

COIN-OP INSIDER

EYE ON *Williams' Bally/MIDWAY*

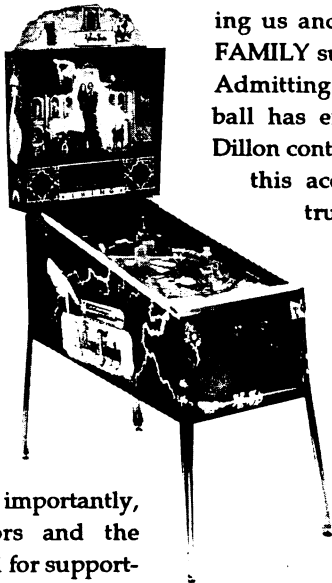
We make the games that shape an industry and entertain the world

Volume 2, Number 2

Price: \$2.50

THE ADDAMS FAMILY™ BREAKS RECORD!!

Creepy. Kooky. Spooky. Ooky. THE ADDAMS FAMILY has, indeed, become some "thing" special with the announcement of world record breaking sales figures to gain status as the best selling pinball of all time. Commenting on the landmark achievement, Vice President of Sales, Joe Dillon, stated that "much credit has to go to the entire Bally pinball design team, but also, most importantly, to all of our distributors and the operators around the world for support-



ing us and making THE ADDAMS FAMILY such a resounding success." Admitting that the demand for pinball has exploded in recent years, Dillon continued, "we are honored by this accomplishment because it truly exemplifies the entire Williams Bally/Midway commitment to always produce the best quality, innovative equipment in the industry...games that continually excel on location with solid earnings over the long haul and resale value that is still second to none."

MORTAL KOMBAT™ packs a one-two punch

Midway introduces the ultimate martial arts video game

The industry is already talking about the year's most sensational video game. MORTAL KOMBAT takes what has been a classic coin-op theme, and sets a new standard with the most advanced fighting game ever created. Utilizing leading edge digitized graphics technology, pioneered and perfected by Midway, MORTAL KOMBAT unfolds an action-packed storyline featuring a cast of compelling martial artists competing for their very survival.

It's head-to-head competition as players use an eight-way microswitch joystick and five button controls for kicks, punches, blocks, combination moves, and death-defying secret moves. In two-player mode, where buy-ins keep the action at a frenzied pace, MORTAL KOMBAT provides a "king-of-the-hill" best two-out-of-three match to determine winners. For single players, they can pit themselves against all of the six adversaries before advancing to a special "mirror" match against their own character. Victory here means a battle against the four-armed mutant Goro and, ultimately, the final challenge, before the treacherous Shang Tsung.

If this weren't enough to captivate a legion of loyal players who thrill from the intensity of fighting games, MORTAL KOMBAT also incorporates a "test your might" action sequence after every five matches where the objective is to smash through wooden boards, stone, steel, rubies and diamonds.

Last, but not least, MORTAL KOMBAT provides operators with Midway's exclusive diagnostic package and a full range of dip switch settings to suit the needs of any location, anywhere.



BLACK ROSE™ SETS SAIL

Following on the heels of the record-breaking ADDAMS FAMILY, this all new Bally pinball serves up a high seas adventure theme that is pure swashbuckling fun. BLACK ROSE features on-target pinball action where players can venture to Pirate's Cove, take a spiraling voyage on the Whirlpool Ramp, cross swords in the power-packed jets, plunge to the depths of Davy Jones' locker or fire cannon shots to score broadside hits at enemy ships.



There's 2- or 3-ball Multi-Ball® play, Jackpots, multiple Jackpots and an innovative game design highlighted by a unique playfield cannon activated by a 'fire' button on the front control panel for even greater player interactivity. In addition, BLACK ROSE also takes full advantage of Bally pinball's full size Dot Matrix Display capabilities with three different video game modes that will have players testing their skill at knife throwing, swinging from the riggings and even walking the plank for a jump into the briny deep and a frantic swim away from a fast approaching, and hungry, shark.

Play appeal, great entertainment value, strong storyline and challenging game layout is only the beginning with BLACK ROSE, which also features the industry-acclaimed Electronic Flipper System and TRU-PITCH® level introduced on THE ADDAMS FAMILY.

TECH TALK

SPOTLIGHT ON SERVICE INFORMATION AND TIPS

TERMINATOR 2™ VIDEO GUN ASSEMBLY

We have received a few calls in the service department from operators who have experienced some problems with their Midway T2 video gun assembly and we have some specific steps that should be taken. First and foremost, for this or any other problem that may ever arise with any Williams, Bally or Midway game, always remember to turn the power off before you begin any work.

Now, when changing the gear pinion and the gear drive on T2 video, there are two notch marks on each gear. They are clearly visible and must be lined up for proper calibration.

You will notice two potentiometers per gun assembly—one horizontal and one vertical. When replacing the pot, be aware that there are two different types of pot that can be used. There's a 10K 1 turn pot or a 5K 1 turn pot. Either one you decide to use will have three terminals and all three are numbered. The #1 terminal is the "ground" or Black/Yellow Wire. The #2 terminal is the "axis" or Black/Brown Wire for horizontal alignment, and Black/Orange Wire for vertical alignment. Last, is the #3 terminal which is the +5 Volt, or the Gray/Blue Wire.

After you have installed the appropriate replacement parts, check carefully that there are no exposed wires, solder splash, extra parts, etc. And then turn the power on.

Put your game into diagnostic test via the switch inside the coin door. Using Player One/Player Two buttons, select the test to calibrate the guns and pull the trigger on either gun to enter the test procedure. You will see a cross hair pattern in the upper left corner of the screen and Player One and Two "X" and "Y" Axis values.

Player 1 "X" (horiz) Value should read 60 with the gun left.
Player 1 "X" (horiz) Value should read 203 with the gun right.
Player 1 "Y" (vert) Value should read 60 with the gun up.
Player 1 "Y" (vert) Value should read 162 with the gun down.

Player 2 "X" (horiz) Value should read 70 with the gun left.
Player 2 "X" (horiz) Value should read 202 with the gun right.
Player 2 "Y" (vert) Value should read 60 with the gun up.
Player 2 "Y" (vert) Value should read 178 with the gun down.

Please note that these recommended values are approximate to + or - 20.

Next, aim the Player One gun to the cross hair and pull the trigger. This will calibrate the gun in that direction. There are a total of three directions per gun for this alignment—upper left, middle, and lower right. After calibrating both guns successfully, you will hear the game say "No Problemo" which will indicate that the test is over and you're ready to turn off the diagnostic switch inside the coin door and put the game back into coin-op play.

TERMINATOR 2 VIDEO RESET PROBLEM

If you are experiencing intermittent reset problems with your Midway video game, first check the +5 volts on the CPU board (no less than +5.0). Next, check the IC at location U35. If the IC at that location is a 74ALS00, change it to a 74AS00.

— By Patrick Riley
Technical Field Service

POWER SUPPLY TRANSISTOR REPLACEMENTS

Transistors Q1 (SDS201 or 2N6557) and Q3 (SDS202 or MDS60) on the D-8345 Power Supply are no longer available. They have been replaced by the MJE 15030 (Part #5164-12154-00) and MJE 15031 (Part #5194-12155-00) respectively. A problem exists in the replacement because these new transistor leads are not in the same order as the leads on Q1 and Q3 (see Figure 1). The new transistor leads have to be reconfigured for placement in the appropriate solder points (see Figure 2). A later version of this power supply board, labeled Rev.E, has both sets of solder points for the new and old transistors (see Figure 3).

The pre-drive transistors Q2 (MP5D52 and Q4 (MP5D02) are now replaced by the 2N5401 (Q2) and 2N5551 (Q4) but do not need their leads reconfigured. The WMS part numbers have stayed the same for Q2 (MP5D52 or 2N5401, Part #5194-09055-00) and Q4 (MP5D02 or 2N5551, Part #5164-09056-00).

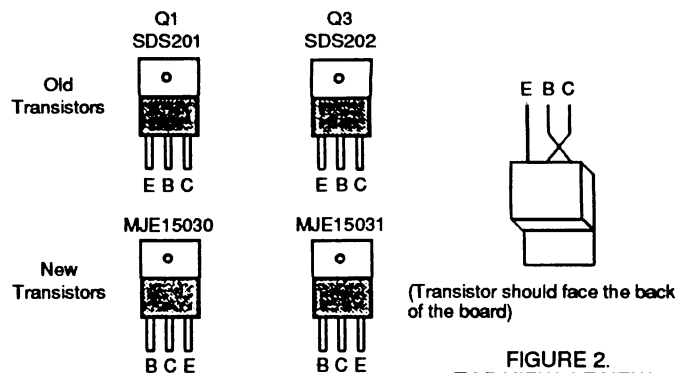


FIGURE 1.
COMPARISON OF TRANSISTOR LEADS, OLD VS. NEW.

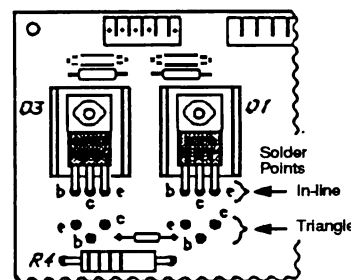


FIGURE 3.
REV. — E VERSION
POWER SUPPLY
SHOWING BOTH SETS
OF TRANSISTOR LEAD
SOLDER POINTS.

— By Steve Trybula
Technical Field Service

PINBALL LEAGUES ARE PROFIT BUILDERS

By Doug Young

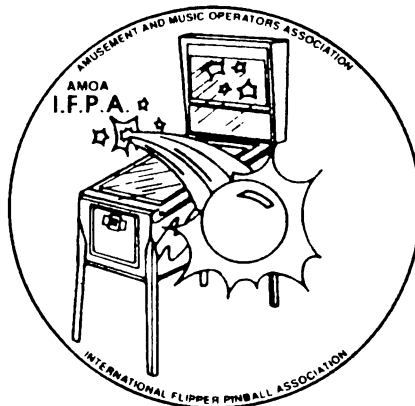
Undoubtedly one of the major reasons for the reemergence of pinball as a top earning coin-op attraction is its inherent competitive appeal. Whether it's a solitary player testing his or her skills against a given machine, or a group of pinball enthusiasts playing head-to-head, every game has its own unique strategies and objectives.

Most important for today's location owner and operator is the fact there is a way to take advantage of pinball's strength and further maximize revenues, while building up a more loyal player base. Organized pinball leagues and tournaments have proven their worth time and time again; to the extent that all Williams and Bally pinball machines have very precise tournament mode settings that can be easily enabled for special events you might want to undertake.

To further expound on the bottom line benefits of pinball leagues, Doug Young, executive director of the International Flipper Pinball Association, has provided a guest editorial that, hopefully, will get you thinking that maybe you can be doing even more to generate increased income.

As an operator, there are some very sound reasons for participating in the IFPA program. First, and foremost, are the financial rewards. Consider the following real life example. A Charter Operator member of the IFPA saw one of his locations do the following:

- Collection #1 - the location had no pinball, leagues not in existence; pinball gross \$0 all other equipment \$654.00.
- Collection #2 - a six month old pin was placed, no leagues yet; pinball gross \$45.50 all other equipment \$680.75.
- Collection #3 - a brand new machine was placed and leagues were announced; pinball gross \$250.75 all other equipment \$695.00.
- Collection #4 - pinball leagues had begun and two older pins were added;



pinball gross \$561.00 all other equipment \$649.50.

- Collection #5 - pinball leagues in full swing; pinball gross \$634.25 all other equipment \$649.50.

While there is no guarantee you could realize the same success shown here, there is also no reason you couldn't.

As an additional means of projecting the impact of pinball leagues, player demographics and consumption statistics were compiled during IFPA's Second Annual Championships. The information is consistent with the National pool and dart Associations' findings and shows that the average league/tournament pinball player:

- is 30.6 years of age and has an annual income of \$29,017.
- is accustomed to playing three ball games and spending .50 per game and \$1.00 for 3-games.
- will spend \$9.35 per league night on items other than the league game (ie. jukebox, food, beverage, cigarettes, other coin-op games).
- spends an average of \$10.51 per week

on pinball when participating in a league.

- would spend \$146.10 per league in a 10 week league program, or \$438.30 per year in three league seasons per year.

These are facts that mean money to you and your locations. The more leagues you offer, the more opportunities you have to multiply the numbers and the better for all the pieces you have in each location. Providing this service for your "spots" also solidifies your position as a "business partner" to the location, which diminishes the chances of a location ever finding a different Operator, the location contributes its success to you and your league program.

IFPA provides its members with the guidance, materials and information needed to set-up and run leagues and tournaments for pinball. It's a support group of Operators, just like you, who want to increase profits through the operation of leagues for pinball.

IFPA also sponsors an Annual Championships which you can utilize as a reward for your player's on-going participation. The 1992-93 event is planned for May 21-23, in Milwaukee. You are encouraged to contact the IFPA Administrative Office for information on how you can become part of this aggressive promotional program for pinball. Write to AMOA-IFPA, 141 West Vine Street, Milwaukee, WI 53212, or call 414-263-0233.

Whether you target a FUNHOUSE™, HURRICANE™, PARTY ZONE™, GILLIGAN'S ISLAND™, TERMINATOR 2, ADDAMS FAMILY or BLACK ROSE, remember the success of bowling, darts and pool—all have expanded their scope and audience by embracing league and tournament programs. With pinball you can realize even greater returns on investment and next time around we'll offer a step-by-step guide explaining how you can get started.



PUBLISHERS

Ken Fedesna and Joe Dillon

EDITOR-IN-CHIEF

Alice Metrow

ART DIRECTOR

Jay Carter

EDITORIAL DIRECTOR

Roger Sharpe

CONTRIBUTING EDITORS

Tom Cahill • Rebecca Ellis • Herb Foss
Greg Freres • Pat Riley • George Surdell
John Tobias • Steve Trybula

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AN INSIDE REPORT ON A BOLD NEW MANUFACTURING PROCESS

By Gregg Surdel

Williams Bally/Midway has always prided itself on creating cutting edge, innovative games that have influenced and led the industry. Well, now behind the scenes, the company has taken a leadership role with the introduction of cellular manufacturing production techniques. Already successfully implemented to further improve its Just-In-Time method for manufacturing pinball machines, daily production has evolved into a manufacturing philosophy which strives to produce the best products possible with the shortest possible lead time.

To be more responsive to today's demanding marketplace, the adoption of cellular manufacturing can best be defined as a process which produces families of parts within a single line, or cell of machines, operated by machinists who work only within the line or cell; ensuring greater reliability and better quality control than ever before.

A manufacturing cell may consist of a single machine, two or more machines, two or more operators using primarily small tools, or a combination of machines and operators. However the configuration may present itself, the essential characteristic is that the equipment is located in a process flow layout, dedicated to manufacturing a group of similar items in a highly efficient as well as cost effective manner.

A VISION TO THE FUTURE

The reasoning behind the changeover to a more advanced cellular manufacturing approach was due to extensive analysis and research of what has become outdated and antiquated functional driven layouts found in other manufacturing facilities. Unfortunately these techniques no longer work given the increased sophistication of today's state-of-the-art pinball machines.

In a functional layout, the production

equipment is arranged by functional area. For example, lathes might be stationed in the middle of the production floor and all the drill presses might be positioned at the end of the production floor. Before a part or sub-assembly is finished and attached to the end production, it requires the labor of two machinists and a great deal of unnecessary, as well as time-consuming, movement between the two work centers.

By comparison, in a cellular environment, one machinist might operate both pieces of equipment at the cell and attach the part to the end product as it passes through the machinist's cell. The worker is more flexible and the end result is a reduction in total manufacturing lead time so that games can be produced not just faster, but with greater craftsmanship and increased attention to detail.

The cellular line has brought both tangible and less readily apparent benefits to you, our customers. The cellular process facilitates communication among workers and provides immediate feedback should faulty products in one of the first operations be discovered at a downstream workcenter. This means that we can catch problems earlier and make corrections in the manufacturing process before machines are shipped out the door. The result, simply, is better quality and measurable reliability to withstand daily punishment on location in the real world.

EFFICIENCY, QUALITY, IMPROVED RELIABILITY

Workers are now capable of performing multiple tasks at their cell instead of just one task which has the added benefit of reduced material handling, queue times, setup times, and work in process. All of these things combined eliminates waste in the manufacturing process that is so typical in the operations of other manufacturers and allows us to better satisfy you and your delivery requirements. Bottomline,

cellular manufacturing is helping us to move into the future and be ever more flexible in responding to the needs of a constantly changing market.

Employees known as stock chasers support the cells with the necessary components. Each cell has two bins of components for each item. When the first bin is emptied, the operators place the empty bin on a cart. The stock chasers take the empty bins back to the storeroom, get them refilled, and bring them back out to the cell on a regular schedule created to meet the needs of each new game as it appears on the production line. This type of system works fine with small components like screws and nuts. For the bigger, bulkier items, a kanban card is used.

A COIN-OP INDUSTRY FIRST

Kanban is a Japanese term that basically means card or billboard. The kanban card system was developed by the Toyota Motor Corporation and has become a vital part of major industries around the world. When the employees in a cell need bulk items, they signal the stock chasers by placing the kanban card in a predetermined location. The stock chasers pick the cards up and send them to the storeroom, which initiates designated personnel to pull the items. The stock chasers then bring the bulky components back out to the cell that requested it along with the kanban card so it can be used again.

Williams Bally/Midway has always been committed to producing quality games on a timely basis for our customers. And this has never been more true with the announcement of our exciting, new cellular manufacturing line. It enables us to not only achieve these most important goals but also positions us for the future and the ability to set new quality and customer service standards that will continue to lead the industry.

WEINRAUCH NAMED NEW DIRECTOR OF CUSTOMER SERVICE

Williams Electronics Games, Inc. and Midway Manufacturing Company recently announced the appointment of Jim Weinrauch as Director of Customer Service.

Weinrauch joined the firm in 1987 and has been instrumental in creating and organizing an effective Material Control Department. Joe Dillon, Vice President of Sales, commented, "...we are pleased that this track-record of success will be an asset to Jim's new department."

Dillon continued by saying, "Jim's highest priority is the continued reorganization of the Parts and Service Department in order to better serve our customers with faster delivery of spare parts. Additionally, he will be initiating programs which will further expand the Customer Service Department."

Weinrauch has a Bachelor of Science degree from Northern Illinois University where he majored in Computer Science and also studied for an MBA. He has recently received Certification in Integrated Resource Management covering all facets of service operation.



THE WRITE STUFF

We'd like to hear from you. THE COIN-OP INSIDER was created so that you can get up-to-date information on the latest breaking developments, technical tips and various announcements that can impact your business operations. But we would like to know what you want to see more of; what topics should we be covering.

Send us your comments and if there is someone else in your organization that should be getting THE INSIDER, let us know. Also, when you have a change of address, drop us a note so you don't miss a single issue. Thanks for your input and support.