HANDLE LOCKOUT ASSEMBLY

OPERATION AND SERVICE

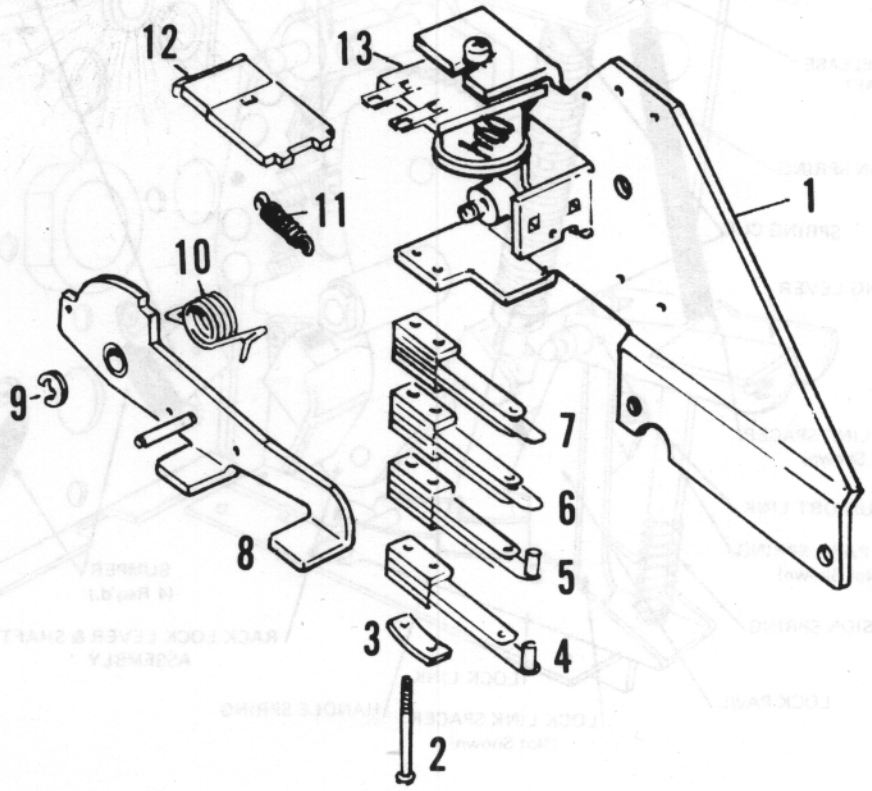
On your slot machine schematic, the handle lockout unit components are usually referred to as the 'handle release coil and switches'.

The handle lockout unit is activated by a pulse from a coin relay switch (via the coin switch). At this time, the energized handle release coil attracts its armature which in turn releases the armature latch lever which drops in front of the handle mechanism's top lock pawl. With the handle mechanism lock pawl thus engaged, the handle can now be pulled. Also, at this time, the released armature latch lever has operated the handle release switches whose various functions are described in the previous reel mechanism function section. As the handle is pulled to initiate play, the handle mechanism's reset shaft mechanically resets the armature latch lever just prior to the reels' kick-off and spin. At this time, the handle lockout and switch units are reset and ready for another play cycle. The lockout unit needs very little service except for occasional switch cleaning and spring, coil and latch inspection.

HANDLE LOCKOUT ASSEMBLY

INDEX NO.	DESCRIPTION		
1.	Relay Frame and Mounting Assembly	8.	Latch Arm Assembly
2.	Screw	9.	'E' Ring
3.	Plate	10.	Return Spring
4.	Switch	11.	Extension Spring
5.	Switch	12.	Armature
6.	Break Switch	13.	Handle Release Coil
7.	Make Switch Handle Release		

Note: Plain washer not shown between coil & relay frame.



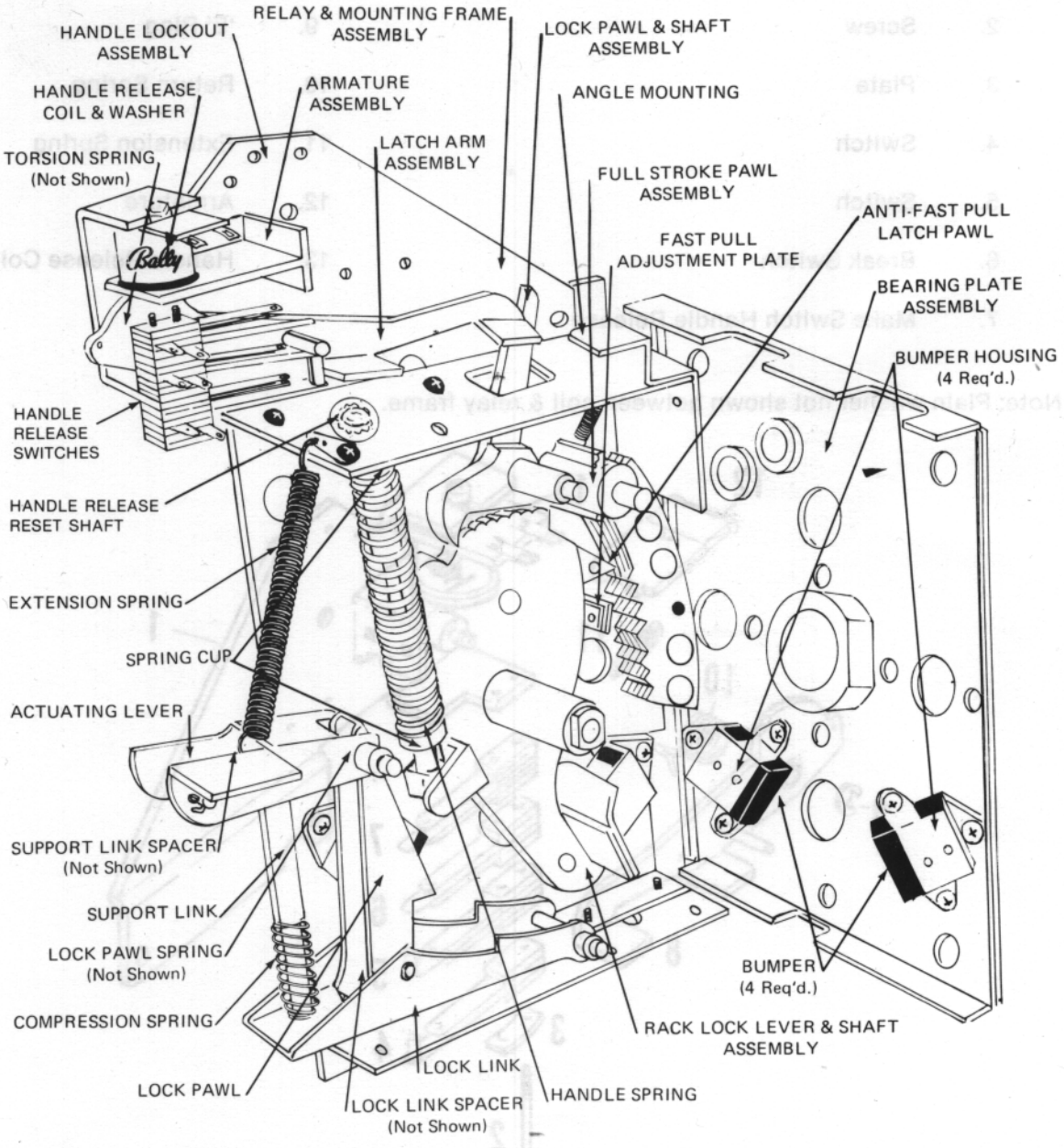
HANDLE MECHANISM

It is the handle mechanism which initially receives the impact of a hard handle pull. Because of the tough service requirements, this unit must be of the strongest construction. As a safety factor, the handle is built to specifications ten times the necessary strength to protect the reel mechanism from the most aggressive player. There have been several new developments designed to strengthen and protect the handle mechanism. First, an anti-fast pull speed lock (note ratchet) was added in 1970. In mid-1973, the full stroke pawl and locking links were redesigned and strengthened. If you check the exploded view, you will notice that these improvements can be incorporated on older machines. It is also suggested that the new front, anti-wiring shield be in place at all times. Because of the heavy duty use, the handle mechanism should be lubricated periodically. Use our Lubriplate No. 1 oil on the light duty pivot points and our Hydrotex Lube #651 on points of heavy stress and sliding parts. Be sure the anti-fast pull, speed lock pawl swings freely on its pivot, since it engages the ratchet on a centrifugal force principle (do not lubricate).

Note: See new handle mechanism in production as of June '77.

HANDLE MECHANISM ASSEMBLY

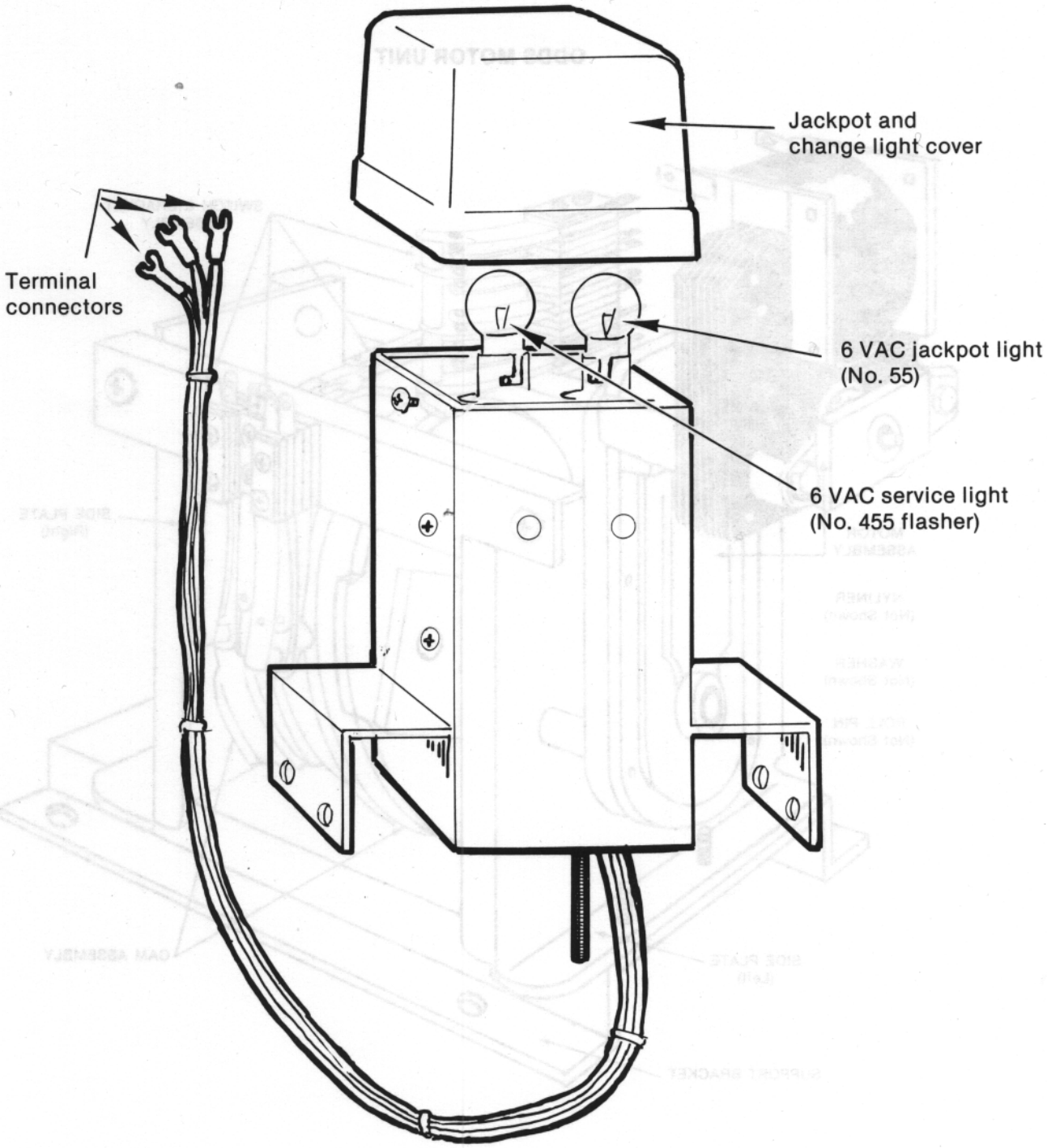
NEW HANDLE MECHANISM IN PRODUCTION JUNE 77 MACHINES



JACKPOT TOWER ASSEMBLY

The Jackpot Tower Assembly is an additional feature which can be added to a slot machine. It is mounted to the top of the machine. The functions of this assembly are to indicate that the machine that this assembly is mounted to needs service (via service button). It will also indicate that a Jackpot has been won. This assembly utilizes two (2) 6VAC light bulbs which are mounted inside the jackpot and change light cover. One light is a standard 6VAC light bulb no. 55 which remains on continuously during a jackpot. The second light is a no. 455 flasher which will flash on and off once the player operates the service button.

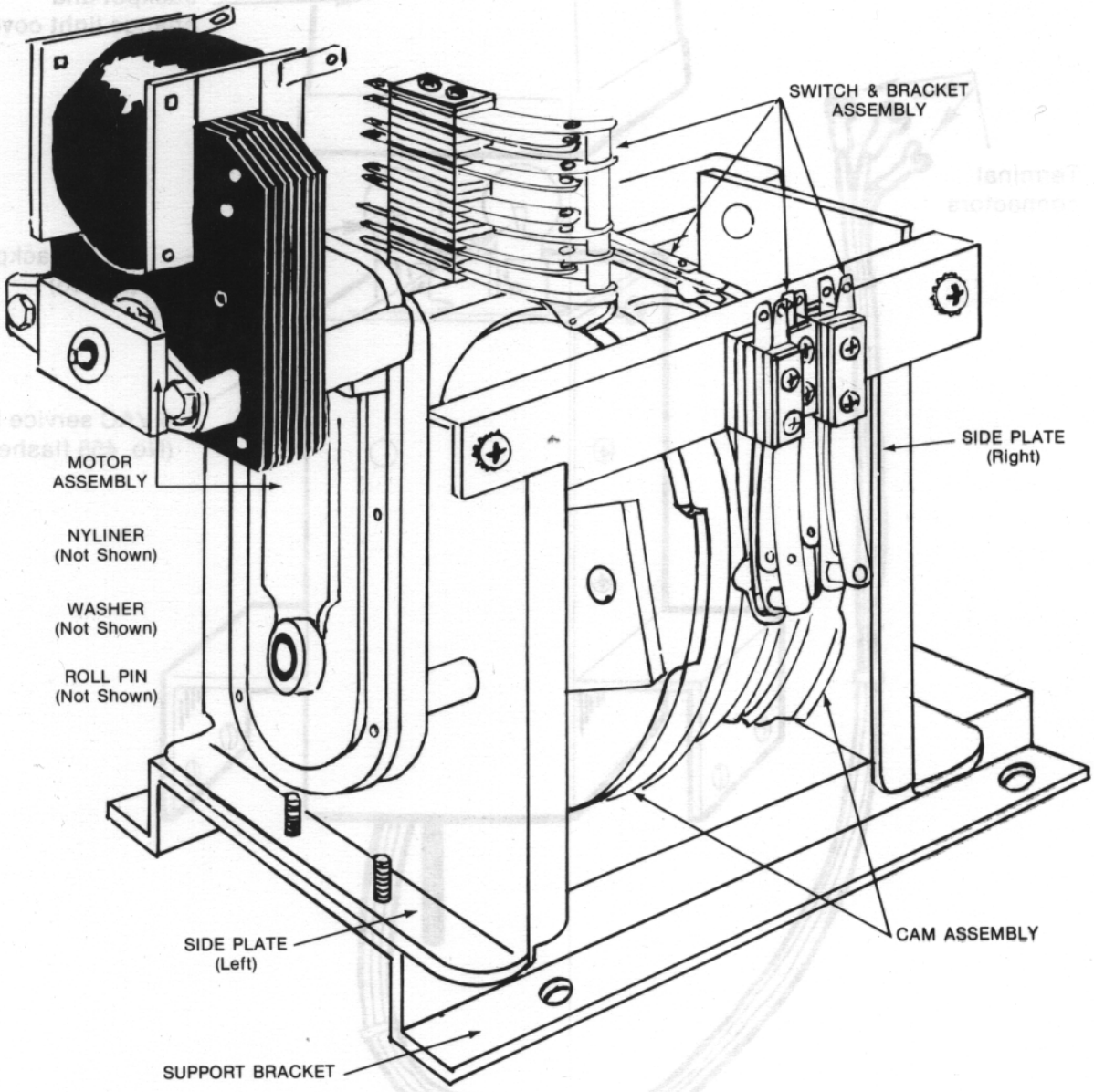
JACKPOT TOWER ASSEMBLY



ODDS MOTOR UNIT

The odds motor unit controls the sequence of various circuits. This is accomplished by a motor driven set of cams that operate their respective switches in a fixed pattern. This assembly is used in several slot machines and consists of a frame, a motor, switches and cams which are mounted on a common shaft. The cams are numbered in sequence starting with #1 cam closest to the motor. The cam switches are lettered alphabetically, starting with 'A', for the bottom switch of a switch stack. For example: Switch 3B, (OM) is a switch on the odds motor unit (OM) operated by #3 cam and it is the second switch (B) from the bottom of the switch stack. The motor has to receive a starting pulse from various sources; however, it will cycle itself one revolution (180° rotation), by means of motor run switch on #1 cam.

ODDS MOTOR UNIT



STEP-UP UNIT

Other Names: Stepper unit, rotary switching unit, step switcher unit, etc. The unit has two solenoids — one to drive (step-up) the unit and another to reset the unit to index (zero) position. The odds unit and payout counter unit are examples of this type of unit.

Purpose of Step-Up Units: The units provide multiple feeds to the reel discs (line unit), act as a memory and display for total coins in for each handle pull (odds unit). It also controls the multiplying sequence in a payout (odds followers), etc. They are switching units in that they make or break circuits in a definite pattern. Actual switching is done by the wiper assembly making contact with wired rivets or "printed circuits" on the bakelite disc.

Operation of the Unit: Step-up drive solenoid; when the solenoid is energized, the drive pawl engages the next tooth on the ratchet, then the solenoid is de-energized and the drive spring causes the drive arm to advance the ratchet one step. The wiper assembly is attached to the ratchet so the wiper moves from one rivet to the next on the contact disc or on across or off the printed circuit. The index pawl or reset pawl holds the ratchet in a position until the drive pawl moves the ratchet to the next position. The reset solenoid when energized attracts the plunger which operates the reset (index) pawl to dis-engage the drive pawl and mechanically locks itself and the drive pawl away from the ratchet. The torsion spring is attached to the ratchet to return the ratchet back to the index (zero) position.

Wiper Assemblies: Type of wipers - 1. Grounded to frame. 2. Copper disc feed. 3. Insulated. 4. External wire feed

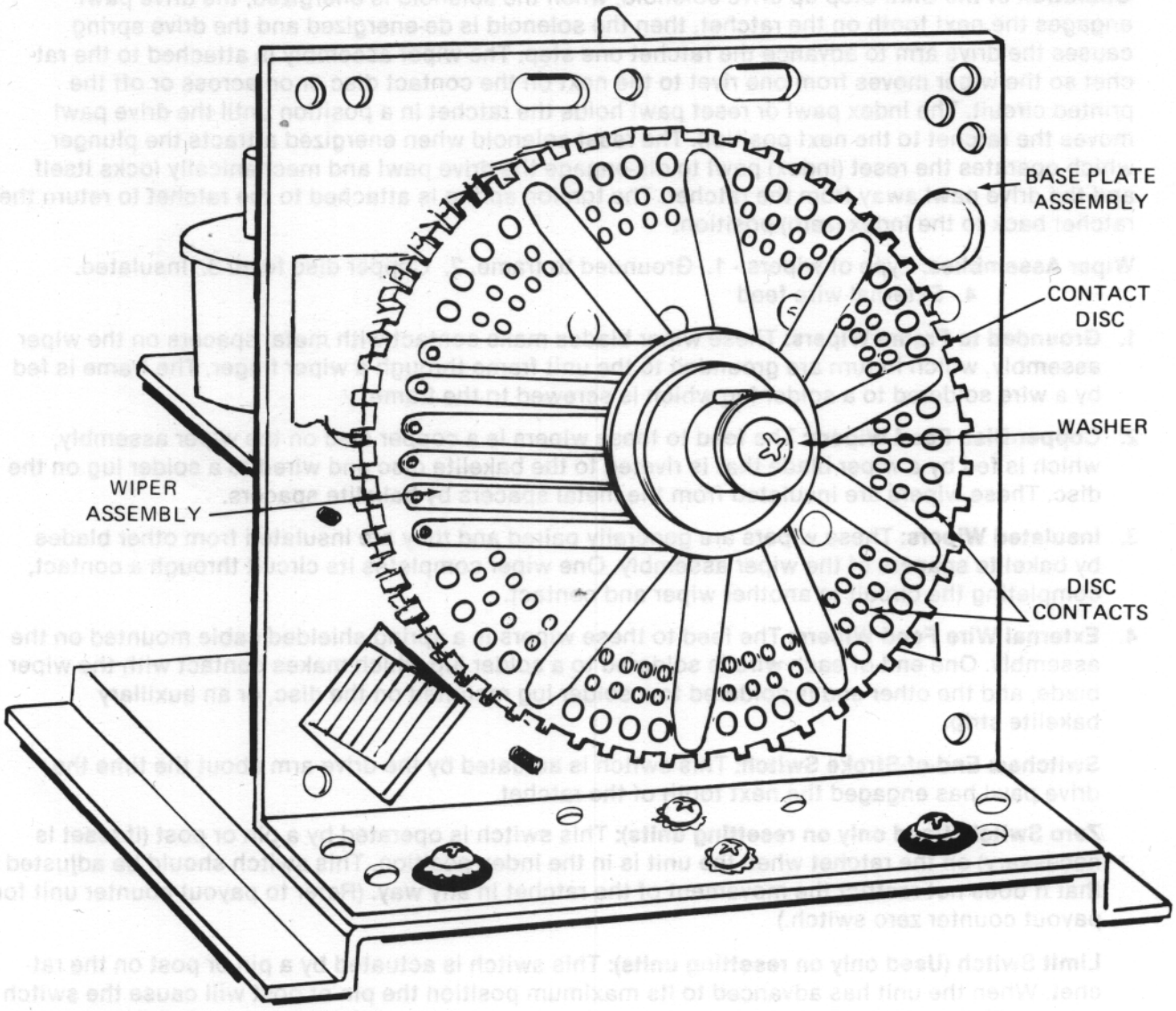
1. **Grounded to Frame Wipers:** These wiper blades make contact with metal spacers on the wiper assembly, which in turn are grounded to the unit frame through a wiper finger. The frame is fed by a wire soldered to a solder lug which is screwed to the frame.
2. **Copper Disc Feed Wipers:** The feed to these wipers is a copper disc on the wiper assembly, which is fed by a wiper blade that is riveted to the bakelite disc and wired to a solder lug on the disc. These wipers are insulated from the metal spacers by bakelite spacers.
3. **Insulated Wipers:** These wipers are generally paired and they are insulated from other blades by bakelite spacers of the wiper assembly. One wiper completes its circuit through a contact, completing the circuit to another wiper and contact.
4. **External Wire Feed Wipers:** The feed to these wipers is a spring shielded cable mounted on the assembly. One end of each wire is soldered to a solder lug which makes contact with the wiper blade, and the other end is soldered to a solder lug mounted on the disc, or an auxiliary bakelite strip.

Switches: End-of-Stroke Switch: This switch is actuated by the drive arm about the time the drive pawl has engaged the next tooth of the ratchet.

Zero Switch (Used only on resetting units): This switch is operated by a pin or post (if reset is necessary) on the ratchet when the unit is in the index position. This switch should be adjusted so that it does not restrict the movement of the ratchet in any way. (Refer to payout counter unit for payout counter zero switch.)

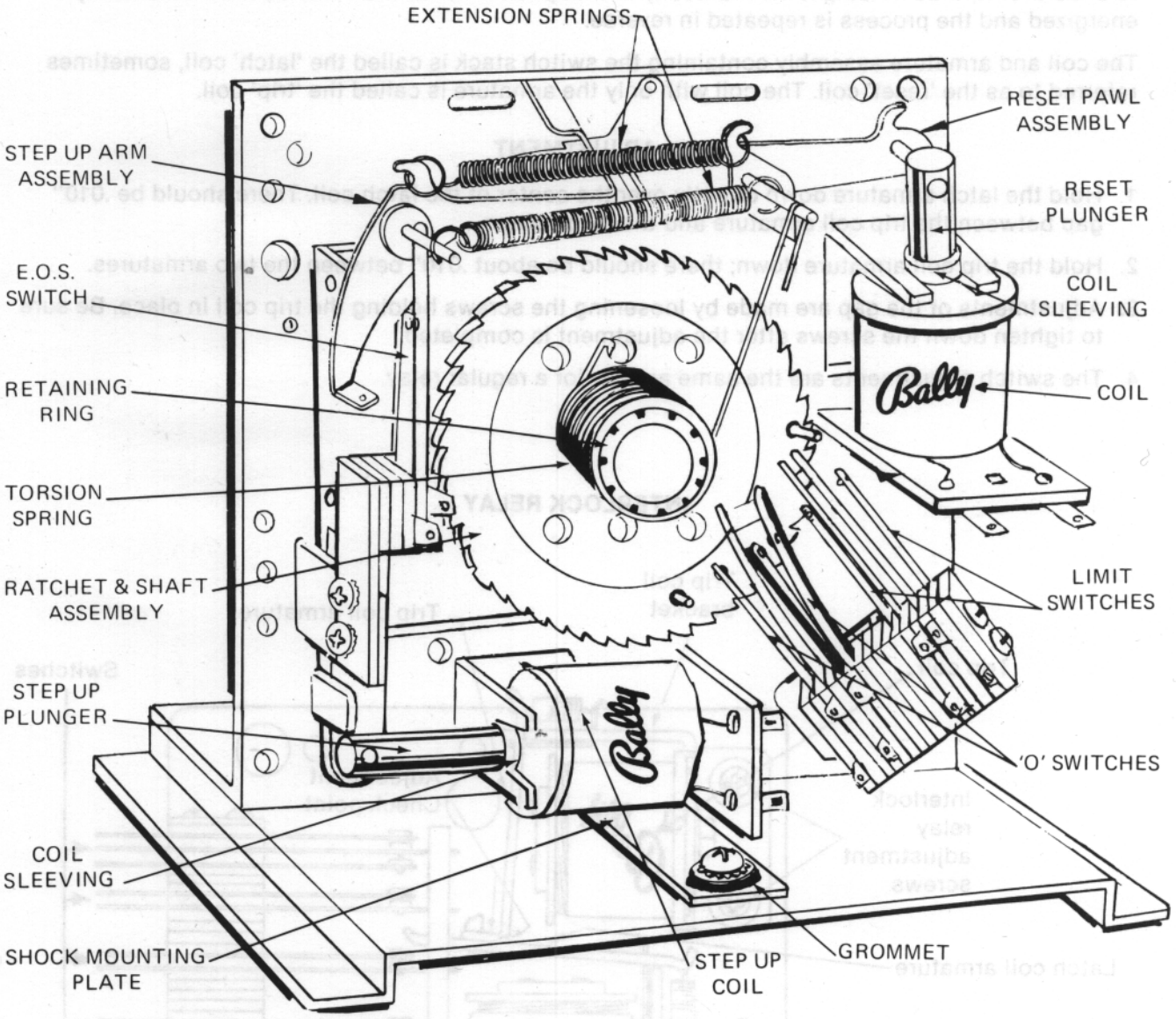
Limit Switch (Used only on resetting units): This switch is actuated by a pin or post on the ratchet. When the unit has advanced to its maximum position the pin or post will cause the switch to open. This switch should be adjusted so that it does not restrict the movement of the ratchet as the unit advances into the last position.

STEP UP UNIT ASSEMBLY
(Front View)



NOTE: ELASTIC STOP NUT NOT SHOWN BEHIND CONTACT DISC.

STEP UP UNIT ASSEMBLY
(Rear View)



NOTE: CORE PLUG & BRACKET ASSEMBLY VIEW NOT SHOWN.

NOTE: COIL SPRING WASHER NOT SHOWN.

NOTE: PIVOT PIN FOR ELASTIC STOP NUT NOT SHOWN.

NOTE: PLUNGER GUIDE RINGS NOT SHOWN.

NOTE: SPRING STOP NOT SHOWN BEHIND RATCHET & SHAFT ASSEMBLY.

INTERLOCK RELAY

Functionally, this type of relay is the same as other relays, differing only in that its armature is 'locked in' mechanically although the coil is de-energized.

It consists of a regular relay plus an additional coil and armature plate, placed in a position so that when one coil is momentarily energized it will pull its armature down and allow the other armature to slide over it, thus holding it mechanically in that position until the other coil is momentarily energized and the process is repeated in reverse.

The coil and armature assembly containing the switch stack is called the 'latch' coil, sometimes referred to as the 'reset' coil. The coil with only the armature is called the 'trip' coil.

ADJUSTMENT

1. Hold the latch armature down directly over the center of the latch coil. There should be .010" gap between the trip coil armature and the nylon piece.
2. Hold the trip coil armature down; there should be about .010" between the two armatures.
3. Adjustments of the gap are made by loosening the screws holding the trip coil in place. Be sure to tighten down the screws after the adjustment is completed.
4. The switch adjustments are the same as that for a regular relay.

INTERLOCK RELAY