INSTRUCTIONS

CONTROL RELAY, TYPE N
CLASS 15-820N

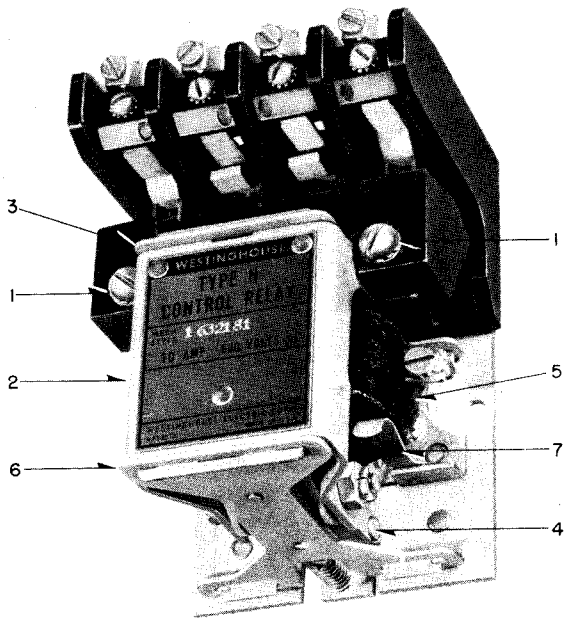

FIG. 1. Type N Control Relay

TYPE N CONTROL RELAY is an a-c multipole contactor actuated by a vertical operating, spring loaded, rocker-type magnet mechanism, using knife-edge bearings, which provide a smooth, free action. Positive contact opening is assured by kickout-spring loading of the operating mechanism. Easy inspection and maintenance is afforded by the unique assembly of the moving parts.

These contactors are available in 2 to 6 pole forms with any complement of normally open and normally closed contacts required.

Contacts may be easily changed from N.O. (normally open) to N.C. (normally closed) and vice-versa so that stock relays may be readily converted by the user for special applications.

Pressure-type connectors on all terminals permit the use of either solid or stranded wire without soldered joints or looped wire.

Resilient, effective, 3-point mounting with only 2 mounting screws is provided by means of a cushion spring under the base plate.

RATINGS

Maximum Amps	10 Amperes
Maximum Volts	600 Volts
A-C Interrupting Capacity	7500 Volt-Amperes
D-C Interrupting Capacity (Inductive Load 1 Amp Max.)	50 Volt-Amperes

MAINTENANCE

The sealing surfaces of magnet and armature should be kept clean. No lubrication is required and the solid silver contacts do not require filing; discoloration and slight pitting of contacts is a normal condition.

Changing Coils. (Refer to FIG. 1) — After disconnecting leads to coil terminals, remove crossbar mounting screws (1) and remove crossbar assembly complete with moving contacts. Next, disengage armature bracket (2) from upper bearing arm (3) by applying pressure with thumbs to upper part of nameplate until the tongue on the bearing arm is freed from the hole in the armature bracket. The armature bracket (2) can then be swung outward and downward until the center leg of the armature (4) clears the coil (5).

The armature bracket (2) and the lower bearing arm (6) may now be disengaged by applying pressure to lower part of the nameplate until the tongue on the bearing arm (6) is freed from the hole in the armature bracket as before. The coil retaining springs (7) may now be swung outward allowing the coil to be removed.

Reassembly follows the same procedure except in reverse order.

Changing Contacts From N.O. To N.C. (Refer to FIGS. 2 and 3) — To change N.O. contact, FIG. 2, to N.C. position per FIG. 3, first remove crossbar mounting screws (1) and withdraw crossbar (8). Second, remove front stationary contact mounting screw (9) and front stationary contact (10). Third, remove contact saddle mounting screw (11); invert the complete moving contact assembly and secure it in place in the molded contact base per FIG. 3 using the same screw (11) as before. Replace the front stationary contact (10) and operate the contact manually a few times to make sure it is free. Replace the crossbar assembly (8) and screws (1).

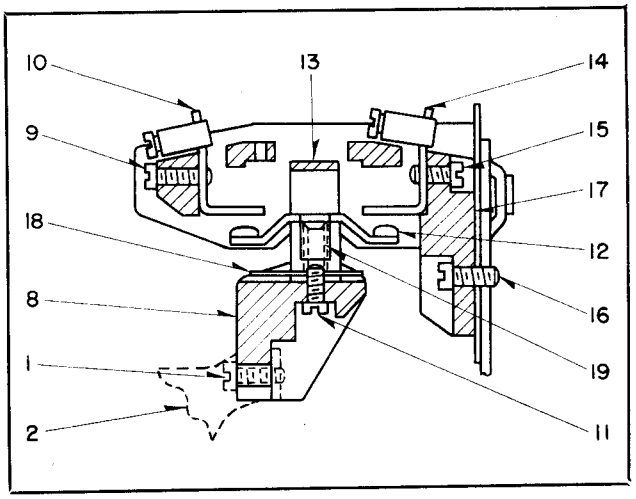

FIG. 2. Typical Normally Open Contact in De-Energized Position

NEW INFORMATION

EFFECTIVE NOVEMBER, 1952

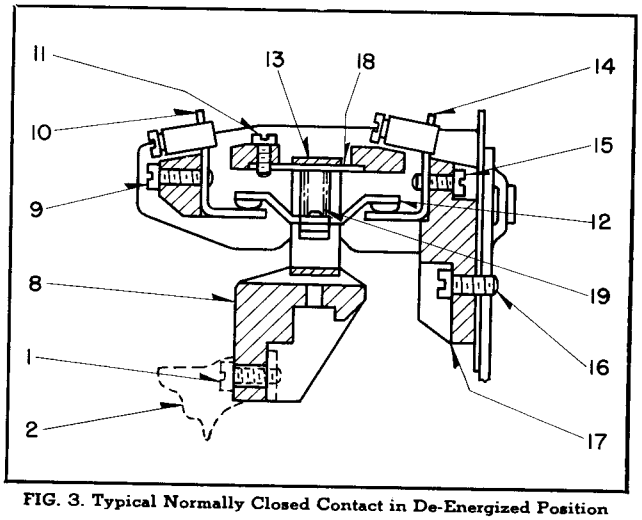

FIG. 3. Typical Normally Closed Contact in De-Energized Position

This completes the changeover from N.O. to N.C. position. The change back to N.O. position is accomplished by following the same procedure in reverse order with this special precaution: **Important.** Be sure to tighten the moving contact saddle mounting screw (11) securely to avoid loosening in service.

Note: Contact mounting screws (9), (11), (15) are identical and completely interchangeable.

INSPECTION

Normally Open Contacts. (See FIG. 2) Inspection of N.O. contacts is accomplished by removing the two crossbar mounting screws (1), whereupon the crossbar (8), complete with the moving contacts, may be removed and all contacts are accessible.

The moving contacts (12) are removed from the moving contact saddle (13) by twisting and sliding the contact endwise. The stationary contacts (10) and (14) are secured by screws (9) and (15) and before the rear stationary contacts can be removed, it is necessary to remove contact base mounting screws (16) and contact base (17).

Normally Closed Contacts. (See FIG. 3) Inspection of N.C. contacts is accomplished by first removing the crossbar mounting screws (1) and the molded crossbar (8) complete with any moving contacts that may be attached thereto. Next, the front stationary contact (10) and its mounting screw (9) are removed and screw (11) is removed, allowing the complete moving contact assembly to be taken out for inspection.

Removal of the rear stationary contact (14) is accomplished by first removing the base mounting screws (16) and the molded contact base (17) whereupon the contact mounting screws (15) become accessible for removal.

PRINCIPAL RENEWAL PARTS

Renewal Contact Kit (1 Pole)	S#1739 592
Stationary Contact (10), (14)	S#1632 173
Moving Contact Assembly complete	S#1739 594
Moving Contact (12)	S#1632 172
Contact Saddle (13)	S#1632 174
Saddle Guide (18)	S#1632 175
Contact Spring (19)	S#1632 179
Mounting Screw (11) (Also Used for Mounting Stationary Contacts)	S#1739 561

For other parts, refer to Renewal Parts Catalog.

RELAY IDENTIFICATION

The relay complete with coil is identified by style number (which appears on carton label and in price form) and consists of the mechanical parts (identified by style number which appears on relay nameplate) plus the appropriate coil for the voltage and frequency of operation.

The coil style appears on the coil label along with the voltage and frequency rating of the coil.

Complete styles and coil styles listed in the following table may be used in ordering either the complete relay with coil or the coils only for all standard voltages and frequencies.

STYLE IDENTIFICATION

COIL STYLES

VOLTS	CYCLES	1 TO 4 POLE COIL STYLE	5 AND 6 POLE COIL STYLE
110	60	1720 611	1739 601
110	25	1720 612	1739 602
208	60		
220	60		
220	25	1720 613	1739 603
380	50		
440	60		
480	60		
550	60	1720 614	1739 604
600	60	1720 615	1739 605
110	50	1720 616	1739 606
220	50	1720 617	1739 607
440	50	1720 618	1739 608
550	50	1720 619	1739 609
440	25	1720 620	1739 610
550	25	1720 621	1739 611

COMPLETE RELAY STYLES

VOLTS	CYCLES	POLES	COMPLETE RELAY
110	60	2 N.O.	1739 128
110	60	3 N.O.	1739 459
110	60	4 N.O.	1739 073
110	60	5 N.O.	1739 393
110	60	6 N.O.	1739 161

For complete listing of N.O. and N.C. contact combinations with various coil ratings, refer to Style Number Index 15-820 N or nearest Westinghouse Office.

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CONTROL RELAY, TYPE N
CLASS 15-820N

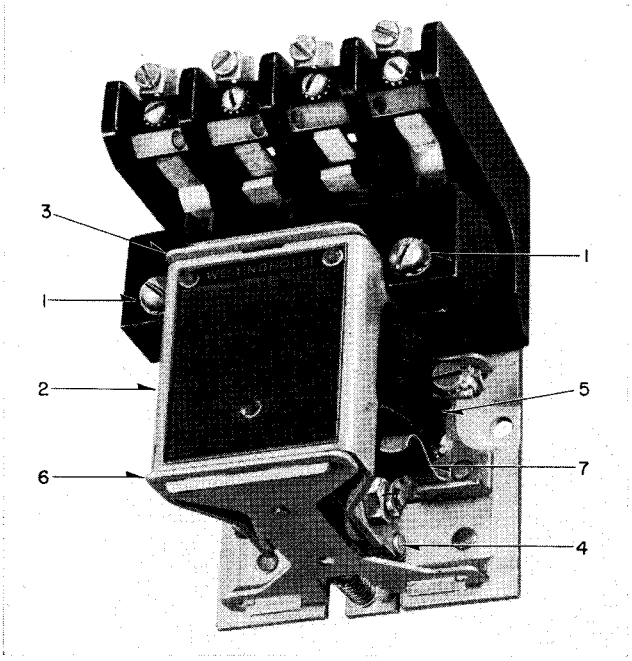

FIG. 1. Type N Control Relay.

TYPE N CONTROL RELAY is an a-c multipole contactor actuated by a vertical operating, spring loaded, rocker-type magnet mechanism, using knife-edge bearings, which provide a smooth, free action. Positive contact opening is assured by kickout-spring loading of the operating mechanism. Easy inspection and maintenance is afforded by the unique assembly of the moving parts.

These contactors are available in 2 to 6 pole forms with any complement of normally open and normally closed contacts required.

Contacts may be easily changed from N.O. (normally open) to N.C. (normally closed) and vice-versa so that stock relays may be readily converted by the user for special applications.

Pressure-type connectors on all terminals permit the use of either solid or stranded wire without soldered joints or looped wire.

Resilient, effective, 3-point mounting with only 2 mounting screws is provided by means of a cushion spring under the base plate.

RATINGS

Maximum Amps	10 Amperes
Maximum Volts	600 Volts
A-C Interrupting Capacity	7500 Volt-Amperes
D-C Interrupting Capacity (Inductive Load 1 Amp Max.)	50 Volt-Amperes

MAINTENANCE

The sealing surfaces of magnet and armature should be kept clean. No lubrication is required and the solid silver contacts do not require filing; discoloration and slight pitting of contacts is a normal condition.

Changing Coils. (Refer to Fig. 1) — After disconnecting leads to coil terminals, remove crossbar mounting screws (1) and remove crossbar assembly complete with moving contacts. Next, disengage armature bracket (2) from upper bearing arm (3) by applying pressure with thumbs to upper part of nameplate until the tongue on the bearing arm is freed from the hole in the armature bracket. The armature bracket (2) can then be swung outward and downward until the center leg of the armature (4) clears the coil (5).

The armature bracket (2) and the lower bearing arm (6) may now be disengaged by applying pressure to lower part of the nameplate until the tongue on the bearing arm (6) is freed from the hole in the armature bracket as before. The coil retaining springs (7) may now be swung outward allowing the coil to be removed.

Reassembly follows the same procedure except in reverse order.

Changing Contacts From N.O. To N.C. (Refer to Figs. 2 and 3) — To change N.O. contact, Fig. 2, to N.C. position per Fig. 3, first remove crossbar mounting screws (1) and withdraw crossbar (8). Second, remove front stationary contact mounting screw (9) and front stationary contact (10). Third, remove contact saddle mounting screw (11); invert the complete moving contact assembly and secure it in place in the molded contact base per Fig. 3 using the same screw (11) as before. Replace the front stationary contact (10) and operate the contact manually a few times to make sure it is free. Replace the crossbar assembly (8) and screws (1).

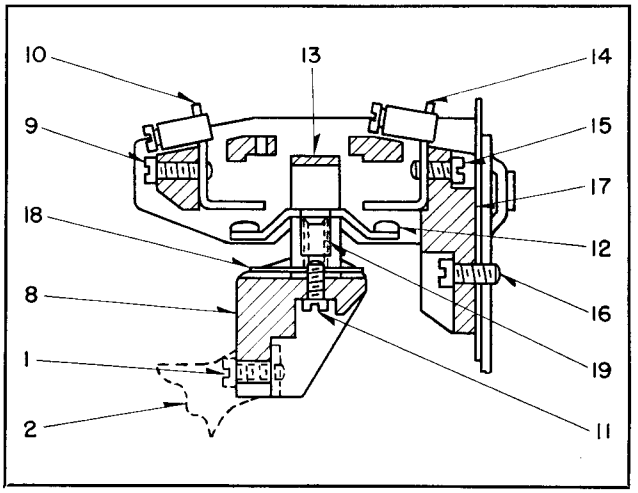

FIG. 2. Typical Normally Open Contact in De-Energized Position.

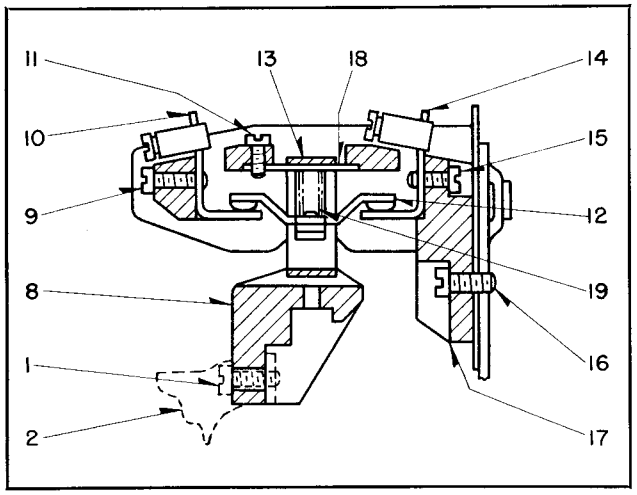

FIG. 3. Typical Normally Closed Contact in De-Energized Position.

This completes the changeover from N.O. to N.C. position. The change back to N.O. position is accomplished by following the same procedure in reverse order with this special precaution:

Important. Be sure to tighten the moving contact saddle mounting screw (11) securely to avoid loosening in service.

Note: Contact mounting screws (9), (11), (15) are identical and completely interchangeable.

INSPECTION

Normally Open Contacts. (See Fig. 2) Inspection of N.O. contacts is accomplished by removing the two crossbar mounting screws (1), whereupon the crossbar (8), complete with the moving contacts, may be removed and all contacts are accessible.

The moving contacts (12) are removed from the moving contact saddle (13) by twisting and sliding the contact endwise. The stationary contacts (10) and (14) are secured by screws (9) and (15) and before the rear stationary contacts can be removed, it is necessary to remove contact base mounting screws (16) and contact base (17).

Normally Closed Contacts. (See Fig. 3) Inspection of N.C. contacts is accomplished by first removing the crossbar mounting screws (1) and the molded crossbar (8) complete with any moving contacts that may be attached thereto. Next, the front stationary contact (10) and its mounting screw (9) are removed and screw (11) is removed, allowing the complete moving contact assembly to be taken out for inspection.

Removal of the rear stationary contact (14) is accomplished by first removing the base mounting screws (16) and the molded contact base (17) whereupon the contact mounting screws (15) become accessible for removal.

PRINCIPAL RENEWAL PARTS

Renewal Contact Kit (1 Pole)	S# 1739 592
Stationary Contact (10), (14)	S# 1632 173
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The coil style appears on the coil label along with the voltage and frequency rating of the coil.

Complete styles and coil styles listed in the following table may be used in ordering either the complete relay with coil or the coils only for all standard voltages and frequencies.

Caution: When ordering relay, specify contact arrangement.

STYLE IDENTIFICATION

COIL STYLES

VOLTS	CYCLES	1 TO 4 POLE COIL STYLE	5 AND 6 POLE COIL STYLE
110	60	1720 611	1739 601
208	60	1720 612	1739 602
220	60		
380	50	1720 613	1739 603
440	60		
480	60		
550	60	1720 614	1739 604
600	60	1720 615	1739 605
110	50	1720 616	1739 606
220	50	1720 617	1739 607
440	50	1720 618	1739 608
550	50	1720 619	1739 609
440	25	1720 620	1739 610
550	25	1720 621	1739 611
110	25	1740 714	1740 716
220	25	1740 715	1740 717

COMPLETE RELAY STYLES

VOLTS	CYCLES	TYPE	COMPLETE RELAY
110	60	N 20	1739 128
110	60	N 30	1739 459
110	60	N 40	1739 073
110	60	N 50	1739 393
110	60	N 60	1739 161

For complete listing of N.O. and N.C. contact combinations with various coil ratings, refer to Style Number Index 15-820 N or nearest Westinghouse Office.

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