

GamePlan, inc.®

GAME PLAN, INC.®
1515 W. Fullerton Avenue
Addison, Illinois 60101
Telephone: (312) 628-8200
TLX 20-6098

Andromeda

INSTALLATION AND REPAIR MANUAL

**MODEL
850**

WARNING

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference, when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

INSTALLATION AND REPAIR MANUAL

INSTALLATION

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INSTALLATION

I. GENERAL INSTALLATION

Remove backbox, cabinet and legs from the shipping container. Bolts required for assembly, tilt ball and game ball are shipped inside the cashbox. Mount the legs to the cabinet. Pull the line cord through the hole in the cabinet and place it in the slot at rear of the cabinet. Place backbox on the cabinet and mount with the four bolts provided. Pull cables up through the hole in the bottom of the backbox and plug into mating connectors in backbox. Note the connectors are color coded to prevent connection errors. Connect ground braid to backbox shielding screw.

Check all connectors to ensure that none vibrated loose during shipping. Check playfield wiring and cabinet wiring for shipping damage. Check that all fuses are firmly in place. Adjust the leg levelers, check the tilt bob adjustment and insert roll-tilt ball. Lower the playfield, and place the game ball in the shooter alley.

Plug the game into a grounded outlet only of specified voltage. Do not remove the ground plug or use a cheater plug to defeat the grounding system.

The game is now ready to power up and check out. Refer to section IV, routine maintenance on location, for check out.

II. GENERAL GAME OPERATION

Turn on the on-off switch located under the cabinet near the right front leg. The displays should stay blank for approximately 7 seconds. During this time the MPU circuit board is exercising its self diagnostic routine, the game over tune will play and the displays will alternately flash the last game's scores and high score to date.

Coin the game. The game should play the coin sound and increment the credit display. Press the credit button. The start of game sound should play, the credit display should decrement, the first player should flash for the player up, ball in play 1 should be lit, and the ball should be served to the shooter alley if sitting in the ball return hole.

Pressing the credit button again will cause the number of players to be incremented with each depression to a maximum of four.

III. FEATURE OPERATION & SCORING

Top lanes score 3,000 points and advances bonus, lighting top lanes advances bonus multiplier.

Stand up targets scores 1,000 points and lights power bumper.

Left saucer lane scores 30,000 points and locks ball for multiple ball play.

Left single drop target scores 5,000 points advances bonus and scores lited value.

DROP BANK

Drop targets score 3,000 points each and advances bonus. All targets first time down scores 50,000 points and advances spinner value. Second time scores 50,000 points advance spinner and lites right return lane for possible extra ball. Third scores 50,000 points advance spinner and lites right out lane for possible specials. Fourth time scores 50,000 points and awards special. Making left side of 3 drop targets lites upper right side lane for 20,000 points and three bonus advance. Making right side of drop targets lites lower right side lane for 20,000 points and 3 bonus advances. Making left side of drop targets lites upper right side lane for 20,000 points and 3 bonus advances.

Power bumpers scores 100 or 1,000 points when lit.

Making middle stand up target when lit releases locked ball and all playfield scores are doubled.

Right return lane scores 3,000 points or extra ball when lit.

Right outlane scores 5,000 points or special when lit.

Slingshot kickers score 30 points.

Exceeding high score to date awards credits, if optioned, at the end of the game and the displayed high score to date is automatically updated.

Tilting the game results in loss of current ball and the flippers and all playfield features go dead. Slamming the machine results in loss of the game, and the game goes into a delay mode for approximately 15 seconds. The saucer is always active except during this delay. If a ball falls in the saucer hole during the slam delay it will be kicked out immediately after the delay.

At the end of the game, the game over tune plays and the match number shows in the ball in play / number of players display if optioned. The game goes into a game over delay for approximately 5 seconds and then begins alternately flashing last game score and high score to date on the displays

IV. ACCOUNTING FUNCTIONS

Note: The game must be in the game over mode before entering into the accounting routine. A new accounting reset button has been added to the coin door. It provides the same function as S-33 on the MPU board.

The accounting routines are entered by pressing the test switch inside the coin door. The number of the accounting function is shown in the ball in play display and the count for that function is shown on all four players displays. Continued pressing of that test switch will cause the game to cycle through all the accounting functions. If the game is left in one of the accounting functions, it will automatically return to game over after approximately 30 seconds.

Any accounting function can be reset by pressing S33 on the MPU board or by pressing the reset switch on the coin door. While that particular accounting function is being displayed.

Replay levels and high score to date are reset to 100,000 all other accounting functions are reset to zero.

The sequence of accounting functions are as follows:

1. Coin Counter #1
2. Coin Counter #2
3. Coin Counter #3
4. Total Plays
5. Total Replays (from match, replay levels, & new high score)
- *6. Replay Level #1
- *7. Replay Level #2
- *8. Replay Level #3
- *9. High Score to Date
10. Number of times high score to date has been exceeded
11. Number of credits on game
12. Number of times level #1 exceeded
13. Number of times level #2 exceeded
14. Number of times level #3 exceeded
-Credit Button.

*Reset to 100,000 by pressing reset switch on coin door or S-33 on MPU board, can be incremented 100,000 points for each depression of the credit button. Eliminating the 1st replay level eliminates all the replay levels because the 2nd level cannot be reached until the 1st level has been achieved, and the 3rd level cannot be reached until the 2nd level has been achieved.

V. GAME ADJUSTMENTS

A. PLAYFIELD ADJUSTMENTS

The right outlane openings are adjusted by moving the adjacent post back or forward in its slot. A smaller opening to the outlane will increase playing time and scoring.

B. VOLUME ADJUSTMENT

The volume control for the microprocessor sound unit is located on the Tilt Block assembly in the cabinet and may be accessed through the coin door. Turning the control clockwise increases volume, counter-clockwise decreases volume.

C. MPU SET UP SWITCHES

The MPU P.C. board has 32 set up switches that allow play to be customized to the location. The switches are contained in four switch packs numbered S1-8, S9-16, S17-24 and S25-32. Switch selectable options are credits per coin, tune options, maximum credits allowed, 3 or 5 balls per game option, replay of free ball award, match feature, and credits for exceeding high score.

CREDITS/COIN ADJUSTMENT

S9 through S12 select the credits per coin chute 2. Switch setting and resultant per coin as follows:

S9	S10	S11	S12	CREDITS/COIN
OFF	OFF	OFF	OFF	SAME AS COIN CHUTE # 1 SETTING
ON	OFF	OFF	OFF	1/1 COIN
OFF	ON	OFF	OFF	2/1 COIN
ON	ON	OFF	OFF	3/1 COIN
OFF	OFF	ON	OFF	4/1 COIN
ON	OFF	ON	OFF	5/1 COIN
OFF	ON	ON	OFF	6/1 COIN
ON	ON	ON	OFF	7/1 COIN
OFF	OFF	OFF	ON	8/1 COIN
ON	OFF	OFF	ON	9/1 COIN
OFF	ON	OFF	ON	10/1 COIN
ON	ON	OFF	ON	11/1 COIN
OFF	OFF	ON	ON	12/1 COIN
ON	OFF	ON	ON	13/1 COIN
OFF	ON	ON	ON	14/1 COIN
ON	ON	ON	ON	15/1 COIN

S1 through S5 select the credits per coin for chute 1. S17 through S21 select the credits per coin for coin chute 3. Switch setting and resultant credits per coin are identical for coin chutes 1 and 3 are as follows:

CREDITS/COIN ADJUSTMENTS						
COIN CHUTE		SWITCHES				CREDITS/COIN
#1————	1	2	3	4	5	
#3————	17	18	19	20	21	
	OFF	OFF	OFF	OFF	OFF	<u>3/2 COINS</u>
	ON	OFF	OFF	OFF	OFF	<u>3/2 COINS</u>
	OFF	ON	OFF	OFF	OFF	<u>1/1 COIN</u>
	ON	ON	OFF	OFF	OFF	<u>1/2 COINS</u>
	OFF	OFF	ON	OFF	OFF	<u>2/1 COIN</u>
	ON	OFF	ON	OFF	OFF	<u>2/2 COINS</u>
	OFF	ON	ON	OFF	OFF	<u>3/1 COIN</u>
	ON	ON	ON	OFF	OFF	<u>3/2 COINS</u>
	OFF	OFF	OFF	ON	OFF	<u>4/1 COIN</u>
	ON	OFF	OFF	ON	OFF	<u>4/2 COINS</u>
	OFF	ON	OFF	ON	OFF	<u>5/1 COIN</u>
	ON	ON	OFF	ON	OFF	<u>5/2 COINS</u>
	OFF	OFF	ON	ON	OFF	<u>6/1 COIN</u>
	ON	OFF	ON	ON	OFF	<u>6/2 COINS</u>
	OFF	ON	ON	ON	OFF	<u>7/1 COIN</u>
	ON	ON	ON	ON	OFF	<u>7/2 COINS</u>
	OFF	OFF	OFF	OFF	ON	<u>8/1 COIN</u>
	ON	OFF	OFF	OFF	ON	<u>8/2 COINS</u>
	OFF	ON	OFF	OFF	ON	<u>9/1 COIN</u>
	ON	ON	OFF	OFF	ON	<u>9/2 COINS</u>
	OFF	OFF	ON	OFF	ON	<u>10/1 COIN</u>
	ON	OFF	ON	OFF	ON	<u>10/2 COINS</u>
	OFF	ON	ON	OFF	ON	<u>11/1 COIN</u>
	ON	ON	ON	OFF	ON	<u>11/2 COINS</u>
	OFF	OFF	OFF	ON	ON	<u>12/1 COIN</u>
	ON	OFF	OFF	ON	ON	<u>12/2 COINS</u>
	OFF	ON	OFF	ON	ON	<u>13/1 COIN</u>
	ON	ON	OFF	ON	ON	<u>13/2 COINS</u>
	OFF	OFF	ON	ON	ON	<u>14/1 COIN</u>
	ON	OFF	ON	ON	ON	<u>14/2 COINS</u>
	OFF	ON	ON	ON	ON	<u>15/1 COIN</u>
	ON	ON	ON	ON	ON	<u>15/2 COINS</u>

OUTLANE SPECIAL

The game is designed to light the right outlane special light when the bonus multiplier reaches 5X or 10X

SPECIAL LITES AT	SW 6
*Lib 5X	ON
Cons 10X	OFF

* INDICATES FACTORY SETTING

RECALL BONUS MULTIPLIER

Switch # 7 selects whether bonus multiplier is held in memory.

	SW7
Lib YES	ON
*CONS NO	OFF

FREE PLAY OPTION

The game has provision for allowing free play.

FREE PLAY	S8
YES	ON
*NO	OFF

RECALL EXTRA BALL LANE

SW # 13 select whether the lit extra ball lane is held in memory.

EX BALL LANE	SW 13
Held in memory	ON
Not in memory	OFF

EXTRA BALL

S14 enables or disables the feature.

EXTRA BALL	S14
*YES	ON
NO	OFF

NUMBER OF SPECIALS PER GAME

SW #15 selects number of specials to one or two per game.

	SW 15
*2	ON
1	OFF

EXTRA BALL CONTROL

SW #16 controls extra ball lane.

	SW 16
*Lib on all the time	ON
Cons all on off	OFF

RECALL SPINNER VALUES

SW #22 whether spinner values are held in memory.

*Lib YES
Cons NO

SW 22

ON
OFF

BALLS PER GAME OPTION

BALLS PER GAME

5
*3
2
1

SWITCHES

24 23

ON ON
ON OFF
OFF ON
OFF OFF

SPINNER CONTROL

SW 25 select whether spinner value starts with 100 or 1000 points.

SW 25

*Lib 1000
Cons 100

YES
NO

MAXIMUM CREDITS

The maximum number of credits that will be accepted by the game either through the coin switch or replay award are controlled by S26 and 27. Switch settings are as follows.

MAXIMUM
CREDITS

*10
20
30
40

SWITCHES

27 26

OFF OFF
OFF ON
ON OFF
ON ON

REPLAY OR FREE BALL AWARD

The game is designed to award either a replay, free ball, 50,000 points or no award at three selectable score levels or through specials gained during the play of the game.

AWARD

*REPLAY
EXTRA BALL
50,000 PTS
NO AWARD

S29 S 28

ON ON
ON OFF
OFF ON
OFF OFF

MATCH FEATURE

When the match feature is ON, a random number appears in the ball in play display at game over. A replay is awarded if the number matches the tens digit in a player's score.

MATCH	S30
*YES	ON
NO	OFF

CREDITS FOR EXCEEDING HIGH SCORE

The game is designed to award replays for beating the previous high score to date. The winning score becomes the new high score to date.

CREDITS	S32	S31
0	OFF	OFF
1	OFF	ON
2	ON	OFF
*3	ON	ON

VI. ROUTINE MAINTENANCE ON LOCATION

The game is equipped with two separate diagnostic programs to aid in routine maintenance. The first test occurs automatically at power build up. The MPU board goes into its self-test routine, and upon successful completion plays the game over tune.

The second diagnostic program is accessed by depressing the test switch inside the front cabinet door.

NOTE: THE GAME MUST BE IN THE GAME OVER MODE.

1. Depress the test switch fifteen times to access the diagnostic routine. The score display will extinguish and all feature lamps will flash. Check for burned out lamps at this time.
2. Depress the test switch again to start the score display check-out. All digits except the units digits will count through 1-9.
3. Depress the test switch again to begin the solenoid checkout. Each solenoid will actuate individually and show its number on the score displays. Refer to table 1 of repair section for solenoid numbers.
4. Depress the test switch again to start the switch checkout. Any closed switch will show its number on the score display. Refer to table 2 of the repair section for switch numbers.

NOTE: THE BALL SHOULD NOT BE IN THE OUTHOLE DURING THIS TEST.

Depressing the test switch again puts the game back in the game over mode. The diagnostic routine should be exercised on a regular basis to ensure proper operation of the game.

REPAIR

I. INTRODUCTION

Repair of the game on location is by printed circuit board, solenoid, switch, or lamp replacement, or by cable harness repair. No special tools or equipment are required other than a standard soldering iron, hand tools and volt/ohmmeter.

Troubleshooting faults in the game is aided by the use of the two built in diagnostic routines. The first test is initiated automatically at power up as the MPU board exercises its self diagnostic routine. As each section of the MPU board is checked, the red LED located near the top of the board flashes for successful completion of each test. After six flashes, the game over tune plays to indicate correct MPU operation.

The second diagnostic program is entered by pressing the test switch inside the front cabinet door. Pressing the test switch 15 times will step through all the accounting functions and put the game into the diagnostic program. All feature lamps should flash. Pressing the test switch again causes the display to sequence from 0 through 9. Pressing the switch again causes all the solenoids to sequence. Refer to table 1 for solenoid numbers. Pressing the switch again causes closed switch to be displayed. Refer to table 2 for switch numbers. Pressing the test switch again will put the game back in the game over mode.

II. MODULE REPLACEMENT DIAGNOSTICS

SYMPTOM 1. Power up LED does not flash 6 times. General illumination lamps do not light.

CAUSE

PROCEDURE

A. Power Supply Incorrect

Refer To Power Supply
Diagnostics.

SYMPTOM 2. Power up LED does not flash 6 times. General illumination lamps do light.

<u>CAUSE</u>	<u>PROCEDURE</u>
A. +5V Incorrect	Measure +5V $\pm$.25V at TP1 of MPU board. If incorrect refer to power supply diagnostics.
B. 24VDC Incorrect	Measure 24VDC $\pm$ 6V at J1-3 of MPU Board. If incorrect refer to power supply diagnostics. If correct replace MPU Board.

SYMPTOM 3. Power up LED flashes 6 times, game over tune does not play correctly.

<u>CAUSE</u>	<u>PROCEDURE</u>
A. Incorrect output from MPU Board.	Replace MPU Board
B. Faulty Sound Board	Replace Sound Board

SYMPTOM 4. One or more but less than 15 feature lamps do not light.

<u>CAUSE</u>	<u>PROCEDURE</u>
A. Burned Out Bulb	Replace bulb
B. Faulty lamp driver board	Replace lamp driver board

SYMPTOM 5. More than 15 lamps do not light.

<u>CAUSE</u>	<u>PROCEDURE</u>
A. Faulty Lamp Driver Board	Replace Lamp Driver Board

SYMPTOM 6. One display board shows incorrect data during sequencing.

CAUSE

PROCEDURE

A. Faulty Display Board Replace Display Board

B. Faulty MPU Board Output Replace MPU Board

SYMPTOM 7. All display boards show incorrect data during sequencing.

CAUSE

PROCEDURE

A. Faulty MPU Board Output Replace MPU Board

SYMPTOM 8. One solenoid does not operate.

CAUSE

PROCEDURE

A. Faulty Solenoid Replace Solenoid

B. Faulty Solenoid Driver Board Replace Solenoid Driver

SYMPTOM 9. More than one solenoid does not operate.

CAUSE

PROCEDURE

A. Faulty Solenoid Driver Board Replace Solenoid Driver Board

B. Faulty MPU Board Output Replace MPU Board

SYMPTOM 10. None of the solenoids operate.

CAUSE

PROCEDURE

A. +24V missing at solenoids Check +24V at solenoids

If incorrect look for broken wire between +24V at power supply and solenoids and refer to power supply diagnostics.

CAUSE

PROCEDURE

B. +5V missing at solenoid driver board

Check +5 at solenoid driver board. If incorrect look for broken wire between +5V at power supply and solenoid driver board.

C. Faulty solenoid driver board Replace solenoid driver Board

SYMPTOM 11. Switch always closed.

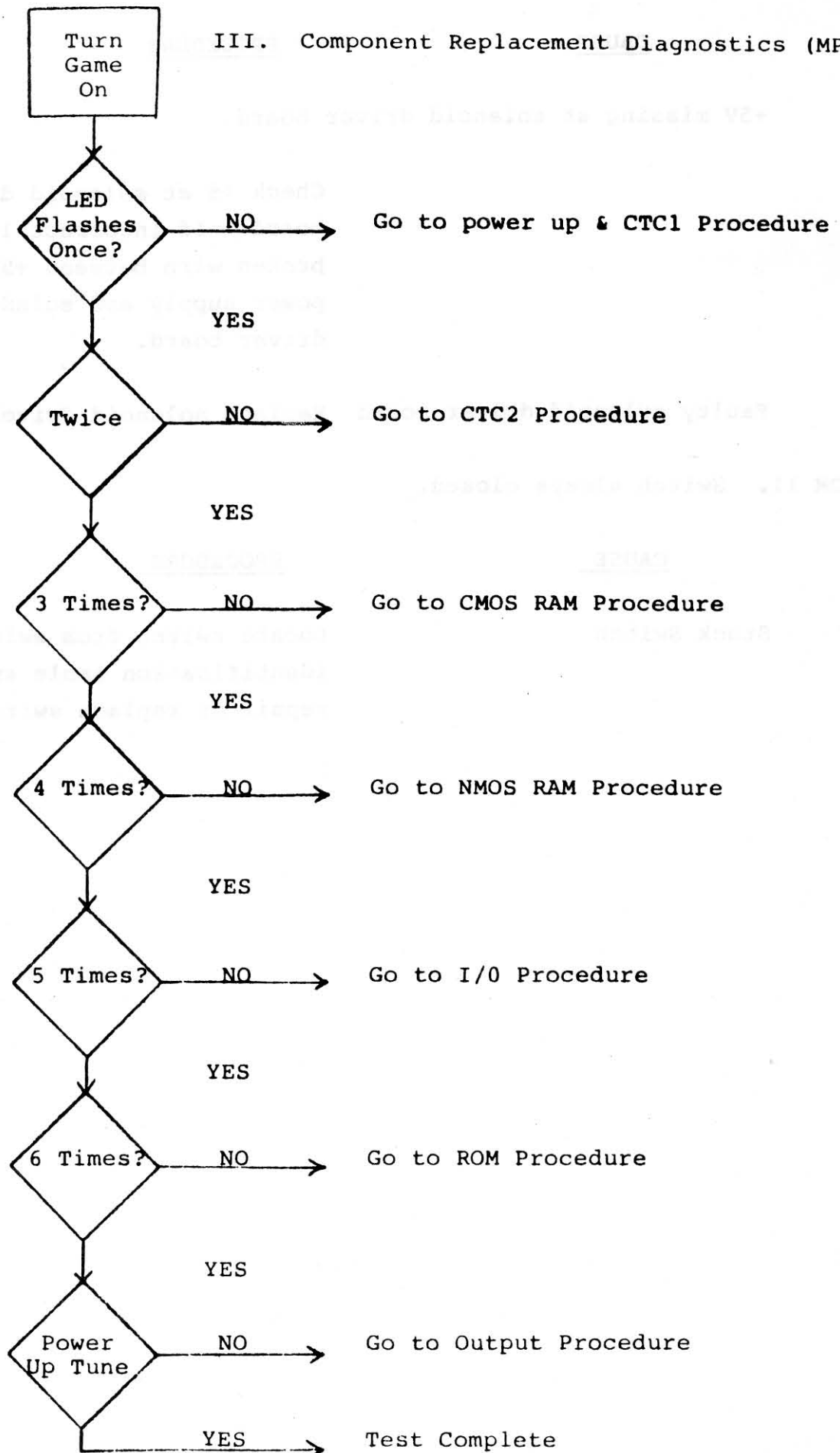
CAUSE

PROCEDURE

A. Stuck Switch

Locate switch from switch identification table and repair or replace switch.

III. Component Replacement Diagnostics (MPU Board)



COMPONENT REPLACEMENT

A. Power Up and CTC1 Procedure

<u>CAUSE</u>	<u>PROCEDURE</u>
+5V Incorrect	Measure +5V $\pm$.25V at TP1 of MPU board. If incorrect refer to power supply diagnostics.
+24VDC Incorrect	Measure +24VDC $\pm$ 6V at J1-3 of MPU board. If incorrect refer to power supply diagnostics.
Reset Incorrect	1. Check for positive reset pulse at pin 35 of U17. If incorrect and negative reset pulse is present at TP4, replace QC. If no negative reset pulse is present at TP4, trace back through QD, QA, QB, U5 and U3 for defect. 2. Check for negative reset pluse at pin 17 of U10 and pin 26 of U11. If one or both are incorrect and a negative reset pulse is present at TP4, look for open or shorted foil run.

If both are incorrect and no negative reset pulse present at TP4, trace back through QD, QA, QB, U5 and U3 for defect.

Oscillator Incorrect

Check TP5 for a square wave with a period of about 400ns. If Incorrect trace back through U3 to the crystal.

LED Circuit Defective

Check for positive pulse at base of QE. If present replace QE. If operation still incorrect replace LED.

U10, U11, U17, U6, U7,
U8, U12, U13, U26, U24,
U25, U4, U3, or U9 defect-
ive.

Replace one at a time with known good parts until fault is cleared.

B. CTC2 PROCEDURE

CAUSE

PROCEDURE

CTC zero cross over input incorrect. Check pin 21 or U10 for positive zero cross over pulse. If incorrect trace back through U3 and U2.

U10 Defective

Replace U10 with known good I.C.

U3 Defective

Replace U3 with a known
good I.C.

U11, U6, U7, U8, U12,
U13, U26 or U17 defective

Replace one at a time with
known good parts until
fault is cleared.

C. CMOS RAM Procedure

CAUSE

PROCEDURE

CMOS RAM Defective

Replace U6 and U7, one at
a time.

CMOS Gate Defective

Replace U9.

D. NMOS RAM Procedure

CAUSE

PROCEDURE

NMOS RAM Defective

Replace U8

NMOS RAM Chip Select Defective

Replace U5 and U24, one at a
Time.

E. I/O Procedure

CAUSE

PROCEDURE

I/O Defective

Replace U17

I/O chip select gate defective

Replace U4

F. ROM Procedure

CAUSE

PROCEDURE

ROM Defective

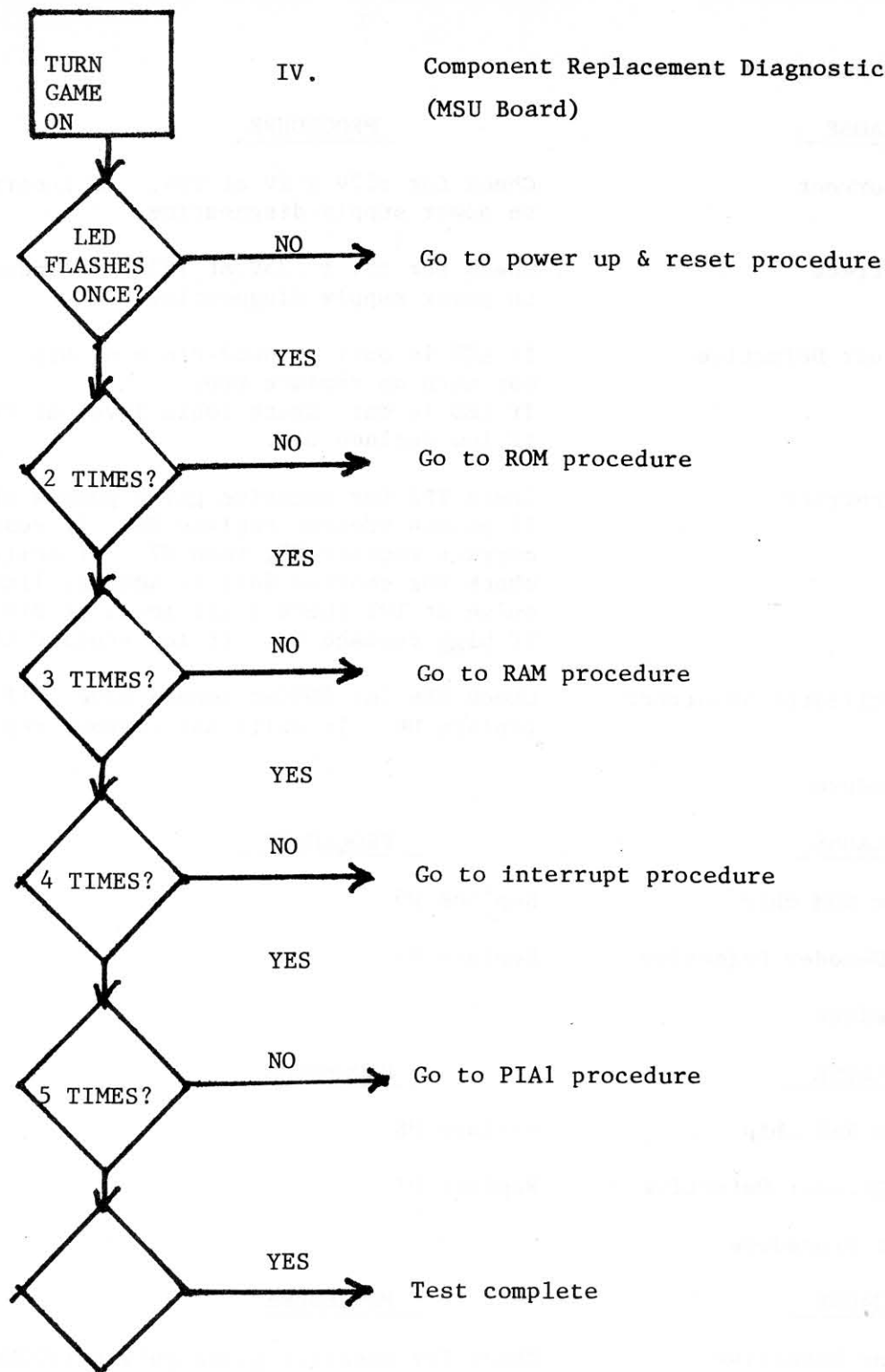
Replace U12, U13 and U26, one
at a time

G. OUTPUT PROCEDURE

<u>CAUSE</u>	<u>PROCEDURE</u>
U14, U16, U20, U21, U15, U19, U22, U18 or U23 Defective	Replace on at a time with known good parts.

IV.

Component Replacement Diagnostics
(MSU Board)



A. Power Up and Reset Procedure

<u>CAUSE</u>	<u>PROCEDURE</u>
±12V Incorrect	Check for $\pm 12V \pm 2V$ at TP4. If incorrect refer to power supply diagnostics.
±5V Incorrect	Check for $\pm 5V \pm .25V$ at TP3. If incorrect refer to power supply diagnostics.
LED Circuit Defective	If LED is out: Ground Pin 8 of U16. If LED does not turn on replace LED. If LED is on: Check logic level at Pin 9 of U16. If low replace U16.
Reset Incorrect	Check TP2 for negative going pulses at 10Hz Rate. If pulses present replace U6. If reset still not correct replace U9, then U7. If still incorrect check for shorted data or address lines, If no pulse at TP2 check logic level at Pin 4 of U4. If high replace U8. If low replace U4.
Clock Oscillator Incorrect	Check TP6 for 900KHz square wave. If not present replace U6. If still not correct replace crystal.

B. ROM Procedure

<u>CAUSE</u>	<u>PROCEDURE</u>
Defective ROM chip	Replace U9
Address Decoder Defective	Replace U7

C. RAM Procedure

<u>CAUSE</u>	<u>PROCEDURE</u>
Defective RAM chip	Replace U8
Address Decoder Defective	Replace U7

D. Interrupt Procedure

<u>CAUSE</u>	<u>PROCEDURE</u>
Oscillator Defective	Check for negative going pulses (400Hz Rate) at TP5. If no pulses present replace U1.
PIA1 Defective	Check for pulses at Pin 18 of U5. If present replace U5.

E. PIA1 Procedure

<u>CAUSE</u>	<u>PROCEDURE</u>
Improper Input from MPU	Unplug J1 of MSU board. If problem corrected refer to MPU diagnostics.
PIA defective	Replace U5
Address Decoder Defective	Replace U7

V. Power Supply Diagnostics

CAUTION: The power supply contains dangerous voltage levels. Use extreme caution while troubleshooting.

SYMPTOM 1. +5V incorrect, +12V incorrect

<u>CAUSE</u>	<u>PROCEDURE</u>
Defective +5V regulator	Change LM323 with known good.

SYMPTOM 2. +5V incorrect, +12V incorrect

<u>CAUSE</u>	<u>PROCEDURE</u>
Fuse Blown (+12V)	Replace fuse check 10.5 VAC input to bridge. If correct, replace bridge with known good. If +5V and +12V still do not come up, replace 11,000 MF Capacitor.
Defective Bridge	

SYMPTOM 3. +5 and +12V incorrect
+24V incorrect.

<u>CAUSE</u>	<u>PROCEDURE</u>
Fuse blown (28VAC) on power supply defective bridge.	Replace fuse check 28VAC. If correct replace bridge with known good part.
Playfield fuse blown	Replace Fuse.

SYMPTOM 4. +5, +12, +24V correct, +7V incorrect

<u>CAUSE</u>	<u>PROCEDURE</u>
Fuse Blown (8VAC)	Replace Fuse.
defective bridge	Check 8 VAC. If correct, replace bridge with known good part.

SYMPTOM 5. AC voltage incorrect on one or more, but not all secondary windings.

<u>CAUSE</u>	<u>PROCEDURE</u>
Defective Transformer Winding	Remove fuse from defective secondary. If voltage still incorrect replace transformer. If voltage comes up, disconnect all PC boards that the winding goes to, reinsert fuse and plug PC boards back until defect reappears.

SYMPTOM 6. No secondary AC voltage at transformer, primary voltage correct.

<u>CAUSE</u>	<u>PROCEDURE</u>
Defective Transformer	Replace with known good transformer.

VI. SOLENOID AND SWITCH IDENTIFICATION

A. TABLE 1.

SOLENOID IDENTIFICATION

The solenoid checkout section of the diagnostic routine actuates each solenoid on the playfield. The solenoid number is shown in each display as the solenoid is being actuated. The following list identifies each solenoid by number:

OUT HOLE # 2 RIGHT.....	01
OUT HOLE # 1 LEFT.....	02
EJECT HOLE.....	03
TOP LEFT BUMPER.....	04
TOP RIGHT BUMPER.....	05
MIDDLE BUMPER.....	06
SINGLE DROP TARGET.....	07
DROP BANK.....	08
BOTTOM BUMPER.....	09
SLINGSHOT.....	10
KNOCKER.....	11
BRIGHT LIGHTS.....	12
NOT USED.....	13
NOT USED.....	14
GENERAL ILLUMINATION RELAY.....	15
FEATURE LAMPS.....	16

SWITCH IDENTIFICATION

B. TABLE 2

In the switch checkout section of the diagnostic routine the number of the closed switch is shown in each display. Closing any switch causes its number to be displayed. The following list identifies each switch by number.

SWITCH FUNCTION

NONE CLOSED.....	00
ACCOUNTING RESET.....	01
CREDIT BUTTON.....	02
SLAM SWITCH.....	03
SPINNER.....	04
COIN CHUTE 2.....	05
COIN CHUTE 3.....	06
COIN CHUTE 1.....	07
TILT SWITCH.....	08
10 POINT REBOUNDS.....	09
OUTHOLE #2 RIGHT.....	10
OUTHOLE #1 LEFT.....	11
BUMPER TOP LEFT.....	12
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