

## Type SA-1 Searchlight Signal

### Key Features

The Type SA-1 Searchlight Signal features an efficient electromagnetic structure, maximum back contact pressure, positive contact closure and precise color-disc positioning. This signal operates from battery or rectified AC-energy (8-12Vdc).

The Type SA-1 Signal consists of a compact operating mechanism and a durable cast aluminum housing. The housing may be bracket mounted to the side or front of the signal mast, provided with a socket for mounting to the top of the mast or provided with a base mounting for a concrete foundation.

The Type SA-1 Signal projects three aspects through a single optical system: red, yellow and green. This system supplies a powerful light beam using minimal energy. The signal has been designed to be fail-safe; if power is interrupted, it automatically displays the most restrictive aspect.

The signal housing includes an 8.375" (21.3cm) diameter lens, hood, ventilators, background, mounting bracket, base, or mounting socket. The unit's operating mechanism slides easily into place using a hanger and track system. Cams and locking pins ensure the mechanism remains in a secure, locked position.

All Type SA-1 Searchlight Signals are available with either a compound or stepped lens. The compound lens produces a longer-range light beam without the need for additional power. Outer roundels are available to spread or deflect the light beam for installations where the track curves. A phankill can also be supplied to minimize light beam dilution and prevent phantom signals caused by sunlight.

Type SA-1 Mast-Mounted High Signals have optical arrangements for tangent track only. They consist of two major assemblies: signal heads complete with either an operative or inoperative mechanism, and mast assemblies complete with pinnacle, base, ladder, ladder foundation and platform.

Type SA-1 Dwarf Signals use one or two mechanisms. Optional equipment includes roundel and phankill assemblies, wire entrance couplings, conduit and adjustable lamp resistors.



Type SA-1 Searchlight Signals.

## Ordering Information

### Type SA-1 Signal, High Signal Heads, with Mechanism

Reference	Type of Mechanism	Lens System	Aspect Color	Type of Wire Connection	Catalog Number
A	Operating	Compound	GRY	Plug Coupler	A76-0114
A1	Inoperative	Compound	R	AAR Terminals	A76-0115
B	Operating	Stepped	GRY	Plug Coupler	A76-0118
B1	Inoperative	Stepped	R	AAR Terminals	A76-0119

Note 1: Listed Type SA-1 Signals include the signal housing with operating or inoperative mechanism, hood, 35" diameter background, 8.375" diameter outer lens for tangent track, ventilators, and bracket for side-mounting on a 5" diameter mast.

The following are NOT INCLUDED, please order separately: wire entrance coupling, lamp resistor, roundel, phankill assembly, top or front mounting bracket, optional 20" background.

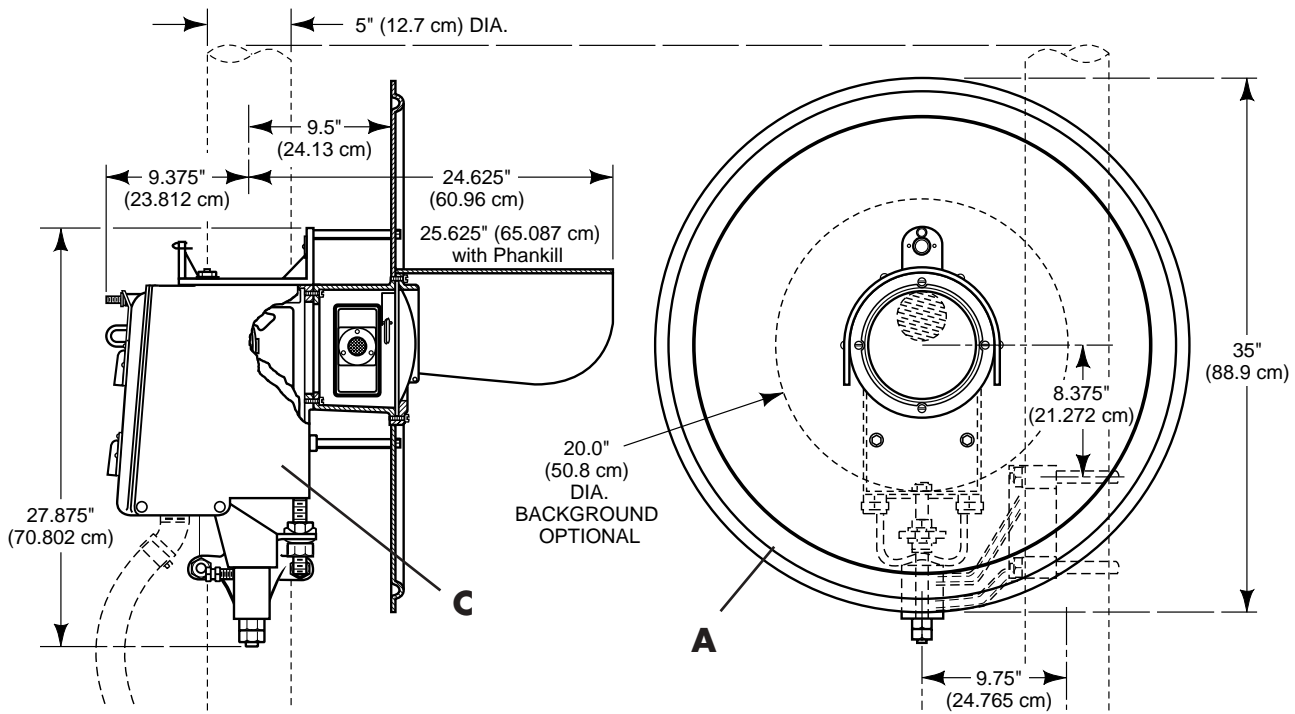
## Ordering Information

### Type SA-1 Signal, High Signal Heads, without Mechanism

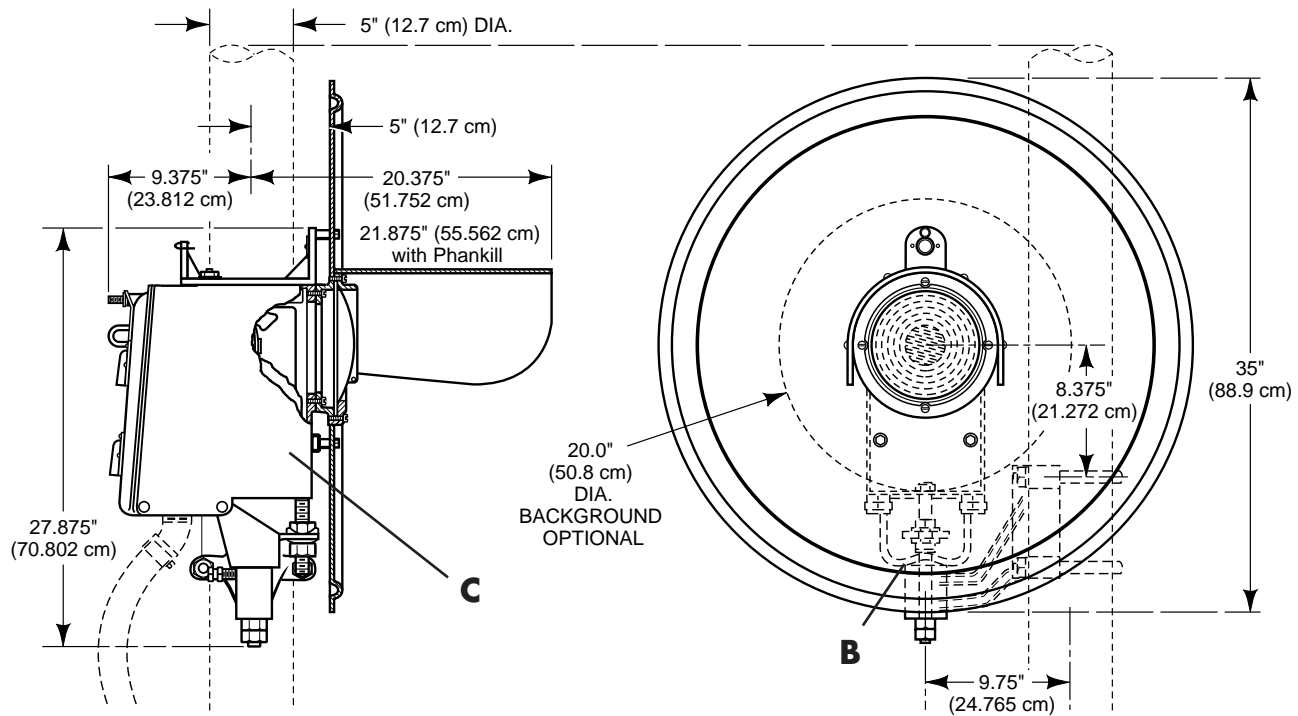
Reference	Type of Mechanism	Lens System	Aspect Color	Type of Wire Connection	Drawing Number	Catalog Number
C	—	Compound	—	—	53051-150-03	A76-0136
C1	—	Stepped	—	—	53051-100-06	A76-0138

Note 1: A signal housing, less mechanism, includes a hood, background, 8.375" diameter outer lens for tangent track, ventilators, and bracket for mounting on a 5" diameter mast.

A signal housing does NOT INCLUDE a wire entrance coupling. Please order separately.



Type SA-1 Searchlight Signal head assembly with operating mechanism and 8.375" diameter COMPOUND lens.



Type SA-1 Searchlight Signal head assembly with operating mechanism and 8.375" diameter STEPPED lens.

## Ordering Information

### Type SA-1 Signal, Dwarf Signal Heads with Mechanism

Reference	Type of Mechanism	Lens System	Aspect Color	Number of Units	Type of Wire Connection	Drawing Number	Catalog Number
A	Operating	Compound	GRY	1	Plug Coupler	59545-150-03	A76-0201
A1	Inoperative	Compound	R	1	AAR Terminals	53052-339-05	A76-0202
B	Operating	Stepped	GRY	1	Plug Coupler	59545-100-02	A76-0206
B1	Inoperative	Stepped	R	1	AAR Terminals	53052-387-01	A76-0207
C	Operating	Compound	GRY	2	Plug Coupler	59545-150-03	A76-0211
C1	Inoperative	Compound	R	2	AAR Terminals	53052-339-05	A76-0212
D	Operating	Stepped	GRY	2	Plug Coupler	59545-100-02	A76-0216
D1	Inoperative	Stepped	R	2	AAR Terminals	53052-387-01	A76-0217

Note 1: The dwarf signal includes the housing with operating or inoperative mechanism, hood, background, 8.375" diameter V-inclined 10° upward deflecting roundel, ventilators, and base.

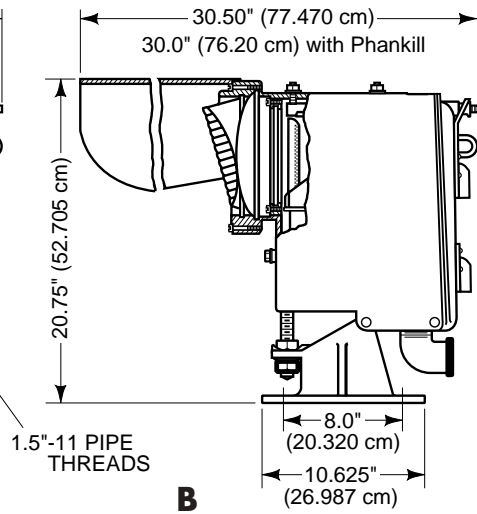
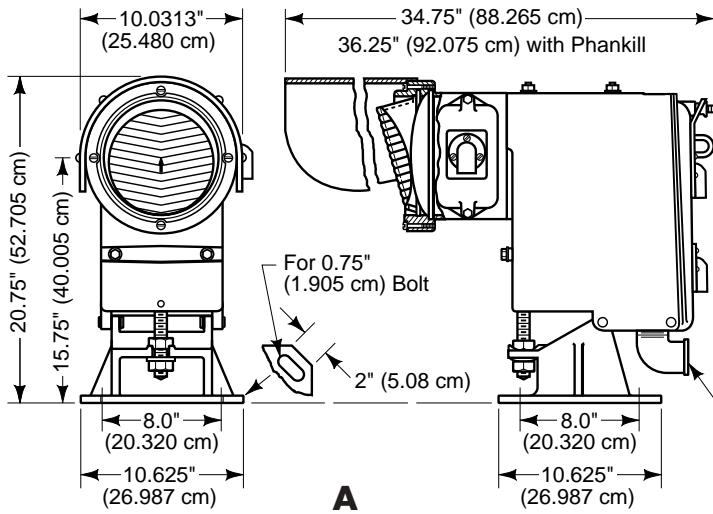
The dwarf signal does NOT INCLUDE wire entrance coupling, lamp resistor, or phankill assembly. Please order separately.

### Type SA-1 Signal, Dwarf Signal Heads without Mechanism

Reference	Type of Mechanism	Lens System	Aspect Color	Number of Units	Type of Wire Connection	Drawing Number	Catalog Number
E	—	Compound	—	1	—	53050-150-032	A76-02203
E1	—	Stepped	—	1	—	53050-102-042	A76-02213
F	—	Compound	—	2	—	53050-251-022	A76-02253
F1	—	Stepped	—	2	—	53050-203-032	A76-02263

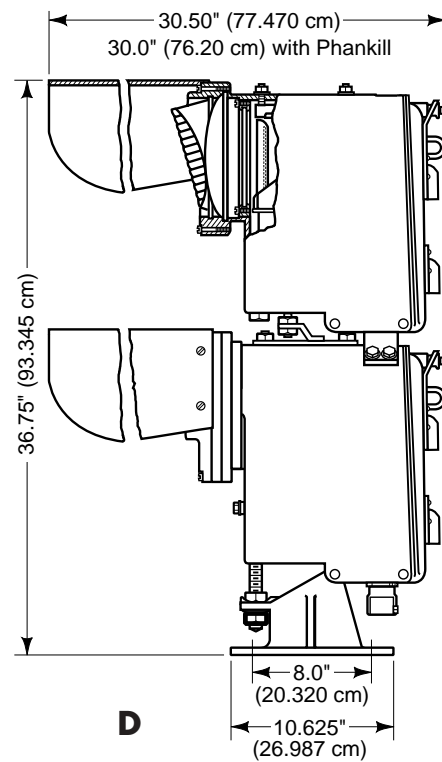
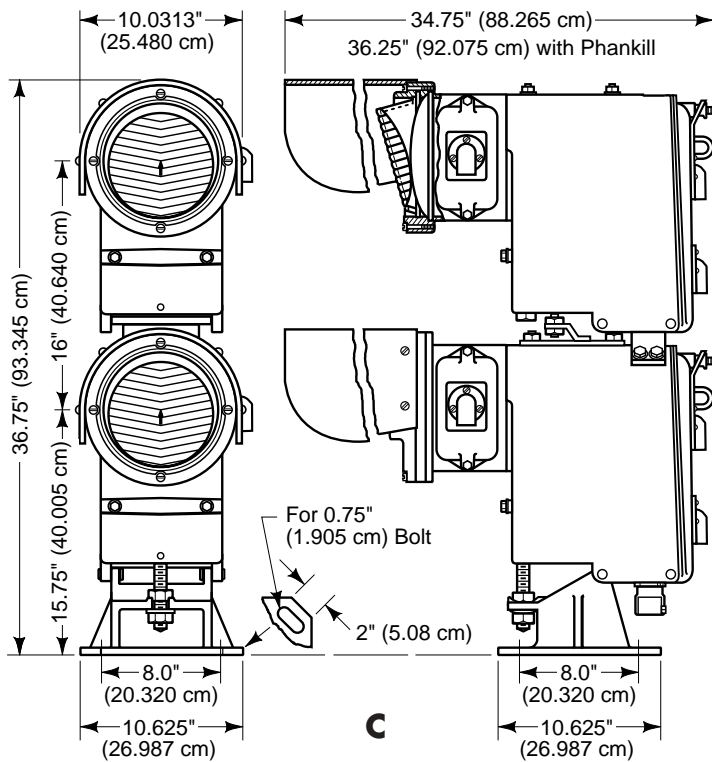
Note 2: Drawing number for housing only less hood.

Note 3: Catalog number for housing with hood.



Type SA-1 Dwarf Searchlight Signal head assembly with operating mechanism and 8.375" diameter compound lens.

Type SA-1 Dwarf Searchlight Signal head assembly with operating mechanism and 8.375" diameter stepped lens.



Two unit Type SA-1 Dwarf Searchlight Signal head assembly with operating mechanism and 8.375" diameter compound lens.

Two unit Type SA-1 Dwarf Searchlight Signal head assembly with operating mechanism and 8.375" diameter stepped lens.

### Type SA-1 operating mechanism

The operating mechanism may be supplied with a compound or stepped lens system. These mechanisms come with a plug coupler for wire connections. The operating mechanism does NOT INCLUDE a lamp or the lamp resistor. Please order separately.



Operating Mechanism

## Type SA-1 Searchlight Signals, Operating Mechanism

Lens System	Aspect Color	Drawing Number	Catalog Number
Compound	GRY	59545-150-03	A76-0154
Stepped	GRY	59545-100-02	A76-0157

### Type SA-1 inoperative mechanism

The inoperative mechanism is available with a compound or stepped lens system. This mechanism is supplied with standard AAR terminal posts for wire connections.

The inoperative mechanism does NOT INCLUDE a lamp or the lamp resistor. Please order separately.



Inoperative Mechanism

## Type SA-1 Searchlight Signals, Inoperative Mechanism

Lens System	Aspect Color	Drawing Number	Catalog Number
Compound	R	53052-339-05	A76-0490
Stepped	R	53052-387-01	A76-0492

## Type SA-1 Searchlight Signals, Lamp Resistors

Description	Drawing Number	Catalog Number
ADJUSTABLE LAMP RESISTOR, 2.5 Amps maximum, 1-ohm	55945-010-01	A76-0330
ADJUSTABLE LAMP RESISTOR, 1.75 Amps maximum, 2-ohms	55945-010-02	A76-0331
ADJUSTABLE LAMP RESISTOR, 1.0 Amp maximum, 5-ohms	55945-010-03	A76-0332

## ROUNDEL AND PHANKILL ASSEMBLIES

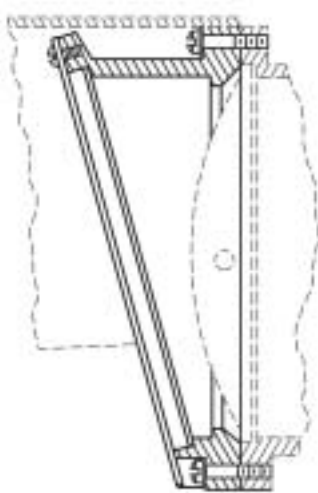
Signal heads furnished with 8.375" (21.27cm) diameter lenses for tangent track only may be easily adapted for special conditions by adding a roundel or phankill assembly. The phankill eliminates spread. This special optical equipment comes ready-to-install except for sealing compound which must be ordered separately. GRS recommends soft mastic sealing compound per GRS specification 90B0010, available in a one pound plug of material. Order using Drawing Number 81361-051-06.

Roundel assemblies fit both stepped and compound lens signals.

Phankill assemblies for high signals have a built-in 25° close-up roundel. On compound lens high signals, remove the existing close-up roundel before installing the phankill. A phankill used with a stepped lens requires a separate order for a signal head with clear center lens, which is specially arranged for use with a phankill.

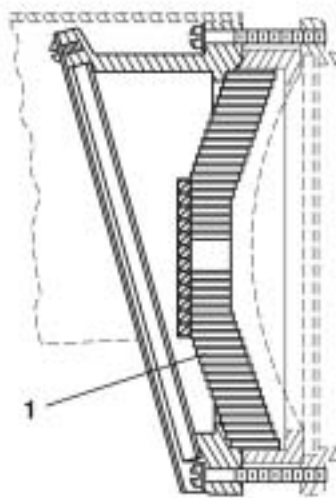
## Type SA-1 Searchlight Signal, Roundel and Phankill Assemblies

Reference	Description	Drawing Number	Catalog Number
A	ROUNDEL ASSEMBLY, inclined 20° deflecting, for compound or stepped lens high signals	—	A76-0350
A1	ROUNDEL ASSEMBLY, 30° spreadlite, for compound or stepped lens high signal	—	A76-0353
B	PHANKILL ASSEMBLY, for compound or stepped lens high signal. The inclined roundel is 30° spreadlite type	—	A76-0363
C	PHANKILL ASSEMBLY, for compound or stepped lens dwarf signal	—	A76-0370
1	PHANKILL UNIT, with 25° close-up prism, for high signals	56629-007-00	P76-0465
2	PHANKILL UNIT, for dwarf signals	56629-006-01	P76-0464



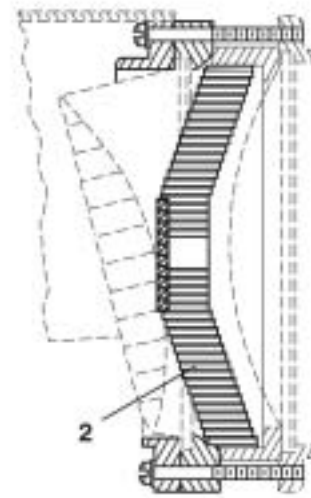
A

Roundel Assembly for high signals.



B

Roundel Assembly with Phankill for high signals.

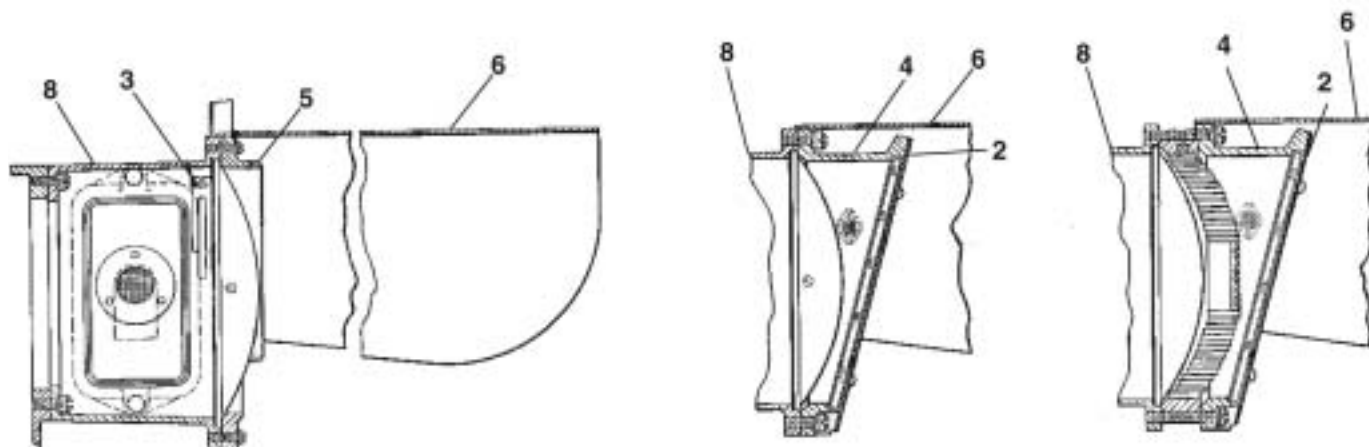


C

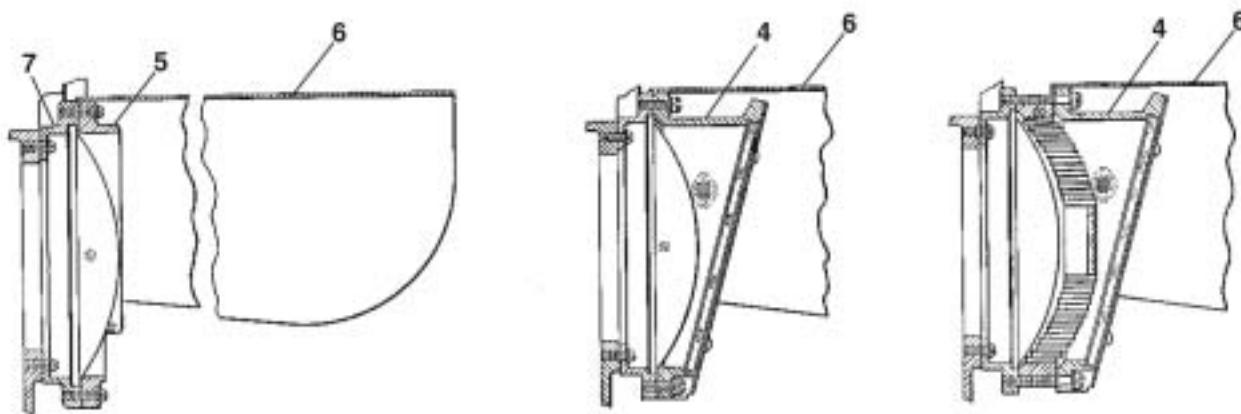
Phankill Assembly for dwarf signals.

## Ordering Information

### Type SA-1 Searchlight Signal



For Compound Lens High Signals and Markers

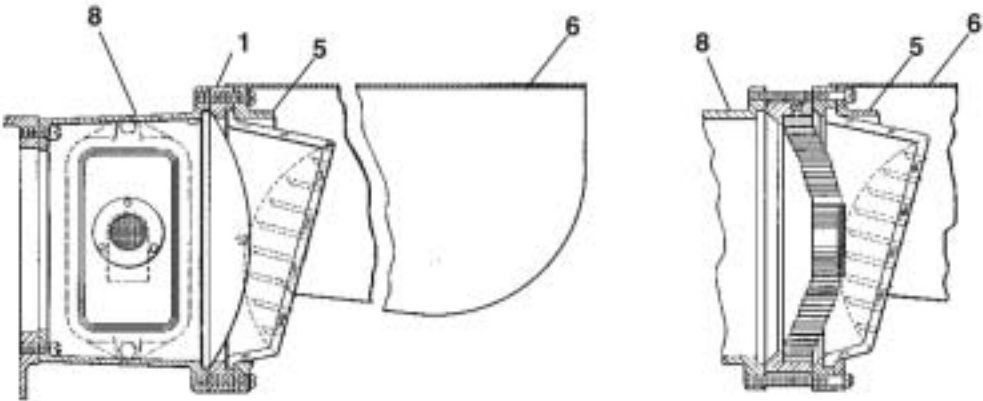


For Stepped Lens High Signals and Markers

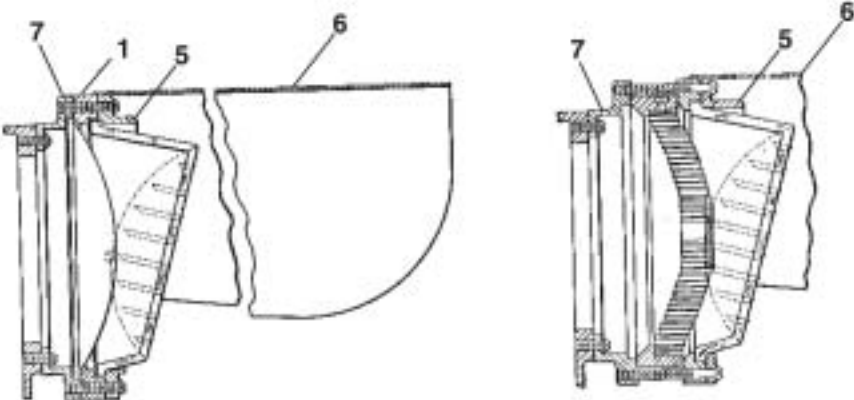


# Ordering Information

## Type SA-1 Searchlight Signal



For Compound Lens Dwarf Signals



For Stepped Lens Dwarf Signals

## Type SA-1 Searchlight Signal, Roundels

Roundel Color	Roundel Material	Outside Diameter	Description	Drawing Number	Catalog Number
Clear	Polycarbonate	8.375"	Flat, 10° Deflecting	53119-035-00	P73-0959
Clear	Glass	8.375"	Flat, 30° Spredlite, w/clear 2.75" dia. center	54264-006-00	P76-0449
Clear	Glass	8.375"	Flat, for use with Phankill Unit	04679-000-00	P76-0264
Clear	Polycarbonate	8.375"	V-Shape, deflect main beam 10° upward	13973-001-00	P76-0284
Clear	Glass	3.3125"	Flat, with 25° deflecting prisms, 8° spread	54264-010-00	P76-0450
Clear	Glass	8.375"	Flat, 20° deflecting, w/clear 4.25" dia. center	54264-004-00	P76-0448

## Type SA-1 Searchlight Signal, Roundel Components

Reference	Description	Drawing Number	Catalog Number
1	RING, for roundel	43983-046-00	P76-0346
2	RING, for flat roundel	02254-004-00	P76-0255
3	HOLDER, for roundel	54248-002-00	P76-0446
4	BEZEL RING, for flat roundel	56956-003-00	P76-0467

## Type SA-1 Searchlight Signal, Hoods

Reference	Description	Drawing Number	Catalog Number
5	RING, for hood	43983-101-00	P76-0348
6	HOOD, 15" long (38.1cm), aluminum	49127-064-00	P76-0135

## Type SA-1 Searchlight Signal, Outer Lenses

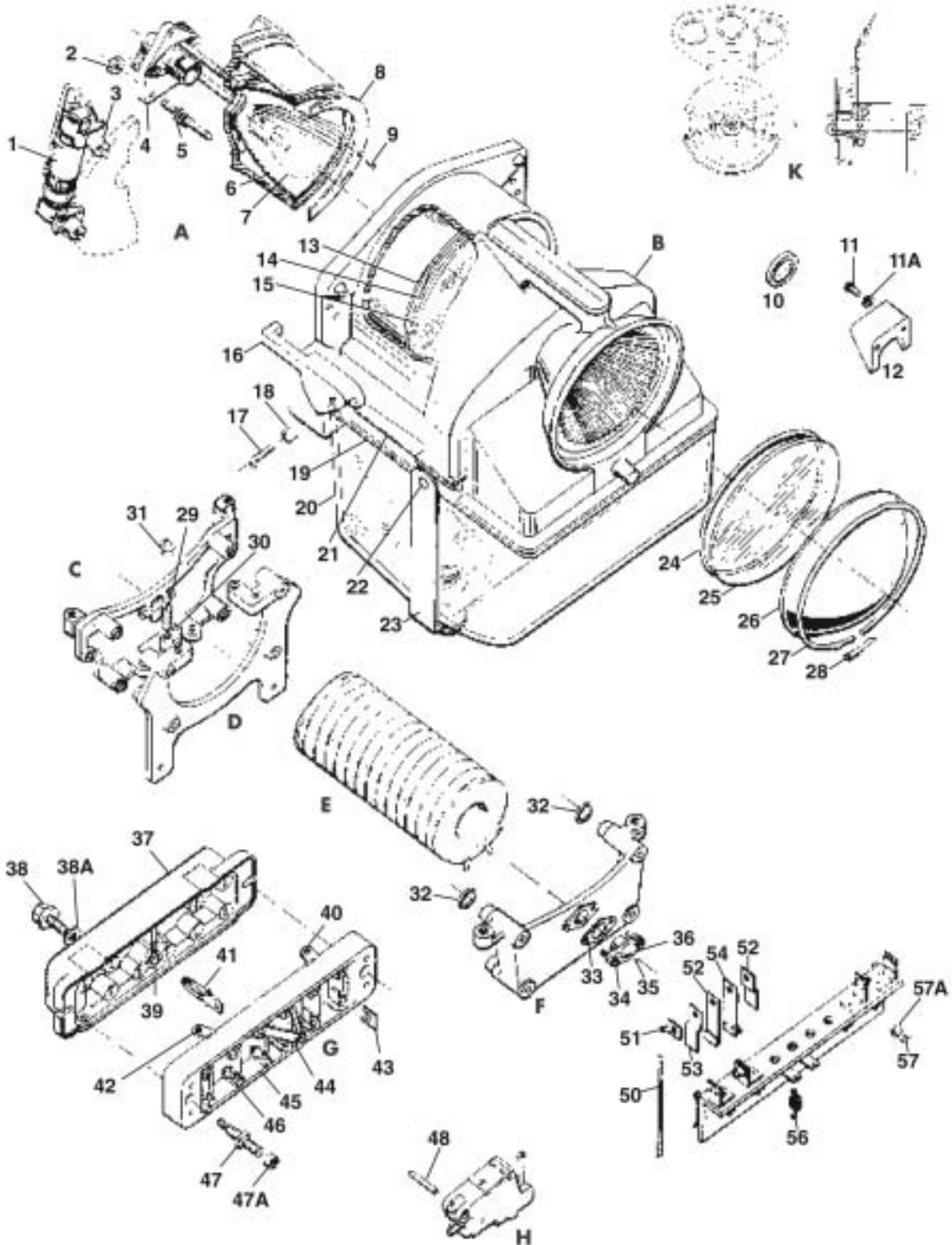
Lens Color	Lens Material	Outside Diameter	Focal Length	Deflecting Bulls Eye	Description	Drawing Number	Catalog Number
Clear	Polycarbonate	8.375"	11.50"	—		54249-006-00	P76-0149
Clear	Glass	8.375"	5"	40°		36733-010-00	P76-0324
Clear	Glass	8.375"	5"	Clear	for Phankill Unit	36733-003-00	P76-0323

## Type SA-1 Searchlight Signal, Lenses

Reference	Description	Drawing Number	Catalog Number
7	RING, for lens	43983-034-00	P76-0345
8	RING COMPLETE, with adapter and cover, for compound lens signals	56955-006-01	P76-0466

# Ordering Information

## Type SA-1 Searchlight Signal, Mechanism Components



## Ordering Information

### Type SA-1 Searchlight Signal, Mechanism Components

Reference	Description	Drawing Number	Catalog Number
A	Reflector Holder Complete	53056-003-02	P76-0535
B	CASE COMPLETE, for operating mechanism, includes all parts except, Polycarbonate Case and Gasket	53270-003-06	P76-0522
C	BRACKET, for supporting armature	53063-010-00	P76-0399
D	Bracket, only	53063-011-00	P76-0400
E	COIL, COMPLETE, 250-ohm nominal resistance	56015-064-01	P76-0525
F	BRACKET, for supporting armature	53064-007-00	P76-0401
G	PLUG COUPLER COMPLETE, ten terminals w/stud for lightning protection	55839-003-03	P76-0524
H	COUNTERWEIGHT	53703-007-01	P76-0523
J	CONTACT GROUP, with contacts and terminal	56130-003-01	P76-0526
K	ARMATURE COMPLETE, less color discs	53055-012-01	P76-0542
1	RESISTANCE UNIT COMPLETE, 1 ohm, 2.5 amps. max.	55945-010-01	A76-0330
1A	RESISTANCE UNIT COMPLETE, 2 ohms, 1.75 amps. max.	55945-010-02	A76-0331
1B	RESISTANCE UNIT COMPLETE, 5 ohms, 1.0 amps. max.	55945-010-03	A76-0332
2	NUT, elastic stop, for studs on reflector, .190" -32 Hex.	42333-047-00	P76-0333
3	CLIP, for resistance unit	16697-004-00	P76-0209
4	RECEPTACLE COMPLETE, with leads for .1875" posts	53058-035-02	P76-0396
5	SPRING, for receptacle	00586-140-00	P76-0237
6	REFLECTOR, with felt washer	55343-000-01	P76-0154
7	LAMP, (specify desired voltage and wattage)	-	-
8	RETAINER, for reflector	45647-005-00	P76-0363
9	SCREW, for retainer, .112" -56 x .250" Lg., Flat Hd.	35699-002-00	P76-0320
10	DISC COMPLETE, YELLOW, one side depolished, assembled in retaining cup	53073-000-12	P76-0407
10A	DISC COMPLETE, GREEN, pre-cracked, assembled in retaining cup	53073-000-03	P76-0406
10B	DISC COMPLETE, RED, assembled in retaining cup	53073-000-02	P76-0405
11	SCREW, .138" -32 x .38" Lg. Pan Hd.	03606-012-ON	P50-0473
11A	WASHER, .138" ID, .250" OD, .031" TH'K, lock	01273-020-ON	P76-0543
12	HOOD	19145-000-00	P76-0511
13	SPRING, for glass	51107-003-00	P76-0141
13A	SLEEVE, for glass spring	15284-017-00	P76-0287
14	GLASS, for reflector unit	00924-011-00	P76-0103
15	GASKET, for glass	52983-001-00	P76-0143
16	CAM, right-hand	53271-006-00	P76-0430
16A	CAM, left-hand	53271-007-00	P76-0431
17	SCREW, self-tapping for cams, .190" -32 x .50" Lg., Pan Hd.	54392-009-00	P76-0451
18	Bushing, for screw, .203" ID, .305" OD, .290" Lg.	32886-017-00	P76-0308
19	GASKET, rubber	13014-311-00	P76-0115
20	CASE POLYCARBONATE, for mechanism	37380-036-00	P76-0128
21	SPRING, right-hand, for cam	13063-021-00	P76-0282
21A	SPRING, left-hand, for cam	13063-020-00	P76-0281

## Ordering Information

### Type SA-1 Searchlight Signal, Mechanism Components

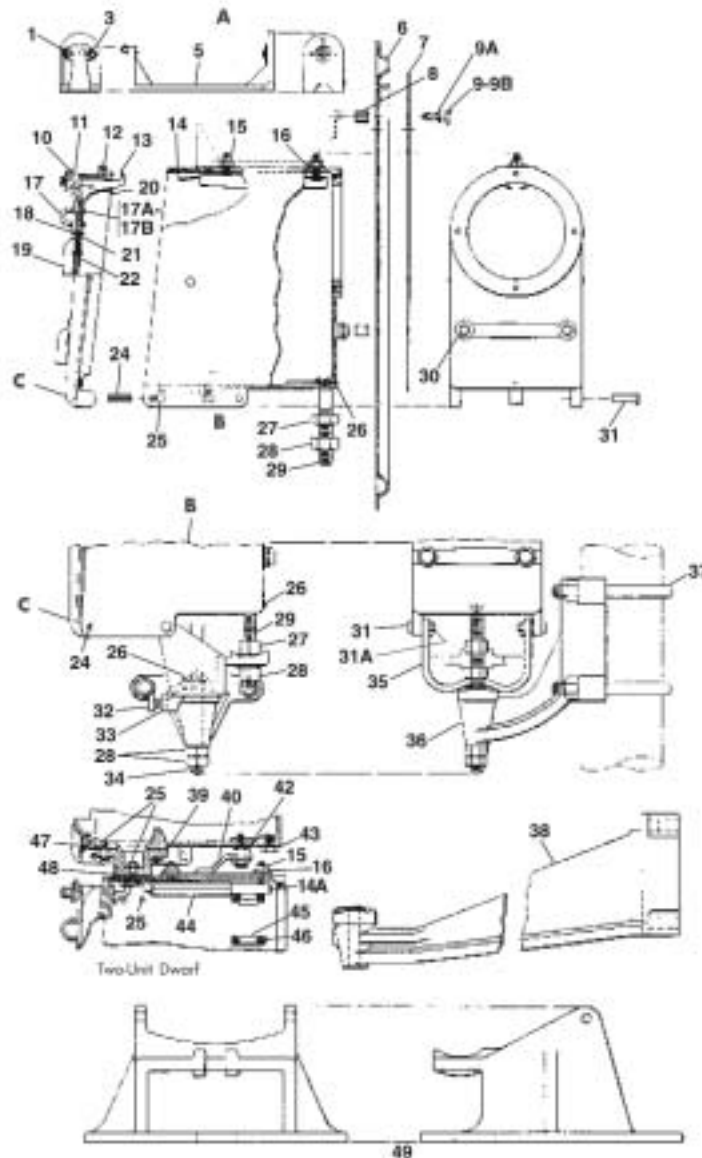
Reference	Description	Drawing Number	Catalog Number
22	STUD, for stirrup	00441-165-00	P76-0432
23	STIRRUP, for supporting polycarbonate case	53272-001-01	P76-0432
24	GASKET, for glass or lens	52983-003-00	P76-0389
25	GLASS, for stepped lens signals	50025-061-00	P76-0241
26	LENS, 4.50" (11.43cm) diameter, 5.50" focal length, for compound lens signals	54249-004-00	P76-0447
27	SPRING, for glass or lens	51107-006-00	P76-0142
28	SLEEVE, for springs	15284-017-00	P76-0287
29	SCREW, .242" -40 x .625" Lg. headless, stop for counterweight	05100-010-00	P76-0268
30	SCREW, .242" -40 x .875" Lg. headless, stop for armature	05100-006-00	P76-0267
31	NUT, .242" -40 for .625" and .875" long headless screws	53084-001-00	P62-410
32	WASHER, spacer for bracket	01225-109-00	P76-0248
33	SHIM, .005 inch thick, for bearing	53879-000-00	P76-0439
33A	SHIM, .003 inch thick, for bearing	53879-001-00	P86-0440
34	SCREW, for fastening bearing to bracket	53829-002-00	P76-438
35	BALL, for each end of armature shaft	36126-004-00	P62-0301
36	BEARING COMPLETE, includes knife edge bearing and bearing cap, for armature shaft	59572-000-01	P76-0488
37	PLUGBOARD, front-half (phenolic part only, no hardware)	55833-021-00	P76-0454
38	SCREW, insulated head, .242" -24 Hex.	56418-002-00	P65-0784
38A	WASHER, for screw with insulated head, .256" ID, .478" OD, .023" Th'K	53029-075-00	P85-0801
39	STUD, for lightning protection	00441-740-00	P76-0234
39A	CLIP, for lightning protection stud	18547-051-00	P76-0292
39B	CONNECTOR, for clip for lightning protection stud	04906-160-00	P76-0508
40	TERMINAL, left-hand	51559-086-00	P76-0385
41	CONTACT, only	56182-001-00	P76-0456
42	TERMINAL, right-hand	51559-087-00	P76-0386
43	TERMINAL	01407-013-00	P76-0509
44	CONTACT, spring	16111-142-00	P76-0288
45	PLUGBOARD, rear-half (phenolic part only, no hardware)	55833-024-00	P76-0455
46	SCREW, for contact, .190" -32 x .44" Lg., Hex.	29151-021-00	P76-0515
46A	NUT, for contact screw, .190" -32 x .13" Th'k Hex.	01272-007-00	P76-0129
46B	LOCK WASHER, for contact screw, .190" Shakeproof	53029-069-00	P62-0401
47	POST, .242" -24	42847-010-00	P76-0335
47A	NUT, spanner, for post, .242" -24	42840-003-00	P65-0588
47B	PIN, lock, for spanner	07889-010-00	P76-0272
48	PIN, for counterweight, .125" Dia. x .906" Long	02644-005-00	P76-0261
50	CONNECTOR, 2.5625" (6.509cm) length	42760-221-01	P76-0519
51	TERMINAL, for contacts	28979-036-00	P76-0514

## Ordering Information

### Type SA-1 Searchlight Signal, Mechanism Components

Reference	Description	Drawing Number	Catalog Number
52	STOP, for fingers	35470-069-00	P76-0516
53	FINGER, COMPLETE	51195-021-01	P76-0521
54	FINGER, COMPLETE	51195-020-01	P76-0520
56	SPRING	01581-047-00	P76-0510
57	SCREW, for mounting contact group	03410-112-ON	P62-0218
57A	WASHER, for mounting screw, .190" Shakeproof	53029-069-00	P62-0401

### Type SA-1 Searchlight Signal, Housing Components



## Ordering Information

### Type SA-1 Searchlight Signal Housing, Components

Reference	Description	Drawing Number	Catalog Number
A	SIGHT TUBE, COMPLETE, for high signals	51120-002-01	P76-0381
B	CASE, with studs for cams of mechanism, for all single-unit high and dwarf signals	53821-011-01	P76-0435
B1	CASE, with studs for cams of mechanism, for upper unit of two-unit dwarf signals	53821-011-03	P76-0436
B2	CASE, with studs for cams of mechanism, for lower unit of two-unit dwarf signals	53821-011-04	P76-0437
C	DOOR COMPLETE, includes gasket, latch hasp, ventilators and all riveted parts (w/o hinge pin holes)	53057-007-02	P76-0393
1	SCREW, for plate, .164" -32 x .375" Lg. Pan Hd.	03608-012-0N	P65-0198
1A	WASHER, for screw, .188" ID, .500" OD, .40" Th'k	01250-007-0N	P85-0201
3	PLATE, for Sight Tube	53111-001-00	P76-0419
5	FRAME	51121-002-00	P76-0382
6	BACKGROUND, 35" (88.9cm) diameter, aluminum	49162-025-00	P76-0374
7	BACKGROUND, 20" (50.8cm) diameter, aluminum	49162-080-00	P76-0375
8	SPACER, for background on stepped lens signals, .75" Long	53112-005-00	P76-0420
8A	SPACER, for background on compound lens signals, 5.25" Long	53112-006-00	P76-0421
9	SCREW, for spacer Ref. 8, .375" -16 x 1.25" Lg., Hex, Hd.	02472-045-00	P85-0229
9A	WASHER, for Ref. 9, .375" ID, .680" OD, .094" Th'k	01273-008-0N	P50-0103
9B	SCREW, for spacer Ref. 8A, .375" -16 x 5.75" Lg., Hex, Hd.	02472-050-00	P76-0256
10	HASP, wrench	09524-003-00	P76-0273
11	NUT, for hasp, .500" -13 Hex	09525-007-00	P76-0274
12	DOOR GASKET, .375" x .625" x 42" Long	65447-092-01	P76-0132
13	DOOR LATCH SCREW	53106-002-00	P76-0417
14	SLIDE, COMPLETE, for single-unit signal	56421-000-06	P76-0457
14A	SLIDE, COMPLETE, for two-unit Dwarf Signal	56421-000-07	P76-0458
15	NUT, for slide, .375" -16 x .38" Th'k Hex	01156-012-00	P81-0127
16	WASHER, thread seal for slide nut, .375" ID, .750" OD, .063" Th'k	01279-000-0N	P50-0743
17	DOOR STAPLE	16914-016-00	P81-0141
17A	NUT, for staple, .190" -32 x .13" Th'k, Hex	01272-007-0N	P76-0129
17B	WASHER, for staple, .190" ID, .334" OD, .047" Th'k, Flat	01273-004-0N	P85-0390
18	SCREW, for ventilators	54392-016-00	P50-0249
19	HOOD, for ventilators	36020-005-00	P50-0205
20	SPRING, for door	53105-000-00	P76-0416
21	PLATE, for screen	36021-009-00	P50-0206
22	SCREEN, for ventilator	36022-000-00	P50-0207
24	ROLL PIN, for hinging door, .375" Dia. x 1.50" Lg.	17188-066-00	P76-0117
25	SCREW, for fastening coupling to case; also for fastening bracket between upper and lower units to case	03440-067-00	P85-0242
25A	LOCK WASHER, for fastening coupling to case; also for fastening bracket for use between upper and lower units to case	01273-007-0N	P76-0106

## Ordering Information

### Type SA-1 Searchlight Signal Housing, Components

Reference	Description	Drawing Number	Catalog Number
26	ROLL PIN, for fastening adjusting stud to case	17188-005-00	P76-0116
27	NUT, for adjusting stud	00646-003-00	P76-0101
28	NUT, for locking adjustment	00272-009-00	P76-0105
29	STUD, adjusting, 5.625" long	00980-010-00	P76-0104
30	SCREW, for case, when background is not used	00395-014-ON	P76-0203
30A	WASHER, for case screw, .375" ID, .750" OD, .06" Th'k	01279-000-ON	P76-0546
31	PIN, for fastening case to base or bracket	00730-142-00	P76-0544
31A	PIN COTTER, .125" Dia. x .875" Lg.	00663-001-ON	P76-1045
32	SCREW, for locking stud for bracket, .500" -13 x 1.25" Lg., Sq. Hd.	39066-001-00	P76-0326
33	NUT, for screw for locking stud, .500" -13 x .25" Th'k	06358-017-00	P76-0275
34	STUD, for bracket for side of mast mounting, .750" Dia.	00980-042-00	P76-0243
35	BRACKET, for supporting signal	53092-002-00	P76-0411
36	BRACKET, for side-of-mast mounting	53093-014-00	P76-0413
37	U-BOLT, COMPLETE, for 5" (12.7cm) diameter pole, stainless steel	16194-017-01	P76-0289
38	BRACKET, for front-of-mast mounting	53093-012-00	P76-0412
39	BRACKET, for use between upper and lower signal units	29560-000-00	P76-0296
40	BRACKET, front	55478-026-01	P76-0453
42	NUT, .625" -11 x .31" Th'k, Hex	14070-001-00	P76-0285
43	SCREW, case, .625" -11 x .75" Lg., Hex, Hd.	06006-000-00	P76-0270
43A	WASHER, for screw, .625" Shakerproof	53029-016-00	P76-0541
44	CHASE, wire	54837-006-00	P76-0452
45	BRACKET, for wire	40539-057-00	P76-0327
46	SCREW, for wire brackets, .190" -32 x .25" Lg., Pan Hd.	03610-108-ON	P85-0238
47	GASKET, for use between bracket and upper signal unit	13014-332-00	P76-0279
48	GASKET, for use between bracket and lower signal unit	13014-333-00	P76-0280
49	BASE only, painted black	53070-005-00	P76-0404
49A	BASE only, painted aluminum	53070-007-00	P76-0545
50	HOOD, 15" (38.1cm) length, aluminum	49127-064-00	P76-0135



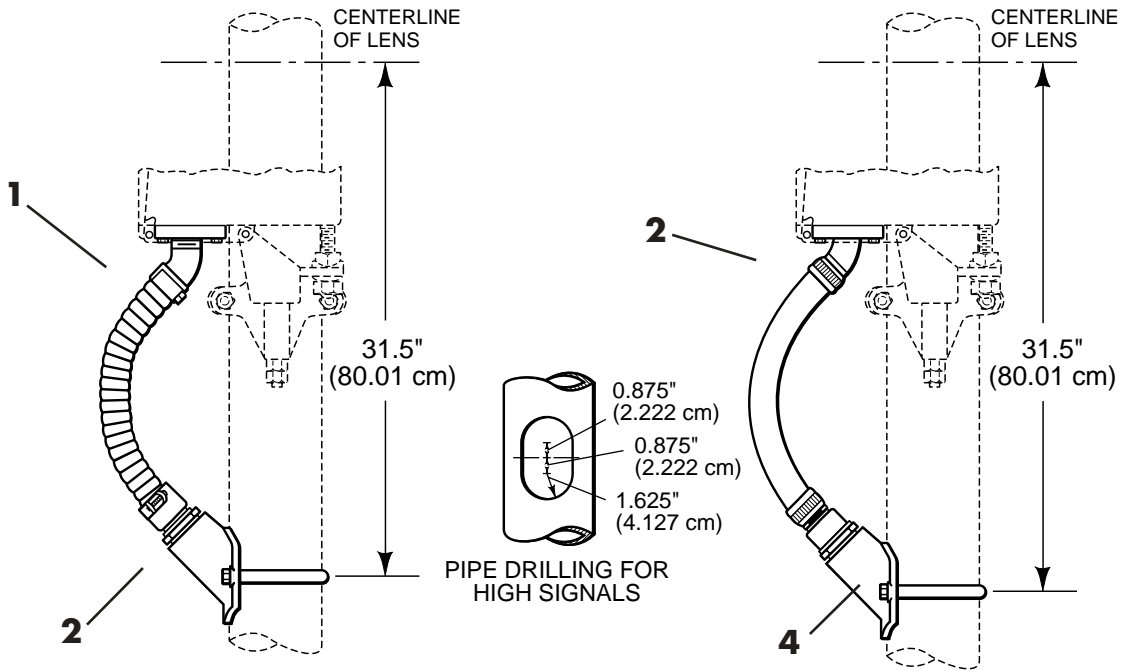
## Ordering Information

### Type SA-1 Searchlight Signal, Wire Entrance Couplings for High Signal Housings Only

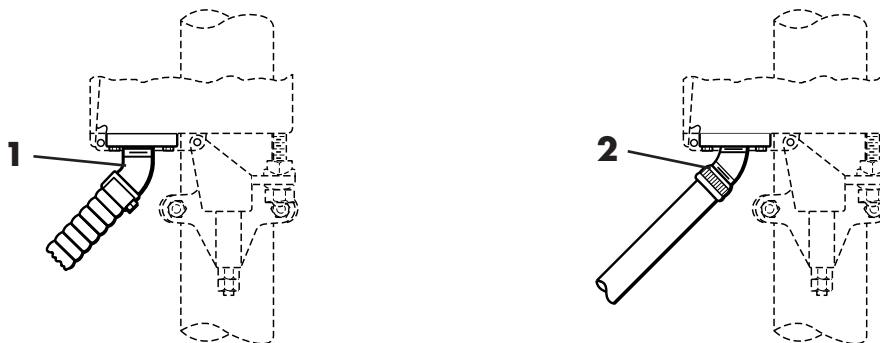
Reference	Coupling Angle	Description	Drawing Number
1	45°	COUPLING, for 1.50" flexible conduit	56353-033-03
2	45°	COUPLING, for .625" to .75" dia. cable	44515-049-01
2A	45°	COUPLING, for .75" to .875" dia. cable	44515-046-01
2B	45°	COUPLING, for .875" to 1" dia. cable	44515-063-01
2C	45°	COUPLING, for 1" to 1.875" dia. cable	44515-041-01
2D	45°	COUPLING, for 1.875" to 1.375" dia. cable	44515-034-01
2E	45°	COUPLING, for 1.375" to 1.625" dia. cable	44515-019-01
2F	45°	COUPLING, for 1.625" to 1.875" dia. cable	44515-056-01
3	–	COUPLING, complete with "U" bolt, reducer and gasket for 1.50" flexible conduit	45689-191-08
4	–	COUPLING, complete with "U" bolt, reducer and gasket for .625" to .75" dia. Cable	45689-191-01
4A	–	COUPLING, complete with "U" bolt, reducer and gasket for .75" to .875" dia. Cable	45689-191-02
4B	–	COUPLING, complete with "U" bolt, reducer and gasket for .875" to 1" dia. Cable	45689-191-03
4C	–	COUPLING, complete with "U" bolt, reducer and gasket for 1" to 1.1875" dia. cable	45689-191-04
4D	–	COUPLING, complete with "U" bolt, reducer and gasket for 1.1875" to 1.375" dia. cable	45689-191-05
4E	–	COUPLING, complete with "U" bolt, reducer and gasket for 1.375" to 1.625" dia. Cable	45689-191-06
4F	–	COUPLING, complete with "U" bolt, reducer and gasket for 1.625" to 1.875" dia. cable	45689-191-07

## Ordering Information

### Type SA-1 Searchlight Signal, Wire Entrance Couplings for High Signal Housings Only



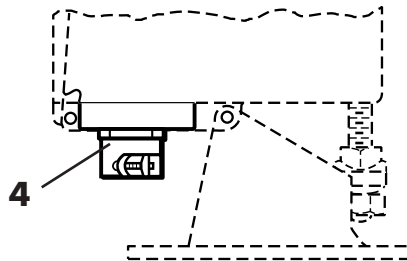
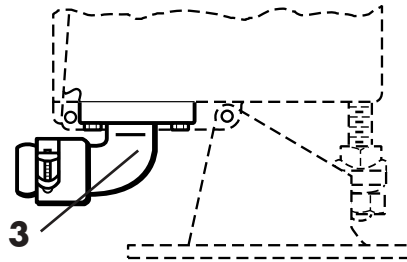
For High Signals



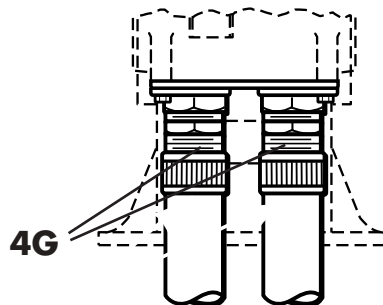
For Bridge and Bracket Post Signals

## Ordering Information

### Type SA-1 Searchlight Signal, Wire Entrance Couplings for Dwarf Signal Housings Only



For All Dwarf Signals



For Two-Unit Dwarf Signal Only

## Ordering Information

### Type SA-1 Searchlight Signal, Wire Entrance Couplings for Dwarf Signal Housings Only

Reference	Coupling Angle	Description	Drawing Number	Catalog Number
3	90°	COUPLING, for 1.50" flexible conduit	17550-114-01	A76-0553
4	Straight	COUPLING, for 1.50" dia. cable	56353-033-02	A76-0564
4A	Straight	COUPLING, for .75" to .875" dia. cable	44515-060-01	A76-0556
4B	Straight	COUPLING, for .875" to 1" dia. cable	56353-006-01	A76-0557
4C	Straight	COUPLING, for 1" to 1.1875" dia. cable	56353-008-01	A76-0558
4D	Straight	COUPLING, for 1.1875" to 1.375" dia. cable	56353-000-01	A76-0559
4E	Straight	COUPLING, for 1.375" to 1.625" dia. cable	56353-030-01	A76-0562
4F	Straight	COUPLING, for 1.625" to 1.875" dia. cable	56353-031-01	A76-0563
4G	Straight	COUPLING, for 1.1875" to 1.375" dia. cable, for two-unit Dwarf Signals only	56353-000-02	A76-0567

## Ordering Information

### Type SA-1 Searchlight Signal, Mast Assemblies

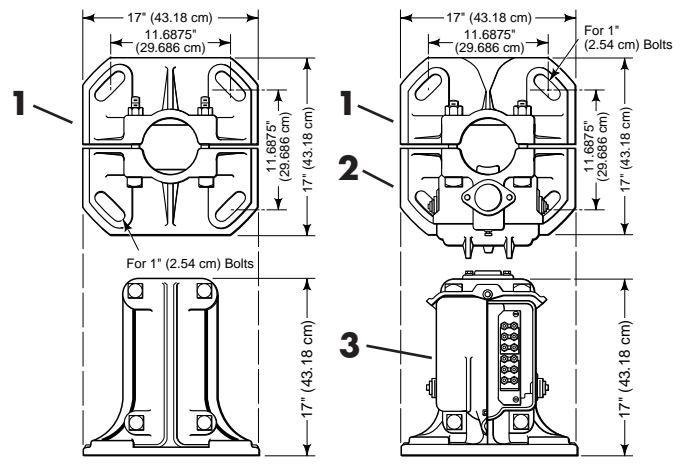
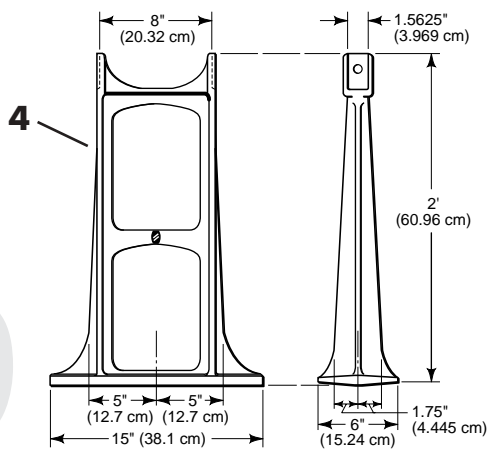
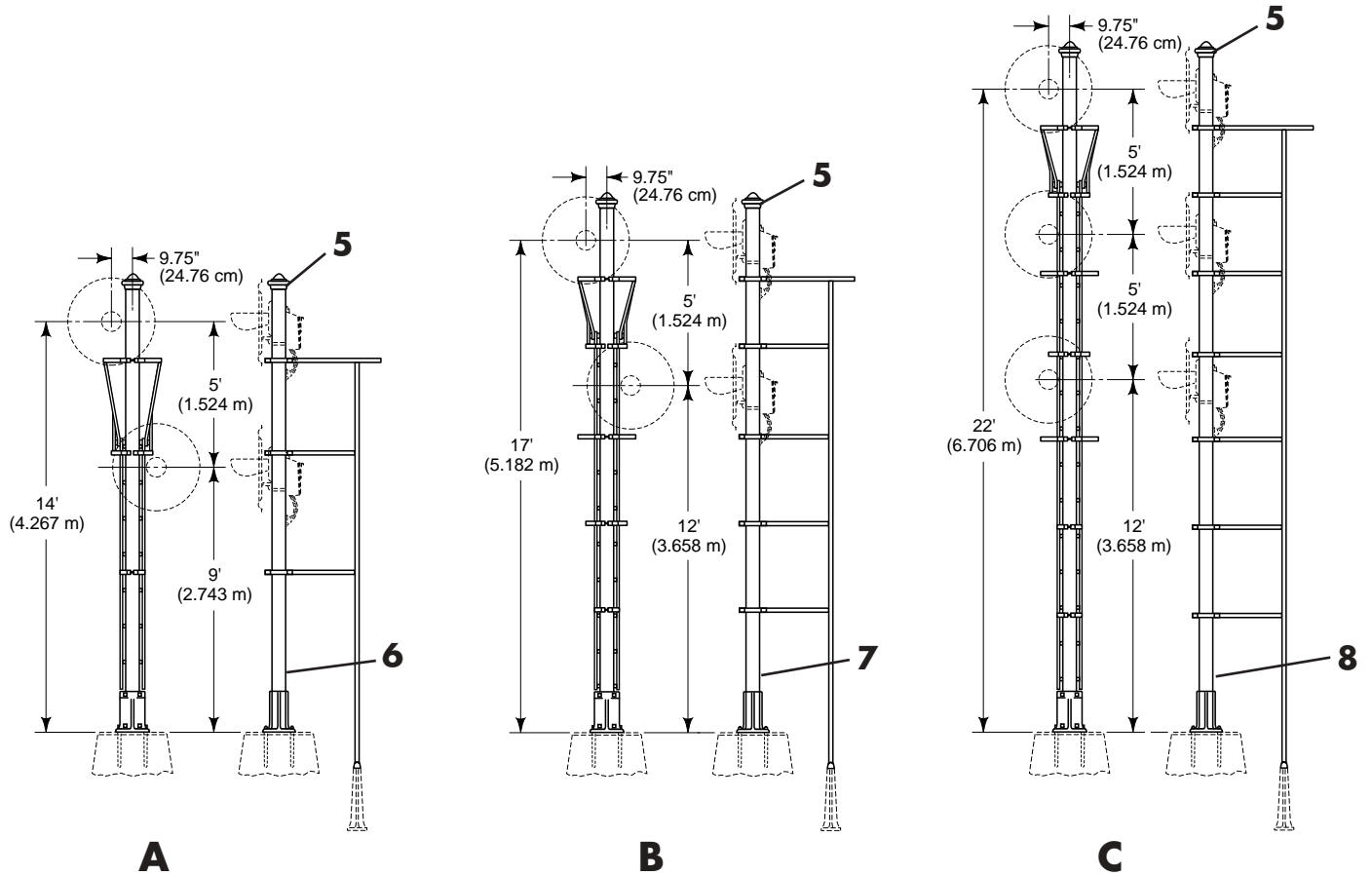
Reference	Drilled For Signal Heads	Base Type	Drawing Number	Catalog Number
A	2	Split	31491-153-01	A76-0302
A1	2	Split Junction Box	31491-154-01	A76-0303
B	2	Split	31491-155-01	A76-0308
B1	2	Split Junction Box	31491-156-01	A76-0309
C	3	Split	31491-157-01	A76-0312
C1	3	Split Junction Box	31491-158-01	A76-0313

### Type SA-1 Searchlight Signal, Mast Assemblies

Reference	Description	Drawing Number	Catalog Number
D	SPLIT BASE, COMPLETE, for 5" mast (12.7cm)	43951-017-01	P76-0340
E	JUNCTION BOX BASE, COMPLETE, with 24 terminal posts for 5" mast (12.7cm)	43951-016-06	A30-0537
1	HALF BASE, for bases (Ref. D and E)	43953-039-00	P76-0343
2	HALF BASE, with junction box	43953-045-00	P76-0344
3	COVER, for base (Ref. E)	52318-041-01	P76-0361
4	FOUNDATION, for ladder, includes bolts and nuts	36773-000-01	A76-0327
5	PINNACLE, for 5" diameter mast (12.7cm)	56894-000-02	P76-0254
6	POLE, only, for mast (Ref. A)	31491-153-00	P76-0301
6A	POLE, only, for mast (Ref. A1)	31491-154-00	P76-0302
7	POLE and BASE, for mast (Ref. B)	31491-155-00	P76-0303
7A	POLE and BASE, for mast (Ref. B1)	31491-156-00	P76-0304
8	POLE and BASE, for mast (Ref. C)	31491-157-00	P76-0305
8A	POLE and BASE, for mast (Ref. C1)	31491-158-00	P76-0306

# Ordering Information

## Type SA-1 Searchlight Signal, Mast Assemblies



Split Base

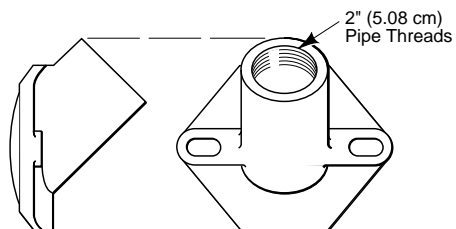
Split Junction Box Base

**D**

Signals

## Ordering Information

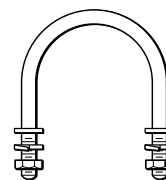
### Type SA-1 Searchlight Signal, Accessories



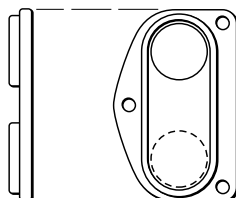
**1**



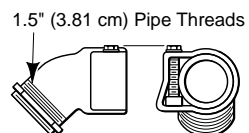
**2**



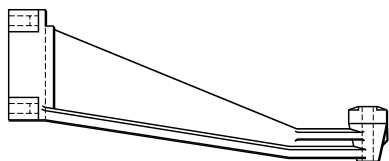
**3**



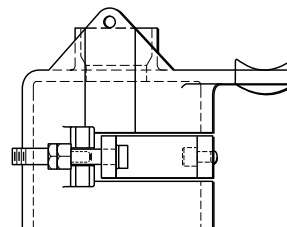
**4**



**5**



**6**



**7**

## Type SA-1 Searchlight Signal, Accessories

Reference	Description	Drawing Number	Catalog Number
1	COUPLING, for 5" mast (12.7cm)	45689-191-00	P76-0365
2	GASKET, for coupling (Ref. 1)	13014-158-00	P76-0277
3	U BOLT, COMPLETE, for fastening coupling (Ref. 1) to 5" mast (12.7cm)	20476-040-01	P76-0294
4	COUPLING, has one, 1" pipe-tapped hole	59202-016-00	P76-0478
4A	COUPLING, has one, 1.25" pipe-tapped hole	59202-017-00	P76-0479
4B	COUPLING, has one, 1.50" pipe-tapped hole	59202-018-00	P76-0480
4C	COUPLING, has two, 1.50" pipe-tapped holes, for two-unit Dwarf Signals only	59202-019-00	P76-0481
5	COUPLING, 45°, for 1.50" flexible conduit	56353-033-03	P76-0364
6	MOUNTING BRACKET, for front of mast	53093-012-00	P76-0412
7	MOUNTING BRACKET, for top of 5" mast	54732-000-02	P76-0540



# Aurora™ Highway Crossing Signal

## Extraordinary reliability

AURORA Highway Crossing Signals and Gate-Arm Lights are performance-engineered to reduce power consumption and maintenance costs. Plus, they feature a high-intensity LED array with a life expectancy of 100,000 hours and a tested MTBF of more than 25 years. The universal design makes them ideal for front-light, back-light and cantilever applications and reduces inventory requirements and maintenance costs.

## Highway Crossing

- High-intensity LED array with life expectancy of up to 100,000 (20x conventional incandescent)
- Extraordinary MTBF of 25 years
- Improved design for greater light output, improved durability and better viewing angles
- Available in 8" and 12" configuration



AURORA Highway-Crossing Signal

## Specifications:

### INPUT VOLTAGE

8.5Vdc to 12Vdc  
8.5Vac to 12Vac

### NOMINAL CURRENT

1.2A @ 10Vdc  
1.3A @ 10Vac

### POWER RATING

12Watts @ dc current  
13Watts @ ac current

### TEMPERATURE RANGE

Operating ..... -40°C to +70°C  
Storage ..... -40°C to +85°C

## Ordering Information

### AURORA Highway-Crossing Signal, Retrofit Kits

Description	Drawing Number	Catalog Number
8" LED-signal, one signal per kit	59649-202-01	A30-0942
12" LED-signal, one signal per kit	59649-200-01	A30-0941

Note: Retrofit Kits include a clear polycarbonate lens, LED light-source board and mounting hardware.

# Aurora™ Gate Arm Light

## Gate-arm Lights

- Reduces energy consumption by 80% (vs. incandescent)
- New “plug and play” design reduces installation time by 85%
- Three times brighter than previous design
- Rugged body improves durability
- Available as a pre-wired kit with quick connectors and coils for easy installation



AURORA Gate-Arm Light

## Specifications:

### INPUT VOLTAGE

8.5Vdc to 12Vdc

8.5Vac to 12Vac

### NOMINAL CURRENT

.45A @ 10Vdc

.5A @ 10Vac

### POWER RATING

4.5Watts @ 10Vdc

13Watts @ 10Vdc

### TEMPERATURE RANGE

Operating ..... -40°C to +70°C

Storage ..... -40°C to +85°C

## Ordering Information

### AURORA Gate-Arm Light, COMPLETE

Description	Drawing Number	Catalog Number
AURORA Gate-Arm Lights, three (3) lights per kit	59649-201-01	A30-0944

*Note:* A light includes two (2) LED light-source boards, one (1) housing, one (1) base plate and all mounting hardware.

# ENHANCED AW/AT

## Color Light Signals for Transit Applications

Enhanced design reduces spare part requirements, simplifies maintenance and lowers cost of ownership by up to 35% while delivering safe, reliable service. The AW's flexibility makes it ideal for both wayside and tunnel installations. When space is limited, the AT is the perfect solution.

### Type AW Color Light

Well suited for outdoor and tunnel applications on rapid transit lines.

- Ideal for wayside and tunnel applications on rapid transit lines
- Available in incandescent and LED
- All repairs can be made from the back of the signal
- 40% fewer parts reduces inventory and maintenance costs
- Separation of transformer from receptacle reduces risk of shock
- No external protruding bolts — eliminates injuries

### Type AT Color Light

The perfect fit for rapid transit installations with very limited clearance.

- Compact design
- Single optical lens for dark environments such as underground installations
- Modular design — bolt multiple units together for desired signal configuration
- Available in incandescent and LED

### Safety First

- Transformer separated from the receptacle to significantly reduce the risk of shock
- All external protruding bolt threads have been eliminated to safeguard workers from cuts and injuries

### Simplifying Maintenance

- All parts, including the inner and outer lens, can be replaced from the back of the signal
- Easy access the transformer terminal block, wiring from the back of the signal
- Quick change out mounting plates for transformer and terminal blocks
- Integrated door hinges reduce the time that's required to remove / assemble the door by nearly 75%
- Reduces spare part inventory by up to 40%



## Type AW Color Light Signal for Transit Type AW Signal, Outer Lenses

Lens Color	Lens Material	Outside Diameter	Focal Length	Description	Drawing Number	Catalog Number
Clear	Acrylic	6.375"	3.75"	Optical	53119-037-00	P73-0945
Clear	Polycarbonate	6.375"	3.75"	Optical	53119-036-00	P73-0944
Clear	Acrylic	6.375"	3.75"	Optical, 40° Deflecting, Bullseye	53119-038-00	P73-0946
Clear	Polycarbonate	6.375"	3.75"	Optical, 40° Deflecting, Bullseye	53119-039-00	P73-0947
Clear	Glass	6.375"	3.75"	Optical	53119-073-00	P73-1075

## Type AW Signal, Inner Doublet Lenses

Lens Color	Lens Material	Outside Diameter	Focal Length	Description	Drawing Number	Catalog Number
Green	Glass	5.50"	.50"		43988-030-00	P73-0254
Green	Acrylic	5.50"	.50"		43988-025-00	P73-0948
Yellow	Glass	5.50"	.50"		43988-031-00	P73-0255
Yellow	Acrylic	5.50"	.50"		43988-026-00	P73-0949
Red	Glass	5.50"	.50"		43988-032-00	P73-0256
Red	Acrylic	5.50"	.50"		43988-027-00	P73-0950
Clear	Acrylic	5.50"	.50"		43988-028-00	P73-0951
Lunar White	Glass	5.50"	.50"		43988-033-00	P73-0746
Lunar White	Acrylic	5.50"	.50"		43988-029-00	P73-0952

## Type AW Signal, Roundel

Roundel Color	Roundel Material	Outside Diameter	Description	Drawing Number	Catalog Number
Frosted	Glass	63/8"	Convex Cover, Plain	09238-086-00	P73-0705

## Type AW Signals, Gaskets

Description	Drawing Number	Catalog Number
GASKET, for inner lens	13014-458-00	P73-0997
GASKET, for outer lens	13014-459-00	P73-0998
SEALING COMPOUND, for use in assembling outer lenses and roundels that do not require a rubber gasket, 1/2 lb.	23429-000-00	P73-0182

## Ordering Information

### Type AT Color Light Signal for Transit

#### Type AT Signal, Lenses

Lens Color	Lens Material	Outside Diameter	Focal Length	Description	Drawing Number	Catalog Number
Clear	Acrylic	5"	3.5"	Optical	31624-041-00	P73-1014
Red	Glass	5"	3.5"	Optical	31624-006-00	P73-0726
Yellow	Glass	5"	3.5"	Optical	31624-007-00	P73-0727
Green	Glass	5"	3.5"	Optical	31624-008-00	P73-0728
Lunar White	Glass	5"	3.5"	Optical	31624-015-00	P73-0729

#### Type AT Signal, Gasket for Lenses

Description	Drawing Number	Catalog Number
GASKET, for 5" diameter lens	13014-660-00	P73-1083