






# SERVICE






## SAFETY INSTRUCTIONS

The following safety instructions apply to operators and service personnel. Read these instructions prior to servicing or preparing the game machine for play. Other safety instructions appear throughout this manual.

### DEFINITIONS OF SAFETY TERMS

- **DANGER** indicates an imminent hazard. If you fail to avoid this hazard, it **WILL** cause death or serious injury.
- **WARNING** indicates a potential hazard. If you fail to avoid this hazard, it **COULD** cause death or serious injury.
- **CAUTION** indicates a potential hazard. If you fail to avoid this hazard, it **MAY** cause minor or moderate injury. **CAUTION** also alerts you about unsafe practices.
- **NOTE** indicates information of special importance.

	<p><b>WARNING: TRANSPORTING GAMES.</b> The game machine contains glass and fragile electronic devices. Use appropriate care when transporting. Avoid rough handling when moving cabinet. Do not move with power switched on.</p>
	<p><b>WARNING: DISCONNECT POWER.</b> Always turn AC power OFF and unplug game machine before attempting service or adjustments unless otherwise instructed. Installing or repairing boards with power switched on can damage components and void warranty.</p>
	<p><b>WARNING: GROUND GAMES.</b> Avoid electrical shocks! Do not plug in the game machine until you have inspected and properly grounded it. Only plug this game into a grounded, three-wire outlet. Do not use a “cheater” plug, or cut off the ground pin on line cord.</p>
	<p><b>WARNING: AVOID ELECTRICAL SHOCKS.</b> The VGM system does not utilize an isolation transformer. Internal cabinet AC is not isolated from the external AC line.</p>
	<p><b>WARNING: HANDLE FLUORESCENT TUBE AND CRT WITH CARE.</b> If you drop a fluorescent tube or CRT and it breaks, it will implode! Shattered glass can fly eight feet or more from the implosion.</p>

	<p><b>CAUTION: CHECK POWER SELECTOR, LAMP.</b> Set the 115/230VAC selector on the power supply for the correct line voltage. Check selector setting before switching on the game machine. Verify that the fluorescent lamp assembly is correct for the local line voltage.</p>
	<p><b>CAUTION: USE PROPER FUSE.</b> Avoid electrical shock! Replacement fuses must be identically rated. Fuse voltage and current ratings must be identically rated to original fuse.</p>
	<p><b>CAUTION: ATTACH CONNECTORS PROPERLY.</b> Be sure board connectors mate properly. If connectors do not slip on easily, do not force them. A reversed connector may damage a game machine and void the warranty. Connector keys only allow a connector to fit one set of pins on a board.</p>
	<p><b>CAUTION: USE CARE WHEN SHIPPING HARD DISKS.</b> The hard disk drive must be packed in an anti-static bag. When shipping the drive for repair or replacement, pack it in an approved container (P/N 08-8068). Do not stack or drop hard disk drives.</p>
	<p><b>WARNING: HAZARD TO EPILEPTICS.</b> A very small portion of the population has a condition which may cause them to experience epileptic seizures or have momentary loss of consciousness when viewing certain kinds of flashing lights or patterns that are present in our daily environment. These persons may experience seizures while watching some kinds of television pictures or playing certain video games. People who have not had any previous seizures may nonetheless have an undetected epileptic condition.</p> <p>If you or anyone in your family has experienced symptoms linked to an epileptic condition (e.g., seizures or loss of awareness), immediately consult your physician before using any video games.</p> <p>We recommend that parents observe their children while they play video games. If you or your child experience the following symptoms: dizziness, altered vision, eye or muscle twitching, involuntary movements, loss of awareness, disorientation, or convulsions, <b>DISCONTINUE USE IMMEDIATELY</b> and consult your physician.</p>

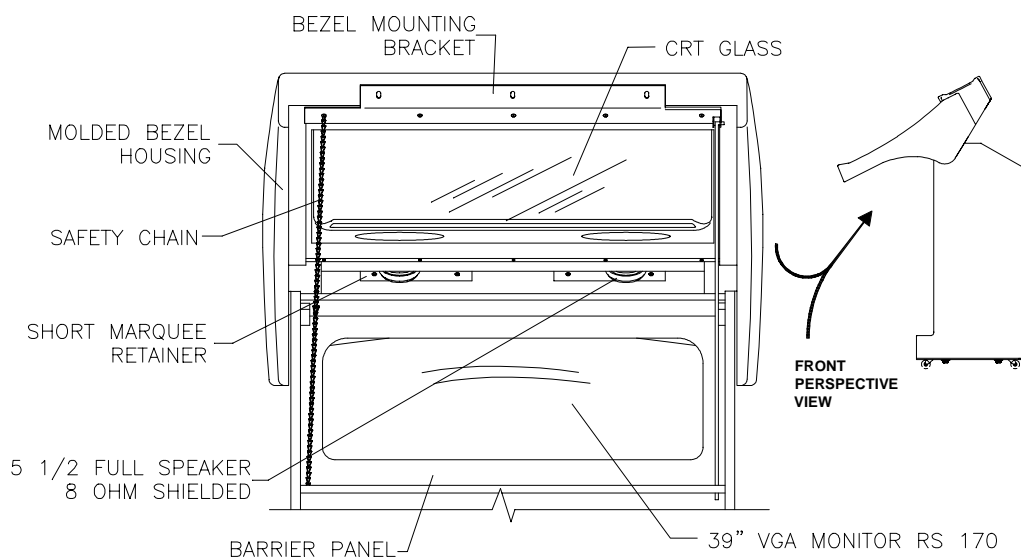
## SERVICING

Only qualified service personnel should perform maintenance and repairs. Product guidelines apply to all operators and service personnel. Specific notes, cautions, and warnings appear throughout the manual where they apply. We recommend that you read the SAFETY NOTICES section thoroughly before beginning service. **NOTE:** Always switch off power to game machine before servicing.

### To service Marquee...

Refer to *Marquee Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- Remove center control cabinet.
  1. Remove tamper-resistant screws from either side of cabinet used to fasten it to brackets attached to the main cabinet.
  2. Slide control cabinet away from main cabinet enough to expose wiring.
  3. Label and disconnect all wiring, including ground.
  4. Continue to slide control cabinet completely away from the main cabinet.
- Open Marquee:
  1. Remove the hardware from the bracket along the bottom edge of the marquee housing.
  2. Grasp bracket and lift the marquee housing up. The hinged marquee housing uses a prop rod located inside the main cabinet to keep it extended during service. Remove the free end of the prop rod from its retaining clip and insert it in the rod bracket on the lower right side of the marquee housing.
  3. Perform desired repair or equipment replacement.
  4. To reinstall, unhook prop rod and return it to the retaining clip. Slowly lower the marquee housing and thread the tension chain back into the main cabinet.
  5. Fasten marquee housing bracket in place with the screws provided.



**MARQUEE SERVICE**

**To service Fluorescent Light Assembly...**

Refer to *Marquee Service* and *Viewing Glass Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- *Remove center control cabinet.*
  1. Remove tamper-resistant screws from either side of cabinet used to fasten it to brackets attached to the main cabinet.
  2. Slide control cabinet away from the main cabinet enough to expose wiring.
  3. Label and disconnect all wiring, including ground.
  4. Continue to slide control cabinet completely away from the main cabinet.
- *Open Marquee:*
  1. Remove hardware from bracket along the bottom edge of marquee housing.
  2. Grasp bracket and lift marquee housing up. The hinged marquee housing uses a prop rod located inside the main cabinet to keep it extended during service. Remove the free end of prop rod from its retaining clip and insert in the lower right side of bracket on marquee housing.
- *Service Light Assembly:*
  1. Reach up inside the opening in the cabinet and disconnect the power cable from the fluorescent light assembly.
  2. Loosen, but do not remove the screws fastening the assembly to the cabinet.
  3. Slide assembly slightly forward to disengage keyholes. Lift out assembly.
- Perform desired repair or equipment replacement.

**WARNING**

Fluorescent tubes implode on impact when dropped. Use care in handling.

**To service Fluorescent Lamp or Starter...**

Refer to *Marquee Service* and *Viewing Glass Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- *Remove center control cabinet.*
  1. Remove tamper-resistant screws from either side of cabinet used to fasten it to brackets attached to the main cabinet.
  2. Slide control cabinet away from the main cabinet enough to expose wiring.
  3. Label and disconnect all wiring, including ground.
  4. Continue to slide the cabinet completely away from the main cabinet.
- *Open Marquee:*
  1. Remove hardware from the bracket along bottom edge of marquee housing.

**To service Fluorescent Lamp or Starter (continued)...**

2. Grasp bracket and lift marquee housing up. The hinged marquee housing uses a prop rod located inside the main cabinet to keep it extended during service. Remove the free end of the prop rod from its retaining clip and insert it in the rod bracket on the lower right side of the marquee housing.

- *Service Light Assembly:*

1. Reach up inside the opening in the cabinet and remove the fluorescent lamp locks.

2. Loosen, but do not remove the screws fastening the assembly to the cabinet.

3. Both the fluorescent tube and the starter require a quarter turn for removal. Grasp the tube or starter, give it a quarter turn and pull it from its socket.

4. Carefully place a new starter or tube into the sockets and rotate it a quarter turn to reinstall.

5. Reinstall both fluorescent lamp locks. Clean the tube to remove fingerprints and dust.

- Perform desired repair or equipment replacement.

**To service Backlit Marquee ...**

Refer to Marquee *Service* and *Viewing Glass Service* illustration.

- Switch off power to game machine and unplug AC line cord.

- *Remove center control cabinet.*

1. Remove tamper-resistant screws from either side of cabinet used to fasten it to brackets attached to the main cabinet.

2. Slide control cabinet away from the main cabinet enough to expose wiring.

3. Label and disconnect all wiring, including ground.

4. Continue to slide the cabinet completely away from the main cabinet.

- *Open Marquee:*

1. Remove hardware from bracket along bottom edge of marquee housing.

2. Grasp bracket and lift the marquee housing up. The hinged marquee housing uses a prop rod located inside the main cabinet to keep it extended during service. Remove the free end of the prop rod from its retaining clip and insert it in the rod bracket on the lower right side of the marquee housing.

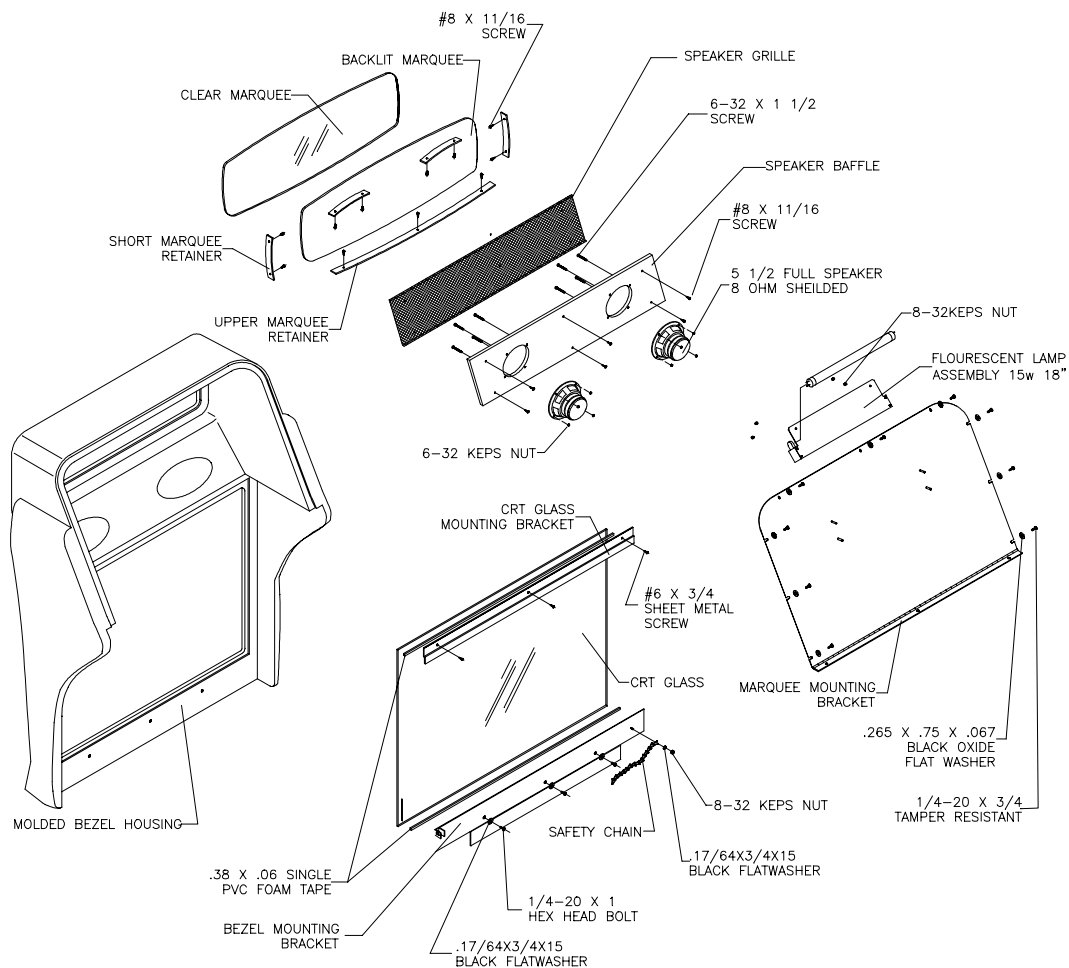
- *Service Artwork:*

1. Reach up inside the opening toward marquee artwork. The marquee artwork and marquee glass is held in place at the top and sides by spacers fastened with screws.

2. Remove screws from each brackets. Set the screws and brackets aside until reinstallation.

3. Lift the marquee artwork or marquee glass out of housing.

- Perform desired repair or equipment replacement.



### VIEWING GLASS SERVICE

#### **To service Viewing Glass...**

It's recommended that two service personnel be present when servicing viewing glass. Refer to *Marquee Service* and *Viewing Glass Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- *Remove center control cabinet.*
  1. Remove tamper-resistant screws from either side of cabinet used to fasten it to brackets attached to the main cabinet.
  2. Slide control cabinet away from the main cabinet enough to expose wiring.
  3. Label and disconnect all wiring, including ground.
  4. Continue to slide the cabinet completely away from the main cabinet.
- *Open Marquee:*
  1. Remove hardware from bracket along the bottom edge of the marquee housing.

### **To service Viewing Glass (continued)...**

2. Grasp the bracket and lift the marquee housing up. The hinged marquee housing uses a prop rod located inside the main cabinet to keep it extended during service. Remove the free end of the prop rod from its retaining clip and insert it in the rod bracket on the lower right side of the marquee housing.

- Label and disconnect all wiring. Disconnect one end of the tension chain. Close the marquee.
- Remove the tamper resistant screws, used on the hinge for the marquee, located at the top rear of the cabinet. Both Service personnel should grab an edge of the marquee housing and lift it off of the cabinet. To prevent scratches, the marquee housing should be placed on a cloth covered work surface.
- Remove the tamper resistant screws and bracket from the bottom edge of the housing. Remove the screws and bracket from along the top edge of the housing.
- Gently lift the viewing glass up and clear of the housing. Set Viewing Glass aside.
- Perform desired repair or equipment replacement. Clean glass before reinstalling.

### **To service Marquee Mounted Cabinet Speakers...**

Refer to *Marquee Service* and *Viewing Glass Service* illustration. Speakers are located on the underside of the marquee housing.



- Switch off power to game machine and unplug AC line cord.
- *Remove center control cabinet.*
  1. Remove tamper-resistant screws from either side of cabinet used to fasten it to brackets attached to the main cabinet.
  2. Slide the control cabinet away from the main cabinet enough to expose wiring.
  3. Label and disconnect all wiring, including ground.
  4. Continue to slide the cabinet completely away from the main cabinet.
- *Open Marquee:*
  1. Remove the hardware from the bracket along the bottom edge of the marquee housing.
  2. Grasp the bracket and lift the marquee housing up. The hinged marquee housing uses a prop rod located inside the main cabinet to keep it extended during service. Remove the free end of the prop rod from its retaining clip and insert it in the rod bracket on the lower right side of the marquee housing.
- Label and disconnect speaker wiring, including the ground strap.
- Remove hex nuts on the mounting screws before removing the speakers from the enclosure.
- Perform desired repair or equipment replacement.
- Carefully reseal the seals upon completing any task in the speaker enclosure.
- Reconnect wirings, including ground. Refer to the Cabinet Wiring Diagram for correct speaker polarity.

**NOTE:** The speakers are magnetically shielded to prevent video monitor color impurity. Be sure that any replacement speakers are also magnetically shielded.



**To service the Monitor (CRT)...**

We recommend that you read WARNINGS thoroughly before beginning this procedure.

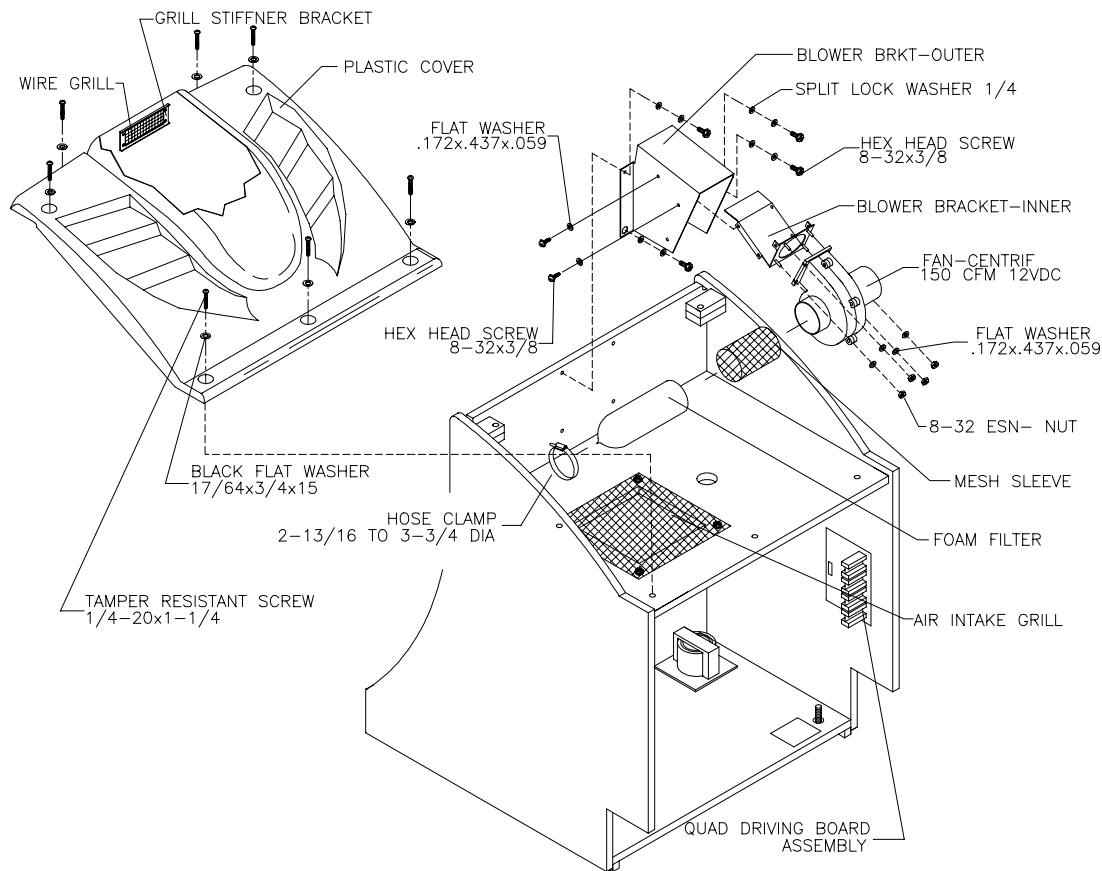
	<p><b>CAUTION</b> The video monitor is heavy, with most of the weight toward the front of the assembly. Be sure it is firmly supported as it is moved from the cabinet.</p>
	<p><b>WARNING</b> The monitor does not require isolation from the AC line voltage in normal operation. When operating outside the cabinet or servicing the monitor on a test bench, ISOLATE THE MONITOR FROM LINE VOLTAGE WITH AN ISOLATION TRANSFORMER.</p>

- Switch off power to game machine and unplug AC line cord.
- Remove Marquee and Barrier Panel. *Refer to service instructions for Marquee and Barrier Panel.*
- Open rear cabinet door and disconnect monitor from wiring harness and ground wires.
- Facing the rear of the game cabinet, locate monitor clamp brackets attached to monitor chassis.
- Loosen jam nut, then remove the tamper-resistant screw used to fasten the bracket to the chassis.
- Remove both screws and the hex flange nut used to fasten the clamp bracket to the game cabinet.
- Facing the front of the game cabinet and monitor, remove the nuts securing monitor mounting flanges to the mounting panel.
- Pull monitor carefully from cabinet and set aside.
- Perform desired repair or equipment replacement.

**To service Barrier Panel...**

Refer to *Marquee Service* and *Viewing Glass Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- *Remove center control cabinet.*
  1. Remove tamper-resistant screws from either side of cabinet used to fasten it to brackets attached to the main cabinet.
  2. Slide the control cabinet away from the main cabinet enough to expose wiring.
  3. Label and disconnect all wiring, including ground.
  4. Continue to slide the cabinet completely away from the main cabinet.
- *Open Marquee:*
  1. Remove hardware from the bracket along the bottom edge of the marquee housing.
  2. Grasp the bracket and lift the marquee housing up. The hinged marquee housing uses a prop rod located inside the main cabinet to keep it extended during service. Remove the free end of the prop rod from its retaining clip and insert it in the rod bracket on the lower right side of the marquee housing.
  3. Perform desired repair or equipment replacement.



**CONTROL CABINET SERVICE**

**To service the Control Cabinet...**

Refer to *Control Cabinet Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- Remove the tamper resistant screws from either side of control cabinet used to fasten it to cabinet brackets in the main cabinet.
- Slide control cabinet halfway back along the rails to expose wiring. Label and disconnect all wiring.
- Continue to slide the cabinet away from the main cabinet until it clears the mounting rails.
- *Remove molded shroud, if necessary:*
  - 1.Remove tamper-resistant screws used to fasten the molded shroud to the top of control cabinet.
  - 2.Lift molded shroud from cabinet and set aside with mounting hardware to prevent breakage and/or loss.

**NOTE:** During reinstallation, be sure... use the two (2) shortest screws in the centermost holes, at the front of the shroud.

  - 3.Label and disconnect wiring.
- Perform desired repair or equipment replacement.

**To service Blower Fan...**

Refer to *Control Cabinet Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- *Remove center control cabinet.*
  1. Remove tamper-resistant screws from either side of cabinet used to fasten it to brackets attached to the main cabinet.
  2. Slide control cabinet away from the main cabinet enough to expose wiring.
  3. Label and disconnect all wiring, including ground.
- Continue to slide the cabinet completely away from the main cabinet.
- *Remove molded shroud:*
  1. Remove tamper-resistant screws used to fasten the molded shroud to the top of control cabinet.
  2. Lift molded shroud from cabinet and set aside with mounting hardware to prevent breakage and/or loss. **NOTE:** During reinstallation, be sure to use the two (2) shortest screws in the centermost holes, at the front of the shroud.
  3. Label and disconnect wiring.
- Remove hex nuts and washers on the mounting screws before removing the fan assembly from enclosure. Set aside hardware.
- Lift out fan assembly.
- Perform desired repair or equipment replacement.
- Be sure to clean the fan filter, or replace with new one, before reinstallation of fan.

**To service Start and Attack Buttons...**

- Switch off power to game machine and unplug AC line cord.
- *Remove controller:*
  1. Remove tamper-resistant screws used to fasten controller cover to housing and set aside.
  2. Lift up controller cover enough to expose wiring. Label and disconnect all wiring, including ground.
  3. Completely remove controller cover.
- Perform desired repair or equipment replacement.

**To service Throttle...**

Refer to *Controller Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- Open rear cabinet door.
- Label and disconnect all dash wiring, including ground strap.
- Remove controller:
  1. Remove tamper-resistant screws used to fasten controller cover to housing and set aside.
  2. Lift up controller cover enough to expose wiring.

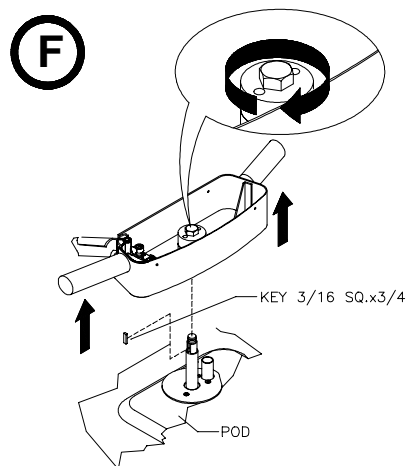
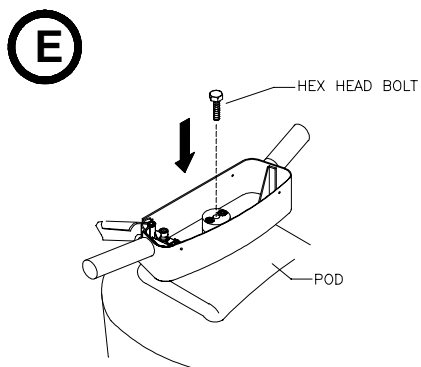
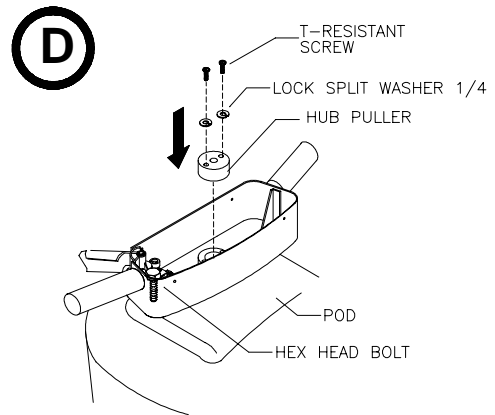
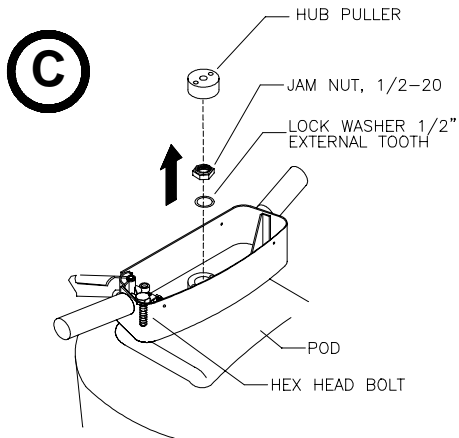
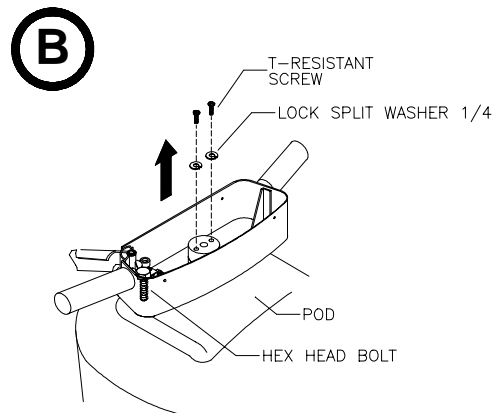
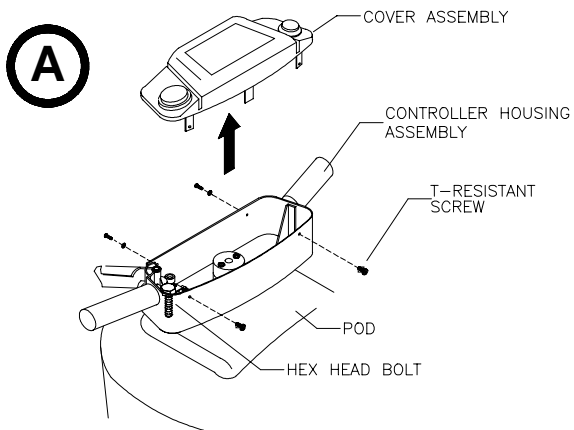
### **To service Throttle (continued)...**

3. Label and disconnect all wiring, including ground.
  4. Completely remove controller cover and set aside until reinstallation.
- Perform desired repair or equipment replacement.
  - Reconnect wires and reinstall. Check for pinched wires.

### **To service Controller...**

Refer to *Controller Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- Open rear cabinet door.
- Label and disconnect all dash wiring, including ground strap.
- *Remove controller:*
  1. Remove tamper-resistant screws used to fasten controller cover to housing and set aside.
  2. Lift up controller cover enough to expose wiring.
  3. Label and disconnect all wiring, including ground.
  4. Completely remove controller cover and set aside until reinstallation.
  5. Locate and remove center hub. Remove screws from hub, lift hub from shaft, then set aside until reinstallation.
  6. Locate and remove hex and lock washer nut used to fasten controller housing to motor shaft.
  7. Grab each controller grip and lift up and away from dashboard. *If controller housing sticks, perform bulleted steps listed below, otherwise advance to step 8.*
    - Replace the hub removed in step 5. Fasten in place with the screws provided.
    - Locate hex-head bolt. This bolt is secured with a retention clip inside of the controller assembly.
    - Insert bolt in hub and tighten down until the controller housing begins to lift up and can be removed completely.
    - Be sure to return bolt to retention clip for future use.
  8. Set aside controller housing with matching hardware until reinstallation.
- Perform desired repair or equipment replacement.
- Check for pinched wires, and then reconnect dash wiring and ground strap.
- Fasten in place with screws provided.



**CONTROLLER SERVICE**

### **To service Steering Assembly...**

Refer to *General Dash Service* illustration

- Switch off power to game machine and unplug the AC line cord.
- Unlock and open rear cabinet door.
- *Remove control cabinet:*
  1. Remove the tamper resistant screws from either side of control cabinet used to fasten it to brackets in the main cabinet.
  2. Slide control cabinet halfway back along the rails to expose wiring. Label and disconnect all wiring.
  3. Continue to slide the cabinet away from the main cabinet until it clears the mounting rails.
- *Remove molded shroud:*
  1. Remove tamper-resistant screws used to fasten the molded shroud to the top of control cabinet.
  2. Lift molded shroud from cabinet and set aside with mounting hardware to prevent breakage and/or loss. **NOTE:** During reinstallation, be sure to use the two (2) shortest screws in the centermost holes, at the front of the shroud.
  3. Label and disconnect wiring.
- *Remove controller:*
  1. Remove tamper-resistant screws used to fasten the controller cover to the housing and set aside.
  2. Lift up controller cover enough to expose wiring. Label and disconnect all wiring, including ground.
  3. Completely remove controller cover and set aside until reinstallation.
  4. Locate and remove center hub. Remove screws from hub, lift hub from shaft, then set aside until reinstallation.
  5. Locate and remove hex nut used to fasten controller housing to motor shaft.
  6. Grab each controller grip and lift up and away from dashboard. *If controller housing sticks, perform bulleted steps listed below, otherwise advance to step 7.*
    - Replace the hub removed in step 4. Fasten in place with the screws provided.
    - Locate hex-head bolt. This bolt is secured with a retention clip inside of the controller assembly.
    - Insert bolt in hub and tighten down until controller housing begins to lift up and can be removed completely.
    - Be sure to return bolt to retention clip for future use.
  7. Set aside controller housing with matching hardware until reinstallation.
  8. Locate and remove Phillips head screws used to fasten the anti-pinch plate around motor shaft.
  9. Remove anti-pinch plate and set aside with hardware until reinstallation.
- *Remove dash shroud:*
  1. Locate and remove tamper-resistant screws used to fasten shroud to cabinet.
  2. Gently slide shroud off of and away from cabinet. Place shroud in a safe place along with hardware to prevent breakage or loss.
- Remove hex nuts used to fasten dash plate to cabinet.

### To service Steering Assembly (continued)...

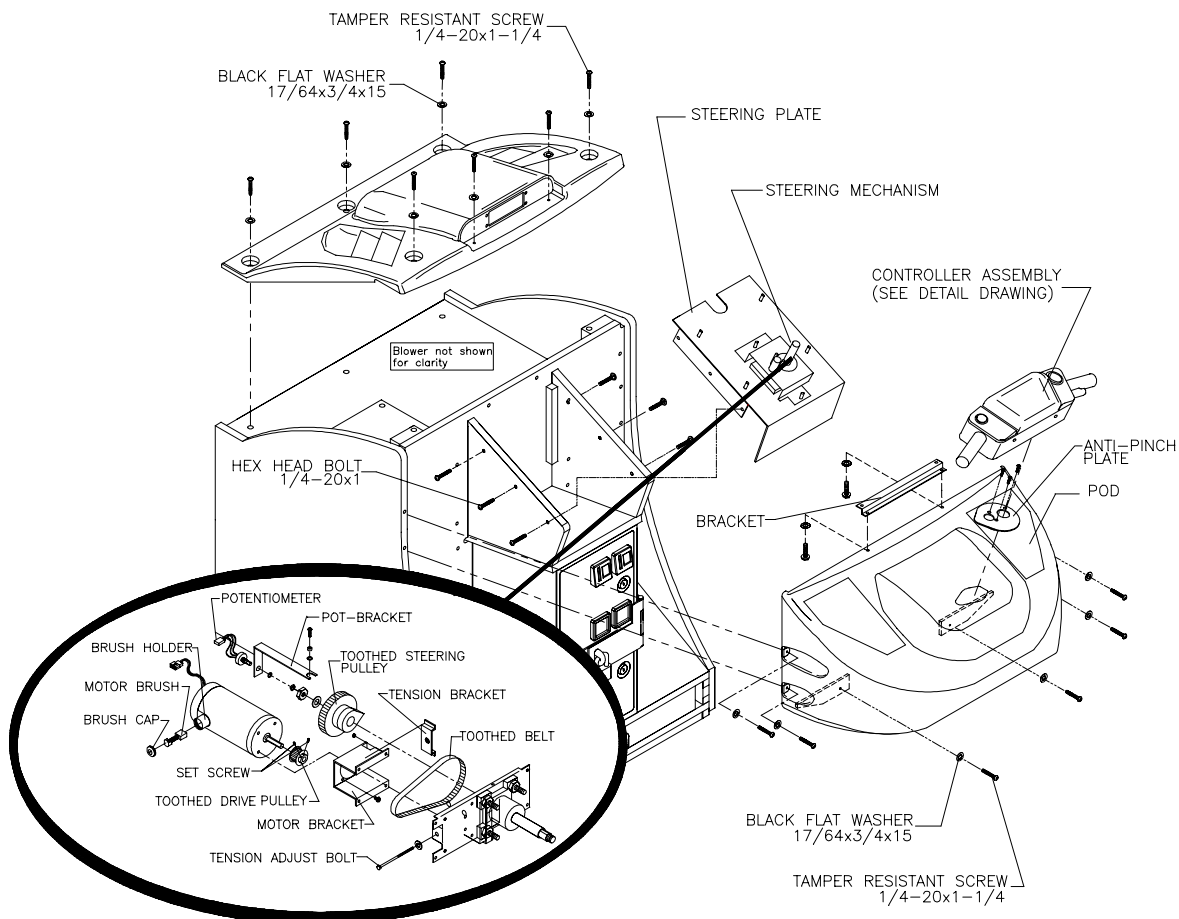
- Pull plate forward to expose motor. Lift out steering assembly. **NOTE:** Use caution when removing motor due to its weight.
- Perform desired repair or equipment replacement.

While the steering mechanism is exposed, inspect belt for splits in the rubber or other signs of wear at the edges of teeth. Install a new belt if necessary following the instructions below.

### To service Steering Belt...

- Loosen four mounting nuts for the motor bracket.
- Tighten the tension-adjust bolt only until there is no belt deflection, then loosen the bolt one full turn and tighten the four nuts.
- Reattach mechanism and recalibrate assembly.

**IMPORTANT:** Apply removable anaerobic adhesive thread lock (Loctite Blue 242 or equivalent) and torque set screw to seven to nine ft.-lbs. (84 to 108 in.-lbs.) if it was loosened.



**GENERAL DASH SERVICE**

### **To service Lower Cabinet Speaker...**

This speaker is located on the left-hand side of cabinet just above foot rest.

- Switch off power to game machine and unplug the AC line cord.
- *Remove control cabinet:*
  - 1.Remove the tamper resistant screws from either side of control cabinet used to fasten it to brackets in the main cabinet.
  - 2.Slide control cabinet halfway back along the rails to expose wiring. Label and disconnect all wiring.
  - 3.Continue to slide the cabinet away from the main cabinet until it clears the mounting rails.
- Locate the speaker. Remove the nuts on the mounting screws before removing the speaker from the enclosure.
- Perform desired repair or equipment replacement.
- Carefully reseal the seals upon completing any task in the speaker enclosure. Reconnect the wires, including ground. Refer to the Cabinet Wiring Diagram for correct speaker polarity.

### **To service Coin Counter...**

- Switch off power to game machine and unplug AC line cord.
- Unlock and open cash door.
- Locate meter in lower left-hand corner of vault opening. Record meter count before testing or replacement.
- Locate meter wires. Label and disconnect wiring.
- Remove screws from front bracket.
- Perform desired repair or equipment replacement. **NOTE:** Be sure replacement meter has a diode across the terminals to protect driver circuits.

### **To service Coin Meter...**

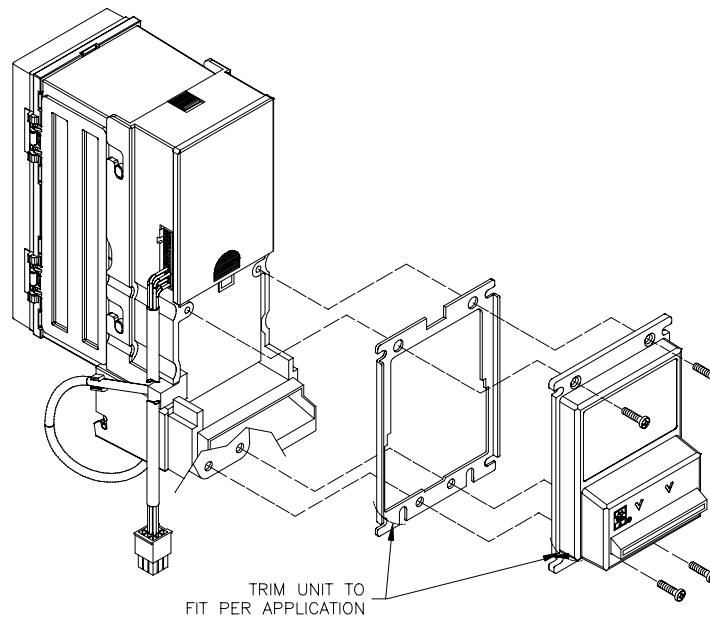
- Switch off power to game machine and unplug AC line cord.
- Unlock and open cash door. Remove cash tubs.
- The meter is located at the bottom of vault on a plate. Remove screws and lift the plate just enough to disconnect meter wires from the harness.
- Record the meter count before testing or replacement.
- Perform desired repair or equipment replacement.

### **To service Dollar Bill Validator...**

Dollar bill validators or other currency acceptors may be installed in games that are manufactured with an additional wiring connector. (Use MARS AE2411-U3 UL recognized currency changer)

- Switch off power to game machine and unplug the AC line cord.
- Unlock and open coin door. Read label affixed to the door for additional information.
- Disassemble validator and remove material to permit it to fit inside coin door as shown in *Dollar Bill Validator Service* illustration, then reassemble unit.






#### ***DOLLAR BILL VALIDATOR SERVICE***

##### ***To service Coin Mechanism...***

- Switch off power to game machine and unplug AC line cord.
- Unlock and open coin door.
- Unlatch and remove each coin mechanism separately to clean or replace it with a different type. Ensure mechanism seats fully in the holder upon reinstallation.
- Close and lock the release latch, then close door.
- Switch on power to game and change the mechanism setup, then test known good and bad coins to verify operation.

##### ***To service Power Supply...***

- Switch off power to game machine and unplug AC line cord.
- Unlock and remove rear cabinet door.
- Unplug the IEC AC connector from rear of power supply and the DC connector from the front of supply.
- Remove two front and two rear screws from supply, then lift it from power chassis. Note voltage setting.
- Perform desired repair or equipment replacement.
- Be sure to set voltage switch to correct value prior to reinstallation.
- Set the supply on the power chassis and align the mounting holes. Install the four screws and the two power connectors.

	<p><b>DANGER</b> High voltage present. Exercise extreme caution while servicing transformer.</p>
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### ***To service Transformer...***

- Switch off power to game machine and unplug AC line cord.
- Unlock and remove rear door.
- If power to game machine was only recently disconnected, the transformer may still be warm. Allow transformer to cool completely before handling.
- Label and disconnect all wiring, including ground.
- Remove screws used to fasten transformer to base of cabinet.
- Perform desired repair or equipment replacement.

### ***To service Speaker in Seat...***

Refer to *Seat Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- Remove tamper resistant screws used to fasten seat access panel, and pull panel forward.
- Label and disconnect speaker wiring, including ground.
- Remove hex nuts used to fasten speaker to seat and remove speaker.
- Perform desired repair or equipment replacement.
- Reinstall speaker and reattach wiring, including ground.

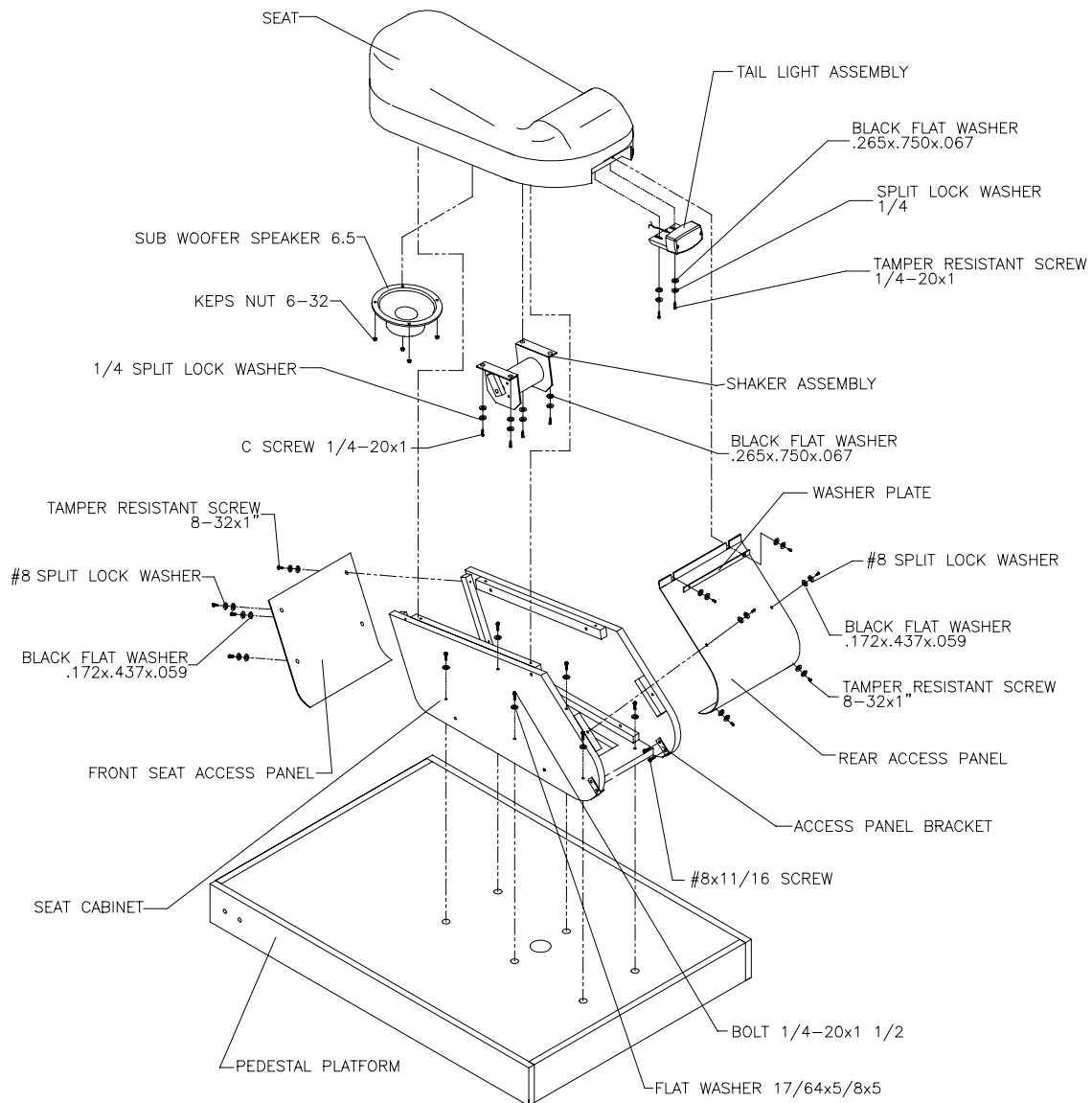
**IMPORTANT:** Apply removable anaerobic adhesive thread lock (Loctite Blue 242 or equivalent) and torque each bolt to five to seven in-lbs (44.25 Nm to 62 Nm) if it was loosened.

### ***To service Shaker Motor Assembly in Seat...***

Refer to *Seat Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- Remove tamper resistant screws used to fasten seat access panel and pull panel forward.
- Label and disconnect wiring, including ground.
- Remove hex nuts used to fasten shaker motor to seat and remove.
- Perform desired repair or equipment replacement.
- Reinstall motor and reattach wiring.

**IMPORTANT:** Apply removable anaerobic adhesive thread lock (Loctite Blue 242 or equivalent) and torque each bolt to 20 to 25 in-lbs (177 Nm to 221.25 Nm) if it was loosened.




**SEAT SERVICE**

**To service Seat Tail Lamp...**

Refer to *Seat Service* illustration.

- Switch off power to game machine and unplug AC line cord.
- Remove tamper resistant screws used to fasten red lens cover.
- Perform desired repair or equipment replacement.

	<p><b>CAUTION</b> Discharge any static electricity built up in your body by touching the chassis for the power supply. Do this BEFORE touching or handling the electronic assemblies.</p>
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***To service PCB Board Assemblies...***

Refer to the following procedure when servicing the Wheel Driver Board, I/O Board, Amplifier Board, or Quad High Current Board.

- Switch off power to game machine and unplug AC line cord.
- Unlock and remove rear door.
- Locate desired PCB Assembly.

**NOTE:** Consult illustrated parts chapter for part numbers and/or detailed illustrations showing locations.

- Carefully label wiring and note the orientation of JAMMA connections and any other cables. Extract harness and other cables from board connectors.
- Remove mounting screws from desired circuit board assembly. Lift board out of cabinet and set in a safe place. Use anti-static bags and protective containers from new parts for storage if not reinstalled immediately.
- Perform desired repair or equipment replacement.

***To service Arcade Computer...***

- Contact your authorized *Midway Amusement Games, LLC* distributor.