



Class 9055 — Dashpot Type — Magnetic Current Relays Type A, Series A Time Delay Trip Type

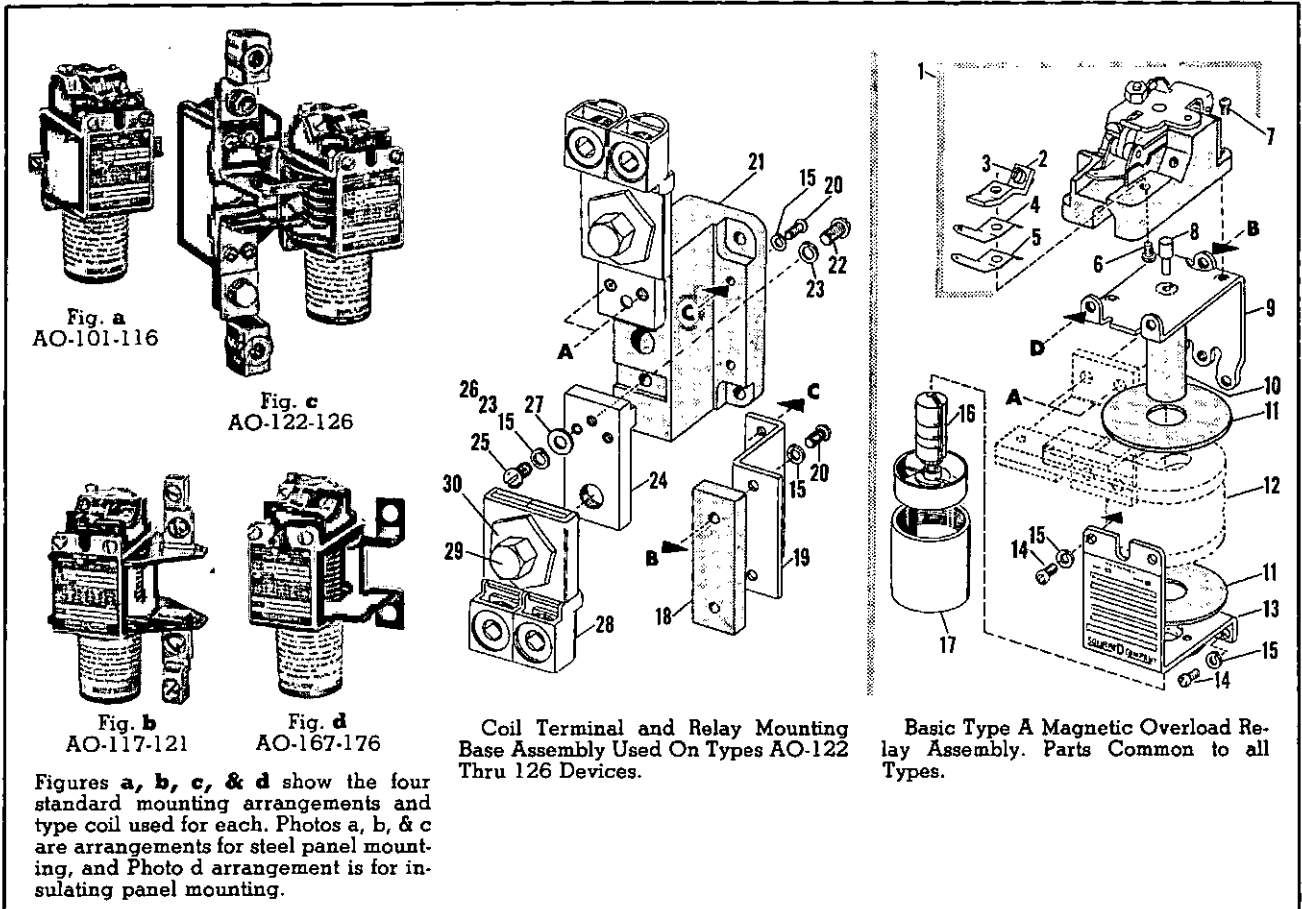


Fig. a
AO-101-116

Fig. c
AO-122-126

Fig. b
AO-117-121

Fig. d
AO-167-176

Figures a, b, c, & d show the four standard mounting arrangements and type coil used for each. Photos a, b, & c are arrangements for steel panel mounting, and Photo d arrangement is for insulating panel mounting.

Coil Terminal and Relay Mounting Base Assembly Used On Types AO-122 Thru 126 Devices.

Basic Type A Magnetic Overload Relay Assembly. Parts Common to all Types.

APPLICATION — Type A overload relays are used to provide running overcurrent protection for motors, and are normally wired to trip the starter, hence de-energizing the motor power circuit should an overload condition persist longer than the time delay setting on the device. The RESET CURRENT is approximately 20% on ac and 10% on dc of the continuous coil rating given on the device nameplate. The RESET TIME is fast due to the one way valve (located in the bottom of the dashpot piston, on Item 16) which opens when the current drops below the reset point.

CONTACT ASSEMBLY — The contact assembly, Item 1, is of a unit construction and can be removed by loosening the two screws, Item 7. With the contact assembly, Item 1, removed, the stationary leaf contact, Item 4, can then be removed by removing the stationary contact assembly holder screw, Item 6. Reassemble in the reverse manner, making sure that the leaf contact, Item 4, is in its proper position between the leaf spring, Item 5, and the contact terminal, Item 2. Likewise make sure the loose trip pin, Item 8, has not fallen from the upper frame, Item 9, but is in its proper position when remounting the contact block assembly, Item 1, to the upper frame, Item 9.

SETTING CURRENT TRIP POINT — Unscrew dashpot, Item 17, and remove plunger and piston assembly, Item 16. Care should be taken that the exposed dashpot oil does not become contaminated. The plunger portion of Item 16 is the up-

per assembly. Loosen knurled locking nut at the base of the plunger. While looking through the slot in the side of the plunger, turn the piston with respect to the plunger to correlate the position of the pointer, attached to the center threaded shaft, with the scale marked H (high) — M (medium) — L (low) to the approximate setting desired.

The H — M — L scale markings correspond to the high, medium, and low trip current values respectively given on the device nameplate. After the trip setting has been made, assemble Items 17 and 16 back on the relay section, making sure that the knurled nut has been tightened to lock the plunger at the adjusted setting.

TIME DELAY SETTING — To adjust the time delay feature on the device, unscrew dashpot, Item 17, and remove plunger and piston assembly, Item 16. Care should be taken not to contaminate the exposed dashpot oil. The bottom of the piston assembly has three holes, one small and two large, which may be closed or opened in various combinations to give five distinctively different time delays using one type oil. Holes may be opened or closed by rotating the disc that is located on the inner surface of the bottom of the piston assembly, Item 16. For the majority of motors, uncovering only the small hole provides suitable overload protection when using the standard dashpot oil, Item AA, on the parts list.

Supersedes 260AS dated December, 1962

SQUARE D COMPANY

APRIL, 1968

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ORDERING INSTRUCTIONS: Specify quantity, part number, and description of part, giving complete nameplate data of the device. For example: 1-750-C10-G2, contact ass'y complete, for Class 9055 Type AO-110 with Serial No. 203641-750-S666-G10.

Item No.	Description	Part Number	PARTS LIST							
			Figure a ●AO-101 thru AO-116	Figure b AO-117L or R thru AO-119L or R	Figure b AO-120L or R and AO-121L or R	Figure c			Figure d AO-167L or R thru AO-176L or R	
1	Contact Ass'y Complete	750-C10-G2	1	1	1	1	1	1	1	1
2	Stationary Contact Terminal	750-D14-X2	1	1	1	1	1	1	1	1
3	Terminal Screw #8-32 x 1/4"	21501-14080	2	2	2	2	2	2	2	2
4	Stationary Leaf Contact	750-G1	1	1	1	1	1	1	1	1
5	Stationary Contact Leaf Spring	750-L35-X1	1	1	1	1	1	1	1	1
6	Screw #8-32 x 1/4"	21901-14081	1	1	1	1	1	1	1	1
7	Screw #8-32 x 1/4"	21902-14141	2	2	2	2	2	2	2	2
8	Trip Pin	750-X6B	1	1	1	1	1	1	1	1
9	Upper Frame	750-D2-G1	1	1	1	1	1	1	1	1
10	Fibre Tube	750-X15	1	1	1	1	1	1	1	1
11	Coil Washer	153-D15-X4	3	...	...	...	...	...	...	...
	‡Coil Washer	739-D13-X1	...	2	2	...	...	...	...	...
	‡Coil Washer	153-D1-X6	...	...	...	2	2	2	2	2
12	Magnet Coil	See Coil Table Below	...	1	1	1	1	1	1	1
13	Lower Frame	750-D3-G1	1	1	1	1	1	1	1	1
14	Screw #10-24 x 3/8"	21001-16100	4	4	4	4	4	4	4	4
15	Lockwasher #10	23701-00180	4	4	4	12	8	8	8	4
16	Plunger & Piston Ass'y	750-D17-G2	1	1	1	1	1	1	1	1
17	Dashpot	750-D71-X1	1	1	1	1	1	1	1	1
18	Spacer	750-D146-X1	...	...	...	...	...	...	...	...
19	Support Bracket	750-L33-X1	...	...	...	1	1	1	...	...
	Support Bracket	750-L36-X1	...	...	...	...	...	...	...	...
20	Screw #10-24 x 3/8"	21001-16120	...	...	...	2	2	...	1	...
	Screw #10-24 x 3/8"	21001-16200	...	...	...	2	2	4	2	...
21	Coil Terminal and Relay Mtg Base	31006-039-01	...	...	...	1	1	1	1	...
22	Screw 1/4-20 x 1/2"	21001-20280	...	...	...	2	2	2	2	...
23	Lockwasher 1/4"	23701-00200	...	...	...	2	6	6	2	...
24	Lug Terminal	750-D139-X1	...	...	...	2	...	...	2	...
	Lug Terminal	750-D138-X1	...	...	...	...	...	...	...	...
25	Screw #10-24 x 1/2"	21001-16140	...	...	...	4	2	2	...	...
	Screw 1/4-20 x 1/2"	21001-20160	...	...	...	...	4	4	...	...
	Hex Hd. 3/4-16 x 1/2"	21401-24280	...	...	...	...	4	4	2	...
26	Lockwasher 3/8"	23701-00240	...	...	...	...	...	...	2	...
27	Washer #10	23601-00160	...	...	...	4	...	...	...	...
	Washer 1/4"	23601-00200	...	...	...	4	4	4	...	...
	Washer 3/4"	23601-00240	...	...	...	...	...	...	2	...
28	‡Terminal Lug Ass'y †	281-M2-G1	...	2	...	...	...	...	...	...
	‡Terminal Lug Ass'y †	281-M2-G2	...	2	...	...	...	...	...	...
	‡Terminal Lug	25050-34401	...	...	2	...	...	...	...	...
	‡Terminal Lug	25050-44806	...	...	2	2	2	2	...	...
	‡Terminal Lug	25076-04800	...	...	...	...	...	...	2	...
29	Hex. Hd. 1/4-16 x 3/4"	21401-24240	...	...	2	...	...	...	...	...
	Hex. Hd. 1/4-13 x 1"	21401-28320	...	...	2	2	2	...	...	...
	Hex. Hd. 1/4-13 x 1 1/4"	21401-28560	...	...	...	...	...	...	2	...
30	Lockwasher 3/4"	23701-00240	...	...	2	...	...	...	2	...
	Lockwasher 1/4"	23709-00080	...	...	...	2	2	2	...	...
	*Lockwasher 1/2"	23701-00280	...	...	...	...	...	...	2	...
	*Washer 1/2"	23601-00280	...	...	...	...	...	...	2	...
	*Hex Nut 1/4-13	23002-00280	...	...	...	...	...	...	2	...
AA	*Standard Dashpot Oil (1oz. Bottle)	Cl. 9055 Type R2U	1	1	1	1	1	1	1	1

† Terminal lug ass'y consists of a lug, screw, nut, washer, and lockwasher. *Not shown on exploded drawing.
‡ Not physically the same shape as shown on exploded drawing.

**CONVERSION OR REPLACEMENT PARTS FOR FORM HR;
FORM Y44; OR FORM HR, Y44 ON TYPE A MAGNETIC RELAYS**

Form HR — Refers to a hand reset contact mechanism with reset button lever as opposed to the automatic reset contact mechanism, supplied on standard devices, as in Item 1 above.
Form Y44 — Refers to a contact mechanism with 1 normally open contact as opposed to the 1 normally closed contact on the contact mechanism supplied on standard devices.

PARTS LIST FOR FORM HR, Y44; or HR, Y44					
Item No.	Description	Part Number	Form HR	Form Y44	Form HR, Y44
BB	* *Contact Block Ass'y Complete	750-D150-G1	1	...	...
CC	* *Contact Block Ass'y Complete	750-C10-G6	...	1	...
DD	* *Contact Block Ass'y Complete	750-D150-G2	...	...	1
EE	*Reset Button Lever	750-D151-X1	1	...	1

* *Not shown on exploded drawing, but similar in physical shape to Item 1. *Not shown on exploded drawing.

MAGNET COIL SELECTION TABLE											
Type AO (R or L Hand)	Photo Fig.	Magnet Coil Item 12 Above	Type AO (R or L Hand)	Photo Fig.	Magnet Coil Item 12 Above	Type AO (R or L Hand)	Photo Fig.	Magnet Coil Item 12 Above	Type AO (R or L Hand) ▲	Photo Fig.	Magnet Coil Item 12 Above
AO-101	a	739-S26-W26	AO-110	a	739-S26-W17	AO-119	b	739-S5-W7	AO-168R	d	739-S1-W6R
									AO-168L	d	739-S1-W6L
AO-102	a	739-S26-W25	AO-111	a	739-S26-W16	AO-120	b	739-D14-G1	AO-169R	d	739-S14-W6R
									AO-169L	d	739-S14-W6L
AO-103	a	739-S26-W25A	AO-112	a	739-S26-W15	AO-121	b	739-D15-G1	AO-170	d	739-D1-G1
AO-104	a	739-S26-W24	AO-113	a	739-S26-W14	AO-122	c	750-D142-G4	AO-171	d	739-D2-G1
AO-105	a	739-S26-W24A	AO-114	a	739-S26-W13	AO-123	c	750-D142-G3	AO-172	d	739-D70-G1
AO-106	a	739-S26-W22	AO-115	a	739-S26-W12	AO-124	c	750-D135-G1	AO-173	d	739-D3-G1
AO-107	a	739-S26-W21	AO-116	a	739-S26-W10	AO-125	c	750-D143-G1	AO-174	d	739-D59-G1
AO-108	a	739-S26-W20	AO-117	b	739-S5-W8	AO-126	c	750-F94-G1	AO-175	d	739-D56-G1
AO-109	a	739-S26-W18	AO-118	b	739-S5-W6	AO-167	d	739-S1-W8	AO-176	d	739-D68-G1

▲Exception — Types AO-168R, 168L, 169R, & 169L each use separate right and left hand coils.
●Revised

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