



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 physical before using video games. While children play video games, a parent should observe. Be alert to the following symptoms: dizziness, altered vision, eye or muscle twitching, involuntary movements, loss of awareness, disorientation or convulsions. If you or your child experiences these symptoms, discontinue use immediately and consult your physician.

MANUAL

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

SPECIFICATIONS

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



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

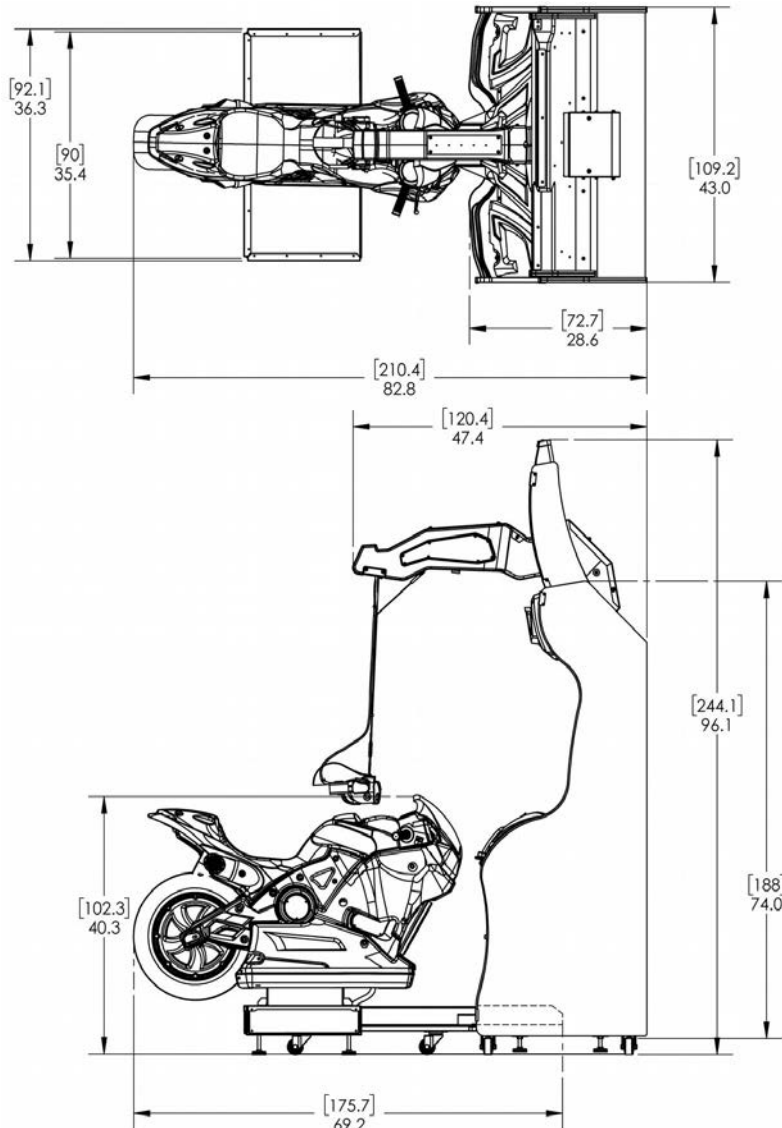
32° to 100° Fahrenheit (0° to 38° Celsius)

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) |



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Fuse Replacement Guide

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

Please see unit for specified fuse labeling. Abbreviations:

| | | |
|---------|---------------------------------|--|
| 5A 250V | 5A, 250VAC Fast Acting 3AG Fuse | Littlefuse 0312005.MXP (or equivalent) |
|---------|---------------------------------|--|

Setup

Unpack Carton

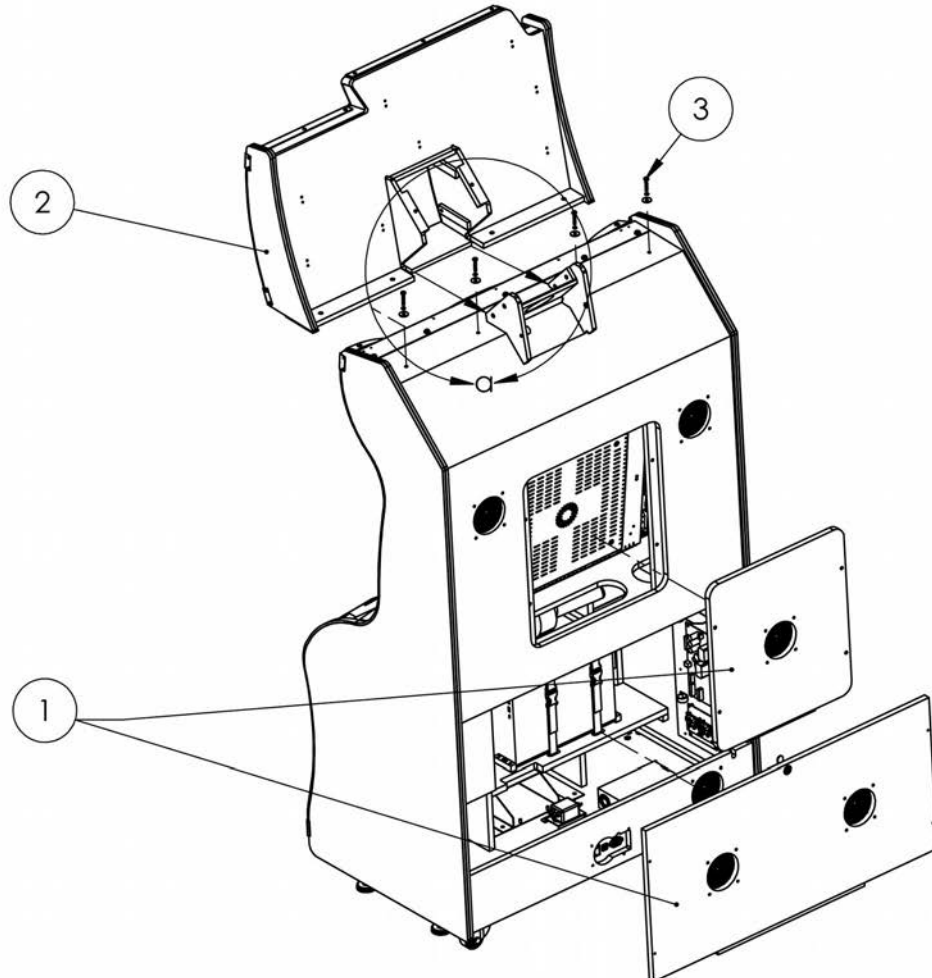
1. Unpack all cartons and locate cabinet components
 - Main Cabinet assembly
 - Motorcycle Base assembly
 - Marquee assembly
 - VR Arm assembly





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.

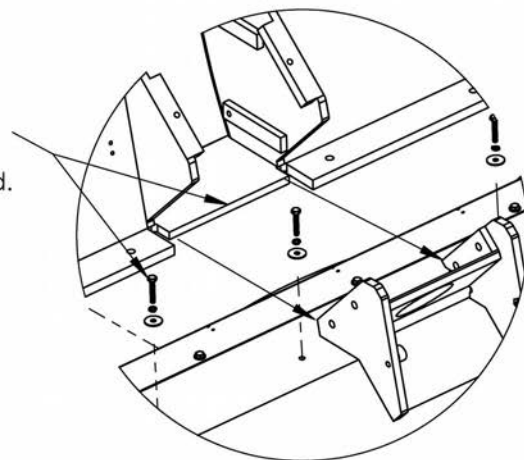


figure "a"

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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").

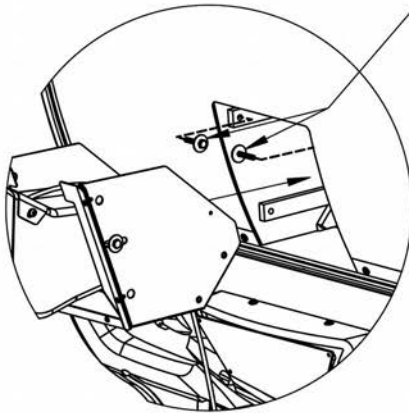


figure "b"

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").

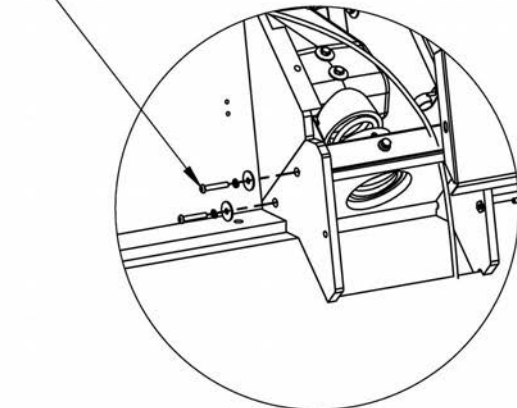
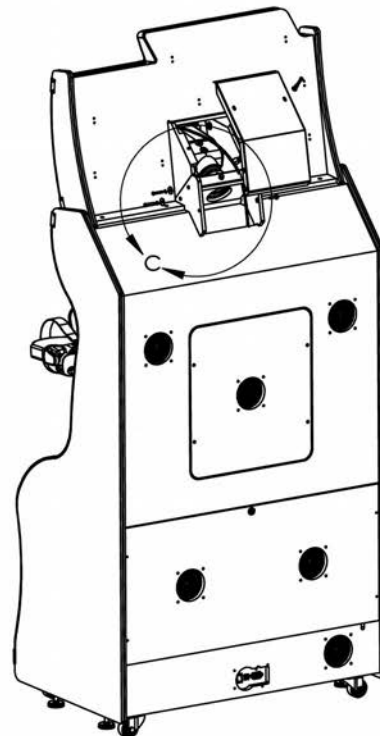
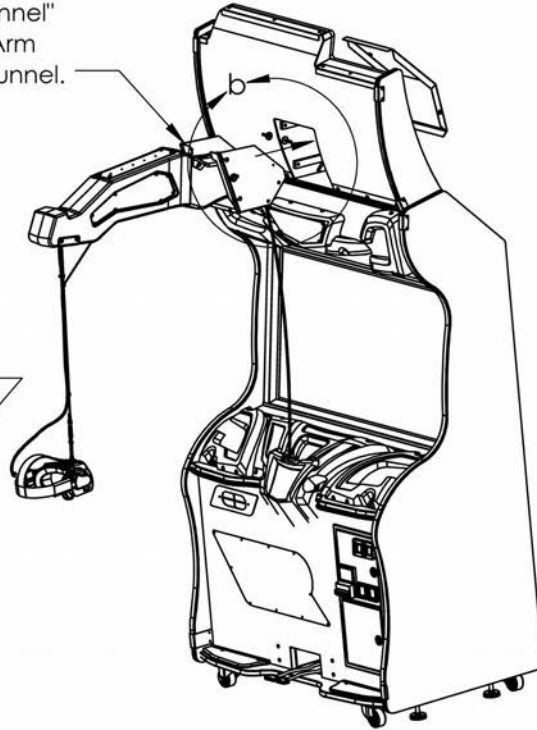
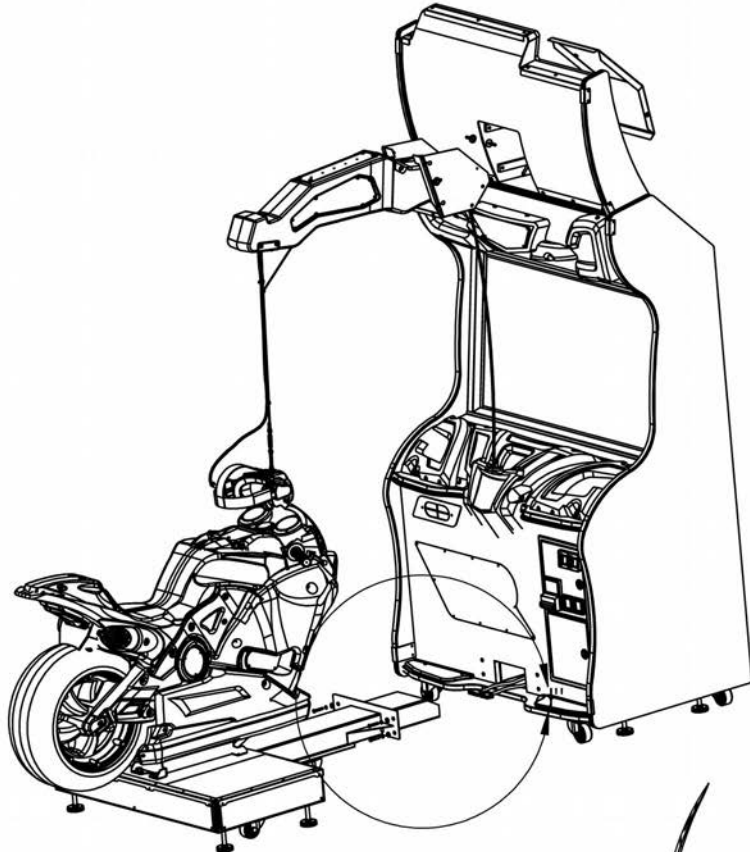


figure "c"





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").

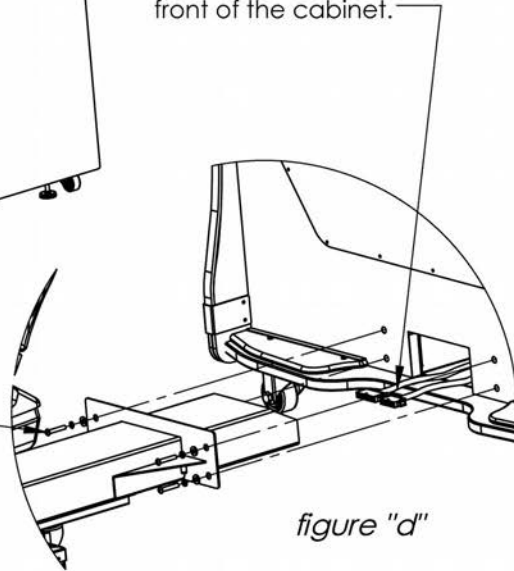
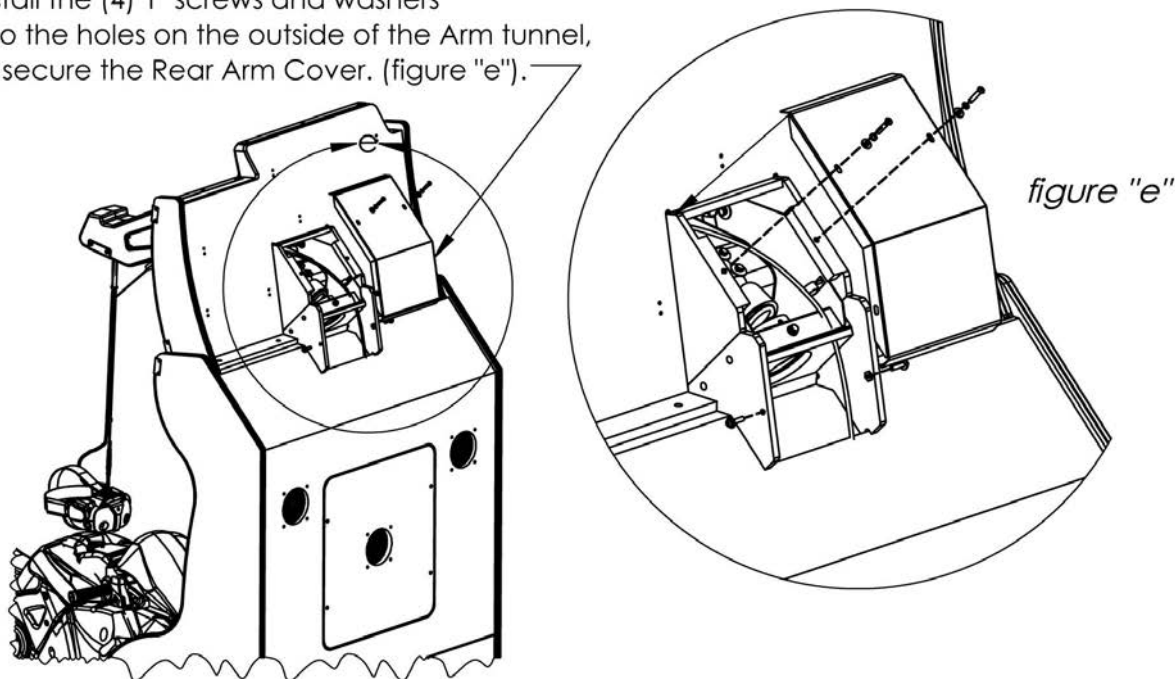


figure "d"

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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



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Maintenance

Hard Drive Recovery

Symptoms requiring hard drive recovery include:

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

COMPUTER

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

Do **not** use the PC on/off switch. Turn AC power on or off with the 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. | | |
| <p style="text-align: center;">WARNING! Data Files Corrupted. (Game Operation May Become Unstable.) Use "Test" Switch to Enter Test Mode and Run "File Test." Press Start To Continue.</p> | | |

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

REVERB 2 COVER

REVERB 2 CAP

SIDE CABLE GUIDE

LEAP DELETE BRACKET

CABLE SLIDE COVER

SPRING

BUCKLE

1/8" BLACK VINYL COATED CABLE (6" LONG)

1/8" BLACK VINYL COATED CABLE (25.5" LONG)

54" HI-FLEX CABLE

REVERB 2 HEADSET (STRAP REMOVED)

USBC TO USBA ADAPTER

REVERB 2 HEADSET CABLE

HEADSET BRACKET

4" SPLIT TUBING

6" SPLIT TUBING (3)

4" BLACK STANDARD ZIP TIE (13)

4" BLACK LOW PROFILE ZIP TIE (8)

REVERB 2 COVER TAPE

EXPANDABLE SLEEVING (8.5")

FACEMASK

HEADSTRAP

CORRUGATED SPLIT TUBING 3/8" X 6'

#4 PHILLIPS THREAD FORMING SCREW 1/2" LONG (2)

6-32 X 5/16" SCREW (3)

8-32 X 3/8" TAMPERPROOF SCREW (2)

4-40 X 3/8" PHILLIPS SCREW

CRIMP (4)

STOP CRIMP

GROMMET (6)

CONNECTING LINK

6-32 LOCK NUT (2)

8-32 THIN LOCK NUT

CRIMP HEAT SHRINK TUBING 5/8" x 1" LONG(5)

FACEMASK TAPE 2 SIZES - 4 PIECES

SLEEVING HEAT SHRINK TUBING 3/4" x 1 3/8" LONG (2)

HEADSTRAP HEAT SHRINK (2 SIZES 1" & 3")

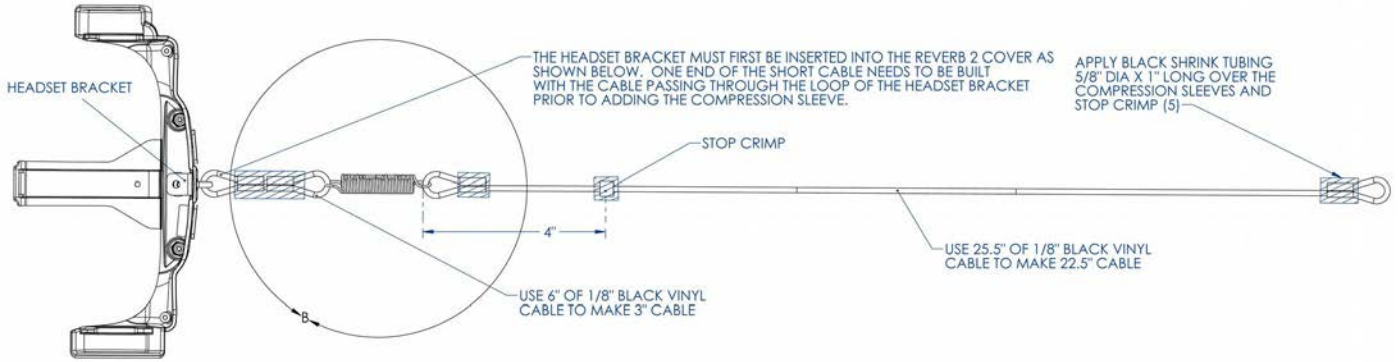
USBC TO USBA ADAPTER HEATSHRINK (1/2" OD X 3/4" LONG)

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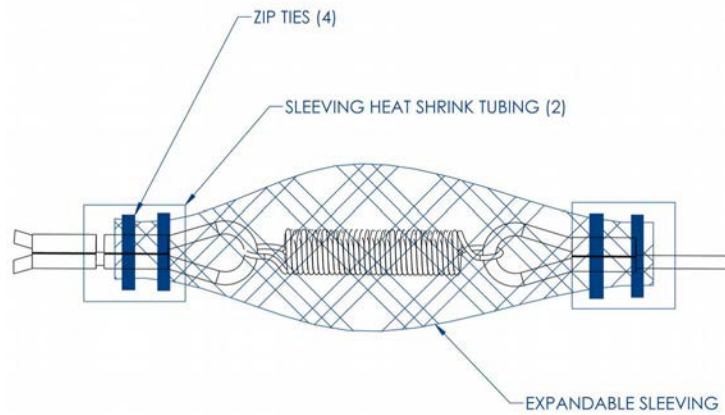
Headset Security Cables and Spring

Notes:

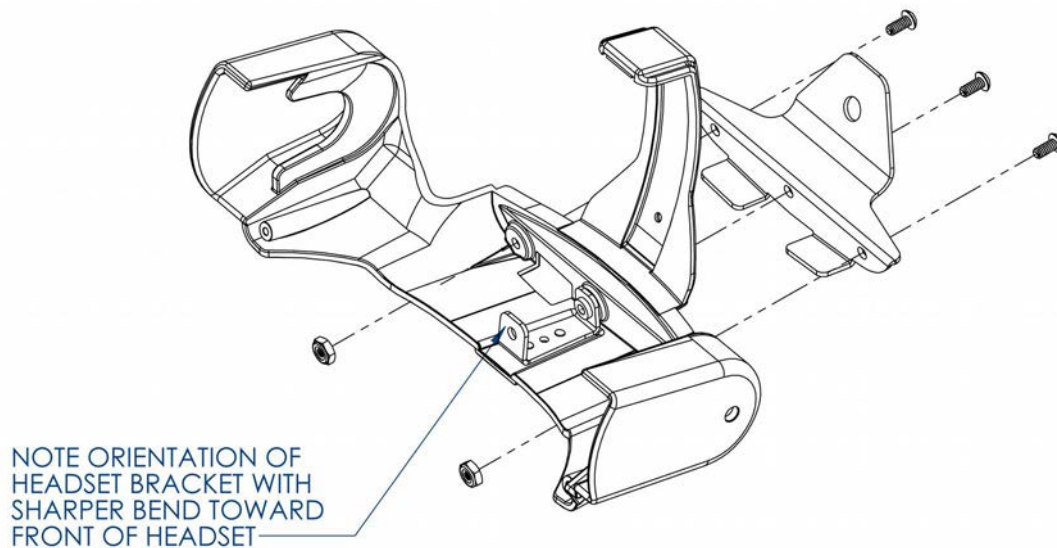
1. Vinyl coated wire cable is McMaster-Carr #8912T13 or equivalent
2. Compression sleeves are 1/8" aluminum thin wall swage sleeves such as swage right S-50-004 or equivalent.
3. Stop crimp is McMaster-Carr #3914T3 or equivalent.



Adding Expandable Sleeving Over Spring

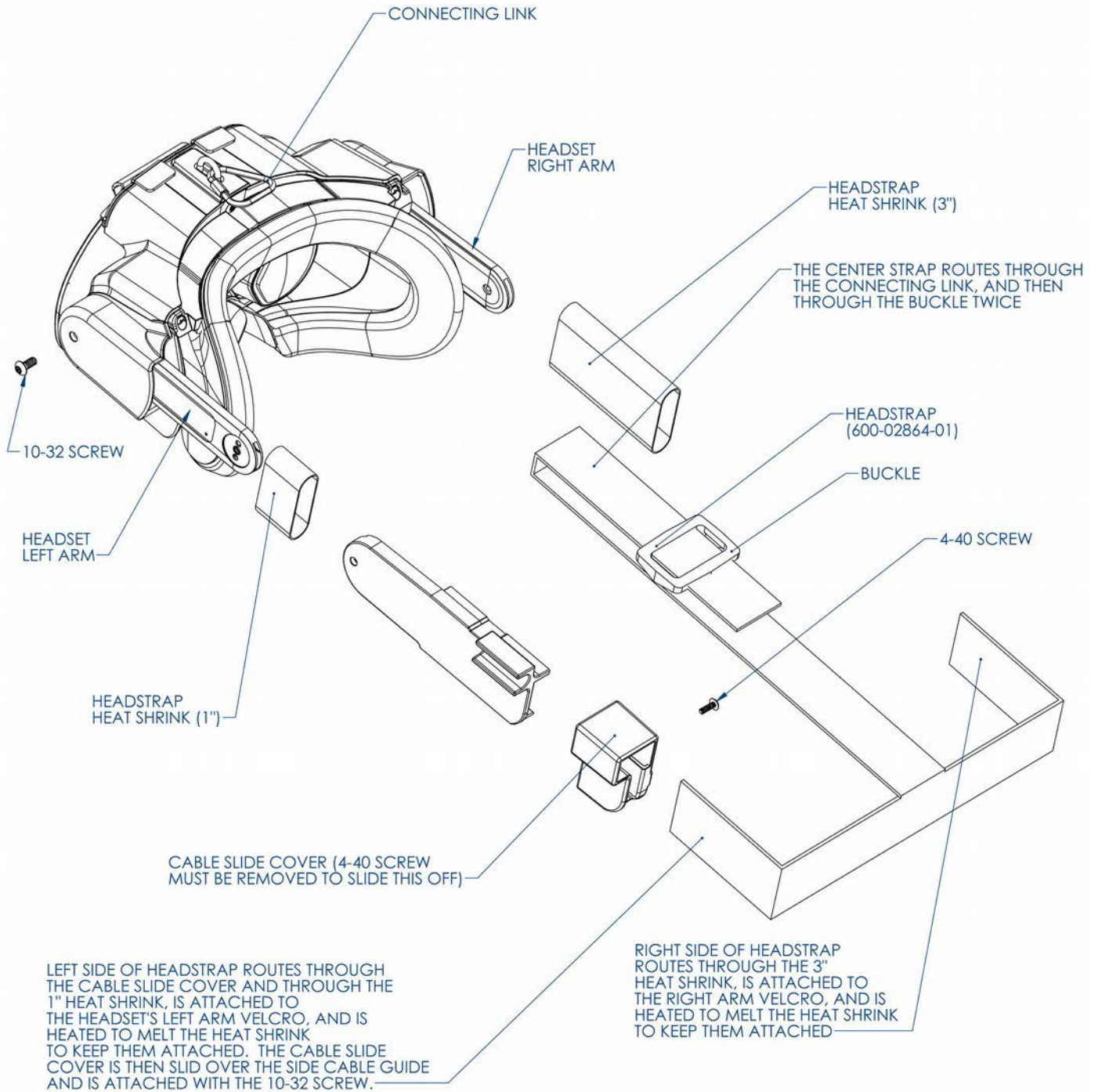


Installing Leap Delete Bracket



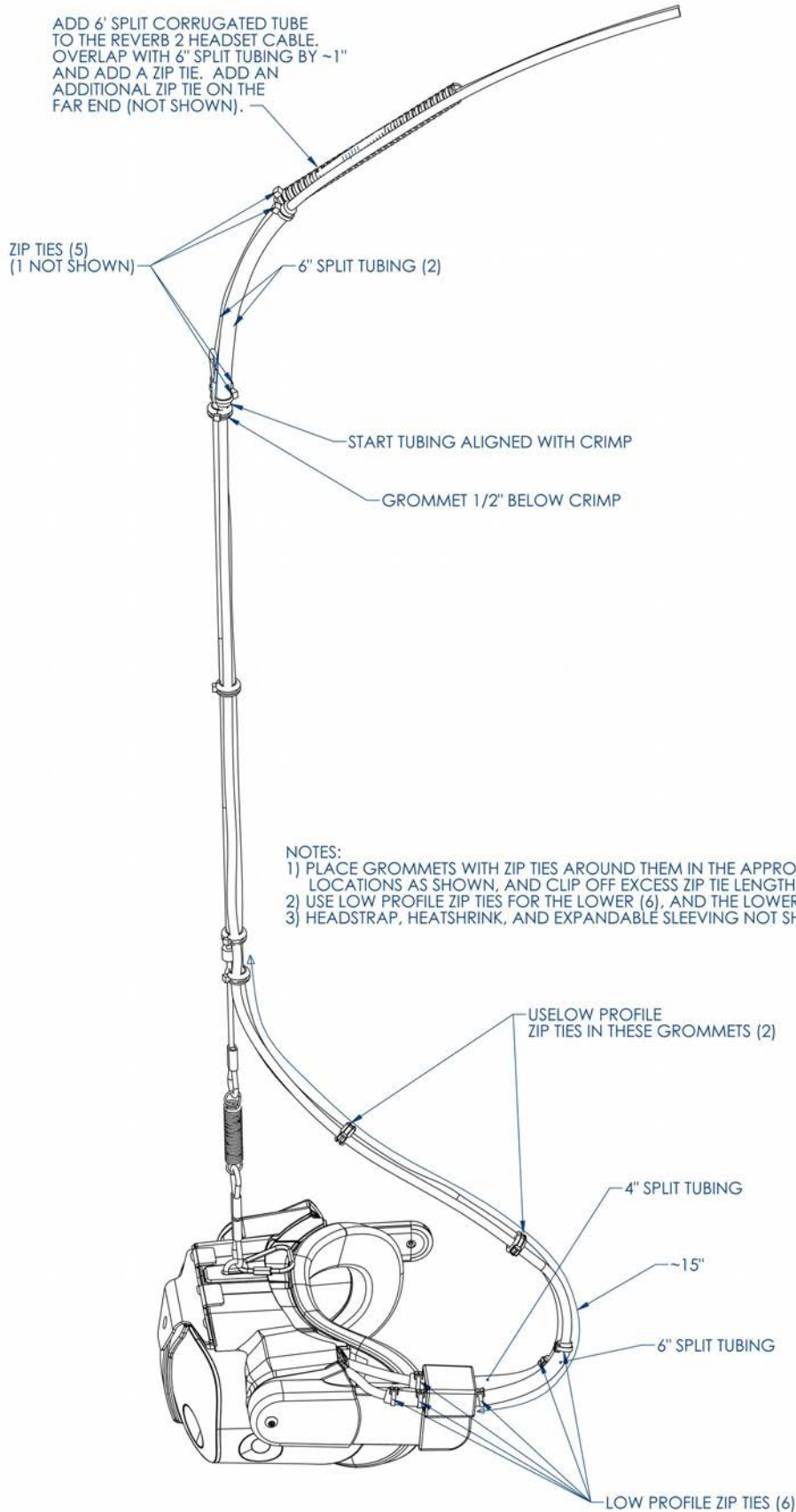


Headstrap Installation



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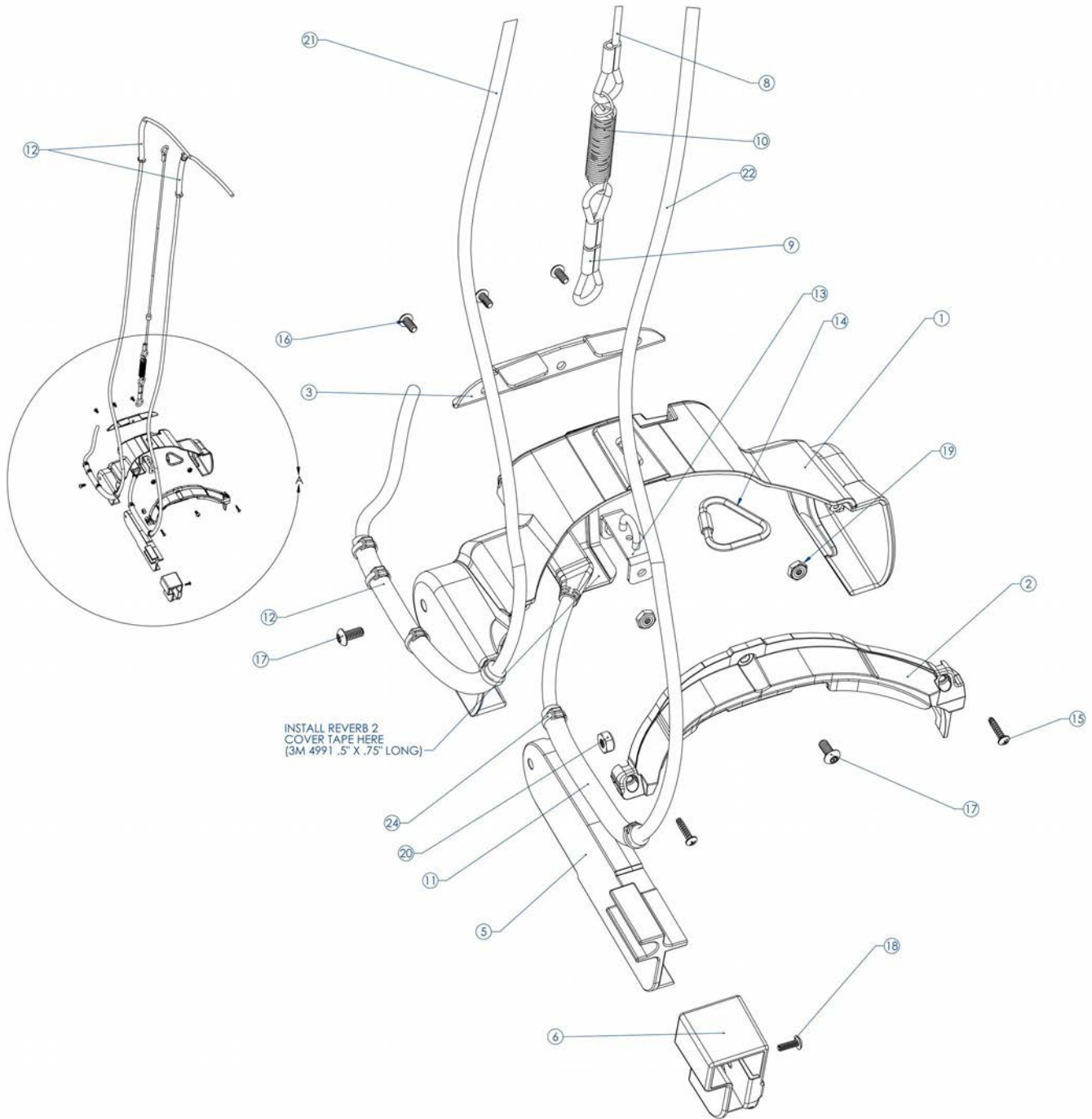
Grommet and Zip Tie Placement





Parts

MotoGP VR Reverb 2 Headset Assembly

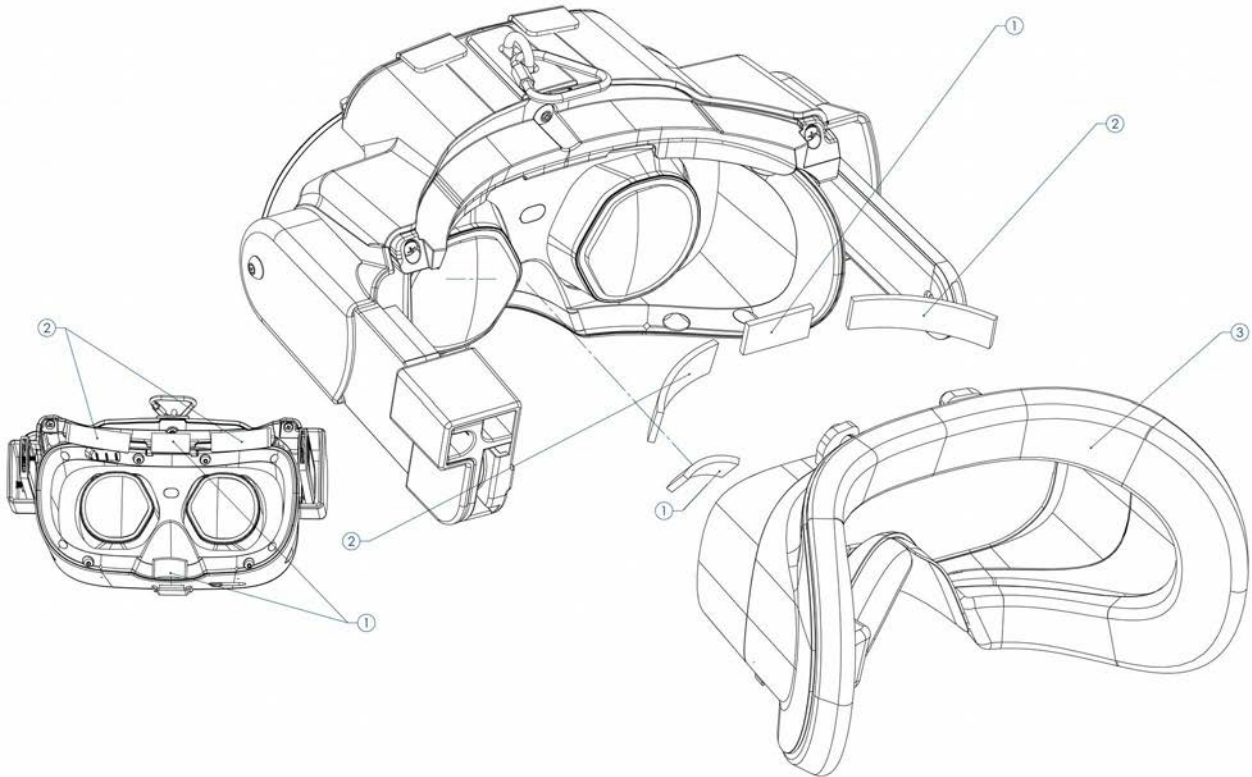


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MotoGP VR Main Cabinet Assembly Part Numbers

| 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 |

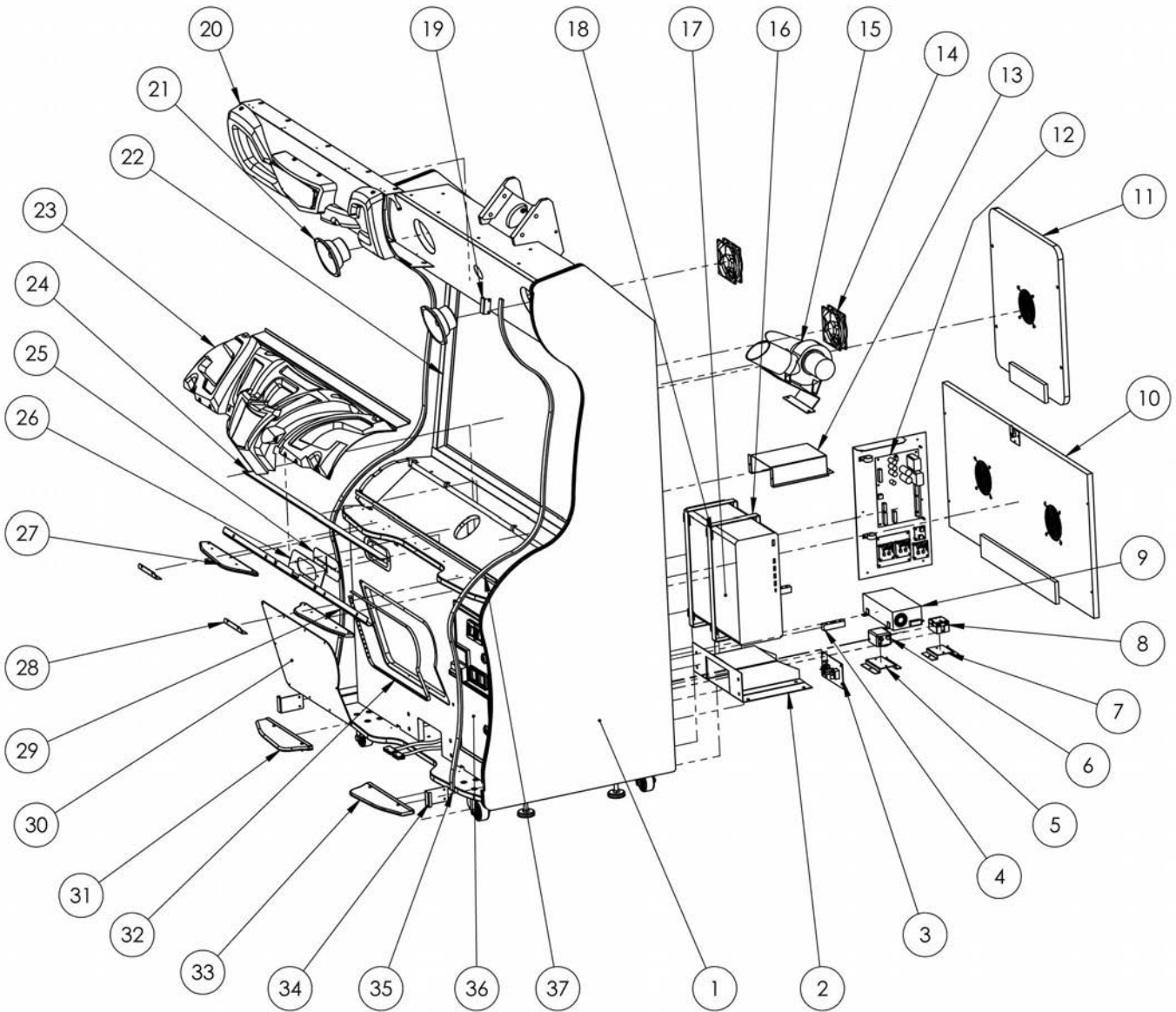
MotoGP VR Facemask Tape



| 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



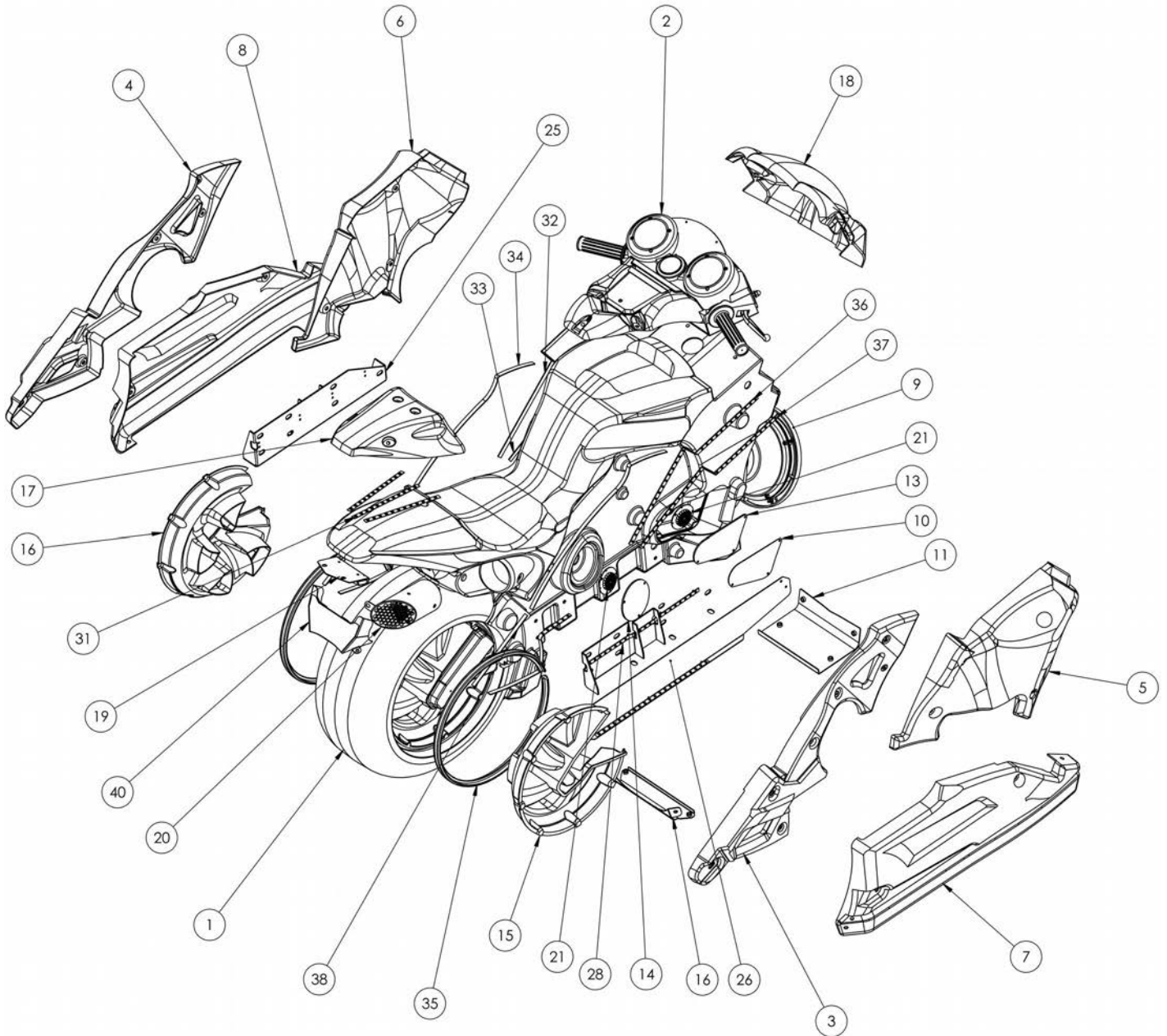
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MotoGP VR Main Cabinet Assembly Part Numbers

| 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



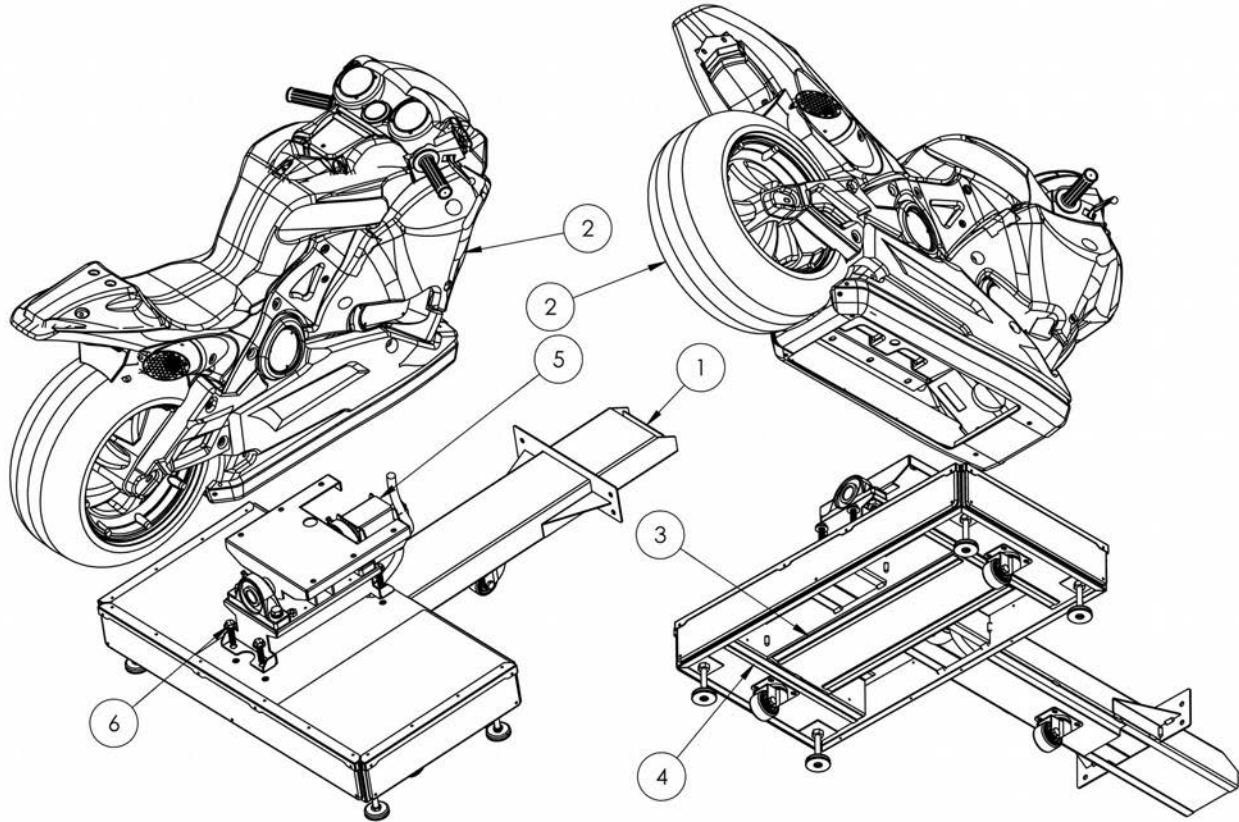
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MotoGP VR Motorcycle Assembly Part Numbers

| 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 | SB3-8inWoofers-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 Assmely | 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

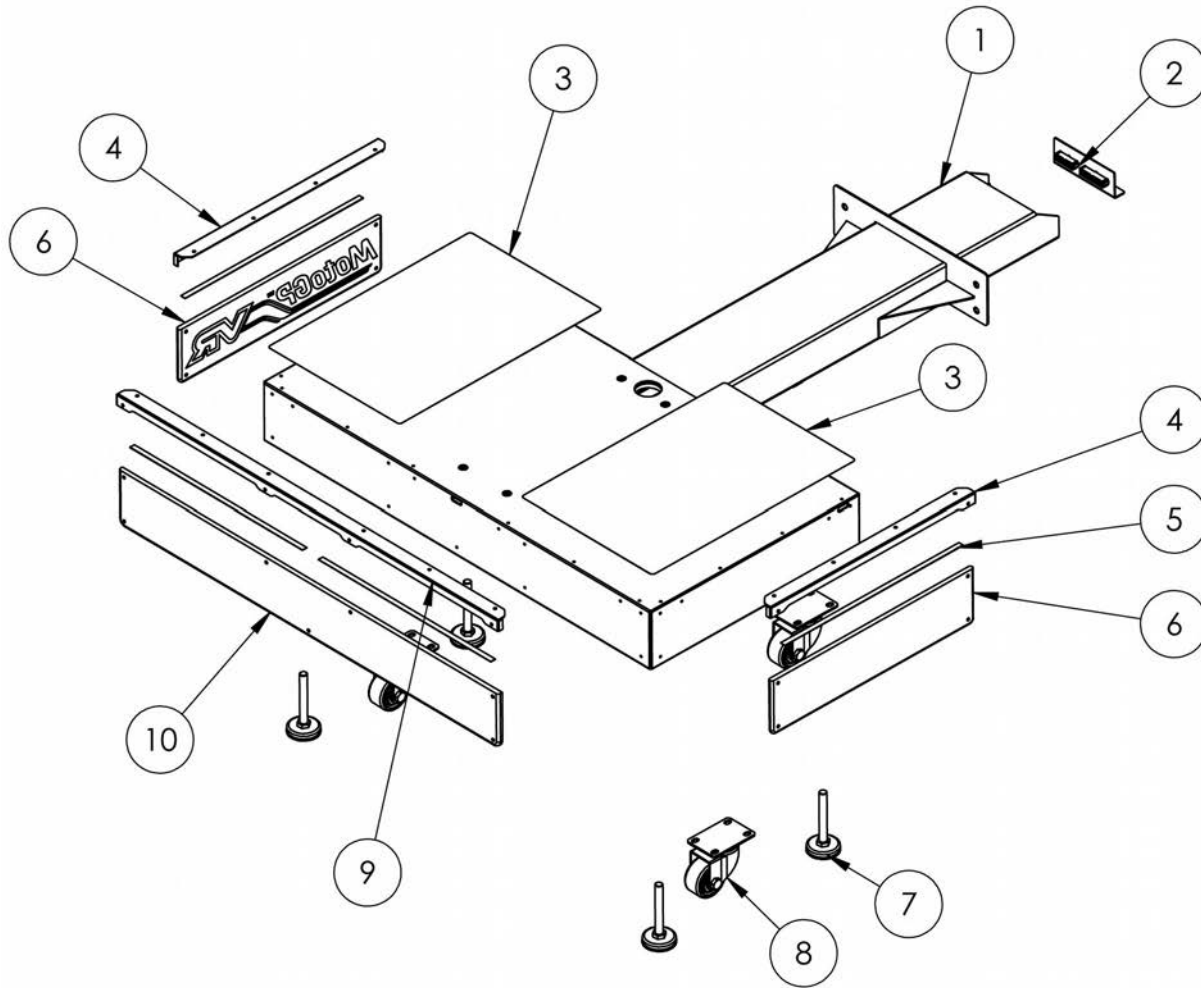


MotoGP VR Bike and T-Base Assembly Part Numbers

| 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 |

MotoGP™ VR Service Manual

MotoGP VR T-base Assembly

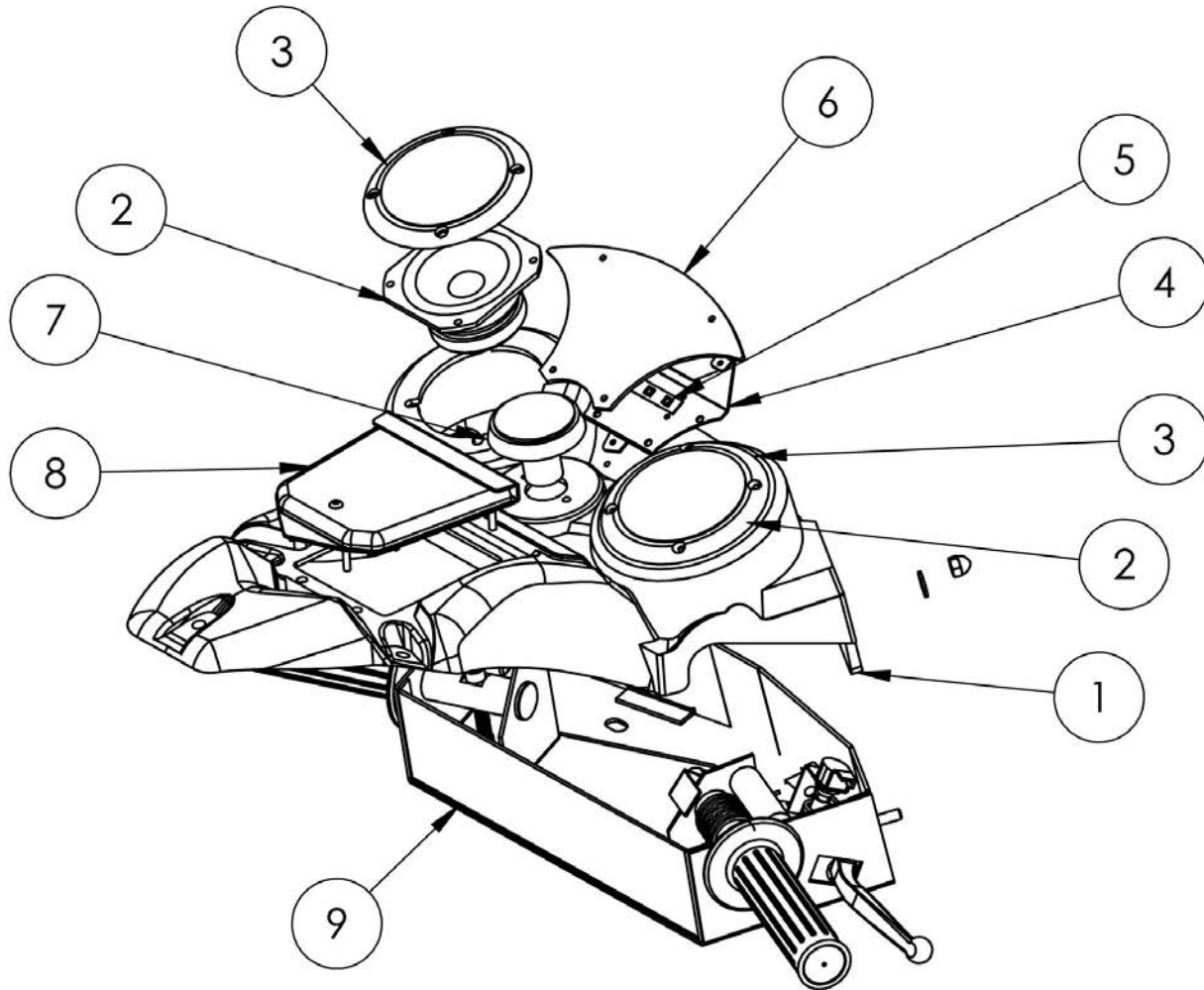


MotoGP VR T-Base Assembly Part Numbers

| 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

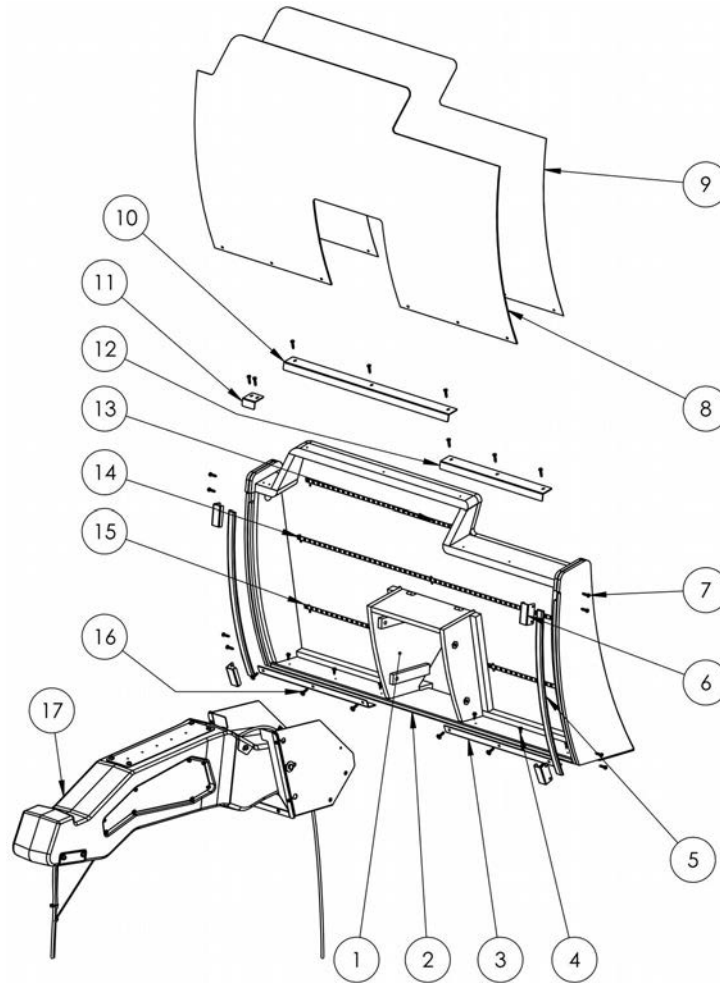


MotoGP VR Handlebar Assembly Part Numbers

| 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

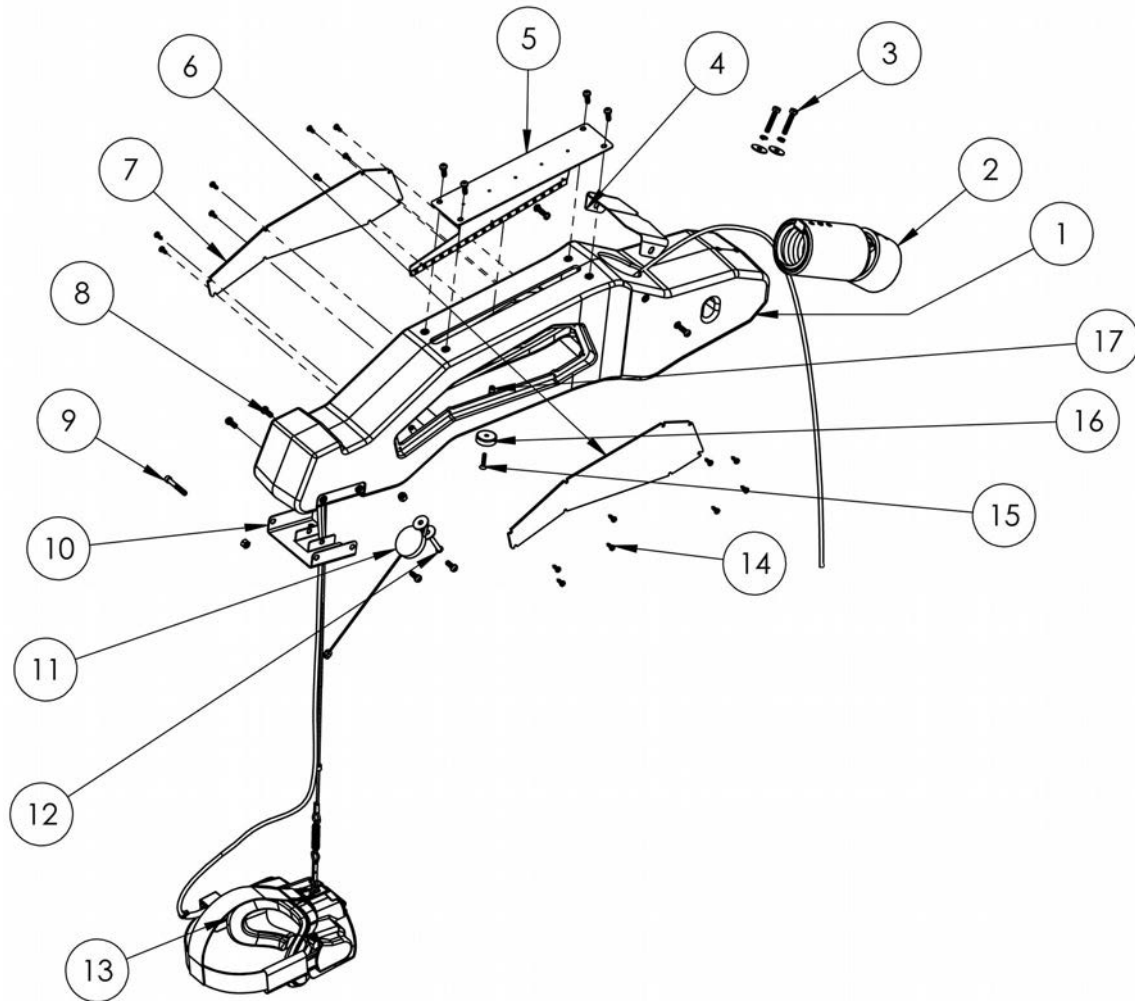


MotoGP VR Marquee Header Part Numbers

| 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

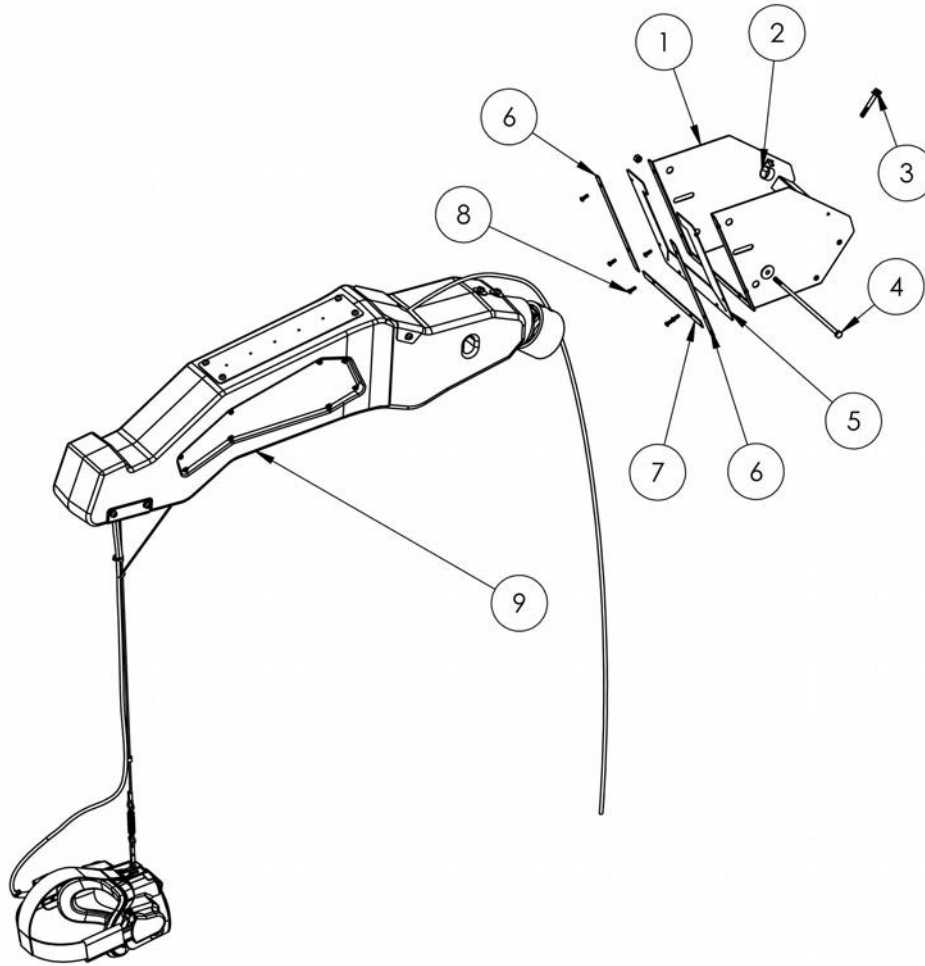


MotoGP VR Arm Part Numbers

| 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



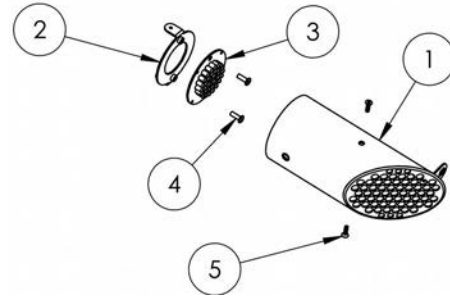
MotoGP VR Arm Mounting Bracket Part Numbers

| 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 |



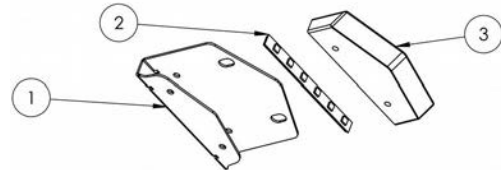
Tail Pipe Assembly

| 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 |



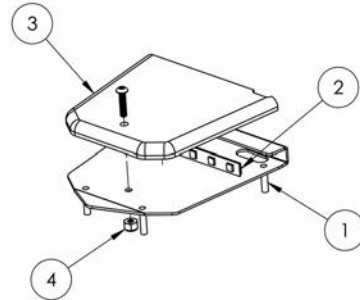
Tail Light Assembly

| 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 |



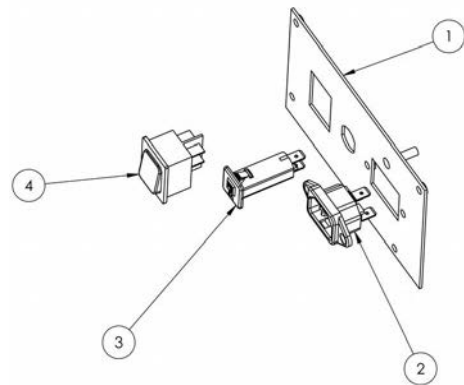
Tank Glow Assembly

| 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 |



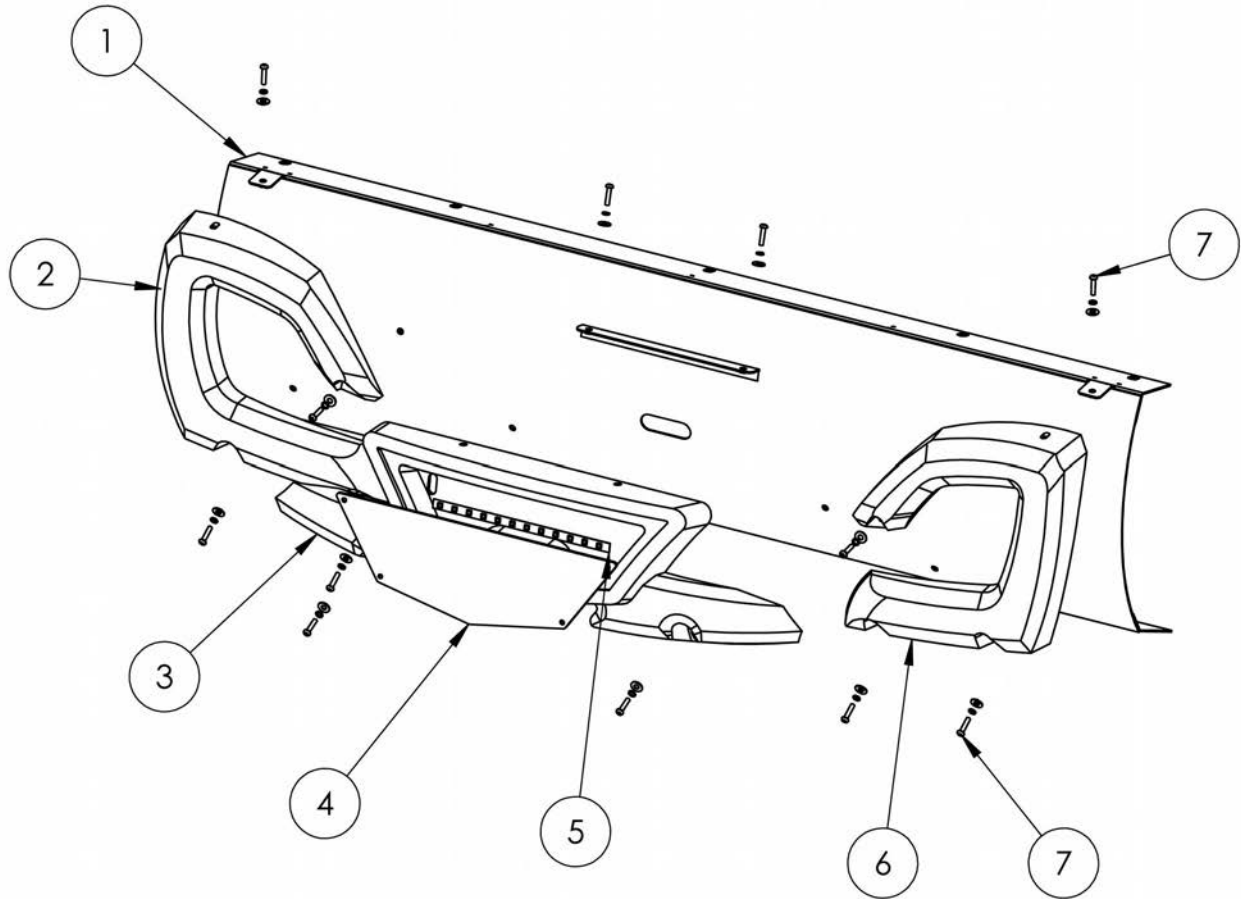
MotoGP VR AC Switch Plate Assembly

| 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

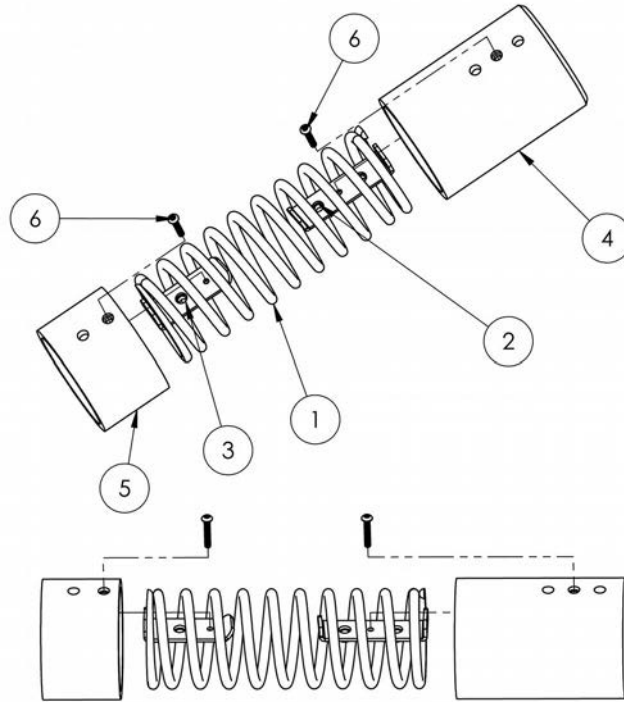
MotoGP VR Marquee Assembly



| Item | Part No. | Description | QTY |
|------|-----------------------|---|-----|
| 1 | 600-01561-01-ASSY | MotoGP Marquee Screen Weldment | 1 |
| 2 | 603-00741-01 | MotoGP Marquee Vacform – Left | 1 |
| 3 | 603-00739-01 | MotoGP Maruqee Vacform – 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 Vacform – 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 |



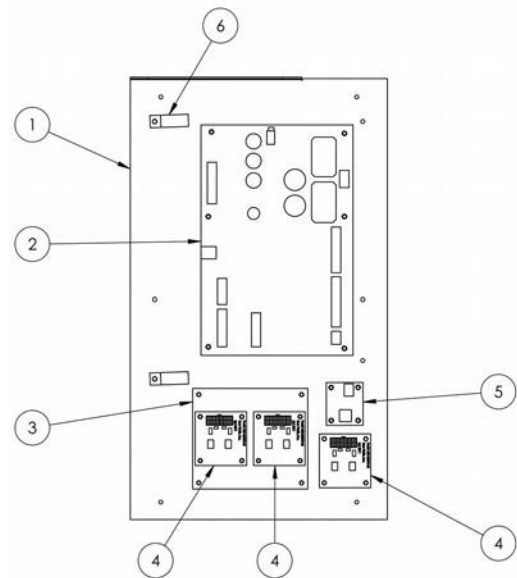
MotoGP VR Arm Spring Assembly



| 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 |

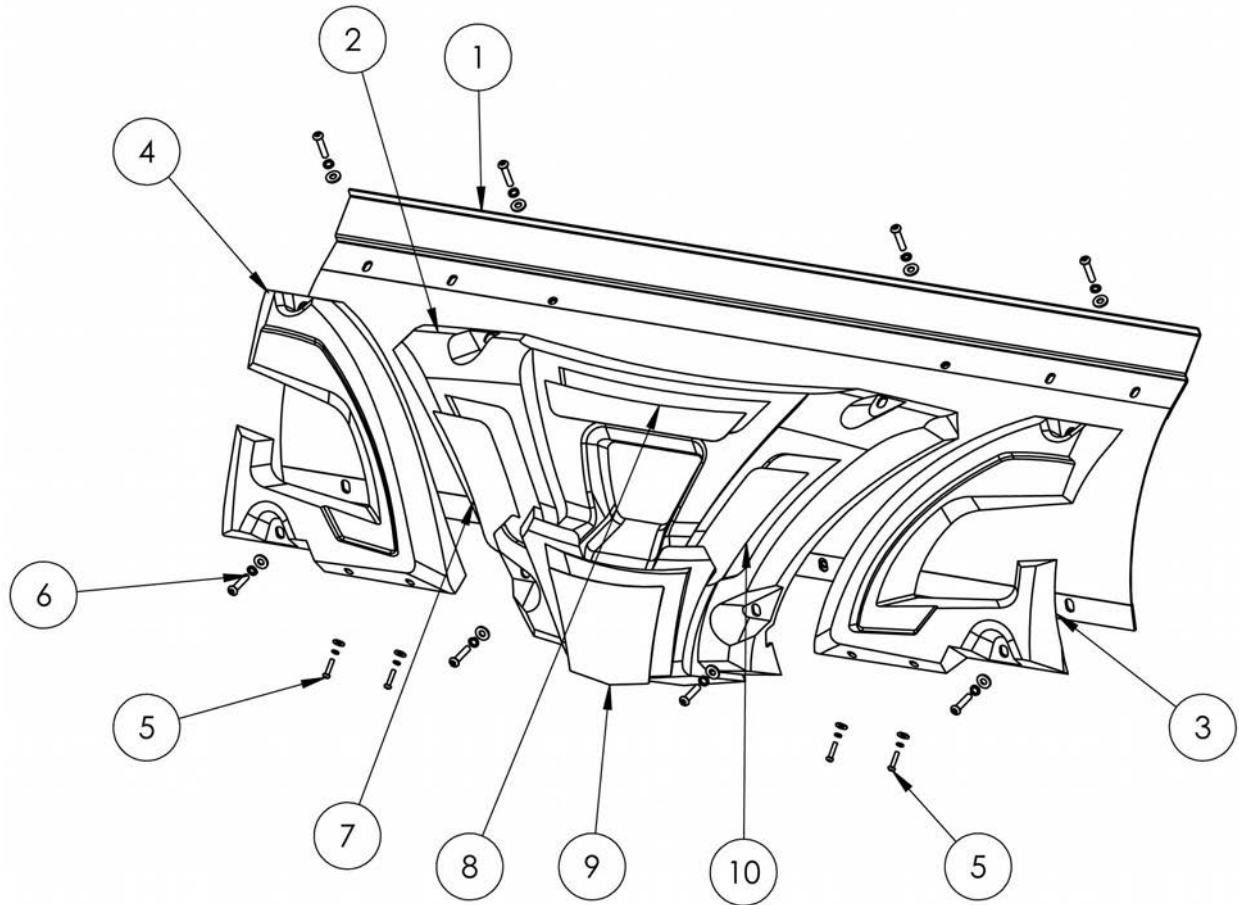
MotoGP VR Rio Board Assembly

| 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

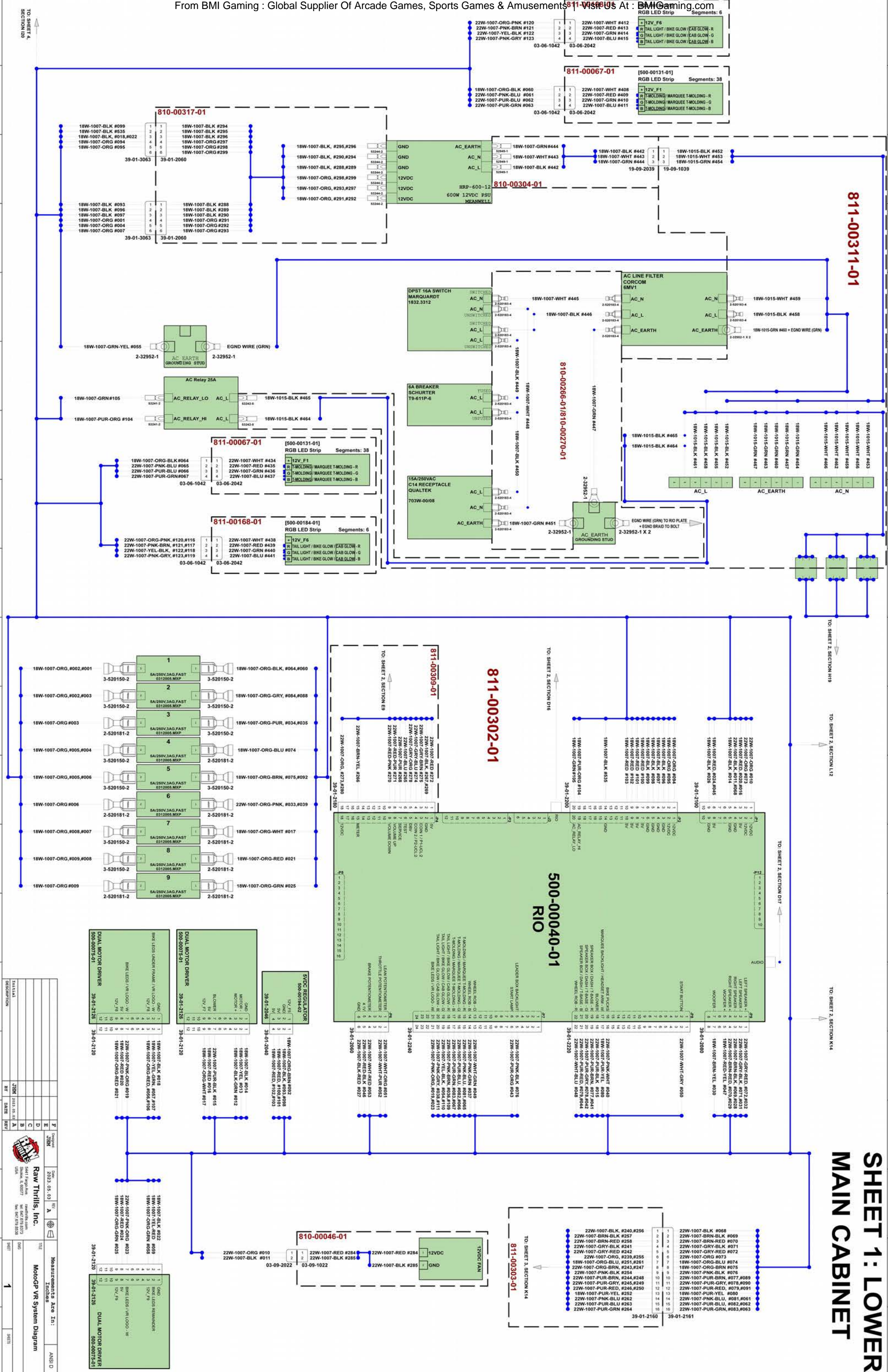
For an authorized distributor near you, visit Raw Thrills at <http://www.rawthrills.com/sales-service>

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



811-00311-01

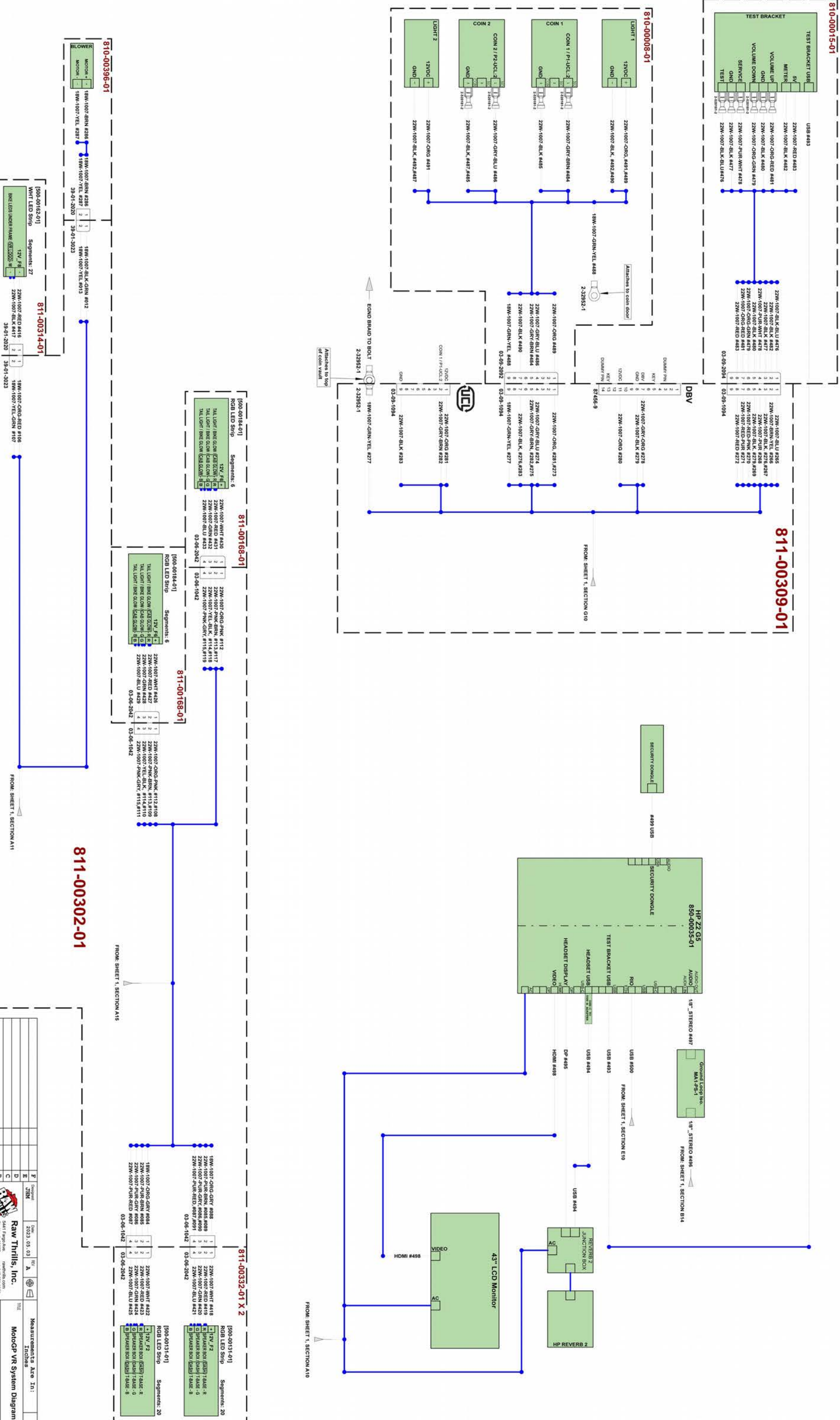
811-00302-01

500-00040-01

SHEET 1: LOWER MAIN CABINET

| | | | |
|--|------------|------------|------|
| DATE | 2023.03.03 | REV | A |
| DESIGNED BY | JIM | CHECKED BY | DAVE |
| | | | |
| Raw Thrills, Inc. 3000 N. 10th Street, Suite 1000 Lincoln, NE 68502 USA | | | |
| Measurements Are In: Inches | | | |
| Motor VR System Diagram | | | |
| ANS I D | | | |
| TITLE | | | |
| DATE | | | |
| DESIGNED BY | | | |
| CHECKED BY | | | |
| DATE | | | |
| SHEET | 1 | | |
| TOTAL SHEETS | 1 | | |

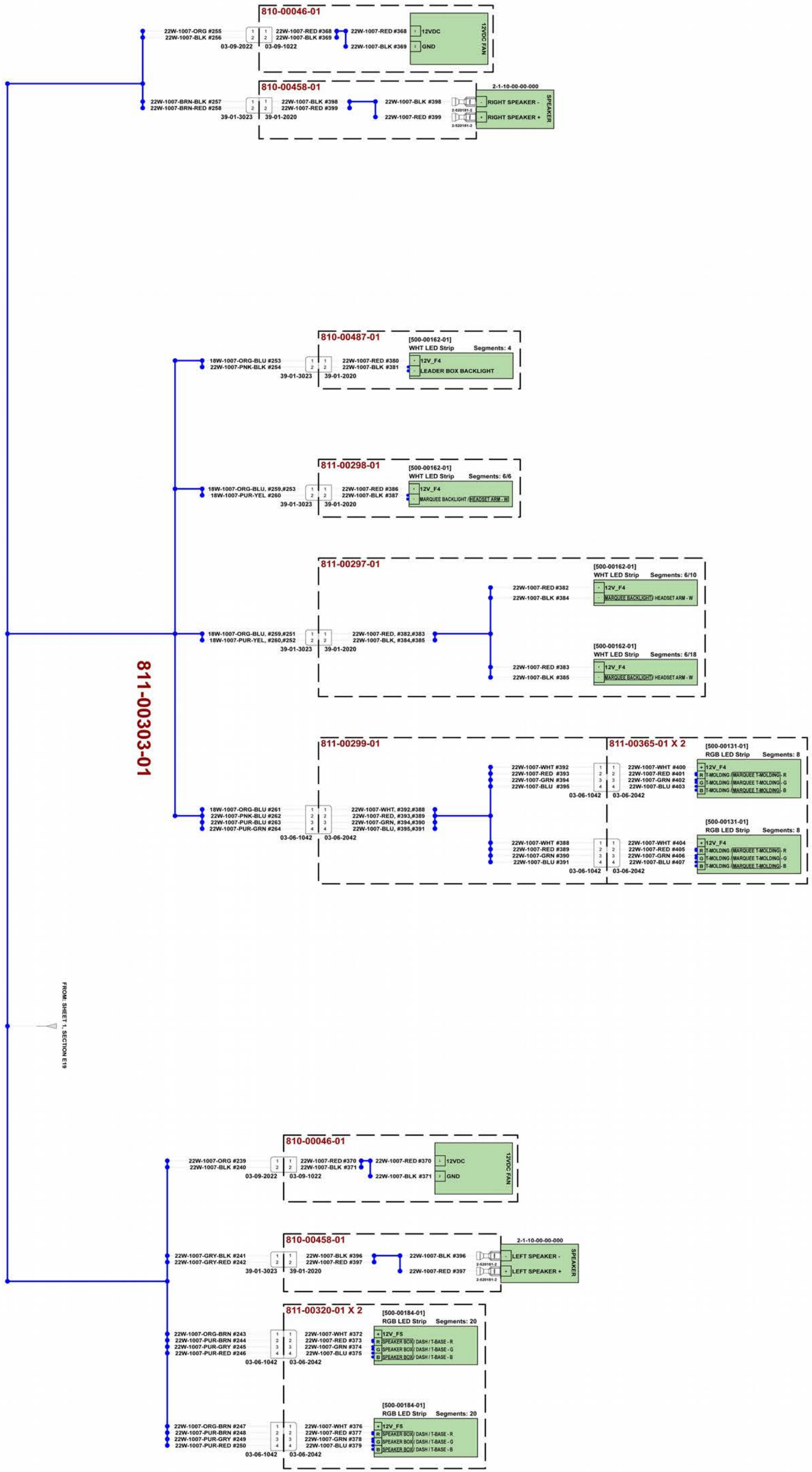
SHEET 2: LOWER MAIN CABINET + VAULT + PC + DISPLAYS



| REV | DATE | BY | CHKD | DESCRIPTION |
|-----|------------|-----|------|-------------|
| 1 | 2023.03.03 | JHR | | INITIAL |
| 2 | | | | |

| | |
|--|---|
| <p>Raw Thrills, Inc. 30411 Progress Ave Shawnee, MO 64783 816-473-8538</p> | <p>MeasUREMENTS ARE IN: INCHES</p> <p>ANSI D</p> |
|--|---|

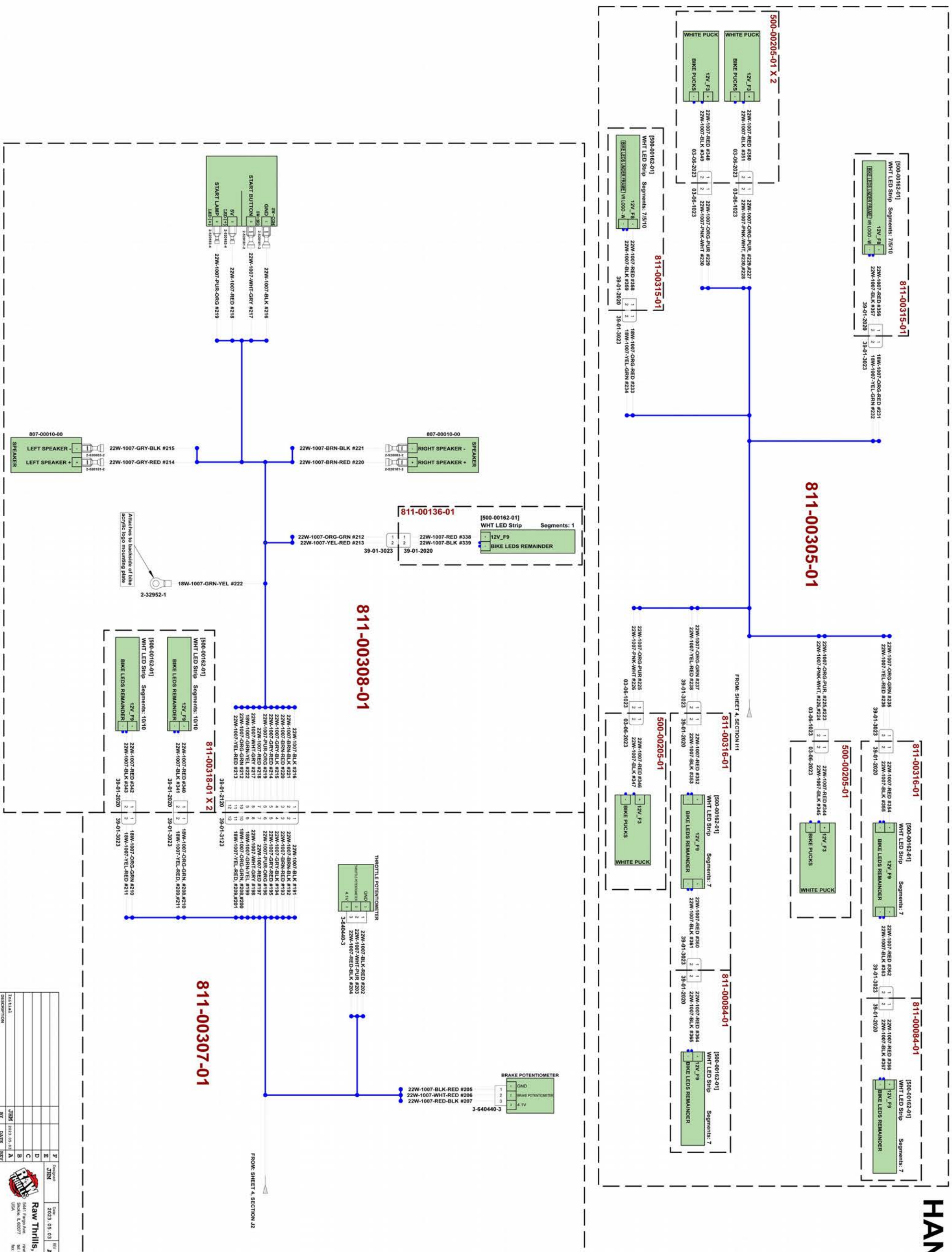
| | |
|--------------------------------|--|
| <p>Motor VR System Diagram</p> | <p>SHEET: 2</p> <p>TOTAL SHEETS: 2</p> |
|--------------------------------|--|



| | | | | | |
|---|-----|------|-----|----|------|
| INITIALS | JHM | DATE | REV | BY | DATE |
| DESCRIPTION | | | | | |
| <p>Raw Thrills, Inc. 3041 Parkway Suite 100 Schaumburg, IL 60197 USA</p> | | | | | |
| <p>MotogP VR System Diagram</p> | | | | | |
| <p>Measurements Are In: Inches</p> | | | | | |
| <p>ANSI D</p> | | | | | |
| <p>3 SHEETS</p> | | | | | |

SHEET 3: UPPER MAIN CABINET + MARQUEE

SHEET 5: BIKE + HANDLEBARS



| | | | |
|--|------------|------------|------|
| DATE | 2023.03.03 | REV | A |
| DESIGNED BY | JIM | CHECKED BY | DAVE |
| | | | |
| Raw Thrills, Inc. 30411 Pergamon Irvine, CA 92618 USA | | | |
| Measurements Are In: | | ANSIS D | |
| Inches | | 5 | |
| MotorGP VR System Diagram | | SHEET 5 | |