

**AN IMPORTANT MESSAGE  
TO OPERATORS**

**OF**

**Black Knight 2000**

**from Steve Ritchie**



**Black Knight 2000 with Upper Playfield Raised in 'Service' Position**

Dear Operator:

I want to thank you for buying **Black Knight 2000**. I hope it has a long and lucrative earning life for you.

By the way, if you have any problems, suggestions, criticisms, or just want to talk pinball, please give me a call at 312-267-2240 anytime during the work day. I hope you'll read this document thoroughly before you call.

All of us on the Design Team are very proud of **Black Knight 2000**. It took nearly two years to bring it to life and I have had the pleasure of working with some incredibly talented people who deserve recognition for what they accomplished. ED BOON is responsible for the spectacular effects, rules and software; JOE JOOS, an industry veteran who brought his expertise in mechanical engineering; DOUG WATSON for his graphic artistry; BRIAN SCHMIDT and DAN FORDEN for their original music score, sounds, vocal and speech development. It was a total effort by everyone and we feel a great sense of pride in what we have achieved.

In terms of **Black Knight 2000** itself, I have tried my best to use only proven, reliable Williams' components in the playfield design. In fact, there are no new or unique electromechanical devices other than a larger 50-volt MAGNA-SAVE coil and a three-target version of the PIN•BOT five target RAISING/LOWERING MOTOR BANK.

ALL KNOWN BALL TRAPS have been identified and corrected. However, if you discover any, please let me know and we will do all that we can to solve any problem.

**Black Knight 2000** has been intentionally designed to be easy to service and easy to clean!

You'll discover that the entire upper playfield swings upward for eye-level service. Only one screw in the center of the backboard is all you have to remove for instant access. And the upper playfield also has a stay-arm to support the playfield in an upright position.

(On location, this screw doesn't need to be replaced, but I suggest that you save the screw. It's a good idea to screw down the upper playfield if you're going to transport the game to another location. And it is NECESSARY to put the screw back in if you stand the game up on its back with the legs off.)

GREATER EARNINGS WITH NEW GAME PRICING  
\$ .50 for 5-ball

With the introduction of **Black Knight 2000**, Williams Electronics is also introducing new standard factory game pricing settings that we believe will directly impact the earnings potential for all pinball machines in the future.

Although **Black Knight 2000** has been extensively tested at more typical pricing of \$ .25 per play for 3 balls, we have achieved spectacular results testing the game at 3 balls, as well as 5 balls, for \$ .50.

On these price settings, **Black Knight 2000** has been competing with the best video games on location. Admittedly, however, give the pricing norm that exists for pinball players, we recognize that if you decide to operate your **Black Knight 2000** at this increased cost per play, you will probably, after some period of time, decide to set the game back to \$ .25 per 3 ball game. And whether or not this pricing program works for you will obviously depend upon your location, your willingness to experiment and how well you know your players.

One point to remember is that each pinball model Williams creates is different and success or failure has nothing to do with any previous attempts you may have had with other pinball machines. Each one, after all, is unique with its own appeal.

But I think all of us would like to see increased revenues from pinballs and if we don't take this first step to push \$ .50 play, it will never become commonplace, which would better your business income. Yet, we also acknowledge the fact that many operators may never accept this option.

If you decide to try it, monitor the game carefully, and make the appropriate game adjustments when earnings taper off a bit. I recommend that you try \$ .50 play just to see what it means to your bottomline. This game is factory set for the United States at 5 balls/\$ .50 play. And, by the way, changing price settings has never been easier.

5 balls/2 coins:	AD 55 (Factory Setting)
3 balls/1 coin:	AD 60
3 balls/2 coins:	AD 58
3 plays/\$1.00	AD 57

## **Black Knight 2000** DELIVERS EXCITING GAME PLAY

FAST BUT FRIENDLY is the name of this game. If anything, we have tried to design in simple rules, interesting ball flow and rolldowns, as well as ball savers that will entertain the novice and average player. In addition, there are deeper scoring rules and skill shots that the established, dedicated pinball player can appreciate and be challenged by each and every time...time after time.

ALL FLIPPER SHOTS are smooth and rewarding with Ramps and Loops (2 each), along with "Build Up" effects that just beg to be repeated. There's even a new feature called "LOOP CHAMP". When a player beats the number of consecutive loops on the upper playfield, he wins an Extra Ball and gets the opportunity to enter his initials in the game displays in the same way as high scorers get to do.

**Black Knight 2000** features both 2-Ball and 3-Ball Multi-Ball™ capabilities which are always available during play.

3-BALL MULTI-BALL is achieved when the player shoots 3 balls up the DRAWBRIDGE (the upper level ramp that leads over to a ball storage area). Also, during 3-ball multi-ball play, a progressive JACKPOT becomes available that can increase to a maximum of 4,000,000 points if the player can make another shot up into the Drawbridge ramp.

A player can activate the potential for 2-BALL MULTI-BALL whenever a U-TURN shot is made (at the center of the main playfield). This will light a right side kick-out hole for instant 2-ball DOUBLE KNIGHT'S CHALLENGE multi-ball play. Once the ball is locked, a second ball will appear at the plunger and when this ball is shot into play, 2-ball multi-ball play begins.

It's important to remember that 2-ball is easily achieved on the lower playfield so that even beginner pinball players can enjoy this feature when the play **Black Knight 2000**. In addition, players can earn 1 MILLION points simply by spelling W-A-R during 2-ball play, which is an exclusive feature to 2-ball multi-ball and during RANSOM.

ADJUSTABLE BALL SAVERS can help you raise or lower ball time to better accommodate the caliber of pinball players at your location! The automatic KICKBACK on the left side drain can be set "on" or "off" at the beginning of every ball, just the first ball, or by the player earning this feature every time.

MAGNA-SAVE, which is located at the right drain area, is a player-controlled electromagnet that freezes the ball before it is lost. The ball is then returned to the lower right flipper for continued play. MAGNA-SAVE is a skill feature which players can activate by pressing the yellow button on the right side of the cabinet forward of the flipper button. It is adjustable in the same way as the KICKBACK.

The King's RANSOM is an exciting game-to-game innovation that we feel can dramatically influence greater earnings for **Black Knight 2000**. By spelling out the word R-A-N-S-O-M, which appears on the backglass area of the game, players have the opportunity to "LIGHT EVERYTHING ON THE PLAYFIELD" for 20 seconds of play.

During this time, the player will have a chance to play the game with all the major scoring features activated, including all multipliers lit, W-A-R lanes lit for ONE MILLION points, EXTRA BALL lit, DRAWBRIDGE down, JACKPOT lit and SKYWAY RAMP is lit for ONE MILLION points. In addition, the player cannot lose his ball during this RANSOM sequence. If a ball is drained, another one will instantly appear in the plunger lane.

Reflecting the high energy and fast action play of **Black Knight 2000** is a new HURRY UP feature. Spelling W-A-R during normal play (not during two-ball multi-ball) will light HURRY UP in the SKYWAY RAMP that begins a timed countdown bonus. The sooner HURRY UP is collected, (by shooting up the SKYWAY RAMP) the more points the player receives. The first maximum value is 200,000 points, the second is worth a maximum of 500,000 points, 750,000 for the third, the fourth time will reward 1,000,000 points and the fifth time 1,500,000 points. In addition to this increased scoring potential, HURRY UP has the effect of getting the player to shoot for the upper playfield on a more quick response basis while also tying in both playfields.

The DRAWBRIDGE area on the upper playfield includes a bank of three drawbridge targets, which must be completed in order to gain access to the DRAWBRIDGE RAMP. This ramp leads to the locking area for MULTI-BALL play and scores JACKPOT when lit, during AND after 3-ball MULTI-BALL. Making the DRAWBRIDGE RAMP, when lit, will also spot a letter in R-A-N-S-O-M.

The LIGHTNING WHEEL is a "wheel of fortune" feature that offers 16 different scoring opportunities, point values and awards. Starting at the top of the wheel (twelve o'clock position), the wheel can award EXTRA BALL, 50,000 points, light MAGNA-SAVE, (if not already lit), 10,000 points, MULTI-BALL, 100,000 points, a R-A-N-S-O-M letter advance, 200,000 points, SPECIAL, 20,000 points, KICKBACK (if not already lit), 150,000 points, DRAWBRIDGE down, 75,000 points, lights HURRY UP, and 250,000 points.

The LIGHTNING WHEEL spins when the ball is shot into the SPIN lane and lands in the ball popper (when lit). One of the above values is then randomly awarded, with the ball then popped up to the upper playfield directed at the flipper. The SPIN lane is lit automatically at the beginning of the game, with the ball having to roll through the left flipper return lane to light it thereafter.

KNIGHT Drop Target banks, located on the main playfield, when completed will light MAGNA SAVE and the left side KICKBACK (if these two features are not already lit). In addition, these KNIGHT drop targets will advance B-L-A-C-K for a potential of 1,000,000 points when completed. The two three banks are individually and independently timed, so that if K-N-I is completed it will stay lit until G-H-T is completed.

B-L-A-C-K is an interesting and challenging game feature that is tied into the drop targets, giving an extra incentive for the player to complete these targets within the timer limits in order to spell out BLACK one letter at a time. Once completed, it lights the SKYWAY ramp for 1,000,000 points.

The SKYWAY RAMP is the long shot on the left side of the lower playfield that brings the ball to the upper playfield. The RAMP LOOP COMBO shot is attainable by shooting up the SKYWAY RAMP and then, immediately after, completing a shot around the upper loop. This RAMP LOOP COMBO awards 100,000 points.

EXTRA BALL is lit by looping the top playfield twice (the first time) and then, when the ball flows down to the lower playfield, making a shot up the SKYWAY RAMP to collect the EXTRA BALL. Each time the player collects EXTRA BALL on the SKYWAY RAMP, the amount of loops required to light EXTRA BALL is then incrementally increased by one (for example, three loops, then four and so on for lighting EXTRA BALL in the SKYWAY RAMP). The result is that EXTRA BALL is lit often, but achieved approximately 30% of the time based on our extensive test results and auditing reviews. It is also tempting enough to have the player totally interact with both playfield during the course of a given game, since what is done on one playfield impacts the other. In addition, EXTRA BALL can always be awarded randomly via the LIGHTNING WHEEL. Typically, EXTRA BALL has been programmed to be awarded by the LIGHTNING WHEEL to those players who get a low scoring game.

LAST CHANCE is a special last ball drain lane feature. If the player has locked up any balls in the DRAWBRIDGE locking area, during the course of game; on the player's last ball, when the ball leaves the playfield via the left or right side drain lanes, the player will automatically get the locked balls previously earned, which are immediately released on the playfield.

The upper playfield W-I-N lanes score bonus multiplier when completed -- to a maximum of 5X. In addition, completing these lanes also activates the Ransom light on the upper playfield for a timed interval.

U-TURN, on the Lower playfield, allows the player to build up score by making consecutive shots through and around this loop arc. Making repetitive shots light MULTI-BALL for a timed interval for progressive values up to a maximum 250,000 points. The combination of cumulative U-TURNS on the lower playfield, and cumulative loop shots on the upper playfield, comprises the player's Outhole

Bonus for each given ball. Bonus X Holdover is a feature that is lit when three consecutive loops are made on the upper playfield. This will carry over the player's Multipliers for his next turn. For example, if the player finishes his/her previous ball with 3X, when he/she starts the next ball, the next time W-I-N is completed the bonus multiplier would be increased to 4X.

The following are some suggestions that I believe will help you operate **Black Knight 2000** to its fullest efficiency over the life of the game.

### Volume Level

Our studies have shown that a Loud **Black Knight 2000** makes more money than one where the sounds have been turned down. When a player cannot hear the game (he cannot experience everything it has to offer -- taking away some of the inherent entertainment value. The music, vocals and speech have a positive effect on the players ego. He becomes a "hero in his own mind". It's one aspect that makes **Black Knight 2000** especially appealing.

The volume should be turned up enough so that all effects are audible -- so that the player can hear everything! Doing this will also attract spectators and would-be players to the game when they can hear the remarkable effects, music and vocals that are present.

### KEEP IT CLEAN

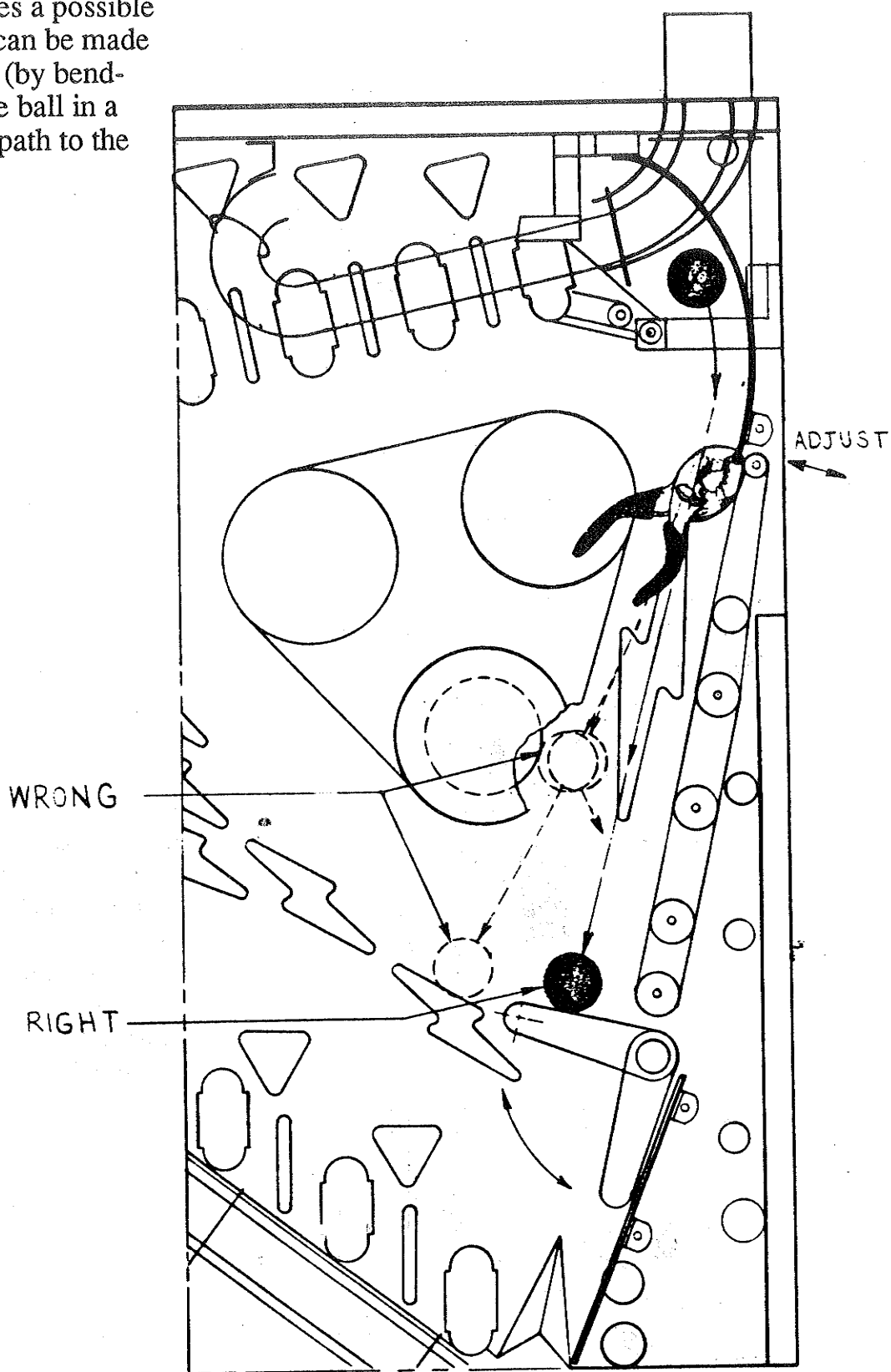
**Black Knight 2000** and, in fact, all pinball games play better and earn more money when their playfields are clean, slick, and free of dirt or debris. I recommend that you clean the game once a week. Lift the upper playfield and clean underneath as well. This is very easy on **Black Knight 2000**. Clean all ball paths including the shooter lane. I personally like Wildcat or Nu-Look playfield cleaners because they're Okay to use on plastic and metal parts as well as the playfield. Also, don't forget to polish the balls.

### MECHANICAL ADJUSTMENTS

Although **Black Knight 2000** will probably play smoothly out of the box, it is good to remember that mechanical adjustments can be made should a ball flow problem arise. Ball flow, in my sense of the phrase, means smooth flow of the ball around and between the upper and lower playfields. When the ball is shot up the SKYWAY RAMP it should flow over the top of the W-I-N lanes and then down past the upper right flipper. The "ball presentation" to the flipper is important to the player because it makes important shots easier to achieve.

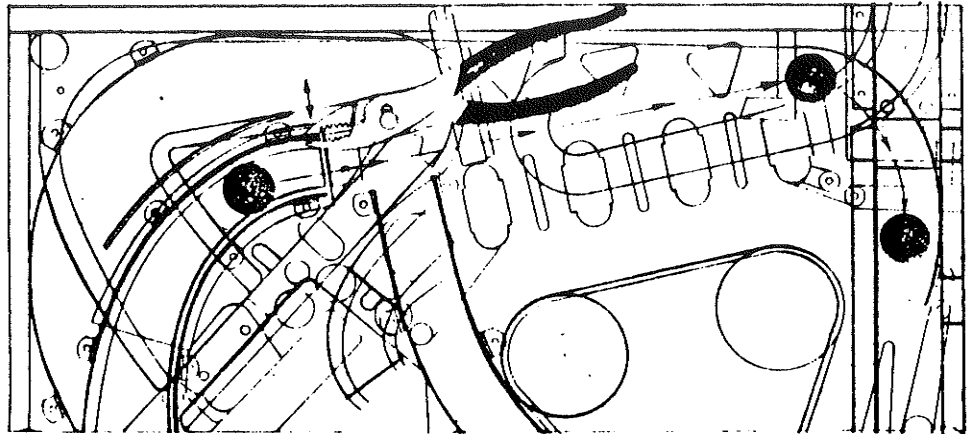


Figure 1 describes a possible adjustment that can be made to the ball guide (by bending), to direct the ball in a close proximity path to the upper flipper.

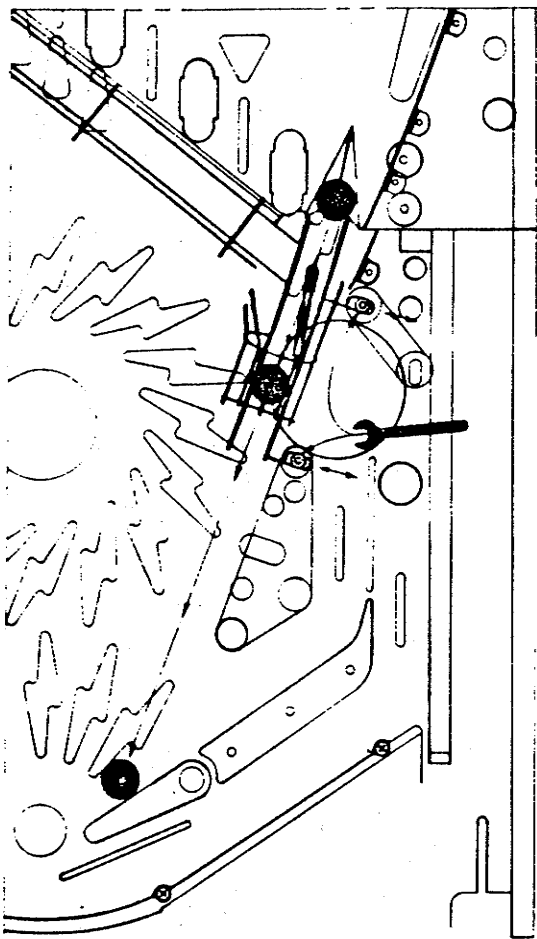


**Figure 1. Ball Presentation Adjustment by Bending**

The metal ball guide (figure 2) at the exit of the SKYWAY RAMP can also be adjusted to project the ball in a straight line across the top of the W-I-N lanes and around the curve in a smooth fashion. This only need be done if ball flow is not smooth in this area.



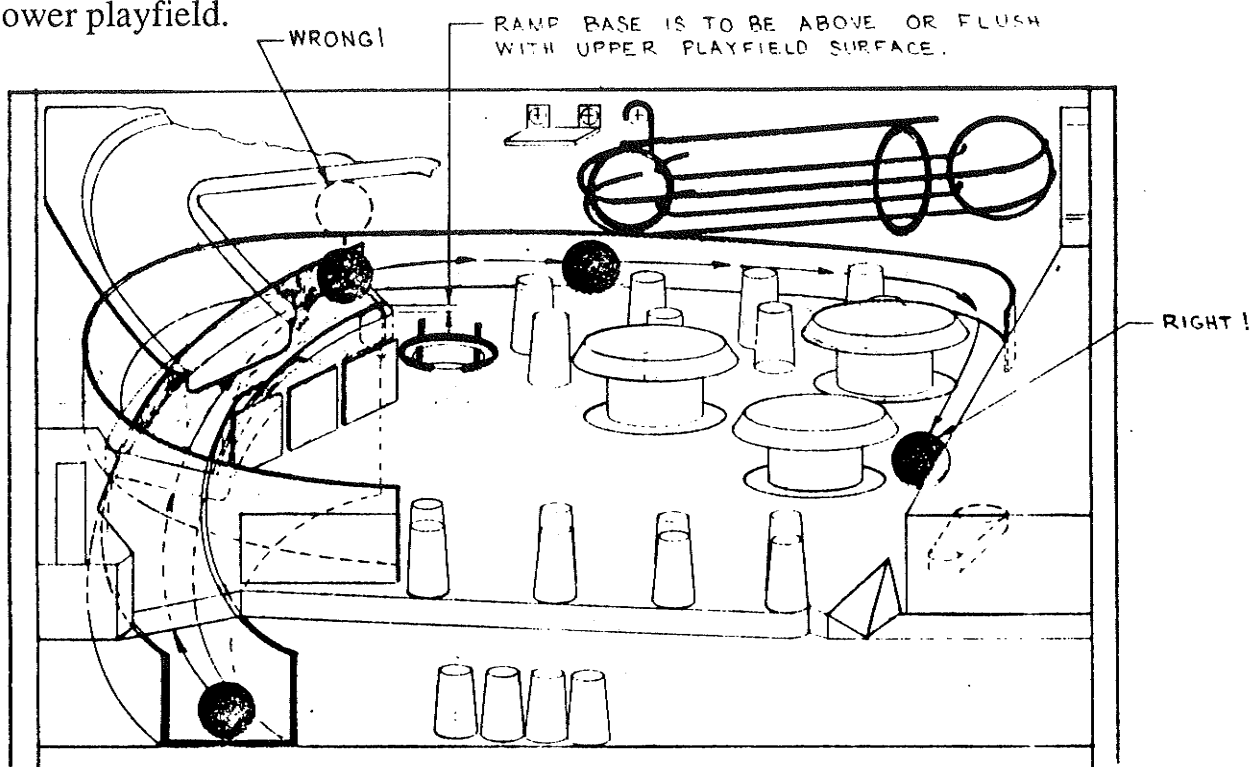
**Figure 2. Smoothing Ball Flow by Bending**



The wireform tube with the spring on it (figure 3), connecting upper and lower playfield, should be adjusted so that the presentation of the ball to the lower right flipper places the ball about midway on the flipper. The object is to set up the ball for a smooth reactive SKYWAY RAMP shot. Loosening the two nuts on the wireform tube allows it to be moved and locked down in the desired position. Don't forget to re-tighten the nuts!

**Figure 3. Ball Presentation to Lower Right Flipper**

When the upper playfield is raised and lowered it's important to remove all tools or objects left on the lower playfield. The top of the SKYWAY RAMP must be slightly above or even with the edge of the upper playfield's wood surface (figure 4). If it isn't, open the playfield and look around the perimeter for objects, wires, etc., that may be preventing the upper playfield from closing down flat on top of the rails of the lower playfield.



**Figure 4. SKYWAY RAMP & Upper Playfield Surface Alignment**

There is an adjustable post on the right side drain (near MAGNA-SAVE) that can be adjusted to decrease (move up) or increase (move down), ball time. Other ball time adjustments can be made in a wide range by adjusting the KICKBACK or MAGNA-SAVE features. Don't be afraid to experiment with these adjustments. See your manual. Game difficulty presets are good places to start when adjusting your game to the caliber of your players. In most cases this is all that will have to be done if a ball time problem is present.

## FLIPPERS

Last, but definitely not least, are the flippers. The flipper mechanisms are the heart of any pinball machine. It's your players' direct link to the game and because of this you should keep the EOS switches in good adjustment and check for wear on a regular basis.

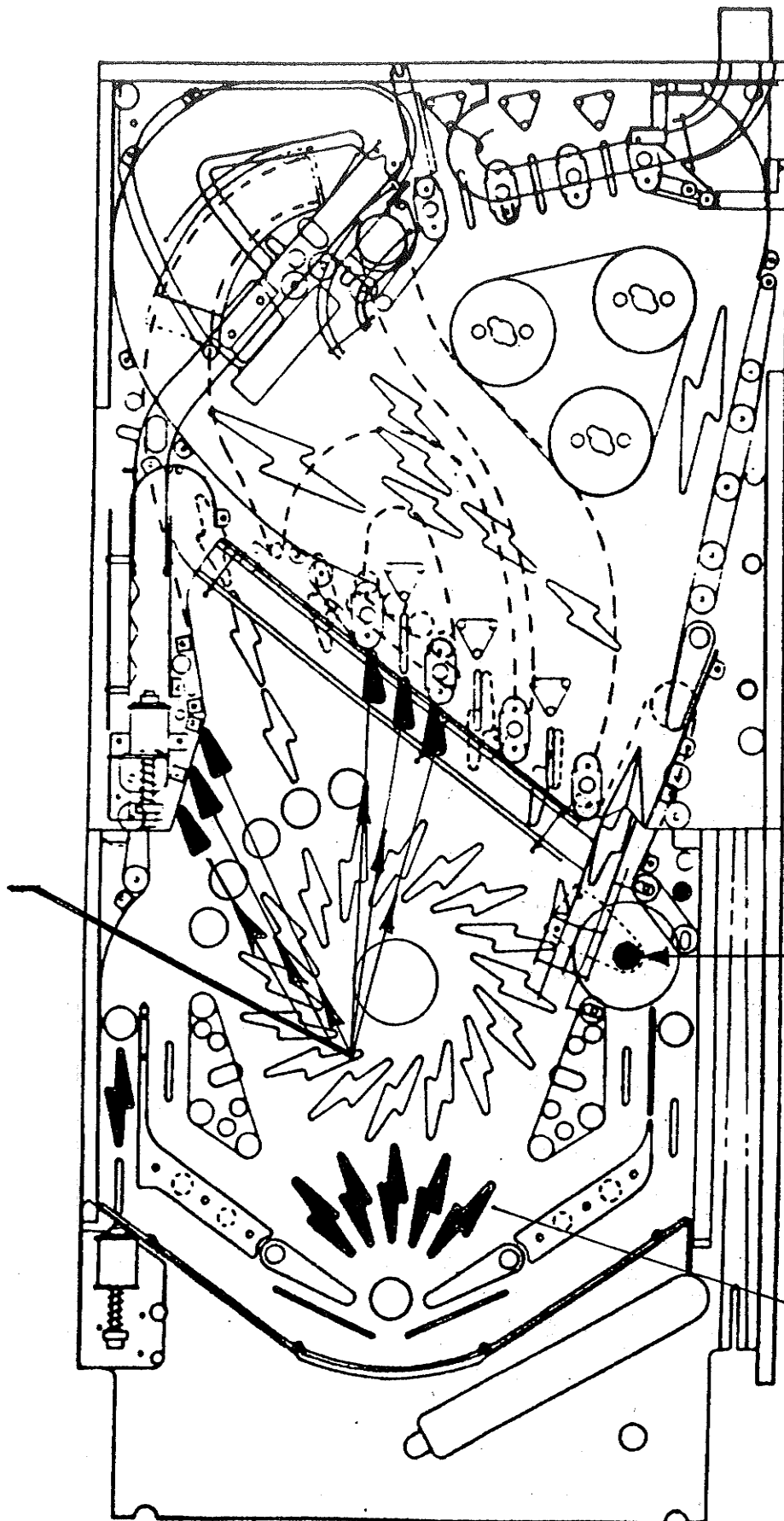
The Williams flippers on **Black Knight 2000** are probably the most powerful and hardest flippers ever made. However, all flipper designs require some maintenance. If you find that your **Black Knight 2000** flippers, after an extended service life, are too weak to project the ball up the SKYWAY RAMP, try lowering the back leg leveler adjusters as a temporary solution. This will compensate for the lost power without losing any entertainment value for the player.

When this happens, though, immediately order appropriate replacement parts for your flipper mechanisms and adjust the end of stroke switches. And once you've made the change to the new parts, remember to reset your leg levelers accordingly.

Once again I want to thank you for buying what I know is going to be solid investment for you -- **Black Knight 2000**. What you've read will, hopefully, give you a better understanding of the game's play features, diagnostic functionality, ease of servicing and the best ways to maximize earning for months and years of long term success.

Thanks.

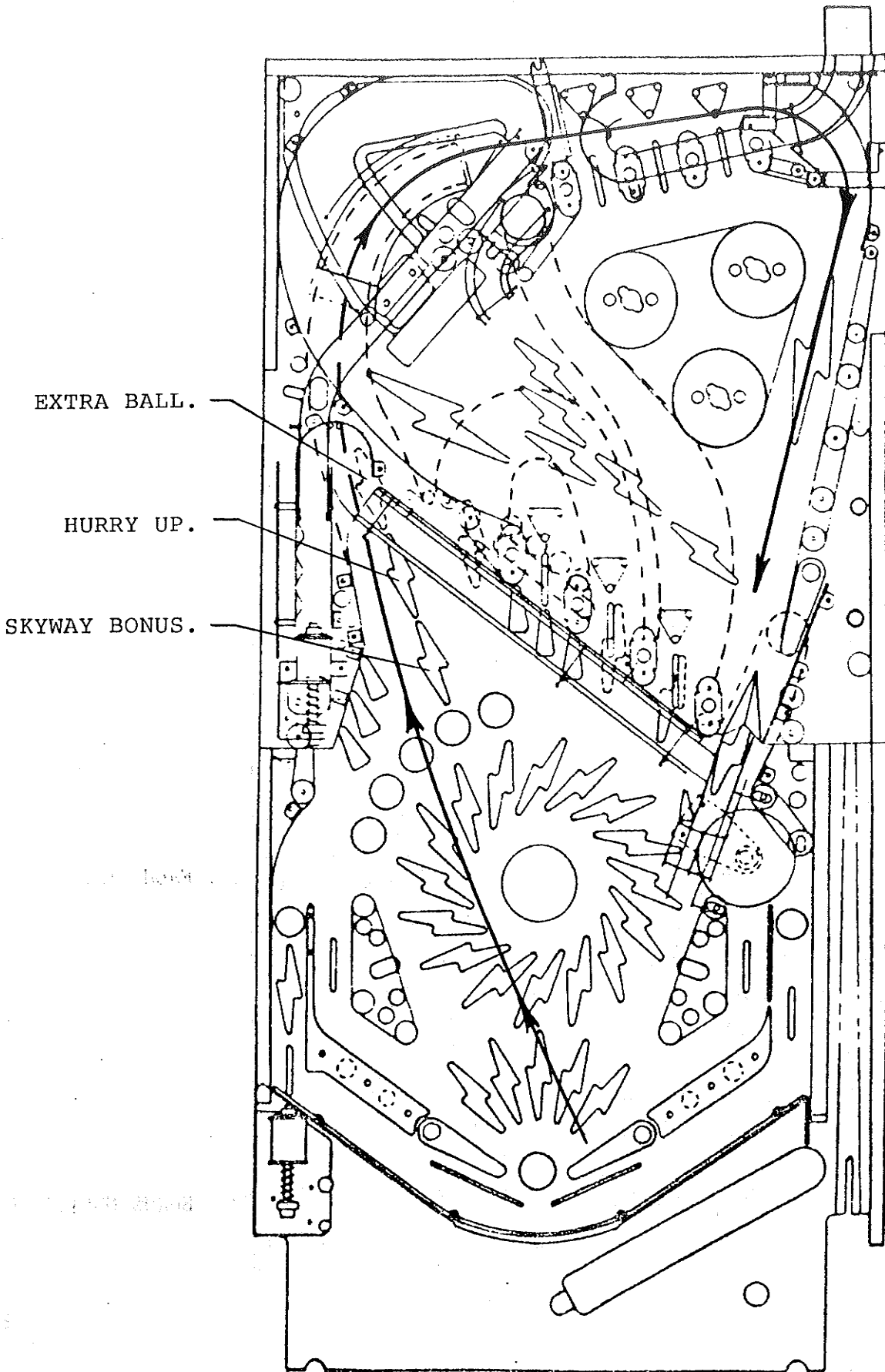
A handwritten signature in cursive script, appearing to read "Steve Pettit". The signature is written in black ink and is positioned below the "Thanks." text.



K-N-I-G-H-T  
LIGHTS KICKBACK  
AND MAGNA-SAVE

MAGNA-SAVE

BONUS MULTIPLIERS

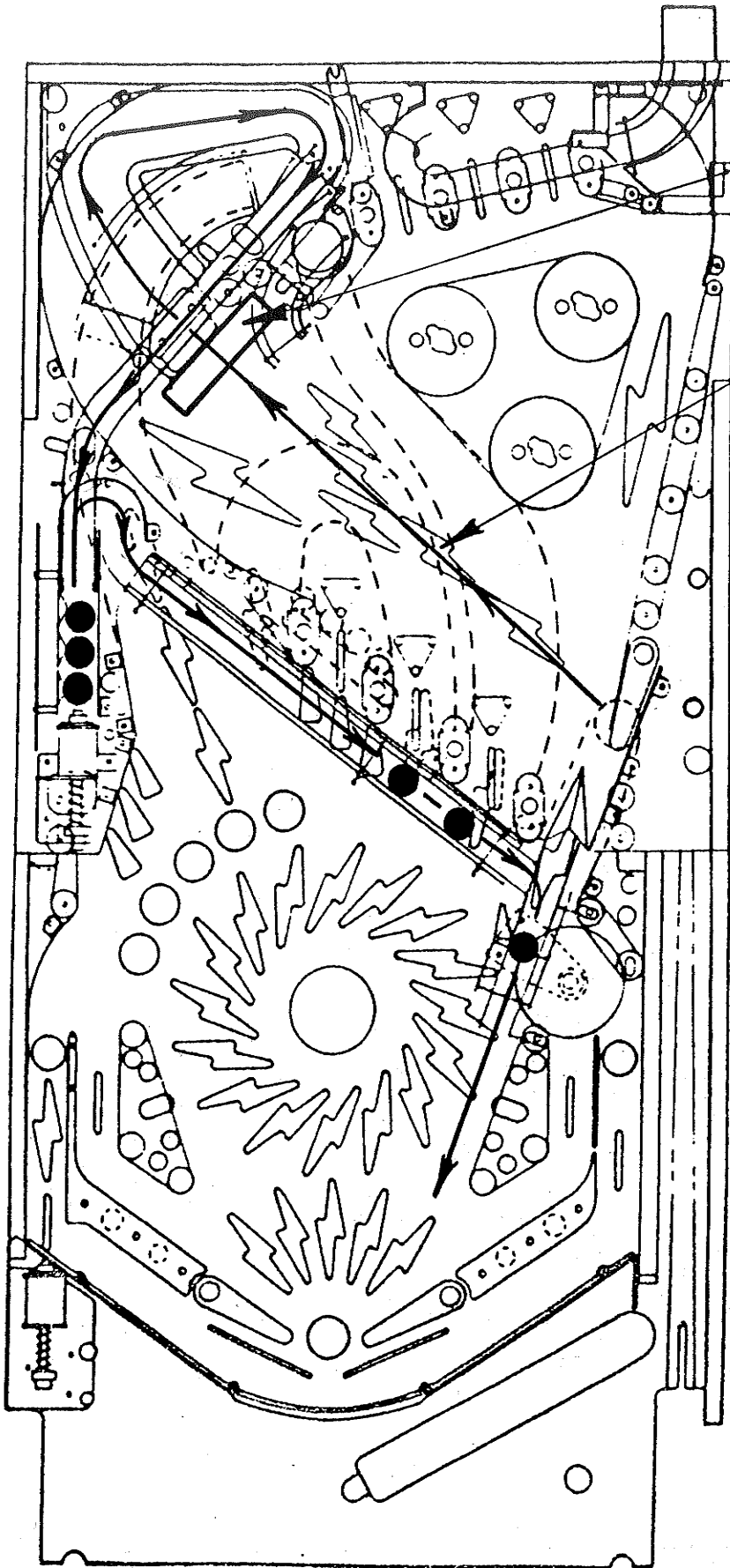


EXTRA BALL.

HURRY UP.

SKYWAY BONUS.

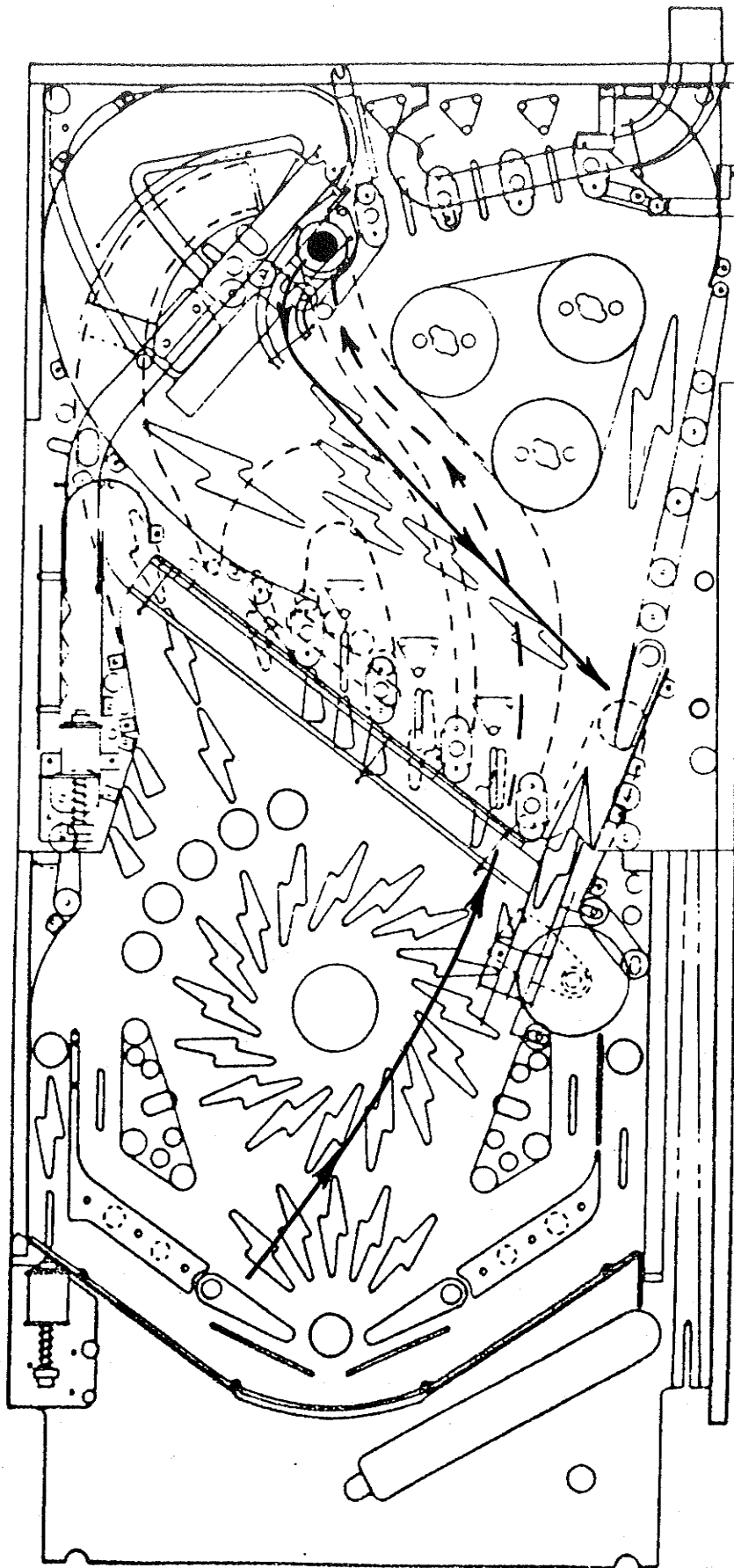
RAMP SHOT COLLECTS  
 "HURRY UP" & "EXTRA  
 BALL" & SKYWAY BONUS  
 WHEN LIT.



"DRAWBRIDGE"  
TARGETS.

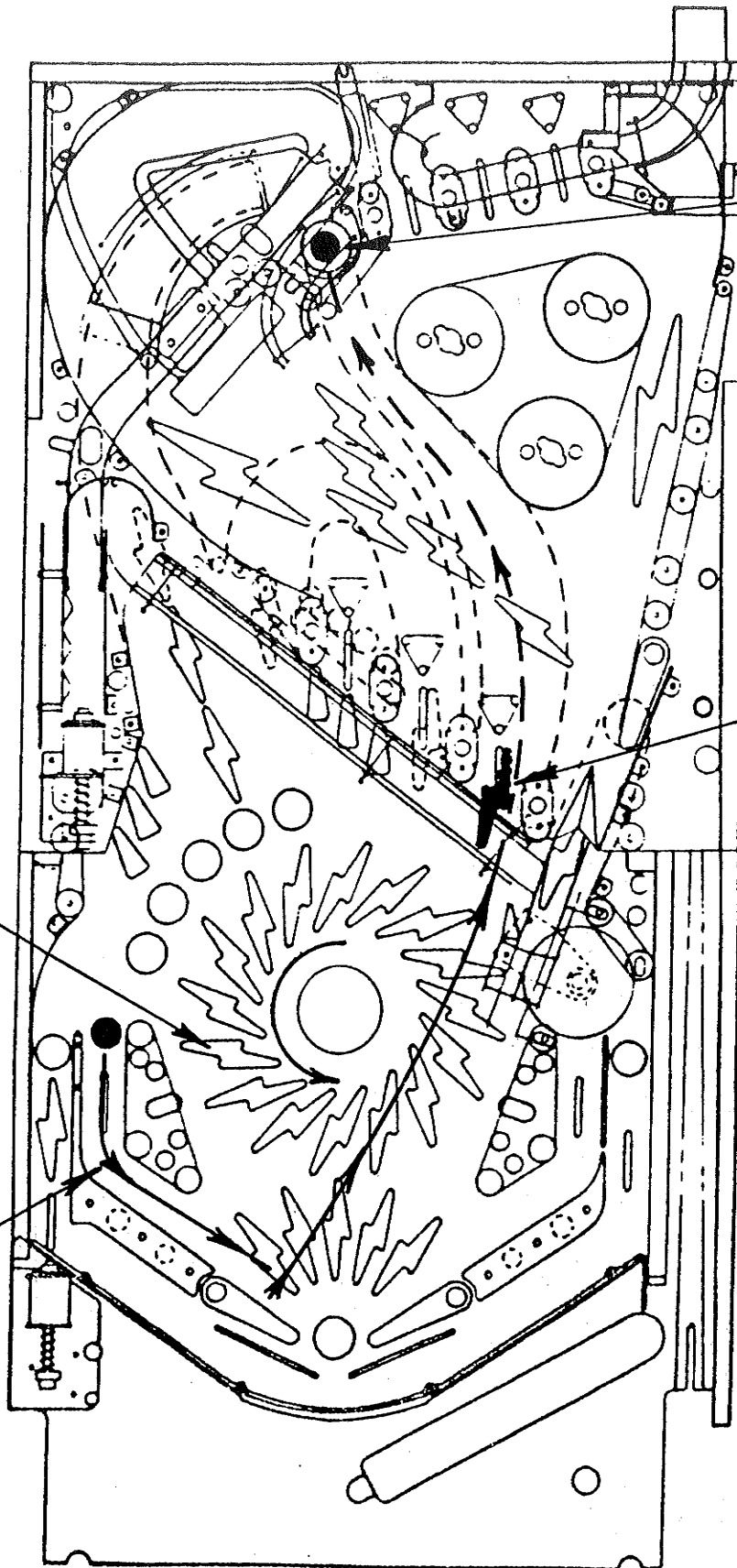
"JACK POT  
WHEN LIT".

3 DRAWBRIDGE TARGETS  
DOWN, THEN 3 BALLS  
UP UPPER RAMP SCORES  
MULTI-BALL. ONE MORE  
BALL UP RAMP AWARDS  
TIMED JACKPOT.



"SPIN"  
LANE SPINS LIGHTING  
WHEEL FOR AWARD  
WHEN LIT, THEN  
SHOOTS BALL TO  
FLIPPER ON UPPER  
PLAYFIELD.





BALL POPPER HOLE

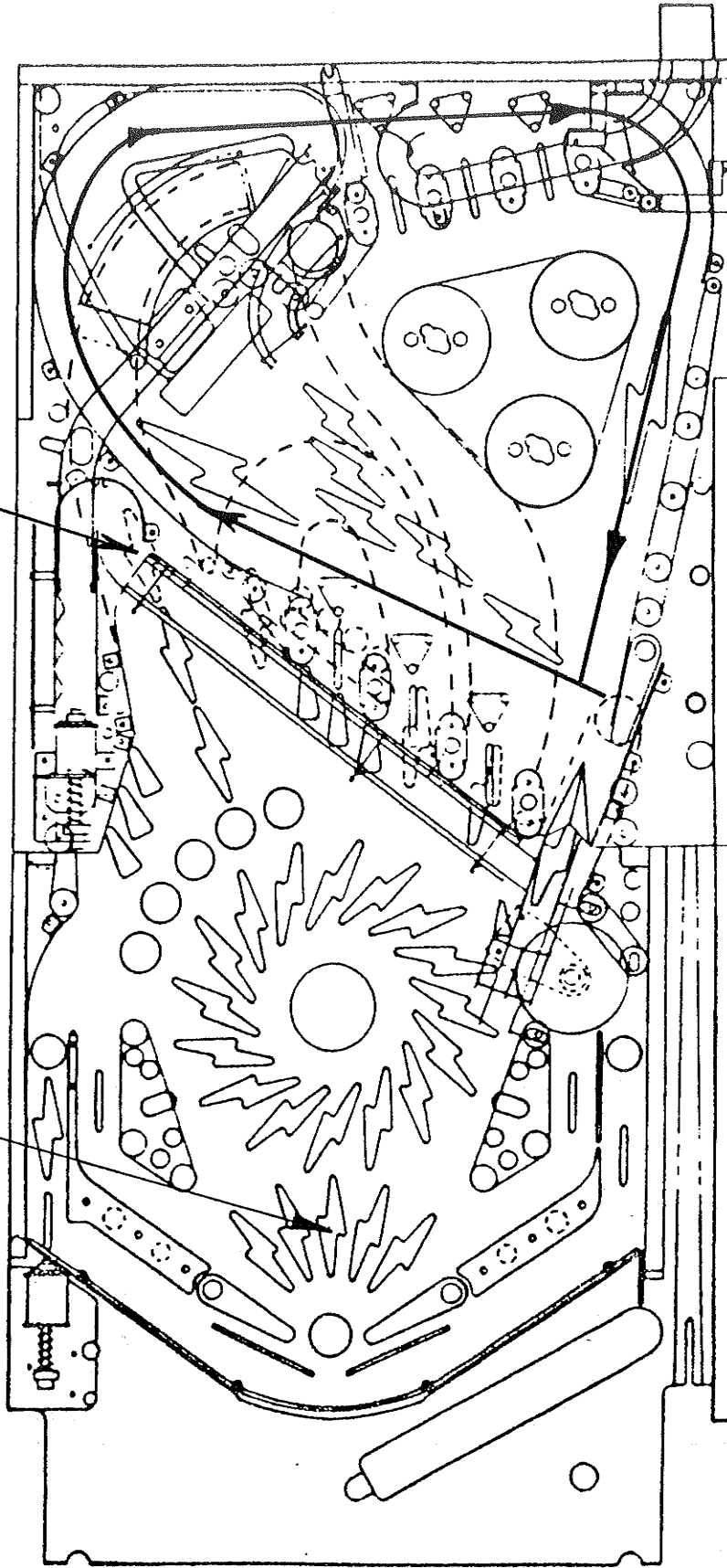
SPIN WHEN LIT.

"LIGHTING WHEEL"  
SPINS WHEN LIT &  
BALL ENTERS POPPER  
HOLE.

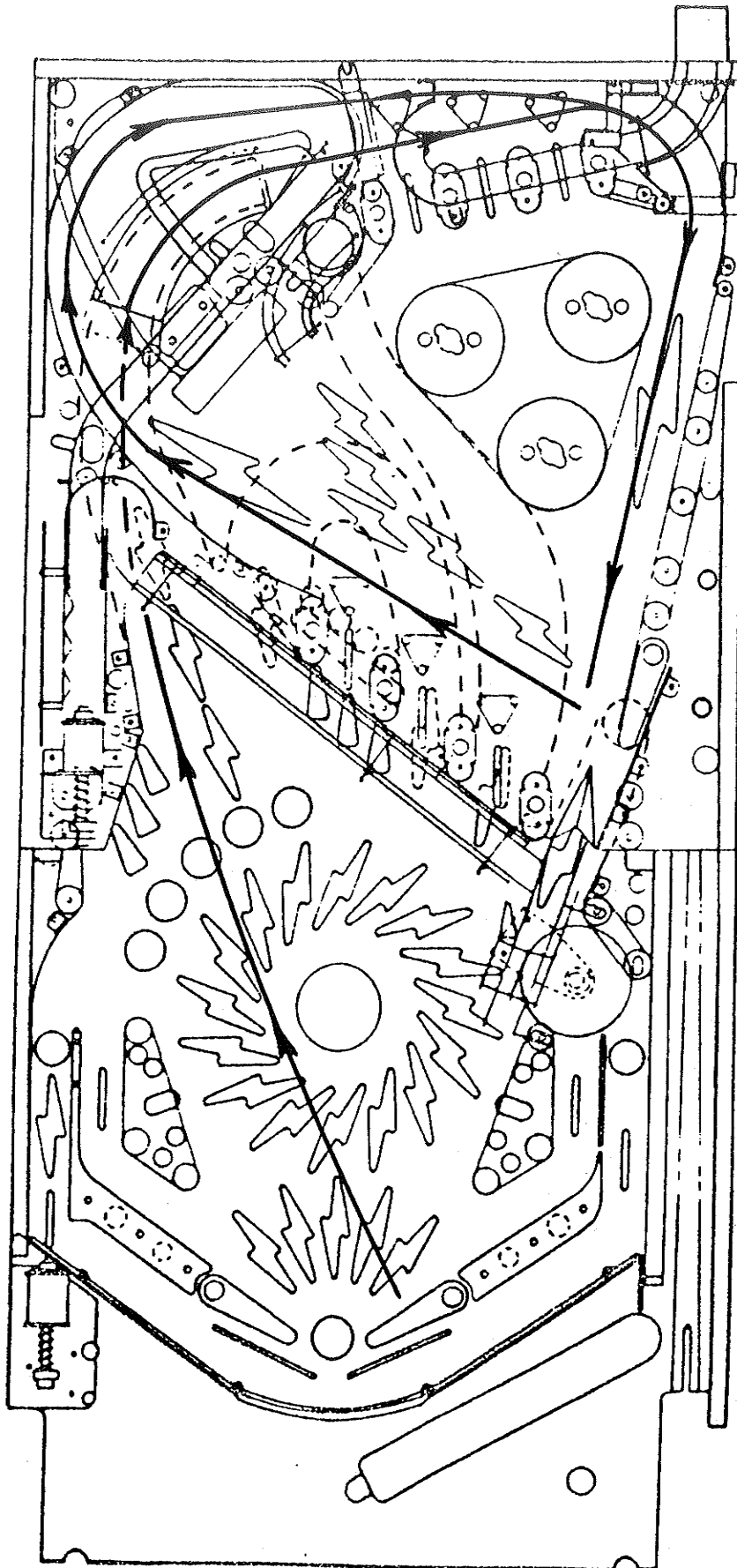
FLIPPER RETURN  
LANE LIGHTS "SPIN"  
(TIMED).

EXTRA BALL

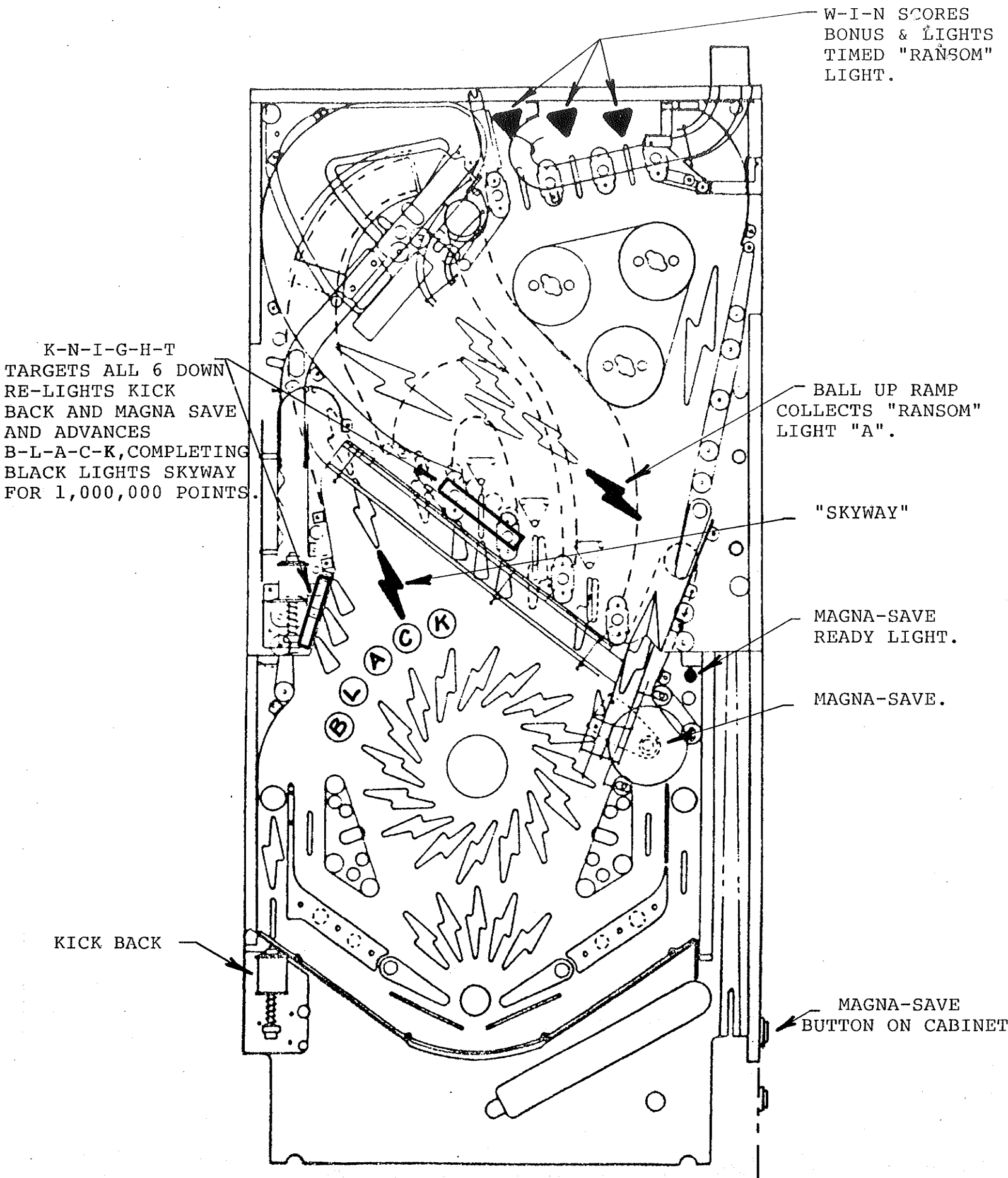
BONUS X HOLD



REPEATING LOOP SHOT  
CONSECUTIVELY LIGHTS  
TIMED EXTRA BALL,  
ADVANCES "LOOP CHAMP  
AWARD. (KEPT IN MEM-  
ORY), AND BUILDS UP  
LOOP BONUS 3 CONSEC-  
UTIVE LOOPS ALSO  
LIGHTS BONUS X HOLD.



RAMP LOOP COMBO  
SHOT AWARDS 100,000.



W-I-N SCORES  
 BONUS & LIGHTS  
 TIMED "RANSOM"  
 LIGHT.

K-N-I-G-H-T  
 TARGETS ALL 6 DOWN  
 RE-LIGHTS KICK  
 BACK AND MAGNA SAVE  
 AND ADVANCES  
 B-L-A-C-K, COMPLETING  
 BLACK LIGHTS SKYWAY  
 FOR 1,000,000 POINTS.

BALL UP RAMP  
 COLLECTS "RANSOM"  
 LIGHT "A".

"SKYWAY"

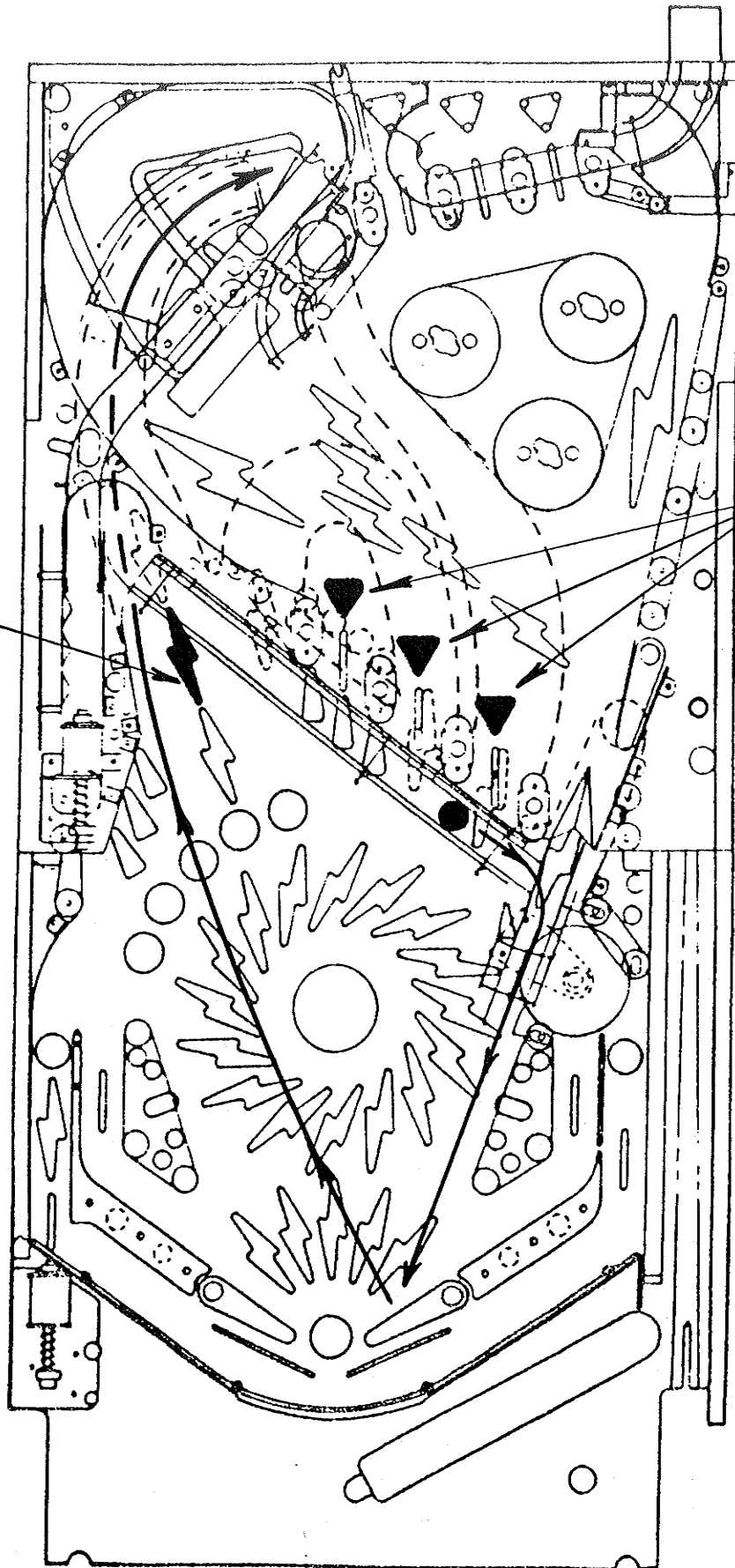
MAGNA-SAVE  
 READY LIGHT.

MAGNA-SAVE.

KICK BACK

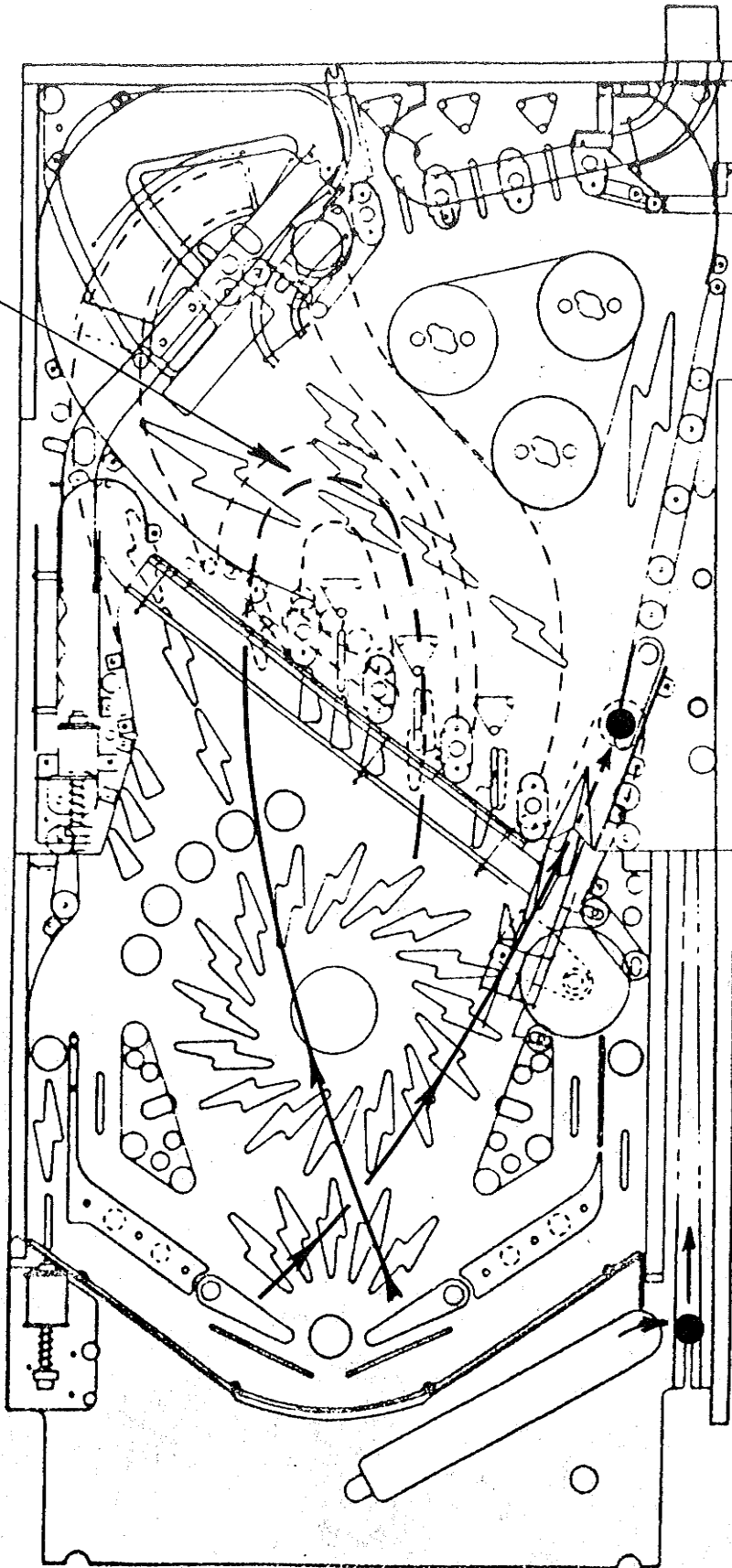
MAGNA-SAVE  
 BUTTON ON CABINET.

COLLECT HURRY UP



SPELLING W-A-R  
LIGHTS "HURRY UP"  
BONUS FOR COUNT-  
DOWN SCORE.  
SPELLING W-A-R  
DURING 2 BALL  
MULTI-BALL (DOUBLE  
KNIGHTS CHALLENGE)  
SCORES 1,000,000.

U-TURN



U-TURN LIGHTS 2 BALL  
MULTI BALL-,  
(DOUBLE KNIGHT'S  
CHALLENGE), GET  
BALL IN HOLE TO  
START MULTI-BALL