

BELL SYSTEM PRACTICES
Private Branch Exchange
Installation and Maintenance

SECTION B490.645
Issue 4, February, 1956
AT&T Co Standard

RELAYS

J TYPE

(Reference Section for B461.005)

1. REQUIREMENTS

1.01 Contact Spring Tension: 70F Gauge

- (a) Figs. 4 and 5 only. Number 2 spring against front armature stud—Max 4 grams.
- (b) Fig. 9 only. Number 1 spring against its support—Min 5 grams. Remove cover to check.

1.02 Armature Travel: 66D Gauge

- (a) 0.023 inch unless otherwise specified.
- (b) For J17 Relay—0.010 inch.
- (c) For J26, J28, J30 and J38—0.035 inch.
- (d) For relays per Fig. 9. As covered on circuit requirement table. Tolerance (T and R) $+ 0.005$ inch, $- 0.000$ inch.

Keep armature travel near minimum consistent with meeting other requirements.

1.03 Contact Follow: 66D Gauge unless otherwise specified.

- (a) 0.003 inch.
- (b) 0.004 inch on J9 relay.

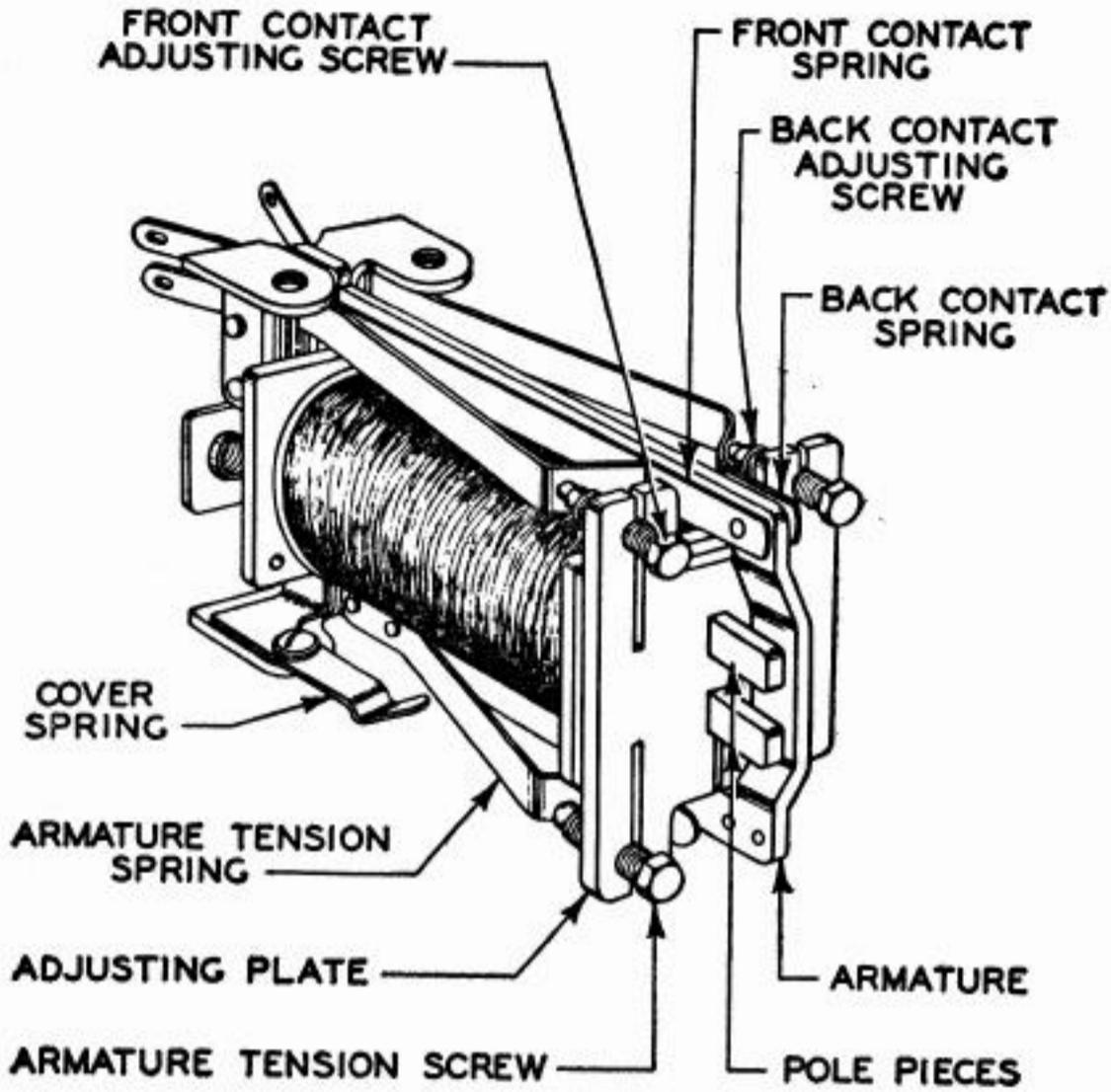


Fig. 101—J-type Relay

- (c) Requirement is met if contacts make with armature held against specified gauge.
- (d) Figs. 2 or 8—No contact follow specified.
- (e) Fig. 9—For Contact "B"—0.003 inch—Hold near minimum. For contact "A," see Table A.

TABLE A

<u>Arm. Trvl</u>	<u>Contact Follow</u>		
	<u>Min</u>	<u>Max</u>	
0.025 in.	0.008 in.	0.013 in.†	←
0.030 in.	0.013 in.†	0.018 in.†	←
0.035 in.	0.015 in.	0.020 in.	
0.040 in.	0.020 in.	0.025 in.	

† No. 131A gauge. Follow on contact "A" satisfactory if contact makes with minimum gauge applied and does not make with maximum gauge. Relay operated electrically where DC operate is specified, otherwise hold armature against gauge manually.

1.04 Contact Separation

- (a) 0.005 inch. 74D gauge.
- (b) Contact "A"—Fig. 9—No separation specified.

1.05 **Armature Tension:** 5 grams against back contact or stop. 70F gauge.

Exceptions

J4, J5, J6, J8	No tension specified
J22, J33, J34, J36, J52, J53	3 grams
J55	4 grams
J26, J28	7 grams
J30, J38	8 grams

Keep tension near minimum. Measure tension as armature leaves back contact or stop. Apply gauge back of armature between pole pieces. Release on open circuit.

1.06 **Armature Tension Spring Position.** For armature tension springs which extend in front of adjusting plate keep a perceptible clearance between armature and spring and ← between spring and adjusting plate, relay operated or unoperated.

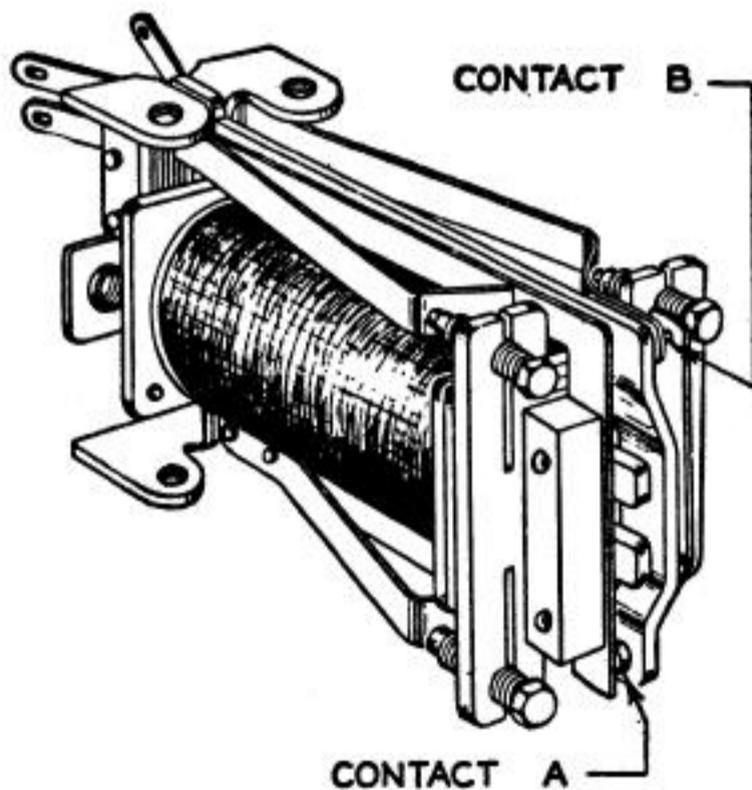
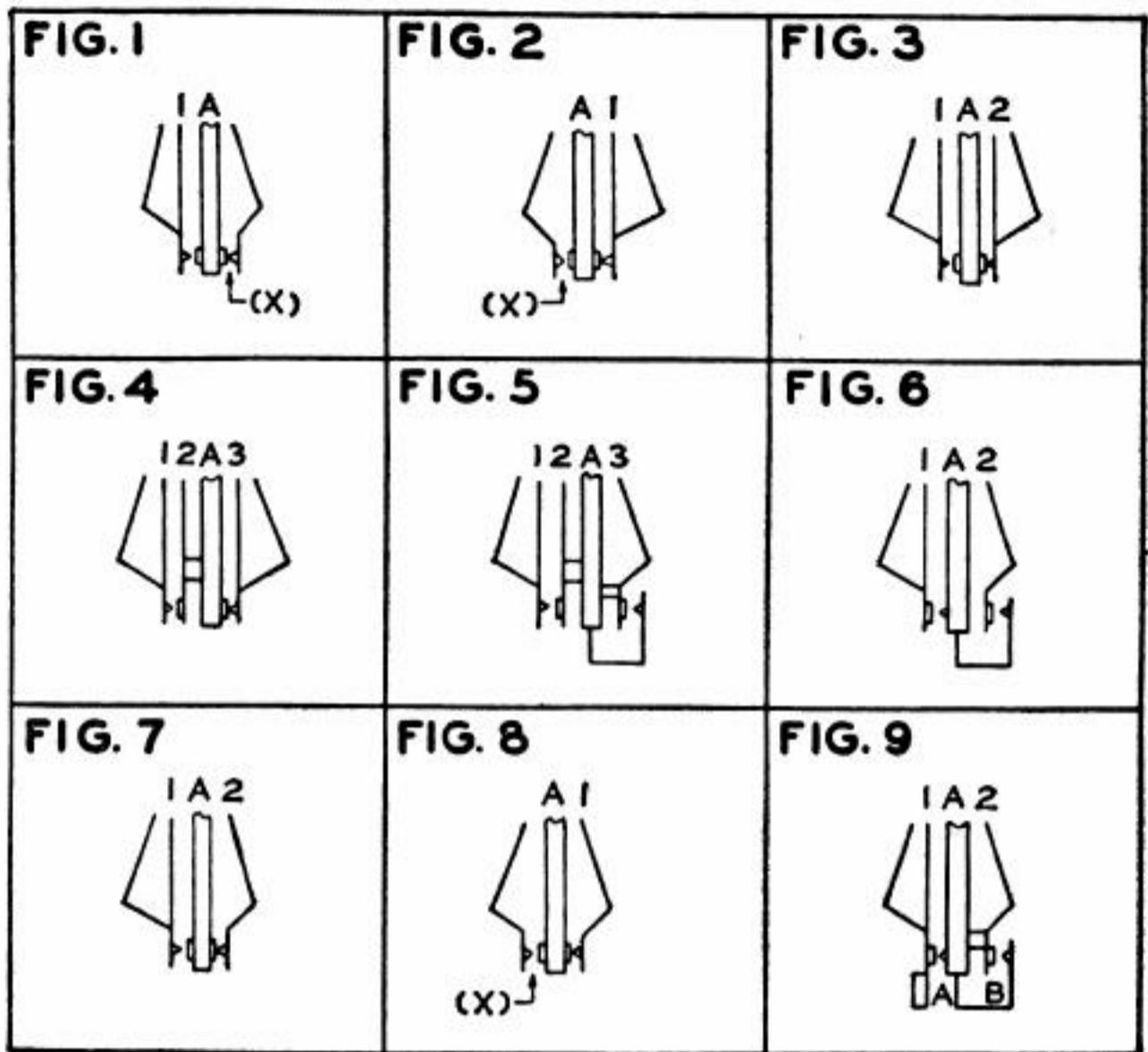


Fig. 102—Pendulum-type Relay



Figures 2 and 8 equipped with heavy front stop springs. Fig. 9 pendulum-type contact. Contacts marked (X) are for armature stop purposes and do not form part of electrical circuit.