



SERVICE SLANTS

YOUR QUESTIONS OR COMMENTS ON "SERVICE SLANTS"
ARE WELCOME AT ANY TIME

ISSUED BY WURLITZER SERVICE DEPT., NORTH TONAWANDA, N. Y.

MODEL 1015 CANCEL SOLENOID

This "Service Slant" is designed to aid operators of Models 1015 and 1080 in maintaining their equipment without the frequent replacement of cancel solenoids, Part No. 45478, and .3 Amp. Fusetrons, Part No. 45588.

In the first place the solenoids are again going to be in short supply due to government requirements. In the second place it is not necessary to burn out these solenoids as has been established by various operators who operate without burning them out. In the third place any of our operators can operate this equipment in the same manner by taking time to understand the mechanical operation of the coin register and the electrical sequence of the selector circuits.

Mechanical

All of the electrical functions of the selector circuits are directly dependent upon the correct mechanical operations of the Cancel Solenoid, its linkage, the accumulator and cancel wheels, together with their linkage to the Key Switch, and the correct position of (or the timing of) the Release Relay Switch.

The proper function of these mechanical components is protected with a .3 Amp. Fusetron, Part No. 45588. The Cancel Solenoid constitutes the power supply for operation of the above components and is designed for momentary action (only). The .3 Amp. Fusetron protects its coil against continued action or any stalled conditions which would result in blowing the protective fusetron.

To insure correct selection operation of a Coin-Moto-Drive Unit that has already been used for some time or has previously given some trouble, it is suggested that it be at least partially disassembled and cleaned as follows: Check all components for undue wear, breakage, or looseness of mountings and make such replacements or repairs necessary.

Remove the Collar and Set Screw assembly, Part No. 45571, Page 7, Parts Catalog Section, S288 Service Manual for 1015; remove the Ratchet Wheel, Part No. 45313, the Torsion Spring, Part No. 45398, the Cancel Wheel, Part No. 45315, and the Washer, Part No. 20083. Parts should be thoroughly cleaned and inspected for roughness or burrs, if such exists, polish carefully with a fine stone or crocus cloth.

The Switch Arm, Part No. 45570, should operate freely, its forked end should be flat across the two tines of the fork and parallel to the surface of the Accumulator Base, Part No. 45565, Page 6. Operation of the Micro Switch, Part No. 45117, should

be accomplished by applying pressure to the tines of the fork not exceeding 100 grams. The amount of pressure required may be varied at the spring underneath the Switch Arm. Install the washer over the accumulator mounting shaft and again check to insure the surface of the washer being parallel to the accumulator base. The Cancel Wheel and the Ratchet Wheel may be rather securely joined by the Torsion Spring. However the two wheels can be carefully handled without damaging the Torsion Spring.

See that the Cancel Wheel Lever, Part No. 45318, not shown in catalog, on the underside of the Cancel Wheel, Part No. 45315, operates freely without interference with the edges of the hole through which it functions, and that its tip is smooth and well polished. Also be sure that the operating surface of the Finger, Part No. 35034, is well polished. (These two surfaces are important.)

Place the Cancel Wheel and the Ratchet Wheel over the accumulator mounting shaft, being careful to keep the Torsion Spring in place. Engage the Back Stop Pawl, Part No. 35071, and the Cancel Arm Pawl, Part No. 45569. Wind up the spring by turning the Ratchet Wheel in a anti-clockwise direction, starting with Finger, Part No. 35034, just clear of the Cancel Wheel Lever in a counter-clockwise direction, making two complete turns. In this position there will be 21 plays on the accumulator. When completely canceled off the spring will be wound up to three turns. NOTE: Some of the Torsion Springs, Part No. 45398, differ slightly in their number of turns and diameter in a relaxed condition. Those which have $10\frac{1}{2}$ turns and are $19/32$ " I. D. may be wound up three complete turns instead of two and will be at four turns when canceled off. The earlier springs which have less turns will be wound only two turns to avoid cinching on the hubs of the Ratchet and Cancel Wheels. With a small pointed or hooked tool, such as a small crochet hook, remove any turns of the Torsion Spring from between the hubs of the wheels and install the collar to provide .002" end play in the accumulator assembly. This cleaning and assembly operation is essential and provides a condition of components that may be easily adjusted.

Cancel Arm, Part No. 45569

The Shoulder Screw, Part No. 45307, is locked in the desired position by two Allen Set Screws, Part No. 24996. The adjustment should provide minimum play consistent with complete freedom of action.

Key Switch (Micro Switch) Part No. 45117

The Cut-Off Finger will be set and locked in a position on the Ratchet Wheel that will provide full engagement of the polished tip of the Cancel Wheel Lever with the polished surface of the Finger and full disengagement of the tip from the Finger upon completion of one full escapement. For consistent Key Switch action it is necessary that the actuating movement, furnished by the Finger at the "Cut-Off" and "Initial Credit" positions, opens and closes the switch with an equal amount of overtravel in each case. The adjustment of this switch will be accomplished at Screw, Part No. 35711, and Nut, Part No. 21891. This adjustment will be made with the Finger, Part No. 35034 fully engaged with the polished tip of the Cancel Wheel Lever, Part No. 45318, to a point where the Key Switch is open. Now allow one half of one escapement phase by pressing the Escapement Pawl, Part No. 45572, down and holding it. In this position the Key Switch should still remain open. Readjust Screw, Part No. 35711, to produce this result. Now release the Pawl allowing the second half of the escapement. In this position the Key Switch shall be closed. This will also be accomplished with Adjusting Screw, Part No. 35711, without sacrificing either of the two preceding settings. Check to insure equal override in both positions.

Succeeding Adjustments

The remainder of the adjustments may be completed in their sequence, in accordance with Adjustments, Pages 32 and 33, S288 Service Manual for 1015, and Service Slants W-178 and W-196. Both the Release and the Full Stroke Switch adjustments will follow the mechanical adjustments.

The adjustments of the Cancel Lever travel and of the Eccentric Stop, as shown on Page 33, may be varied slightly from the 1/32" dimensions to insure stopping of the Pin, Part No. 25454, (not shown in figure) by the Finger before possible engagement of the Cancel Pawl with an additional tooth of the Cancel Wheel at the "Cut-Off" position.

Functions of the Release Relay (See W-178 Sequence of Contact Setting for Release Relay)

As indicated in the above Service Slant, contacts 5 & 6 open first to ISOLATE THE MAKE-SELECTION LIGHTS and prevent feed back interference with release of the Main Relay.

Contacts 3 & 4 close next to INTERLOCK the Release Relay and thereby provide positive relay action.

Contacts 1 & 2 open last to RELEASE THE MAIN RELAY.

The interlock function of contacts 3 & 4 will continue until the interlock circuit is opened by release of the program selection button. To provide ready identification of these pairs of contacts it is suggested that the function of each pair be noted on the figure provided in Service Slant W-178.