

January 1941

GENERAL RAILWAY SIGNAL COMPANY

**Type SA Direct-Current Signal Mechanism
With Stepped Lens, Slide Arrangement and Articulated Contacts
(For S.F.O.B.B. Only)**

Note: Mechanisms shown on this plate may be used in either high or dwarf signals.

If other color combinations than those listed are desired or if signals are to operate on voltages other than those listed, same will be furnished when specified.

This mechanism is equipped with eight independent contacts, that is, duplicate sets of independent front and back articulated contacts for both green and yellow positions.

Lamps Fig. 23 are not included with mechanisms complete and must be ordered separately.

For other direct-current mechanisms see Plates H2649, H2651, and H2655.

Drawing references are shown for convenience in checking shipping lists and invoices.

Fig. No.	Name	Drawing Reference
Order by plate, figure number and name		
A	Type SA Direct-Current Signal Mechanism Complete, equipped with cover glass Fig. 32, for use with stepped lens signals. For 12 volt operation, arranged to give three indications, namely: green, red and yellow.	53052-23 Gr. 15
B	Reflector Unit Complete, comprises parts Figs. 8 to 14, and 24 to 26, inclusive. Does not include lamp Fig. 23 which must be ordered separately.	53056-1 Gr. 1
C	Case Complete, includes all parts for housing mechanism. Does not include reflector unit, terminal block, glass Fig. 32 or glass case Fig. 41.	53270-1 Gr. 3
D	Contact Group Complete as shown.	56130 Gr. 2
1	Screw, No. 14-40 x $\frac{5}{8}$ " lg., headless, used as stop for counterweight.	5100-10
2	Screw, No. 14-40 x $\frac{7}{8}$ " lg., headless, used as stop for armature.	5100-6
3	Pin, .125" dia. x $\frac{1}{8}$ " lg., for counterweight.	2644-5
4	Counterweight Complete, for mechanism.	53703-1 Gr. 1
5	Armature Complete, with miniature roundels, for three indication unit, giving green, red and yellow indications. Includes spectacles, fly wheel, vane and all riveted parts mounted on shaft.	53055-8 Gr. 1
5a	as above, except for two indication unit giving purple and yellow indications.	53055-8 Gr. 2

(Continued on following page)

Type SA Direct-Current Signal Mechanism

With Stepped Lens, Slide Arrangement and Articulated Contacts

Drawing references are shown for convenience in checking shipping lists and invoices.

Fig. No.	Name	Drawing Reference
Order by plate, figure number and name		
5b	same as Fig. 5, except for two indication unit giving red and yellow indications	53055-8 Gr. 3
6	Nut, No. 14-40 x 1/8" th. hex., for screws Figs. 1 and 2	53084-1
7	Nut, No. 8-32 x 1/8" th. hex., for fastening fingers to counterweight	3891-1
8	Holder, for reflector unit Fig. B, includes studs for mounting receptacle riveted in place	53068-2 441-120
9	Washer, for use between pad and holder, for reflector	590-25
10	Spring, for receptacle	586-32
11	Lamp Receptacle Complete, for details and order references see Plate H2669	53058-5 Gr. 2
12	Nut, No. 10-32 hex., for stud on holder	46277-1
13	Nut, No. 10-32 cup shape, for spring	20673-2
14	Washer, for use behind reflector	1533-32
15	Screw, No. 10-32 x 3/4" fil. hd., for fastening terminal block to case, for use in position shown	12563-5
16	Screw, No. 10-32 x 3/8" fil. hd., for fastening terminal block to plate Fig. 17	12563-22
17	Plate, for mounting terminal block	55378-4
18	Bearing Bracket, as shown, for supporting one end of armature shaft	53063-6
19	Name Plate, with screws, for mechanism	401-219 54392-13
20	Name Plate, with screws, for mechanism	401-220 54392-13
21	Bracket, as shown, for supporting counterweights and contact group	53063-8
22	Screw, No. 10-32 x 1/8" hex. hd., with hex. nut and lock washer, for mounting contact group	18683-1 577-18 53029-3

(Continued on following page)

Type SA Direct-Current Signal Mechanism With Stepped Lens, Slide Arrangement and Articulated Contacts

Drawing references are shown for convenience in checking shipping lists and invoices.

Fig. No.	Name	Drawing Reference
Order by plate, figure number and name		
23	Incandescent Lamp, 2 pin, candelabra single contact bayonet base S-8 bulb, single filament, 1000 hour rating, 11.3 volts, 13.3 watts, recommended for operation on 10 volts.	34866-32
23a	as above, except S-11 bulb, single filament, 1000 hour rating, 8 volts, 10 watts, recommended for operation on 7.2 volts.	34866-43
23b	same as Fig. 23 except S-11 bulb, major and minor filaments in multiple, 1000 hour rating, 8 volts, 13+3.5 watts, recommended for operation on 7.2 volts.	34866-37
23c	same as Fig. 23, except S-11 bulb, single filament, 1000 hour rating, 9 volts, 15.3 watts, recommended for operation on 8 volts.	34866-34
23d	same as Fig. 23, except S-11 bulb, major and minor filaments in multiple, 1000 hour rating, 10 volts, 13+3.5 watts, recommended for operation on 9 volts.	34866-60
23e	same as Fig. 23, except S-11 bulb, single filament, 1000 hour rating, 10 volts, 25 watts, recommended for operation on 9 volts.	34866-47
23f	same as Fig. 23, except S-11 bulb, single filament, 2000 hour rating, 13.5 volts, 17 watts, recommended for operation on 12 volts.	34866-25
23g	same as Fig. 23, except G-16½ bulb, single filament, 1000 hour rating, 115 volts, 25 watts, recommended for operation on 110 volts.	34866-45
24	Reflector, glass, as shown.	53122
25	Retaining Ring, for reflector.	45647-5
26	Screw, No. 4-36 x ¼" fl. hd., for fastening retainer to holder.	35699-2
27	Spring, with sleeve, for fastening glass Fig. 29 in case.	51107-3 15284-17
28	Gasket, rubber, for use between glass and case.	52983-1
29	Glass, for reflector unit compartment.	924-11
30	Gasket, rubber, for use with glass Fig. 32.	52983-3

(Continued on following page)

Type SA Direct-Current Signal Mechanism With Stepped Lens, Slide Arrangement and Articulated Contacts

Drawing references are shown for convenience in checking shipping lists and invoices.

Fig. No.	Name	Drawing Reference
Order by plate, figure number and name		
31	Spring, with sleeve, for fastening glass in case	{ 51107-6 15284-17
32	Outer cover glass, for use in position shown	924-17
33	Line Coil, 500 ohms resistance, for 12 volt operation. Includes bakelite shell	53121-1 Gr. 2
34	Bearing, upper half, for armature shaft	53828
35	Ball, for use at ends of armature shaft	36126-4
36	Gasket, for use between glass case and mechanism case	18014-126
37	Shim, .005" th. for use between upper and lower halves of armature shaft bearings	53879
37a	as above, except .003" th.	53879-1
38	Bearing, knife edge, for armature shaft	53828-1
39	Bearing Bracket, for supporting one end of armature shaft	53064-2
40	Washer, for use between bearing bracket and poles	53097
41	Glass Case, for housing lower half of mechanism	97380-8
42	Color Disc Complete, red, A.A.R. Standard, assembled in retaining cup	53073 Gr. 2
42a	as above, except yellow with one side depolished, A.A.R. Standard	53073 Gr. 12
42b	same as Fig. 42, except green, pre-cracked, A.A.R. Standard	53073 Gr. 3
42c	same as Fig. 42, except purple, A.A.R. Standard	53073 Gr. 7
43	Nut, No. 10-32 x 1/8" th. hex. for stud Fig. 46, also for lamp receptacle	40796
44	Screw, 1/4"-20 x 1/8" lg., for fastening brackets Fig. 18 and 39 to case, four required	45048-8
45	Screw, No. 8-32" x 13/32" collar hd., for fastening bearing to brackets	53829-2
46	Stud, as shown, for fastening poles to brackets, four required	441-117
47	Stud, 7/16" dia. x 5 3/8" lg., for fastening magnet to poles	879-31
48	Nut, 7/16"-14 hex., for stud, Fig. 47	54247

(Continued on following page)

Type SA Direct-Current Signal Mechanism With Stepped Lens, Slide Arrangement and Articulated Contacts

Drawing references are shown for convenience in checking shipping lists and invoices.

Fig. No.	Name	Drawing Reference
Order by plate, figure number and name		
49	Leather Washer, for use between glass case and stirrup on mechanism case.	4553
50	Pole, right hand, used in position shown.	53087-1
51	Magnet Complete, as shown, includes spacers and holders.	54419 Gr. 1
52	Pole, left hand, used in position shown.	53087-2
53	Sleeve, for springs Figs. 27 and 31.	15284-17
54	Screw, No. 14-24 x 1½" sq. hd., used as terminal post.	350-3
55	Nut, No. 14-24 hex., for terminal posts.	42843-1
56	Washer, for terminal posts.	1225-2
57	Nut, No. 14-24 x ⅜" th. hex., for terminal posts.	42839-5
58	Block, only, for terminal block.	47508-79
59	Screw, No. 8-32 x ⅜" rd. hd., used as terminal post for fingers.	2553-11
60	Contact Complete, as shown, two required.	56131 Gr. 2
61	Contact Complete, as shown, left hand.	56132 Gr. 2
62	Contact Complete, as shown, two required.	56131 Gr. 1
63	Nut, ⅛"-56 x ⅛" th. hex., for screw Fig. 64.	12680-5
64	Screw, ⅛"-56, special, for contacts.	53019-6
65	Nut, ⅛"-56 x ⅛" th. hex., for screw Fig. 64.	12680-13
66	Retaining Plate Complete, for contacts.	56134 Gr. 1
67	Mounting Block, for contacts.	56135
68	Tubing, black, 2mm dia., 2⅜" lg. for wires.	52316-26
69	Tubing, black 2mm dia., 2¾" lg. for wires.	52316-27
70	Nut, No. 8-32 x ⅛" th. hex., for screw Fig. 72.	28948-1
71	Lock Washer, for nut Fig. 70.	53029-4
72	Screw, No. 8-32 x ⅝" sq. hd., for mounting contacts.	23034-2
73	Spring, for centering contacts.	586-98
74	Contact Complete, as shown, right hand.	56132 Gr. 1