



# INSTRUCTIONS

GEK- 34004

H.B. Section #7299

AUXILIARY RELAY

NGA15AB

**POWER SYSTEMS MANAGEMENT DEPARTMENT**

**GENERAL  ELECTRIC**

**PHILADELPHIA, PA.**

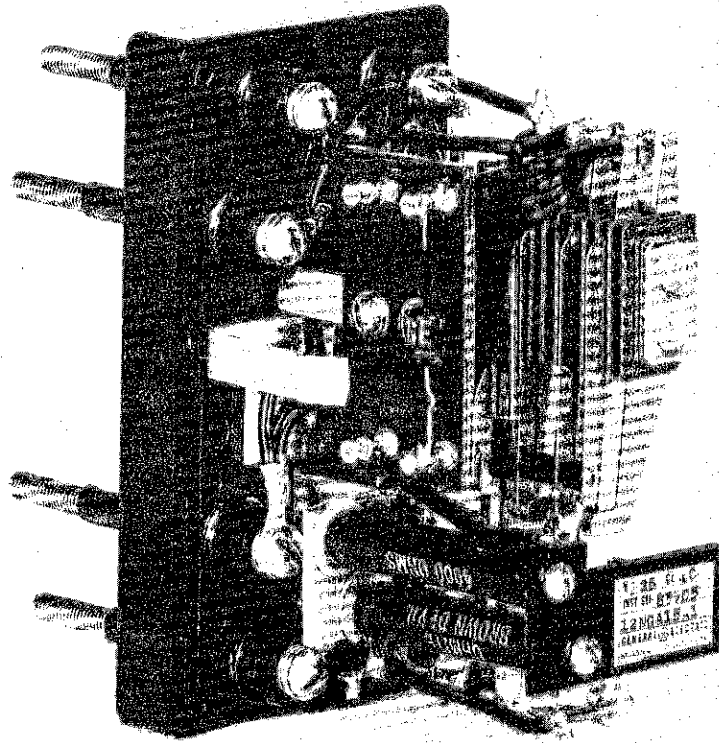


FIG. 1 (8030186) NGA15AB Relay Removed From Case

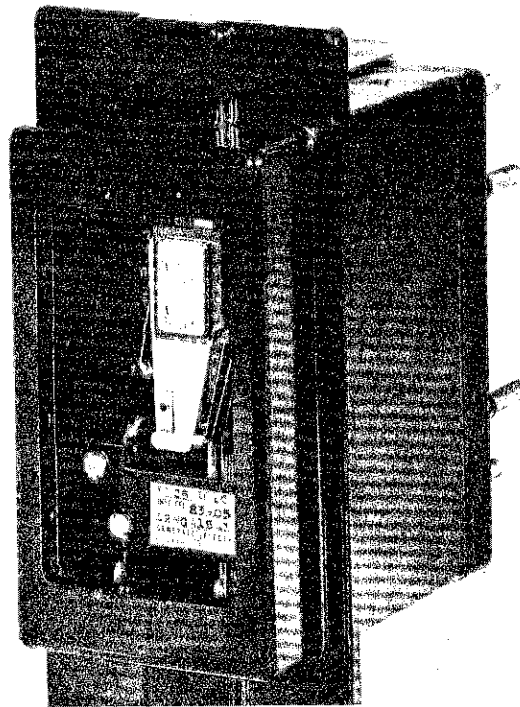


FIG. 2 (8030182) NGA15AB Relay In Flush Mounted Case

## AUXILIARY RELAY

NGA15AB

### INTRODUCTION

The NGA15AB is an auxiliary relay that has two transient contacts. This relay is supplied in a small molded case. The NGA15AB relay was designed to provide the industry with auxiliary devices having a variety of time characteristics. Fig. 3 shows the internal connection diagram while Fig. 5 and 6 give the outline and panel drilling for both the projection and semi-flush cases.

### APPLICATION

The NGA15AB relays are intermittently rated and should not be applied where the specific application requires a continuously energized relay. Refer to the NGA15A instruction book, GEI-83905A, for continuously rated models.

Fig. 3 has a table of the various different models of the NGA15AB relay that were available at the date of this printing. This table indicates that the different model numbers in voltage ratings and operating times. In general, each set of operating time characteristics are available or could be made available for all voltage ratings from 48 to 250 volts dc. Time characteristics somewhat different from those listed in Fig. 3 may also be made available on request. There are four columns for time in this table. In most instances not all of them are filled in. Where a minimum or maximum time is not given, this particular characteristic is not checked and held within any specified limits at the factory.

Since the different models generally differ from each other, this relay has no single application. In general, these devices may be applied whenever the given characteristics meet the requirements of the specific application. It should be noted that resistor R<sub>1</sub> and its series diode serve to limit the surge voltage that the associated coil (T) can produce when the circuit is rapidly interrupted. This circuit is designed to limit the surge to a value equal to the voltage rating of the relay as given in the table. Such an arrangement makes this relay suitable in control and relaying circuits where blocking rectifiers are used and supplied from the same dc source as the relay.

### RATINGS

The type NGA15AB relay is an intermittent duty (40 sec. max.) D.C. operated relay. Refer to table in Figure 3 for operating voltages available.

The relay contacts will close and carry 30 amperes DC momentarily for tripping duty at control voltages of 245V DC or less. These contacts will carry 3 amperes continuously and have an interrupting rating as given in Table A.

The resistance values of the operating coil and associated resistors are given in Fig. 3.

TABLE A

VOLTS	CURRENT INDUCTIVE	CURRENT NON INDUCTIVE
48	1.0	3.0
125 V DC	0.5	1.5
250 V DC	0.25	0.75
115 V 60 CYC.	0.75	2.0
230 V 60 CYC.	0.5	1.0

\* Induction of Average Trip Coil

**These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.**

## RECEIVING, HANDLING AND STORAGE

These relays, when not included as part of a control panel, will be shipped in cartons designed to protect them against damage. Immediately upon receipt of a relay, examine it for any damage sustained in transit. If injury or damage resulting from rough handling is evident, file a damage claim at once with the transportation company and promptly notify the nearest General Electric Apparatus Sales Office.

Reasonable care should be exercised in unpacking the relay. If the relays are not to be installed immediately, they should be stored in their original cartons in a place that is free from moisture, dust, and metallic chips. Foreign matter collected on the outside of the case may find its way inside when the cover is removed and cause trouble in the operation of the relay.

When the relay is received, check the nameplate stamping to insure that model number and rating of the relay received agree with the requisition. Check the operation manually and also check that the contact gap and wipe agree with values given under the section on ADJUSTMENTS AND INSPECTION.

## ADJUSTMENTS AND INSPECTION

The relay has been adjusted at the factory to pick up after 80 percent or less of rated voltage and should not require further adjustment. If necessary the pickup can be decreased by decreasing the spacing of the armature from the pole face.

While the relay deenergized each normally open contact should have a gap of .010" - .015". Observe the wipe on each normally closed contact by deflecting the stationary contact member towards the frame. Wipe should be approximately .005".

The wipe on each normally open contact should be approximately .005". This can be checked by inserting a .005" shim between the residual screw and the pole piece and operating the armature by hand. The normally open contacts should make before the residual screw strikes the shim.

The dropout time of the relay may be adjusted by means of the residual screw in the armature. The more the residual screw is turned in the shorter the dropout time. Be sure to tighten the locknut after adjusting this screw. The residual screw must not be removed completely. The minimum gap must be 0.002 inch between the armature and the pole face.

The dropout time may also be adjusted a small amount by varying the amount of pressure on the closed contacts.

In order to decrease the pickup time of the relay, reduce the pressure of the normally closed contacts by bending slightly the movable flexible contact arm.

After reach adjustment the contact gap and wipe must be rechecked and the contact gap and wipe must be rechecked and the contact pressure should never be less than 10 grams measured at the contact wipe.

All of the adjustments in this section may be most easily made with the tools supplied in the relay tool kit XRT11A1.

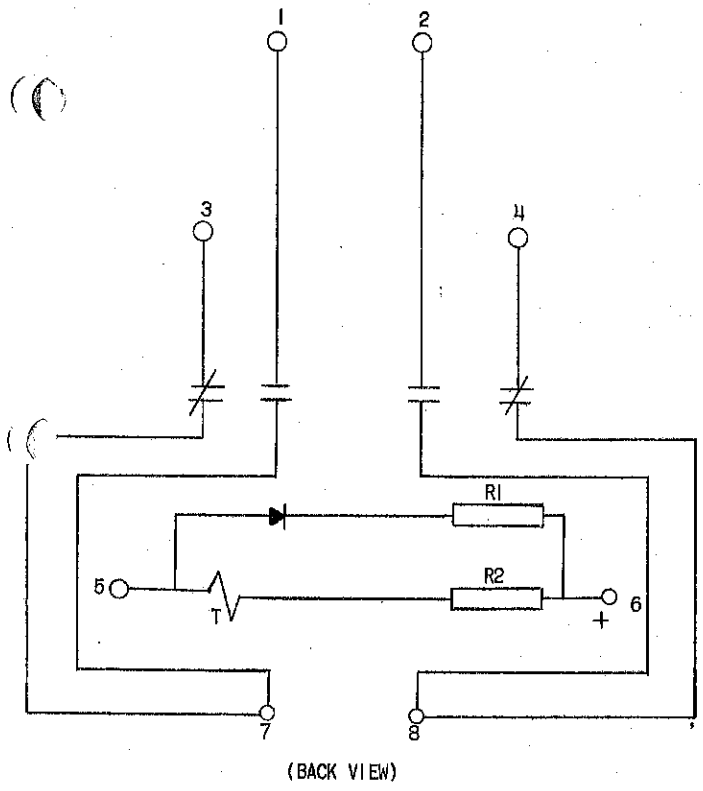
## SERVICING

For cleaning fine silver contacts a flexible burnishing tool should be used. This consists of an etched roughened strip of flexible metal, resembling a superfine file which removed corroded material quickly without scratching the surface. The flexibility of the tool insures the cleaning of the actual points of contact. Never use knives, files, abrasive paper or cloth to clean fine silver contacts. A burnishing tool as described above can be obtained from the factory.

## RENEWAL PARTS

It is recommended that sufficient quantities of renewal parts be carried in stock to enable the prompt replacement of any that are worn, broken, or damaged.

When ordering renewal parts, address the nearest Sales Office of the General Electric Company, specify quantity required, name of the part wanted, and give complete nameplate data. If possible, give the General Electric requisition number on which the relay was furnished.



MODEL	D.C. VOLTS INTERMITTENT (40 SECS.)	P.U. TIME (MILLI SECONDS)		D.O. TIME (MILLI SECONDS)		OHMS		
		MIN.	MAX.	MIN.	MAX.	T	R1	R2
12NGA15AB1	125		8		8	58	2000	1500
12NGA15AB2	250		8		8	58	4000	3000
12NGA15AB3	125	90	110		60	2500	4000	1000
12NGA15AB4	125	50	55			7800	1000	NONE
12NGA15AB5	125	26	38	220	300	2500	4000	1500
12NGA15AB6	125		50	280	350	2500	4000	1000
12NGA15AB7	48		8		8	58	300	10

FIG. 3 (0227A7155 SH. 1 & SH. 2)

Internal Connections Diagram And Table Of Resistance Values Of The NGA15AB Relay

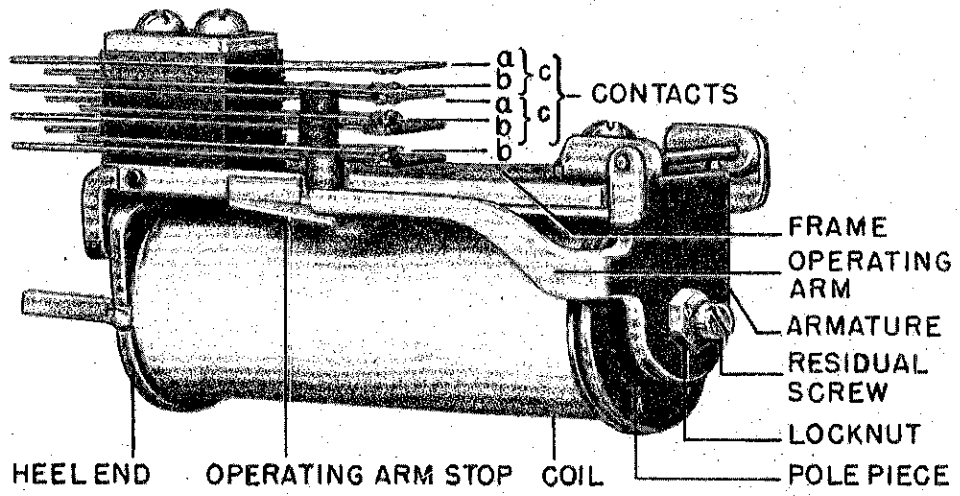
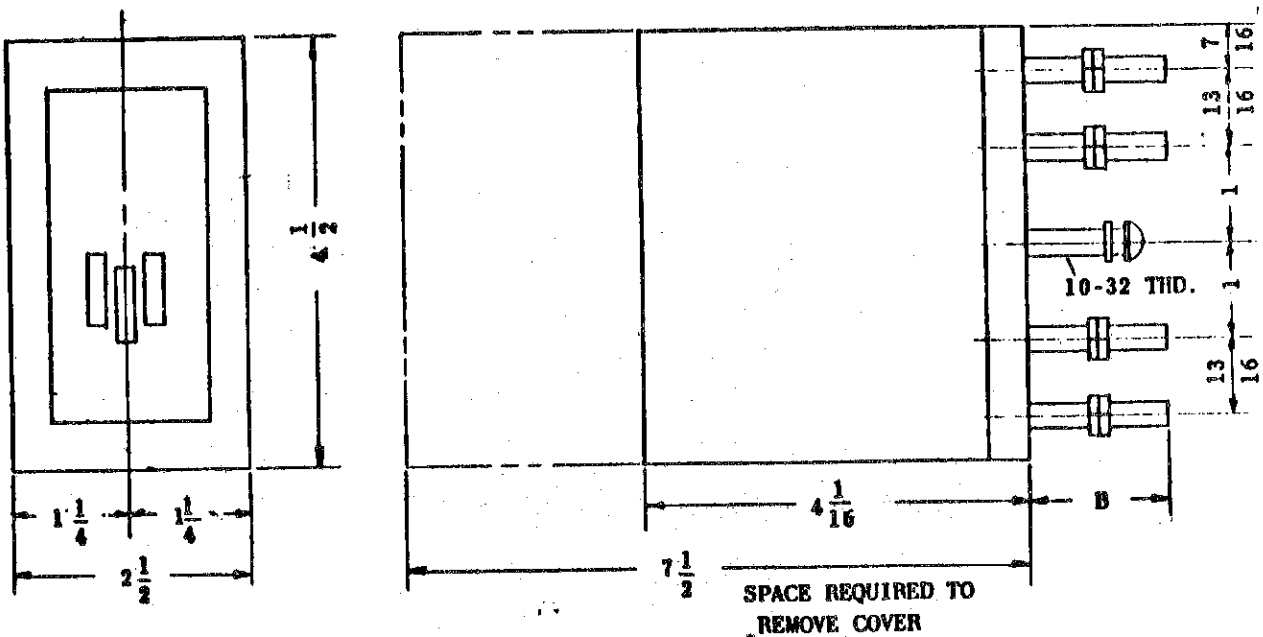
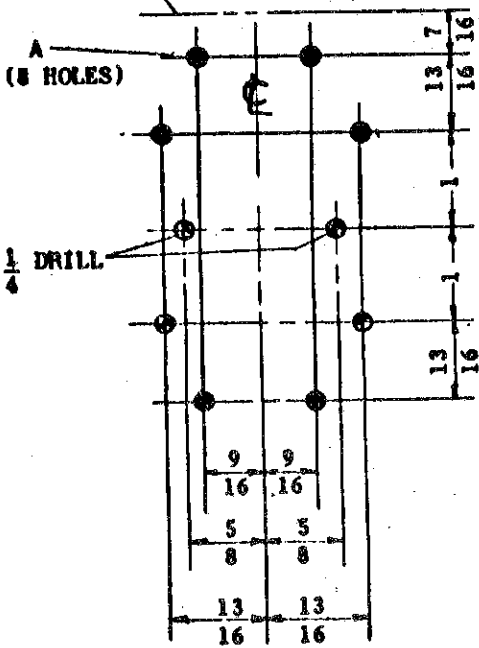


FIG. 4 (8012106) Typical Telephone-Relay Unit Used In The NGA15AB Relay



TOP OF RELAY

OUTLINE



TYPE OF PANEL	A	B
INSULATING	7/16	2-13/16
STEEL	9/16	1- 3/8

PANEL DRILLING (FRONT VIEW)

FIG. 5 (0148A3979-5) Outline And Panel Drilling Dimensions For The Projection Mounted NGA15AB Relay

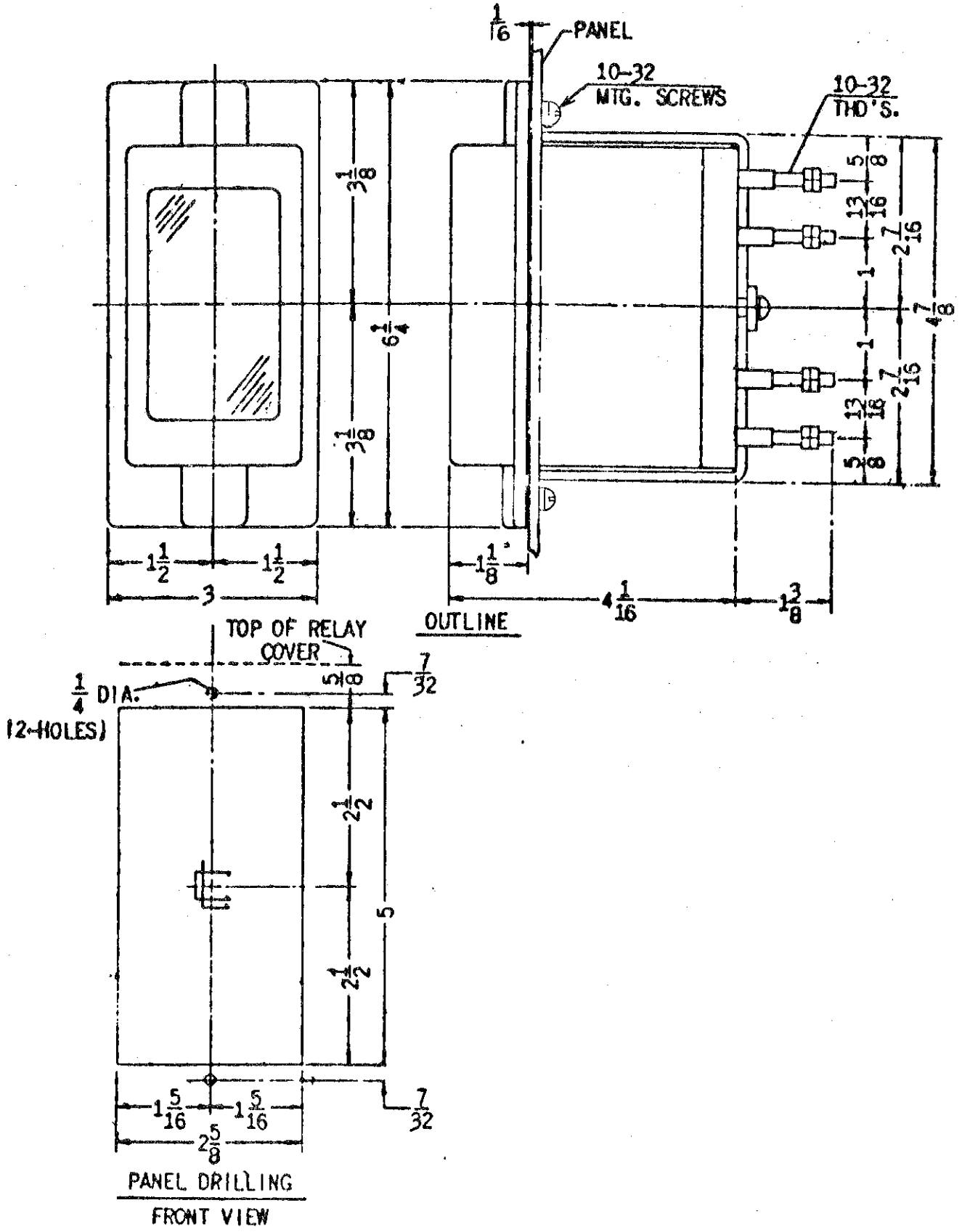


FIG. 6 (0148A3978-6) Outline And Panel Drilling Dimensions For The Semi-Flush Mounted NGA15AB Relay

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