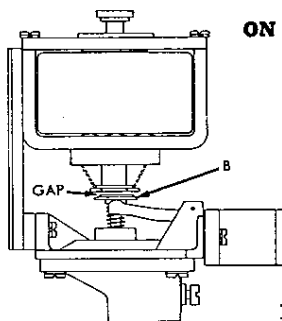
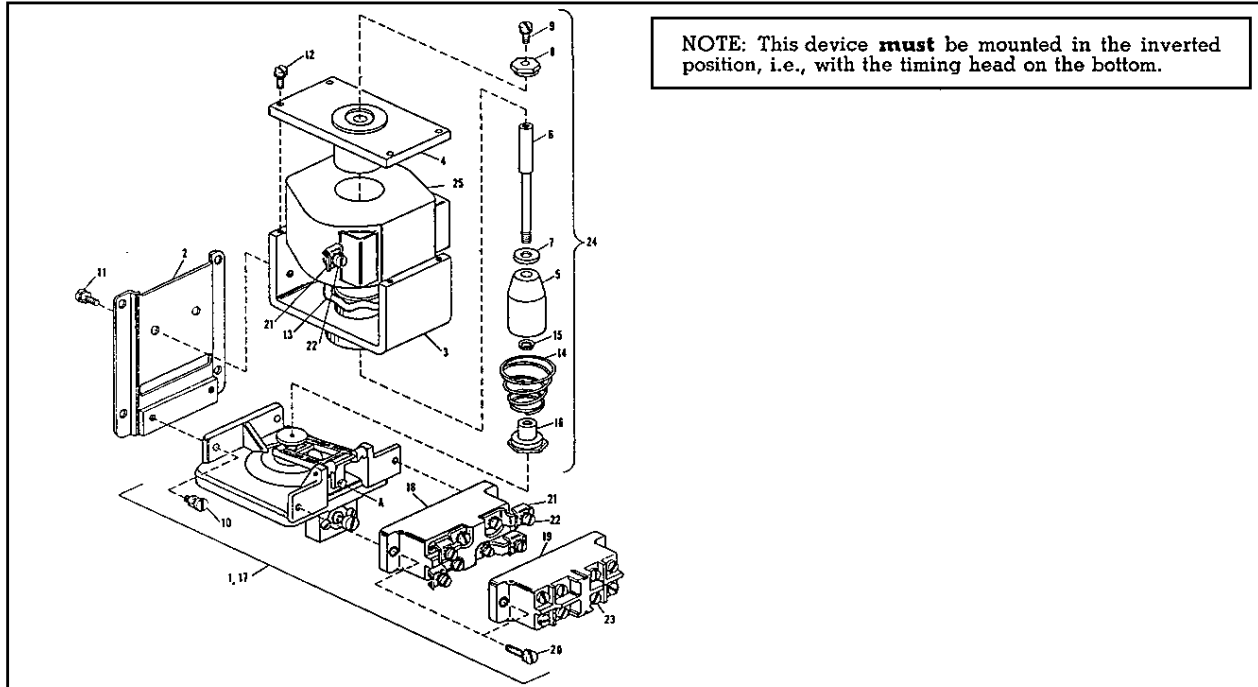




## Class 9050 Types HO-10D or E and HO-20D or E — Series A, D.C. Pneumatic Timing Relays

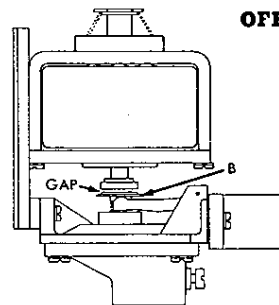
**DANGER: Hazard of electrical shock or burn. Be sure to turn off power supplying this equipment before working on it.**



**ON DELAY**

4. Allow time for operating button (B) to extend to outward limit of travel.
5. Check for .005 to .015 gap between spring seat nut (16) and button (B). Gap may be adjusted by shifting magnet assembly and/or timing head.

Fig. 1



**OFF DELAY**

4. Push operating button (B) against timing head.
5. Check for .005 to .015 gap between button (B) and bumper (8). Gap may be adjusted by shifting magnet assembly and/or timing head.

Fig. 2

**PNEUMATIC TIMING UNIT** — Repair and replacement of parts of the timing unit 1, 17, 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.

**TIMING MODE CONVERSION** — The magnet and armature assembly (24) used with this timing relay makes it possible to convert an ON DELAY Timer to an OFF DELAY Timer or vice-versa. To make this change:

1. Remove two magnet screws (11), invert magnet assembly, and replace screws.
2. Manually close armature (16).
3. Proceed according to timing mode (figure 1 or figure 2):

**TIMED CONTACT** — The Class 9007 Type AO-104 single pole (item 18) or the Class 9007 Type CO-3 double pole (item 19) snap switch serves as the contact mechanism and may be removed by disconnecting any wiring to it, and removing the two screws (20) holding it to the timing head.

When installing a new **single** pole snap switch (18), 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 operating button (B) in Figure 1. Allow the spring to push the operating button out; do not pull it out.
2. Then turn the screw (A) 2/3 turn clockwise.

When installing a new **double** pole snap switch (19), the overtravel after time-out **must be adjusted** as follows:

1. Follow the procedure above for a single pole snap switch.
2. Depress operating button (B) in Figure 1 to the extreme inward limit. If the operating button does not touch the timer die casting, turn adjusting screw (A) into the plastic molding until operating button just touches die casting.



**ORDERING INSTRUCTIONS:** Specify quantity, part number and description of the part, giving the complete nameplate data of the device. For example: 1 — #9050 G-37 pneumatic timing unit for a Class 9050 Type HO-10D, Series A timer.

PARTS LIST				
Item Number	Description	Part Number	QUANTITY	
			Types HO-10D, E	Types HO-20D, E
1	Pneumatic timing unit (includes 18, 20, 21, 22)	9050 G 37	1	....
2	Baseplate	4505-L1-G1	1	1
3	Magnet frame assembly	See item 24	1	1
4	Magnet top plate assembly	See item 24	1	1
5	Armature	See item 24	1	1
6	Armature rod	See item 24	1	1
7	Stop washer	2105-X15	1	1
8	Bumper	4505-D12-X1	1	1
9 * *	SA #6-32 x 5/16	21904-12101	1	1
10 * *	SA #10-24 x 9/16	21916-16181	2	2
11 * *	SA #10-24 x 5/16	21911-16100	2	2
12 * *	SA #6-32 x 3/8	21911-12120	4	4
13	Spring Washer	23903-26501	1	1
14	Reset Spring	See item 24	1	1
15	Washer #10	23701-00160	1	1
16 * *	Spring Seat Nut	4505-D13-X1	1	1
17	Pneumatic timing unit (includes items 19, 20, 23)	9050 G 38	....	1
18	Snap Switch (includes items 21, 22)	9007 AO-104	1	....
19	Snap Switch (includes item 23)	9007 CO-3	....	1
20 * *	SA #6-32 x 1/2"	21911-12160	2	2
21	Terminal Clamp	2183-X34	6	2
22	SA #6-32 x 5/16	21904-12101	10	2
23	SA #6-32 x 1/4	21501-12081	....	8
24	Magnet and armature assembly (includes items 3-9, 12-16)	4505-S32	1	1
25	Magnet Coil	See table below	1	1

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

Item #	Description	Driving Torque (in.-lb.)
9	Bumper Mounting Screw (1 required)	20-24
10	Timing Head Mounting Screw (2 required)	24-28
11	Magnet Frame Assembly Mounting Screws (2 required)	24-28
12	Magnet Top Plate Screw Assemblies (4 required)	9-12
16	Spring Seat Nut (1 required)	20-24
20	Snap Switch Mounting Screw (2 required)	9-12

MAGNET COILS *	
D. C. Voltage	Part Number
6	4491-S1-W21
12	4491-S1-W24
24	4491-S1-W27
36	4491-S1-W29
48	4491-S1-W30
115	4491-S1-W34
230/250	4491-S1-W37

**MAGNET COIL REPLACEMENT**

1. Disconnect any wires from coil terminals.
2. Remove the two magnet frame mounting screws (11) and the magnet and armature assembly (24).
3. Remove bumper screw (9), bumper (8) and the four magnet top plate screw assemblies (12).
4. Remove coil (25).
5. Reassemble in reverse order.
6. Install magnet and armature assembly (24) to baseplate and adjust the assembly to obtain .005 to .015 inch gap as described under "Timing Mode Conversion" section.

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