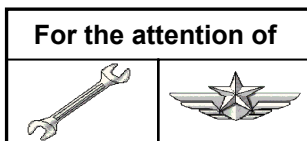


# Information Notice

**SUBJECT: LIGHTS**

## OBSOLESCENCE INFORMATION NOTICE



AIRCRAFT CONCERNED	Version(s)	
	Civil	Military
AS365	N2, N3	
EC155	B, B1	

Revision 1: Addition of AS365 N2, N3

In order to better assist you with your operational needs, Airbus Helicopters has launched an update of its Obsolescence Management approach. As obsolescence can have a direct impact on spares and repair supply, we will inform all customers about specific obsolescence issues.

Airbus Helicopters has been informed by its suppliers that the following equipment has become obsolete.

**Affected equipment:**

Description	Anti-Collision Light
AH P/N	704A46851026
MP/N	01-0770308-14

**Solutions:**

- No spare support and no Last Buy Order (LBO) will be possible.
- No repair can be provided through Airbus Helicopters.
- A design solution has been developed by Airbus Helicopters under STC for the installation of alternative Anti-Collision Lights:

Description	LED Anti-Collision Light	LED Anti-Collision Light
SB	EC155-SB No. 33.42.01-AHE	AS365-SB No. 33.42.01-AHE
CM	EC155B-B1-33420100	CM-AS365N2-N3-33420100
P/N	706H46852001	706H46852001

If you have any questions or for any further information, feel free to contact our generic obsolescence e-mail address: [contact.customer-obsolescence-support.ah@airbus.com](mailto:contact.customer-obsolescence-support.ah@airbus.com), your Airbus Helicopters Customer Support Manager (CSM) or Logistic Key Account Manager.

### No. 3841-I-33

Parts can be ordered directly from the Airbus Helicopters España (AHE) Order Administration [support.sparescom.ahe@airbus.com](mailto:support.sparescom.ahe@airbus.com) as defined in the Service Bulletins.

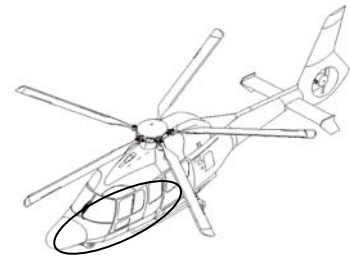
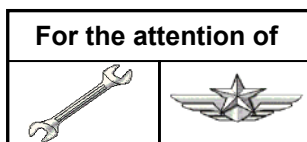
**Disclaimer:**

The information provided in this Obsolescence Information Notice does not supersede any type certifications or airworthiness instructions.



## SERVICE BULLETIN

**SUBJECT:** LIGHTS – Anti-collision lights  
Replacement of the bottom anti-collision light (strobe) due to  
obsolescence



Revision No.	Date of issue
Revision 0	2022-10-04

**Summary:**

The purpose of this Service Bulletin (SB) is to replace the obsolete bottom anti-collision light (strobe).

**Compliance:**

It is the operator's decision to comply or not to comply with this SB.

**Approval:**

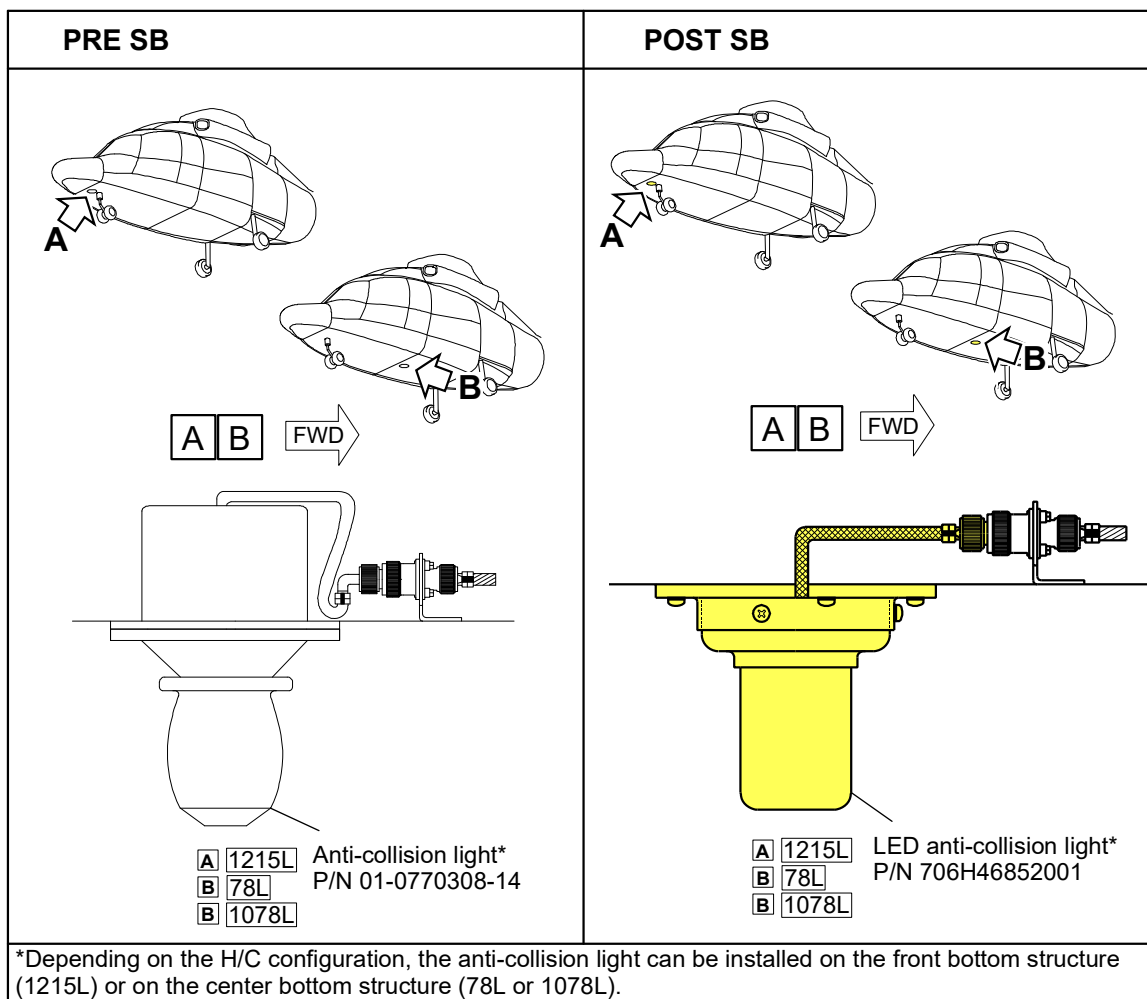
The technical content of this document is approved under the authority of DOA no. EASA.21J.700.

## 1. PLANNING INFORMATION

### 1.A. EFFECTIVITY

#### 1.A.1. Helicopters/installed equipment and parts

- a) Helicopters EC155B and EC155B1 with anti-collision light (strobe).
- b) Anti-collision light P/N 01-0770308-14



#### 1.A.2. Non-installed equipment and parts

Not applicable.

### 1.B. ASSOCIATED REQUIREMENTS

Not applicable.

### 1.C. REASON

Due to the obsolescence of the bottom anti-collision light (strobe), Airbus Helicopters España (AHE) offers the replacement of the current one with an improved one with LED technology.

## 1.D. DESCRIPTION

This SB consists of the:

- Removal of the existing bottom anti-collision light.
- Installation of the new LED anti-collision light.

## 1.E. COMPLIANCE

### 1.E.1. Compliance at H/C manufacturer level

Helicopters/installed equipment or parts:

Not applicable.

Non-installed equipment or parts:

Not applicable.

### 1.E.2. Compliance in service

Helicopters/installed equipment or parts:

It is the operator's decision to comply or not to comply with this SB.

Non-installed equipment or parts:

Not applicable.

## 1.F. APPROVAL

The modification linked to this Service Bulletin has been approved through MAS 2216M-EC155 on 03/10/2022.

The information and instructions of this document is approved on 04/10/2022 under the authority of DOA no. EASA.21J.700.

## 1.G. MANPOWER

Qualification:

For compliance with this SB, AHE recommends the following personnel qualifications:

- Qualifications:
- 1 Mechanic Technician,
  - 1 Avionic Technician.

Estimated Man-hours:

The Estimated Man-hours is indicated for reference purposes only and based on a standard helicopter configuration.

- Estimated Man-hours:
- 4 hours for Mechanic Technician,
  - 6 hours for Avionic Technician,

Estimated Helicopter downtime:

Estimated helicopter downtime is indicated for reference purposes only and based on a standard helicopter configuration.

Helicopter downtime is estimated at 1 day.

### 1.H. WEIGHT AND BALANCE

Additional Weight: - 0.332 kg  
Balance: Not affected.

### 1.I. POWER CONSUMPTION

Electrical load analysis is affected.  
Decrease in DC loads: 1.28 A  
Power consumption: 0.32 A

### 1.J. SOFTWARE UPGRADES/UPDATES

Not changed.

### 1.K. REFERENCES

IN 3481-I-00: The Marketplace: an AirbusWorld eOrdering service.  
AMM and Standard Practices Manual (MTC).

### 1.L. OTHER AFFECTED PUBLICATIONS

Publications to be updated:

Not Applicable.

Publications already updated:

The modification is integrated by AHE in the following document:  
- Customization Manual (CM-EC155B-B1-33420100).  
This document will be circulated to the Subscribers.

### 1.M. PART INTERCHANGEABILITY OR MIXABILITY

Interchangeability:

Bottom anti-collision light P/N 01-0770308-14 must not be used anymore after accomplishment of this SB.

Mixability:

Not applicable.

## 2. MATERIAL INFORMATION

### 2.A. MATERIAL: PRICE - AVAILABILITY - PROCUREMENT

Information on price and availability of the required material kits will be provided by AHE on request.  
For information of the material kit delivery time, contact AHE Order.

### 2.B. LOGISTIC INFORMATION

None.

### 2.C. MATERIAL REQUIRED PER HELICOPTER/COMPONENT

Material kits to be ordered for one helicopter:

Item	Keyword	Qty.	New P/N	Old P/N	Remarks
<b>Material kit SB-EC155-33.42.01-2C1: LED anti-collision light installation</b>					
1	LED anti-collision light	1	706H46852001	01-0770308-14	A
2	Adapter	1	19-130074-009	-	-
3	Washer flat	8	23111AG040LE	23111AG040LE	A, B
4	Screw	5	22272BC040016L	22272BC040016L	A, C
		5	22272BC040020L	22272BC040020L	A, D
		5	22272BC040022L	22272BC040022L	A, E
5	Bolt	3	NAS601-5P	-	-

Item	Keyword	Qty.	New P/N	Old P/N	Remarks
<b>Material kit SB-EC155-33.42.01-2C2: LED anti-collision light wiring</b>					
1	Backshell	1	EN3660-004N08C	E0080-01-08C or E0080-02-08C or NSA9381500208	A
2	Contact	3	EN3155-018M2018	EN3155-018M2018	A
3	Terminal	1	NSA936501TA1601	-	-

Remark:

A = Replace.

B = Only five washers are discarded.

C = For anti-collision light with electrical identification 78L.

D = For anti-collision light with electrical identification 1215L.

E = For anti-collision light with electrical identification 1078L.

Material to be ordered separately:

Item	Keyword	Qty.	New P/N	Old P/N	Remarks
1	Wire	0.10 m	EN2267-010A010S	-	A

Remark:

A = The quantity indicated is the necessary to do the modification. If this material is ordered from AHE Order Administration, a full roll of wire will be received.

Consumables to be ordered separately:



**WARNING**

**RESPECT THE SAFETY DATA SHEET OF THE MANUFACTURER.**

No.	Keyword	Qty. (approx.)	Specification**	CM	Rem.
1	Sealing compound	a.n.*	ASNA4167BF20	-	-
2	Sealing compound	a.n.*	-	6240	-
* a.n.= as needed					
** Specification i.a.w. MTC 20-01-01-102					

The consumables can be ordered from the AirbusWorld Marketplace through e-ordering (see IN 3481-I-00 for instructions).

If you cannot get access to e-ordering, please contact your Logistic Focal Point.

## 2.D. MATERIAL TO BE RETURNED

Not applicable.



## 3. ACCOMPLISHMENT INSTRUCTIONS

### 3.A. GENERAL

1. Read and comply with the general instructions for protection of electrical wiring during maintenance operations (MTC 20-80-20-449).
2. Read and comply with the general instructions for joining screws and nuts (MTC 20-02-05-404).
3. Read and comply with the general instructions for electrical bonding procedure (MTC 20-02-07-401).
4. Read and comply with the general instructions for helicopter parked in a repair shop (MTC 20-07-02-201).
5. Read and comply with the general instructions for contact insertion and extraction method and tools (MTC 20-80-20-101).
6. Read and comply with the general instruction for backshell tightening / safetying / loosening methods (MTC 20-80-20-404).
7. Read and comply with the general instructions for tools and processes for stripping cables (MTC 20-80-20-407).
8. Read and comply with the general instructions for method for crimping of electrical contacts for a connector (MTC 20-80-20-408).
9. Read and comply with the general instructions for fitting spiral wrap (MTC 20-80-20-427).
10. Read and comply with the general instructions for stuffing under the backshell with cable grip (MTC 20-80-20-434).

### 3.B. WORK STEPS

#### 3.B.1. Preliminary steps

1. Park aircraft in hangar.
2. Install suitable access means.
3. Disconnect all electrical power supply sources.

#### 3.B.2. Procedure

1. Remove the existing bottom anti-collision light and, if installed, the sealing between the light and the structure (AMM 33-42-01-063). Discard the attachment parts.
2. Disconnect connector P1 (10, Figure 1) from the wires of the removed bottom anti-collision light. Retain connector P1 (10) and discard the bottom anti-collision light and existing contacts (MTC 20-80-20-101).
3. Remove and discard the existing backshell from connector P1 (10) (MTC 20-80-20-404).
4. Installation of the new LED anti-collision light (1):
  - a. Prepare the electrical bonding points (MTC 20-02-07-401).
  - b. Install the adapter (2) on the helicopter with five screws (4) and five washers (3), bonding through the screws (4).
  - c. Adjust the length of the wires of the LED anti-collision light (1).
  - d. Strip the wires of the LED anti-collision light (1) (MTC 20-80-20-407) and crimp on the new contacts (7) (MTC 20-80-20-408).
  - e. Slide the backshell (6) through the wires of the LED anti-collision light (1).
  - f. Connect the white wire of the LED anti-collision light (1) to pin A of connector P1 (10) (MTC 20-80-20-101), refer to Wiring Diagram in Figure 1.

- g. Connect the black wire of the LED anti-collision light (1) to pin C of connector P1 (10) (MTC 20-80-20-101), refer to Wiring Diagram.
- h. Strip the new wire (9) (MTC 20-80-20-407) and crimp on the new contact (7) (MTC 20-80-20-408).
- i. Connect the new wire (9) to pin B of connector P1 (10) (MTC 20-80-20-101), refer to Wiring Diagram in Figure 1.
- j. Tighten the new backshell (6) to connector P1 (10) (MTC 20-80-20-404).
- k. Connect the new wire (9) to the backshell (6) with the terminal (8), refer to Wiring Diagram in Figure 1.
- l. Fix the wires of the LED anti-collision light (1) to the backshell (9) (MTC 20-80-20-434).
- m. Protect the wires (MTC 20-80-20-427).
- n. Connect the connector P1 (10) to the connector J1 (11).
- o. Fix the LED anti-collision light (1) to the adapter (2) with the bolts (5) and the washers (3), bonding through the bolts (5).
- p. Protect the screws (4) and the bolts (5) with sealing compound (CM 6240). Let the sealing compound dry, refer to the manufacturer instructions.
- q. Seal the union between the adapter (2) and the helicopter with sealing compound (ASNA4167BF20).
- r. Seal the union between the adapter (2) and the LED anti-collision light (1) with sealing compound (ASNA4167BF20).
- s. Let the sealing compound dry, refer to the manufacturer instructions.

### **3.B.3. Final steps**

1. Clean the work areas and the helicopter.
2. Remove access means.
3. Restore the helicopter to flight condition.

### **3.B.4. Test**

1. Perform the functional test of the anti-collision light (AMM 33-42-01-722).
2. Perform the bonding test (see Appendix).

## **3.C. COMPLIANCE CONFIRMATION**

Compliance with this document:

Record compliance with this SB in the helicopter documents.

Tracking of modifications in the documentation:

Record embodiment of MAS 2216M-EC155 in the helicopter documents.

## **3.D. OPERATING AND MAINTENANCE INSTRUCTIONS**

Operating instructions:

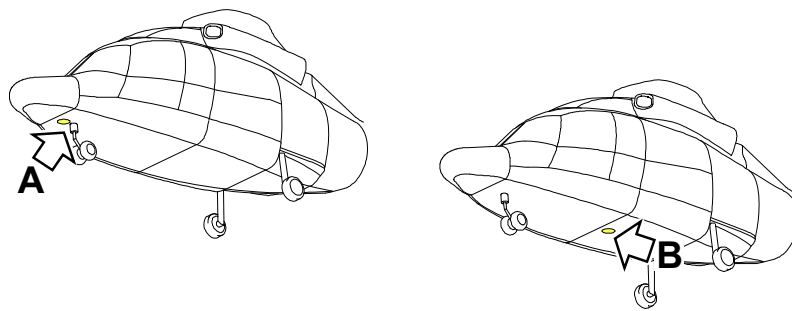
None.

Maintenance instructions:

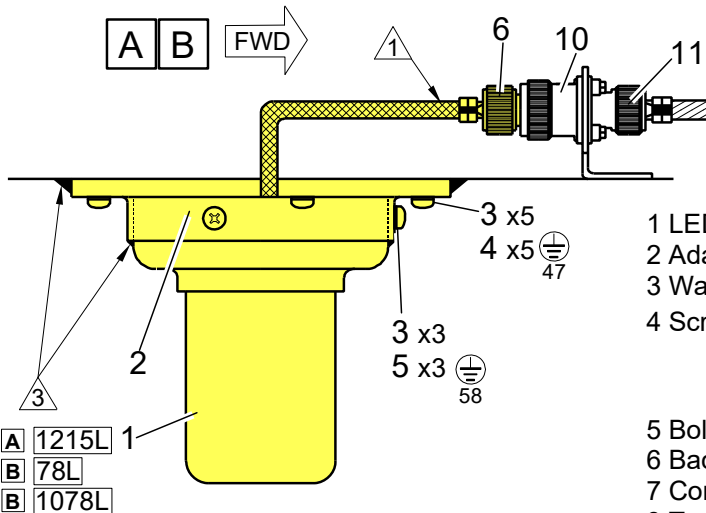
Refer to Customization Manual CM-EC155B-B1-33420100.

## **4. APPENDIX**

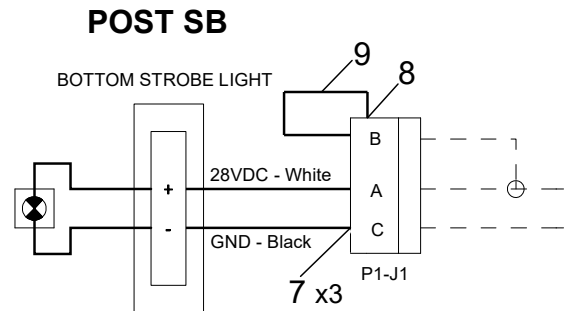
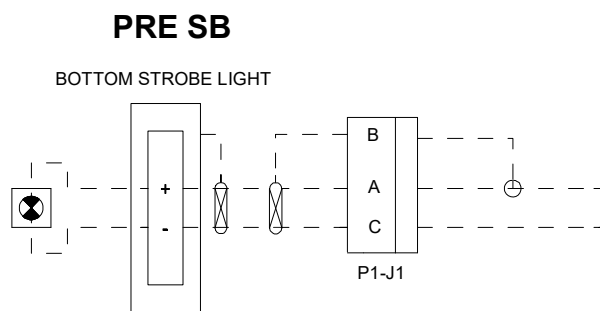
Appendix: Bonding test.



TYPE	NUMBER
47	5
58	3
ELECT. BONDING	



- |                            |                 |
|----------------------------|-----------------|
| 1 LED anti-collision light | 706H46852001    |
| 2 Adapter                  | 19-130074-009   |
| 3 Washer                   | 23111AG040LE    |
| 4 Screw                    | 22272BC040016L  |
|                            | 22272BC040020L  |
|                            | 22272BC040022L  |
| 5 Bolt                     | NAS601-5P       |
| 6 Backshell                | EN3660-004N08C  |
| 7 Contact                  | EN3155-018M2018 |
| 8 Terminal                 | NSA936501TA1601 |
| 9 Wire                     | EN2267-010A010S |
| 10 Connector P1            |                 |
| 11 Connector J1            |                 |



- Adjust the length of the wires during installation in the helicopter.
- Protected with sealing compound (CM 6240).
- Seal the union with with sealing compound (ASNA4167BF20).
- Only for anti-collision light (1) with electrical identification 78L.
- Only for anti-collision light (1) with electrical identification 1215L.
- Only for anti-collision light (1) with electrical identification 1078L.
- Reused.

--- Existing wire.  
 — New wire.

**Figure 1: Installation of the LED anti-collision light.**

END OF DOCUMENT

# APPENDIX – BONDING TEST

## BONDING TEST

This test will be conducted according to the electrical bonding requirements defined below for the Anti Collision Light installation.

The bonding test consists on measuring resistances between Anti Collision Light and ground, in order to verify a correct current flow path to ground, warranting that any problem will occur during the installation and ensuring a safety operation of the system.

The test will be performed with an Ohmmeter MEGGER BT-51, or similar (e.g. Milliohmmetre SEFELEC model RCP2A), provided that can be able to be used in the same range of measurement, under the same currents.

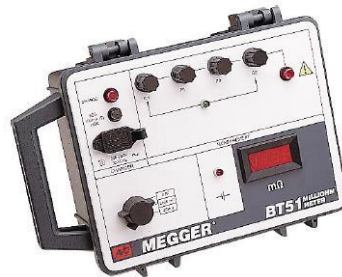


Figure 1 – Ohmmeter MEGGER BT-51.

This equipment makes measurements by passing a current through the conductor under test and monitoring the voltage across it. The test current is limited by a simple current limiting circuit and is measured by monitoring the voltage across a resistor. The test current is maintained at a nominal current 2A, and as the measurement is radiometric, the reading is not affected by any current variations.

During the bonding test, the following general recommendations must be taken into account:

- a) Values of electrical resistance higher than the maximal values defined have to be documented with applicable official procedure of not conformity and inform to EMC Lightning department.
- b) All precautions shall be taken into account to prevent damage in the electrical installation.
- c) All equipment used during test must be calibrated before performing the test.
- d) The terminals of the ohmmeter must not touch any part of the equipment installed in H/C excepted "Points" identified for measurements. It must also not touch in visual zones where is possible to make damage or marks easy seeing.
- e) Before a measurement is performed, the measuring locations shall be cleaned from any paint or protective mean to guarantee a good electrical contact. After the measurement is conducted, the original state shall be restored, providing the adequate paint or protective means.
- f) Precise measurement points are depicted as "Point 1" and "Point 2" for each required measurement in Table 1.
- g) Light cable must be disconnected before proceed with the measurements. After the measurements are conducted, Light cable must be connected again.

The reference values for the electrical bonding measurements on equipment are shown in following table; test results measures must be below these values.

# APPENDIX – BONDING TEST

BONDING MEASURE ON EQUIPMENT (*)			
ANTI COLLISION LIGHT (LOWER)			
Reference	POINT 1	POINT 2	VALUE (Max.)
a	Anti Collision Light (Figure 2, item1)	Anti-Collision Light Adapter (Figure 2, item2)	2.0 mΩ
b	Anti-Collision Light Adapter (Figure 2, item2)	H/C lower panel (Figure 2, item3) (**)	3.0 mΩ

(\*) See Figures for point reference.

(\*\*) In case that there is no point free of paint or protection available at the H/C lower panel, perform the measurement at one of the fixation screws to the structure. Restore the corresponding paint/protection of the screw after performing the measurement.

Table 1 – Electrical Bonding Measures to be tested.

In case of fault results, of acceptance values, it may be caused by faulty of bond itself or given value in the table is incorrect; if an “out of limit” value is measured, the measurement shall be repeated to confirm the result, taking care to ensure that:

- the test equipment setup is correct and the equipment is functioning correctly.
- the measurements probes are in the correct locations of the specific test.
- the probe contact areas is clean and free of all contaminants (e.g. grease, paint or resin)
- the measurement probes make good contact with the measurement point.
- the attachments shall be cleaned, tighten torque verified on bonding screws, and inspected the proper connection of supports, inserts, grounding straps, etc.

If a measurement continues to return a value which is in excess of the defined limit for that bond, then it shall be reported to Airbus for acceptance. Airbus may then:

- accept the “out of limit “ and if needed, required value will be updated by Airbus in this document.
- not accept the “out of limit” due to judgement that the route cause is a faulty bond, and therefore, the bonding link shall be re-worked to fulfil the required value.

The Bonding Test Report contains the table to be used during the tests to collect the results’ values of the measurements.

# APPENDIX – BONDING TEST

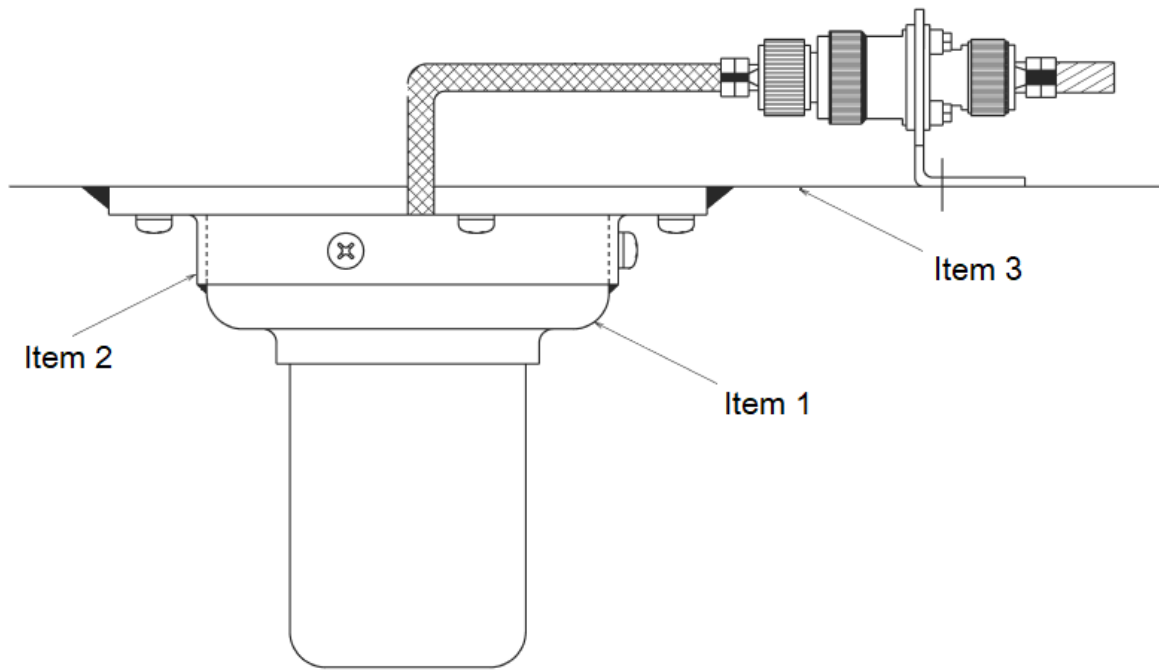


Figure 2 – Anti Collision Light (Lower-Strobe) Installation

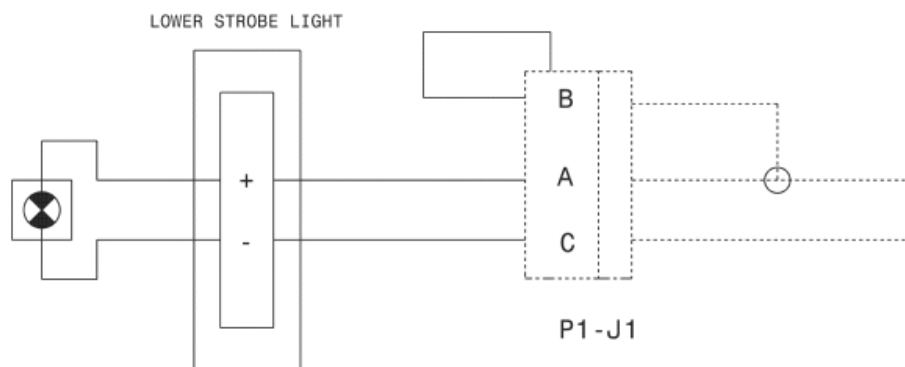


Figure 3 – Anti Collision Light (Lower-Strobe) Wiring

# APPENDIX – BONDING TEST

## BONDING TEST (TEST A)

BONDING MEASURE ON EQUIPMENT				
Reference	POINT 1	POINT 2	VALUE (Max.)	VALUE Measured
a	Anti Collision Light (Item 1)	Anti Collision Light Adapter (Item 2)	2 mΩ	
Remarks:				
b	Anti Collision Light Adapter (Item 2)	H/C lower panel (Item 3)	3 mΩ	
Remarks:				

Performed by	Test date	Signature
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**EFFECTIVITY**

The effectivity of the Customization Manual is limited as follows:

Aircraft type:	EC155 B, B1
Aircraft serial-number (s):	all POST SB EC155-SB N° 33-42-01-AHE

## INTRODUCTION

### A. GENERAL

The Customization Manual contains maintenance, part data, location, use and description of the whole system. An overview of all aircraft maintenance documentation is available in the LOAP (List of Applicable Publications).

The existing and applicable manufacturer documentation for the related systems/equipment must be also consulted for complementary information for maintenance, descriptive and operational instructions as well as dedicated part lists.

### B. CONTENT

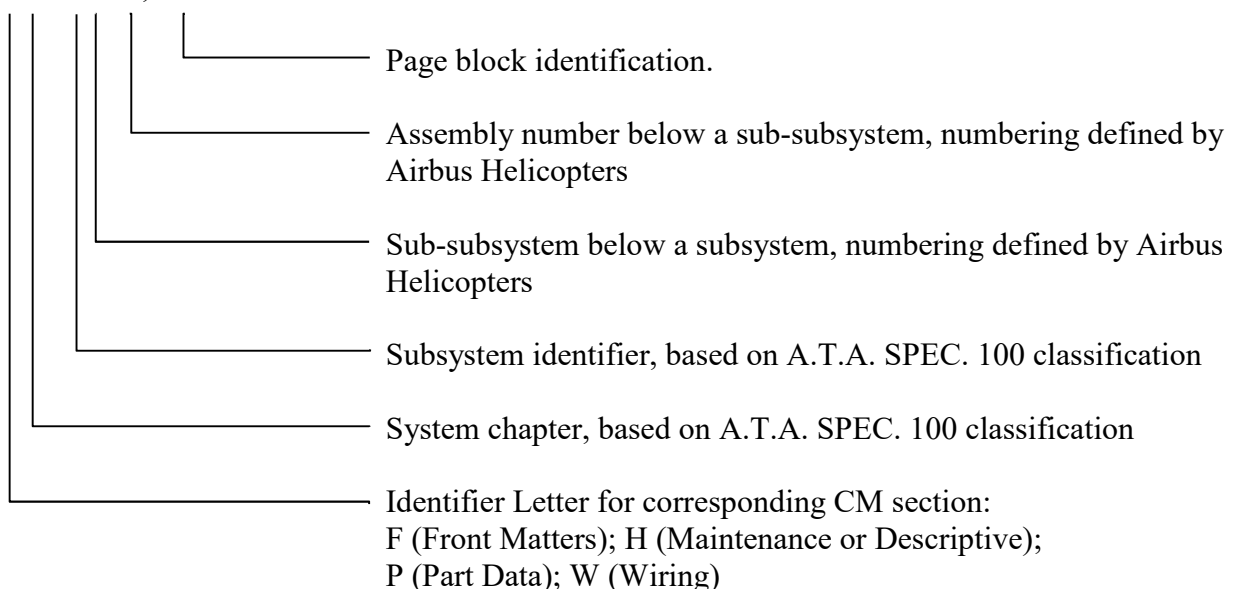
The Customization Manual contains common sections like:  
Title page, Table of Contents, Record of Revisions, Record of Inserted Revisions and Introduction.  
Followed by the main sections:

1. Descriptive and Functional Information
2. Maintenance Information
3. Part Data Information
4. Wiring Diagrams

### C. DOCUMENTARY UNITS

Documentary units of the Customization Manual are generally numbered in A.T.A. sections as described by means of the following example:

H86-40-10, 4-1



The blocks group data units (Page Blocks) of a certain type (topics) for better access:

Page block 0-1 to 0-99	Descriptive
Page block 1-1 to 1-99	Troubleshooting
Page block 2-1 to 2-99	Maintenance procedures
Page block 3-1 to 3-99	Servicing
Page block 4-1 to 4-99	Removal / Installation
Page block 5-1 to 5-99	Adjustment / Test
Page block 6-1 to 6-99	Inspection
Page block 7-1 to 7-99	Cleaning / Painting
Page block 8-1 to 8-99	Repair
Page block 9-1 to 9-99	Storage

The procedure page blocks describe documentary units (DU). To numerically address and reference DUs, they are assigned a start number for the corresponding page block and a consecutive number for the following DUs.

## 1. DESCRIPTIVE AND FUNCTIONAL INFORMATION

The general purpose of the Descriptive and Functional Information section is to give all the elements necessary for a good understanding of the composition and functions of the systems in order to ensure its correct maintenance and operation.

This section provides an explanation regarding the location, use, description and operation of the systems related to the modification object of this manual. To be complemented with the manufacturers documentation for each equipment/system.

## 2. MAINTENANCE INFORMATION

**No change on scheduled maintenance for the strobe light is required to ensure continued airworthiness. On condition maintenance procedures are described in this section of the manual and on the EC155 B, B1 AMM. For any particular equipment refer to applicable manufacturer manual.**

This section comprises the maintenance procedures grouped by main topics.

### Topic Description

Troubleshooting	Gives information to allow the ground maintenance personnel to locate and decide on corrective action for various faults or cases of malfunctioning.
Maintenance procedures	Gives general maintenance instructions for the related system
Servicing	Gives information related to procedures of autonomous, periodical or corrective nature, e.g.: Inflating, filling shock absorbers; various lubrication steps; bleeding of hydraulic and other systems, etc.
Removal / Installation	This topic details, in logical order, the removal and installation operations
Adjustment / Test	Details the procedures and parameters to assess the correct operation and integrity of the systems, subsystems, equipment, components or interconnection of components which ensure a function.
Removal /	This topic details, in logical order, the removal and installation operations

Installation	
--------------	--

Inspection / Check	Gives the required specifications and procedures for assessing whether the system or equipment is operational
Cleaning / Painting	Methods and procedures. Warning required to ensure safety of personnel and equipment. List of products and Consumable Materials (CM) contained in a MTC work card
Repair	List of repairable parts. Expendable materials and parts. Preliminary steps. Logical sequence of repair steps. Adjustments and tests.
Storage / De-storage	This section specifies the main storage and de-storage requirements. It does not affect calendar inspections nor expiry dates defined for accessories and equipment items. Comply with the vendor’s publication.

Special Mentions:

**WARNING:**

**TO DRAW ATTENTION TO A MAINTENANCE OPERATION OR PROCEDURE, A PRACTICE, A CONDITION OR A STATEMENT WHICH, IF IT IS NOT STRICTLY COMPLIED WITH, CAN CAUSE INJURIES OR DEATH**

**CAUTION:**

**TO DRAW ATTENTION TO A MAINTENANCE OPERATION OR PROCEDURE, A PRACTICE, A CONDITION OR A STATEMENT WHICH, IF IT IS NOT STRICTLY COMPLIED WITH, CAN CAUSE DAMAGE OF DESTROY EQUIPMENT OR PREVENT FULL COMPLETION OF THE MISSION.**

**NOTE:**

**To draw attention to an operation or condition which will help the personnel or facilitate a maintenance procedure.**

3. ILLUSTRATED PARTS CATALOG (IPC) INFORMATION

This section enables the user to:

- Base initially the condition of the related system/equipment when delivered,
- Determine all items which are identified as spare parts in maintenance level O and I,
- Support the user in: ordering of spare parts, supplying, identifying new or renewed items.

Non Procurable Items (NP)

Part numbers, which are non-procurable and presented for reference purposes only, are identified by “(NP)” next to their related nomenclature on the designation column.

This section is used for identification and procurement of helicopter parts and tools only, and **MUST NOT** be used as a reference document for the assembly or disassembly of helicopter systems.

#### 4. WIRING DIAGRAMS

This section supplements the maintenance information section of the Customization Manual. It should always be consulted when troubleshooting and repairing wiring harnesses, and when wiring information is required. It shows all of the wiring of the systems related equipment.

Shows the wiring, assigned to the respective chapters in accordance with ATA SPEC 100.

If a wiring diagram consists of only one sheet, the sheet number is 000. Otherwise the sheets are numbered consecutively starting with sheet 001.

The following precautions shall be observed when working on electrical systems:

VOLTAGES PRESENT IN ELECTRICAL SYSTEMS, COMPONENTS OR PARTS MAY LEAD TO SERIOUS INJURY OR DEATH.

WHEN WORK IS TO BE PERFORMED ON SYSTEMS WHICH ARE CONNECTED TO AN ELECTRICAL POWER SUPPLY, THE ELECTRICAL POWER SUPPLY MUST BE RENDERED INOPERABLE TO ALL PERSONS EXCEPT FOR THE PERSON PERFORMING THE ACTUAL WORK.

WORK UNDER VOLTAGE SHALL ONLY BE PERFORMED IN EXCEPTIONAL CIRCUMSTANCES AND UNDER SUPERVISION.

WHEN WORK IS PERFORMED ON LIVE SYSTEMS, ONLY SUITABLE ISOLATED TOOLS SHALL BE USED.

BEFORE THE INSTALLATION OR REMOVAL OF A PART, A CHECK SHALL BE MADE TO ENSURE THAT THE RESPECTIVE SYSTEM IS DEENERGIZED.

ELECTRICAL CIRCUITS MUST NOT BE TOUCHED UNTIL THEY HAVE BEEN GROUNDED. THIS IS BECAUSE DANGEROUS CAPACITOR CHARGING VOLTAGE MAY STILL BE PRESENT EVEN AFTER THE VOLTAGE HAS BEEN REMOVED.

IN ADDITION, THE PERTINENT NATIONAL REGULATIONS SHALL BE OBSERVED.

#### Basic Electrical Symbols

(Figure 1)

#### D. REVISIONS

The “Record of Revisions” lists all the changes which have been done since the first issue of the corresponding CM. It informs about the affected documentary units, the types and reasons of changes and it reports the CM issue and CM revision date by which the changes have been integrated. Structural pages will be refreshed with each revision of the CM and are not explicitly listed in the Record of Revisions. An overview about the structural pages included. In case the content of the CM has been updated, all holders of a CM are requested to replace their CM by the

newest version and to amend their paper-print CM's in accordance with following change instruction:

- Analyze by means of the “Record of Revisions” of the latest CM revision in conjunction with the “Record of Inserted Revisions” of the paper-print CM which revisions need to be inserted.
- Exchange all structural pages of the CM
- Exchange, remove or add the documentary units affected by the revision in accordance with the “Record of Revisions” and the relevant tables of contents and “Lists of Wire Diagrams”.
- Destroy all pages that were removed as a result of the revision.
- Ensure that the revisions referenced in the “Record of Revisions” are completely included in the corresponding paper-print CM and confirm the accomplishment of all aforementioned revision instructions by entering the CM revision date, the date of insertion and your signature in the “Record of Inserted Revisions”.

## E. ACRONYMS AND ABBREVIATIONS

The following table gives an explanation of common acronyms and abbreviations used in the Customization Manual:

A	Ampere
A/C	Aircraft
AC	Alternating Current
AHE	Airbus Helicopter España
AM	Amplitude Modulation
AMM	Aircraft Maintenance Manual
ANT	Antenna
AP	Autopilot
AR	As Required
AVM	Avionic Manual
BAT	Battery
BIT	Built In Test
CB	Circuit Breaker
CPRS	Car Plate Recognition System
CU	Control Unit
CM	Customization Manual
CM	Consumable Material
CMM	Component Maintenance Manual
DB	Data Base
DC	Direct Current
DGT	Dirección General de Tráfico
DMAP	Digital Map
DTU	Data Transfer Unit
EMC	Electro Magnetic Compatibility
EOS	Electro Optical System
FLIR	Forward Looking Infrared
ft	Feet
FWD	Forward
GND	Ground
GPS	Global Positioning System
h	Hour

H/C	Helicopter
HD	High Definition
HITS	Helicopter Integrated Tactical System
HMI	Human Machine Interface
in	Inch
IPC	Illustrated Parts Catalog
kt	Knot
lb	Pound
LCD	Liquid Crystal Display
LH	Left Hand (side)
LRU	Line Replaceable Unit
MIL	US Military Specification
MPN	Manufacturer Part Number
MTC	Standard Practices Manual (Manuel des Techniques Courantes)
N	Newton
N/A	Not Applicable
Nm	Newton Meter
NVG	Night Vision Goggles
OCR	Optical Character Recognition
P/N	Part Number
PN	Part Number
PTT	Push To Talk
S/N	Serial Number
SW	Software
USB	Universal Serial Bus
VCR	Video Recorder
VGA	Video Graphics Array, 19
WDM	Wiring Diagram Manual
XCVR	Transceiver

## F. CONTACT INFORMATION

For items concerning the Customization Manual:

Address: Airbus Helicopters España  
 EBESD - ILS & Tech Data  
 02006 ALBACETE SPAIN

For information about technical support, document download or any further information refer to the Airbus Helicopters website:

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

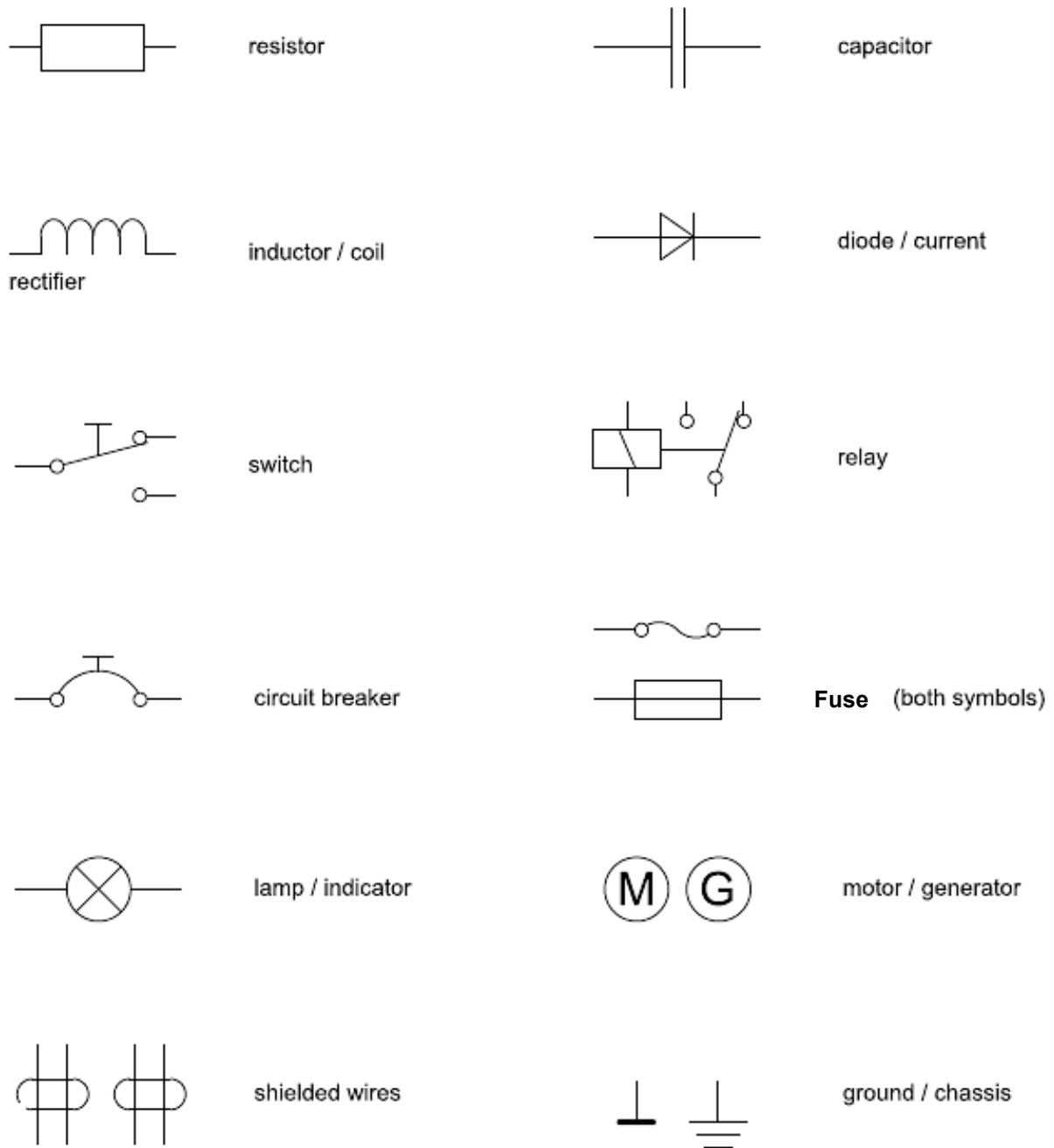


Figure 1 - Basic Electrical Symbols



## Record of Revisions

First Issue: 2022-09-23

Revision

Type of change:    N: New  
                          R: Revised  
                          D: Deleted

CM Issue	CM Revision	Documentary Unit	Type of change	Reason of change
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## 2. DESCRIPTIVE AND FUNCTIONAL INFORMATION

### Section

General Description - Strobe Light

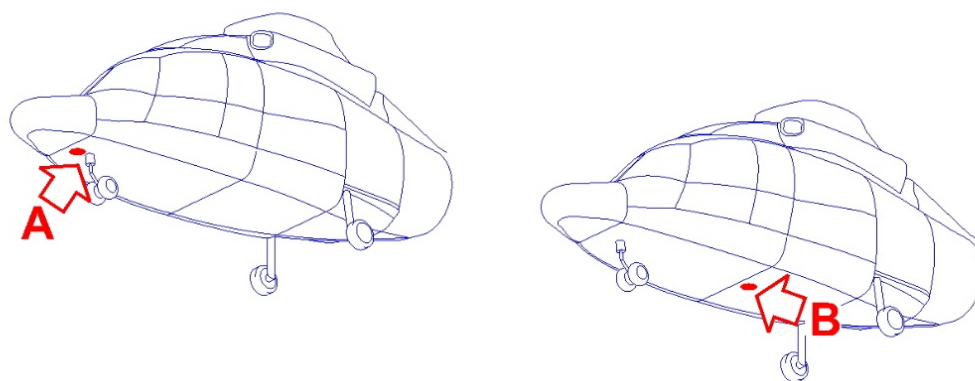
H33-42-00, 0-1

## **H33-42-00, 0-1 - General Description – Strobe Light**

### 1. GENERAL

The anti-collision strobe light is a LED white flashing light, that is designed to give long-range indication of the position of helicopters in flight or moving on the ground.

### 2. LOCATION



**Figure 1 - Strobe Light Location**

### 3. DESCRIPTION

This anti-collision light is a strobe light which produces white light only. It is installed at the beneath of the helicopter fuselage.

This light is powered and controlled from the "ANTI COL" switch on overhead panel 12 ALPHA.

## 2. MAINTENANCE INFORMATION

**No change on scheduled maintenance for the strobe light is required to ensure continued airworthiness. On condition maintenance procedures are described in this section of the manual and on the EC155 B, B1 AMM. For any particular equipment refer to applicable manufacturer manual.**

	<u>Section</u>
Removal / Installation - Strobe Light	H33-42-00, 4-1
Troubleshooting - Strobe Light	H33-42-00, 1-1
Functional Test - Strobe Light	H33-42-00, 5-1

## **H33-42-00, 4-1 - Removal / Installation – Strobe Light**

### A. References:

H33-42-00, 5-1                      Functional Test –Strobe Light  
AMM 24-00-00-481  
AMM 24-00-00-911  
MTC 20-05-01-101  
MTC 20-02-07-101  
MTC 20-02-07-401

### B. Special Tools

N/A

### C. Consumable Materials

CM 6240                              Sealing compound  
ASNA4167BF20                      Sealing compound

### D. Routine Replacement Parts

N/A

### E. Job Set-up:

1. Read the general safety instructions for the electrical systems (AMM 24-00-00-911)
2. Park helicopter in hangar.
3. Install suitable access means.
4. De-energize the electrical system (AMM 24-00-00-481).

### F. Procedure:

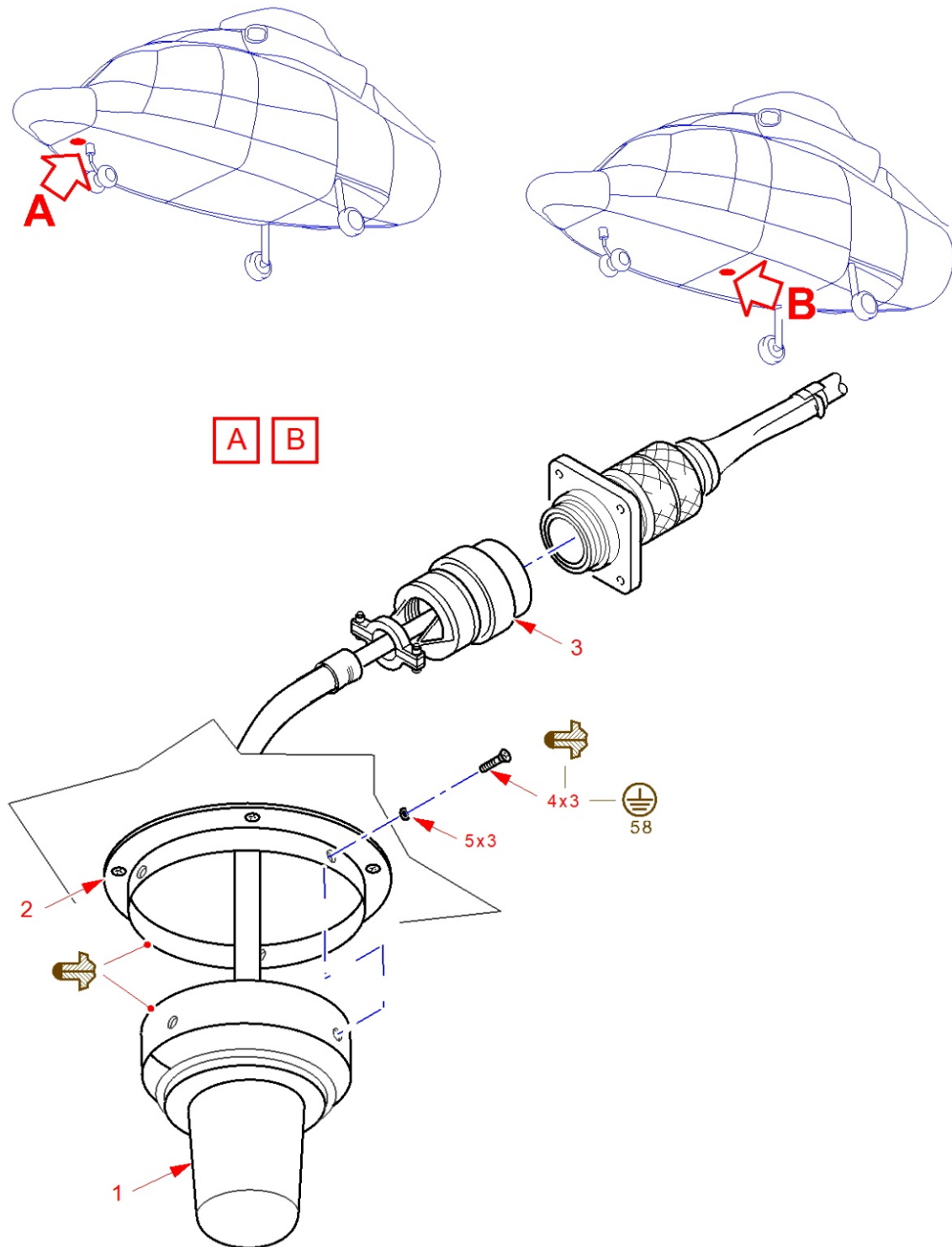
1. Remove the strobe light (1, Figure 2) as follows:
  - a. Use a scrapper to remove the sealant bead around the strobe light (1) and its mount (2).
  - b. Remove the sealant from the bolts (4).
  - c. Remove the bolts (4) and the washers (5).
  - d. Carefully disengage the strobe light (1) until you have access to the electrical connector (3).
  - e. Disconnect the electrical connector (3).
  - f. Remove the strobe light (1).
  - g. If necessary, install a protective cover in the connector (3)
  - h. Clean the remaining sealant bead on the mount (2) and on the strobe light (1) (MTC-20-05-01-101)

2. Install the strobe light (1, Figure 2) as follows:

- a. Obey the related Material Safety Data Sheet and local regulations when you use consumable materials.
- b. Prepare the electrical bonding points (MTC 20-02-07-101) and (MTC 20-02-07-401).
- c. If installed, remove the protective cover.
- d. Connect the electrical connector (3).
- e. Put the strobe light (1) into position.
- f. Attached the strobe light to its mount (2) with the washers (5) the bolts (4).
- g. Tighten the bolts (4).
- h. Protect the bolts (4) with sealing compound (CM 6240).
- i. Let the sealing compound dry, refer to the manufacturer's instructions.
- j. Apply a bead of the sealing compound ASNA4167BF20 between the anti-collision light (1) and its mount (2).
- k. Let the sealing compound dry, refer to the manufacturer's instructions.

G. Close-Up:

1. Energize the electrical system (AMM 24-00-00-481).
2. Remove the access means.
3. Do a functional test of the strobe Light (H33-42-00, 5-1).
4. Remove all tools and other materials and clean the work area.



**Figure 2 – Removal / Installation – Strobe Light**

## **H33-42-00, 1-1 – Troubleshooting – Strobe Light**

### A. References:

H33-42-00, 4-1	Removal / Installation - Strobe Light
W33-42-00-000	Wiring Diagram - Strobe Light
AMM 24-00-00-481	
AMM 24-00-00-911	

### B. Special Tools

N/A

### C. Consumable Materials

N/A

### D. Routine Replacement Parts

N/A

### E. Job Set-up:

1. Read the general safety instructions for the electrical systems (AMM 24-00-00-911)
2. Energize the electrical system (AMM 24-00-00-481).

### F. Procedure:

1. Do the troubleshooting procedure as follows:

FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
The “ANTI COL” switch is set to “WHI” The bottom light does not come on.	The circuit breakers of the anti-collision lights are open.	Closed the circuit breaker
	The bottom anti-collision light is defective	Refer to H33-42-00, 4-1 and replace the light.
	The wiring, the switch or the connectors are defective.	Check the wiring in accordance with W33-42-00-000.

**Table 1 – Strobe Light Fault isolation**

### G. Close-Up:

1. De-energize the electrical system (AMM 24-00-00-481).
2. Remove all tools and other materials and clean the work area.



**H33-42-00, 5-1- Functional Test – Strobe Light****A. References:**

AMM 33-42-01-722

**B. Special Tools**

N/A

**C. Consumable Materials**

N/A

**D. Routine Replacement Parts**

N/A

**E. Job Set-up:**

1. N/A

**F. Procedure:**

1. Do the functional test of the strobe light as follows:
  - a. Refer to the functional test – Strobe Lights (AMM 33-42-01-722)

**G. Close-Up:**

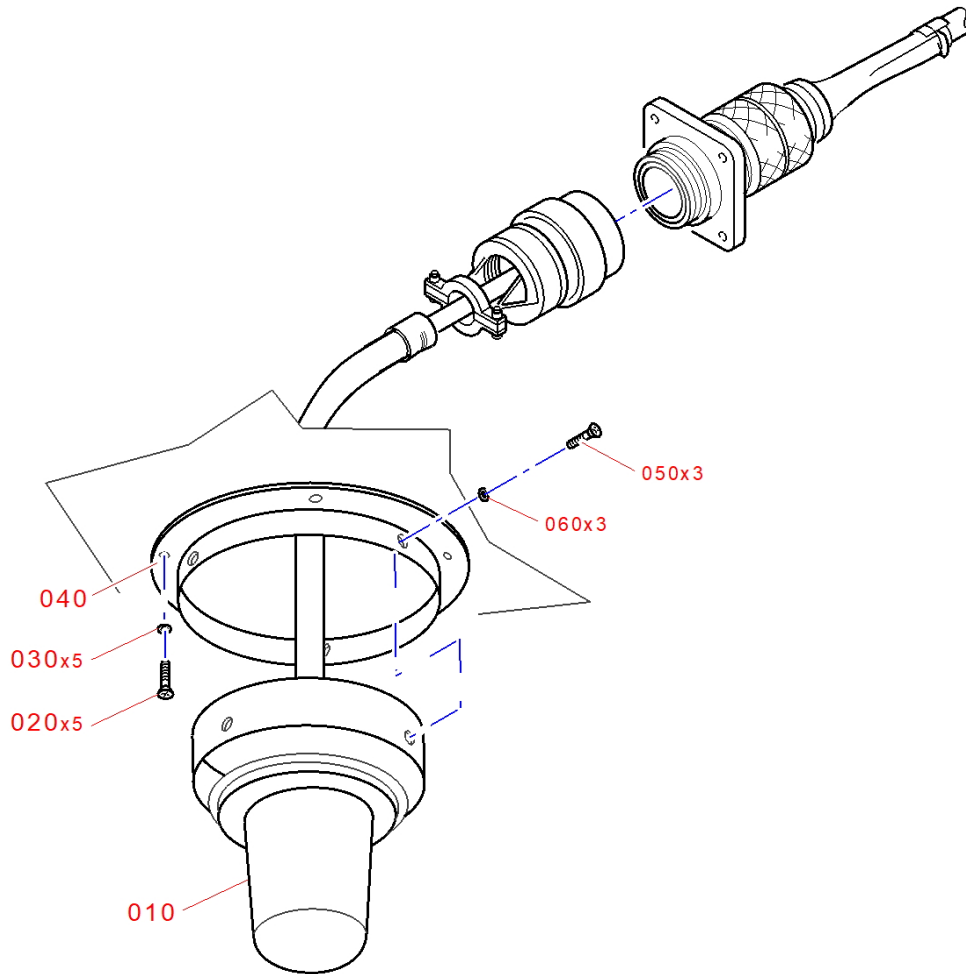
1. N/A

**3. ILLUSTRATED PARTS CATALOG (IPC) INFORMATION**Section

Strobe Light

P33-42-00-01

## P33-42-00-01 – Strobe Light



**Figure 3 –Strobe Light**

ITEM	FSCM	PN	DESIGNATION	QTY
010	274BB	706H46852001	LED anti-collision light	1
020	F0111	22272BC040016L	SCREW (With electrical identification 78L)	5
020	F0111	22272BC040020L	SCREW (With electrical identification 1215L)	5
020	F0111	22272BC040022L	SCREW (With electrical identification 1078L)	5
030	F0111	23111AG040LE	WASHER FLAT	5
040	10402	19-130074-009	MOUNT	1
050	80205	NAS601-5P	BOLT	3
060	F0111	23111AG040LE	WASHER FLAT	3

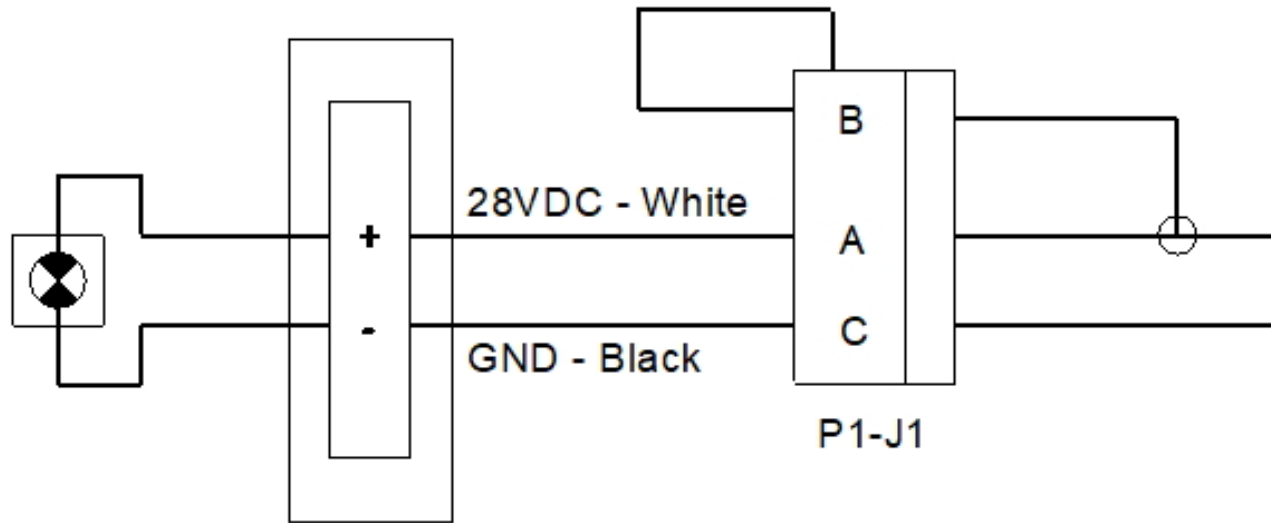
## 4. WIRING DIAGRAM MANUAL (WDM) INFORMATION

Section

Strobe Light

W33-42-00-000

**W33-42-00-000 – Strobe Light**



**Figure 4 – Wiring Diagram – Strobe Light**

# AIRBUS

## EC155 B, B1

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### CUSTOMIZATION MANUAL



Reference: CM-EC155B-B1-33420100-Draft01  
Issue: 2022-09-23  
Revision:

S/N Applicability: all

Strobe Light

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Airbus Helicopters España  
EBEESD - ILS & Technical Data  
02006 Albacete - España

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**IMPORTANT NOTE**

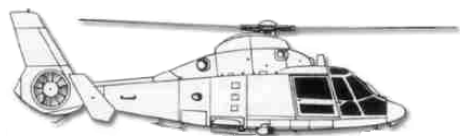
The content of this manual does not supersede or overlap the information contained in the other manuals of this aircraft.

This manual was issued in the scope of the H155 – EC155  
ORION Online Rev: 008.00 – 28-02.2022

## Table of Contents

	<u>Section</u>
<u>Effectivity</u>	F00-40-01
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<u>Record of Revisions</u>	F00-40-03
<u>Record of Inserted Revisions</u>	F00-40-04
<u>1. Descriptive and Functional Information</u>	
General Description - Strobe Light	H33-42-00, 0-1
<u>2. Maintenance Information</u>	
Removal / Installation - Strobe Light	H33-42-00, 4-1
Troubleshooting - Strobe Light	H33-42-00, 1-1
Functional Test - Strobe Light	H33-42-00, 5-1
<u>3. Part Data Information</u>	
Illustrations Parts Catalog - Strobe Light	P33-42-00-01
<u>4. Wiring Diagrams</u>	
Wiring Diagram - Strobe Light	W33-42-00-000

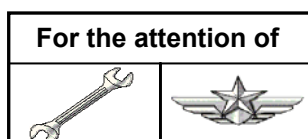




Civil versions: N2, N3, N3+

## SERVICE BULLETIN

**SUBJECT:** LIGHTING – Anti-Collision Lighting  
Replacement of the anti-collision strobe light due to obsolescence



Revision No.	Date of issue
Revision 0	2022-12-13

**Summary:**

The purpose of this Service Bulletin (SB) is to replace the obsolete anti-collision strobe light.

**Compliance:**

It is the operator's decision to comply or not to comply with this SB.

**Approval:**

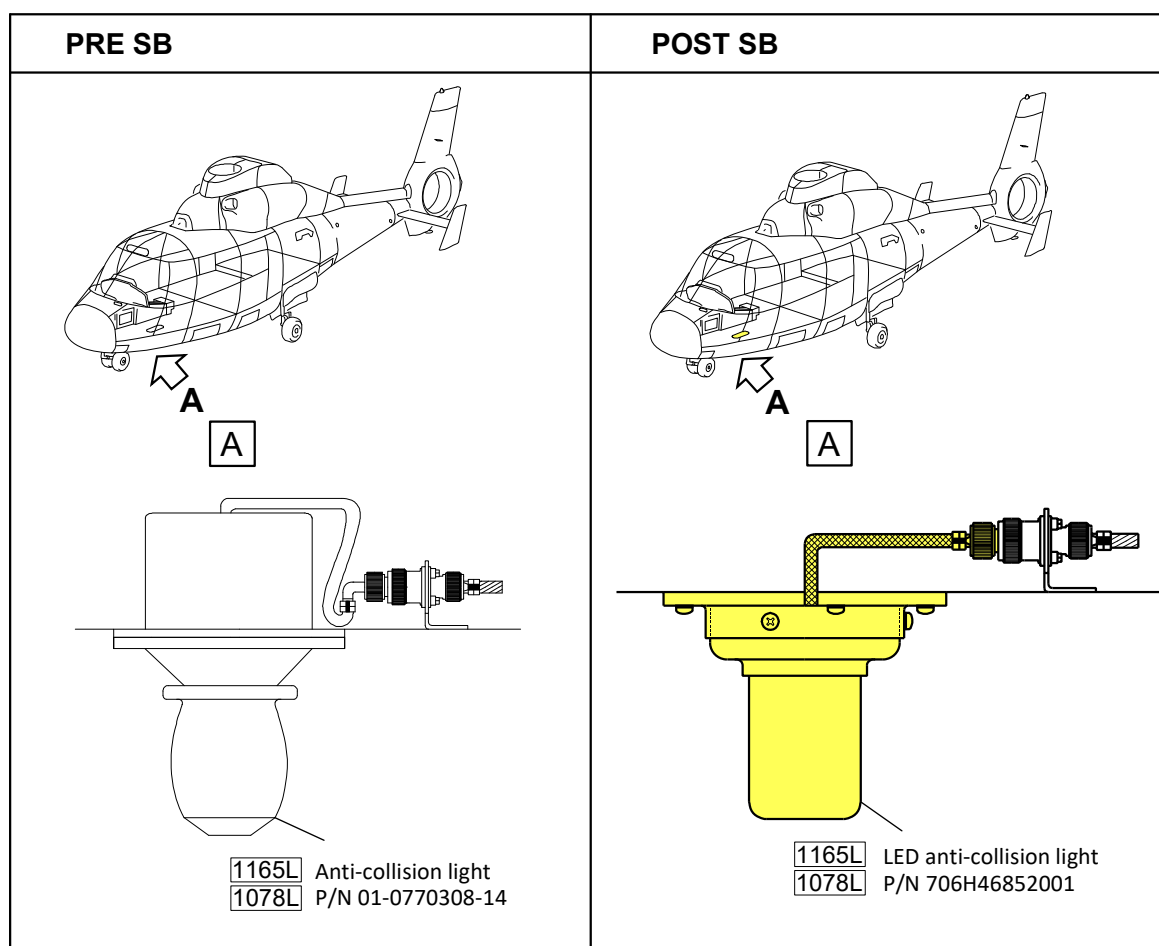
The technical content of this document is approved under the authority of DOA no. EASA.21J.700.

## 1. PLANNING INFORMATION

### 1.A. EFFECTIVITY

#### 1.A.1. Helicopters/installed equipment and parts

- a) Helicopters AS365N2, AS365N3 and AS365N3+.
- b) Anti collision light P/N 01-0770308-14



#### 1.A.2. Non-installed equipment and parts

Not applicable.

### 1.B. ASSOCIATED REQUIREMENTS

Not applicable.

### 1.C. REASON

Due to the obsolescence of the original anti-collision light (strobe), Airbus Helicopters España (AHE) offers the replacement of the current one with an improved one with LED technology.

## 1.D. DESCRIPTION

This SB consists of the:

- Removal of the existing anti-collision strobe light.
- Installation of the new LED anti-collision strobe light.

## 1.E. COMPLIANCE

### 1.E.1. Compliance at H/C manufacturer level

Helicopters/installed equipment or parts:

Not applicable.

Non-installed equipment or parts:

Not applicable.

### 1.E.2. Compliance in service

Helicopters/installed equipment or parts:

It is the operator's decision to comply or not to comply with this SB.

Non-installed equipment or parts:

Not applicable.

## 1.F. APPROVAL

The modification linked to this Service Bulletin has been approved through MAS 2218M-AS365 on 09/12/2022.

The information and instructions of this document is approved on 13/12/2022 under the authority of DOA no. EASA.21J.700.

## 1.G. MANPOWER

Qualification:

For compliance with this SB, AHE recommends the following personnel qualifications:

Qualifications: - 1 Mechanic Technician,  
- 1 Avionic Technician,

Estimated Man-hours:

The Estimated Man-hours is indicated for reference purposes only and based on a standard helicopter configuration.

Estimated Man-hours: - 4 hours for Mechanic Technician,  
- 6 hours for Avionic Technician,

Estimated Helicopter downtime:

Estimated helicopter downtime is indicated for reference purposes only and based on a standard helicopter configuration.

Helicopter downtime is estimated at 1 day.

## 1.H. WEIGHT AND BALANCE

Additional Weight: - 0.332 kg

Balance: Not affected.

## 1.I. POWER CONSUMPTION

Electrical load analysis is affected.

Decrease in DC loads: 1.28 A

Power consumption: 0.32 A

## 1.J. SOFTWARE UPGRADES/UPDATES

Not changed.

## 1.K. REFERENCES

IN 3481-I-00: The Marketplace: an AirbusWorld eOrdering service.  
MET and Standard Practices Manual (MTC).

## 1.L. OTHER AFFECTED PUBLICATIONS

Publications to be updated:

Not Applicable.

Publications already updated:

The modification is integrated by AHE in the following document:

- Customization Manual (CM-AS365N2-N3-33420100).

This document will be circulated to the Subscribers.

## 1.M. PART INTERCHANGEABILITY OR MIXABILITY

Interchangeability:

Bottom anti-collision light P/N 01-0770308-14 must not be used anymore after accomplishment of this SB.

Mixability:

Not applicable.

## 2. MATERIAL INFORMATION

### 2.A. MATERIAL: PRICE - AVAILABILITY - PROCUREMENT

Information on price and availability of the required material kits will be provided by AHE on request.  
For information of the material kit delivery time, contact AHE Order.

### 2.B. LOGISTIC INFORMATION

None

### 2.C. MATERIAL REQUIRED PER HELICOPTER/COMPONENT

Kits to be ordered for one helicopter:

Item	Keyword	Qty.	New P/N	Old P/N	Remarks
<b>Material kit SB-AS365-33.42.01-2C1: LED anti-collision strobe light installation</b>					
1	LED anti-collision light	1	706H46852001	01-0770308-14	A
2	Adapter	1	19-130074-009	-	-
3	Washer flat	8	23111AG040LE	23111AG040LE	A, B
4	Screw	5	22272BC040018L	22272BC040018L	A
5	Bolt	3	NAS601-5P	-	-

Item	Keyword	Qty.	New P/N	Old P/N	Remarks
<b>Material kit SB-AS365-33.42.01-2C2: LED anti-collision strobe light wiring</b>					
1	Backshell	1	EN3660-004N08C	E0080-01-08C or E0080-02-08C or NSA9381500208	A
2	Contact	3	EN3155-018M2018	EN3155-018M2018	A
3	Terminal	1	NSA9365012TA1601	-	-

A = Replace.

B = Only five washers are discarded.

Material to be ordered separately:

Item	Keyword	Qty.	New P/N	Old P/N	Remarks
1	Wire	0.10 m	EN2267-010A010S	-	A

Remark:

A = The quantity indicated is the necessary to do the modification. If this material is ordered from AHE Order Administration, a full roll of wire will be received.

Consumables to be ordered separately:



**WARNING**

**RESPECT THE SAFETY DATA SHEET OF THE MANUFACTURER.**

Item	Keyword	Qty. (approx.)	Specification**	CM	Rem.
1	Sealing compound	a.n.*	ASNA4167BF20	-	-
2	Sealing compound	a.n.*	-	6240	-

\* a.n.= as needed  
\*\* Specification i.a.w. MTC 20-01-01-102

The consumables can be ordered from the AirbusWorld Marketplace through e-ordering (see IN 3481-I-00 for instructions).

If you cannot get access to e-ordering, please contact your Logistic Focal Point.

## 2.D. MATERIAL TO BE RETURNED

Not applicable.

## 3. ACCOMPLISHMENT INSTRUCTIONS

### 3.A. GENERAL

1. Read and comply with the general instructions for protection of electrical wiring during maintenance operations (MTC 20-80-20-449).
2. Read and comply with the general instructions for joining screws and nuts (MTC 20-02-05-404).
3. Read and comply with the general instructions for electrical bonding procedure (MTC 20-02-07-401).
4. Read and comply with the general instructions for helicopter parked in a repair shop (MTC 20-07-02-201).
5. Read and comply with the general instructions for contact insertion and extraction method and tools (MTC 20-80-20-101).
6. Read and comply with the general instruction for backshell tightening / safetying / loosening methods (MTC 20-80-20-404).
7. Read and comply with the general instructions for tools and processes for stripping cables (MTC 20-80-20-407).
8. Read and comply with the general instructions for method for crimping of electrical contacts for a connector (MTC 20-80-20-408).
9. Read and comply with the general instructions for fitting spiral wrap (MTC 20-80-20-427).
10. Read and comply with the general instructions for stuffing under the backshell with cable grip (MTC 20-80-20-434).

### 3.B. WORK STEPS

#### 3.B.1. Preliminary steps

1. Park aircraft in hangar.
2. Install suitable access means.
3. Disconnect all electrical power supply sources.

#### 3.B.2. Procedure

1. Remove the existing anti-collision strobe light and, if installed, the sealing between the light and the structure (MET 33-42-00-401). Discard the attachment parts.
2. Disconnect connector P1 (10, Figure 1) from the wires of the removed anti-collision strobe light. Retain the connector P1 (10) and discard the anti-collision strobe light and existing contacts (MTC 20-80-20-101).
3. Remove and discard the existing backshell from connector P1 (10) (MTC 20-80-20-404).
4. Installation of the new LED anti-collision strobe light (1):
  - a. Prepare the electrical bonding points (MTC 20-02-07-401).
  - b. Install the adapter (2) on the helicopter with five screws (4) and five washers (3), bonding through the screws.
  - c. Adjust the length of the wires of the LED anti-collision strobe light (1).
  - d. Strip the wires of the LED anti-collision strobe light (1) (MTC 20-80-20-407) and crimp on the new contacts (7) (MTC 20-80-20-408).
  - e. Slide the backshell (6) through the wires of the LED anti-collision light (1).
  - f. Connect the white wire of the LED anti-collision strobe light (1) to pin A of connector P1 (10) (MTC 20-80-20-101), refer to Wiring Diagram in Figure 1.

- g. Connect the black wire of the LED anti-collision strobe light (1) to pin C of connector P1 (10) (MTC 20-80-20-101), refer to Wiring Diagram.
- h. Strip the new wire (9) (MTC 20-80-20-407) and crimp on the new contact (7) (MTC 20-80-20-408).
- i. Connect the new wire (9) to pin B of connector P1 (10) (MTC 20-80-20-101), refer to Wiring Diagram in Figure 1.
- j. Tighten the new backshell (6) to connector P1 (10) (MTC 20-80-20-404).
- k. Connect the new wire (9) to the backshell (6) with the terminal (8), refer to Wiring Diagram in Figure 1.
- l. Fix the wires of the LED anti-collision strobe light (1) to the backshell (9) (MTC 20-80-20-434).
- m. Protect the wires (MTC 20-80-20-427).
- n. Connect connector P1 (10) to connector J1 (11).
- o. Fix the LED anti-collision strobe light (1) to the adapter (2) with the bolts (5) and the washers (3), bonding through the bolts (5).
- p. Protect the screws (4) and the bolts (5) with sealing compound (CM 6240). Let the sealing compound dry, refer to the manufacturer instructions.
- q. Seal the union between the adapter (2) and the helicopter with sealing compound (ASNA4167BF20).
- r. Seal the union between the adapter (2) and the LED anti-collision strobe light (1) with sealing compound (ASNA4167BF20).
- s. Let the sealing compound dry, refer to the manufacturer instructions.

### **3.B.3. Final steps**

1. Clean the work areas and the helicopter.
2. Remove access means.
3. Restore the helicopter to flight condition.

### **3.B.4. Test**

1. Perform the functional test (MET 33-42-00-501).
2. Perform the bonding test (see Appendix).

## **3.C. COMPLIANCE CONFIRMATION**

Compliance with this document:

Record compliance with this SB in the helicopter documents.

Tracking of modifications in the documentation:

Record embodiment of MAS 2218M-AS365 in the helicopter documents.

## **3.D. OPERATING AND MAINTENANCE INSTRUCTIONS**

Operating instructions:

None.

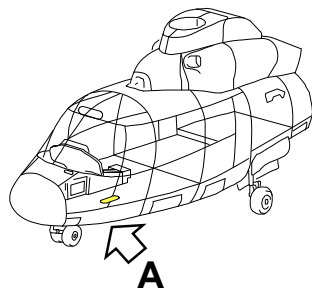
Maintenance instructions:

Refer to Customization Manual CM-AS365N2-N3-33420100.

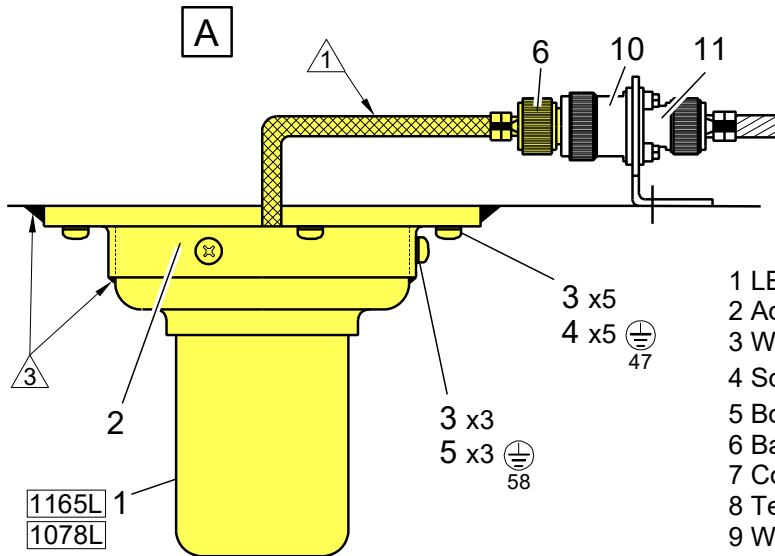
## **4. APPENDIX**

Appendix: Bonding test.

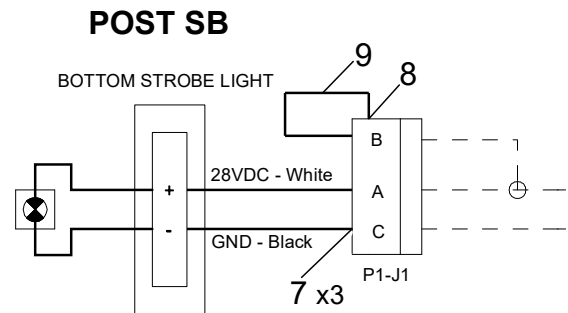
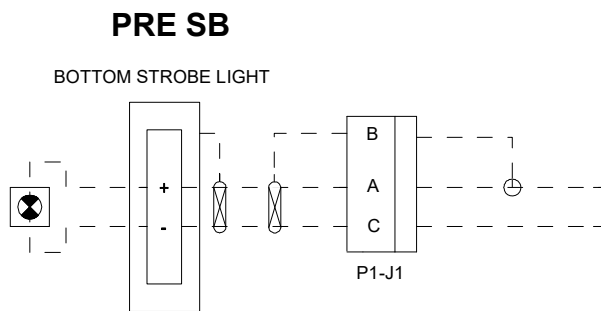




TYPE	NUMBER
47	5
58	3
ELECT. BONDING	
⊕	



- |                            |                             |
|----------------------------|-----------------------------|
| 1 LED anti-collision light | 706H46852001                |
| 2 Adapter                  | 19-130074-009               |
| 3 Washer                   | 23111AG040LE                |
| 4 Screw                    | 22272BC040018L <sup>2</sup> |
| 5 Bolt                     | NAS601-5P <sup>2</sup>      |
| 6 Backshell                | EN3660-004N08C              |
| 7 Contact                  | EN3155-018M2018             |
| 8 Terminal                 | NSA936501TA1601             |
| 9 Wire                     | EN2267-010A010S             |
| 10 Connector P1            | <sup>4</sup>                |
| 11 Connector J1            | <sup>4</sup>                |



--- Existing wire.  
 ——— New wire.

- <sup>1</sup> Adjust the length of the wires during installation in the helicopter.
- <sup>2</sup> Protected with sealing compound (CM 6240).
- <sup>3</sup> Seal the union with sealing compound (ASNA4167BF20).
- <sup>4</sup> Reused.

**Figure 1: Installation of the anti-collision strobe light.**

END OF DOCUMENT

# APPENDIX – BONDING TEST

## BONDING TEST

This test will be conducted according to the electrical bonding requirements defined below for the Anti Collision Light installation.

The bonding test consists on measuring resistances between Anti Collision Light and ground, in order to verify a correct current flow path to ground, warranting that any problem will occur during the installation and ensuring a safety operation of the system.

The test will be performed with an Ohmmeter MEGGER BT-51, or similar (e.g. Milliohmmetre SEFELEC model RCP2A), provided that can be able to be used in the same range of measurement, under the same currents.

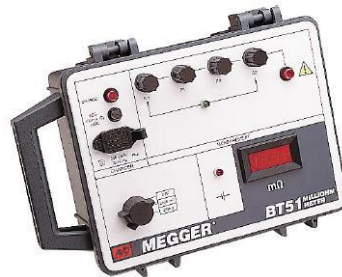


Figure 1 – Ohmmeter MEGGER BT-51.

This equipment makes measurements by passing a current through the conductor under test and monitoring the voltage across it. The test current is limited by a simple current limiting circuit and is measured by monitoring the voltage across a resistor. The test current is maintained at a nominal current 2A, and as the measurement is radiometric, the reading is not affected by any current variations.

During the bonding test, the following general recommendations must be taken into account:

- a) Values of electrical resistance higher than the maximal values defined have to be documented with applicable official procedure of not conformity and inform to EMC Lightning department.
- b) All precautions shall be taken into account to prevent damage in the electrical installation.
- c) All equipment used during test must be calibrated before performing the test.
- d) The terminals of the ohmmeter must not touch any part of the equipment installed in H/C excepted "Points" identified for measurements. It must also not touch in visual zones where is possible to make damage or marks easy seeing.
- e) Before a measurement is performed, the measuring locations shall be cleaned from any paint or protective mean to guarantee a good electrical contact. After the measurement is conducted, the original state shall be restored, providing the adequate paint or protective means.
- f) Precise measurement points are depicted as "Point 1" and "Point 2" for each required measurement in Table 1.
- g) Light cable must be disconnected before proceed with the measurements. After the measurements are conducted, Light cable must be connected again.

The reference values for the electrical bonding measurements on equipment are shown in following table; test results measures must be below these values.

# APPENDIX – BONDING TEST

BONDING MEASURE ON EQUIPMENT (*)			
ANTI COLLISION LIGHT (LOWER)			
Reference	POINT 1	POINT 2	VALUE (Max.)
a	Anti Collision Light (Figure 2, item1)	Anti-Collision Light Adapter (Figure 2, item2)	2.0 mΩ
b	Anti-Collision Light Adapter (Figure 2, item2)	H/C lower panel (Figure 2, item3) (**)	3.0 mΩ

(\*) See Figures for point reference.

(\*\*) In case that there is no point free of paint or protection available at the H/C lower panel, perform the measurement at one of the fixation screws to the structure. Restore the corresponding paint/protection of the screw after performing the measurement.

Table 1 – Electrical Bonding Measures to be tested.

In case of fault results, of acceptance values, it may be caused by faulty of bond itself or given value in the table is incorrect; if an “out of limit” value is measured, the measurement shall be repeated to confirm the result, taking care to ensure that:

- the test equipment setup is correct and the equipment is functioning correctly.
- the measurements probes are in the correct locations of the specific test.
- the probe contact areas is clean and free of all contaminants (e.g. grease, paint or resin)
- the measurement probes make good contact with the measurement point.
- the attachments shall be cleaned, tighten torque verified on bonding screws, and inspected the proper connection of supports, inserts, grounding straps, etc.

If a measurement continues to return a value which is in excess of the defined limit for that bond, then it shall be reported to Airbus for acceptance. Airbus may then:

- accept the “out of limit “ and if needed, required value will be updated by Airbus in this document.
- not accept the “out of limit” due to judgement that the route cause is a faulty bond, and therefore, the bonding link shall be re-worked to fulfil the required value.

The Bonding Test Report contains the table to be used during the tests to collect the results’ values of the measurements.

# APPENDIX – BONDING TEST

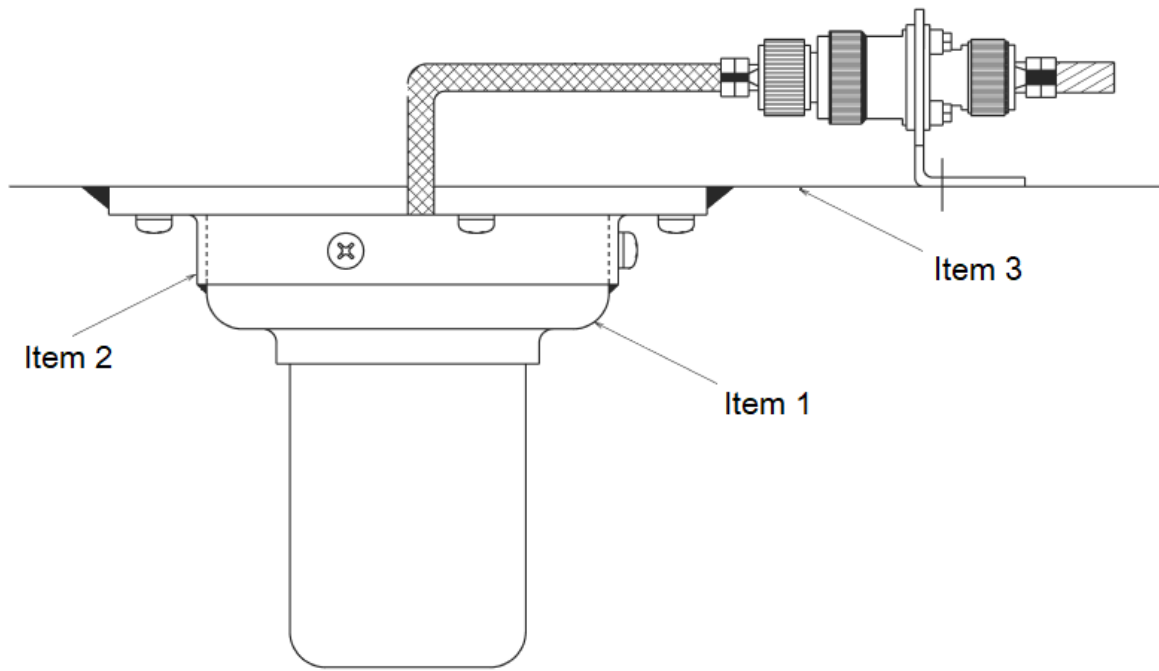


Figure 2 – Anti Collision Light (Lower-Strobe) Installation

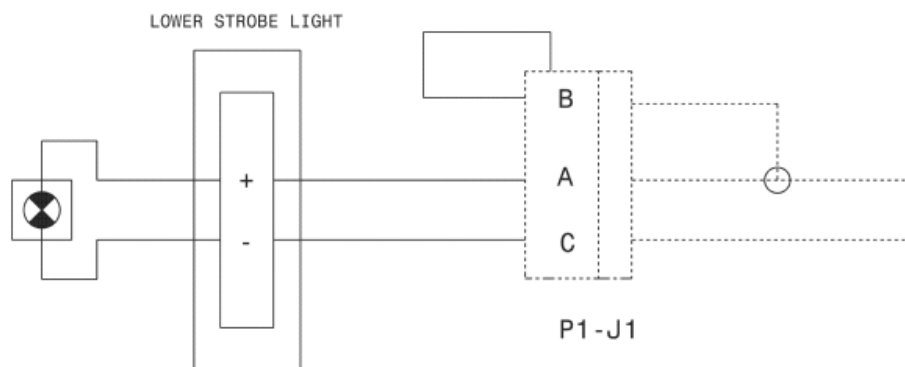


Figure 3 – Anti Collision Light (Lower-Strobe) Wiring

# APPENDIX – BONDING TEST

## BONDING TEST (TEST A)

BONDING MEASURE ON EQUIPMENT				
Reference	POINT 1	POINT 2	VALUE (Max.)	VALUE Measured
a	Anti Collision Light (Item 1)	Anti Collision Light Adapter (Item 2)	2 mΩ	
Remarks:				
b	Anti Collision Light Adapter (Item 2)	H/C lower panel (Item 3)	3 mΩ	
Remarks:				

Performed by	Test date	Signature
--------------	-----------	-----------

# AIRBUS

ASN365 N2, N3, N3+

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## CUSTOMIZATION MANUAL



Reference: CM-AS365N2-N3-33420100-REV01  
Issue: 2022-12-09  
Revision:

S/N Applicability: all

Strobe Light

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Airbus Helicopters España  
EBEESD - ILS & Technical Data  
02006 Albacete - España

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### **IMPORTANT NOTE**

The content of this manual does not supersede or overlap the information contained in the other manuals of this aircraft.

This manual was issued in the scope of the AS365N-N1-N2-N3 ORION Online Rev: 008.00 – 28.03.2022



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	<u>Section</u>
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<u>4. Wiring Diagrams</u>	
Wiring Diagram - Strobe Light	W33-42-00-000

**EFFECTIVITY**

The effectivity of the Customization Manual is limited as follows:

Aircraft type:	AS365 N2, N3, N3+
Aircraft serial-number (s):	all POST SB AS365-SB N° 33.42.01-AHE

## INTRODUCTION

### A. GENERAL

The Customization Manual contains maintenance, part data, location, use and description of the whole system. An overview of all aircraft maintenance documentation is available in the LOAP (List of Applicable Publications).

The existing and applicable manufacturer documentation for the related systems/equipment must be also consulted for complementary information for maintenance, descriptive and operational instructions as well as dedicated part lists.

### B. CONTENT

The Customization Manual contains common sections like:

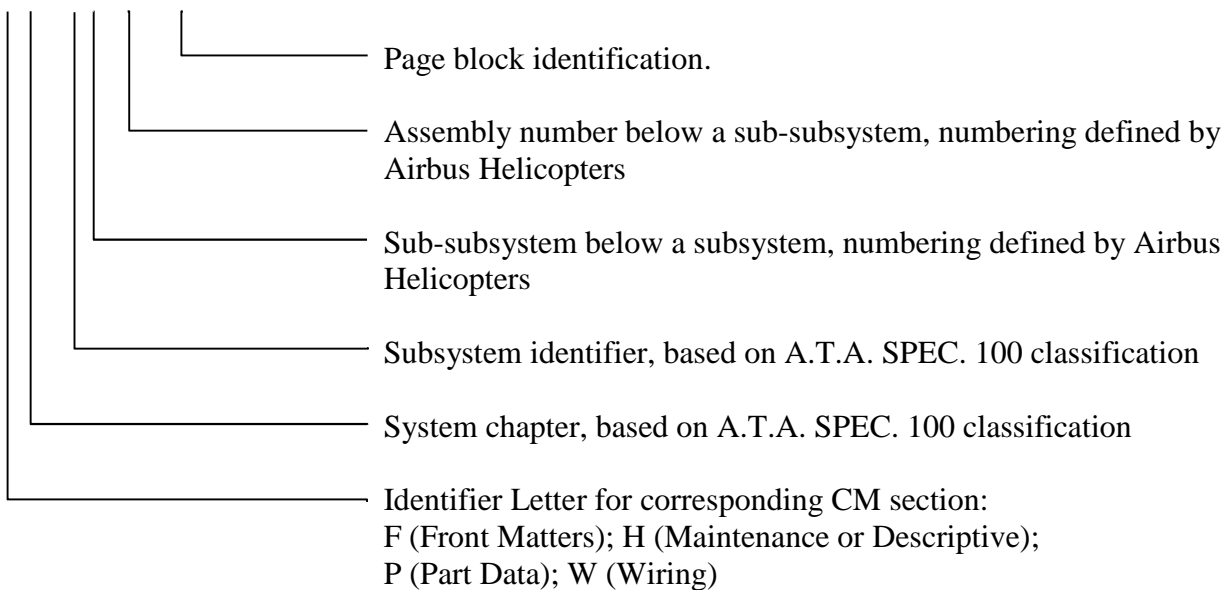
Title page, Table of Contents, Record of Revisions, Record of Inserted Revisions and Introduction. Followed by the main sections:

1. Descriptive and Functional Information
2. Maintenance Information
3. Part Data Information
4. Wiring Diagrams

### C. DOCUMENTARY UNITS

Documentary units of the Customization Manual are generally numbered in A.T.A. sections as described by means of the following example:

H86-40-10, 4-1



The blocks group data units (Page Blocks) of a certain type (topics) for better access:

Page block 0-1 to 0-99	Descriptive
Page block 1-1 to 1-99	Troubleshooting
Page block 2-1 to 2-99	Maintenance procedures
Page block 3-1 to 3-99	Servicing
Page block 4-1 to 4-99	Removal / Installation
Page block 5-1 to 5-99	Adjustment / Test
Page block 6-1 to 6-99	Inspection
Page block 7-1 to 7-99	Cleaning / Painting
Page block 8-1 to 8-99	Repair
Page block 9-1 to 9-99	Storage

The procedure page blocks describe documentary units (DU). To numerically address and reference DUs, they are assigned a start number for the corresponding page block and a consecutive number for the following DUs.

## 1. DESCRIPTIVE AND FUNCTIONAL INFORMATION

The general purpose of the Descriptive and Functional Information section is to give all the elements necessary for a good understanding of the composition and functions of the systems in order to ensure its correct maintenance and operation.

This section provides an explanation regarding the location, use, description and operation of the systems related to the modification object of this manual. To be complemented with the manufacturers documentation for each equipment/system.

## 2. MAINTENANCE INFORMATION

**No change on scheduled maintenance for the strobe light is required to ensure continued airworthiness. On condition maintenance procedures are described in this section of the manual and on the AS365 N2, N3, N3+ MET. For any particular equipment refer to applicable manufacturer manual.**

This section comprises the maintenance procedures grouped by main topics.

### Topic Description

Troubleshooting	Gives information to allow the ground maintenance personnel to locate and decide on corrective action for various faults or cases of malfunctioning.
Maintenance procedures	Gives general maintenance instructions for the related system
Servicing	Gives information related to procedures of autonomous, periodical or corrective nature, e.g.: Inflating, filling shock absorbers; various lubrication steps; bleeding of hydraulic and other systems, etc.
Removal / Installation	This topic details, in logical order, the removal and installation operations
Adjustment / Test	Details the procedures and parameters to assess the correct operation and integrity of the systems, subsystems, equipment, components or interconnection of components which ensure a function.

Removal / Installation	This topic details, in logical order, the removal and installation operations
------------------------	---

Inspection / Check	Gives the required specifications and procedures for assessing whether the system or equipment is operational
Cleaning / Painting	Methods and procedures. Warning required to ensure safety of personnel and equipment. List of products and Consumable Materials (CM) contained in a MTC work card
Repair	List of repairable parts. Expendable materials and parts. Preliminary steps. Logical sequence of repair steps. Adjustments and tests.
Storage / De-storage	This section specifies the main storage and de-storage requirements. It does not affect calendar inspections nor expiry dates defined for accessories and equipment items. Comply with the vendor's publication.

Special Mentions:

**WARNING:**  
**TO DRAW ATTENTION TO A MAINTENANCE OPERATION OR PROCEDURE, A PRACTICE, A CONDITION OR A STATEMENT WHICH, IF IT IS NOT STRICTLY COMPLIED WITH, CAN CAUSE INJURIES OR DEATH**

**CAUTION:**  
**TO DRAW ATTENTION TO A MAINTENANCE OPERATION OR PROCEDURE, A PRACTICE, A CONDITION OR A STATEMENT WHICH, IF IT IS NOT STRICTLY COMPLIED WITH, CAN CAUSE DAMAGE OF DESTROY EQUIPMENT OR PREVENT FULL COMPLETION OF THE MISSION.**

**NOTE:**  
**To draw attention to an operation or condition which will help the personnel or facilitate a maintenance procedure.**

3. ILLUSTRATED PARTS CATALOG (IPC) INFORMATION

This section enables the user to:

- Base initially the condition of the related system/equipment when delivered,
- Determine all items which are identified as spare parts in maintenance level O and I,
- Support the user in: ordering of spare parts, supplying, identifying new or renewed items.

Non Procurable Items (NP)

Part numbers, which are non-procurable and presented for reference purposes only, are identified by “(NP)” next to their related nomenclature on the designation column.

This section is used for identification and procurement of helicopter parts and tools only, and **MUST NOT** be used as a reference document for the assembly or disassembly of helicopter systems.

#### 4. WIRING DIAGRAMS

This section supplements the maintenance information section of the Customization Manual. It should always be consulted when troubleshooting and repairing wiring harnesses, and when wiring information is required. It shows all of the wiring of the systems related equipment.

Shows the wiring, assigned to the respective chapters in accordance with ATA SPEC 100.

If a wiring diagram consists of only one sheet, the sheet number is 000. Otherwise the sheets are numbered consecutively starting with sheet 001.

The following precautions shall be observed when working on electrical systems:

VOLTAGES PRESENT IN ELECTRICAL SYSTEMS, COMPONENTS OR PARTS MAY LEAD TO SERIOUS INJURY OR DEATH.

WHEN WORK IS TO BE PERFORMED ON SYSTEMS WHICH ARE CONNECTED TO AN ELECTRICAL POWER SUPPLY, THE ELECTRICAL POWER SUPPLY MUST BE RENDERED INOPERABLE TO ALL PERSONS EXCEPT FOR THE PERSON PERFORMING THE ACTUAL WORK.

WORK UNDER VOLTAGE SHALL ONLY BE PERFORMED IN EXCEPTIONAL CIRCUMSTANCES AND UNDER SUPERVISION.

WHEN WORK IS PERFORMED ON LIVE SYSTEMS, ONLY SUITABLE ISOLATED TOOLS SHALL BE USED.

BEFORE THE INSTALLATION OR REMOVAL OF A PART, A CHECK SHALL BE MADE TO ENSURE THAT THE RESPECTIVE SYSTEM IS DEENERGIZED.

ELECTRICAL CIRCUITS MUST NOT BE TOUCHED UNTIL THEY HAVE BEEN GROUNDED. THIS IS BECAUSE DANGEROUS CAPACITOR CHARGING VOLTAGE MAY STILL BE PRESENT EVEN AFTER THE VOLTAGE HAS BEEN REMOVED.

IN ADDITION, THE PERTINENT NATIONAL REGULATIONS SHALL BE OBSERVED.

#### Basic Electrical Symbols

(Figure 1)

#### D. REVISIONS

The “Record of Revisions” lists all the changes which have been done since the first issue of the corresponding CM. It informs about the affected documentary units, the types and reasons of changes and it reports the CM issue and CM revision date by which the changes have been

integrated. Structural pages will be refreshed with each revision of the CM and are not explicitly listed in the Record of Revisions. An overview about the structural pages included. In case the content of the CM has been updated, all holders of a CM are requested to replace their CM by the newest version and to amend their paper-print CM's in accordance with following change instruction:

- Analyze by means of the “Record of Revisions” of the latest CM revision in conjunction with the “Record of Inserted Revisions” of the paper-print CM which revisions need to be inserted.
- Exchange all structural pages of the CM
- Exchange, remove or add the documentary units affected by the revision in accordance with the “Record of Revisions” and the relevant tables of contents and “Lists of Wire Diagrams”.
- Destroy all pages that were removed as a result of the revision.
- Ensure that the revisions referenced in the “Record of Revisions” are completely included in the corresponding paper-print CM and confirm the accomplishment of all aforementioned revision instructions by entering the CM revision date, the date of insertion and your signature in the “Record of Inserted Revisions”.

## E. ACRONYMS AND ABBREVIATIONS

The following table gives an explanation of common acronyms and abbreviations used in the Customization Manual:

A	Ampere
A/C	Aircraft
AC	Alternating Current
AHE	Airbus Helicopter España
AM	Amplitude Modulation
AMM	Aircraft Maintenance Manual
ANT	Antenna
AP	Autopilot
AR	As Required
AVM	Avionic Manual
BAT	Battery
BIT	Built In Test
CB	Circuit Breaker
CPRS	Car Plate Recognition System
CU	Control Unit
CM	Customization Manual
CM	Consumable Material
CMM	Component Maintenance Manual
DB	Data Base
DC	Direct Current
DGT	Dirección General de Tráfico
DMAP	Digital Map
DTU	Data Transfer Unit
EMC	Electro Magnetic Compatibility
EOS	Electro Optical System
FLIR	Forward Looking Infrared

ft	Feet
FWD	Forward
GND	Ground
GPS	Global Positioning System
h	Hour
H/C	Helicopter
HD	High Definition
HITS	Helicopter Integrated Tactical System
HMI	Human Machine Interface
in	Inch
IPC	Illustrated Parts Catalog
kt	Knot
lb	Pound
LCD	Liquid Crystal Display
LH	Left Hand (side)
LRU	Line Replaceable Unit
MIL	US Military Specification
MPN	Manufacturer Part Number
MTC	Standard Practices Manual (Manuel des Techniques Courantes)
N	Newton
N/A	Not Applicable
Nm	Newton Meter
NVG	Night Vision Goggles
OCR	Optical Character Recognition
P/N	Part Number
PN	Part Number
PTT	Push To Talk
S/N	Serial Number
SW	Software
USB	Universal Serial Bus
VCR	Video Recorder
VGA	Video Graphics Array, 19
WDM	Wiring Diagram Manual
XCVR	Transceiver

## F. CONTACT INFORMATION

For items concerning the Customization Manual:

Address: Airbus Helicopters España  
 EBESD - ILS & Tech Data  
 02006 ALBACETE SPAIN

For information about technical support, document download or any further information refer to the Airbus Helicopters website:

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



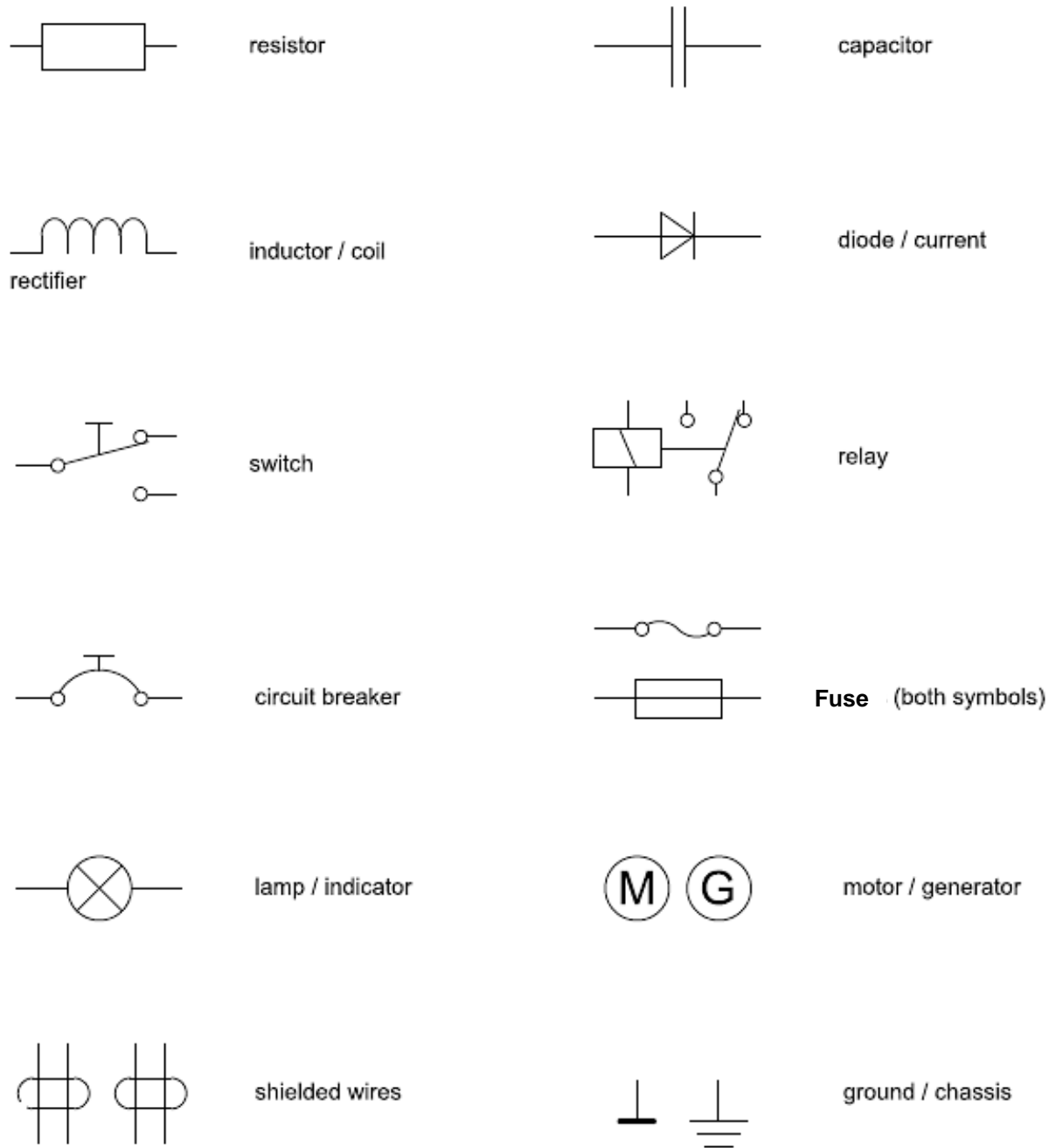


Figure 1 - Basic Electrical Symbols

## Record of Revisions

First Issue: 2022-12-09

Revision

Type of change:      N: New  
                             R: Revised  
                             D: Deleted

CM Issue	CM Revision	Documentary Unit	Type of change	Reason of change
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## 2. DESCRIPTIVE AND FUNCTIONAL INFORMATION

### Section

General Description - Strobe Light

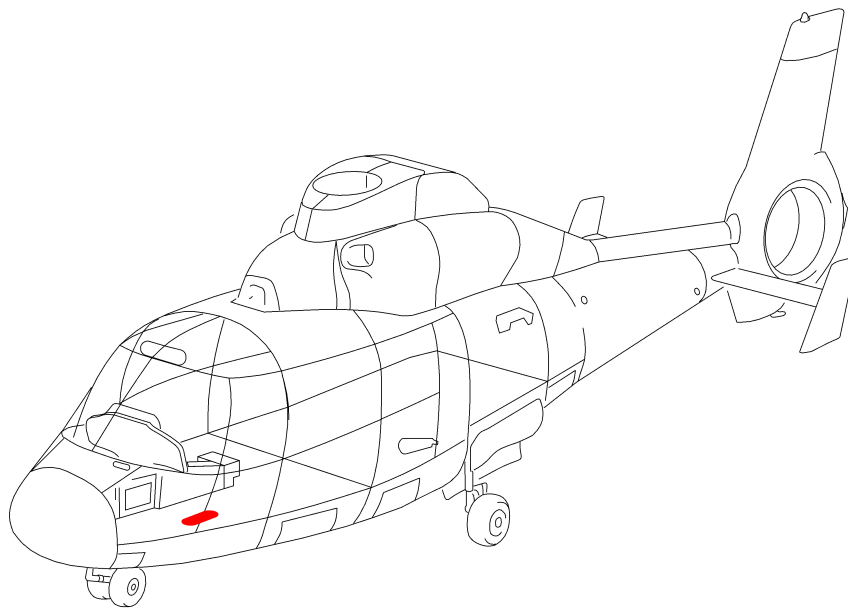
H33-42-00, 0-1

## **H33-42-00, 0-1 - General Description – Strobe Light**

### 1. GENERAL

The anti-collision strobe light is a LED white flashing light, that is designed to give long-range indication of the position of helicopters in flight or moving on the ground.

### 2. LOCATION



**Figure 1 - Strobe Light Location**

### 3. DESCRIPTION

This anti-collision light is a strobe light which produces white light only. It is installed at the beneath of the helicopter fuselage.

This light is powered and controlled from the "ANTI COL" switch on overhead panel 12 ALPHA.

## 2. MAINTENANCE INFORMATION

**No change on scheduled maintenance for the strobe light is required to ensure continued airworthiness. On condition maintenance procedures are described in this section of the manual and on the AS365 N2, N3, N3+ MET. For any particular equipment refer to applicable manufacturer manual.**

	<u>Section</u>
Removal / Installation - Strobe Light	H33-42-00, 4-1
Troubleshooting - Strobe Light	H33-42-00, 1-1
Functional Test - Strobe Light	H33-42-00, 5-1

## **H33-42-00, 4-1 - Removal / Installation – Strobe Light**

### A. References:

H33-42-00, 5-1                      Functional Test –Strobe Light  
MET 24-00-00-300  
MET 33-00-00-300  
MTC 20-05-01-101  
MTC 20-02-07-101  
MTC 20-02-07-401

### B. Special Tools

N/A

### C. Consumable Materials

CM 6240                              Sealing compound  
ASNA4167BF20                      Sealing compound

### D. Routine Replacement Parts

N/A

### E. Job Set-up:

1. Read the general safety instructions for the electrical systems (MET 33-00-00-300)
2. Park helicopter in hangar.
3. Install suitable access means.
4. De-energize the electrical system (MET 24-00-00-300).

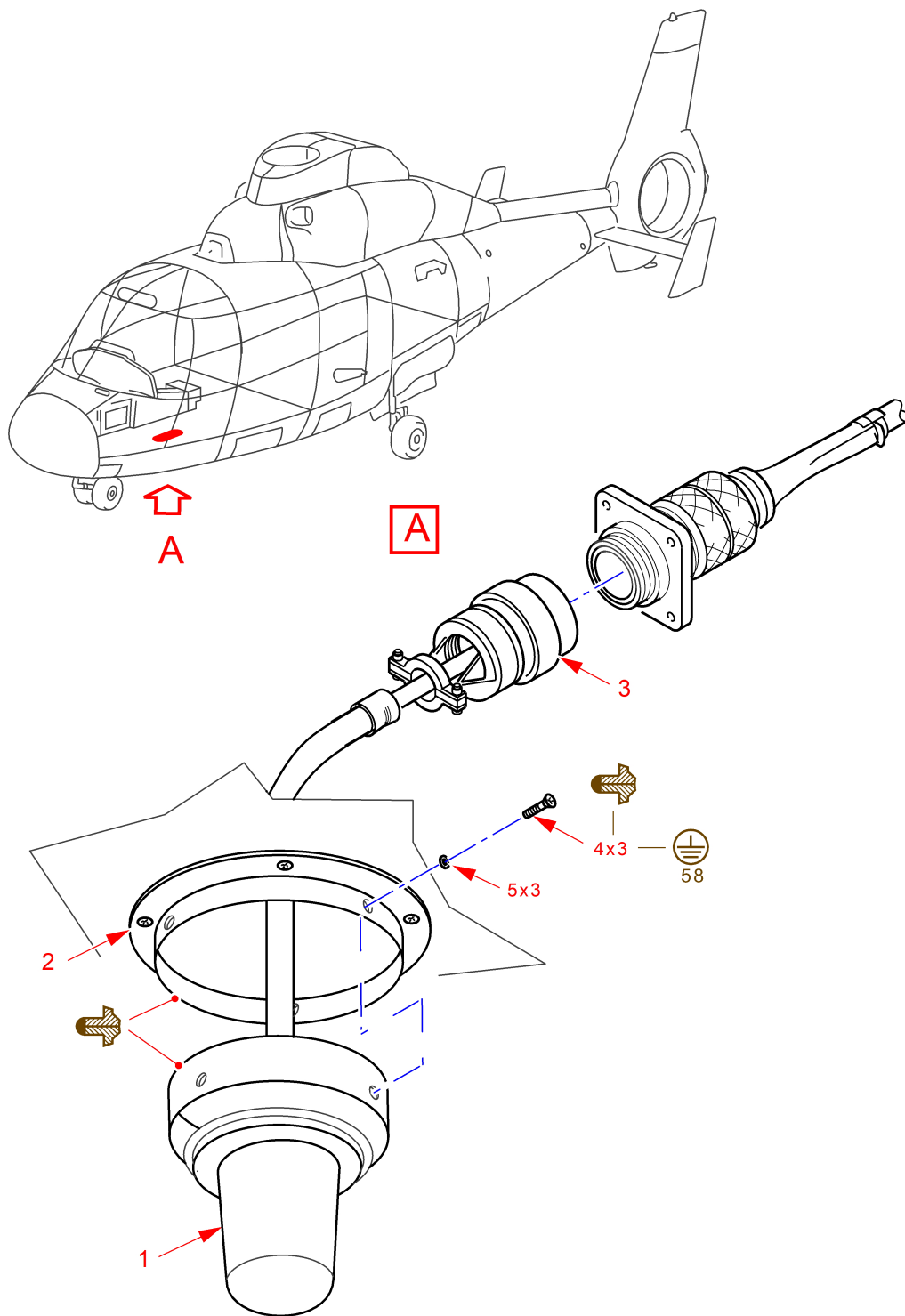
### F. Procedure:

1. Remove the strobe light (1, Figure 2) as follows:
  - a. Use a scrapper to remove the sealant bead around the strobe light (1) and its mount (2).
  - b. Remove the sealant from the bolts (4).
  - c. Remove the bolts (4) and the washers (5).
  - d. Carefully disengage the strobe light (1) until you have access to the electrical connector (3).
  - e. Disconnect the electrical connector (3).
  - f. Remove the strobe light (1).
  - g. If necessary, install a protective cover in the connector (3)
  - h. Clean the remaining sealant bead on the mount (2) and on the strobe light (1) (MTC-20-05-01-101)

2. Install the strobe light (1, Figure 2) as follows:
  - a. Obey the related Material Safety Data Sheet and local regulations when you use consumable materials.
  - b. Prepare the electrical bonding points (MTC 20-02-07-101) and (MTC 20-02-07-401).
  - c. If installed, remove the protective cover.
  - d. Connect the electrical connector (3).
  - e. Put the strobe light (1) into position.
  - f. Attached the strobe light to its mount (2) with the washers (5) the bolts (4).
  - g. Tighten the bolts (4).
  - h. Protect the bolts (4) with sealing compound (CM 6240).
  - i. Let the sealing compound dry, refer to the manufacturer's instructions.
  - j. Apply a bead of the sealing compound ASNA4167BF20 between the anti-collision light (1) and its mount (2).
  - k. Let the sealing compound dry, refer to the manufacturer's instructions.

#### G. Close-Up:

1. Energize the electrical system (MET 24-00-00-300).
2. Remove the access means.
3. Do a functional test of the strobe Light (H33-42-00, 5-1).
4. Remove all tools and other materials and clean the work area.



**Figure 2 – Removal / Installation – Strobe Light**



**H33-42-00, 1-1 – Troubleshooting – Strobe Light**

A. References:

H33-42-00, 4-1	Removal / Installation - Strobe Light
W33-42-00-000	Wiring Diagram - Strobe Light
MET 24-00-00-300	
MET 33-00-00-300	

B. Special Tools

N/A

C. Consumable Materials

N/A

D. Routine Replacement Parts

N/A

E. Job Set-up:

1. Read the general safety instructions for the electrical systems (MET 33-00-00-300)
2. Energize the electrical system (MET 24-00-00-300).

F. Procedure:

1. Do the troubleshooting procedure as follows:

<b>FAULT</b>	<b>POSSIBLE CAUSE</b>	<b>CORRECTIVE ACTION</b>
The “ANTI COL” switch is set to “WHI” The bottom light does not come on.	The circuit breakers of the anti-collision lights are open.	Closed the circuit breaker
	The bottom anti-collision light is defective	Refer to H33-42-00, 4-1 and replace the light.
	The wiring, the switch or the connectors are defective.	Check the wiring in accordance with W33-42-00-000.

**Table 1 – Strobe Light Troubleshooting**

G. Close-Up:

1. De-energize the electrical system (MET 24-00-00-300).
2. Remove all tools and other materials and clean the work area.

**H33-42-00, 5-1- Functional Test – Strobe Light**A. References:

MET 33-42-00-501

B. Special Tools

N/A

C. Consumable Materials

N/A

D. Routine Replacement Parts

N/A

E. Job Set-up:

1. N/A

F. Procedure:

1. Do the functional test of the strobe light as follows:
  - a. Refer to the functional test – Strobe Lights (MET 33-42-00-501)

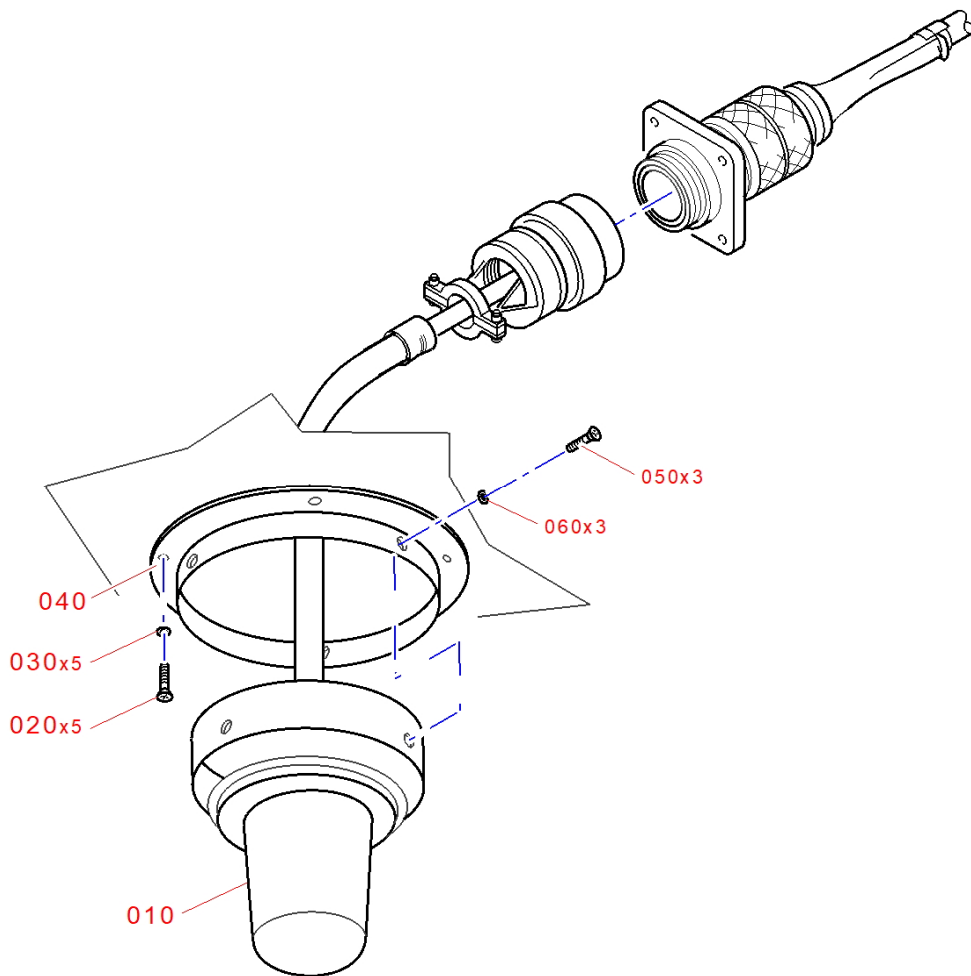
G. Close-Up:

1. N/A

### 3. ILLUSTRATED PARTS CATALOG (IPC) INFORMATION

	<u>Section</u>
Strobe Light	P33-42-00-01

**P33-42-00-01 – Strobe Light**



**Figure 3 –Strobe Light**

ITEM	FSCM	PN	DESIGNATION	QTY
010	274BB	706H46852001	LED anti-collision light	1
020	F0111	22272BC040018L	SCREW	5
030	F0111	23111AG040LE	WASHER FLAT	5
040	10402	19-130074-009	MOUNT	1
050	80205	NAS601-5P	BOLT	3
060	F0111	23111AG040LE	WASHER FLAT	3

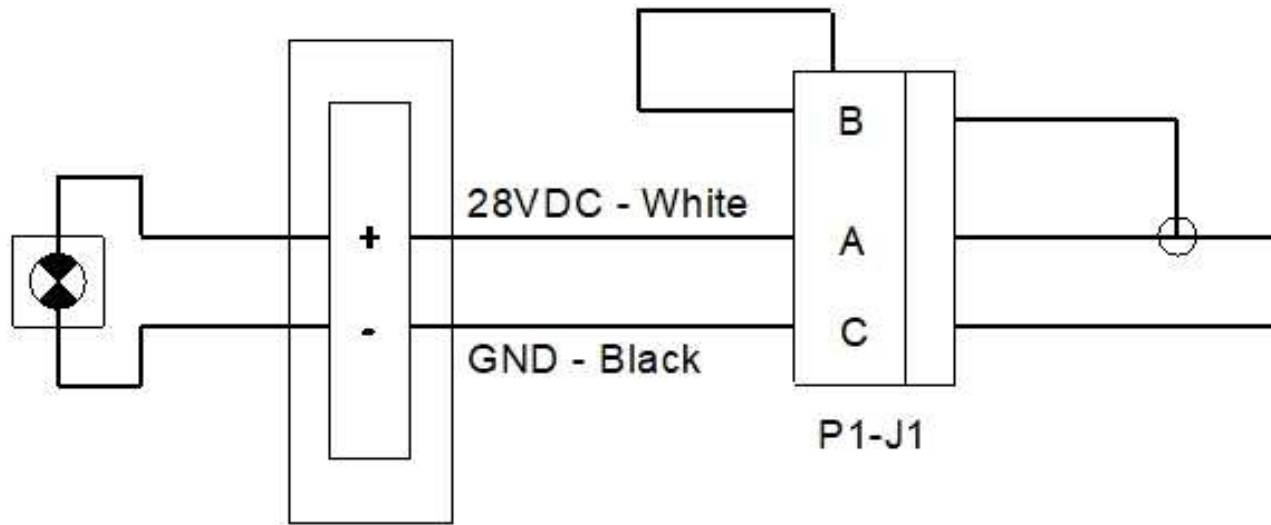
## 4. WIRING DIAGRAM MANUAL (WDM) INFORMATION

Section

Strobe Light

W33-42-00-000

**W33-42-00-000 – Strobe Light**



**Figure 4 – Wiring Diagram – Strobe Light**