TECHNICAL PUBLICATION DEPARTMENT
61, RUE PIERRE CURIE - CS20001
78373 PLAISIR CEDEX - FRANCE
Phone: + 33 (0)1 61 34 23 23 - Fax: +33 (0)1 61 34 21 13

TRANSMITTAL LETTER

The Revision N°17, dated NOV 24/11 of the Component Maintenance Manual (CMM) 33-42-12, 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 this “TRANSMITTAL LETTER” separately.

2. ASSISTANCE INFORMATION

Questions or comments concerning this publication can be addressed to:

SAFRAN AEROSYSTEMS SERVICES
TECHNICAL PUBLICATION DEPARTMENT
61 rue Pierre CURIE
CS20001
FRANCE
Web Site: www.safran-aerosystems.com

3. REASON FOR ISSUE

See preliminary page: Highlights.

THIS PAGE INTENTIONALLY LEFT BLANK

HIGHLIGHTS

REVISION 17 - NOV 24/21

Pages which have been added, revised or deleted are outlined below together with the Highlights of the revision.

LOCATIONS	DESIGNATION	DESCRIPTION OF CHANGE
ASSEMBLY		
TASK 33-42-12-400-801-A01		Loctite 222 added.
TASK 33-42-12-400-801-A01		Modification of use for Loctite 243, Loctite 603 and RTV 734.
SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES		
TASK 33-42-12-940-802-A01		Loctite 222 added.
ILLUSTRATED PARTS LIST		
TASK 33-42-12-950-801-A01		Vendor Code Index updated.
TASK 33-42-12-950-801-A01		Usage codes for lamps updated.
TASK 33-42-12-950-801-A01		Correction of minor errors.

THIS PAGE INTENTIONALLY LEFT BLANK

SAFRAN ELECTRONICS & DEFENSE COCKPIT SOLUTIONS

7 Rue des Longs Quartiers
CS50029
93108 MONTREUIL CEDEX - France
Phone: + 33 1 55 82 50 00
Fax: + 33 1 55 82 50 10

(F0280/F0214)

COMPONENT MAINTENANCE MANUAL

with

ILLUSTRATED PARTS LIST

RETRACTABLE LANDING LIGHT

PART NUMBERS

4191695
4315542
4331772
117PE01Y00

RECORD OF REVISIONS

REV No	ISSUE DATE	INSERTED		REV No	ISSUE DATE	INSERTED	
		DATE	BY			DATE	BY
1	SEP 30/84	SEP 30/84	ZSE				
2	DEC 31/85	DEC 31/85	ZSE				
3	JAN 15/87	JAN 15/87	ZSE				
4	MAR 15/92	MAR 15/92	ZSE				
5	DEC 01/94	DEC 01/94	ZSE				
6	APR 15/97	APR 15/97	ZSE				
7	MAY 31/01	MAY 31/01	ZSE				
8	APR 15/03	APR 15/03	ZSE				
9	MAR 01/06	MAR 01/06	ZSE				
10	OCT 27/08	OCT 27/08	ZSE				
11	NOV 09/92	NOV 09/92	ZSE				
12	MAR 04/15	MAR 04/15	ZSE				
13	JAN 19/17	JAN 19/17	ZSE				
14	DEC 03/18	DEC 03/18	ZSE				
15	MAY 12/20	MAY 12/20	SES				
16	SEP 30/20	SEP 30/20	SES				
17	NOV 24/11	NOV 24/11	SAO				

THIS PAGE INTENTIONALLY LEFT BLANK

RECORD OF TEMPORARY REVISIONS

TEMP REV NO.	ISSUE DATE	INSERTED		REMOVED		PAGE No.
		DATE	BY	DATE	BY	

THIS PAGE INTENTIONALLY LEFT BLANK

SERVICE BULLETIN LIST

SB/SIL No.	REV No.	ISSUE DATE	INCORP. DATE	TITLE
SB 33-046		Feb 01/84	Feb 01/84	Replacement of faulty relays
SIL 33-051		Sep 30/84		Housing modification and replacement of cover
SB 33-057		Jul 01/85		Replace elastic stop by a bumper support for P/N 4191695
SIL 33-060		Aug 01/85		Substitution of two capacitors manufactured for P/N 4191695
SB 33-058		Feb 01/86		Modify the light clamp to reduce damage for P/N 4191695
SB 33-091		Nov 01/91		Extension of sensitive switch actuating system for P/N 4191695
SB 33-094		Feb 01/92		Improve reliability of extension sensitive switch for P/N 4191695
SB 33-122		Oct 23/94		Assembly of a new actuating system of switches for P/N 4315542
SB 33-123		Oct 23/94		Assembly of a new actuating system of switches for P/N 4331772
SIL 33-132		May 01/96		Adding of a new supply source of motor for P/N 4191695
SIL 33-133		May 01/96		Adding of a new supply source of motor for P/N 4315542
SIL 33-134		May 01/96		Adding of a new supply source of motor for P/N 4331772
SB 4191695-33-189		Mar 25/00		Improvement of the reliability for P/N 4191695
SB 4315542-33-190		Apr 11/00		Improve the reliability, change mechanical aspect for P/N 4315542
SB 4191695-33-001		Apr 09/02		Improvement of the reliability of the motor for P/N 4191695
SB 4191695-33-002		May 14/02		Auto-transformer color change for P/N 4191695
SB 4315542-33-002		May 08/02		Auto-transformer color change for P/N 4315542
SB 4331772-33-002		May 08/02		Auto-transformer color change for P/N 4331772
SB 4315542-33-001		Jan 25/02		Improvement of the reliability of the motor for P/N 4315542
SB 4191695-33-003		Sep 09/02		Improvement of lubrication for P/N 4191695
SB 4315542-33-003		Sep 09/02		Improvement of lubrication for P/N 4315542
SB 4331772-33-003		Sep 09/02		Improvement of lubrication for P/N 4331772
SB 4331772-33-001		Apr 15/03		Improvement of the reliability of the motor for P/N 4331772

SERVICE BULLETIN LIST (Cont'd)

SB/SIL No.	REV No.	ISSUE DATE	INCORP. DATE	TITLE
SB 4331772-33-191		Feb 16/04		Improvement of the reliability Change mechanical aspect and material for P/N 4331772
SB 4191695-33-004		Nov 30/07		Replacement of the electromagnetic relay for P/N 4191695
SB 4315542-33-004		Apr 17/08		Replacement of the electromagnetic relay for P/N 4315542
SB 4331772-33-004		Apr 17/08		Replacement of the electromagnetic relay for P/N 4331772
SB 4191695-33-005		Sep 25/08		Replacement of the autotransformer for P/N 4191695
SB 4315542-33-005		Sep 25/08		Replacement of the autotransformer for P/N 4315542
SB 4331772-33-005		Sep 25/08		Replacement of the autotransformer for P/N 4331772
SIL 217-001		Oct 22/10		Introduction of new cleaning products
SB 4191695-33-006		Feb 20/12		Replacement of the capacitor for P/N 4191695
SB 4315542-33-006		Mar 08/12		Replacement of the capacitor for P/N 4315542
SB 4331772-33-006		Mar 08/12		Replacement of the capacitor for P/N 4331772
SB 4191695-33-007		Jun 12/12		Replacement of the electrical harness for P/N 4191695
SB 4315542-33-007		Jun 20/12		Replacement of the electrical harness for P/N 4315542
SB 4331772-33-007		Jun 20/12		Replacement of the electrical harness for P/N 4331772
SB 4191695-33-008		May 25/12		Replacement of the rubber stopper for P/N 4191695
SB 4191695-33-008		May 25/12		Replacement of the rubber stopper for P/N 4191695
SB 4315542-33-008		Jul 09/12		Replacement of the rubber stopper for P/N 4315542
SB 4331772-33-008		Jul 09/12		Replacement of the rubber stopper for P/N 4331772
SB 4315542-33-009		Jan 20/15		Replacement of the clamp on the equipment for P/N 4331772
SB 4331772-33-009		Jan 20/15		Replacement of the clamp on the equipment for P/N 4315542
SB 4191695-33-009		Feb 04/15		Replacement of the clamp on the equipment for P/N 4191695

SERVICE BULLETIN LIST (Cont'd)

SB/SIL No.	REV No.	ISSUE DATE	INCORP. DATE	TITLE
SB F0214-33-004		Jun 04/19		LED LAMP FOR RETRACTABLE LANDING LIGHT
SIL 282-33-001		AUG 28/19		RETRACTABLE LANDING LIGHT – REVISION CHRONOLOGY.

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF EFFECTIVE PAGES

LIST OF EFFECTIVE PAGES (Cont'd)

TABLE OF CONTENTS

TABLE OF CONTENTS (Cont'd)

TABLE OF CONTENTS (Cont'd)

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF FIGURES

THIS PAGE INTENTIONALLY LEFT BLANK

INTRODUCTION

TASK 33-42-12-871-801-A01

1. Introduction

A. Information

(1) The Component Maintenance Manual (CMM) is written in accordance with the Air Transport Association of America Specification No. 2200 (ATA2200) and in Aerospace and Defence Simplified Technical English (ASD-STE100).

(2) The Component Maintenance Manual gives all the procedures supplied by the manufacturer for use in the workshop, so that approved 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 that 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.

(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. SAFRAN AEROSYSTEMS SERVICES supplies updates to this manual when necessary. When SAFRAN ELECTRONICS & DEFENSE COCKPIT SOLUTIONS issues a modification to units included in this manual, SAFRAN AEROSYSTEMS SERVICES will revise the manual to include the information.

E. Manual Guidelines

(1) The CMM is divided into page blocks:

PAGES	SECTION (PAGE BLOCK)
0001-0999	DESCRIPTION AND OPERATION
1001-1999	TESTING AND FAULT ISOLATION
2001-2999	SCHEMATIC AND WIRING DIAGRAMS
3001-3999	DISASSEMBLY
4001-4999	CLEANING
5001-5999	INSPECTION/CHECK
6001-6999	REPAIR
7001-7999	ASSEMBLY
8001-8999	FITS AND CLEARANCES
9001-9999	SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES
10001-10999	ILLUSTRATED PARTS LIST
11001-11999	SPECIAL PROCEDURES

PAGES	SECTION (PAGE BLOCK)
12001-12999	REMOVAL
13001-13999	INSTALLATION
14001-14999	SERVICING
15001-15999	STORAGE INCLUDING TRANSPORTATION
16001-16999	REWORK

F. Measurements

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

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

G. Abbreviations

(1) Abbreviated units of dimension:

A	Ampere	mA	milliAmpere
cm	centimeter	MΩ	megaOhm
ft	feet	mΩ	milliOhm
ft.lb	feet-pound	milliF	milliFarad
g	gramme	N.m	Newton meter
h	hour	N.cm	Newton centimeter
in	inch	mm	millimeter
Hz	Hertz	rpm	revolution per minute
in.lb	inch-pound	V	Volt
kg	kilogramme	n°	degree (angle)
Kt	Knot	°C	Celsius degree
lb	pound	°F	Fahrenheit degree
lb.in	pound per inch	Ω	Ohm
s	second	Cd	Candela

(2) The abbreviations used in the CMM are:

AC: ..... Alternative Current,
Assy ..... Assembly
CW ..... Clockwise
CCW ..... Counterclockwise
DC: ..... Direct Current,
GND: ..... Ground,
IN ..... Inner diameter
I/O: ..... Input/Output,
IPL: ..... Illustrated Parts List,
LH: ..... Left Hand,
OD ..... Outer diameter
PNR: ..... Part Number,
RH: ..... Right Hand,
S/N: ..... Serial Number,
SRU: ..... Shop Replaceable Unit,
VAC ..... Alternative current voltage
VDC ..... Directional current voltage

H. Manufacturing

SAFRAN ELECTRONICS & DEFENSE COCKPIT SOLUTIONS F0280	7 Rue des Longs Quartiers CS 50029 93108 MONTREUIL Cedex FRANCE Phone: +33 (0)1 55 82 50 00 Fax: +33 (01 55 82 50 10 www.safran-aerosystems.com

I. Product support and sale

TRADE - NAME	ADDRESS
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 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 www.safran-aerosystems.com
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 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 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 www.safran-aerosystems.com

J. Repair station

(1) Approved repair stations informations are available on the website: www.safran-aerosystems.com.

THIS PAGE INTENTIONALLY LEFT BLANK

DESCRIPTION AND OPERATION

TASK 33-42-12-870-802- A01

1. CHARACTERISTICS

A. General

(1) The Retractable landing light is installed on one of the wing fairing.

(2) The primary function of the Retractable landing light is the lighting of the take-off or landing phases of the aircraft.

B. Characteristics

(1) General characteristics

Rated speed for use: from 0 to 360 kts

(2) Dimensions and weight

Dimensions	(Refer to Fig. 2)
Weight	less than 7,875 kg (17.361 lb)

Table 1 / Dimensions and weight

NOTE : All the dimensions are given in millimeters (inches) in Fig. 2.

(3) Halogen lamp characteristics

Sealed Beam type	PAR 64
Part number	GE Q4559X (3057576)
Number of filaments	1
Power	600 W
Voltage	28 VAC
Amperage	21,5 A
Initial candle power	765 000 Cd
Beam angle	11° horizontal and 7.30° vertical
Average life	100 h
Intermittent operation	15 min-ON / 45 min-OFF

Table 2 / Halogen lamp characteristics

(4) LED lamp characteristics

Sealed Beam type:	PAR 64
Part number:	221PF01AAY00
Number of cell:	24
Power:	160 W
Voltage:	28 VAC
Amperage:	5 A
Initial candle power:	Minimum 600.000 cd
Beam angle:	8° horizontal and 8° vertical
Average life:	20 000 h
Intermittent operation:	15 min-ON / 45 min-OFF

Table 3 / LED lamp characteristics

C. Mechanical characteristics

End-of-travel positions	"retracted" and "extended"
Extension angle	P/N 4191695: 85° +0°/-2° P/N 4315542: 90° +0°/-2° P/N 4331772: 90.5° ±0.5° P/N 117PE01Y00: 90° +0°/-2°
Adjustment of "extended" position	Access from the outside in extended position
Adjustment of "retracted" position	Adjusted during assembly
Operating time	≤ 10 s
Operating temperatures	-54° C to +70° C (-65.2° F to + 158° F)

Table 4 / Mechanical characteristics

D. Characteristics of Motors

Single-phase with built-in electromagnetic brake	
Single-phase with 4,7 mF ±5 % capacitor	
Rated voltage:	115 V / 400 Hz
Rated torque:	0,0981 N.m (0.86 lbf.in)
No-load speed:	11400 rpm
Motor speed CW	9680 rpm ±5 % below 9,81 N.cm (0.86 lbf.in)
Motor speed CCW	10200 rpm ±5 % below 9,81 N.cm (0.86 lbf.in)
Current consumption CW	1,95 A ±10 % below 9,81 N.cm (0.86 lbf.in)
Current consumption CCW	2,4 A ±10 % below 9,81 N.cm (0.86 lbf.in)
Start-up torque	CW: ≥ 0,0833 N.cm (0.007 lbf.in) CCW: ≥ 0,1177 N.cm (0.010 lbf.in)
Start-up current	CW: ≤ 4 A CCW: ≤ 4 A
Cut-out voltage	≤ 90 V / 400 Hz
Static torque	≥ 0,08 N.m (0.71 lbf.in)
Insulation below 500 VDC	R ≥ 20 MΩ
Weight	0,950 kg (2.09 lb)

Table 5 / Characteristics of Motors

E. Surface protection

Light-alloys: stabilization sulfuric and anodizing
Steel (depending on the part): pentrate, sulfurization, colorless aluminizing, dichromate treatment, cadmium plating, SurTec 650, anodizing, chemical nickel plating

THIS PAGE INTENTIONALLY LEFT BLANK

TASK 33-42-12-870-803-A01

2. DESCRIPTION

A. General description

(1) The Retractable landing light includes:

– a fixed lamp housing,
– a mobile lamp housing.

(2) The fixed lamp support is installed in a circular cut-out of the aircraft. It is attached on the aircraft structure with nine screws.

(3) The mobile lamp support moves around the fixed support. Its extension angle is of 85° (P/N 4191695), 90,5° (P/N 4315542), 91° (P/N 4331772), 90° (P/N 117PE01Y00). It contains the lamp (incandescent halogen or LED). A connector makes the electrical connection.

(4) The Retractable landing light has identification plates attached on the top of cover.

B. Detailed description

(1) The fixed housing includes:

– the main casing (2-590),
– the gear assembly,
– the electrical control equipment.

(a) The main casing

1 The main casing (2-590) is equipped with an elastic stop (3-180) used as a damper. The casing is closed by the cover (2-110) on which the attachment plate (2-10) is attached with screws (2-20).

2 The main casing (2-590) has nine anchor nuts (2-600) and a seal (2-580) for attachment on the aircraft.

(b) The gear assembly includes:

– a motor assy (3-10) and its drive gear, which is attached to the motor casing (3-140),
– a wheel (2-480) installed on two annular ball bearings (2-500) and moved by the drive gear of the motor (3-10), which operates the wheel (2-490) ,
– a wheel (2-490) installed on two annular ball bearings (2-500), which operates the wheel (2-470),
– a screw (2-540) installed on two ball-bearings (2-520) and (2-550) and connected to the wheel (2-470) by a key, which operates the gear sector (4-100),
– a gear sector (4-100) attached to the fork (4-120) with pins (4-110) .

(c) The electrical control equipment includes:

- an auto-transformer (3-60) ,
- a terminal board (2-310),
- four end-of-travel sensitive switches (2-190),
- a fixed capacitor (2-270),
- an electromagnetic relay (2-160),
- an electrical cable assy (2-420),
- an electrical ground wire (2-410).

(d) The mobile light device includes:

- a mobile lamp housing (1-280) with the incandescent halogen lamp (1-30) or (1-30A) or the led lamp (1-30B) attached with a clamp assy (1-10) or (1-11), and a seal (1-40) which makes the mobile lamp housing (1-280) watertight,
- a hinge (1-110) with two parts: a fixed hinge attached to the main casing (2-590) and a mobile hinge attached to the mobile lamp housing (1-280),
- two rods (1-60) attached to the mobile lamp-housing (1-280) and the fork (4-120) with hinge-pins (1-90), each rod is mounted on two annular ball bearings (1-70),
- the fork (4-120), attached to the support (4-80), (4-80A) or the shock absorber support kit (4-80B) which turns on the shaft bearings (4-10) around two hinge pins (4-60) with annular ball bearings (4-50),
- the shaft bearings (4-10) are installed in the main casing (2-590).

(e) Motor (3-50)

1 The motor is installed in a case, closed by a flange and an access cover. The motor has three components:

- a stator attached with screws,
- a rotor and assembled drive gear installed on annular ball bearings. Each ball bearing is held in position with a spacer and shims and a retaining helical compression spring,
- a braking system, held on the rotor by a self-locking nut and includes:
  - a locking plate,
  - two shims and a spacer,
  - a brake armature and a brake induction coil assembly,
  - a helical compression spring installed between the brake armature and the brake induction coil.

(f) Motor (3-50A)

1 The motor is installed in a casing which is closed by an access cover . The motor includes:

– a stator bonded in the casing ,
– a rotor assembled with drive gear , installed on ball bearings,
– a brake system attached to the rotor with nut, which includes:

  – a brake stator assembly,
  – a brake armature,
  – shims,
  – a spacer,
  – a spring,
  – a printed board assembly.

(g) Motor (3-50B)

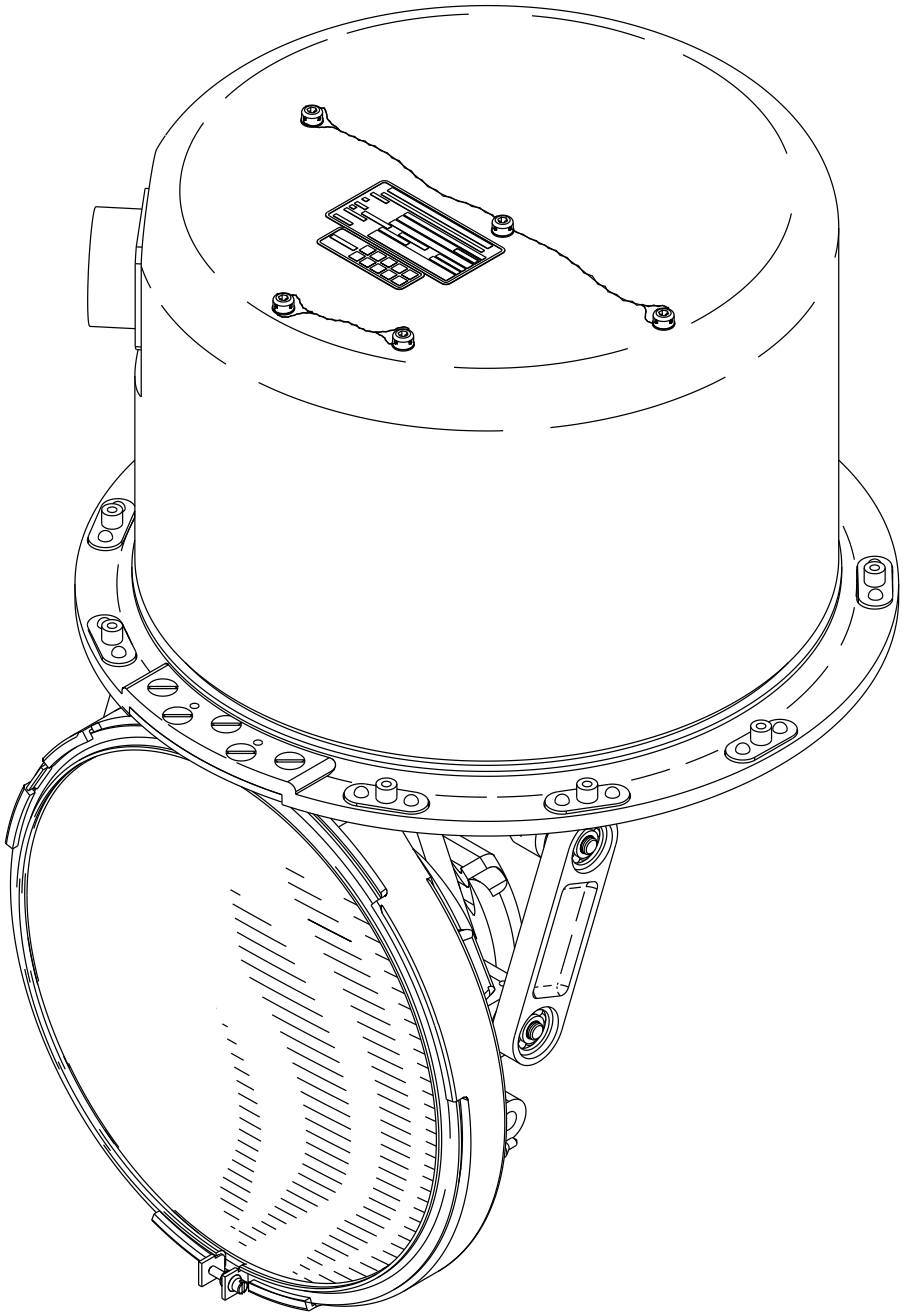
1 The motor consists of an equipped stator bonded to the body and bush assembly .

2 The equipped rotor assembled with drive gear and installed on two ball bearings . The rotor equipped is adjusted with spring tension washer and adjustment washer.

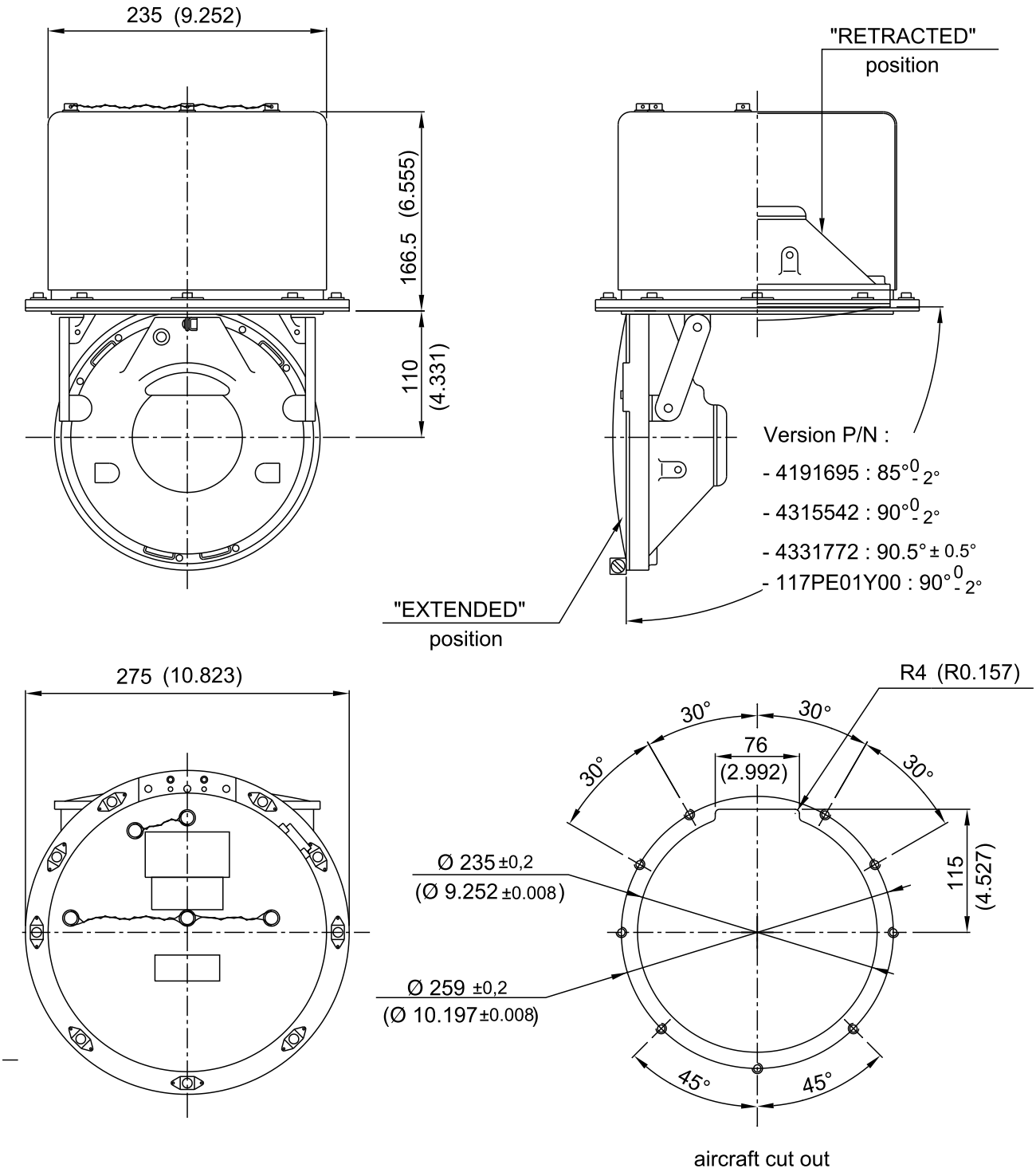
3 The rear part of the motor has an electrical braking system. This includes:

  – a bobbin and flange assembly which controls an equipped pallet,
  – a helical spring,
  – a circuit board attached to the flange of the bobbin and flange assembly with two screws and spacers,
  – a brake disc attached to the equipped rotor with self-locking nut and adjustment washer.

4 Three screws attach the cover to the bobbin and flange assembly. The cover protects the electrical braking system.

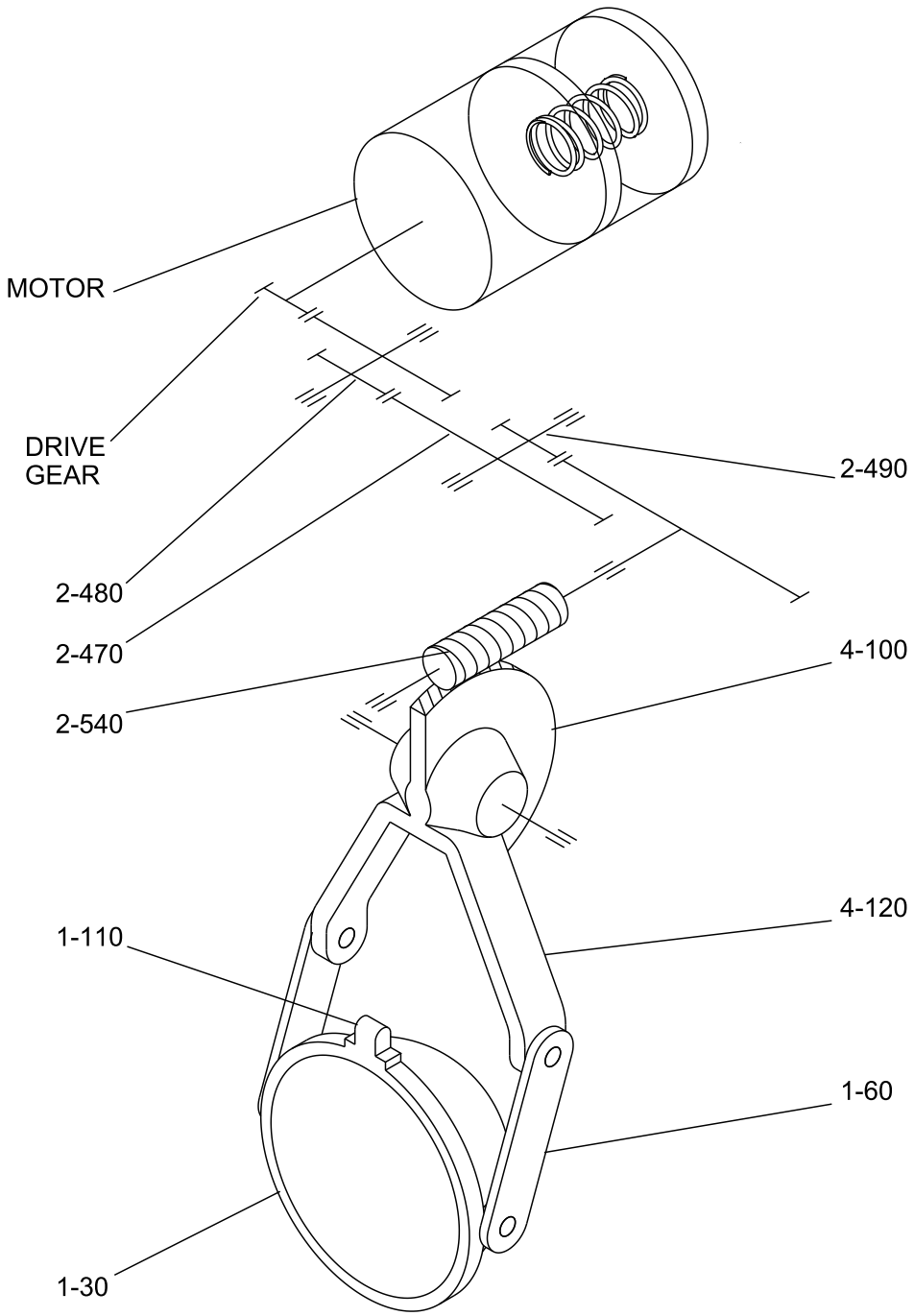


Retractable landing light: Overview
Figure 1/GRAPHIC-33-42-12-991-001-A01



Dimensions are in mm (in)

Retractable landing light: Dimensions
Figure 2/GRAPHIC-33-42-12-991-002-A01



Kinematic linkage
Figure 3/GRAPHIC-33-42-12-991-003-A01

TASK 33-42-12-870-804-A01

3. OPERATION

A. Mechanical operation

(Refer to Fig. 3)

(1) The drive gear of the motor (3-10) operates the first wheel (2-480) of the gear train, which has three wheels (2-480), (2-470) and (2-490). The screw (2-540) moved by the wheel (2-470) engages with the gear sector (4-100) of the fork.

(2) The motor (3-10) turns in two directions. It operates one of the two movements (the "extension" or the "retraction") of the Retractable landing light.

B. Electrical operation

(Refer to Fig. 4)

NOTE : The figure shows the light in the "RETRACTED" position.

(1) "EXTENSION"

(a) Supply electrical power to the "EXTENSION" sensitive switch through pin contact A.

1 The brake induction coil or brake stator assy or bobbin and flange assy is energized, the brake armature or equipped pallet is pulled back, and releases the locking plate or brake plate.

2 The adjustment screw (Retractable landing light P/N 4191695, Retractable landing light P/N 4315542 post SB 33-091 and before SB 33-122, Retractable landing light P/N 4331772 before SB 33-123, Retractable landing light P/N 117PE01Y00, and the shock absorber body (Retractable landing light 4315542 post SB 33-122, Retractable landing light 4331772 after SB 33-123, Retractable landing light P/N 117PE01Y00) no longer operate the leafspring of the "RETRACTION" and "INDICATING" sensitive switches. (Refer to Fig. 7003)

(b) When the lamp is in the "EXTENDED" end-of-stroke position:

1 On each Retractable landing light, the end-of-stroke device operates the switches of the "LAMP" and "EXTENSION".

2 Which results in:

– switching off the motor power supply,
– switching off the power supply to the brake induction coil or brake stator assy or bobbin and flange assy: this releases the brake armature or equipped pallet, and the helical compression spring locks the locking plate or brake plate,
– energizing the electromagnetic relay: the auto-transformer is energized and the lamp comes ON.

(2) "RETRACTION"

(a) Supply electrical power to the "RETRACTION" sensitive-switch between pins B. This results in:

– energizes the brake induction coil or brake stator assy or bobbin and flange assy: the coil pulls back the brake armature or equipped pallet , and this releases the locking plate or brake plate,
– energizes the motor, which turns in the opposite direction to the rotation of the "EXTENSION" movement.

(b) When the lamp is in the "RETRACTION" end-of-stroke position:

1 Retractable landing light P/N 4191695:

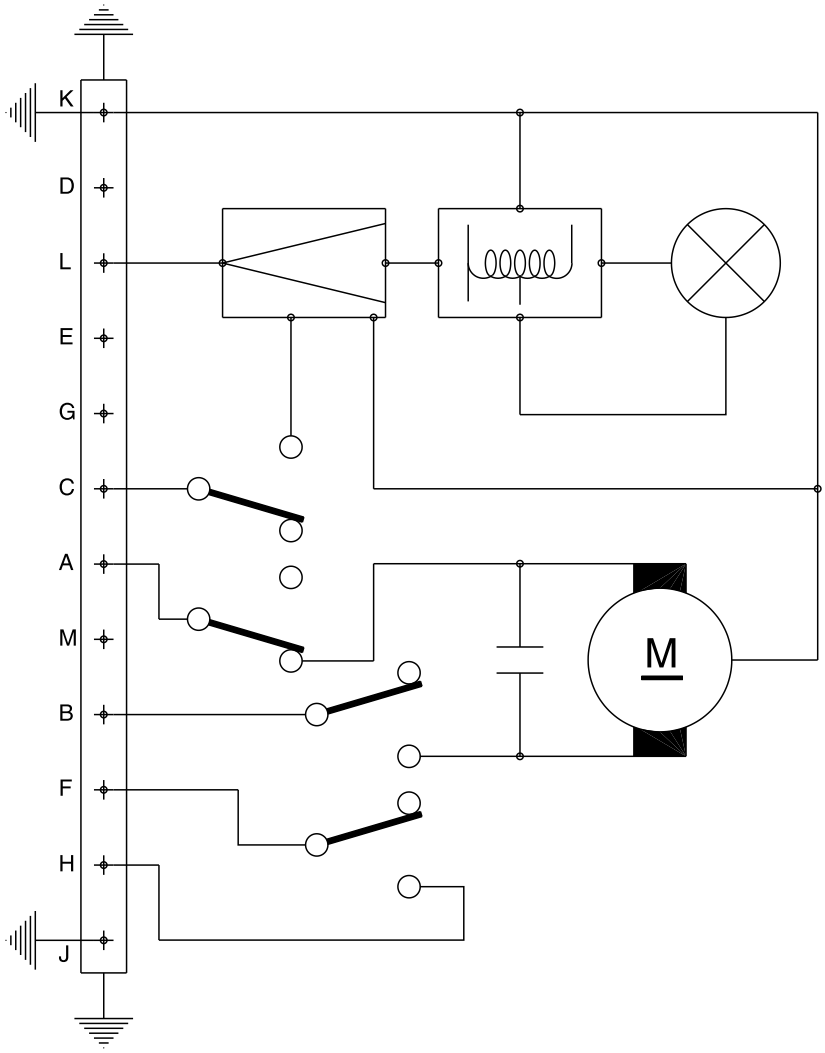
– the adjustment screw (before SB 33-091 and SB 33-094) or the screw (post SB 33-094) no longer operates the leafspring of the "EXTENSION" sensitive switch.
– the adjustment screw (before SB 33-091 and SB 33-094) or the support (4-80) (post SB 33-094) no longer operates the leafspring of the "LAMP" sensitive switch. The lamp switches OFF.

2 Retractable landing light P/N 4315542,Retractable landing light P/N 4331772 and Retractable landing light P/N 117PE01Y00:

– the screw (post SB 33-091 and before SB 33-122 or before SB 33-123) or the shock absorber (post SB 33-122 or SB 33-123) no longer operates the leafspring of the "EXTENSION" sensitive switch. (Refer to Fig. 7003)
– the support (4-80) (post SB 33-091 and before SB 33-122 or before SB 33-123) or the shock absorber (post SB 33-122 or SB 33-123) no longer operates the leafspring of the "LAMP" sensitive switch. The lamp switches OFF. (Refer to Fig. 7003)

(c) When the light reaches the “RETRACTION” end-of-stroke position, the two adjustment screws operate the "INDICATING" sensitive switches: the motor circuit is cut and the brake locks the motor shaft.

NOTE : The indicating circuit is energized as soon as the light leaves the "RETRACTED" position.



Electrical diagram ("RETRACTED" position)
Figure 4/GRAPHIC-33-42-12-991-004-A01

A – Extend	H – Indicating
B – Retract	J – Bonding
C – Light-supply	K – Ground
F – Indicating	L – Transformer supply

Table 6 / Electrical diagram

THIS PAGE INTENTIONALLY LEFT BLANK

TASK 33-42-12-870-801-A01

4. List of equipment modifications

A. The table below gives the modifications for the Retractable Landing Light.

P/N	AMDT	Description of the modification
4191695	A	Replacement of the Relay (2-160) by the Relay (2-160A).
	B	Replacement of protecting cover made in aluminium (2-70) by a new one in plastic material (2-70A). Suppression of ±14 degrees adjustment of sealed Beam through the design modification of a mobile lamp housing.
	C	Replacement of the clamp assy (1-10) by the clamp (1-11) and the screw (1-20).
	D	Replacement of the elastical stop (3-180) by a shock absorber assembly (3-180A).
	E	Bonding of the connector casing by adding a bonding foil (2-150) fitted in the casing.
	F	Improvement of the actuating system of the extension sensitive switch by change of support post Replacement of the gang channel (4-80) by the gang channel (4-80A).
	G	Improvement of the reliability of the landing light by the modification of the material construction of the clamp ring and the connector fixing plate: - The clamp ring (1-11) becomes (1-11A) - The connector fixing plate (2-10) becomes (2-10A) - The electrical connector (2-40) becomes (2-40A) - The connector ground wire (2-410) becomes (2-410A) - The electrical wiring harness (2-420) becomes (2-420A).
	H	Modification of the transformer color. The (3-60) of the transformer is not changed.
	J	Replacement of the motor (3-10) by a new one (3-10A).
	K	Reducing the amount of Aeroshell 17 to a specific amount for lubrication of the drive gear only. Use Royco 22 CF grease to prevent corrosion of the bearings.
	L	Replacement of the lamp command relay (2-160A) by a new one (2-160B).
	M	The transformer (3-60) and the Protection cover (3-130) are merged into one new transformer (3-60A).
	N	The Capacitor 4.7 µF (2-270) becomes (2-270A).
	P	The Harness (2-420A) becomes (2-420B).
	R	The shock absorber assembly (3-180A) becomes (3-180B).
	S	The clamp assembly (1-11A) becomes (1-11B).

P/N	AMDT	Description of the modification
4315542 4331772	A	Improvement of the actuating system of the sensitive switch by replacement of the support (4-80A) by the support (4-80B).
	B	Improvement of the reliability of the landing light by the modification of the material construction of the clamp ring and the connector fixing plate: - The clamp ring (1-11) becomes (1-11A) - The connector fixing plate (2-10) becomes (2-10A) - The electrical connector (2-40) becomes (2-40A) - The connector ground wire (2-410) becomes (2-410A) - The electrical wiring harness (2-420) becomes (2-420A)
	C	Modification of the transformer color. The P/N of the transformer (3-60) is not changed.
	D	Replacement of the motor (3-10) by a new one (3-10A).
	E	Reducing the amount of Aeroshell 17 to a specific amount for lubrication of the drive gear only. Use Royco 22 CF grease to below corrosion of the bearings.
	F	Replacement of the GE lamp Q4559X (1-30) by a new SHL.
	G	Replacement of the lamp command relay (2-160A) by a new one (2-160B).
	H	The transformer (3-60) and the Protection cover (3-130) are merged into one new transformer (3-60A).
	J	The Capacitor 4.7 µF (2-270) becomes (2-270A).
	K	The Harness (2-420A) becomes (2-420B).
	L	The shock absorber assembly (3-180A) becomes (3-180B).
	M	Removal of a plating concerned by REACH regulation The Clamp assembly (1-11A) becomes (1-11B).

Table 7 / List of equipment modifications

TESTING AND FAULT ISOLATION

TASK 33-42-12-700-801- A01

1. TESTING OF THE LIGHT ASSEMBLY

A. Reason for the job

WARNING : DO NOT TOUCH THE LIGHT MINIMUM TEN MINUTES AFTER SWITCH TO "OFF".

(1) Do the tests to make sure that the equipment is serviceable. You must also do the tests if you replace an equipment component or sub-assembly.

B. 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 Retractable Landing Light.

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

NOTE : Refer to SPECIALS TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES for full informations of items listed.

REFERENCE	QTY	NAME
No specific	1	Electrical supply 115 V / 400 Hz
No specific	1	Ammeter 0-10 A AC
No specific	1	Voltmeter 0-150 V AC
No specific	1	Milliohmmeter
No specific	1	Megohmmeter
No specific	1	Vernier protractor
No specific	1	Chronometer
UNIVIS 10 U10WPCC5	1	Eyes protective glasses or equivalent glasses compliant to the standards EN166, EN170, EN172 and 175
690-433177	1	Control gauge 90,5°
692-419169	1	Control gauge 90°
690-419169	1	Control gauge 85°

Table 1001 / Standard and special tools

(2) Consumables

– Not applicable.

(3) Test conditions

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

Ambient temperature ..... 25 ± 10 °C (77 ± 18 °F).
Atmospheric pressure ..... 84 to107 kPa (12.18 to 15.52 psi)
Relative humidity ..... less than 85 %

C. Job set-up

(1) Testing device

(a) (Refer to Fig. 1001)

D. Bonding test

(1) Procedure

	ACTION	RESULT
1	Measure the resistance between the connector pin J and the ground studs.	Make sure that the resistance is less than or equal to 10 mΩ.

E. Insulation test

(1) Procedure

	ACTION	RESULT
1	Connect all the connectors pins together except J (For P/N : 4191695 - 4315542 - 4331772).	
2	Apply 500 VDC with a Megohmmeter between all the connected pins except pin J and the ground studs.	Make sure that the resistance is more than or equal to 20 MΩ.
3	Connect all the connectors pins (A-B-C-F-H-K-L) together (For P/N 117PE01Y00).	
4	Apply 500 VDC with a Dielectric insulation control-unit between all the connected pins and the casing of the equipment.	Make sure that the resistance is greater or equal to 10 MΩ.

THIS PAGE INTENTIONALLY LEFT BLANK

F. Extension test

(1) Procedure

ACTION		RESULT
1	Do the test set-up in Fig. 1.	
2	Set the switches S1, S2, S3 and S4, to position "OFF".	
3	Set the switch S3 to position "ON".	Make sure that the Retractable landing light operates an "Extension". Make sure that the Retractable landing light operates an extension in less than 10 seconds. Make sure that the current consumption of the motor is lower than 2,4 A. Make sure that at the end of the extension stroke the ammeter reading indicates "0".
4	Set the switch S3 to position "OFF".	

G. Retraction test

(1) Procedure

ACTION		RESULT
1	Set the switch S4 to position "ON".	Make sure that the Retractable landing light operates a "Retraction". Make sure that the Retractable landing light operates a retraction in less than 10 seconds. Make sure current consumption of the motor is lower than 1,9 A. Make sure that at the end of the retraction stroke the ammeter reading indicates "0".
2	Set the switch S4 to position "OFF".	

H. Relay test

(1) Procedure

ACTION		RESULT
1	Set the switch S3 to position "ON".	Make sure that the Retractable landing light operates an "Extension".
2	Set the switch S2 to position "ON".	Make sure that the relay is energized at the end of the extension stroke.
3	Set the switch S3 to position OFF.	
4	Set the switch S4 to position ON.	Make sure that Retractable landing light operates a retraction. Make sure that the relay is de-energized during retraction stroke.
5	At the end of the retraction stroke, make sure that the ammeter reading indicates "0".	
6	Set the switch S2 and S4 to position "OFF".	

I. Lamp test

CAUTION : DO THE TEST WITH EYES PROTECTIVE GLASSES (REF.: UNIVIS 10 U10WPCC5 OR EQUIVALENT GLASSES COMPLIANT TO THE STANDARDS EN166, EN170, EN172 AND 175).

(1) Procedure

ACTION		RESULT
1	Set the switch S3 to position "ON".	Make sure that the Retractable landing light operates an extension.
2	Set the switch S2 to position "ON".	Make sure that the relay is energized at the end of the extension stroke.
3	Set the switch S1 to position "ON".	Make sure that the lamp comes "ON". Make sure current consumption is lower than 6,5 A for P/N : 4191695 -

ACTION		RESULT
		4315542 - 4331772 and lower than 2 A for P/N 117PE01Y00.
4	Set the switch S3 to position OFF.	
5	Set the switch S4 to position "ON".	Make sure that the Retractable landing light operates a retraction. Make sure that the lamp goes "OFF" during retraction stroke.
6	Set the switches S1, S2 and S4 to position "OFF".	

J. Indication switch test

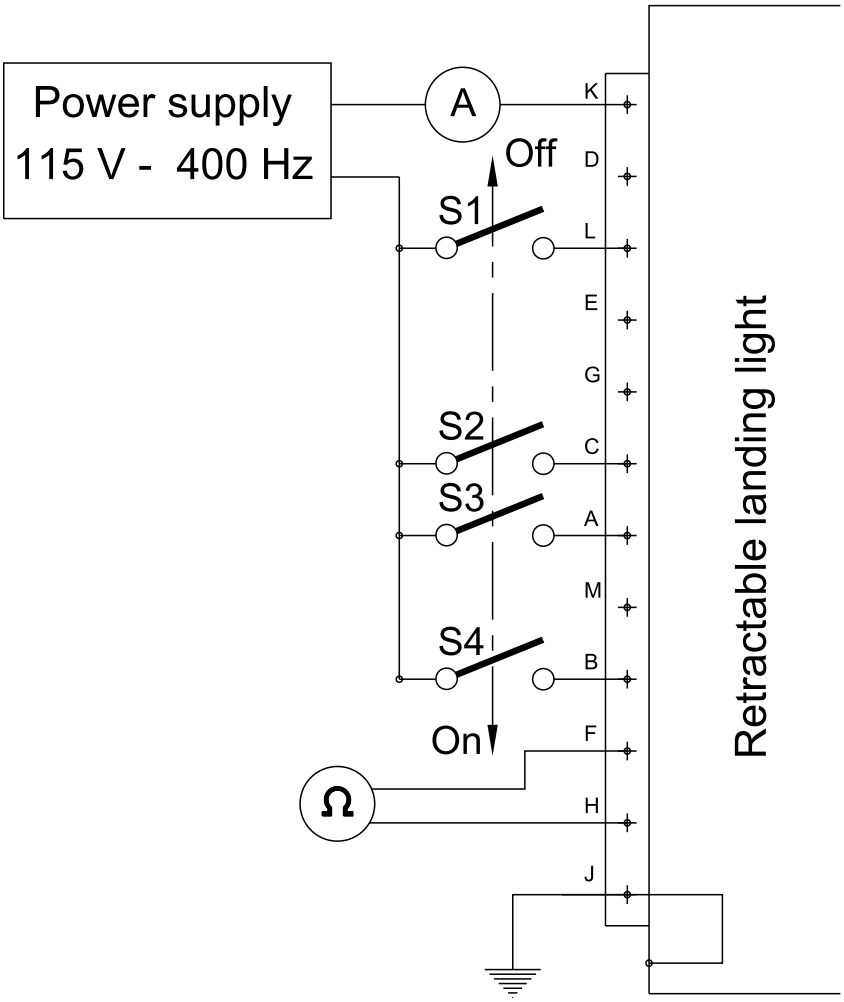
(1) Procedure

ACTION		RESULT
1	Connect an ohmmeter between pin F and pin H.	Make sure the circuit is open when the Retractable landing light is in retracted position.
2	Set the switch S3 to position "ON".	Make sure that the Retractable landing light operates an "Extension". Make sure that the ohmmeter reading indicates “0” (closed circuit).
3	Set the switch S3 to position OFF.	
4	Set the switch S4 to position "ON".	Make sure that the Retractable landing light operates a "Retraction".
5	Set the switch S4 to position OFF.	Make sure that the circuit is open at the end of the retraction stroke.

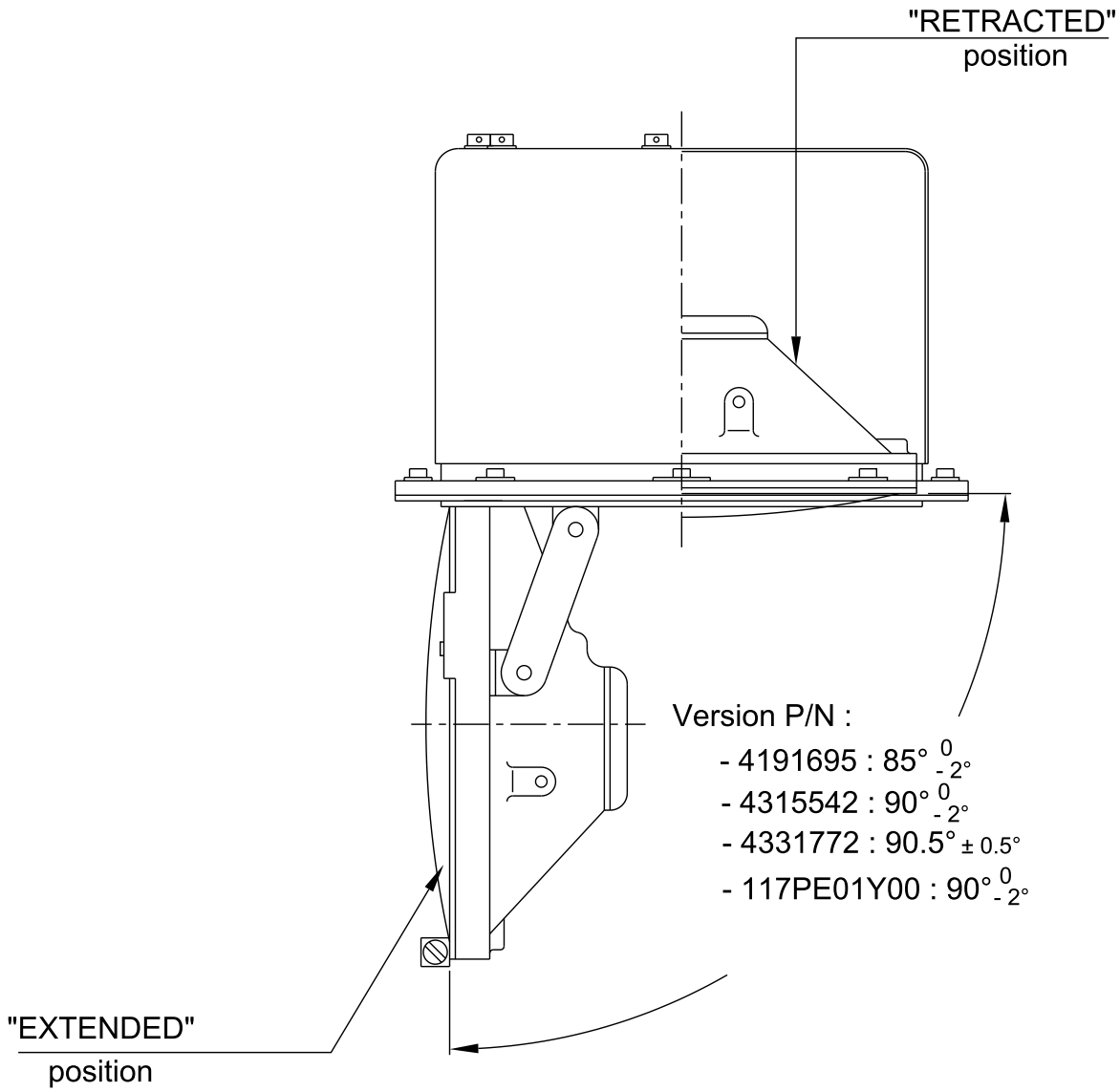
K. Extension angle test

(1) Procedure

ACTION		RESULT
1	Set the switch S3 to position "ON".	The Retractable landing light operates an "Extension".
2	Do the measure of the angle with the applicable control gauge	If the extension angle is not correct, do the adjustment of the switches. (Refer to SUBTASK 33-42-12-440-009-A01) (Refer to Fig. 1002)
3	Set the switch S3 to position OFF.	
4	Set the switch S4 to position "ON".	Make sure that the Retractable landing light operates a "Retraction".
5	Set the switch S4 to position OFF.	



Test set-up
Figure 1001/GRAPHIC-33-42-12-991-101-A01



Extension angle
Figure 1002/GRAPHIC-33-42-12-991-102-A01

THIS PAGE INTENTIONALLY LEFT BLANK

TASK 33-42-12-810-801-A01

2. Fault isolation

FAULT	POSSIBLE CAUSE	CORRECTION
Lighting failure	Halogen Lamp is burned out.	Replace the lamp.
	1 LED is failed	Replace the lamp.
	Defective transformer.	Replace the transformer.
	Relay is defective.	Replace the relay.
	Defective sensitive switch "LAMP".	Replace the sensitive switch.
	Wiring failure at the lamp or the relay.	Repair as necessary.
	Electrical cable damaged.	Replace the electrical cable
Intermittent lighting.	Tightening screws of lamp supply wires are loose.	Tighten the screws.
	Transformer pins are loose.	Tighten the transformer pins.
	Pin L of connector un-soldered.	Solder the wire connecting pin L.
	Electrical cable damaged.	Replace the electrical cable
Unusual noise in the motor.	Motor does not move freely.	Replace the motor assy.
The Retractable landing light does not extend and no current is read.	Defective sensitive switch "EXTENSION".	Replace the sensitive switch "EXTENSION".
	Motor wires are cut.	Make a soldered splice on the wires.
The Retractable landing light does not retract and no current is read.	Defective sensitive switch "RETRACTION".	Replace the sensitive switch "RETRACTION".
	Motor supply wires are cut.	Make a soldered splice on the wires.
The Retractable landing light: lamp switches "OFF" or the electrical consumption increases.	Defective relay	Replace the relay
The Retractable landing light does not extract or retract and current is read.	Motor brake coil is cut.	Replace the motor.
	Brake is bonded.	
	Short circuit in the motor.	
	Reduction gear fails to turn.	Clean and lightly lubricate the reduction gear, (refer to ASSEMBLY and STORAGE)
	Lamp housing hinge is blocked.	Replace the hinge assy.
	Rods are blocked.	Replace the ball bearings.
	Motor inversion is not possible.	Do a check of the motor inversion. Deoxidize the contacts if necessary.

FAULT	POSSIBLE CAUSE	CORRECTION
The lamp retracts and extends slowly.	Hard points between gear parts.	Clean and lightly lubricate (refer to ASSEMBLY and STORAGE)
	Gear sector or screw is dirty.	Clean and lightly lubricate, (refer to ASSEMBLY and STORAGE)
Insulation failure.	Moisture.	Do a check of the insulation of electrical parts and motor. Replace faulty parts.
Motor does not operate.	Defective power supply.	Make sure the test set-up is connected to the motor correctly.
	Defective armature circuit.	Do a test for open circuit. Replace if necessary.
There is too much noise or vibration when motor operates.	Defective motor assembly components.	Replace the motor.
Too much current consumption when motor assembly operates below load and does not reach minimum rpm.	Short circuit in rotor windings.	Do a check. Replace as necessary.
	Open brake coil.	Do a test for open coil circuit.
Motor does not stop in end of stroke	Defective switch.	Do a check. Replace the switch.

Table 1002 / Fault isolation

SCHEMATIC AND WIRING DIAGRAMS

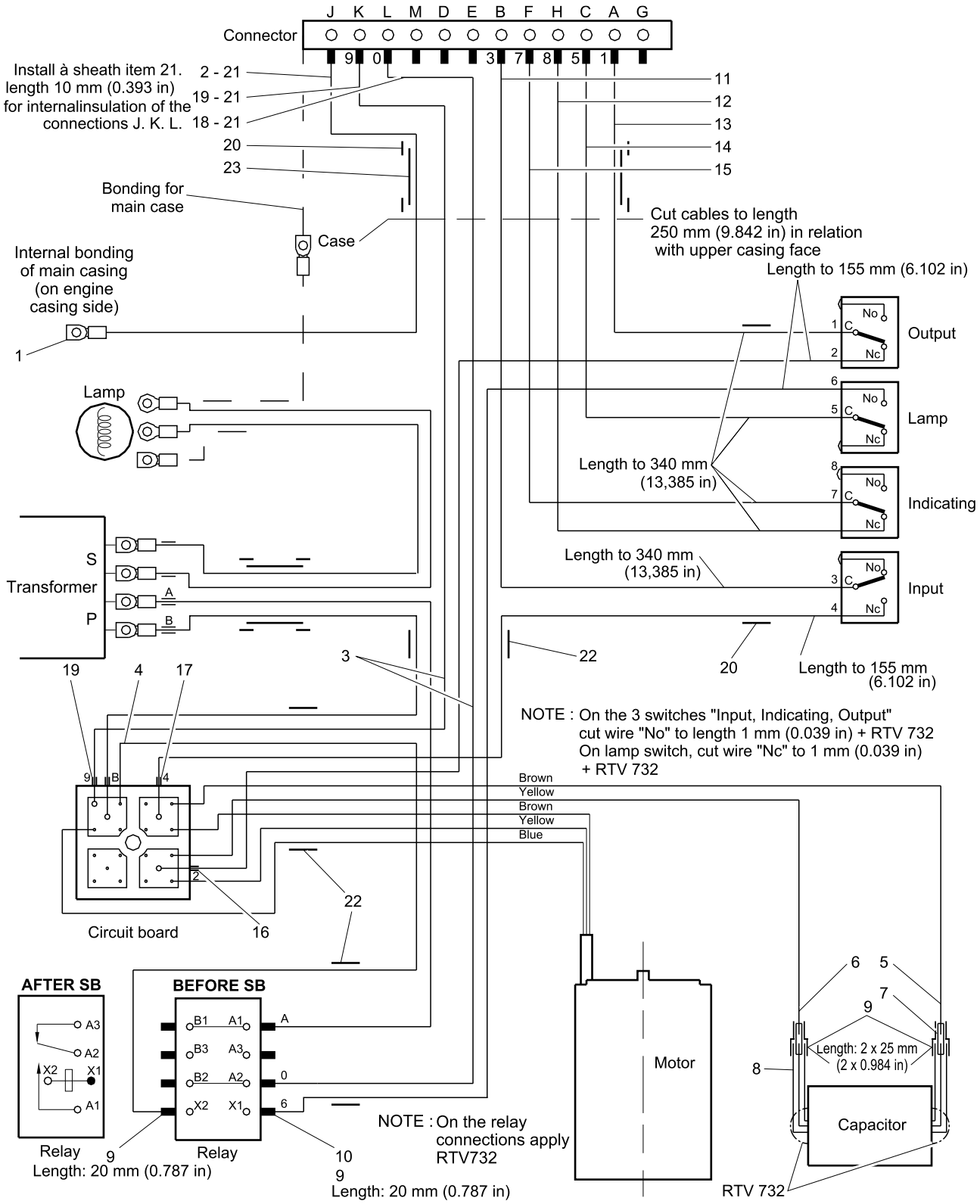
TASK 33-42-12-878-801-A01

1. Wiring Diagram

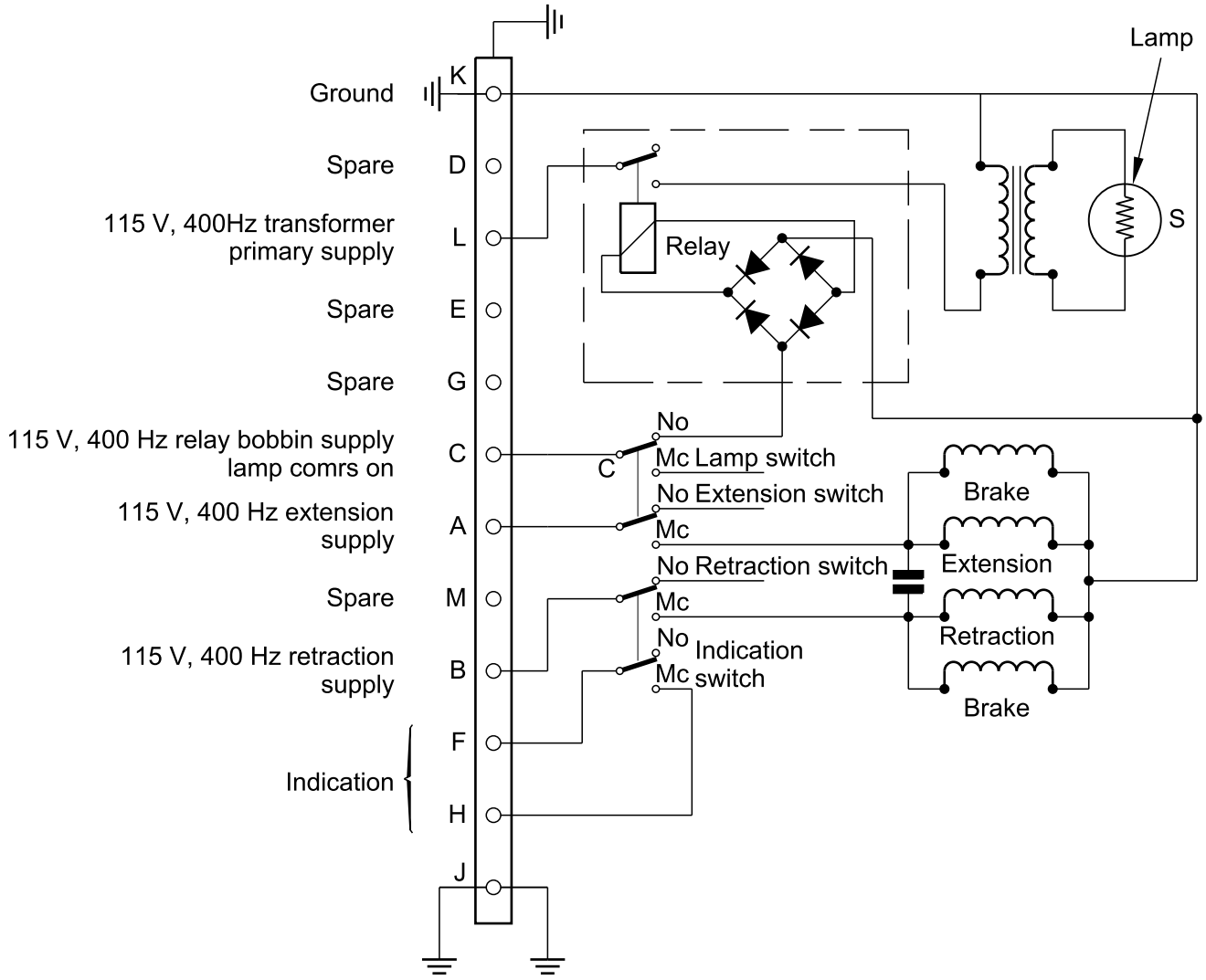
ITEM N°	PART NUMBER	DESCRIPTION	LENGTH	QTY
1	3012036	AMP non-insulated lug SOLISTRAND Ref. 130479	-	1
2	3127562	FILOTEX wire 2100 AWG 16-9	350	1
3	3052679	FILOTEX wire 2100 AWG 20-9	400	1
4	3016875	FILOTEX wire 1900 AWG 22-0	150	1
5	3040007	FILOTEX wire 1900 AWG 22-1 Brown	160	1
6	3027256	FILOTEX wire 1900 AWG 22-4 Yellow	160	1
7	3042029	31818 End-to-end AMP extension Ref. 0-0031818-0	-	2
8	3058386	Sheath SES plio. dia. 1,5 x 2,3 code: 801.002	36	2
9	3065178	Sheath RAYCHEM RNF 100 3/16	20	3
10	3044355	Bushing HEL-TWIN type A0 Rep.6 SES 352001	-	1
11	3041352	Bushing HEL-TWIN type A0 Rep.3 SES 352001	-	1
12	3044385	Bushing HEL-TWIN type A0 Rep.8 SES 352001	-	1
13	3044378	Bushing HEL-TWIN type A0 Rep.7 SES 352001	-	1
14	3041375	Bushing HEL-TWIN type A0 Rep.5 SES 352001	-	1
15	3041338	Bushing HEL-TWIN type A0 Rep.1 SES 352001	-	1
16	3041345	Bushing HEL-TWIN type A0 Rep.2 SES 352001	-	1
17	3041368	Bushing HEL-TWIN type A0 Rep.4 SES 352001	-	1
18	3043403	Bushing HEL-TWIN type A0 Rep.0 SES 352001	-	2
19	3044392	Bushing HEL-TWIN type A0 Rep.9 SES 352001	-	2
20	3060614	Sheath RAYCHEM SCL 3/8 Ref.(105503) SCL3/8NO	30	2
21	3065178	Sheath RAYCHEM KYNAR 1/8 Ref.(106103) KYNAR1/8TR	10	3

ITEM N°	PART NUMBER	DESCRIPTION	LENGTH	QTY
22	3057829	Collar TY-RAP TY 232M	-	3
23	3027754	Superpolyamide FILOTEX braised sheath, D8	165	1

Table 2001 / Wiring diagram



Wiring diagram (Sheet 1 of 2)
Figure 2001/GRAPHIC-33-42-12-991-201-A01



Nota : Light in retraction position

Wiring diagram (Sheet 2 of 2)
Figure 2001/GRAPHIC-33-42-12-991-201-A01

DISASSEMBLY

TASK 33-42-12-040-801- A01

1. Disassembly procedures

A. Reason for the Job

(1) Disassembly gives step-by-step instructions for a full disassembly of the equipment in a logical sequence and to get access to the defective sub-assemblies and parts.

NOTE : The numbers in parenthesis after the component's description are the figure and the item numbers of the Illustrated Part List (IPL), Refer to IPL.

NOTE : Do not do more disassembly than necessary. For the identification of damage or functional failure refer to TESTING AND FAULT ISOLATION and INSPECTION/CHECK.

B. Procedure

SUBTASK 33-42-12-000-000-A01

(1) Lamp

(a) Set the light assembly in the "EXTENDED" position.

(b) Pre SB 33-058

1 Unlock and remove the clamp assembly (1-10).

(c) Post SB 33-058 or SB 4191695-33-189 or SB 4315542-33-190 or SB 4331772-33-191

1 Remove the screw (1-20) and remove the clamp (1-11).

(d) Disengage the incandescent halogen lamp (1-30) or (1-30A) or LED lamp (1-30B).

(e) Disconnect the lamp electrical wires.

(f) Remove the incandescent halogen lamp (1-30) or (1-30A) or the LED lamp (1-30B) and the seal (1-40) if necessary.

SUBTASK 33-42-12-040-002-A01

(2) Lamp housing

(a) Remove the five self-locking nuts (1-140), the flat washers (1-130), and the screws (1-120).

(b) Remove the five screws (1-120) from the mobile hinge assembly (1-110).

(c) Remove the mobile hinge assembly (1-110) .

(d) Remove the retaining rings (1-50) and the rods (1-60).

(e) Remove the four annular ball bearings (1-70)

(f) Remove the grooved headless pins (1-80), then the hinge pins (1-90), and the flat washers (1-100).

(g) For the mobile lamp housing (1-280), do as follows:

1 Remove the screw (1-200) and the lock washer (1-210) .

2 Remove the wiring.

3 Remove the non-metallic grommet (1-220) .

4 Remove the protection (1-230).

5 Remove the clamp (1-260).

6 Remove the screw (1-250), then the anchor strap (1-240).

7 Remove the filament position plate (1-270) if necessary.

(h) Remove the mobile lamp housing (1-280).

SUBTASK 33-42-12-040-003-A01

(3) Motor casing

(a) Cut the lockwire (2-620).

(b) Remove the four screws (2-20) and flat washers (2-30) from the attachment plate (2-10)

(c) Push the receptacle connector (2-40) towards the inner of the cover (2-110).

(d) Remove the screws (2-90) and (2-80) and the washers (2-100).

(e) Remove the cover (2-110) equipped with the seal (2-120).

(f) Remove the plates (2-630), (2-640) and (2-650) if necessary.

(g) Remove the screws (3-20) and (3-30), and the flat washers (3-40).

(h) Electromagnetic relay

1 Remove the two screws (2-170) and lock washers (2-180).

2 Remove RTV 732 from terminals.

(i) Cut and discard the tiedown strap (2-570) and the two tiedown straps (2-570) near the clamp (2-370).

(j) Remove the screw (2-360) and lock washer (2-140) from the loop clamp (2-370).

(k) Terminal board

1 Remove the self-locking nut (2-340) and the screw (2-320).

2 Remove the flat washers (2-330) and the spacer (2-350).

3 Identify and disconnect the wires of the terminal board (2-310).

4 Remove the terminal board (2-310).

(l) Remove the motor assembly (3-10).

(m) Before SB 4191695-33-005 or SB 4315542-33-005 or 4331772-33-005. Remove the connection kit (3-90) as follows:

1 Remove the two screws (3-110) and the washers (3-120).

2 Remove the insulator protection square (3-100).

3 Remove the protection cap (3-130), then disconnect the auto-transformer supply electrical cable assy (2-420).

(n) After SB 4191695-33-005 or SB 4315542-33-005 or 4331772-33-005. Disconnect the auto-transformer supply electrical cable assy (2-420).

(o) Remove the lockwire (2-620).

(p) Remove the six screws (3-70) and flat washers (3-80).

(q) Remove the auto-transformer (3-60).

(r) Remove the self-locking nuts (2-400), the screw (2-380) and the flat washer (2-390).

(s) Disconnect the bonding lead.

(t) Cut the lockwire (2-620).

(u) Remove two screws (3-150) and the three flat washers (3-160).

(v) Keep the self-locking nut (2-430).

(w) Remove the screw (3-150) .

(x) Remove the elastic stop (3-180) or the shock absorber assembly (3-180B).

(y) Remove the motor casing (3-140).

SUBTASK 33-42-12-040-004-A01

(4) Fork

(a) Remove the lockwire (2-620).

(b) Remove the screws (4-20) and the flat washers (4-30), then remove the shaft bearings (4-10).

(c) Collect the shims (4-40).

(d) Remove the annular ball bearings (4-50) with a bearing extractor.

(e) Remove the fork (4-120), then do as follows:

1 Remove the four grooved headless pins (4-110) , then the gear sector (4-100).

2 Remove the lockwire (2-620).

3 Remove the screws (4-90), then the support (4-80) or (4-80A) or (4-80B).

4 Remove the grooved headless pins (4-70), then the two hinge pins (4-60).

SUBTASK 33-42-12-040-005-A01

(5) Electrical equipment

(a) Remove the screw (2-360) and lock washer (2-140) from the loop clamp (2-370).

(b) Connector

1 Remove the four screws (2-50) and lock washers (2-60).

2 If necessary, cut the tiedown strap (1-260).

3 Identify and disconnect the wiring of the receptacle connector (2-40).

4 Remove the receptacle connector (2-40), then the attachment-plate (2-10) and the loop clamp(2-370).

(c) Electromagnetic relay

1 Identify and disconnect the wires of the electromagnetic relay (2-260).

2 Remove the electromagnetic relay (2-160).

(d) Fixed capacitor

1 Cut and discard the three retaining clamps (2-260).

2 Identify and disconnect the wires of the fixed capacitor (2-270).

3 Remove the fixed capacitor (2-270)

4 Remove the two screws (2-280) and anchor straps (2-290) if necessary.

(e) Sensitive switches

1 Remove the two screws (2-250) and remove the support assembly of the sensitive switches (2-190).

2 Remove the screws (2-200), and the washers (2-210) and (2-220).

3 Remove the sensitive switches (2-190) and the microswitch support (2-240).

4 Remove the leafspring (2-230) from each sensitive switch.

SUBTASK 33-42-12-040-006-A01

(6) Main casing

(a) Remove the seal (2-580), if necessary.

(b) Reduction gear assembly:

1 Remove the retaining ring (2-450) and the shims (2-460).

2 Remove the reduction gear assembly as follows.

a Remove the annular ball bearings (2-500) .

b Remove the wheel (2-480), the wheel (2-470), and the wheel (2-490).

c Remove the annular ball bearing (2-500) if necessary.

d Remove the machine key (2-530).

3 Remove the four screws (2-300) and the washer (2-510).

4 Remove the screw (2-540) from its housing.

5 Remove the airframe ball bearing (2-520) and the annular ball bearing (2-550) from the screw (2-540).

6 Remove the retaining ring (2-450).

(c) Auxiliary equipment:

1 Remove the electrical cable assy (2-420), and the electrical ground wire (2-410).

2 Remove the non-metallic grommet (2-560).

3 Remove the three screws (2-300) to remove the three anchor straps (2-290).

4 Remove the two screws (2-130) and the two lock washers (2-140) to remove the bonding foil (2-150).

5 If necessary, remove the rivets (2-610) to remove the nuts (2-600).

6 Remove the main casing (2-590).

THIS PAGE INTENTIONALLY LEFT BLANK

CLEANING

TASK 33-42-12-100-801-A01

1. Cleaning

A. Reason for the Job

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

WARNING : USE CLEANING AGENTS ONLY IN AN AREA WITH A SUFFICIENT SUPPLY AIRFLOW. OBEY LOCAL SAFETY AND HEALTH INSTRUCTIONS.

WARNING : OBEY THE MANUFACTURER'S INSTRUCTIONS. PUT ON PROTECTIVE CLOTHING. DO NOT DRINK SOLVENTS/CLEANING AGENTS. DO NOT SMOKE. DO NOT BREATHE THE FUMES. SOLVENTS/CLEANING AGENTS ARE POISONOUS AND FLAMMABLE. USE THE APPROVED HAND AND EYE PROTECTION WHEN YOU APPLY THE CLEANING AGENT.

WARNING : IF YOU GET THE CLEANING AGENT ON YOUR SKIN OR IN YOUR EYES:
– FLUSH IT ALWAYS WITH CLEAN WATER
– GET MEDICAL AID.

WARNING : USE EYE PROTECTION WHEN YOU USE COMPRESSED AIR TO CLEAN, COOL OR DRY PARTS OR TOOLS. PARTICLES CAN CAUSE AN INJURY TO YOUR EYES. DO NOT POINT COMPRESSED AIR AT PERSONS.

CAUTION : USE ONLY SPECIFIED CLEANING MATERIALS AND SOLUTIONS, OR THEIR EQUIVALENTS TO PREVENT DAMAGE TO THE PARTS.

CAUTION : DO ALL THE WORK ON A CLEAN, SOFT SURFACE TO PREVENT DAMAGE TO THE PARTS OF THE EQUIPMENT.

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

B. Job set-up information

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

NOTE : Refer to SPECIALS TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES for full informations of items listed.

(1) Tools, fixtures and equipment

REFERENCE	QTY	NAME
No specific	1	Cleaning container
No specific	1	Dehydrated compressed air supply
No specific	1	Fine brush
No specific	1	Soft brush
No specific	1	Lint free cloth

Table 4001 / Tools, fixtures and equipment

(2) Consumables

REFERENCE	NAME
60 SK FP	Solvant
ITM 261	Cleaning agent MIL-T 7003

Table 4002 / Consumables

C. Procedure

CAUTION : DO NOT CLEAN THE SLEEVE BEARINGS OR THE ASSEMBLIES CONTAINING SLEEVE BEARINGS WITH CLEANING SOLVENT. CLEAN THESE PARTS WITH A CLEAN, DRY, LINT FREE CLOTH.

(1) Clean the non-electrical parts with an approved cleaning Solvant 60 SK FP No specific or cleaning agent ITM 261 and dry with compressed air.

(2) Clean the electrical parts and the motor with a clean, dry, lint free cloth.

INSPECTION/CHECK

TASK 33-42-12-200-801-A01

1. Inspection and check procedures

A. Reason for the Job

WARNING : DISCONNECT THE EQUIPMENT FROM THE POWER SUPPLY OR TEST EQUIPMENT BEFORE YOU DO THE VISUAL INSPECTION.

CAUTION : DO ALL THE WORK ON A CLEAN, SOFT SURFACE TO PREVENT DAMAGE TO THE PARTS OF THE EQUIPMENT.

(1) A check must be carried out only by approved operators.

NOTE : If repair and overhaul of the Retractable landing light is necessary refer to “REPAIR” (Refer to TASK 33-42-12-350-801-A01).

NOTE : The numbers in parenthesis after the component's description are the figure and the item numbers of the Illustrated Part List (IPL), Refer to IPL.

(2) The function of the visual inspection that follows is to find signs of damage or corrosion. It is not to make sure that the equipment is serviceable. Do the tests in “TESTING AND FAULT ISOLATION”, to make sure that the equipment operates correctly.

B. Weight inspection

(1) Total weight: ≤ 7,875 kg (17.361 lbs).

C. Procedure

SUBTASK 33-42-12-210-001-A01

(1) Visual check

(a) Inspect the light for:

1 Scratches and shock marks on the lamp assy.

2 Good condition of the connecting parts including the electrical connector.

3 Good condition of the anti-corrosion protections:

– steel parts: bichromate cadmium plating, nickel plating, phosphating process,
– light alloy parts: colorless aluminizing, and grey aluminizing for the attachment part,
– retractable lamp.

4 Absence of external scratches on the lamp glass.

5 Correct wire-locking of all screws.

6 The presence of the filament positioning label.

(b) The gear sector condition: if the teeth are deeply worn, replace the sector.

(c) The condition of the teeth of: the screw (2-540), the wheels (2-480) and (2-490), the drive gear of the motor (3-10), the wheel (2-470). If the teeth are deeply worn, replace the defective parts.

(d) The condition of the mobile lamp housing (1-280).

(e) The condition of the main casing (2-590) and cover (2-110) .

(f) The condition of the clamp assembly (1-10) or (1-11).

(g) The condition of the motor casing (3-140).

NOTE : Replace the defective parts.

SUBTASK 33-42-12-210-002-A01

(2) Motors

(a) Do a visual inspection of all parts.

(b) Make sure there are no nicks, dents or other deformations.

(c) This could make the motor assembly operate incorrectly.

(d) Replace the motor assembly (3-10) if its resistance is < 20 MΩ below 500 VDC.

SUBTASK 33-42-12-210-003-A01

(3) Electrical check

(a) Fixed capacitor (2-270)

1 If the fixed capacitor (2-270) is defective, replace it.

(b) Motor assembly (3-10)

1 Do a check of the electrical insulation with the motor cold. The insulation resistance must be greater than 20 MΩ below 500 VDC.

2 Make sure the motor starts with an AC voltage supply of 115 V / 400 Hz.

(c) Electromagnetic relay (2-160)

1 Clean the contacts. Replace the electromagnetic relay if strong sparks occur during the electrical tests.

2 Do a check for the insulation. The resistance must be greater than 20 MΩ below 500 VDC.

3 The relay must operate with a voltage supply of 115 V / 400 Hz.

(d) Sensitive switches (2-190)

1 If the leafspring (2-230) are damaged, replace them.

2 Make sure the electrical insulation is correct. The insulation resistance must be greater than 100 MΩ below 500 VDC.

3 Make sure the sensitive switches operate correctly when you operate their leafspring. When the contact is switched on or off, cut-off must be sharp.

4 Energize the contacts with a current of 2,5 A at 115 V / 400 Hz and make sure the cut-off is sharp. If cut-off occurs slowly, replace the sensitive-switches.

(e) Auto-transformer (3-60)

1 If the primary or secondary terminal have signs of overheating, replace the auto-transformer.

2 Do a check of the electrical insulation of the auto-transformer. The insulation resistance must be greater than 100 MΩ below 500 VDC.

3 Make sure the circuits of the primary and secondary windings are continuous.

SUBTASK 33-42-12-220-004-A01

(4) Dimensional Check

(a) If necessary, do a check of the equipment for correct dimensions, refer to DESCRIPTION AND OPERATION.

SUBTASK 33-42-12-220-005-A01

(5) Weight Check

(a) If necessary, do a check of the equipment for correct weight, refer to DESCRIPTION AND OPERATION.

THIS PAGE INTENTIONALLY LEFT BLANK

REPAIR

TASK 33-42-12-350-801-A01

1. Repair procedures

A. General

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

NOTE : The numbers in parenthesis after the component's description are the figure and the item numbers of the Illustrated Part List (IPL), Refer to IPL.

(1) Use this procedure for the repair and the overhaul of the worn or the damaged parts. Reject all defective parts for which no repair directions are given and replace them by new parts.

B. Reason for the Job

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

C. Job Set-Up Information

(1) Tools, fixtures and equipment

(a) The tables below gives the tools, fixtures and equipment to do the maintenance of the Retractable landing light.

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

NOTE : Refer to SPECIALS TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES for full informations of items listed.

(b) Stripping characteristics

CON-TACT SIZE	WIRE		STRIPPING TOOL	
	GAUGE	LENGTH A mm (in)	STRIPMASTER P/N	COLOR
16	24 to 18	4.5 (0.177)	Wire stripper 45-2020	Blue
			Stripping blade set 45-2020-1	
20	24 to 14	7 (0.276)	Wire stripper 45-2020	Blue
			Stripping blade set 45-2020-1	

Table 6001 / Stripping characteristics for connector (2-40)

(c) Crimping tool

CONTACT P/N	WIRE GAUGE	HAND CRIMPING TOOL					
		TOOL		TURRET/LOCATOR			
		NORM	P/N	NORM	P/N	COLOR	SELEC-TOR
006-0937-20A	20	MIL	22520/1-01	MIL	22520/1-02	RED	4
006-0937-16A	16	MIL	22520/1-01	MIL	22520/1-02	BLUE	6

Table 6002 / Crimping tool for connector (2-40)

(d) Insertion and extraction tool

CONTACT			INSERTION AND EXTRACTION TOOL		
P/N	SOCKET CHARACTERISTICS		NORM	P/N	COLOR
006-0937-20A	006-0912-20A	WIRED	MIL	81969/14-02	RED/WHITE
006-0937-16A	006-0912-16A	WIRED	MIL	81969/14-03	BLUE/WHITE

Table 6003 / Insertion and extraction tool for connector (2-40)

(2) Consumables

Not applicable

D. Procedure

SUBTASK 33-42-12-350-001-A01

(1) Mechanical parts

(a) Protection of the mobile lamp housing: colorless aluminizing with a soft brush.

(b) Protection of the lamp clamps: chemical nickel plating with a soft brush.

SUBTASK 33-42-12-350-002-A01

(2) Receptacle connector

(a) Remove, with the wire stripper 45-2020 and the applicable blade of the set 45-2020-1, a 4,5 mm (0.177 in) length of insulation from the end of a gauge 24 to 18 for a 20 size contact wire.

(b) Remove, with the wire stripper 45-2020 and the applicable blade of the set 45-2020-1, a 7 mm (0.276 in) length of insulation from the end of a gauge 24 to 14 for a 16 size contact wire.

(c) Use the crimping tool 22520/1-01 to crimp the connector pins on the electrical wires.

NOTE : For wire gauge 20, contact P/N 006-0937-20A, put the selector on 4.

NOTE : For wire gauge 16, contact P/N 006-0937-16A, put the selector on 6.

(d) Refer to the connection diagram and use the insertion and extraction tool to install the electrical contacts through the rear of the connector.
(Refer to Fig. 2001)

THIS PAGE INTENTIONALLY LEFT BLANK

ASSEMBLY

TASK 33-42-12-400-801-A01

1. Assembly procedures

A. General

CAUTION : MAKE SURE THE WIRING LOOP PATH HAS THE CORRECT ANCHOR POINTS. DURING HANDLING, THIS WILL PREVENT ANY TORSION OR FORCE WHICH COULD BREAK THE ELECTRIC WIRING AND THE BRAIDED SHEATH. IN PARTICULAR, MAKE SURE THAT THE SUPPLY WIRING AT THE LAMP ARTICULATION, IS NOT INVERTED IN THE PROTECTIVE SHEATH AND ALSO THAT NO TORSION OR FORCE IS APPLIED.

NOTE : The numbers in parenthesis after the component's description are the figure and the item numbers of the Illustrated Part List (IPL), Refer to IPL.

(1) (Refer to Fig. 2001)

B. Job set-up information

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

NOTE : Refer to SPECIALS TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES for full informations of items listed.

REFERENCE	QTY	NAME
No specific	1	Vernier protactor
No specific	1	Metallic brush

Table 7001 / Standard tools

REFERENCE	NAME
3138867	AERO-SHELL 64 Grease
3129933	ROYCO 22CF Grease MIL-G-81322E or AIR 4222
3084082	LOCTITE 222
3109148	LOCTITE 243
3116363	LOCTITE 603
3058587	Compound RTV 732
3068448	Compound RTV 734
3068455	PRIMER 1200

Table 7002 / Consumables

C. Job set-up

(1) Apply a thin layer of weak LOCTITE 603 to safety the nuts and screws that are not mechanically locked and a thin layer of LOCTITE 243 to safety the screws (2-200).

CAUTION : MAKE SURE THERE IS NO GREASE ON MICROSWITCHES, ELECTRICAL ITEMS OR SILICON COMPONENTS. YOU MUST REPLACE ELECTRICAL OR SILICON PARTS IF THERE IS ANY CONTAMINATION.

(2) Grease application

(a) Apply a thin layer of AERO-SHELL 64 on the screw (2-540) and the gear sector (4-100) only, installed on the fork (4-120).

(b) Apply a thin layer of ROYCO 22CF on the following parts only:

- the hinge pins (4-60) on the fork (4-120),
- the annular ball bearings (1-70) on the rods (1-60),
- the ball bearings (2-520) and (2-550) on the screw (2-540),
- the wheel assemblies (2-480), (2-470), and (2-490).

D. Procedure

SUBTASK 33-42-12-440-001-A01

(1) Main casing equipment

(a) Casing

1 If necessary, install the nuts (2-600) and attach them with the rivets (2-610).

2 Apply a layer of LOCTITE 222 on the screw (2-280) or (2-300).

3 Attach each anchor strap (2-290) with a screw (2-280) or (2-300).

4 Install the bonding foil (2-150) on the casing.

5 Attach the bonding foil (2-150) with the two screws (2-130) and two washers (2-140).

6 Install the non-metallic grommet (2-560) .

(b) Hinge assembly

1 Attach the hinge assy (1-110) on the main casing (2-590) with the five screws (1-120), flat washers (1-130) and self locking nuts (1-140).

2 Tighten the screw (1-120) to the torque value given in FITS AND CLEARANCE with a torque wrench.

3 Apply PRIMER 1200 on the main-casing (2-590).

4 Bond the seal (2-580) with Compound RTV 734.

(c) Reduction gear

1 Apply LOCTITE 603 on the mating surface between the screw (2-540) and the airframe ball bearing (2-520) before to glue them together.

2 Install the annular ball bearing (2-550) on the screw (2-540), with its retaining ring (2-450), and the airframe ball bearing (2-520).

3 Install the machine key (2-530) on the screw (2-540).

4 Attach the washer (2-510) with the four screws (2-300).

5 Put this assembly in position on the bearing surfaces of the main casing (2-590).

6 Install the four annular ball bearings (2-500) on each wheel assembly (2-480) and (2-490).

7 Lightly lubricate the wheels (2-480), (2-470) and (2-490), with ROYCO 22CF .

8 Put the wheels in position, on the bearing surfaces of the main casing (2-590) and on the screw (2-540).

9 Use the shims (2-460) if necessary and adjust the backlash in the reduction gear.

10 Install the retaining-ring (2-450) on the screw (2-540).

11 Make sure that the gear assembly turns freely.

SUBTASK 33-42-12-440-002-A01

(2) Mobile lamp housing

(a) Assemble the mobile lamp housing (1-280) as follows:

1 Apply PRIMER 1200 on the protection (1-230).

2 Install the protection (1-230), bonded with RTV 734 .

3 Apply a layer of LOCTITE 222 on the screw (1-250).

4 Install the anchor strap (1-240) and the screw (1-250).

5 Install the non-metallic grommet (1-220).

6 Install the hinge pins (1-90) with their flat washers (1-100) and lock the assembly with grooved headless pins (1-80).

7 Install the plate (1-270).

(b) Install the lamp housing assembly on the hinge assy (1-110) and attach it with the five screws (1-120).

(c) Tighten the screw (1-120) to the torque value given in FITS AND CLEARANCE with a torque wrench.

SUBTASK 33-42-12-440-003-A01

(3) Fork

(a) Assemble the fork (4-120) as follows:

1 Install the two hinge pins (4-60) and then the grooved headless pins (4-70).

2 Install the support (4-80), according to the Retractable landing light type:

a Retractable landing light P/N 4191695 before SB 33-091 and SB 33-094.

- Attach the support (4-80) equipped with the four screws with the two screws (4-90) and safety them with lockwire (2-620).

b Retractable landing light P/N 4191695 post SB 33-094, Retractable landing light P/N 4315542 post SB 33-091 and before SB 33-122 and Retractable landing light P/N 4331772 before SB 33-123.

- Engage the extension movement screw in the support (4-80A) adjacent to the leaf spring.

- Install and tighten the retraction-movement screw on the support (4-80A) on the side opposite the extension movement screw.

- Engage the movement indication screw adjacent to the retraction movement screw.

- Install the equipped support, and attach it with the two screws (4-90). Then safety them with lockwire (2-620).

c Retractable landing light P/N 4315542 post SB 33-122 and Retractable landing light P/N 4331772 post SB 33-123.

- Install the equipped support (4-80) or (4-80A) or (4-80B), and attach it with the two screws (4-90), then safety them with lockwire (2-620).

3 Install the gear sector (4-100) with the grooved headless pins (4-110) and make sure that the full toothed side of the sector is turned towards the front of the fork (4-120).

(b) Install the outside lubricated annular ball bearings (4-50) on the hinge pins (4-60).

(c) Install one shaft bearing (4-10) in the main casing (2-590) with the screws (4-20) and the flat washers (4-30) .

(d) Install the fork (4-120) in the "EXTENSION" position on the shaft bearing (4-10).

(e) Install the other shaft bearing (4-10) on the annular ball bearings (4-50) and in the main casing (2-590) .

(f) Make sure the fork operates freely.

(g) Remove the shaft bearings (4-10) and install the shims (4-40) as necessary, so that the rod (1-60) is aligned with the lamp housing and the fork.

(h) After adjustment, attach the shaft bearings (4-10) with the screws (4-20) and the flat washers (4-30). Safety the screws with lockwire (2-620).

SUBTASK 33-42-12-440-004-A01

(4) Lamp housing

(a) Set the fork (4-120) in the "EXTENSION" position.

(b) Apply LOCTITE 603 on the mating surfaces between the annular ball bearings (1-70) and the bearing surfaces of the rods (1-60). Put the annular ball bearings (1-70) in position on the rods (1-60).

(c) Install the rods (1-60) on the hinge pins (1-90) and then install the retaining rings (1-50).

(d) Put the electrical cable assy (2-420) and the ground wire (2-410) through the non-metallic grommet (1-220).

NOTE : When you install the electrical cable assy (2-420), make a loop with the cable.

NOTE : Make sure that the dimensions are correct (Refer to Fig. 2001 SHEET 1 Fig. 7002). This installation is to prevent the electrical cable assy (2-420) overheat.

(e) Put the clamp (1-260) in the anchor strap (1-240) and attach the cable with the clamp at the white protective sleeve location.

(f) Attach the bonding lead with the screw (1-200) and the lock washer (1-210).

(g) Apply a layer of RTV 732 on the non-metallic grommet (1-220) at the exterior housing (1-280) location.

(h) Do the wiring of the receptacle connector (2-40). (Refer to Fig. 2001 SHEET 1)

(i) Install the receptacle connector (2-40) on the bonding foil (2-150) and the attachment plate.

(j) Attach the receptacle connector (2-40) to the attachment plate (2-10) with screws (2-50) and washers (2-60).

(k) Torque the screws (2-50) to the torque value given in FITS AND CLEARANCE with a torque wrench.

(l) Install the loop clamp (2-370) on the wiring.

(m) Attach the loop clamp (2-370) on the attachment plate (2-10) with the screw (2-360) and washer (2-140).

SUBTASK 33-42-12-440-005-A01

(5) Electrical equipment

(a) Sensitive switches (Refer to Fig. 7001)

1 Assemble each sensitive switch (2-190) with its leafspring (2-230), and make sure that the position is correct.

2 Apply a thin layer of LOCTITE 243 on the screws (2-200).

3 Install the sensitive switches two by two on the microswitch support (2-240), attach them with the screws (2-200) and lock washers (2-210) and (2-220).

4 Attach the microswitch support (2-240) to the casing with the screws (2-250).

SUBTASK 33-42-12-440-006-A01

(6) Main casing

(a) Install the elastic stop (3-180) or the shock absorber assembly (3-180B) on the motor casing (3-140).

(b) Install the motor casing (3-140) in the main casing (2-590) .

(c) Attach it with two screws (3-150) and one flat washer (3-160).

NOTE : The flat washer (3-160) is on the screw which do not attach the elastic stop (3-180) or the shock absorber assembly (3-180B).

(d) Attach the bonding lead from the connector in the main casing (2-590) with the third screw (3-150), the other washers (3-160) and the self-locking-nut (2-430).

(e) Attach the auto-transformer (3-60) to the motor casing with the screws (3-70) and flat washers (3-80) .

(f) Safety the three screws (3-150) and the six screws (3-70) with lockwire (2-620) .

(g) Connect the primary wires A and B of the cable to the terminal P of the autotransformer (3-60) without tightening the nuts on terminal lugs. (Refer to Fig. 2001 SHEET 1)

(h) Connect the secondary wires for the lamp on the terminal S of the autotransformer (3-60) without tightening the nuts on terminal lugs. (Refer to Fig. 7003)

(i) Install the tiedown strap (2-570) in the anchor strap (2-290) then attach the electrical cable assy (2-420) and make sure to align the end of the black insulation sleeve (5-80) of the electrical cable assy (2-420) with the middle of the grommet of the main casing (2-590) .

(j) Install the loop clamp (2-370) on the wiring.

(k) Attach the loop clamp (2-370) on the main casing (2-590) with the screw (2-360) and the washer (2-140).

CAUTION : THE BONDING LEAD MUST BE PLACED BELOW ALL THE OTHER WIRES.

(l) Connect the bonding lead to the casing with the screw (2-380), the flat washer (2-390) and the self-locking nut (2-400).

(m) Torque the screw (2-380) to the torque value given in FITS AND CLEARANCE with a torque wrench.

(n) Install the tiedown strap (2-570) on the white sleeve of the electrical cable assy (2-420) near the loop clamp (2-370) and attach the cables. Make sure of the correct distance of the cables (Refer to Fig. 7002).

(o) Torque the nuts of the terminal P of the autotransformer (3-60) to the torque value given in FITS AND CLEARANCE.

(p) Torque the nuts of the terminal S of the autotransformer (3-60) to the torque value given in FITS AND CLEARANCE

(q) Before SB 4191695-33-005 or SB 4315542-33-005 or SB 4331772-33-005. Install the connection kit (3-90) as follows:

1 Protect the pins of the auto-transformer (3-60) with the protection cap (3-130), then install the insulating material.

2 Put the protection isolator square (3-100) in position.

3 Attach the protection isolator square (3-100) with the screws (3-110) and the washer (3-120).

4 Secure the screws (3-110) with the lockwire.

CAUTION : BE CAREFUL WHEN YOU ENGAGE THE DRIVE GEAR AND THE WHEEL (2-480) CORRECTLY: DO NOT PINCH THE WIRING.

(r) Install the motor assembly (3-10) on the motor casing (3-140).

(s) Attach the motor assembly (3-10) with the two screws (3-20) and the two screws (3-30) and their flat washers (3-40).

(t) Torque the screws (3-30) and (3-20) to the torque value given in FITS AND CLEARANCE with a torque wrench.

(u) Safety the screws (3-30) and (3-20) with lockwire (2-620).

SUBTASK 33-42-12-440-007-A01

(7) Fixed capacitor, terminal board and electromagnetic relay

(a) Solder the auto-transformer wire B to the terminal board (2-310) and the wire A to the relay (2-160).

(b) Do the wiring of the terminal board (2-310), of the fixed capacitor (2-270) and of the relay (2-160). (Refer to Fig. 2001 SHEET 1) (Refer to Table 2001)

(c) Fixed capacitor (2-270).

1 Hold the fixed capacitor wires with a retaining clamp (2-260).

2 Put the two other retaining clamps (2-260) in the anchor straps (2-290).

3 Install the fixed capacitor (2-270) in the retaining clamps (2-260).

(d) Terminal board (2-310)

1 Install the terminal board (2-310) equipped with its spacer (2-350) and the two flat washers (2-330) on the main casing (2-590).

2 Attach the terminal board (2-310) with the screw (2-320) and the self-locking nut (2-340) to attach the terminal board (2-310).

(e) Electromagnetic relay (2-160)

1 Install the electromagnetic relay (2-160) in the main casing (2-590).

2 Attach the electromagnetic relay (2-160) with the two screws (2-170) and the lock washers (2-180).

3 Apply RTV 732 on the terminals of the relay (2-160).

SUBTASK 33-42-12-440-008-A01

(8) Incandescent halogen lamp or LED lamp

(a) Install the seal (1-40) in the mobile lamp housing (1-280).

CAUTION : BRUSH THE TERMINALS OF HALOGEN LAMP WITH A METALLIC BRUSH.

(b) Make the connection of the incandescent halogen lamp (1-30) or (1-30A) or the LED lamp (1-30B).

(c) Do the wiring of the lamp . (Refer to Fig. 2001 SHEET 1)

(d) Install the incandescent halogen lamp (1-30) or (1-30A) or the LED lamp (1-30B) in the mobile lamp housing (1-280).
— You must put the filament horizontally for the halogen lamp (1-30) or (1-30A), in accordance with the indications on the filament position plate (1-270).
— You must put the LED lamp (1-30B) as shown (Refer to Fig. 7004) with the line of the six collimators horizontally.

(e) Pre SB 33-058

1 Install the clamp (1-10) and lock it.

(f) Post SB 33-058 or SB 4191695-33-189 or SB 4315542-33-190 or SB 4331772-33-191

1 Install the clamp (1-11) and attach it with the screw (1-20).

2 Tighten the screw (1-20) to the torque value given in FITS AND CLEARANCE with a torque wrench.

SUBTASK 33-42-12-440-009-A01

(9) Adjustment of the "EXTENSION" position according to the Retractable landing light type

(a) Retractable landing light P/N 4191695 before SB 33-094 (Refer to Fig. 7003)

1 Connect the lamp to the electrical power supply.

2 Put the Vernier protractor in position, and move the retractable lamp out 85°. Stop the motor when you reach the extension angle.

3 Turn the lamp lighting end-of-travel adjustment screws so as to open the sensitive switches (2-190).

4 Turn the lamp lighting adjustment screw an extra turn so that the lamp comes on before reaching the end-of-travel position.

(b) Retractable landing light P/N 4191695 post SB 33-094

CAUTION : STOP THE MOTOR IF AN 85° EXTENSION ANGLE IS REACHED.

1 Put the Vernier protractor in position and move the retractable lamp out.

2 Make sure the extension angle is less than 85°.

3 Retract the lamp.

CAUTION : TO PREVENT OVERTRAVEL DO NOT TURN THE ADJUSTMENT SCREW MORE THAN ONE TURN.

4 Turn the adjustment screw to reach the 85° angle.

5 Do the operations again until you reach an extension angle of 85° +0°/-2°.

(c) Retractable landing light P/N 4315542 and P/N 117PE01Y00

CAUTION : STOP THE MOTOR IF AN 90° EXTENSION ANGLE IS REACHED.

1 Put the Vernier protractor in position and move the retractable lamp out.

2 Make sure the extension angle is less than 90°.

3 Retract the lamp.

CAUTION : TO PREVENT OVERTRAVEL DO NOT TURN THE ADJUSTMENT SCREW MORE THAN ONE TURN.

4 Turn the adjustment screw to reach the 90° angle.

5 Do the operations again until you reach an extension angle of 90° +0°/-2°.

(d) Retractable landing light P/N 4331772

CAUTION : STOP THE MOTOR IF A 91° EXTENSION ANGLE IS REACHED.

1 Put the Vernier protractor in position and move the retractable lamp out.

2 Make sure the extension angle is less than 91°.

3 Retract the lamp.

CAUTION : TO PREVENT OVERTRAVEL DO NOT TURN THE ADJUSTMENT SCREW MORE THAN ONE TURN.

4 Turn the adjustment screw to reach the 91° angle.

5 Do the operations again until you reach an extension angle of 90,5° ± 0,5° (90° to 91°).

SUBTASK 33-42-12-440-010-A01

(10) Adjustment of the "RETRACTION' position

(a) Make the lamp move in so that it is on the same level as the collar of the main casing.

(b) Tighten the "INDICATION" and "RETRACTION" adjustment screws so that they open the sensitive switches. (Refer to Fig. 7003)

(c) Turn the indication adjustment screw an extra turn so that the lamp light goes off before the lamp is in the fully retracted position.

NOTE : This adjustment makes the indicating light in the cockpit go off and open the " INDICATING " circuit before the mobile lamp housing is in the completely " RETRACTED ” position.

SUBTASK 33-42-12-440-011-A01

(11) Bonding foil

(a) Attach the attachment plate (2-10) of the receptacle connector (2-40) with the screws (2-20) and the lock washers (2-30).

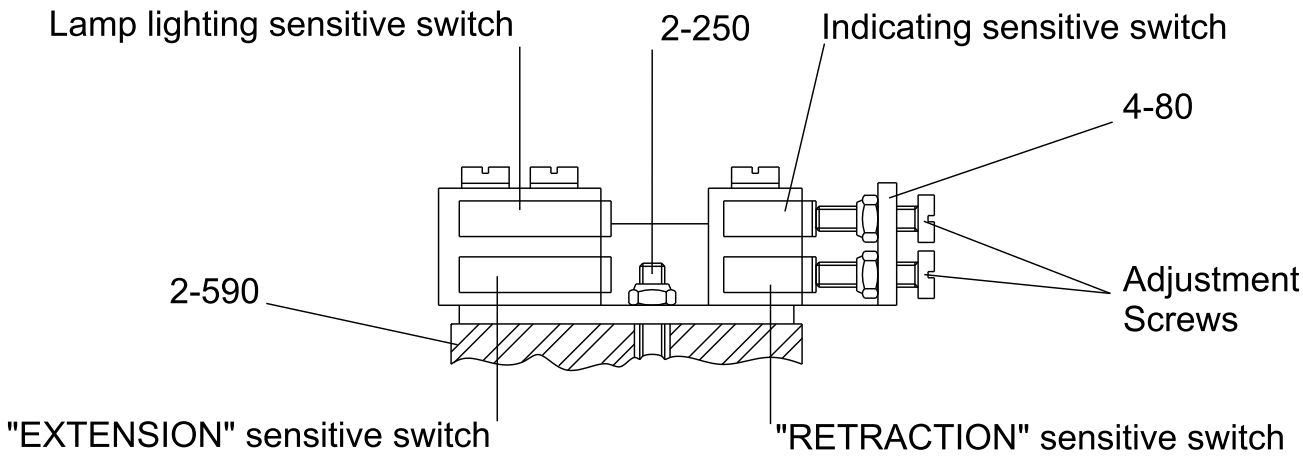
(b) Attach the cover (2-110) equipped of the seal (2-120) with the screws (2-90) and (2-80) and the washers (2-100) .

(c) Install the plates (2-630), (2-640) and (2-650), if necessary.

(d) Do all the tests of the Retractable landing light according to the TESTING AND FAULT ISOLATION

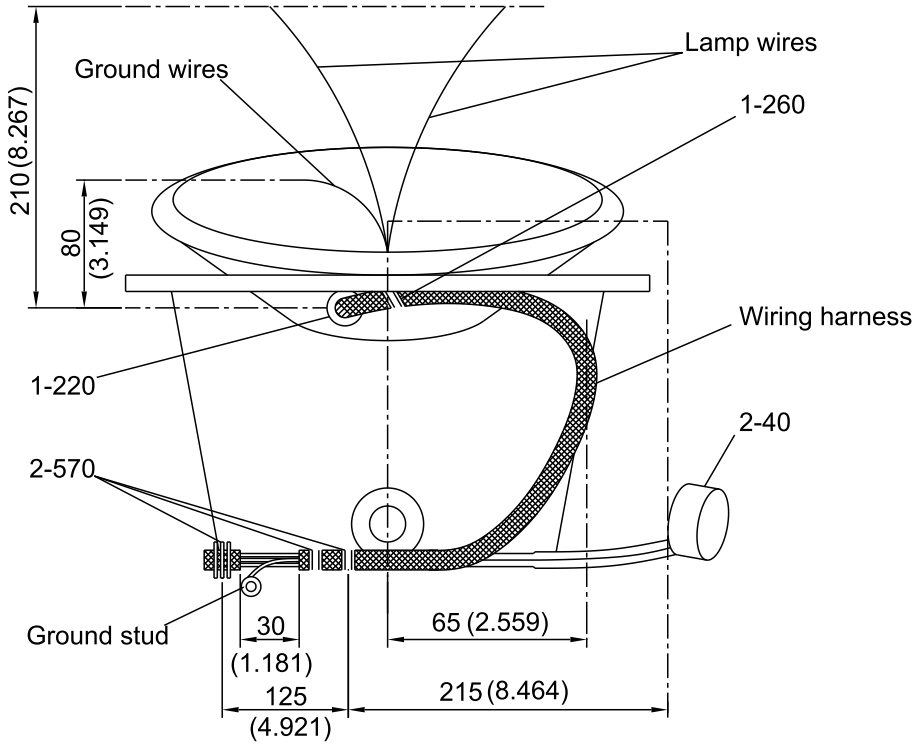
(e) Tighten the screws (2-20), (2-90), (2-80) to the torque value given in FITS AND CLEARANCE with a torque wrench.

(f) Safety the screws (2-20), (2-90), (2-80) with lockwire (2-620).



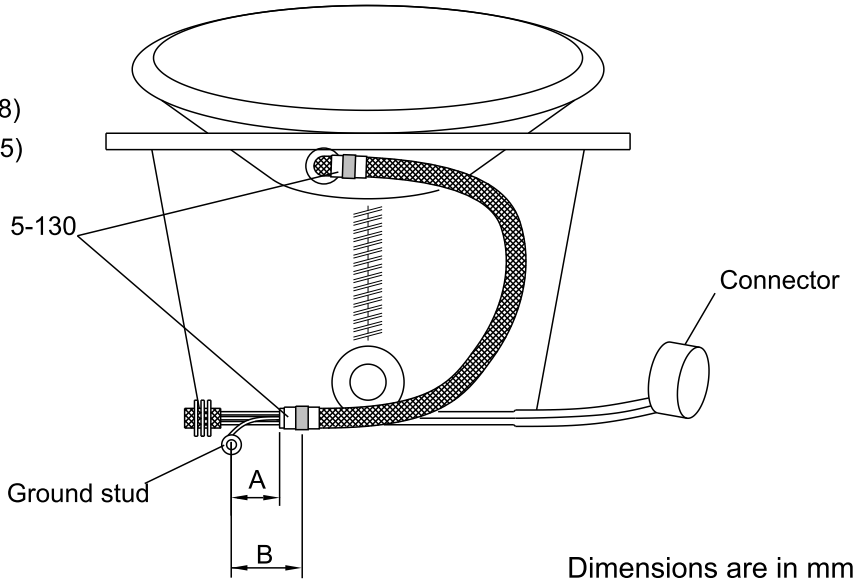
Assembly of the sensitive switches
Figure 7001/GRAPHIC-33-42-12-991-701-A01

INSTALLATION WITH P/N 4375476



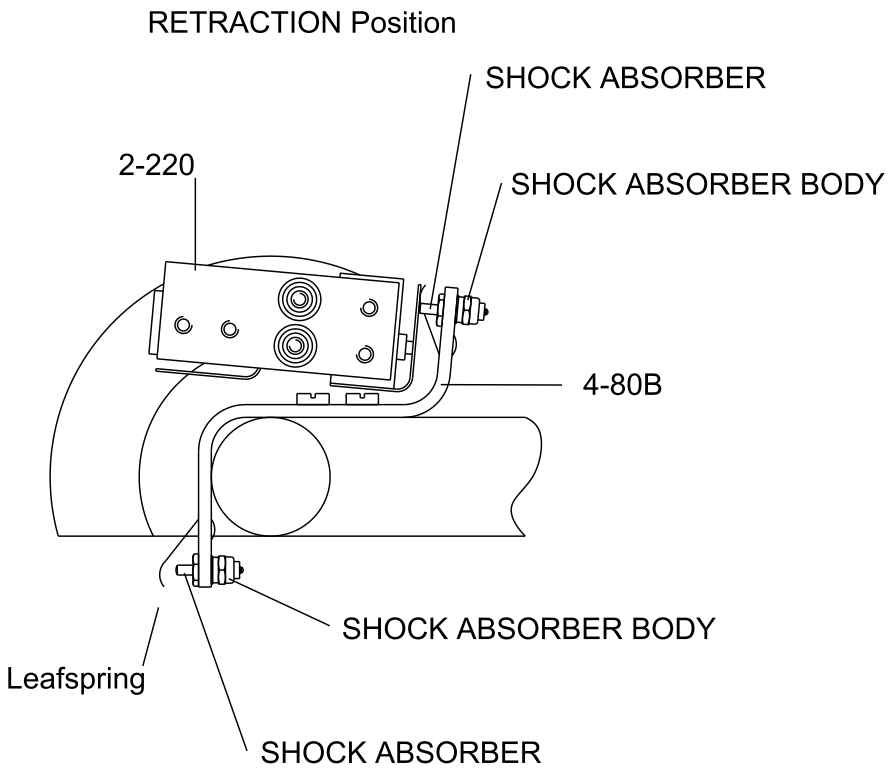
INSTALLATION WITH P/N 4375476Y01

A : 25 0/+3 (0.984 0/+0.118)
B : 35 0/+7 (1.378 0/+0.275)

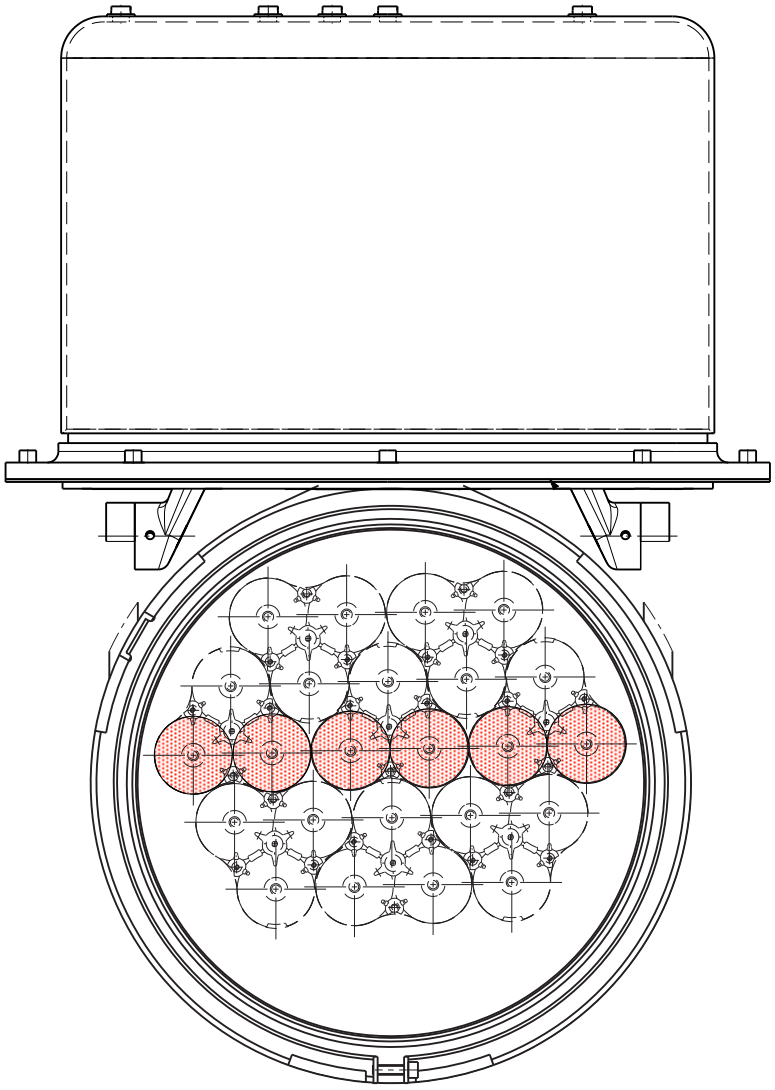


Dimensions are in mm (in)

Installation of electrical cable assembly
Figure 7002/GRAPHIC-33-42-12-991-702-A01



Adjustment of "extension" and "retraction" positions
Figure 7003/GRAPHIC-33-42-12-991-703-A01



LED Lamp correct position in the Landing Light
(Six lenses shall be aligned horizontally as shown circled in red)

Figure 7004/GRAPHIC-33-42-12-991-704-A01

FITS AND CLEARANCES

TASK 33-42-12-940-801-A01

1. 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 shown in parenthesis ( ) are the same item numbers as 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	
(2-380)	SCREW	1,5 N.m	1.106 lbf.ft
(3-30) (3-20)	SCREW	0,5 N.m	0.3687 lbf.ft
(2-50)	SCREW	0,5 N.m	0.3687 lbf.ft
(1-20) (2-20) (2-90) (2-80)	SCREW	0,75 N.m	0.553 lbf.ft
(1-120)	SCREW	3 N.m	2.212 lbf.ft
(3-60)	NUTS OF THE TERMINAL P OF THE AUTOTRANSFORMER	1 N.m	0.739 lbf.ft
(3-60)	NUTS OF THE TERMINAL S OF THE AUTOTRANSFORMER	1,5 N.m	1.106 lbf.ft

Table 8001 / Torque values

THIS PAGE INTENTIONALLY LEFT BLANK

SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES

TASK 33-42-12-940-802-A01

1. SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES

A. Special Tools, Fixtures and Equipment

(1) The table below gives the special tools, fixtures and equipment used to do the maintenance of the Retractable landing light.

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

REFERENCE	NAME	SUPPLIERS CODE OR NAME AND ADDRESS	PAGE BLOCK WHERE USED
No specific	Electrical supply 115 V / 400 Hz	Local supply	1001
No specific	Ammeter 0-10 AAC	Local supply	1001
No specific	Voltmeter 0-150 VAC	Local supply	1001
No specific	Milliohmmeter	Local supply	1001
No specific	Megohmmeter	Local supply	1001
No specific	Vernier protractor	Local supply	1001 7001
No specific	Chronometer	Local supply	1001
UNIVIS 10 U10WPCC5	Eyes protective glasses or equivalent glasses compliant to the standards EN166, EN170, EN172 and 175	Local supply	1001
690-433177	Control gauge 90,5°	F0280	1001
692-419169	Control gauge 90°	F0280	1001
690-419169	Control gauge 85°	F0280	1001
No specific	Single-phase electrical power supply 115 V / 400 Hz adjustable between 80 and 120 V	Local supply	1001
No specific	Ohmmeter	Local supply	1001
No specific	Voltmeter	Local supply	1001
No specific	Ammeter	Local supply	1001
No specific	Cleaning container	Local supply	4001
No specific	Dehydrated compressed air supply	Local supply	4001
No specific	Fine brush	Local supply	4001
No specific	Soft brush	Local supply	4001

No specific	Lint free cloth	Local supply	4001
No specific	Metallic brush	Local supply	7001

Table 9001 / Tools

CON-TACT SIZE	WIRE		STRIPPING TOOL	
	GAUGE	LENGTH A	STRIPMASTER P/N	COLOR
16	24 to 18	4.5 mm (0.177 in)	Wire stripper 45-2020	Blue
			Stripping blade set 45-2020-1	
20	24 to 14	7 mm (0.275 in)	Wire stripper 45-2020	Blue
			Stripping blade set 45-2020-1	

Table 9002 / Stripping Characteristics for connector (2-40)

		HAND CRIMPING TOOL					
CONTACT P/N	WIRE GAUGE	TOOL		TURRET/LOCATOR			
		NORM	P/N	NORM	P/N	COL-OR	SELECTOR
006-0937-20A	20	MIL	22520/1-01	MIL	22520/1-02	RED	4
006-0937-16A	16	MIL	22520/1-01	MIL	22520/1-02	BLUE	6

Table 9003 / Crimping Tools for connector (2-40)

CONTACT			INSERTION AND EXTRACTION TOOL		
P/N	SOCKET CHARACTERISTICS		NORM	P/N	COLOR
006-0937-20A	006-0912-20A	WIRED	MIL	81969/14-02	RED/WHITE
006-0937-16A	006-0912-16A	WIRED	MIL	81969/14-03	BLUE/WHITE

Table 9004 / Insertion and Extraction Tools for connector (2-40)

B. Consumables

MATERIAL N°	DESIGNATION AND SPECIFICATION	SUPPLIERS	PAGE BLOCK WHERE USED
-	Solvant 60 SK FP	Local Supply	4001
-	ITM 261	Local Supply	4001
3138867	AERO-SHELL 64	F0280 OR F1858	7001

MATERIAL N°	DESIGNATION AND SPECIFICATION	SUPPLIERS	PAGE BLOCK WHERE USED
3129933	ROYCO 22CF Grease MIL-G-81322E or AIR 4222	F0280 OR TOTAL FINA ELF	7001
3084082	LOCTITE 222	F6033	7001
3109148	LOCTITE 243	F7121	7001
3116363	LOCTITE 603	F7121	7001
3058587	Compound RTV 732	71984	7001
3068448	Compound RTV 734	71984	7001
3068455	PRIMER 1200	F7286	7001

Table 9005 / Consumables

THIS PAGE INTENTIONALLY LEFT BLANK

STORAGE

TASK 33-42-12-500-801-A01

1. Storage procedures

SUBTASK 33-42-12-530-001-A01

A. Conditioning

(1) Make sure the mobile lamp-housing is extracted about 10°.

(2) Put the unit in a polythene bag (closed and perforated).

SUBTASK 33-42-12-550-001-A01

B. Packaging

(1) Carefully pack the unit in a cardboard box, with a protecting pad on all six sides.

(2) Close the box and reinforce the angles with adhesive tape.

(3) Put clearly on the top side and the two lateral sides the following indications:

- the name of the manufacturer,
- the description,
- the part number,
- the code number,
- the serial number,
- the delivery date.

(4) Put the cardboard-box into storage in a temperate room.

NOTE : After a sixty month storage, do tests to make sure the equipment operates correctly.

(5) Make sure that shelf life of Retractable landing light is not more than 5 years since manufacturing date.

(a) If shelf life is more than 5 years, you must replace the bearings and the seals.

(b) Do the operation tests with several extension and retraction cycles.

THIS PAGE INTENTIONALLY LEFT BLANK

ILLUSTRATED PARTS LIST

THIS PAGE INTENTIONALLY LEFT BLANK

INTRODUCTION TO THE ILLUSTRATED PARTS LIST

TASK 33-42-12-950-801-A01

1. Introduction

A. General

(1) The Illustrated Parts List (IPL) is prepared in compliance with ATA 2200. The IPL is intended to identify all the components of the unit.

(2) The Illustrated Parts List contains the following sections:

– Introduction
– Vendors Code Index
– List of Circuit Symbols (if applicable)
– Numerical Index of manufacturer's part numbers
– Detailed Parts List.

B. How to use the detailed parts list

(1) The detailed parts list includes the nomenclature and illustrations of the unit components. The detailed parts list columns are arranged as follows:

1st column: Fig. Item - Figure and Item number
2nd column: Part number - Manufacturer's part number
3rd column: Nomenclature
4th column: Usage code - Effectivity
5th column: Units per Assy - Quantity per next higher assembly

(2) Figure and item numbers

(a) The figure number, covering items listed, is indicated on the first line at the top of each page.

(b) Each part-numbered assembly, sub-assembly or item listed in the parts list is assigned an item number followed by a letter identifying the variant. The basic variant is lettered A.

(c) Assemblies, sub-assemblies and parts listed, but not illustrated, are identified by a dash (-) preceding the corresponding item numbers.

(d) A "lettered index" appearing before the item number is a cross reference to the illustration of the variant called out from the corresponding main figure.

(3) Manufacturer's part number

(a) Each of the assemblies, sub-assemblies and detail parts, illustrated or not, is assigned a manufacturer's part number.

(b) When the manufacturer's actual part number is more than 15 characters, an equivalent assigned part number is listed in the "Part number" column preceded by the following annotation " OVERLGTH... MADE BY V..."

(c) The two part numbers are listed in the Alphanumeric index in their logical sequence ; the actual overlength part number is cross-referenced to the assigned part number preceded by the annotation "SEE...".

(4) Nomenclature

(a) The nomenclature is intented to show the relationship between the parts listed, as follows:

1234567
Assembly
*Detail parts for assembly
*Sub-assembly
*Attaching parts and/or storage parts for sub-assembly
+++
**Detail parts for sub-assembly
**Sub-sub-assembly
**Attaching parts and/or storage parts for sub-sub-assembly
+++
***Detail parts for sub-sub-assembly
etc.

(5) A vendor code is indicated for all items or articles not made by the prime manufacturer of the assembly. This vendor code or the abbreviation "NP" (not procurable) is put at the extreme right-hand side of the 1st line of the nomenclature.

(6) Effectivity (Usage code)

(a) An alphanumeric usage code indicates the applicability of sub-assemblies and detail parts to the next higher assembly(ies) or sub-assembly(ies).

(b) When the applicability is general, the usage code column is left blank.

(c) The usage code corresponds to the figure/item number of the next higher assembly(ies) or sub-assembly(ies). e.g., effectivity 1A, 1B, 1C is written 1ABC.

(7) Units per assembly

(a) The Units per Assy column shows the number of units required for the next higher assembly.

(b) In some cases this information is replaced by the letters REF (reference) or AR (as required).

(8) TERMS AND ABBREVIATIONS USED

AR: As required
ATTACHING PARTS
DELETED
DET: Detail
LH and RH: Left and right
MADE BY

MADE FROM
MATCHED PART
MODIFIED FROM
NHA: Next higher assembly
NP: Not procurable
OPT TO: Optional parts
OVERSIZE: Oversize repair parts- OVERSIZE: Oversize repair parts
R: Modified
RF: For reference
SEE
SEL FROM: Select from parts
STORAGE PARTS
SUPSD BY: Superseded by
SUPSDS: Supersedes
UNDERSIZE: Undersize repair parts
VCI: Vendor’s code Index

THIS PAGE INTENTIONALLY LEFT BLANK

VENDOR'S CODE INDEX

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
80205	NATIONAL AEROSPACE STANDARDS COMMITTEE AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA INC 1250 EYE ST NW WASHINGTON DC 20005 USA
D8512	AMP DEUTSCHLAND GMBH AMPERESTRASSE 7-11 63225 LANGEN GERMANY
F0110	AFNOR (ASSOCIATION FRANCAISE DE NORMALISATION) 11 AV FRANCIS DE PRESSENSE 93571 LA PLAINE ST DENIS CEDEX FRANCE
F0111	BNAE-BUREAU DE NORMALISATION DE L'AERONAUTIQUE ET DE L'ESPACE TECHNOPOLIS 54 199 RUE JEAN-JACQUES ROUSSEAU 92138 ISSY LES MOULINEAUX FRANCE
F0215	ESPA SA 2 RUE DE BALZAC 75008 PARIS FRANCE
F0224	ALCOA FIXATIONS SIMMONDS SAS SIMMONDS SA FAIRCHILD FASTENERS 9 RUE DES CRESSONNIERES 72110 ST COSMES EN VAIRAIS FRANCE
F0225	SOURIAU 145 RUE YVES LE COZ 78035 VERSAILLES FRANCE

VENDOR'S CODE INDEX (Cont'd)

VENDOR CODE	NAME ADDRESS
F0234	ADR SA-LES APPLICATIONS DU ROULEMENT CHEMIN DES PRES 77810 THOMERY FRANCE
F0241	NEXANS FRANCE 140-146 RUE EUGENE DELACROIX 91210 DRAVEIL FRANCE
F0280	ZODIAC AERO ELECTRIC (ZODIAC COCKPIT & LIGHTING SYSTEMS) 7 RUE DES LONGS QUARTIERS - CS50029 93108 MONTREUIL CEDEX FRANCE
F0286	TYCO ELECTRONICS FRANCE SAS 29 CHAUSSEE JULES CESAR 95300 CERGY PONTOISE FRANCE
F0294	STPI-STE TECHNIQUE DE PRODUCTIONS INDUSTRIELLES 17 RUE VICQ-D'AZIR 75010 PARIS FRANCE
F0331	STERLING SA-STE ELECTRIQUE 1 B RUE DE DELEMONT 68308 ST LOUIS FRANCE
F1907	HONEYWELL 128 RTE DE L'ORME 91190 SAINT AUBIN BP 87 FRANCE
F1983	C.E.D. CONNECTEURS ELECTRIQUES DEUTSCH GROUPE COMPAGNIE DEUTSCH 17 RUE LAVOISIER ZI N 2 BP 117 27091 EVREUX CEDEX 9 FRANCE
F2001	METALLO SA 56 R ANTOINE MARIE COLIN 94400 VITRY SUR SEINE FRANCE

VENDOR'S CODE INDEX (Cont'd)

VENDOR CODE	NAME ADDRESS
F2779	PRONER-COMATEL (FAB TAKEN OVER BY) F0286 TYCO ELECTRONICS FRANCE SAS 29 CHS JULES CESAR BP 39 95301 CERGY PONTOISE CEDEX FRANCE
F3552	FIABLE SARL-FABRICATIONS REPRISES PAR (FAB. TAKEN OVER BY) EUROFARAD SA-F1379 93 RUE OBERKAMPF 75011 PARIS FRANCE
F6220	RAYCHEM SA - FABRICATIONS REPRISES PAR (FAB TAKEN OVER BY) TYCO ELECTRONICS FRANCE SAS - F0286 2 BD DU MOULIN A VENT BP 8300 95800 CERGY ST CHRISTOPHE CDX FRANCE
F6728	THOMAS ET BETTS FRANCE 29 RUE DELIZY 93698 PANTIN CEDEX FRANCE
U1595	TEXTRON AEROSPACE FASTENERS MUNDELLS WELWYN GARDEN CITY HERTS AL7 7EZ UNITED KINGDOM

THIS PAGE INTENTIONALLY LEFT BLANK

ALPHA NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE NUMBER	ITEM NUMBER	TOTAL REQUIRED
0-0153112-0		5	- 20A	2
			- 30A	2
1141-0306		2	610	2
117PE01Y00		1	- 1C	RF
117PE01Y00AAA		1	- 340C	1
		2	- 1C	RF
117PE01Y00BBB		2	- 660C	1
		4	- 1C	RF
117PE01Y00CCC		2	- 440C	1
		3	- 1C	RF
1270602201		2	220	4
130476		5	30	2
132016-1		5	40	2
1SE1-3		2	190	4
2-5PA108		2	340	1
20011		5	10	2
201054		5	- 70A	1
2021852		2	- 640C	1
2100-0-60-9		5	110	AR
2100-1-91-9		5	120	AR
212004-10		5	70	1
22196AG040008L		3	110	2
221PF01AAY00		1	30A	1
22220AG060012L		4	20	4
22220BC040012L		3	70	6
22220BC040018L		2	380	1
		3	150	3
22293AG030012L		4	- 91	1
22293AG030022L		2	250	2
22296AG030006L		2	- 20A	4
			20	4
		4	- 90	2
22296AG040010L		2	- 90A	4
		3	- 110A	2
22296AG040046L		2	- 80A	1
23111AG030L		2	- 30A	4
23117AG025L		2	330	2
23201AM0060		1	50	4
23201AM0100		2	450	2
23320CA063		2	- 620	AR
252040-10		1	220	1
		2	560	1
25F8		2	370	2
3012089		2	410	1
3023443		2	530	1
3057724		2	160	1
3057992		3	60	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE NUMBER	ITEM NUMBER	TOTAL REQUIRED
3061052		1	120	10
3074302		2	- 160A	1
3108345		2	200	4
3110492		3	100	1
3121654		1	37B	1
3122203		1	34B	1
			36B	1
3127562		2	- 410A	1
3130059		3	- 60A	1
3138828		2	- 160B	1
322694		5	- 10A	2
352011REPA		5	50	2
352011REPB		5	60	2
4012156		2	460	3
4033915		4	40	6
4058126		2	650	1
4076942		1	270	1
4178393		4	60	2
4178408		1	90	4
4182689		1	100	4
4183186		2	310	1
4191695		1	- 1	RF
4191695AAA		1	- 340	1
		2	- 1	RF
4191695BBB		2	- 440	1
		3	- 1	RF
4191695CCC		2	- 660	1
		4	- 1	RF
4195745		2	590	1
4195752		4	120	1
			140	1
4195768		3	140	1
4195775		1	280	1
4195798AAA		3	- 50	1
4195798BBB		3	- 50A	1
4195798CCC		3	- 50B	1
4195798NP		3	10	1
4195811		4	100	1
4195827		2	540	1
4195834		1	60	2
4195841		2	470	1
4195871		2	490	1
4195894		2	480	1
4195909		4	10	2
4195916NP		2	10	1
4195923		2	510	1
4195939		1	- 190	1

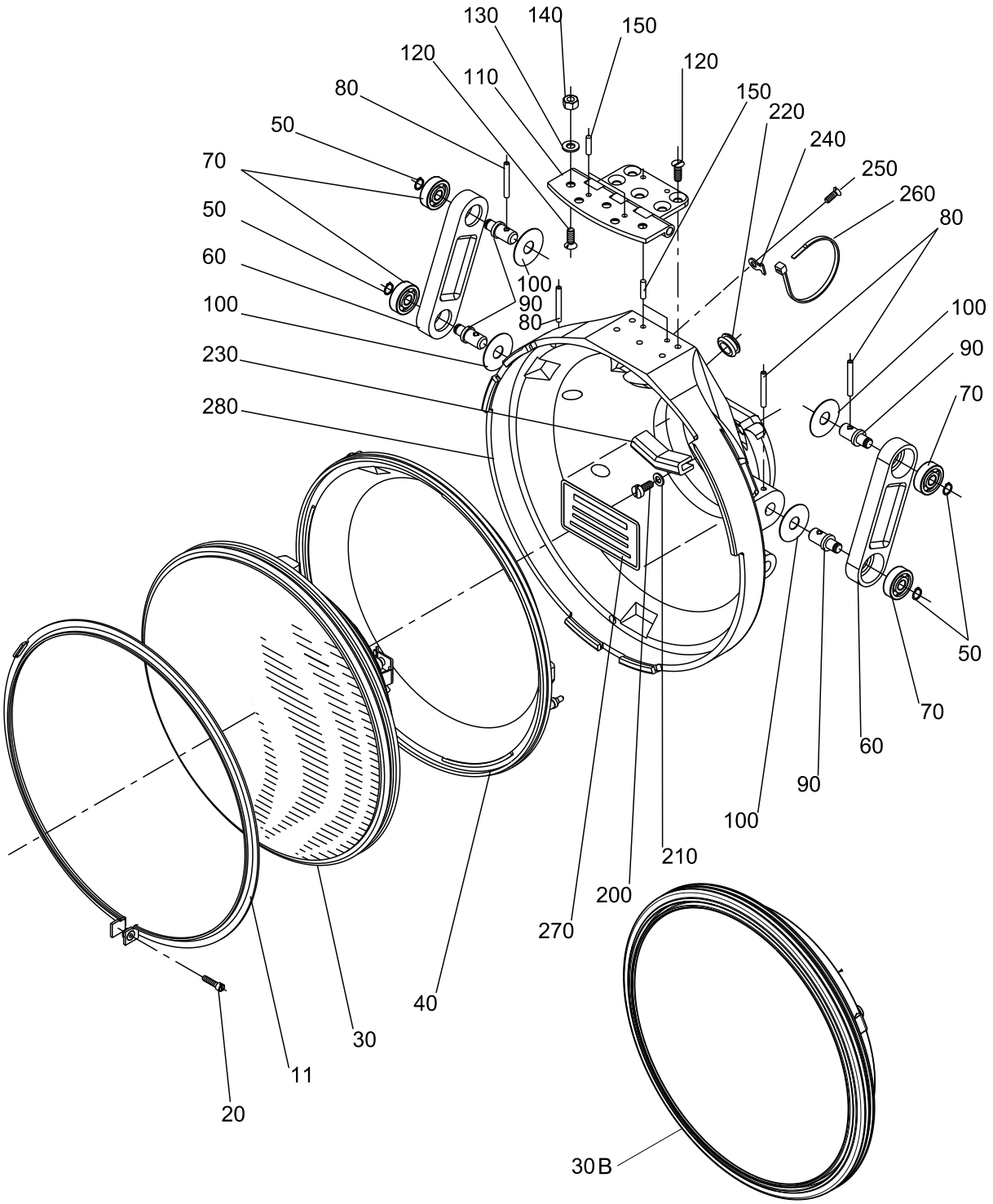
PART NUMBER	AIRLINE PART NUMBER	FIGURE NUMBER	ITEM NUMBER	TOTAL REQUIRED
4195946		1	- 180	1
4195953		1	- 160	1
4195969		1	110	1
4195983		4	- 80	1
4196004		2	240	1
4196027		2	120	1
4196034		1	40	1
4196041		2	- 70	1
4196064		1	- 290	1
		2	420	1
4196094		2	640	1
4199885		2	580	1
4202388		2	350	1
4202648		3	130	1
4202833		3	- 180	1
4204208		1	230	1
4206297		2	630	1
4206705		1	- 10	1
4206861		3	30	2
4206877		3	20	2
4231272		2	- 70A	1
4231288		2	110	1
4245451		3	180A	1
4249271		2	150	1
4258642		1	11	1
4315542		1	- 1A	RF
4315542AAA		1	- 340A	1
		2	- 1A	RF
4315542BBB		2	- 660A	1
		4	- 1A	RF
4315542CCC		2	- 440A	1
		3	- 1A	RF
4315565		4	- 100A	1
			- 80A	1
4316286		2	- 640A	1
4322907		4	- 100B	1
			- 80B	1
4328868		3	90	1
4331772		1	- 1B	RF
4331772AAA		1	- 340B	1
		2	- 1B	RF
4331772BBB		2	- 660B	1
		4	- 1B	RF
4331772CCC		2	- 440B	1
		3	- 1B	RF
4333928		2	- 640B	1
4351949		1	- 11A	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE NUMBER	ITEM NUMBER	TOTAL REQUIRED
4375453		2	- 10A	1
4375476		2	- 420A	1
		5	- 1	RF
4375476Y01		2	- 420B	1
		5	- 1A	RF
4384102		1	32B	1
4384788		1	33B	1
4387329		3	- 10A	1
4394804		1	31B	1
4394916		1	30B	1
4394946		1	35B	1
4PA108		1	140	5
		2	400	1
4TA10CC		2	430	1
50840		5	20	2
626ZZG74		1	70	4
8525-02H14B12PN		2	40	1
BAQ1AG030006UL		2	170	2
			50	4
BHQ1AG040008UL		2	280	2
BHQ1AG040010TL		1	250	1
		2	300	7
DR25-1-4-0		5	100	AR
DZM1AG025025TL		2	320	1
FDBA60-14-12PNK		2	- 40A	1
JE1		2	230	4
JEAG040UL		1	130	5
		2	390	1
		3	160	3
			40	4
			80	6
		4	30	4
JFAG040UL		2	- 100A	5
		3	120	2
JN12E		2	520	1
K1-400V4M7K		2	270	1
KAAJ020TL		2	210	4
KAAJ030TL		2	180	2
			30	4
			60	4
KAAJ040TL		1	210	1
		2	100	5
			140	4
LHM1AG030020UL		4	- 90A	1
			- 92	1
			- 93	1
LHM1AG040045TL		2	80	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE NUMBER	ITEM NUMBER	TOTAL REQUIRED
LHQ1AG040006UL		2	130	2
LHQ1AG040010TL		1	200	1
		2	360	2
			90	4
		3	- 110B	2
LHTA521-2860-02		2	600	9
NAS1352-06-8P		1	20	1
NP0000236Y00		2	- 270A	1
PE0000262Y00		3	- 190	1
PE0000263Y00		3	- 200	1
PE0000264Y00		3	180B	1
PE0000409Y00		1	- 11B	1
Q4559X		1	30	1
RNF100-3-8-9		5	130	AR
SCL3-8-0		5	80	AR
T10		2	550	1
		4	50	2
TC102		1	240	1
		2	290	5
TLAG030016TL		4	110	4
			130	4
TLEE030024U		1	80	4
		4	70	1
TMEE020010U		1	- 170	2
TMEE030009U		1	150	4
		3	170	2
TTSN6-8		5	90	AR
TY232M		2	570	3
TY25M		1	260	1
		2	- 570A	3
			260	3
X5		2	500	4

THIS PAGE INTENTIONALLY LEFT BLANK

DETAILED PARTS LIST



RETRACTABLE,LIGHT
SHEET 1 OF 1
Figure 1/GRAPHIC-33-42-12-991-801-A01

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
1						
- 1	4191695		RETRACTABLE,LIGHT		A	RF
- 1A	4315542		RETRACTABLE,LIGHT		B	RF
- 1B	4331772		RETRACTABLE,LIGHT		C	RF
- 1C	117PE01Y00		RETRACTABLE, LIGHT		D	RF
- 10	4206705		. CLAMP	NP		1
11	4258642		. CLAMP,ASSY POST SB 33-058	NP		1
- 11A	4351949		. CLAMP,ASSY POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191			1
- 11B	PE0000409Y00		. CLAMP,ASSY POST SB 4191695-33-009 POST SB 4315542-33-009 POST SB 4331772-33-009 ATTACHING PARTS			1
20	NAS1352-06-8P		. SCREW,CAP,SOCKET HEAD DIA.138-32UNJC-3AX.5 STEEL CDPL (3079282) POST SB 33-058 * * *	80205		1
30	Q4559X		. LAMP,HALOGEN,INCANDESCENT 28V 600W (GE) (3057576)	08806	A B C	1
30A	221PF01AAY00		. PAR 64 LED LAMP POST SB F0280-33-004		B C D	1
30B	4394916		. LAMP,SUBSTITUTE HALOGEN (SHL)		A B C	1
31B	4394804		.. GLASS			1
32B	4384102		.. BULB,EQUIPPED			1
33B	4384788		... SCREW, CAPTIVE	NP		1
34B	3122203		... WASHER	NP		1
35B	4394946		.. MIRROR,EQUIPPED			1
36B	3122203		... WASHER	NP		1
37B	3121654		... SCREW			1
40	4196034		. SEAL			1
50	23201AM0060		. RING,RETAINING DIA5.6X.7 XC75 (3010921)	F0111		4
60	4195834		. ROD			2
70	626ZZG74		. BEARING,BALL,ANNULAR 6X19X6 (3057701)	F0234		4
80	TLEE030024U		. PIN,GROOVED,HEADLESS G2 DIA3X24 S250 (3061431)	F0110		4
90	4178408		. PIN,HINGE			4
100	4182689		. WASHER,FLAT			4
110	4195969		. HINGE,ASSY			1

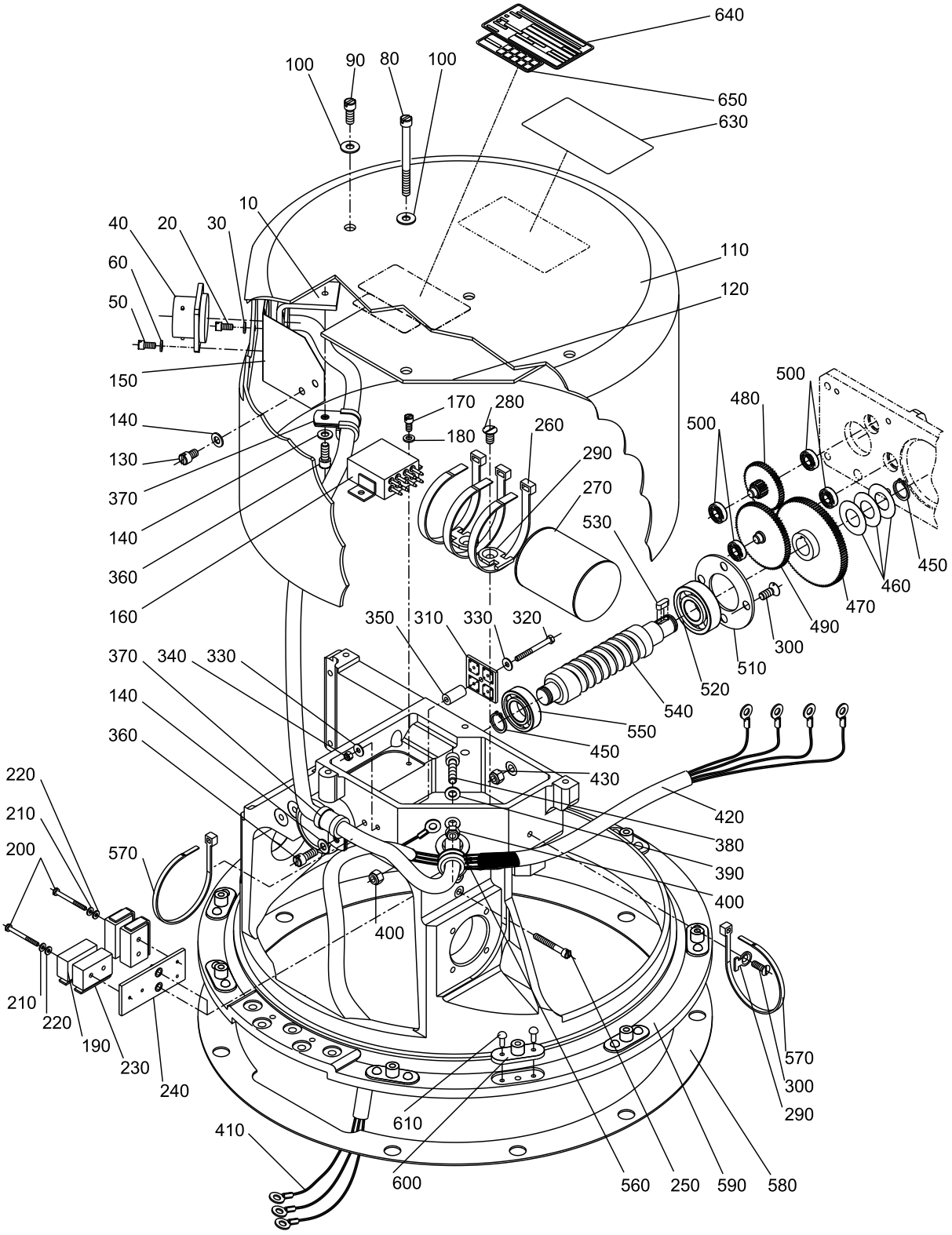
- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
1						
			ATTACHING PARTS			
120	3061052		. SCREW			10
130	JEAG040UL		. WASHER,FLAT Z DIA4 XC38 CDPL BCRPL (3024134)	F0110		5
140	4PA108		. NUT (3016733)	F0224		5
150	TMEE030009U		. PIN,GROOVED,HEADLESS G5 DIA3X9 S250 (3039153)	NP		4
			* * *			
- 160	4195953		.. PIN,HINGE	NP		1
			ATTACHING PARTS			
- 170	TMEE020010U		.. PIN,GROOVED,HEADLESS G5 DIA2X10 S250 (3050129)	NP		2
			* * *			
- 180	4195946		.. HINGE,MOBILE	NP		1
- 190	4195939		.. HINGE FIXED	NP		1
200	LHQ1AG040010TL		. SCREW C M4X10 XC38 CDPL BCRPL (3030094)	F0110		1
210	KAAJ040TL		. WASHER, LOCK DI 4 XC65 CDPL BCRPL (3010014)	F0110		1
220	252040-10		. GROMMET,NONMETALLIC DIA9 BLACK (3064962)	F0331		1
230	4204208		. PROTECTION			1
240	TC102		. ANCHOR, STRAP (3057836)	F6728		1
			ATTACHING PARTS			
250	BHQ1AG040010TL		. SCREW F90 M4X10 XC38 CDPL BCRPL (3031982)	F0110		1
			* * *			
260	TY25M		. CLAMP RETAINING (3067325)	F6728		1
270	4076942		. PLATE, POSITION, FILAMENT			1
280	4195775		. HOUSING,MOBILE LAMP			1
- 290	4196064		. CABLE,ELECTRICAL,ASSY			1
- 340	4191695AAA		. REDUCTION,GEAR	NP	A	1
			SEE FIG. 2 FOR DET			
- 340A	4315542AAA		. REDUCTION,GEAR	NP	B	1
			POST SB 33-091			
			SEE FIG. 2 FOR DET			

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567	USAGE CODE	UNITS PER ASSY
1					
- 340B	4331772AAA		. REDUCTION,GEAR NP SEE FIG. 2 FOR DET	C	1
- 340C	117PE01Y00AAA		. REDUCTION,GEAR NP SEE FIG. 2 FOR DET	D	1

- ITEM NOT ILLUSTRATED



REDUCTION,GEAR
SHEET 1 OF 1
Figure 2/GRAPHIC-33-42-12-991-802-A01

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567	USAGE CODE	UNITS PER ASSY
2					
- 1	4191695AAA		REDUCTION,GEAR NP SEE FIG. 1 FOR NHA	A	RF
- 1A	4315542AAA		REDUCTION,GEAR NP POST SB 33-091 SEE FIG. 1 FOR NHA	B	RF
- 1B	4331772AAA		REDUCTION,GEAR NP SEE FIG. 1 FOR NHA	C	RF
- 1C	117PE01Y00AAA		REDUCTION,GEAR NP SEE FIG. 1 FOR NHA	D	RF
10	4195916NP		. PLATE ATTACHMENT NP		1
- 10A	4375453		. PLATE ATTACHMENT POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191 ATTACHING PARTS		1
20	22296AG030006L		. SCREW CS M3X6 AC+CAD BICHR F0111 (3013694) POST SL 33-051		4
- 20A	22296AG030006L		. SCREW CS M3X6 AC+CAD BICHR F0111 (3013694) POST SB 33-051		4
30	KAAJ030TL		. WASHER, LOCK DI3 F0110 (3010499)		4
- 30A	23111AG030L		. WASHER,FLAT Z DIA3 F0111 (3027107) POST SL 33-051 * * *		4
40	8525-02H14B12PN		. CONNECTOR,RECEPTA-CLE,ELECTRICAL 12 PIN CONTACTS F0225 (3013901) OPT TO 9FDBA50H14-12PNT (F1983)		1
- 40A	FDBA60-14-12PNK		. CONNECTOR,RECEPTA-CLE,ELECTRICAL 12 PIN CONTACTS F0225 (3125481) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191 ATTACHING PARTS		1
50	BAQ1AG030006UL		. SCREW, CS M3X6 AC+CAD BICHR F0110 (3010565)		4
60	KAAJ030TL		. WASHER, LOCK DI3 F0110 (3010499) * * *		4
- 70	4196041		. COVER,PROTECTION		1

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
2						
- 70A	4231272		. COVER,PROTECTION POST SL 33-051 ATTACHING PARTS			1
80	LHM1AG040045TL		. SCREW C (3065639) RPLD BY 22296AG040046L	F0111		1
- 80A	22296AG040046L		. SCREW C M4X46 XC38 CDPL BCRPL (3068462) RPLS LHM1AG040045TL POST SL 33-051	F0111		1
90	LHQ1AG040010TL		. SCREW C M4X10 XC38 CDPL BCRPL (3030094)	F0110		4
- 90A	22296AG040010L		. SCREW C M4X10 XC38 CDPL BCRPL (3027151) POST SL 33-051	F0111		4
100	KAAJ040TL		. WASHER, LOCK DI 4 XC65 CDPL BCRPL (3010014)	F0110		5
- 100A	JFAG040UL		. WASHER,FLAT M4 (3020374) POST SL 33-051 * * *	F0110		5
110	4231288		.. COVER	NP		1
120	4196027		.. SEAL	NP		1
130	LHQ1AG040006UL		. SCREW C M4X6 XC38 CDPL BCRPL (3030199)	F0110		2
140	KAAJ040TL		. WASHER, LOCK DI 4 XC65 CDPL BCRPL (3010014)	F0110		4
150	4249271		. FOIL,BONDING			1
160	3057724		. RELAY,ELECTROMAGNETIC 115V 2RT	F0294		1
- 160A	3074302		. RELAY,ELECTROMAGNETIC 115V 2RT ORDER OVERLGTH MPN 317-238-115V400U POST SB 33-046 PRE SB 4191695-33-004 PRE SB 4315542-33-004 PRE SB 4331772-33-004	F0294		1

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
2						
- 160B	3138828		. RELAY,ELECTROMAGNETIC 115V 1RT (3138828PDC) ALT TO 03186017X (F0294) POST SB 4191695-33-004 POST SB 4315542-33-004 POST SB 4331772-33-004 ATTACHING PARTS	F0294		1
170	BAQ1AG030006UL		. SCREW, CS M3X6 AC+CAD BICHR (3010565)	F0110		2
180	KAAJ030TL		. WASHER, LOCK DI3 (3010499) * * *	F0110		2
190	1SE1-3		. SWITCH,SENSITIVE SPDT (3059508) ATTACHING PARTS	F1907		4
200	3108345		. SCREW C M2X21.5 XC38 CDPL BCRPL			4
210	KAAJ020TL		. WASHER,LOCK DI DIA2 XC65 CDPL BCRPL (3138721)	F0110		4
220	1270602201		. WASHER (3054045) * * *	F2001		4
230	JE1		. LEAFSPRING (3052277)	F1907		4
240	4196004		. SUPPORT MICROSWITCH ATTACHING PARTS			1
250	22293AG030022L		. SCREW C M3X22 XC38 CDPL BCRPL (3020047) * * *	F0111		2
260	TY25M		. CLAMP RETAINING (3067325) POST SB 33-060	F6728		3
270	K1-400V4M7K		. CAPACITOR,FIXED,PLASTIC DIELECTRIC 4.7MUF PM5PCT 400V (3057731) POST SB 33-060	F3552		1
- 270A	NP0000236Y00		. CAPACITOR,FIXED 4.7MUF 600V POST SB 4191695-33-006 POST SB 4315542-33-006 POST SB 4331772-33-006			1
280	BHQ1AG040008UL		. SCREW F90 M4X8 XC38 CDPL BCRPL (3021935)	F0110		2

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567	USAGE CODE	UNITS PER ASSY
2					
290	TC102		. ANCHOR, STRAP F6728 (3057836)		5
300	BHQ1AG040010TL		. SCREW F90 M4X10 XC38 CDPL BCRPL F0110 (3031982)		7
310	4183186		. TERMINAL BOARD ATTACHING PARTS		1
320	DZM1AG025025TL		. SCREW H M2.5X25 XC38 CDPL BCRPL F0110 (3063818)		1
330	23117AG025L		. WASHER,FLAT M DIA2.5 XC38 CDPL BCRPL F0111 (3028854)		2
340	2-5PA108		. NUT,NYLSTOP F0224 (3034375) * * *		1
350	4202388		. SPACER		1
360	LHQ1AG040010TL		. SCREW C M4X10 XC38 CDPL BCRPL F0110 (3030094)		2
370	25F8		. CLAMP,LOOP DIA8 AG5 F0215 (3059769)		2
380	22220BC040018L		. SCREW,CAP,SOCKET HEAD CHC M4X18 35NC6 CDPL BCRPL F0111 (3079677)		1
390	JEAG040UL		. WASHER,FLAT Z DIA4 XC38 CDPL BCRPL F0110 (3024134)		1
400	4PA108		. NUT F0224 (3016733)		1
410	3012089		. WIRE,ELECTRICAL GROUND F0241 (3012089PDC)		1
- 410A	3127562		. WIRE,ELECTRICAL GROUND POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191		1
420	4196064		. CABLE,ELECTRICAL,ASSY		1
- 420A	4375476		. CABLE,ELECTRICAL,ASSY POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191 SEE FIG. 5 FOR DET		1
- 420B	4375476Y01		. CABLE,ELECTRICAL,ASSY POST SB 4191695-33-007 POST SB 4315542-33-007 POST SB 4331772-33-007 SEE FIG. 5 FOR DET		1

- ITEM NOT ILLUSTRATED

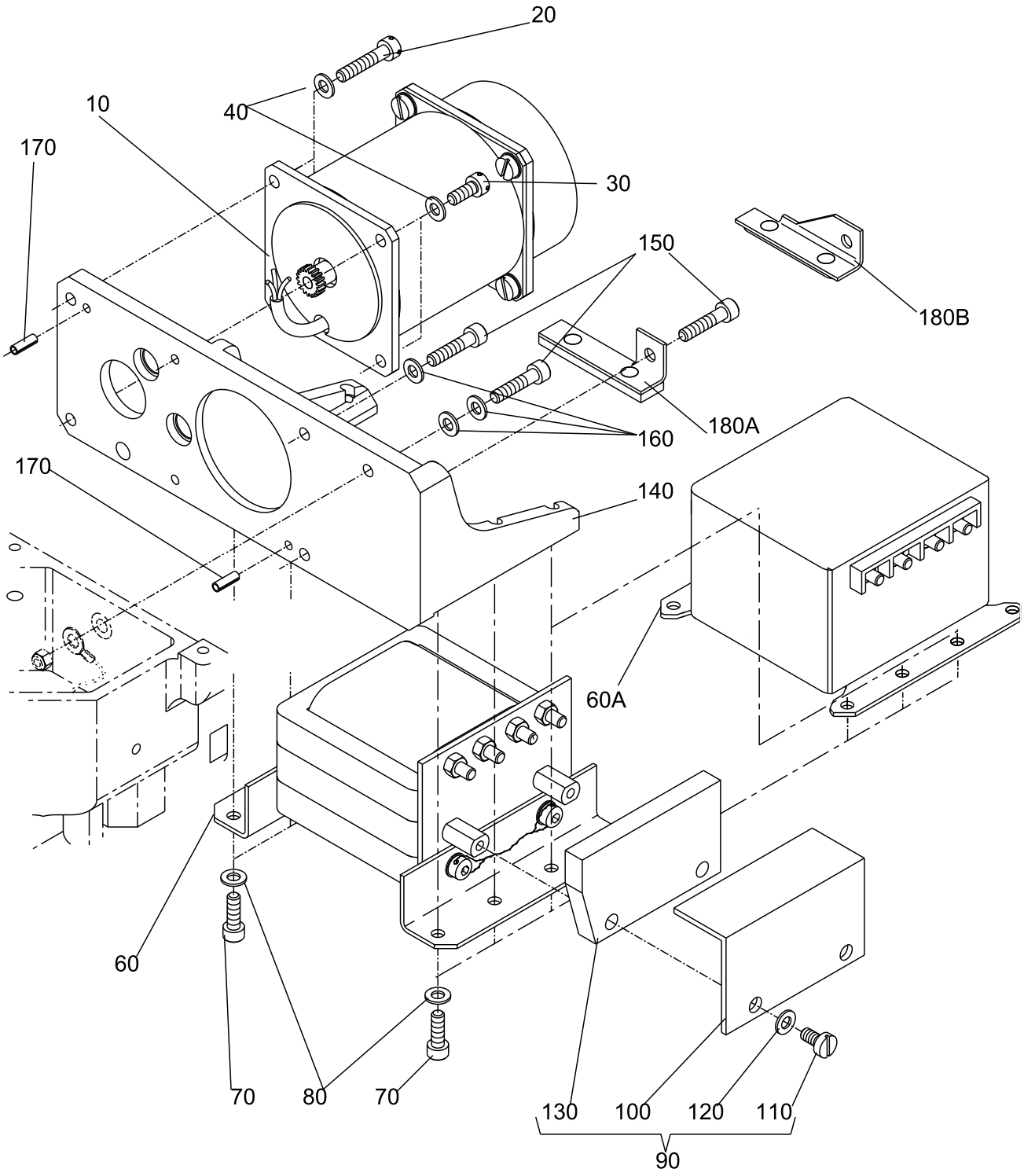
FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
2						
430	4TA10CC		. NUT,SELF-LOCKING,HEXAGON DIA4 Z10CNT18 (3013582)	F0224		1
- 440	4191695BBB		. MOTOR,ASSY POST SB 33-094 SEE FIG. 3 FOR DET	NP		1
- 440A	4315542CCC		. MOTOR,ASSY SEE FIG. 3 FOR DET	NP		1
- 440B	4331772CCC		. MOTOR,ASSY SEE FIG. 3 FOR DET	NP		1
- 440C	117PE01Y00CCC		. MOTOR,ASSY SEE FIG. 3 FOR DET	NP		1
450	23201AM0100		. RING,RETAINING DIA9.3X1 XC75 (3024952)	F0111		2
460	4012156		. SHIM,THK.5MM			3
470	4195841		. WHEEL 100 TEETH			1
480	4195894		. WHEEL,53 TEETH,ASSY			1
490	4195871		. WHEEL 75 TEETH,ASSY			1
500	X5		. BEARING,BALL,ANNULAR (3036285)	F0234		4
510	4195923		. WASHER			1
520	JN12E		. BEARING,BALL,AIRFRAME 12X28X8 (3057494)	F0234		1
530	3023443		. KEY			1
540	4195827		. SCREW			1
550	T10		. BEARING,BALL (3015418)	F0234		1
560	252040-10		. GROMMET,NONMETALLIC DIA9 BLACK (3064962)	F0331		1
570	TY232M		. STRAP (3057829)	F6728		3
- 570A	TY25M		. CLAMP RETAINING (3067325) POST SB 4331772-33-191	F6728		3
580	4199885		. SEAL			1
590	4195745		. MAIN CASING			1
600	LHTA521-2860-02		. NUT,SELF-LOCKING,PLATE DIA.1900-32UNJC-3B CRES SILVER PLAT (3027612) ATTACHING PARTS	72962		9
610	1141-0306		. RIVET,BLIND DIA2.4X4.8 BRASS (3096091) * * *	U1595		2

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
2						
- 620	23320CA063		. LOCKWIRE DIA.63 Z3CN18-10 (3017388)	F0111		AR
630	4206297		. PLATE,DIAGRAM			1
640	4196094		. PLATE,NAME		A	1
- 640A	4316286		. PLATE,NAME POST SB 33-091		B	1
- 640B	4333928		. PLATE,NAME		C	1
- 640C	2021852		. PLATE,IDENTIFICATION		D	1
650	4058126		. PLATE,AMENDMENT			1
- 660	4191695CCC		. FORK,ASSY POST SB 4191695-33-189 SEE FIG. 4 FOR DET	NP	A	1
- 660A	4315542BBB		. FORK,ASSY POST SB 4315542-33-190 SEE FIG. 4 FOR DET	NP	B	1
- 660B	4331772BBB		. FORK,ASSY POST SB 4331772-33-191 SEE FIG. 4 FOR DET	NP	C	1
- 660C	117PE01Y00BBB		. FORK,ASSY SEE FIG. 4 FOR DET	NP	D	1

- ITEM NOT ILLUSTRATED

THIS PAGE INTENTIONALLY LEFT BLANK



MOTOR,ASSY
SHEET 1 OF 1
Figure 3/GRAPHIC-33-42-12-991-803-A01

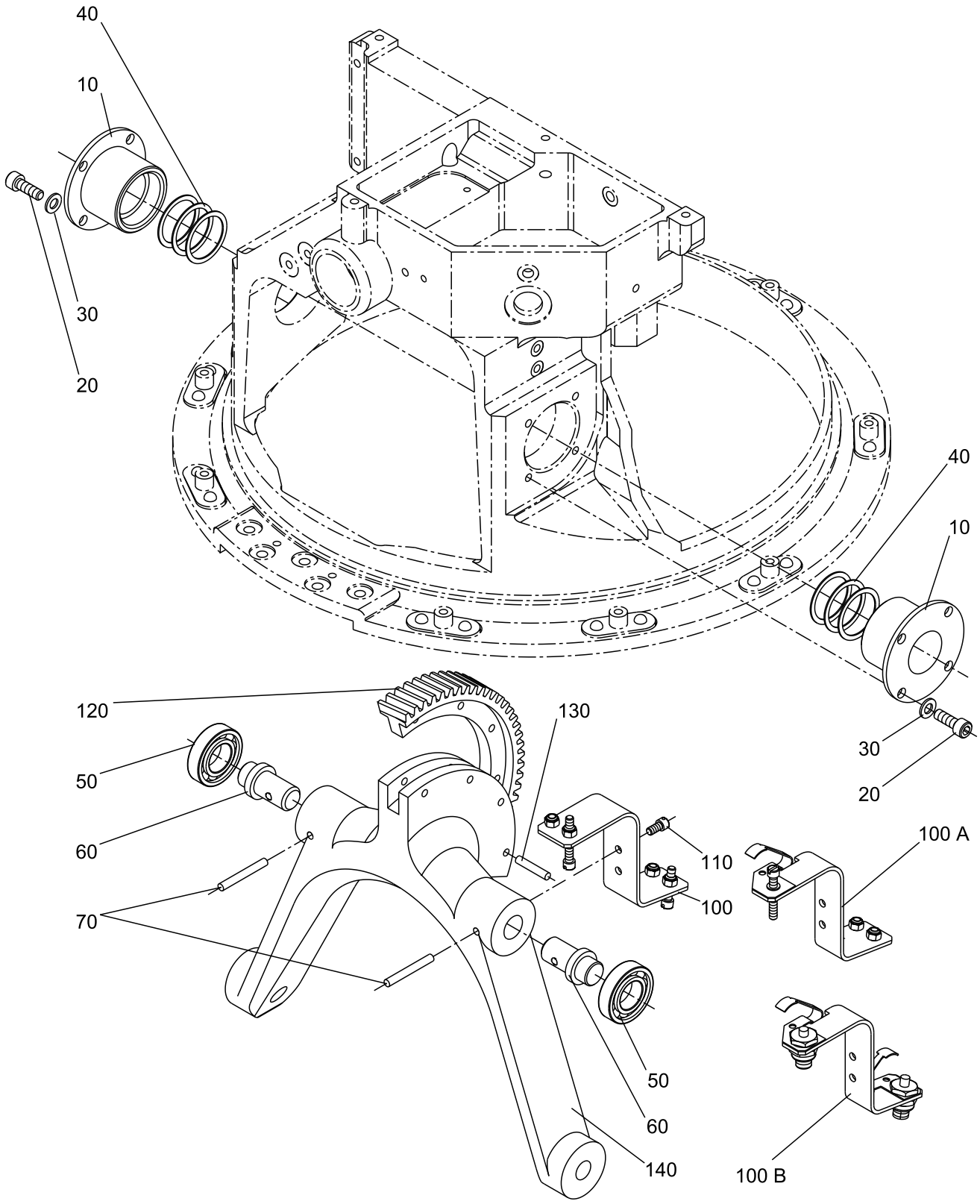
FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
3						
- 1	4191695BBB		MOTOR,ASSY POST SB 33-094 SEE FIG. 2 FOR NHA	NP	A	RF
- 1A	4315542CCC		MOTOR,ASSY SEE FIG. 2 FOR NHA	NP	B	RF
- 1B	4331772CCC		MOTOR,ASSY SEE FIG. 2 FOR NHA	NP	C	RF
- 1C	117PE01Y00CCC		MOTOR,ASSY SEE FIG. 2 FOR NHA	NP	D	RF
10	4195798NP		. MOTOR,ASSY	NP		1
- 10A	4387329		. MOTOR,ASSY POST SB 4191695-33-001 POST SB 4315542-33-001 POST SB 4331772-33-001 ATTACHING PARTS			1
20	4206877		. SCREW CHC M4X20			2
30	4206861		. SCREW CHC M4X10			2
40	JEAG040UL		. WASHER,FLAT Z DIA4 XC38 CDPL BCRPL (3024134) * * *	F0110		4
- 50	4195798AAA		.. MOTOR,SUB-ASSY	NP		1
- 50A	4195798BBB		.. MOTOR,SUB-ASSY	NP		1
- 50B	4195798CCC		.. MOTOR,SUB-ASSY POST SL 33-132 POST SL 33-133 POST SL 33-134	NP		1
60	3057992		. AUTO-TRANSFORMER PRE SB 4191695-33-004 PRE SB 4315542-33-004 PRE SB 4331772-33-004			1
- 60A	3130059		. AUTO-TRANSFORMER POST SB 4191695-33-005 POST SB 4315542-33-005 POST SB 4331772-33-005 ATTACHING PARTS			1
70	22220BC040012L		. SCREW,CAP,SOCKET HEAD CHC M4X12 35NC6 CDPL BCRPL (3055554)	F0111		6
80	JEAG040UL		. WASHER,FLAT Z DIA4 XC38 CDPL BCRPL (3024134) * * *	F0110		6
90	4328868		.. KIT,CONNECTION PRE SB 4191695-33-005 PRE SB 4315542-33-005 PRE SB 4331772-33-005			1

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567	USAGE CODE	UNITS PER ASSY
3					
100	3110492		... SQUARE,ISOLATOR,PRO-TECTION NP		1
			ATTACHING PARTS		
110	22196AG040008L		... SCREW CF M4X8 XC38 CDPL BCRPL (3054749) F0111		2
			RPLD BY 22296AG040010L		
- 110A	22296AG040010L		... SCREW C M4X10 XC38 CDPL BCRPL (3027151) F0111		2
			RPLS 22196AG040008L		
- 110B	LHQ1AG040010TL		... SCREW C M4X10 XC38 CDPL BCRPL (3030094) F0110		2
120	JFAG040UL		... WASHER,FLAT M4 (3020374) F0110		2
			* * *		
130	4202648		. CAP PROTECTION		1
			PRE SB 4191695-33-005		
			PRE SB 4315542-33-005		
			PRE SB 4331772-33-005		
140	4195768		. CASING MOTOR		1
			ATTACHING PARTS		
150	22220BC040018L		. SCREW,CAP,SOCKET HEAD CHC M4X18 35NC6 CDPL BCRPL (3079677) F0111		3
160	JEAG040UL		. WASHER,FLAT Z DIA4 XC38 CDPL BCRPL (3024134) F0110		3
170	TMEE030009U		. PIN,GROOVED,HEADLESS G5 DIA3X9 S250 (3039153) NP		2
			* * *		
- 180	4202833		. STOP,ELASTIC		1
180A	4245451		. SHOCK ABSORBER,ASSEMBLY		1
			POST SB 33-057		
180B	PE0000264Y00		. SHOCK ABSORBER,ASSEMBLY		1
			POST SB 4191695-33-008		
			POST SB 4315542-33-008		
			POST SB 4331772-33-008		
- 190	PE0000262Y00		.. SHOCK ABSORBER NP		1
			POST SB 4191695-33-008		
			POST SB 4315542-33-008		
			POST SB 4331772-33-008		
- 200	PE0000263Y00		.. PLATE NP		1
			POST SB 4191695-33-008		
			POST SB 4315542-33-008		
			POST SB 4331772-33-008		

- ITEM NOT ILLUSTRATED

THIS PAGE INTENTIONALLY LEFT BLANK



FORK,ASSY
SHEET 1 OF 1
Figure 4/GRAPHIC-33-42-12-991-804-A01

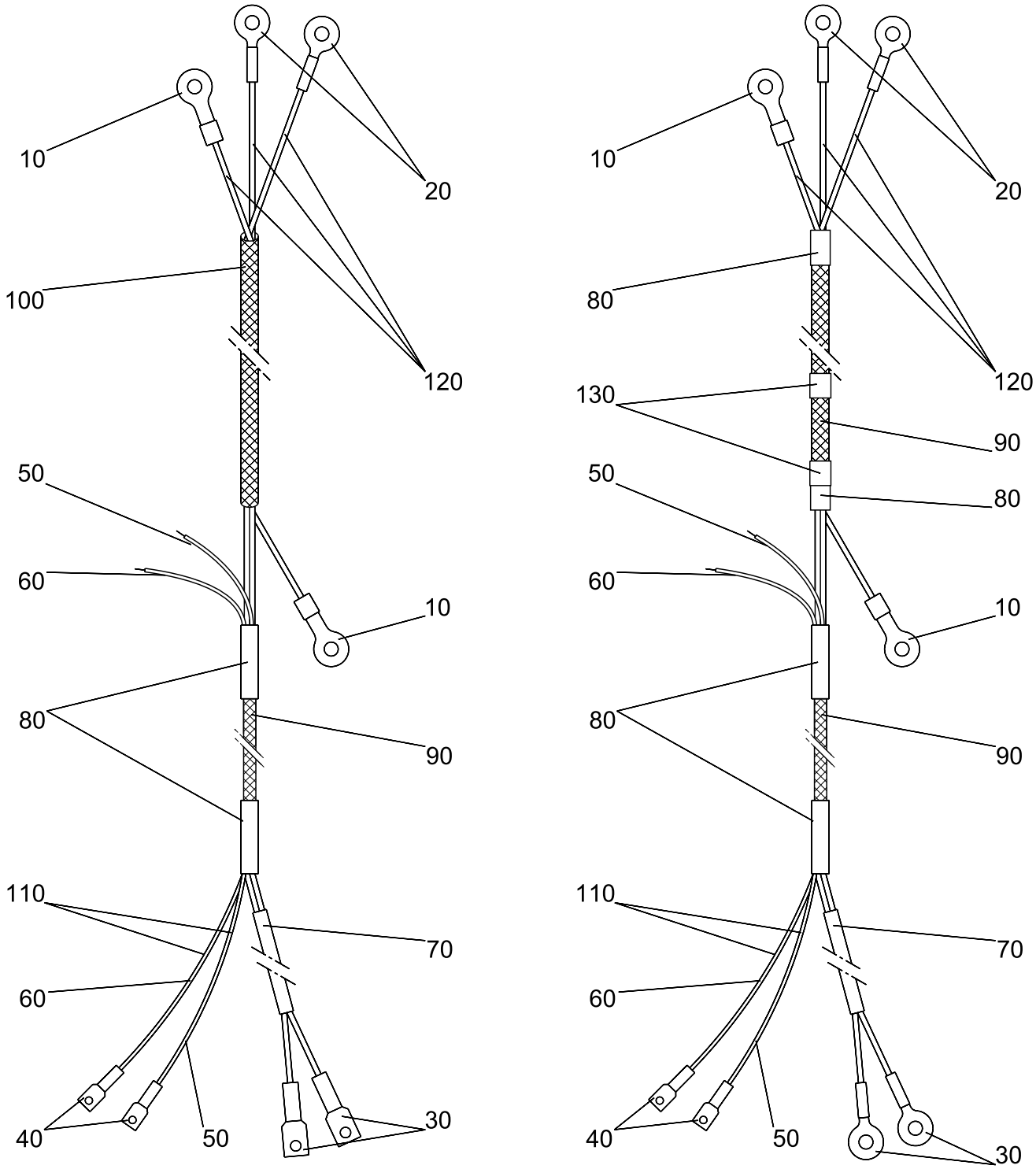
FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
4						
- 1	4191695CCC		FORK,ASSY POST SB 4191695-33-189 SEE FIG. 2 FOR NHA	NP	A	RF
- 1A	4315542BBB		FORK,ASSY POST SB 4315542-33-190 SEE FIG. 2 FOR NHA	NP	B	RF
- 1B	4331772BBB		FORK,ASSY POST SB 4331772-33-191 SEE FIG. 2 FOR NHA	NP	C	RF
- 1C	117PE01Y00BBB		FORK,ASSY SEE FIG. 2 FOR NHA	NP	D	RF
10	4195909		. BEARING,SHAFT ATTACHING PARTS			2
20	22220AG060012L		. SCREW,CAP,SOCKET HEAD CHC M6X12 XC38 CDPL BCRPL (3055554)	F0111		4
30	JEAG040UL		. WASHER,FLAT Z DIA4 XC38 CDPL BCRPL (3024134) * * *	F0110		4
40	4033915		. SHIM			6
50	T10		. BEARING,BALL (3015418)	F0234		2
60	4178393		. PIN,HINGE ATTACHING PARTS			2
70	TLEE030024U		. PIN,GROOVED,HEADLESS G2 DIA3X24 S250 (3061431) * * *	F0110		1
- 80	4195983		. GANG CHANNEL		A	1
- 80A	4315565		. GANG CHANNEL POST SB 33-091 POST SB 33-094			1
- 80B	4322907		. KIT,SUPPORT,SHOCK ABSORBER POST SB 33-122 POST SB 33-123 ATTACHING PARTS		B C D	1
- 90	22296AG030006L		. SCREW CS M3X6 AC+CAD BICHR (3013694) * * *	F0111		2
- 90A	LHM1AG030020UL		. SCREW C M3X20 XC38 CDPL BCRPL (3039354) POST SB 33-091 POST SB 33-094	F0110		1
- 91	22293AG030012L		. SCREW C M3X12 XC38 CDPL BCRPL (3045478)	F0111		1

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
4						
- 92	LHM1AG030020UL		. SCREW C M3X20 XC38 CDPL BCRPL (3039354)	F0110	A	1
- 93	LHM1AG030020UL		. SCREW C M3X20 XC38 CDPL BCRPL (3039354) POST SB 33-091 POST SB 33-094	F0110		1
100	4195811		. GEAR SECTOR			1
- 100A	4315565		. GANG CHANNEL POST SB 33-091 POST SB 33-094			1
- 100B	4322907		. KIT,SUPPORT,SHOCK ABSORBER POST SB 33-122 POST SB 33-123 ATTACHING PARTS		B C	1
110	TLAG030016TL		. PIN,GROOVED,HEADLESS G2 DIA3X16 XC38 CDPL BCRPL (3064576) * * *	F0110		4
120	4195752		. FORK ATTACHING PARTS			1
130	TLAG030016TL		. PIN,GROOVED,HEADLESS G2 DIA3X16 XC38 CDPL BCRPL (3064576) * * *	F0110		4
140	4195752		. FORK			1

- ITEM NOT ILLUSTRATED

THIS PAGE INTENTIONALLY LEFT BLANK



P/N 4375476

P/N 4375476Y01

CABLE,ELECTRICAL,ASSY
SHEET 1 OF 1
Figure 5/GRAPHIC-33-42-12-991-805-A01

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567	USAGE CODE	UNITS PER ASSY
5					
- 1	4375476		CABLE,ELECTRICAL,ASSY POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191 SEE FIG. 2 FOR NHA	A	RF
- 1A	4375476Y01		CABLE,ELECTRICAL,ASSY POST SB 4191695-33-007 POST SB 4315542-33-007 POST SB 4331772-33-007 SEE FIG. 2 FOR NHA	B	RF
10	20011		. TERMINAL,LUG NP (3900176) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	A	2
- 10A	322694		. TERMINAL,LUG NP POST SB 4191695-33-007 POST SB 4315542-33-007 POST SB 4331772-33-007	B	2
20	50840		. TERMINAL, LUG F0286 (3040103) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	A	2
- 20A	0-0153112-0		. TERMINAL,LUG NP POST SB 4191695-33-007 POST SB 4315542-33-007 POST SB 4331772-33-007	B	2
30	130476		. TERMINAL,LUG NP (3012013) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	A	2
- 30A	0-0153112-0		. TERMINAL,LUG NP POST SB 4191695-33-007 POST SB 4315542-33-007 POST SB 4331772-33-007	B	2
40	132016-1		. TERMINAL,LUG NP (3053697) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191		2
50	352011REPA		. SLEEVE,MARKER,CABLE NP (3023041) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191		2

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
5						
60	352011REPB		. SLEEVE,MARKER,CABLE (3023034) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	NP		2
70	212004-10		. INSULATION SLEEVING,ELEC-TRICAL DIA1.85 BLACK (3014615) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	NP	A	1
- 70A	201054		. INSULATION SLEEVING,ELEC-TRICAL DIA1.75 BLACK (3014608) POST SB 4191695-33-007 POST SB 4315542-33-007 POST SB 4331772-33-007	NP	B	1
80	SCL3-8-0		. INSULATION SLEEVING,ELEC-TRICAL DIA9.5 BLACK (3060614) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	NP		AR
90	TTSN6-8		. SLEEVE,TEXTILE, ELECTRICAL (3040542) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	NP		AR
100	DR25-1-4-0		. INSULATION SLEEVING,ELEC-TRICAL DIA6.35 BLACK (3109511) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	NP	A	AR
110	2100-0-60-9		. WIRE,ELECTRICAL DIA1 WHITE (3052679) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	NP		AR

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE PART No.	NOMENCLATURE 1234567		USAGE CODE	UNITS PER ASSY
5						
120	2100-1-91-9		. WIRE,ELECTRICAL DIA1.91 WHITE (3012089) POST SB 4191695-33-189 POST SB 4315542-33-190 POST SB 4331772-33-191	NP		AR
130	RNF100-3-8-9		. INSULATION SLEEVING,ELEC- TRICAL WHITE POST SB 4191695-33-007 POST SB 4315542-33-007 POST SB 4331772-33-007	NP	B	AR

- ITEM NOT ILLUSTRATED