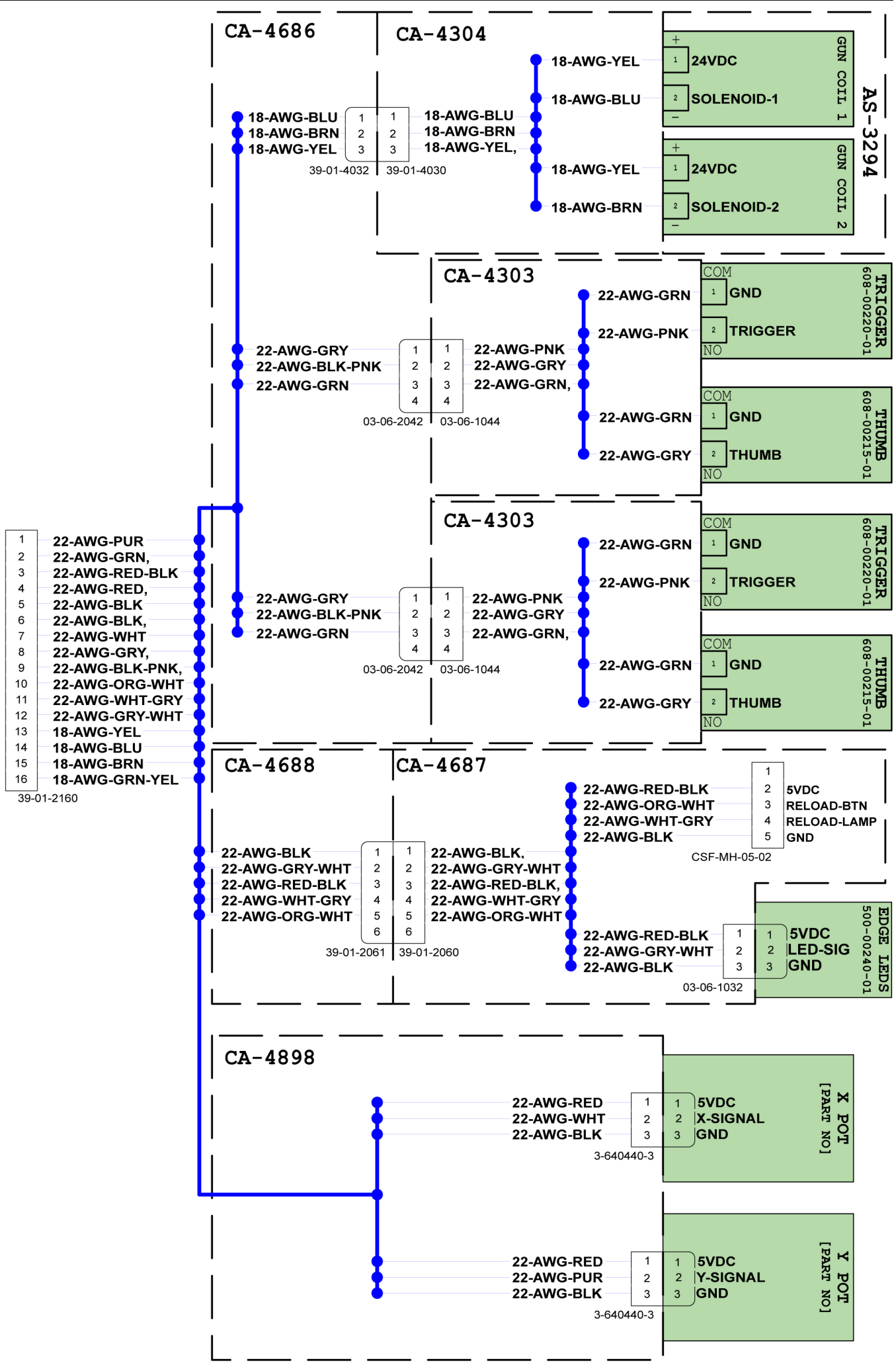
Raw Thrills, Inc.
5441 Fargo Ave,
Skokie, IL 60077
USA
rawthrills.com
tel: 847.679.8373
fax: 847.679.

ANSI D

TITLE: Halo Fireteam Raven
Two Player

DWG: System Diagram

SHEET 3 SHEETS 3



REV	DATE	BY	DESCRIPTION
A	2019/04/03	JTN	INITIAL
B			
C			
D			
E			
F			

Raw Thrills, Inc.
5441 Fargo Ave.
Skokie, IL 60077
USA
tel: 847.679.8373
fax: 847.679.
rawthrills.com

Designed: JTN
Date: 2019/04/03
REV A

TITLE: HALO GUN: 820-0024-01
DWG: SYSTEM DIAGRAM
SHEET 1
SHEETS 1
ANSI A

Contact Information

For an authorized distributor near you, visit Raw Thrills at http://www.rawthrills.com/sales-service

For service, contact your local distributor or your local Betson office for sales, technical information, warranty or repair. Betson can be reached at (800) 524-2343 Fax (201) 438-4837 www.betson.com

Betson Enterprises Headquarters
303 Paterson Plank Rd.
Carlstadt, NJ 07072
(800) 524-2343 or (201) 438-1300
fax (201) 438-4837

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