



THE **FAST**
AND THE
FURIOUS

ファースト アンド フェリクス

DRIIFT

CONVERSION KIT

RUSH 2049

040-00008-01

BEFORE YOU BEGIN:

DRIFT CONVERSION KIT TO BE INSTALLED BY QUALIFIED SERVICE PERSONAL ONLY.

BEFORE STARTING, UNPLUG THE AC LINE CORD TO REMOVE ALL POWER.

A SAFE, DRY AND LIGHTED WORK SPACE WILL BE REQUIRED.

DO NOT DISABLE, REMOVE OR MODIFY ANY SAFETY FUNCTIONS OR DEVICES IN THE CABINET OR THE DRIFT CONVERSION KIT.

THE CABINET AND THE NEW DRIFT CONVERSION KIT CONTAIN SENSITIVE ELECTRONIC DEVICES. PROPER ESD PRACTICES NEED TO BE FOLLOWED.

THE COMPUTER DEFAULT POWER SETTING IS 110VAC.

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RECOMMENDED TOOLS LIST:

CORDLESS DRILL

1/2" DRILLBIT

1/4" HEX-HEAD NUT DRIVER

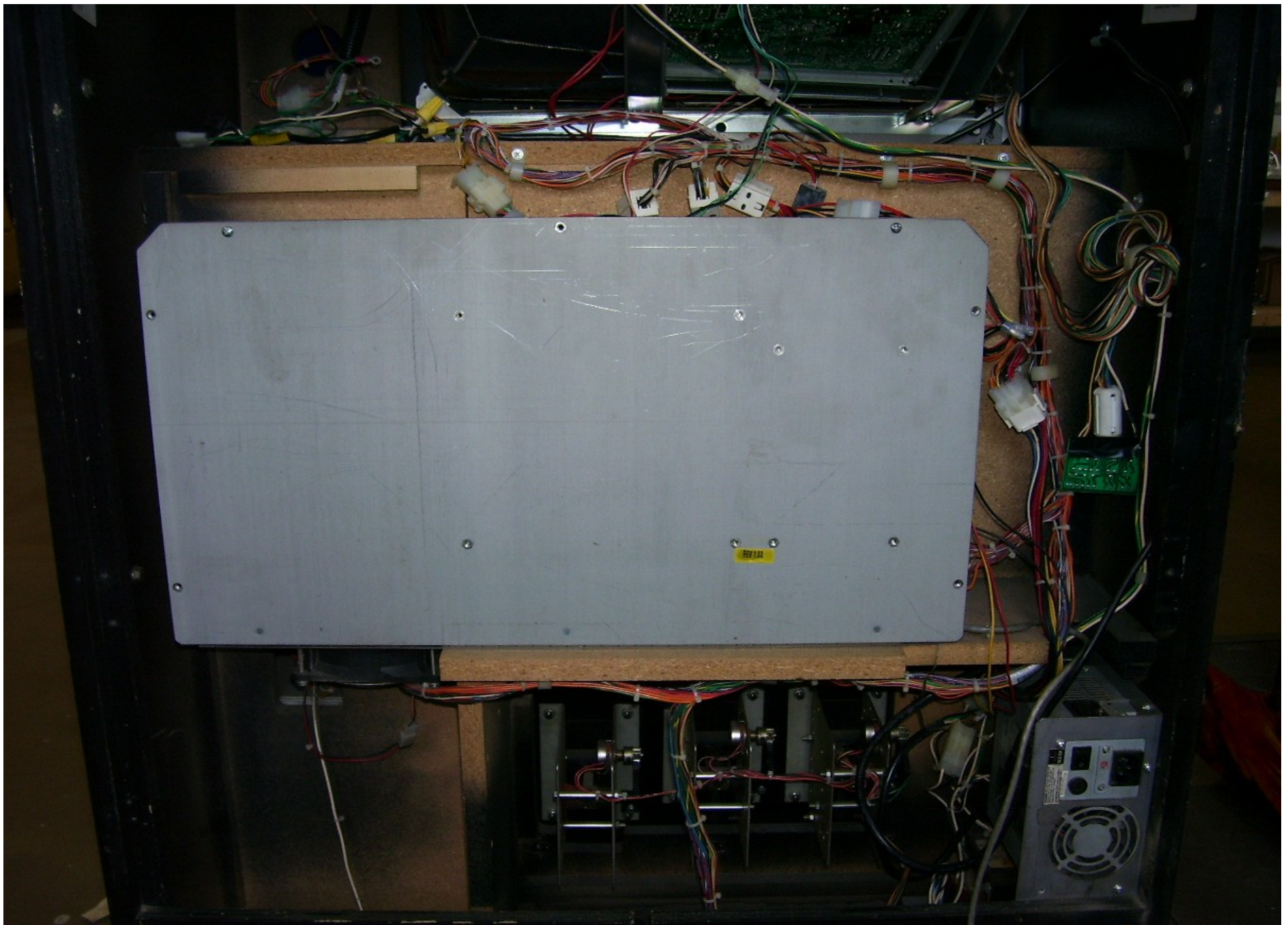
PHILIPS SCREWDRIVER

FLATBLADE SCREWDRIVER

OPTIONAL:

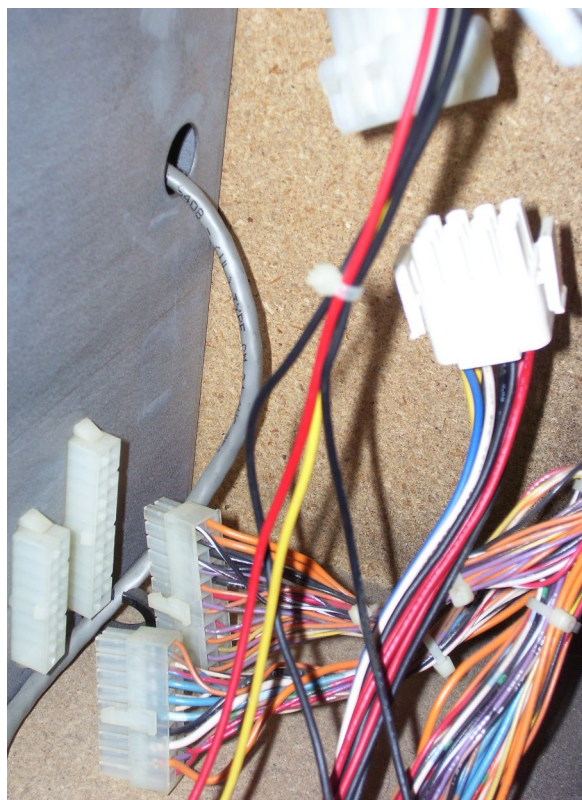
JIGSAW OR KEY-HOLE SAW

DIGITAL VOLT METER(DVM)



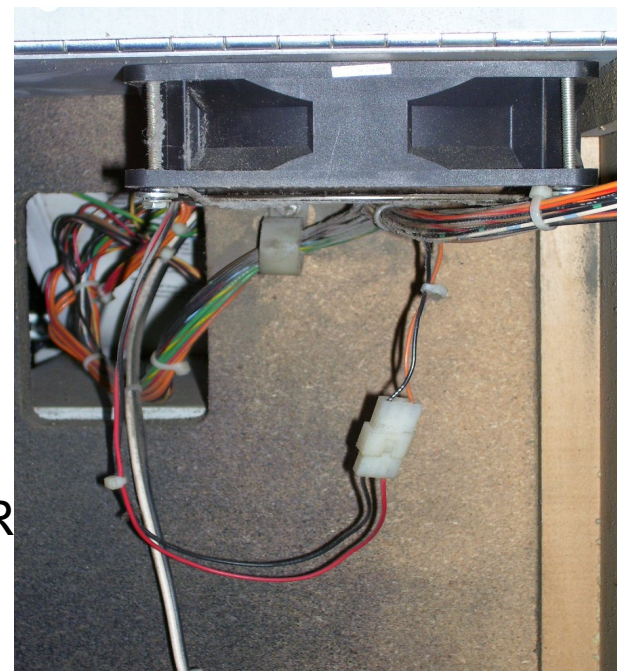
EXISTING GAME ELECTRONICS ASSEMBLY IS TO BE REMOVED.

(ASSEMBLY PICTURED MAY BE DIFFERENT)

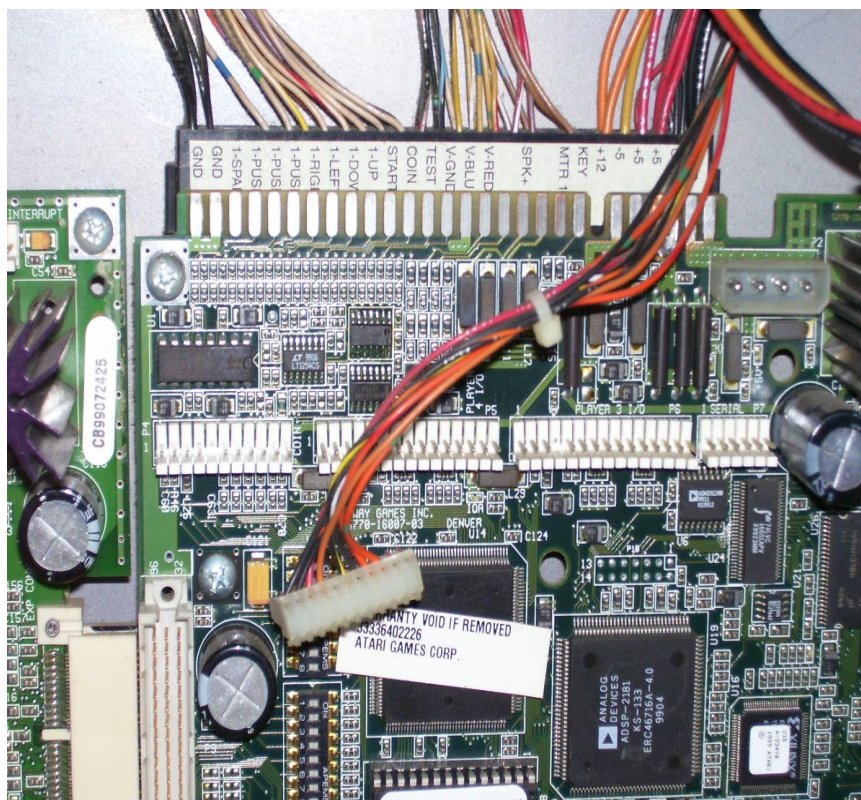


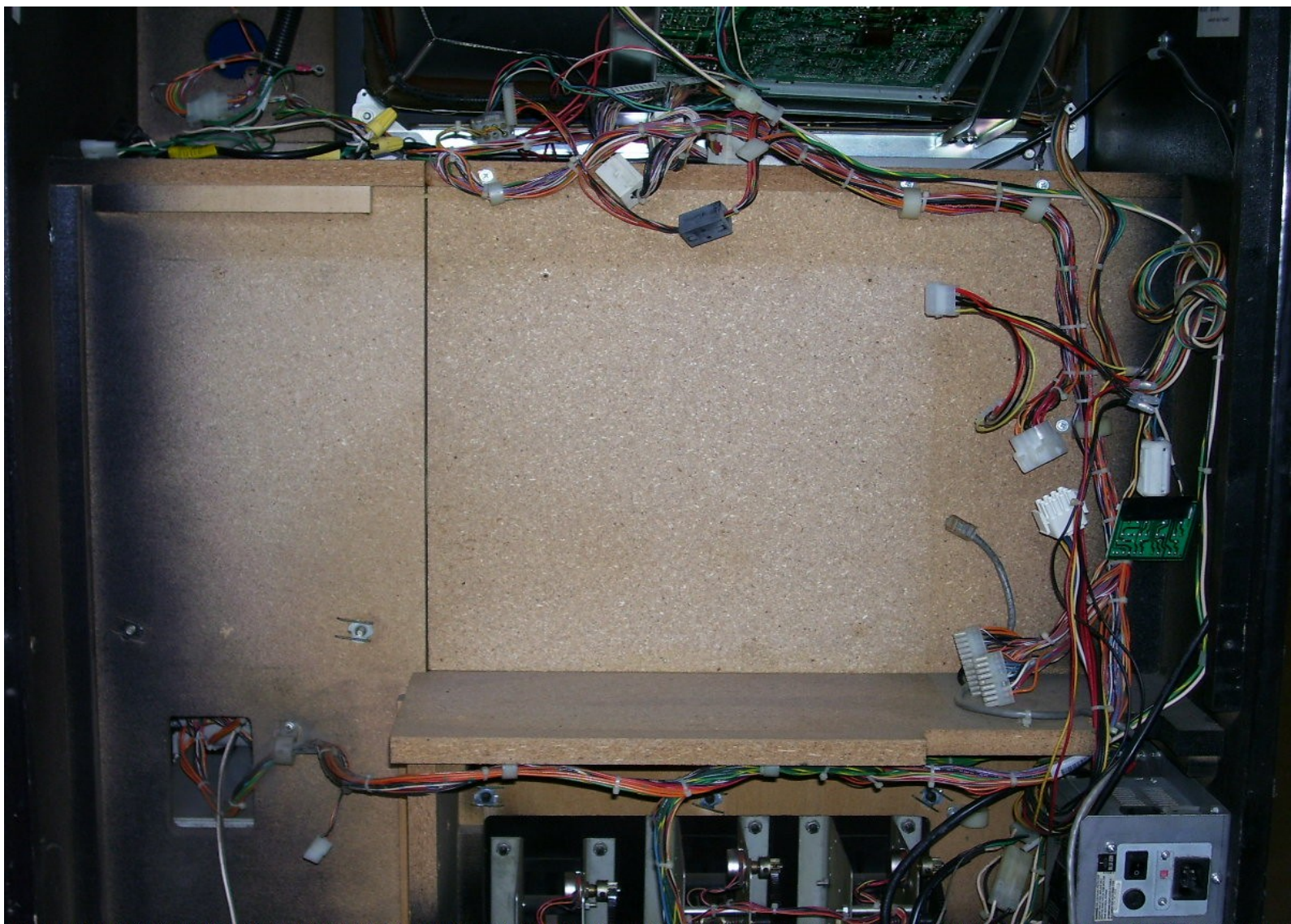
UNPLUG ALL THE CABINET CABLES
IN THE GAME FROM THE MAIN CPU
ENCLOSURE.

DON'T FORGET THE FAN UNDER
THE METAL CPU ENCLOSURE.



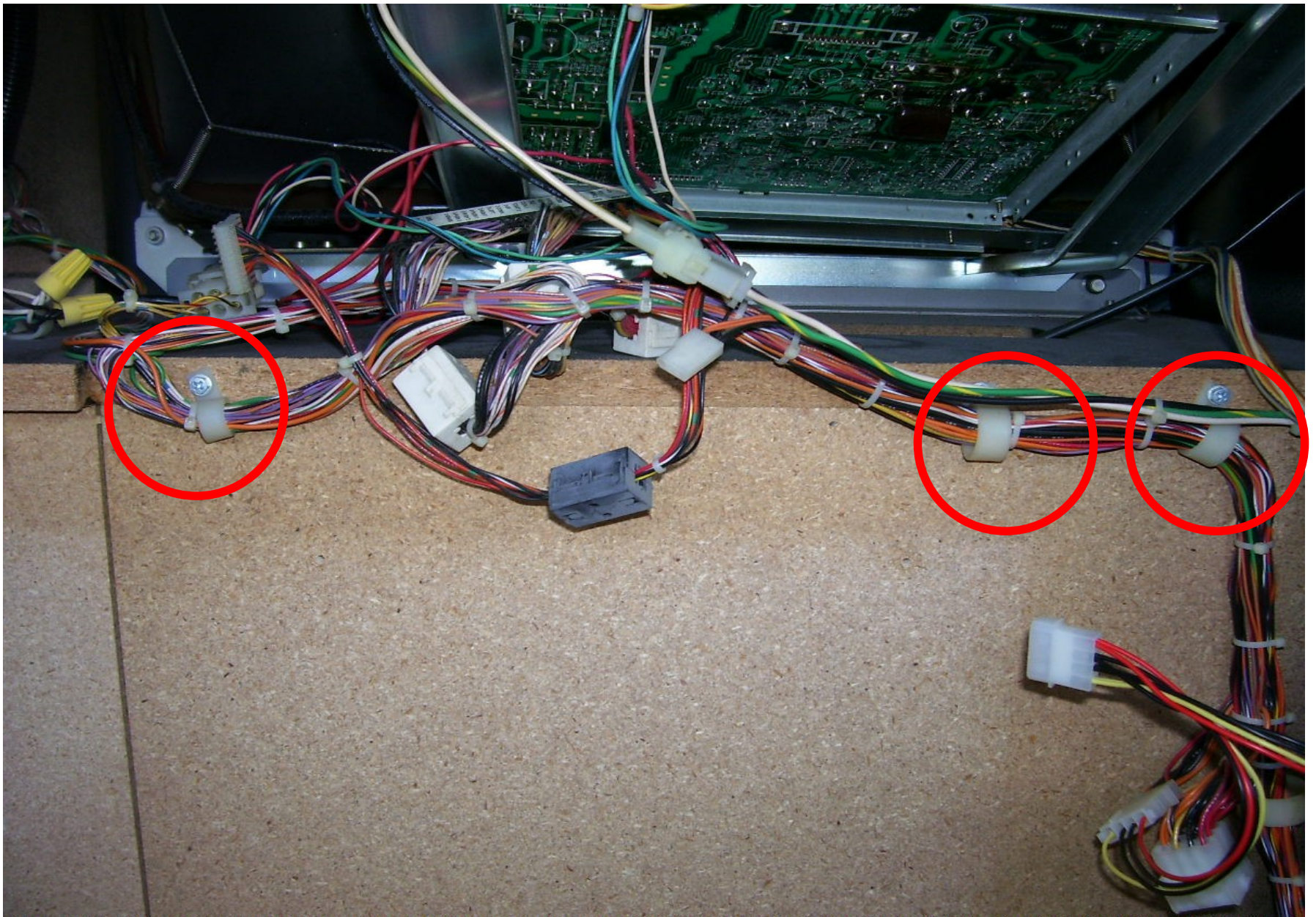
INSIDE THE METAL CPU
ENCLOSURE, UNPLUG THE
JAMMA AND COIN
CONNECTOR.



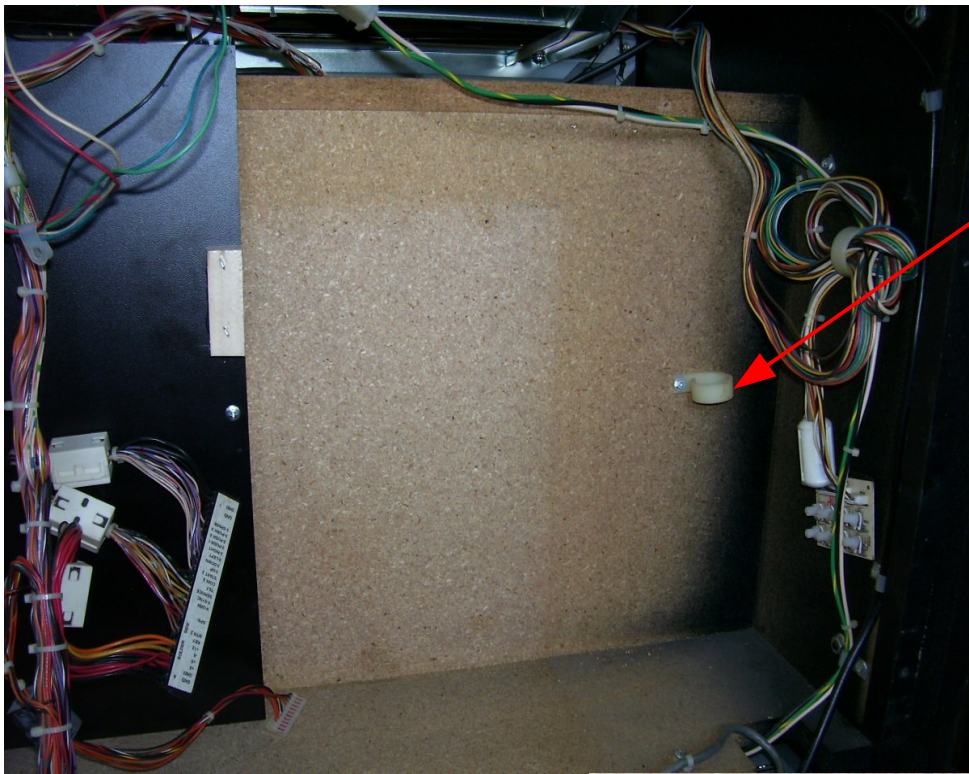


ONCE ALL THE CABINET CABLES ARE DISCONNECTED FROM THE MAIN ELECTRONICS ASSEMBLY, REMOVE THE SCREWS HOLDING THE MAIN ASSEMBLY IN THE CABINET. CAREFULLY REMOVE THE ASSEMBLY FROM THE CABINET.

PICTURE SHOWS THE GAME CABINET WITH THE ELECTRONIC ASSEMBLY REMOVED.



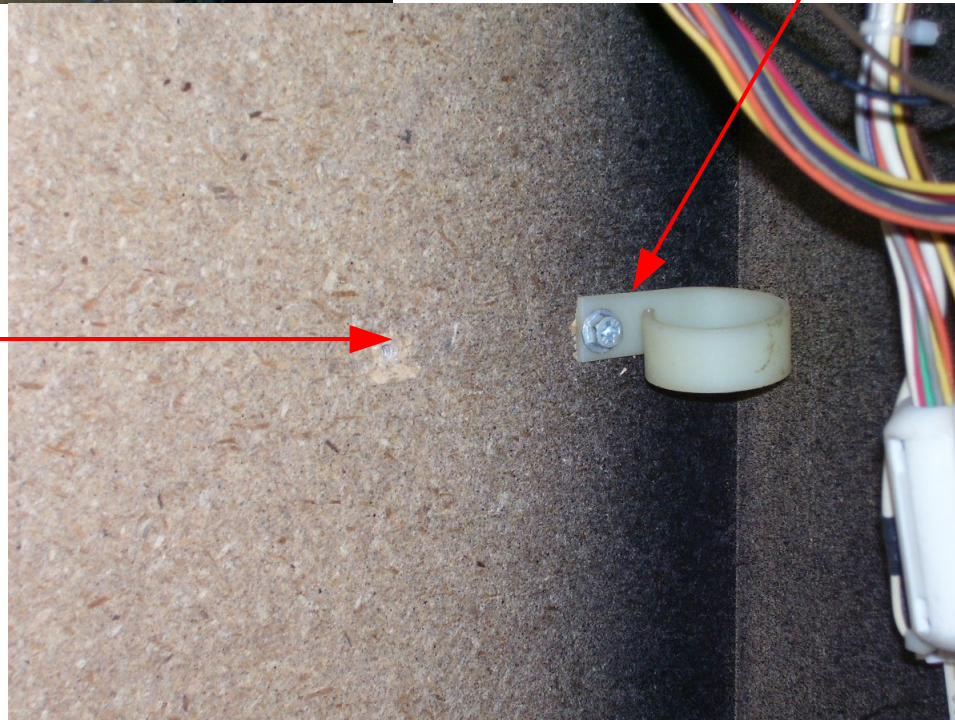
REMOVE THESE CABLE CLAMPS. SAVE THEM, THEY WILL BE USED LATER.

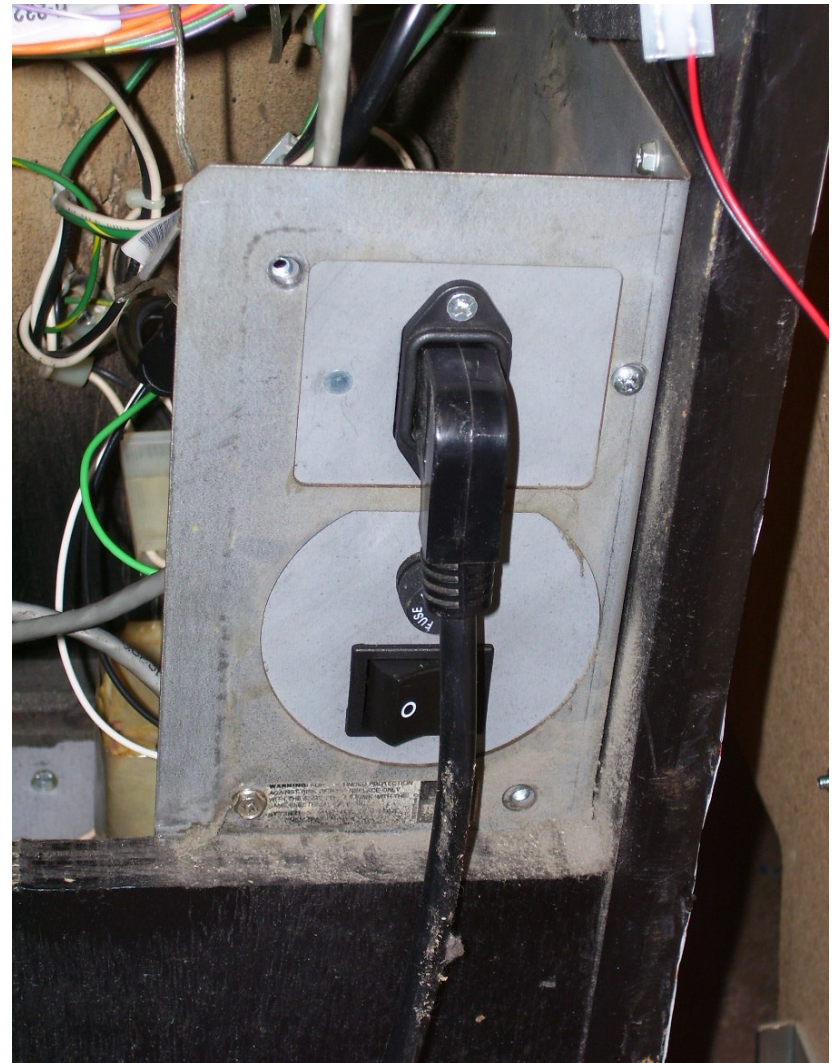
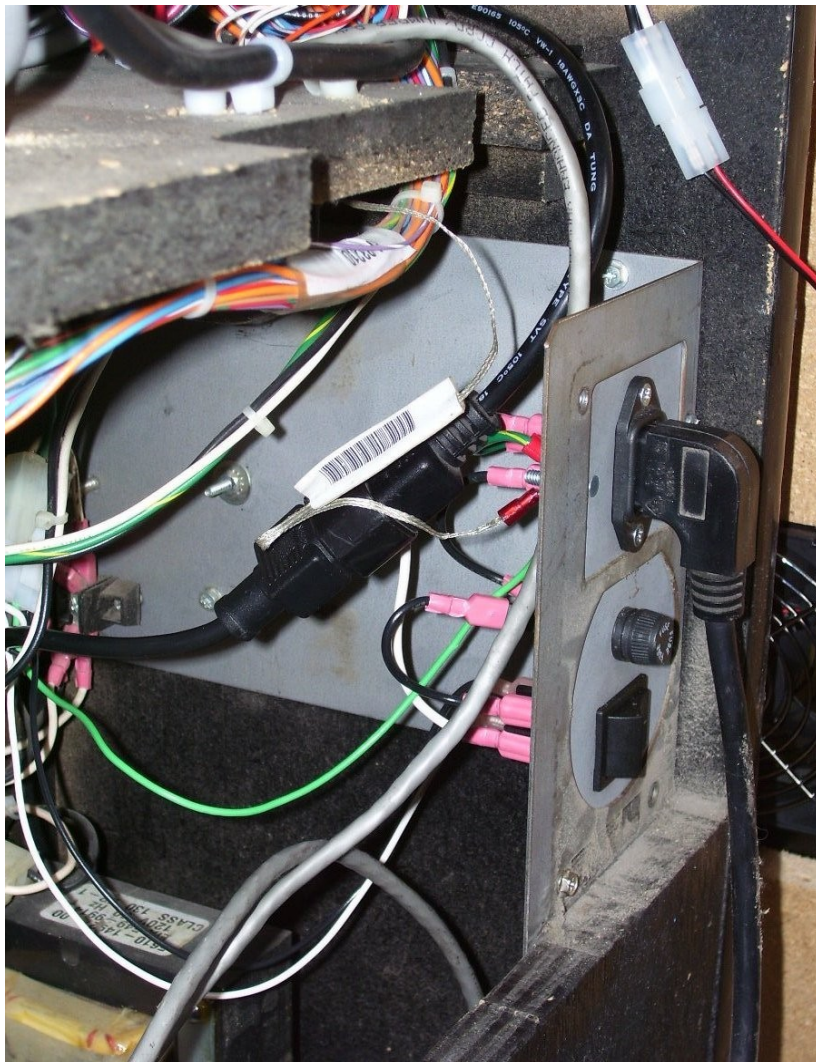


MOVE THIS CABLE CLAMP
NEXT TO THE INSIDE
CABINET WALL. SEE
PICTURES BELOW.

NEW LOCATION

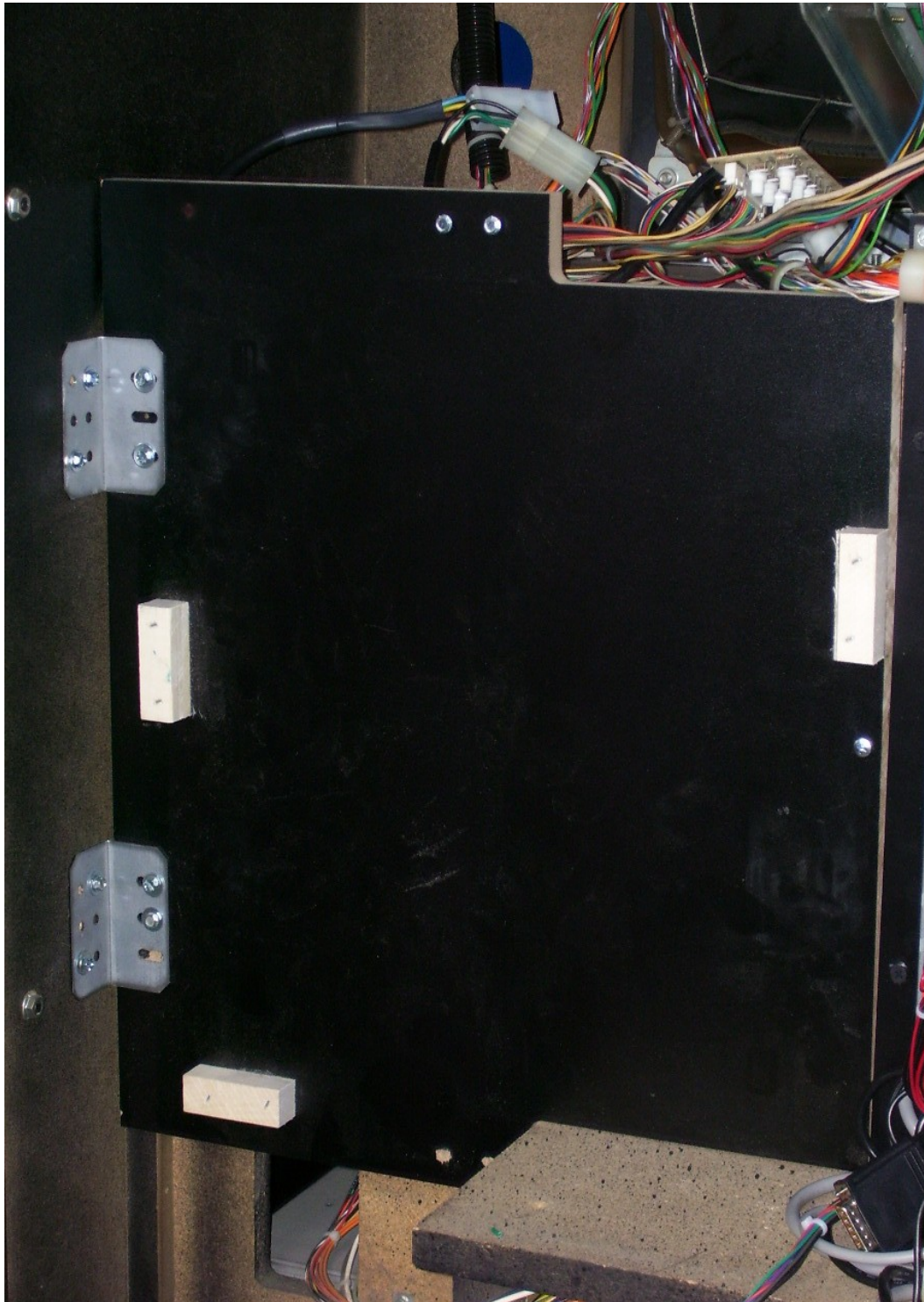
OLD LOCATION



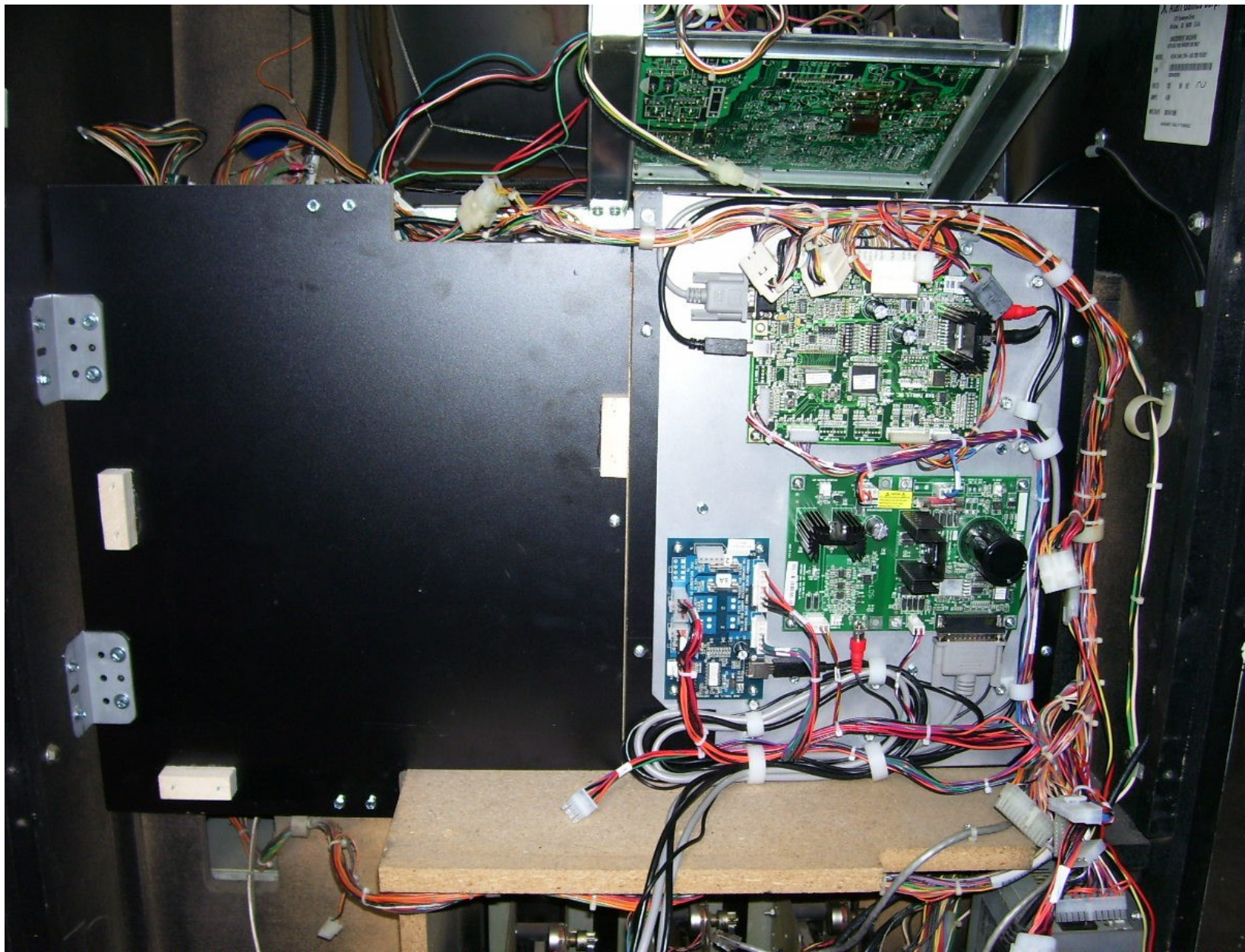


NEW AC PLATE SHOWN MOUNTED TO
EXISTING POWER MOUNTING BRACKET.

REMOVE THE POWER SUPPLY AND REPLACE WITH THE PROVIDED AC
INLET FUSED SWITCH PLATE.



PLACE AND SECURE THE NEW COMPUTER WOOD MOUNTING ASSEMBLY. BE CAREFUL TO NOT PINCH ANY CABLE BEHIND THE PLATE. THE WOOD PLATE SHOULD SIT FLUSH AND LEVEL WITH THE CABINET.



MOUNT THE NEW ELECTRONIC ASSEMBLY. ONE CAN USE THE TOP METAL BEND AS A GRIP/HANDLE. DO NOT HOLD ANY PORTION OF THE CIRCUIT BOARDS.

8	7	6	5	4	3	2	1
0: SW 1-3 ACTIVE ONLY	0: SHIFTER N.O. SWITCH	VIDEO RESOLUTION	VIDEO RESOLUTION	0: NO KEYPAD 1: KEYPAD PRESENT	PRESET GAME MODE	PRESET GAME MODE	PRESET GAME MODE
1: SW 1-3 NOT ACTIVE	1: SHIFTER N.C. SWITCH						

SETTING 6-5

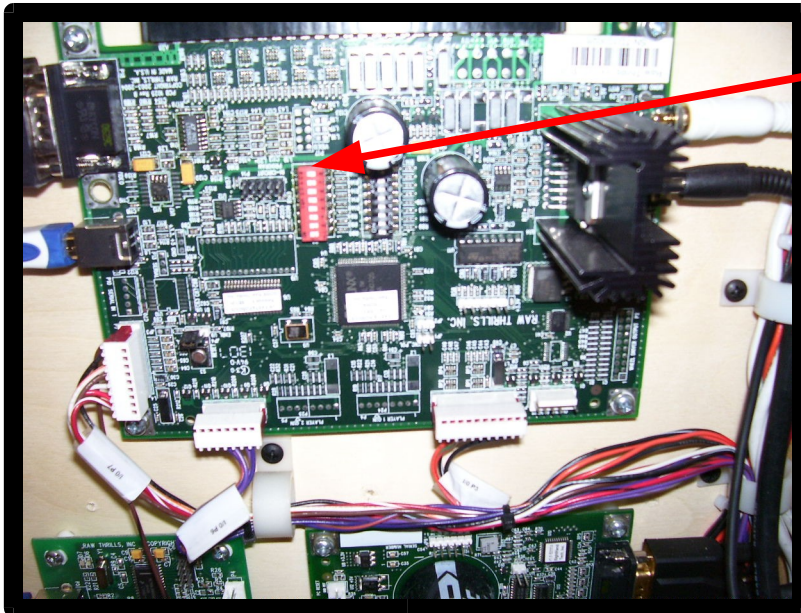
0 0	EGA
0 1	EGA2
1 0	VGA
1 1	CGA

EGA2 : MAY OFFER BETTER FONT
RESOLUTION, DEPENDING ON THE
MONITOR.

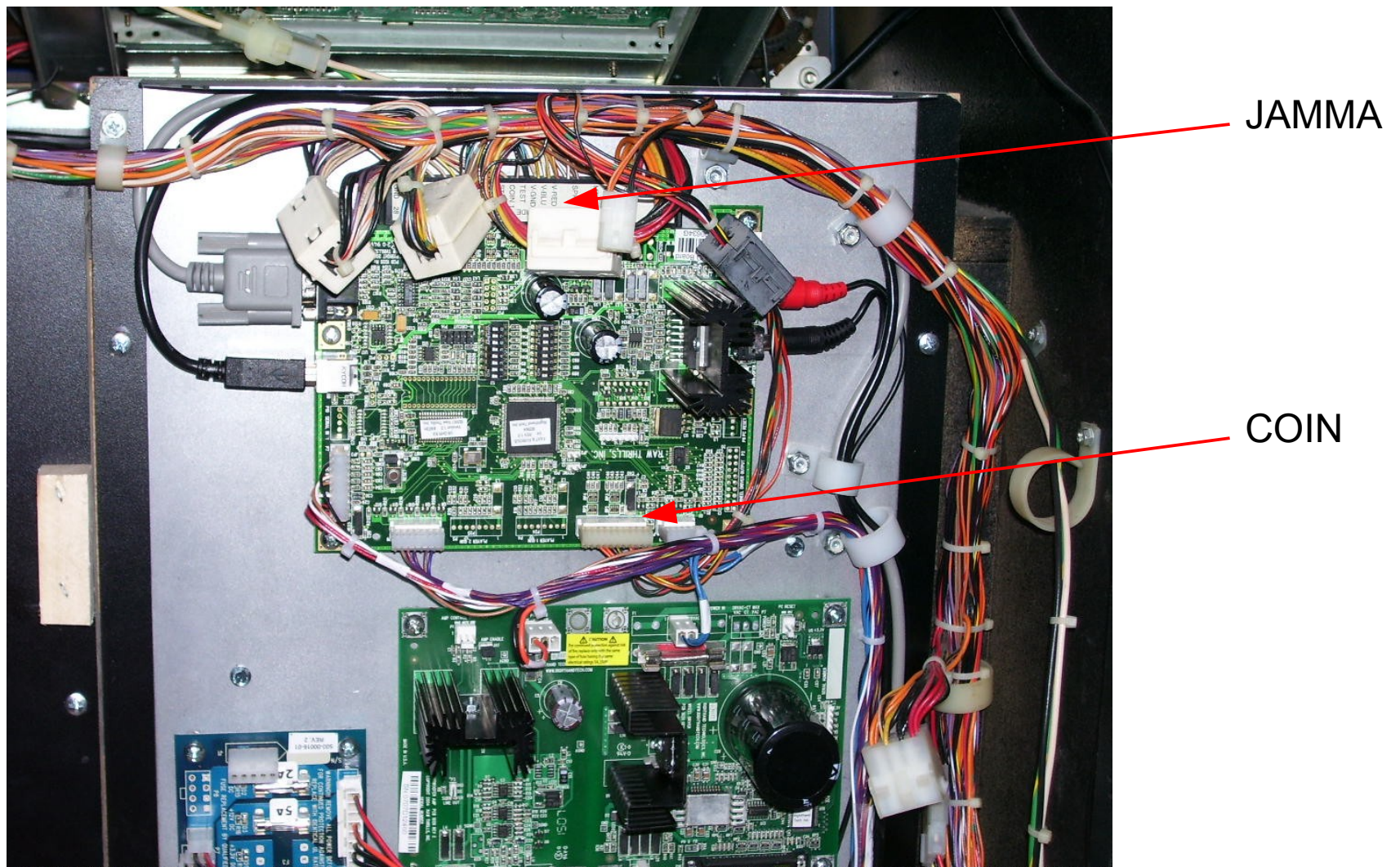
SETTING 3-1

0 0 0	CRUSIN USA
0 0 1	CRUSIN WORLD
0 1 1	RUSH 2049
1 0 0	OFFROAD CHALLENGE
1 1 0	CALIFORNIA SPEED

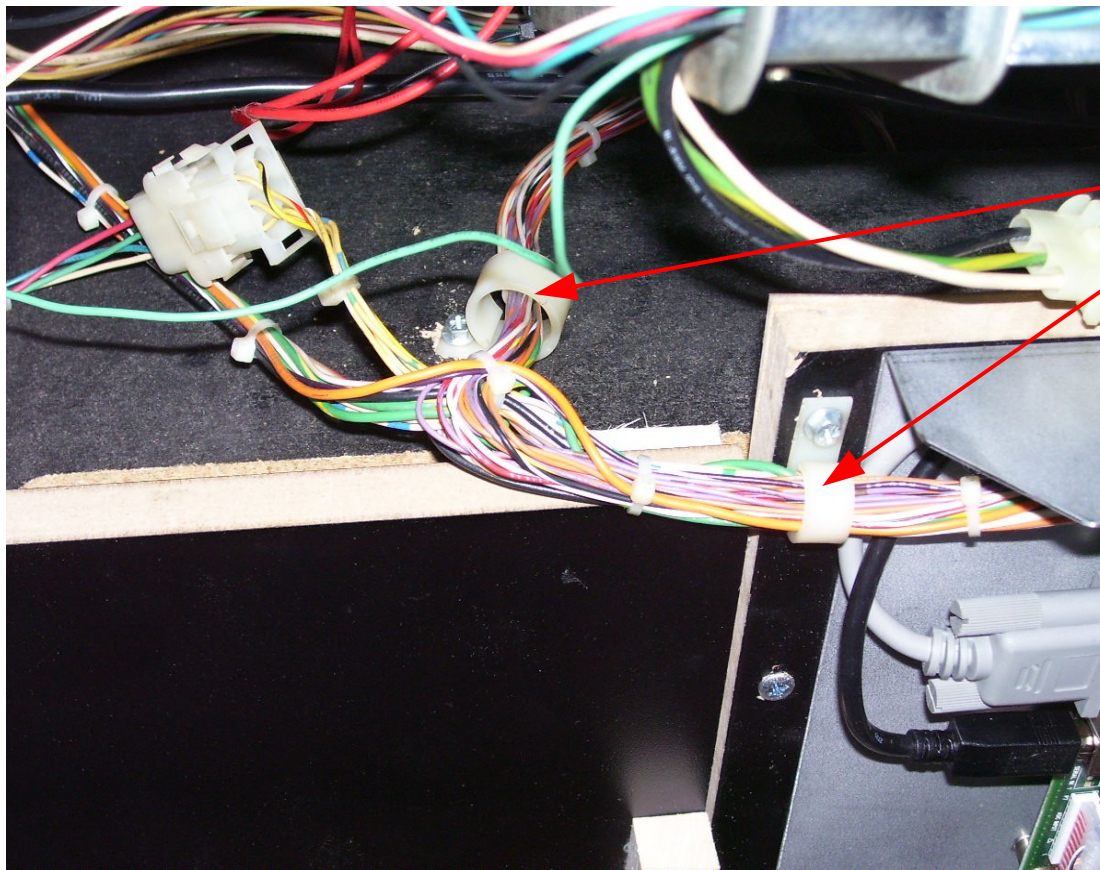
IF POSITION 8 IS SET, PRESET GAME
MODE WILL BE IGNORED.



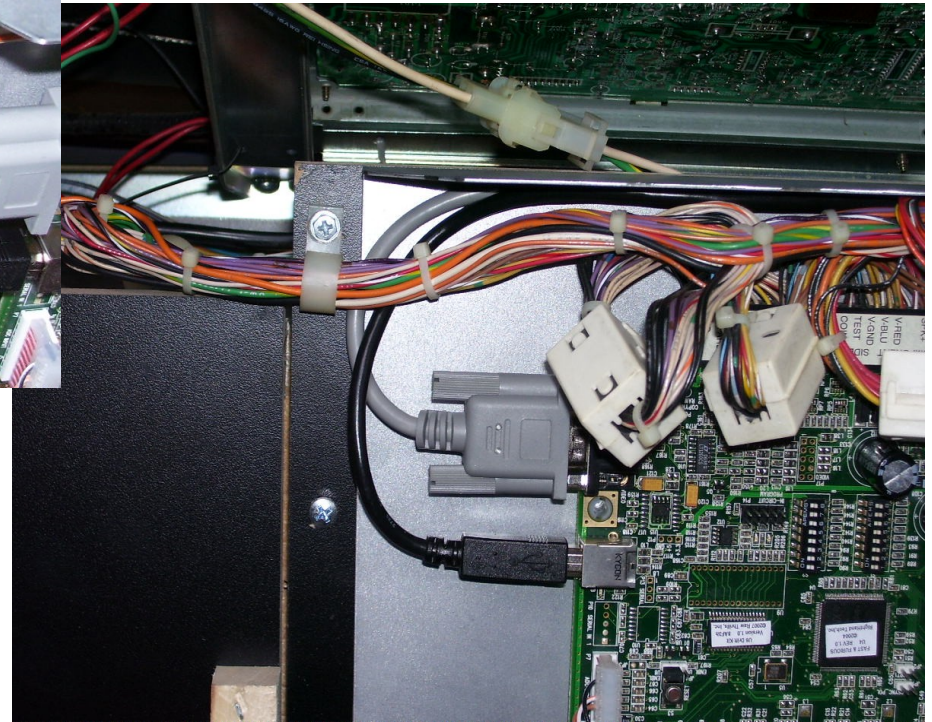
SET THE DIP SWITCH, S2, THAT IS PRESENT
ON THE I/O BOARD.



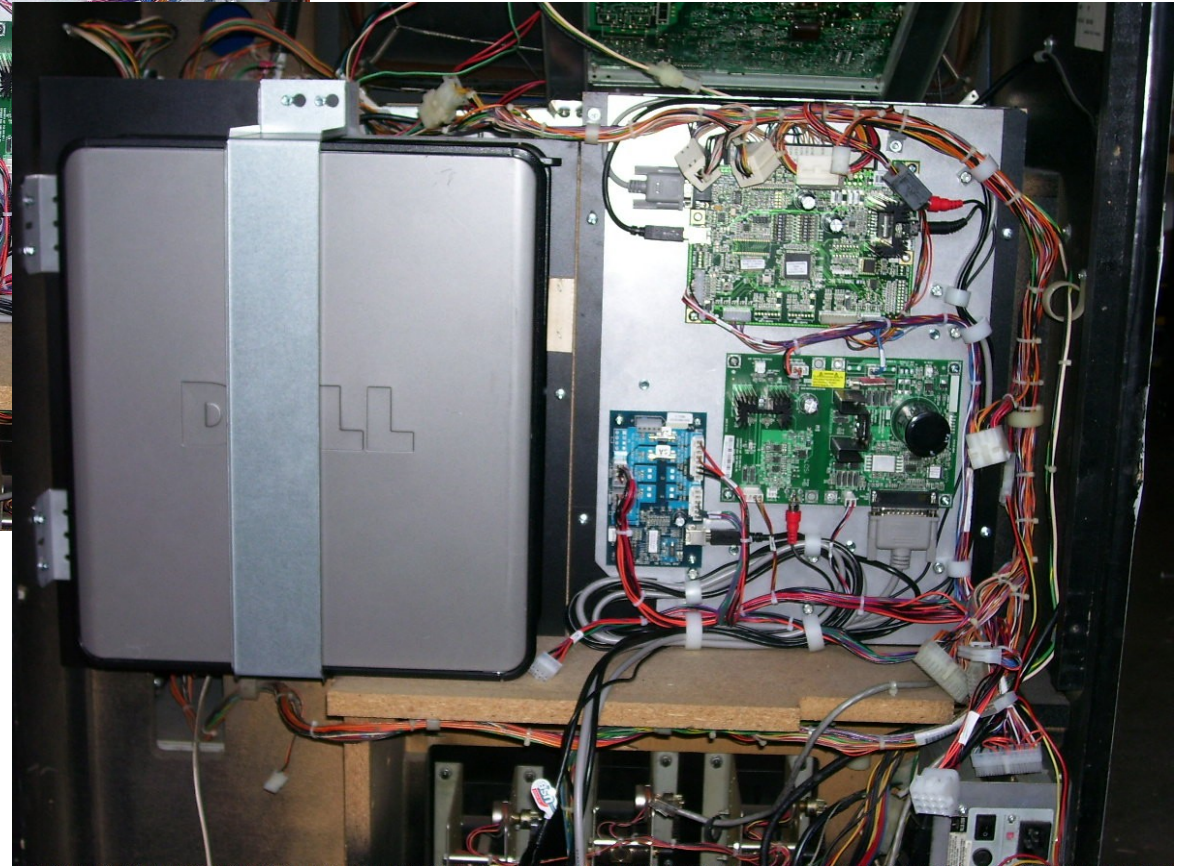
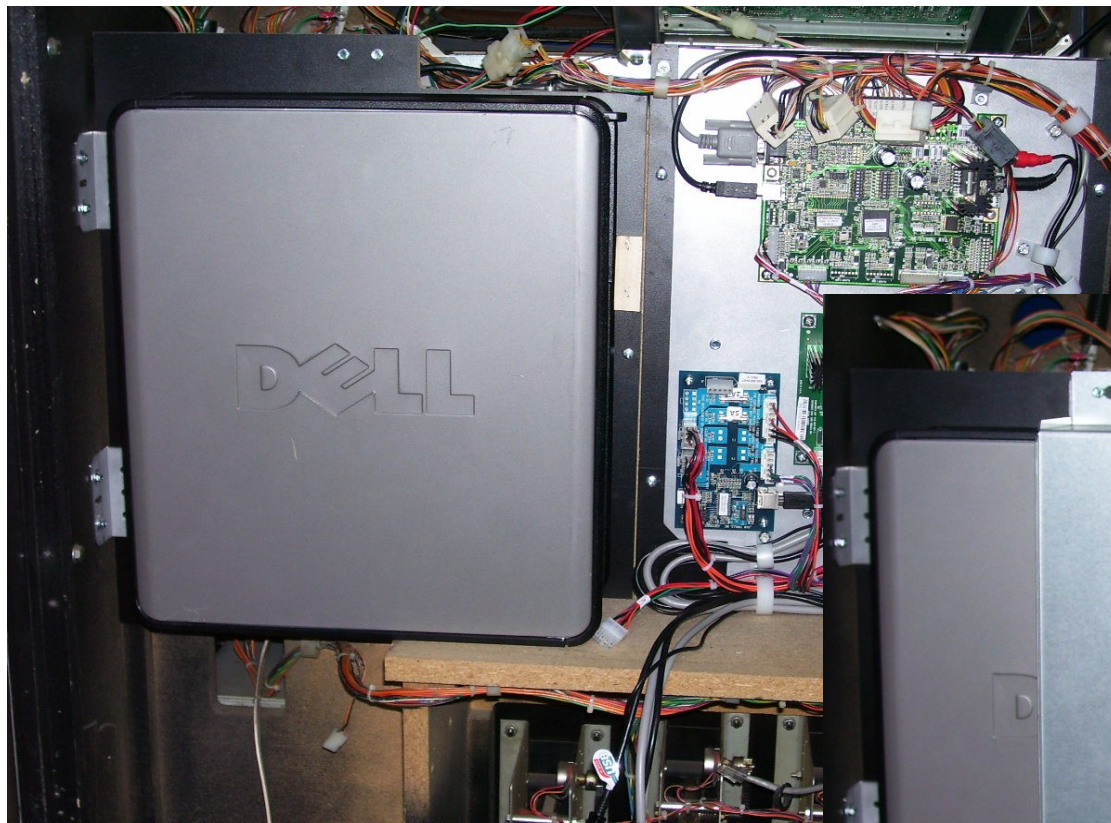
PLUG-IN THE JAMMA CONNECTOR. THE COIN HARNESS CONNECTS TO AUXILLARY OUTPUT (P3) HEADER ON THE JAMMA I/O BOARD.



ADD THESE
CABLE CLAMPS



USING THE CABLE CLAMPS THAT WERE REMOVED EARLIER, PLACE TWO CABLE CLAMPS AS SHOWN ABOVE. IT IS IMPORTANT TO PLACE THE CLAMP ON THE MONITOR SHELF. THIS WILL KEEP THE MAIN HARNESS FROM MAKING CONTACT WITH THE MONITOR'S PCB.



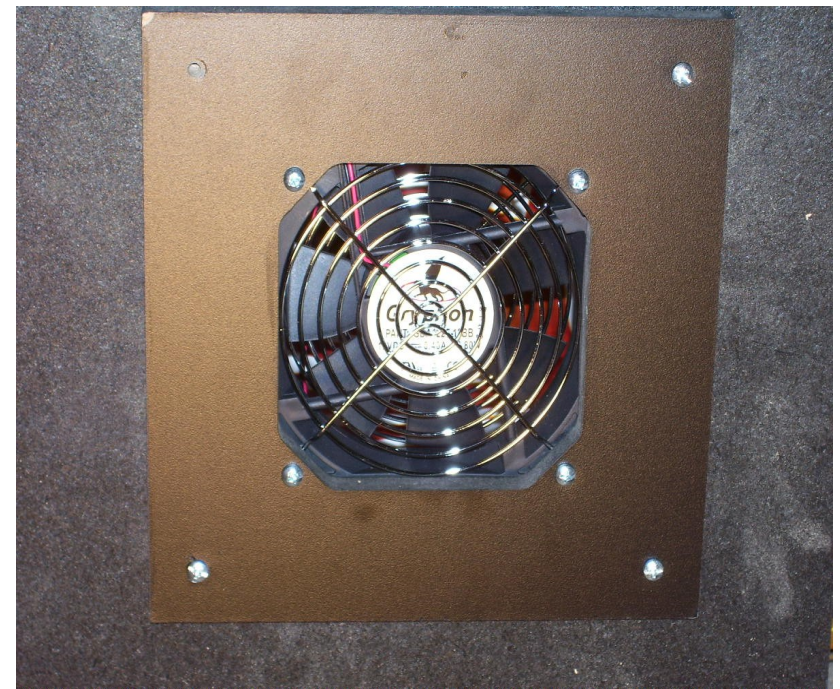
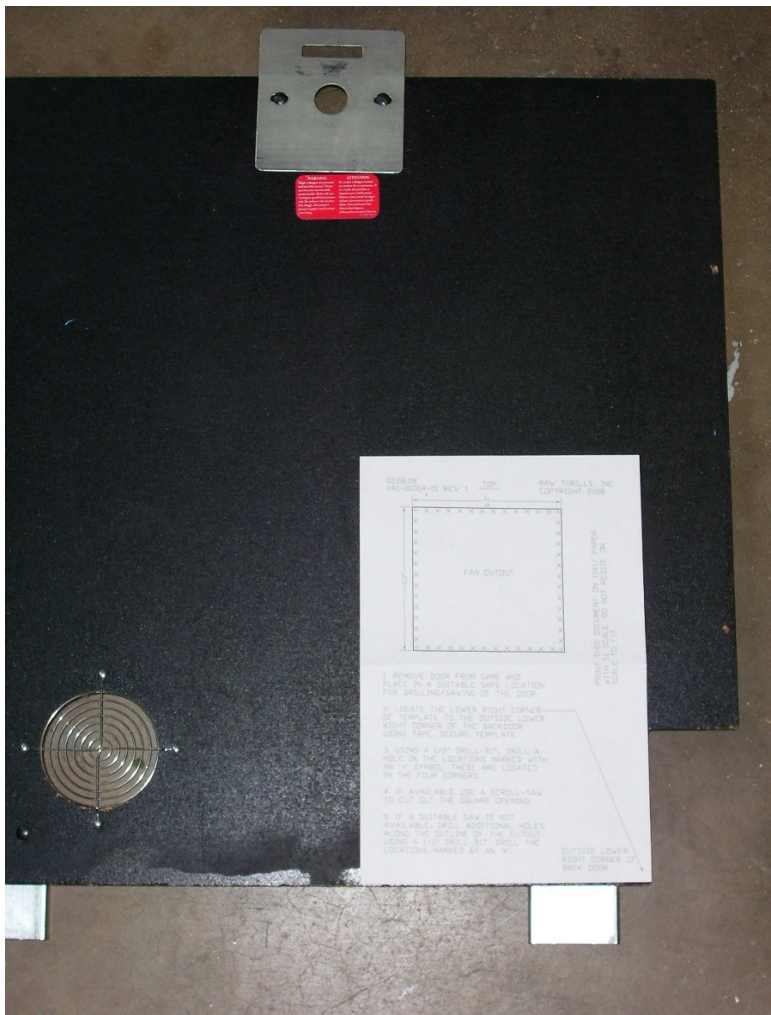
PLACE THE DELL COMPUTER ONTO THE WOOD PC MOUNTING BOARD AND SECURE THE COMPUTER WITH THE PROVIDED METAL BRACKET.



ONCE THE COMPUTER IS SECURED,
BEGIN TO CONNECT THE PROVIDED
CABLES TO THE COMPUTER.

LOCATE THE SMALL PLASTIC
CONTAINER THAT CONTAINS THE
USB DRIVE AND SECURITY DONGLE.
PLUG EACH INTO A USB PORT OF
THE COMPUTER.

VERIFY THAT THE COMPUTERS
POWER SUPPLY IS SET FOR THE
CORRECT AC LINE VOLTAGE FOR
YOUR LOCATION.



FAN ASSEMBLY MOUNTED TO BACK DOOR – OUTSIDE VIEW

USING THE FAN TEMPLATE, CUT A HOLE IN THE BACK DOOR OF THE CABINET. THE FAN ASSEMBLY IS MOUNTED TO THE DOOR FROM THE OUTSIDE. FOLLOW THE DIRECTIONS ON THE TEMPLATE TO PROPERLY LOCATE WHERE THE HOLE SHOULD BE CUT. FOR LONG, RELIABLE OPERATION OF THE GAME IT IS IMPORTANT THAT THE FAN IS INSTALLED.



THE CONNECTOR FOR THE FAN PLUGS INTO THE 5-PIN CONNECTOR THAT IS PRESENT ON THE FUSE BOARD. VERIFY THAT IT IS CONNECTED.



APPLY THE NEW ARTWORK PROVIDED.

ONCE THE KIT IS INSTALLED, CONNECT THE EXTERNAL AC LINE CORD TO THE CABINET AND TURN-ON THE POWER. AT THIS TIME THE GAME WILL GO THROUGH IT'S FIRST-BOOT PROCESS. THIS MAY HAVE ALREADY OCCURED AT THE FACTORY. THE FIRST-BOOT TAKES ABOUT 20 MINUTES. BECAUSE OF THE DEFAULT VIDEO MODE OF COMPUTER YOU WILL NOT BE ABLE TO READ THE INFORMATION ON THE SCREEN. ONCE THE GAME APPLICATION STARTS, THE VIDEO MODE WILL BE ADJUSTED. REMEMBER THE VIDEO MODE IS DETERMINED ACCORDING TO THE S2 SWITCH CONFIGURATION. S2 SWITCH IS LOCATED ON THE I/O BOARD. SEE PAGE 12 FOR DETAILS.

WARNING: ONCE A FLASH DRIVE HAS BEEN BOOTED ON A COMPUTER, THE FLASH DRIVE CANNOT BE MOVED TO ANOTHER MACHINE. THE GAME WILL NOT FUNCTION PROPERLY. IF YOU NEED TO MOVE THE DRIVE OR FEEL THAT THE DRIVE IS CORRUPT, ONE CAN REFORMAT THE FLASH DRIVE BY USING THE RESTORE CD THAT IS PROVIDED.

IT IS RECOMMENDED THAT ONCE THE GAME IS RUNNING ONE SHOULD ENTER THE TEST MENU AND VERIFY THE GAME IS FUNCTIONAL. THIS WOULD INCLUDE TESTING THE SWITCHES, LAMPS, KEYPAD, SHIFTER, AND THE AUDIO. CALIBRATION OF THE GAME IS ALSO RECOMMENDED AT THIS TIME.

WARNING: CHECK AND MAKE SURE THAT THE FAN MOUNTED ON THE BACKDOOR IS WORKING.

ATTENTION!: THE DRIFT KIT HAS TWO(2) FUSES PRESENT ON THE FUSE/WATCHDOG BOARD. THERE IS ALSO A FUSE ON THE STEERING MOTOR CONTROLLER. FOR CONTINUED PROTECTION REPLACE A FUSE WITH A IDENTICAL UL RATED FUSE.

BIOS SETTINGS FOR THE PC ARE SET AT THE FACTORY.

-System

+Boot Sequence

1. CD/DVD/CD-RW Drive
2. USB-ZIP
3. USB-Device
4. Hard Drive
5. USB-FDD
6. USB-CDROM
7. Non-Integrated NIC
8. Diskette Drive

+ HDD Boot Sequence
[don't care]

-Drives

+Diskette Drive: USB
+Drive 0: SATA-0: ON
+Drive 1: SATA-1: ON
+SMART Reporting: OFF

-Onboard Devices

+Integrated NIC : ON
+Integrated Audio : ON
+USB Controller : ON
+Rear Triple USB : ON
+Real Dual USB : ON
+Front USB : ON
+LPT Port Mode : EPP
+LPT Port Address : 378h
+Serial Port #1 : COM1

-Video

+Primary Video : Onboard/Card
+Video Memory Size : 16MB

-Performance

+HDD Acoustic Mode : Bypass

-Security

+Admin Password: None
+System Password : None
+Drive 0 Password : None
+Drive 1 Password : None
+Password Changes : Unlocked
+Chassis Intrusion : OFF
+TPM Security: OFF
+No Execute: OFF

-Power Management

+AC Recovery: ON
+Auto Power On: OFF
+Low Power Mode: OFF
+Remote Wake Up: OFF
+Cool and Quiet: OFF
+Suspend mode: S3

-Maintenance

+ASF Mode: OFF
+Fast Boot: On

-POST Behavior

+Numlock Key: On
+Post Hotkeys : Setup & Boot Menu
+Keyboard Errors: Do Not Report

Troubleshooting:

WARNING. Remove all power and disconnect AC line cord before servicing! Service performed by qualified service technician only. With power on do not connect or disconnect cables or connectors, damage will occur. Hazardous voltages are present even with the game off and unplugged from AC voltage. Use extreme caution.

Game Fails To Power-up

The game will be in this failure mode when either the main AC power has failed, been disconnected, or the computer has failed to turn-on. The computer provides +5VDC and +12VDC for the system. Turning on of the computer is controlled by the FUSE/WD board, p/n 500-00016-01.

1. Verify the cabinet main power switch is on.
2. Verify the AC line cord is plugged into a functional AC outlet.
3. Verify the AC outlet is the correct voltage for the game.
4. Verify the computer is set to the correct voltage. There is a voltage switch on the PC that needs to be set correctly. If this switch is set incorrectly and the game has been powered, damage to the computer may have occurred.
5. Verify the main AC power fuse for the cabinet. If a fused failed, examine the game for a fault condition and repair the condition before replacing the fuse. For continued protection, replace the fuse with identical UL rated fuse.
6. Verify the fuses on the FUSE / WD board, p/n 500-00016-01. These fuses protect the +5VDC and +12VDC power rails. If a fused failed, examine for a fault condition and repair the condition before replacing the fuse. For continued protection, replace the fuse with identical UL rated fuse.
7. Look for cable connectors that are loose or not connected.

“NO VIDEO” Message On The Video Monitor

This message is present when the video monitor is powered but the video monitor has no valid video signal.

1. Verify the PC is functioning.
2. Look for cable connectors that are loose or not connected. Check that the VGA cable is connected into the PC VGA connector labeled '1'.

No Video On The Video Monitor

This failure is when either the game is not powered, the monitor is not powered, the monitor is not correctly adjusted or the video monitor has failed.

1. Verify the game has powered-up.
2. Verify the cable connectors, paying close attention to the power and video signal cables of the video monitor.
3. Verify the video monitor has AC power.
4. Verify the contrast and brightness settings of the monitor. Make sure they are not set too low.

Game Has No Sound

If the game is running and there is no sound.

1. Verify that the audio levels are set to acceptable levels. This can be done through the Diagnostic Menu System.
2. Verify the cable connections. Ensure that the audio cable from the computer is connected to the I/O board.
3. Verify the speaker cable is connected.
4. Verify the fuses on the FUSE / WD board, p/n 500-00016-01. These fuses protect the +5v and +12v. If a fused failed, examine for a fault condition and repair the condition before replacing the fuse. Replace fuse with identical UL rated fuse.
5. Verify the I/O board has power.

Monitor Displays 'CONNECT I/O'

If the computer is unable to communicate with the I/O board, the 'Connect I/O' message will be displayed in the video display.

1. Verify that the I/O board has power. Check the fuses on the FUSE / WD board, p/n 500-00016-01.
2. Verify the cable connections. Verify the USB cable that connects the I/O board to the computer is securely attached.
3. Power-cycle the game.

Monitor Displays 'INSERT DONGLE'

This message indicates that the computer is unable to communicate with the security dongle that is located on the back of the computer.

1. Verify that the security dongle is attached to a USB port of the computer.

Game Play is Slow, Freezes, or Resets

Numerous items can cause game play to exhibit freezing or slow play. Typical failure modes include excessive heat, corrupt drive, or failing hardware.

1. Verify that the security dongle is attached to a USB port of the computer.
2. Verify cable connections. Verify the USB cable that connects the I/O board to the computer is securely attached.
3. Verify that the game is not running excessively hot. Verify that the cooling fan on the back door is running and not obstructed.
The back of the cabinet must be at least one foot away from a wall.
4. Verify that the computer is not running excessively hot. Verify that the computers cooling fans are running.
5. Verify the drive. This can be done via the Operators Menu. The drive can be re-imaged, by inserting the CD that was included.
6. Verify that the games +5VDC +12VDC power rails are within +/- 5% tolerance.

Distorted Video On The Video Monitor

Video resolution of the computer is not compatible with the monitor.

1. Adjust the video output signal of the computer by setting DIP SWITCH S2, located on the I/O board.
2. Check the monitor cable connector that plugs into the monitor. Verify the connector pinout matches the configuration for the monitor in the game. Some monitors have different pin locations for the sync signal.

FLASH DRIVE RECOVERY:

- 1.To access the computer, remove the metal bracket holding the computer.
- 2.Open the DVD tray by pressing the button on the DVD drive.
- 3.Insert the recovery DVD into the tray.
- 4.Close the DVD tray by pressing the button on the DVD drive.
- 5.Turn-off the game via the main AC switch.
- 6.Turn-on the game via the main AC switch. The recovery process begins automatically.
Recovery may take 30 to 40 minutes.
- 7.Look for a message at the bottom of the screen. When the recovery is over, the message prompts you to remove the DVD. Open the DVD tray by pressing the DVD drive button.
Remove the recovery DVD. Store it safely.
8. Secure the computer with the metal bracket that was removed earlier.
- 9.Turn-off the game via the main AC switch.
- 10.Turn-on the game via the main AC switch.

CAUTION: During the following process, do not interrupt power or reset the game!

- 11.The game will do a first-boot initialization procedure. This will take a few minutes.
- 12.Enter the system diagnostic menu and calibrate the game.

JAMMA I/O BOARD CONNECTION CHART

COMPONENT SIDE				SOLDER SIDE		
FUNCTION	WIRE COLOR	PIN		PIN	WIRE COLOR	FUNCTION
GROUND	BLK	1		A	BLK	GROUND
		2		B		
5 VOLTS	RED	3		C		
		4		D		
		5		E		
12 VOLTS	ORANGE	6		F		
		7		H		
COIN METER	BROWN YELLOW	8		J		
		9		K		
SPEAKER (+)	RED GREY	10		L	BROWN GRAY	SPEAKER (-)
SPEAKER (+)	RED WHITE	11		M	BROWN WHITE	SPEAKER (-)
RGB RED	YELLOW RED	12		N	YELLOW GREEN	RGB GREEN
RGB BLUE	YELLOW BLUE	13		P	YELLOW WHITE	RGB SYNCH
RGB GROUND	YELLOW BLACK	14		R	WHITE GRAY	SERVICE
TEST	BLACK BLUE	15		S		
COIN 1	BLACK BROWN	16		T	BLACK RED	COIN 2
START	WHITE	17		U		
VIEW1	WHITE BLACK	18		V	GREEN BLACK	2nd GEAR
VIEW2	WHITE BROWN	19		W	GREEN BROWN	3rd GEAR
VIEW3	WHITE RED	20		X	GREEN RED	4th GEAR
TUNES	WHITE ORANGE	21		Y	GREEN ORANGE	5th GEAR
KEYPAD COL 0	BLUE YELLOW	22		Z		
KEYPAD COL 1	BLUE GREEN	23		a		

I/O BOARD CONNECTORS

P1 - I/O BOARD

FUNCTION	WIRE COLOR	PIN
		1
KEY		2
KEYPAD ROW 0	BLUE BLACK	3
KEYPAD ROW 1	BLUE BROWN	4
KEYPAD ROW 2	BLUE ORG	5
KEYPAD ROW 3	BLUE RED	6

P3 - I/O BOARD

FUNCTION	WIRE COLOR	PIN
GROUND	BLACK	1
		2
		3
		4
KEY		5
		6
DBV SIGNAL	WHITE BLACK	7
VOLUME DOWN	ORANGE RED	8
VOLUME UP	ORANGE GREEN	9
		10
		11

P6- I/O BOARD

FUNCTION	WIRE COLOR	PIN
		1
VIEW3 LAMP	VIOLET BLACK	2
VIEW2 LAMP	VIOLET BROWN	3
KEY		4
VIEW1 LAMP	VIOLET RED	5
START LAMP	VIOLET ORANGE	6

P7- I/O BOARD

FUNCTION	WIRE COLOR	PIN
5 VOLTS	RED WHITE	1
5 VOLTS	RED BLACK	2
KEY		3
STEERING POT.	WHITE	4
		5
BRAKE	BROWN	6

SUBWOOFER AMP/WHEEL DRIVER BOARD CONNECTION CHART

MOTOR OUT

FUNCTION	WIRE COLOR	PIN
MOTOR(+) VOLTAGE	RED WHITE	1
MOTOR(-) VOLTAGE	BLACK WHITE	2

POWER IN

FUNCTION	WIRE COLOR	PIN
12 VOLTS	ORANGE	1
GROUND	BLACK	2
		3

WOOFER OUT

FUNCTION	WIRE COLOR	PIN
SUBWOOFER(+)	RED YELLOW	1
SUBWOOFER(-)	BROWN YELLOW	2

18VAC INPUT

FUNCTION	WIRE COLOR	PIN
18 VOLTS AC	BLUE BLACK	1
18 VOLTS AC	BLUE	2

USB WATCHDOG/FUSE PCB CONNECTION CHART

P2

FUNCTION	WIRE COLOR	PIN
5 VOLT INPUT	RED WHITE	1
		2
		3
12VOLT INPUT	ORANGE WHITE	4
		5
		6
GROUND	BLACK	7
GROUND	BLACK	8

P3

FUNCTION	WIRE COLOR	PIN
		1
		2
DIGITAL GROUND	GREY	3
POWER ON	GREEN	4
5 VOLT STDBY SWITCHED	VIOLET ORANGE	5
5 VOLT STDBY	VIOLET GREEN	6

P6

FUNCTION	WIRE COLOR	PIN
12 VOLTS FUSED	ORANGE	1
12 VOLTS FUSED	ORANGE	2
12 VOLTS FUSED	ORANGE	3
GROUND	BLACK	4

P9

FUNCTION	WIRE COLOR	PIN
5 VOLTS FUSED	RED	1
5 VOLTS FUSED	RED	2
5 VOLTS FUSED	RED	3
5 VOLTS FUSED	RED	4

