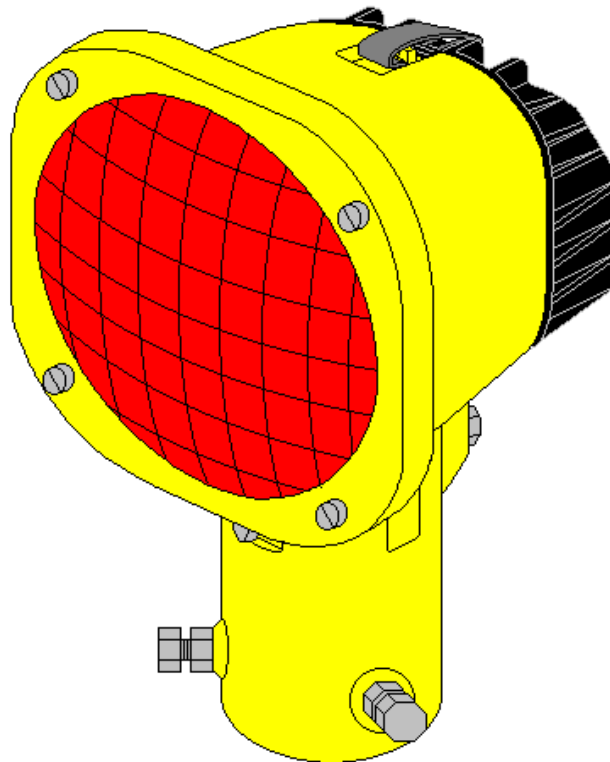


**MAINTENANCE DOCUMENTATION  
for EL-AT**

**DOC 3101.E**



**THORN**

Airfield Lighting

[www.thornairfield.com](http://www.thornairfield.com)

**THORN EUROPHANE**  
156 bd Haussmann  
75379 Paris  
Cedex 08  
FRANCE  
Tel : +33 (0) 1 49 53 62 62  
Fax : +33 (0) 1 49 53 62 89

[thornairfield@thorn.fr](mailto:thornairfield@thorn.fr)

**Thorn DNT Airfield Lighting**  
7-9 Newcastle Road  
Bayswater Victoria 3153  
AUSTRALIA  
Tel : +61 (0) 3 97 20 32 33  
Fax : +61 (0) 3 97 20 82 33

[enquiries@thornairfield.com](mailto:enquiries@thornairfield.com)

**THORN LIGHTING**  
3 King George Close  
Eastern Avenue West  
Romford, Essex RM7 7PP  
UNITED KINGDOM  
Tel : +44 (0) 1708 776 289  
Fax : +44 (0) 1708 742 322

[airfield@thornlight.com](mailto:airfield@thornlight.com)

**THORN CLK Airfield lighting**  
19/F Jardine Engineering House  
260 King's Road  
North point – HONG KONG  
Tel : +852 (0) 2988 4128  
Fax : +852 (0) 2988 4139

[adminhk@thornclkaf.com.hk](mailto:adminhk@thornclkaf.com.hk)

**RECORD of CHANGE Documentation 3101.E**

<b>Revision</b>	<b>Designation</b>	<b>Editor</b>	<b>Checked</b>	<b>Date</b>
1	First issue	JMD		January 1998
2	Second issue	JMD		January 2000
3	New document	JMD	SD	August 2004

## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>4</b>
1.1	USE RESTRICTION NOTICE AND WARRANTY .....	4
1.1.1	Use of the Document .....	4
1.1.2	Warranty .....	4
1.2	SAFETY INSTRUCTIONS .....	5
1.3	REFERENCE DOCUMENTS .....	5
1.4	TOOLS REQUIRED.....	5
<b>2</b>	<b>GENERAL INFORMATION.....</b>	<b>6</b>
<b>3</b>	<b>MAINTENANCE OPERATIONS.....</b>	<b>7</b>
3.1	OPENING AND CLOSING THE EL-AT .....	7
3.1.1	Opening the EL-AT .....	7
3.1.2	Closing the EL-AT .....	7
3.2	REPLACING THE LAMP OF THE EL-AT .....	8
3.2.1	Remove the lamp from the EL-AT .....	8
3.2.2	Replace the lamp on the EL-AT .....	9
3.3	REPLACING THE FRONT CLAMPING RING OF THE EL-AT.....	10
3.3.1	Remove the front clamping ring of the EL-AT .....	10
3.3.2	Replace the front clamping ring of the EL-AT.....	10
3.4	REPLACING THE OPTICAL SUBASSEMBLY OF THE EL-AT .....	11
3.4.1	Remove the optical subassembly of the EL-AT .....	11
3.4.2	Replace the optical subassembly of the EL-AT .....	11
3.5	REPLACING THE FRONT GLASS OF THE EL-AT .....	12
3.5.1	Remove the front glass of the EL-AT.....	12
3.5.2	Replace the front glass of the EL-AT.....	12
3.6	REPLACING THE REFLECTOR OF THE EL-AT.....	13
3.6.1	Remove the reflector of the EL-AT .....	13
3.6.2	Replace the reflector of the EL-AT .....	13
3.7	REPLACING THE REAR DOOR OF THE EL-AT .....	14
3.7.1	Remove the rear door of the EL-AT .....	14
3.7.2	Replace the rear door of the EL-AT.....	14

## 1 Introduction

The documentation lists the different operations to make maintenance of the **EL-AT** elevated fitting.

You will find in this document two main paragraphs:

"General Information and Requirements": This chapter gives general description and use of the fitting covered by this document.

"Maintenance of the fitting ": This chapter describes how to maintain the equipment covered by this document.

### 1.1 Use restriction notice and warranty

#### 1.1.1 Use of the Document

This documentation is the property of

**THORN Airfield Lighting**  
**156 bd. Haussmann**  
**75379 Paris Cedex 08**  
**France**

This documentation or any parts of this documentation may not be reproduced, stored in a retrieval system or transmitted in any form or by any means (mechanical, photocopying, recording, electronic,...) without THORN's prior consent.

#### 1.1.2 Warranty

**THORN Airfield Lighting** guarantees that the performance of the elevated lights described in this document, when sold by THORN Airfield Lighting or its licensed representatives, meets the requirements of ICAO Annex 14 volume 1 and FAA specifications.

Any defect in design, material or workmanship, which may occur during proper and normal use over a period covered by the warranty stipulate in the contract, will be replaced by THORN Airfield Lighting free of charge, ex works.

Operational failure resulting from lamp burnt out, improper installation and damage due to airport maintenance equipment is not considered a result of proper use and is beyond the scope of the warranty.

The above constitutes the limits of THORN Airfield Lighting 's liabilities concerning the elevated lights covered by this document.

## 1.2 Safety instructions

**WARNING:** Prior to the commencement of work all electrical services MUST be isolated from the supply and connected to earth. Full details of the work involved must be given to the Authorise Person responsible for the electrical engineering services at the airport with regard to the duration of the work, etc.. It is recommended that prior to starting any cutting work the nature and location of services such as cable ducts, etc... should be identified. It is a prerequisite of this type of installation that the work should be carried out by trained and experienced personnel.

## 1.3 Reference documents

This paper refers to following documents:

- THORN Commercial Documentation General Brochure Doc 1001.E,
- THORN EL-AT Commercial Documentation Doc 1101.E,
- THORN EL-AT Installation Documentation Doc 2101.E,
- Last Edition of ICAO Annex 14,
- Last Edition of FAA Advisory Circular AC.

## 1.4 Tools required

- Box spanners 10 mm
- Open end spanners 10 mm
- Allen keys no.3
- Screwdrivers
- One brush or cloth
- Methylated alcohol

## 2 General information

In this document we present the following maintenance operations :

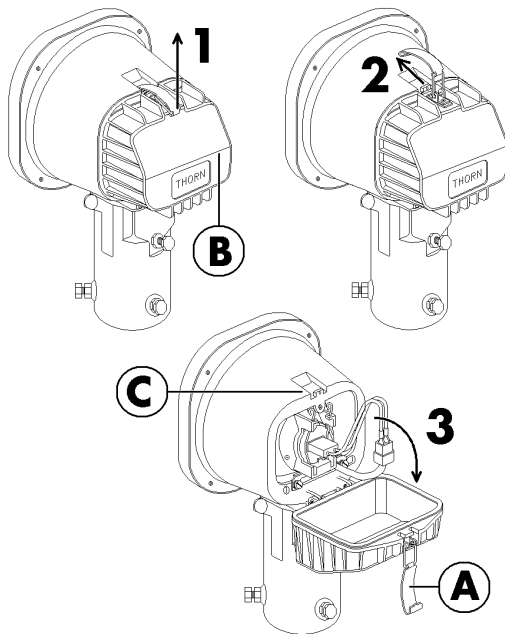
- 1) Changing of the lamp of the EL-AT.
- 2) Changing of the front clamping ring of the EL-AT.
- 3) Changing of the front glass (and its gasket) of the EL-AT.
- 4) Changing of the reflector of the EL-AT.
- 5) Changing of the rear door of the EL-AT.

For all other operations please refer to the "Installation Documentation" of the EL-AT.

### 3 Maintenance operations

#### 3.1 Opening and closing the EL-AT

##### 3.1.1 Opening the EL-AT

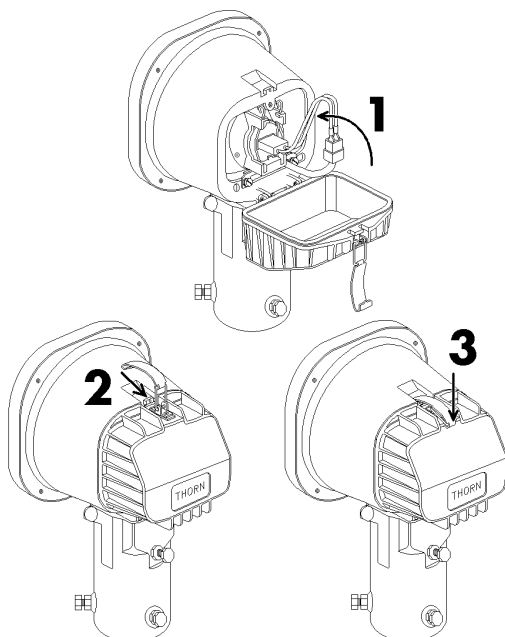


**A)** Pull up the rear part of the closing spring (A) of the rear door (B).

**B)** Unhook the spring from the fitting body (C).

**C)** Tilt the rear door of the EL-AT to open it.

##### 3.1.2 Closing the EL-AT



**A)** Place the wires of the lamp in order to prevent contact with the reflector after the closing of the fitting.

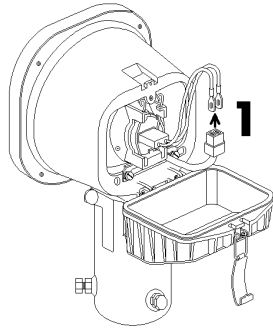
**B)** Close the rear door of the EL-AT.

**C)** Hook the closing spring of the rear door on the body of the fitting.

**D)** Push down the rear part of the closing spring of the rear door.

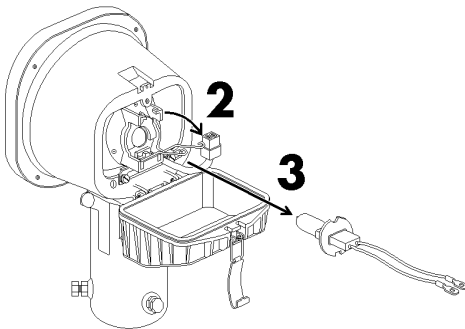
## 3.2 Replacing the lamp of the EL-AT

### 3.2.1 Remove the lamp from the EL-AT



**A)** Open the EL-AT fitting (see paragraph 3.1.1).

**B)** Disconnect two wires of the lamp from the cable terminal.



**C)** Open the lamp fixing spring.

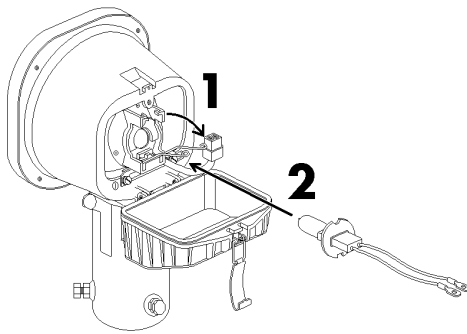
**D)** Remove the lamp from the lamp holder.

**E)** Close the EL-AT fitting (see paragraph 3.1.2).



### 3.2.2 Replace the lamp on the EL-AT

**CAUTION** : Do not touch the lamp with bare fingers. The lamp is usually supplied with a protective sleeve. Keep it on until the end of the installation. In case of contact of the lamp quartz with foreign elements, clean it with alcohol and a clean cloth. Only Pk30d 200 , 150, 100 or 45 W - 6.6A with focal at 16 mm have to be used.

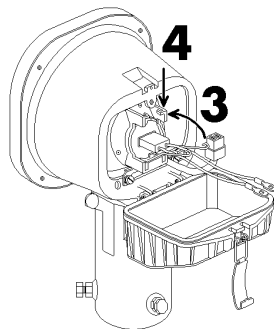
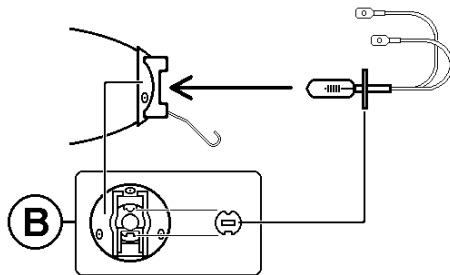


**A)** Open the EL-AT fitting (see paragraph 3.1.1).

**B)** Open the lamp fixing spring.

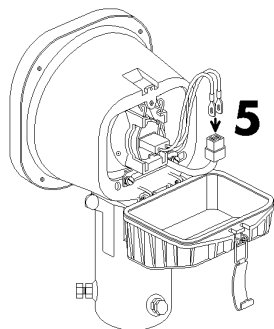
**C)** Install a lamp on the lamp holder located on the rear part of the reflector.

**Note** : Ensure that the indentations in the Lamp Holder line up with those in the Pk30d Lamp (See **(B)**).



**D)** Close the lamp fixing spring.

**E)** Lock the two ends of the lamp fixing spring.



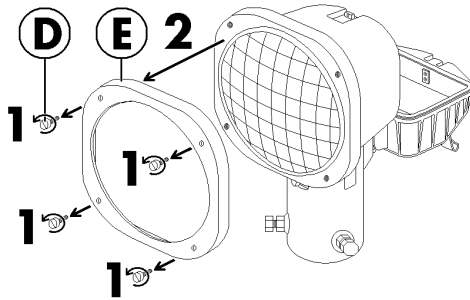
**F)** Connect the lamp on the cable terminal.

**Note** : Place the wires of the lamp in order to prevent contact with the reflector after the closing of the fitting.

**G)** Close the EL-AT fitting (see paragraph 3.1.2).

### 3.3 Replacing the front clamping ring of the EL-AT

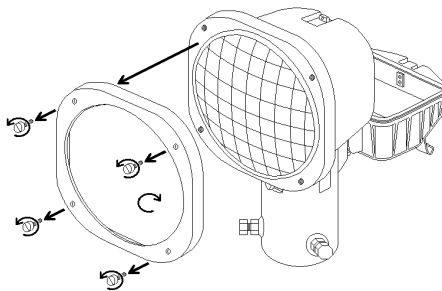
#### 3.3.1 Remove the front clamping ring of the EL-AT



**A)** Unscrew and remove the four fixing screw (**D**) of the clamping ring (**E**).

**B)** Remove the clamping ring of the EL-AT.

#### 3.3.2 Replace the front clamping ring of the EL-AT



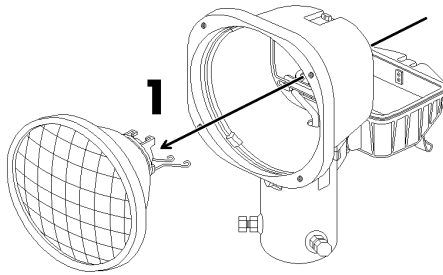
**A)** Mount the new clamping ring on the EL-AT.

**B)** Mount, screw and lock the four fixing screw of the clamping ring.

### 3.4 Replacing the optical subassembly of the EL-AT

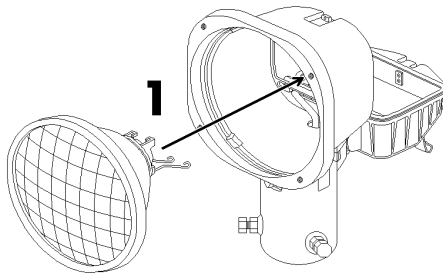
The optical subassembly of the EL-AT fitting comprise : the Front optical glass, the reflector (+Lamp holder) and a gasket.

#### 3.4.1 Remove the optical subassembly of the EL-AT

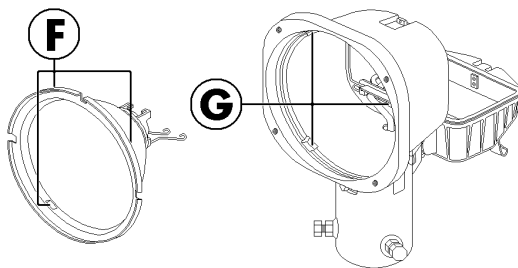


- A)** Open the EL-AT fitting (see **paragraph 3.1.1**).
- B)** Remove the lamp of the EL-AT fitting (see **paragraph 3.2.1**).
- C)** Remove the front clamping ring of the EL-AT fitting (see **paragraph 3.3.1**).
- D)** From the back of the fitting, push on the reflector to remove the optical subassembly from the body of the EL-AT fitting.

#### 3.4.2 Replace the optical subassembly of the EL-AT



- A)** Replace the complete optical subassembly inside the body of the EL-AT fitting.

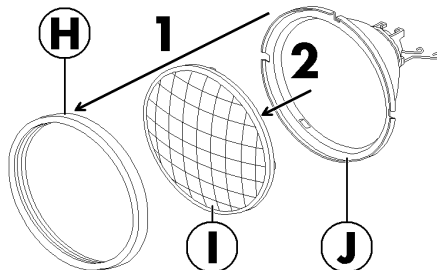


**Note :** In order to mount it correctly in the body, three cuts (F) are made in the front part of the reflector. These cuts are dedicated to be inserted in three corresponding holes (G) located in the front of the body.

- B)** Replace the front clamping ring on the EL-AT fitting (see **paragraph 3.3.2**).
- C)** Replace the lamp in the EL-AT fitting (see **paragraph 3.2.2**).
- D)** Close the EL-AT fitting (see **paragraph 3.1.2**).

### 3.5 Replacing the front glass of the EL-AT

#### 3.5.1 Remove the front glass of the EL-AT

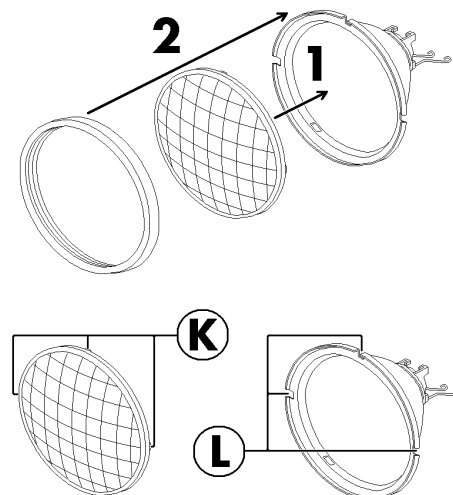


**A)** Remove the optical subassembly of the EL-AT fitting (see **paragraph 3.4.1**).

**B)** Remove the gasket (**H**) of the optical subassembly of the EL-AT fitting.

**C)** Remove the front glass (**I**) from the reflector (**J**) of the EL-AT fitting.

#### 3.5.2 Replace the front glass of the EL-AT



**A)** Mount a front glass on the reflector of the EL-AT fitting.

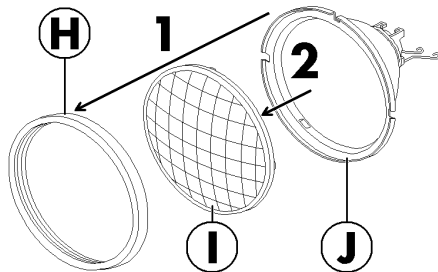
**Note :** In order to mount it correctly in the reflector, three dots (**K**) are made in the rear part of the optical glass. These dots are dedicated to be inserted in three corresponding holes (**L**) located in the front of the reflector.

**B)** Replace the gasket on the optical subassembly of the EL-AT fitting.

**C)** Replace the Optical subassembly in the EL-AT fitting (see **paragraph 3.4.2**).

### 3.6 Replacing the reflector of the EL-AT

#### 3.6.1 Remove the reflector of the EL-AT

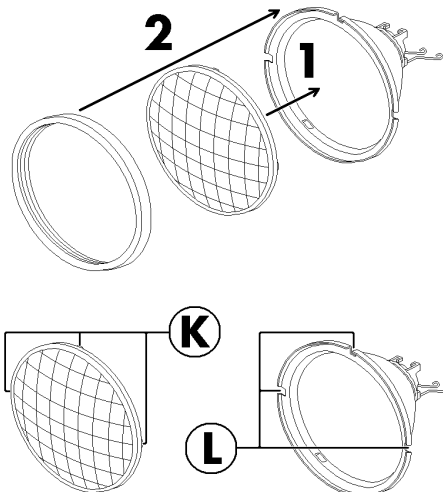


**A)** Remove the optical subassembly of the EL-AT fitting (see **paragraph 3.4.1**).

**B)** Remove the gasket (**H**) of the optical subassembly of the EL-AT fitting.

**C)** Remove the front glass (**I**) from the reflector (**J**) of the EL-AT fitting.

#### 3.6.2 Replace the reflector of the EL-AT



**A)** Mount a front glass on the reflector of the EL-AT fitting.

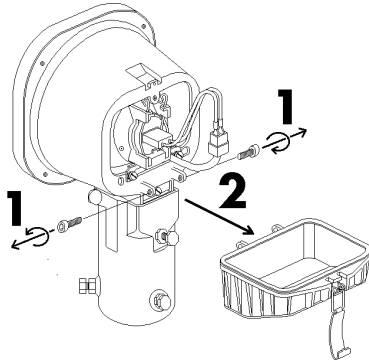
**Note :** In order to mount it correctly in the reflector, three dots (**K**) are made in the rear part of the optical glass. These dots are dedicated to be inserted in three corresponding holes (**L**) located in the front of the reflector.

**B)** Replace the gasket on the optical subassembly of the EL-AT fitting.

**C)** Replace the Optical subassembly in the EL-AT fitting (see **paragraph 3.4.2**).

### 3.7 Replacing the rear door of the EL-AT

#### 3.7.1 Remove the rear door of the EL-AT

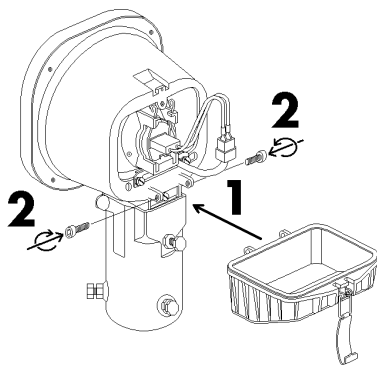


**A)** Open the EL-AT fitting (see paragraph 3.1.1).

**B)** Unscrew and remove the two fixing screws (**M**) of the rear door (**N**) of the EL-AT fitting (use an Allen key of 3 mm).

**C)** Remove rear door from the body of the EL-AT fitting.

#### 3.7.2 Replace the rear door of the EL-AT



**A)** Mount the rear door on the body of the EL-AT fitting.

**B)** Mount, screw and lock the two fixing screws of the rear door of the EL-AT fitting (use an Allen key of 3 mm).

**C)** Close the EL-AT fitting (see paragraph 3.1.2).

**COMMENTS**

Last page left blank for user comments.