

*CRUIS'N EXOTICA*TM

S E C T I O N T H R E E










SERVICE

SAFETY INSTRUCTIONS

The following safety instructions apply to operators and service personnel. Read these instructions before servicing or preparing the Video Game Machine (VGM) 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>WARNING: TRANSPORTING GAMES. The VGM contains glass and fragile electronic devices. Use appropriate care when transporting. Avoid rough handling when moving the cabinet. Do not move with the power switched on.</p>
	<p>WARNING: DISCONNECT POWER. Always turn the power OFF and unplug the VGM before attempting service or adjustments unless otherwise instructed. Installing or repairing boards with power switched on can damage components and void the warranty.</p>
	<p>WARNING: GROUND GAMES. Avoid electrical shocks! Do not plug in a VGM 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 the line cord.</p>
	<p>WARNING: AVOID ELECTRICAL SHOCKS. The VGM system does not utilize an isolation transformer. Internal cabinet AC is not isolated from the external AC line.</p>
	<p>WARNING: HANDLE FLUORESCENT TUBE AND CRT WITH CARE. 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>CAUTION: CHECK POWER SELECTOR, LAMP. Set the 115/230VAC selector on the power supply for the correct line voltage. Check the selector setting before switching on the VGM. Verify that the fluorescent lamp assembly is correct for the local line voltage.</p>
	<p>CAUTION: USE PROPER FUSE. Avoid electrical shock! Replacement fuses must be identically rated. Fuse voltage and current ratings must be identically rated to the original fuse.</p>
	<p>CAUTION: ATTACH CONNECTORS PROPERLY. Be sure board connectors mate properly. If connectors do not slip on easily, do not force them. A reversed connector may damage the VGM and void the warranty. Connector keys only allow a connector to fit one set of pins on a board.</p>
	<p>CAUTION: USE CARE WHEN SHIPPING HARD DISKS. 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>

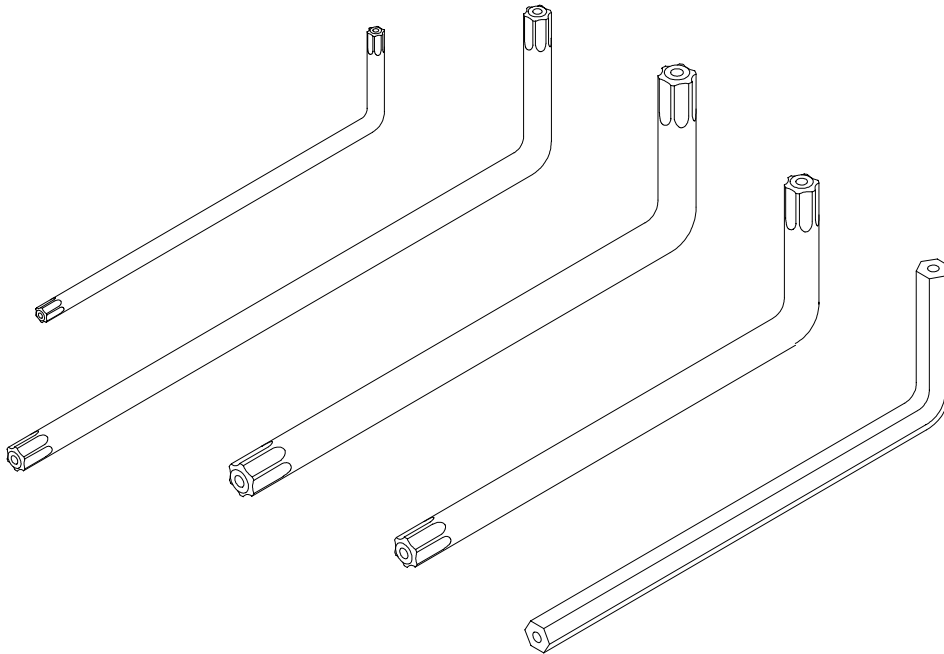


WARNING: HAZARD TO EPILEPTICS.

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.

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.

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, DISCONTINUE USE IMMEDIATELY and consult your physician.



Contents of Typical Tool Pack

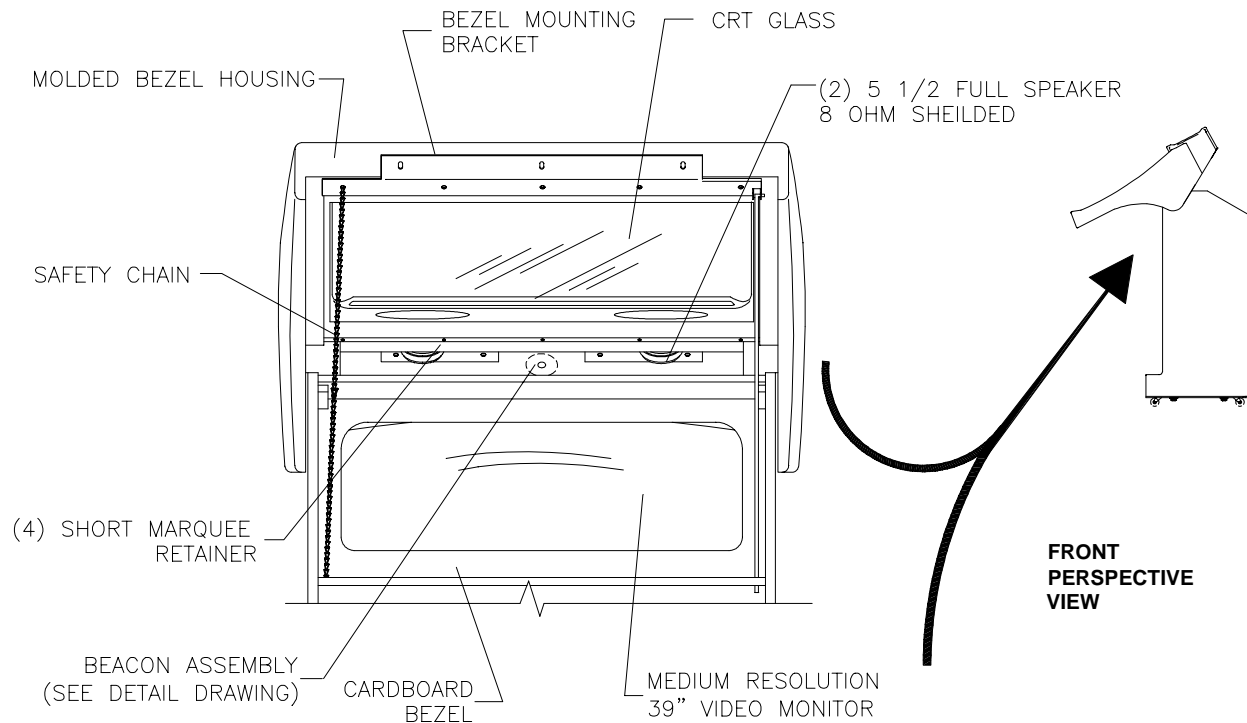
SERVICING

Only qualified service personnel should perform maintenance and repairs. The 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 the game machine before servicing.

To service the Marquee...

Refer to *Marquee Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the center control cabinet. Refer to service instructions for *Control Cabinet*.
- Remove the tamper resistant screws from the bracket along the bottom edge of the marquee housing.
- 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.
- Perform the desired repair or equipment replacement.
- To reinstall, unhook the prop rod and return it to the retaining clip. Slowly lower the marquee housing and thread the tension chain back into the main cabinet.
- Fasten the marquee housing's bracket in place with the screws provided.



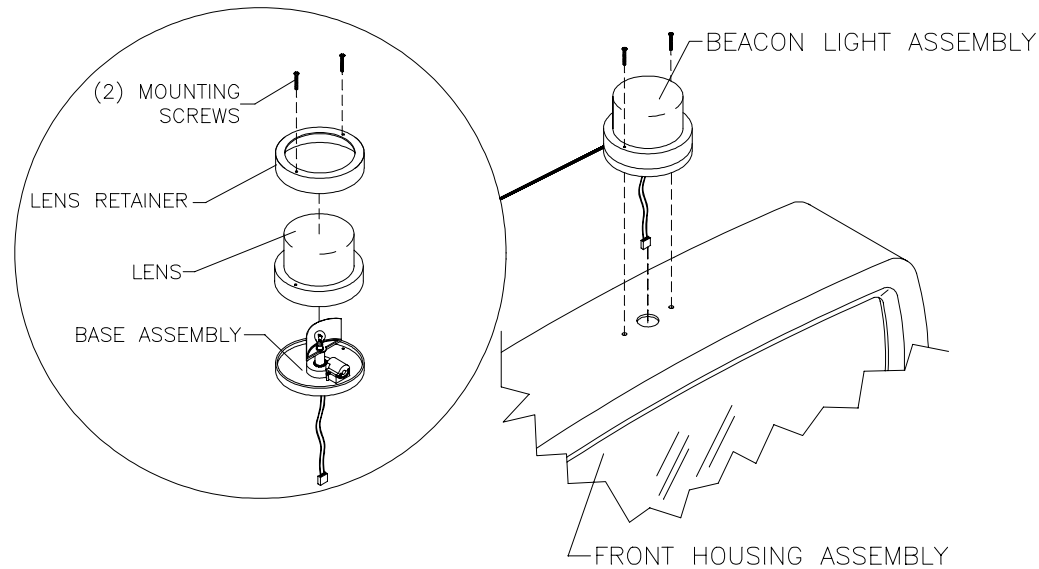
Marquee Service

To service Blue Beacon Light...

Refer to *Beacon Light Service* and *Marquee Service* illustrations.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the mounting screws used to fasten the beacon light to the marquee housing. Set the screws aside for reuse later.
- Lift the beacon light up from the housing enough to expose the cable connection. Disconnect the cable and continue to lift the beacon light until it clears the marquee housing.
- Perform the desired repair or equipment replacement.

NOTE: All replacement bulbs must match the original in voltage, current and brightness rating.



Beacon Light Service

To service the Backlit Marquee ...

Refer to *Marquee Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Lift open the Marquee Housing. *Refer to service instructions for Marquee.*
- Reach up inside the opening toward the marquee artwork. The marquee artwork and marquee glass is held in place at the top and sides by spacers/brackets fastened with screws.
- Remove the screws from each of the brackets. Set the screws and brackets aside until reinstallation.
- Lift the marquee artwork or marquee glass out of the housing.
- Perform the desired repair or equipment replacement.

To service the Fluorescent Light Assembly...

Refer to *Marquee Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Lift open the Marquee Housing. *Refer to service instructions for Marquee.*
- Reach up inside the opening in the cabinet and disconnect the power cable from the fluorescent light assembly.
- Loosen, but do not remove the screws fastening the assembly to the cabinet.
- Slide the assembly slightly forward to disengage the keyholes. Lift out the assembly.
- Perform the desired repair or equipment replacement.

To service the Fluorescent Lamp or Starter...

Refer to *Marquee Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Lift open the Marquee Housing. *Refer to service instructions for Marquee.*
- Reach up inside the opening in the cabinet and remove the fluorescent lamp locks.
- 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.
- Carefully place a new starter or tube into the sockets and rotate it a quarter turn to reinstall.
- Reinstall both fluorescent lamp locks. Clean the tube to remove fingerprints and dust.



WARNING

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

To service the Cabinet Speakers...

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

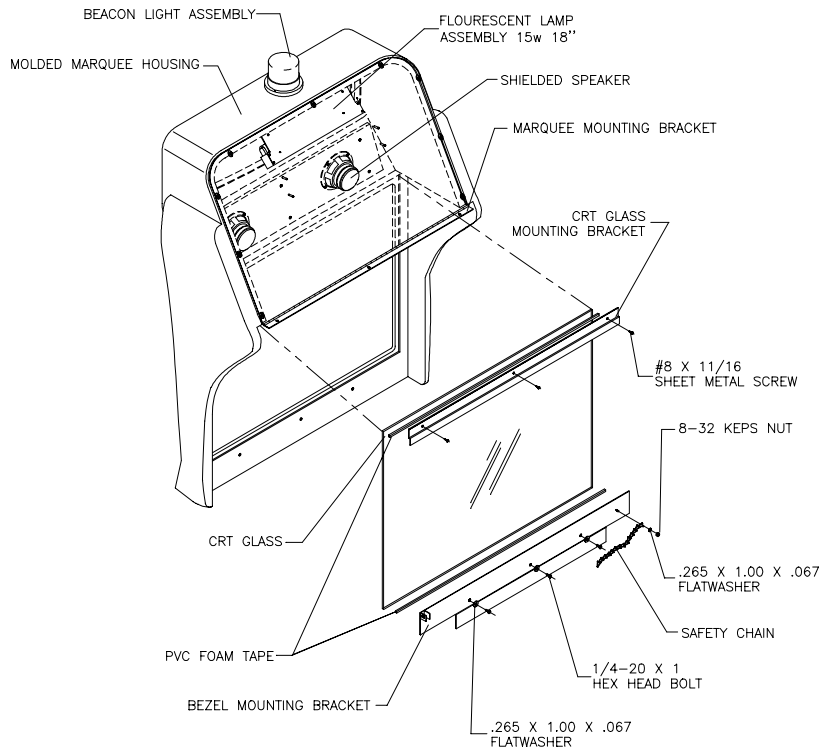
- Switch off the power to the game machine and unplug the AC line cord.
- Lift open the Marquee Housing. *Refer to service instructions for Marquee.*
- Reach up inside the opening in the cabinet and disconnect the speaker wires, including the ground strap.
- Remove the nuts on the mounting screws before removing the speakers from the enclosure.
- Perform the 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.

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

To service Viewing Glass...

It is recommended that two service personnel be present when servicing the viewing glass. Refer to *Viewing Glass Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Control Cabinet. *Refer to service instructions for Control Cabinet.*
- Lift open the Marquee Housing. *Refer to service instructions for Marquee.*
- Label and disconnect all wiring. Disconnect one end of the tension chain. Close the marquee.
- Remove the tamper resistant screws from 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 the desired repair or equipment replacement.
- Clean the glass before reinstallation.





Viewing Glass Service

To service Monitor Bezel...

- Switch off the power to the game machine and unplug the AC line cord.
- Lift open the Marquee Housing. *Refer to service instructions for Marquee.*
- Grasp the monitor bezel at the bottom and lift it out of cabinet.
- Perform the desired repair or equipment replacement.
- Wipe the bezel clean before reinstallation.

To service the Monitor (CRT)...

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

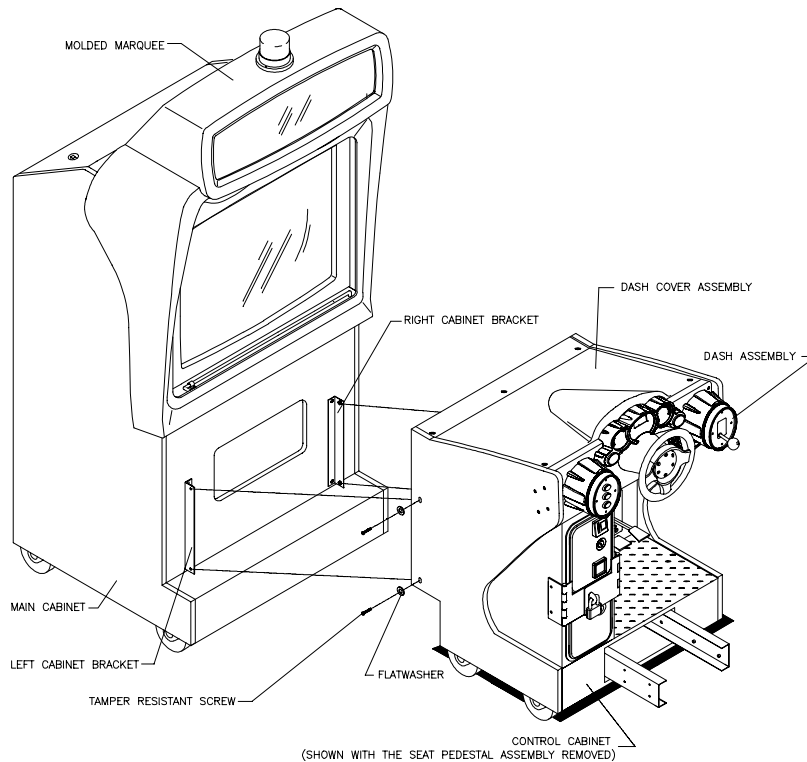
	<p>CAUTION</p> <p>The video monitor is heavy, with most of the weight toward the front of the assembly. Be sure it is firmly supported as it is moved from the cabinet.</p>
	<p>WARNING</p> <p>The monitor does not require isolation from the AC line voltage in normal operation. When operating outside the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

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Control Cabinet, Marquee Housing, and Monitor Bezel. *Refer to service instructions for the Control Cabinet, Viewing Glass and Monitor Bezel.*
- Open the rear cabinet door and disconnect the monitor from the wiring harness and ground wires.
- Remove 4 nuts securing the monitor mounting flanges to the mounting panel.
- Pull the monitor carefully from the cabinet and set aside.
- Perform the desired repair or equipment replacement.

To service the Control Cabinet...

Refer to the *Control Cabinet Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the tamper resistant screws from either side of the control cabinet used to fasten it to the cabinet brackets in the main cabinet.
- Slide the 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.
- Perform the desired repair or equipment replacement.

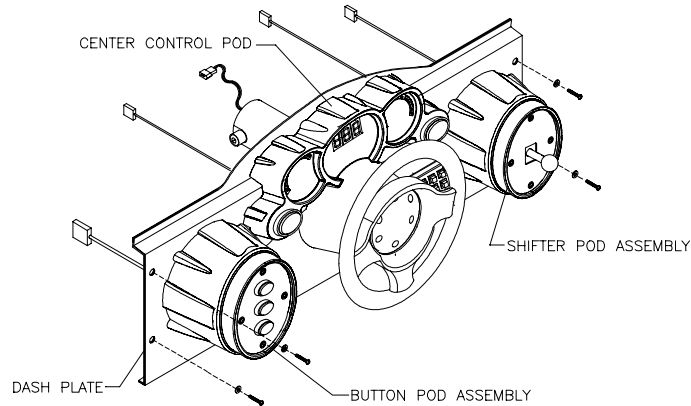


Control Cabinet Service

To service the Dashboard...

Refer to *Dashboard Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Control Cabinet. *Refer to service instructions for Control Cabinet.*
- Remove the tamper resistant screws from the molded dash cover assembly. Lift the lid off of the cabinet and set aside in a safe place.
- Label and disconnect all dash wiring, including the ground strap.
- Remove the four screws used to fasten the Dashboard to the cabinet.
- Firmly grab the dash and pull it straight out.
NOTE: *The Dashboard is heavy, with most of the weight concentrated in the center near the Steering Mechanism.*
- Perform the desired repair or equipment replacement.
- To reinstall, line-up the holes on either side of the Dashboard and push straight back.
- Check for pinched wires, and then reconnect dash wiring and ground strap.
- Fasten in place with the screws provided.

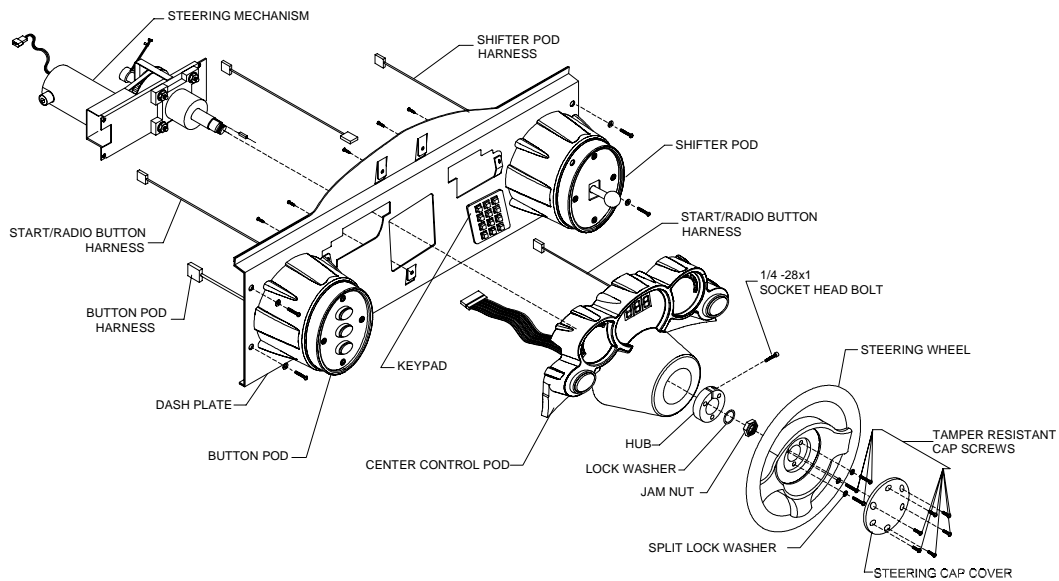


Dashboard Service

To service the Center Control Pod...

Refer to the *Center Control Pod Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Dashboard. *Refer to service instructions for Dashboard.*
- Remove the steering mechanism. *Refer to service instructions for steering mechanism.*
- Disconnect the light bulbs from the sockets for both the Radio and Start buttons, and set aside.
- Remove 5 hex head screws that form the outline of the pod and set aside.
- Lift the Center Control Pod from the Dashboard.
- Perform the desired repair or equipment replacement. **NOTE:** *It may also be necessary to remove the Dash PCB. Refer to service instructions for Dashboard PCB.*
- Reinstall and fasten in place with the screws provided.



Center Control Pod Service

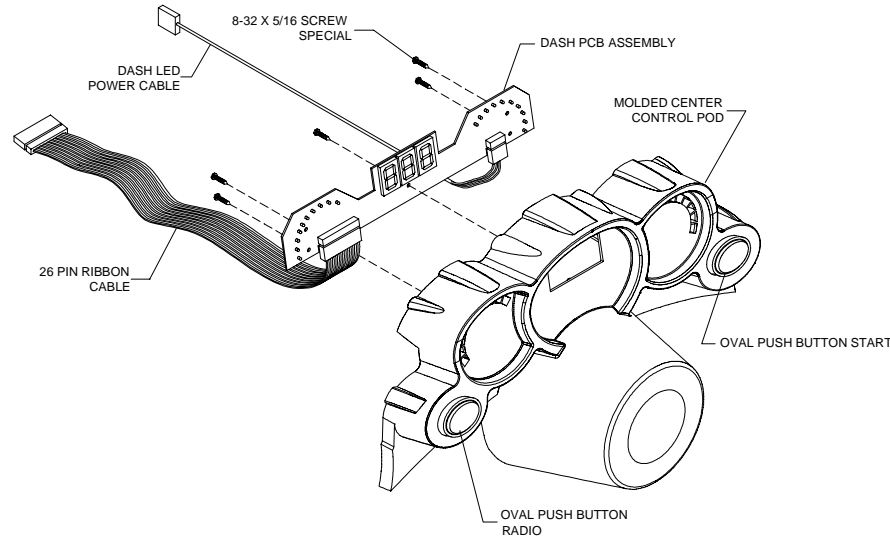
To service the Dashboard PCB...

Refer to the *Dash PCB Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Dashboard and the Center Control Pod. *Refer to service instructions for the Dashboard and the Center Control Pod.*
- With the Center Control Pod removed from the dash, remove 5 hex head screws that are used to fasten the PCB to the pod and set aside.
- Remove the ribbon and power cable connections.

Dashboard PCB Service, continued

- Perform the desired repair or equipment replacement.
- Connect the ribbon and power cable to a Dashboard PCB. **NOTE:** *The red stripe on the ribbon cable must be lined up with pin 1 on the PCB, and the black wire on the power cable must line up with pin 1 on the power connection for the Dashboard.*
- Reattach the PCB to the pod, and then fasten the pod to the dashboard.
- Check for pinched wires.
- Reinstall the Dashboard and fasten in place with the screws provided.



Dash PCB Service

To service the Left or Right Control Pods...

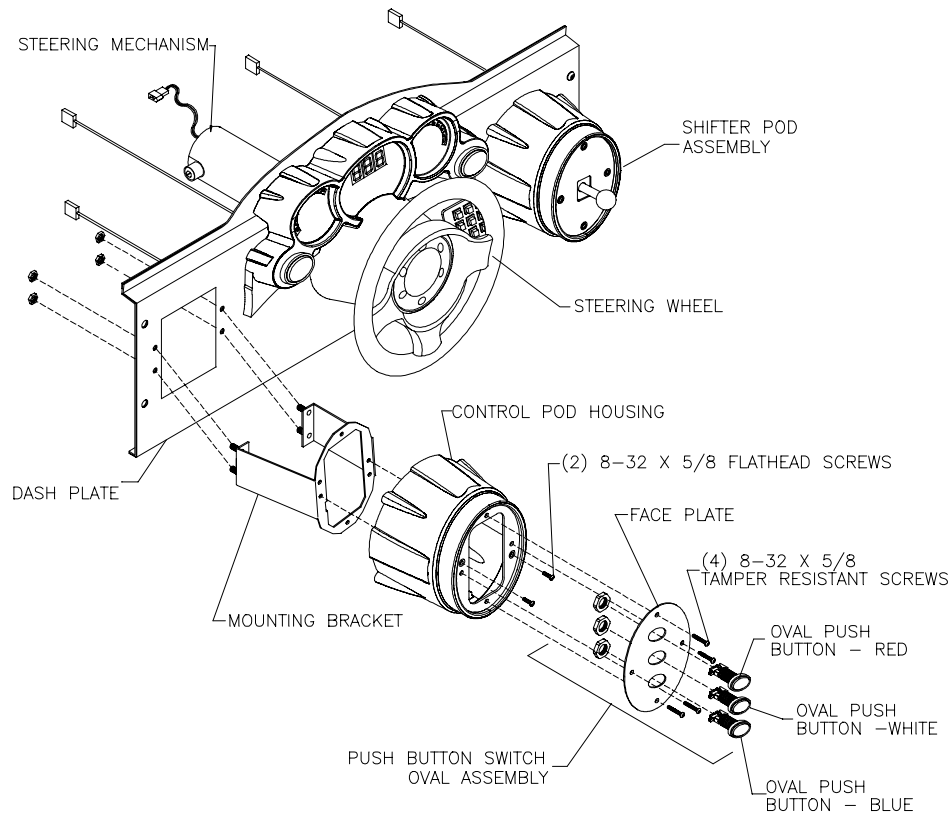
Refer to the *Control Pod, Buttons and Shifter Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the 4 tamper-resistant buttons used to fasten the faceplate.
- Pull the plate forward enough to expose the switches.
- Label and disconnect the wiring for the pod(s) being serviced.
- Lift the buttons or shifter mechanism out of the pod and set aside.
- Remove the 2 hex head screws used to fasten the pod to the dash, and then gently lift the pod off the dashboard.
- Perform the desired repair or equipment replacement.
- Reinstall and fasten in place with the screws provided.

To service a Start or Radio Button...

Refer to the *Control Pod, Buttons and Shifter Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Dashboard. *Refer to service instructions for Dashboard.*
- Gently remove the bulb(s) from the socket using a rocking motion.
- Perform the desired repair or equipment replacement. **NOTE:** *If changing a bulb, simply reseal it in original socket. Replacement bulbs must match the original in voltage, current, and brightness rating. If repairing a button, unscrew the ring at the base and remove the button.*
- Reinstall the Dashboard and fasten in place with the screws provided.



Control Pod, Buttons and Shifter Service

To service View Buttons...

Refer to the *Control Pod, Buttons and Shifter Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the 4 tamper-resistant buttons used to fasten the faceplate.
- Pull the plate forward enough to expose the switches.
- Label and disconnect the wiring for the pod(s) being serviced.
- Lift assembly completely out of the pod and set aside.
- Perform the desired repair or equipment replacement.
- Reconnect wires and reinstall buttons. **NOTE:** *Insert the left edge of the button plate, then the right edge to fully seat.*
- Check for pinched wires.
- Fasten the faceplate with the screws provided.

To service Shifter...

Refer to the *Control Pod, Buttons and Shifter Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the 4 tamper-resistant buttons used to fasten the faceplate.
- Pull the plate forward enough to expose the switches. **NOTE:** *Pulling the shifter out of the pod requires quite a bit of force.*
- Label and disconnect the wiring for the pod(s) being serviced.
- Lift assembly completely out of the pod and set aside.
- Perform the desired repair or equipment replacement.
- Reconnect wires and reinstall shifter. **NOTE:** *Orient the spring mechanism located on the bottom edge of the shifter toward the bottom of the pod and insert it followed by the top edge to fully seat.*
- Check for pinched wires.
- Fasten the faceplate with the screws provided.

To service Steering Assembly...

Refer to the *Steering Assembly Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Dashboard. *Refer to service instructions for Dashboard.*
- Remove 6 screws used to fasten the cover plate to the center of the steering wheel. Remove the cover plate and set aside.
- Remove the 3 screws used to fasten the wheel hoop to the shaft. Pull the wheel hoop off of the dashboard.
- If present, remove 4 flange nuts holding the motor shield, motor and shaft to the wheel assembly (shield not required on all cabinets).
- Slide the motor and the shaft off of the assembly.
- Perform the desired repair or equipment replacement.
- Reinstall and fasten all items in place with the screws provided.

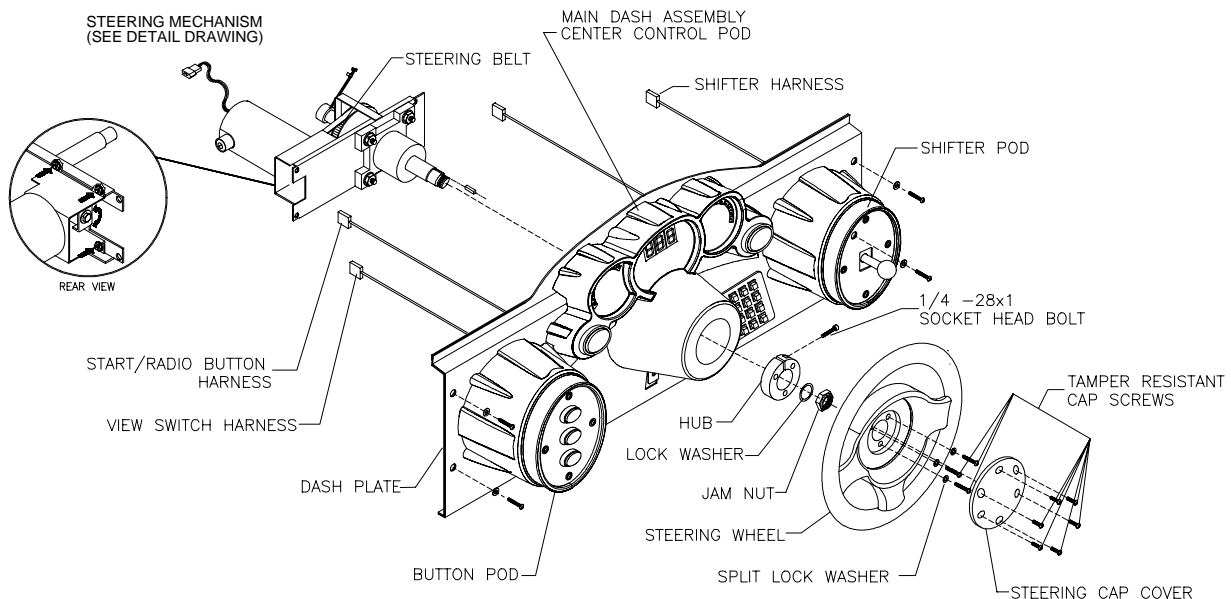
While the steering mechanism is exposed, inspect the belt for splits in the rubber or other signs of wear at the edges of the teeth. Install a new belt if necessary following the instructions below.

To service Steering Belt...

Refer to the *Steering Assembly Service* illustration.

- 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 the mechanism and recalibrate the 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 (see illustration).



Steering Assembly Service

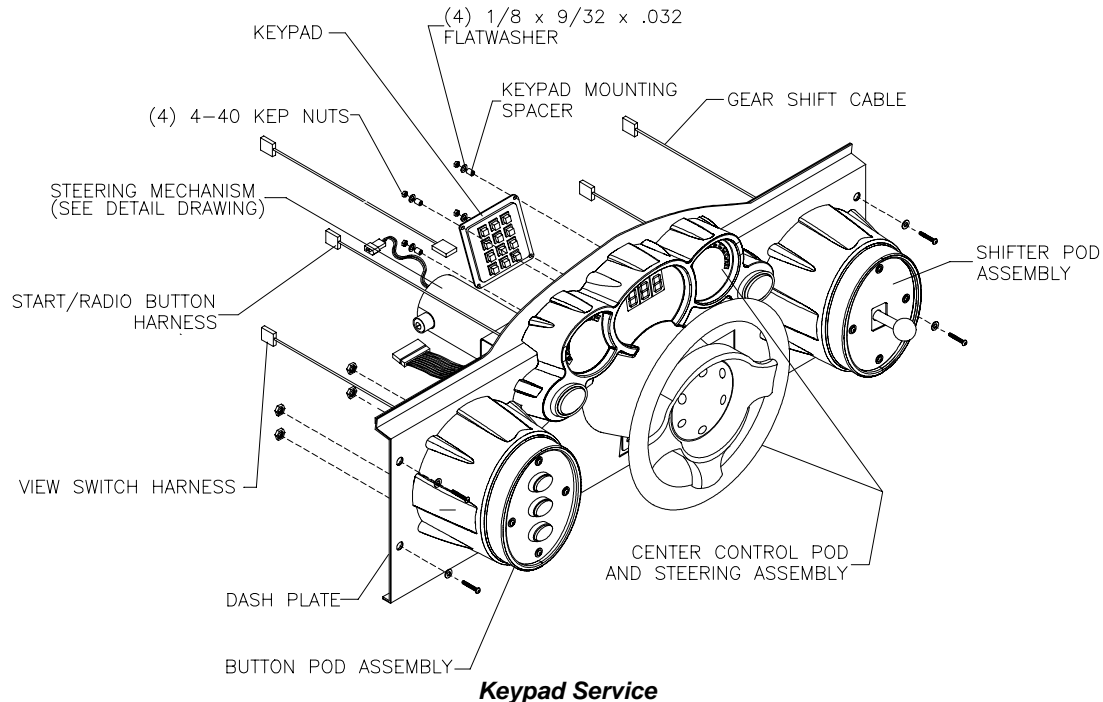
To service Keypad...

Refer to the *Keypad Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Dashboard. *Refer to service instructions for Dashboard.*
- Label and disconnect wiring for keypad.
- Remove the nuts and spacers used to fasten the Keypad to the dashboard.

Keypad Service, continued

- Lift the keypad out.
- Perform the desired repair or equipment replacement.
- Reinstall keypad, seat the spacers and fasten in place with the nuts provided.
- Reinstall Dashboard and fasten with hardware provided.



Keypad Service

To service Control Cabinet Speaker...

This speaker is located just above the pedal assembly.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Control Cabinet. Refer to service instructions for Control Cabinet.
- Label and disconnect wiring, including the ground strap.
- Remove the nuts on the mounting screws before removing the speaker from the enclosure.
- Perform the 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 Pedal Assembly...

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the Control Cabinet. Refer to service instructions for Control Cabinet.
- Adjust the seat to the maximum rear position.
- Remove 4 tamper resistant screws used to fasten the Pedal assembly to the cabinet. **NOTE:** Due to the weight of the pedal assembly it may slide or abruptly jerk out of the opening once all screws are loosened and/or removed.
- Pull the assembly forward enough to expose wiring.
- Carefully note the orientation of the cable wiring. Label and disconnect wiring, including ground.
- Perform the desired repair or equipment replacement.
- Reinstall pedal assembly and reconnect wiring, including ground.
- Align the holes for the screws and fasten in place with the hardware provided.

To service Coin Meter...

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

To service Coin Mechanism...

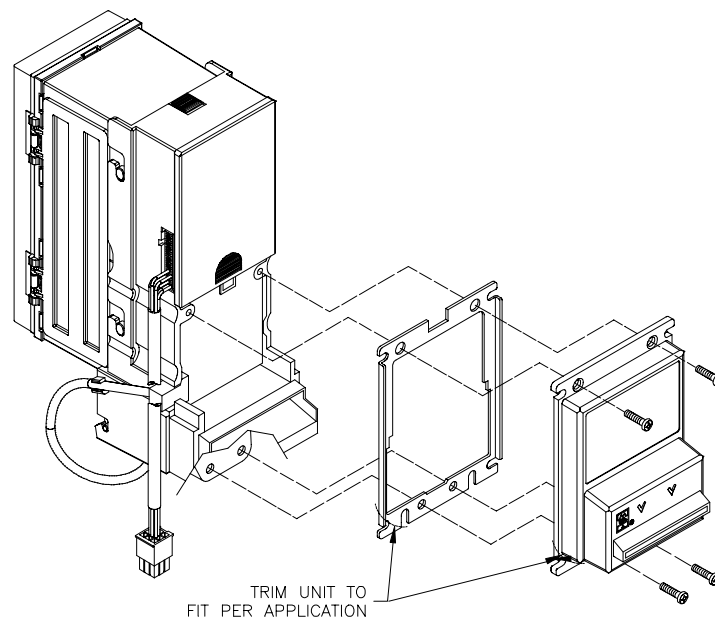
- Switch off the power to the game machine and unplug the AC line cord.
- Unlock the coin door and swing it open.
- Unlatch and remove each coin mechanism separately to clean or replace with a different type. Ensure mechanism seats fully in the holder upon reinstallation.
- Close and lock the release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

To service Dollar Bill Validator...

(Use MARS AE2411-U3 UL recognized currency changer)

Dollar bill validators or other currency acceptors may be installed in games that are manufactured with the additional wiring connector.

- Switch off the power to the game machine and unplug the AC line cord.
- Unlock the coin door and swing it open. Read the label affixed to the door for additional information.
- Disassemble the validator and remove material to permit it to fit inside the coin door as illustrated then reassemble unit.



To service CPU Board Assembly...

- Switch off the power to the game machine and unplug the AC line cord.
- Unlock and remove the rear door to expose the electronics assembly.
- Locate the CPU Board assembly.
- Carefully note the orientation of the JAMMA connector and the other cables. Extract the harness and other cables from the board connectors.
- Remove CPU board assembly mounting screws. Lift the board out of the cabinet and set in a safe place. Use anti-static bags and protective containers from new parts for storage if not reinstalled immediately.
- Perform the desired repair or equipment replacement.

To service Memory...

The ROM (Read Only Memory) circuits contain the computer operating instructions for this game. *Memory devices are especially sensitive to static charges. Use grounding precautions when handling these parts.*

- Switch off the power to the game machine and unplug the AC line cord.
- Unlock and remove the rear door to expose the electronics assembly.
- Locate the CPU Board assembly. Carefully note each IC position, and then remove using a chip extraction tool.
- To install memory circuits, orient a chip over the corresponding socket and press firmly to seat pins. *Do not force.*



CAUTION

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.

To service the Battery...

- Switch off the power to the game machine and unplug the AC line cord.
- Unlock and remove the rear door to expose the electronics assembly.
- Locate the CPU Assembly. Carefully note the position, and then gently lift the contact arm to release tension. *Do not bend the arm.*
- Slight finger pressure may be needed to pry the cell from its holder. *Avoid direct shorts across terminals or from terminals to ground.*
- To install a battery, orient cell near its holder and slide it in under the contact arm. *Do not force.*



CAUTION

Danger of explosion if battery is replaced incorrectly. Replace only with the same or equivalent type as recommended by the manufacturer. Dispose of used batteries according to instructions printed on the battery or the manufacturers packaging.

To service Wheel Driver Board Assembly...


- Switch off the power to the game machine and unplug the AC line cord.
- Unlock and remove the rear door to expose the electronics assembly.
- Locate the Wheel Driver Assembly.
- Carefully note the orientation of the cables. Extract the harness and other cables from the board connectors.
- Remove the wheel driver board assembly mounting screws. Lift the board out of the cabinet and set in a safe place. Use anti-static bags and protective containers for storage if not reinstalled immediately.
- Perform the desired repair or equipment replacement.

To service the Power Supply...

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

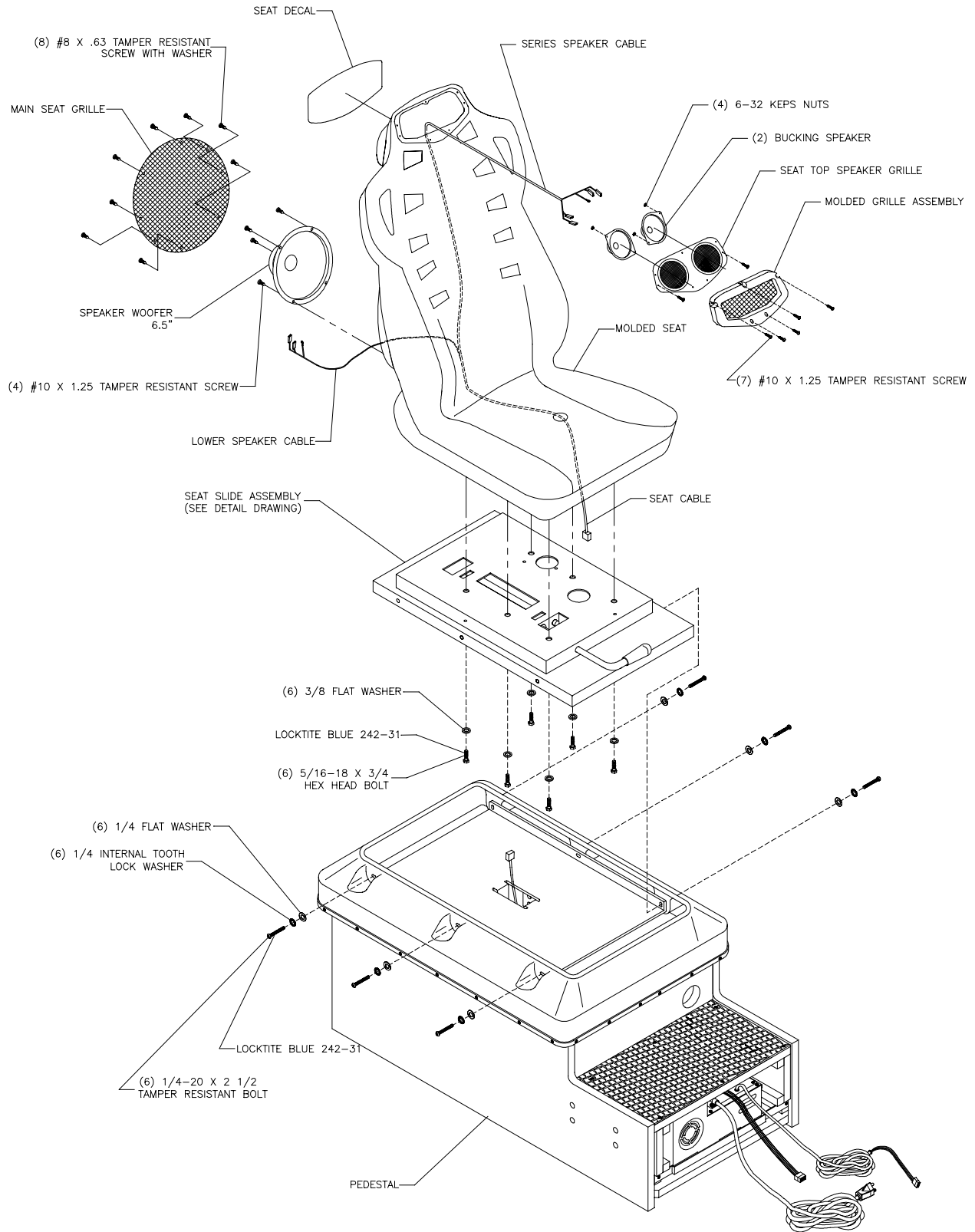
To service the Transformer...

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

	DANGER: High voltage present. Exercise extreme caution while servicing transformer.
-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------

To service Fan Assembly...

- Switch off the power to the game machine and unplug the AC line cord.
- Unlock and remove the rear door.
- Remove the perforated metal cover to expose the fan assembly and set aside.
- Unplug the fan power connector from the wiring.
- Remove the screws used to fasten a fan down and then lift fan out.
- Perform the desired repair or equipment replacement.



Seat Pedestal Service

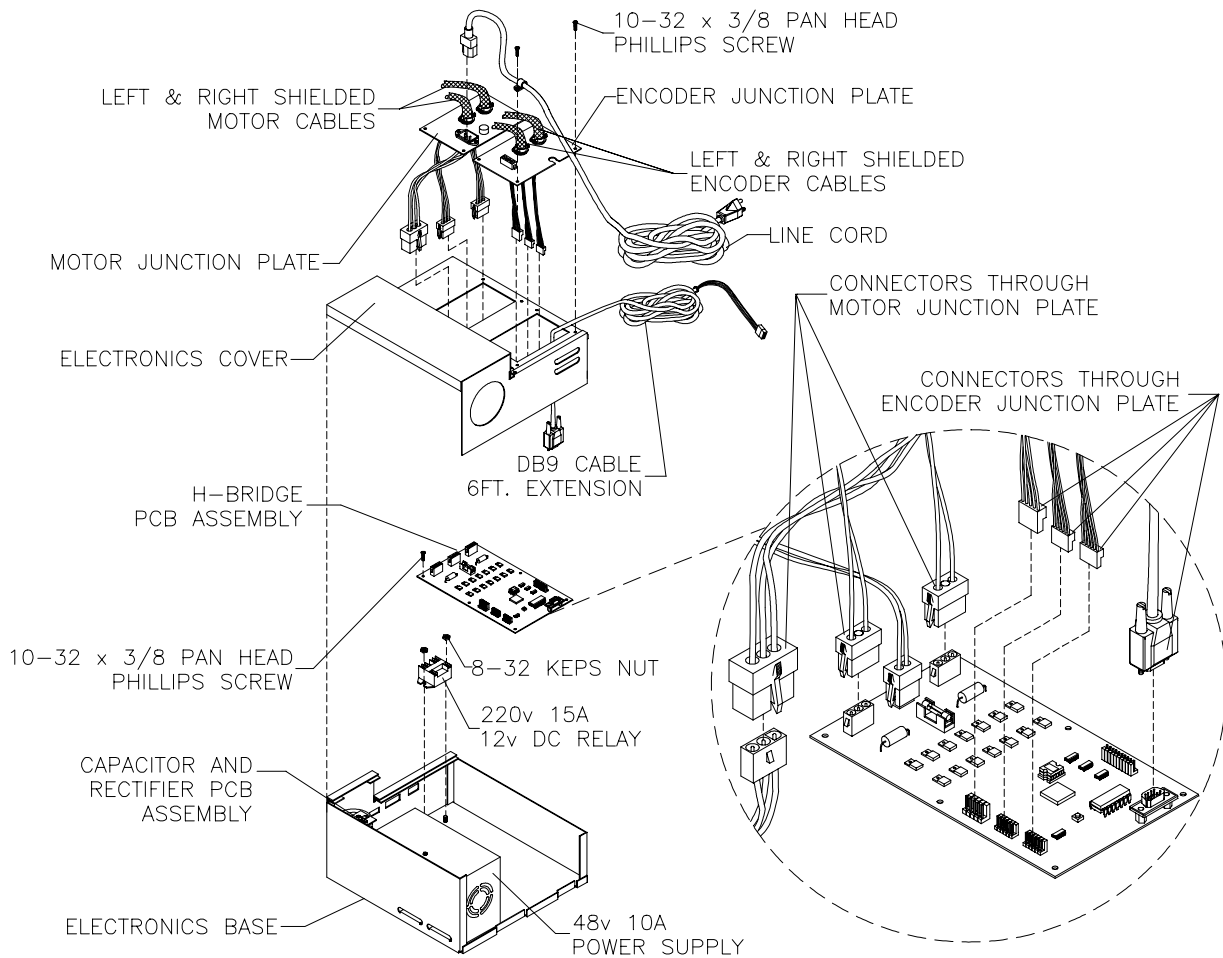
MOTION SEAT SERVICE

Due to the weight of the seat pedestal assembly and the complexity of installation, servicing the seat requires special consideration. Observe all safety precautions and carefully read instructions thoroughly prior to performing a service procedure.

Electrical Service Instructions

The basics of servicing the Electrical Components...

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Unlock and remove the rear door on the main cabinet. Locate and disconnect the data cable on the CPU Board.
- Remove the tamper resistant screws used to fasten the seat pedestal to the rails in the control cabinet. Slowly and carefully slide the seat pedestal assembly halfway back along the rails to expose wiring.
- Disconnect the speaker cable. Continue to slide the pedestal back until there is enough room to work in the proximity of the tread plate. **NOTE:** Be careful not to snag any wiring connections
- Remove the tamper resistant screws used to fasten the tread plate to the pedestal's wooden cover plate. Lift the tread plate and set it and the hardware aside.
- Remove the hex head screws used to fasten the wood cover plate to the pedestal. Lift the wood cover plate to expose the electrical components and set aside.



Electrical Components Service

To service the H-Bridge Board Assembly...

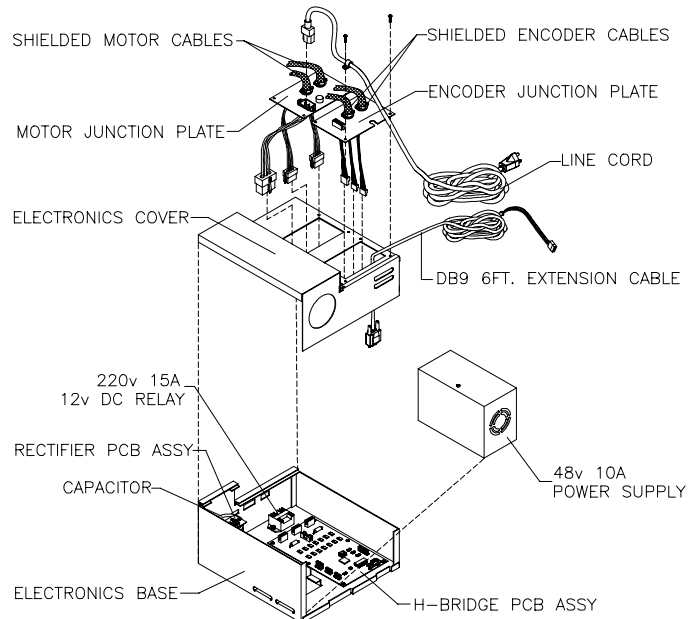
Refer to the *Electrical Components Service* illustration.

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Expose the electrical component housing. *Refer to the Basics of Electrical Components service instructions.*
- Remove the hex head screws used to fasten the encoder junction plate and motor junction plate to the electrical housing.
- Lift up the encoder junction plate. Label and disconnect wiring. Pull the plate clear of the housing as soon as all wiring is disconnected.
- Lift up the motor junction plate. Label and disconnect wiring. Pull the plate clear of the housing as soon as all wiring is disconnected.
- Remove three hex head screws located in the center of the housing. Remove both of the Phillips head screws on the far left-hand side of the housing.
- Lift the housing up and slide it forward to remove it completely. Set aside along with all hardware.
- Disconnect the wiring from the capacitor. Remove all 6 of the hex head screws used to fasten the board in place.
- Perform the desired repair or equipment replacement.

To service the Power Supply...

Refer to the *Power Supply Service* illustration.

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Expose the electrical component housing. *Refer to the Basics of Electrical Components service instructions.*
- Remove the hex head screws used to fasten the encoder junction plate and motor junction plate to the electrical housing.
- Lift up the encoder junction plate. Label and disconnect wiring. Pull the plate clear of the housing as soon as all wiring is disconnected.
- Lift up the motor junction plate. Label and disconnect wiring. Pull the plate clear of the housing as soon as all wiring is disconnected.
- Remove three hex head screws located in the center of the housing. Remove both of the Phillips head screws on the far left-hand side of the housing.
- Lift the housing up and slide it forward to remove it completely. Set aside along with all hardware.
- Label and disconnect wiring. Lift the power supply.
- Perform the desired repair or equipment replacement.

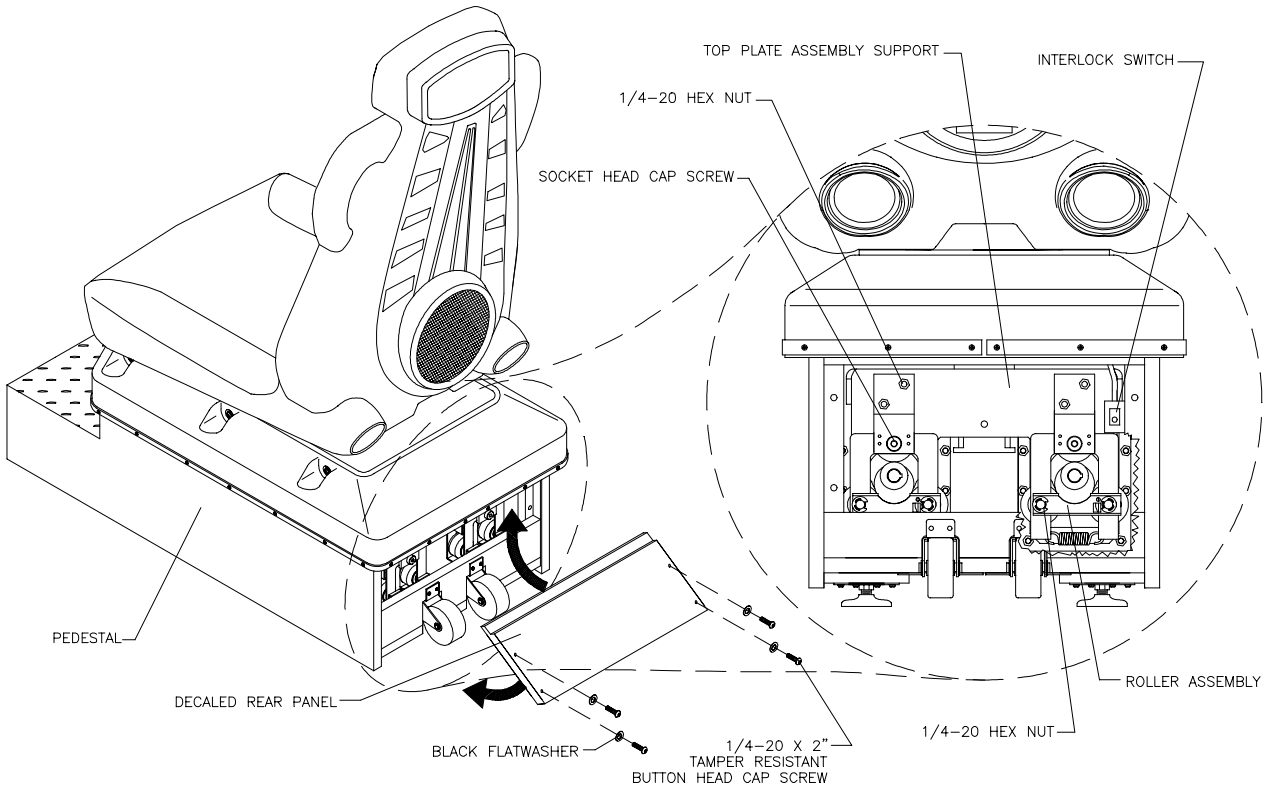


Power Supply Service

Mechanical Service Instructions

The basics of servicing the Mechanical Components...

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Remove all 4 of the tamper resistant screws used to fasten the rear door panel to the pedestal.
- Lift door panel off and set aside with hardware until reinstallation.
- Remove the interlock switch if servicing the motor, cam or encoder located on the right-hand side. Remove both hex head screws used to fasten the switch bracket to the pedestal. Lift the bracket and switch until the work area is clear.
- Securely prop the top plate assembly support to prevent it from falling due to the weight of the seat.



Basics of Mechanical Component Service

To service the Roller Assembly...

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Expose the motor cage. *Refer to the Basics of Mechanical Components service instructions.*
- Remove the nuts and split washers used to fasten the roller assembly to the top plate support.
- Loosen the socket head screw in the center of the roller assembly. Slide the roller assembly off of the cam on the motor and set it aside.
- Perform the desired repair or equipment replacement.
- To reinstall, align screws with the holes in the roller assembly, tighten the socket cap head screws, then tighten the nuts.

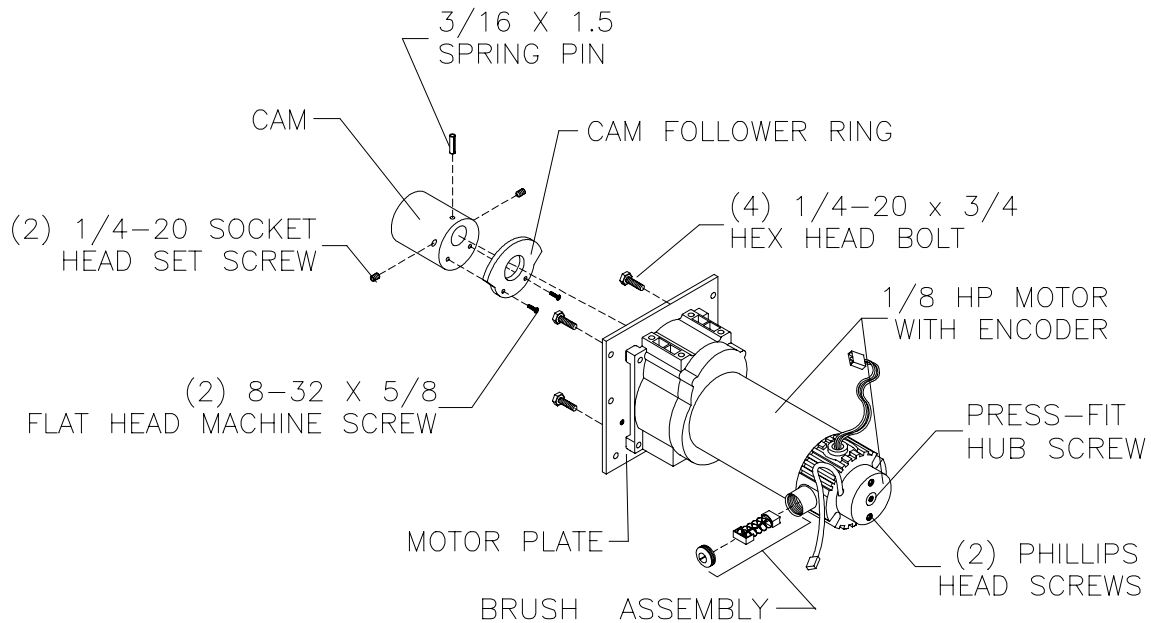
IMPORTANT: Apply removable anaerobic adhesive thread lock (Loctite Blue 242 or equivalent) and torque hardware to 20 to 25 in.-lbs. (2.25 to 2.8 N-m) if it was loosened.

To service a Motor...

Refer to the *Motor and Encoder Service* illustration.

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Expose the motor cage. *Refer to the Basics of Mechanical Components service instructions.*
- Remove the nuts and split washers used to fasten the roller assembly to the top plate support.
- Loosen the socket head screw in the center of the roller assembly. Slide the roller assembly off of the cam on the motor and set it aside.
- Remove 6 of the outermost nuts located on the motor plate. **NOTE:** Due to the use of anaerobic adhesive thread lock it may be difficult to remove the hardware.
- Pull out the motor, but do not remove it past the opening of the rear door to avoid ripping out the wiring. Do not rest the motor with encoder side down.
- Label and disconnect the wiring for the micro switch, the encoder, and AC power.
- Remove the hex head screws used to fasten the motor plate to the motor. Remove plate.
- Remove both of the Phillips head screws in the encoder.
- Remove the press-fit screw from the hub using a 10-32 puller thread. Set aside with all hardware.
- Lift the encoder off the motor.
- Perform the desired repair or equipment replacement.
- To reinstall, orient the motor so that the micro switch faces toward the floor and reconnect the wiring for the encoder and AC power. Place the wiring along the topside of the motor while inserting into the perforated cage. Route the wiring for the micro switch through the largest hole in the motor plate and reconnect.
- Reinstall using the hardware provided.

IMPORTANT: Apply removable anaerobic adhesive thread lock (Loctite Blue 242 or equivalent) and torque hardware to 20 to 25 in-lbs. (2.25 to 2.8 N-m) if it was loosened.



Motor and Encoder Service

To service an Encoder...

Refer to the *Motor and Encoder Service* illustration.

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Refer to the *Basics of Mechanical Components service instructions*.
- Remove the nuts and split washers used to fasten the roller assembly to the top plate support.
- Loosen the socket head screw in the center of the roller assembly. Slide the roller assembly off of the cam on the motor and set it aside.
- Remove 6 of the outermost nuts located on the motor plate. **NOTE:** Due to the use of anaerobic adhesive thread lock it may be difficult to remove the hardware.
- Pull out the motor, but do not remove it past the opening of the rear door to avoid ripping out the wiring. Do not rest the motor with encoder side down.
- Label and disconnect the wiring for the micro switch, the encoder, and AC power.
- Remove both of the Phillips head screws in the encoder.
- Remove the press-fit screw from the hub using a 10-32 thread puller. Set aside with all hardware.
- Lift the encoder off the motor.
- Perform the desired repair or equipment replacement.

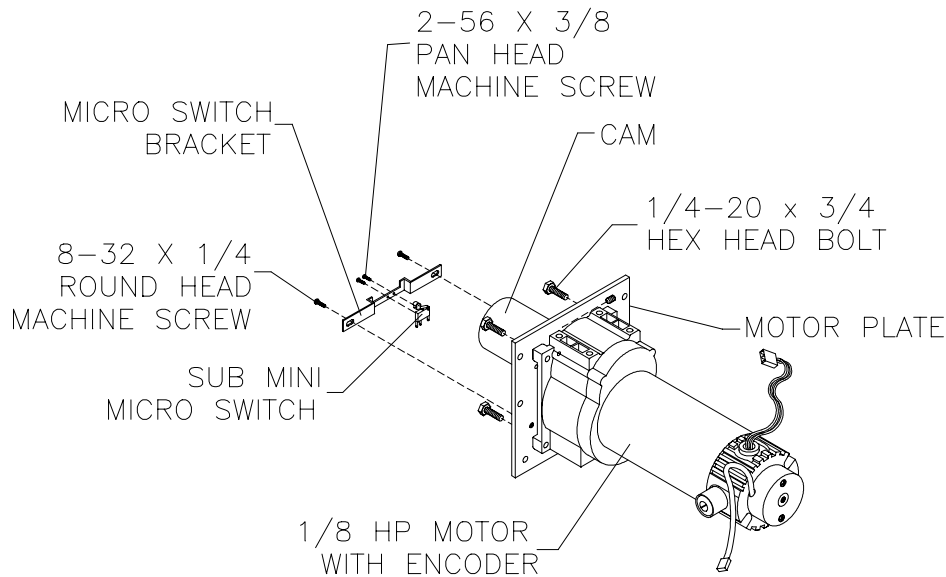
IMPORTANT: Apply removable anaerobic adhesive thread lock (Loctite #609 or equivalent) and torque hardware to 5 ft.-lbs. (0.56 N-m) if it was loosened.

To service the Micro Switch...

Refer to the *Micro Switch Service* illustration.

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Refer to the *Basics of Mechanical Components service instructions*.
- Label and disconnect the wiring for the switch. Note the orientation of the switch bracket.
- Remove the 2 Phillips head screws used to fasten the switch bracket to the motor plate. Lift the bracket from the motor plate.
- Remove the 2 Phillips head screws used to fasten the micro switch between two separate brackets. Set the brackets aside.
- Perform the desired repair or equipment replacement.
- Reinstall by aligning the keyhole so that it is vertical, then fasten the bracket in place.

IMPORTANT: Apply removable anaerobic adhesive thread lock (Loctite Blue 242 or equivalent) and torque hardware to 7 to 9 ft.-lbs. (9.4 to 12.2 N-m) if it was loosened.

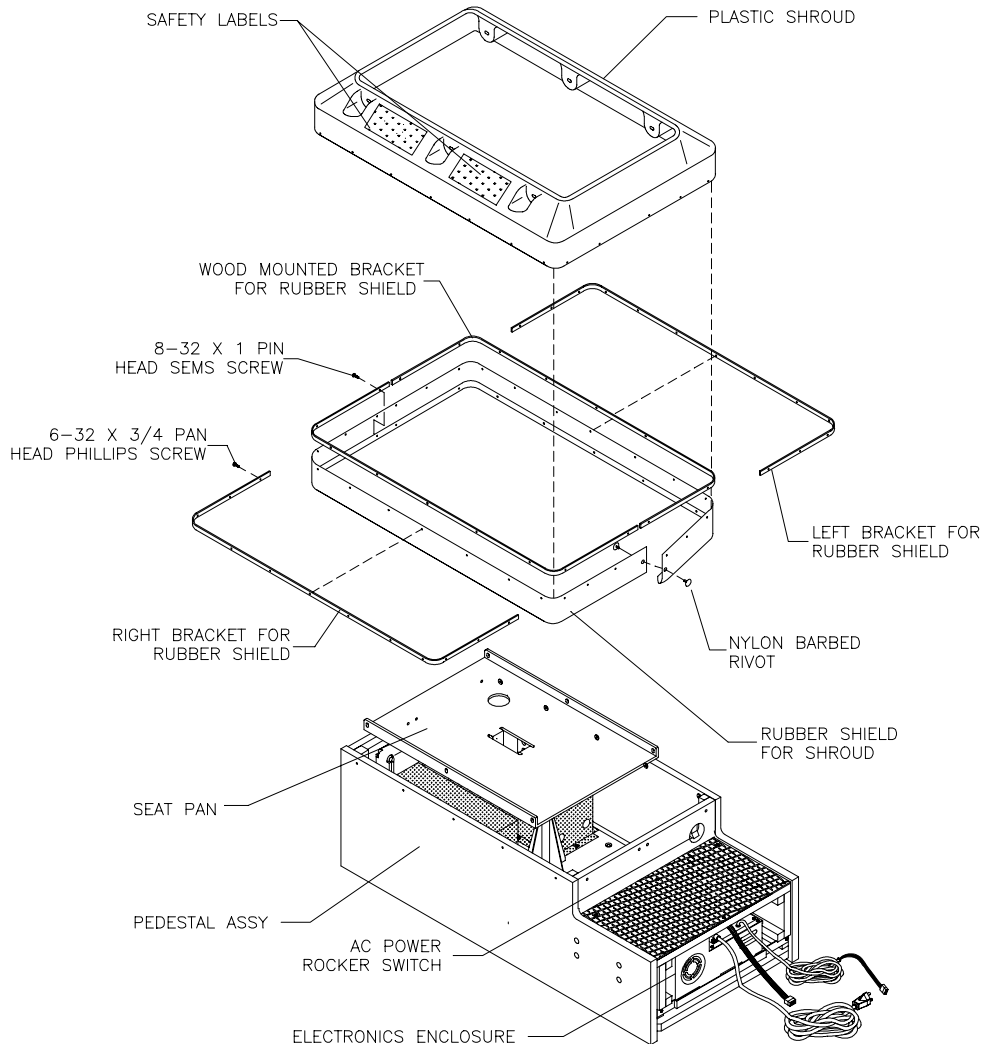


Micro Switch Service

To service the Plastic Shroud...

Refer to the *Shroud and Gasket Service* illustration.

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Remove 3 tamper resistant screws from each side of the seat slide mounting plate. Lift the seat and mounting plate assembly off the pedestal and set aside.
- Remove the 26 screws used to fasten the metal retainer and rubber gasket to the bottom edge of the plastic shroud. Set the hardware and metal retainer aside for reuse later. Lift off shroud.
- Perform the desired repair or equipment replacement.
- Reapply safety decals to shroud.



Shroud and Gasket Service

To service the Rubber Gasket...

Refer to the *Shroud and Gasket Service* illustration.

- Switch off power to the game machine and seat assembly and unplug the AC line cords for both.
- Remove 3 tamper resistant screws from each side of the seat slide mounting plate. Lift the seat and mounting plate assembly off the pedestal and set aside.
- Remove the 26 screws used to fasten the metal retainer and rubber gasket to the bottom edge of the plastic shroud. Set the hardware and metal retainer aside for reuse later. Lift off shroud. Allow the rubber gasket to fold down to expose the metal retainer and hardware.
- Remove 18 screws used to fasten the retainer to the pedestal. Remove the retainer and gasket.
- Perform the desired repair or equipment replacement.

To service the Molded Seat Assembly...

The Seat Assembly includes the pedestal base. Refer to the *Seat Pedestal Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove 3 tamper resistant screws from each side of the seat mounting plate. Lift the seat and mounting plate assembly off the pedestal until the wiring is exposed.
- Disconnect the speaker cable and lift the seat the rest of the way up from the pedestal.
- Place the seat on its back, on a flat surface. Perform the desired repair or equipment replacement.
- Reinstall using the hardware provided.

IMPORTANT: Apply removable anaerobic adhesive thread lock (Loctite Blue 242 or equivalent) and torque hardware to 7 to 9 ft.-lbs. (9.4 to 12.2 N-m) if it was loosened

To service the Seat Slide Assembly...

Refer to the *Seat Pedestal Service* illustration.

- Switch off the power to the game machine and seat assembly. Unplug the AC line cord for both the game cabinet and seat assembly.
- Remove 3 tamper resistant screws from each side of the seat mounting plate. Lift the seat and mounting plate assembly off the pedestal and set aside.
- Slide the seat assembly forward, and remove the two tamper resistant screws from the rear of the metal panel on top of the pedestal assembly.
- Slide the seat assembly backward and remove the two tamper resistant screws from the front of the metal panel.
- Lift the metal panel out of the pedestal base and turn the unit over.
- Remove the four nuts holding the metal panel to the slide assembly. Set the metal panel aside and slide assembly is exposed.
- Perform the desired repair or equipment replacement.
- Reinstall by performing the steps in reverse and fasten in place using the hardware provided.

IMPORTANT: Apply removable anaerobic adhesive thread lock (Loctite Blue 242 or equivalent) and torque hardware to 7 to 9 ft.-lbs. (9.4 to 12.2 N-m) if it was loosened (see illustration).

To service Speakers in Head Rest...

Refer to the *Seat Pedestal Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the tamper resistant screws from the speaker grille.
- Remove the tamper resistant screws used to fasten the speaker plate to the seat and pull forward.
- Label and disconnect wires, including ground.
- Remove the nuts used to fasten the speaker to the plate and remove speaker(s).
- Perform desired repair or equipment replacement.
- Reinstall the speaker(s) to the speaker plate and reattach wiring, including ground. Attach the speaker plate to the seat.
- Reinstall speaker grille and fasten in place with hardware provided.

To service Speaker in Seat Back...

Refer to the *Seat Pedestal Service* illustration.

- Switch off the power to the game machine and unplug the AC line cord.
- Remove the tamper resistant screws used to fasten the grille to the seat and pull forward.
- Label and disconnect wires, including ground.
- Remove 4 Philips head screws used to fasten the speaker to the seat and remove speaker.
- Perform desired repair or equipment replacement.
- Reinstall speaker and reattach wiring, including ground.
- Reinstall speaker grille and fasten in place with hardware provided.