

SECTION 15
SUBSECTION D
UNILENS® COLORLIGHT SIGNAL

ZCG UTILITY SCRAP
UNION MO 63084

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NOTE: MAST, LADDER AND BASE ASSEMBLIES FOR USE WITH
UNILENS COLORLIGHT SIGNALS ARE FOUND IN SECTION
15-C

UNILENS COLORLIGHT SIGNAL

GENERAL INFORMATION AND ASSEMBLY FEATURES



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The UNILENS Colorlight Signal was developed to provide a wayside signal having the advantages of simplicity, reliability and safety while displaying all color indications thru one lens. By using a highly efficient and effective sealed beam light source for each color aspect and by coupling each color disc with the most advanced fiber optics, light pipe, the UNILENS assembly was developed.

The UNILENS has these decided advantages:

No Moving Parts — No mechanism. Repeating relays and associated circuitry unnecessary as there are no moving parts to check for position.

High Lumen Efficiency — The sealed beam light source provides utilization of about 70% of the lamp output with either of two type lens arrangements.

Housing and Door — Housing and door are made of cast aluminum. A neoprene door gasket provides a weather tight seal between housing and door. A brass lock screw secures the hinged door to the housing, and can be locked, or opened, with a standard terminal wrench or spanner wrench. Additional security may be provided with a padlock to prevent access to the lock screw.

Mounting — UNILENS signals are available for mounting on top of a mast, in front or side of a mast, and on a dwarf mounting. Mast mounted signals are furnished for 5 inch I. D. mast, unless otherwise specified. Signal unit weighs about thirty-three pounds; easily handled and installed by one man.

Alignment — An alignment scope is installed in each signal. Vertical and horizontal alignment are adjusted at the mounting bracket assembly of each signal.

Lens — Signals are available with stepped lens, type IW10, or compound lens, type IW10-C. Outer lens is AAR standard 8-3/8" diameter and made of high impact strength butyrate. See lens arrangement, this section. All standard beam distribution patterns can be provided.

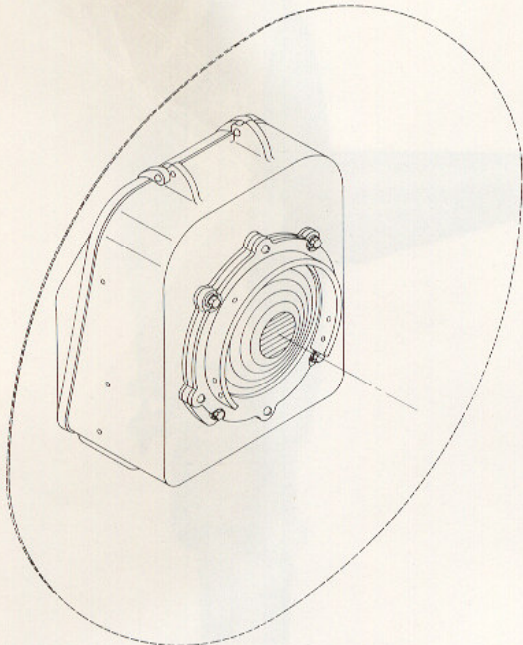
Color Filters — All color filters are in accord with AAR specifications and are made of heat resistant glass.

Focus — Lenses and lamp receptacles are prefocused and sealed at the factory to assure maximum optical efficiency.

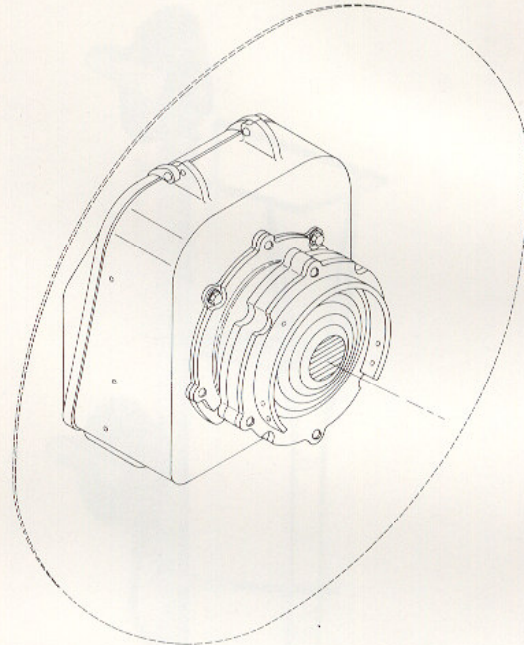
Background and Visor — The background and visor are black plastic or steel.



UNILENS COLORLIGHT SIGNAL HEAD AND MOUNTING BRACKET ASSEMBLIES

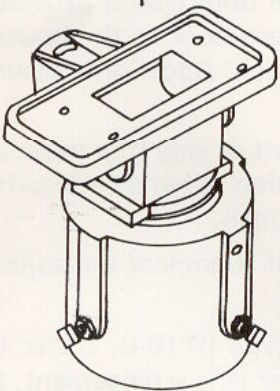


UNILENS IW10

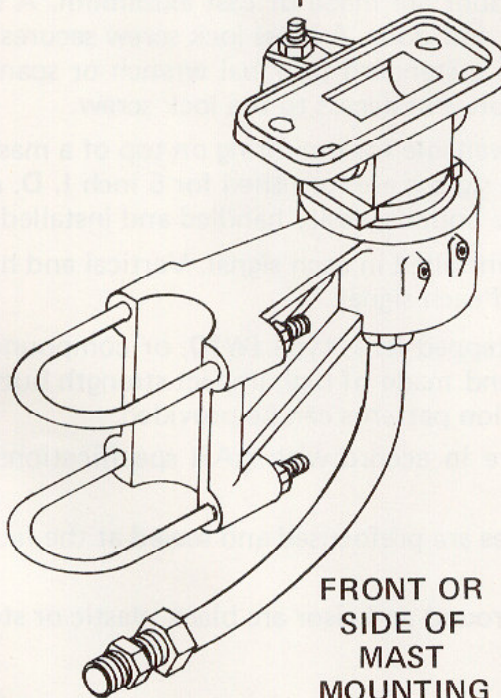


UNILENS IW10-C

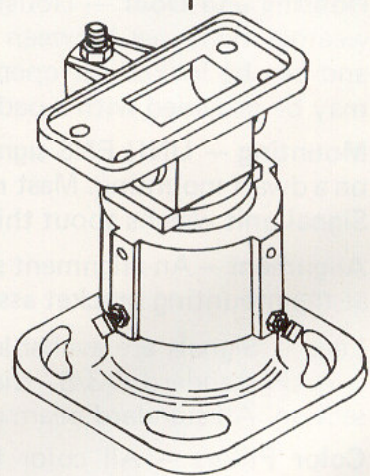
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TOP OF MAST
MOUNTING



FRONT OR
SIDE OF
MAST
MOUNTING



DWARF
MOUNTING BASE
8" x 8" BOLT SPACING

UNILENS COLORLIGHT SIGNAL HEAD AND MOUNTING BRACKET ASSEMBLIES ORDERING INFORMATION

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TO ORDER SPECIFY:

1. Description and Assembly Number of Unilens head. (See table below)
2. Mounting bracket Description and Assembly Number. (See table below)
Note: Mast mounted bracket assemblies will be for 5" pipe mast unless specified otherwise on order.
3. Lensing – See page 15-D-6 and specify arrangement by description and item letter.
4. Bulb – 10 volt 18 watt
or
10 volt 25 watt
5. Color indications desired: red, green, yellow, lunar white or blue are available.
6. Background (24" D. or 36" D.) and Visor of steel or plastic.
Note: Background not furnished on dwarf signals unless specified.

UNILENS HEAD ASSEMBLIES IW10 and IW10-C

IW10

(Stepped Lens Type)

Indication	Assembly Number
3 Aspect	042280-5X
4 Aspect	042280-25X

IW10-C

(Compound Lens Type)

Indication	Assembly Number
3 Aspect	042280-9X
4 Aspect	042280-30X

Mounting Bracket Assemblies

Bracket Assembly Number			
Top of Mast	Side of Mast Only 9-3/4" Offset	Front or Side of Mast 19-1/2" Offset	Dwarf
042254-1X	042288-1X	042256-X	042275-X

UNILENS SIGNAL HEAD REPLACEMENT PARTS LIST IW10 AND IW10-C

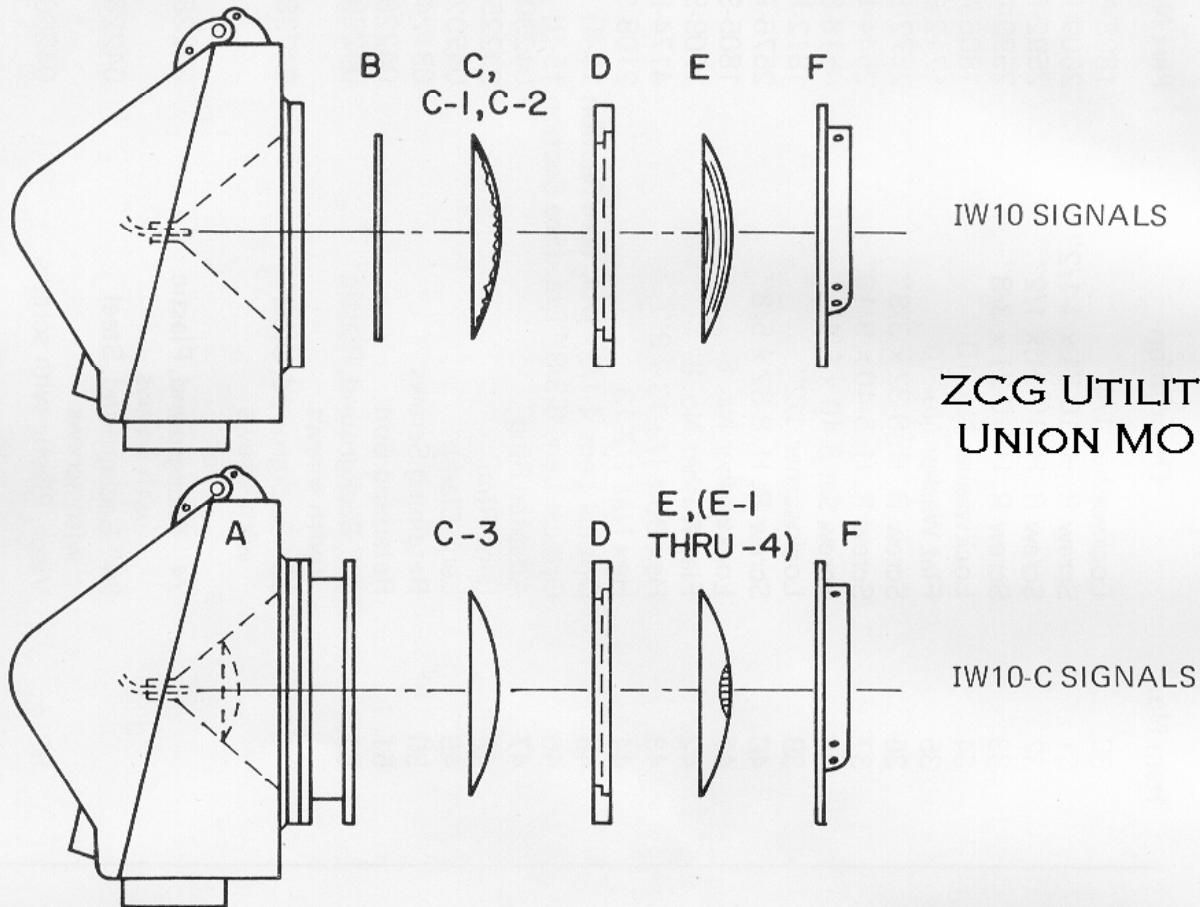
TO ORDER SPECIFY: Description and Part Number

Item No.	Description	Part Number	Item No.	Description	Part Number
1	Housing	042280	30	Lockwasher 1/4"	1808-MSC
2	Cover	042281	31	Screw R. H. 10-24 x 1-1/2"	2600-RSC
3	Light Cone	042283-1	32	Screw R. H. 10-24 x 1/2"	2592-RSC
4	Outer lens ring & visor support	042259	33	Screw R. H. 10-24 x 3/8"	2590-RSC
5	Lamp support	042284	34	Lockwasher No. 10	1806-MSC
6	Light pipe - 3 aspect	042285-6	35	Flat Washer No. 10	1712-SC
6a	Light pipe - 4 aspect (not shown)	042285-8	36	Screw R. H. 8-32 x 3/8"	2572-RSC
7	Color Disc - Red	042289-X	37	Screw R. H. 5-40 x 9/16"	2544-RSC
7a	Color Disc - Green	042290-X	38	Screw Set 5-40 x 1/4"	4518-SC
7b	Color Disc - Yellow	042291-X	39	Lockwasher 1/2"	1812-MSC
7c	Color Disc - Lunar White	042291-1X	40	Screw R. H. 8-32 x 5/8"	2576-RSC
7d	Color Disc - Blue	042291-2X	41	Lockwasher No. 8	1805-SC
8	Color Disc Retainer	042292-2	42	Flat Washer No. 8	1709-SC
9	Mounting bracket - resistor	042286	43	Hex Bolt 1/2-13 x 3"	4174-HSC
10	Mounting bracket - terminal	042286-1	44	Hex Nut 1/2-13	2108-SC
11	Lens (See Section 15-B)	042056	45	Optical Lens 4-1/2" Dia. (See Section 15-B)	15-B
12	Locking Bolt	7563	46	Optical Lens 8-3/8" Dia. (See Section 15-B)	15-B
13	Retaining Ring	104512	47	Adapter Ring	042300
14	Door Packing	042260-5X	48	Lens Ring	042258
15	Sighting Device Assy.	041913-X	49	Lens Clamp	042026-1X
16	Ventilator	029602-4X	50	Retaining Screws	031249
17	Adjustable Resistor	023274-43X	51	Retaining Bolt	042266-2
18	Multi-unit Terminal 4 Unit Assy. (8 post)	042293	52	36" Background, Plastic with screws	042287-1X
19	Lamp Bulb 10V 18W	042293		36" Background, Steel with screws	042287-5X
19a	Lamp Bulb 10V 25W	042293-1		24" Background, Plastic with screws	042287-6X
20	Lamp Socket Assembly	042294-6X		24" Background, Steel with screws	042287-7X
21	Universal Terminal 4 Unit Assy.	023390-20X		Visor, Plastic with screws	042005-3X
22	Retaining Screw	042266	53	Visor, Steel with screws	042005-35X
23	Wire Clamp 1/2" Dia.	042279		Screw R.H. 8-32 x 1/2"	2574-RSC
24	Wire Clamp 1/4" Dia.	042297			
25	Chain (9 inch)	042298			
26	Cotter Pin 3/16 x 1"	1033-SC			
27	Rivet 5/16 D. x 1-1/4"	3726-RA			
28	Hex Bolt 3/8-16 x 1"	4088-HSC			
29	Lockwasher 3/8"	1810-MSC			

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LENSING AND SPACER ARRANGEMENTS FOR IW10 AND IW10-C



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To properly apply the lenses and spacers to a Unilens Colorlight Signal refer to the above arrangements and the table below.

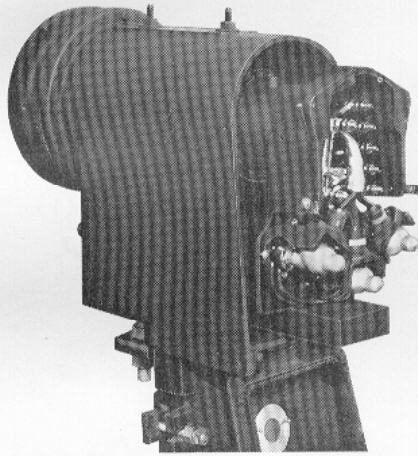
NOTE: TO ORDER LENSES FOR REPLACEMENT SEE SECTION 15-B

REFERENCE LENS AND SPACER ARRANGEMENT

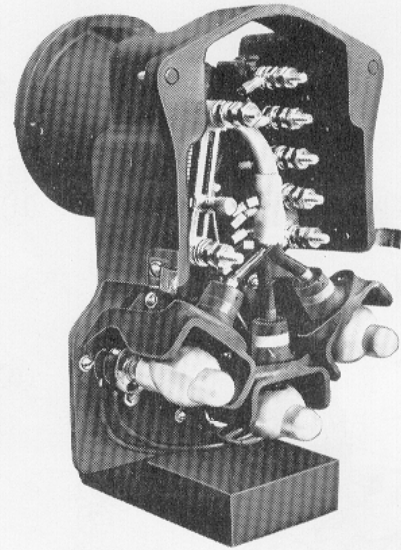
Item	Description
A	Lens, Optical Glass 4-1/2" D. x 6-1/2" F. L.
B	Disc, Plastic, 10° Deflecting, Clear Center 8-3/8" D.
C	Lens, Plastic, Stepped 8-3/8" D. x 6" F. L.
C-1	Lens, Plastic, 40° Deflecting Bullseye, 8-3/8" D. x 6" F. L.
C-2	Lens, Plastic, 30° Spread 8-3/8" D. x 6" F. L.
C-3	Lens, Optical Glass, 8-3/8" D. x 11-1/2" F. L.
D	Adapter Ring for 8-3/8" D. (See page 15-D-4 and -5)
E	Roundel, Plastic, 10° Deflecting 8-3/8" D.
E-1	Roundel, Plastic, 20° Deflecting 8-3/8" D.
E-2	Roundel, Plastic, Cover 8-3/8" D.
E-3	Roundel, Plastic, 10° Deflecting, 40° Center Spot 8-3/8" D.
E-4	Roundel, Plastic, 40° Center Spot 8-3/8" D.
F	Outer Lens Ring & Visor Support (See page 15-D-4 and -5)

SAFETRAN UNILENS CONVERSION UNITS FOR EXISTING SEARCHLIGHT SIGNALS

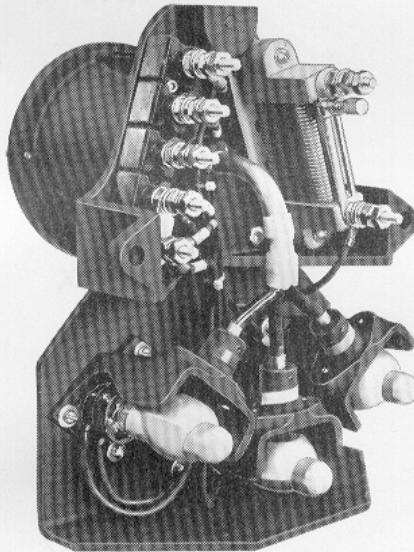
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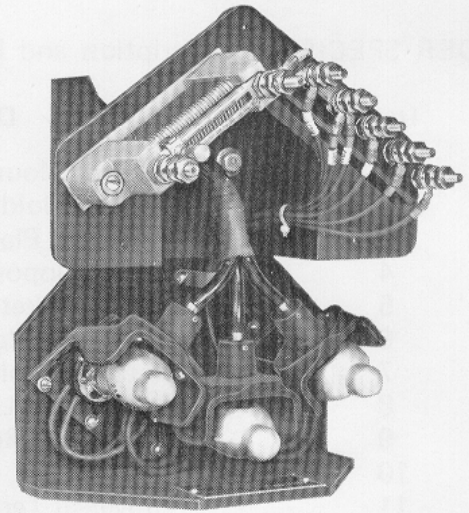
TYPICAL APPLICATION
GRS TYPE SA



IW10-SA CONVERSION
042280-47X



IW10-H2 CONVERSION
042280-48X



IW10-H5 CONVERSION
042280-49X

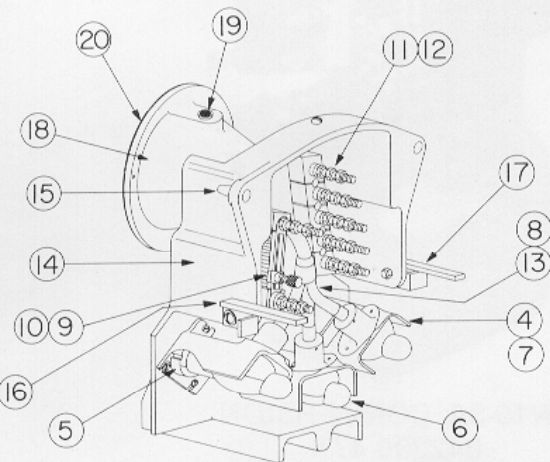
The IW10 Conversion Units are the operating optical units of the UNILENS signal so designed as to replace the relay operating unit of all current types of searchlight signals. The conversion unit will utilize the existing searchlight signal housing. After removal of the existing relay mechanism assembly the IW10 conversion unit is placed into the housing utilizing existing mounting hangers or brackets.

TO ORDER SPECIFY:

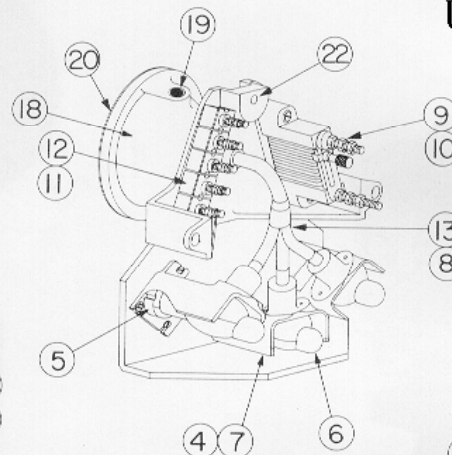
1. Description and Assembly Number of conversion unit desired.
2. Color indications desired, red, green, yellow, lunar white or blue.
3. Bulbs – 10 volt 18 watt
or
10 volt 25 watt

UNILENS CONVERSION UNITS (REPLACEMENT PARTS)

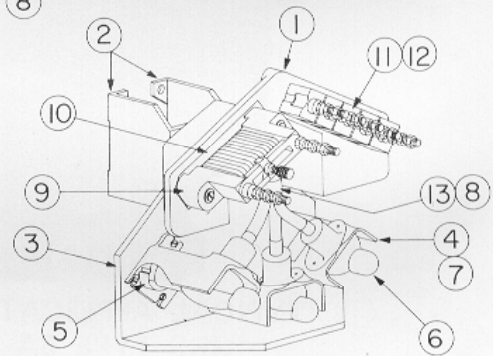
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IW10-SA



IW10-H2



IW10-H5

TO ORDER SPECIFY: Description and Part Number

Item	Description	Part Number
1	Bracket Mounting Cast Aluminum	042301-2
2	Bracket Hold Down	042314
3	Mounting Plate Assembly	042286-7X
4	Lamp Support Cast Aluminum	042284
5	Lamp Socket Assembly	042294-6X
6	Lamp (See Page 15-D-5 Item 19)	
7	Retainer, Color Disc	042292-2
8	Trifurcated Light Pipe	042285-9
9	Adjustable Resistor Assembly	029602-4X
10	Fibre Guard	029602-37
11	Universal Terminal Assembly	023390-15X
12	Connector	023839-2
13	Anti Phantom Cap (Not shown)	042285-14
14	Housing Cast Aluminum	042301-1
15	Pin, Location	042304-1
16	Retaining Clip L. H.	042305
17	Retaining Clip R. H.	042305-1
18	Light Cone Cast Aluminum	042283-2
19	Vent Assembly	041913-X
20	Retaining Ring	042302
21	Mounting bracket cast aluminum	042301
22	Dowel Pin 5/16" D. x 1-3/4"	1137-E
23	Color Disc (not shown)	

(See Page 15-D-5 Item 7 to 7D.)