

## TYPE N-300 DRUM SWITCHES (FORMERLY TYPE 810)

## INSTRUCTIONS

## Construction

The Type N Drum Switches are unusually compact and are arranged for conduit wiring through the bottom of the switch. An etched name plate on the cover indicates the "off" and "running" positions.

The Type N-300 Drum Switch moving contacts are of hard drawn copper carried on cast brass supports. These supports are clamped on Micarta tubing on a cold rolled steel shaft. The stationary contact fingers are of drop forged copper supported on phosphor bronze pressure springs and are mounted on a block of hot moulded insulation. Arc barriers are provided to prevent arcing between different sets of contacts. A sheet steel cover is held in place by two clamps.

## Maintenance

All switches should be inspected at regular intervals.

Each contact finger should be adjusted to make contact over its entire width in all positions of the drum contact with which it engages. In order to do this, the surface of the drum contacts must be in a straight line parallel to the axis of the shaft and the portion of the finger which makes contact must be straight and in alignment with the moving contact.

The contact finger should be adjusted so that it drops from  $\frac{1}{16}$ " to  $\frac{1}{8}$ " below



Fig. 1—Type N-300 Drum Switch  
(Formerly Type 810)

the surface of the drum contact when it leaves the contact. If it drops too far there is danger that the drum will not lift the finger when it approaches the finger in the direction of the support. If the finger is not adjusted to drop far enough below the surface of the drum, there will not be sufficient pressure between the contacts to carry the current.

Contacts which are subject to arcing become rough and portions of the material are burned away. When inspecting the switch, remove all burns and blisters from the contacts with a file and smooth with fine sandpaper. File the fingers and bevel the approach of the contacts so as to assist the finger in riding over the contact surfaces.

Contact wear can be materially reduced by the use of a little vaseline or oil. Lubrication should be used only

when the switch can be kept clean and free from abrasive dust. Otherwise the grease will hold the dust and increase the cutting. Before applying the lubricant, thoroughly clean the contact surfaces with kerosene; see that they are free from burns and blisters and that the contact fingers are properly adjusted. Wipe the contacts clean and dry and spread the lubricant smoothly over the contact surfaces with a cloth or small brush. Operate the switch so that the fingers rub over the contacts a number of times. Afterwards, wipe around the fingers and along the edges of the contacts with a cloth to remove any surplus grease.

In cleaning and adjusting the switch, care should be taken that the fingers are not pulled back far enough to give them a permanent set.

## Operation

Polyphase alternating-current motors have several circuits in parallel in the primary. When the load between phases is properly balanced, each contact finger will carry its proportionate share of the load. If a contact finger overheats and is found upon examination to be in good condition and properly adjusted, a careful examination of all connections to the motor and all other contact fingers should be made. A bad connection in some other phase may be responsible for overloading this finger.

## ORDERING INSTRUCTIONS

Name the part and give its style number. Give the complete name plate reading. State whether shipment is desired by express, freight or by parcel post. Send all orders or correspondence to the nearest Sales Office of the Company. Small orders should be combined so as to amount to a value of at least one dollar, as order-handling and shipping expenses prevent us from billing a smaller amount.

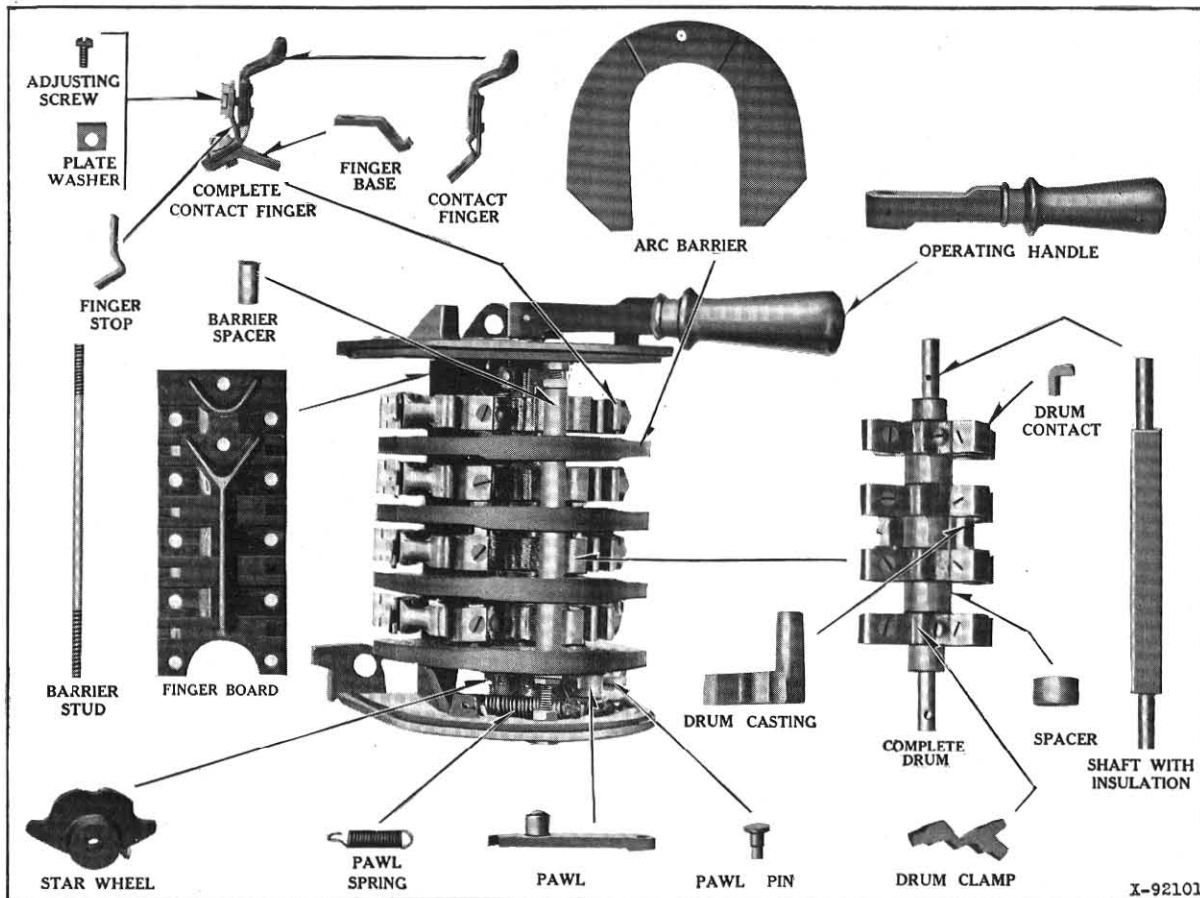
**Westinghouse Electric & Manufacturing Company**

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EVERY HOUSE NEEDS WESTINGHOUSE

# TYPE N-300 DRUM SWITCHES (FORMERLY TYPE 810) RENEWAL PARTS DATA



Note—These parts may vary in appearance somewhat, depending upon the style number of the switch.

The following is a list of the Renewal Parts and the quantities of each that we recommend should be stocked by the user of this apparatus to minimize interrupted operation caused by breakdowns. The parts recommended are those most subject to wear in normal operation or those subject to damage or breakage due to possible abnormal conditions. This list of Renewal Parts is given only as a guide. When continuous operation is a primary consideration, additional insurance against shut-downs is desirable. Under such conditions more renewal parts should be carried, the amount depending upon the severity of the service and the time required to secure replacements.

Type Number of Drum Switches.....	301-C	301-A	301-F	302	301-D	302-D	No. PER SWITCH	SWITCHES IN USE	
Style Number of Drum Switches.....	204113	252563	204548	306436 306437	409340	409341		1	5
DESCRIPTION OF PART	STYLE NUMBER OF PART							RECOMMENDED FOR STOCK	
Contact Finger.....	254755	254755	254755	254755	254755	254755	6	3	6
Finger Stop.....	254753	254753	254753	254753	254753	254753	6	0	1
Finger Base.....	284667	284667	284667	284667	284667	284667	6	0	1
Finger Board.....	204138	204138	204138	204138	204138	204138	1	0	0
Arc Barrier.....	203962	203962	203962	203962	203962	203962	3	1	2
Barrier Spacer.....	481672	481672	481672	481672	481672	481672	3	0	1
Complete Drum.....	482862	482537	389688	484780† 484781°	483030	483031	1	0	0
Drum Contact.....	239224	239224	239224	.....	239224	.....	12	6	12
§**Contact Segment 1, 2, 3, 4.....	.....	.....	.....	483032	.....	483032	4	2	4
§**Contact Segment 5 and 6.....	.....	.....	.....	483033	.....	483033	2	1	2
§Spacer 1 and 2.....	538639	538639	538639	316220	538639	316220	1	0	0
§Spacer 3.....	538640	538640	538640	.....	538640	.....	1	0	0
Star Wheel.....	316219	378033	389686	305025	316219	316219	1	0	0
Shaft with Insulation.....	382782	382782	382782	316217	382782	316217	1	0	0
Handle Grip.....	44933	44933	.....	44933	.....	.....	1	0	1
Pawl with Roller.....	389687	389687	389687	389687	389687	389687	1	0	0
**Roller.....	254756	254756	254756	254756	254756	254756	1	0	1
**Roller Pin.....	254758	254758	254758	254758	254758	254758	1	0	1
Pawl Spring.....	301753	180753	180753	180753† 301753°	301753	301753	1	0	1
Pawl Pin.....	254757	254757	254757	254757	254757	254757	1	0	1

Parts indented are included in the part under which they are indented  
 \*\*Not illustrated  
 §Numbers start from handle end  
 †Used on switch S #306436  
 °Used on switch S #306437