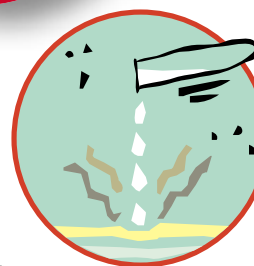# Preventive Maintenance

Happy New Year! Did you make resolutions to do more preventive machine maintenance? No?! Okay, let's get real. It's a time-consuming chore when you've got other high-priority jobs and often gets pushed aside to a later date that never arrives. However, small adjustments and quick cleanings (just like oil changes for your vehicle) really do make a difference. A properly cleaned bill path can turn a cranky bill acceptor that rejects bill after bill into a perfect performer. The benefits translate into longer component life and less headaches for you and your customers. The chart below is IGT's suggested schedule of preventive maintenance.

Once A Month

Clean and inspect:
- Bill acceptor bill path, magnetic sensors and optical lenses
- Video monitor screen and monitor mask
- Player panel switches
- Ticket printer paper path
- Coin acceptor
- Reel strips
- Machine glass

Adjust (if necessary):
- Ticket printer print head

Every Three Months

Clean and inspect:
- Bill acceptor timing belts and pinch rollers
- Coin-in encoder optics and entry assembly
- Lower Module (vacuum only)
- Reel optics
- Heat exhaust fan assembly
- Cabinet door-open optics
- Fluorescent lamps
- Hopper Knife

Adjust (if necessary):
- Video monitor controls

Every Six Months

Clean and inspect:
- Hopper bowl, coin-exit path, motor armature, brake, optic coin sensor and coin-level probe

Adjust (if necessary):
- Hopper metal coin wiper
- Coin acceptor
- Slot handle microswitch

Check the appropriate IGT maintenance manual or third-party vendor user manual for in-depth preventive maintenance procedures.

Polycarbonates Destruction

Cleaning solutions made from the chemicals listed below send parts made from hard-plastic polycarbonates (bill validator entry bezel, security optic arms, various bill acceptor parts and many other parts throughout a gaming machine) into early retirement. Before using a cleaning solution, check product label for:

1.1.1. Trichloroethane:
- Plastic quickly exhibits signs of cracking and fractures
- Found in adhesive solvents, metal degreasers, lubricants, cutting oil formulations and spot cleaners

Dipropylene Glycol and Monomethyl Ether:
- Less obvious damage to surface appearance, but quickly affects the plastic's strength

Tips For Techs

Video Monitor Ramp for 19" Slant-Top

IGT has developed a new tool to assist with the installation and/or removal of the 19" video monitor found in *Game King*® 19" slant-top machines.

Part Required:

IGT P/N — 625-683-00

Name — Ramp – 19" Monitor Assist, Slant-Top

Quantity — Suggested minimum of one ramp per property

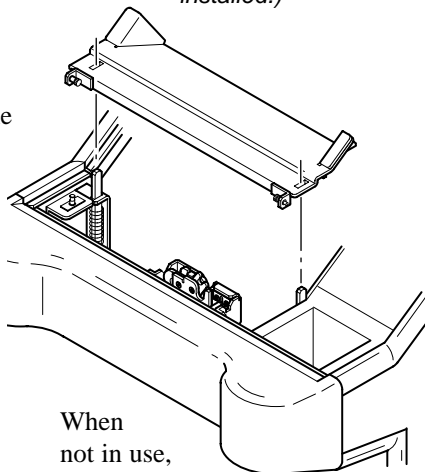**Tools Required:** None

Monitor Removal

1. Unlock and open the main door.

2. Install the ramp by sliding the indicated slots over the door spring pins. Pull the plungers to set the ramp fully into position. Check to make sure the plungers are engaged and are holding the ramp securely in place.

3. Extend both monitor handles and pull them toward you. Allow the front end of the monitor to fall onto the ramp surface. Once the monitor is on the ramp, slide it towards you until it sits fully atop the ramp.
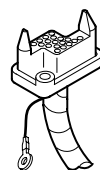
4. Remove monitor.

Monitor Installation

1. Repeat steps 1 and 2 from above.

2. Set the monitor atop the ramp.

3. Slowly slide the monitor down the ramp as you hold the extended monitor handles. Guide the monitor to ensure that it slides into place within its mounting frame.

4. Lift the front of the monitor up into its final secure position. All weight should be off the ramp and all four monitor pins should be fully engaged to the mounting frame.

5. Pull plungers to release ramp from machine.

6. Close and lock main door.
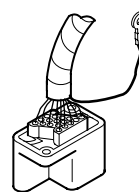   (**Note:** The top panel door will not close with the monitor ramp installed.)

When not in use, the ramp may be stored in one of the lower drop/fill compartments or next to the hopper in the main cabinet in machines without *EZ Pay*™ or ticket printers. Just make sure the ramp isn't pinching any wires or in the way of any moving parts. If space isn't available in the machine, store the ramp in the nearest service area or tool room.

Hot Tool

Monitor Extension Cable
IGT p/n 931-201-00

Imagine this: a six-foot cable that enables you to power on a monitor or hopper after removing it from a machine with an 80960 processor and you never have to leave the machine!

No more trips back to the bench for simple adjustments. Make changes to the monitor focus or pincushion, or visually inspect a hopper function with the component sitting on a cart next to the machine.

This cable makes simple adjustments just that – simple! For more information about the monitor extension cable, contact your IGT Customer Service Representative.

New Documentation from IGT

Quick Reference Card: Mars Bill Acceptor p/n 821-342-00, July 2000

CVT-Plus™ Field Service p/n 821-255-01, September 2000

Maintenance Procedures: Game King® *19" Slant-Top* p/n 821-337-00, October 2000

Mechanical Parts: 80960 Spinning Reels Products: Vision™ Upright/S2000® *Upright* p/n 821-303-00, November 2000

IGS™ Slot Information Gateway (SIG) User's Guide p/n 821-670-00, November 2000

Polycarbonates Destruction (continued from page 1)

- Found in metal conditioning compounds and general cleaning solutions

Ammonia:
- This commonly used chemical undermines the plastic's strength, causing it to become brittle over time
- Found in many everyday household and industrial cleaners considered environmentally safe, such as Windex® and Formula 409®

According to IGT Senior Quality Support Technician Dennis Haymes, "Most periodic cleaning to remove grit, dust or other atmospheric debris from cosmetic surfaces, rubber, plastics, electrical or sensitive optical devices can be done with a damp, lint-free cloth. Solvents or abrasive cleaning fluids should be avoided at all costs."

Customer Notifications: July – December 2000

No.	Subject	Effective Date	Jurisdictions
3019	Hardware Advisory: Retrofit escalator hopper to Secure Count hopper; Slant-top and flat-top machines	7/31/00	All gaming jurisdictions
3102	**MANDATORY** – Firmware Replacement: Correction of the "player paid" display; *Game King*	10/13/00	IN
3103	**MANDATORY** – Firmware Replacement: Machine locks up when software recognizes small jackpots as hand-pay; *Player's Edge-Plus*	7/10/00	IGTE,PL,RIO,SANTA
3104	Firmware Advisory: Firmware upgrade for new $5, $10 and $20 U.S. Treasury notes; DBV-35-SU and DBV-45-SU	11/1/00	LAL,MT,MTI,ORI,RIL,SDI
3108	Field Service Procedure: Latch adjustment on slant-top machines; *Vision*, *S2000*, *Game King* 17" and *Game King* 19"	8/31/00	ALL
3109	Firmware Advisory: Improvements in SCOM communications from machine to host; *S-Plus* game type 0,1,4,5	10/6/00	DEL,NM
3115	**MANDATORY** – Firmware Replacement: Corrections for nine-pay line programs; *S-Plus*	8/30/00	AZI,BAH,CO,CRUIS,CTI,GAUT, IA,IAI,IGTE,IL,IN,KSI,LA,LAI, LALB,MII,MNI,MO,MSI,NDI,NMI, NV,ONT,ONTI,PERU,SD, SDI,SPAIN,WII
3117	**MANDATORY** – Firmware Replacement: Correction of system errors in *Elephant King* game; *Game King*	9/27/00	AZI,CAI,CO,CTI,IA,IAI,KSI,LA,LAI, LALB,MII,MO,MS.MSI,NDI,NMI, NV,SD,SDI,WII
3118	Hardware Advisory: Release of universal 300W power supply for 80960 machines; Upright, slant-top and flat-top models	9/25/00	ALL
3124	**MANDATORY** – Firmware Replacement: Corrections to events with more than 35 machines on *CVT-Plus* loop; *CVT-Plus*	12/6/00	WVL
3125	Field Service Procedure: Replace 3 amp fuse with 4 amp fuse: *S-Plus* IBA upright	12/18/00	All CE jurisdictions
3130	Firmware Advisory: Increase default escrow time-out period from eight to 30 seconds for WBA-12-SS and WBA-13-SS bill acceptors in *EZ Pay* environment	12/7/00	AZI,BAH,CAI,CTI,IA,IAI,LA,LAI, LALB,MI,MII,MNI,MO,MS,NDI, NMI,NV,ORI,WII
3131	**MANDATORY** – Firmware Replacement: Addition of *EZ Pay* and coupon capability; *Game King IDOJ Make A Wish* game	12/6/00	
3132	Hardware Advisory: Correction of dim, flickering or non-functioning lamps, meters or bells; *S-Plus*, *Player's Edge-Plus*, M-Slot and CCOM	9/11/00	ALL
3137	Firmware Advisory: Changes to EFT uploads in *Texas Tea* game; *Game King*	10/17/00	IGTE
3138	**MANDATORY** – Field Service Procedure: Correction of loose coin tray, *Game King/iGame-Plus* 17" and 19" slant-top and *S2000* and *Vision* slant stepper	9/6/00	ALL
3139	Hardware Advisory: Coin tray plunger replacement; *Game King/iGame-Plus*, *S2000* and *Vision* slant-top	10/31/00	ALL
3140	Hardware Advisory: Assist for removal and installation of 19" video monitor; *Game King/iGame-Plus* 19" slant-top	10/16/00	ALL
3146	**MANDATORY** – Firmware Replacement: Corrections to the See Pays screen in multi-hand Poker; *Game King*	10/17/00	NJ

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Customer Notifications: July – December 2000

No.	Subject	Effective Date	Jurisdictions
3148	New Documentation: Release of Mars Bill Acceptor Quick Reference Card (IGT p/n 821-342-00)	9/25/00	ALL
3149	**MANDATORY** – Firmware Replacement: Correction of erroneous "Player Paid" display; *Winner's Choice* multi-game	9/21/00	NM
3150	**MANDATORY** – Firmware Replacement: Corrections to "Last Game Recall" function; *S-Plus Limited* game types 49 and *Full House* game	9/15/00	NV
3154	Hardware Advisory: Non-functioning player tracking COM boards; Model DCU II	10/2/00	ALL
3155	**MANDATORY** – Firmware Replacement: Incorrect pays; *S-Plus* game type 0,1,4,5,19 and 20	10/10/00	ALB,AZI,BUENO,CRUIS,CTI,IA, IAI,IL,IN,KSI,LA,LAI,LALB,MI, MII,MO,MS,MSI,NDI,NMI, NV,SD,SDI,WII
3157	**MANDATORY** – Firmware Replacement: Upgrade to payline graphics in *Wild Bear* game; *Game King*	10/27/00	AZI,CAI,CRUISE,CTI,DEL,IA,IGTE, KSI,LA,LAI,MII,MNI,MO,MS,MSI, NDI,NJ,NMI,NV,PR,SD,SDI,WII
3163	Firmware Advisory: Changes to voucher validations to prevent *CVT* lock-up; *CVT-Plus*	10/31/00	WVL
3164	**MANDATORY** – Firmware Replacement: Modifications in meter data as required by NGCB; *S-Plus* game type 0	10/17/00	NV
3165	**MANDATORY** – Firmware Replacement: Modifications in *Haywire* game when configured with some *EZ Route* configurations; *S-Plus* game type 2 and 21	10/18/00	NV
3167	**MANDATORY** – Firmware Replacement: Keno paytable modifications; *Game King* Keno	10/18/00	ORI
3171	**MANDATORY** – Firmware Replacement: Corrections to RAM error condition: *Winner's Choice*	12/15/00	DEL
3172	Hardware Advisory: Release of new calibration paper; WBA models 10,11,12,13,20,21,22 and 23-SS	11/6/00	ALL
3174	Firmware Advisory: Upgrade for 1999-series U.S. $5 and $10 treasury notes for DBV-145-SS/SU; *S-Plus* and *Player's Edge-Plus*	11/08/00	BAH,MI,NV
3177	**MANDATORY** – Hardware Replacement: Add in-line fuse to 32-watt ballast to *Jeopardy!, IDOJ, WOF, WOG* game and 17" upright machine; *Game King*	12/05/00	ALL
3181	New Documentation: Availability of new documentation for maintenance procedures (IGT p/n 821-337-00) and electronics (IGT p/n 821-302-00); *Game King* 19" slant-top	11/6/00	ALL
3182	**MANDATORY** – Firmware Replacement: Modifications in meter data as required by NGCB; *S-Plus Limited* game type 40 and 56	11/7/00	NV
3187	**MANDATORY** – Firmware Replacement: Modification of bonus game paytable; *Game King/iGame-Plus* Multi-Denom *Leopard Spots II* game	11/10/00	AZI,CAI,CTI,IA,IAI, MSI,NDI, NMI, SD,SDI,WII
3204	**MANDATORY** – Firmware Replacement: Changes for *50 Play Poker* game; *Game King*	11/3/00	AZI,CAI,CTI,IA,IAI,KSI,LA,LAI,LALB, MII,MNI,MO,MSI,NDI, NMI,SD,SDI,WII
3205	**MANDATORY** – Firmware Replacement: Changes to *50 Play Poker* game; *Game King*	12/4/00	NV

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Quick Fix

A groove or nick as tiny as 1/32" in the top of a hopper knife can cause problems.

Inspect and replace the hopper knife as needed.

New WBA Calibration Papers

WBA bill acceptors fitted with updated software configured to accept the new $5, $10, $20 $50 and $100 treasury notes also need new calibration papers. Bill acceptor models affected include WBA-10, WBA-11, WBA-12, WBA-13, WBA-20, WBA-21, WBA-22 and WBA-23.

Calibration Papers			
Old IGT P/N	Old JCM P/N	New IGT P/N	New JCM P/N
549-047-90	05761	549-067-90	501-000032
549-049-90	05556	549-067-90	501-000032
549-050-90	05155	549-067-90	501-000032

Calibration of the optical sensors* can be done at the machine or at a test bench. IGT recommends calibration approximately every six months or whenever a problem with bill acceptance is occurs.

The following are calibration procedures to be used at the machine or remote locations:

1. Open the machine door and remove the WBA transport and sensor assembly.

2. Set DIP switches 1, 2, 3, and 4 to OFF and 5, 6, 7, and 8 to ON.

3. Calibration at the Machine – Connect the adjustment harness between the connector on the WBA chassis and the connector on the transport assembly.

   Remote Calibration – Connect the power supply line cord to AC power and the matching connector to the WBA transport assembly.

   The WBA performs its normal start-up routine after power is applied. Wait a few seconds until the motors stop.

4. Insert the test paper, black end first, into the sensor assembly. The WBA now automatically calibrates the optical sensors, moving the test paper in and out several times as it sets black and white levels and verifies position sensor operation.

5. As the test paper is ejected from the WBA, observe the LED indicator on the adjustment harness. If the calibration was successful, the LED flashes rapidly at about 0.1 second intervals. If there was a problem during the calibration, the LED flashes at a much slower rate (about once a second) a certain number of times to indicate the error condition that caused the problem. Refer to the following table to determine the error condition.

Flashes	Error Condition
1	Entrance level error
2	Solenoid error
3	Entrance – sensor error
4	Transport jam
5	Gain error (white level adjustment error)
6	D/A error (white level adjustment error)
7	Barcode sensor error
8	Acceptor head removed
9	Magnetic sensor code error
10	Write error
11	Black level adjustment error

6. If an error occurs, repeat the calibration procedure. If the error condition persists, replace the sensor assembly. If the error condition still persists, replace the transport assembly.

* See the **JCM World Bill Acceptor Calibration** document (IGT p/n 821-271-XX) for information on the calibration of magnetic sensors.

Recently Released* Games from IGT:

Cleopatra® (9 line and 20 lines)

Shooting Gallery®

Munsters™

Little Green Men® (5 line)

South Park™

Matrix Poker®

Video Jeopardy!®

Good Times™

Pink Panther™ (three versions)

Neon Nights®

* Games not available in all jurisdictions. For more information, contact your IGT sales representative.

Coming Attractions

IGT rolled out an impressive group of more than 60 new games at the 2000 World Gaming Congress and Expo® this past October. Although reception for everything at the IGT booth was good, attendees anxious to "test drive" the most popular games found SRO (standing room only) crowds at:

• *Austin Powers™*

 • *Creature from the Black Lagoon™*

  • *My Rich Uncle* ®

   • *Cash King Checkers™*

What is NETPLEX?

The NETPLEX system is a distinct communication channel and protocol (language) for serial communication between the processor board and other complex auxiliary devices within an IGT machine with an 80960 processor. A QUART chip on the processor board facilitates bi-directional serial NETPLEX communications. Standard complex auxiliary NETPLEX devices include:

Vision™/*S2000*™
- Bill Acceptor
- LCD (*Vision*™ only)
- *EZ Pay*™ Ticket Printer
- Vacuum Fluorescent Display (VFD)

Game King®
- Bill Acceptor
- *EZ Pay*™ Ticket Printer
- Touchscreen

The Legal Stuff

International Game Technology

Marketing Department
9295 Prototype Drive
Reno, NV 89511