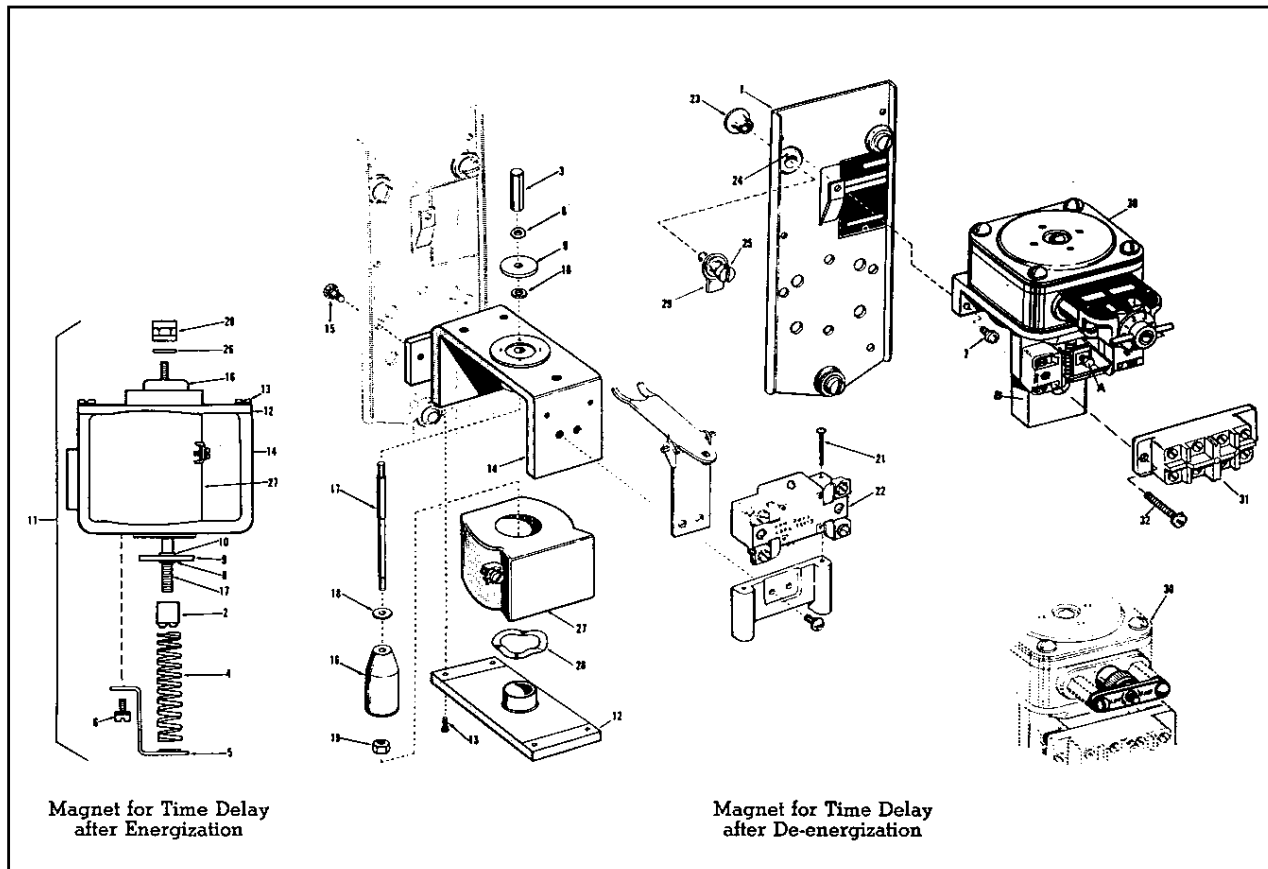




## Class 9050 — Type C — DC Pneumatic Timing Relay With Double Pole Timed Contacts — Series B

**DANGER:** Hazard of electrical shock or burn. Be sure to turn off power supplying this equipment before working on it.



Magnet for Time Delay  
after Energization

Magnet for Time Delay  
after De-energization

**Pneumatic Timing Unit** — Repair and replacement of parts of the timing unit, other than the snap switch, are to be done at the factory. Accuracy and performance of the unit can be greatly affected when repairs are attempted in the field. Faulty units are to be replaced by new timing units or returned to the factory for repairs.

**Timed Contact** — The snap switch contact mechanism (31) may be removed by disconnecting any wiring to it, and removing the two screws (32) holding it to the timing head.

When installing a new Class 9007 Type CO-3 snap switch (31), the overtravel after time-out **must be adjusted** as follows:

- (1) Rotate the snap switch adjusting screw (A) so that the snap switch just trips at the extreme outward travel limit of the diaphragm block (B).
- (2) As shown in the above view, rotate the adjusting screw (A) clockwise exactly 1/2 turn or 3 flats of the hexagon screw head.
- (3) The diaphragm block on the timing head should have approximately 0.042" overtravel after the snap switch trips; this can be checked by hand operation of the diaphragm block.

**CAUTION** — When the **timed contact** snap switch mechanism is replaced, it must only be replaced with a Class 9007 Type CO-3 snap switch. Other Class and Type snap switches are not interchangeable.

**Magnet Coil** — To replace the magnet coil (27) first disconnect the wires from the coil terminals. Next remove the screws (15) which hold the magnet frame (14) to the base plate (1). After removing the screws (13) holding the magnet frame bottom plate (12) to the magnet frame, the coil may be removed.

When reassembling the magnet, orient the magnet frame bottom plate (12) so that the word "FRONT" is toward the front of the magnet.

**Timing Mode Conversion** — The magnet assembly used with this timer allows easy conversion from time delay after energization (on delay) to time delay after de-energization (off-delay), or vice-versa. This conversion, however, requires either one of two Class 9999 kits depending on the conversion.

The Class 9999 Type K-5 kit contains the necessary parts and instructions to change from time delay after de-energization to time delay after energization.

The Class 9999 Type K-6 kit contains the parts and instructions required to change the timer from time delay after energization to time delay after de-energization.

**Instantaneous Interlocks** — A total of two instantaneous interlocks can be mounted on the front of the timing relay. They may be factory installed on the timer or added in the field. All the necessary parts and instructions for field mounting one interlock are included in a Class 9999 Type R-5 parts kit.

Supersedes 296AS, dated November, 1970

**SQUARE D COMPANY**

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• Revised



**ORDERING INSTRUCTIONS:** Specify quantity, Part number and description of part, giving complete nameplate data of device. For example: 1-2105-X15 stop washer for Class 9050 — Type CO22D Timer with serial number 954312-S31018-560-52.

PARTS LIST										
Item No.	Description	Part Number	QUANTITY REQUIRED							
			CO-21E	CO-21D	CO-22E	CO-22D	CO-23E	CO-23D	CO-24E	CO-24D
1	Baseplate	4427-C8-X1	1	1	1	1	1	1	1	1
**2	Nut	214-X45	1	...	1	...	1	...	1	...
**3	Nut	214-X65	...	1	...	1	...	1	...	1
4	Spring	See item 11	1	...	1	...	1	...	1	...
5	Spring Bracket	2711-D2-X1	1	...	1	...	1	...	1	...
**6	SA #8-32 x 5/16"	21915-14101	2	...	2	...	2	...	2	...
**7	Screw Assembly #10-24x1/2"	21911-16161	2	2	2	2	2	2	2	2
8	Washer #10	23703-00160	1	1	1	1	1	1	1	1
9	Bakelite Washer	2711-X1	1	1	1	1	1	1	1	1
10	Washer #10	23603-00163	1	1	1	1	1	1	1	1
11	Magnet and Armature Assembly (Includes Items 2-6, 8-10, 12-14, 16-20, 26, 28)	S31018-626-50	1	1	1	1	1	1	1	1
12	Magnet Bottom Plate Assy	See item 11	1	1	1	1	1	1	1	1
**13	Screw Assembly #6-32x3/8"	21911-12120	4	4	4	4	4	4	4	4
14	Magnet Frame Assembly	See item 11	1	1	1	1	1	1	1	1
**15	Screw Assy. #10-24x5/16"	21911-16100	2	2	2	2	2	2	2	2
16	Armature	See item 11	1	1	1	1	1	1	1	1
17	Armature Rod	See item 11	1	1	1	1	1	1	1	1
18	Stop Washer	2105-X15	1	1	1	1	1	1	1	1
**19	Elastic Stop Nut #10-24	23201-00160	...	1	...	1	...	1	...	1
**20	Nut	214-X11	1	...	1	...	1	...	1	...
**21	Screw Assy. #6-32x7/8"	21911-12280	...	...	2	2	...	...	2	2
22	Snap Switch Interlock	Class 9007 Type BO4	...	...	1	1	...	...	1	1
23	Flanged Spacer	1861-X17	...	...	3	3	...	...	3	3
24	Rubber Grommet	29202-18080	3	3	3	3	3	3	3	3
25	SA #10-24x5/8"	21909-16201	3	3	3	3	3	3	3	3
26	Washer #10	23701-00160	1	...	1	...	1	...	1	...
27	Magnet Coil	See table below	1	1	1	1	1	1	1	1
28	Spring Washer	23903-26501	1	1	1	1	1	1	1	1
29	Grounding Clip	31017-024-01	1	1	1	1	1	1	1	1
PNEUMATIC TIMER										
30	Timing Unit Complete } w/o Dial	9050-G28	1	1	1	1	...	...	...	...
	With Snap Switch } w/Dial	9050G-30	...	...	...	...	1	1	1	1
31	Snap Switch with Binder Head Screws	9007-CO-3	1	1	1	1	1	1	1	1
**32	SA #6-32x1	21911-12321	2	2	2	2	2	2	2	2

**\*\*FACTORY RECOMMENDED DRIVING TORQUES**

Item No.	Description	Driving Torque (in.-lb.)
2	Nut (1 required) Part #214-X45	24-28
3	Nut (1 required) Part #214-X65	24-28
6	Spring bracket mounting screw (2 required)	18-21
7	Timing head mounting screw (2 required)	24-28
13	Magnet bottom plate mounting screw (4 required)	9-12
15	Magnet frame assembly mounting screw (2 required)	24-28
19	Nut (1 required) Part #23201-00160	24-28
20	Nut (1 required) Part #214X-11	24-28
21	Interlock mounting screw (2 required)	9-12
32	Timed contact mounting screw (2 required)	9-12

MAGNET COILS*			
D.C. Voltage	Part Number	D.C. Voltage	Part Number
6	31018-400-22	48	31018-400-49
12	31018-400-31	115	31018-400-61
24	31018-400-40	230/250	31018-400-70
36	31018-400-46		

\* When ordering replacement coils give part number and voltage of coil being replaced.

Change from Series A to Series B consists of coil change and addition of spring (28).

• Revised

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