

03/03/2005

SUBJ: MAINTENANCE OF LIGHTED NAVIGATIONAL AIDS

1. PURPOSE. This change deletes the requirement to measure the annunciation contact resistance in Types FA-10265, FA 10620, and FA-17700, Precision Approach Path Indicator (PAPI) systems. This directive implements Configuration Control Decision (CCD) No. N30622, Remove PAPI Fail Circuitry Testing from Order 6850.5C, Maintenance of Lighted Navigational Aids.

2. DISTRIBUTION.

a. This directive is distributed to sites with the following Facility, Service, and Equipment Profile (FSEP): PAPI.

b. Printed material will no longer be provided to administrative offices.

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Remove Pages	Dated	Insert Pages	Dated
ix	3/19/2002	ix	03/03/2005
x	1/31/96	x	1/31/96
xiii	3/27/95	xiii/xiv	03/03/2005
53 and 54	3/19/2002	53	03/03/2005
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95	3/27/95	95	3/27/95
96	3/19/2002	96	03/03/2005



For Richard A. Thoma
Director, Safety and Operations Support

<i>Paragraph</i>		<i>Page</i>
Subsection 1. HIGH-INTENSITY ALS SYSTEMS		
294.	Visual Checks	78
295.	Meter Readings.....	78
296.	ALS Monitor Check.....	78
297.	Sequence Flasher (SFL) Monitor Check.....	80
298.	Fifteen-Minute Timer.....	81
299.	Vertical and Horizontal Alignment.....	81
300.	Flashing Rate.....	84
301.-305.	Reserved.	
Subsection 2. MEDIUM-INTENSITY APPROACH LIGHTING SYSTEMS		
306.	Operational Checks	84
307.	Meter Readings.....	85
308.	Vertical and Horizontal Alignment.....	85
309.-313.	Reserved.	
Subsection 3. ODALS AND LDIN SYSTEMS		
314.	Visual Checks	86
315.	Operational Checks	86
316.	Meter Readings.....	86-1
317.-319.	Reserved.	
Subsection 4. VASI AND PAPI		
320.	Visual Checks	86-1
321.	Controls.....	86-1
322.	Meter Readings.....	86-2
323.	Tilt Switch Adjustment.....	87
324.	Vertical and Horizontal Alignment.....	87
325.	Withdrawn – CHG 7	
326.-328.	Reserved.	
Subsection 5. REIL		
329.	Visual and Operational Control Checks.....	96-1
330.	Vertical and Horizontal Alignment.....	96-1
331.	Meter Readings	96-2
332.	Monitor Operation	96-2
333.-334.	Reserved.	

*

*

Paragraph

Page

Subsection 6. OBSTRUCTION LIGHTS

335.	Visual Checks	97
336.	Beacon Frequency	97
337.	Control Devices.....	97
338.	Lamp Replacement.....	99
339.	Reserved.	

Subsection 7. WITHDRAWN - CHG 1

*	340.	Withdrawn - CHG 1
	341.-344.	Reserved.

Section 2. OTHER MAINTENANCE TASKS PROCEDURES

	345.	Glassware, Reflectors, and Filters	99	*
	346.	Supports.....	100	
	347.	Transformer and Regulator Oil	100	
	348.	Approach Line-of-Sight Clearance	100	
	349.	Type LB-I Light Bases.....	100	
	350.	Oil Circuit Breaker Mechanism	102	
	351.	Electrical Connections	102	
	352.	ALS Light Fixtures.....	102	
	353.	Relays	102	
	354.	Flasher Master Timer	103	
	355.	Warning and Identification Signs	103	
	356.	Ammeter	103	
	357.	High Intensity Approach Lighting Systems	104	
		Group Lamp Replacement		
	358.	Medium Intensity Approach Lighting Systems	104	
		Group Lamp Replacement		
	359.	ODALS/LDIN/REIL Group Lamp Replacement	104	
	360.	ALSF-2 Power Transfer Operation Check	104	
	361.	VASI Regulator	105	
	362.	VASI and PAPI Group Lamp Replacement	105	
	363.	VASI and PAPI Annual Task.....	105	
	364.	REIL Safety Devices	105	
	365.	Obstruction Light Checks.....	106	
	366.	Obstruction Light/Beacon Scheduled Lamp Change Tasks	106	
	367.-419.	Reserved.		

Section 3. SPECIAL MAINTENANCE PROCEDURES

	420.	ALS Safety Precautions	108
	421.	ALS Oil Circuit Breaker	108

LIST OF ILLUSTRATIONS

<i>Figure</i>		<i>Page</i>
5-1.	Sample FAA Form 6000-8	76
5-2.	Calculation of Light Beam Angular Elevation..... (Systems Installed Before May 29, 1969)	82
5-3.	Calculation of Light Beam Angular Elevation (Systems..... Installed from May 29, 1969 to December 17, 1981)	83
5-4.	Aiming and Obstruction Clearance Diagram for Two-Bar..... VASI (Systems Installed Before March 18, 1974)	88
5-5.	Aiming and Obstruction Clearance Diagram for Two-Bar..... VASI (Systems Installed After March 18, 1974)	89
5-6.	Aiming and Obstruction Clearance Diagram for Three-Bar..... VASI (Systems Installed Before March 18, 1974)	90
5-7.	Aiming and Obstruction Clearance Diagram for Three-Bar..... VASI (Systems Installed After March 18, 1974)	91
5-8.	Withdrawn – CHG 7	
5-9.	PAPI Obstacle Clearance Surface.....	92
5-10.	Walker Bar Aiming and Calibration Components.....	94
5-11.	Partial Schematic, Hughey and Phillips LC-201 Control.....	98
5-12.	Partial Schematic, Crouse Hinds Number 47079 Control.....	98
5-13.	Type AL-I Semi-flush Approach Light	101
5-14.	Wiring Diagram, Hughey and Phillips Model LC-201..... Tower Lighting Control Unit	115
5-15.	Wiring Diagram, Crouse Hinds Number 47079 Tower..... Lighting Control Unit	116
5-16.	Wiring Diagram, Crouse Hinds Nos. 44870 and 44871..... Photoelectric Controls	118
5-17.	Beacon Collector Ring and Brushes	120
5-18.	Measuring Clutch Tension	121

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**Section 2. VISUAL APPROACH SLOPE INDICATOR AND
PRECISION APPROACH PATH INDICATOR (Continued)**

<i>Parameter</i>	<i>Reference Paragraph</i>	<i>Standard</i>	<i>Tolerance/Limit</i>	
			<i>Initial</i>	<i>Operating</i>
→ 103. RED FILTERS	Instruction book	All filters on	Same as standard	At least two filters on with lamp behind missing filter disconnected
→ 104. OBSTRUCTIONS	348	No obstruction	Same as standard	Same as initial
105. REMOTE CONTROL FUNCTIONS.	Order 6650.6	Operational	Same as standard	Same as initial
106 PAPI LAMP FAIL CIRCUITRY TESTING				
* a. Withdrawn Chg 7.....				
b. Withdrawn Chg 7.....				
c. Withdrawn Chg 7.....				
d. Withdrawn Chg 7.....				
107.-114. RESERVED.				

Section 3. RUNWAY-END IDENTIFIER LIGHTS

<i>Parameter</i>	<i>Reference Paragraph</i>	<i>Standard</i>	<i>Tolerance/Limit</i>	
			<i>Initial</i>	<i>Operating</i>
→ 115. LAMP OPERATION.....	329	All on	Same as standard	Same as initial
→ 116. REMOTE CONTROL FUNCTIONS.	Order 6650.6	Operation	Same as standard	Same as initial
→ 117. VERTICAL ALIGNMENT.				
a. With Baffles	330	3°	±1°	Same as initial
b. Without Baffles	330	10°	±1°	±2°
c. ODREIL	Instruction book	Lights plumb	Same as standard	Same as standard
→ 118. HORIZONTAL ALIGNMENT.				
a. With Baffles	330	10°	±1°	±2°
b. Without Baffles	330	15°	±1°	±2°

Section 3. RUNWAY-END IDENTIFIER LIGHTS (Continued)

Parameter	Reference Paragraph	Standard	Tolerance/Limit	
			Initial	Operating
→ 119. FLASHING RATE.				
a. REIL	300, Instruction book	120 flashes per minute	±2 per minute	Same as initial
b. ODREIL	Instruction book	60 flashes per minute	±1 per minute	Same as initial
120. INPUT VOLTAGE	331, Order 6950.17	120 V, 240 V, or set transformer tap for the applied voltage	±3 percent	±5 percent (for exceptions see Order 6950.17)
121. OBSTRUCTIONS	348	No obstruction	Same as standard	Same as initial
122.-129. RESERVED.				

Section 4. OBSTRUCTION LIGHTS

Parameter	Reference Paragraph	Standard	Tolerance/Limit	
			Initial	Operating
130. FIXED OBSTRUCTION LIGHTS	335	All lamps on	Same as standard	Same as initial
→ 131. FLASHING HAZARD BEACON	336	26 flashes per minute	±14 flashes per minute	Same as initial
→ 132. ROTATING HAZARD BEACON	336	12 to 40 flashes per minute	Same as standard	Same as initial
→ 133. FLASHING FREQUENCY OF	336	40 flashes per minute	±2 flashes per minute	Same as initial
→ 134. LAMP SOCKET VOLTAGE	Order 6950.17	Rated lamp voltage	±3 volts	±5 volts (for exceptions see Order 6950.17)
135. FUSES FOR TRANSFORMER	Order 6950.18	Not to exceed 200 percent of transformer rating	Same as standard	Standard +0.0, -25 percent

2 Set the leveling device dial to 0°.

3 With equal size blocks inserted under the channel of the aiming device bar near each end, the bubble should appear very near or at the center of the level tube.

4 Rotate the aiming device 180° on the blocks. The bubble should appear at the same relative position in the level tube.

5 If the bubble is not centered within two divisions on the level tube (each division is 1.2 minutes), recalibrate the device by adjusting the level tube until the bubble appears centered with the level dial at 0°.

6 The angular adjustment dial is now precisely calibrated.

(g) Vertical Alignment for Maximum Light Intensity Through the Aperture. The light meter and tripod are used to adjust the vertical alignment of the lamps for the maximum intensity through the aperture of the lamp housing assembly. Two light meters and tripods are required at each sector maintaining VASI systems. After an individual lamp replacement, an interim check for uniform lamp intensity is to visually inspect the LHA light output from approximately 700 feet downwind. Adjust the lampholders as required for uniform light output with maximum intensity.

1 Systems Having Individual Lampholder Adjustments. Remove the power from the lamp housing assembly (LHA). Disconnect the electrical wires from two of the lamps. Place and tape the light meter on the tripod. Place the light meter and tripod directly in front of the lamp that is electrically connected. Adjust the height until the light meter is at the height of the aperture. Place the tripod and light meter as close as possible to the aperture. If possible, place the meter partially into the aperture, but not touching the LHA. This position decreases the amount of background light read by the meter. Reapply power to the LHA and adjust the vertical alignment of the lampholder to obtain the maximum intensity. Tighten any loose alignment adjustment hardware. Remove

power from the LHA and then disconnect the electrical wires from the lamp that was adjusted. Reconnect the electrical wires to one of the other unadjusted lamps. Move the light meter and tripod opposite this lamp, and repeat the procedure. Remove power from the LHA and disconnect the electrical wires from the second adjusted lamp and reconnect the electrical wires to the third lamp. Repeat the alignment procedure. Remove power from the LHA and reconnect the electrical wires to the other two aligned lamps. All three lamps should now be properly aligned for maximum intensity. Use this procedure for each of the other LHA's.

2 Systems Not Having Individual Lampholder Adjustments. Place and tape the light meter on the tripod. Place the light meter and tripod in front of the LHA at the center of the aperture. Adjust the height until the light meter is at the height of the aperture. Place the tripod and meter as close as possible to the aperture. If possible, place the meter partially into the aperture, but not touching the LHA. This position decreases the amount of background light read by the meter. The maximum light intensity through the aperture occurs when the lamps are tilted downward approximately 1.8° from the center line of the lamps and the aperture. This small change of 1.8° will increase the intensity by approximately 56 percent from zero-degree tilt. The alignment of the lamps is dependent upon the position of the bulkhead. Remove either the bolts or screws at the top or bottom where the bulkhead is fastened to its mounting brackets. The entire bulkhead can be repositioned from the vertical allowing the lamps to tilt downward. Site adaptation may be required for each system. With the lamps on, monitor the light meter, and tilt the bulkhead to produce the maximum light intensity through the aperture. Use washers as shims to reposition the bulkhead. Site adaptation may be required for each LHA. After repositioning the bulkhead, replace mounting hardware. Repeat the procedure for other LHA's.

(4) Check the vertical alignment of the PAPI lamp housing assemblies and adjust if necessary. Refer to the PAPI manufacturer's instruction manual for proper use of the PAPI aiming device and the alignment procedures.

325. PAPI LAMP FAIL CIRCUITRY TESTING
Withdrawn - Chg 7

326.-328. RESERVED.

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