

OPERATING INSTRUCTIONS

Bally®

CHAMPION

and

KENTUCKY

NOTES

CONFIDENTIAL - - DO NOT LEAVE INSTRUCTIONS IN GAME

CHAMPION, KENTUCKY

INSTALLATION AND OPERATING INSTRUCTIONS

Remove 3 bolts (tagged) that hold mechanism-shelf stationary while in transit. Remove screw (tagged) that holds light-box insert while in transit. Remove the wood plug which holds shuffle-panel stationary while in transit. Place back-box in position and fasten with 4 bolts furnished. Plug in connection cables. Install levelers in base of machine and adjust as indicated in FIG. 1. Place ball or balls in machine. Plug power line into A.C. ONLY, 60 cycles, 115 volts.

LOAD PAYOUT TUBES AND TOKEN TUBE (KENTUCKY)

Open front door and load 2 payout tubes with nickels. Also load small payout unit (no tube) with tokens stamped "160", furnished with each game. When player scores DOUBLE TOP ODDS (320), 160 coins and 1 token are released into payout cup. Token is redeemable for \$8.00.

Note that each token is serial numbered. Furnish location with serial numbers of tokens in game and instruct location attendant to check tokens against list before redeeming.

TO REPLACE LIGHT-BULBS IN BACK-BOX

Unlock lock in top of back-box. Entire back-glass frame may be lifted upward and off of back-box, permitting easy access to light-bulbs.

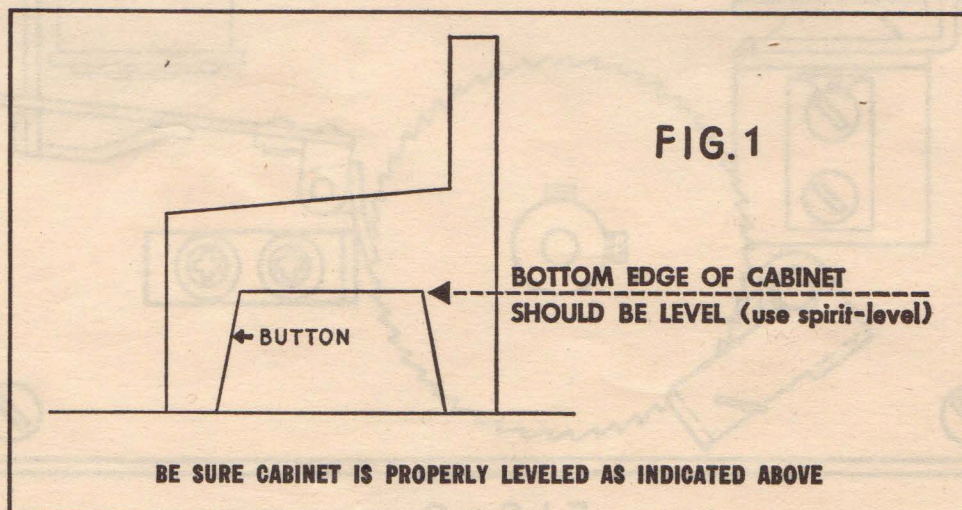
TO SERVICE BACK-BOX INSERT

Remove back-glass frame, as explained above. Then loosen screws holding slide-clamps in upper corners of insert. Push slide-clamps up. Insert may then be swung forward on hinges at bottom for convenient access.

ADJUSTMENTS

Overall adjustment of game is by means of Reflex-Unit located on mechanism-shelf. For details on the function and operation of the Reflex-Unit see your Bally distributor.

Operator may adjust game to one of 3 degrees of liberality by changing UPPER ratchet on side of Reflex-Unit. Adjustment ratchets, furnished with each game, are identified by numerals on each ratchet: (1) liberal, (2) medium, (3) conservative.



TO CHANGE REFLEX-UNIT RATCHET

Simply loosen Set-Screws A and B in FIG. 2 and slip Ratchet off of shaft. Slip new Ratchet on shaft and tighten Set-Screws. SEE FIG. 3 FOR PROPER OPERATION OF SWITCHES ON REFLEX UNIT.

REFLEX UNIT STARTING ADJUSTMENT

Before placing game on location, be sure that center leaf of Switches No. 1 and No. 2 are making bottom contact and that Switches No. 3, No. 4, No. 5 are making top contact, as shown in FIG. 2A. To set Switches and Cams to proper position, turn Ratchet in direction indicated by arrow in FIG. 2A.

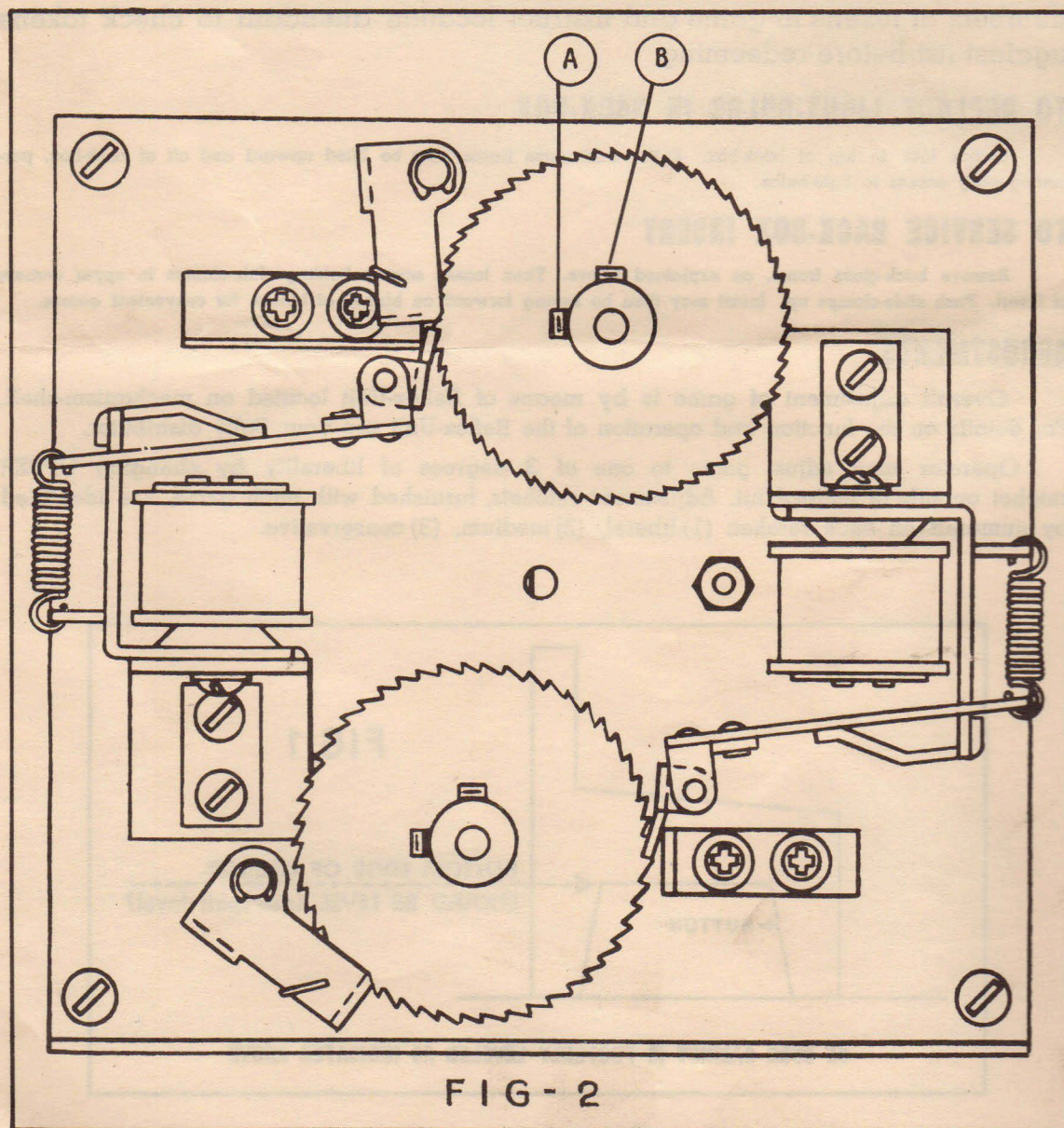
DOUBLE-LIGHT ADJUSTMENT

Frequency of Double Light is adjusted by means of 4-in-line female plug mounted between Control Unit and front Relay Bank and related 2-point male plug.

LIBERAL: Male plug in two sockets closest to index pin.

CONSERVATIVE: Male plug in two center sockets.

MEDIUM: Male plug in two sockets farthest from index pin.



FEATURE OPERATION

Feature may be operated on build-up basis, \$1.00 (20 replays) for each Feature-point indicated at top of back-glass; or Feature may be operated with flat \$2.00 (40 replays) multiplied by 1, 2 or 4.

FEATURE CHANGE-OVER PLUG

Change-over from build-up to flat Feature award is by means of 2-point female plug (labeled FEATURE CHANGE-OVER) on mechanism-shelf between Relay Bank and Payout Counter and related male jack-plug. When jack-plug is inserted in socket closest to index-point, Feature award is flat \$2.00 (40 replays) multiplied by 1, 2 or 4. When jack-plug is inserted in socket farthest from index-point, Feature is on build-up basis.

FEATURE DIAL

When Feature award is flat \$2.00 (40 replays), Feature-point dial should be inoperative. Simply reset FEATURE UNIT (in back-box) to zero and then open the switch with ORANGE-GREEN and BLACK-YELLOW wires on Feature Unit; then Feature Unit will 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 method of operating FEATURE.

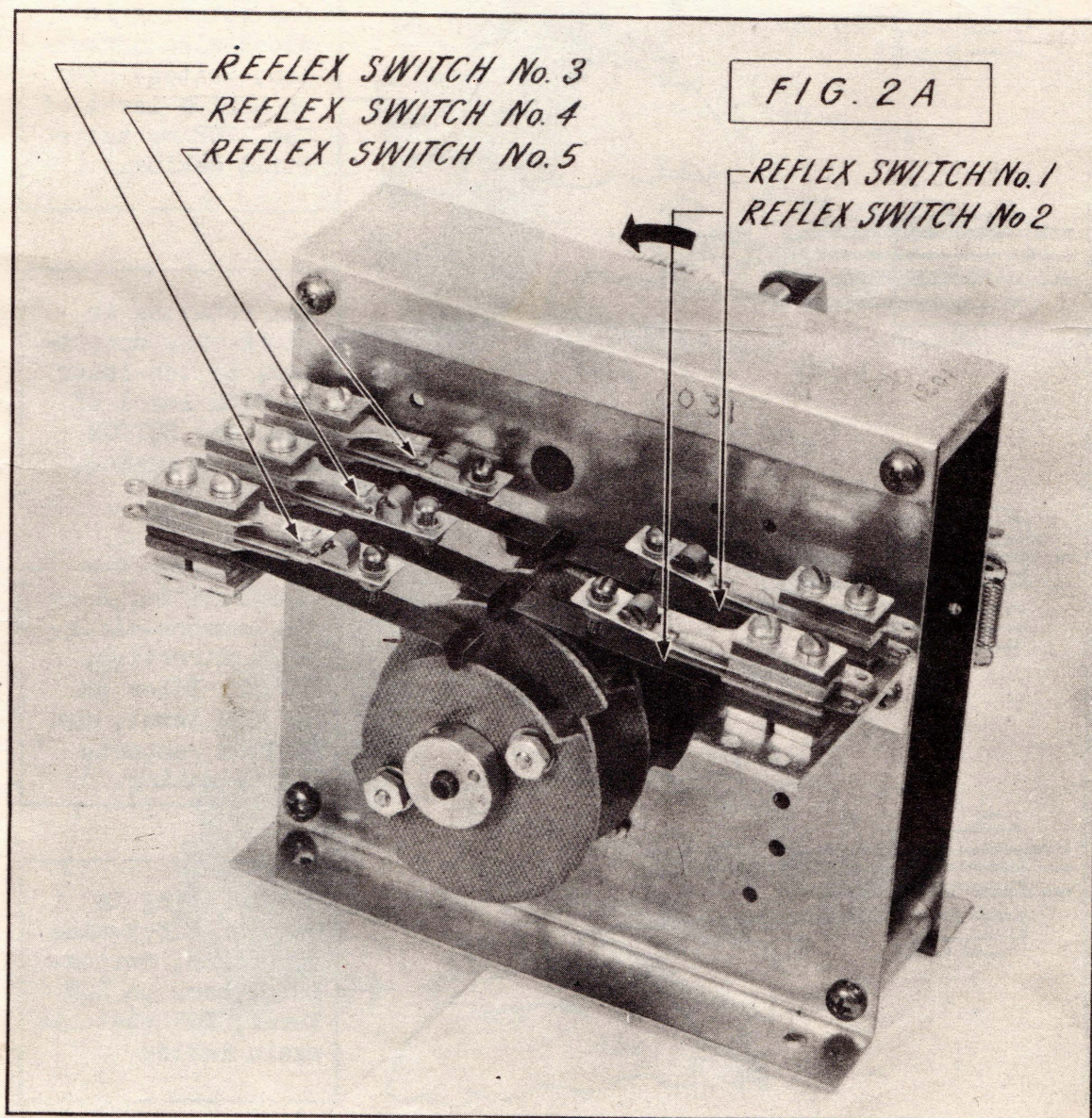
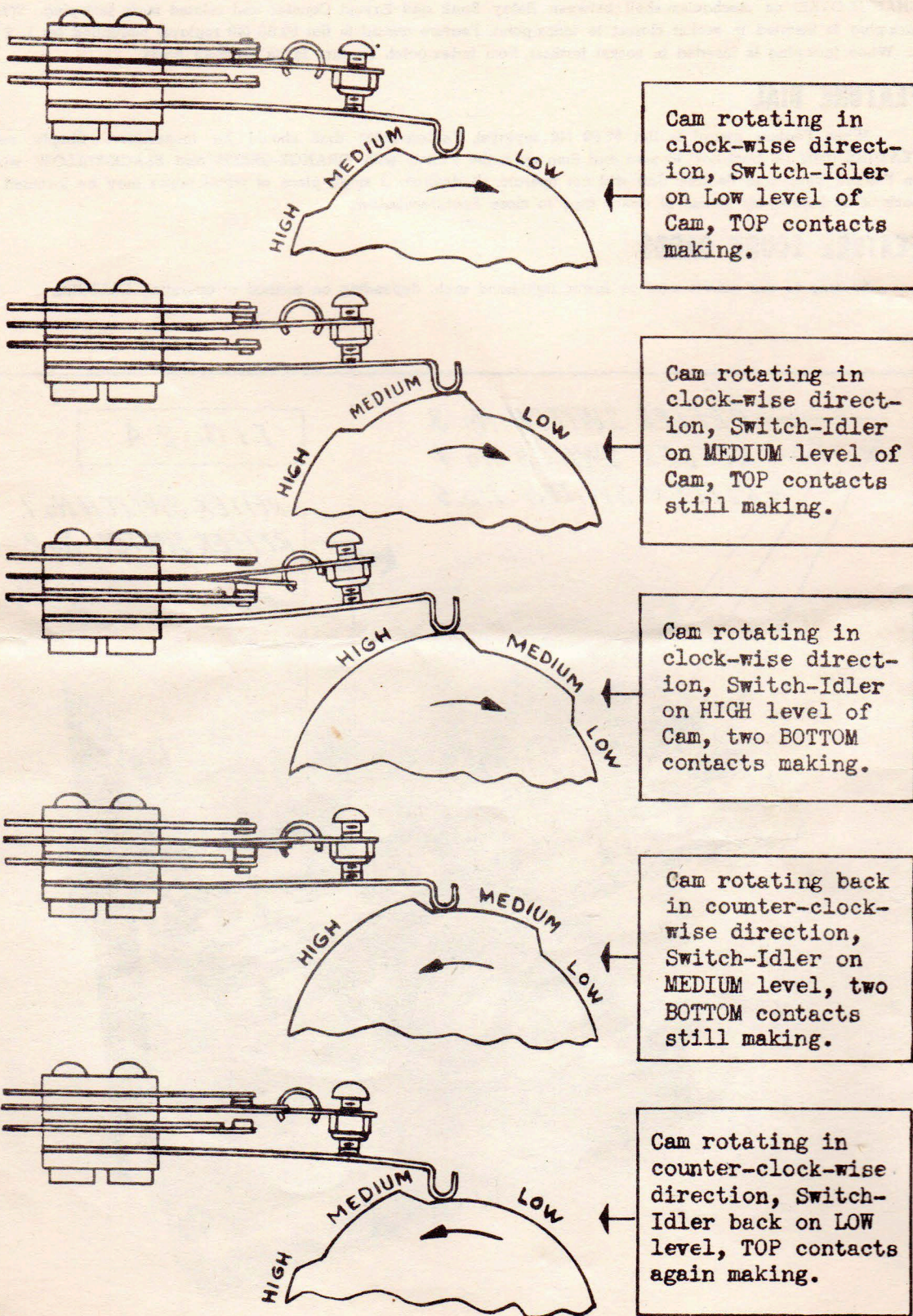


FIG.3 shows a portion of the Cam mounted on extreme end of Cam-Shaft on Reflex Unit. Five different views show the various possible positions of any Cam on Unit. NOTE that when Switch-Idler is on MEDIUM level of Cam it is making the same pair of contacts as in previous Cam position.



IMPORTANT

Snap Switches are not used on Reflex Unit in CHAMPION games

serial numbered 9054 and higher. FIG. 3, therefore, may be disregarded

on CHAMPION games later than serial number 9053 and may be disregarded

on all KENTUCKY games.

FEATURE RESET

When game is operated with build-up Feature, feature awards or replays are not automatic; location-attendant must supply coins to play replays. Location-attendant should then reset Feature-points to starting point (5) by pushing Feature Reset-Button.

Feature Reset-Button is located at point indicated on FIG. 1 (left-hand side of cabinet). Lower button is Feature Reset-Button. (The other button — on CHAMPION only — is Replay Reset-Button.)

FEATURE LIGHT ADJUSTMENT

Frequency of lighting FEATURE on back-glass is adjusted by means of 3-point female plug attached to SELECTION DISC on mechanism shelf and 3 related male jack-plugs. See FIG. 4.

FEATURE TOP ADJUSTMENT

When shipped, game is set for \$50.00 (1000 replays) top Feature award. Top Feature award may be adjusted by means of the Screw-Nut-and-Insulator mounted on left corner of Feature Unit base-plate. Simply remove Screw from base-plate and place in one of the three tapped holes in Feature Unit Ratchet, as explained in next paragraph.

When Feature Unit is reset to starting position (5), staked portion of stud on ratchet is seen directly below the ratchet shaft. Using staked portion of stud as starting point and counting in a COUNTER-CLOCKWISE DIRECTION, place Screw in FIRST hole for \$10.00 top, SECOND hole for \$20.00 top, THIRD hole for \$30.00 top.

Feature Unit may be operated from 1 to 45 top by covering 1 to 50 tape with 1 to 45 tape (furnished with each game). Simply moisten gummed surface of 1 to 45 tape and apply to wheel so that 45 on 1 to 45 tape covers 50 on 1 to 50 tape. Numbers will then all line up properly.

FEATURE BUILD-UP ADJUSTMENT

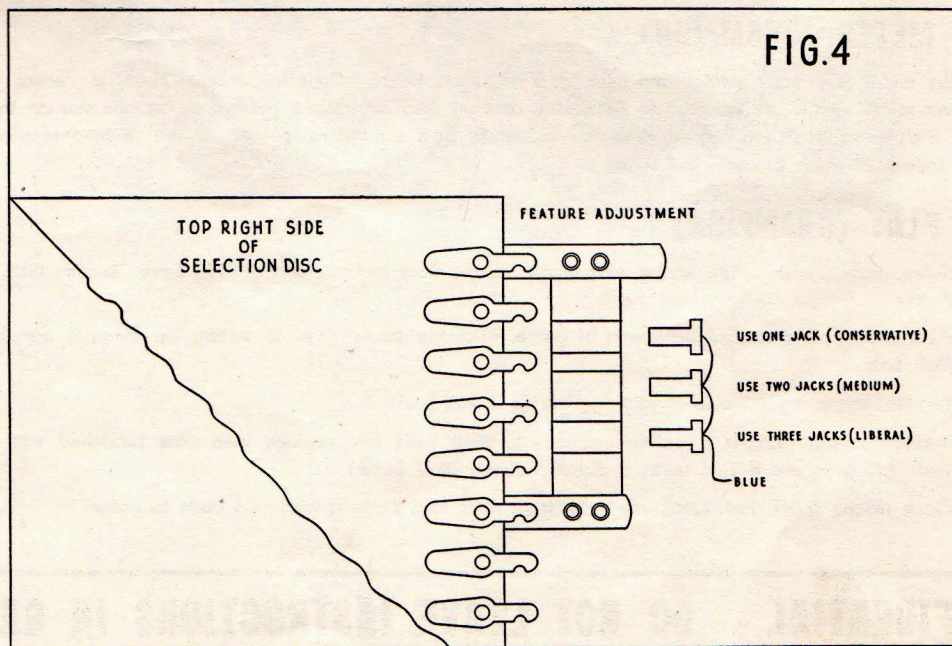
Feature may be operated to step up 1 Feature Point (\$1.00 or 20 replays) for each 400 or each 800 coins played.

Adjustment plug is located on mechanism-shelf directly next to Feature Change-Over plug between Relay Bank and Payout Counter.

When jack-plug is inserted in socket CLOSEST to index-pin, Feature build-up is 400-to-1. When jack-plug is inserted in socket FARTHEST from index-pin, Feature build-up is 800-to-1.

FEATURE METER

Feature Meter is directly inside front door on mechanism-shelf. Meter registers each step-up on Feature build-up, which steps up 1 point for each 400 or 800 coins played, depending on Feature Build-Up Adjustment. Meter should be checked to determine amount to which location is entitled as reimbursement for Feature awards paid. 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 "HIT" METER

If desired, an additional meter may be installed to record the number of times Feature is "hit." Two terminals with proper wires already connected are provided directly inside front door on mechanism-shelf. Simply attach 17-VOLT meter to terminals. Meter may be purchased from distributor or factory. BE SURE TO SPECIFY 17-VOLT METER.

FEATURE STARTING SCORE

Feature starts at 5, steps up to 50 top. (See FEATURE TOP ADJUSTMENT and FEATURE BUILD-UP ADJUSTMENT.)

When first placing game on location, operators often set Feature to a number several points above 5 to attract players.

REPLAY RESET BUTTON (CHAMPION)

Replays scored by players register on recorder at top center of back-glass. Player may play replays by pressing button marked "replay" or merchant may redeem replays.

Replay Reset-Button is located at point indicated on FIG. 1 (left-hand side). Replay Reset Button is upper button (lower button is Feature Reset Button).

When merchant redeems replays, merchant should reset Replay Score Recorder to zero by pushing Reset Button.

REPLAY RECORDER TOP ADJUSTMENT

Replay Recorder is set at factory for 400-replay top, but may be set for 500-replay top by changing position of SCREW PAINTED RED on Replay Recorder Unit.

Remove back-glass frame and swing insert forward (see instructions headed TO SERVICE BACK-BOX INSERT) for easy access to red screw, which is on the side of Replay Recorder Unit on which Reset Coil is mounted, directly next to screw mounting for light shield.

Turn ratchet one half step and, using a 4½ in. (approximately) screw-driver, unscrew red screw and screw into tapped hole directly above original red screw position. Recorder will then record up to 500 replays.

CAUTION

When changing from 500 top back to 400 top, first set Recorder to 399 OR LOWER and then replace red screw in original (lower) tapped hole.

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 terminal-strip and lead wires to convenient point in location and attach a push-button switch to opposite ends of the wires. Replay recorder may then be reset by remote control.

REPLAY METER (CHAMPION)

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 to determine number of replays redeemed since previous collection.

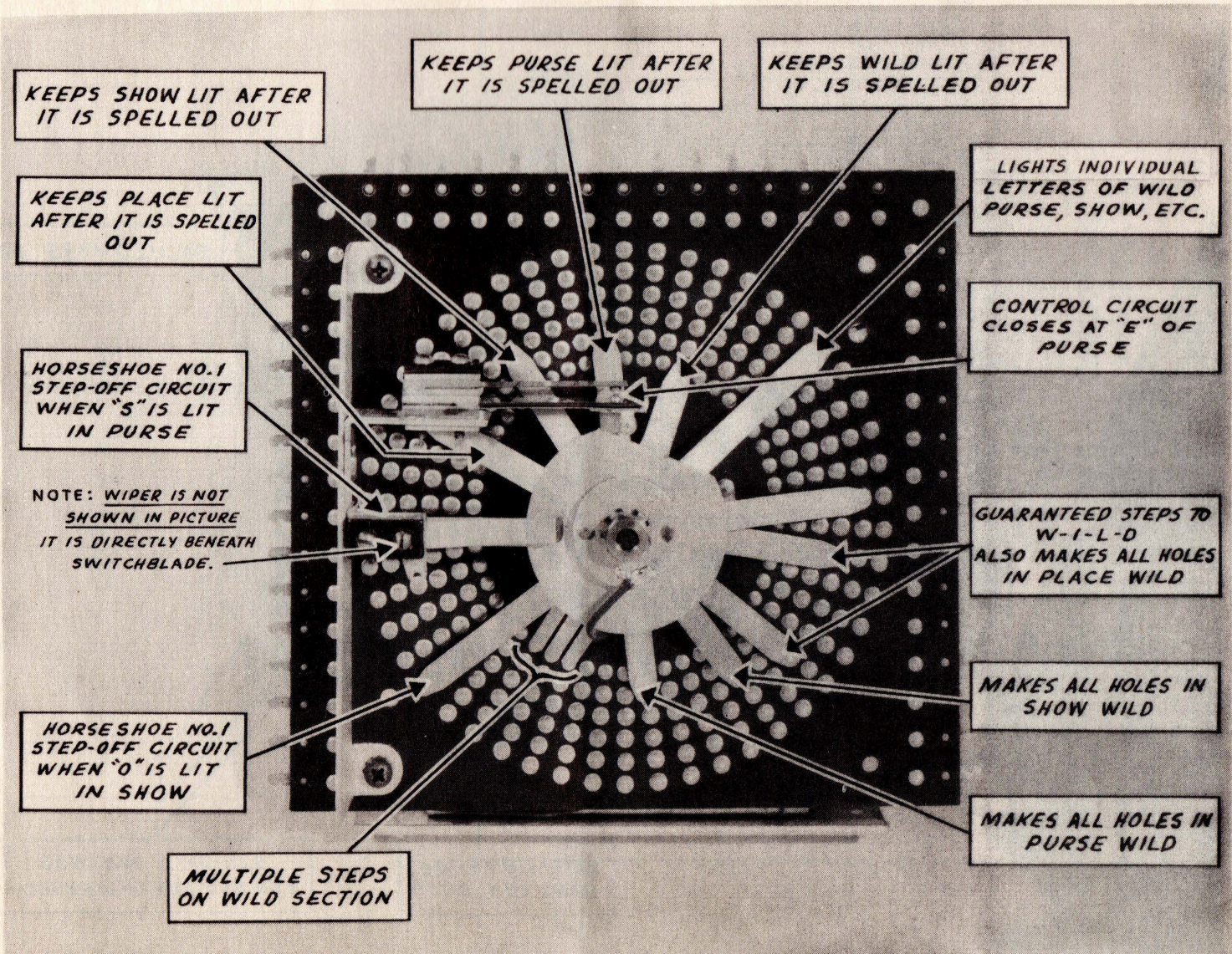
5-BALL PLAY (CHAMPION)

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 up 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 a total of 5 balls in game.

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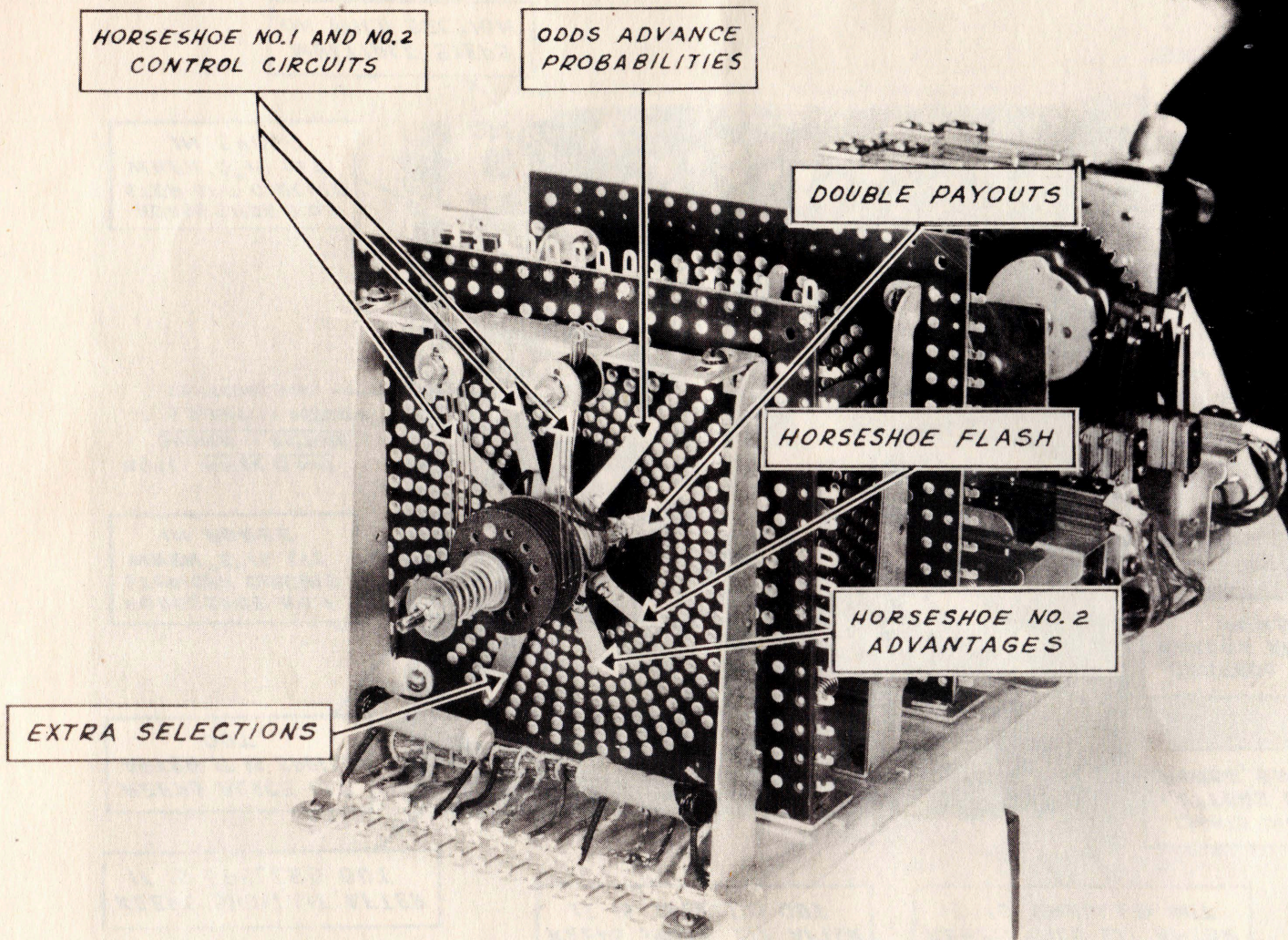
CHAMPION, KENTUCKY

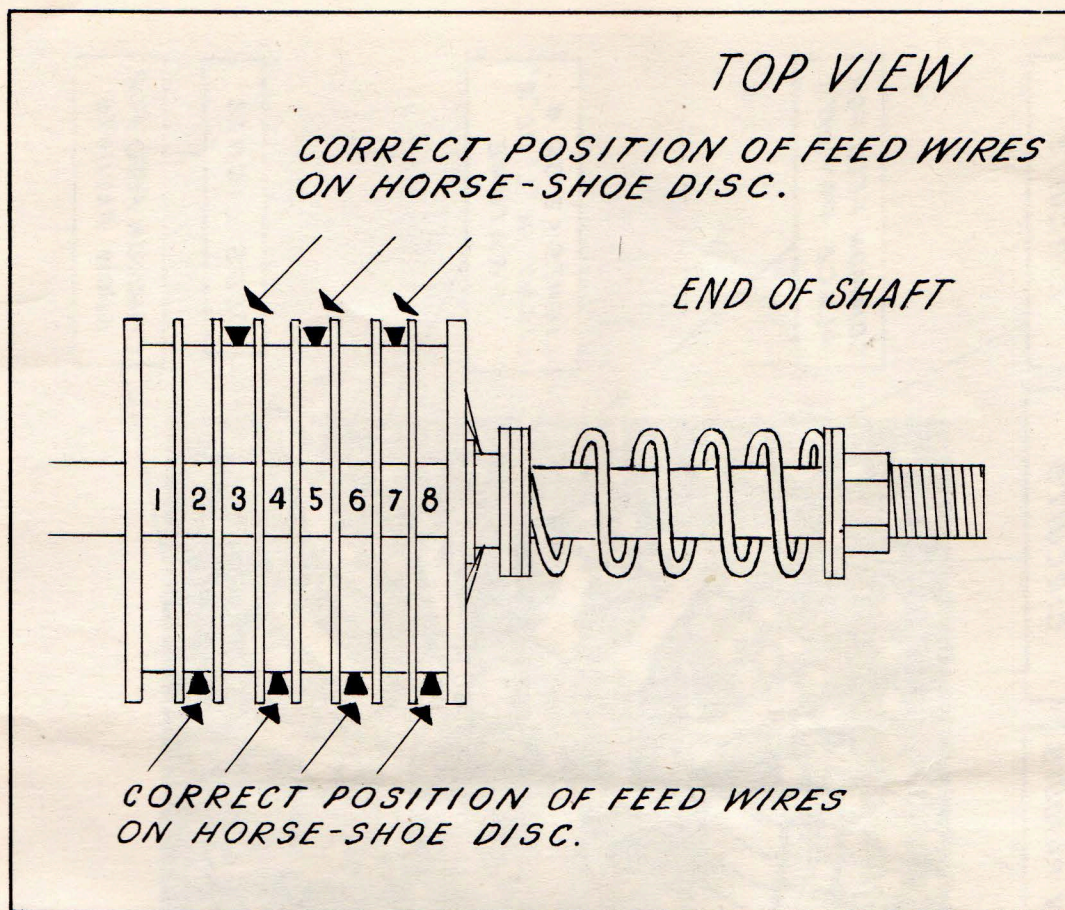
WILD SECTION UNIT WIPER CHART



CHAMPION, KENTUCKY

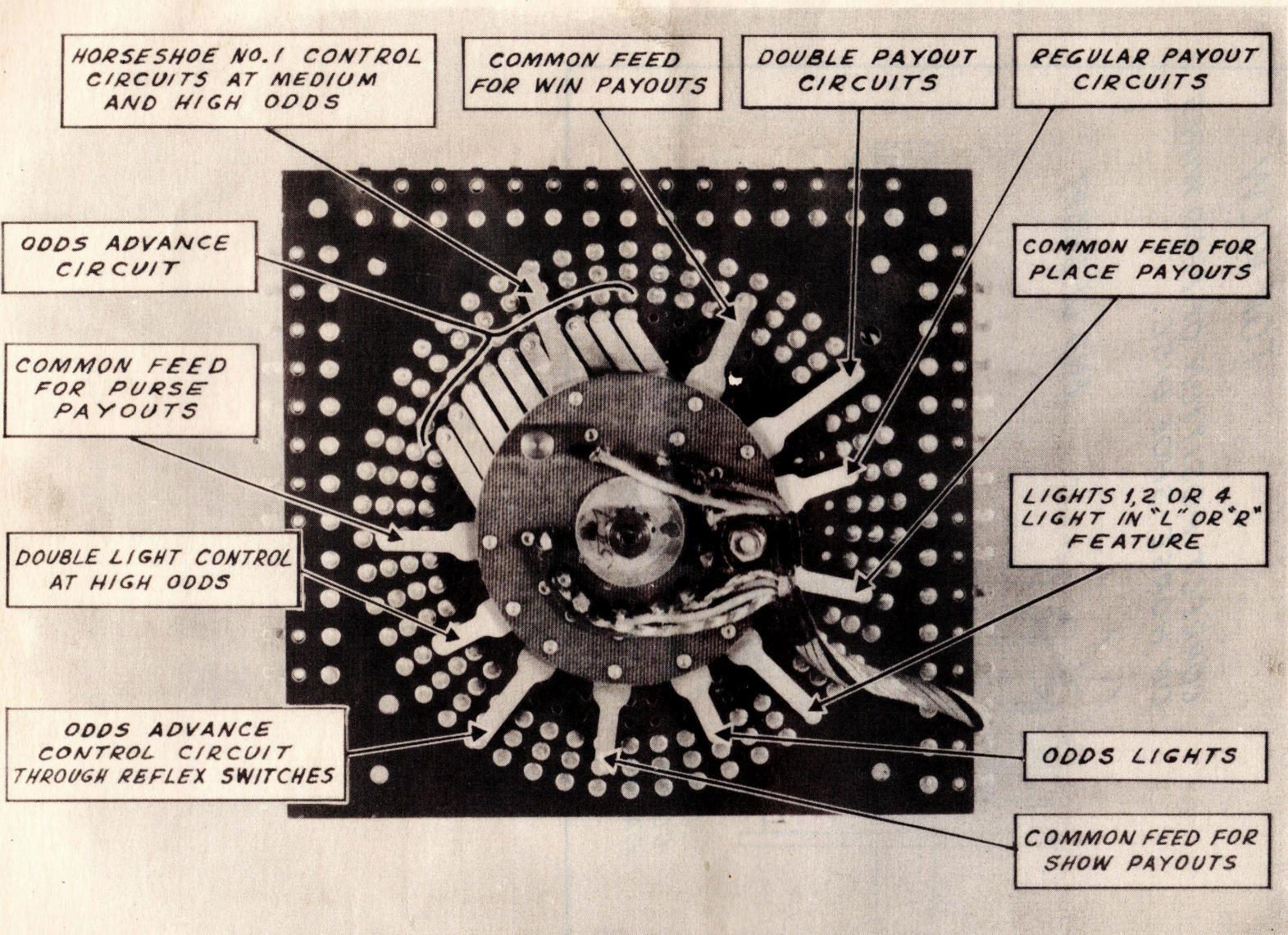
HORSE-SHOE DISC WIPER CHART





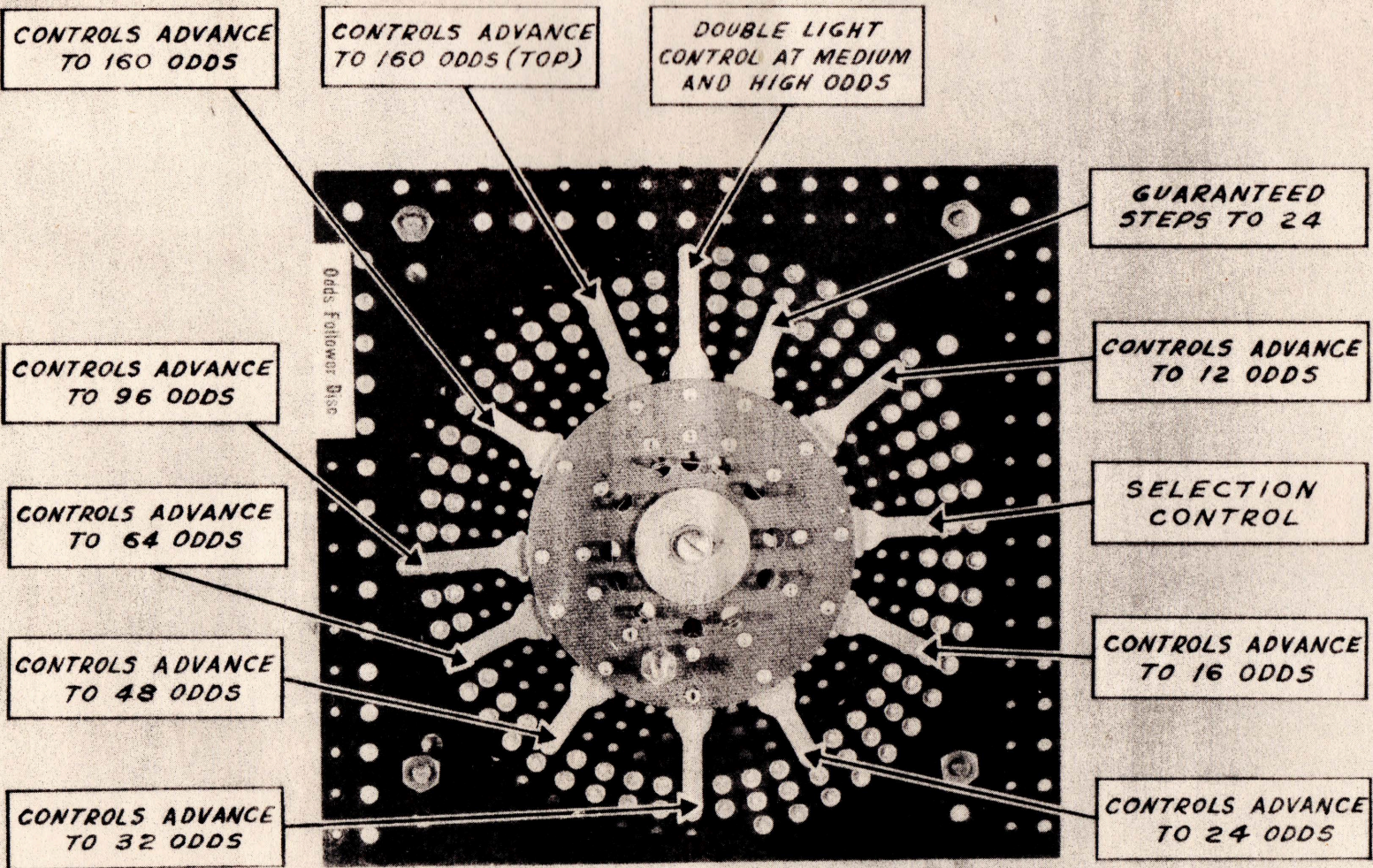
CHAMPION, KENTUCKY

ODDS DISC WIPER CHART

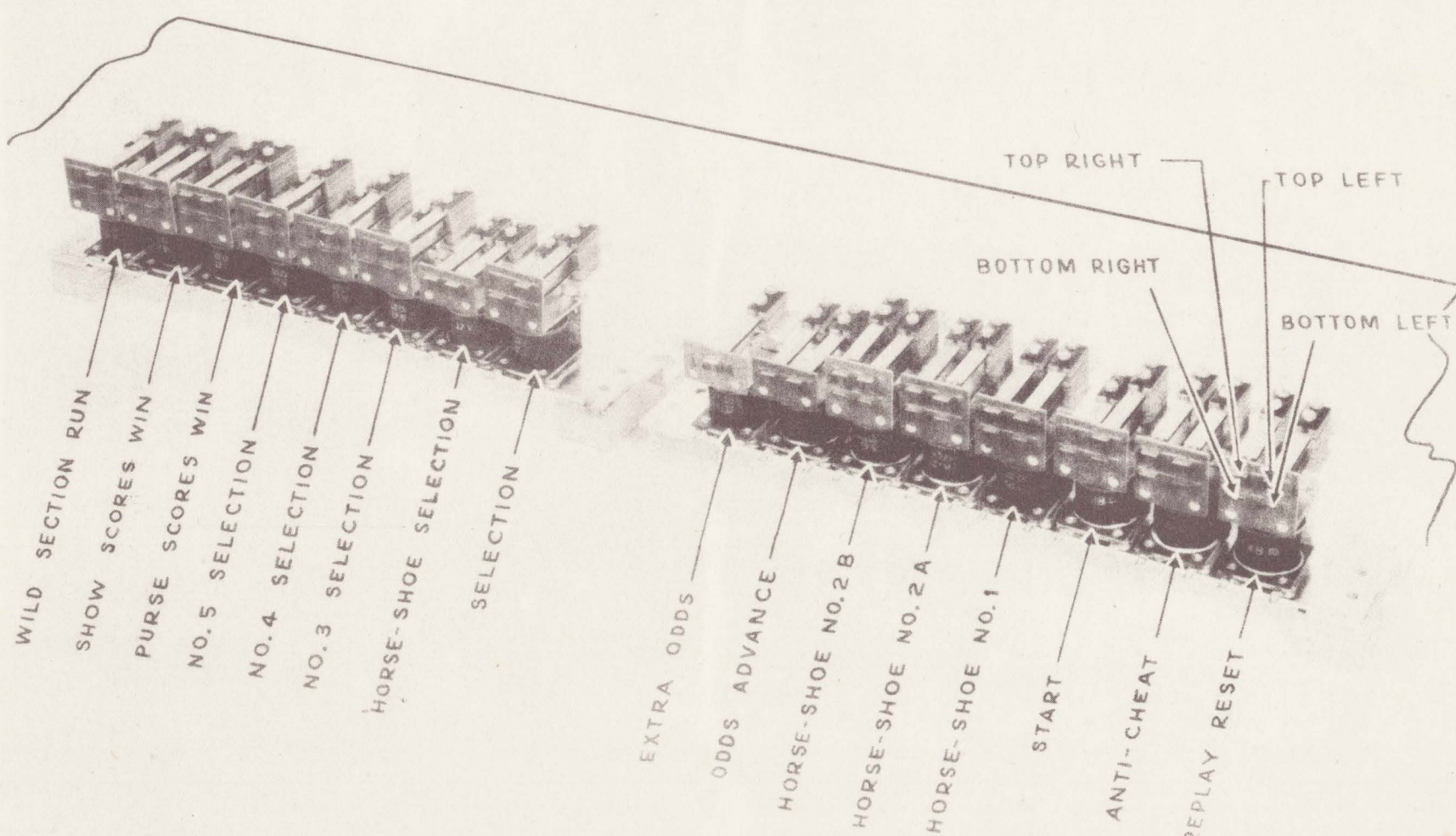


CHAMPION, KENTUCKY

ODDS FOLLOWER DISC WIPER CHART



NOTES



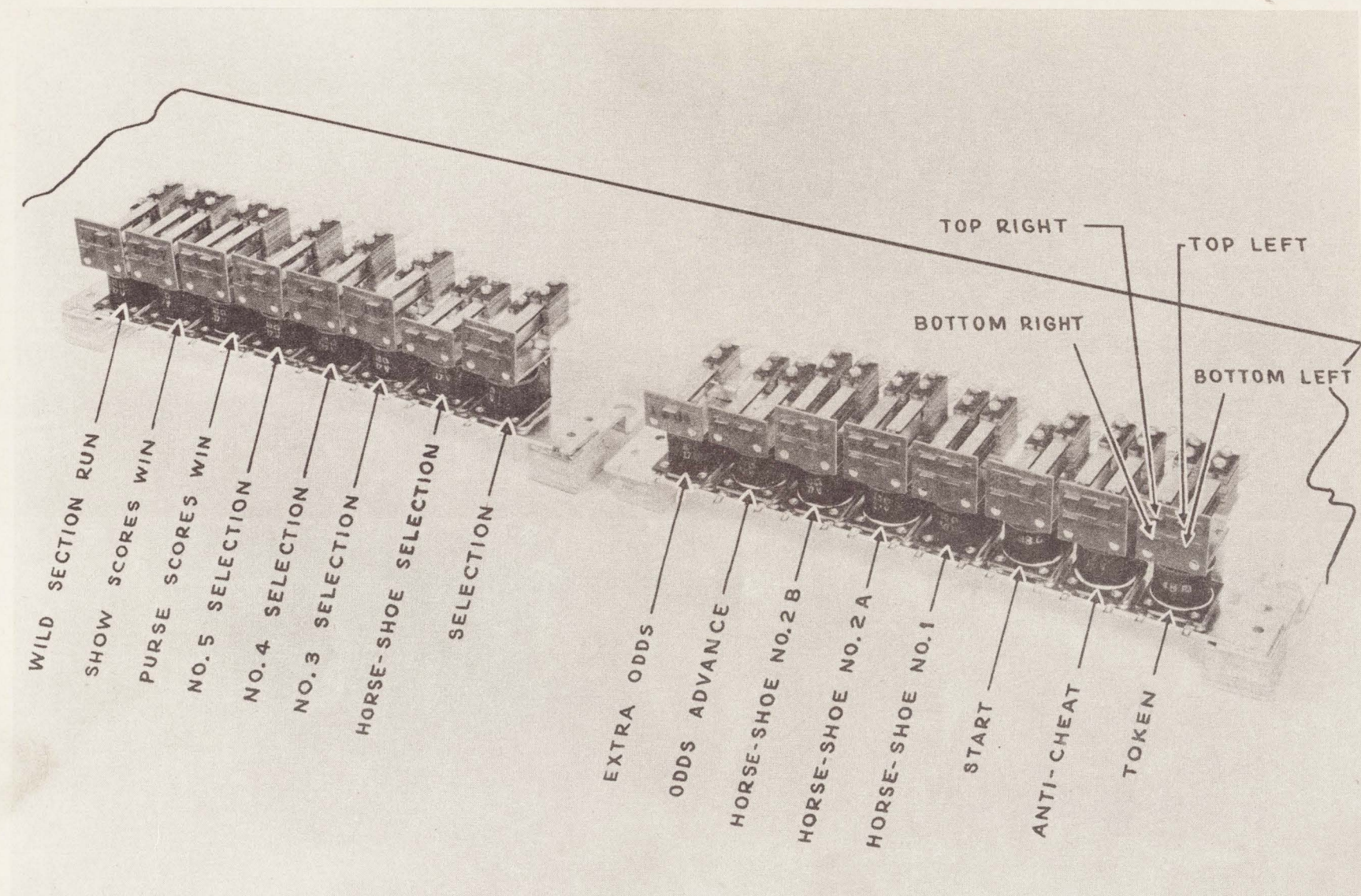
CHAMPION RELAY CHART

FIRST RELAY LISTED IS CLOSEST TO FRONT OF MECHANISM BOARD.

CODE

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

RELAY AND SWITCH	SWITCH CODE	WIRE COLORS	FUNCTION OF SWITCH
REPLAY RESET RELAY			
Top Left Switch	N.O.	Gray Brown-Yellow	Operates Control Unit Motor
Bottom Left Switch	S.P.D.T.	Brown-Yellow Blue-White White-Blue	Normally completes circuit to Replay Reset Coil. When energized, directs circuit to Replay Meter.
Top Right Switch	N.C.	White-Red Orange-White	Opens circuit to Start Relay when replays are automatically resetting.
Bottom Right Switch	N.O.	Green-Red Green-White	Lock-in switch for Replay Reset Relay.
ANTI-CHEAT RELAY			
Top Left Switch	N.C.	Gray Red-White	Allows Shutter Motor to operate if Anti-Cheat Relay is de-energized.
Bottom Left Switch	N.O.	White Black-Yellow	Lock-in switch for Anti-Cheat Relay.
Top Right Switch	N.C.	Green-Red Green-White	Resets replays if A.C. cord is pulled from outlet.
Bottom Right Switch	N.O.	Red Brown	Opens 17-volt circuit when Anti-Cheat relay is de-energized.
START RELAY			
Top Left Switch	N.O.	White Blue-Orange	Operates Cam Index Coil; also in series with Feature Meter and Step-up Coil.
Bottom Left Switch	N.O.	Red-White Red-Black	Operates Shutter Motor if Anti-Cheat Relay is de-energized.
Bottom Right Switch	N.O.	Black-Red White-Red	Lock-in switch for Start Relay.
Top Right Switch	N.C.	Red-Black Brown-Red	Safety for Odds Step-up.
HORSESHOE NO. 1 RELAY			
Top Left Switch	N.O.	White-Green Brown-White	Lock-in switch for Horseshoe Relay No. 1.
Bottom Left Switch	S.P.D.T.	Green Red Gray	Normally feeds 17-volts to Odds-advance circuit and Selection Index Coil. When energized feeds Horseshoe Relay and Button No. 2.
Bottom Right Switch	S.P.D.T.	Black-Yellow White-Blue White-Green	Normally supplies power to flash-odds lights. When energized in series with switch on Horseshoe Relay No. 2a and double Payout Relay.
Top Right Switch	N.O.	Red White-Yellow	Lock-in switch and safety for Horseshoe Relay No. 2b.
HORSESHOE NO. 2a RELAY			
Top Left Switch	N.C.	Red-Green Gray	Shuts off Horseshoe No. 1 light.
Bottom Left Switch	N.O.	Slate-Black Gray	Lock-in switch for Horseshoe Relay No. 2a.
Top Right Switch	N.O.	Red White-Brown	Feeds Purse-Scores-Win Relay and Show-Scores-Win Relay.
Bottom Right Switch	N.O.	White-Green Green-Red	Feeds circuit to purse and show double lights, extra odds flash, odds advance lights and also Odds-Advance Relay.
HORSESHOE NO. 2b RELAY			
Top Left Switch	N.O.	Orange-White Gray-Yellow	Shorts out show and purse 15 ohm resistor on double payouts.
Bottom Left Switch	S.P.D.T.	Yellow-Black White-Yellow Green-Red	Normally feeds power to Horseshoe Feature No. 1 on Horseshoe Disc. When energized, acts as lock-in.
Top Right Switch	S.P.D.T.	Black Orange-Black Blue-Yellow	Shifts circuit for Wild Section advance through Horseshoe Disc, for Wild Section advances with No. 2 Horseshoe Feature on.
Bottom Right Switch	S.P.D.T.	Orange Blue-Orange White	Directs control circuits to Horseshoe Selection Relay for Horseshoe Features No. 1 and No. 2.
ODDS ADVANCE RELAY			
Left Switch	N.O.	Red-Yellow White-Red	Completes circuit to Odds Advance Step-Up Coil.
Right Switch	N.O.	Gray Brown-Yellow	Operates Control Unit Motor.
EXTRA ODDS RELAY			
Switch	N.O.	White-Red Black-Yellow	Operates Odds Advance Step-Up Coil.
SELECTION RELAY			
Top Left Switch	N.O.	Yellow Green-White	Operates Selection Index Coil if proper control circuits are closed.
Bottom Left Switch	N.O.	Blue-Orange Orange	Completes circuit to Horseshoe Selection Relay, from Horseshoe Disc.
Right Switch	N.O.	Red-Black White	Operates Horseshoe Selection Relay when higher odds are obtained.
HORSESHOE SELECTION RELAY			
Left Switch	N.O.	Brown Yellow	Operates Horseshoe Index Coil.
Right Switch	N.O.	Gray Brown-Yellow	Operates Control Unit Motor.
NO. 3 SELECTION RELAY			
Top Left Switch	N.O.	Orange-Red Blue-White	Lock-in switch for No. 3 Selection Relay.
Bottom Left Switch	N.O.	Red Yellow	Operates Selection Relay.
Right Switch	N.O.	Red Yellow-Black	Lights No. 3 Selection Light.
NO. 4 SELECTION RELAY			
Top Left Switch	N.O.	Red Green-Red	Lights No. 4 Selection Light.
Bottom Left Switch	N.O.	Red Yellow	Operates Selection Relay.
Right Switch	N.O.	White Blue-White	Lock-in switch for No. 4 Selection Relay.
NO. 5 SELECTION RELAY			
Top Left Switch	N.O.	Red-Green Blue-White	Lock-in switch for No. 5 Selection Relay.
Bottom Left Switch	N.O.	Red Yellow	Operates Selection Relay.
Right Switch	N.O.	Red White-Red	Lights No. 5 Selection Light.
PURSE-SCORES-WIN RELAY			
Top Left Switch	N.O.	Green Brown-White	Additional Horseshoe selection control.
Bottom Left Switch	N.O.	White White-Brown	Lock-in for Purse-Scores-Win Relay.
Top Right Switch	N.O.	Gray-Yellow Brown	Additional control for Horseshoe No. 1.
Bottom Right Switch	N.O.	Green Yellow-Red	Converts purse payout to win.
SHOW-SCORES-WIN RELAY			
Top Left Switch	N.O.	Red-Green Brown-White	Additional Horseshoe selection control.
Bottom Left Switch	N.O.	White-Brown Yellow-Red	Lock-in for Show-Scores-Win Relay.
Top Right Switch	N.O.	Brown Black	Additional control for Horseshoe Selection Relay.
Bottom Right Switch	N.O.	Green White-Yellow	Converts show payout to win.
WILD SECTION RUN RELAY			
Top Left Switch	N.O.	White-Red Blue-Yellow	Pulls Wild Section Step Relay (in back box) when 12-tooth Pulse Cam closes.
Bottom Left Switch	N.O.	Gray Brown-Yellow	Operates Control Unit Motor.
Right Switch	N.O.	Yellow-Black Blue	Lock-in for Wild Section Relay No. 1.
PAYOUT RELAY			
Center Switch	N.O.	White-Blue Red-Green	Energizes Payout Cam Index Coil also in series with Payout Cams.
DOUBLE PAYOUT RELAY			
Left Switch	N.O.	Green-Red Orange-Red	Lock-in switch for Double Payout Relay.
Right Switch	N.C.	Green-Yellow Brown-White	Opens circuit of 16-tooth Payout Cam.



FORM KENTUCKY-1009

KENTUCKY RELAY CHART

FIRST RELAY LISTED IS CLOSEST TO FRONT OF MECHANISM BOARD.

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

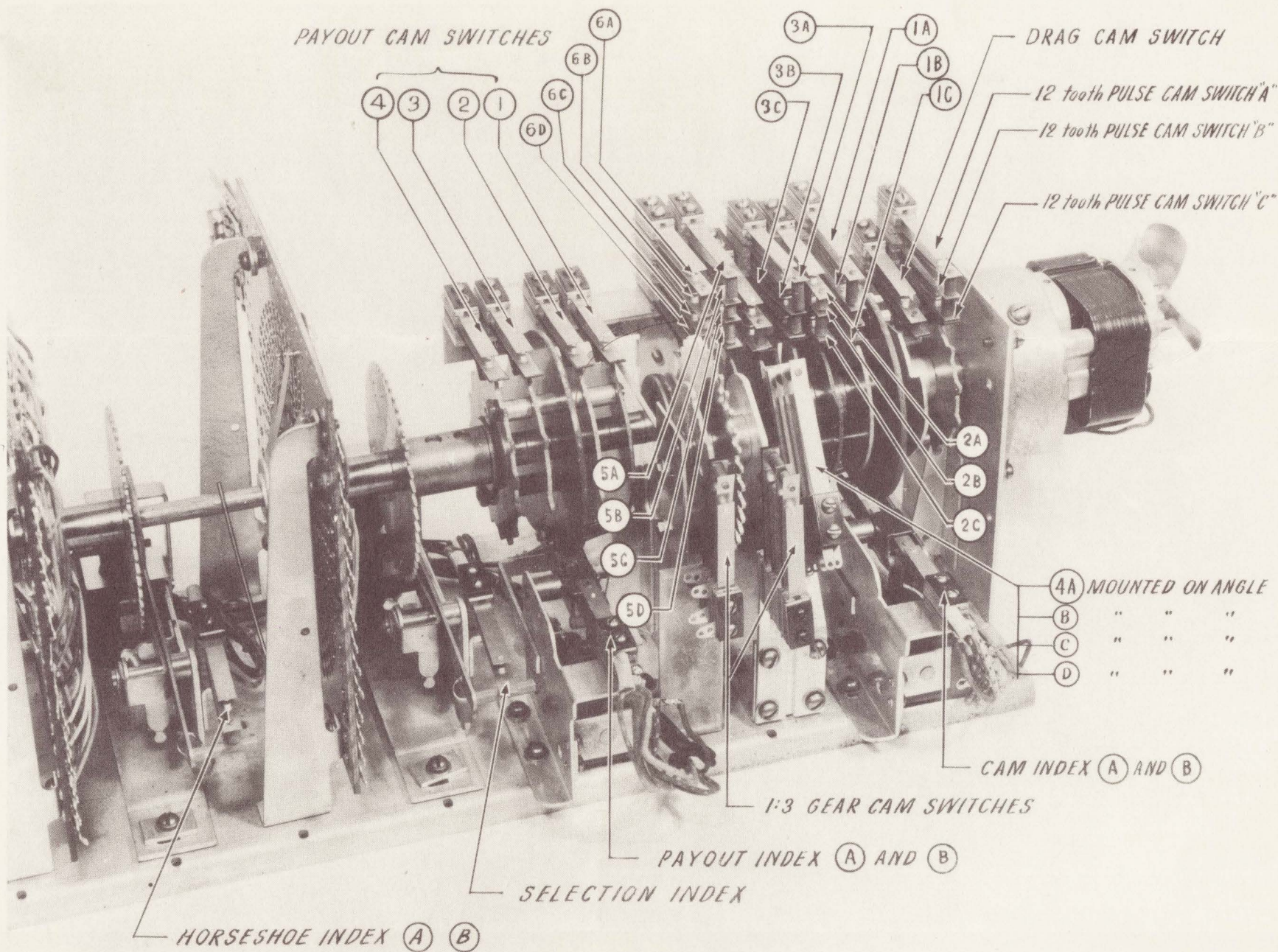
RELAY AND SWITCH	SWITCH CODE	WIRE COLORS	FUNCTION OF SWITCH
TOKEN RELAY			
Top Left Switch	N.O.	Brown-White Green-Yellow	Completes circuit from Payout Counter Step-Up Coil through Odds Disc to 8-Tooth Payout Cams.
Bottom Left Switch	N.O.	Green-White Black-White	Completes circuit to closed at 39 step switch on Payout Counter Unit to Token Unit.
Bottom Right Switch	N.O.	Red-Green White-Blue	Energizes Payout Cam Index Coil, also in series with Payout Cams.
ANTI-CHEAT RELAY			
Top Left Switch	N.C.	Gray Red-White	Allows Shutter Motor to operate if Anti-Cheat Relay is de-energized.
Bottom Left Switch	N.O.	White Black-Yellow	Lock-in switch for Anti-Cheat Relay.
Top Right Switch	N.O.	White-Brown Yellow-Black	Completes circuit to ABCD Disc.
Bottom Right Switch	N.O.	Red Brown	Opens 17-volt circuit when Anti-Cheat relay is de-energized.
START RELAY			
Top Left Switch	N.O.	White Blue-Orange	Operates Cam Index Coil; also in series with Feature Meter and Step-Up Coil.
Bottom Left Switch	N.O.	Red-White Red-Black	Operates Shutter Motor if Anti-Cheat Relay is de-energized.
Bottom Right Switch	N.O.	Black-Red White-Red	Lock-in switch for Start Relay.
Top Right Switch	N.C.	Red-Black Brown-Red	Safety for Odds Step-Up.
HORSESHOE NO. 1 RELAY			
Top Left Switch	N.O.	White-Green Brown-White	Lock-in switch for Horseshoe Relay No. 1.
Bottom Left Switch	S.P.D.T.	Green Red Gray	Normally feeds 17-volts to Odds-advance circuit and Selection Index Coil. When energized feeds Horseshoe Relay and Button No. 2.
Bottom Right Switch	S.P.D.T.	Black-Yellow White-Blue White-Green	Normally supplies power to flash-odds lights. When energized in series with switch on Horseshoe Relay No. 2a and double Payout Relay.
Top Right Switch	N.O.	Red White-Yellow	Lock-in switch and safety for Horseshoe Relay No. 2b.
HORSESHOE NO. 2a RELAY			
Top Left Switch	N.C.	Red-Green Gray	Shuts off Horseshoe No. 1 light.
Bottom Left Switch	N.O.	Slate-Black Gray	Lock-in switch for Horseshoe Relay No. 2a.
Top Right Switch	N.O.	Red White-Brown	Feeds Purse-Scores-Win Relay and Show-Scores-Win Relay.
Bottom Right Switch	N.O.	White-Green Green-Red	Feeds circuit to purse and show double lights, extra odds flash, odds advance lights and also Odds-Advance Relay.
HORSESHOE NO. 2b RELAY			
Top Left Switch	N.O.	Orange-White Gray-Yellow	Shorts out show and purse 15 ohm resistor on double payouts.
Bottom Left Switch	S.P.D.T.	Yellow-Black White-Yellow Green-Red	Normally feeds power to Horseshoe Feature No. 1 on Horseshoe Disc. When energized, acts as lock-in.
Top Right Switch	S.P.D.T.	Black Orange-Black Blue-Yellow	Shifts circuit for Wild Section advance through Horseshoe Disc, for Wild Section advances with No. 2 Horseshoe Feature on.
Bottom Right Switch	S.P.D.T.	Orange Blue-Orange White	Directs control circuits to Horseshoe Selection Relay for Horseshoe Features No. 1 and No. 2.
ODDS ADVANCE RELAY			
Top Left Switch	N.O.	Blue-Orange White-Brown	Completes circuit from Reflex Switches No. 3 and No. 5 parallel with Control Unit switch to open on fifth step switch on ABCD Unit.
Bottom Left Switch	N.O.	Red-Yellow White-Red	Completes circuit to Odds Advance Step-Up Coil.
Right Switch	N.O.	Gray Brown-Yellow	Operates Control Unit Motor.
EXTRA ODDS RELAY			
Switch	N.O.	White-Red Black-Yellow	Operates Odds Advance Step-Up Coil.
SELECTION RELAY			
Top Left Switch	N.O.	Yellow Green-White	Operates Selection Index Coil if proper control circuits are closed.
Bottom Left Switch	N.O.	Blue-Orange Orange	Completes circuit to Horseshoe Selection Relay, from Horseshoe Disc.
Right Switch	N.O.	Red-Black White	Operates Horseshoe Selection Relay when higher odds are obtained.
HORSESHOE SELECTION RELAY			
Left Switch	N.O.	Brown Yellow	Operates Horseshoe Index Coil.
Right Switch	N.O.	Gray Brown-Yellow	Operates Control Unit Motor.
NO. 3 SELECTION RELAY			
Top Left Switch	N.O.	Orange-Red Blue-White	Lock-in switch for No. 3 Selection Relay.
Bottom Left Switch	N.O.	Red Yellow	Operates Selection Relay.
Right Switch	N.O.	Red Yellow-Black	Lights No. 3 Selection Light.
NO. 4 SELECTION RELAY			
Top Left Switch	N.O.	Red Green-Red	Lights No. 4 Selection Light.
Bottom Left Switch	N.O.	Red Yellow	Operates Selection Relay.
Right Switch	N.O.	White Blue-White	Lock-in switch for No. 4 Selection Relay.
NO. 5 SELECTION RELAY			
Top Left Switch	N.O.	Red-Green Blue-White	Lock-in switch for No. 5 Selection Relay.
Bottom Left Switch	N.O.	Red Yellow	Operates Selection Relay.
Right Switch	N.O.	Red White-Red	Lights No. 5 Selection Light.
PURSE-SCORES-WIN RELAY			
Top Left Switch	N.O.	Green Brown-White	Additional Horseshoe Selection Control.
Bottom Left Switch	N.O.	White White-Brown	Lock-in for Purse-Scores-Win Relay.
Top Right Switch	N.O.	Gray-Yellow Brown	Additional control for Horseshoe No. 1.
Bottom Right Switch	S.P.D.T.	Yellow-Brown Yellow-Red Green	Completes circuit to Purse payout. When energized completes circuit to Win payout.
SHOW-SCORES-WIN RELAY			
Top Left Switch	N.O.	Red-Green Brown-White	Additional Horseshoe Selection Control.
Bottom Left Switch	N.O.	White-Brown Yellow-Red	Lock-in for Show-Scores-Win Relay.
Top Right Switch	N.O.	Brown Black	Additional control for Horseshoe Selection Relay.
Bottom Right Switch	S.P.D.T.	White-Brown White-Yellow Green	Completes circuit to Show payout. When energized completes circuit to Win payout.
WILD SECTION RUN RELAY			
Top Left Switch	N.O.	White-Red Blue-Yellow	Pulls Wild Section Step Relay (in back box) when 12-tooth Pulse Cam closes.
Bottom Left Switch	N.O.	Gray Brown-Yellow	Operates Control Unit Motor.
Right Switch	N.O.	Yellow-Black Blue	Lock-in for Wild Section Relay No. 1.
PAYOUT RELAY			
Center Switch	N.O.	White-Blue Red-Green	Energizes Payout Cam Index Coil also in series with Payout Cams.
DOUBLE PAYOUT RELAY			
Top Left Switch	N.C.	Green-Yellow Brown-White	Opens circuit of 8-tooth Payout Cams.
Bottom Left Switch	N.O.	Green-Red Orange-Red	Lock-in switch for double Payout Relay.
Top Right Switch	N.C.	Orange-Black Blue-Orange	Completes circuit from Odds Disc to open at 40 switch on Payout Counter.
Bottom Left Switch	N.O.	White-Orange Green-Yellow	Completes circuit to 10 Ohm resistor.

CHAMPION
CONTROL UNIT SWITCH CHART

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

FORM CHAMPION-1003

CONTROL UNIT SWITCHES	CODE	WIRE COLORS	FUNCTION OF SWITCHES
12 Tooth Pulse Switch A	N.O.	White-Red Yellow-Black	Wild Section Advance
12 Tooth Pulse Switch B	N.O.	White-Blue Green-White	Resets replays when replay reset button is pushed.
12 Tooth Pulse Switch C	N.O.	Black-Yellow Red-Yellow	Advances odds step up coil when odds advance is made.
Drag Cam Switch	S.P.D.T.	Blue-White Black-White Yellow	Energizes horseshoe index, steps up 400:1 and flashes feature lite.
Cam Switch 1a	S.P.D.T.	Red-Green Red-White Blue	Opens payout circuit, and tilts game if ball is in hole during cycle.
Cam Switch 2a	S.P.D.T.	Red-Green Black-Yellow Gray-Black	Feature circuit safety switch during cycle of control unit.
Cam Switch 3c	N.C.	White Black-Red	Opens start relay lock in circuit, coin lock magnet circuit and horseshoe button No. 1 circuit during cycle of control unit.
Cam Switch 2a	N.O.	Yellow-Red Green	Operate selection index coil.
Cam Switch 2b	S.P.D.T.	White-Blue Red White-Brown	Pulls in horseshoe No. 2b relay, completes circuit to horseshoe disc.
Cam Switch 2c	N.O.	Brown Black-White	Operates 400:1 unit, feature flash and horseshoe index.
Cam Switch 3a	S.P.D.T.	Red-Yellow Gray Red	Safety switch for horseshoe button No. 2 during cycle of control unit. Feeds step off wiper during spin.
Cam Switch 3b	N.C.	Black-Red Orange-Green	Safety for horseshoe No. 1 button.
Cam Switch 3c	N.C.	Red-Black Black-White	Safety switch for odds advance circuit.
Cam Switch 4a	N.O.	White Brown-Yellow	Subtracts replays, resets payout counter and ABCD unit. Operates odds control follow coil.
Cam Switch 4b	N.O.	Yellow-Black Green-Black	Pulses wild section step relay No. 1 which in turn operates wild section step up.
Alternator Cam Switch 5a	N.O.	Green-Red Brown	Additional horseshoe control 50% of the time.
Alternator Cam Switch 5b	N.O.	White-Blue Yellow	Additional selection control 50% of the time at 24 odds.
Alternator Cam Switch 5c	S.P.D.T.	Orange-Red Brown-White White	Carries No. 3, No. 4, selection circuit spotting depending on position of cam.
Alternator Cam Switch 5d	N.O.	Blue-White Blue-Orange	1 in 400 to 1 in 800 control for feature build up.
Alternator Cam Switch 6a	N.O.	Brown Green	Horseshoe control circuit.
Alternator Cam Switch 6b	N.O.	Black-Yellow Orange-Green	Operates coin divider (Kentucky only)
Alternator Cam Switch 6c	S.P.D.T.	Red Orange-Black Brown-White	Alternates L and R circuit.
Alternator Cam Switch 6d	N.O.	Black-White Orange-White	Odds advance control 50% of the time.
Payout Cam Switch No. 1	N.O.	Red-Green Green-White	Operates payout counter on 96-160 and 160 double payouts.
Payout Cam Switch No. 2	N.O.	Red-Green Orange-White	Operates payout counter on 96-160 and 160 payouts. Operates payout counter on 48 and 64 double payouts.
Payout Cam Switch No. 3	N.O.	Red-Green Blue-White	Operates payout counter on 48 and 64 payouts. Operates payout counter on 8, 12, 16, 24 and 32 double payouts.
Payout Cam Switch No. 4	N.O.	Red-Green Yellow-Black	Operates payout counter on 8, 12, 16, 24 and 32 payouts. Also operates replay step up and reflex payout magnet.
Switch "A" Mounted on Angle Cam 4	N.O.	Black Red-Green	Pulses wild section step relay when horseshoe No. 2 is on.
Switch "B" Mounted on Angle Cam 4	N.O.	Black-Red Blue-Orange	Pulses extra odds step relay when horseshoe No. 2 is on.
Switch "C" Mounted on Angle Cam 4	N.O.	Gray-Red White-Red	Trips out fan relay on 5th step of A.B.C.D. unit.
Switch "D" Mounted on Angle Cam 4	N.O.	Yellow-Black Blue	Pulls in No. 3, No. 4, or No. 5 selections, also wild section run relay.
Cam Index Switch A	N.O.	Green-White White-Green	Will register feature hits if meter is installed (see general instructions on feature hits).
Cam Index Switch B	N.O.	Gray Brown-Yellow	Operates control unit motor.
Payout Index Switch A	N.C.	Yellow Orange-White	Opens start circuit during payout.
Payout Index Switch B	N.O.	Gray Brown-Yellow	Operates control unit motor.
Selection Index Switch	N.O.	Gray Brown-Yellow	Operates control unit motor.
Horseshoe Index Switch "A"	N.O.	Blue Red-White	Flashes extra selection, all selection win to purse, and win to show lites.
Horseshoe Index Switch "B"	N.O.	Yellow-Black Blue	Flashes extra odds lite.
Gear 1:3 A	N.O.	Yellow Brown	Horseshoe control circuit.
Gear 1:3 B	S.P.D.T.	Brown-White Gray-Yellow Red-Green	Completes circuit to alternator cam No. 5c from 400:1 unit 1:20 switch, completes circuit to No. 5 selection relay.
Gear 1:3 C	N.O.	White White-Yellow	Breaks circuit to odds advance relay, parallel with reflex unit switches.
Gear 1:3 A	N.C.	Black-White Yellow-Red	Breaks circuit from horseshoe disc. to purse scores win relay and lite, if adjustment plug is out.
Gear 1:3 B	N.C.	Orange-White White	Breaks circuit from horseshoe disc. to show scores win relay and lite, if adjustment plug is out.



CHAMPION, KENTUCKY

CHECK-LIST OF CONTROL-CIRCUIT TESTS

This check-list provides a simple procedure for checking play-features and related control-circuits in CHAMPION and KENTUCKY games. Whenever operator or service-man desires, he may make the following tests to be sure that game is correct as far as play-features and award-level is concerned.

HORSE-SELECTION TESTS

The purpose of these tests is to prove out the circuits to Selection Index Coil and to be sure that Coil operates at successive stages of game as played.

TEST NO. 1 -- (A) Operate game by depositing coin or pressing Start Relay. Do not raise ball or place ball on Ball Switch.

(B) Operate 400-to-1 Unit by hand until Ratchet Switch with GREEN WIRE and YELLOW WIRE is OPEN.

(C) Turn Selection Disc by hand until Selection Relay energizes.

(D) Operate 400-to-1 Unit by hand, stepping Unit one position so that Ratchet Switch with GREEN WIRE and YELLOW WIRE is CLOSED.

RESULT: Selection Index Coil should energize.

TEST NO. 2 -- (A) Repeat procedures (A), (B), (C) of Test No. 1 (DO NOT CLOSE RATCHET SWITCH WITH GREEN WIRE AND YELLOW WIRE.)

(B) Open Alternator Cam Switch No. 5b (with Yellow Wire and White-Blue Wire).

(C) Advance Odds Unit by hand to 24-Odds.

(D) Operate Odds Follower Coil once.

(E) Close Alternator Cam Switch No. 5b.

RESULT: Selection Index Coil should energize.

NOTE -- The same circuit effective at 24-Odds is also effective at 32-Odds and 48-Odds.

TEST NO. 3 -- (A) Repeat procedures (A), (B), and (C) of Test No. 1.

(B) Open Alternator Cam Switch No. 5b (with Yellow Wire and White-Blue Wire).

(C) Advance Odds Unit by hand to 64-Odds.

(D) Operate Odds Follower Coil once.

RESULT: Selection Index Coil should energize.

TEST NO. 4 -- (A) Set Horse Selection Disc to any position at which Selection Relay is NOT energized.

(B) Push in No. 3 Selection Relay by hand.

RESULT: Selection Index Coil should energize.

TEST NO. 4A -- (A) Repeat procedure (A) of Test No. 4.

(B) Push in No. 4 Selection Relay by hand.

RESULT: Selection Index Coil should energize.

TEST NO. 4B -- (A) Repeat procedure (A) of Test No. 4.

(B) Push in No. 5 Selection Coil by hand.

RESULT: Selection Index Coil should energize.

TEST NO. 4C -- (A) Repeat procedures (A), (B) of Test No. 4B (Selection Index Coil should energize).

(B) Advance A-B-C-D Unit to fifth step by operating Test Switch next to Payout Counter (with White Wire and Red-Yellow Wire).

RESULT: Circuit to Selection Index Coil should break.

HORSE-SHOE SELECTION RELAY TESTS

(WHEN NO. 1 HORSE-SHOE IS PLAYED)

PREPARATION -- (A) Connect clip wire between Red Wire and Grey Wire on Cam Switch No. 3.

(B) Operate game by depositing coin or pressing Start Relay. Do not raise ball or place ball on Ball-Switch.

(C) Push No. 1 Horse-Shoe Button.

NOTE -- In the following tests ZERO button is TOP CENTER BUTTON IN OUTSIDE ROW on Horse-Shoe Disc. Button to right of Zero button (as operator faces wiring side of Disc) is No. 1 button. Button to right of No. 1 button is No. 2 button. Buttons continue numerically around disc in clockwise direction to No. 49 button, which is button to left of Zero button.

To set wipers to zero position, set wiper PAINTED RED to point to Zero button; all other wipers will then be on proper relative position. To set wipers to THIRD position, for example, set wiper PAINTED RED to point to No. 3 button; all other wipers will then be on proper relative position.

TEST NO. 1 -- (A) Set Horse-Shoe Wipers to ZERO position.

(B) Close Selection Relay.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

TEST NO. 2 -- (A) Reset Wild Section Unit to starting point (W only of WILD lit).

(B) Set Horse-Shoe Wipers to 16th position.

(C) Connect clip wire from any point of frame of Control Unit to GREY-RED WIRE on Cam Switch No. 4 (angle-mounted switch).

RESULT: (A) Horse-Shoe Selection Relay should energize momentarily AND Fan Relay should trip.

TEST NO. 3 -- (A) Reset Fan Relay by pushing Shutter-Board.

(B) Set Horse-Shoe Wipers to 3rd position.

(C) Operate Odds Unit by hand to 48-Odds.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

NOTE -- Repeat Test No. 3, operating Odds Unit to 64-Odds, 96-Odds and 160-Odds. In each case Horse-Shoe Selection Relay should energize momentarily.

TEST NO. 4 -- (A) Reset Odds Unit to 8-Odds.

(B) Set Horse-Shoe Wipers to 28th position.

(C) Operate Odds Unit by hand to 96-Odds.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

NOTE -- Repeat Test No. 4, operating Odds Unit to 160-Odds. Horse-Shoe Selection Relay should energize momentarily.

TEST NO. 5 -- (A) Set Odds Unit to 8-Odds.

(B) See that Selection Relay is NOT energized.

(C) Set Horse-Shoe Wipers to 43rd position.

(D) Advance Wild Section Unit by hand to S of PURSE.

RESULT: Horse-Shoe Selection Relay should energize momentarily AND Wild Section Unit should advance to S of PURSE.

TEST No. 6 -- (A) Set Horse-Shoe Wipers to 16th position.

(B) Advance Wild Section Unit to O of SHOW.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

HORSE-SHOE SELECTION RELAY TESTS

(WHEN NO. 2 HORSE-SHOE IS PLAYED)

PREPARATION -- (A) Connect clip wire between Red Wire and Grey Wire on Cam Switch No. 3.

(B) Operate game by depositing coin or pressing Start Relay. RAISE BALL OR PLACE BALL ON BALL-SWITCH.

(C) Push No. 1 Horse-Shoe Button and operate game again by depositing coin or pressing Start Relay.

(D) Push No. 2 Horse-Shoe Button and operate game again by depositing coin or pressing Start Relay.

TEST NO. 1 -- (A) Set Horse-Shoe Wipers to FIRST position.

(B) Advance Wild Section Unit to E of PURSE.

(C) Operate Odds Unit to 96-Odds.

(D) Operate Odds Follower Coil once.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

NOTE -- Repeat Test No. 1, operating Odds Unit to 160-Odds. Horse-Shoe Selection Relay should energize momentarily.

TEST NO. 2 -- (A) Set Horse-Shoe Wipers to 1st position.

(B) Operate Odds Unit to 8-Odds.

(C) Open Gear Cam Switch with Yellow Wire and Brown Wire.

(D) Open Alternator Switch No. 6a (with Green Wire and Brown Wire).

(E) Plug male adjustment plug with Red-Black Wire (located to right of Control Unit) into Yellow Wire socket only.

(F) Close Gear Cam Switch with Yellow Wire and Brown Wire.

(G) Close Purse Scores Win Relay.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

TEST NO. 2A -- (A) Repeat procedures (A), (B), (C) of Test No. 2.

(B) Plug male adjustment plug with Red-Black Wire (located to right of Control Unit) into Green Wire socket only.

(C) Close Alternator Cam Switch No. 6a (with Green Wire and Brown Wire).

(D) Close Show Scores Win Relay.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

TEST NO. 3 -- (A) Set Horse-Shoe Wipers at 1st position.

(B) Open Gear Cam Switch with Yellow Wire and Brown Wire.

(C) Close Show Scores Win Relay.

(D) Operate Odds Unit to 96-Odds.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

NOTE -- Repeat Test No. 3, operating Odds Unit to 160-Odds. Horse-Shoe Selection Relay should energize momentarily.

TEST NO. 4 -- (A) Set Horse-Shoe Wipers to 6th position.

(B) Close Purse Scores Win Relay.

(C) Operate Odds Unit to 96-Odds.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

TEST NO. 5 -- (A) Repeat procedures (A), (B) of Test No. 4.

(B) Set Odds Disc and Odds Follower by hand to 48-Odds.

(C) Close Selection Relay.

RESULT: Horse-Shoe Selection Relay should energize momentarily.

NOTES

