



MotoGP™ VR Arcade Game
Setup and Operation
Service Manual

Revision MGPVR-1.2-5.18



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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)

MotoGP™ VR Service Manual

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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 unit 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

Extremely high voltages exist in the monitor at all times. These high voltages exist even when the monitor is off and the AC line cord is disconnected. These voltages are extremely lethal and will cause death. The monitor contains no user serviceable parts. Do not attempt to service the monitor.

POWER SELECTOR

Before installing game, ensure the voltage on the PC is set properly. There is a 115/230 VAC selector switch that must be set for the correct voltage for your site. Verify the fluorescent lamp rating. The rating must match the line voltage at the installation site.

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.

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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.

Do not turn the PC power switch on or off. It should remain permanently in the ON position.

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.

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.

WATER JETS

Do not install or operate game within operating perimeter of a water jet. Do not clean equipment using water jet.

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 physician 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.



Product Specifications

Electrical Power

United States, Canada (ETL)

Voltage: 120VAC, 60 Hz

Operating AC Current: 6 Amps

International (CE)

Voltage: 230VAC, 50/60 Hz

Operating AC Current: 3 Amps

Temperature

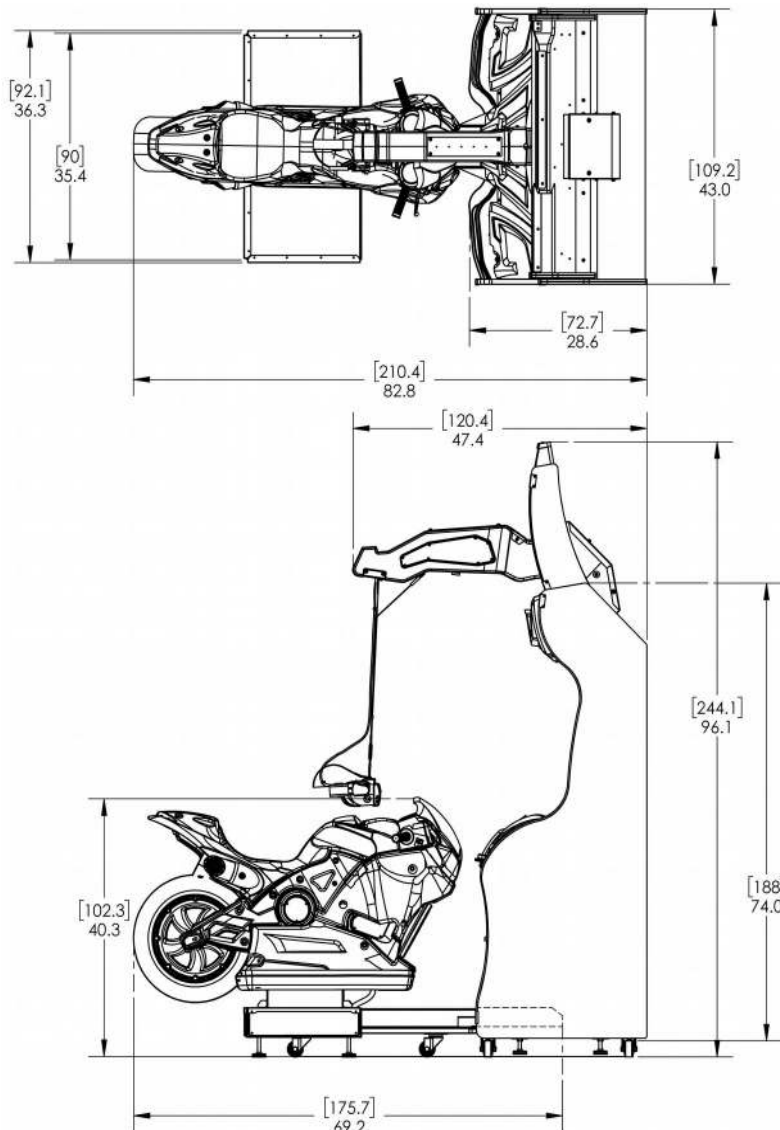
32° to 100° Fahrenheit (0° to 38° Celsius)

Humidity

Must not exceed 95% relative humidity

Cabinet Dimensions

Component	Height	Width	Depth
Assembled	96.1" (244.1 cm)	43" (109.2 cm)	82.8" (210.4 cm)
Motorcycle Base	40.3" (102.3 cm)	35.4" (90 cm)	69.2" (175.7 cm)
Main Cabinet	74" (188 cm)	43" (109.2 cm)	28.6" (72.7 cm)



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)
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Setup

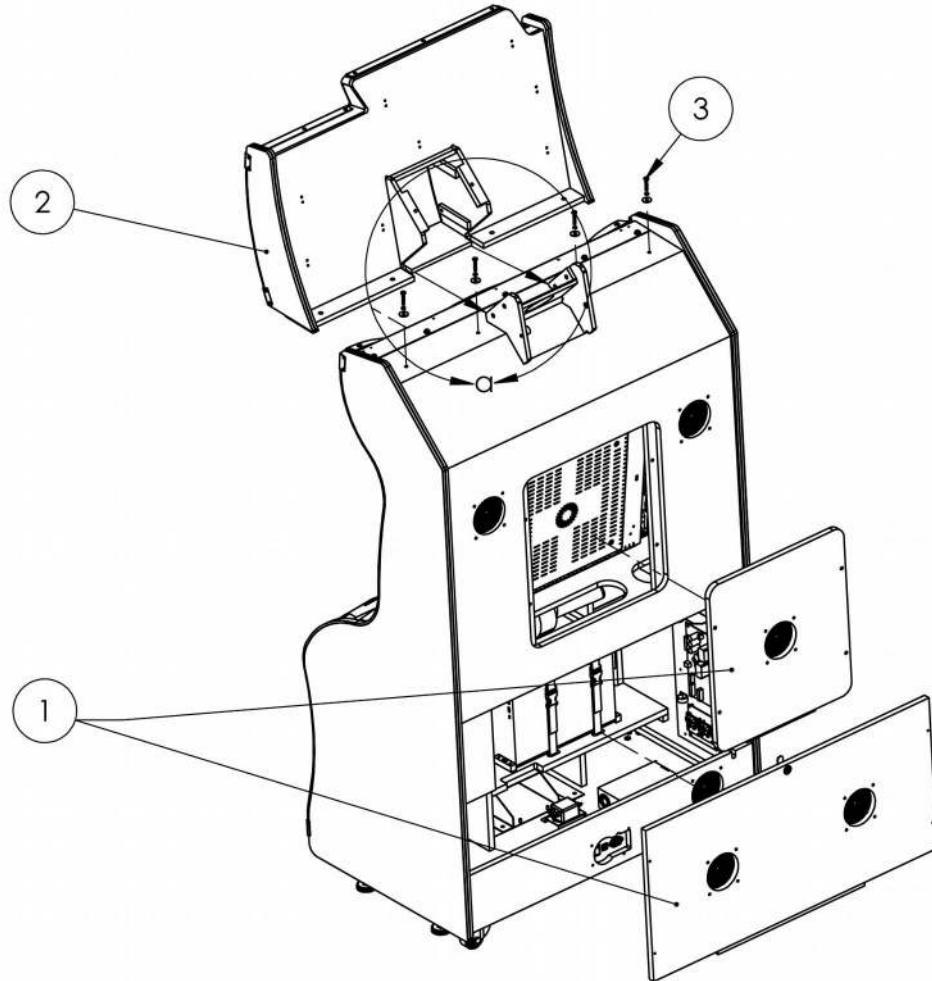
Unpack Carton

1. Unpack all cartons and locate cabinet components
 - Main Cabinet assembly
 - Motorcycle Base assembly
 - Marquee assembly
 - VR Arm assembly



Attach Marquee Assembly

1. Remove upper and lower back doors.
2. Set the Marquee on top of Main Cabinet; slide the Marquee tongue under retainer on Main Cabinet until it matches up with mating surface.
3. Secure Marquee with four 1.5" screws and washers.



Slide the tongue of the marquee under the retaining feature on the main cabinet to hold the marquee in place before the mounting screws are secured.

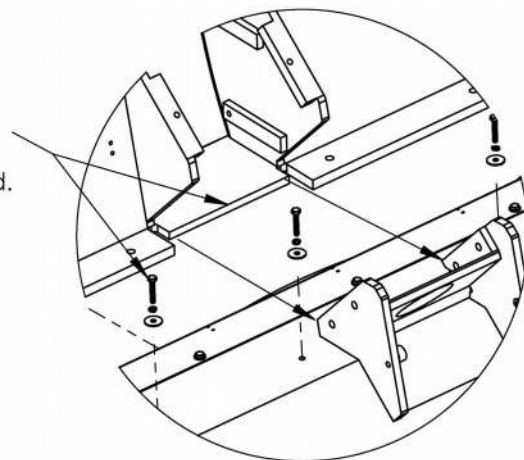


figure "a"

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Attach VR Arm

***Note:** If the VR Arm is pre-assembled in the Marquee, skip steps 4 and 5.

4) Feed the VR Arm cables through the opening in the Marquee cabinet and push the sheet metal "tunnel" bracket of the VR Arm assembly into the tunnel.

5) Once the Arm assembly is fully seated in position, install the supplied 1 1/2" screws with fender and lock washers into the holes inside the tunnel bracket to secure the front side of the arm assembly (figure "b").

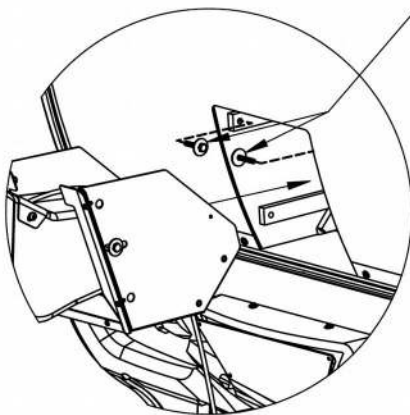


figure "b"

6) Install the (4) 1 1/2" screws and washers into the holes on the outside of the tunnel, on the back side of the marquee to secure the arm assembly (figure "c").

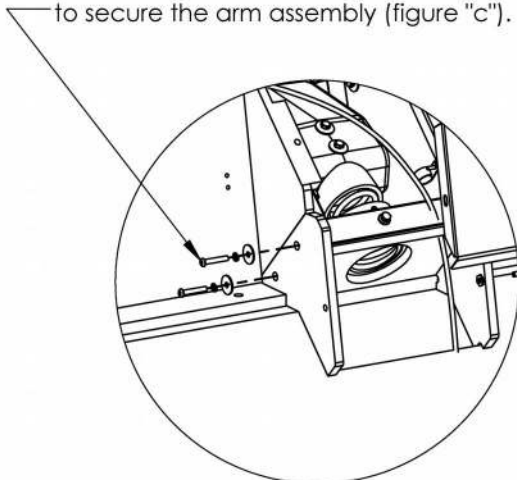
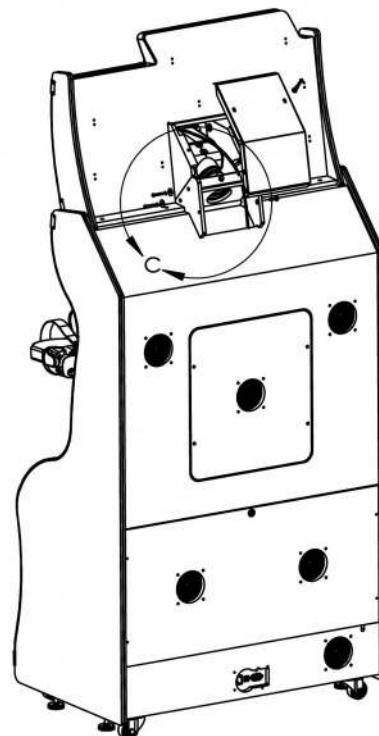
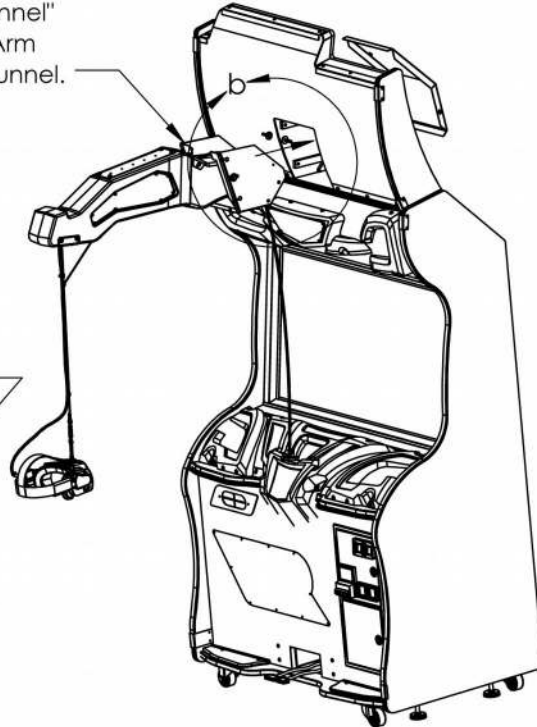
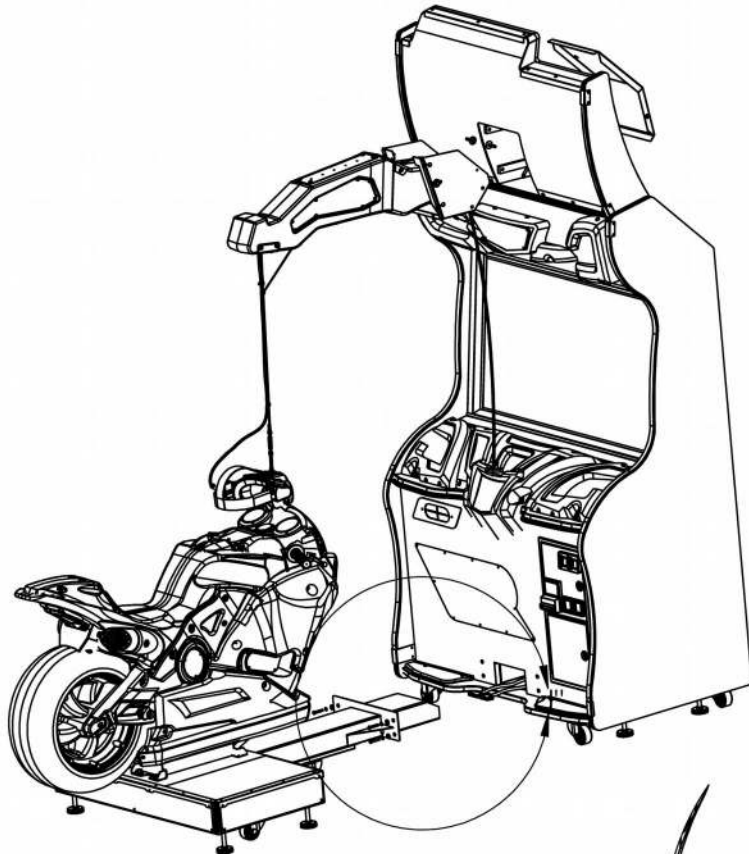


figure "c"

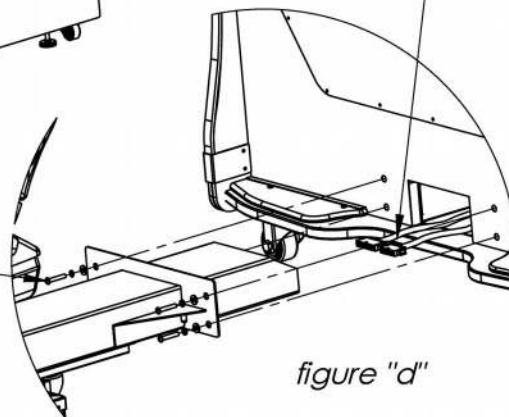


Attach Motorcycle Base



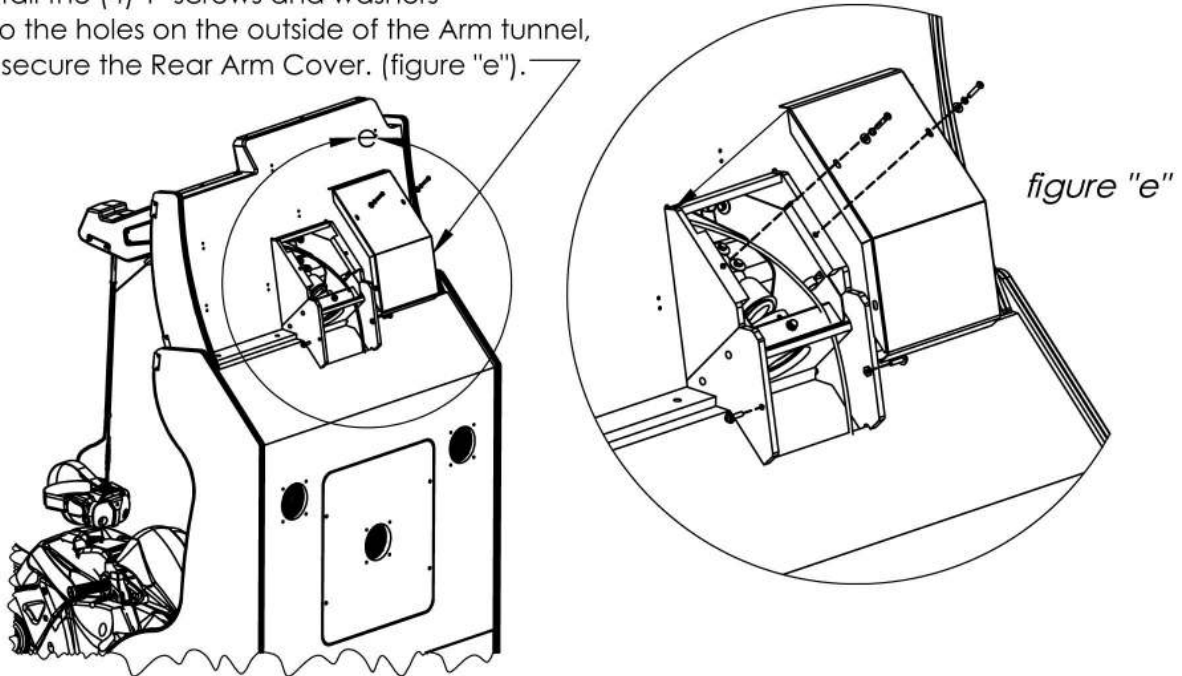
7) Connect all cables between the Bike base and the Main cabinet. Push the T-base into the tunnel until the T-base plate is flush with the front of the cabinet.

8) Install the (4) 1 1/2" screws and washers into the holes on the outside of the Bike tunnel, to secure the Bike assembly (figure "d").



Make Final Connections

9) Make all internal electrical connections with Arm. Replace the Rear Arm Cover Bracket. Install the (4) 1" screws and washers into the holes on the outside of the Arm tunnel, to secure the Rear Arm Cover. (figure "e").



Verify Cabinet Functionality

1. Verify the voltage in the nearest AC outlet.
2. Verify the AC outlet ground connection is present and working.
3. Open the back door of the cabinet.
4. Near the AC power transformer, verify the voltage selector switch is set for the correct AC voltage.
5. Plug the line cord into the AC outlet.
6. Replace the back door.
7. Turn the power switch to ON.
8. Verify that the cooling fans on the cabinet are working.
If not, turn off AC power and disconnect line cord. Contact Betson service
9. Check that no component is excessively hot or emitting foul odors.
If so, turn off AC power and disconnect line cord. Contact Betson service.
10. Once software loads, you will be asked to setup the cabinet software.
11. Follow instructions to calibrate the motorcycle and VR headset.

Verify Input and Output Functionality

1. Enter the INPUT TESTS menu and verify all switches and inputs function.
2. Enter the VIDEO TESTS menu and verify that video is acceptable.
3. Enter the COIN METER TEST and verify the operation of the coin meter.
4. Enter the LAMP TESTS menu and verify that the lamps of the buttons work correctly.
5. Enter the BLOWER TEST menu and verify the blower is functioning.
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 Section.

PC Connection Guide



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 cabinet power switch.

Flash Drive Restore

1. Turn AC power switch to OFF.
2. Connect USB flash drive to an open USB port on the PC.
3. Turn AC power switch 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 cabinet power switch to OFF and disconnect USB flash drive.
7. After 30 seconds, turn cabinet power switch ON.
8. After game restarts, the game will proceed through the Setup wizard with factory defaults.



Troubleshooting

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

General Troubleshooting

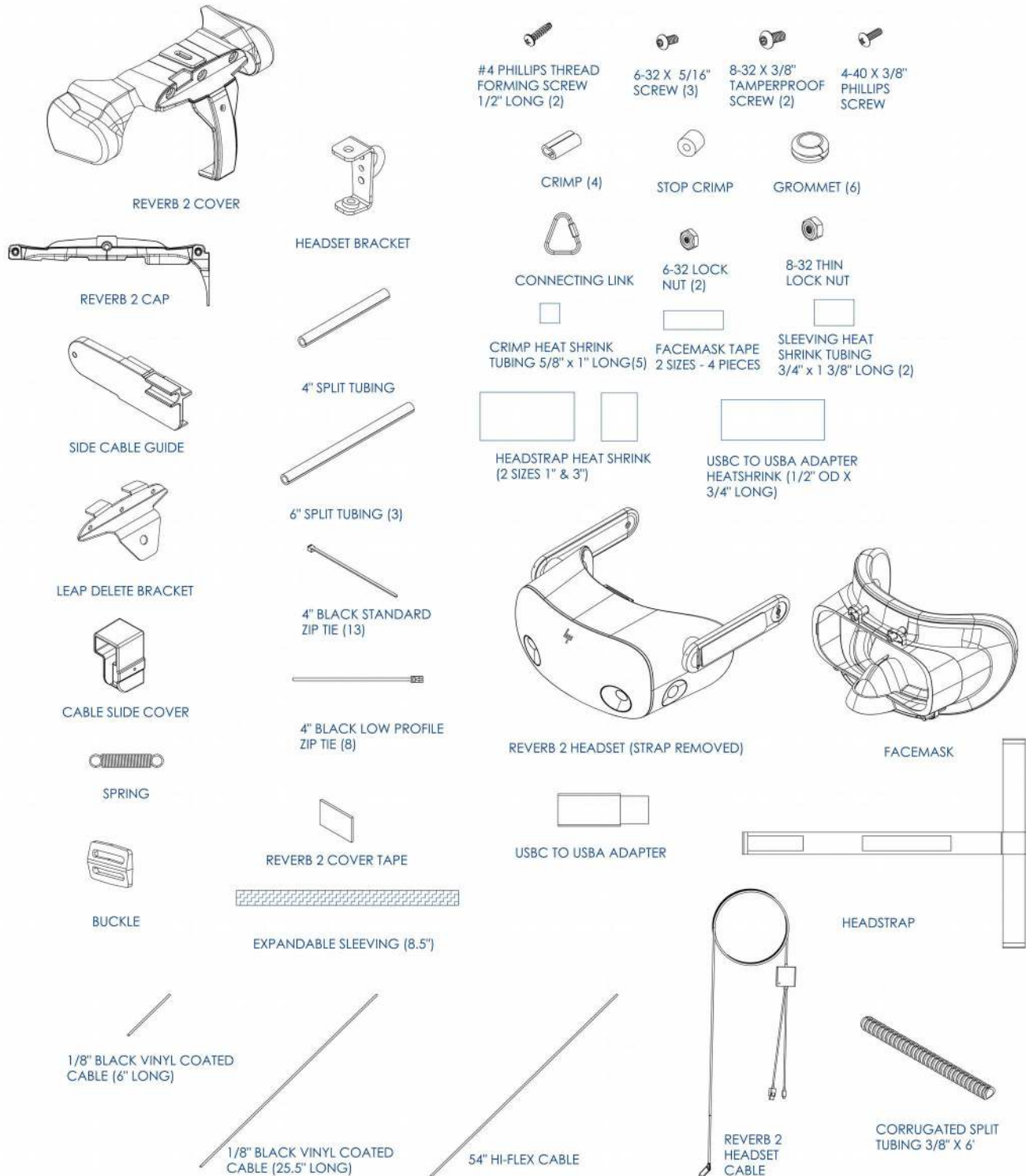
Problem	Possible Cause	Solution
Game will not power up	Game not plugged in.	Plug game into outlet.
	Game not turned on.	Turn on main power switch.
	Game fuse is blown.	Check and replace fuse.
	No power to receptacle.	Test outlet and plug game into powered outlet.
	PC not turned on.	Turn PC power switch on. Ensure IEC cable tightly plugged in. Trace cable back to source to ensure continuity.
	PC BIOS set incorrectly.	See BIOS Settings chapter.
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
	PC not turned on.	Turn PC power switch on.
No sound	Bad Connection	Check connection to speakers.
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
Bike controls are not responsive	Blind mate is not connected	Verify bike base is fully connected correctly to the main cabinet
	Damaged blind mate connector	Verify that neither side of the blind mate connector has been damaged
	Bike not calibrated	Check bike input tests and recalibrate bike if needed.
Bike does not lean	Shipping bolts not removed	Remove bike base shipping bolts
Coin meter does not click during Test	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
<i>Dongle Not Present</i>	Dongle missing or disconnected	Find dongle usb connection and reseal in USB port
	Faulty USB port	Connect dongle to another USB port
<i>Connect I/O Board or I/O Board Missing</i>	USB cable disconnected	Check USB connection from PC to I/O board Try connecting to a different USB port
	Blown fuse	Verify 5V and 12V fuses are not blown
	No power to RIO board	Check for proper voltage (+5V, +12V) at RIO P2 connector
	Bad RIO Board	Replace RIO board with known functional board

VR Headset Assembly

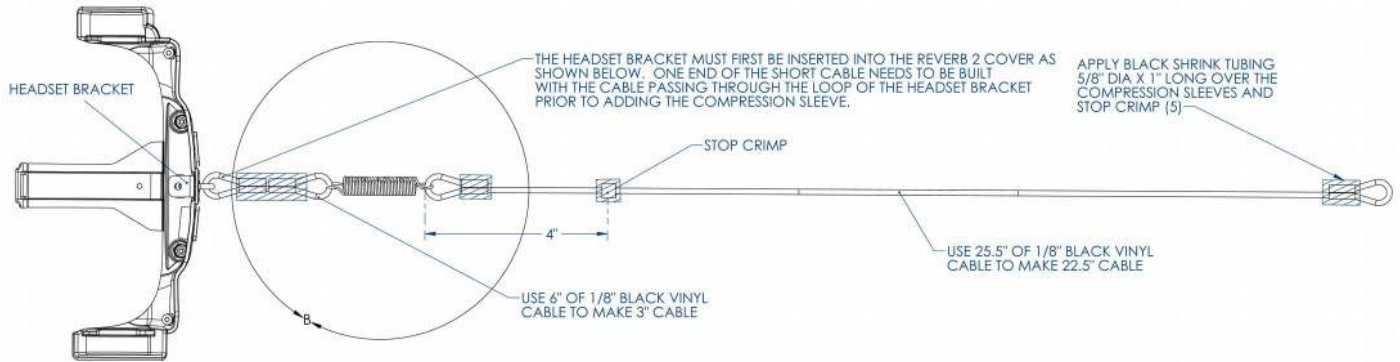
VR Headset Parts



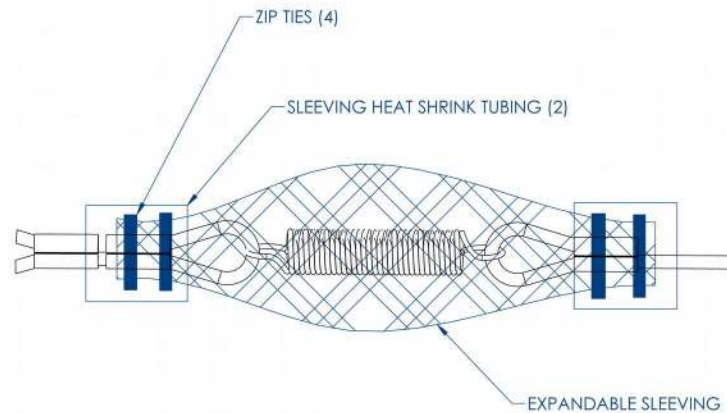
Headset Security Cables and Spring

Notes:

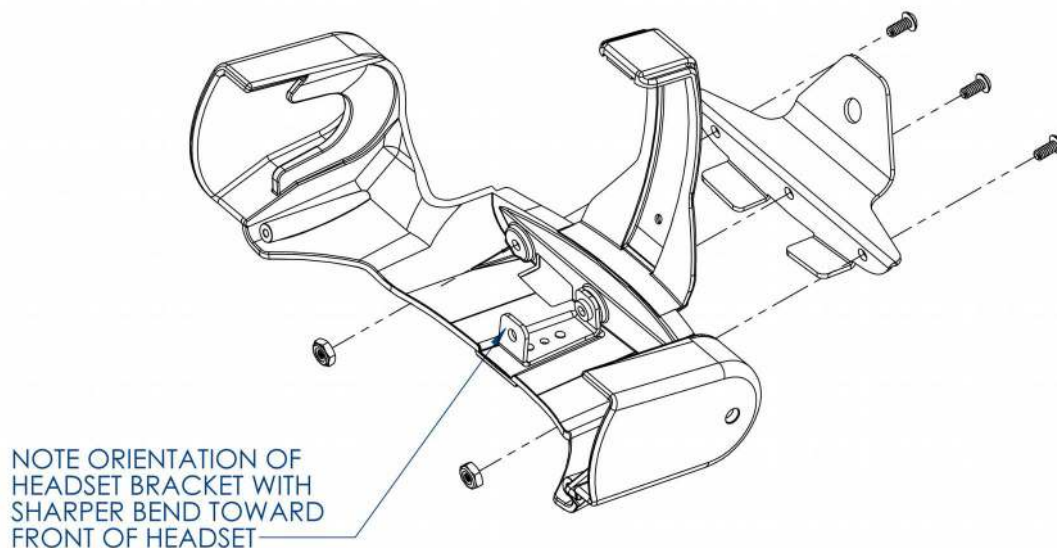
1. Vinyl coated wire cable is McMaster-Carr #8912T13 or equivalent
2. Compression sleeves are 1/8" aluminum thin wall swage sleeves such as swage right S-50-004 or equivalent.
3. Stop crimp is McMaster-Carr #3914T3 or equivalent.



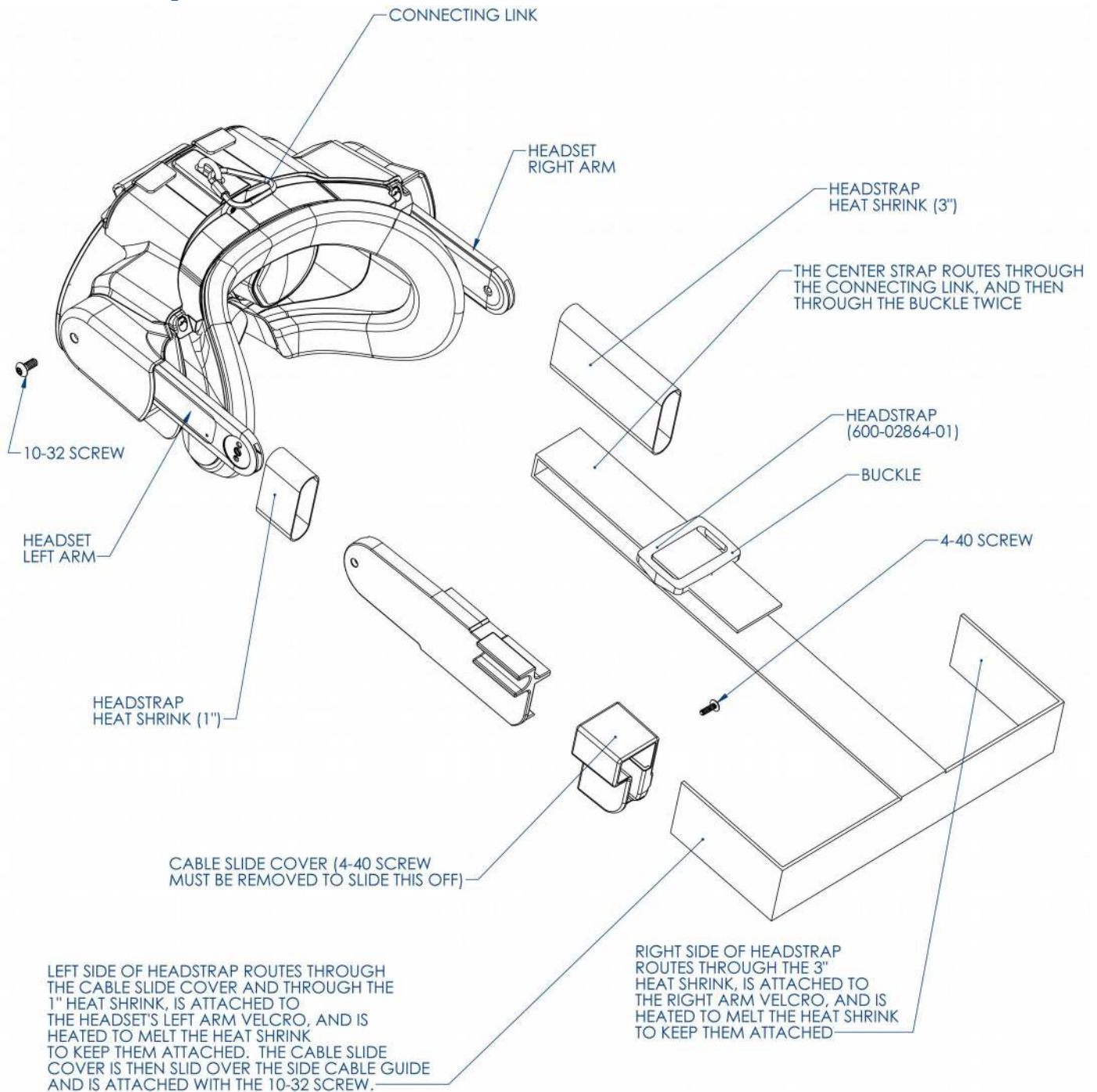
Adding Expandable Sleeving Over Spring



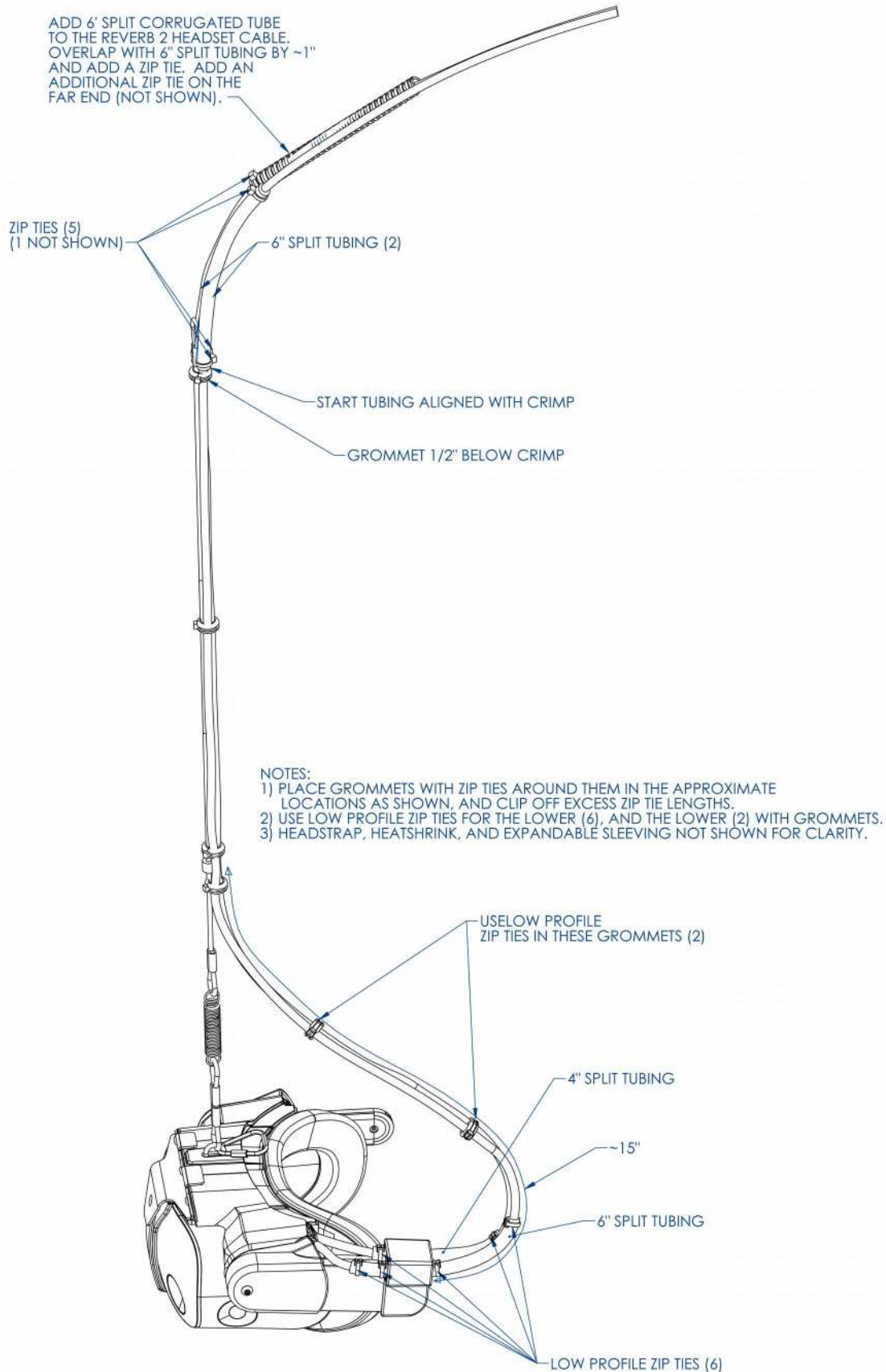
Installing Leap Delete Bracket



Headstrap Installation

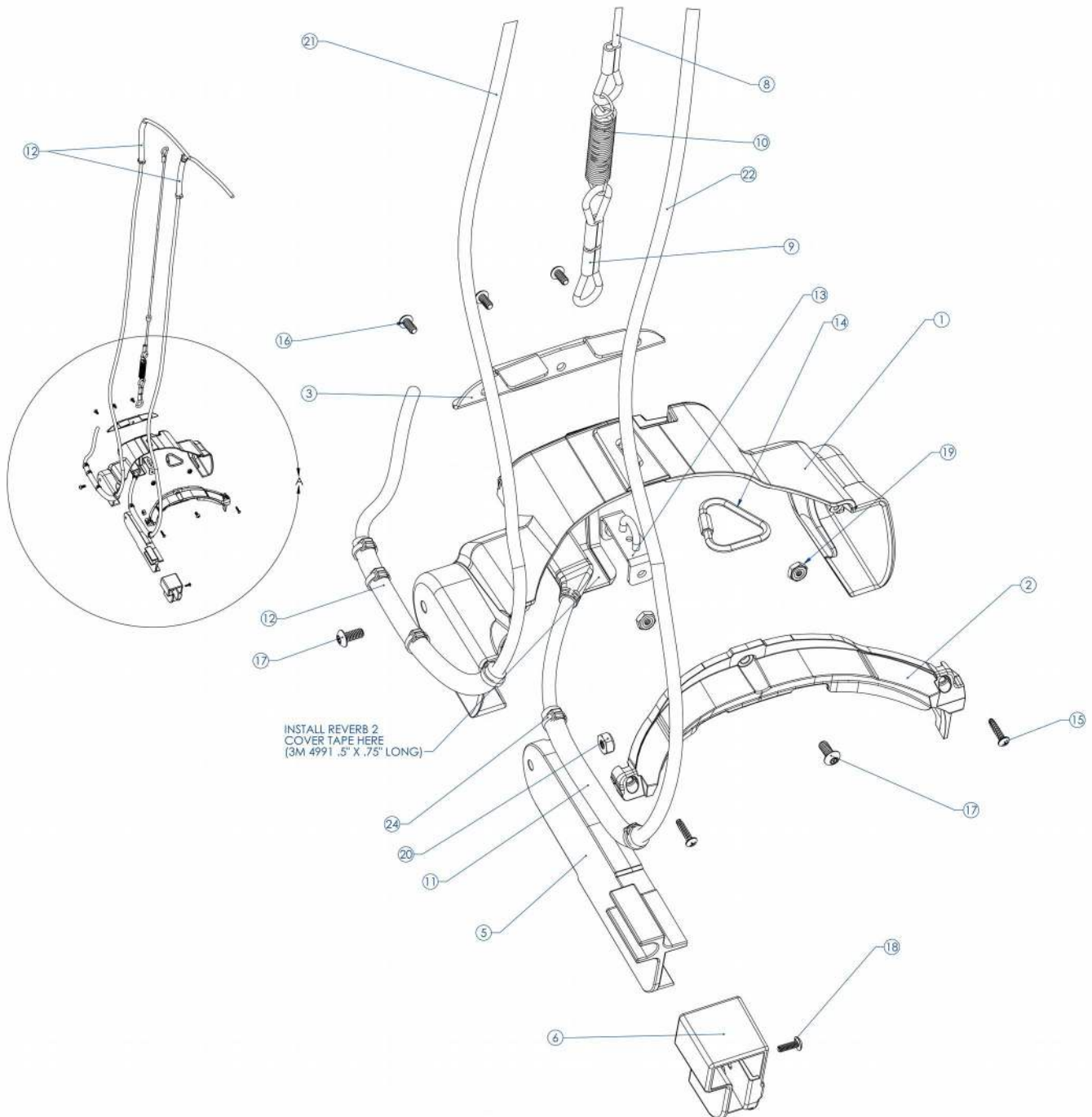


Grommet and Zip Tie Placement



Parts

MotoGP VR Reverb 2 Headset Assembly

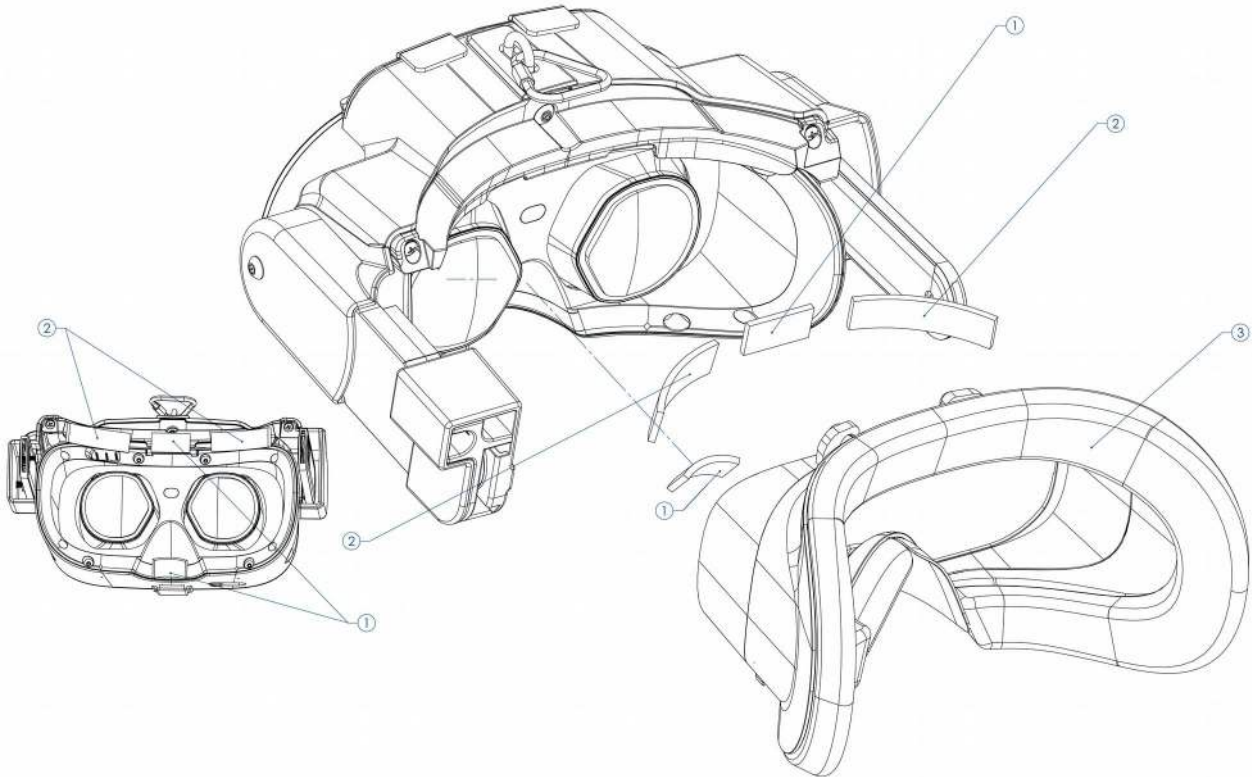


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MotoGP VR Main Cabinet Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-02990-01	Reverb 2 Cover	1
2	600-02989-01	Reverb 2 Cap	1
3	600-03097-01	Leap Delete Bracket	1
5	600-02987-01	Side Cable Guide	1
6	600-02988-01	Cable Slider Cover	1
8	-	Long Cable Assembly (22.5")	1
9	-	Short Cable Assembly (3")	1
10	600-03055-01	Spring	1
11	-	4" Split Tubing	1
12	-	6" Split Tubing	3
13	600-02630-01	Headset Bracket	1
14	600-02851-01	Connecting Link	1
15	MMC 92295A103	#4 Phillips Thread Forming Screw 1/2"	2
16	MMC 90910A815	6-32 x 5/16" Screw	3
17	MMC 96075A135	8-32 x 3/8" Tamperproof Screw	2
18	MMC 94779A306	4-40 x 3/8" Phillips Screw	1
19	MMC 90101A007	6-32 Locknut	2
20	MMC 90633A009	8-32 Thin Locknut	1
21	810-00478-01	High Flex USB Cable	.33
22	810-00481-01	Reverb 2 Headset Cable	1
24	-	Low Profile 4" Zip Tie	6

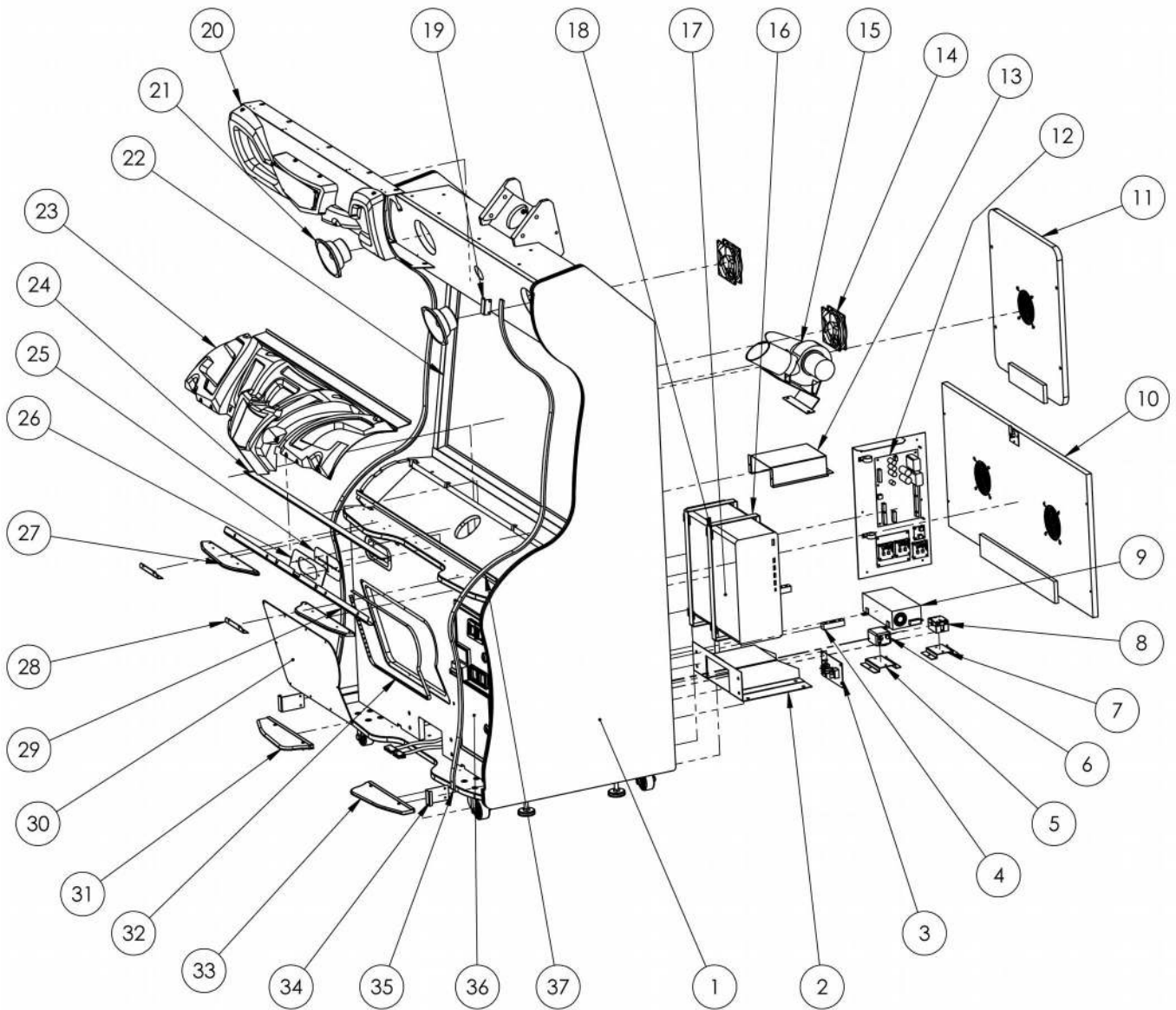
MotoGP VR Facemask Tape



Item	Part No.	Description	QTY
1	3M 4991	Tape .5" x 1" long	2
2	3M 4991	Tape .5" x 1.75" long	2
3	600-03047-01	Facemask Assembly	1



MotoGP VR Main Cabinet Assembly

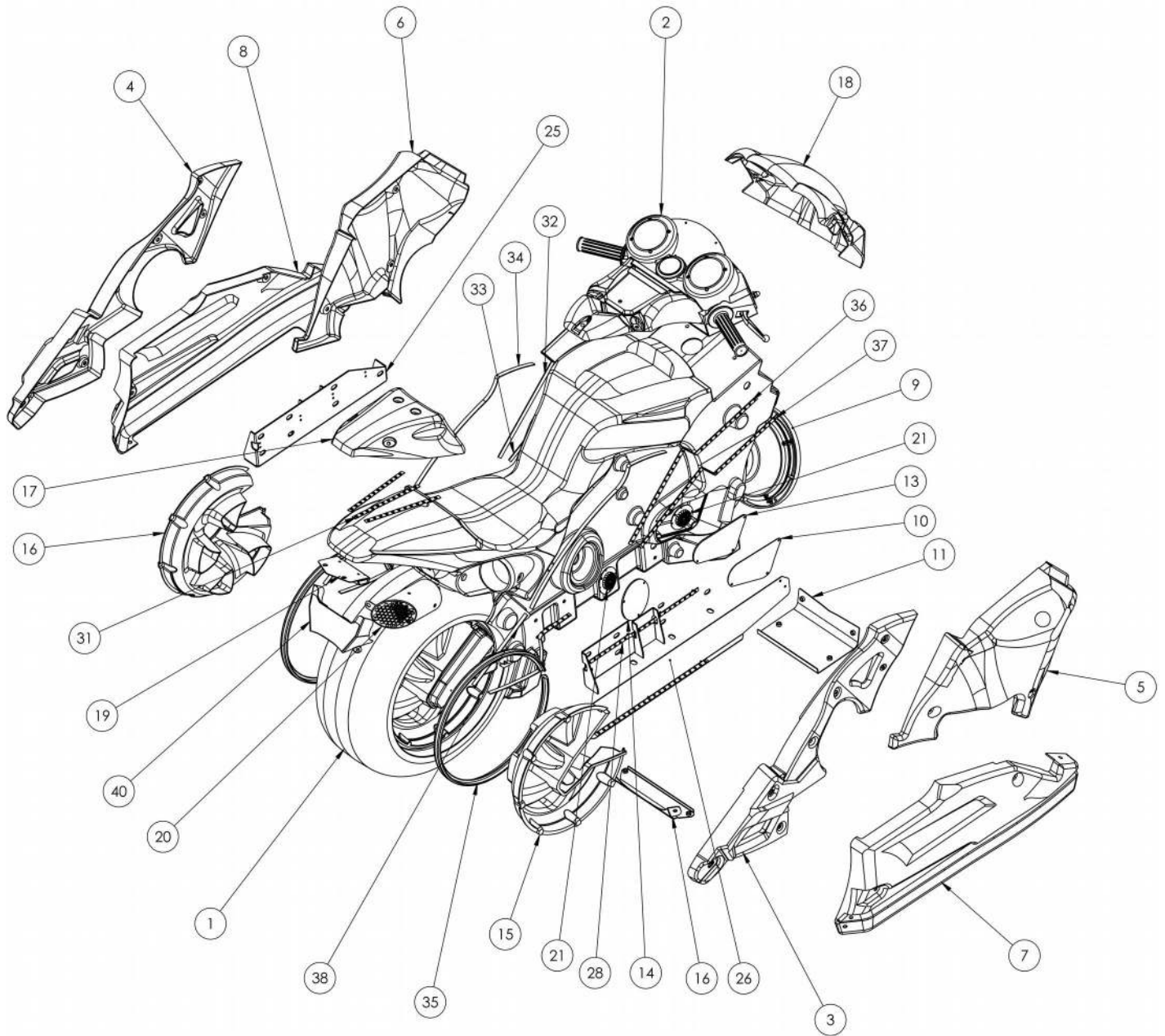


MotoGP™ VR Service Manual

MotoGP VR Main Cabinet Assembly Part Numbers

Item	Part No.	Description	QTY
1	601-01004-01	MotoGP VR Main Cabinet	1
2	600-00500-01	Super Bikes 2 Inner Tunnel Support	1
3	Moto-GP_A-C Plate Assy	Moto GP AC Plate Assembly	1
4	601-00580-01	PC Wood Cleat	2
5	600-03206-01	Power Line Filter Bracket (Small)	1
6	442-00001-01	Power Line Filter (Corcom 6MV1)	1
7	600-03119-01	Solid State Relay Bracket	1
8	800-00079-01	6210AXXSZS-DC3 / 6210 DSX-1: Solid State Relay	1
9	330-00003-01	HRP-600-12: 600W, 12V Dual Voltage Power Supply	1
10	MotoGP 42 Back Door Assy	MotoGP 42" Back Door Assembly	1
11	MGPVR Upper Back Door Assy	MotoGP VR Upper Back Door Assembly	1
12	RIO_MGPVR_ASSY	MotoGP VR Rio board set Assembly	1
13	600-03176-01	MotoGP VR Main Cab Eye Mask Box	1
14	FanAssy	DC Fan and Wire Guard Assembly	3
15	MGPVR Blower Mounting Assembly	MotoGP VR Blower Mounting Assembly	1
16	PC-Strap Assy	PC Strap Assembly	2
17	850-00031-01	HP Z1 Tower G5 / PN 90-AP-393-4	1
18	600-00891-01	Securing Nylon Strap Plate	4
19	600-03179-01	MotoGP VR LED T-Mold Clip small	2
20	Moto-GP 42 Marquee Screen Assy	MotoGP 42" Marquee Screen Assembly	1
21	2-1-10-00-00-000	5.25 Full Range Speaker	2
22	42-MGP-VR-Monitor_Assy	42" MotoGP Monitor Assembly	1
23	Moto-GP 42-Dash Assy	MotoGP 42" Dash Assembly	1
24	LED-EXTRUSION-ASSY-40in	Standard Use LED Assembly	1
25	600-03177-01	MotoGP VR Main Cabinet Eye Mask Boot	1
26	600-03175-01	MotoGP VR Main Cabinet Eye Mask Frame	1
27	Mid Plane Acrylic LED Assy	Acrylic LED Assembly	2
28	600-01563-01	MotoGP 42" Dash Mount (2)	2
29	600-01409-01	MotoGP 42-Dash Mounting Bracket (2)	1
30	606-02108-01	MotoGP VR – VR Emblem Main Cabinet – Backlit PETG	1
31	Bot Plane Acrylic LED Assy-L	Acrylic LED Assembly - Left	1
32	500-00162-135	VR White LED strip 53" (135cm)	1
33	Bot Plane Acrylic LED Assy-R	Acrylic LED Assembly - Right	1
34	600-03180-01	MotoGP VR LED T-mold clip large	2
35	603-00718-91	LED T-molding 91"	2
36	800-00005-01	Happ 40-3100-03 Partec 90-AP-197-1 Midwidth coin door assembly	1
37	LED-EXTRUSION-ASSY-RA 40in	LED Extrusion assembly 40" (102cm)	1
38	039012246	24 PIN MINI-FIT_W-CABLE	1
39	039012181	18 PIN MINI-FIT_W-CABLE	1

MotoGP VR Motorcycle Assembly



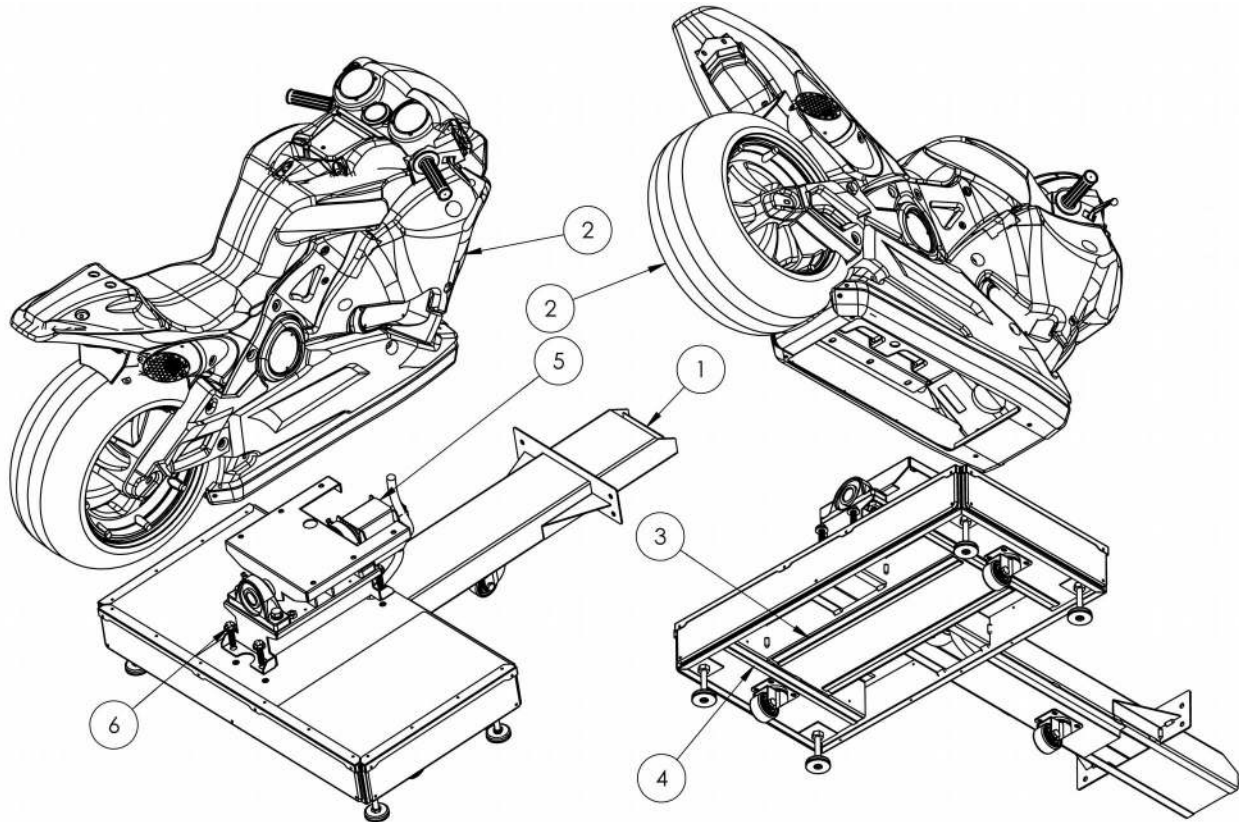
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MotoGP VR Motorcycle Assembly Part Numbers

Item	Part No.	Description	QTY
1	603-01107-01	MOTOGP-VR Molded Bike	1
2	Moto-GP-Handle Bar Assy	MotoGP Handle Bar Assembly	1
3	603-00731-01	MotoGP Bike Frame – Right	1
4	603-00732-01	MotoGP Bike Frame – Left	1
5	603-00727-01	MotoGP Bike Side Vacform – Right	1
6	603-00728-01	MotoGP Bike Side Vacform – Left	1
7	603-00742-01	MotoGP 42-Bike Low Side Vacform – Right	1
8	603-00743-01	MotoGP 42-Bike Low Side Vacform – Left	1
9	SB3-8inWoofer-Assy	Superbikes 3 – 8” woofer assembly	1
10	600-01568-01	MotoGP Side perf	2
11	600-01565-01	MotoGP 42 Skirt Joiner Front	1
12	600-01566-01	MotoGP 42 Skirt Joiner Back	1
13	600-01569-01	MotoGP Bike Side perf – Color Diffuser	2
14	606-02107-01	Raw Thrills Bike Emblem – backlit .125 PETG	2
15	603-00752-01	MotoGP Spoke Cover – Right	1
16	603-00753-01	MotoGP Spoke Cover – Left	1
17	603-00754-01	MotoGP Rear Fender	1
18	603-00726-01	MotoGP Windshield	1
19	MotoGP Taillight-Assy	MotoGP Rear Taillight assembly	1
20	TAILPIPE_ASSY-PRODUCTION	MotoGP Pipe-3-125_OD assembly	2
21	500-00205-01	White LED Superpuck PCB	4
22	606-01108-01	MotoGP Frame decal – Right	1
23	606-01107-01	MotoGP Frame decal – Left	1
24	600-03231-01	MotoGP VR Bike Mounting Bracket – Right	1
25	600-03230-01	MotoGP VR Bike Mounting Bracket – Left	1
26	600-03122-01	MotoGP VR – Lower Fairing LED plate – Right	1
27	600-03123-01	MotoGP VR – Lower Fairing LED plate – Left	1
28	500-00162-01-35cm	Side Fairing Lower White LED Strip	2
29	500-00162-01-35cm	Side Fairing Lower White LED Strip	2
30	Cable Clamp Small	1/2” Cable Clamp	1
31	500-00162-20	20cm LED Stripe White with foam tape	3
32	500-00162-01-50cm Fairing 1	Side Fairing White LED Strip	1
33	500-00162-01-50cm Fairing 2	Side Fairing White LED Strip	1
34	500-00162-01 Frame LED	White LED with foam tape (2x35cm, 2x20cm, 2x50cm)	1
35	WHEEL-LED T-MOLDING-ASSY	Wheel LED T-Molding Assmebly	2
36	500-00162-01-50cm Fairing 1M	Side Fairing White LED Strip	1
37	500-00162-01-50cm Fairing 2M	Side Fairing White LED Strip	1
38	500-00162-01 Frame LED-M	Side Frame White LED Strip	1
39	600-03228-01	MotoGP VR Rear Caution Plate Bracket	1
40	606-02152-01	MotoGP VR Stand Back Plate Decal	1



MotoGP VR Bike and T-base Assembly

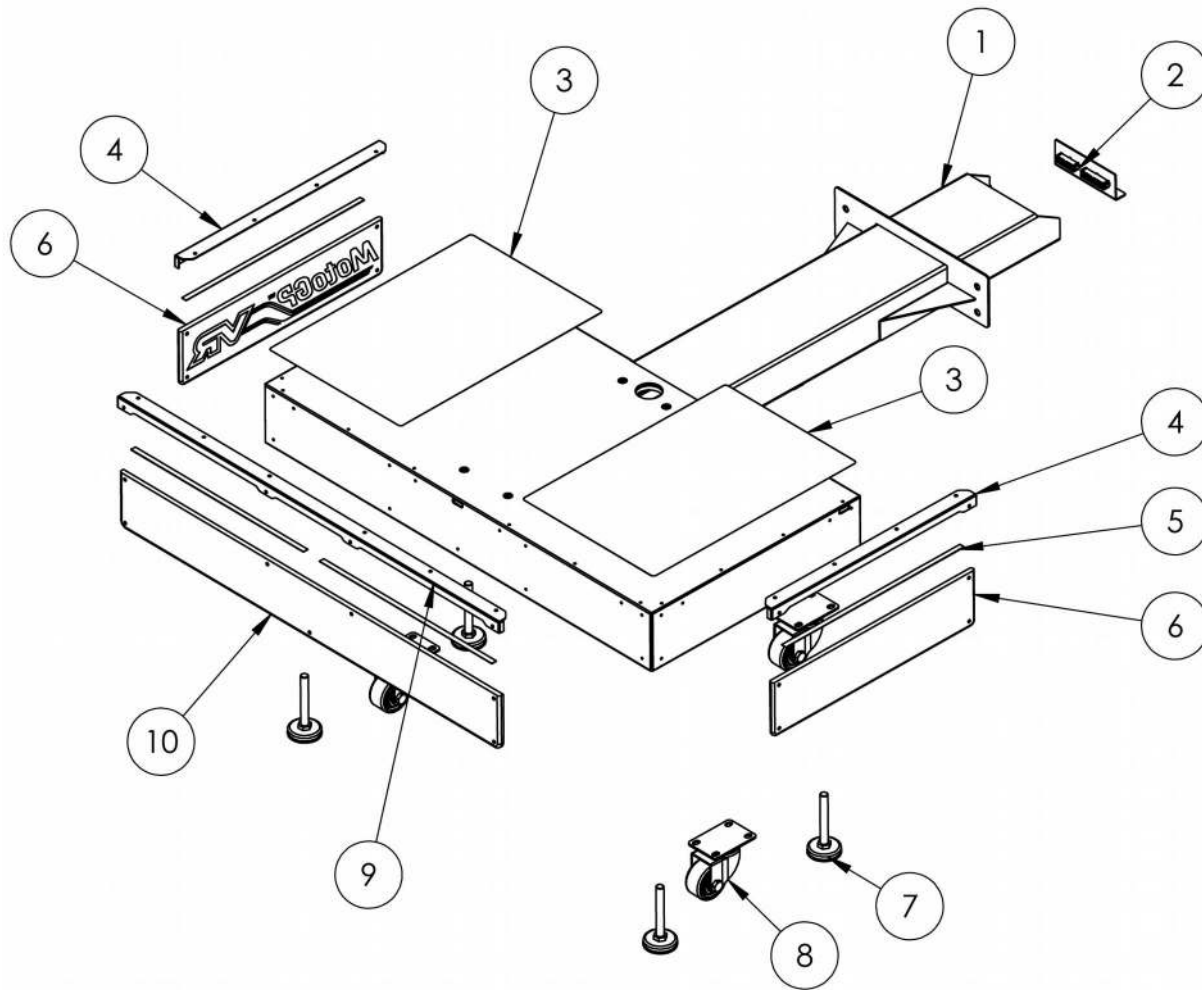


MotoGP VR Bike and T-Base Assembly Part Numbers

Item	Part No.	Description	QTY
1	MOTO-GPVR_Bike_Tbase_Assy-REV4	MotoGP VR T-Base Assembly	1
2	MOTO-GP-VR Bike-Assy	MotoGP Bike Assembly	1
3	LED-EXTRUSION-ASSY-55cm_22in	LED Extrusion Assembly – 55cm (22in) Long	2
4	LED-EXTRUSION-ASSY-40cm_16in	LED Extrusion Assembly – 40cm (16in) Long	2
5	604-00041-01	MotoGP Pivot Mech 22.5 Degrees (50-0119-00)	1
6	1_2-13 x 2 Screw-LockNut	1_2-13 x 2 Screw – Flat Washers – Lock Nut	4

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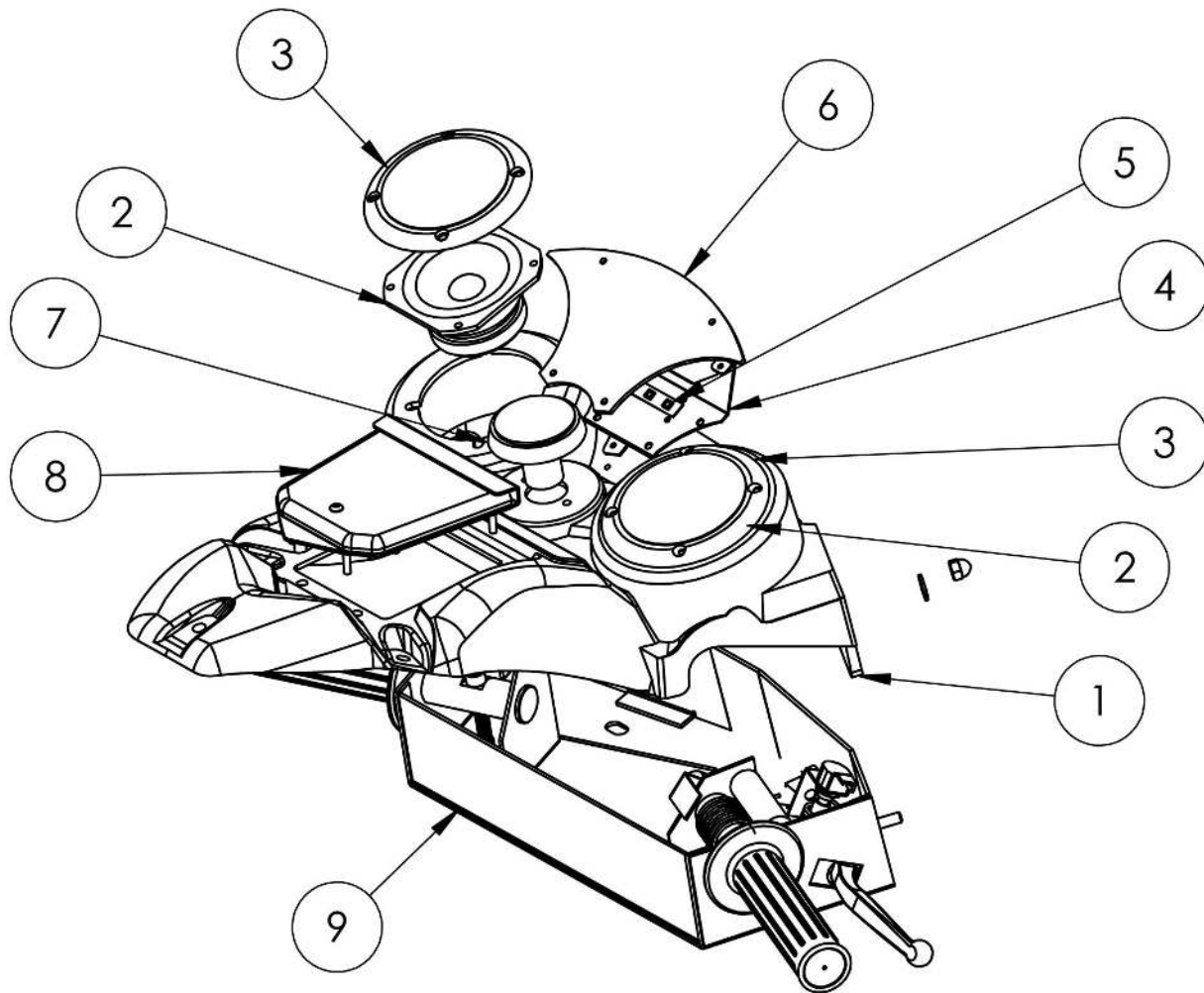
MotoGP VR T-base Assembly



MotoGP VR T-Base Assembly Part Numbers

Item	Part No.	Description	QTY
1	600-03225-01	MotoGP VR T-Base	1
2	600-02317-01	Mini-Fit Assembly	1
3	606-02098-01	MotoGP VR Floor Decal	2
4	600-03182-01	MotoGP VR Glow Bracket T-Base Outer	2
5	500-00184-40	40cm/16in LED Strip (RGB)	4
6	600-03161-01	MotoGP VR T-Base Acrylic Sides	2
7	800-00089-01	4" Leg Leveler .500-13 with 2 dia pad	4
8	800-00087-01	Jig 2.5" Caster Assembly	3
9	600-03226-01	MotoGP VR Glow Bracket Rear Long	1
10	600-03227-01	MotoGP VR Rear T-Base Acrylic Glow Panel	1

MotoGP VR Handlebar Assembly

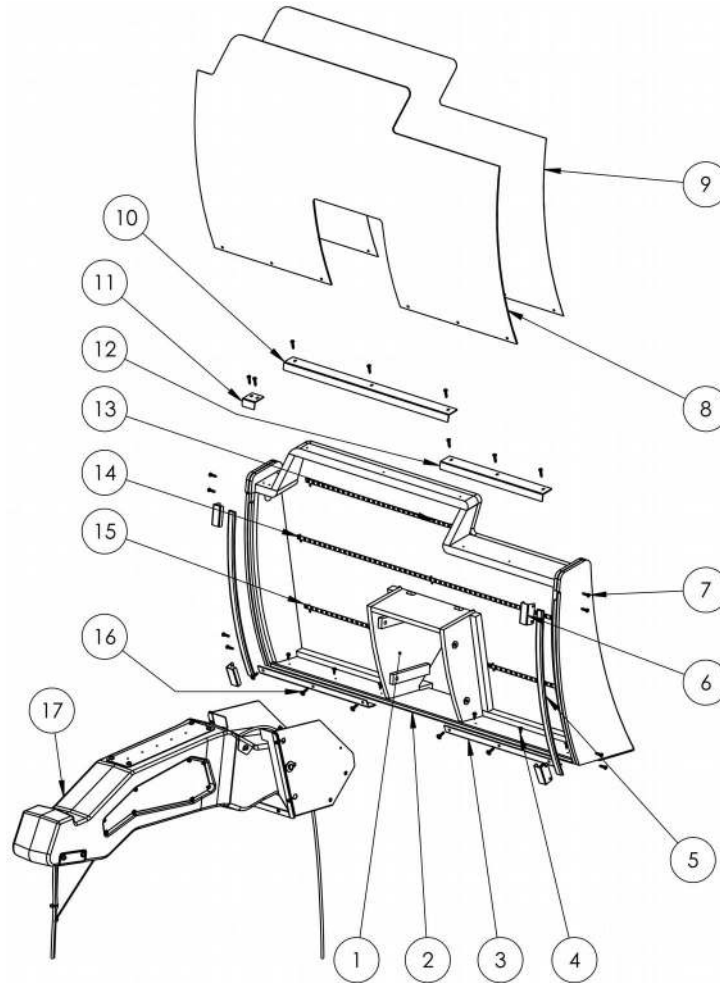


MotoGP VR Handlebar Assembly Part Numbers

Item	Part No.	Description	QTY
1	603-00735-01	Moto-GP Handle Bar Control Panel	1
2	807-00010-00	TC9FD-18-08 3-1/2" Full Range Paper Cone Woofer, 8 Ohm, 30 Watts (RMS) / 60 Watts (Max)	2
3	807-00014-00	3.5 inch speaker grille	2
4	600-03184-01	MotoGP VR LED Bracket Speedo	1
5	500-00162-5	20cm LED Strip White with foam tape	1
6	606-02106-01	MotoGP VR Speedo Backlit PETG	1
7	702-00032-00	Large Green Round Button – Start/Nitrous	1
8	MGPVR Tank Glow Assy	MotoGP VR Tank Glow Assembly	1
9	604-00040-01	MotoGP Handlebar Mech	1
10	1_4 FLAT_WASHER	1/4" x 5/8" Flat Washer	1
11	98667A210	Low-Strength Steel Cap Nut (Acorn)	1

MotoGP™ VR Service Manual

MotoGP VR Marquee Header Assembly

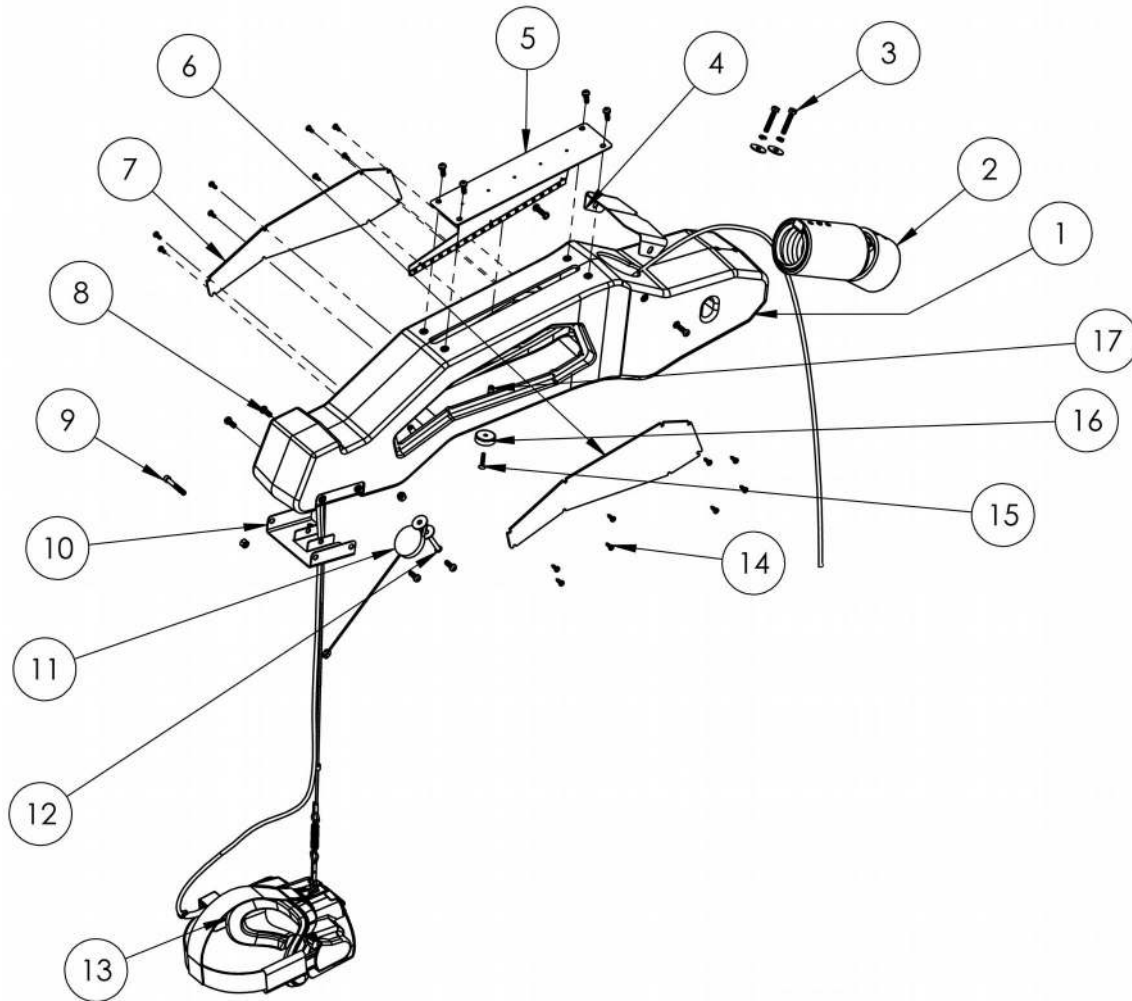


MotoGP VR Marquee Header Part Numbers

Item	Part No.	Description	QTY
1	601-01009-01	MotoGP VR Marquee Cabinet	1
2	Marquee T-Mold	Marquee T-Mold Chrome	1
3	600-03169-01	MotoGP VR Marquee Translight Mounting Bracket Lower (2)	2
4	90054A194	Flanged Hex Head Screws for Sheet Metal	6
5	LED Tmold	18" LED T-Molding	2
6	600-03179-01	MotoGP VR LED T-mold clip small	4
7	90925A196	90925A196 pan head torx drive screw for sheet metal	16
8	600-02966-01	MotoGP VR PETG Marquee Overlay	1
9	606-02024-01	MotoGP VR PETG Marquee Translight	1
10	600-03167-01	MotoGP VR Marquee Translight Mounting Bracket – Center	1
11	600-03168-01	MotoGP VR Marquee Translight Mounting Bracket – Left	1
12	600-03169-01	MotoGP VR Marquee Translight Mounting Bracket – Right	1
13	500-00162-50cm	50cm LED Strip White with foam	1
14	500-00162-90cm	90cm LED Strip White with foam	1
15	500-00162-30cm	30cm LED Strip White with foam	2
16	#8-32 x 3_4 MACHINE FLAT RUBBER WASHER Assy	#8-32 x 3_4 machine screw, neoprene washer, flat washer	6
17	MGPVR-Arm Assy-Production	MotoGP VR Arm Assembly	1
18	Cable Clamp Medium	3/4" Cable Clamp	1



MotoGP VR Arm Assembly

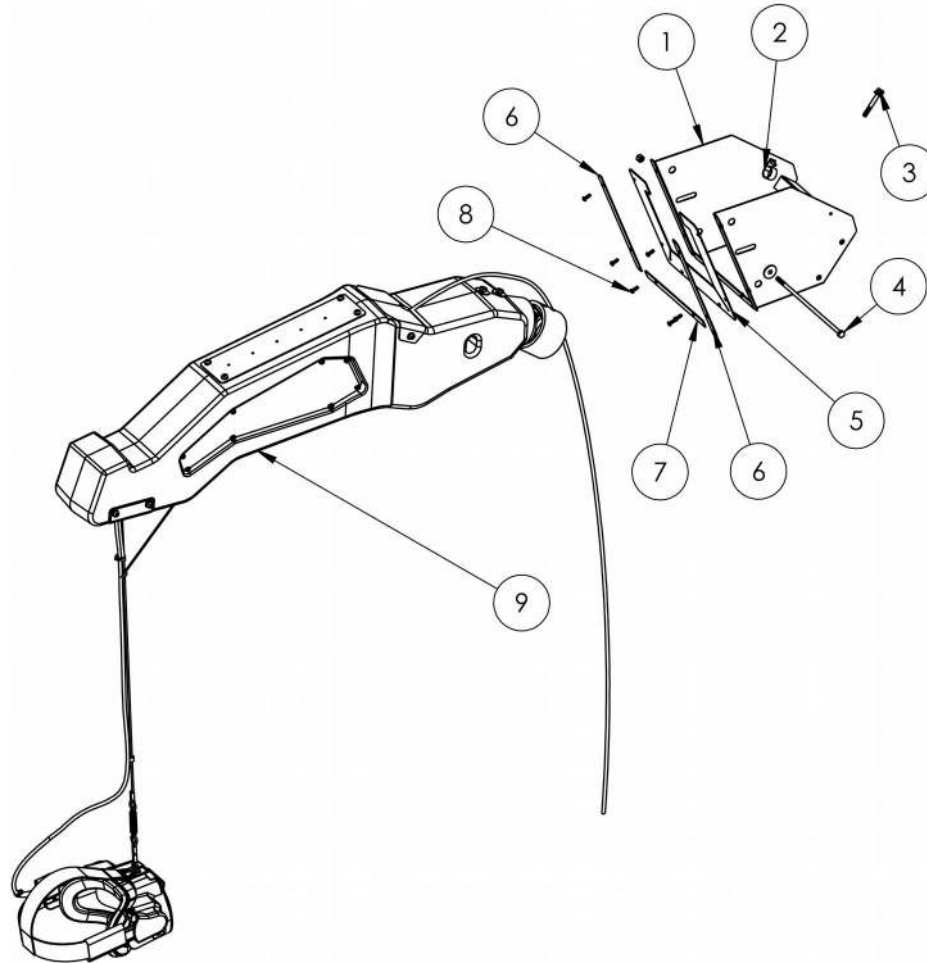


MotoGP VR Arm Part Numbers

Item	Part No.	Description	QTY
1	603-01084-01-Assy-MGP-VR	MotoGP VR Roto Molded Headset Arm (Red)	1
2	MGPVR-Arm Spring Assy	MotoGP VR Spring Assembly	1
3	1_4-20 x 1 - 1/2-BigFlat & Lock Assy	1_4-20 x 1 1/2-Big Flat & Lock Assembly	2
4	600-03087-01	MotoGP VR Cable Access Cover Plate	1
5	Arm LED Plate Assy	Arm LED Plate Assembly	1
6	606-02079-01	MotoGP VR Arm Translight – Right	1
7	606-02078-01	MotoGP VR Arm Translight – Left	1
8	1_4-20 x 75-Lock Assy	1_4-20 x 75 Screw with lock washer	12
9	MGPVR-Headset Cable Nut and Bolt	MotoGP VR Headset Cable Nut and Bolt	1
10	600-03088-01	MotoGP VR Cable Tether Bracket	1
11	600-02866-01	Kiwi Pro VR Cable Retractor	1
12	TORX Flat w Lock Nut 1-1/2	Torx 1-1/2 inch screw with lock nut and flat washer	1
13	MGPVR-Headset-REV 2	MotoGP VR Headset Rev 2	1
14	90925A196	#8x1/2 Torx drive screw for sheet metal	16
15	94356A126	#10-32 x 1 Torx Flat head screw	1
16	600-03246-01	MotoGP VR Headset mounting magnet (K&J MMS-A-X4)	1
17	97217A359	Zinc Yellow Plated Steel Rivet Nut for plastics	1

MotoGP™ VR Service Manual

MotoGP VR Arm Mounting Bracket Assembly

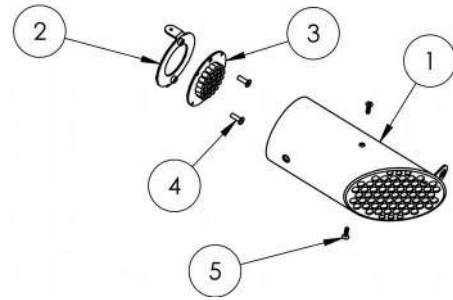


MotoGP VR Arm Mounting Bracket Part Numbers

Item	Part No.	Description	QTY
1	600-03165-01	MotoGP VR Arm Mounting Bracket	1
2	Cable Clamp Medium	3/4" Cable Clamp	2
3	1_4-20 x 2 Flat & Lock Assy	Arm Mounting Bolt Assembly	1
4	1_4-20x8_5 Bolt Assy	Arm Limiting Bolt Assembly	1
5	600-03178-01	MotoGP VR Marquee Arm Boot	1
6	600-03170-01	MotoGP VR Marquee Arm Boot Mounting Bracket Vertical (2)	2
7	600-03171-01	MotoGP VR Marquee Arm Boot Mounting Bracket Horizontal	1
8	96075A147	#8-32x1/2in Tamper proof Torx screw	6
9	MGPVR-Arm Common Assy	MotoGP VR Arm Assembly	1

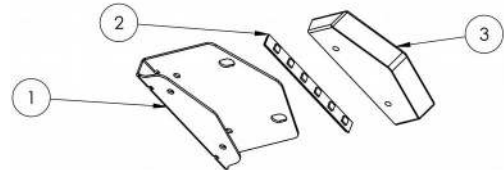
Tail Pipe Assembly

Item	Part No.	Description	QTY
1	608-00198-01	Moto GP Tailpipe	1
2	608-00198-02	Tailpipe LED bracket	1
3	500-00205-01	White LED superpuck pcb	1
4	#8-32 panhd_phillips	Phillips Black Screw	2
5	91870A148	#6-32x3_8-Flat Tamper Black	2



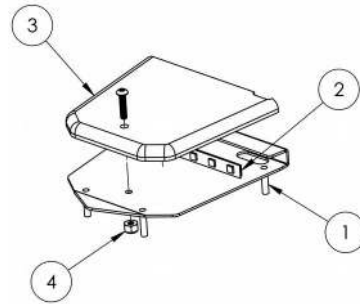
Tail Light Assembly

Item	Part No.	Description	QTY
1	600-01651-01	Moto GP Rear taillight plate	1
2	500-00184-13	Taillight – 5”(13cm) RGB LED Strip	1
3	600-01652-01	Moto GP Rear Taillight Acrylic	1



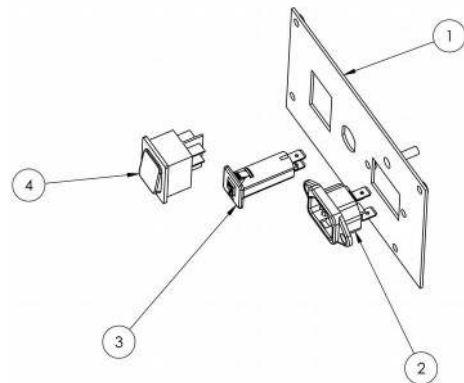
Tank Glow Assembly

Item	Part No.	Description	QTY
1	600-03183-01	MotoGP VR Glow Bracket Bike Tank	1
2	500-00184-10	TAIL LIGHT – 4” (10cm) RGB LED Strip	1
3	600-3162-01	MotoGP VR Bike Acrylic Center Tank	1
4	#8-32 x 3_4 MACH AND LOCK NUT	#8-32 x 3_4 Mach and lock nut	1



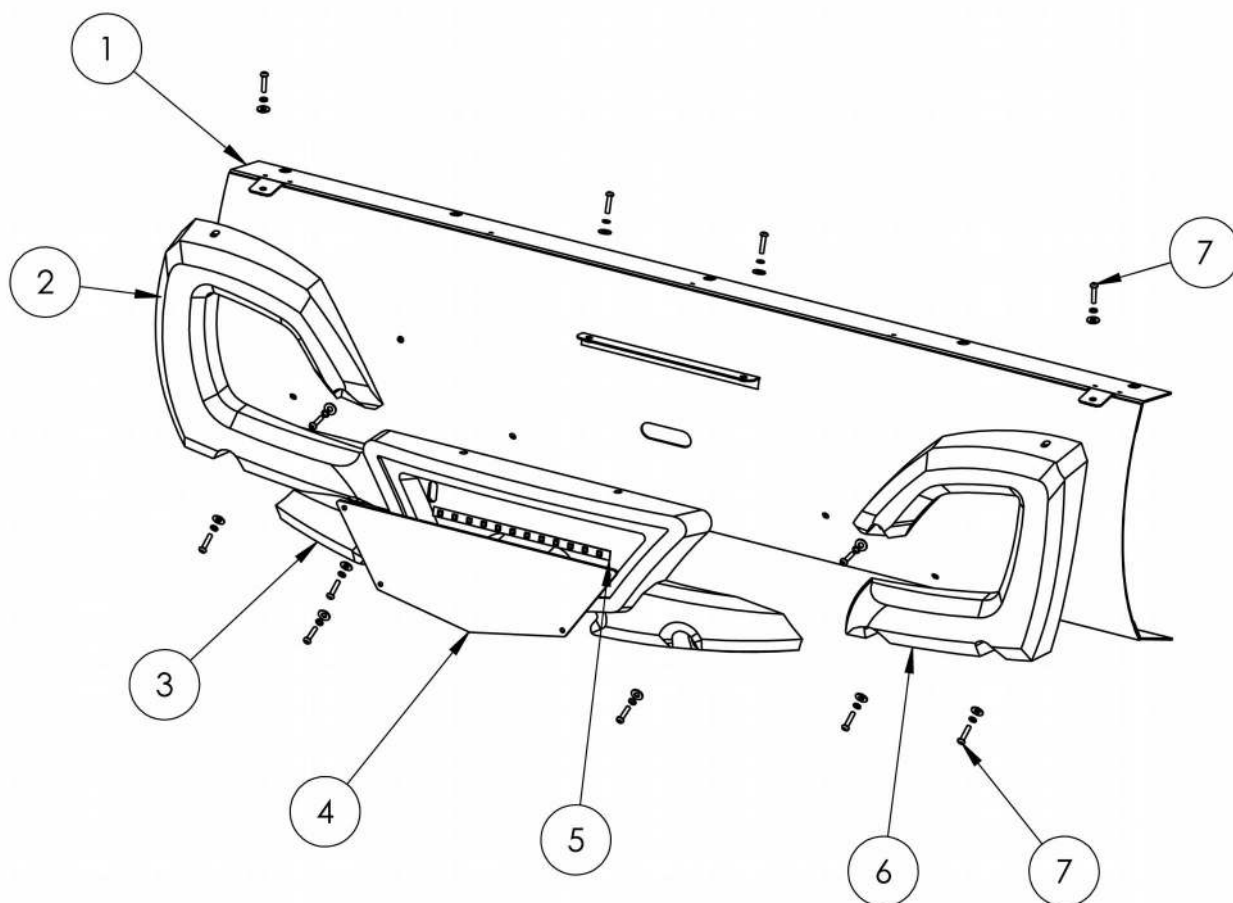
MotoGP VR AC Switch Plate Assembly

Item	Part No.	Description	QTY
1	01-2291	Plate, AC- Line Filter, Circuit Breaker, On/Off switch	1
2	440-00001-01	IEC Appliance Inlet, Screw-on Mounting, Quick-connect, 15A	1
3	451-00003-01	6A, 240VAC, Resettable Fuse	1
4	440-00003-01	250VAC, 16A, DPST, 0.250” QC, snap-in switch	1



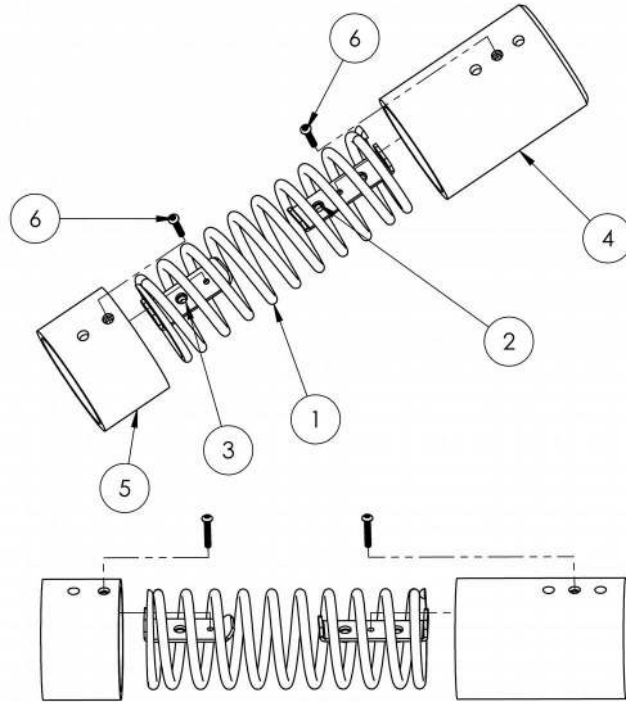
MotoGP™ VR Service Manual

MotoGP VR Marquee Assembly



Item	Part No.	Description	QTY
1	600-01561-01-ASSY	MotoGP Marquee Screen Weldment	1
2	603-00741-01	MotoGP Marquee Vacuum – Left	1
3	603-00739-01	MotoGP Marquee Vacuum – Center	1
4	606-02077-01	MotoGP VR Leader Marquee Translight	1
5	500-00162-20	20cm LED Strip White with foam tape	1
6	603-00740-01	MotoGP Marquee Vacuum – Right	1
7	#10-32 Torx-lock-flat	#10-32 Torx #10 lock washer #10 flat washer	12
8	500-00184-100	100cm LED Strip (RGB with foam tape)	2

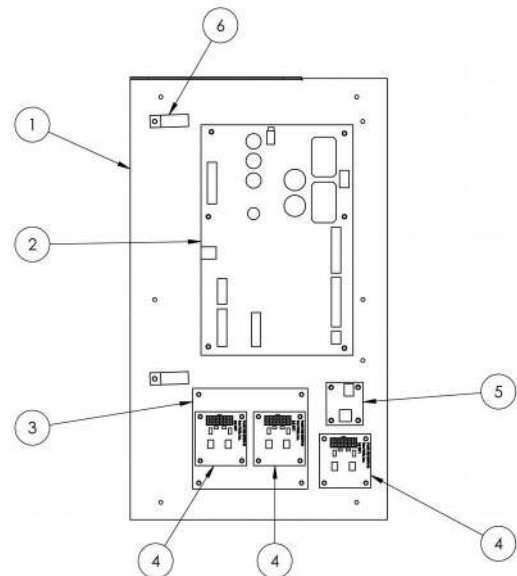
MotoGP VR Arm Spring Assembly



Item	Part No.	Description	QTY
1	600-03092-01	Steel Compression Spring (8" Long, 2.906" OD, 2.156" ID, 3/8" Wire)	1
2	600-03085-01	MotoGP VR Spring Holder Bracket – Long	1
3	600-03086-01	MotoGP VR Spring Holder Bracket – Short	1
4	600-03089-01	Spring Mounting Tube 3.5" OD, 3" ID, 5" Long	1
5	600-03090-01	Spring Mounting Tube 3.5" OD, 3" ID, 2.25" Long	1
6	#8-32 x 1 TORX	8-32 x 1 Torx screw	2

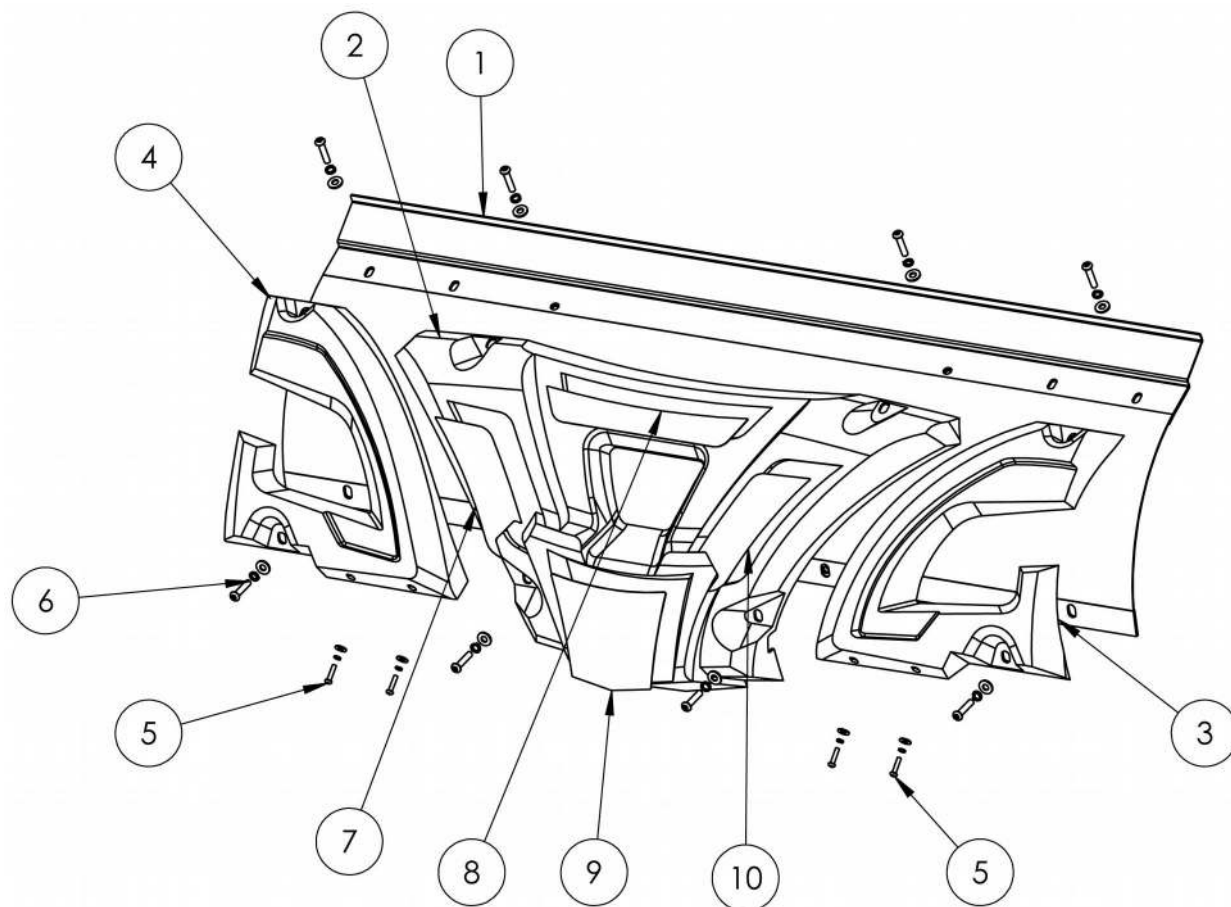
MotoGP VR Rio Board Assembly

Item	Part No.	Description	QTY
1	600-01670-01	MotoGP RIO Mounting Plate	1
2	500-00040-01	RIO board	1
3	600-03201-01	MotoGP VR Dual Blower PCB Mounting Plate	1
4	500-00075-01	Blower Motor PCB	3
5	500-00194-01	5V, 5A switching regulator PCB (12V input)	1
6	Cable Clamp Large	1" Cable Clamp	2



MotoGP™ VR Service Manual

MotoGP VR Dash Assembly



Item	Part No.	Description	QTY
1	600-01562-01-ASSY	MotoGP Dash Screen Weldment	1
2	603-00723-01	MotoGP Dash Center Vacform	1
3	603-00724-01	MotoGP Dash Right Vacform	1
4	603-00725-01	MotoGP Dash Left Vacform	1
5	#10-32 TORX-LOCK-FLAT	#10-32 TORX screw #10 Lock Washer #10 Flat Washer	4
6	TORX 1-1_4_20	1.25" TORX screw with lock and flat washer	8
7	606-02103-01	MotoGP VR Dash Decal – Left	1
8	606-02102-01	MotoGP VR Dash Center Top	1
9	606-02105-01	MotoGP VR Dash Center Lower	1
10	606-02104-01	MotoGP VR Dash Decal – Right	1



Contact Information

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

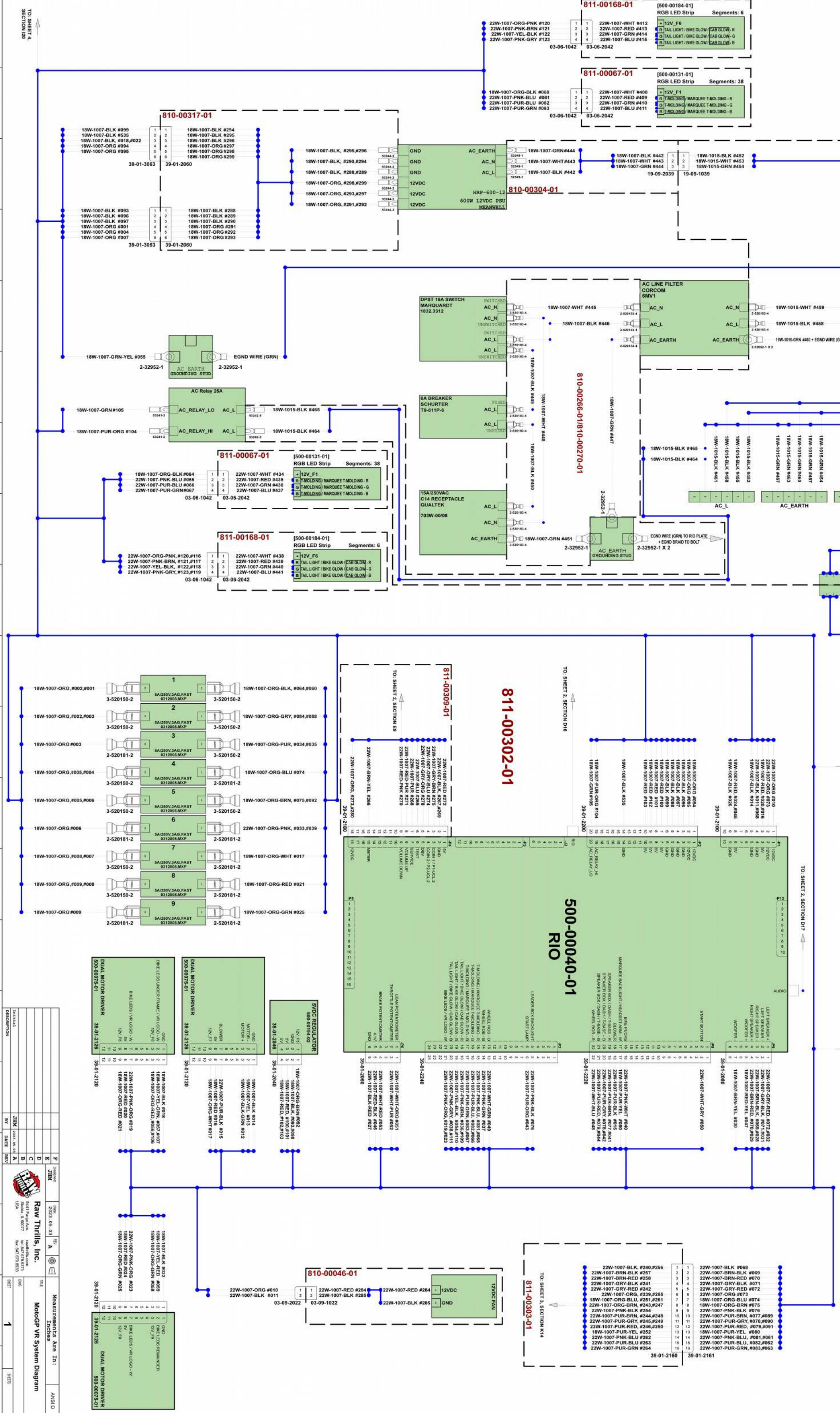
For service, contact your local distributor or your local Betson office for sales, technical information, warranty or repair. Betson can be reached at (800) 524-2343 or fax (201) 438-4837 www.betson.com

Betson Enterprises Headquarters

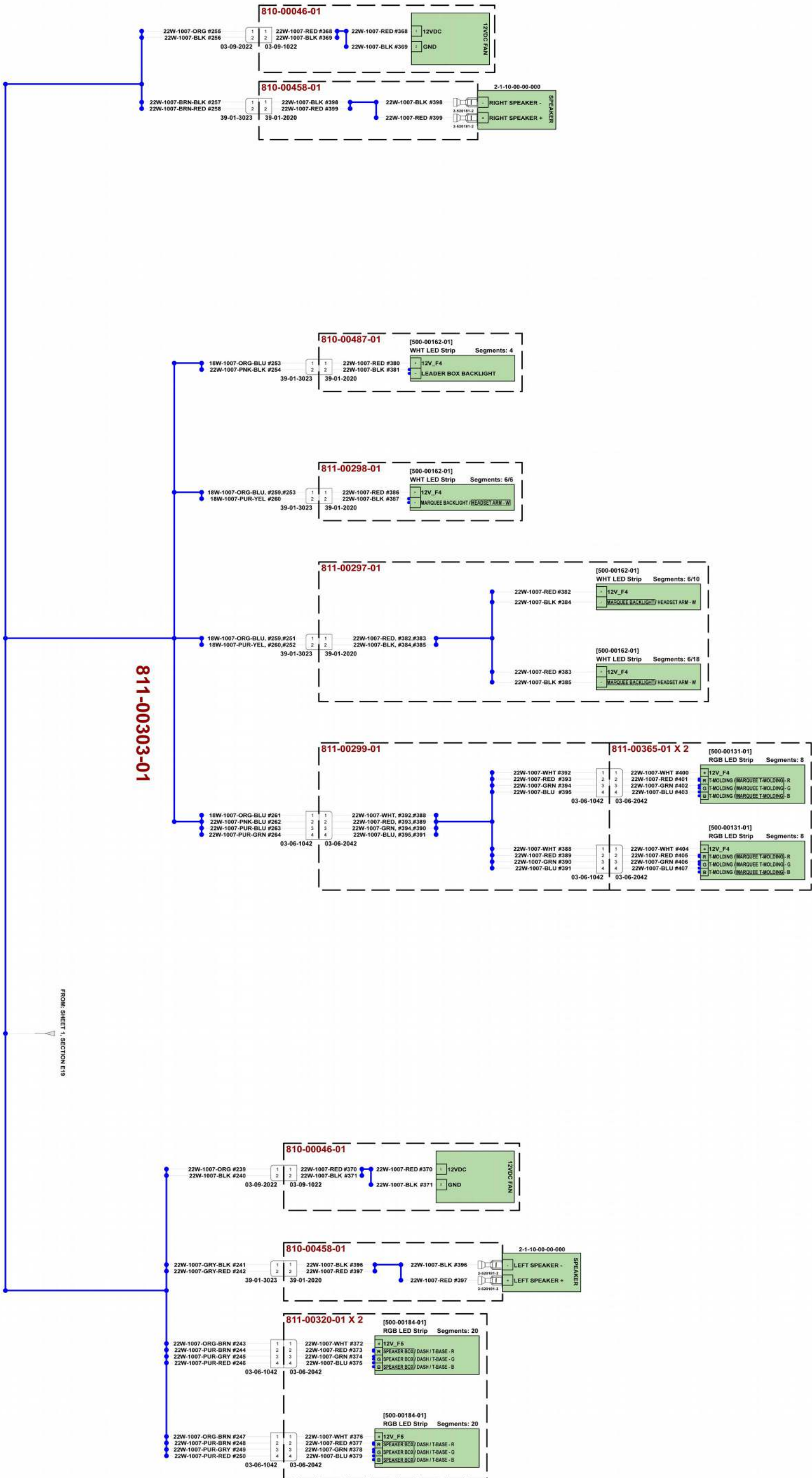
303 Paterson Plank Rd.
Carlstadt, NJ 07072
(800) 524-2343 or (201) 438-1300
fax (201) 438-4837
www.betson.com

Electrical Wiring

SHEET 1: LOWER MAIN CABINET



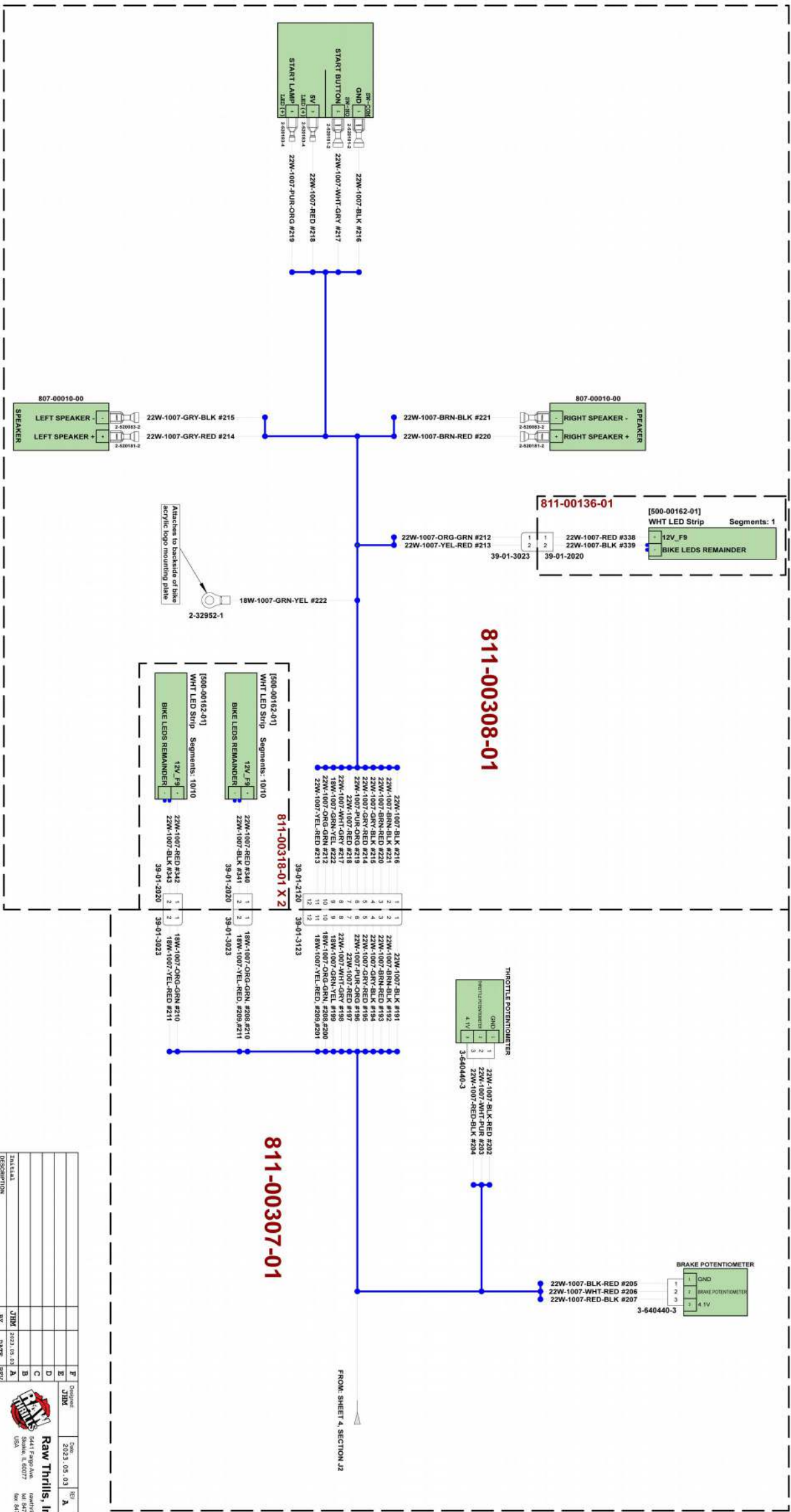
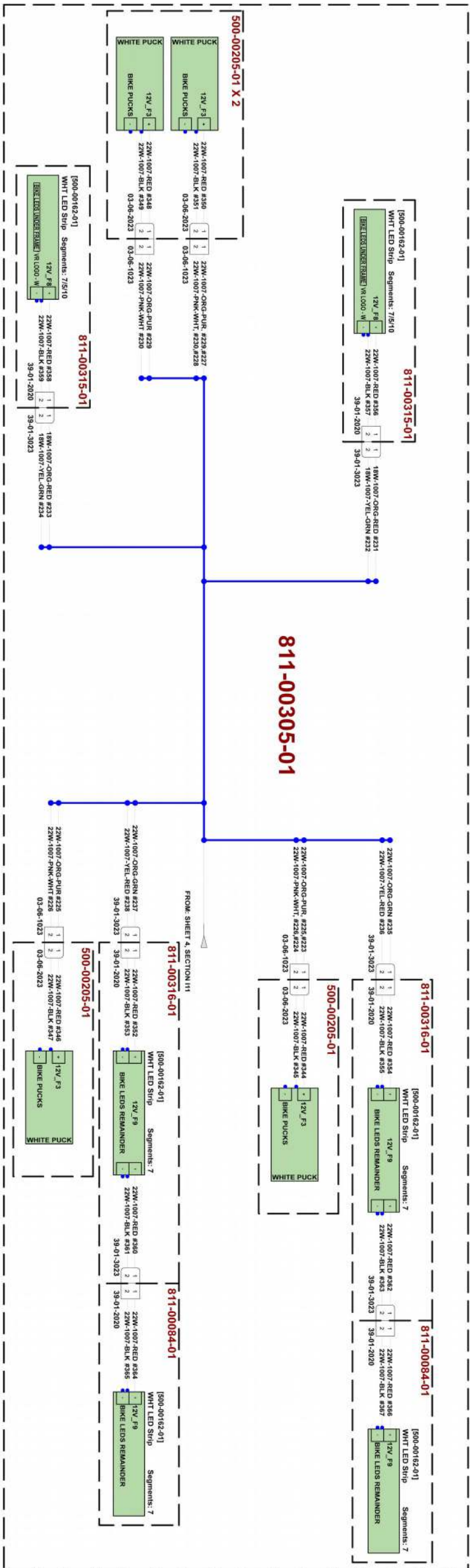
SHEET 3: UPPER MAIN
CABINET + MARQUEE



FROM SHEET 1, SECTION E19

REVISION	F	Design	2023.05.03	REV	1	MOTOP VR SYSTEM DIAGRAM	Measurements Are In: Inches	ANSI Z39.18-1
	E	CHK						
	D							
	C							
	B							
INITIAL	JHM		2023.05.03	BY	DATE	REV		
 Raw Thrills, Inc. 2441 Fargo Ave. Boulder, IL 60017 USA info@rawthrills.com Tel: (312) 579-6538								
						SHEET	3	SHEETS

SHEET 5: BIKE + HANDLEBARS



Measurements Are In:		ANCI D	
Inches			
Title		Raw Thrills, Inc.	
F		Owner	2023 05 03
E		JHM	
D			
C			
B			
A		2023 05 03	
RAW THRILLS			
5441 Pappas Ave.			
South, IL 60077			
USA			
rawthrills.com			
tel 647 279 8373			
fax 647 279 8338			
DATE			
SHEET		5	
SHEETS			