DUCK DERBY Operation & Service Manual

ADRENALINE

Version 2.1 Please, read this manual before use



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General Remark

If you encounter any difficulties or if you need support on how to update and/ or install your arcade product, we invite you to contact your local distributor or reach us at techsupport@aagmes.com or by calling our support line +1 (450) 824-1671

Adrenaline Amusements Team

Adrenaline Amusements 2273 Antonio-Héroux Street Terrebonne, QC Canada J6X 4R3

Chapter 01 - Preface

Please read this page before preparing your Duck Derby Pump 'N Race Arcade product for game play.

The following safety instructions apply to all game operators and service personnel. Specific warnings and cautions will be included throughout this manual.

Use the following safety guidelines to help protect the system from potential damage and to ensure your personal safety:

- Electronic components in the game cabinet run on 110V AC 60Hz (220V/50Hz in most of Europe, the Middle East and the Far East delivered units).
- To help prevent electric shock, plug the system into a properly grounded power source. 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. We do recommend a 15A rated current or higher power cord.
- To help protect your system from sudden increases and decreases in electrical power, use a surge suppressor, line conditioner or Uninterruptible Power Supply (UPS).
- Be sure nothing rests on the system's cables and that the cables are not located where they can be stepped on or tripped over.
- Keep your system far away from radiators and other heat sources.
- Do not block cooling vents.

Precaution for Game Operation

Adrenaline Amusements Inc. assumes no liability for injuries incurred while playing our games.

Operators should be aware that certain health and physical conditions may make people susceptible to injury when playing video games.

Safety



To avoid electrical shock, unplug the cabinet before performing installation or service procedures.

If a power cord is damaged, it must be replaced by the equivalent power cord available from your distributor.



Adrenaline Amusement Inc. assumes no liability for any damages or injuries incurred while setting up or servicing the cabinet. Only qualified service personnel should perform installation or service procedures.

Environmental Conditions

Cabinet is intended for indoor use only. Be sure to keep the cabinet dry and maintain operating temperatures of 59° - 86°F (15° - 30°C).

Electrical Power

The information bellow applies to a 2-player cabinet.

UNITED STATE / CANADA		
Voltage Operating		
120V AC	Entry #1: 8 Amps	

INTERNATIONAL	
Voltage Operating	
220V AC	Entry #1: 4 Amps

Chapter 02 - Game Features

Pump and race your duck to victory!

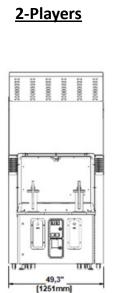
- Race your duck to victory with an exhilarating pumping mechanic
- Compete against friends for ultimate bragging rights
- Enjoy thrilling gameplay with up to 8 players at once
- Fully illuminated top panel for a dazzling carnival atmosphere
- 55 inches LED screen
- Game Control for each player

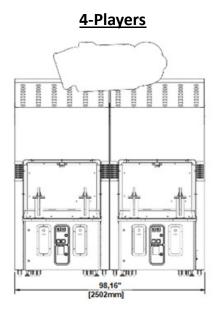


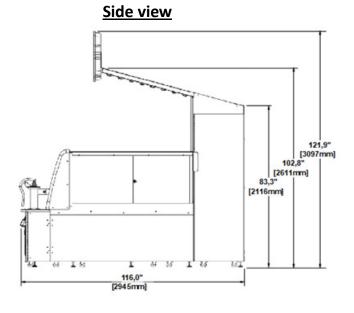


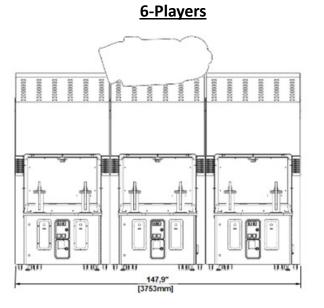


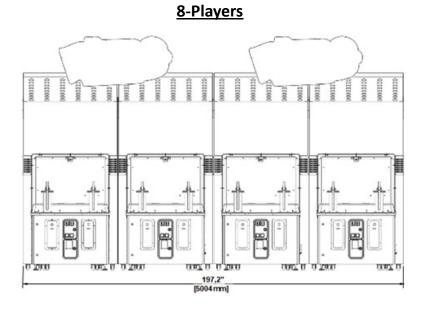
Chapter 03 – Cabinet Dimensions









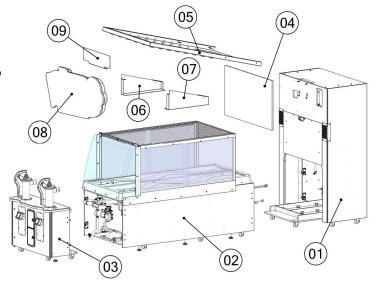


Chapter 04 - Unit installation

4.1 List of material in the box.



Ref	Description	Part#	Qty
1	Rear Cabinet Duck Durby	-	1
2	Center Cabinet Duck Durby	-	1
3	Front Cabinet Duck Durby	-	1
4	Monitor 55" With Black Frame & Screen	AAG-10-0009	1
5	Duck Derby Header	DD-06-0001	1
6	Side Plate LH, Duck Derby	DUC-01-0072	1
7	Side Plate RH, Duck Derby	DUC-01-0073	1
8	Duck Derby Top Marquee	DD-06-0004	1
9	Top Duo Marquee Bracket, Duck Derby	DUC-01-9002	1
10	Standard Keyboard And Mouse	INV-11-1015	1





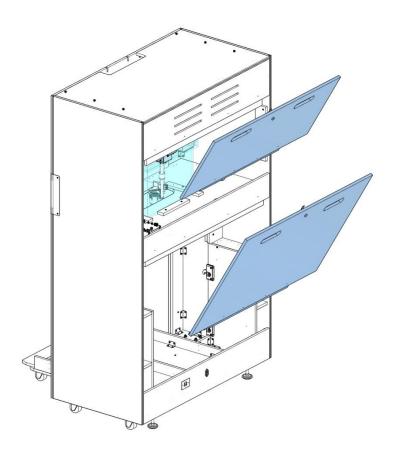
KIT LIST:



Ref	# PARTS	DESCRIPTION	QTY
1	MS-PP-ZS-M8X30MM	Pan Head, Machine Screw, Phillips, Zinc Plated, M8X30MM	4
2	BS-HRO-SS-1/4-20X3-1/4	Button Head Screw, Hex Drive, Stainless Steel, 1/4-20 X 3-1/4"	2
3	SW-SS-1/4-20	Sealing Washer, Stainless Steel, Neoprene Seal, 1/4-20	4
4	NN-SS-1/4-20	Nylon Nut, Stainless Steel, 1/4-20	2
5	HS-HH-ZS-1/4-20X1	Hex Head Screw Zinc, Grade 5, 1/4-20X1"	6
6	MS-PRO-ZS-1/4-20X1-1/4	Round Head, Machine Screw, Phillips, Steel, Zinc Plated, 1/4-20X1 1/4"	4
7	DUC-07-0013	Floating Duck	
8	DUC-07-0033	Plastic Clear Slide With Water Splitter For Hand Pump, Duck Derby	2
9	DUC-05-0058-B	Plastic Clear for Flush, Duck Derby	2
10	INV-0911LA00079001	Hex Allen L-Key, 5/16, Long Arm	1
11	HTW-01-0030	Aluminium Tubing For Allen Key Extension	1
12	AAG-17-0002	Patch Cable, RJ45, Cat5e, 350MHz, 7'	1
13	DUC-05-0072	Funnel 7" Flexible for Duck Derby	1
14	MS-PRO-WHS-10-24X3/4	Round Head, Machine Screw, Phillips, Steel, White-Plated, 10-24x3/4"	4
15	HS-HH-Z-1/4-20X3/4	Hex Head Screw, Zinc, Grade 5, 1/4-20 x 3/4"	3
16	NN-ZS-1/4x20	Medium-Strength Steel Nylon-Insert Locknut Grade 5, Zinc-Plated, 1/4"-20 Thread Size	7

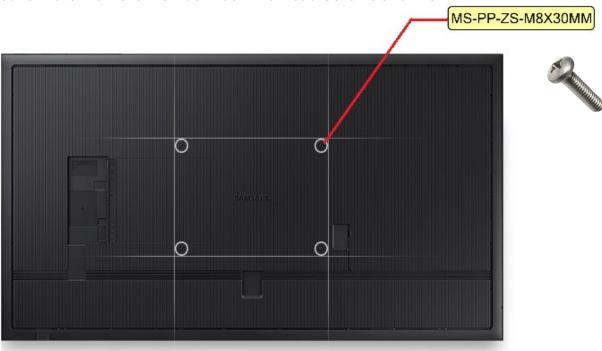
4.2 TV screen installation

4.2.1 Remove the doors of the rear cabinet.

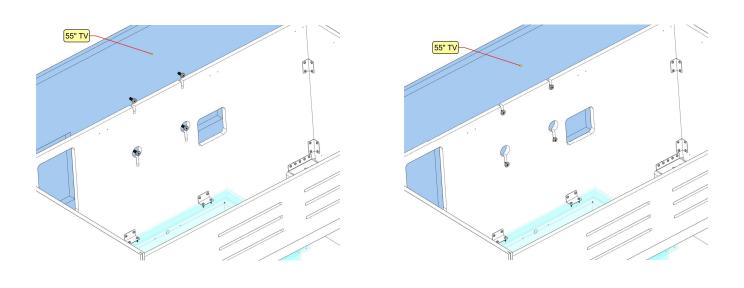


4.2.2 Install the 4 provided M8x30MM screws on the TV.

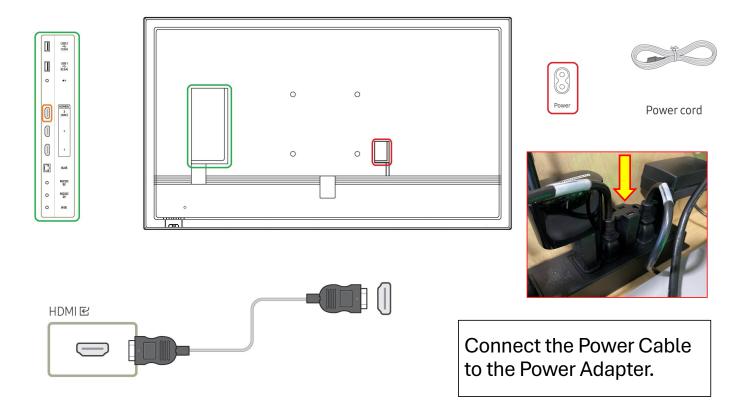
Leave more than 5/8 inch between the Head Screws and the TV



- 4.2.3 Carefully lift the TV and place it on the cabinet.
- 4.2.4 Once the TV is properly positioned, secure the four screws.

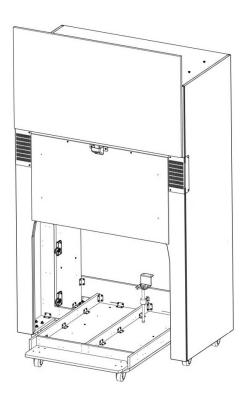


4.2.5 Connect the HDMI and the Power Cables to the TV.

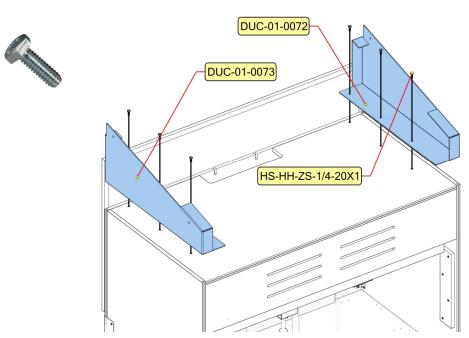


4.3 Ceiling installation

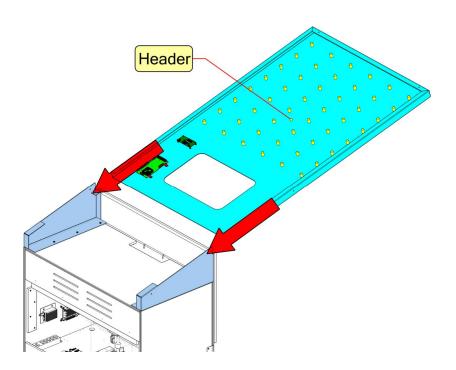
4.3.1 Before proceeding further, place the machine in the desired location near an electrical power source.



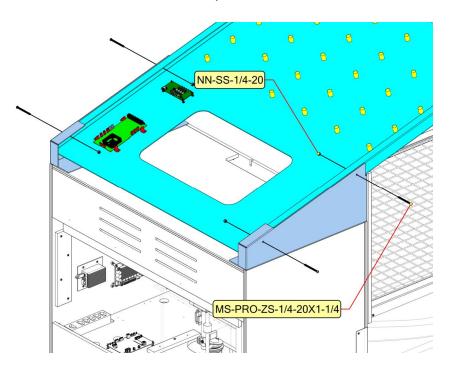
4.3.2 Install the Header Slide Plates on the top of the Rear cabinet. Use the provided hex screws.



4.3.3 Install the header by sliding it onto the Slide Plates.



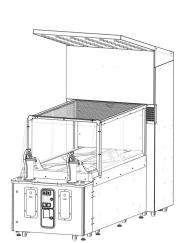
4.3.4 Secure the header with the provided fasteners.



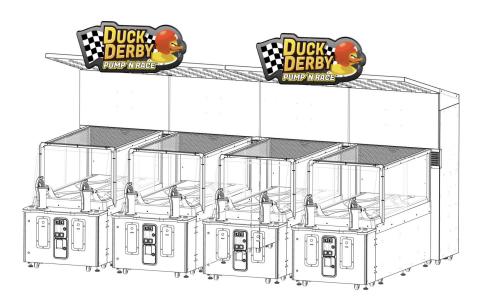
4.4 Marquee installation

4.4.1 The following figure shows where the marquee should be mounted depending on the option chosen.

Option 1: 1 x 2 Players (no marquee)



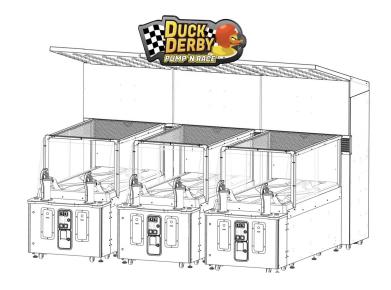
Option 3: 4 x 2 Players



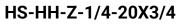
Option 2: 2 x 2 Players



Option 4: 3 x 2 Players



4.4.2 Install the Top Duo Marquee bracket using the provided components.

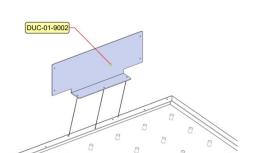




& NN-ZS-1/4x20

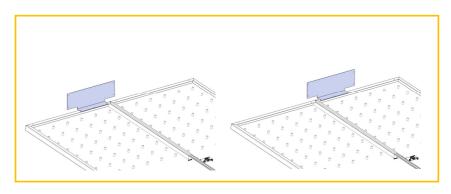


Option 4: 3x2
Players Machine.



Install the bracket in **the Center** of the Header.

Option 2: 2x2 Players Machine. & Option 3: 2x4 Players Machine.

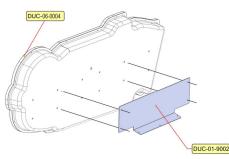


Install the bracket in **One Side** of the Header.

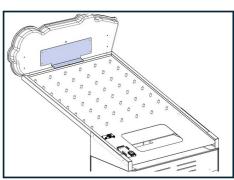
Note: For a 4 or 8 player setup, install the marquee only on one side of one of the two machines. This will make it easier to separate the machines

4.4.3 Install the illuminated sign Duck Derby on the top of the Header. Use the provided Screws: MS-PRO-WHS-10-24X3/4

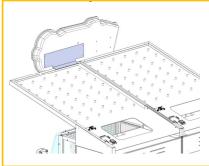




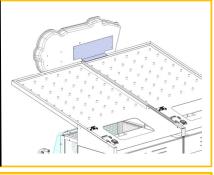
Option 4:



Option 2 &Option 3.1:

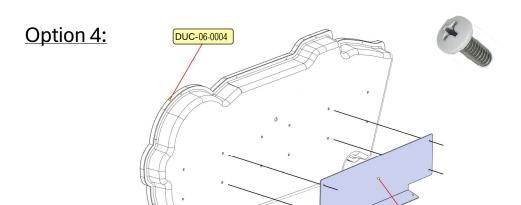


Option 3.2:



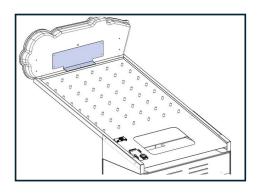
Note: For the 4-player configuration, make sure to attach the header in the correct holes so that it is positioned at the center of the two machines.

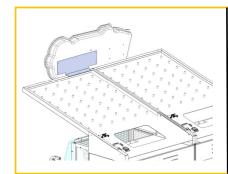
4.4.4 Install the illuminated sign Duck Derby on the top of the Header. Use the provided Screws: MS-PRO-WHS-10-24X3/4

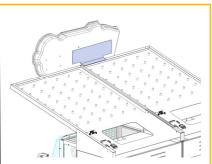


Option 2.1: DUC-01-9002

Option 2.2:

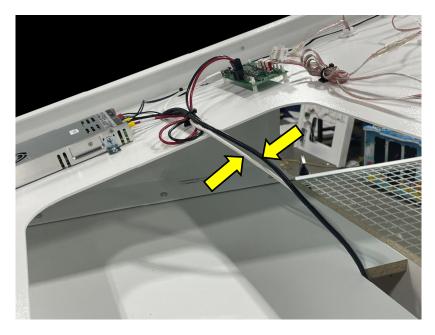


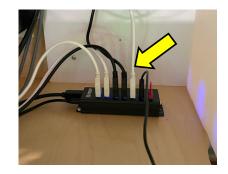




Note: For the 4-player configuration, make sure to attach the header in the correct holes so that it is positioned at the center of the two machines.

4.4.5 Connect the necessary electrical connectors inside the Rear Cabinet Service.

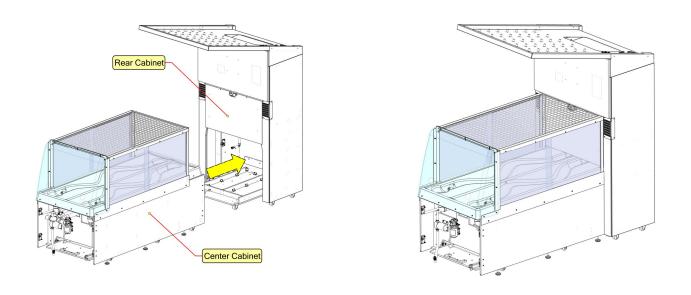




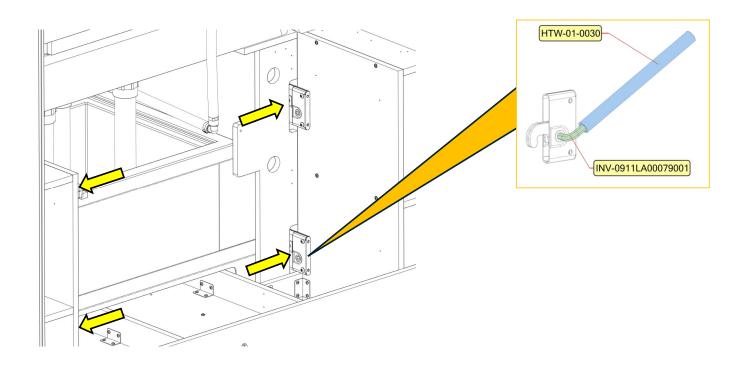


4.5 Attach center cabinet to the rear cabinet

4.5.1 Align the rear and the center Cabinets, position and connect them as shown bellow.

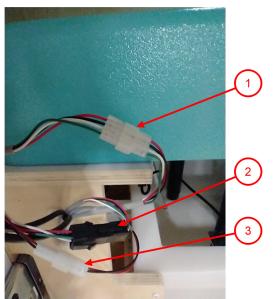


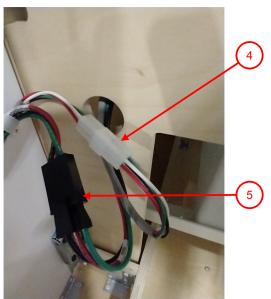
4.5.2 Secure the 2 cabinets by using the 4 cam-locks from the back service door with the provided Alen-Key.



4.5.3 Connect the necessary electrical connectors between the cabinets.

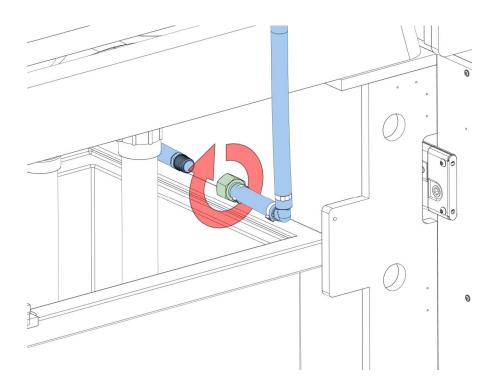






Item	Connector description
1	N/C Solenoid valves (player 1 & 2)
2	Maintenance board com port
3	Lower tank water level sensor
4	Game and maintenance pumps
5	Led contoller

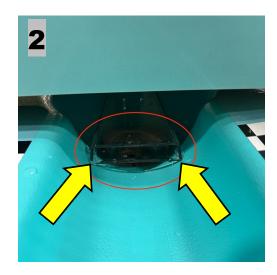
4.5.4 Connect the water lines with the fitting. Turn clockwise, Make sure that you have completely tightened the fittings before going forwards



4.5.5 Chrome tube and plastic port installation:

- 1) Connect the plastic port DUC-05-0058-B to the chrome tube.
- 2) Adjust the height of the plastic port to **rest on the Play Field**.
- 3) Tighten the plastic pipe fitting.

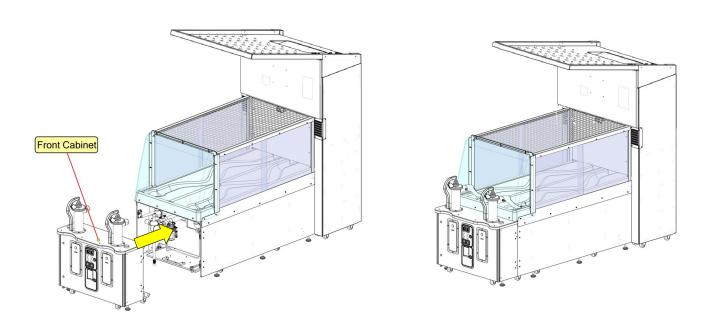




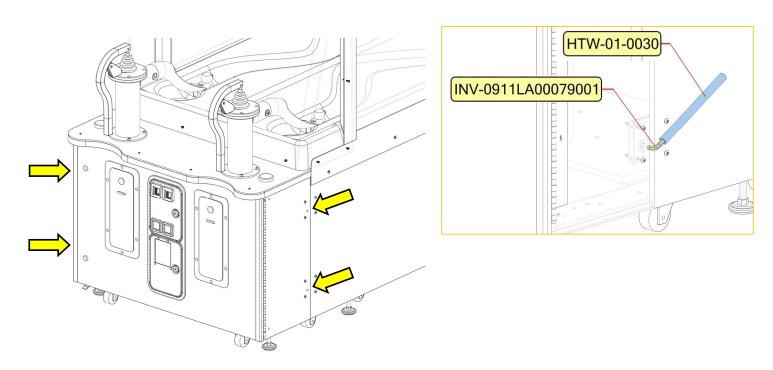


4.6 Attach the front cabinet to the center cabinet

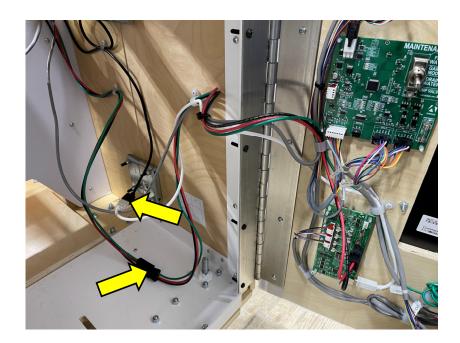
4.6.1 Align the front and the center cabinets, position and connect them as shown bellow.



4.6.2 Before opening the door, secure the 2 cabinets by using the 4 cam-locks with the provided Alen-Key and the Aluminum tube.



4.6.3 Connect the necessary electrical connectors between the cabinets.



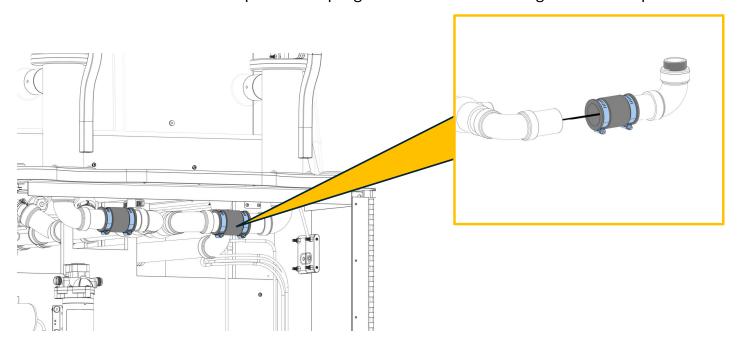
USB connector & Led controller's power connector



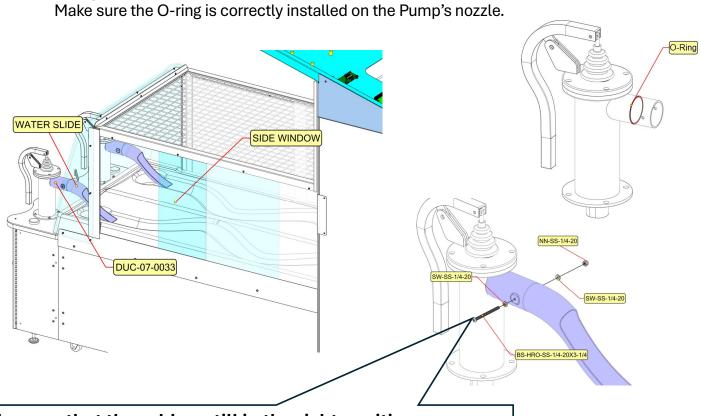
Maintenance board connector

4.7 Front cabinet pumbling junction

4.7.1 Connect the Hand Pump water couplings. Use a 5/16 socket to tighten the clamps.



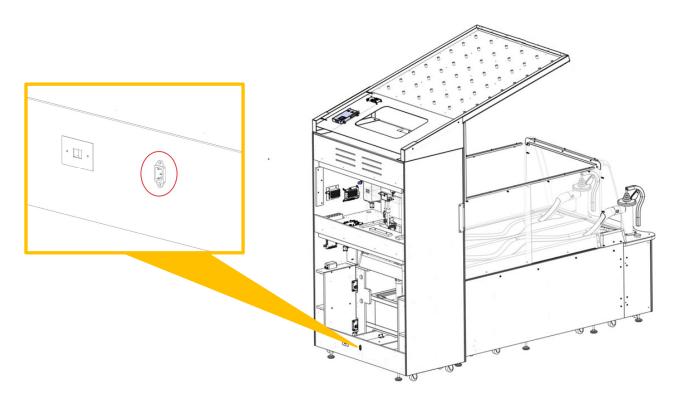
4.7.2 Open the side windows (Front Side of the machine) and install the water slides for both the right and the left Hand's Pump.



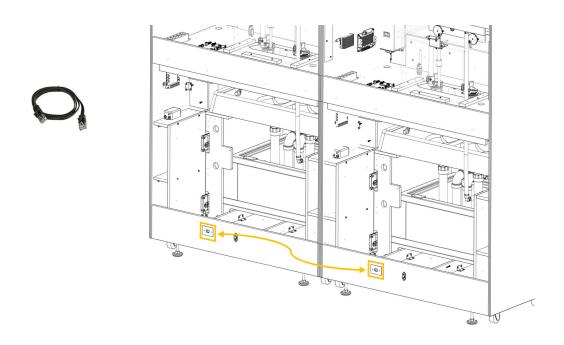
Make sure that the rubber still in the right position before securing the water slide with the stainless screw, washer and the nut.

4.8 Rear machine electrical connection

4.8.1 Connect each machine to a power source.

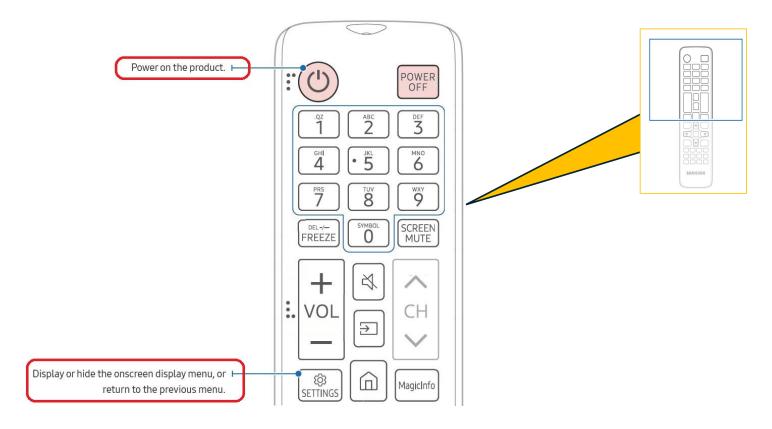


4.8.2 In case of you have more then one machine, connect them with the RG-45 cable.



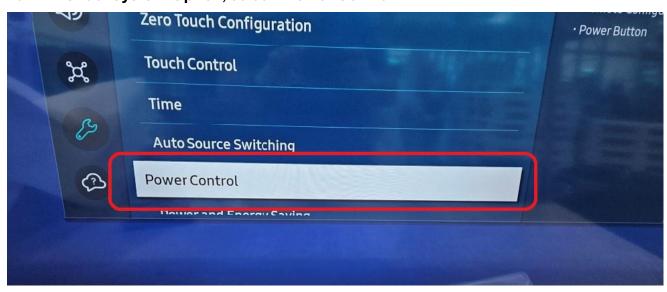
4.9 TV screen configuration

4.9.1 Turn on the TV by pressing the power button. Then, push the setting button to configure the power control of the TV.





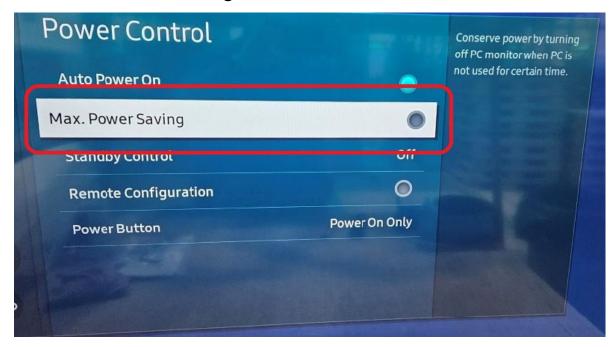
4.9.2 Under **System Option**, select **"Power Control"**.



4.9.3 Activate the "Auto Power On" feature



4.9.4 Turn off "Max. Power Saving"



4.9.5 Set up **Standby Control** option to "off"

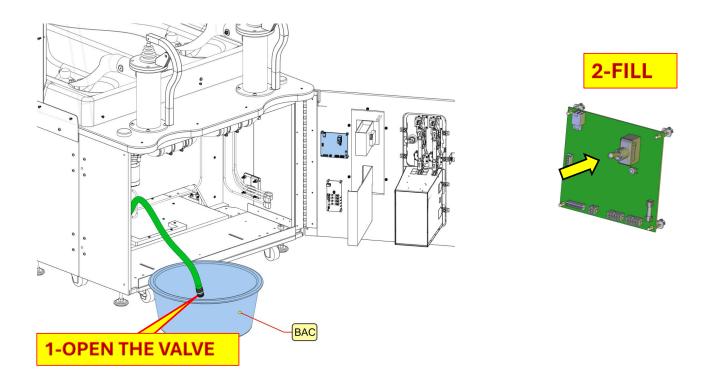


4.9.6 Press the **SETUP** button to exit the menu.

4.10 Filling the machine with water

Notice: the machine requires approximately 60L.

- 4.10.1 Open the valve at the end of the hose and immerse it in the bucket full of water.
- 4.10.2 Set the maintenance switch to 'FILL' position.
- 4.10.3 Follow the on-screen instruction.
- 4.10.4 If the system requires more water, suspend the filling process by flipping the maintenance switch to "GAME MODE".
- 4.10.5 Repeat step **4.10.1** to **4.10.4** until the filling process is completed.
- 4.10.6 Once the filling process is completed:
 - a) Close the hose's valve and store it in the small container for this purpose.
 - b) Put the maintenance switch to "GAME MODE".
 - c) Do a visual inspection to ensure that no water leaks are apparent. Inspect the inside of the rear and front cabinet.



4.11 Priming the hand pump

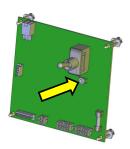
4.11.1 For each Hand's Pump, add approximately 250 ml water using the funnel.



4.11.2 Place a rubber duck in front of each slide.

4.11.3 Activate the solenoid valves:

Press the "HAND PUMP VALVES" button on the maintenance board. This will unblock the solenoid valves of both hand pumps. The LED, next to the push button, will illuminate to inform the operator that the solenoids are activated.



- 4.11.4 Activate the pump handle until the water flow is strong enough to move the duck.
- 4.11.5 Repeat step **4.11.4** for the next hand pump.

4.11.6 **Deactivate the solenoid valves:**

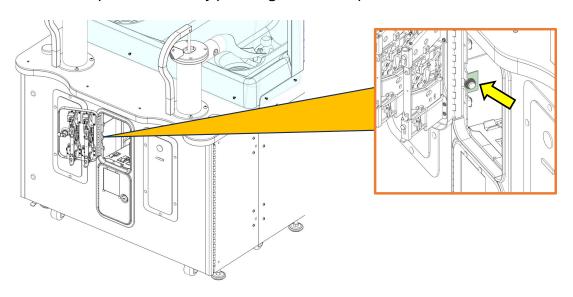
Press back the "HAND PUMP VALVES" button on the maintenance board. Led next to the push button will turn off to inform the operator that solenoid valves are deactivated.

4.11.7 Do a visual inspection to ensure that no water leaks are apparent. Inspect the inside the front and rear cabinet of the machine to ensure there are no leaks.

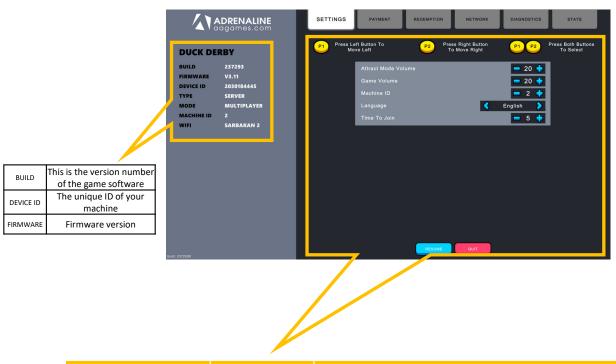
Now the machine is ready for use.

Chapter 05 – Operator Menu

Note: Access the Operator Menu by pressing the white operator menu button behind the coin door.

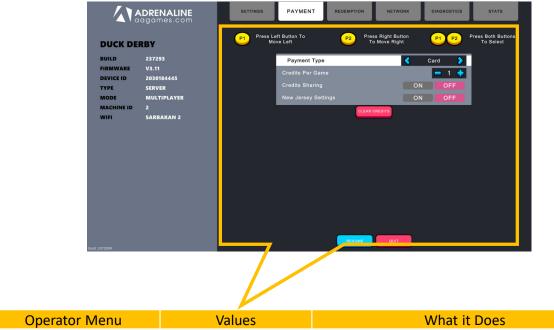


5.1 Settings



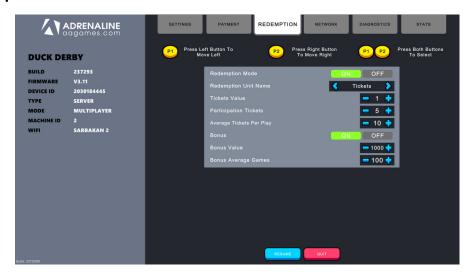
Operator Menu	Values	What it Does	
Attract Mode Volume	0-20	Adjusts the volume of the voice attract loop. / "0" Will Mute	
Game Audio Volume	0-20	Adjusts the in-game audio volume. / "0" will mute the game.	
Machine ID	1-2-3-4	Identification of the Machine when more then 1 machine is connected	
Language	English	Switches the game and the menu's language	
Time to Join	5-30	Adjusts the time to join	

5.2 Payments



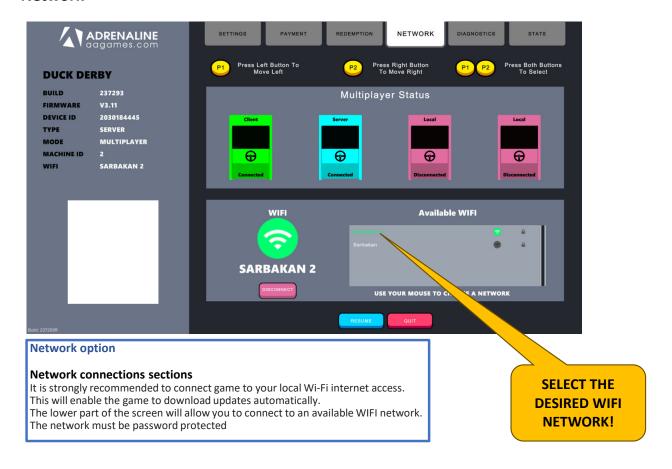
Operator Menu	Values	What it Does
Payment Type	Credit or Card	Set the Credit Type, Coin or Card Reader
Credit Per Game	0-20	Credit per Game
Credits Sharing	On-Off	Set to on if only one payment is installed
New Jersey Settings	On-Off	

5.3 Redemption



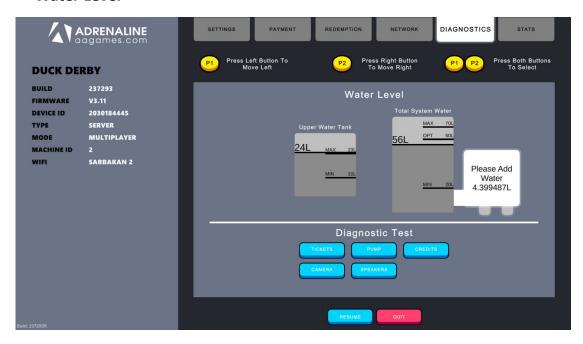
Operator Menu	Values	What it Does	
Redemption mode	On-Off	Activates ticket redemption	
Redemption unit Name		Ticket-Coupons	
Tickets value	1-2	Sets value of ticket	
Participation tickets	0-20	Sets min tickets per play	
Average tickets per Play	1-100	Winner Will Get This Amount of Tickets Multiplied by the Number of Players in the Race	
Bonus	On-off		
Bonus Value	20-1000		
Bonus average Games	0-100	Sets Frequency of Bonus	

5.4 Network

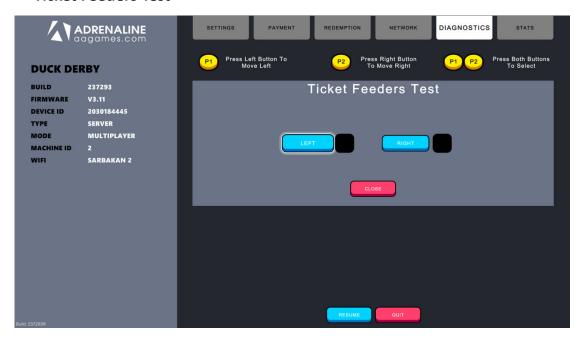


5.5 Diagnostic:

5.5.1 Water Level



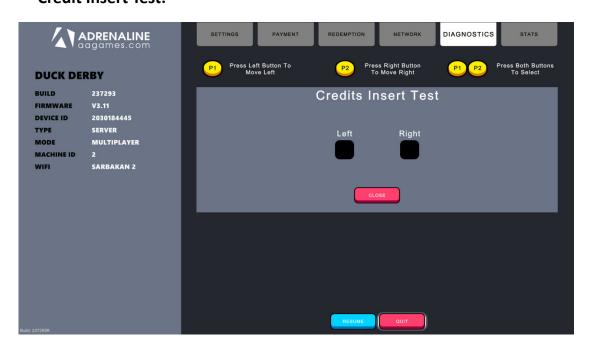
5.5.2 Ticket Feeders Test



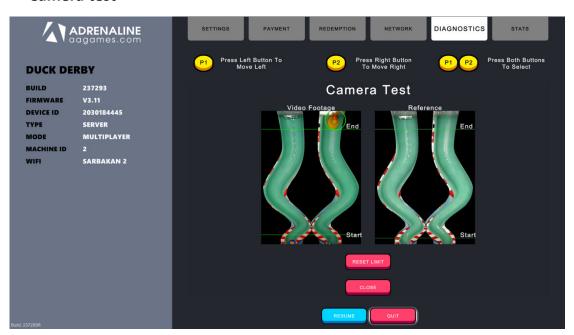
5.5.3 Pump Test



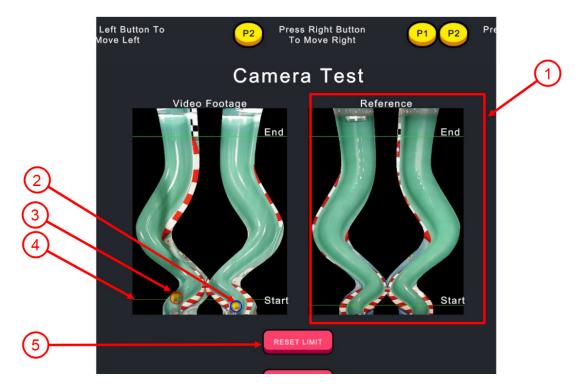
5.5.4 Credit Insert Test:



5.5.5 Camera test



5.5.5 Camera test (cont.)



The position of the duck is made by the camera located under the tv screen. Virtual start and finish lines are added to more accurately determine the position of ducks on the tracks.

Notice¹: The video footage will only be operational if the ceiling LED controller is connected and light are turned on white. (refer to section 4.4.5)

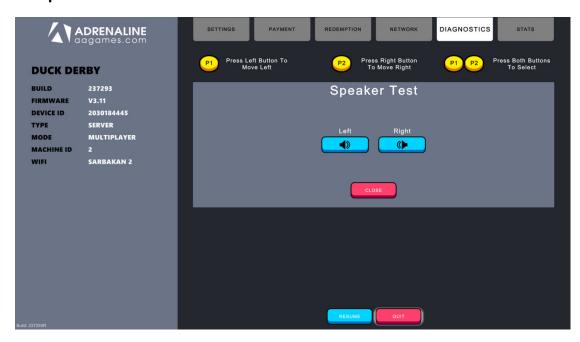
Notice²: Avoid external light projections on the playfield other than those coming from the ceiling lights. Especially those coming from colored light source, otherwise the camera detection may be affected. (False detection)

Notice³: If duck are present on tracks but not shown on video footage window. Validate camera installation. (refer to annex C)

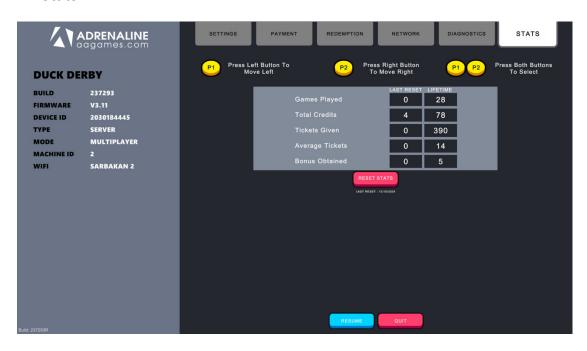
Item 1: The reference image shows how tracks should appear on video footage. It can be useful if the operator must replace the camera, and he is not sure about its orientation. If the tracks layout doesn't match the reference, the operator will need to rotate the board of the camera.

- Item 2: Duck is seen behind the start line (item 4) and circled in blue.
- Item 3: Duck is seen in front the start line (item 4) and circled in red.
- **Item 5:** The "RESET LIMITS" button must be used when replacing the camera. It will delete the saved parameters of the preceding camera.

5.5.6 Speaker Test:

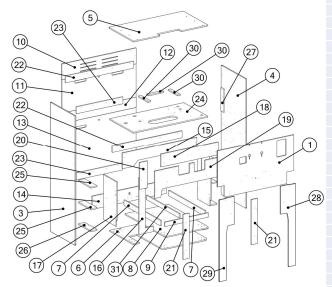


5.5.7 Stats:



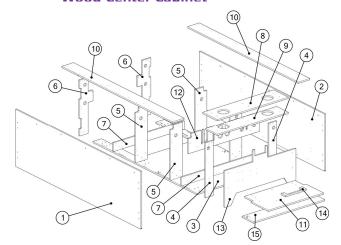
Chapter 06 - Parts

Wood Screen Cabinet.



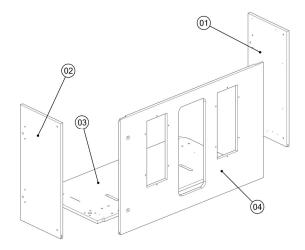
Ref	Part Description	Part #	Qty
1	Rear TV Board Rear Module, Duck Derby	DUC-02-0003-1	1
3	Left Side Rear Module, Duck Derby	DUC-02-0003-3	1
4	Right Side Rear Module, Duck Derby	DUC-02-0003-4	1
5	Top Cabinet Rear Module, Duck Derby	DUC-02-0003-5	1
6	Floor Cabinet Rear Module, Duck Derby	DUC-02-0003-6	1
7	Floor Reinforcement L/R Rear Module, Duck Derby	DUC-02-0003-7	2
8	Floor Lining Rear Module, Duck Derby	DUC-02-0003-8	1
9	Front Floor Reinforcement Rear Module, Duck Derby	DUC-02-0003-9	1
10	Back slot Board upper Rear Module, Duck Derby	DUC-02-0003-10	1
11	Up Back Door Cabinet Rear Module, Duck Derby	DUC-02-0003-11	1
12	Center Board Back Cabinet Rear Module, Duck Derby	DUC-02-0003-12	1
13	Bottom Back Door Cabinet Rear Module, Duck Derby	DUC-02-0003-13	1
14	EMI Filter Board Back Cabinet Rear Module, Duck Derby	DUC-02-0003-14	1
15	Inside Shelf Reinforcement Rear Module, Duck Derby	DUC-02-0003-15	1
16	Inside Support L/R Rear Module, Duck Derby	DUC-02-0003-16	2
17	Inside Latch Support L/R Rear Module, Duck Derby	DUC-02-0003-17	2
18	Lining Front Boards Conection Rear Module, Duck Derby	DUC-02-0003-18	1
19	Lining Inside Shelf Support Rear Module, Duck Derby	DUC-02-0003-19	2
20	Lining Up Bottom Front Cabinet Rear Module, Duck Derby	DUC-02-0003-20	1
21	Lining Lower Bottom Front Cabinet Rear Module, Duck Derby	DUC-02-0003-21	2
22	Back Doors Stoppers Rear Module, Duck Derby	DUC-02-0003-22	2
23	Back Doors Retained Block Rear Module, Duck Derby	DUC-02-0003-23	2
24	Water Tank Shelf Rear Module, Duck Derby	DUC-02-0003-24	1
25	Blocks Inside Latchs Supports Rear Module, Duck Derby	DUC-02-0003-25	4
26	Small Floor Linings Rear Module, Duck Derby	DUC-02-0003-26	2
27	Upper Door Stopper, Duck Derby	DUC-02-0003-27	2
28	Right Lower Front Finishing Board, Duck Derby	DUC-02-0003-28	1
29	Left Lower Front Finishing Board, Duck Derby	DUC-02-0003-29	1
30	Upper Water Tank Holding Block, Duck Derby	DUC-02-0003-30	3
31	Floor Reinforcement Center, Rear Module, Duck Derby	DUC-02-0003-31	1

Wood Center Cabinet

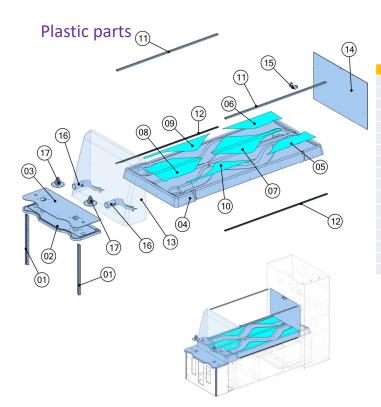


Ref	Description	Part#	Qty
1	Left Side Center Module, Duck Derby	DUC-02-0001-1	1
2	Right Side Center Module, Duck Derby	DUC-02-0001-2	1
3	Wood Floor Center Module, Duck Derby	DUC-02-0001-3	1
4	Front Vertical Frame Center Module, Duck Derby	DUC-02-0001-4	2
5	Center Vertical Frame Center Module, Duck Derby	DUC-02-0001-5	4
6	Back Vertical Frame Center Module, Duck Derby	DUC-02-0001-6	2
7	Center Horizontal Frame Center Module, Duck Derby	DUC-02-0001-7	2
8	Front Top Center Module, Duck Derby	DUC-02-0001-8	1
9	Front Top Lining Center Module, Duck Derby	DUC-02-0001-9	1
10	Top Side L/R Center Module, Duck Derby	DUC-02-0001-10	2
11	Front Floor Lining Center Module, Duck Derby	DUC-02-0001-11	1
12	Pipe Fixing Board, Duck Derby	DUC-02-0001-12	1
13	Pump Fixing Board, Duck Derby	DUC-02-0001-13	1
14	Black Bin Holding Block, Duck Derby	DUC-02-0001-14	1
15	Floor Extension, Duck Derby	DUC-02-0001-16	1

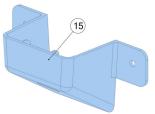
Wood Front Cabinet



Ref	Description	Part#	Qty
1	Right Side Front Module, Duck Derby	DUC-02-0002-1	1
2	Left Side Front Module, Duck Derby	DUC-02-0002-2	1
3	Wood Floor Front Module, Duck Derby	DUC-02-0002-3	1
4	Front Door, Duck Derby	DUC-02-0006	1



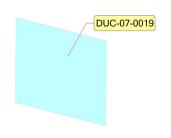
Ref	Description	Part#	Qty
1	Front Door Corner, Duck Derby	DUC-07-0015	2
2	Plastic Dash, Duck Derby	DUC-07-0010	1
3	Dash Cover, Duck Derby	DUC-07-0030	1
4	Duck Playfield in ABS, Duck Derby	DUC-07-0001	1
5	Top Left Decal For Duck Derby Playfield	DUC-07-0017-1	1
6	Top Right Decal For Duck Derby Playfield	DUC-07-0017-2	1
7	Middle Decal For Duck Derby Playfield	DUC-07-0017-3	1
8	Middle Bottom Decal For Duck Derby Playfield	DUC-07-0017-4	1
9	Bottom Left Decal For Duck Derby Playfield	DUC-07-0017-5	1
10	Bottom Right Decal For Duck Derby Playfield	DUC-07-0017-6	1
11	Modified Glass Guide Top, Duck Derby	DUC-07-0060-MOD	2
12	Modified Glass Guide Bottom, Duck Derby	DUC-07-0061-MOD	2
13	Front Protection Window In Acrylic, Duck Derby	DUC-07-0004	1
14	Bottom Display, Duck Derby	DUC-07-0009	1
15	Camera Plastic Holder, Duck Derby	DUC-07-0080	1
16	Plastic Clear Slide With Water Splitter For Hand Pump, Duck Derby	DUC-07-0033	2
17	Rubber Boot For Hand Pump, Duck	AAG-05-0088	2

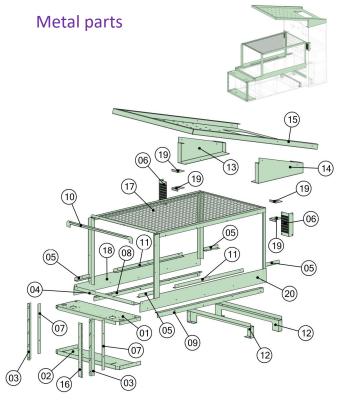




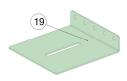
Glass parts

Ref	Description	Part#	Qty
1	Tempered Glass Window, Duck Derby, 33" x 28.50" x 33", 6mm	DUC-07-0019	4

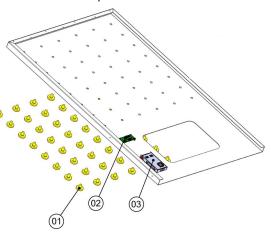




Ref	Description	Part#	Qty
1	Top Plate Duck Derby	DUC-01-0001	1
2	Bottom Plate Duck Derby	DUC-01-0002	1
3	Side Bracket, Duck Derby	DUC-01-0003	2
4	Top FRT Bracket, Duck Derby	DUC-01-0006	1
5	Side Racetrack Bracket, Duck Derby	DUC-01-0007	4
6	Speaker Grill DPI, Duck Derby	DUC-01-0008	2
7	Shim Plate, Duck Derby	DUC-01-0012	2
8	Fence Side Holder LH, Duck Derby	DUC-01-0015	1
9	Fence Side Holder RH, Duck Derby	DUC-01-0016	1
10	Top Frame Pump Acrylic Duck Derby	DUC-01-0020	1
11	Side Bracket Long, Duck Derby	DUC-01-0027	2
12	Water Tank Support, Duck Derby	DUC-01-0035	2
13	Side Plate LH, Duck Derby	DUC-01-0072	1
14	Side Plate RH, Duck Derby	DUC-01-0073	1
15	Top Display Sheet, Duck Derby	DUC-01-0074	1
16	Piano Hinge for Front Door Duck Derby	DUC-01-0090	1
17	Top Grid Frame Assy Duck Derby	DUC-01-0100	1
18	Glass Frame LH Duck Derby	DUC-01-2000	1
19	Speaker Bracket, Duck Derby	DUC-01-2033	4
20	Glass Frame RH Duck Derby	DUC-01-3000	1



Headers parts



Ref	Part#	Description	Qty
1	AAG-14-0063	LED RGB Lamp	48
2	AAG-04-0015-24RL	RGB Led Controller Board Assembly 24V For Rabbids & Ladders	1
3	AAG-13-0036	Switching Power Supply, 24V, 320W, Low Profile	1
4	AAG-05-0057	Board Support Snap Lock, 1/2"	4
5	AAG-03-0241	66" POWER ENTRY LED RGB 24V HARNESS	3
6	AAG-03-0081	Harness 92" For PSU Power	1
7	INV-USB-AB1-06	Cable Usb 2.0 'AB', White, 6'	1
8	AAG-03-0038	Harness PSU12/24 to CTRL Led RGB	1
9	MS-PP-M4-0.7X5MM	Pan Head, Machine Screw, Phillips, Steel, M4x0.7x5MM	4
10	SB-3/4X3/4X3/4	Square Corner Brace, 3/4", Zinc, Gauge 20	4
11	MS-QP-ZS-8-32X1/2	Pan Head, Machine Screw, Quadrex, Zinc, 8-32x1/2"	4
12	ADR-TBC-09	Terminal Cover For Power Supply RSP-320-5	1
13	RHW-03-0011	Harness For Header	1







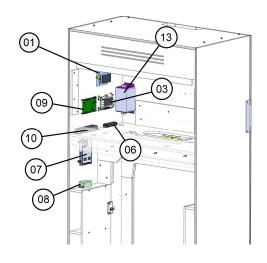


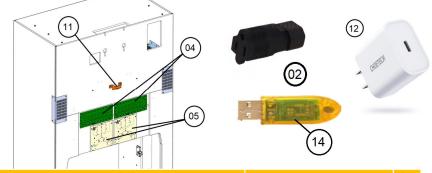






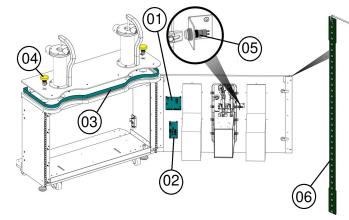
Electronics Screen Cabinet Location



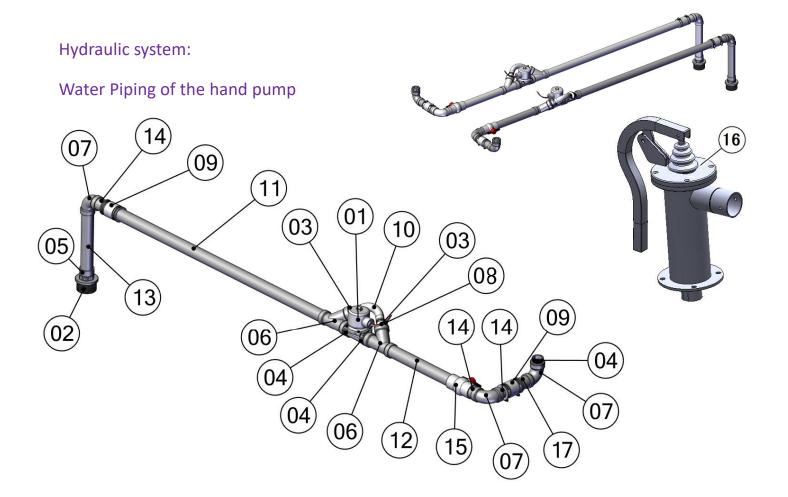


Re	f Description	Part#	Qty
1	Programmed Computer For Duck Derby	AAG-11-0040-PROG	1
2	Power Adapter, C14 to 5-15R	INV-PW-AD023	3
3	7.1 Audio Amplifier Board, Need For Speed	AAG-04-0066	1
4	Arrow & Arch Logo, Duck Derby	AAG-14-0067	2
5	Winner Logo, Duck Derby	AAG-14-0066	2
6	7-Port USB, 3.0 Hub, Type A Female USB	AAG-11-0011	1
7	Switching Power Supply 12V, 500W	AAG-13-0016	1
8	Single Phase EMC/EMI Line Filter 10 A 250VAC 50/60Hz	AAG-13-0030	1
9	Hydraulic Controller, Duck Derby V2.0 Prog	AAG-04-0097-PROG	1
10	Power Bar, 5 Outlets	INV-05-1242	1
1	Mini camera USB, 1.3 Megapixel, 2.8mm Lens	AAG-10-0001	1
13	Wall Charger, USB Type-C	AAG-13-0022	1
13	Speakers 4"	ADR-50-9986-00	2
14	Activated Dongle Yellow, Duck Derby	TF-04-1212-PROG-DD	1

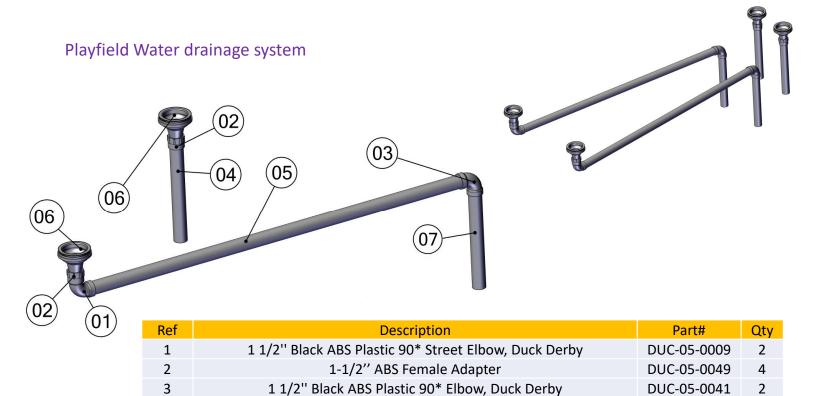
Electronics Front Cabinet Location



Ref	Description	Part#	Qty
1	Ticket and Maintenance Board, Duck Derby Prog	AAG-04-0096-PROG	1
2	RGB Led Controller Board Assembly 12V	AAG-04-0015-12RL	1
3	12V Flexible 104 RGB Led With 8" Wires	AAG-14-0064	1
4	Yellow Large Round Button With Led White Lamp	ADR-75-L012-155	2
5	Miniature Round Pushbutton, White Center	ADR-49-0577-01	1
6	RGB Strip, 25", Duck Derby	AAG-14-0062	2



Ref	Description	Part#	Qty
1	1-1/4, 12VDC Solenoid Valve With Cable & Connector, Duck Derby	DUC-05-0006-01	2
2	Suction Strainer, 1-1/4" NPT Female Connection, Duck Derby	DUC-05-0011	2
3	1-1/2" x 1-1/4" Spg x Barb ABS Bushing For Dishwasher	DUC-05-0061	4
4	1-1/2" x 1-1/4" Spg x Nut ABS Trap Adapter	DUC-05-0062	6
5	1-1/2" x 1-1/4" H x Slip joint ABS Trap Adapter	DUC-05-0063	2
6	ABS 45" Wye, 1-1/2"	DUC-05-0064	4
7	1 1/2" Black ABS Plastic 90* Elbow, Duck Derby	DUC-05-0041	6
8	Hose Clamp 3/4"	DUC-05-0045	4
9	1-1/2" x 1-1/2" CI/Plastic Flexible Coupling	DUC-05-0066	4
10	Flexible 5/8 Pipe 8" long, Duck Derby	DUC-05-0068	2
11	1 1/2" Black ABS Plastic 47"" long Pipe, Duck Derby DUC-05-0012		2
12	1 1/2" Black ABS Plastic Pipe 9 1/2""long DUC-05-0013		2
13	1 1/2" Black ABS Plastic 11" Long Pipe, Duck Derby DUC-05-0020		2
14	1 1/2" Black ABS Plastic Pipe 3" long, Duck Derby DUC-05-0021		6
15	1-1/2" PVC Compact Ball Valve White Socket DUC-05-0069		2
16	Hand Pump, Duck Derby DUC-05-0001		2
17	1 1/2" Black ABS Plastic Pipe 4" long, Duck Derby	DUC-05-0021	2



1 1/2" Black ABS Plastic Pipe 15"long

1 1/2" Black ABS Plastic Pipe 60" Long

Sink Strainer, Duck Derby

DUC-05-0073

DUC-05-0014

DUC-05-0008

DUC-05-0020

2

2

4

2



4

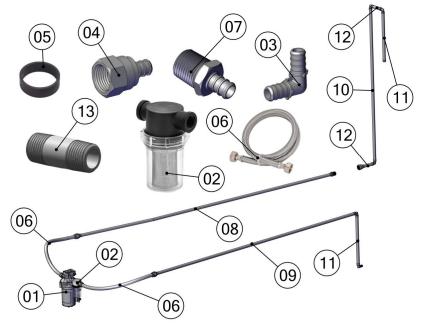
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7

Ref	Description	Part#	Qty
1	12VDC BI-DIR WATER PUMP 8.0GPM W/CONNECTOR	AAG-15-0008-MOD-01	1
2	3/4" Pex Pipe 60" long , Duck Derby	DUC-05-0056	1
3	3/4" Pex Pipe 12" long , Duck Derby	DUC-05-0057	2
4	3/4" PEX Crimp Ring, Duck Derby	DUC-05-0035	5
5	Waterline 3/4" PEX Elbows, Duck Derby	DUC-05-0036	2
6	¾" PEX x FPT Brass Adapter	DUC-05-0047	1
7	3/4 Male Elbow Adapter Polythylene	DUC-05-0048	1
8	3" Hose Pump Feeting, Duck Derby	DUC-05-0077	1
9	Drain Water Hose 60", Duck Derby	DUC-05-0076	1
10	Hose Clamp 3/4"	DUC-05-0045	3
11	Shut Off Plastic Ball Valve, Duck Derby	DUC-05-0059	1

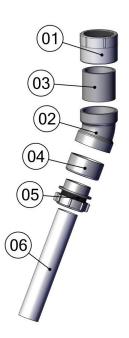
Water Play Game system



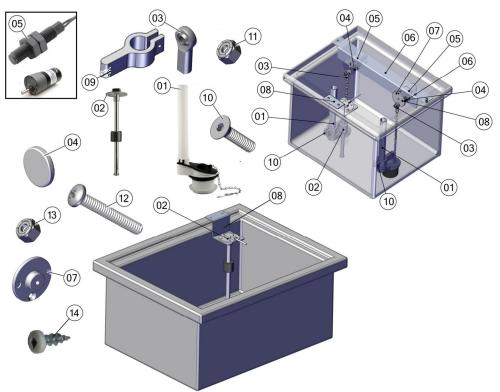
Ref	Description	Part#	Qty
1	12VDC DIAPHRAGM WATER PUMP 3.0GPM W/CONNECTOR	AAG-15-0007-MOD-01	1
2	T-Strainer Whit Clear Housing, 1/2 NPT Connection, 50 Mesh Size	DUC-05-0015	1
3	Waterline 1/2" PEX Elbows, Duck Derby	DUC-05-0028	5
4	Bow PEX and Polyalloy Female Type Faucet Adapter 1/2", Duck Derby	DUC-05-0029	1
5	1/2" PEX Crimp Ring, Duck Derby	DUC-05-0030	13
6	1/2" IPS x 12" Braided Flexible Connector Stainless Steel, Duck Derby	DUC-05-0033	2
7	1/2" PEX Plastic Male Adapter	DUC-05-0046	3
8	½" Pex Pipe 72" long , Duck Derby DUC-05-0051		1
9	½" Pex Pipe 58" long , Duck Derby	DUC-05-0052	1
10	½" Pex Pipe 36" long , Duck Derby	DUC-05-0053	1
11	½" Pex Pipe 12" long , Duck Derby DUC-05-0054		2
12	½" Pex Pipe 3" long , Duck Derby	DUC-05-0055	2
13	PVC Nipple, 1/2" x 1-1/2"	DUC-05-0010	1

PlayField Water Flushing system.

Ref	Description	Part#	Qty
1	2" Black ABS Plastic Female Adapter, Duck Derby	DUC-05-0023	2
2	2" Black ABS Plastic 22,5* Short Turn Hub Elbow, Duck Derby	DUC-05-0024	2
3	2" Black ABS Plastic Pipe 1-3/4" Long, Duck Derby	DUC-05-0025	2
4	2" to 1 1/2" Black ABS Plastic Reducer Bushing, Duck Derby	DUC-05-0026	2
5	1 1/2" Black ABS Plastic Spigot Trap Adapter Male, Duck Derby	DUC-05-0027	2
6	Steel Pipe for Flush, Duck Derby	DUC-05-0058-A	2







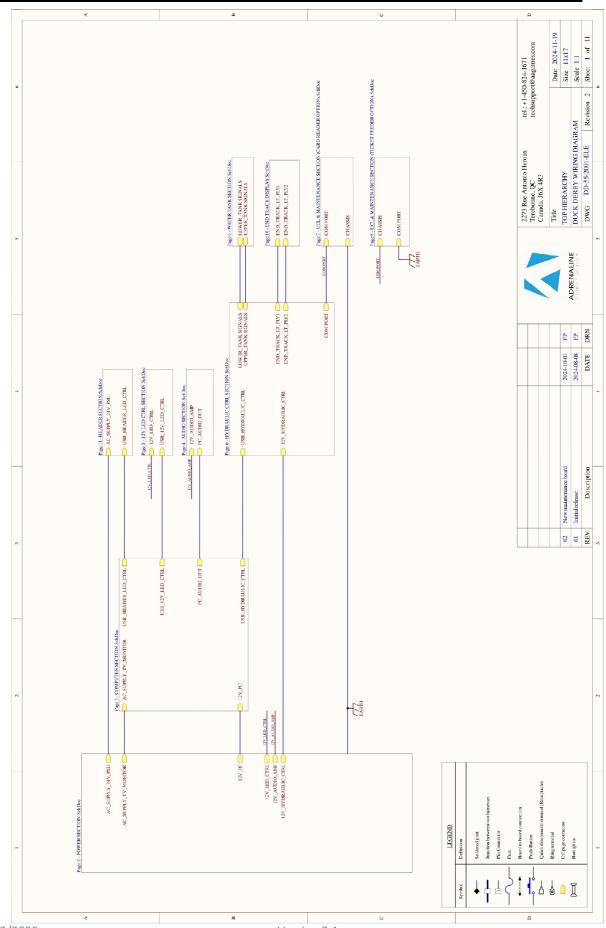
Ref	Description	Part#	Qty
1	Universal Plastic Flush Valve, Duck Derby	DUC-05-0022	2
2	LIQUID LEVEL SENSOR 11 INCH W/CONNECTOR	AAG-05-0078-MOD-01	2
3	Ball Joint Rod End, 1/4"-28 Thread with 1/8" hole	INV-60645K321-MOD	2
4	Round Magnet, 3/8" x 1/16" Thick, With Adhesive Back, Count In Pair	ADR-D61AD-P	2
5	12VDC MOTOR AND REED SW HARNESS	AAG-15-0006	2
6	Motor Flush Bracket Duck Derby	DUC-01-0036	1
7	Flush Wheel Duck Derby	DUC-01-0037	2
8	Water Level Probe Bracket, Duck Derby	DUC-01-0038	2
9	Flush Stopper Duck Derby	DUC-07-0062	2
10	Flat Head, Machine Screw, Hex Drive, Alloy Steel, Black-Oxide, 1/4-20x1" MS-HF-BS-1/4-20		2
11	Medium-Strength Steel Nylon-Insert Locknut Grade 5, Zinc-Plated, 1/4"-20 Thread Size NN-ZS-1/4x20		2
12	Pan Head, Machine Screw, Phillips, Black-Oxide, 10-24x1-1/4" MS-PP-BS-10-24X1-1/		2
13	Steel Nylon-Insert Locknut Zinc-Plated, 10-24 Thread Size NN-ZS-10		2
14	Round Head, Wood Screw, Square, White, #8x9/16"	WS-QP-WHS-N8X9/16	4

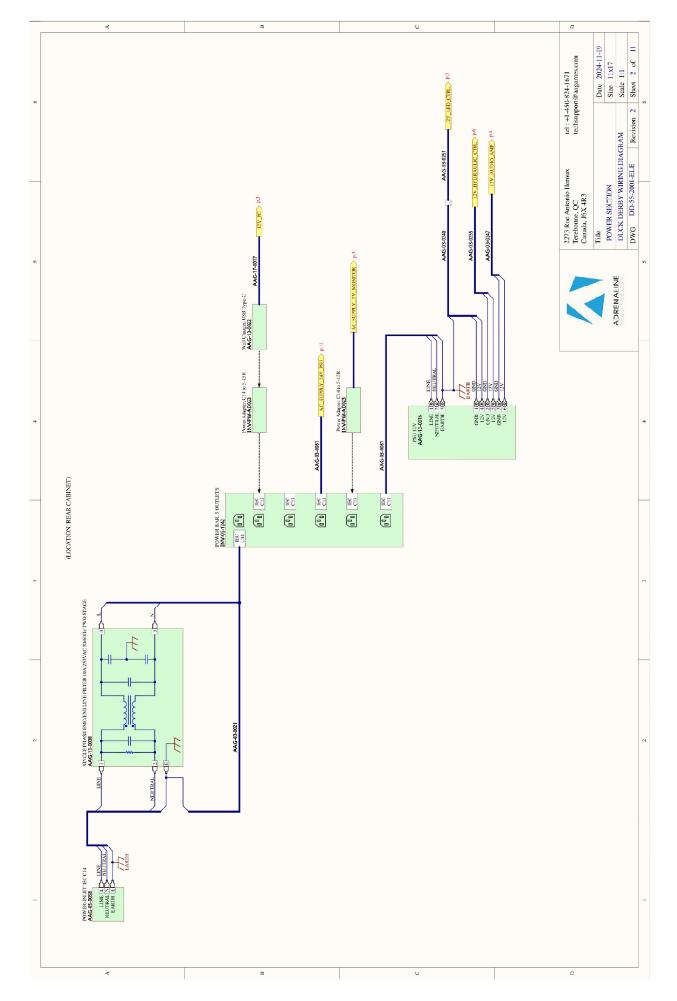
Other Mechanical parts.

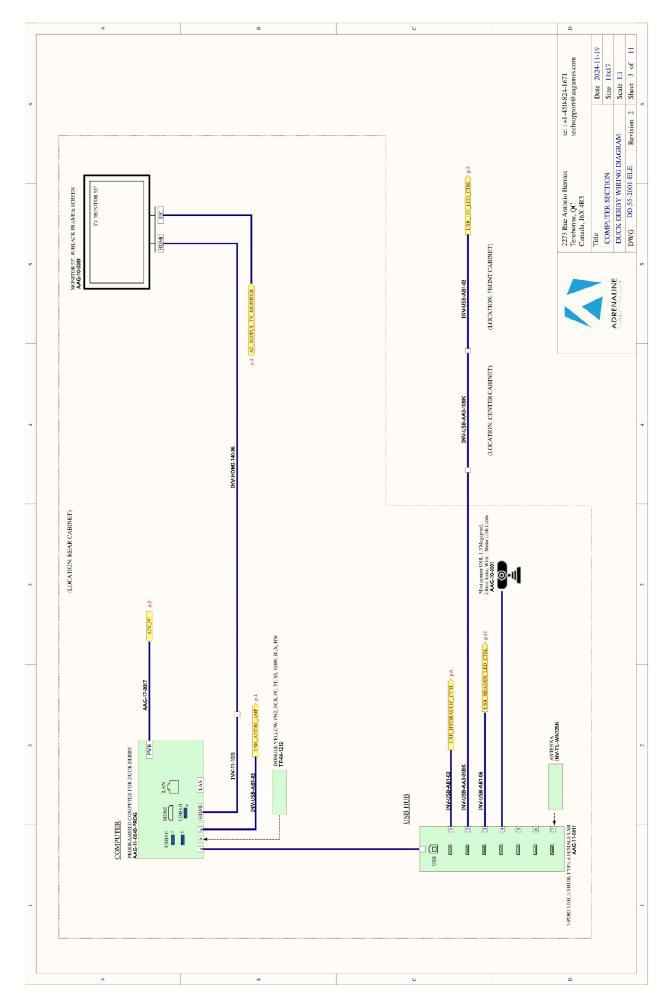


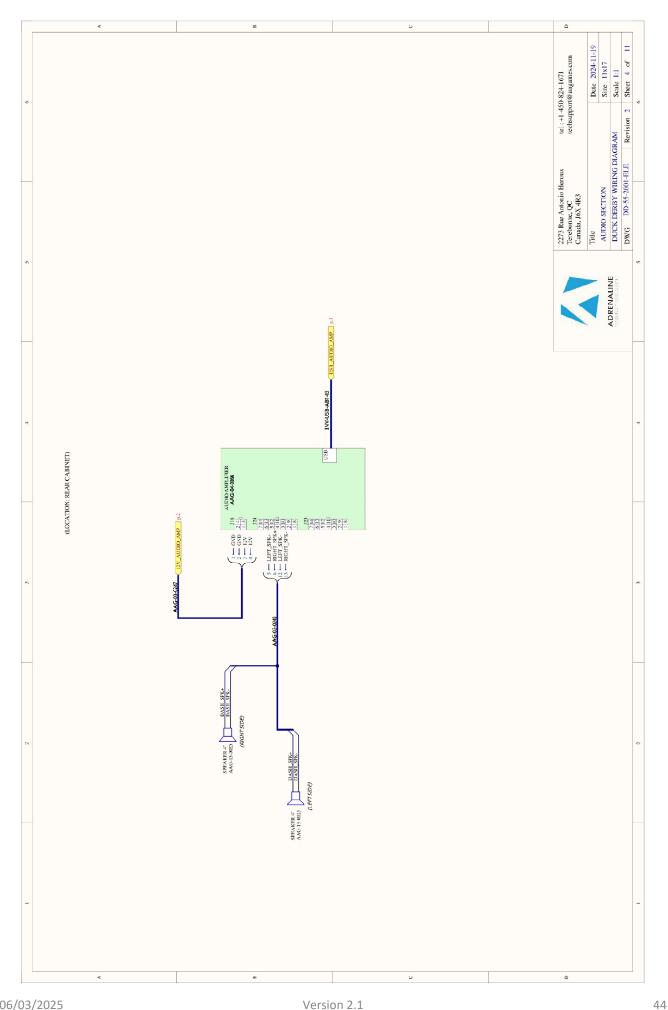
Ref	Description	Part#	Qty
1	Cam Lock for Panel Thickness up to 23mm	ADR-14-2010	4
2	General Duty Rubber Caster, 2-1/2"	INV-F25083	16
3	Leveling Mount, 1/2-13 x 4 Thread, 2-3/8" Base Diameter	INV-62805K-39	10
4	Glass Sliding Door Locking	AAG-05-0079	2
5	5 Male R2/R5 Concealed Butt-Joint Panel Fastening Latches INV-R5-00		8
6	Female R2/R5 Concealed Butt-Joint Panel Fastening Latches	INV-R5-0079-07	8

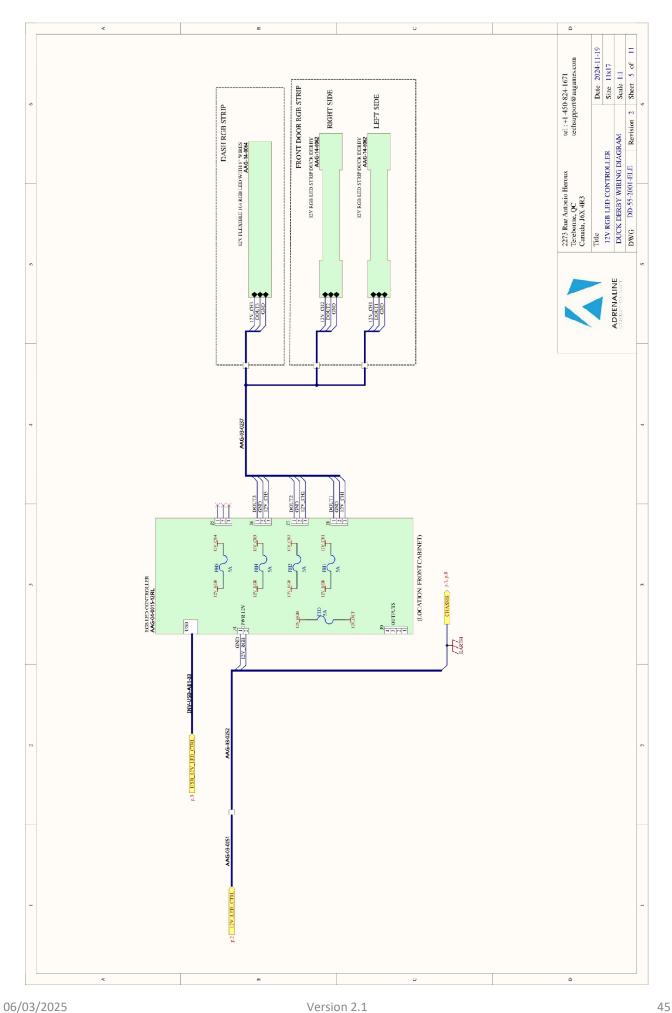
Chapter 07 – Diagrams & Schematics

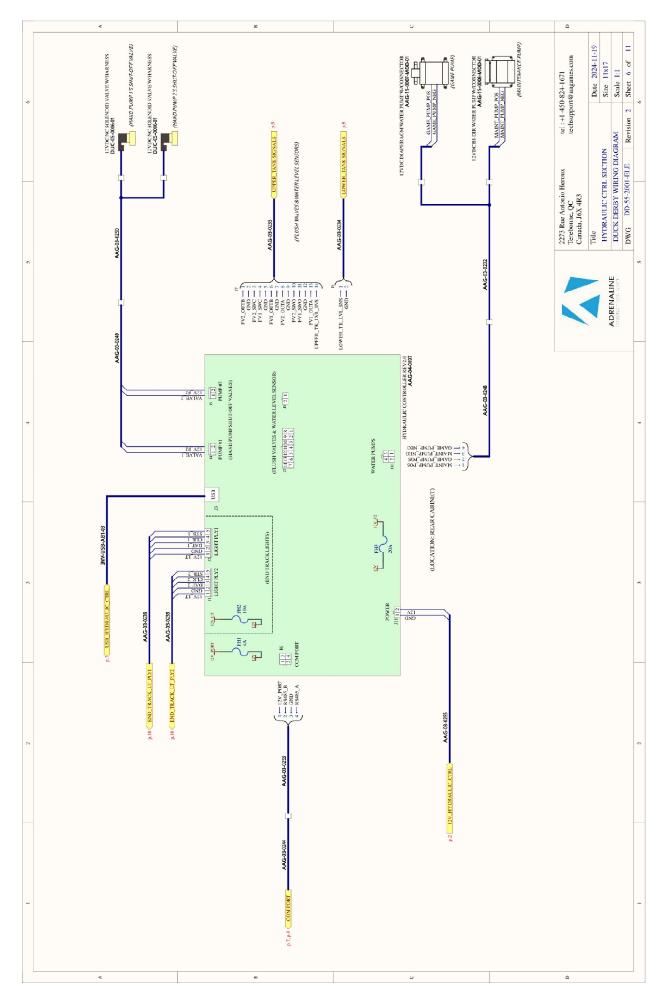


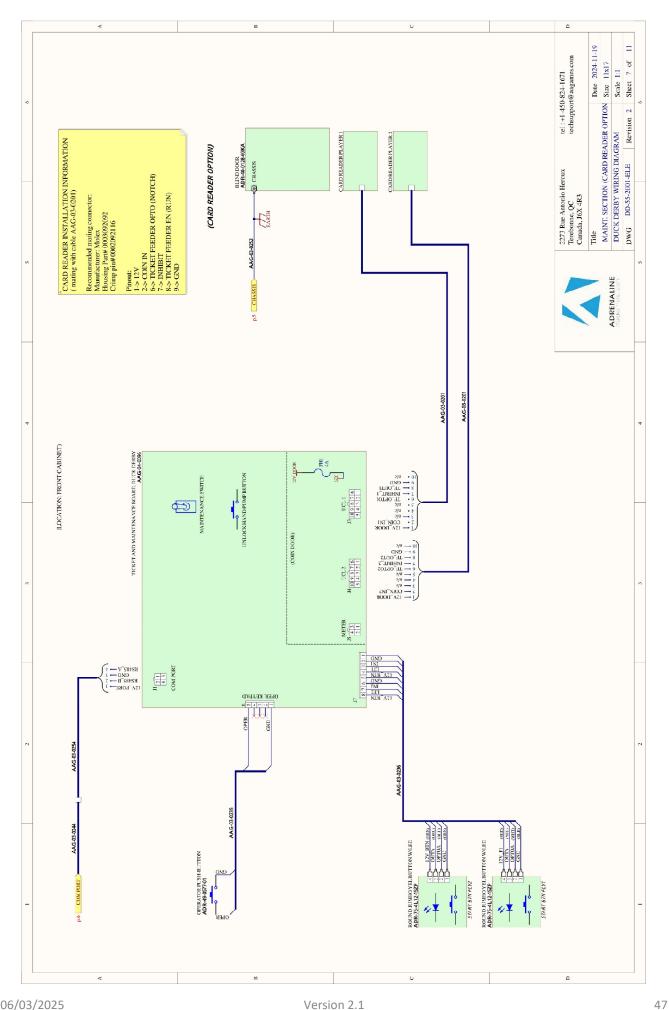


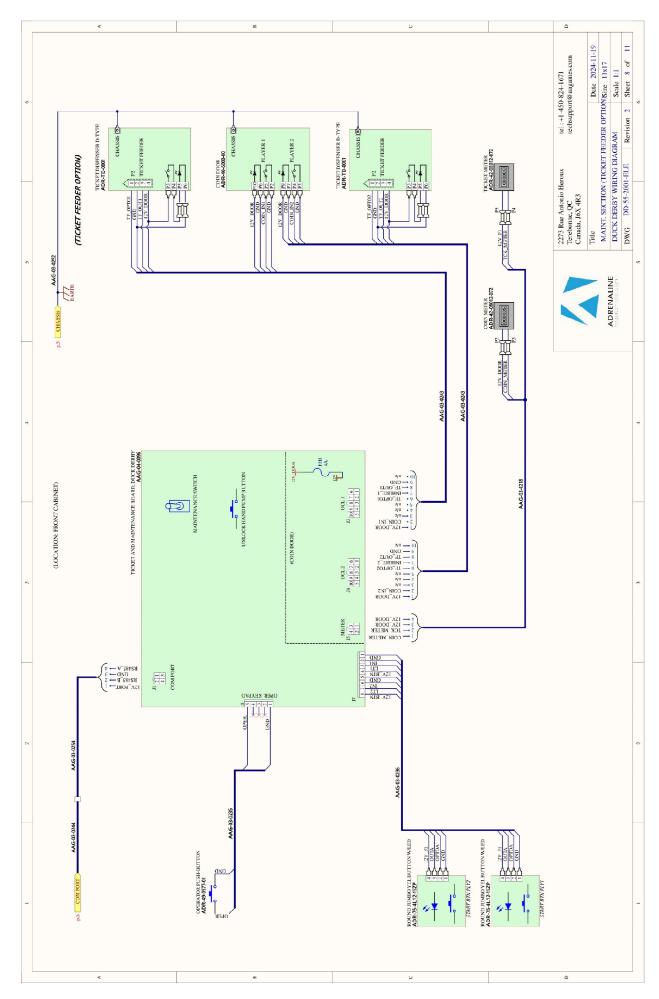


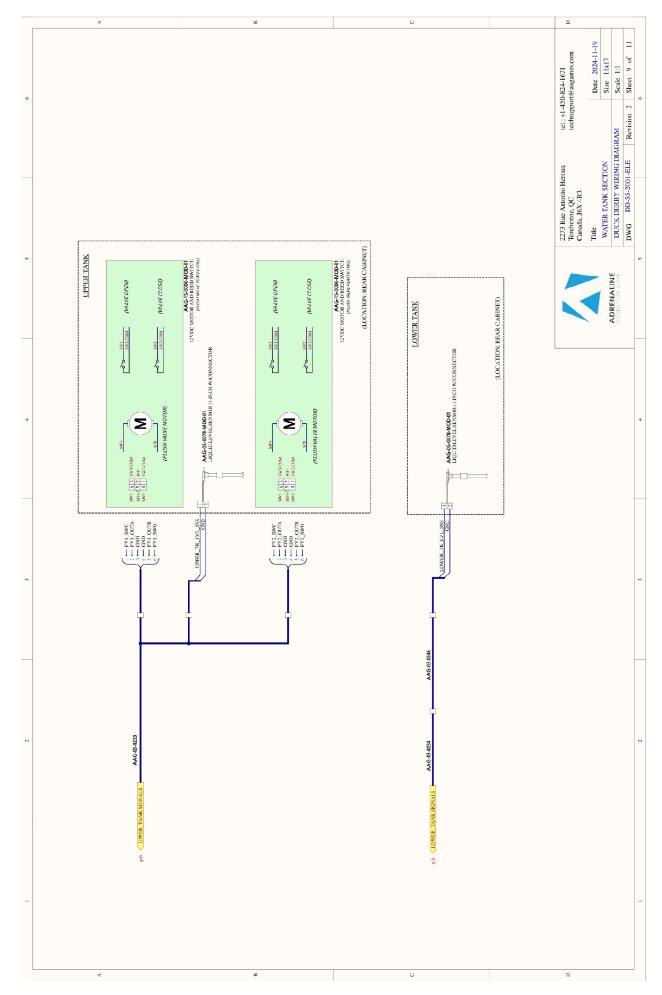


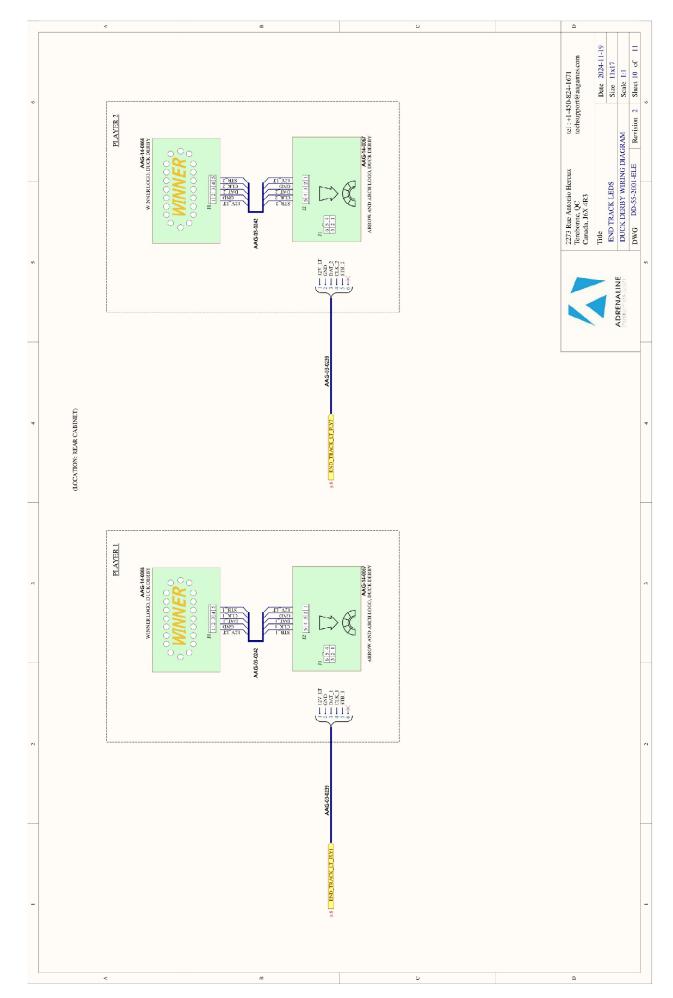


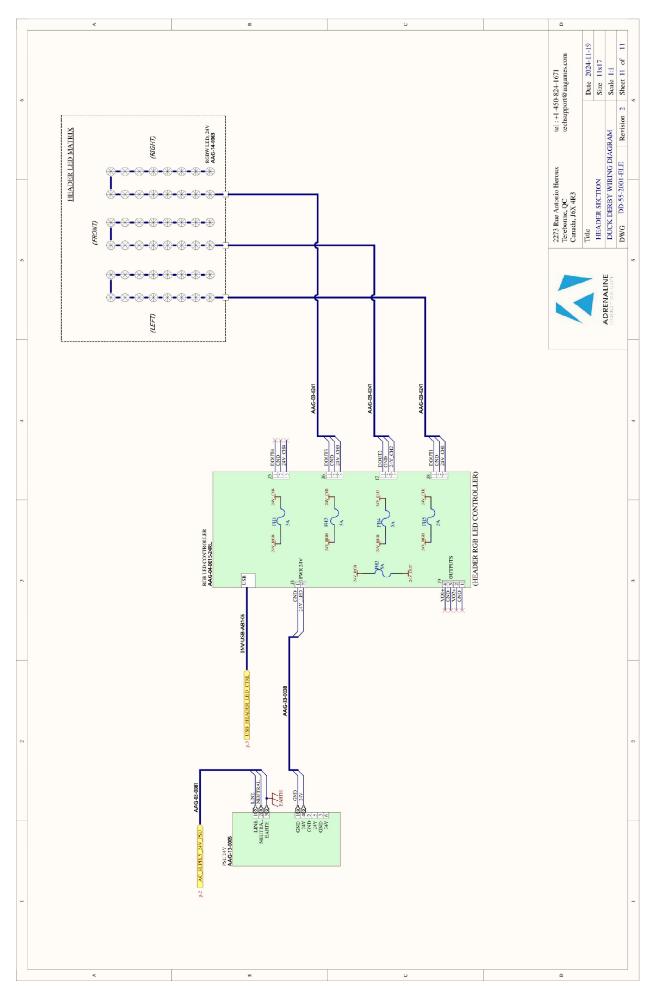












Chapter 08 – Software Recovery

If your unit software needs to be restored, please follow those instructions.

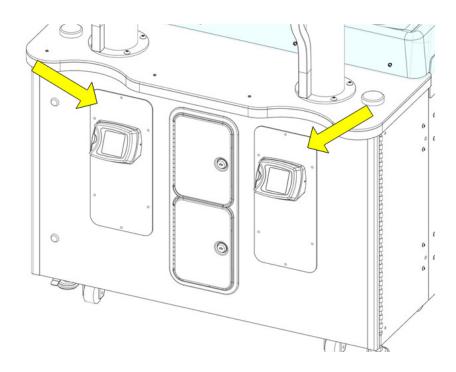
- -Connect a USB keyboard to the motherboard.
- -Connect the provided USB Recovery flash disk is in a <u>Black</u> USB port.
- -Power on the unit and press F11 on the keyboard to display the boot menu.
- -Choose the <u>UEFI: USB device ~16GB</u>

The process takes 25-30 minutes, and the unit will reboot back in the game at the end. The Wireless credentials will need to be re-entered and Operator settings will be back at the default ones.

Chapter 09 – Card Reader

9.1 Card Reader position

Remove panel and install the card reader on the right and left metal plates.



9.2 Embed system configuration

If you are using an Embed system, you need to connect your harnesses to Duck Derby maintenance board & harnesses. You should refer to the embed instructions for wiring pin-out.

Embed settings:

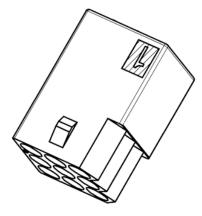
-Ticket Mech Type: Dumb DC
-Drive Polarity: Positive
-Notch Polarity: Negative
-Game ticket notch width: 6 (60ms)
-Game ticket notch spacing: 24 (240ms)

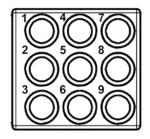
-Game Drive Threshold: 15 (1.5V or 1500mV)

-Drive Debounce: 40ms

9.3 Wire connection

The following figure shows the wire entry side of the UCL connector present on harness AAG-03-0201.





Wire entry side (Cable AAG-03-0201)



Mating connector		
Manufacturer Molex		
Housing part#	3092092	
Crimp pin part#	2092116	

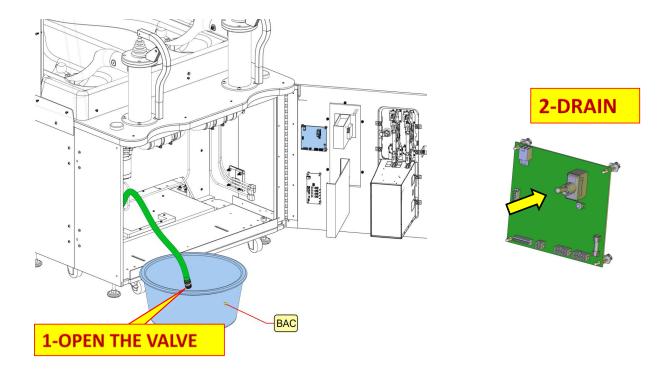
Chapter 10 – Maintenance

10.1 Maintenance schedule

Description	Maintenance Frequency	Procedure
Water replacement Montly		 Drain the machine with the maintenance hose present in the front cabinet (refer to section 10.2 "Draining the machine") Fill the machine with fresh water. (refer to section 4.10 "Filling the machine with water")
Cleaning the upper tank pump's filter	Montly	Refer to section 10.3 "Cleaning the game pump filter"
Cleaning water tanks	6 months	Avoid using soap-based products. Use C.L.R. (calcium, Lime and rust remover) or equivalent product.
Cleaning tracks	6 months	Avoid using soap-based products. Use C.L.R. (calcium, Lime and rust remover) or equivalent product.

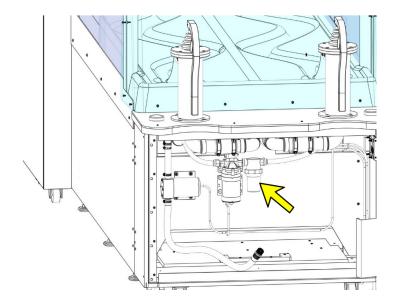
10.2 Draining the machine

- 10.2.1 Open the valve at the end of the hose and put it in the bucket.
- 10.2.2 Set the maintenance switch to 'DRAIN' position.
- 10.2.3 Follow the on-screen instruction.
- 10.2.4 You can suspend the draining process by flipping the maintenance switch to **"GAME MODE"**.
- 10.2.5 Repeat step **10.2.2** to **10.2.4** until the draining process is completed.



10.3 Cleaning the game pump filter

- 10.3.1 Before doing the maintenance, unplugged the pump to ensure safety.
- 10.3.2 Locate the pump's filter and place a bucket under it to catch water when removing the filter.



- 10.3.2 Unscrew the cap of the filter.
- 10.3.3 Remove the filter and inspect for any visible damage, such as crack or tears. If the filter is damaged, it may need to be replaced.
- 10.3.4 Use water to rinse off any debris or dirt from the filter.
- 10.3.5 For stubborn debris, use a soft brush (like a toothbrush) to gently scrub the filter. Avoid using harsh brushes that could damage the material of the filter.
- 10.3.6 If the filter is very dirty, you can use a mild detergent diluted with water. Scrub the filter gently with the brush or cloth, and rinse thoroughly afterward to remove any soap residue.
- 10.3.7 Once the filter is clean and dry, reinstall it back into the pump system, ensuring it fits securely.
- 10.3.8 Reconnect the pump.

Chapter 11 – Troubleshooting

* NOTE: When requesting a warranty replacement, you will be asked to give the unit's serial number from the back of the unit.

Video troubles	Cause	Solution
No picture or display problem	· Faulty connections	 Verify connections between the monitor and the computer. Make sure the HDMI cable is properly connected to the computer. (see section 4.2.5)
	· Computer not powered	· Verify in the rear cabinet that the computer is powered.

Audio troubles	Cause	Solution
Low Volume / no sound	· Audio settings	· Increase the volume in the game by pressing the Operator Button and adjusting the volume options in the Operator Menu. You might also Quit the game to Windows desktop and increase the volume via the Speaker icon on the bottom right of your screen.
	· Amplifier connections	 Verify the USB connection between the computer and the audio amplifier.

Computer troubles	Cause	Solution	
Computer not powering at boot			
Game is not running smootly and shows some delay.	· BIOS corruption	· Refer to "Annex D: BIOS configuration"	

Hydraulic troubles	Cause	Solution
The hand pump is	Colonalida plania anak	Make sure the electrical connection is properly made between the rear cabinet and the middle cabinet. (see section 4.5.3)
and no water is coming out.		 Make sure cables for valves #1 and #2 are connected to the correct positions on the hydraulic controller. (see connectors labeled "HAND PUMPS SHUT-OFF VALVES" on the hydraulic controller in the rear cabinet)
Hand pump becomes unprimed over time. (The pump is easy to	· Presence of debris in the	· If the pump were not primed: refer to section 4.11 "Priming the hand pump".
operate and little or no water comes out.)	hand's pump check valve.	· If the pump becomes unprimed over time: Inspect its check valve and see if anything is preventing it from closing. (refer to "Annex A: Hand pump's check valve")
The rubber duck get stuck at the end of the track.	· The transparent plastic pipe may not be properly installed.	· Refer to section 4.5.5 "Chrome tube and plastic port installation".
		a) Verify that the length of the flush valve chain doesn't exceed 9".(refer to Annex B "Flush valve's chain)
The water flush doesn't return the	· The flush valve might not open wide enough.	 b) Verify that the flush valve's flapper opens properly. Press operator button. Go to menu "Diagnostics\Pump Test" (see section 5.5.3) Press the corresponding "flush button" Verify the behavior of the flapper in the upper tank. The flapper should reach the stopper once it is open.
duck to the starting line.		c) Verify the level of the machine.
	· The plastic port is not installed.	· Refer to section 4.5.5 "Chrome tube and plastic port installation"
	The center and rear cabinets are not properly latched.	· Refer to section 4.5 "Attach center cabinet to rear cabinet".
	· One of the flush valves might be partially open.	Check that no water is coming out from the flush valves while the system is not doing a flush. · Verify flush chain length (refer to "Annex B: Flush valve's adjustment").
Upper tank filling trouble	· The upper tank's water level sensor is defective, or its float is not moving.	Verify that the upper tank's water level sensor is operational. • Press the operator button. • Go to Diagnostic menu. • Move the float up and down. The level will be displayed in real-time on the screen. • Please contact adrenaline support if the level didn't change while moving the float.
	· The water line connector might be disconnected.	Verify the water line junction in the rear cabinet. (see section 4.5.4)

Error code	Description	Solution
3	12V Game Pump not connected.	The game pump is located in the front part of the central cabinet. · Verify connection in the rear cabinet (see section 4.5.3) · Verify that its connector is plugged.
5, 7	Maintenance pump fault	Toggle the maintenance switch to reset the trouble. If the problem persists, contact Adrenaline supports.
6	12V Maintenance Pump not connected.	The maintenance pump is in the front part of the central cabinet. · Verify that its connector is plugged. · Verify electrical connection in the rear cabinet (see section 4.5.3)
8	Upper tank water level sensor not connected	Remove the upper back panel. Verify that level sensor of the upper tank is connected.
9	Lower tank water level sensor not connected	· Verify connection in the rear cabinet (see section 4.5.3)
10	Not enough water in the machine	It is important to add water via the maintenance mode. This way the system can monitor and add the required amount of water without exceeding the limits. (see section 4.10 "Filling the machine")
12	Too much water in the machine	Refer to section 10.2 "Draining the machine".
13, 14, 15, 16	Flush valve reed switch trouble	The reed switches are mounted on a bracket over the upper tank. · Verify that the flush wheel is still mounted on the motor shaft. (see chapter 6: Top & Bottom water tanks) · Verify that sensors are connected to the hydraulic controller in the rear cabinet.
17	Maintenance board fail-to- communicate	Open the front door and verify the led present on the maintenance board. If status led is off, verify electrical connections in rear cabinet (see section 4.5.3) and front cabinet (see section 4.6.3) For all other cases please contact adrenaline support.
19	Camera not found	Verify in the rear cabinet that the camera's usb cable is plugged in the usb HUB.
20-21	Camera didn't detect duck on track #1 or 2	 Place a duck on track #1 & 2 and press the operator button to clear the trouble. If Duck is present on the track but not detected. Verify the support of the camera is properly installed. (Refer to Annex C "camera installation") Make sure the ceiling lights are turned on white, otherwise, the camera will not be able to do the detection. Validate the image video of the camera. (Refer to section 5.5.5 "Camera Test") If the problem persist, contact Adrenaline support.
22	Camera unable to get frame	Reboot the machine. If the problem persists, contact adrenaline support.
23	Dongle not detected	Verify if the dongle is plugged on the USB Hub in the rear cabinet.

Error code	Description	Solution
24	Hydraulic controller not detected	 Verify the USB connection on the hydraulic controller. Verify that the status led is flashing on the hydraulic controller. For all other cases please contact adrenaline support.
25	Led controller not detected	The led controller is located behind the front door. · Verify electrical connection in the front cabinet. (see section 4.6.3) · Verify electrical connection in the rear cabinet. (see section 4.5.3)
27	Upper tank filling problem detected	· Refer to hydraulic troubleshooting table.
31	Failed to return ducks to start point	If Duck are in place, but not detected by the camera: · Ensure ceiling lights are turned on white at the end of the game. · Validate real-time camera video footage. (refer to section 5.5.5 "Camera Test") If Duck are not returned in place: · Refer to hydraulic troubleshooting table.
33	Machine ID already in use	 Press operator button. Go to menu "Settings" (see section 5.1). Change the "Machine ID".

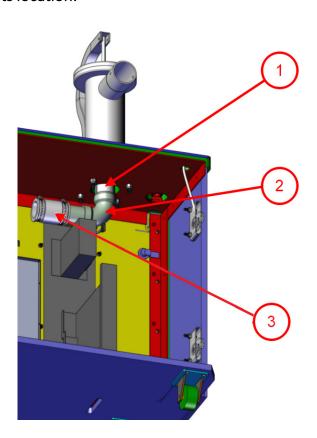
Annex A – Hand pump's check valve

The hand pump may become unprimed if debris is caught in the check valve. This section explain how to inspect the check valve.

Steps to remove the check valve for inspection:

- 1. Place a container under the flexible joint to collect water during disassembly.
- 2. Detach the flexible coupling from the 90' ABS elbow.
- 3. Detach the 90' ABS elbow from the bottom of the hand pump (check valve).
- 4. Unscrew the pump's check valve from the pump base.

Parts location:



Item	Desc
1	Check valve
2	90' ABS elbow
3	Flexible joint

Hand pump's check valve:



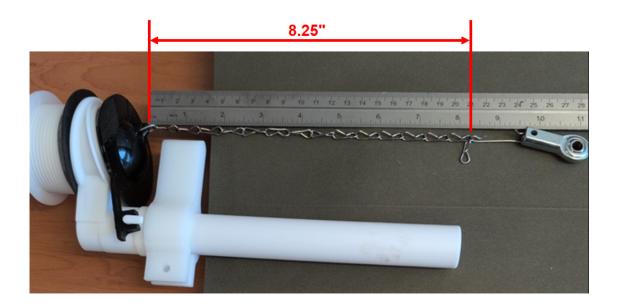
5. Push on the piston and check that nothing is interfering with the gland and wall.



6. Put Teflon on the threads of the valve before replacing it.

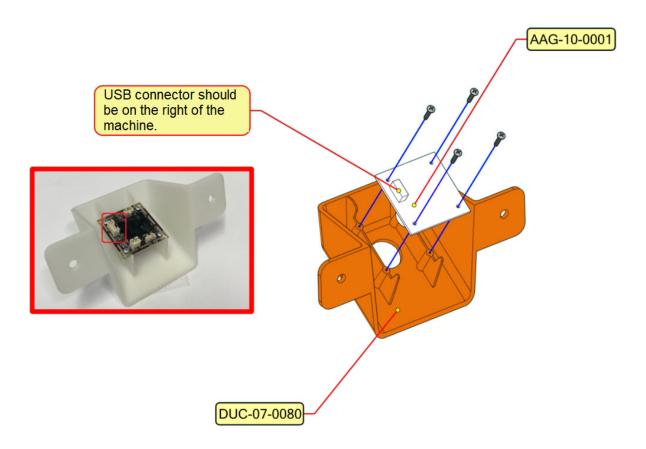
Annex B - Flush valve's chain

The length of the chain should be approximately 8.25 inches. If the chain is too short, it may prematurely damage the flapper. And if it is too long, the valve may not open wide enough and retain the amount of water.

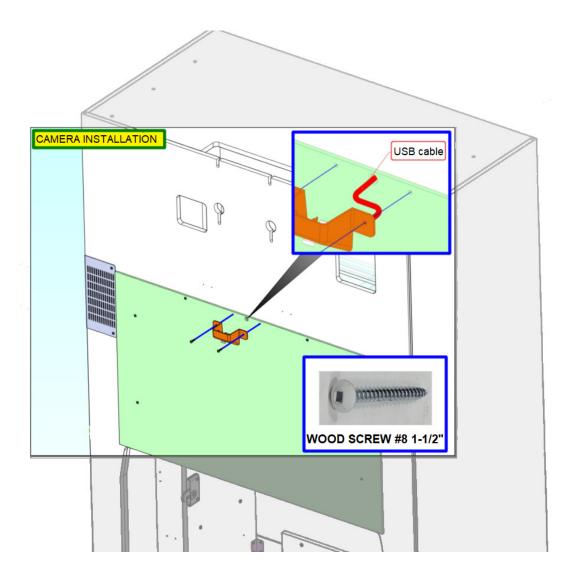


Annex C - Camera installation

1. The following figure shows a how to install the camera in its holder. Install the 4x screws and make sure the board is secure on the holder.



- 2. Install the camera on the front of the rear cabinet.
- 3. Make sure the holder is flat on the board. This way the camera should see the start and finish lines.
- 4. Confirm the image seen by the camera. (Refer to section 5.5.5 "Camera Test")

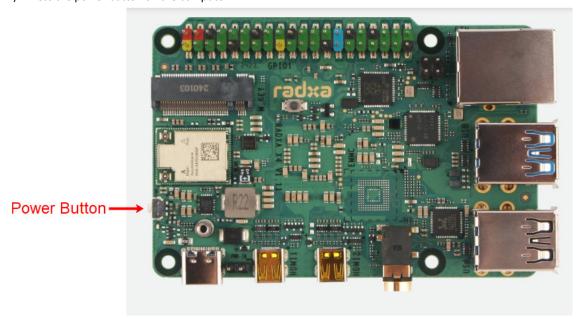


Annex D – Bios Configuration

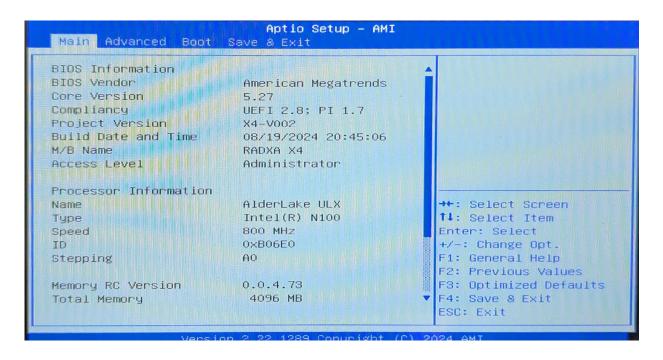
The computer doesn't restore on AC power loss

Verify the Bios settings:

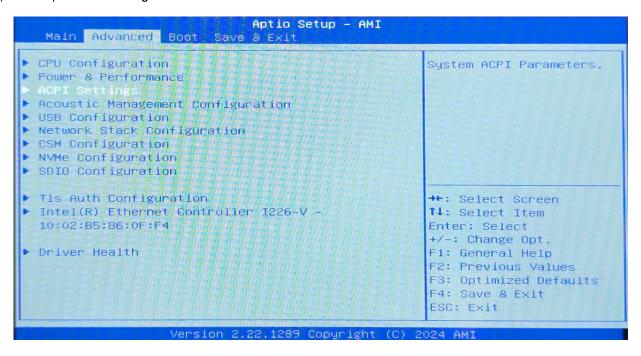
- 1) Unplug the computer power.
- 2) Plug a USB keyboard and a USB mouse.
- 3) Plug back in the computer power.
- 4) Press the power button on the computer.



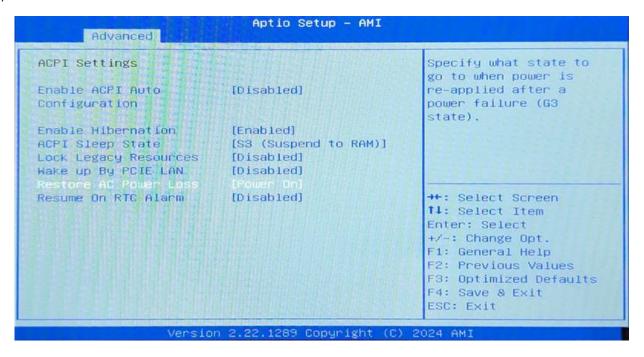
- 5) Press and hold "Delete" on the keyboard.
- 6) Wait few second till the BIOS menu is displayed.



- 7) Press the "left arrow" and goto to "Advanced" Thumbnail.
- 8) Select option "ACPI Settings"



9) Select "Restore AC Power Loss" and set it to "Power On".

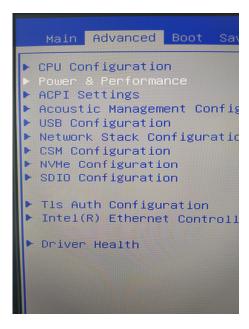


10) Press F4 to "Save & Exit" the bios settings.

Game is not running smoothly

Verify the Bios settings:

- 1) Unplug the computer power.
- 2) Plug a USB keyboard and a USB mouse.
- 3) Plug back in the computer power.
- 4) Press and hold "Delete"
- 5) Press and hold "Detete" on the keyboard.
- 6) Go to "Advanced" menu and select "power and performance".

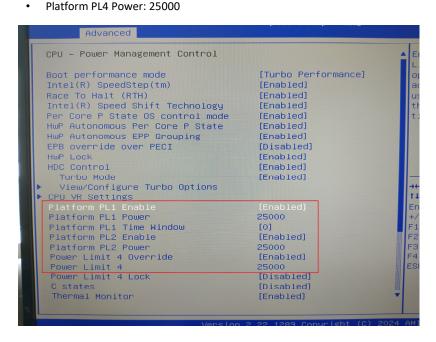


5) Select "CPU - Power Management Control".



6) Verify the following settings:

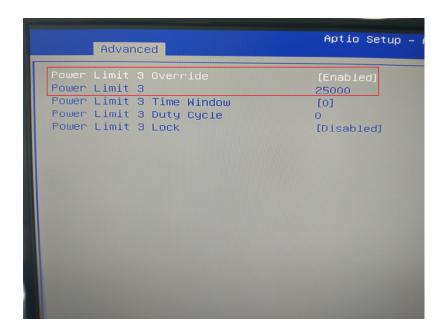
Platform PL1 Enable: [Enabled]
 Platform PL1 Power: 25000
 Platform PL2 Enable: [Enabled]
 Platform PL2 Power: 25000
 Platform PL4 Enable: [Enabled]



7) Scroll down until you find "Power Limit 3 Settings".



- 8) Press "Enter" on the keyboard.
- 9) Verify the following settings:
 - Platform PL3 Enable: [Enabled]
 - Platform PL3 Power: 25000



10) Press **F4** to "Save & Exit" the bios settings.

Limited Warranty Policies

<u>Customers must provide the unit serial number when claiming any warranty request.</u>

Adrenaline Amusements (AAGames) warrants this Arcade unit (Including accessories) against defects in material or workmanship as follows:

Electronic parts are subject to a 1-year warranty against manufacturing defect, all other parts are subject to a 3-month warranty against manufacturing defect.

We offer an advanced replacement program; the customer has 30 days from delivery date to return the defective parts at their fee or they will be charged automatically for the replacement parts. Parts will be shipped using standard service.

Improper servicing or abuse will VOID existing warranties.

All warranty request needs to be validated with our technical support department.

After the 1-year warranty, Adrenaline Amusements offers repairs & sales services options.

Please contact the technical support department for informations.

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