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TRANSMITTAL SHEET

The Revision 04, dated JAN 21/20, is attached and covers all components held by every operator

1. FILING INSTRUCTIONS:

Make sure that the content of the manual is in compliance with the “LIST OF EFFECTIVE PAGES”
File the “TRANSMITTAL SHEET” separately.

2. RESON FOR REVISION:

RHODORSIL 340 become BLUESIL 340 and minor corrections.

3. ASSISTANCE INFORMATION:

Questions or comments concerning this publication can be addressed to:

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HIGHLIGHTS

REVISION 4 - JAN 21/20
Pages which have been added, revised or deleted are outlined below together with the Highlights of the revision.

LOCATIONS	DESIGNATION	DESCRIPTION OF CHANGE
TRANSMITTAL LETTER	R	
TITLE PAGE	R	
LIST OF EFFECTIVE PAGES	R	
TESTING AND FAULT ISOLATION		
TASK 33-46-12-700-801-A01		Ammeter accuracy updated.
CHECK		
SUBTASK 33-46-12-220-001-A01		Voltage test for autotransformers deleted.
ASSEMBLY		
TASK 33-46-12-400-801-A01		RHODORSIL 340 become BLUESIL 340.
STORAGE AND TRANSPORTATION		
TASK 33-46-12-550-801-A01		Part number for desiccant set to No specific.
SUBTASK 33-46-12-620-001-A01		Shelf life updated to 120 months

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(F0280)

COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

TAKE-OFF AND TAXI LIGHT

PART NUMBER
4298117

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RECORD OF REVISIONS

REV No	ISSUE DATE	INSERTED		REV No	ISSUE DATE	INSERTED	
		DATE	BY			DATE	BY
1	SEP 15/06	SEP 15/06	INS				
2	MAY 31/10	MAY 31/10	ZSE				
3	NOV 17/10	NOV 17/10	ZSE				
4	JAN 21/20	JAN 21/20	SSE				

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RECORD OF TEMPORARY REVISIONS

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SERVICE BULLETIN LIST

SB/SIL No.	REV No.	ISSUE DATE	INCORP. DATE	TITLE
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LIST OF EFFECTIVE PAGES (Cont'd)

SUBJECT	PAGE	DATE	SUBJECT	PAGE	DATE
	6	Jan 21/20			
VCI 10001	1	Jan 21/20			
	2	Blank			
NI/ALPHA 10001	1	Jan 21/20			
	2	Blank			
DPL 10001	1	Jan 21/20			
	10001-0	Jan 21/20			
	10001-1	Jan 21/20			

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TABLE OF CONTENTS

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TABLE OF CONTENTS (Cont'd)

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TABLE OF FIGURES

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INTRODUCTION

TASK 33-46-12-990-801-A01

1. TAKE-OFF AND TAXI light - Introduction

A. Information

(1) The Component Maintenance Manual (CMM) is written in accordance with the Air Transport Association of America Specification No. 2200 (ATA2200), Revision 2000-1 and in AECMA Simplified English.

(2) The Component Maintenance Manual gives all the procedures supplied by the manufacturer for use in the workshop, so that all persons can repair and completely overhaul the component.

(3) The manual describes maintenance on the component in a workshop. It does not define or show the level of maintenance for all special units, but gives all the procedures necessary to let the person to do a test, disassemble, clean, check and assemble a unit which has been rejected from serviceable use. The manual does not describe maintenance on the component when it is installed on the aircraft.

(4) Only approved persons are permitted to do the maintenance procedures given in this manual.

(5) Maintenance Task Oriented Support System (MTOSS) task and subtask identification is used in this manual. The maintenance tasks and other data have special MTOSS numbers for use of Electronic Data Processing (EDP). The user of manual can ignore the MTOSS numbers.

(6) Where the data or procedures specified in this manual are different from those specified by the regulatory agency which controls operation of your aircraft, obey the data and procedures of the regulatory authority.

(7) This manual contains:

– Technical data for the component
– Maintenance and repair procedures for the component
– Illustrated Parts List (IPL) or Illustrated Parts Catalogue (IPC) with data for the component parts. The IPL Figure and item number identifies parts in all sections of the manual.

B. How to Use the Manual

(1) Make sure the manual contains the information applicable to your component. Look on the Title Page for the part number.

(2) If it is necessary to identify a part or find a part number, refer to the IPL (or IPC), which has an introduction to show the procedure.

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(3) The instructions in this manual must be used for all component maintenance. Read all the applicable WARNINGS and CAUTIONS before you do the work on the component.

C. Process Verification

(1) The manufacturer has validated the "Disassembly, Testing and Fault Isolation and Assembly" procedures in this manual.

- Disassembly: verified by performance or simulation of the specified procedures.
- Testing and Fault Isolation: verified by performance or simulation of the specified procedures.
- Assembly: verified by performance or simulation of the specified procedures.

D. Modification

(1) All result data and illustrations in this manual are the last revision available at the time of printing. ECE supplies updates to this manual when necessary. When ECE issues a modification to units included in this manual, ECE will revise the manual to include the information.

(2) When there is a change, each updating gives the full instructions about the page number of the pages, which must be replaced, added or removed. Revised test or new texts are located with a vertical black line in the margin.

E. Measurements

(1) The measurements given in this manual are taken from the original reference document of the manufacturer.

(2) All values given in this manual are in System International (SI) units or sub-divisions of these units. Imperial units or US are given in parenthesis immediately after the metric unit. The decimal point in the SI is shown by a comma and in the Imperial system by a full stop, e.g. 25,4 mm (1.00 in).

(3) Measurement conversion table:

From: SI measurement	To: U.S. standard system
1 kPa	0.1450 psi
1 N	0.2248 lbf
1 kg	2.2046 lb
1 l	0.2642 gal (U.S.)
1 l/min	0.2642 gal (U.S.)/min
1 mm	0.0394 in

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From: SI measurement	To: U.S. standard system
1 Nm	8.8507 lbf.in
1 Nm	0.7376 lbf.ft

From: U.S. standard system	To: SI measurement
1 psi	6,8948 kPa
1 in	25,4 mm
1 lbf	4,4482 N
1 in.Hg	3,3864 kPa
1 lb	0,4536 kg
1 gal (U.S.)	3,7854 L
1 lbf.in	0,1130 Nm
1 lbf.ft	1,3558 Nm

F. Abbreviations

(1) The abbreviations used in this manual are given below:

- A = Ampere
- °C = degree Celsius
- cm3 = Cubic centimeter
- cmg = centimeter gramme
- cu.in = Cubic inch
- Nm = Newton meter
- °F = Fahrenheit degree
- ft.lb = feet-pound
- g/cm2 = gramme/square centimeter
- in = inch
- In.lb = Inch pound
- kg = kilogramme
- kPa = kiloPascal
- hPa = hectoPascal
- lb = pound
- L/min = Liter per minute
- mbar = millibar
- mm = millimeter
- mm/Hg = Mercury millimeter
- MPa = MegaPascal
- mV = millivolt
- Ω = ohm

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- mΩ = milliohm
- MΩ = megohm
- psi = pound per square inch
- rpm = revolution per minute
- SH or CW = clockwise
- SIH or CCW = counterclockwise
- VDC = volt direct current

G. Manufacturing

(1) The unit is manufactured by:

NAME	ADDRESS
ZODIAC AERO ELECTRIC F0214	7, rue des Longs Quartiers CS50029 93108 MONTREUIL Cedex FRANCE Phone: +33 (0)1 55 82 50 00 Fax: +33 (0)1 55 82 50 10 Web site: www.safran-aerosystems.com

Table 1 / Manufacturing table

H. Product support and sale

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SAFRAN AEROSYSTEMS SERVICES	61 rue Pierre Curie CS20001 78373 – PLAISIR Cedex France Phone: +33 1 64 34 23 23 Phone AOG: +33 1 49 75 45 73 Fax: +33 1 64 34 21 13 Web site: www.safran-aerosystems.com
SAFRAN AEROSYSTEMS SERVICES UK	Unit 610, Avenue West Skyline 120 Braintree - CM77 7AA ENGLAND Phone: +44 1376 329 194 Fax: +44 1376 340 734 Web site: www.safran-aerosystems.com

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TRADE - NAME	ADDRESS
SAFRAN AEROSYSTEMS SERVICES AMERICAS	4900 St. Joe Boulevard, Building 200 Suite 400 COLLEGE PARK, GA 30337 USA Phone: +1 678 228 8153 Phone: AOG: +1 800 879 0411 Fax: +1 400 559 0041 Web site: www.safran-aerosystems.com
SAFRAN AEROSYSTEMS SERVICES ASIA	36, Loyang Drive SINGAPORE 508949 Phone: (+65) 6579 2230 Phone AOG: (+65) 9770 5061 Fax: (+65) 6579 2231 Web site: www.safran-aerosystems.com
SAFRAN AEROSYSTEMS SERVICES MIDDLE EAST	Dubai Aviation City – Logistic City Plot No: DLC-CL-1WB14 & &WB15 Dubai, P.O. Box 644324 Phone: +971 4812 6777 Fax: +971 2575 8482 Web site: www.safran-aerosystems.com

I. Repair station

(1) Approved repair stations instruction are available on the SAFRAN AEROSYSTEMS SERVICES website: www.safran-aerosystems.com.

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DESCRIPTION AND OPERATION

TASK 33-46-12-870-801-A01

1. TAKE-OFF AND TAXI LIGHT - DESCRIPTION AND OPERATION

A. General

(1) The take-off and taxi light is used for lighting the runways and taxiways for night landing, taxiing and take-offs. (Refer to Fig. 1)

B. Description

(1) Data

(a) Dimensions and weight

Width:	131 mm (5.157 in)
Body diameter:	211 mm (8.307 in)
Height:	214,5 mm (8.445 in)
Weight:	2,2 kg (4.850 lb)

(b) Optical system

	Take-off	**Taxi**
Sealed Beam:	4557	
Power:	600 W	400 W
Voltage:	28 V	
Life:	25 h	100 h

(c) Lighting beam

	Take-off	**Taxi**
Maximum lighting intensity:	480 000 cd	80 000 cd
Horizontal lighting angle:	12°	25°
Vertical lighting angle:	11°	12°

(d) Electrical Properties

	Take-off	Taxi
Voltage:	115 VAC/400 Hz	
Amperage:	≤ 6,5 A	≤ 4,6 A

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(e) Protection

– Aluminum alloy: black sulfuric acid anodizing
– Steel: nickel plating
– Hardware: dichromated cadmium plating.

(f) Full dimensions

(Refer to Fig. 3)

C. Detailed description

(Refer to Fig. 2)

(1) General

(a) The take-off and taxi light has:

– A light alloy lamp housing (10) with a riveted attachment plate with three lugs (9) for lamp housing attachment to the aircraft
– An autotransformer (5) and an autotransformer (6) attached to the inner side of lamp housing (10) with three screws (7) and three washers (8)
– An incandescent lamp (1) hold in position against the gasket(3) with the clamp (2)
– A receptacle connector (4) for connection to the aircraft electrical circuit
– A name plate (11), a wiring diagram plate (12) and an instruction label (13) bonded to the outer side of the lamp housing (10).

D. Operation

(Refer to Fig. 2)
(Refer to Fig. 2001)

(1) General operation

(a) The take-off and taxi light is supplied by the aircraft 115 V/400 Hz power supply network, through two autotransformers that decreases the lamp unit supply voltage to 28 V/400 Hz.

(b) The autotransformer (6) supplies a 400 W voltage for the taxiing function.

(c) The autotransformer (5) supplies a 600 W voltage for the take-off function.

(d) The lamp is a sealed beam type with two filaments.

(e) The light beam goes through the deflection glass and increases width to 12° in the horizontal plane and 11° in the vertical plane for the power 600 W and 25° in the horizontal plane and 12° in the vertical plane for the power 400 W.

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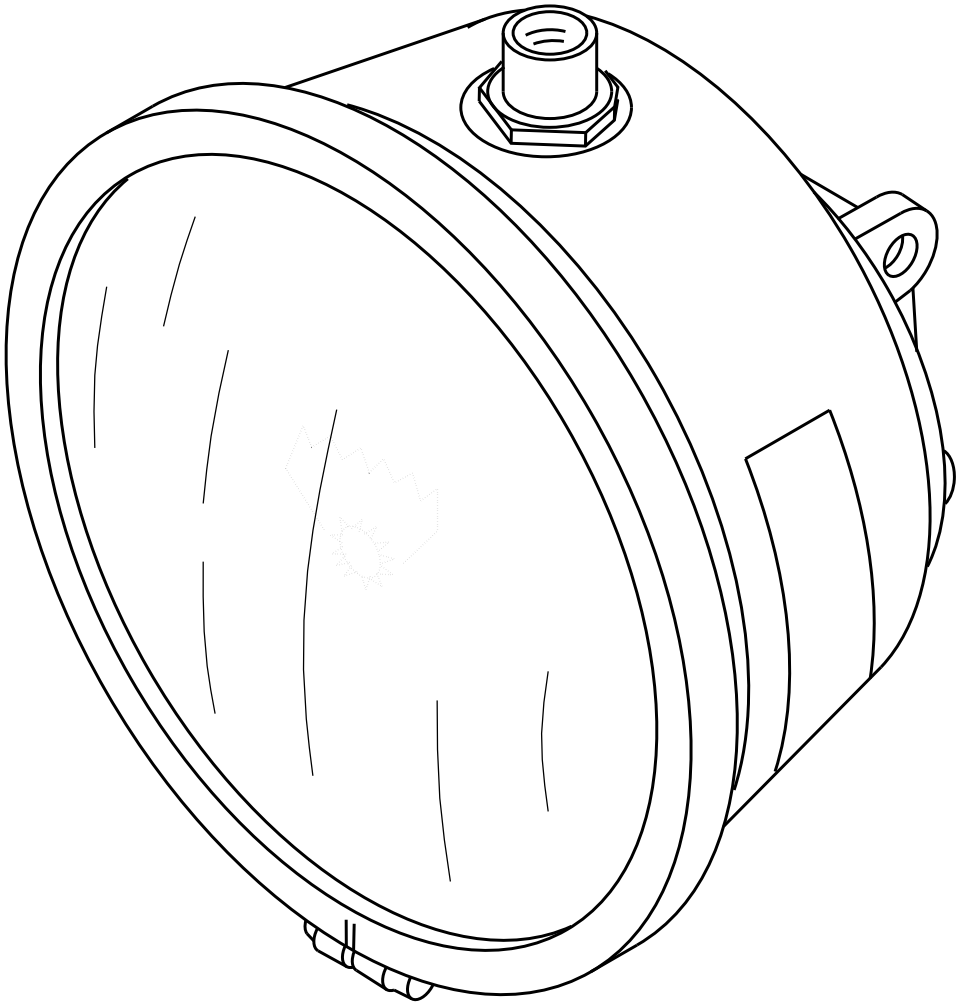

33-46-12-991-001-A01

Take-off and taxi light - General View
Figure 1/GRAPHIC-33-46-12-991-001-A01

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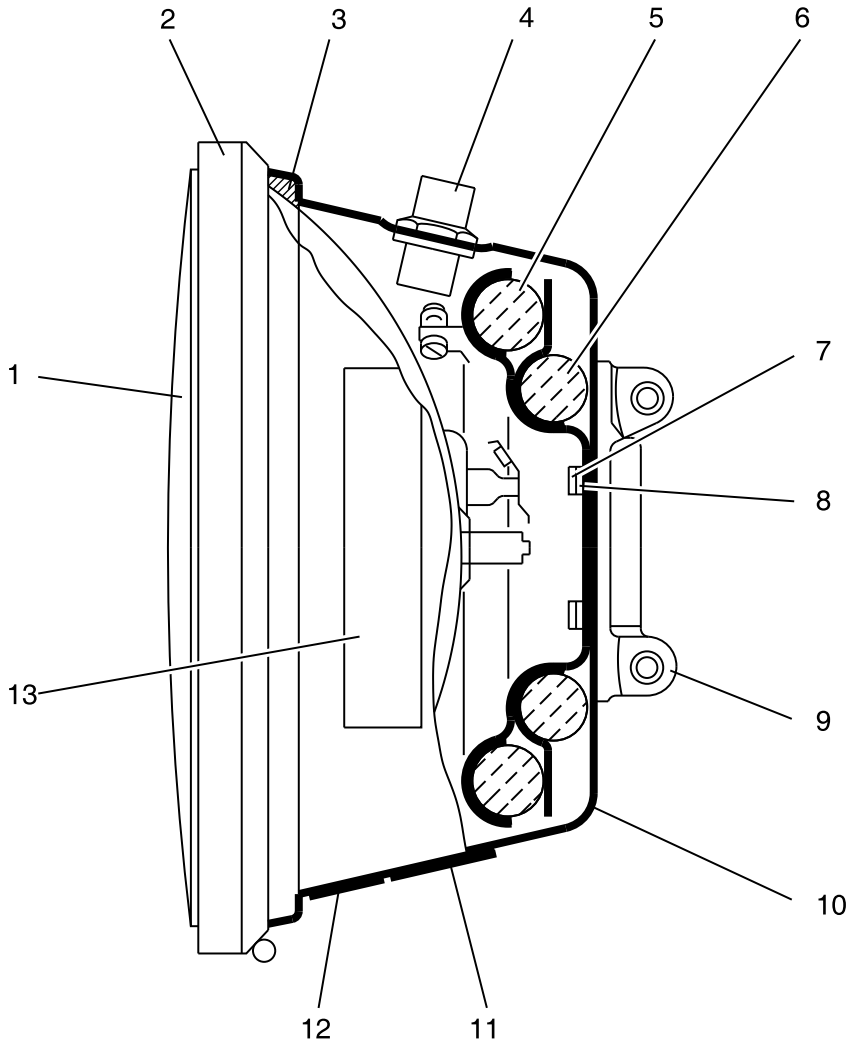

1 Incandescent lamp
2 Clamp
3 Gasket
4 Receptacle connector
5 Autotransformer
6 Autotransformer
7 Screw
8 Washer
9 Attachment support
10 Lamp housing
11 Name plate
12 Wiring diagram plate
13 Instruction label

33-46-12-991-002-A01

Take-off and taxi light - Description
Figure 2/GRAPHIC-33-46-12-991-002-A01

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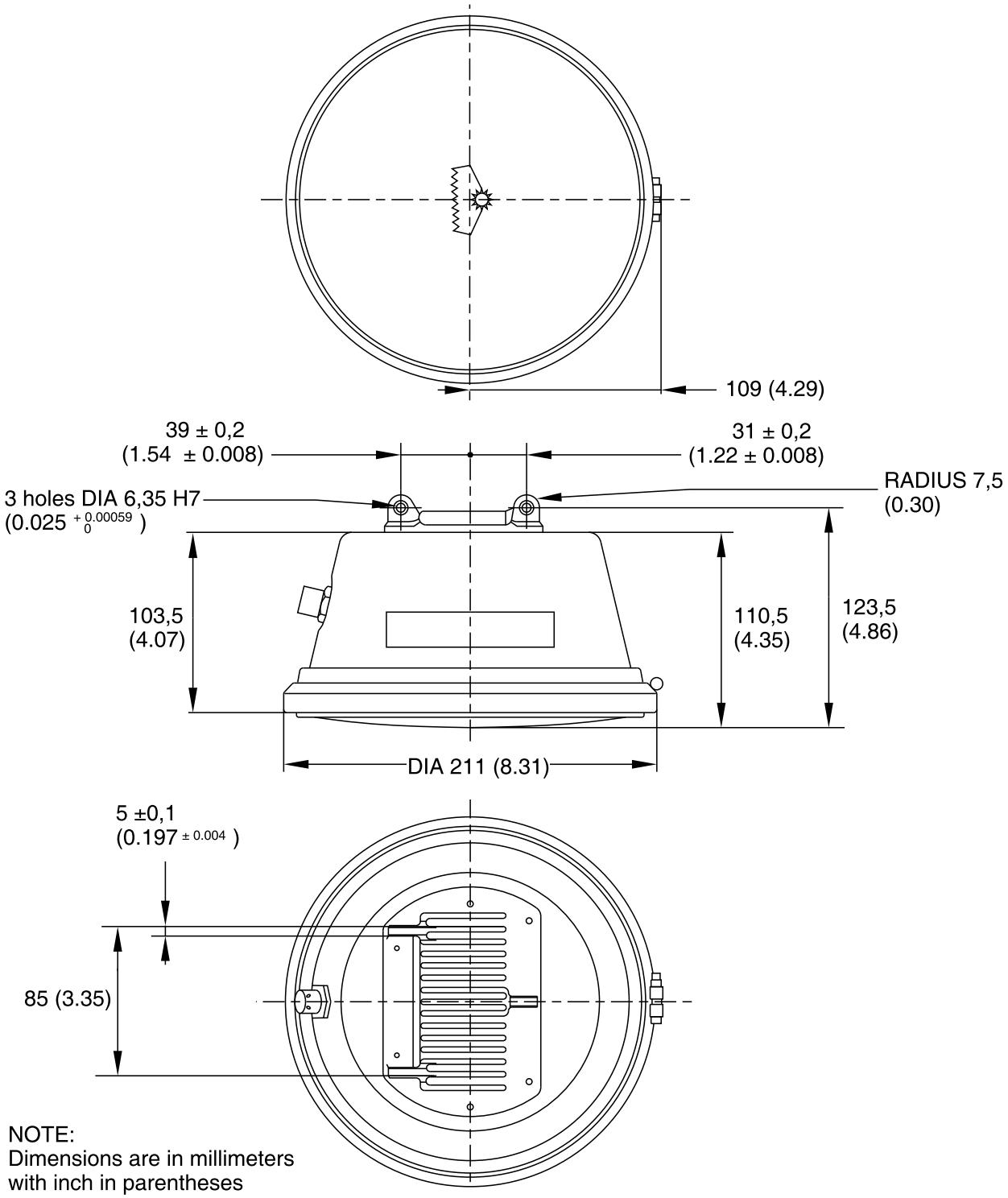

Take-off and taxi light - Overall Dimensions
Figure 3/GRAPHIC-33-46-12-991-003-A01

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TESTING AND FAULT ISOLATION

TASK 33-46-12-700-801-A01

1. TAKE-OFF AND TAXI LIGHT - TESTING

A. General

WARNING : OBEY ALL THE ELECTRICAL SAFETY PRECAUTIONS WHEN YOU DO WORK ON THE ELECTRICAL SYSTEM COMPONENT. IF YOU DO NOT THIS, YOU CAN CAUSE INJURIES TO PERSONS AND/OR DAMAGE TO EQUIPMENT.

(1) This Page Block deals with the tests and checks required to determine the condition of the unit withdrawn from service. The general test procedure is defined in the FAULT ISOLATION Table, which for each test refers to a specific method specifying all parameters to be applied and those to be checked.

(2) All measurements are made with instruments of laboratory precision, the accuracy of which has been certified and is traceable to the french bureau of standards. The instruments used have the calibration date clearly displayed. Instrument error is accounted for in determining allowable limits of instrument reading.

(3) Alternative test equipment must not be used unless it can be proven to be the equal or superior to that specified.

B. Reason for the job

(1) The test makes sure that the equipment is fully serviceable. Also, do the test if an equipment component or subassembly is replaced.

C. Job Set-Up Information

(1) Tools, fixtures and equipment

(a) The table below gives the tools, fixtures and equipment necessary to do the test of the take-off and taxi light.

NOTE : Equivalent alternatives can be used for the listed items.

NOTE : Refer to Page Block “SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLE MATERIALS” (Refer to TASK 33-46-12-940-801-A01) for more instruction.

P/N	QTY	NAME	SOURCE
No specific	1	115 V/400 Hz power supply	Local supply
No specific	1	150 VAC voltmeter	Local supply
No specific	1	Digital Ammeter accuracy +/- 5% of the full scale	Local supply

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P/N	QTY	NAME	SOURCE
No specific	1	Megohmmeter	Local supply
No specific	1	Milliohmmeter (0-20 mΩ)	Local supply

(2) Consumables

Not applicable.

(3) Test conditions

(a) Do all the tests below usual standard test laboratory ambient conditions:

Ambient temperature ..... : 20 ± 5 °C (68 ± 9 °F)
Atmospheric pressure ..... : 900 to 1100 mbar (13.05 to 15.95 psi)
Relative humidity ..... : ≤ 85 %.

D. Job Set-up

Not applicable.

E. Operation test for the 600 W filament

(1) Test set-up data

(a) Do the test set-up as shown in Figure 1001 (Refer to Fig. 1001).

(b) Connect a digital ammeter and a AC power supply between the pins C and B of the receptacle connector.

(2) Procedure

ACTION		RESULT
1	Apply 115 V between the two contacts C and B of the receptacle connector.	Make sure the 600 W filament of the take-off and taxi light comes on.
2	Disconnect and re-connect the circuit.	
3	Measure the amperage with the digital ammeter.	Make sure the current value is ≤ 6,5 A.
4	Switch off the AC power supply.	

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F. Operation test for the 400 W filament

(1) Test set-up data

(a) Do the test set-up as shown in Figure 1001 (Refer to Fig. 1001).

(b) Connect a digital ammeter and a AC power supply between the pins A and C of the receptacle connector.

(2) Procedure

ACTION		RESULT
1	Apply 115 V between the two contacts A and C of the receptacle connector.	Make sure the 400 W filament of the take-off and taxi light comes on.
2	Disconnect and re-connect the circuit.	
3	Measure the amperage with the digital ammeter.	Make sure the current value is ≤ 4,6 A.
4	Switch off the AC power supply.	

G. Insulation resistance test

WARNING : INSULATION TESTS MUST BE PERFORMED EXACTLY AS SPECIFIED. IN PARTICULAR, THE APPLIED INSULATION TEST VOLTAGE MUST NEVER BE MORE THAN THE SPECIFIED VALUE.

NOTE : This test must be done with the lamp removed.

(1) Test set-up data

(a) Do the test set-up as shown in figure 1001 (Refer to Fig. 1001).

(b) Connect a megohmmeter between the pins A, B and C connected together of the receptacle connector and a position on the lamp housing..

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(2) Procedure

ACTION		RESULT
1	Apply a voltage of 500 VDC between the connector pins connected together and the ground, for a minimum time period of 5 seconds.	Make sure the insulation resistance value is ≥ 20 MΩ.

H. Bonding resistance test

(1) Test set-up data

(a) Do a test set-up as shown in figure 1001 (Refer to Fig. 1001).

(b) Connect a milliohmmeter 0 to 20 mΩ.

(2) Procedure

ACTION		RESULT
1	Measure the ground circuit continuity from a position on the lamp housing and the ground terminal.	The value must be ≤ 20 mΩ.

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TASK 33-46-12-810-801-A01

2. TAKE-OFF AND TAXI LIGHT - FAULT ISOLATION

FAULT	PROBABLE CAUSE	CORRECTION
The lamp does not come on	No main supply	Make sure the power supply is available and put it on again
	Autotransformer blown or broken winding	Replace the defective autotransformer
	Supply wires broken	Make the wires shorter to repair the connection
	Filament of the lamp blown out or cut, or lamp broken	Replace the lamp
The lamp comes on intermittently	Lug attachment screws untightened	Tighten the lug screws
	Lugs oxidized or badly crimped	Clean the lugs with emery cloth or crimp lugs correctly
Defective insulation	Worn, moist parts	Examine the defective parts and replace them

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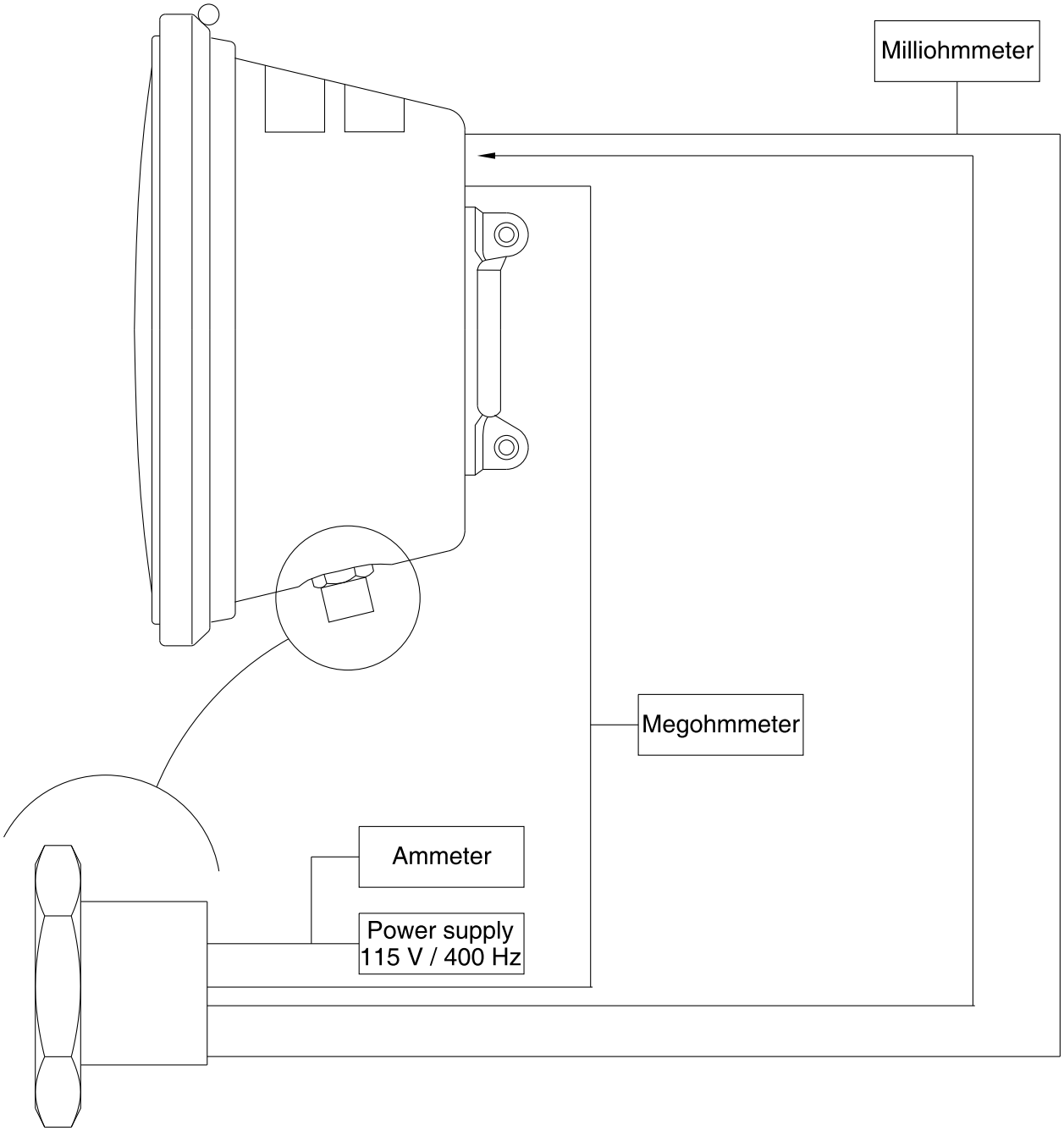

Take-off and taxi light - Electrical Tests
Figure 1001/GRAPHIC-33-46-12-991-101-A01

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SCHEMATIC AND WIRING DIAGRAMS

TASK 33-46-12-991-801-A01

1. TAKE-OFF AND TAXI LIGHT - SCHEMATIC DIAGRAM

A. (Refer to Fig. 2001)

PIN	NAME
A	115 V/400 Hz (Taxi) / ≤ 4,6 A
B	115 V/400 Hz (Take-off) / ≤ 6,5 A
C	Return
D	Case Ground
E	Spare
F	Spare

Table 2001 / Take-off and taxi light - Connector Pins Allocation

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TASK 33-46-12-991-802-A01

2. TAKE-OFF AND TAXI LIGHT - WIRING DIAGRAM

A. (Refer to Fig. 2002)

ITEM	DESCRIPTION – P/N	LENGTH mm (in)	COLOR	CONNECTION	QTY
1	Wire electrical, dia 1 1900A AWG20-4 (3040037)	150 (5.906)	Yellow	Pin B → 600 W Autotransformer	1
2	Terminal lug (3040409)	-	-	-	6
3	Pins	-	-	-	4
4	Wire electrical, dia 1 1900A AWG20-9 (3026051)	200 (7.874)	White	Pin C → Central terminal lamp	1
5	Wire electrical, dia 1 1900A AWG20-9 (3026051)	200 (7.874)	White	Pin D → Central terminal lamp	1
6	Wire electrical	65 (2.559)	Yellow	600 W autotransformer → Pin B	1
7	Insulation sleeve electrical dia 2.5 (3040119)	25 (0.984)	Black	-	3
8	Insulation sleeve electrical dia 4.9 (3069384)	10 (0.394)	Trans-parent	-	4
9	Terminal lug (3040103)	-	-	-	4
10	Wire electrical	180 (7.087)	White	600 W autotransformer → 600 W lamp	1
11	Insulation sleeve electrical dia 2.5 (3040097)	25 (0.984)	Yellow	-	1
12	Insulation sleeve electrical dia 2.5 (3040126)	25 (0.984)	White	-	1
13	Wire electrical	180 (7.087)	Blue	450 W autotransformer → 400 W lamp	1
14	Wire electrical	65 (2.559)	Green	450 W autotransformer → Pin A	1

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ITEM	DESCRIPTION – P/N	LENGTH mm (in)	COLOR	CONNECTION	QTY
15	Wire electrical dia 1 1900A AWG20-5 (3040014)	150 (5.906)	Green	Pin A→ 450 W autotransformer	1
16	Wire electrical	180 (7.087)	Black	450 W autotransformer → Central terminal lamp	1
17	Wire electrical	180 (7.087)	Red	600 W autotransformer → Central terminal lamp	1

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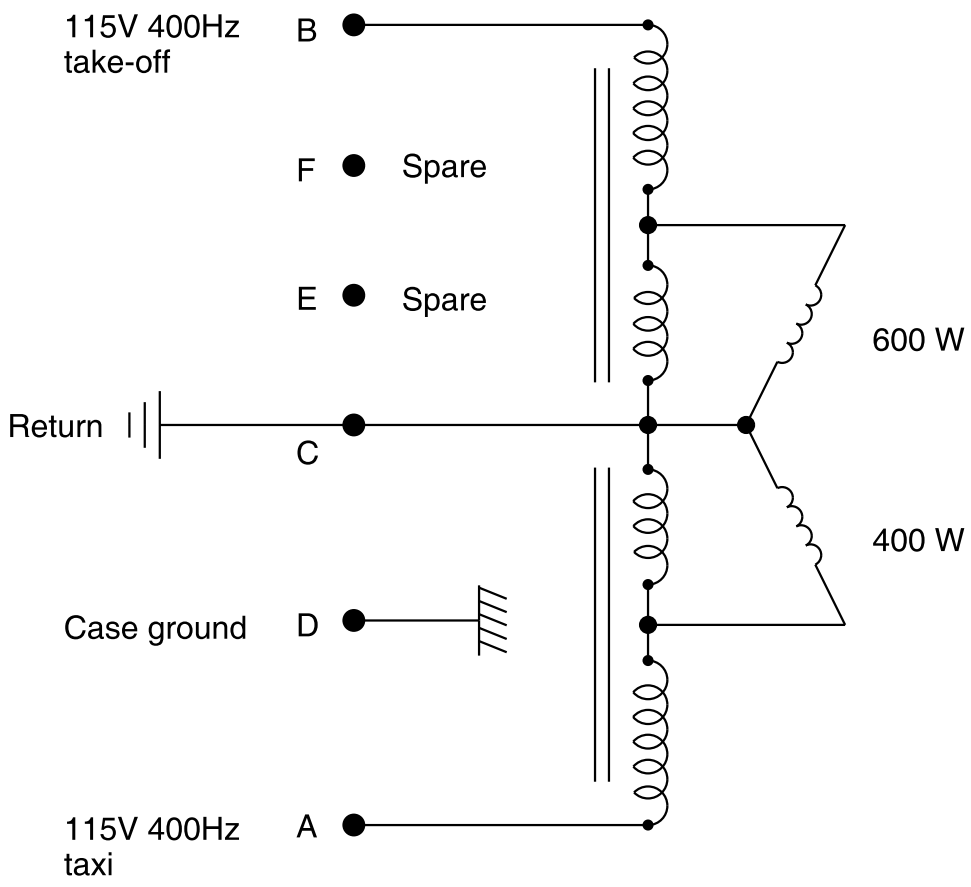

33-46-12-991-201-A01

Take-off and taxi light - Schematic Diagram
Figure 2001/GRAPHIC-33-46-12-991-201-A01

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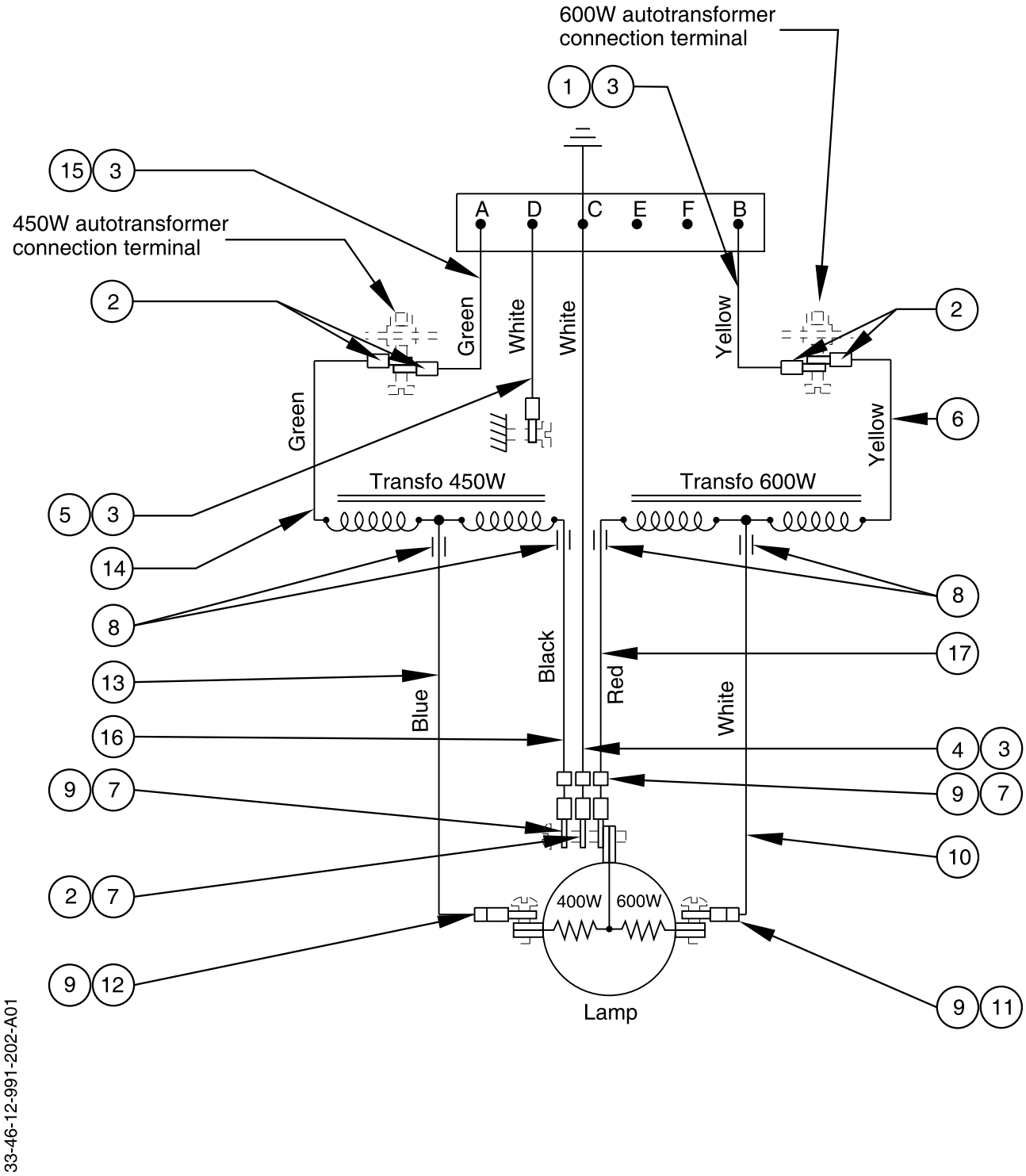

33-46-12-991-202-A01

Take-off and taxi light - Wiring Diagram
Figure 2002/GRAPHIC-33-46-12-991-202-A01

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DISASSEMBLY

TASK 33-46-12-000-801-A01

1. TAKE-OFF AND TAXI LIGHT - DISASSEMBLY

A. General

NOTE : Refer to “TESTING AND FAULT ISOLATION“ (Refer to TESTING AND FAULT ISOLATION) to establish the most probable cause of the malfunction in order to determine the extent of disassembly.

NOTE : All items number between parenthesis ( ) are the same item numbers as used in the Illustrated Part List (IPL).

(1) Obey absolute cleanliness of workbench, tools and parts; use protection for all parts as they are removed and obey usual precautions regarding the correct use of tools.

B. Reason for the job

(1) Disassembly gives step-by-step instructions for a complete disassembly of a component in a logical sequence and to access any faulty sub-assembly and parts.

C. Job Set-Up Information

Not applicable.

D. Procedure

WARNING : DISCONNECT THE EQUIPMENT FROM THE POWER SUPPLY AND TEST EQUIPMENT BEFORE YOU DISASSEMBLE IT.

WARNING : DO NOT TOUCH THE LIGHT BEFORE A MINIMUM OF TEN MINUTES AFTER SWITCH TO OFF.

SUBTASK 33-46-12-050-001-A01

(1) Removal of the incandescent lamp (1-30)

(Refer to IPL FIG. 01)

(a) Remove the captive screw (1-20).

(b) Remove the clamp (1-10).

(c) Carefully, disengage the incandescent lamp (1-30) from the lamp housing (1-210).

(d) Remove the screws to disconnect the five lugs (blue, black, red, white electrical power supply wires) from the terminals of the incandescent lamp (1-30) (Refer to Fig. 2002).

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(e) Remove the lamp (1-30).

(f) Remove and discard the gasket(1-40).

SUBTASK 33-46-12-050-002-A01

(2) Removal of the receptacle connector (1-50)

(Refer to IPL FIG. 01)

(a) Remove the attachment nut of the receptacle connector (1-50).

(b) Remove the washer (1-60).

(c) Extract the receptacle connector (1-50) to the inner side of the lamp housing (1-210).

SUBTASK 33-46-12-050-003-A01

(3) Removal of the autotransformers assemblies (1-70) and (1-150)

(a) Remove the self-locking nuts (1-110) and (1-170).

(b) Remove the spring washers (1-120) and (1-180).

(c) Remove the insulator washers (1-130) and (1-190).

(d) Disengage the terminal lugs (green and yellow electrical power supply wires) from the terminals of the autotransformers (1-70) and (1-150).

(e) Remove the insulator bushing (1-140) and (1-200).

(f) Remove the screws (1-100) and (1-160).

(g) Remove the screws (1-80).

(h) Remove the washers (1-90).

(i) Remove the autotransformers assemblies (1-70) and (1-150).

NOTE : The autotransformer (1-70) is bonded with the autotransformer (1-150).

(j) If necessary, disassemble the two autotransformers.

SUBTASK 33-46-12-050-004-A01

(4) Disassembly of lamp housing (1-210)

(Refer to IPL FIG. 01)

(a) If necessary, remove the instruction label (1-220) or the plates (1-230) or (1-240) (Refer to SUBTASK 33-46-12-380-002-A01).

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CLEANING

TASK 33-46-12-100-801-A01

1. TAKE-OFF AND TAXI LIGHT - CLEANING

A. General

WARNING : DO NOT TOUCH THE LIGHT BEFORE A MINIMUM OF TEN MINUTES AFTER SWITCH TO OFF.

WARNING : DO NOT GET CLEANING AGENTS ON YOUR SKIN, IN YOUR EYES OR NEAR A FLAME. DO NOT BREATHE THE FUMES. USE ONLY CLEANING AGENTS IN AN AREA WITH A GOOD FLOW OF AIR. OBEY LOCAL SAFETY AND HEALTH INSTRUCTION. CLEANING AGENTS ARE POISONOUS AND FLAMMABLE.

CAUTION : USE ONLY SPECIFIED CLEANING MATERIALS AND SOLUTIONS, OR THEIR EQUIVALENTS. THE SURFACE PROTECTION COULD BE DAMAGED IF UNSPECIFIED MATERIALS ARE USED.

NOTE : The cleaning agents used are listed in the LIST OF MATERIALS section.

NOTE : All items number between parenthesis ( ) are the item numbers used in the Illustrated Part List (IPL).

(1) After removal or repair, clean all parts of the unit as specified in the subsequent paragraphs.

(2) If necessary, remove and discard all seals.

(3) If you do not examine the cleaned parts immediately, apply a layer of an anti-corrosion material for the protection of the parts from damage and corrosion.

B. Reason for the job

(1) This section gives the procedure for cleaning the unit externally and internally. Do all the work with clean workbench, tools and parts. After cleaning, put all items in sealed containers to prevent contamination by dust or unwanted materials.

C. Job Set-Up Information

(1) Tools, fixtures and equipment

(a) The table below gives the tools, fixtures and equipment to do the maintenance of the take-off and taxi light.

NOTE : Equivalent alternatives can be used for the listed items.

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NOTE : Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLE MATERIALS (Refer to TASK 33-46-12-940-801-A01) for more instruction.

P/N	QTY	NAME	SOURCE
No specific	1	Dry compressed air supply source	Local supply
No specific	As required	Cloth (lint-free)	Local supply
No specific	As required	Emery cloth (Natural bristle)	Local supply

(2) Consumables

(a) The table below gives the consumables to do the maintenance of the take-off and taxi light.

NOTE : Equivalent alternatives can be used for the listed items.

NOTE : Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLE MATERIALS (Refer to TASK 33-46-12-940-801-A01) for more instruction.

P/N	NAME	SOURCE
No specific	Solvent 60 SK FP	Local supply
No specific	White spirit	Local supply
No specific	Vinyl bag	Local supply

D. Procedure

SUBTASK 33-46-12-140-001-A01

(1) External cleaning

(a) Clean all external surfaces of the equipment (except for electrical parts) using a cloth (lint-free) lightly moist with Solvent 60 SK FP.

(b) Clean the instruction label (1-220), the wiring diagram plate (1-230) and the name plate (1-240) using a clean low-pressure air jet (dry compressed air supply source) or a clean and soft lint-free cloth.

(c) Loosen dust and unwanted material from the electrical parts (connector pins) by using a clean low-pressure air jet (dry compressed air supply source) or a clean and soft lint-free cloth.

(d) Remove all bonding agent material from the lamp housing (1-210) if the gasket (1-40) has to be replaced.

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SUBTASK 33-46-12-140-002-A01

(2) Internal cleaning

(a) Clean the autotransformers (1-70) and (1-150) and the electrical receptacle connector (1-50) with low-pressure air jet only (dry compressed air supply source).

(b) Clean all the threads in which screws were locked using a cloth (lint-free) lightly moist with Solvent 60 SK FP and dry them with a low-pressure air jet (dry compressed air supply source).

(c) Clean all the lamp terminals fully and remove the corrosion from the terminal lugs with emery cloth.

(d) To clean the attaching parts, put them into a White spirit solution and dry them with a low-pressure air jet (dry compressed air supply source).

(e) Put the cleaned parts in a vinyl bag to keep them away from unwanted particles. Keep the parts in a clean area until they are used.

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CHECK

TASK 33-46-12-200-801-A01

1. TAKE-OFF AND TAXI LIGHT - CHECK

A. General

CAUTION : THE VISUAL CHECK OF THE COMPONENTS MUST BE DONE BEFORE YOU ASSEMBLE THE UNIT.

NOTE : All items number between parenthesis ( ) are the item numbers used in the Illustrated Part List (IPL).

(1) The Check procedure applies also to new components.

B. Reason for the job

(1) The visual check that follows is to determine if there is presence of visible damage or corrosion. It will not determine the functionality of the take-off and taxi light. To make sure that the take-off and taxi light operates correctly, do the tests of Page Block “TESTING AND FAULT ISOLATION“ (Refer to TESTING AND FAULT ISOLATION).

C. Job set-up Information

Not applicable.

D. Procedure

SUBTASK 33-46-12-220-001-A01

(1) Visual inspection

CAUTION : REPLACE SYSTEMATICALLY ALL DEFECTIVE PARTS.

(a) Examine the aspect and the protection of all the parts. Do a check on the good condition of the anticorrosion protection layers:

- Aluminum alloy: black sulfuric acid anodizing
- Steel: nickel plating
- Hardware: dichromated cadmium plating.

(b) For cadmium dichromated plating, do a check to make sure that the layer is constant, fine grained and does not show cracking.

(c) Examine the general condition of the assembled parts, to find the possible causes of all damage other than usual wear.

(d) Examine the condition of the threads and tapped holes.

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(e) Examine the condition of the lamp housing (1-210).

(f) Examine the condition of the clamp (1-10).

(g) Examine the condition of the incandescent lamp (1-30).

(h) Examine the condition of the autotransformers (1-70) and (1-150).

(i) Examine the condition of the receptacle connector (1-50).

(j) Examine the condition of the gasket (1-40).

SUBTASK 33-46-12-220-002-A01

(2) Inspection of the electrical components

(a) Make sure that the incandescent lamp glass or the deflector glass has no scratches.

(b) Do a check on autotransformer (1-70) as follows:

1 Do the test set-up as shown in figure 1001. (Refer to Fig. 1001)

2 Supply the autotransformer with 115 VAC / 400 Hz.

3 DELETED.

4 Make sure that the ammeter reading is ≤ 6,5 A.

5 Make sure that the autotransformer not becomes too hot during operation.

(c) Do a check on autotransformer (1-150) as follows:

1 Do the test set-up as shown in figure 1001. (Refer to Fig. 1001)

2 Supply the autotransformer with 115 VAC / 400 Hz.

3 DELETED.

4 Make sure that the ammeter reading is ≤ 4,6 A.

5 Make sure that the autotransformer does not become too hot during operation.

SUBTASK 33-46-12-220-003-A01

(3) Dimensional check (if necessary)

(a) Do a check of all parts for correct dimensions (Refer to Fig. 3).

(b) Do a check of the diameter of three holes for lamp housing attachment to aircraft with an internal cylindrical gauge 6,35 mm H7 (0.25 in.).

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REPAIR

TASK 33-46-12-300-801-A01

1. TAKE-OFF AND TAXI LIGHT - REPAIR

A. General

WARNING : MAKE SURE THAT YOU OBEY ALL THE HEALTH AND SAFETY PRECAUTIONS OF THE MANUFACTURER'S FOR MATERIALS.

NOTE : All items number between parenthesis ( ) are the items numbers used in the Illustrated Part List (IPL).

(1) Discard all defective parts for which no repair directions are given and replace them by new parts.

B. Reason for the Job

(1) Use this procedure for the protection of the bonding areas or to repair the anodic coating of aluminum alloy components where the surface protection is damaged or removed.

(2) This section gives the full description of the procedures for the repair and overhaul of worn or damaged parts.

C. Job Set-Up Information

(1) Tools, fixtures and equipment

(a) The table below gives the tools, fixtures and equipment to do the maintenance of the take-off and taxi light.

NOTE : Equivalent alternatives can be used for the listed items.

NOTE : Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLE MATERIALS (Refer to TASK 33-46-12-940-801-A01) for more instruction.

P/N	QTY	NAME	SOURCE
No specific	1	Crimping tool	Local supply

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(2) Consumables

(a) The table below gives the consumables to do the maintenance of the take-off and taxi light.

NOTE : Equivalent alternatives can be used for the listed items.

NOTE : Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLE MATERIALS (Refer to TASK 33-46-12-940-801-A01) for more instruction.

P/N	NAME	SOURCE
No specific	Transparent protection layer	Local supply

D. Procedure

CAUTION : DISCONNECT THE EQUIPMENT FROM POWER SUPPLIES OR TEST EQUIPMENT.

SUBTASK 33-46-12-380-001-A01

(1) Replacement of the terminal lugs

(a) Removal of the terminal lug

1 Cut the wire at the back of the faulty terminal lug.

(b) Installation of the terminal lug

1 Remove the insulation from the end of the electrical wire over 5 mm (0.197 in).

2 Install the insulation sleeves (Refer to Fig. 2002).

3 Crimp the new terminal lug on the electrical wire with crimping tool.

SUBTASK 33-46-12-380-002-A01

(2) Replacement of the pins

(a) Removal of the pins

1 Cut the wire at the back of the faulty pin.

(b) Installation of the terminal lug

1 Remove the insulation from the end of the electrical wire over 5 mm (0.197 in).

2 Crimp the new pin on the electrical wire with crimping tool.

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SUBTASK 33-46-12-380-003-A01

(2) Replacement of the plates and the label

(a) Removal of the plates and the label

CAUTION : BEFORE REMOVAL OF THE PLATES AND THE LABEL, MOVE THE APPLICABLE DATA FROM THE REMOVED PLATE TO THE REPLACEMENT PLATE.

1 Remove the instruction label (1-220), wiring diagram plate (1-230) or name plate (1-240).

2 Remove all traces of adhesive that stay on the lamp housing (1-210).

3 Clean the applicable area.

(b) Installation of the plates and the label

1 Install the self-adhesive instruction label (1-220), wiring diagram plate (1-230) or name plate (1-240).

2 Install a transparent protection layer on the name plate (1-240).

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ASSEMBLY

TASK 33-46-12-400-801-A01

1. TAKE-OFF AND TAXI LIGHT – ASSEMBLY

A. General

CAUTION : DO THE ASSEMBLY ON A CLEAN WORKBENCH IN A ROOM FREE FROM DUST AND MOISTURE. PARTS MUST BE PROTECTED FROM IMPACT DAMAGE.

CAUTION : MAKE SURE THAT ALL THE COMPONENTS ARE CLEAN BEFORE ASSEMBLY.

NOTE : All items number between parenthesis ( ) are the same item numbers as used in the Illustrated Part List (IPL).

(1) Examine the parts to make sure they are serviceable and have the correct part number. Make sure the parts are clean and there is no preservation material remaining.

(2) Before starting the assembly procedures, refer to “CLEANING” (Refer to CLEANING) and “CHECK” (Refer to INSPECTION/CHECK).

B. Reason for the job

(1) This section gives the procedures for the full assembly of the take-off and taxi light.

C. Job Set-Up Information

(1) Tools, fixtures and equipment

(a) The table below gives the tools, fixtures and equipment to do the maintenance of the take-off and taxi light.

NOTE : Equivalent alternatives can be used for the listed items.

NOTE : Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLE MATERIALS (Refer to TASK 33-46-12-940-801-A01) for more instruction.

P/N	QTY	NAME	SOURCE
No specific	1	Mechanic standard tool kit	Local supply
No specific	1	Dry compressed air supply source	Local supply
No specific	1	Cloth (lint-free)	Local supply
641-309964	1	Torquing nut	F0280

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P/N	QTY	NAME	SOURCE
642-309964	1	Wrench	F0280
640-429811	1	Tightening tool	F0280

(2) Consumables

(a) The table below gives the consumables used to do the maintenance of the take-off and taxi light.

NOTE : Equivalent alternatives can be used for the listed items.

NOTE : Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLE MATERIALS (Refer to TASK 33-46-12-940-801-A01) for more instruction.

CODE	P/N	NAME	SOURCE
3084082	LOCTITE 222	Thread locking compound	F7121
3124961	RHODORSIL CAF4	Sealing compound	F0107
3069391	BLUESIL 340	Sealing compound	F0107

D. Procedure

SUBTASK 33-46-12-440-001-A01

(1) Assembly of the lamp housing (1-210)

(a) If necessary, install the instruction label (1-220), the wiring diagram plate (1-230) or the name plate (1-240). .

SUBTASK 33-46-12-420-001-A01

(2) Installation of the receptacle connector (1-50) in lamp housing (1-210)

(a) Install the receptacle connector (1-50) in its location at the bottom of the lamp housing (1-210).

(b) Install the washer (1-60).

(c) Make sure that the receptacle connector (1-50) is correctly installed in its recess.

(d) Apply a layer of LOCTITE 222 thread locking compound on the threads of the nut of receptacle connector (1-50).

(e) Install the nut of receptacle connector (1-50) and tighten it.

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SUBTASK 33-46-12-440-002-A01

(3) Assembly of the autotransformers (1-70) and (1-150)

(Refer to IPL FIG. 01)

(a) If necessary, remove the self-locking nut (1-110) and the spring washer (1-120) of autotransformer (1-70).

(b) If necessary, install the insulation bushing (1-140) on the screw (1-100).

(c) If necessary, install the screw (1-100).

(d) Install the terminal lug of the yellow wire on the screw (1-100) (Refer to Fig. 2002).

(e) Install the terminal lug (yellow wire) of the autotransformer (1-70) on the screw (1-100) (Refer to Fig. 2002).

(f) Install the spring washer (1-120).

(g) Install the self-locking nut (1-110).

(h) Tighten the self-locking nut (1-110) and torque to 2 N.m (17.85 lbf.in).

(i) If necessary, remove the self-locking nut (1-170) and the spring washer (1-180) of autotransformer (1-150).

(j) If necessary, install the insulator bushing (1-200) on the screw (1-160).

(k) If necessary, install the screw (1-160).

(l) Install the terminal lug of the green wire on the screw (1-160) (Refer to Fig. 2002).

(m) Install the terminal lug (green wire) of autotransformer (1-150) on the screw (1-160) (Refer to Fig. 2002).

(n) Install the spring washer (1-180).

(o) Install the self locking nut (1-170).

(p) Tighten the self-locking nut (1-170) and torque to 2 N.m (17.85 lbf.in).

(q) If necessary, apply a layer of BLUESIL 340 sealing compound on the bottom of the autotransformer (1-150) internally.

(r) If necessary, apply a layer of BLUESIL 340 sealing compound on the bottom of the autotransformer (1-70) externally.

(s) If necessary, align the holes with spotfacing of autotransformers (1-70) and (1-150) and assemble this.

(t) Install the autotransformers (1-70) and (1-150) in the lamp housing (1-210).

(u) Install the lug of white wire on the hole with a spotfacing (Refer to Fig. 2002).

(v) Install the three washers (1-90) and the three screws (1-80).

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(w) Tighten the screws (1-80) and torque to 2 N.m (17.85 lbf.in) with the torquing nut 641-309964 and the wrench 642-309964.

SUBTASK 33-46-12-420-002-A01

(4) Installation of the lamp (1-30)

(a) Clean the terminals of the incandescent lamp (1-30) fully and remove the corrosion from the terminals with emery cloth.

(b) Apply a layer of RHODORSIL CAF4 sealing compound to the applicable surfaces to bond a new gasket (1-40) to the lamp housing (1-210).

(c) Put the gasket (1-40) in correct position in the lamp housing (1-210) (Refer to Fig. 7001).

(d) If necessary, replace the lugs of the electrical wires and the autotransformers (Refer to SUBTASK 33-46-12-380-001-A01).

(e) Attach the five lugs (black, red and white electrical wires with black sleeves and blue electrical wire with white sleeve and white electrical wire with yellow sleeve) to the terminals on incandescent lamp (1-30) (Refer to Fig. 2002).

(f) If necessary, replace the pins of the electrical wires (Refer to SUBTASK 33-46-12-380-002-A01).

(g) Refer to the wiring diagram to use the applicable tool to install the electrical pins by the rear of the receptacle connector (Refer to Fig. 2002)

(h) Hold the gasket (1-40) in correct position and install the incandescent lamp (1-30) in the lamp housing (1-210).

(i) Install the clamp (1-10) that have the screw (1-20), on the lamp housing (1-210) to secure sealed beam.

NOTE : If the clamp (1-10) is twisted, replace it with a new one.

(j) Tighten the screw (1-20) with a tightening tool 640-429811.

NOTE : The end of the screw (1-20) must be 1 mm above the clamp (1-10).

NOTE : Do this procedure immediately after you bond the gasket (1-40) to install it correctly.

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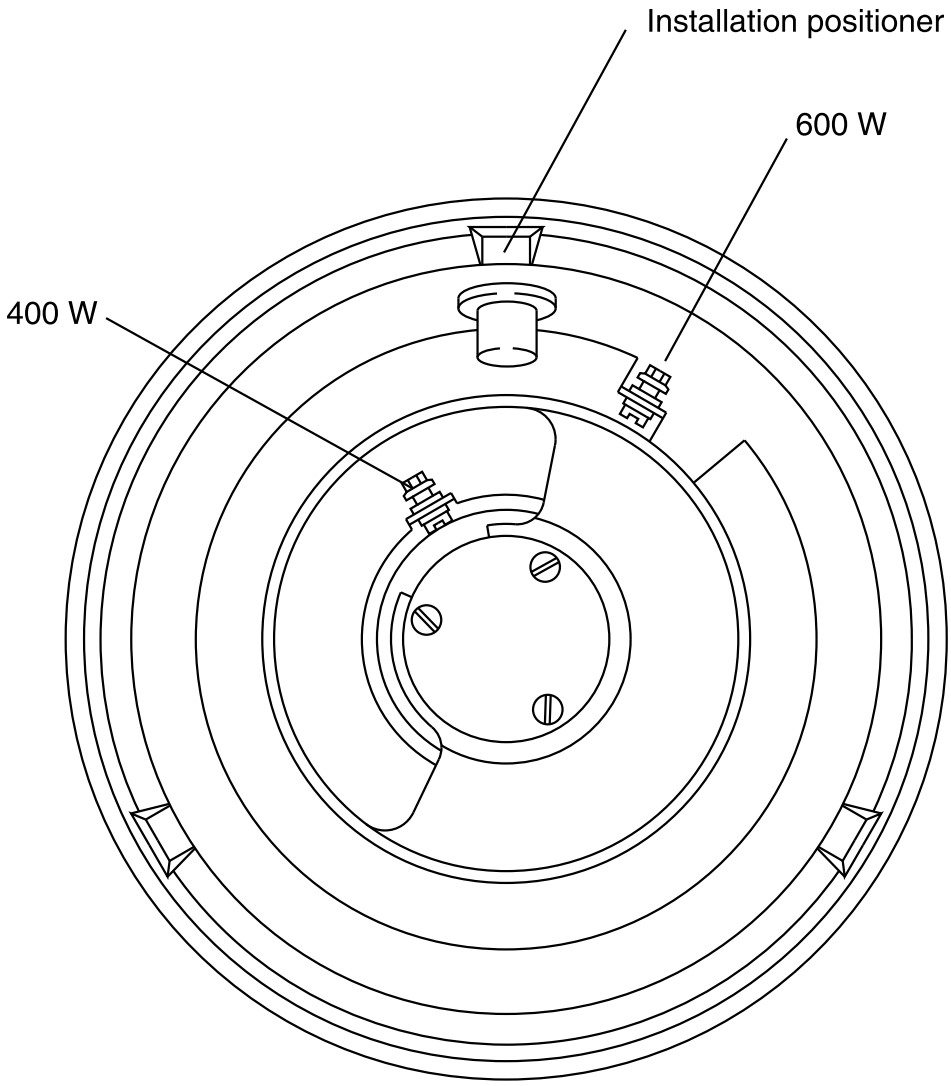

33-46-12-991-701-A01

Installation of the gasket on the lamp housing
Figure 7001/GRAPHIC-33-46-12-991-701-A01

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FITS AND CLEARANCES

TASK 33-46-12-940-801-A01

1. TAKE-OFF AND TAXI LIGHT – FITS AND CLEARANCES

A. Torque Values

(1) This section gives the fits, clearances and torque values that are mandatory for unit assembly.

NOTE : All items number between parenthesis ( ) are the item numbers used in the Illustrated Part List (IPL).

(2) The table below gives the torque values necessary to assemble the components.

IPL FIG.No. AND ITEM	NOMENCLATURE	TORQUE	
1-80	SCREW	2 Nm	17.85 lbf.in
1-110	SELF-LOCKING NUT	2 Nm	17.85 lbf.in
1-170	SELF-LOCKING NUT	2 Nm	17.85 lbf.in

Table 8001 / TORQUE VALUES

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SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLE MATERIALS

TASK 33-46-12-940-801-A01

1. TAKE-OFF AND TAXI LIGHT – SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLE MATERIALS

SUBTASK 33-46-12-940-001-A01

A. Special Tools

(1) The table below gives the special tools used to do the maintenance of the take-off and taxi light.

NOTE : Equivalent alternatives can be used for the listed items.

P/N	DESIGNATION	SUPPLIERS CODE OR NAME AND ADDRESS	PAGE BLOCK WHERE USED
No specific	**Mechanic standard tool kit**	**Local supply**	**7001**
No specific	Dry compressed air supply source	Local supply	4001 / 7001
No specific	Crimping tool	Local supply	6001
No specific	Cloth (lint-free)	Local supply	4001 / 7001
No specific	Emery cloth	Local supply	4001
640-429811	Tightening tool	F0280	7001
641-309964	Torquing nut	F0280	7001
642-309964	Wrench	F0280	7001

SUBTASK 33-46-12-940-002-A01

B. Special Fixtures

Not applicable.

SUBTASK 33-46-12-940-003-A01

C. Special Equipment

(1) The table below gives the special equipment used to do the maintenance of the take-off and taxi light.

DESCRIPTION	RANGE	ACCURACY
Power supply	115 V/400 Hz	-
Voltmeter	150 VAC	-
Ammeter	5 A	-

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DESCRIPTION	RANGE	ACCURACY
Dielectric strength meter	-	-
Megohmmeter	-	-
Milliohmmeter	-	-

SUBTASK 33-46-12-940-004-A01

D. Consumables

(1) The table below gives the consumables used to do the maintenance of the take-off and taxi light.

NOTE : Equivalent alternatives can be used for the listed items.

CODE	MATERIAL P/N	DESIGNATION AND SPECIFICATION	SUPPLIER'S CODE OR NAME AND ADDRESS	PAGE BLOCK WHERE USED
-	No specific	Solvent 60 SK FP	Local supply	4001
-	No specific	White spirit	Local supply	4001
-	No specific	Vinyl bag	Local supply	4001
-	No specific	Cement (for plates)	Local supply	6001
3084082	LOCTITE 222	Thread locking compound	F7121	7001
3124961	RHODORSIL CAF4	Sealing compound	F0107	7001
-	No specific	Polythene bag	Local supply	15001
-	No specific	Cardboard box	Local supply	15001
-	No specific	Cardboard or polystyrene	Local supply	15001
-	No specific	Adhesive tape	Local supply	15001
3069391	BLUESIL 340	Sealing compound	F0107	7001
-	No specific	Desiccant	Local supply	15001
-	No specific	Transparent protection product	Local supply	15001

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STORAGE AND TRANSPORTATION

TASK 33-46-12-550-801-A01

1. TAKE-OFF AND TAXI LIGHT – STORAGE INSTRUCTIONS

A. General

(1) Reason for the job

(a) Storage Instructions give the procedures to use after assembly or testing, including any special requirements applicable to the component.

B. Job Set-Up Information

(1) Consumables

(a) The table below gives the consumables to do the maintenance of the component.

NOTE : Equivalent alternatives can be used for the listed items.

NOTE : Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLE MATERIALS (Refer to TASK 33-46-12-940-801-A01) for more instruction.

P/N	NAME	SOURCE
No specific	Polyethylene bag	Local supply
No specific	Cardboard box	Local supply
No specific	Cardboard or polystyrene	Local supply
No specific	Adhesive tape	Local supply
No specific	Desiccant	Local supply
No specific	Transparent protection product	Local supply

C. Job Set-up

Not applicable.

D. Procedure

SUBTASK 33-46-12-620-001-A01

(1) Preservation

(a) At the end of the test, put the unit in a polyethylene bag of 0,2 mm (0.008 in) minimum thickness. The bag must be large enough to seal correctly.

(b) Remove as much air as possible from the bag and then use heat to seal it.

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(c) A bonded label identifies each container by:

- The manufacturer's part number
- The serial number
- The quantity
- The amendments (as applicable)
- The manufacturer's name
- The date of storage.

SUBTASK 33-46-12-630-001-A01

(2) Packing

(a) Put the component in its initial container. Use the initial material for the protection of the component. Use bags of desiccant as necessary.

(b) If the initial container is not available:

1 Refer to DESCRIPTION AND OPERATION for the weight of the component.

2 Use a different container. Use only approved materials for the protection of the component.

3 Put the unit in a cardboard box with its related documents (check sheet, log. card).

4 Safety the unit and the document in the box (cardboard - polystyrene).

5 Close the packing box and make the seals stronger with adhesive tape.

6 Identify the packing with labels and use a transparent material for the protection. Make sure that:

a The identification label has all the related data of the component.

b You can read the labels easily.

SUBTASK 33-46-12-640-001-A01

(3) Storage

CAUTION : MAKE SURE THAT THERE IS NOT TOO MUCH WEIGHT ON THE CONTAINER, IF YOU PUT THEM ON THE OTHERS. TOO MUCH WEIGHT ON THE CONTAINER CAN CAUSE DAMAGE TO THE COMPONENT.

CAUTION : DO NOT KEEP THE CONTAINER NEAR FLUIDS THAT CAN CAUSE CORROSION OR DAMAGE, AND DO NOT KEEP NEAR SOURCES THAT MAKE HEAT OR OZONE.

(a) Keep the container in a clean, dry room with a good supply of air.

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(b) Keep the temperature of the room between 0 degree C and + 55 degree C (32 degree F to + 131 degree F). The recommended temperature is at or near 15 degree C (59 degree F).

(c) Keep the relative humidity at between 25 and 65 %.

(d) Put the containers where you can clearly read the identification label.

(e) Unstore the take-off and taxi light and do the check procedure for condition and the test procedure for correct operation after 120 months of storage and before to do the storage again. (Refer to TASK 33-46-12-100-801-A01) and (Refer to TASK 33-46-12-700-801-A01)

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ILLUSTRATED PARTS LIST

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INTRODUCTION TO THE ILLUSTRATED PARTS LIST

TASK 33-46-12-990-802-A01

1. Introduction

A. General

(1) The purpose of this Illustrated Parts List is the identification of equipment assemblies, sub-assemblies, and parts.

(2) It is set up in conformance with the rules set forth in ATA 2200, revision 2000-1.

(3) From time to time, the illustrated nomenclature is revised so as to incorporate recent additions, cancellations and modifications in equipment. Revisions are indicated by an "R" on the right of each revised line, and apply solely to the date of revision.

B. Use of the IPL

(1) Publication format

(a) The IPL is arranged in the following sequence:

– Introduction, including the Vendor Code Index (VCI)
– Equipment Designator Index (EDI)
– Numerical Index (NI)
– Detailed Parts List (DPL).

(b) Equipment designator index

This index contains the relevant reference and diagrams for each circuit symbol, as well as the corresponding marker.

The equipment designator index is alphanumerical, and is arranged in the following sequence:

– Dash
– Letters from A through Z
– Numerals from 0 through 9.

(c) Numerical index

This index contains all Part Numbers (PN) ever included in the Detailed Parts. The part number is followed by the applicable figure and item number / variant references.

The numerical index is alphanumerical, and is arranged in the following sequence:

– Dash
– Letters from A through Z
– Numerals from 0 through 9.

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(d) Vendor Code index

The vendor code index is alphanumerically arranged according to the manufacturer's code. This list includes the names and addresses of all manufacturers cited in the detailed nomenclature.

(2) Identification of a component part

There are several different procedures to identify a component part.

(a) To find a part with a known Part Number (PN).

1 Refer to the Numerical Index and find the PN.

2 The numerical index contains the following information about the reference:

- the reference of the part specific to the airline (column left blank),
- the illustrated catalogue sequence number (CSN). Application: 2-150A (2 = Figure number, 150A = sequence number).
- the quantity per CSN.

3 Refer to the figure in the parts list.

4 Find the item number on the illustration.

(b) To find a PN with a known Equipment Designator Index.

This index specifies the item reference and the CSN relevant to a given symbol.

1 A circuit symbol is made up of:

- 1 or 2 letters specifying the nature of the component part (letter symbol)
- 1 or 2 numerals stating the sequence code of the component part in the relevant subassembly
- Or possibly with a position suffix, containing 2 or 4 numerals, and defining the subassembly in which the component part is mounted. This suffix is chosen at random.

Application: R10 - 6:

R = Letter Symbol

10 = Order No.

6 = Position suffix.

2 List of position suffixes versus the subassembly designation.

FIGURE	DESIGNATION	SUFFIX
1	Refuel panel multi tank indicator (MTI), assembly	10
2	Circuit card display	20
3	Circuit card assembly, CPU	32

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3 List of sub-assemblies versus the position suffix number.

SUFFIX	DESIGNATION	FIGURE
10	Refuel panel multi tank indicator (MTI), assembly	1
20	Circuit card display	2
30	Circuit card assembly, CPU	3

(c) To find a PN through the illustrated nomenclature:

1 Find the illustration that shows the breakdown of the assembly.

2 Find the part and make a note of the item number.

3 Look in the parts list related to the illustration for the item number. This will also gives you the P/N and the description.

C. Use of the Detailed Parts List

(1) The detailed parts list includes the nomenclature and illustrations of the unit components.

– 1st column: Figure and Item/Item variant number
– 2nd column: Part Number
– 3rd column: Airline Part Number
– 4th column: Indentation
– 5th column: Nomenclature
– 6th column: Units per Assembly.

(2) Figure and Item Numbers

(a) An item number is given to each part-numbered assembly, subassembly or item in the parts list.

(b) The figure number, which includes the items in the list, is given on the first line at the top of each page.

(c) The highest assemblies for each figure must be listed first. If there is more than one part number for an assembly, use alpha variant item numbers e.g. 1A, 1B, 10A, 10B etc. In the usage code column of the assembly parts, the letters are used to link parts to the correct assembly. Use alpha variant item numbers for:

– Parts introduced by modification, product improvement, change of material etc.
– Similar parts with different usage code
– Optional parts, unless an alpha variant is listed for another reason. In this case, optional part numbers must be given in the Nomenclature column.

(d) Assemblies, sub-assemblies and parts in the list which are not illustrated are identified with a dash (-) before the item number.

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(3) Manufacturer's Part Number

A manufacturer's part number is given to each assembly, subassembly and detail parts (illustrated or not).

(4) Nomenclature

(a) The nomenclature is indented to show the item relationship as follows:

```
1  2  3  4  5  6  7
Assembly
.  Detail parts of assembly
.  Subassembly
   Attaching parts and/or storage parts for subassembly
   *  *  *
.  .  Detail parts for subassembly
      Sub-subassembly
      Attaching parts and/or storage parts for sub-subassembly
   *  *  *
.  .  .  Detail parts for sub-subassembly
   etc...
```

(b) A vendor code is given for all items or articles not made by the prime manufacturer of the assembly.

(c) This vendor code or the abbreviation NP (Non Procurable) is written at the far right-hand side in the first line of the nomenclature.

(5) Effectivity Code

In a figure, the part number identified by an effectivity code shows that the coded part must be used with other parts identified with the same alpha designation. Also, coded parts can be used with all other non-coded parts (no alpha designation).

The effectivity code must begin with A and continue with B, C, ... Z. If required, the succession will follow BA, CA, DA ... ZA, CB, DB, EB, ... DC, EC, FC, etc. The succession will always begin with the subsequent alpha set which follows the last set by one alpha.

(6) Units Per Assembly

The units per assembly column shows the number of necessary units for the subsequent higher assembly. In some cases, the letters "RF" (Reference) or "AR" (As Required) replace this information.

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(7) Abbreviations

- AR = As required
- DET = Detail
- LH and RH = Left and right
- NHA = Next higher assembly
- NP = Non procurable
- OLD PN = Old part number
- ORDER OVERLGTH MPN = Actual part number is more than 15 characters
- OVERSIZE = Oversize repair parts
- R = Modified
- RF = For reference
- SEL FROM = Select from parts
- POST SB = Post Service Bulletin,
- POST SL = Post Service Letter,
- SUPSD BY = Superseded by
- SUPSDS = Supersedes
- UNDERSIZE = Undersize repair parts

(a) The following letters are used in the standard index:

T	tera = 10exp(12)
G	giga = 10exp(9)
M	mega = 10exp(6)
K	kilo = 10exp(3)
U	one = 1
MY	milli = 10exp(-3)
MU	micro = 10exp(-6)
N	nano = 10exp(-9)
P	pico = 10exp(-12)

(b) The following letters are used in the standard index to indicate tolerances on electronic components.

B	0.1%
C	0.25%
D	0.50%
F	1%
G	2%
J	5%
K	10%

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(8) Updating

When an item is revised, added or deleted, the letter "R" is written in the left margin (the page date of issue changes).

The letter "R" is written in the left margin opposite the page number when all the item numbers are changed.

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VENDORS

VENDOR CODE	NAME ADDRESS
08806	GENERAL ELECTRIC CO MINIATURE LAMP PRODUCTS DEPT LIGHTING BUSINESS GROUP NELA PK CLEVELAND OH 44112 USA
72962	HARVARD INDUSTRIES INC 2502 N ROCKY POINT DR SUITE960 TAMPA FL 33607 USA
96906	MILITARY STANDARDS PROMULGATED BY MILITARY DEPARTMENTS UNDER AUTHORITY OF DEFENSE STANDARDIZATION MANUAL 4120 3-M WASHINGTON DC USA
F0110	AFNOR (ASSOCIATION FRANCAISE DE NORMALISATION) 11 AV FRANCIS DE PRESSENSE 93571 LA PLAINE ST DENIS CEDEX FRANCE
F0225	FCI FRANCE 145 RUE YVES LE COZ 78035 VERSAILLES FRANCE
F0280	TELEFLEX SYNERAVIA ZONE SILIC 26 RUE DES SOLETS BP 449 94152 RUNGIS CEDEX FRANCE
F0349	NOMEL SA FORET DU CHATEAU 61550 LA FERTE FRENEL FRANCE
F1983	C.E.D. CONNECTEURS ELECTRIQUES DEUTSCH GROUPE COMPAGNIE DEUTSCH 17 RUE LAVOISIER ZI N 2 BP 117 27091 EVREUX CEDEX 9 FRANCE

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ALPHA NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE NUMBER	ITEM NUMBER	TOTAL REQUIRED
4078585		01	10A	1
4085109		01	40A	1
4085116		01	20A	1
4202893		01	140A	1
			200A	1
4202908		01	130A	1
			190A	1
4209939		01	70A	1
4209946		01	150A	1
4218589		01	230A	1
4226531		01	220A	1
4247644		01	210A	1
4298117		01	- 1A	RF
4302522		01	240A	1
4318278		01	60A	1
4557		01	30A	1
500402-24		01	120A	1
			180A	1
8525-17N10B6PNH		01	50A	1
F52LH3324-82		01	110A	1
			170A	1
JFAG040UL		01	90A	3
LHQ1AG040010TL		01	80A	3
MS35275-245		01	100A	1
			160A	1

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DETAILED PARTS LIST

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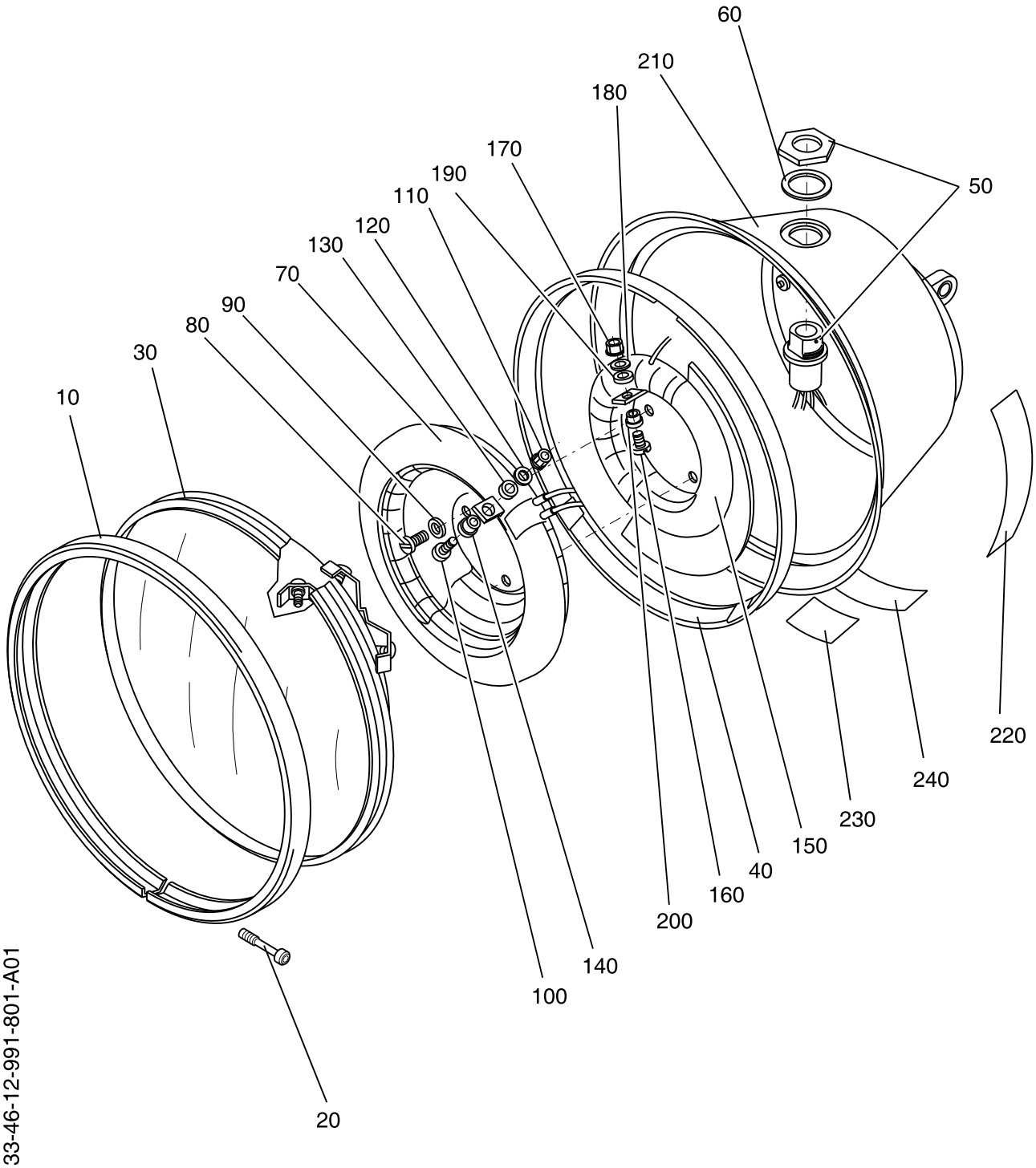

LIGHT,TAKE OFF AND TAXI
SHEET 1 OF 1
Figure 01/GRAPHIC-33-46-12-991-801-A01

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FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
01						
- 1A	4298117		LIGHT,TAKE OFF AND TAXI			RF
10A	4078585		. CLAMP,ASSY			1
			ATTACHING PARTS			
20A	4085116		. SCREW,CAPTIVE			1
			* * *			
30A	4557		. LAMP,INCANDESCENT	08806		1
40A	4085109		. GASKET			1
50A	8525-17N10B6PNH		. CONNECTOR,RECEPTA- CLE,ELECTRICAL 6 PIN CONTACTS	F0225		1
			OPT TO 9FDBA54-10-6PNKA499 (F1983)			
60A	4318278		. WASHER			1
70A	4209939		. AUTOTRANSFORMER,ASSY			1
			ATTACHING PARTS			
80A	LHQ1AG040010TL		. SCREW C M4X10 XC38 CDPL BCRPL	F0110		3
90A	JFAG040UL		. WASHER, FLAT M	F0110		3
			* * *			
100A	MS35275-245		.. SCREW DIA8-32 UNC2A CORROSION-RESIS. STEE	96906		1
110A	F52LH3324-82		.. NUT,SELF-LOCKING,HEXAGON DIA.1640-32UNJC-3B STEEL CDPL	72962		1
120A	500402-24		.. WASHER,SPRING TENSION ONDUFLEX A DIA4 XC60 CDPL BCRPL	F0349		1
130A	4202908		.. WASHER, INSULATOR			1
140A	4202893		.. BUSHING, INSULATOR			1
150A	4209946		. AUTOTRANSFORMER,ASSY			1
160A	MS35275-245		.. SCREW DIA8-32 UNC2A CORROSION-RESIS. STEE	96906		1
170A	F52LH3324-82		.. NUT,SELF-LOCKING,HEXAGON DIA.1640-32UNJC-3B STEEL CDPL	72962		1
180A	500402-24		.. WASHER,SPRING TENSION ONDUFLEX A DIA4 XC60 CDPL BCRPL	F0349		1
190A	4202908		.. WASHER, INSULATOR			1
200A	4202893		.. BUSHING, INSULATOR			1
210A	4247644		. HOUSING LAMP ASSY			1
220A	4226531		. LABEL,INSTRUCTION			1
230A	4218589		. PLATE,WIRING DIAGRAM			1
240A	4302522		. PLATE,NAME,ENGRAVED			1

- ITEM NOT ILLUSTRATED

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