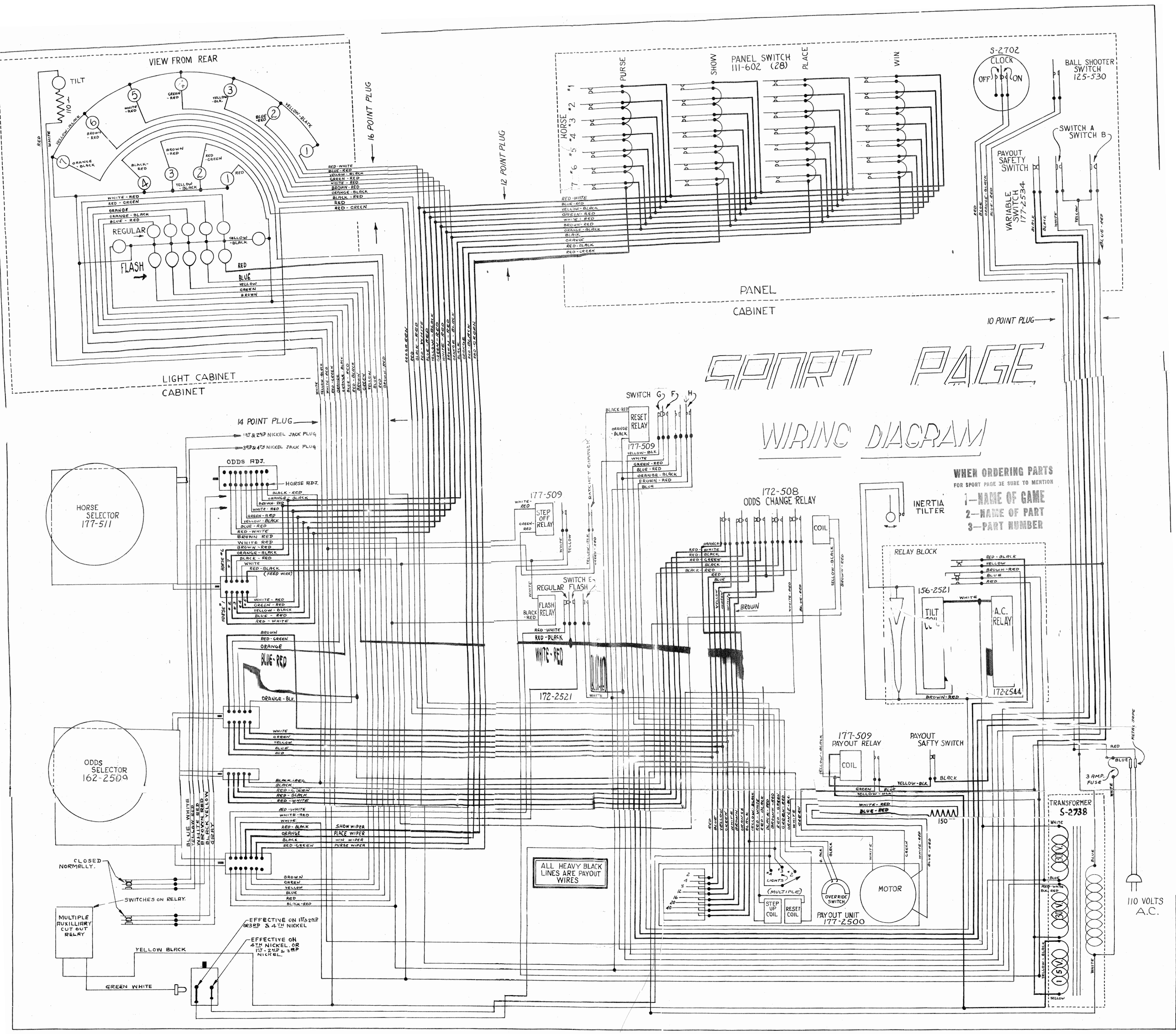

The following description, TOGETHER WITH THE WIRING DIAGRAM, will assist you in making any slight adjustments which may be necessary.

OPERATION OF MACHINE

The operating part of the game consumes no electric power until coin is deposited and Coin-Chute pushed in; when this is done the Clock-Switch is closed. Forward motion of Coin-Chute also mechanically latches the Variator (for further Variator adjustments, see paragraph below headed, ADJUSTMENT OF VARIATOR). When Variator is latched, Switch C is open and breaks the payout circuit. Switches A and B are also open.

Return motion of the Shuffle Board trips off the Variator, closing the electric circuit by means of Switch A to the Horse Selector, the Odds Selector and the Flash Relay. During the time this switch is closed, the Selectors rotate and flash the lights in the Light Box.

Switch B is also closed when Switch A is closed. Switch B controls the step-up or reset of the Multiple Unit, and also sets up (energizes) the A.C. Relay. When the game is first plugged in, the ball must not be on the Ball Shooter Switch, otherwise the A.C. Relay will not be set up. This feature is built into the circuit to prevent a player from pulling the plug, buying back the ball and raising it to rest on the Ball Shooter Switch, and then inserting the plug into the wall socket.

IF ODDS SELECTOR OR HORSE SELECTOR FAILS TO ROTATE

If Selector Units or Flash Relay fail to operate, the Mechanism Drawer should be pulled out to allow convenient access to all parts. First check the Variator (located on the underside of panel), to determine if Switch A closes (that is, makes contact) when Shuffle Board is pushed forward and pulled out again, as a player would do when depositing a coin. If this Switch does not close and open correctly, or if the Variator does not operate properly, read instructions under heading, ADJUSTMENT OF VARIATOR.

If it is found that the Variator is working properly, but the Selectors fail to rotate, read instructions under heading ADJUSTMENT OF SELECTOR UNITS.

IF FLASH RELAY FAILS TO ENERGIZE (PULL UP)

Flash Relay fails to pull up when Selectors are rotating, check the wiring to the Relay Coil or the coil itself. The Flash Relay is located in the middle of the drawer, is mounted vertically and is close to the Power Transformer.

OPERATION OF MULTIPLE PAYOUT CIRCUIT

The method of paying out various numbers of checks at a time is controlled by an Engaging Mechanism in the Payout Unit. This Engaging Mechanism is controlled by the Step-up Coil and circuit.

The Step-up Coil is mounted vertically at the left of the Payout Tube. The means to return the Engaging Mechanism is accomplished with a Reset Coil mounted horizontally. This returning mechanism is controlled by the Reset Coil and circuit.

When the Variator is tripped, it closes Switch B, which supplies current to the Reset Relay (located in the cabinet). This current first has to flow through the Ball Shooter Switch and then through Switch E on the Flash Relay (which, of course, is closed when the Flash Relay is energized). When there is no ball on the Ball Shooter Switch, the Reset Relay pulls up and feeds current to the Reset Coil on the Multiple Payout Unit.

If, however, a ball is lying on the Ball Shooter Switch, the Reset Relay will not be energized, and current will be fed to the Step-up Coil on the Multiple Payout Unit.

IF MULTIPLE PAYOUT UNIT FAILS TO RESET

The complete circuit that supplies current to the Reset Coil is as follows: The current starts from the Transformer, through the Yellow Wire, across the Variator Switch B, through the Blue - and - Red Wire, across the Ball Shooter Switch, through the Orange-and-Black Wire, to the Reset Relay coil, through the Reset Relay coil, through the Black-and-Red Wire to the Transformer. When there is no ball on the Ball Shooter Switch, the Reset Relay should pull up. If it does not, then check for a shorted Reset Relay Coil, or an open in the circuit described above. Always check Plug Connections which carry this particular circuit and be sure that Switches are making contact when required.

If, however, the Reset Relay pulls up, but the Reset Coil on the Multiple Payout Unit fails to pull up, check the following circuit:

When the current flows across Switch B on the Variator, it flows along the Blue-and-Red Wire to the Ball Shooter Switch. It also flows through another Blue-and-Red Wire connected at the same point on the Variator Switch, across Switch E on the Flash Relay, through a White Wire to the middle leaf of Switch E on the Reset Relay. During a reset cycle the Switch should be closed, to allow current to flow to the leaf connected to a Green-and-Red Wire, through this Green-and-Red Wire to the Reset Coil on the Multiple Payout Unit, and back to the Power Transformer through a Red-and-White Wire. If the Reset Coil does not pull up, check for a shorted Reset Coil or a break in the circuit just described. Always check Plug Connections which carry this particular circuit and be sure that Switches are making contact when required.

IF MULTIPLE PAYOUT UNIT FAILS TO STEP-UP

On a step-up operation the circuit that supplies current to the Step-up Coil is as follows: The current starts from the Transformer, through the Yellow Wire, across the Variator Switch B, through the Blue-and-Red Wire, across Switch E on the Flash Relay, through a White Wire to the middle leaf of Switch F on the Reset Relay. (Up to this point the path of current flow is identical with that for a reset operation. First see text under heading IF MULTIPLE PAYOUT UNIT FAILS TO RESET.) During a step-up cycle there should be a ball on the Ball Shooter Switch, which will open this Switch and not allow any current to flow to the Reset Relay (see heading IF MULTIPLE UNIT FAILS TO RESET for operation of the Reset Relay). Now that the Reset Relay remains un-energized, the middle leaf connected to the White Wire is contacting the leaf connected to the Yellow-and-Black Wire, across Switch G. The current flows through this Yellow-and-Black Wire to the Step-up Coil on the Multiple Payout Unit, through the Step-up Coil and through the Red-and-White Wire to the Power Transformer. If the Step-up Coil does not pull up, check for a shorted Step-up Coil or a break in the circuit just described. Always check Plug Connections which carry this particular circuit and be sure that Switches are making contact when required.

IMPORTANT!

Also check the Multiple Payout Unit to see if the Payout Unit has not stopped in such a position as to prevent the Multiple Rack from moving in to engage the Slides. To correct this condition, make a payout on the machine, and check to see if the Payout Unit stops in such a position as to allow the Rack to move in and engage additional slides on the Unit. Make adjustment on the Circular Override Switch at right side of Motor to enable motor to stop Slides in such a position as to allow Rack to move in and out when Motor is stopped. Also read ADJUSTMENT OF MULTIPLE PAYOUT UNIT.

IF MULTIPLE UNIT STEPS-UP MORE THAN ONE STEP FOR A SINGLE COIN CHUTE STROKE

If the Step-up Coil on the Multiple Payout Unit steps up more than one step for a single Coin-Chute stroke, this is probably caused by Switch vibration. The Switches to check are Switches A, B, E and G. Switches A and B on the Variator should close when the Variator is tripped, without a great deal of arcing across the switch contacts, although it will be impossible to rectify this completely. Reduce it as much as possible by bending the back sides of both Switch A and B toward the Switch-Operating Arms. Then the two front sides of the Switches (nearest to the Switch-Operating Arms) should be bent toward the Switch-Operating Arms. There should be approximately 1/8 to 3/16 of an inch clearance between Silver Contacts on Switches in the open position, when the variator is cocked (ready to be tripped off).

After the second Operating Arm has pushed against the back leafs on the Switches, they both should be open. Switch E on the Flash Relay should not close until the Plunger of the Relay is making its last 3/8 of an inch of stroke.

Switch G on the Reset Relay should not vibrate. In other words it should be making good contact between the leafs connected to the white and the Yellow-and-Black Wires.

Also read heading below ADJUSTMENT OF A.C. RELAY.

ADJUSTMENT OF MULTIPLE PAYOUT UNIT

The Multiple Payout Unit should be inspected regularly. What should be checked first is the Adjustment Screw located in a Square Post, at the back of the Payout Unit. This Screw limits the return stroke of the Lower Slide. Continual stopping against this screw will eventually require its re-adjustment, so as to re-align the Holes in the 4 Payout Slides with the Tube. When this has been re-aligned, it might require a re-locating of the Small Plate attached to the bottom of the Slide. This Small Plate carries the Step-up and Reset Coils and the Rack, and may be shifted by loosening the two Screws located just under the two Return Coil Springs.

When the Rack is engaging all four Slides, there should be about 1/16 of an inch clearance between the nearest side of the Rack and the 3 Upper Slides. When the Motor starts, the Lower Slide moves forward, pushing the Rack flush against the 3 Upper Slides.

After this has been adjusted, it is well to inspect the Over-ride Switch located on the circular portion of the Motor in the correct position. Shifting this Switch will change the stopping point of the Motor. It is well, however, not to change the setting unless the clearance necessary for the Rack movement has decreased considerably.

If it is found that Payout Unit fails to deliver the total number of checks required, this can be due to a number of causes. The Holes in the Payout Slides may not be alligning up with Tube (for corrections, read previous paragraphs) or the Drum is jumping two Notches on the Ratchet instead of one. To correct this jumping, the Adjustment Screw in the Square Post, described above, should be screwed in, not allowing Main or Bottom Slide to return so far. Whenever this Screw is moved, always inspect the Holes in the Payout Slides for alignment with Tube.

Also increase the tension on the Torsion Spring holding down the Top Latching Dog. This is the Latch that prevents the Drum from resetting, and is the Top Latch. Increasing the tension on the Drum Spring might also rectify part of this trouble. Read below for instructions how to tighten Drum Spring.

After the game has been in operation for a considerable length of time, the Drum may fail to reset far enough to allow all the Fingers to rest on the Brass Drum, through the Cutouts on the Insulating Paper. To tighten Spring, hold drum firmly with one hand and with the other hand remove the Bolt on the right side of the Drum. Then push Drum in a clockwise direction (that is, toward the back of machine) until the Hole for the Bolt again appears above the Stop or Supporting Bracket. Replace Bolt, but do not disturb Contact Fingers.

If Unit fails to pay out, check all of the Phosphor Bronze Wiper Fingers to determine if they are all contacting the Brass Drum.

All the Slides on the Multiple Unit are sized and polished on their bearing surfaces. Continual use, however, might scrape up minute particles of metal and cause frictional rubbing between the Slides and sides. If it is found that the various Slides do not move freely, it might be necessary to disassemble the Unit and remove the slides. The unit is easily removed by unscrewing, and unplugging the 20-point Connector Plug.

The bearing surfaces of the Slides should then be rubbed and smoothed, using a very fine emery paper and oil. Do not rub excessively but only enough to brighten up the surface to a high polish. Use the finest emery paper, and use it sparingly.

The Reset Arm on the Payout Unit might become slightly bent after usage. There is an adjustment for this described under the heading PAYOUT RESET.

If there is not enough adjustment provided at the Reset Lever at right of drawer, bend the Reset Arm of the Payout Unit toward the front of drawer to compensate for the bend produced in it by usage.

OPERATION OF MACHINE

When ball is shot into a winning pocket, the Multiple Payout Unit pays out the amount indicated for that particular set of pockets (that is, WIN, PLACE, SHOW OR PURSE), as indicated by the Odds lit up in the Light Box.

The number of nickels paid will determine the number of slides engaged. If 4 nickels or more are played for any one shooting of the ball, all 4 Slides will be engaged, of course. Each Slide pays out 2 nickels.

IF PAYOUT FAILS TO OPERATE

Check Switch under pockets in which ball was shot to see that Contacts are closed by weight of the ball. Also see that Safety Switch Contacts are closed. Also see that there is no break in the Wiring to the Switch. Also check the Wipers on the Horse Selection Step-up Unit to see that they are making good contact. (To determine pocket to which any particular Wiper is connected, lift Wiper off of Contact Button and corresponding Light will go off in the Light Box.)

Also see that the 5 Wipers on the Odds Step-up Unit are contacting.

The particular Wiper on the Odds unit for any set or rank of pockets (such as Win, Place, Show or Purse) is as follows:

Outside wiper . . . . . Flash lights
5th wiper . . . . . Regular lights
4th wiper . . . . . Show
3rd wiper . . . . . Place
2nd wiper . . . . . Win
Inside wiper. . . . . Purse

Also check the Phosphor Bronze Fingers on the Payout Unit to determine if they are making good contact.

IF PAYOUT IS HIGHER THAN INDICATED

If the payout is higher than indicated the Wires at the Payout Unit may be touching or the Wires at the 20-point Connection Plug may be touching. Also check the Wiring for the particular set or rank of pockets concerned. That is, if ball was shot in a pocket in the Win section, check Wiring for Win pockets; if ball was shot in a pocket in the Place section, check Place Wiring; if Show, check Show Wiring; if Purse, check Purse Wiring. Make sure that none of these wires are touching each other at the Plugs leading to the Odds Step-up. Also see that wires leading from these Plugs are not touching where they are soldered to the Brass Rings.

A higher payout than indicated may also be caused by the Odds Change Relay. This Relay has a Switch Assembly consisting of 5 sets of 3 leaf-switches. THE MIDDLE LEAF OF EACH SET SHOULD CONTACT ONLY ONE OTHER LEAF depending on whether the Relay is energized or at rest.

ODDS CHANGE RELAY

The correct adjustment of this Relay is indicated under heading IF PAYOUT IS HIGHER THAN INDICATED. When Switch A on the Variator is closed, the Horse and Odds Selections will rotate and the Flash Relay will pull up. During this time the Odds Change Relay will pull in and release intermittantly as the Selectors rotate. It may or may not remain pulled up after the Selectors have stopped rotating, depending upon where the Selectors have stopped and what Socket the Adjustment Plug is connected to.

ADJUSTMENT OF VARIATOR

The Variator is pushed forward each time a nickel is inserted and Coin-Chute pushed forward. By observing the operation of the Variator, it will be seen that there is a small Dog that falls into place and virtually locks the Variator on the instroke of the Main Operating Arm.

After this Dog has dropped into place, it will be observed that the Main Operating Arm may now be reversed in direction and allowed to return to its outward position.

However, it will be observed that approximately one-half inch backward or return motion is required before the Dog is tripped out, allowing two Switch Operating Arms to alternately close and open the Switches.

IMPORTANT!

It is absolutely necessary that the forward stroke of the Main Operating Arm of the Variator should allow the Dog to latch. By pushing the Main Operating Arm of the Variator only a short distance, it may be seen that the Switches will not be closed if the Main Operating Arm is returned slowly to normal.

If this Dog does not latch on the forward stroke, the Adjustment Bracket operating it should be moved forward so that it will latch the Dog. If this latching is not accomplished, player may move the Coin-Chute in and out slowly without closing the two Switches and thereby not rotating either of the Spinners.

The length of time the Switches on the Variator are closed varies each time, due to varying tensions of the Return Spring on the Ratchet.

If it is desired to increase or decrease the average length of spin time, this may be accomplished by unscrewing or screwing up the Bleeder Screw on the Dashpot of the Variator.

IMPORTANT!

It is also important that Variator operates in such a manner that the Spinners rotate BEFORE the player is able to obtain or shoot the ball. This also prevents another form of cheating.

IF LIGHTS FLICKER

Read heading titled, ADJUSTMENT OF A.C. RELAY. If any of the leafs of the switches on the A.C. Relay do not have stiff tension they might flutter up and down and cause the Lights to go on and off.

If the 4 Multiple Lights flicker, check the 3 Wiper Fingers on the Multiple Unit for correct tension.

IF PAYOUT RELAY FLUTTERS

If Payout Relay (located in drawer) flutters up and down while the Payout Unit is operating, the Bronze Fingers riding on the Payout Drum do not press tightly enough against the Brass Drum. The remedy is to increase their tension.

ADJUSTMENT OF A. C. RELAY

The A.C. Relay, Tilt Coil and Tilt Plumb-Bob are located on a Vertical Mounting Block located in the drawer. When the Reset Relay is energized, it closes Switch H, which closes the circuit to the A.C. Relay, allowing it to pull up. When the A.C. Relay is pulled up (energized) the switch leaves connected to the Blue and the Brown-and-Red Wires should be closed. Also the switch leaves connected to the Yellow and the Red-and-Black Wires should be closed. If either of these two pairs of Contacts are not making contact firmly, the Lights might flicker or the A.C. Relay drop out. The remedy is to provide more tension on the Switch leaves.

INERTIA TILTER

At the left side of the drawer, located on the Side Mounting Board, is an Inertia Tilter. This consists of a Pivoted Bar, weighted at one end. It is operated by means of a Pin in the Main Operating Arm, on the side board. When the Coin-Chute is operated normally, this Bar will not be pushed against the Tilter Switch on the side board, but if the Coin-Chute is pushed in fast, or a steel slug is inserted in the Coin-Chute, and the Coin-Chute pushed in quickly, the Bar will be hit and thrown up against the Tilter Switch. This will prevent any rough handling of the Coin-Chute. If the game tilts too easily determine if the Plumb-Bob is set too close, or if the Tilter Switch operated by the Inertia Tilter is set too close to the operating bar of the Inertia Tilter.

IF MACHINE FAILS TO OPERATE AND FAILS TO LIGHT UP

First check A.C. Plug into wall socket, making sure that contact is being made. Then check Fuses. See that Fuse Clips make positive contact against the Fuses. The Clock Switch should be checked to see that the "on" set of contacts are making when the Masonite is pushed in. See that Switch H on the Reset Relay is closing when the Reset Relay is energized. Also read heading titled ADJUSTMENT OF A.C. RELAY.

If trouble is not found to lie in these items, start from the 110-volt A.C. Plug (into house current outlet) and continue on through the entire machine, checking all along the line.

IN NO CASE SHOULD A FUSE OF HIGHER AMPERAGE THAN THAT INSTALLED IN MACHINE BE INSERTED IN FUSE CLIPS.

PAYOUT RESET

If it is found that Payout Reset is being cheated by the use of steel slugs, check the Reset Mechanism in the drawer. See that all parts are working freely. By loosening the Set Screw on the Reset Lever at right of drawer and moving the Connection Piece forward, steel slug cheating can be eliminated, as such cheating is possible only when Reset Mechanism gets out of adjustment after machine is shipped. Also read heading ADJUSTMENT OF MULTIPLE PAYOUT UNIT.

SERVICE PARTS

Order all parts by BOTH NAME AND NUMBER to insure prompt delivery of correct part, and also indicate where part is located in game, and if possible enclose a rough sketch of part required.