

OPERATING INSTRUCTIONS

CONFIDENTIAL: DO NOT LEAVE INSTRUCTIONS IN GAME

Bally®

TURF KING

NOTES

TURF KING

INSTALLATION AND OPERATING INSTRUCTIONS

Remove 3 Bolts (tagged) that hold mechanism shelf stationary while in transit. Remove screw (tagged) that holds back-box while in transit. Remove wood plug which holds Shuffle-Panel stationary while in transit. Place back-box in position and fasten with 4 bolts furnished. Fasten plug mounting-board with turn catches and plug in connectors. Install levelers in base of cabinet and adjust as indicated in FIG. 1 on Page 284. Place ball or balls in game. Plug power cord into A.C. ONLY, 60 CYCLES, 115 VOLTS. Turn on Toggle Switch located at lower right side of back-box.

TO REPLACE LIGHT BULBS IN BACK-BOX

Unlock lock on right side of back-box (as you face machine). Entire back-glass frame may then be swung open to the left for easy access to light bulbs.

TO SERVICE BACK-BOX INSERT

Unlock back-box as explained under heading TO REPLACE LIGHT BULBS IN BACK-BOX. Then loosen screws holding slide clamps in upper corners of insert. Push slide clamps up. Insert may then be pulled forward for convenient access or may be lifted out of hinges and laid face down for complete access.

TO SERVICE MAIN MECHANISM BOARD

Remove bolts that hold mechanism board, as mentioned in first paragraph, pull board part way out and lower supporting leg which is latched up underneath board. NOTE: DO NOT PULL BEYOND LENGTH OF DOOR AND CABINET CABLE as this will damage connectors. Disconnect both plugs before pulling board completely out.

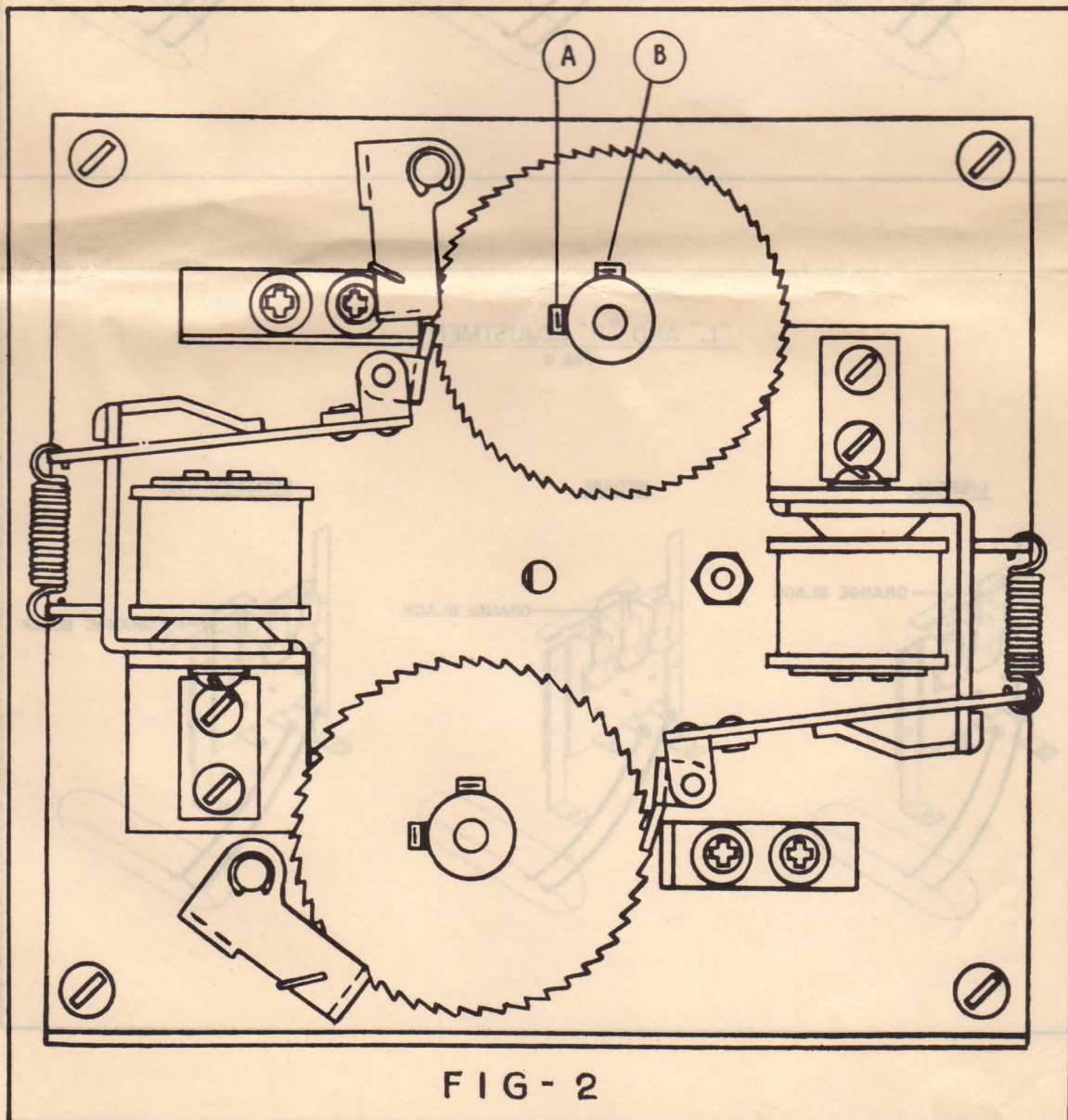
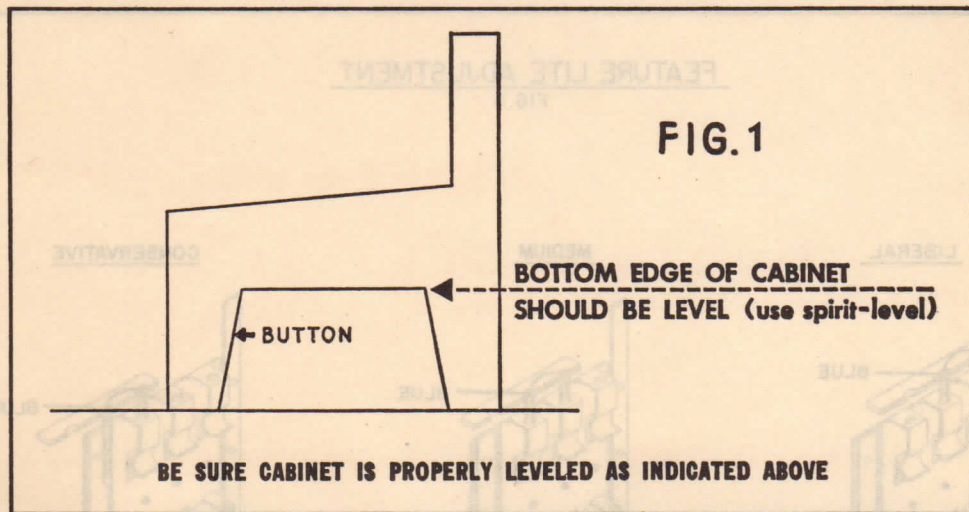
GAME PROPORTIONING

OVERALL PROPORTIONING of game to maintain a maximum amount of play is the function of the REFLEX UNIT which is located on the mechanism board. Two additional ratchets are supplied if the type of play in some locations require a change. See FIG. 2 on page 284 for location of set screws (A and B) for fastening ratchets.

FEATURE LIGHT PROPORTIONING

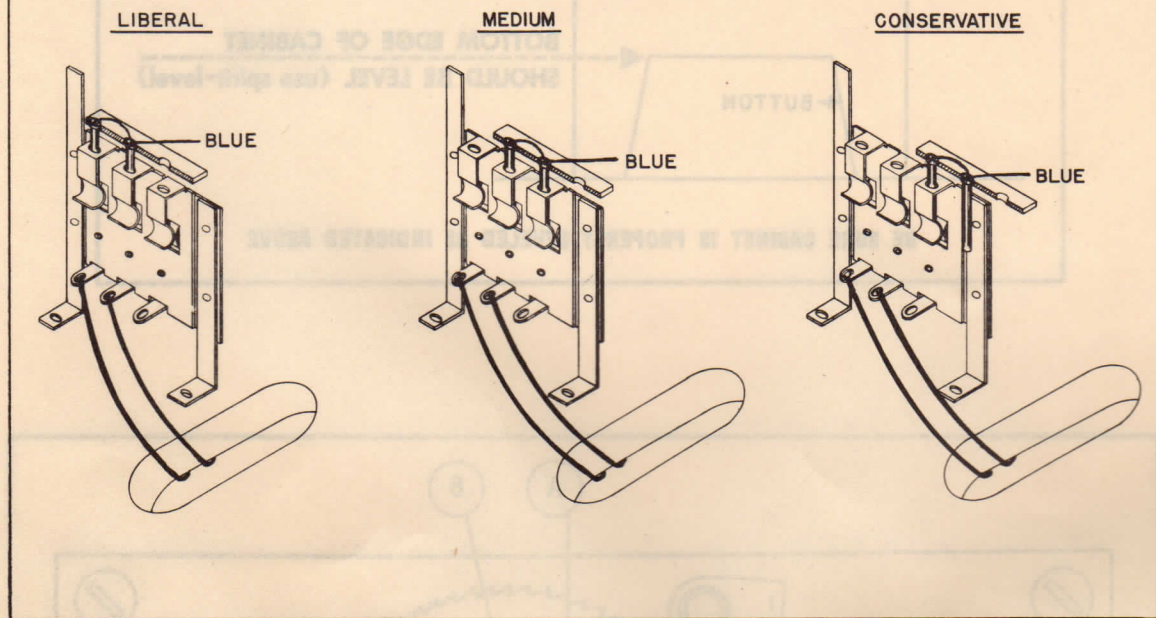
Feature may be operated at one of 3 degrees of liberality. Feature Contact Plug is located directly behind Control Unit Disc No. 2 (SEE FIG. 3 on page 285).

(CONTINUED ON PAGE 288)



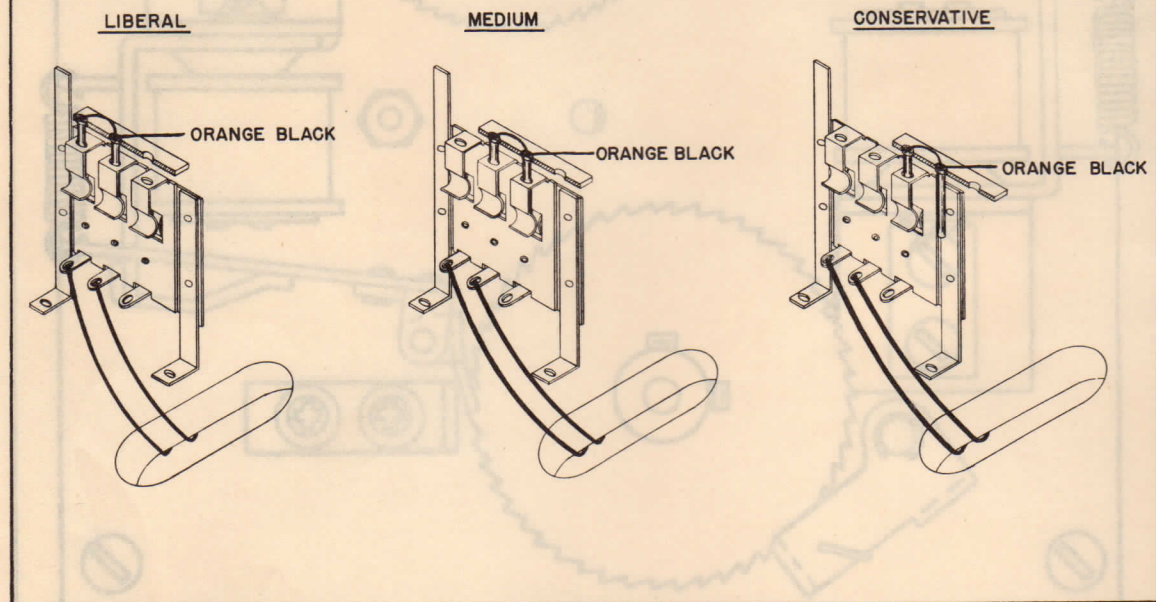
FEATURE LITE ADJUSTMENT

FIG. 3



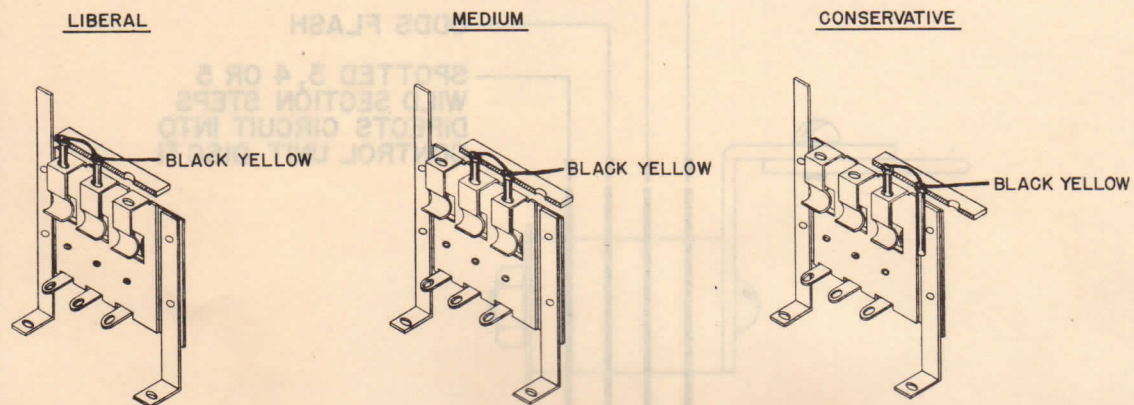
"L" AND "R" ADJUSTMENT

FIG. 4



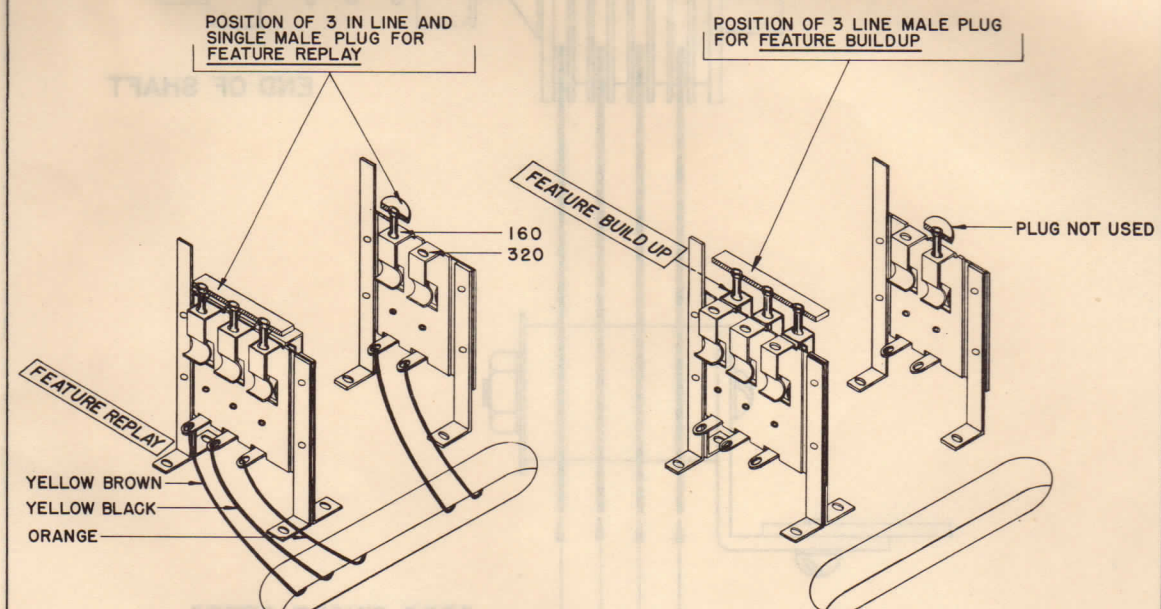
FEATURE STEP RATE ADJUSTMENT

FIG. 5



FEATURE CHANGE OVER

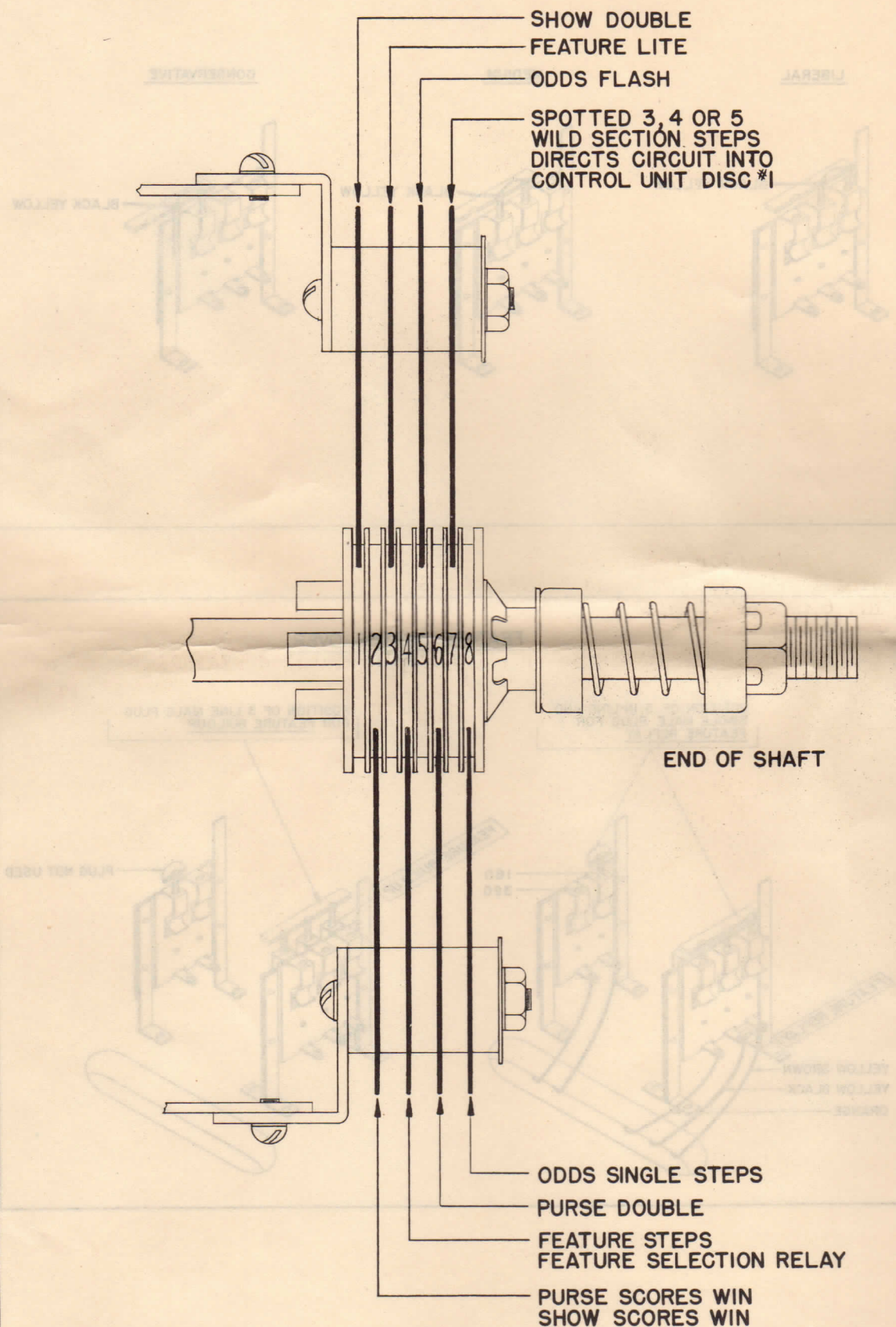
FIG. 6



CORRECT POSITION OF FEED WIRES ON CONTROL

UNIT DISC #2

TOP VIEW



"L" AND "R" LIGHT PROPORTIONING

"L" and "R" may be operated at one of 3 degrees of liberality. "L" and "R" contact plug is located behind Control Unit Disc No. 2 and next to Feature Plug (SEE FIG. 4 on page 285).

FEATURE OPERATION

Feature may be operated on a build-up basis with each step on the FEATURE DIAL representing 20 replays; or Feature may be operated with a flat 160 or 320 replays, which would of course register on REPLAY UNIT.

FEATURE DIAL STEPS

The frequency of stepping the FEATURE UNIT is adjustable. The FEATURE STEP RATE Plug is located in the center of the mechanism board to the right of the Mixer Unit. The stepping frequency may be adjusted to 3 different stepping rates. (See FIG. 5 on page 286).

FEATURE CHANGE-OVER PLUG

Change-over from build-up to FLAT FEATURE AWARD is by means of a 6 point female plug located between ODDS UNIT and PAYOUT COUNTER. (See FIG. 6 on page 286).

When 3-in-line MALE is on side of plug labeled FEATURE REPLAY and single jack-plug is in RED-BLACK wire on 2-point female, Feature is set for 160 replays when feature is hit. When single jack-plug is moved to RED-WHITE wire, feature is set for 320 replays when feature is hit.

For Feature build-up operation, simply move male plug to side labeled Feature Build-up.

When operating Feature on Replay basis, open the switch on Feature Unit with the black-yellow and orange-green wires. Feature Unit will then not operate. If desired, a small piece of white paper may be fastened to back of back-glass by means of scotch tape to close feature window.

FEATURE SCORE CARDS

Be sure to use correct card on lower right hand arch, depending on type of Feature game is set for.

FEATURE METER

Feature Meter is directly inside Front Door on mechanism shelf. Meter registers once for each step of Feature Dial. Meter should be checked to determine amount to which location is entitled as reimbursement for Feature Awards, when operating Feature on a build-up basis.

(CONTINUED ON PAGE 289)

Subtract meter reading at previous collection from meter reading at present collection to find number of points Feature Dial has stepped up since previous collection. Then subtract Feature points showing on Feature Dial to find number of Feature points actually redeemed since previous collection.

FEATURE RESET

When game is operated with BUILD-UP Feature or replays are not automatic, location attendant must supply coins to play replays.

After FEATURE is hit, location attendant must press reset button on left-side of front of cabinet. (See FIG. 1 on page 284).

REPLAY RESET BUTTON

Replay reset button is located at point indicated on FIG. 1 (right side).

When merchant redeems replays, merchant should reset replay score recorder to zero by pushing reset button.

REMOTE CONTROL RESET

Replays may be reset by remote control, if desired. A 2-point terminal-strip is provided on the plug mounting-board in back of game. Operator may attach 2 wires to 2-point strip, lead wires to convenient point in location and attach a push button switch to opposite end of wires. Replay recorder may then be reset by remote control.

REPLAY METER

Replay meter is directly inside front door on mechanism board. Collector should keep a record of meter readings and meter should be checked to determine amount location should receive as reimbursement for replays redeemed. Simply subtract reading of previous collection from reading of present collection.

5-BALL PLAY

1. Raise glass frame. Note screw and small sliding-plate in back end of Skill Lane. Loosen (BUT DO NOT REMOVE) screw.
2. Push sliding-plate toward back end of game, allowing brass rivet to spring through metal plate in bottom of Skill Lane.
3. Tighten screw again to hold sliding-plate in 5-Ball position.
4. Remove rubber bumper guarding entrance to Skill Lane and replace with gate furnished with machine. (Holes for fastening gate are drilled in arch directly above Skill Lane.)
5. Place proper 5-Ball instruction cards on front arch and place total of 5 balls in game.

TURF KING

10 BANK RELAY CHART (MECHANISM BOARD)

SWITCHES ARE NUMBERED FROM FRONT END OF RELAY

CODE

N.C. NORMALLY CLOSED
N.O. NORMALLY OPEN
M.B.B. MAKE BEFORE BREAK
S.P.D.T. ... SINGLE POLE DOUBLE THROW

RELAY SWITCH	SWITCH CODE	WIRE NO.	WIRE COLORS	FUNCTION OF SWITCHES
REPLAY RESET		45-2 70	Green-White Orange	Operates when REPLAY RESET BUTTON is operated or A.C. cord is removed from outlet, and then plugged in.
1	N.O.	41-5 45-2	Green-Red Green-White	Lock-in switch for REPLAY RESET RELAY.
2	S.P.D.T.	25-2 61-7 52-9	Blue-White Brown-Red White-Blue	Completes circuit normally to CAM #5A or, when relay is energized, to CAM SWITCH #11A.
3	N.O.	90 60	Gray Brown	Operates CONTROL UNIT MOTOR.
4	N.C.	51-3 75-1	White-Red Orange-White	In series with START RELAY COIL.
A.C. RELAY		60 70	Brown Orange	Operates when SHUTTER MOTOR SWITCH is closed. The switches of this relay are used as cheat preventives.
1	N.C.	41-5 45-2	Green-Red Green-White	Energizes REPLAY RESET RELAY when A.C. RELAY drops out.
2	N.O.	60 50	Brown White	Lock-in switch for A.C. RELAY.
3	N.O.	51-6 10-4	White-Red Red	Breaks 17 volt circuit when this relay is de-energized.
4	N.O.	38 56	Yellow-Black White-Brown	Breaks 6 volt tap on 17 volt winding when this relay is de-energized.
5	N.C.	90 20	Gray Blue	In parallel with ball switch; it will allow SHUTTER MOTOR to operate if A.C. RELAY is de-energized.
START RELAY		30-6 70	Yellow Orange	Operates when coin is inserted or by any of five buttons when replays are registered.
1	N.O.	81-1 51-3	Black-Red White-Red	Lock-in switch for START RELAY.
2	N.O.	27-4 50	Blue-Orange White	Operates CONTROL UNIT TIMING CAM INDEX COIL and CONTROL FACTOR LATCH MAGNET.
3	N.O.	10 20	Red Blue	Operates SHUTTER MOTOR when ball is <u>not</u> on BALL SWITCH.
4	N.O.	78-3 91-3	Orange-Black Gray-Red	Operates PLAY ALL RELAY when PLAY ALL BUTTON is actuated.
PLAY ALL RELAY		91-3 20	Gray Blue	Operates when PLAY ALL BUTTON is pushed.
1	N.O.	25-7 51-6	Blue-White Gray-Red	Lock-in switch for PLAY ALL RELAY; in series with CAM SWITCH #1A.
2	N.O.	43-1 56-1	Green-Yellow White-Brown	Allows STAR RELAY to energize during spin of CONTROL UNIT DISCS #1 and #2.
3	N.O.	43-1 81-2	Green-Yellow Black-Red	Allows HORSESHOE RELAY to energize during spin of CONTROL UNIT DISCS #1 and #2.
4	N.O.	43-1 15-7	Green-Yellow Red-White	Allows CLOVER RELAY to energize during spin of CONTROL UNIT DISCS #1 and #2.
5	N.C.	98-3 54-5	Gray-Black White-Green	Game proportioning circuit; in parallel with circuit in CONTROL FACTOR DISC #4.
6	S.P.D.T.	48-1 21-4 57-2	Green-Black Blue-Red White-Orange	Modulates ODDS ADVANCE when PLAY ALL BUTTON is in affect.
7	N.O.	14-8 20	Red-Green Blue	Feeds common wire to STAR, HORSESHOE, CLOVER and PENNANT RELAYS.
STAR RELAY		56-1 14-8	White-Brown Red-Green	Operates when playing STAR BUTTON or PLAY ALL BUTTON.
1	N.O.	63-3 31	Brown-Yellow Yellow-Red	Operates ODDS EXTRA STEP INDEX; in series with CAM SWITCH #4B.
2	N.O.	18-6 13-6	Red-Black Red-Yellow	Completes circuit to CONTROL UNIT DISC #2 for flashing ODDS LIGHTS during spin.
3	N.O.	45-4 74-4	Green-White Orange-Green	Completes circuit to CONTROL UNIT DISC #2, which selects PURSE SCORES WIN or SHOW SCORES WIN.
4	N.O.	53-4 43-3	White-Yellow Green-Yellow	Completes circuit to CONTROL UNIT DISC #2, which selects ODDS ADVANCE CIRCUITS.
5	S.P.D.T.	78-4 48-1 57-2	Orange-Black Green-Black White-Orange	Prepares circuit for guaranteed steps to 24 odds when STAR BUTTON is played.
6	S.P.D.T.	56-1 83-2 61	White-Brown Black-Yellow Brown-Red	Lock-in switch for STAR RELAY; also acts as a safety to other 3 player-advantages.
7	N.O.	41-5 51-3	Green-Red White-Red	Operates START RELAY when STAR BUTTON is played.
HORSESHOE RELAY		81-2 14-8	Black-Red Red-Green	Operates when playing HORSESHOE BUTTON or PLAY ALL BUTTON.
1	N.C.	85-4 36-9	Black-White Yellow-Brown	Game proportioning circuit; in parallel with circuit in CONTROL FACTOR DISC #4.
2	N.O.	83-5 13-8	Black-Yellow Red-Yellow	Prepares circuit to CONTROL UNIT INDEX COIL #1; in series with CAM SWITCH #4A.
3	N.O.	54-5 13-4	White-Green Yellow-Black	Completes circuits to CONTROL UNIT DISC #2, which selects extra selections and wild steps.
4	N.O.	41-5 51-3	Green-Red White-Red	Operates START RELAY when HORSESHOE BUTTON is played.
5	S.P.D.T.	81-2 61 48	Black-Red Brown-Red Green-Black	Lock-in switch for HORSESHOE RELAY; also acts as a safety to other 3 player advantages.
6	N.C.	27-6 31-6	Blue-Orange Yellow-Red	Game proportioning circuit; in parallel with circuit in CONTROL FACTOR DISC #4.
7	N.C.	23-4 40-4	Blue-Yellow Green	Game proportioning circuit; in parallel with circuit in CONTROL FACTOR DISC #4.
CLOVER RELAY		13-3 14-8	Red-Yellow Red-Green	Operates when playing CLOVER BUTTON or PLAY ALL BUTTON.
1	S.P.D.T.	13-3 48 45-9	Red-Yellow Green-Black Green-White	Lock-in switch for CLOVER RELAY; also acts as a safety to other 3 player-advantages.
2	N.O.	23-7	Blue-Yellow	Additional proportioning when purse is wild while playing for double.

PLAY ALL RELAY		20	Blue	Operates when PLAY ALL BUTTON is pushed.
1	N.O.	25-7 51-6	Blue-White Gray-Red	Lock-in switch for PLAY ALL RELAY; in series with CAM SWITCH #1A.
2	N.O.	43-1 56-1	Green-Yellow White-Brown	Allows STAR RELAY to energize during spin of CONTROL UNIT DISCS #1 and #2.
3	N.O.	43-1 81-2	Green-Yellow Black-Red	Allows HORSESHOE RELAY to energize during spin of CONTROL UNIT DISCS #1 and #2.
4	N.O.	43-1 15-7	Green-Yellow Red-White	Allows CLOVER RELAY to energize during spin of CONTROL UNIT DISCS #1 and #2.
5	N.C.	98-3 54-5	Gray-Black White-Green	Game proportioning circuit; in parallel with circuit in CONTROL FACTOR DISC #4.
6	S.P.D.T.	48-1 21-4 57-2	Green-Black Blue-Red White-Orange	Modulates ODDS ADVANCE when PLAY ALL BUTTON is in affect.
7	N.O.	14-8 20	Red-Green Blue	Feeds common wire to STAR, HORSESHOE, CLOVER and PENNANT RELAYS.
STAR RELAY		56-1 14-8	White-Brown Red-Green	Operates when playing STAR BUTTON or PLAY ALL BUTTON.
1	N.O.	63-3 31	Brown-Yellow Yellow-Red	Operates ODDS EXTRA STEP INDEX; in series with CAM SWITCH #4B.
2	N.O.	18-6 13-6	Red-Black Red-Yellow	Completes circuit to CONTROL UNIT DISC #2 for flashing ODDS LIGHTS during spin.
3	N.O.	45-4 74-4	Green-White Orange-Green	Completes circuit to CONTROL UNIT DISC #2, which selects PURSE SCORES WIN or SHOW SCORES WIN.
4	N.O.	53-4 43-3	White-Yellow Green-Yellow	Completes circuit to CONTROL UNIT DISC #2, which selects ODDS ADVANCE CIRCUITS.
5	S.P.D.T.	78-4 48-1 57-2	Orange-Black Green-Black White-Orange	Prepares circuit for guaranteed steps to 24 odds when STAR BUTTON is played.
6	S.P.D.T.	56-1 83-2 61	White-Brown Black-Yellow Brown-Red	Lock-in switch for STAR RELAY; also acts as a safety to other 3 player-advantages.
7	N.O.	41-5 51-3	Green-Red White-Red	Operates START RELAY when STAR BUTTON is played.
HORSESHOE RELAY		81-2 14-8	Black-Red Red-Green	Operates when playing HORSESHOE BUTTON or PLAY ALL BUTTON.
1	N.C.	85-11 36-9	Black-White Yellow-Brown	Game proportioning circuit; in parallel with circuit in CONTROL FACTOR DISC #4.
2	N.O.	83-5 13-8	Black-Yellow Red-Yellow	Prepares circuit to CONTROL UNIT INDEX COIL #1; in series with CAM SWITCH #4A.
3	N.O.	54-5 13-4	White-Green Yellow-Black	Completes circuits to CONTROL UNIT DISC #2, which selects extra selections and wild steps.
4	N.O.	41-5 51-3	Green-Red White-Red	Operates START RELAY when HORSESHOE BUTTON is played.
5	S.P.D.T.	81-2 61 48	Black-Red Brown-Red Green-Black	Lock-in switch for HORSESHOE RELAY; also acts as a safety to other 3 player advantages.
6	N.C.	27-6 31-6	Blue-Orange Yellow-Red	Game proportioning circuit; in parallel with circuit in CONTROL FACTOR DISC #4.
7	N.C.	23-4 40-4	Blue-Yellow Green	Game proportioning circuit; in parallel with circuit in CONTROL FACTOR DISC #4.
CLOVER RELAY		13-3 14-8	Red-Yellow Red-Green	Operates when playing CLOVER BUTTON or PLAY ALL BUTTON.
1	S.P.D.T.	13-3 48 45-9	Red-Yellow Green-Black Green-White	Lock-in switch for CLOVER RELAY; also acts as a safety to other 3 player-advantages.
2	N.O.	23-7 81-3	Blue-Yellow Black-Red	Additional proportioning when purse is wild while playing for double.
3	N.O.	41-5 51-3	Green-Red White-Red	Operates START RELAY when CLOVER BUTTON is played.
4	N.O.	31-6 14-7	Yellow-Red Red-Green	Prepares circuit to CONTROL UNIT DISC #2 for selecting PURSE or SHOW DOUBLE.
PENNANT FEATURE RELAY		21-1 14-8	Blue-Red Red-Green	Operates when PENNANT BUTTON is played.
1	N.O.	20-1 15-11	Blue Red-White	Shunts out circuit through CONTROL FACTOR DISC #3 and #4 to FEATURE SELECTION RELAY.
2	N.O.	48-5 60	Green-Black Brown	Holds PURSE and SHOW DOUBLE RELAYS when PENNANT BUTTON is played.
3	N.O.	41-5 51-3	Green-Red White-Red	Operates START RELAY when PENNANT BUTTON is played.
4	N.C.	38-9 36-7	Yellow-Black Yellow-Brown	Cuts off circuit to REFLEX PLAY MAGNET when feature is on build-up basis.
5	S.P.D.T.	21-1 45-9 78-3	Blue-Red Green-White Orange-Black	Lock-in switch for PENNANT FEATURE RELAY; also acts as safety for other 3 player-advantages.
6	N.O.	53 81	White-Yellow Black-Red	Increases frequency of PENNANT LIGHT when PENNANT BUTTON is played.
MIXER RELAY		21-5 70	Blue-Red Orange	Operates progressively less as odds are increased.
1	N.C.	60 15-8	Brown Red-White	Completes circuit to step-off CONTROL UNIT INDEX #1.
2	N.O.	81-4 27-6	Black-Red Blue-Orange	In PURSE DOUBLE and SHOW DOUBLE CIRCUIT.
3	N.O.	65-5 83-4	Brown-White Black-Yellow	Key switch to SELECTION RELAYS #3, #4 and #5, also to WILD SECTION CIRCUIT.
4	N.O.	75-4 45-4	Orange-White Green-White	In PURSE SCORES WIN and SHOW SCORES WIN CIRCUIT.
ODDS ADVANCE RELAY		85 70	Black-White Orange	Energizes on every ODDS ADVANCE.
1	N.O.	48-3 85-1	Green-Black Black-White	Lock-in switch for ODDS ADVANCE RELAY.
2	N.O.	90 60	Gray Brown	Operates CONTROL UNIT MOTOR.
2 BANK RELAY (REAR OF MECHANISM BOARD)				
REPLAY RELAY		57 20	White-Orange Blue	Energizes for every replay.
1	N.O.	50 144	White Red-Green	Supplies power to REPLAY CAMS.
2	N.C.	30-6 75-1	Yellow Orange-White	Safety Switch for START RELAY.
DOUBLE REPLAY RELAY		71 20	Orange-Red Blue	Operates for every double replay.
1	N.C.	93 45-5	Gray-Yellow Green-White	Cuts out circuit from one set of replay cams during a double replay.

TURF KING

TRIP RELAY BANK CHART

CODE	
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
M.B.B.	MAKE BEFORE BREAK
S.P.D.T. ...	SINGLE POLE DOUBLE THROW

RELAY SWITCH	SWITCH CODE	WIRE NO.	WIRE COLORS	FUNCTION OF SWITCHES
FAN RELAY #1		30-3 70	Yellow Orange	Trips when WILD SECTION UNIT reaches 17th step.
1	N.C.	54-6 36-9	Yellow-Brown White-Green	Proportioning circuit for odds advance.
2	N.C.	91-1 30-3	Gray-Red Yellow	Breaks circuit to fan relay.
3	N.O.	60 74-2	Brown Orange-Green	Trips #5 selection relay.
4	N.O.	60 93-2	Brown Gray-Yellow	Trips #4 selection relay.
5	N.O.	60 25	Brown Blue-White	Trips #3 selection relay.
6	N.O.	10 15-1	Red White-Red	Lights #1 selection.
7	N.O.	10 21-6	Red Blue-Red	Lights Nos. 1, 2, 6 and 7 held lights.
8	N.O.	10 78-1	Red Orange-Black	Lights #7 selection.
9	N.O.	10 63-1	Red Brown-Yellow	Lights #6 selection.
10	N.O.	10 27-1	Red Blue-Orange	Lights #2 selection.
FEATURE SELECTION RELAY		15-11 70	Red-White Orange	Trips when feature light comes on.
1	N.O.	10 81	Red Black-Red	Keeps feature light on.
SHOW SCORES WIN RELAY		48-6 70	Green-Black Orange	Trips when SHOW SCORES WIN RELAY is selected through CONTROL UNIT DISC #2 and CAM SWITCH #9.
1	N.C.	83-3 48-2	Black-Yellow Green-Black	Proportions SHOW SCORES DOUBLE when SHOW SCORES WIN is lit.
2	N.C.	43-2 45-3	Green-Yellow Green-White	Proportions WILD SECTION STEPS when SHOW SCORES WIN is lit.
3	N.C.	25-6 36-2	Blue-White Yellow-Brown	Proportions spotted selections when SHOW SCORES WIN is lit.
4	N.O.	10 31-3	Red Yellow-Red	Lights SHOW SCORES WIN light.
5	N.O.	40-1 53-6	Green White-Yellow	Connects WIN COMMON replay wire to SHOW.
6	N.C.	51-7 53-4	White-Red White-Yellow	In series with Odds Advance and in parallel with Mixer Disc #3.
PURSE SCORES WIN RELAY		61-4 70	Brown-Red Orange	Trips when PURSE SCORES WIN RELAY is selected through CONTROL UNIT DISC #2, and CAM SWITCH #9.
1	N.C.	75-3 93-3	Orange-White Gray-Yellow	Proportions PURSE SCORES DOUBLE when PURSE SCORES WIN is lit.
2	N.C.	61-2 45-3	Brown-Red Green-White	Proportions WILD SECTION STEPS when PURSE SCORES WIN is lit.
3	N.C.	23-2 36-2	Blue-Yellow Yellow-Brown	Proportions spotted selections when PURSE SCORES WIN is lit.
4	N.O.	10 50-4	Red White	Lights PURSE SCORES WIN light.
5	N.O.	40-1 31-1	Green Yellow-Red	Connects WIN COMMON replay wire to PURSE.
6	N.C.	51-7 54-6	White-Red White-Yellow	In series with Odds Advance and in parallel with mixer disc #3.
#5 SELECTION RELAY		14-3 70	Red-Green Orange	Trips when selected through CONTROL UNIT DISC #2, and CAM SWITCH #7c, or when FAN RELAY trips.
1	N.C.	21-9 51-1	Blue-Red White-Red	Opens circuit to #5 selection from CONTROL UNIT DISC #1.
2	N.C.	65-3 85-4	Brown-White Black-White	Proportions PURSE and SHOW DOUBLE light frequency when #5 selection is spotted.
3	N.C.	14-3 74-2	Red-Green Orange-Green	Breaks trip circuit from FAN RELAY SWITCH.
4	N.O.	10 71-5	Red Orange-Red	Lights #5 held light.
5	N.O.	10 51-11	Red White-Red	Lights #5 selection.
#4 SELECTION RELAY		50-1 70	White Orange	Trips when selected through CONTROL UNIT DISC #2, and CAM SWITCH #7c, or when FAN RELAY trips.
1	N.C.	18-9 41-1	Red-Black Green-Red	Opens circuit to #4 selection from CONTROL UNIT DISC #1.
2	N.C.	23-8 83-4	Blue-Yellow Black-Yellow	Proportions PURSE and SHOW DOUBLE light frequency when #4 is spotted.
3	N.C.	93-2 50-1	Gray-Yellow White	Breaks trip circuit from FAN RELAY switch.
4	N.O.	10 74-5	Red Orange-Green	Lights #4 held light.
5	N.O.	10 41-1	Red Green-Red	Lights #4 selection.
#3 SELECTION RELAY		71-1 70	Orange-Red Orange	Trips when selected through CONTROL UNIT DISC #2 and CAM SWITCH #7c or when FAN RELAY trips.
1	N.C.	15-9 38-2	Red-White Yellow-Black	Opens circuit to #3 selection from CONTROL UNIT DISC #1.
2	N.C.	65-3 27-8	Brown-White Blue-Orange	Proportions PURSE and SHOW DOUBLE light frequency when #3 is spotted.
3	N.C.	25 71-1	Blue-White Orange-Red	Breaks trip circuit from FAN RELAY switch.
4	N.O.	10 75-5	Red Orange-White	Lights #3 held light.
5	N.O.	10 38-2	Red Yellow-Black	Lights #3 selection.

TURF KING

CONTROL UNIT CAM SWITCH CHART

SWITCHES ARE NUMBERED FROM MOTOR END AND LETTERED FROM TOP DOWN

CODE	
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
M.B.B.	MAKE BEFORE BREAK
S.P.D.T. ...	SINGLE POLE DOUBLE THROW

RELAY SWITCH OR CAM SWITCH	SWITCH CODE	WIRE NO.	WIRE COLORS	FUNCTION OF SWITCHES
Cam Switch #1A	N.C.	51-6 25-7	White-Red Blue-White	Drops out PLAY ALL RELAY at end of spin.
Cam Switch #1B	N.C.	51-6 83-2	White-Red Black-Yellow	Drops out STAR, HORSESHOE, CLOVER, and PENNANT relays at end of spin.
Cam Switch #2A	S.P.D.T.	20-3 15-2 14	Blue Red-White Red-Green	Breaks payout circuit during spin and makes tilt circuit if ball is in any playfield hole.
Cam Switch #2B	S.P.D.T.	98-1 83 14	Gray-Black Black-Yellow Red-Green	Breaks feature circuit during spin and makes tilt circuit if ball is in feature hole.
Cam Switch #2C	N.C.	36-8 78-5	Yellow-Brown Orange-Black	Breaks L and R circuit during spin.
Cam Switch #3A	S.P.D.T.	91-6 10 43-1	Gray-Red Red Green-Yellow	Opens button circuit during spin and also pulls in STAR, HORSESHOE, and CLOVER.
Cam Switch #3B	N.C.	50 81-1	White Black-Red	Opens START RELAY circuit during spin.
Cam Switch #4A	S.P.D.T.	13-8 60 48-5	Red-Yellow Brown Green-Black	Pulls in CONTROL UNIT INDEX #1 and breaks purse double lock-in circuit.
Cam Switch #4B	N.O.	60 63-3	Brown Brown-Yellow	Pulls in CONTROL UNIT INDEX #2; also EXTRA ODDS STEP INDEX; also operates SCRAMBLE MAGNET.
Cam Switch #4C	N.O.	10 18-6	Red Red-Black	Flashes odds lights.
Cam Switch #5A	N.O.	50 61-7	White Brown-Red	Resets REPLAY COUNTER, and REPLAY UNIT RESET COIL.
Cam Switch #5B	N.O.	60 63-7	Brown Brown-Yellow	Steps FEATURE UNIT one step for each play up to three steps.
Cam Switch #6	N.C.	10 90-4	Red Gray	Drops out L and R RELAY.
Cam Switch #7A	N.O.	60 38-9	Brown Yellow-Black	Trips FEATURE RELAY; also steps FEATURE UNIT.
Cam Switch #7B	N.O.	21-4 51-2	Blue-Red White-Red	ODDS UNIT single step.
Cam Switch #7C	N.O.	65-5 98-3	Brown-White Gray-Black	Trips selections 3, 4, or 5 when circuit is complete through CONTROL UNIT DISC #2; (also wild section single steps.)
Cam Switch #8A	N.O.	65-5 31-9	Brown-White Yellow-Red	Energizes PURSE or SHOW DOUBLE RELAYS when purse is lit in wild section.
Cam Switch #8B	N.O.	85-4 81-4	Black-White Black-Red	Energizes PURSE or SHOW DOUBLE RELAYS when wild unit is <u>not</u> up to "E" of purse.
Cam Switch #8C	N.O.	36-9 75-4	Yellow-Brown Orange-White	Energizes PURSE SCORES WIN and SHOW SCORES WIN RELAYS.
Cam Switch #9A Alternator	S.P.D.T.	10-3 78-2 57-5	Red Orange-Black White-Orange	Directs circuit to L or R light.
Cam Switch #9B Alternator	S.P.D.T.	71-1 65 50-1	Orange-Red Brown-White White	Directs circuit to #3 selection or #5 selection.
Cam Switch #10A 1:3 Gear	S.P.D.T.	14-3 36-2 65	Red-Green Yellow-Brown Brown-White	Directs circuit to selection #5 or #3 or #4.
Cam Switch #11A 16 Tooth	N.O.	45-2 52-9	Green-White White-Blue	Pulses REPLAY RESET COIL when REPLAY RESET RELAY is energized.
Cam Switch #11B 16 Tooth	N.O.	60 56-6	Brown White-Brown	Pulses WILD SECTION UNIT.
Cam Switch #12	N.C.	63-3 36-6	Brown-Yellow Yellow-Brown	In series with CONTROL UNIT INDEX #2.
Cam Switch #13A	N.O.	14-4 45-1	Red-Green Green-White	Double replays 96 and 160.
Cam Switch #13B	N.O.	14-4 15-6	Red-Green Red-White	320 feature replays.
Cam Switch #14A	N.O.	14-4 75	Red-Green Orange-White	96 to 160 replays; also 48 and 64 double replays.
Cam Switch #14B	N.O.	14-4 18-4	Red-Green Red-Black	160 feature replay.
Cam Switch #15	N.O.	14 25	Red-Green Blue-White	48 and 64 replays; also 8 to 32 double replays.
Cam Switch #16	N.O.	14-4 38-4	Red-Green Yellow-Black	8 to 32 replays; also pulse REPLAY COUNTER and REFLEX REPLAY DRIVE MAGNET.
Cam Switch #17A	N.C.	23-8 27-8	Blue-Yellow Blue-Orange	Proportioning circuit when 3 or 5 selection is lit.
Cam Switch #17B	N.O.	15-8 18-8	Red-White Red-Black	Step-off circuit for control unit index #1.
Cam Switch #17C	N.O.	10 31-7	Red Yellow-Red	For regular 3, 4 or 5 selections.

TURF KING

LIGHT-BOX RELAY BANK

SWITCHES NUMBERED FROM BOTTOM TO TOP

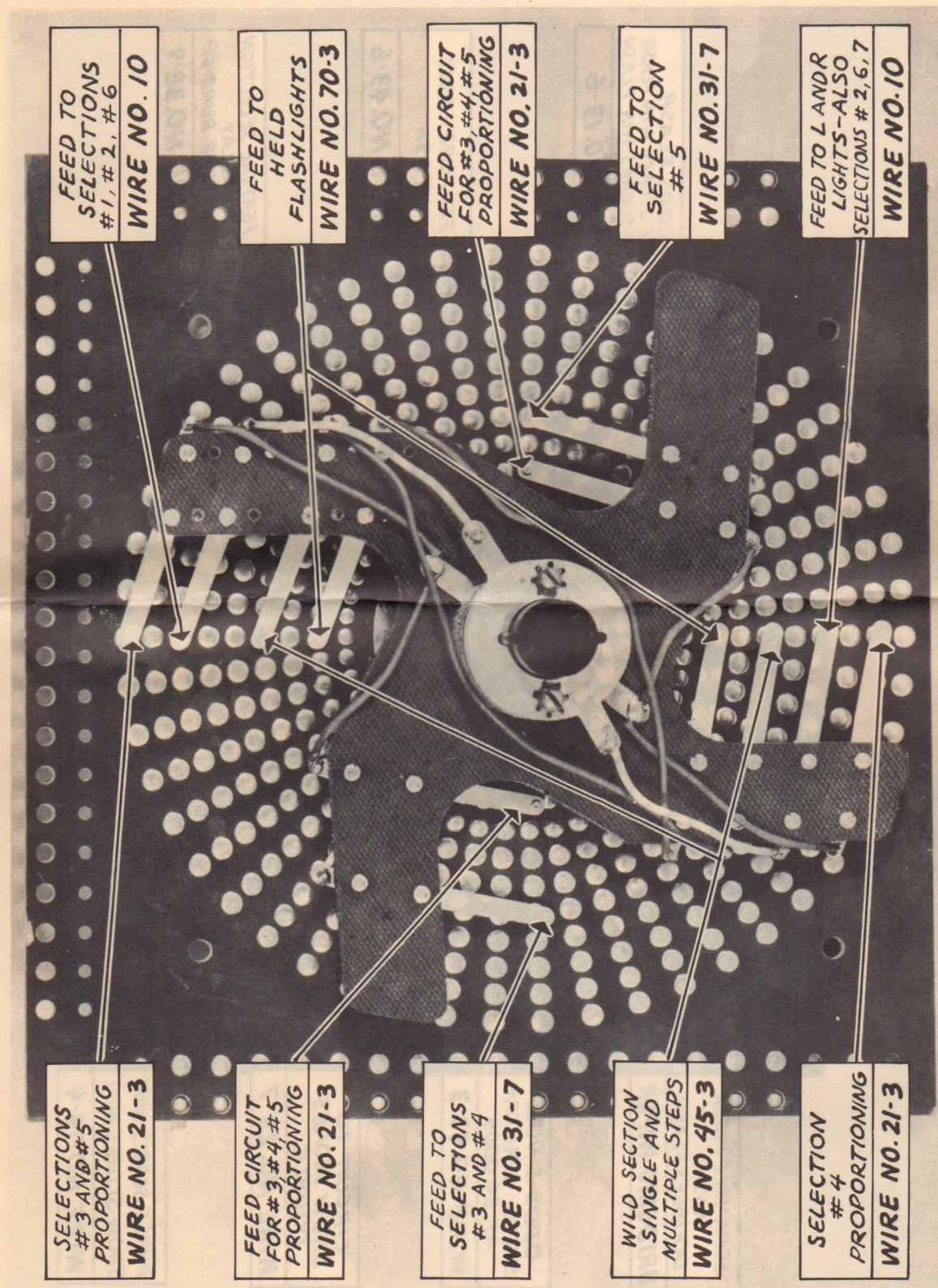
CODE

N.C. NORMALLY CLOSED
 N.O. NORMALLY OPEN
 M.B.B. MAKE BEFORE BREAK
 S.P.D.T. .. SINGLE POLE DOUBLE THROW

RELAY SWITCH OR CAM SWITCH	SWITCH CODE	WIRE NO.	WIRE COLORS	FUNCTION OF SWITCHES
L & R RELAY		78-5 20	Orange-Black Blue	Energizes when ball goes in L or R hole with corresponding light lit.
Switch #1	N.O.	90-4 78-5	Gray Orange-Black	Lock-in switch for L & R RELAY.
Switch #2	N.O.	18-7 51-5	Red-Black White-Red	Energizes WILD SECTION RELAY at 17th step of WILD SECTION UNIT.
Switch #3	N.C.	41-9 53-1	Green-Red White-Yellow	In series with WILD SECTION SINGLE STEPS.
Switch #4	N.C.	43 27-9	Green-Yellow Blue-Orange	Breaks circuit to WILD SECTION RESET.
SHOW DOUBLE RELAY		48-2 70	Green-Black Orange	Energizes when playing clover button (if selected on CONTROL UNIT DISC #2).
Switch #1	N.O.	48-2 48-5	Green-Black Green-Black	Lock-in switch for SHOW DOUBLE RELAY.
Switch #2	N.O.	14-1 53-6	Red-Green White-Yellow	Shunts out rectifier in SHOW COMMON WIRE CIRCUIT so that both replay relays will operate.
Switch #3	N.O.	10 60-1	Red Brown	Lights SHOW SCORES DOUBLE.
PURSE DOUBLE RELAY		93-3 70	Gray-Yellow Orange	Energizes when playing clover button (if selected on CONTROL UNIT DISC #2).
Switch #1	N.O.	48-5 93-3	Green-Black Gray-Yellow	Lock-in switch for PURSE DOUBLE RELAY.
Switch #2	N.O.	31-1 18-1	Yellow-Red Red-Black	Shunts out rectifier in PURSE COMMON WIRE CIRCUIT so that both replay relays will operate.
Switch #3	N.O.	40-5 10	Green Red	Lights PURSE SCORES DOUBLE.
WILD SECTION RELAY		51-5 70	White-Red Orange	Operates when more than one step is made by the WILD SECTION UNIT.
Switch #1	N.O.	56-6 53-1	White-Brown White-Yellow	In series with 16 TOOTH PULSE CAM #11B.
Switch #2	N.O.	18-7 45-3	Red-Black Green-White	Lock-in for WILD SECTION RELAY.
Switch #3	N.O.	90 60	Gray Brown	Operates SHUTTER MOTOR.

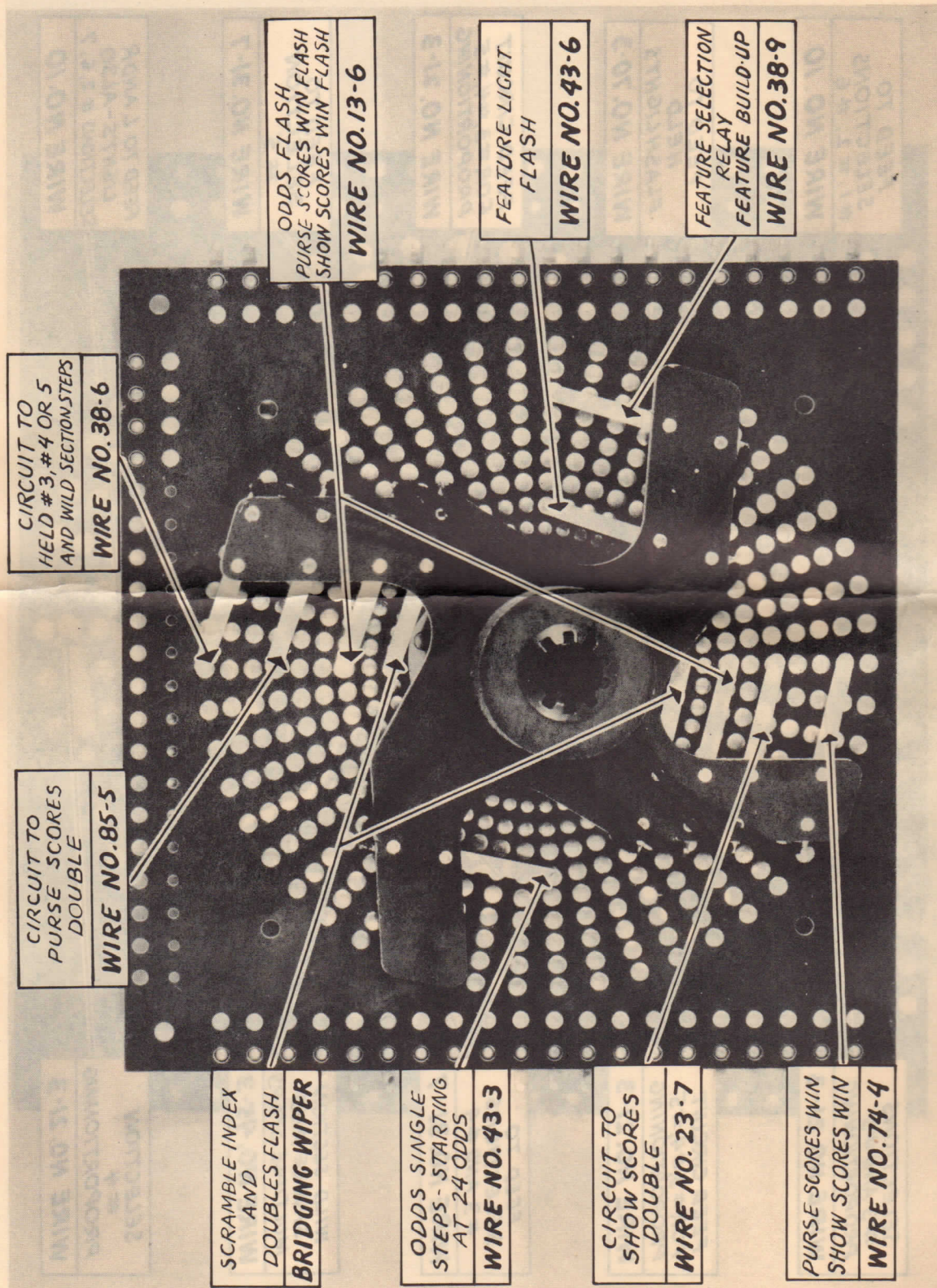
TURF KING

CONTROL UNIT DISC NO. 1 WIPER CHART



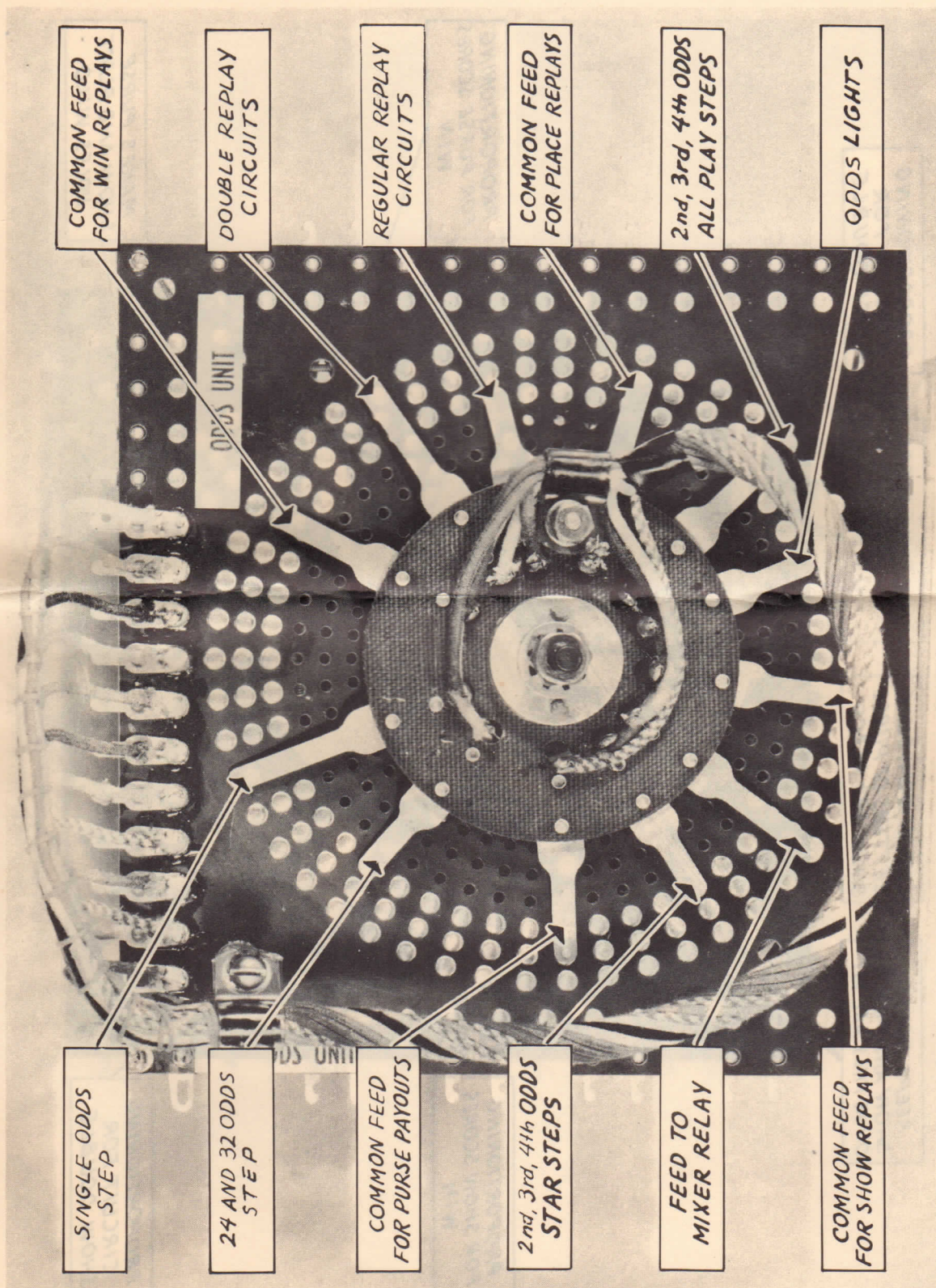
TURF KING

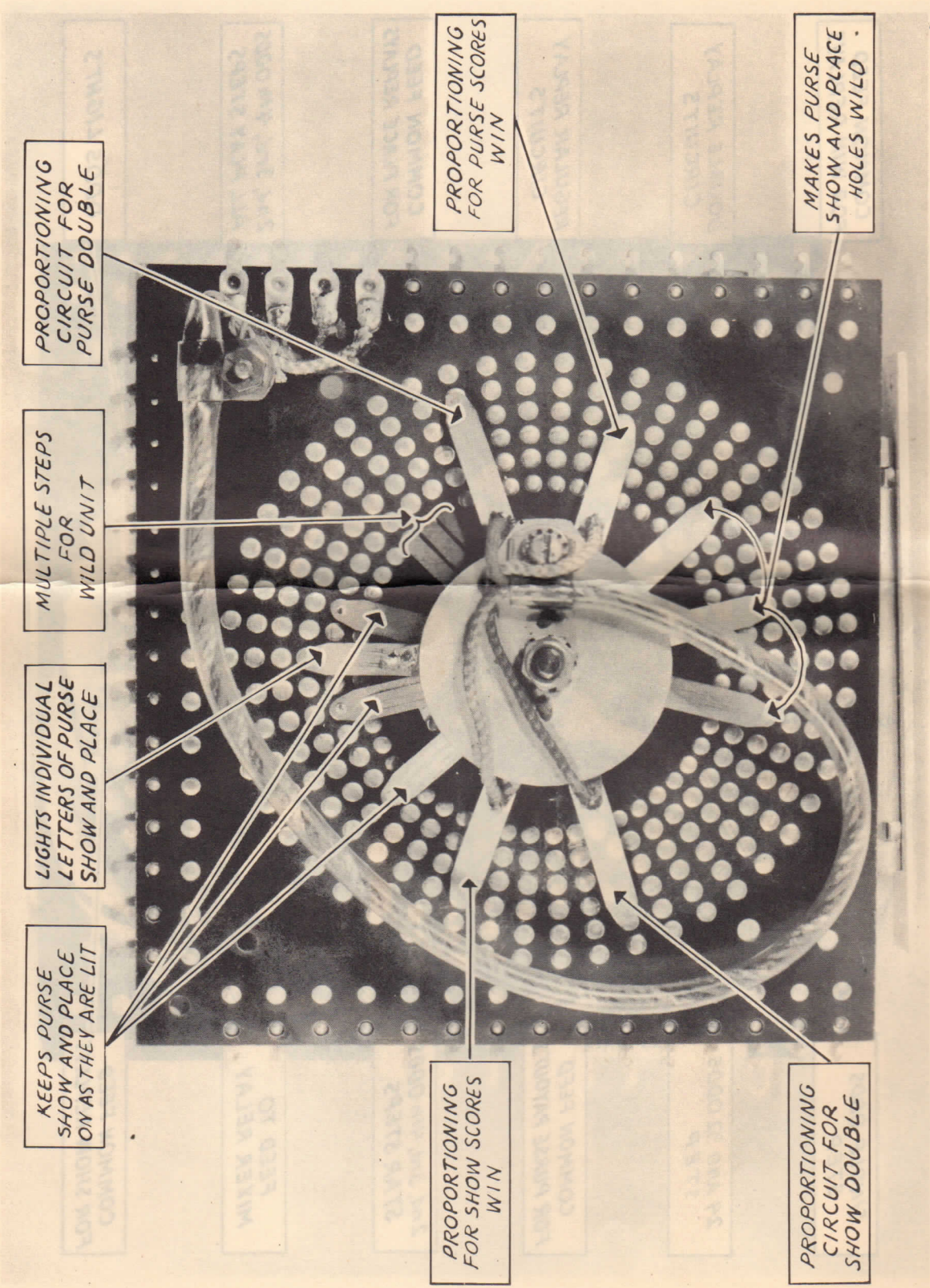
CONTROL UNIT DISC NO. 2 WIPER CHART



TURF KING

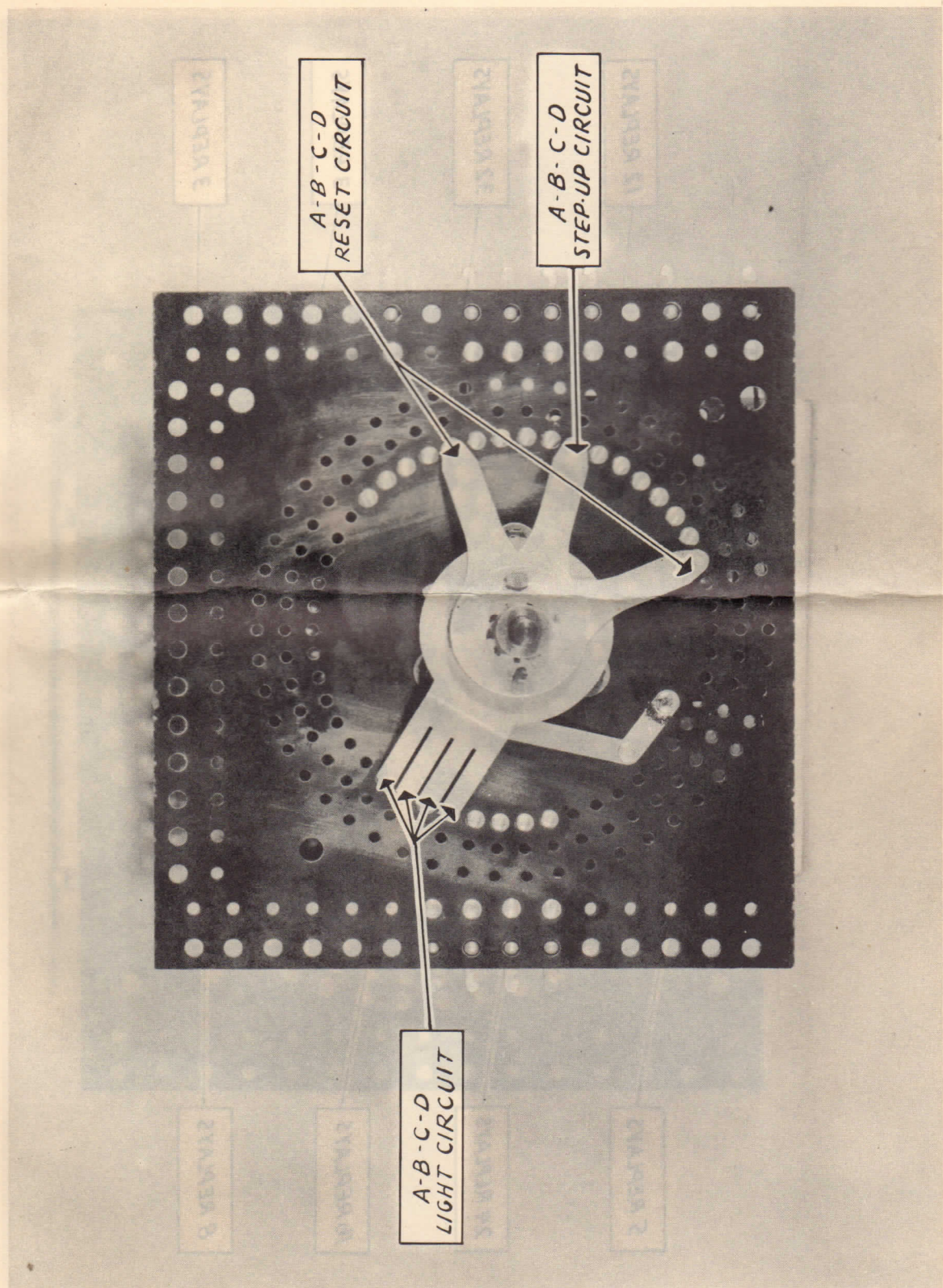
ODDS UNIT WIPER CHART





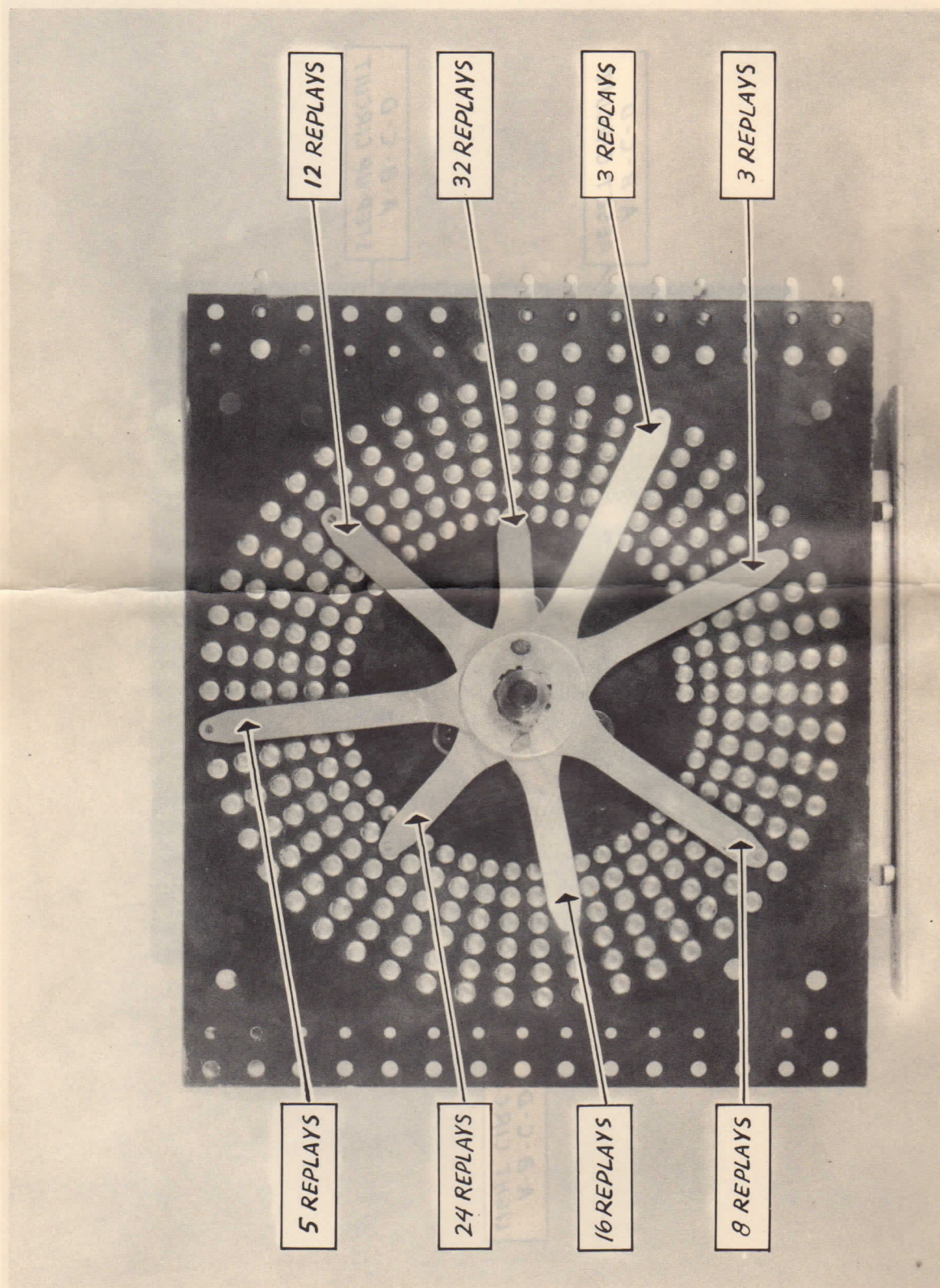
TURF KING

A-B-C-D UNIT WIPER CHART



TURF KING

REPLAY COUNTER WIPER CHART



NOTES

1. Re

0. 1. 2.