

MADELEC AERO
14, Rue Gustave Eiffel
78120 Rambouillet - France
Phone: + (33) 01 34 57 15 30
Fax international: + (33) 01 34 85 59 53

TRANSMITTAL SHEET

The revision 2, dated JUN 04/07 is attached and covers all components held by every operator.
This revision 2 is a complete edition of CMM.

GENERAL :

FILING INSTRUCTIONS :

32-42-42

TRANSMITTAL SHEET
Page 1 / 1
JUN 04/07

MADELEC AERO
14, Rue Gustave Eiffel
78120 Rambouillet - France
Phone: + (33) 01 34 57 15 30
Fax international: + (33) 01 34 85 59 53

(F9503)

**COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST**

AUTOBRAKE SELECTOR SWITCH

PNR 340-001

PNR 340-002

© Copyright MADELEC AERO.

The data and information contained in this document are proprietary to MADELEC AERO. This document is given in confidence and may not be reproduced, stored in a retrieval system, or transmitted to a third party, in any form or by any means, electronic, mechanical, photocopying, or otherwise, without the prior written permission of MADELEC AERO.

Any unauthorized copy, distribution or utilization is illegal according to Article L 122-4 and L 335-2 of the "Code de la Propriété Intellectuelle" and to international agreements related to proprietary rights.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

RECORD OF REVISIONS

REV N°	ISSUE DATE	INSERTED		REV N°	ISSUE DATE	INSERTED	
		DATE	BY			DATE	BY

32-42-42

ROR Page 1 / 2
JUN 04/07

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

RECORD OF TEMPORARY REVISIONS

TEMP. REV. N°	ISSUE DATE	INSERTED		REMOVED		PAGE N°
		DATE	BY	DATE	BY	

32-42-42

RTR Page 1 / 2
JUN 04/07

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

SERVICE BULLETIN LIST

SERVICE BULLETIN	REV	DATE OF INCORPORATION	TITLE

32-42-42

SBL Page 1 / 2
JUN 04/07

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

LIST OF EFFECTIVE PAGES

<u>SUBJECT</u>	<u>PAGE</u>	<u>DATE</u>	<u>SUBJECT</u>	<u>PAGE</u>	<u>DATE</u>
TITLE PAGE	1	JUN 04/07	CLEANING	4002	BLANK
	2	COPYRIGHT			
RECORD OF REVISIONS	1	JUN 04/07	INSPECTION/CHECK	5001	JUN 04/07
	2	BLANK		5002	JUN 04/07
RECORD OF TEMPORARY REVISIONS	1	JUN 04/07	ASSEMBLY	7001	JUN 04/07
	2	BLANK		7002	JUN 04/07
SERVICE BULLETIN LIST	1	JUN 04/07		7003	JUN 04/07
	2	BLANK		7004	JUN 04/07
LIST OF EFFECTIVE PAGES	1	JUN 04/07	FITS AND CLEARANCES	8001	JUN 04/07
	2	BLANK		8002	BLANK
TABLE OF CONTENTS	1	JUN 04/07	SPECIAL TOOLS, FIXTURES AND REQUIREMENTS	9001	JUN 04/07
	2	JUN 04/07		9002	JUN 04/07
TABLE OF FIGURES	1	JUN 04/07	STORAGE - TRANSPORT	15001	JUN 04/07
	2	BLANK		15002	JUN 04/07
INTRODUCTION	INTRO 1	JUN 04/07	ILLUSTRATED PARTS LIST 10001	1	JUN 04/07
	INTRO 2	JUN 04/07		2	BLANK
DESCRIPTION AND OPERATION	1	JUN 04/07	INTRO 10001	1	JUN 04/07
	2	JUN 04/07		2	JUN 04/07
TESTING AND FAULT ISOLATION	3	JUN 04/07	Vci 10001	1	JUN 04/07
	4	JUN 04/07		2	BLANK
SCHEMATIC AND WIRING DIAGRAMS	1001	JUN 04/07	Ni / ALPHA 10001	1	JUN 04/07
	1002	JUN 04/07		2	BLANK
DISASSEMBLY	1003	JUN 04/07			
	1004	JUN 04/07	Ni / NUM 10001	1	JUN 04/07
CLEANING	2001	JUN 04/07		2	BLANK
	2002	JUN 04/07	DETAILED PARTS LIST 10001	1	JUN 04/07
DISASSEMBLY	3001	JUN 04/07		10001 -0	JUN 04/07
	3002	JUN 04/07		10001 -1	JUN 04/07
DISASSEMBLY	3003	JUN 04/07		10001 -2	BLANK
	3004	JUN 04/07			
DISASSEMBLY	3005	JUN 04/07			
	3006	BLANK			
CLEANING	4001	JUN 04/07			

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

TABLE OF CONTENTS

	PAGE
INTRODUCTION	INTRO 1
1. Introduction.....	INTRO 1
A. General	INTRO 1
B. How to use the Manual	INTRO 1
C. List of abbreviations	INTRO 1
DESCRIPTION AND OPERATION	1
1. Autobrake Selector Switch Description and Operation	1
A. General	1
B. Description	1
C. Operation	1
TESTING AND FAULT ISOLATION	1001
1. Autobrake Selector Switch testing.....	1001
A. Reason for the job.....	1001
B. Job set up information.....	1001
C. Job set up	1001
D. Procedure	1002
2. Fault isolation	1004
SCHEMATIC AND WIRING DIAGRAMS	2001
1. General.....	2001
DISASSEMBLY	3001
1. Autobrake Selector Switch disassembly	3001
A. Reason for job.....	3001
B. Job set-up information	3001
C. Job set-up	3002
D. Procedure	3002
CLEANING	4001
1. Cleaning Materials.....	4001
A. Reason for the job.....	4001
B. Job set-up information	4001
C. Job set-up	4001
D. Procedure	4001
INSPECTION/CHECK	5001
1. General.....	5001
A. Reason for the job.....	5001
B. Job set up information.....	5001
C. Job set-up	5001
D. Procedure	5001

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

REPAIR	NOT APPLICABLE
ASSEMBLY	7001
1. Autobrake Selector Switch assembly	7001
A. Reason for the job.....	7001
B. Job set-up information	7001
C. Job set-up	7002
D. Procedures.....	7002
FITS AND CLEARANCES.....	8001
1. Fits and clearances	8001
SPECIAL TOOLS, FIXTURES AND REQUIREMENTS	9001
1. Special Tools.....	9001
2. Consumables	9002
STORAGE - TRANSPORT.....	15001
1. 1. Storage instructions.....	15001
A. Reason for the job.....	15001
B. Job set-up information	15001
C. Job set-up	15001
D. Procedure.....	15001
REWORK	NOT APPLICABLE
ILLUSTRATED PARTS LIST	IPL 10001 1
1. General.....	INTRO 10001 1
A. Purpose.....	INTRO 10001 1
B. IPL Breakdown.....	INTRO 10001 1
2. Detailed Parts List	INTRO 10001 2
Vendor Code Index	VCI 10001 1
Alpha Index	NI/ALPHA 10001 1
Numerical Index	NI/NUM 10001 1
Detailed Parts List.....	DPL 10001 1

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

TABLE OF FIGURES

	PAGE
<u>COMPONENT MAINTENANCE MANUAL:</u>	
FIGURE 1	AUTOBRAKE SELECTOR SWITCH 2
FIGURE 2	AUTOBRAKE SELECTOR SWITCH 3
FIGURE 1001	TEST CONNECTIONS 1003
FIGURE 2001	SCHEMATIC DIAGRAM 2002
FIGURE 3001	ROTARY SWITCH WITH WIRE TERMINALS 3004
FIGURE 3002	INSERTION/REMOVAL OF THE BLOCK 3005
 <u>ILLUSTRATED PARTS LIST:</u>	
FIGURE 1	SWITCH,AUTOBRAKE SELECTOR 10001-0

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

INTRODUCTION

TASK 32-42-42-871-801-A01

1. **INTRODUCTION**

A. General

- (1) This manual obeys the ATA 2200 Specification and AECMA Simplified English.. The values given in this manual are in System International (SI) units or sub-divisions of these units.
- (2) This CMM employs the philosophy that the equipment is composed of a certain number of Shop Replaceable Units.
- (3) The Manual describes replacement of a certain number of units in a workshop. It does not describe maintenance on the equipment when it is installed on aircraft.
- (4) Only approved persons with the necessary skills must be used for the maintenance procedures described in this manual.
- (5) This manual uses the Maintenance Task Oriented Support System (MTOSS) task and subtask identification. The user can ignore the MTOSS numbers.
- (6) The manufacturer verified the procedures given in the chapters DISASSEMBLY, TESTING AND FAULT ISOLATION, ASSEMBLY by performance or simulation.
- (7) This manual contains:
 - General description and data for the component.
 - Disassembly and assembly procedures for the replacement of mainly items.
 - An Illustrated Part List (IPL) which give detailed information.

B. How to use the Manual

- (1) Make sure the manual contains the information applicable to your component.
- (2) If you need to identify a part or find a part number, (refer to Page Block 10001).
- (3) The instructions in this manual must be used for all the component maintenance. Read all the applicable WARNINGS and CAUTIONS before you do the work on the component.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

C. List of abbreviations

A/BRK	Autobrake Selector Switch,
AECMA	European Association of Aerospace Industries,
ATA	Air Transport Association of America,
BITE	Built in Test Equipment,
BSCU	Braking & Steering Control Unit,
CMM	Component Maintenance Manual,
DMF	Date of manufacturing (month/year),
IPL	Illustrated Parts List,
MTOSS	Maintenance Task Oriented Support System,
P/N	Part Number,
SB	Service Bulletin,
SI	International Standard,
SIL	Service Information Letter,
S/N	Serial Number,
TBD	To Be Determined,
TID	Tool identifier,
VDC	Voltage Direct Current.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

DESCRIPTION AND OPERATION

TASK 32-42-42-870-801-A01

1. AUTOBRAKE SELECTOR SWITCH DESCRIPTION AND OPERATION

Subtask 32-42-42-870-001-A01

A. General

- (1) The Autobrake Selector Switch is a component of the braking system. It provides the interface between operators (pilot & copilot) and the BSCU (Braking & Steering Control Unit). The Autobrake Selector Switch lets the crew to select the adapted deceleration rates for the " Auto Brake function ". The BSCU will use this rate to control braking in order to achieve an aircraft deceleration corresponding to the selection. Autobrake Selector Switch sends each code sequence (code with 4 digits) to BSCU (Ref. to Fig. 2).The Autobrake is installed in the cockpit, on the main instrument panel. It is attached with 4 countersunk head screws.

Subtask 32-42-42-870-002-A01

B. Description

- (1) The Autobrake Selector Switch has a connector with ten connections pins. A cover gives protection to the equipment. The control shaft with a flat (rotary switch axle) has a dedicated control knob (ASNE0468-05 or equivalent). The equipment has a rotary selector switch with mechanical contacts to give the relevant code sequence.
- (2) The Autobrake Selector Switch gives 5 different levels for braking and a DISARM position (Ref. to Fig. 2), with a distance of 45 degrees angle and identified by: DISARM, LO, 2, 3, 4 and HI. An operating torque must be exerted to override each position. An electro-magnet helps automatically each position (except Disarm position), monitored by a ground signal sent by the BSCU (BSCU ABOFF function). The return time from each position to the DISARM position is less than 1 second. A spring actuator do this function. For leading particulars (refer to Table 1).
- (3) The Built In Test Equipment (BITE) is not applicable.

Subtask 32-42-42-870-003-A01

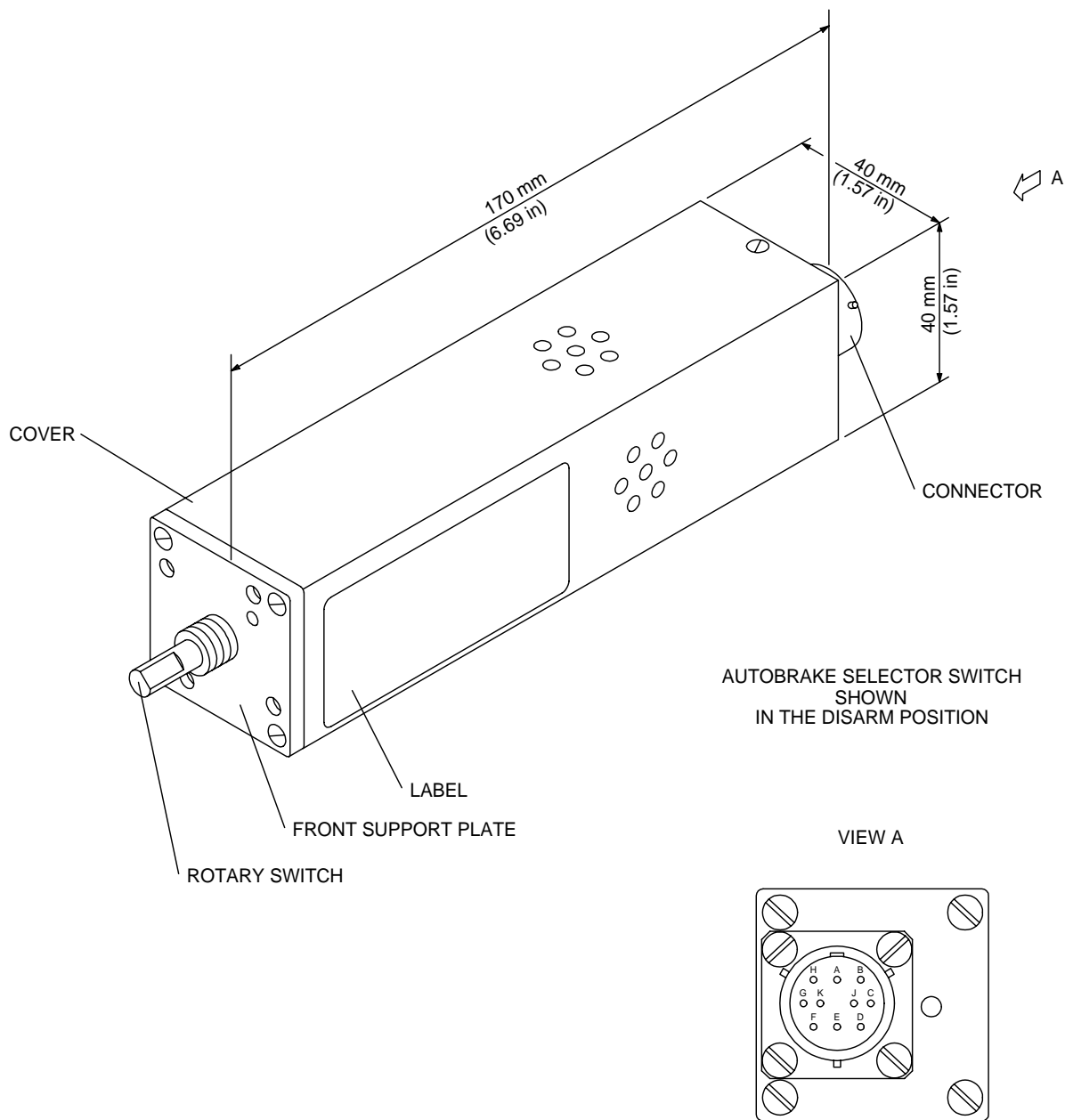
C. Operation

- (1) When the Autobrake Selector Switch is in one of the 5 positions (LO, 2, 3, 4, HI) the system is in operating position and the position must be stable. The electro-magnet holds automatically each position (except DISARM position).
- (2) When the Autobrake Selector Switch is energized with 28 VDC:
 - If the ABOFF (from the BSCU) is activated and if the rotary switch is not on the DISARM position, the Autobrake Selector Switch arms itself and the pilot holds the position selected.
 - If the ABOFF (from the BSCU) is not activated, the Autobrake Selector Switch is not armed and the rotary switch returns automatically to the DISARM position.
- (3) It is possible to manually return the rotary switch from each position to the DISARM position if ABOFF is in arming condition. The return to the DISARM position is audible.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL

340-001

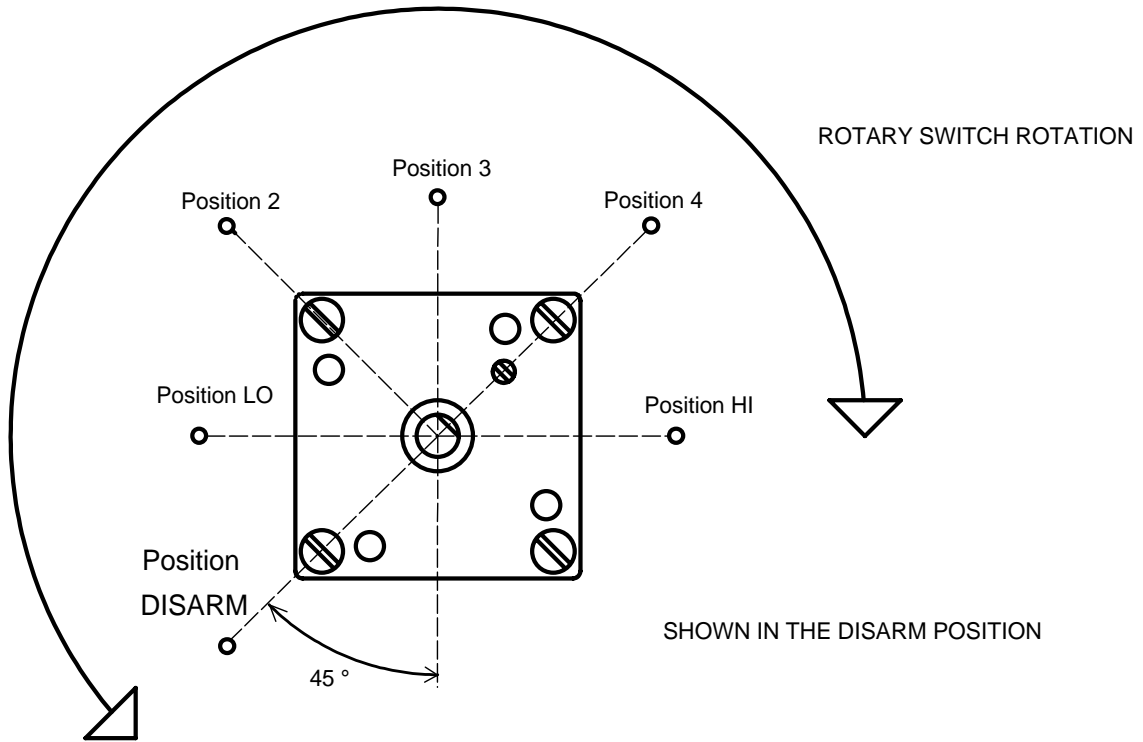
340-002



Autobrake Selector Switch
Figure 1/GRAPHIC 32-42-42-991-001-A01

32-42-42

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
 340-001
 340-002



CODE SEQUENCE
 INTERFACE CONNECTIONS TO BSCU

POSITIONS	MAX	MED	LOW	Parity
DISARM	0	0	1	1
LO	0	1	0	1
2	0	1	1	0
3	1	0	0	1
4	1	0	1	0
HI	1	1	0	0

0 : Open circuit 1 : Ground

Autobrake Selector Switch
 Figure 2/GRAPHIC 32-42-42-991-002-A01

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

Item	Characteristics
Weight	Approximately 0.375 kg (0.8267 lb)
Dimensions	170 mm x 40 mm x 40 mm (6.69 in x 1.57 in x 1.57 in)
Nominal power supply input	28 VDC
Power consumption	≤ 200 mA / 28 VDC
Heat dissipation	≤ 5 Watts when the equipment is in the armed configuration
Torque to override each position	≤ 0.34 N.m
Disarm return time	< 1 second

Table 1: LEADING PARTICULARS

PIN A	ABOFF (BSCU)
PIN B	INPUT VOLTAGE 28 VDC
PIN C	GROUND
PIN D	0 VDC
PIN E	0 VDC
PIN F	MAX (BSCU)
PIN G	LOW (BSCU)
PIN H	PARITY (BSCU)
PIN J	/ (not connected)
PIN K	MED (BSCU)

Table 2: CONNECTOR PIN OUT

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

TESTING AND FAULT ISOLATION

TASK 32-42-42-700-801-A01

1. AUTOBRAKE SELECTOR SWITCH TESTING

A. Reason for the job

Self Explanatory

B. Job set up information

(1) Tools, fixtures and equipments

REFERENCE	QTY	NAME	MANUFACTURED
340-001T07	1	A/BRK Test Unit	Madelec Aero
ASNE0468-05 or equivalent	1	Control knob	Commercially available

Table 1001: Special tools, fixtures and equipments for testing

REFERENCE	QTY	NAME	MANUFACTURED
/	1	Current meter	Commercially available

Table 1002: Standards tools, fixtures and equipments for testing

(2) Consumables

(a) None

(3) Referenced information

REFERENCE	DESIGNATION
32-42-42-940-801-A01	SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLES

C. Job set up

Subtask 32-42-42-750-001-A01

(1) Do the check in concordance with the test connections graphics (Ref. to Fig. 1001).

NOTE: When a light comes on, on the A/BRK Test Unit front panel, the code is 1 (ground) and when the light goes off, the code is 0 (open circuit).

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

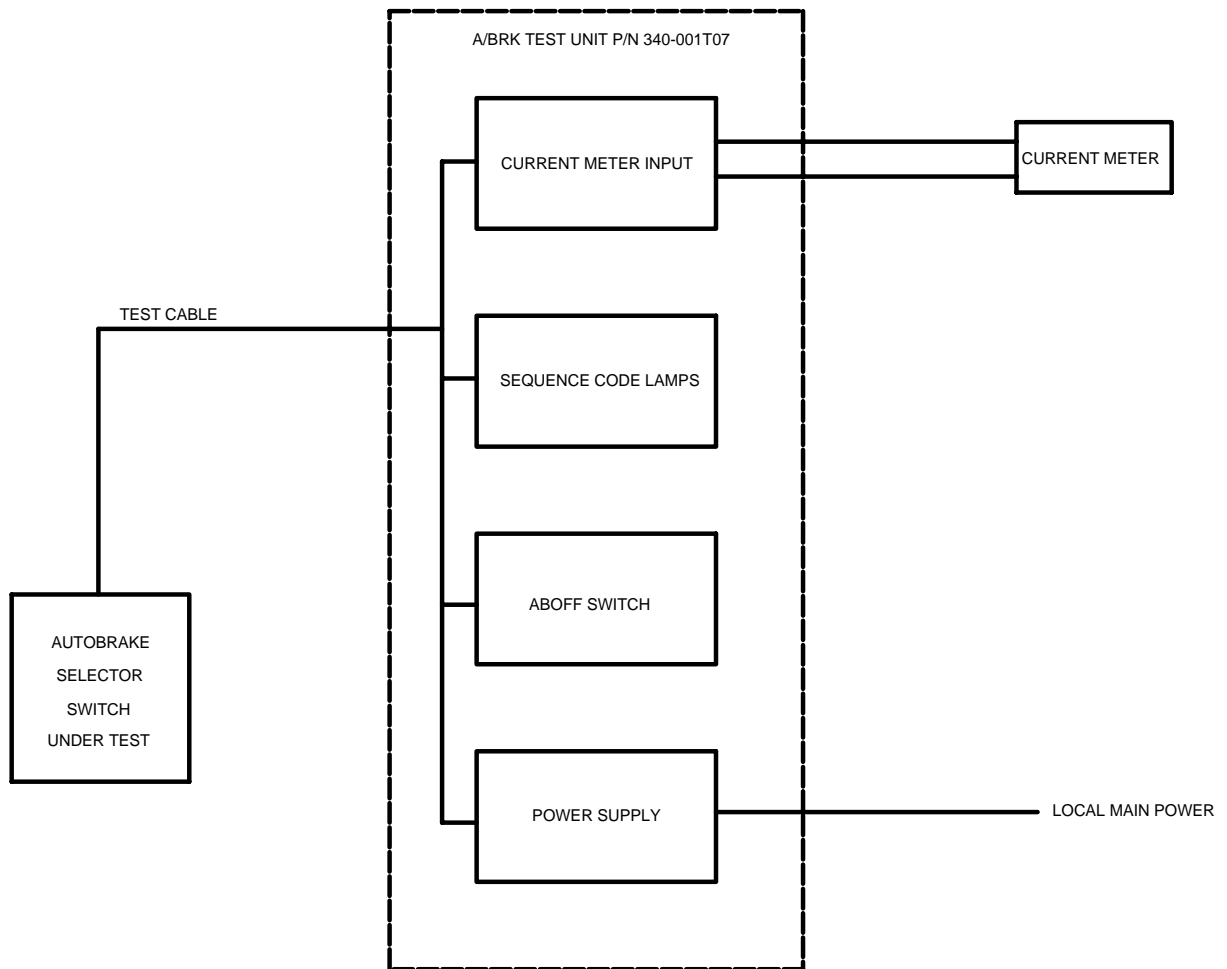
D. Procedure

Subtask 32-42-42-810-001-A01

(1) Testing

ACTION	RESULT
<u>1</u> Install a control knob on the Autobrake Selector Switch axle.	
<u>2</u> Move the ABOFF button to OFF on the A/BRK Test Unit.	
<u>3</u> Connect the Autobrake Selector Switch to the A/BRK Test Unit with the cable test.	
<u>4</u> Energize the power supply (move the power button to ON, on the A/BRK Test Unit).	
<u>5</u> Move the ABOFF button to ON.	
<u>6</u> Turn the control knob to each position from DISARM to HI.	The electro-magnet holds automatically each stable position. Make sure that the logic is in accordance with figure (Ref. to Fig. 2).
<u>7</u> Put the knob to a position, but discard the DISARM position and do a check of the current consumption on the current meter.	Current is less than 200 mA / 28 VDC.
<u>8</u> Put the knob to a position but discard the DISARM position and move ABOFF button on the A/BRK Test Unit to OFF.	The Autobrake Selector Switch automatically must go back to the DISARM position, if you can hear a sound. Make sure the code sequence for DISARM.
<u>9</u> Move to OFF the A/BRK Test Unit power supply.	
<u>10</u> Disconnect the test cable from the Autobrake Selector Switch.	
<u>11</u> Remove the control knob on the Autobrake Selector Switch axle.	

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002



Test connections
Figure 1001/GRAPHIC 32-42-42-991-003-A01

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

TASK 32-42-42-810-802-A01

2. FAULT ISOLATION

FAULT	POSSIBLE CAUSE	CORRECTION
Lights do not come ON and go OFF on the A/BRK Test Unit panel.	Defective connector	Do a functional test of the pins E, F, G, H, K. Make sure that there is no short circuit between each pin. Make sure that there is pin soldering and position on the Rotary Switch.
	Defective rotary switch	Replace the Rotary Switch.
Rotary Switch does not return correctly.	Rotary switch is not correctly installed	Remove the Rotary Switch and install it again.
Rotary switch does not return into the DISARM position.	Defective connector	All wiring connections and the pin location of the connector must be made sure step by step.
	Defective Spring	This manual does not include this part. Contact Madelec Aero.
	Rotary switch does not return correctly.	Remove the rotary switch and install it again. Make sure that the rotary switch shaft position is correct.
Current consumption is more than 200 mA.	Voltage supply is more than 28 VDC.	Change voltage to 28 VDC. Make sure that there is no short circuit between each pin.
Autobrake Selector Switch does not hold a stabilized position.	Defective Printed circuit board assembly	This manual does not include this part. Contact Madelec Aero.
	Defective Electro magnet	This manual does not include this part. Contact Madelec Aero.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

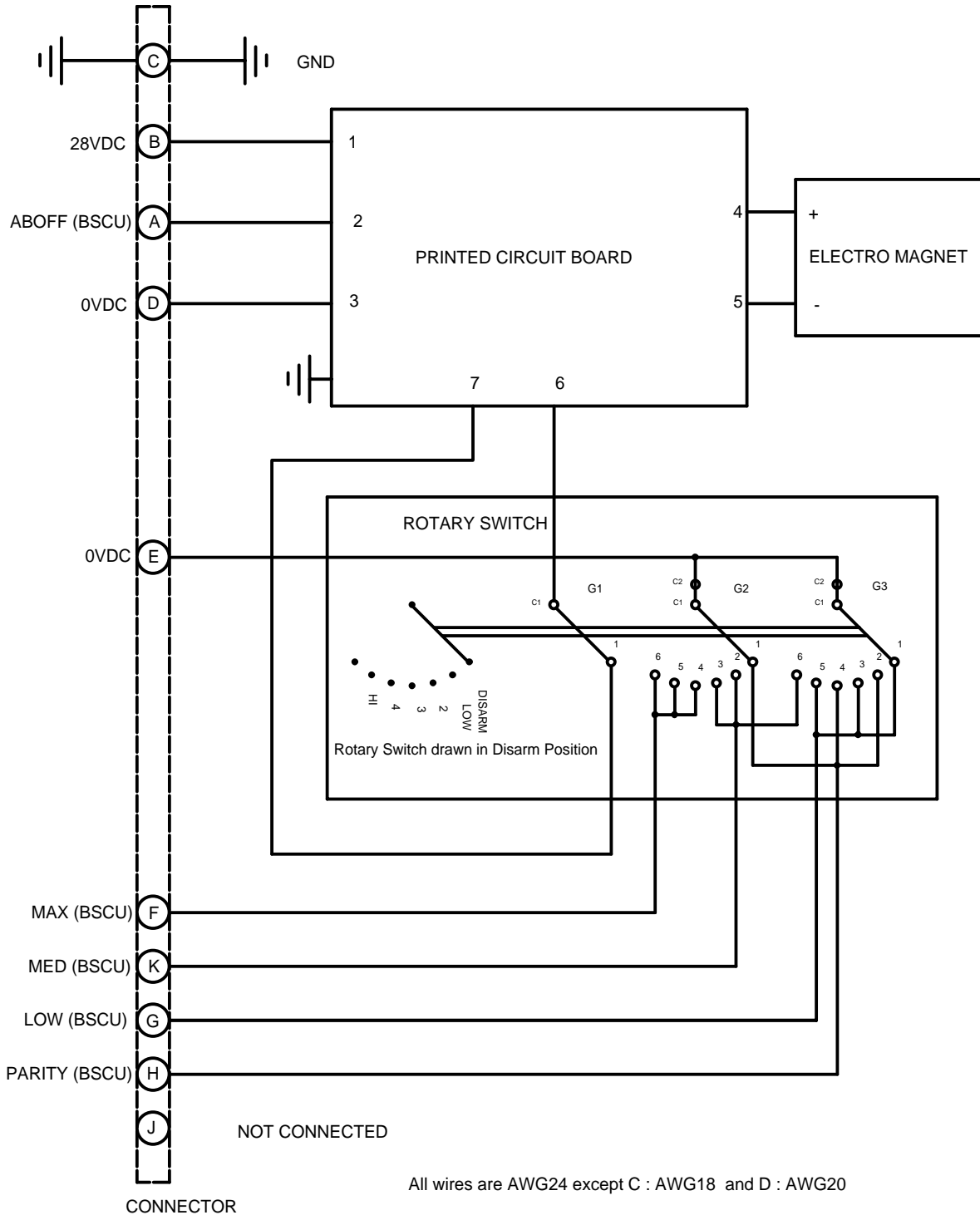
SCHEMATIC AND WIRING DIAGRAMS

TASK 32-42-42-800-801-A01

1. GENERAL

- A. A connector connect the Autobrake Selector Switch to the aircraft wiring. The figure (Ref. to Fig. 2001) shows the schematic diagram.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002



Schematic diagram
 Figure 2001/GRAPHIC 32-42-42-991-004-A01

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

DISASSEMBLY

TASK 32-42-42-000-801-A01

1. AUTOBRAKE SELECTOR SWITCH DISASSEMBLY

A. Reason for job

Self Explanatory

B. Job set-up information

NOTE: Equivalent alternatives can be used for the items given in the procedures.

NOTE: Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES (refer to TASK 32-42-42-940-801-A01) for more data.

(1) Tools, fixtures and equipment

TOOLS	SPECIFICATION	SOURCE
Allen key	Facom hollow head wrench 6 pans / 2 mm (0.078 in) or equivalent	Local supply
Thin spanner	Facom thin spanner 4 mm (0.158 in) or equivalent	Local supply
Screwdriver	Facom P4 or equivalent	Local supply
Soldering iron	25-40 watts	Local supply
Solder sucker	/	Local supply
Cutter plier	/	Local supply

Table 3001: Specials tools, fixtures

(2) Consumables

(a) None

(3) Referenced information

REFERENCE	DESIGNATION
32-42-42-940-801-A01	SPECIAL TOOLS, FIXTURES, EQUIPMENTS AND CONSUMABLES

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

C. Job set-up

Subtask 32-42-42-860-001-A01

WARNING: USE THE SPECIFIED SPECIAL TOOLS DURING DISASSEMBLY PROCEDURES TO PREVENT INJURIES TO THE PERSONNEL AND DAMAGE TO THE COMPONENTS.

- (1) Install the equipment in a clean shop, away from sources of dust, chaff, burrs of metal, abrasive material, etc.
- (2) Refer to the IPL to identify the parts (refer to TASK 32-42-42-871-802-A01).

D. Procedure

(Refer to Page Block 10001)

Subtask 32-42-42-000-001-A01

- (1) Disassembly of the cover
 - (a) Remove fasteners (IPL Fig.1, Item 20).
 - (b) Remove the cover (IPL Fig.1, Item 10) from the equipment body. Pull it in the connector direction.

Subtask 32-42-42-000-002-A01

- (2) Disassembly of the front support plate

CAUTION: DO NOT REMOVE SPACERS.

 - (a) Remove the 4 panel screws (IPL Fig.1, Item 40) and lock the spacers.
 - (b) Remove the front support plate (IPL Fig.1, Item 30) from the Autobrake Selector Switch body.

Subtask 32-42-42-000-003-A01

- (3) Disassembly of the connector

CAUTION: RECORD EACH WIRE POSITION THEN DISCONNECT CONTACTS.

 - (a) Cut off the tie wraps.
 - (b) Remove the 4 screws (IPL Fig.1, Item 80) and the washers (IPL Fig.1, Item 90) from the connector (IPL Fig.1, Item 100).
 - (c) Remove the electrical connector (IPL Fig.1, Item 100) from the connector support.
 - (d) Disconnect the 8 contacts (IPL Fig.1, Item 110) and the enlarged bucket contact (IPL Fig.1, Item 120) from the connector then remove the set of wires.

Subtask 32-42-42-000-004-A01

- (4) Disassembly of the rotary switch

CAUTION: RECORD EACH WIRE POSITION THEN REMOVE THEM FROM THE ROTARY SWITCH.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL

340-001

340-002

- (a) Remove the set of wires connected to the rotary switch. Unsold the wires H, G, K, F and E as shown in the figure (Ref. to Fig. 3001).
- (b) Cause a blockage of the indexing latch against the indexing track with special tool block (supplied with the rotary switch item) as shown in figure (Ref. to Fig. 3002). The two items do not return.

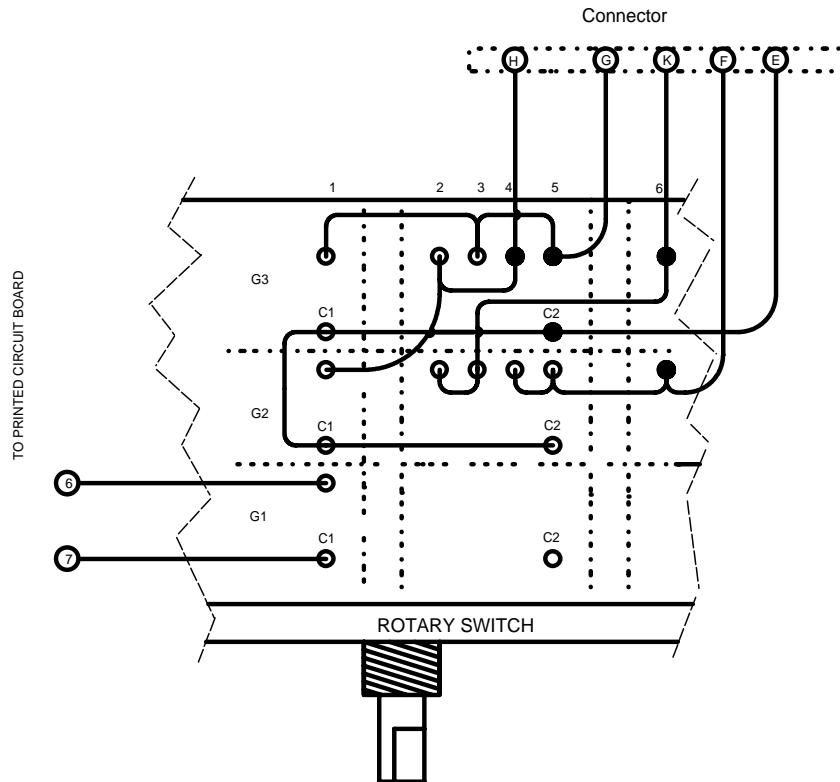
CAUTION: DO NOT REMOVE THE BLOCKAGE TO PREVENT A SPRING RETURN WHEN NO SCREWS LOCK THE INDEXING TRACK.

- (c) Remove the headless screws (IPL Fig.1, Item 60) and (IPL Fig.1, Item 70).

CAUTION: AFTER THE ROTARY SWITCH INSTALLATION REMOVE THE BLOCKAGE.

- (d) Carefully remove the rotary switch (IPL Fig.1, Item 50) and refer to ASSEMBLY (refer to Subtask 32-42-42-400-004-A01) for the rotary switch installation.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002



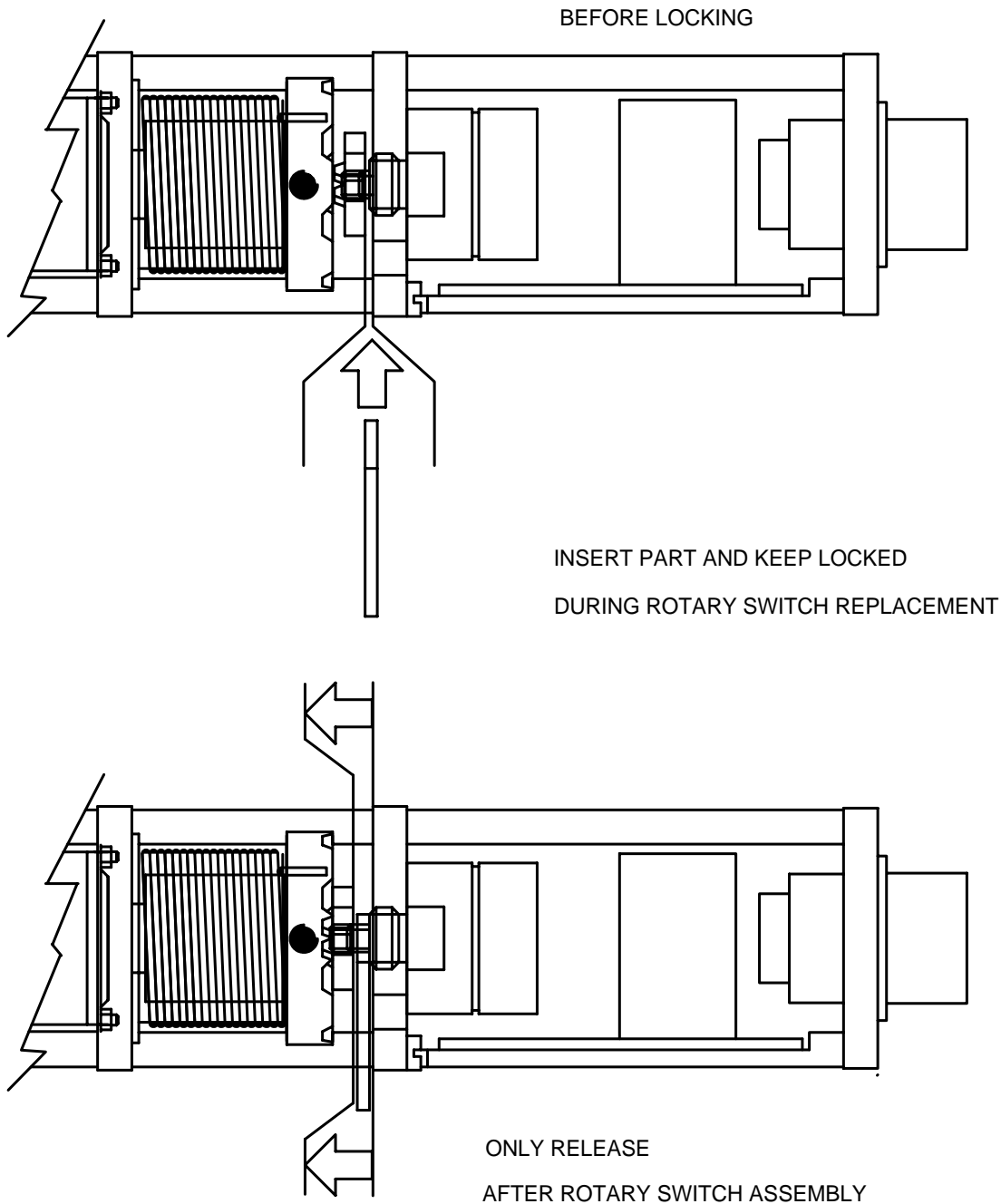
NOTE: terminal wire to be unsoldered/soldered are shown by 5 black discs

Rotary switch with wire terminals
 Figure 3001/GRAPHIC 32-42-42-992-005-A01

MADELEC AERO
COMPONENT MAINTENANCE MANUAL

340-001

340-002



Insertion/removal of the block
Figure 3002/GRAPHIC 32-42-42-991-006-A01

32-42-42

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

CLEANING

TASK 32-42-42-100-801-A01

1. **CLEANING MATERIALS**

CAUTION: DO NOT USE OTHER CHEMICALS PRODUCTS TO PREVENT ANY DAMAGE TO OTHER COMPONENTS.

A. Reason for the job

Self Explanatory

B. Job set-up information

Not applicable

C. Job set-up

Not applicable

D. Procedure

Subtask 32-42-42-160-001-A01

- (1) The autobrake selector switch components not require cleaning for the life of this unit. However, if it becomes necessary to clean components (discard the electrical parts), clean with a dry rag.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

INSPECTION/CHECK

TASK 32-42-42-200-801-A01

1. **GENERAL**

CAUTION: REPLACE BY NEW ITEMS ALL APPLICABLE FASTENER DEVICES (SCREWS, WASHERS,...) IN CASE OF THE REPLACEMENT OF A COMPONENT.

A. Reason for the job

Self Explanatory

B. Job set up information

Not applicable

C. Job set-up

(1) Do an inspection/check procedures to all the removed parts.

(2) If defective parts are found, repair or replace them.

D. Procedure

Subtask 32-42-42-200-001-A01

(1) Inspection of the cover

(a) The cover is only a protection device. The cover has the main parts of the Autobrake Selector Switch.

(b) The inspection of the cover is:

- A check of the visibility, the attachment and correct identification label.
- To make sure that: the identification label has all the related data (P/N, S/N, DMF, bar codes,...) of the equipment and that you can easily read it.
- A check of the two holes used for fasteners.
- A check of the surfaces which can have breakage or other damage.
- A check of the protective treatment (cracks or stripes, ...).

(c) If the cover is defective, replace it by a new one with its applicable identification label.

Subtask 32-42-42-200-002-A01

(2) Inspection of the front support plate

(a) The inspection of the front support plate is:

- A check of the surfaces which can have breakage or other damage.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

- A check of the inserts of the front support plate (make sure quality of thread, inserts installation,...).

(b) If the front support plate is defective, replace it by a new one.

Subtask 32-42-42-200-003-A01

(3) Inspection of the connector

(a) The inspection of the connector is:

- A check of the pin location of the connector (broken pin,...). Replace the contact if the pin is defective or bent.
- A check of the connector body which can have breakage or other damage.

(b) If the connector is defective, replace it by a new one.

Subtask 32-42-42-200-004-A01

(4) Inspection of the rotary switch

(a) The inspection of the rotary switch is to make sure the control shaft with a flat and welding terminals.

(b) This inspection is:

- A check of the surface and shaft which can have breakage or other damage.
- A check of the control knob which can be easily installed on the shaft.

(c) If the rotary switch is defective, replace it by a new one.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

ASSEMBLY

TASK 32-42-42-400-801-A01

1. **AUTOBRAKE SELECTOR SWITCH ASSEMBLY**

A. Reason for the job

Self Explanatory

B. Job set-up information

NOTE: Equivalent alternatives can be used for the items given in the procedures.

NOTE: Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES (refer to TASK 32-42-42-940-801-A01) (refer to TASK 32-42-42-940-802-A01) for more data.

(1) Tools, fixtures and equipment

TOOLS	SPECIFICATION	SOURCE
White Wire AWG18/20/24	ASN-E0260BF18/20/24	Local supply

Table 7001: Special tools, fixtures and equipment for assembly

TOOLS	SPECIFICATION	SOURCE
Allen key	Facom hollow head wrench 6 pans / 2 mm (0.078 in) or equivalent	Local supply
Thin spanner	Facom thin spanner 4 mm (0.158 in) or equivalent	Local supply
Screwdriver	Facom P4 or equivalent	Local supply
Soldering iron	25 - 40 watts	Local supply
Solder 60/40 tin/lead, Rosin core	Standard QQ S 571	Local supply
Crimping tool	057-0461-00 (with turret 057-0462-00) or equivalent	VF1983 or equivalent
Insertion/removal tool	M15570-20 or equivalent	VF1983 or equivalent
Tie Wrap	/	Local supply

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

TOOLS	SPECIFICATION	SOURCE
Cutter plier	/	Local supply

Table 7002: Standard tools, fixtures and equipment for assembly

(2) Consumables

- (a) Refer to "CONSUMABLES" (refer to TASK 32-42-42-940-802-A01) for full details of the consumables in this list. Equivalent alternatives can be used for the items given in the procedures.

TOOLS	SPECIFICATION	SOURCE
Adhesive Loctite 242	MIL-S-46163	Local supply

Table 7003: Consumables for assembly

(3) Referenced information

REFERENCE	DESIGNATION
32-42-42-870-801-A01	Illustrated Part List

C. Job set-up

- (1) None

D. Procedures

(Refer to Page Block 10001)

Subtask 32-42-42-400-001-A01

- (1) Assembly of the cover

CAUTION: MAKE SURE THAT ALL THE COMPONENTS ARE CLEAN BEFORE ASSEMBLY. DO ALL OPERATIONS ON A SOFT AND CLEAN WORK SURFACE TO PREVENT DAMAGE TO THE COMPONENTS.

CAUTION: WHEN YOU PUSH THE COVER, MAKE SURE THAT NO SET OF WIRES IS HELD BETWEEN THE COVER AND THE AUTOBRAKE SELECTOR SWITCH BODY.

- (a) Install the Cover (IPL Fig.1, Item 10) along the Autobrake Selector Switch body.

- 1 Putt the two fastener holes on the connector side.
- 2 Put the cover face without holes pattern below the printed circuit board.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

- (b) Attach the cover with the screw (IPL Fig.1, Item 20). Apply adhesive MIL-S-46163 Loctite 242 on heads.
- (c) Make sure that identification label identifies the equipment.

Subtask 32-42-42-400-002-A01

- (2) Assembly of the front support plate

CAUTION: MAKE SURE THAT ALL THE COMPONENTS ARE CLEAN BEFORE ASSEMBLY. DO ALL OPERATIONS ON A SOFT AND CLEAN WORK SURFACE TO PREVENT DAMAGE TO THE COMPONENTS.

- (a) Install the front support plate (IPL Fig.1, Item 30) adjacent to the rotary switch (IPL Fig.1, Item 50) shaft control with the fail-safe device.

CAUTION: KEEP THE SPACERS LOCKED WHEN YOU TIGHTEN.

- (b) Lock the front support plate with the screws (IPL Fig.1, Item 40) and safety them. Tighten the screws then apply adhesive MIL-S-46163 Loctite 242 on heads.
- (c) Install the cover.

Subtask 32-42-42-400-003-A01

- (3) Assembly of the connector

CAUTION: MAKE SURE THAT ALL THE COMPONENTS ARE CLEAN BEFORE ASSEMBLY. DO ALL OPERATIONS ON A SOFT AND CLEAN WORK SURFACE TO PREVENT DAMAGE TO THE COMPONENTS.

CAUTION: FOR MECHANICAL GROUND ON PIN C USE A SPECIFIC ENLARGED BUCKET CONTACT (120).

- (a) Crimp them with their dedicated contacts (IPL Fig.1, Item 110) to prepare the terminal wires.
- (b) Connect the pins on the electrical connector with a standard insertion-removal tool. Refer to OPERATION AND DESCRIPTION (refer to TASK 32-42-42-870-801-A01).
- (c) Install the connector (IPL Fig.1, Item 100) with the washers (IPL Fig.1, Item 90) and the screws (IPL Fig.1, Item 80).
- (d) Remove all the identification tags attached to the wire during disassembly.
- (e) Tie the wire bundle with new tie wraps.
- (f) Install the cover.

Subtask 32-42-42-400-004-A01

- (4) Assembly of the rotary switch

CAUTION: MAKE SURE THAT ALL THE COMPONENTS ARE CLEAN BEFORE ASSEMBLY. DO ALL OPERATIONS ON A SOFT AND CLEAN WORK SURFACE TO PREVENT DAMAGE TO THE COMPONENTS.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

CAUTION: MAKE SURE THAT THE INDEXING LATCH AND THE INDEXING TRACK ARE LOCKED TOGETHER BY THE BLOCKAGE. REFER TO DISASSEMBLY (REFER TO TASK 32-42-42-000-801-A01).

CAUTION: MAKE SURE THAT THE BATCH NUMBER IDENTIFIES THE ROTARY SWITCH CORRECTLY.

CAUTION: MAKE SURE THAT THE SET OF WIRE IS IN CORRECT POSITION ALONG SPACERS WITHOUT LOOPS.

- (a) Turn the control shaft to align the flat with the locating pin and to put the rotary switch in the DISARM position.
- (b) Install the rotary switch (IPL Fig.1, Item 50).
- (c) Install the front support plate (IPL Fig.1, Item 30) and push it against the rotary switch to prevent axial gap.
- (d) Push on the rotary switch shaft in an axial direction to prevent the natural axial gap of the component.
- (e) Lock the rotary shaft with dedicated screws: first (IPL Fig.1, Item 60) and after (IPL Fig.1, Item 70).
- (f) Install the front support plate with screws (IPL Fig.1, Item 40).
- (g) Remove the block part (Ref. to Fig. 3001) and make sure that the rotary switch can turn correctly with no gap and friction during rotation.
- (h) Install terminal cables from set of wire in accordance with the figure (Ref. to Fig. 3001) .
- (i) Remove eventually the identification tags attached to the wire during disassembly.
- (j) Tighten the screws (IPL Fig.1, Item 40) and (IPL Fig.1, Item 70) and apply adhesive MIL-S-46163 Loctite 242 on heads.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

FITS AND CLEARANCES

TASK 32-42-42-820-801-A01

1. **FITS AND CLEARANCES**

A. The required fits and clearance data are given in the below chart (refer to Table 7002).

DATA	MFR AND IN SERVICE LIMITS
Sequence code	(refer to TASK 32-42-42-700-801-A01)
Return to Disarm	(refer to TASK 32-42-42-700-801-A01)
Free rotation of the rotary switch	It is possible to rotate the rotary switch with 225 angle degree (refer to TASK 32-42-42-700-801-A01) and with no friction during the rotation.
Label identification	The label, attached on cover, has the applicable data (P/N, S/N, bar codes, DM, ...) for the equipment.
	NOTE: The equipment is not serviceable if there is no identification label on the cover.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

SPECIAL TOOLS, FIXTURES AND REQUIREMENTS

TASK 32-42-42-940-801-A01

1. SPECIAL TOOLS

P/N	DESCRIPTION	SUPPLIER CODE OR NAME AND ADDRESS	PAGE BLOCK	TID
340-001T07	A/BRK Test Unit	F9503	1001	2
No specific	Current-meter	Local supply	1001	/
ASNE0468-05	Control knob	VF5442 or local supply	1001	/
057-0461-00	Crimping tool	VF1983 or local supply	7001	/
M15570-20	Insertion/removal tool	VF1983 or local supply	3001 / 7001	/

Table 9001: Special tools table

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

TASK 32-42-42-940-802-A01

2. CONSUMABLES

MATERIAL No.	DESIGNATION AND SPECIFICATION	SUPPLIER CODE OR NAME AND ADDRESS	PAGE BLOCK WHERE USED
Adhesive Loctite 242	MIL-S-46163	Local supply	7001

Table 9002: Consumables table

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

STORAGE - TRANSPORT

TASK 32-42-42-550-801-A01

1. **1. STORAGE INSTRUCTIONS**

A. Reason for the job

NOTE: The packing must agree with the ATA 300 Standard.

(1) The storage keeps the serviceability of the equipment when it is not in use:

- preserves from dust, humidity, and chemical agents,
- keeps the parts and the sealing in good condition.

(2) Supply documents with the stored equipment:

- a book let,
- an acceptance test report or a control sheet,
- an equipment register sheet.

B. Job set-up information

(1) Tools, fixture and equipment

(a) As necessary

(2) Consumables

(a) None

(3) Referenced information

(a) None

C. Job set-up

(1) As available

D. Procedure

Subtask 32-42-42-620-001-A01

(1) Preservation

(a) Put a plastic cap on the electrical connector to protect it.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

Subtask 32-42-42-530-001-A01

(2) Packaging

(a) Check the identification labels on the equipment and put on one outside of the container. Make sure that:

- The identification label has all the related data of the equipment.
- You can read the label easily.

(b) Put the equipment on its initial container.

NOTE: The equipment is not serviceable if there is no identification label on the cover.

Subtask 32-42-42-550-001-A01

(3) Storage

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

(b) The recommended temperature is the ambient temperature (15 °C to 35 °C) with a relative humidity between 30 and 65 %.

(c) Put the container where you can clearly read the identification label.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

ILLUSTRATED PARTS LIST

32-42-42

IPL 10001 PAGE 1
JUN 04/07

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

PAGE INTENTIONALLY BLANK

32-42-42

IPL 10001 PAGE 2
JUN 04/07

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

ILLUSTRATED PARTS LIST

TASK 32-42-42-871-802-A01

1. **GENERAL**

A. Purpose

- (1) This Illustrated Parts List is intended only for use in identifying, provisioning, requisitioning, storing and issuing replaceable parts. The IPL is part of Component Maintenance Manual.

B. IPL Breakdown

- (1) The illustrated Parts List is made up of sections:

- (a) Introduction which contain general information, Detailed Parts List Information, Information how to use the IPL.
- (b) Vendor Code Identification (VCI) which gives the list of the vendors that supply the articles.
- (c) Alpha Numerical Index/Numerical Order (NI/NUM) and Alpha Numerical Index/Alphabetical Order (NI/ALPHA). The Alpha Numerical Index section lists all parts numbers contained in the IPL. The index has two parts:

NI/NUM: contains part numbers whose first digit is a numeric character.

NI/ALPHA: contains part numbers whose first digit is an alphabetical character.

- (d) The Part numbers which gives the Part number in alpha numerical order.
- (e) Detailed Parts List for identify the parts and their relationship to each other. It contains one figure with exploded view to show detail parts. Each figure has a list of parts.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

TASK 32-42-42-871-003-A01

2. DETAILED PARTS LIST

- A. The Detailed Part List (Ref Figure 1) will be used to identify parts and their relationship to each other. It indicates through columns the figure number, the item number, the part number, the designation/nomenclature, the usage code, the quantity of parts per assembly, the revision indicator.

MADELEC AERO
COMPONENT MAINTENANCE MANUAL

340-001

340-002

VENDOR CODE	NAME-ADDRESS
VD8286	DIN DEUTSCHES INSTITUT FUER NORMUNG EV KAMEKESTRASSE 2-8 50672 KOELN GERMANY
VF5442	EADS STANDARD ASN NORMALISATION 12 RUE PASTEUR 92150 SURESNES FRANCE
VF9503	MADELEC AERO SARL ZA DU BEL AIR 14 RUE GUSTAVE EIFFEL 78514 RAMBOUILLET CEDEX FRANCE

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

PAGE INTENTIONALLY BLANK

32-42-42

VCI 10001 PAGE 2
JUN 04/07

MADELEC AERO
COMPONENT MAINTENANCE MANUAL

340-001

340-002

PART NUMBER	AIRLINE STOCK NUMBER	FIG	ITEM	TTL REQ
ASNE0049P20		1	110	8
ASNE0053R12B10		1	100	1
ASNE0053R12B10PNF				
SEE ASNE0053R12B10				
DIN127B3A4		1	90	4
M2-5X8DIN963A4		1	20	2
M3X10DIN963A4		1	40	4
M3X8DIN85A4		1	80	4
M4X10DIN916A4		1	60	2
M4X4DIN916A4		1	70	2
NSA938-151P2000		1	120	1

- ITEM NOT ILLUSTRATED

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

PAGE INTENTIONALLY BLANK

MADELEC AERO
COMPONENT MAINTENANCE MANUAL

340-001

340-002

PART NUMBER	AIRLINE STOCK NUMBER	FIG	ITEM	TTL REQ
340-001		1	- 1	RF
340-002		1	- 1A	RF
340-10011		1	30	1
340-1002K		1	50	1
340-10153		1	10	1

- ITEM NOT ILLUSTRATED

32-42-42

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

PAGE INTENTIONALLY BLANK

32-42-42

NI/NUM 10001 PAGE 2
JUN 04/07

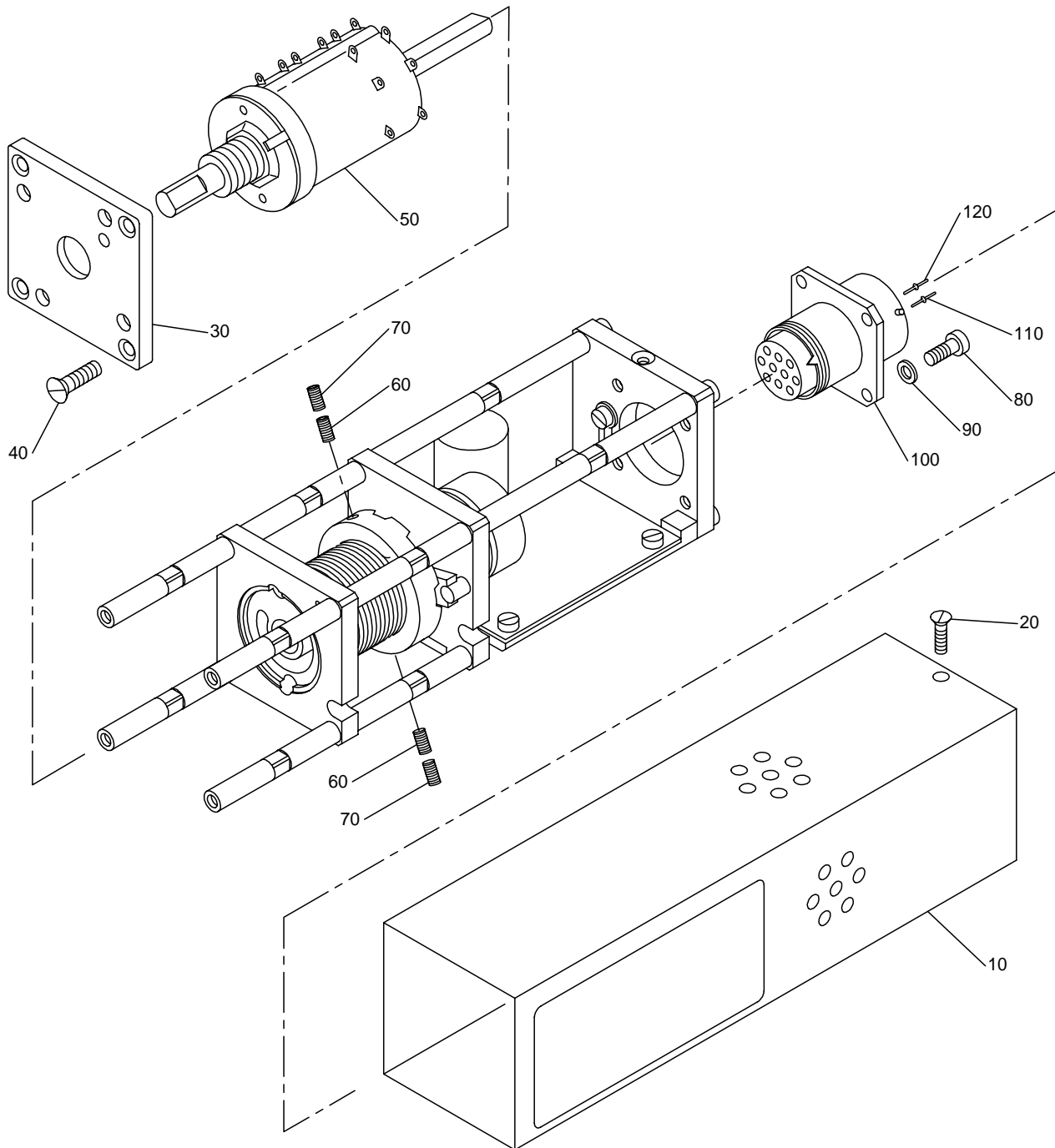
MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

DETAILED PARTS LIST

32-42-42

DPL 10001 PAGE 1
JUN 04/07

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002



SWITCH,AUTOBRAKE SELECTOR
FIGURE 1/GRAPHIC-32-42-42-991-801-A01

32-42-42

PAGE 10001-0
JUN 04/07

**MADELEC AERO
COMPONENT MAINTENANCE MANUAL**

340-001

340-002

FIG.ITEM	PART NUMBER	AIRLINE STOCK NUMBER	NOMENCLATURE	USAGE CODE	UNITS PER ASSY
			1234567 		
1 - 1	340-001		SWITCH,AUTOBRAKE SELECTOR	A	RF
- 1A	340-002		SWITCH,AUTOBRAKE SELECTOR	B	RF
10	340-10153		. COVER		1
			ATTACHING PARTS		
20	M2-5X8DIN963A4		. SCREW,MACHINE VD8286		2
			* * *		
30	340-10011		. SUPPORT,FRONT PLATE		1
			ATTACHING PARTS		
40	M3X10DIN963A4		. SCREW,MACHINE VD8286		4
			* * *		
50	340-1002K		. SWITCH ROTARY		1
60	M4X10DIN916A4		. SCREW,MACHINE VD8286		2
70	M4X4DIN916A4		. SCREW,MACHINE VD8286		2
80	M3X8DIN85A4		. SCREW,MACHINE VD8286		4
90	DIN127B3A4		. WASHER,SPRING VD8286		4
100	ASNE0053R12B10		. CONNECTOR,RECEPTACLE		1
			ORDER OVERLGTH PN		
			ASNE0053R12B10PNF MADE BY		
			VF5442		
110	ASNE0049P20		.. CONTACT,ELECTRICAL VF5442		8
120	NSA938-151P2000		.. CONTACT,ENLARGED VF5442		1
			BUCKET		

- ITEM NOT ILLUSTRATED

32-42-42

PAGE 10001- 1
JUN 04/07

MADELEC AERO
COMPONENT MAINTENANCE MANUAL
340-001
340-002

PAGE INTENTIONALLY BLANK

32-42-42

PAGE 10001- 2
JUN 04/07