

RELAY ADJUSTMENT PART 1.

2000 TYPE RELAYS

ORDER OF ADJUSTMENTS

- (1) check straightness of springs and contact alignment
- (2) Residual Air Gap
- (3) Armature Travel
- (4) Buffer Springs
- (5) Lever Springs

CODE LABELS

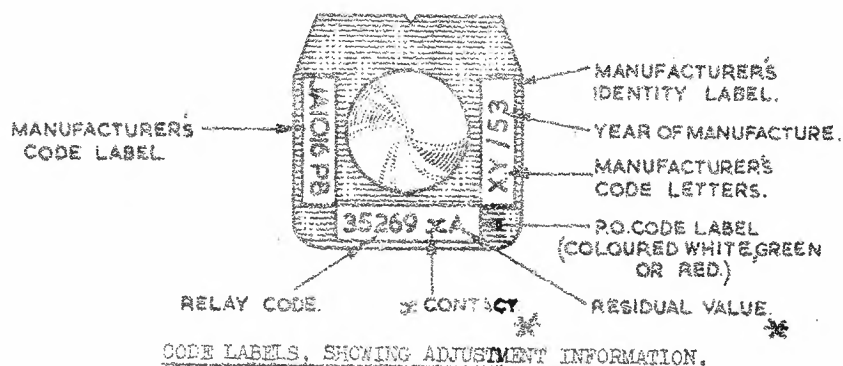


FIG. 1.

* These are important for Technicians.

FIG. 1.

- WHITE LABEL - Indicates standard 14 mil springsets
- GREEN LABEL - 12 mil springsets
- RED LABEL - Relay is special in some respects.
Reference to a special chart is necessary before making adjustments.

RESIDUAL AIR GAP

This can be controlled by:-

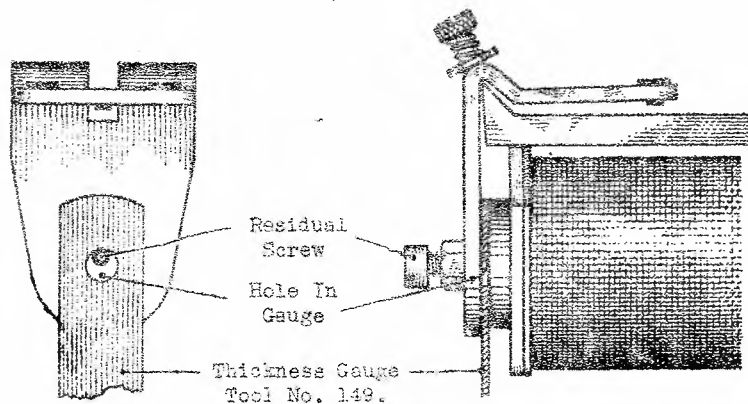
- (1) Fixed Residual Studs of Phosphor Bronze. There are 3 values and are indicated by a designation letter on the P.O. code label on the coil cheek. Used only with White or Green label relays.

If not within these limits the armature is changed.

DESIGNATION LETTER	NOMINAL STUD SIZE	MINIMUM PERMITTED
A	4 MILS	2 MILS
B	12 MILS	5 MILS
C	20 MILS	9 MILS

- (2) Residual Screws: Used where a more accurate adjustment is required. The nominal value is specified on the P.O. code label and margins allowed are as follows:-

NOMINAL VALUE	ALLOWABLE MARGIN
3 to 5 MILS	+ 1 MIL
6 to 20 MILS	+ 2 MILS
VALUE SHOWN IN BRACKETS ()	+ 1 MIL



MEASUREMENT OF RESIDUAL GAP.

FIG. 2.

ADJUSTMENT OF RESIDUAL GAP

- (i) Loosen the locking nut and reduce the residual to Zero
- (ii) Insert a feeler gauge of the correct minimum value and operate armature by
- (iii) Turn the residual screw until the feeler gauge is felt to be loose. hand.
- (iv) Substitute a feeler gauge for the correct maximum value and this should bind when the armature is operate by hand.
- (v) Lighten locking nut
- (vi) Recheck the residual adjustments after tightening the locking nut.

ARMATURE TRAVEL

This is the distance between the end of the residual stud in screw, and the core face when the armature is normal.

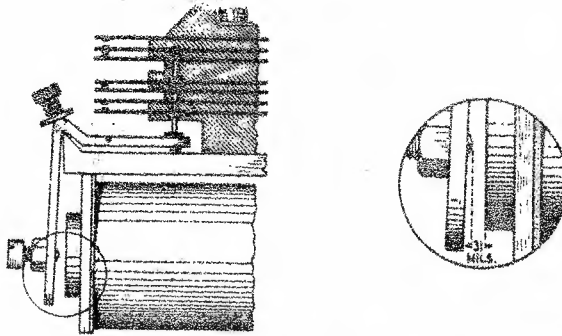


FIG. 3. ARMATURE TRAVEL.

RELAY TYPE	TRAVEL	TOLERANCE
Standard	31 MILS	± 2 MILS
Restricted (Residual value in brackets)	31 MILS	± 1 MIL
Special (Less than 31 MILS)	As shown	± 1 MIL

The spring of the Armature retaining screw should have sufficient tension to hold the armature securely on the knife edge. If not the screw and spring should be replaced.

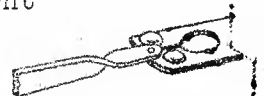
MAKE UNITS (M)

- (i) Straighten springs if necessary and check contact alignment
- (ii) Tension the make spring against the buffer block step.
(Refer Fig. 4)

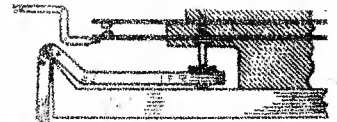
Minimum pressure 16 grams
Maximum pressure 20 grams

The above pressures are for 14 MIL springsets

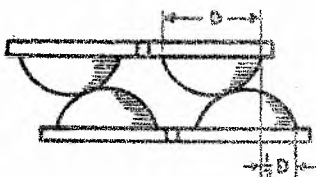
(METHOD) →



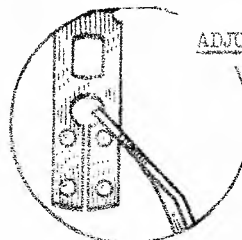
- (iii) Tension lever spring against lifting stud. →
Minimum pressure 5 grams
Maximum pressure 8 grams.



- (iv) Check for contact "Twinning" contact clearance and spring lift. (See Fig. 5)

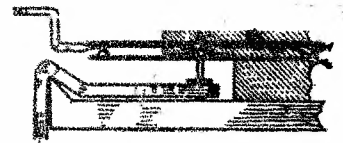


MAXIMUM OVERLAP OF CONTACT POINTS.



ADJUSTMENT OF TWIN-CONTACT TONGUES.

Adjuster,
Spring Tongue,
Tool No. 16B.

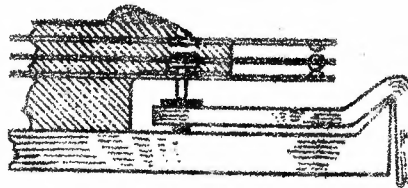


BREAK UNIT (B)

- (i) Straighten springs if necessary and check contact alignment
- (ii) Operate the armature and tension the break spring against the block step (Refer Fig. 4).
- (iii) Release the armature and tension the lever spring so that the break spring leaves the block step and, in addition, is tensioned against the lifting stud below it.
- (iv) Check for twinning contact clearance and spring lift.
(Tensions as for make units).

CHANG-OVER UNITS (C)

- (i) Straighten springs if necessary and check contact alignment
- (ii) Tension the make spring against the block step
- (iii) Operate the armature and tension the break spring against the block step.
- (iv) Release the armature and tension the lever spring so that the break spring leaves the block step and, in addition, is tensioned against the lifting stud.
- (v) Check twinning, contact clearances, spring lift. Check the lever spring breaks from the break spring before making on the make spring.
(Tension as for make and break springs).



— Buffer Spring (Make)
 — Lever Spring
 — Buffer Spring (Break)

FIG. 4.

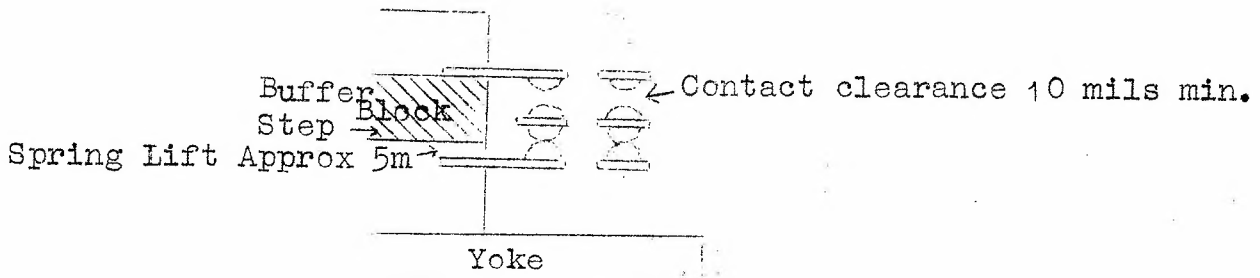


FIG. 5.