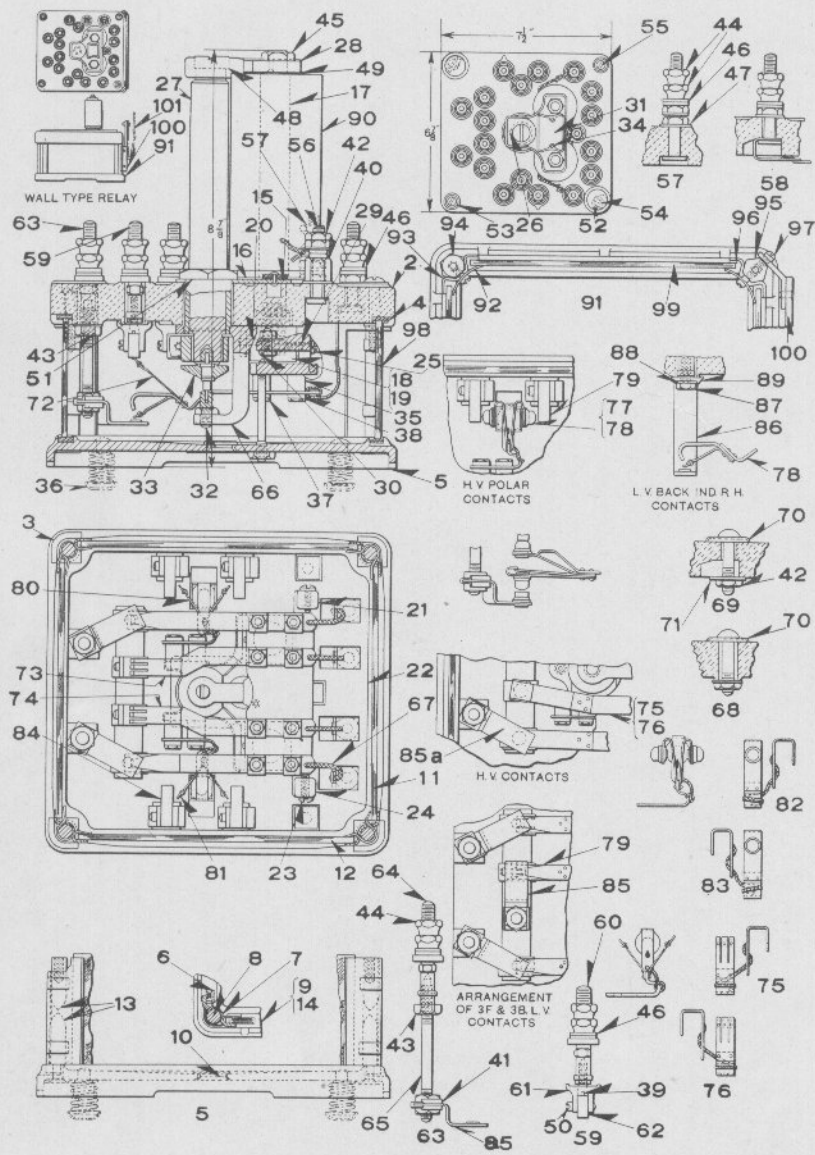


Zachary C. Gillihan 2008



Details of the Model 12 Polarized Relay
(Two Normal and Two Reverse Polar Contacts)

UNION SWITCH & SIGNAL COMPANY
Zachary C. Gillihan 2008
 DETAILS OF MODEL 12 POLARIZED RELAY

(FOUR FRONT AND TWO BACK NEUTRAL AND
 TWO NORMAL AND TWO REVERSE POLAR CONTACTS)

Order by Plate, Piece, Reference and Abbreviated Description Given in
 Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
72322	2	Top Plate with Gaskets.....	C-8141-1
59317	3	Gasket (Corner) for Ref. 2.....	8078-1089
49939	4	Gasket for Ref. 2.....	8078-771
70482	5	Base Plate with Supports, Posts, Gaskets, Ventilator, Glass Shields and Linings (Inc. 1-5b, 4-6, 4-7, 4-8, 2-9, 1-10, 2-11, 2-12, 8-13 and 2-14) (For shelf type relays only).....	C-8141-2
145291	5a	Base Plate with Supports, Posts, Gaskets, Ventilator, Glass Shields, Linings and Shock Absorber Springs (Inc. 1-5c, 4-6, 4-7, 4-8, 2-9, 1-10, 2-11, 2-12, 8-13, 2-14 and 4-36) (For shelf type Relays only).....	C-8141-10
46175	5b	Base Plate only for Ref. 5.....	C-8141-4
145287	5c	Base Plate only for Ref. 5a.....	C-8141-10
44224	6	Support.....	10932-10
44225	7	Support.....	10932-11
51559	8	Post.....	8114-298
65640	9	Gasket (For Sides).....	8078-771
34340	10	Ventilator.....	C-7459-6
53078	11	Glass Shield (End).....	8163-164
46279	12	Glass Shield (Side).....	8163-107
130381	13	Lining.....	10932-52
65641	14	Gasket (For Ends).....	8078-771
72899	15	Core Plate.....	C-8141-2
51611	16	Washer.....	7828-218

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DETAILS OF MODEL 12 POLARIZED RELAY

(FOUR FRONT AND TWO BACK NEUTRAL AND
TWO NORMAL AND TWO REVERSE POLAR CONTACTS)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in
Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
51617	17	Core	8101-206
54581	18	Pole Piece L. H.	8250-44
54582	19	Pole Piece R. H.	8250-44
3912	20	Core Pin	8097-8
96903	21	Armature with Bracket and Trunnions (Inc. 1-22, 2-23 and 1-24)	C-7459-8
70481	22	Armature only, for Ref. 21	8157-260
47579	23	Trunnion for Ref. 21	8378-197
49143	24	Armature Bracket only, for Ref. 21	8303-68
	25	Machine Screw No. 8-36x $\frac{1}{2}$ " Fil. Hd. Br. for fastening Ref. 21 to Pole Piece.	
57496	26	Pin for Ref. 28	8097-872
129986	27	Permanent Magnet	8101-297
55604	28	Back Strap	8162-161
49067	29	Dowel Pin for Ref. 21	8097-336
49141	30	Screw (Core Pin) with Hex. Nut Ref. 30a	8098-887
26942	30a	Nut for Ref. 30	8109-184
46289	31	Name Plate	8225-134
70531	32	Trunnion	8378-196
70491	33	Armature	8157-215
	34	Screw No. 4x $\frac{3}{16}$ " Hardened Drive (N. P.) for Ref. 31.	
22621	35	Bushing	8095-199

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DETAILS OF MODEL 12 POLARIZED RELAY
 (FOUR FRONT AND TWO BACK NEUTRAL AND
 TWO NORMAL AND TWO REVERSE POLAR CONTACTS)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in
 Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
410218	36	Shock Absorber Spring for Ref. 5a.	
19409	37	Lock Washer for Ref. 35.....	8486-68
1515	38	Nut for Ref. 35.....	8109-23
30810	39	Screw for fastening Ref. 61 to Terminal Post.....	8098-538
56635	40	Nut for Ref. 56.....	8109-324
32186	41	Lock Washer for Ref. 63.....	8486-129
29103	42	Nut.....	8109-194
31670	43	Nut.....	8109-218
29101	44	Nut.....	8109-193
51610	45	Nut for Ref. 17.....	8265-161
29102	46	Washer.....	7828-139
29104	47	Washer.....	7828-138
55292	48	Screw for Ref. 27.....	8190-254
122646	49	Washer.....	8078-1366
	50	Machine Screw No. 6-40x $\frac{1}{2}$ " Fil. Hd. Blued Steel for fastening Ref. 62 to Terminal Post.	
55355	51	Washer.....	7828-218
37661	52	Anchor Washer for Ref. 54.....	7828-168
73493	53	Washer for Ref. 55.....	7826-78
59306	54	Screw for fastening Top Plate to Corner Post.....	8098-1172
59371	55	Screw for fastening Top Plate to Corner Post.....	8098-1172

UNION SWITCH & SIGNAL COMPANY
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DETAILS OF MODEL 12 POLARIZED RELAY

(FOUR FRONT AND TWO BACK NEUTRAL AND
TWO NORMAL AND TWO REVERSE POLAR CONTACTS)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in
Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	56	Terminal Post with Nuts, and Washers for Magnet Leads (Inc. 1-56a, 2-42, 1-46, 1-47 and 1-40)	12451-121
40066	56a	Terminal Post only, for Ref. 56	8094-797
	57	Terminal Post with Nuts and Washers for Magnet Leads (Inc. 1-57a, 2-44, 3-46, 2-42 and 1-47)	12451
30108	57a	Terminal Post only, for Ref. 57	8094-706
78078	58	Terminal Post with Nuts, and Washers for Terminal Connector (Inc. 1-58a, 2-44, 2-46, 1-42 and 1-47) . . .	12451-44
29145	58a	Terminal Post only, for Ref. 58	8094-706
72926	59	Terminal Post with Nuts, Washers, Screws and Graphite Contact Tip (Inc. 1-60, 1-61, 1-62, 2-44, 2-46, 1-39 and 1-50)	12451-54
112833	59a	Terminal Post with Nuts, Washers, Screws and Graphite Contact Tip (Inc. 1-60, 1-61, 1-62a, 2-44, 2-46, 1-39 and 1-50)	12451-54
113515	59b	Terminal Post with Nuts, Washers, Screws and Graphite Contact Tip (Inc. 1-60, 1-61, 1-62b, 2-44, 2-46, 1-39 and 1-50)	12451-54
30812	60	Terminal Post only for Ref. 59	8094-639
30274	61	Terminal Post only for Ref. 59	8094-641
30811	62	Graphite Contact Tip	8341-32
69758	62a	Silver Contact Tip (Special)	8341-71

UNION SWITCH & SIGNAL COMPANY
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 DETAILS OF MODEL 12 POLARIZED RELAY
 (FOUR FRONT AND TWO BACK NEUTRAL AND
 TWO NORMAL AND TWO REVERSE POLAR CONTACTS)
 (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in
 Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference	
91828	63	Terminal Post with Nuts, Washers, Lock Washers, and Back Contact Post (Inc. 1-64, 1-65, 2-41, 2-42, 2-46, 1-43, 1-47 and 1-83).....	12451-20	
112832	63a	Terminal Post with Nuts, Washers, Lock Washers, and Back Contact Post (Inc. 1-64, 1-65, 2-41, 2-42, 2-46, 1-43, 1-47 and 1-83a).....	12451-20	
30813	64	Terminal Post only, for Ref. 63	8094-639	
46277	65	Terminal Post only, for Ref. 63.....	8094-874	
46286	66	Armature Bracket, for Polar Contacts.....	8303-67	
82208	67	Terminal Connector.....	10934-162	
94436	68	Dummy Post with Nut and Washers for Front of Relay (Inc. 1-68a, 1-42, 1-47 and 1-70).....	12471-3	
31067	68a	Dummy Post only, for Refs. 68 and 69	8098-558	
	69	Dummy Post with Nut and Washer for Back of Relay (Inc. 1-68a, 1-42, 1-70 and 1-71).....	12471	
36088	70	Washer for Ref. 68 and 69.....	7826-136	
2615	71	Washer for Ref. 69.....	7828-10	
CONTACT SPRINGS				
Piece	Ref.	Description	Drawing Reference	
70488	72	L. V. Front and Back	Back Contact Tip $\frac{3}{16}$ " Wide	8385-1578
87686	72a	H. V. Front and L. V. Back		8385-1842
68726	73	L. V. Front R. H.		8385-1576

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DETAILS OF MODEL 12 POLARIZED RELAY

(FOUR FRONT AND TWO BACK NEUTRAL AND

TWO NORMAL AND TWO REVERSE POLAR CONTACTS)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in
Heavy Face Type Only.

Piece	Ref.	Description	Remarks	Drawing Reference
68727	74	L. V. Front L. H.		8385-1576
70486	75	H. V. Front R. H.		8385-1580
70487	76	H. V. Front L. H.		8385-1580
79999	77	H. V. Front and Back		8385-1579
	78	L. V. Back		8385-1722
68725	79	L. V. Front and Back	Back Contact Tip $\frac{3}{8}$ " Wide	8385-1721
70484	80	L. V. Polar, R. H.		8385-1262
70485	81	L. V. Polar, L. H.		8385-1262
118840	82	H. V. Polar, R. H.		8385-1925
118841	83	H. V. Polar, L. H.		8385-1925
Piece	Ref.	Description		Drawing Reference
48829	84	Graphite Contact Tip only for Polar Contacts.....		8341-283
70483	84a	Silver Contact Tip (Special) only for Polar Contacts		8341-352
74804	85	Back Contact Post L. V.....		8094-2034
76384	85a	Back Contact Post H. V.....		8094-2034
	86	Terminal Post for L. V. Ind. Back with Nut, Screw and Lock Washer (Inc. 1-86a, 1-87, 1-88, 1-89 and 1-78).....		12451
122871	86a	Terminal Post only, for Ref. 86.....		8094-1102
38619	87	Screw for fastening Ref. 86 to Terminal Post.....		8098-736

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 (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in
 Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
29353	88	Lock Washer for Ref. 86.....	8486-106
144667	89	Lock Washer for Ref. 86.....	8486-378
	90	Magnet Coil complete with Leads and Terminals (for details refer to Plate E-5025).....	8133
123035	91	Bottom Plate with Supports, Posts, Gaskets, Screws, Glass Shields, Ventilator and Wall Bracket (Inc. 1-92, 4-93, 4-94, 2-95, 2-96, 8-97, 2-9, 2-14, 12-98, 2-99, 2-100 and 1-10).....	C-8141-9
46175	91a	Bottom Plate only, for Ref. 91.....	C-8141-2
60606	92	Support.....	10932-38
60608	93	Support.....	10932-48
60610	94	Post.....	8115-148
119778	95	Post.....	8115-148
60612	96	Gasket.....	8078-807
	97	Machine Screw No. 8-36x $\frac{5}{16}$ " Fil. Hd. S.	
60620	98	Glass Shield (End).....	8163-186
60621	99	Glass Shield (Side).....	8163-186
123034	100	Wall Bracket.....	C-7459-16
149721	101	Shock Absorber Spring.....	12404-20