

bell games

Tiger Rag

"TIGER RAG"

Feature Operation & Scoring

A) Top Roll-Over Buttons Feature LANCER

A ball rolling over each top roll-over button turns on its corresponding lite in the Lancer and scores 3000 points—lit or unlit. Making all four top roll-over buttons advances the Saucer Score: 40,000—80,000—SPECIAL. Making all four top roll-over buttons when the Lancer Special Lite is lit, scores 1 SPECIAL: Lancer Special Lite turns off when any other points except the top roll-over buttons and top rebounds (see FDS #7 & 8 below) are scored. Lancer Lites reset every ball.

- F.D.S. #8 controls Lancer Special Lite:
 - X ON — Special Lite comes on every ball
 - OFF — Special Lite comes on every other ball
- F.D.S. #7 controls the top right rebound switch:
 - ON — Scores 10 points
 - X OFF — Scores 10 points and extinguishes Lancer Special Lite
- F.D.S. #14 controls the amount of Specials collected on the top roll-over buttons:
 - X ON — chance for several Specials per game
 - OFF — chance for only one Special per game

B) Top Saucer Feature:

A ball entering the Saucer scores 5000 points, or 10,000 points for each lit in the Lancer and the lit Saucer Score. The Saucer Score—40,000—80,000—SPECIAL—is advanced by making any four top roll-over buttons. The Saucer Score Lites reset every ball.

- F.D.S. #6 controls the number of Specials in the Saucer per ball:
 - X ON — 40,000—80,000—SPECIAL—repeat sequence (chance for several Specials per ball)
 - OFF — 40,000—80,000—SPECIAL—revert back to 40,000 (chance for only one Special per ball)
- F.D.S. #30 controls the Drop Target feature in the top Saucer:
 - ON — Return lanes always on and top Saucer spots next Drop Target
 - X OFF — Return lanes alternate on/off and Saucer does not spot

C) Elephant Target Feature:

Each target scores 3000 points. Lighting all of the elephants awards the lit value: 2x—3x—4x—5x—50,000. Elephant values reset every ball. Only one Special per ball can be earned.

- F.D.S.'s #15 & 16 control the
 - 15 16
 - ON ON — SPECIAL comes on with 3x X
 - OFF ON — SPECIAL comes on with 4x
 - ON OFF — SPECIAL comes on with 5x
 - OFF OFF — SPECIAL comes on after 50,000

D) Right lane target

The right lane awards the lit value.

The target also starts the center wheel scores rotating.

The target lites reset every ball.

- F.D.S.'s #23 & 24 control the Extra Ball and Special awarded on this target.

23	24	— EXTRA BALL	SPECIAL
ON	ON	— 6th Step X	9th Step
OFF	ON	— 7th Step	9th Step
ON	OFF	— 8th Step	10th Step
OFF	OFF	— 9th Step	11th Step

Note: only 1 Special per game per player can be earned on this feature.

E) Center Target Feature:

The center target scores 3000 points or the lit score on the score wheel when qualified. Hitting the target will qualify the center target score wheel lites. Hitting the center target when the arrow is flashing

stops the score wheel and awards that value, which stays on to signal what was collected.
 The center target arrow must be re-lit by hitting the target on the right lane.
 Values on the center target are clockwise from top:

- 25,000
- 10,000 & Spots next target.
- 50,000
- 10,000 & opens gate
- 10,000
- 10,000 & Spots all elephants

F) Drop Target Card Feature:

Bonus drop targets and stand-up targets score 5000 points each. The game starts with the #10 target up. Hitting the lit targets spots the corresponding symbols in Bonus Sequence and sets up next target to be hit. (Memory coils are used to select the target.)

Completing the entire Bonus Sequence lites a Suit lite:

- 1st Suit = =80,000 points
- 2nd Suit = =160,000 points
- 3rd Suit = =240,000 points
- 4th Suit = =320,000 points

Cards score 5000 points each in the outhole (with multipliers when applicable).
 in memory. Hitting TIGER when lit for Special scores 1 Special.

targets and lites are

• F.D.S.'s #21 & #22 controls the TIGER Special lite:

21 - 22 - Special comes on with:

- X ON - ON - 1st Suit
- OFF - ON - 2nd Suit
- ON - OFF - 3rd Suit
- OFF - OFF - 4th Suit

H) Return Lane Feature:

A ball through either return lane scores 1000 and when lit spots the next card in the Bonus sequence.

• F.D.S. #30 controls the return lane lites:

- ON - Always on
- OFF - Alternates on/off with 10 point score.

I) Miscellaneous Scoring:

Thumper Bumpers score 1000 points
 Sling Shot and rebounds score 10 points

J) SPECIAL REPLAY/X-BALL/NOVELTY MODES

Self-test positions 16 and 17 give the operator flexibility to award a replay ball or score (Novelty) when a special is scored. A combination of X-Ball, Novelty can be obtained through the following chart.

Self-test position 16

Playfield X-Balls and Specials

Lancer Special

Elephant Special

Saucer special

Right lane target Special

Drop target special

Right lane target X. Ball

Self-Test Position 17

Set to "03"	Set to "02"	Set to "01"
AWARD	AWARD	AWARD
REPLAY	X-BALL	50,000
REPLAY	X-BALL*	50,000
REPLAY	X-BALL*	50,000
REPLAY	*	50,000
REPLAY	X-BALL*	50,000
X-BALL	X-BALL**	25,000
Set to "03"	Set to "02"	Set to "01"
AWARD	AWARD	AWARD
REPLAY	X-BALL**	25,000

Scoring Thresholds

50,000 if same player shoot again is lit.

**25,000 if same player shoot again is lit.

V. GAME ADJUSTMENTS

A. Playfield Panel Post Adjustments:

Posts that control left and right outlane opening on panel can be removed to make access to outlanes easier or harder for ball to enter. See Figure II.

Easier entry will decrease playing time and scoring (conservative).

Harder entry will increase playing time and scoring (liberal).

B. Back Box Game Adjustments:

Each game has thirty-two switches located on A4, the MPU module, located in the back box, that allow play to be customized to the location. See Figure III. Credits per coin, maximum credits, credit display, balls per game, match feature, high game feature, special award and melody are selectable by means of the switches. The switches are contained in four sixteen lead packages numbered S1-8, S9-16, S17-24, and S25-32 for easy identification. The "ON" toggle position is marked on the assembly. Turn off power before making adjustments.

Credits/Coin Adjustments:

The credits per coin are selectable by means of S17-S20 for coin chute #2 (Center). The switch settings and resultant credits/coin are as follows:

S20	S19	S18	S17	Credits/Coin	S20	S19	S18	S17	Credits/Coin
OFF	OFF	OFF	OFF	Same as Coin Chute #1 Settings	ON	OFF	OFF	OFF	8/1 Coin
OFF	OFF	OFF	ON	1/1 Coin	ON	OFF	OFF	ON	9/1 Coin
OFF	OFF	ON	OFF	2/1 Coin	ON	OFF	ON	OFF	10/1 Coin
OFF	OFF	ON	ON	3/1 Coin	ON	OFF	ON	ON	11/1 Coin
OFF	ON	OFF	OFF	4/1 Coin	ON	ON	OFF	OFF	12/1 Coin
OFF	ON	OFF	ON	5/1 Coin	ON	ON	OFF	ON	13/1 Coin
OFF	ON	ON	OFF	6/1 Coin	ON	ON	ON	OFF	14/1 Coin
OFF	ON	ON	ON	7/1 Coin	ON	ON	ON	ON	15/1 Coin

The credits given are selectable by means of switches 1-5 incl., for coin chute #1 and switches 9-13 incl., for coin chute #3. Thirty-one different credit ratios are available for each coin chute. The switch settings and resultant credits/coin are listed below.

CREDITS/COIN ADJUSTMENTS

COIN CHUTE	SWITCHES					CREDITS	CREDITS	CREDITS	CREDITS	CREDITS	TOTAL CREDITS/COINS
#1 (HINGE SIDE)	5	4	3	2	1						
OR #3	13	12	11	10	9						
(RIGHT SIDE)											
OFF	OFF	OFF	OFF	OFF	OFF	1/1 Coin					
OFF	OFF	OFF	OFF	ON	OFF	2/1 Coin					
OFF	OFF	OFF	ON	OFF	OFF	3/1 Coin					
OFF	OFF	OFF	ON	ON	OFF	4/1 Coin					
OFF	OFF	ON	OFF	OFF	OFF	5/1 Coin					
OFF	OFF	ON	OFF	ON	OFF	6/1 Coin					
OFF	OFF	ON	ON	OFF	OFF	7/1 Coin					
OFF	OFF	ON	ON	ON	OFF	8/1 Coin					
OFF	ON	OFF	OFF	OFF	OFF	9/1 Coin					
OFF	ON	OFF	OFF	ON	OFF	12/1 Coin					
OFF	ON	OFF	ON	OFF	OFF	14/1 Coin					
OFF	ON	OFF	ON	ON	OFF	1/2 Coins*					
OFF	ON	ON	OFF	OFF	OFF	2/2 Coins*					
OFF	ON	ON	ON	OFF	ON	3/2 Coins*					
OFF	ON	ON	ON	ON	OFF	4/2 Coins*					
OFF	ON	ON	ON	ON	ON	5/2 Coins*					
ON	OFF	OFF	OFF	OFF	OFF	6/2 Coins*					
ON	OFF	OFF	OFF	ON	OFF	7/2 Coins*					
ON	OFF	OFF	ON	OFF	OFF	8/2 Coins*					
ON	OFF	OFF	ON	ON	OFF	9/2 Coins*					
ON	OFF	ON	OFF	OFF	OFF	12/2 Coins*					
ON	OFF	ON	OFF	ON	OFF	14/2 Coins*					
ON	OFF	ON	ON	OFF	OFF	1/1st Coin	2/2nd Coin				
ON	OFF	ON	ON	ON	ON	0/1st Coin*	1/2nd Coin	1/3rd Coin	1/4th Coin		3/2
ON	ON	OFF	OFF	OFF	OFF	0/1st Coin*	1/2nd Coin	0/3rd Coin**	2/4th Coin		3/4
ON	ON	OFF	OFF	ON	ON	1/1st Coin	1/2nd Coin	1/3rd Coin	2/4th Coin		3/4
ON	ON	OFF	ON	OFF	OFF	1/1st Coin	2/2nd Coin	1/3rd Coin	3/4th Coin		5/4
ON	ON	OFF	ON	ON	ON	1/1st Coin	2/2nd Coin	2/3rd Coin	2/4th Coin		7/4
ON	ON	ON	OFF	OFF	OFF	0/1st Coin***	0/2nd Coin***	1/3rd Coin			7/4
ON	ON	ON	OFF	ON	ON	0/1st Coin**	0/2nd Coin**	0/3rd Coin**	1/4th Coin		1/3
ON	ON	ON	ON	OFF	ON	0/1st Coin****	0/2nd Coin****	0/3rd Coin****	0/4th Coin****	1/5th Coin	1/4
ON	ON	ON	ON	ON	ON	0/1st Coin***	0/2nd Coin***	1/3rd Coin	0/4th Coin****	1/5th Coin	1/5
											2/5

*No Credits until 2nd coin is dropped.

**No Credits until 4th coin is dropped.

***No Credits until 3rd coin is dropped.

****No Credits until 5th coin is dropped.

MAXIMUM CREDITS:

The maximum credits accepted by the machine limits the number of games that can be accumulated by coining, by winning replays or both. The maximum number of credits is selectable by means of switches 25 and 26. Four credit limits are available. Switch settings are listed below.

MAXIMUM CREDITS	SWITCHES	
	26	25
10	OFF	OFF
15	OFF	ON
25	ON	OFF
40	ON	ON

BALLS PER GAME:	# BALLS /GAME	SWITCHES	
		32	31
	5	OFF	ON
	4	ON	OFF
	3	OFF	OFF
	2	ON	ON

MATCH FEATURE:

When the Match Feature is ON, a random number appears on the Match/Ball in Play window and the word Match is illuminated. If the number matches the tens digit in a player's score, a free game is awarded. The Match Feature creates an incentive to play.

	MATCH	SWITCH 28
	ON	ON
	OFF	OFF
CREDIT DISPLAY:	CREDITS DISPLAYED	SWITCH 27
	YES	ON
	NO	OFF

HIGH SCORE FEATURE:

The game is designed to award an Extra Ball or Free Game at each of the two or three score levels. See Front Door Game Adjustments.

	AWARD	SELF TEST POSITION 16	SELF TEST POSITION 17
	REPLAY	SET TO "03"	SET TO "03"
	EXTRA BALL	SET TO "02"	SET TO "02"
	NOVELTY	SET TO "01"	SET TO "01"
	NO AWARD	SET TO "00"	SET TO "00"

For combinations of replay/X-ball/Novelty Modes see page 4A "K. Special Replay/X-ball/Novelty Modes"

HIGH SCORE TO DATE OR OVER 10,000,000 SCORE FEATURE:

The game is designed to award free games as an option if high score to date is beat or player exceeds 10,000,000 points. Each time this happens, the winning score becomes the new high score to beat. This score is displayed on all 4 player score displays at the end of each game as an incentive to play. Recommended setting is underlined.

HIGH SCORE TO DATE FEATURE	SELF TEST POSITION 19
No Award	SET TO "00"
One Credit	SET TO "01"
Two Credits	SET TO "02"
<u>Three Credits</u>	SET TO "03"

State and local laws may regulate the use of the above features, and they have been designed to allow for appropriate adjustment in order to conform to such requirements.

SOUND OPTION

The game is designed to make several tones and noises to announce power-up, game-up, etc. The tones are intended to attract attention to the game and increase game usage. The tones are controlled by pressing Self-Test button until the #18 shows on the match/ball in display. Now pulse replay button to desired sound setting.

Setting "00"

Most switches associated chimes without feature background.

Setting "01"

Playfield switches associated chimes with background.

Setting "02"

Most scoring will have a noise effect without background.

Setting "03"

Most all scoring will have a noise effect with background.

GAME FEATURE OPTIONS:

Saucer Special Lite Adjustment:

Liberal SW 6 ON

Conservative SW 6 OFF

More than 1 special per ball.

Only 1 special per ball.

Top Right Rebound 4 Thru 7 Card Special Adjustment:

Liberal SW 7 ON

Conservative SW 7 OFF

Hitting rebound does not put special lite out.

Hitting rebound puts special lite out.

4 Thru 7 Special Flashing Per Ball Adjustment:

Liberal SW 8 ON

Conservative SW 8 OFF

Special comes on for every ball.

Special comes on for 1, 3, 5 ball only.

4 Thru 7 Special Collected Per Game Adjustment:

Liberal SW 14 ON

Conservative SW 14 OFF

More than 1 special can be collected

Only 1 special can be collected

2 Card Targets Special Lite Adjustment:

Liberal SW 15 ON 16 ON

Medium SW 15 OFF 16 ON

Semi-Medium SW 15 ON 16 OFF

Conservative SW 15 OFF 16 OFF

Making all 3 targets 2 times lites Special.

Making all 3 targets 3 times lites Special.

Making all 3 targets 4 times lites Special.

Making all 3 targets 6 times lites Special.

Drop Targets Special Lite Adjustment:

Liberal SW 21 ON 22 ON

Medium SW 21 OFF 22 ON

Semi-Medium SW 21 ON 22 OFF

Conservative SW 21 OFF 22 OFF

Making all targets 1 time lites special.

Making all targets 2 times lites special.

Making all targets 3 times lites special.

Making all targets 4 times lites special.

3 Card Target Extra Ball And Special Lite Adjustment:

Liberal SW 23 ON 24 ON

Medium SW 23 OFF 24 ON

Semi-Medium SW 23 ON 24 OFF

Conservative SW 23 OFF 24 OFF

Hitting target 6 times lites extra ball, then 3 more times lites special.

Hitting target 7 times lites extra ball, then 2 more times lites special.

Hitting target 8 times lites extra ball, then 2 more times lites special.

Hitting target 9 times lites extra ball, then 2 more times lites special.

Number of Games Replays Per Game Adjustment:

Liberal SW 29 ON

Conservative SW 29 OFF

All replays earned will be collected.

Only 1 replay per player per game.

Left And Right Return Lane Arrow Lite Adjustment:

Liberal SW 30 ON

Conservative SW 30 OFF

Arrow lites are always on and Saucer spots card.

Both lites go on and off when hitting rebound switches.

RECOMMENDED

Instructions, Score Cards and High Score Feature Settings
to be used on

REPLAYS

3-BALL

Score Card

1 Replay at 1,100,000

1 Replay at 2,300,000

REPLAYS

5-BALL

Score Card

1 Replay at 1,600,000

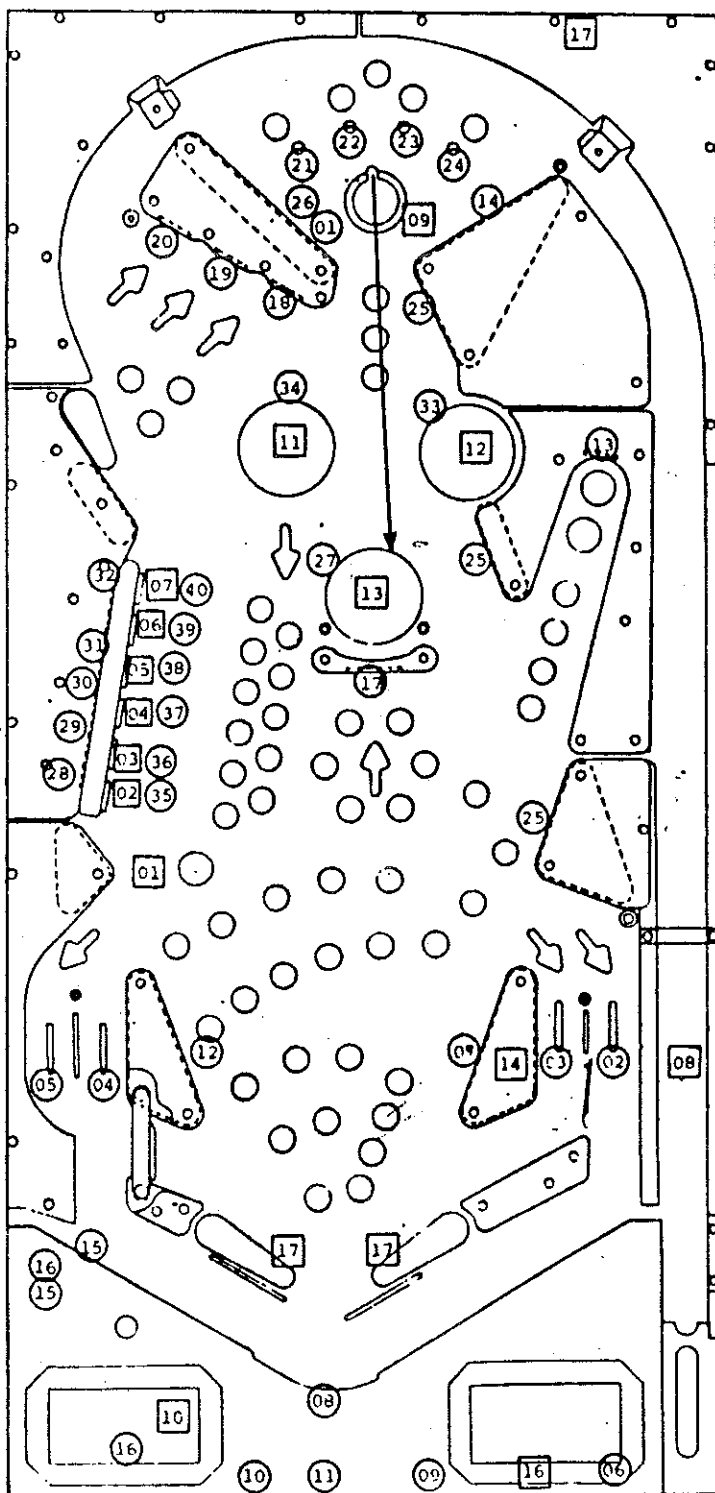
1 Replay at 2,700,000

EXTRA BALL

Score Card

1 Extra Ball at 1,900,000

1 Extra Ball at 3,100,000



○ INDICATES SWITCH ASSEMBLY
IDENTIFICATION NUMBERS
NOTE: CABINET: 15, 16
DOOR: 06, 09
10, 11, 16

□ INDICATES SOLENOID
IDENTIFICATION NUMBERS:
NOTE: DOOR: 16
BACKBOX: 17
CABINET: 08

VECTOR SHOWING FOR EJECT SAUCER

BALL SHOULD EXIT TO RIGHT SIDE
OF BOTTOM THUMPER AS
SHOWN

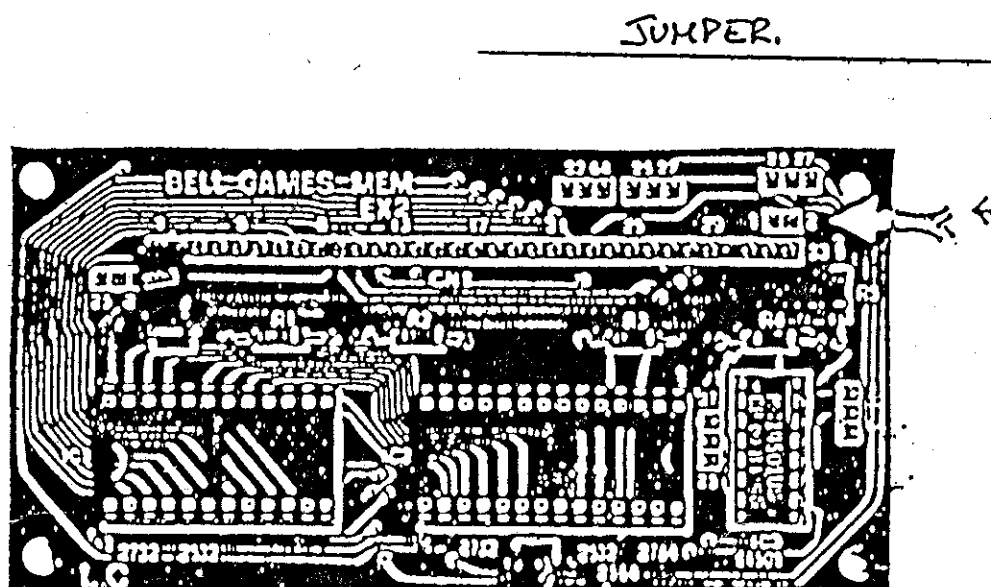
Tiger Rag

INSTRUCTION KIT



BOLOGNA - VIA DEL MOBILIARE, 12

- a) Mount on the display our o and behind put one lamp 7 volts and connect with the ather lamps.
- b) Take out from MPU logic board the old memories game in the position U1, U2, U3, U4, U5, U6.
 If your MPU is the old one with the connector J 5 with 32 pins, look the MPU on the side components and cut the connection beetwin the connector J 5 position 32 and the ather components.
 In solder side make a jumper from J 5 pin 32 and U9 pin 24.
 Inserit the connectors of the board with the memories of a new game (mem ex 2) in position J 5 and do a jumper from 1, and 2 see the schema.



In case that is a new M.P.U. tipe(as 2518_35) with 33 pins in J5 you only inserit our memories board mem ex 2 in J5 and dont do the jumper from 1 and 2.

C) Don't connect the connector J 2 lamp driver and connect our from playfield with 3 wires not connected.
And solder this 3 wires in the following position on the black box lamps

RED - TILT

BLACK - GAME OVER

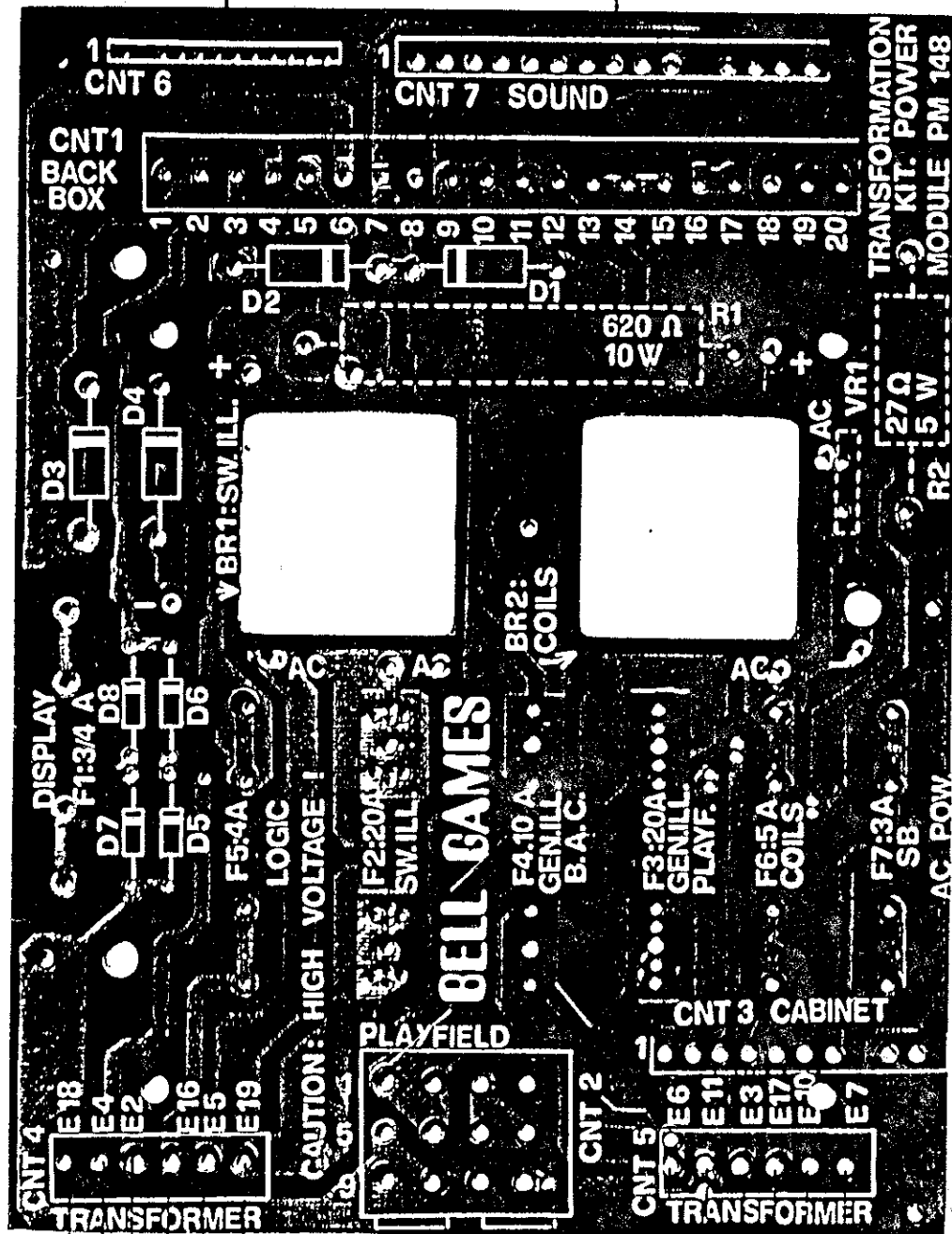
WHITE - SHOOT AGAIN

D) For mounting a new power board see the schema and solder the old wires of the transformer in the exact position

POWER BOARD POSITION	COLOR	TRANSFORMER RIF. NUMBER
E.10 /220 volts	RED 0,80	1
E.11 / 6,3 " "	BLACK	18
E.18 /170 volts	GREEN 0,35	8
E.19 / 7,8 " "	GREEN 0,80	14
E.17 / 49 volts	RED 0,35	2
E. 6 / 7,8 " "	BLUE	17
E. 7 /220 volts	YELLOW	12
E. 4 /170 volts	WHITE-GREEN	10
E. 2 / 12 ac.volts	WHITE-BLACK	16
E. 5 / 7,8 volts	ORANGE	13
E. 3 /49 vac.	WHITE RED	6
E.16 / 12 ac.	WHITE	15
	SEE DIAGRAM	

TO J4 SOLENOID DRIVER

TO SOUND BOARD.



Green 0,35
White/Green
White/Black
White
Orange
Green 0,80

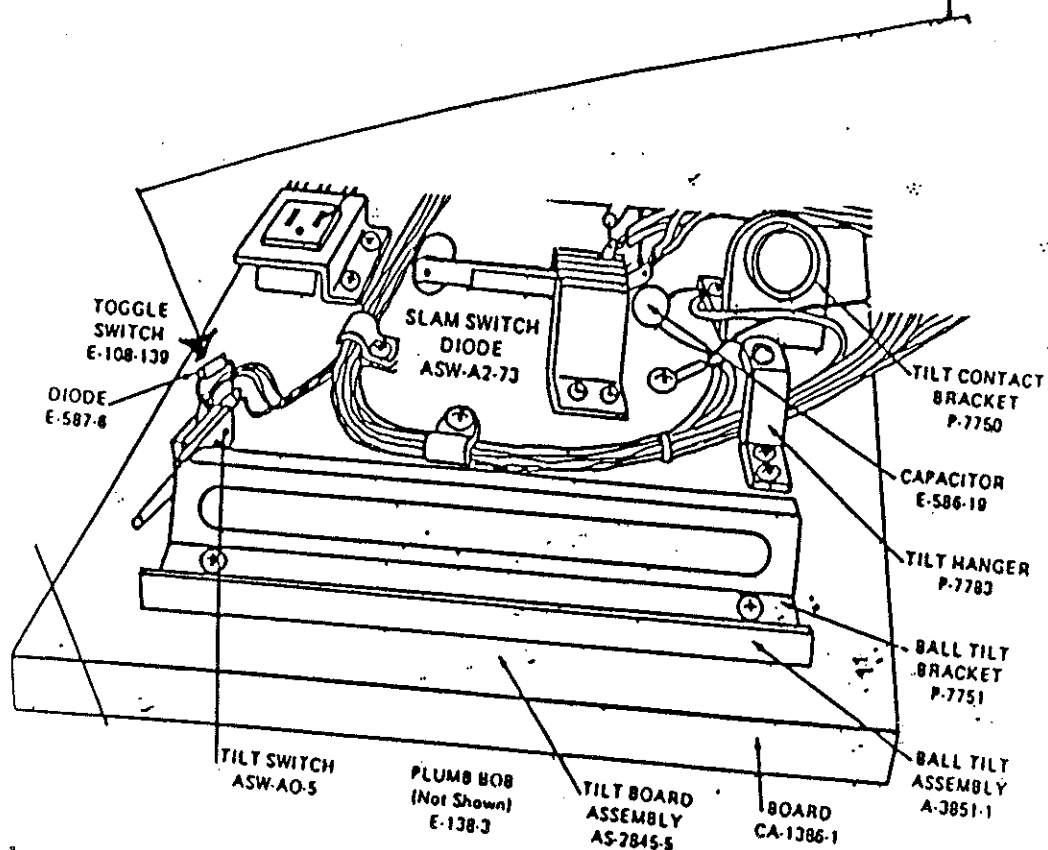
Blue
Black
White / Red
Red 0,35
Red 0,80
Yellow

E) Cut the wires of the transformer connector 20 pins and see the schema.

POSITION	COLOR	SIZE
1	WHITE	0,80 Ø
2	RED-BLACK	0,35 "
3	GREY-BLUE	0,35 "
4	RED-WHITE	0,35 "
5	BLUE	0,80 "
6	WHITE-BLACK	0,35 "
7	ORANGE	0,35 "
8	WHITE-BLUE	0,35 "
9	RED	0,80 "
10	ORANGE	0,80 "
11	BLUE-BLACK	0,35 "
12	WHITE-BROWN	0,35 "
13	YELLOW	0,35 "
14	GREY	0,35 "
15	WHITE-YELLOW	0,35 "
16	WHITE	0,35 "
17	RED-YELLOW	0,35 "
18		
19	WHITE-ORANGE	0,35 "
20	GREEN	0,80 "

F) TILT

In cabinet tilt part, take out the two wires red-yellow
(attention must be connected the two wires) from



And make a jumper from the same position to slam switch
with red and green.

G) Connect 5 pins connector with two wires to solenoid driver J2 in
position: J2.position 10 wire brown
J2.position 12 wire red/black.