

HELICOPTER ENGINES

TURBOSHAFT

**ARRIEL 2**

**C**

**MAINTENANCE MANUAL**

TROUBLE SHOOTING

**No. X 292 M1 450 2**

**Original issue: July 10/1997**  
**Update No. 55: Dec. 30/2023**



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**LETTER**

This covering letter is not part of the MAINTENANCE MANUAL.  
Do not keep it on the MAINTENANCE MANUAL.

**Bordes, Dec. 30/2023**

**Dear Sir / Madam,**

**The *ARRIEL 2 C MAINTENANCE MANUAL No. X 292 M1 450 2* has been subject to normal update No. 55 on Dec. 30/2023.**

**A description of the update (description, pages to be removed or inserted) is provided below.**

**We remain at your disposal for any further information you may require. Very truly yours**

**Technical Publications**

<b>Task Number</b>	<b>Description</b>	<b>Pages to be removed</b>	<b>Pages to be inserted</b>
Title Page	Integration	ALL	1
LAP - 71	Integration	ALL	1 to 14
71-00-06-814-801-A01	Integration	ALL	101 to 104

## CHAPTER 71 - LIST OF EFFECTIVE PAGES

<u>Chapter Section Subject</u>	<u>Task</u>	<u>Title</u>	<u>Pages</u>	<u>Date</u>
71		LIST OF EFFECTIVE PAGES	* 1 - 14	Dec. 30/2023
71		TABLE OF CONTENTS	1 - 12	June 15/2023
71-00-06	INT-802-A01	TROUBLESHOOTING - INTRODUCTION	1 - 24	Apr. 30/2014
71-00-06	RPU-801-A01	LIST OF FAILURES FOUND DURING OPERATION - LIST OF FAILURES OBSERVED DURING ENGINE OPERATION	101 - 102	Dec. 30/2021
71-00-06	RPM-802-A01	LIST OF FAILURES FOUND DURING MAINTENANCE - LIST OF FAILURES OBSERVED DURING MAINTENANCE	101 - 102	June 15/2023
71-00-06	RPA-803-A01	LIST OF FAILURES CODES - LIST OF FAILURE CODES	101 - 112	May 30/2016
71-00-06	811-801-A01	FUEL FILT ON - PRE-BLOCKAGE SIGNAL OF THE FUEL FILTERING ELEMENT - TROUBLESHOOTING	101 - 102	Nov. 30/2009
71-00-06	811-802-A01	FUEL P OFF - NO LOW FUEL PRESSURE SIGNAL - TROUBLESHOOTING	101 - 102	Nov. 30/2009
71-00-06	811-803-A01	ENG P OFF - NO LOW OIL PRESSURE SIGNAL - TROUBLESHOOTING	101 - 102	Nov. 30/2009
71-00-06	811-804-A01	RED GOV OR AMBER GOV OR FLASHING GOV ON - LIGHTING OF GOV WARNING LIGHT - TROUBLESHOOTING	101 - 102	Nov. 30/2009
71-00-06	811-808-A01	RED GOV AT POWER ON - TROUBLESHOOTING	101 - 104	Dec. 30/2021
71-00-06	812-802-A01	FUEL P ON - NO EXTINGUISHING OF THE LOW FUEL PRESSURE SIGNAL - TROUBLESHOOTING	101 - 102	Nov. 30/2009
71-00-06	812-804-A01	ENGINE PARAMETER OUT OF LIMIT - T4.5 LIMITATIONS EXCEEDED - TROUBLESHOOTING	101 - 106	Apr. 30/2014
71-00-06	812-805-A01	ABORTED START - GAS GENERATOR NOT DRIVEN - TROUBLESHOOTING	101 - 108	June 15/2020
71-00-06	812-806-A01	ENG P ON - NO EXTINGUISHING OF THE LOW OIL PRESSURE SIGNAL - TROUBLESHOOTING	101 - 102	Nov. 30/2009

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71-00-06	812-807-A01	ABORTED START - NO IGNITION - TROUBLESHOOTING	101 - 110	Dec. 30/2021
71-00-06	812-808-A01	ABORTED START - SLOW START OR STAGNATION - TROUBLESHOOTING	101 - 108	June 15/2020
71-00-06	812-810-A01	ABORTED START - FLAME OUT - TROUBLESHOOTING	101 - 104	June 15/2020
71-00-06	812-811-A01	ABORTED START - FIRST START ABORTED - TROUBLESHOOTING	101 - 104	June 15/2021
71-00-06	812-812-A01	ABORTED START - FLAMES AT THE EXHAUST PIPE - TROUBLESHOOTING	101 - 104	Dec. 30/2020
71-00-06	812-813-A01	NO OIL PRESSURE RISE AT STARTING - TROUBLESHOOTING	101 - 104	June 15/2020
71-00-06	812-816-A01	HELICOPTER ROTOR MOVEMENT THAT OCCURS AFTER THE USUAL TIME DURING ENGINE START - TROUBLESHOOTING	101 - 104	Dec. 30/2019
71-00-06	813-801-A01	SURGE - TROUBLESHOOTING	101 - 106	June 15/2021
71-00-06	814-801-A01	ENG CHIP ON - INDICATOR LIGHT OF THE ELECTRICAL MAGNETIC PLUG ON - TROUBLESHOOTING	* 101 - 104	Dec. 30/2023
71-00-06	814-802-A01	FUEL FILT ON - PRE-BLOCKAGE SIGNAL OF THE FUEL FILTERING ELEMENT - TROUBLESHOOTING	101 - 104	June 15/2023
71-00-06	814-803-A01	FUEL P ON - LOW FUEL PRESSURE SIGNAL - TROUBLESHOOTING	101 - 104	Nov. 30/2009
71-00-06	814-805-A01	ENGINE PARAMETER OUT OF LIMIT - TORQUE LIMITATIONS EXCEEDED - TROUBLESHOOTING	101 - 106	Mar. 30/2013
71-00-06	814-806-A01	ENGINE PARAMETER OUT OF LIMIT - N1 LIMITATIONS EXCEEDED - TROUBLESHOOTING	101 - 102	July 30/2012
71-00-06	814-807-A01	ENGINE PARAMETER OUT OF LIMIT - N2 LIMITATIONS EXCEEDED - TROUBLESHOOTING	101 - 102	July 30/2012
71-00-06	814-808-A01	PARAMETER INSTABILITY - OIL PRESSURE - TROUBLESHOOTING	101 - 102	Nov. 30/2009
71-00-06	814-809-A01	ENG P ON - LOW OIL PRESSURE SIGNAL - TROUBLESHOOTING	101 - 104	Nov. 30/2009

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71-00-06	814-812-A01	PARAMETER INSTABILITY - TORQUE - TROUBLESHOOTING	101 - 102	Nov. 30/2009
71-00-06	814-813-A01	NG INDICATION FAILURE ON THE ANALOG INDICATORS - TROUBLESHOOTING	101 - 104	Nov. 30/2009
71-00-06	815-801-A01	UNUSUAL NOISES DURING RUNDOWN PHASE - TROUBLESHOOTING	101 - 108	Dec. 30/2022
71-00-06	815-802-A01	RUNDOWN TIME OUT OF LIMIT - TROUBLESHOOTING	101 - 112	Dec. 30/2022
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71-00-06	815-805-A01	ENG P OFF - NO LOW OIL PRESSURE SIGNAL - TROUBLESHOOTING	101 - 102	Nov. 30/2009
71-00-06	815-806-A01	POWER TURBINE BLOCKED - TROUBLESHOOTING	101 - 102	Dec. 30/2019
71-00-06	816-801-A01	SMOKE FROM EXHAUST PIPE - TROUBLESHOOTING	101 - 106	Dec. 30/2021
71-00-06	816-803-A01	PARTICLES IN THE OIL FILTERING ELEMENT - TROUBLESHOOTING	101 - 102	May 30/2011
71-00-06	816-804-B01	LEAK AT THE AIRCRAFT DRAIN CLUSTER - TROUBLESHOOTING	101 - 104	June 15/2019
71-00-06	816-805-A01	ABNORMAL FUEL LEAKAGE AT THE TANK RETURN FUEL TUBE - TROUBLESHOOTING	101 - 102	Nov. 30/2016
71-00-06	816-806-A01	FUEL FILTER CLOGGING INDICATOR POPPED OUT - TROUBLESHOOTING	101 - 104	June 15/2023
71-00-06	816-807-A01	FUEL DILUTION RATE IN OIL NOT COMPLIANT - TROUBLESHOOTING	101 - 102	Dec. 30/2021
71-00-06	816-808-A01	INCORRECT OPERATION OF ONE OF THE IGNITION DEVICE LINES - TROUBLESHOOTING	101 - 102	Nov. 30/2009
71-00-06	816-810-A01	PARTICLES ON A MAGNETIC PLUG - TROUBLESHOOTING	101 - 102	May 30/2011
71-00-06	816-811-A01	NON CONFORM OIL CONSUMPTION - TROUBLESHOOTING	101 - 110	Dec. 30/2020

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71-00-06	816-813-A01	POPPING OUT OF THE PRE-BLOCKAGE INDICATOR OF THE OIL FILTER - TROUBLESHOOTING	101 - 104	June 15/2020
71-00-06	816-814-A01	OIL LEAKAGE BETWEEN M03 AND M04 - TROUBLESHOOTING	101 - 104	June 15/2021
71-00-06	816-815-A01	VIBRATION OUT OF TOLERANCE DETECTED BY THE M'ARMS SYSTEM - TROUBLESHOOTING	101 - 112	Dec. 30/2021
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71-00-06	816-821-A01	FUEL ODOR IN THE CABIN - TROUBLESHOOTING	101 - 102	Dec. 30/2021
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71-00-06	816-833-A01	OIL TANK LEVEL SLOWLY DECREASES AFTER ENGINE SHUTDOWN - TROUBLESHOOTING	101 - 102	Dec. 30/2021
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71-00-06	817-811-A01	WATCHDOG TRIP AND OFF/IDLE/ON SELECTOR FAILURE - TROUBLESHOOTING	101 - 102	Nov. 30/2009
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71-00-06	817-813-A01	WATCHDOG TRIP, TNG SELECTOR FAILURE AND OFF/IDLE/ON SELECTOR FAILURE - TROUBLESHOOTING	101 - 102	Nov. 30/2009
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71-00-06	817-822-A01	WATCHDOG TRIP, TNG SELECTOR FAILURE, OFF/IDLE/ON SELECTOR FAILURE AND HELICOPTER/SOFTWARE CONFIGURATION INCONSISTENCY - TROUBLESHOOTING	101 - 102	Nov. 30/2009
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71-00-06	817-825-A01	RAW T4.5 FAILURE - TROUBLESHOOTING	101 - 106	May 30/2011
71-00-06	817-827-A01	COLLECTIVE PITCH FAILURE AND RAW T4.5 FAILURE - TROUBLESHOOTING	101 - 104	Nov. 30/2009
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71-00-06	817-833-A01	P3 FAILURE - TROUBLESHOOTING	101 - 104	June 30/2018
71-00-06	817-835-A01	COLLECTIVE PITCH FAILURE AND P3 FAILURE - TROUBLESHOOTING	101 - 104	Nov. 30/2009
71-00-06	817-836-A01	RAW T4.5 FAILURE AND P3 FAILURE - TROUBLESHOOTING	101 - 104	Nov. 30/2009
71-00-06	817-837-A01	COLLECTIVE PITCH FAILURE, RAW T4.5 FAILURE AND P3 FAILURE - TROUBLESHOOTING	101 - 106	Nov. 30/2009
71-00-06	817-838-A01	T0 FAILURE AND P3 FAILURE - TROUBLESHOOTING	101 - 104	May 30/2011
71-00-06	817-839-A01	COLLECTIVE PITCH FAILURE, T0 FAILURE AND P3 FAILURE - TROUBLESHOOTING	101 - 104	Nov. 30/2009
71-00-06	817-840-A01	RAW T4.5 FAILURE, P3 FAILURE AND T0 FAILURE - TROUBLESHOOTING	101 - 104	Nov. 30/2009
71-00-06	817-841-A01	COLLECTIVE PITCH FAILURE, RAW T4.5 FAILURE, P3 FAILURE AND T0 FAILURE - TROUBLESHOOTING	101 - 106	Nov. 30/2009
71-00-06	817-842-A01	RAW TORQUE FAILURE - TROUBLESHOOTING	101 - 104	Nov. 30/2010
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71-00-06	817-855-A01	RAW TORQUE FAILURE, T4.5 CONFORMATION FAILURE AFTER POWER ON AND T4.5 CONFORMATION FAILURE BEFORE POWER ON - TROUBLESHOOTING	101 - 104	Nov. 30/2009
71-00-06	817-856-A01	TORQUE CONFORMATION FAILURE BEFORE POWER ON AND T4.5 CONFORMATION FAILURE AFTER POWER ON - TROUBLESHOOTING	101 - 104	Nov. 30/2009
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71-00-06	817-858-A01	TORQUE CONFORMATION FAILURE BEFORE POWER ON AND T4.5 CONFORMATION FAILURE BEFORE AND AFTER POWER ON - TROUBLESHOOTING	101 - 104	Nov. 30/2009
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## ARRIEL 2 C

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• FUEL VALVE RESOLVER FAILURE AND STEPPER MOTOR FAILURE - TROUBLESHOOTING	71-00-06	817-883-A01	
• BLEED VALVE POSITION INCONSISTENCY OR BLEED VALVE ANOMALY OBSERVED - TROUBLESHOOTING	71-00-06	817-884-A01	
• FUEL VALVE RESOLVER FAILURE AND BLEED VALVE FAILURE - TROUBLESHOOTING	71-00-06	817-886-A01	
• STEPPER MOTOR FAILURE AND BLEED VALVE FAILURE - TROUBLESHOOTING	71-00-06	817-887-A01	
• FUEL VALVE RESOLVER FAILURE, STEPPER MOTOR FAILURE AND BLEED VALVE FAILURE - TROUBLESHOOTING	71-00-06	817-888-A01	
• BALANCE LINK (ARINC 429) FAILURE - TROUBLESHOOTING	71-00-06	817-890-A01	
• BALANCE LINK FAILURE AND FUEL VALVE RESOLVER FAILURE - TROUBLESHOOTING	71-00-06	817-892-A01	
• BALANCE LINK FAILURE AND STEPPER MOTOR FAILURE - TROUBLESHOOTING	71-00-06	817-894-A01	
• BALANCE LINK FAILURE, FUEL VALVE RESOLVER FAILURE AND STEPPER MOTOR FAILURE - TROUBLESHOOTING	71-00-06	817-896-A01	
• BALANCE LINK FAILURE AND BLEED VALVE FAILURE - TROUBLESHOOTING	71-00-06	817-898-A01	
• BALANCE LINK FAILURE, BLEED VALVE FAILURE AND FUEL VALVE RESOLVER FAILURE - TROUBLESHOOTING	71-00-06	817-900-A01	
• BALANCE LINK FAILURE, BLEED VALVE FAILURE AND STEPPER MOTOR FAILURE - TROUBLESHOOTING	71-00-06	817-902-A01	
• BALANCE LINK FAILURE, BLEED VALVE FAILURE, FUEL VALVE RESOLVER FAILURE AND STEPPER MOTOR FAILURE - TROUBLESHOOTING	71-00-06	817-904-A01	
• N2 FAILURE (B ON THE HARNESS) - TROUBLESHOOTING	71-00-06	817-907-A01	
• N1 FAILURE (B ON THE SENSOR) - TROUBLESHOOTING	71-00-06	817-909-A01	
• N2 FAILURE (B ON THE HARNESS) AND N1 FAILURE (B ON THE SENSOR) - TROUBLESHOOTING	71-00-06	817-912-A01	
• N2 FAILURE (C ON THE HARNESS) - TROUBLESHOOTING	71-00-06	817-913-A01	

<u>Title</u>	<u>Chapter Section Subject</u>	<u>Task</u>	<u>Effectivity</u>
• N2 FAILURE (B ON THE HARNESS) AND N2 FAILURE (C ON THE HARNESS) - TROUBLESHOOTING	71-00-06	817-915-A01	
• N1 FAILURE (B ON THE SENSOR) AND N2 FAILURE (C ON THE HARNESS) - TROUBLESHOOTING	71-00-06	817-916-A01	
• N2 FAILURE (B ON THE HARNESS), N1 FAILURE (B ON THE SENSOR) AND N2 FAILURE (C ON THE HARNESS) - TROUBLESHOOTING	71-00-06	817-917-A01	
• N1 FAILURE (A ALTERNATOR ON THE HARNESS) - TROUBLESHOOTING	71-00-06	817-918-A01	
• N2 FAILURE (B ON THE HARNESS) AND N1 FAILURE ON THE ALTERNATOR ELECTRICAL CONNECTOR (ALTERNATEUR/ALTERNATOR ON THE HARNESS) - TROUBLESHOOTING	71-00-06	817-921-A01	
• N1 FAILURE (B ON THE SENSOR) AND N1 FAILURE ON THE ALTERNATOR ELECTRICAL CONNECTOR (ALTERNATEUR/ALTERNATOR ON THE HARNESS) - TROUBLESHOOTING	71-00-06	817-922-A01	
• N2 FAILURE (B ON THE HARNESS), N1 FAILURE (B ON THE SENSOR) AND N1 FAILURE (ALTERNATOR CONNECTOR) - TROUBLESHOOTING	71-00-06	817-923-A01	
• N2 FAILURE (C ON THE HARNESS) AND N1 FAILURE ON THE ALTERNATOR CONNECTOR (ALTERNATEUR/ALTERNATOR ON THE HARNESS) - TROUBLESHOOTING	71-00-06	817-924-A01	
• N2 FAILURE (B ON THE HARNESS), N2 FAILURE (C ON THE HARNESS) AND N1 FAILURE (ALTERNATOR) - TROUBLESHOOTING	71-00-06	817-925-A01	
• N1 FAILURE (B ON THE SENSOR), N2 FAILURE (C ON THE HARNESS) AND N1 FAILURE AT ALTERNATOR CONNECTOR (ALTERNATEUR/ALTERNATOR) - TROUBLESHOOTING	71-00-06	817-926-A01	
• N1 FAILURE (B ON THE SENSOR), N2 FAILURE (B ON THE HARNESS), N2 FAILURE (C ON THE HARNESS) AND N1 FAILURE AT ALTERNATOR CONNECTOR - TROUBLESHOOTING	71-00-06	817-927-A01	
• HELICOPTER P0 FAILURE - TROUBLESHOOTING	71-00-06	817-928-A01	

<u>Title</u>	<u>Chapter Section Subject</u>	<u>Task</u>	<u>Effectivity</u>
• NO HELICOPTER ARINC MESSAGE - TROUBLESHOOTING	71-00-06	817-929-A01	
• HELICOPTER P0 FAILURE AND NO HELICOPTER ARINC MESSAGE - TROUBLESHOOTING	71-00-06	817-930-A01	
• ALTERNATOR FAILURE - TROUBLESHOOTING	71-00-06	817-931-A01	
• HELICOPTER P0 FAILURE AND ALTERNATOR FAILURE - TROUBLESHOOTING	71-00-06	817-934-A01	
• NO HELICOPTER ARINC MESSAGE AND ALTERNATOR FAILURE - TROUBLESHOOTING	71-00-06	817-935-A01	
• HELICOPTER P0 FAILURE, NO HELICOPTER ARINC MESSAGE AND ALTERNATOR FAILURE - TROUBLESHOOTING	71-00-06	817-936-A01	
• 28 V FAILURE - TROUBLESHOOTING	71-00-06	817-937-A01	
• HELICOPTER P0 FAILURE AND 28 V FAILURE - TROUBLESHOOTING	71-00-06	817-940-A01	
• NO HELICOPTER ARINC MESSAGE AND 28 V FAILURE - TROUBLESHOOTING	71-00-06	817-941-A01	
• HELICOPTER P0 FAILURE, NO HELICOPTER ARINC MESSAGE AND 28 V FAILURE - TROUBLESHOOTING	71-00-06	817-942-A01	
• ALTERNATOR FAILURE AND 28 V FAILURE - TROUBLESHOOTING	71-00-06	817-943-A01	
• HELICOPTER P0 FAILURE, ALTERNATOR FAILURE AND 28 V FAILURE - TROUBLESHOOTING	71-00-06	817-944-A01	
• NO HELICOPTER ARINC MESSAGE, ALTERNATOR FAILURE AND 28 V FAILURE - TROUBLESHOOTING	71-00-06	817-945-A01	
• HELICOPTER P0 FAILURE, NO HELICOPTER ARINC MESSAGE, ALTERNATOR FAILURE AND 28 V FAILURE - TROUBLESHOOTING	71-00-06	817-946-A01	
• P0 INCONSISTENCY - TROUBLESHOOTING	71-00-06	817-948-A01	
• STOP ELECTRO-VALVE FAILURE - TROUBLESHOOTING	71-00-06	817-949-A01	
• P0 INCONSISTENCY AND STOP ELECTRO-VALVE FAILURE - TROUBLESHOOTING	71-00-06	817-951-A01	
• OVERSPEED PROTECTION FAILURE - TROUBLESHOOTING	71-00-06	817-955-A01	

<u>Title</u>	<u>Chapter Section Subject</u>	<u>Task</u>	<u>Effectivity</u>
• P0 INCONSISTENCY AND OVERSPEED PROTECTION FAILURE - TROUBLESHOOTING	71-00-06	817-956-A01	
• STOP ELECTRO-VALVE FAILURE AND OVERSPEED PROTECTION FAILURE - TROUBLESHOOTING	71-00-06	817-957-A01	
• P0 INCONSISTENCY, STOP ELECTRO-VALVE FAILURE AND OVERSPEED PROTECTION FAILURE - TROUBLESHOOTING	71-00-06	817-958-A01	
• REAL TIME SOFTWARE FAILURE - TROUBLESHOOTING	71-00-06	817-959-A01	
• P0 INCONSISTENCY AND REAL TIME SOFTWARE FAILURE - TROUBLESHOOTING	71-00-06	817-961-A01	
• STOP ELECTRO-VALVE FAILURE AND REAL TIME SOFTWARE FAILURE - TROUBLESHOOTING	71-00-06	817-962-A01	
• P0 INCONSISTENCY, STOP ELECTRO-VALVE FAILURE AND REAL TIME SOFTWARE FAILURE - TROUBLESHOOTING	71-00-06	817-963-A01	
• OVERSPEED PROTECTION FAILURE AND REAL TIME SOFTWARE FAILURE - TROUBLESHOOTING	71-00-06	817-969-A01	
• P0 INCONSISTENCY, OVERSPEED PROTECTION FAILURE AND REAL TIME SOFTWARE FAILURE - TROUBLESHOOTING	71-00-06	817-970-A01	
• STOP ELECTRO-VALVE FAILURE, OVERSPEED PROTECTION FAILURE AND REAL TIME SOFTWARE FAILURE - TROUBLESHOOTING	71-00-06	817-971-A01	
• P0 INCONSISTENCY, STOP ELECTRO-VALVE FAILURE, OVERSPEED PROTECTION FAILURE AND REAL TIME SOFTWARE FAILURE - TROUBLESHOOTING	71-00-06	817-972-A01	
• NON-CONFORMING FRAME FORMAT (LABEL 350, 351, 353) - TROUBLESHOOTING	71-00-06	817-973-A01	

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### TROUBLESHOOTING - INTRODUCTION

#### 1. GENERAL

This document contains some data extracted from the ARRIEL Maintenance Manual, chapter 71-00-06 - Trouble shooting.

It is devoted to the engine maintenance personnel for finding possible failures.

For Legibility purpose, this manual is divided up into 6 sections:

- Section 1: List of effective pages, contents
- Section 2: introduction, this section gives the manual Lay-out and the general
- Section 3: list of failures observed during use
- Section 4: List of failures observed during maintenance
- Section 5: List of FAU failure messages
- Section 6: maintenance tasks from the above lists.

These non exhaustive Lists and trouble shootings are drawn up and completed as experience is gained on the engine.

#### 2. ENGINE INDICATION IN THE COCKPIT

***NOTE:*** *For information – the positioning of engine indicators and controls can differ depending on the variants and type of helicopters.*

##### A. Description

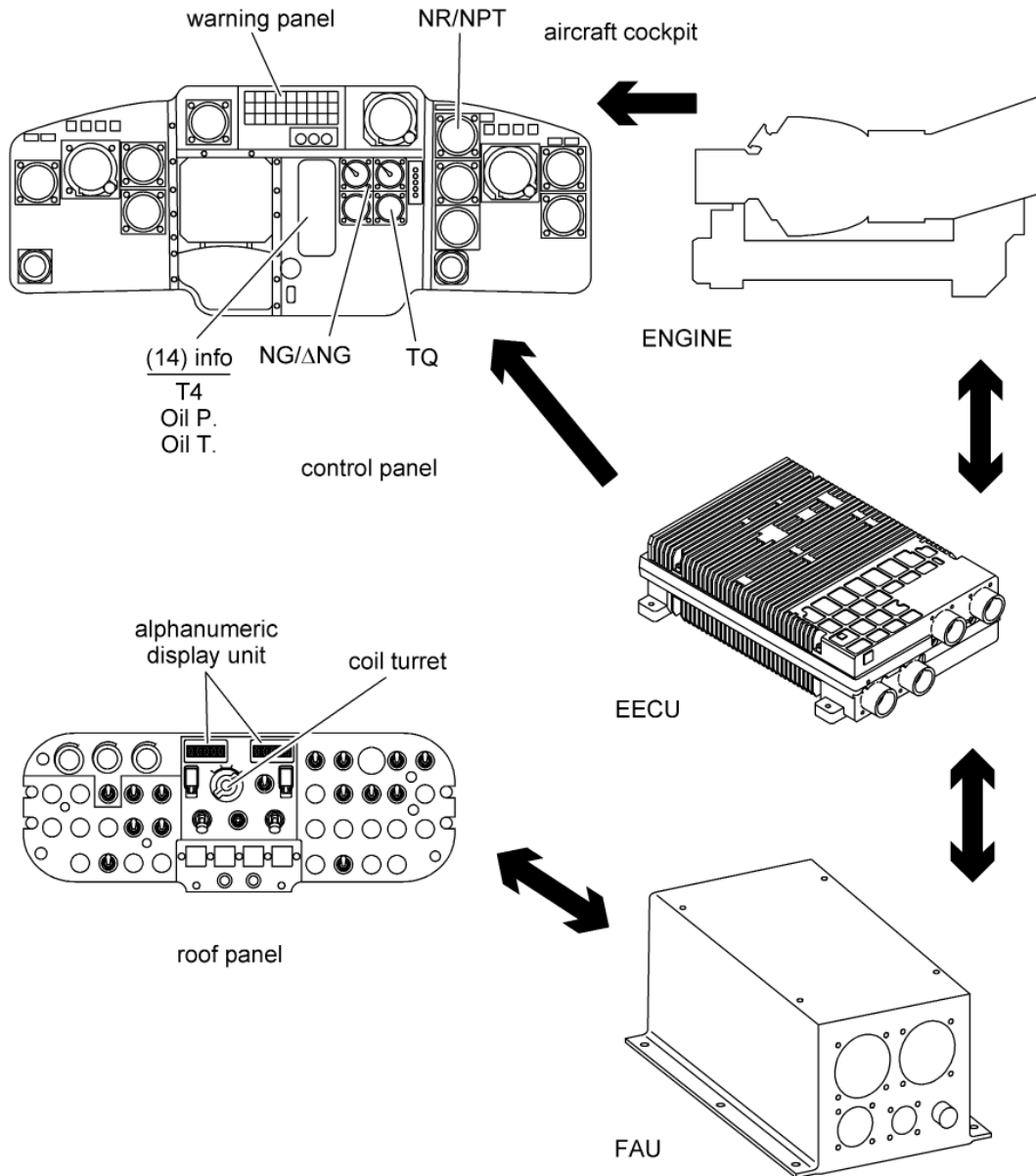
Refer to Figure 001

There are three main indication devices in the cockpit: two alphanumeric indicators (one per engine), the Central Warning Panel and the engine check instruments located on the instrument panel.

The two alphanumeric indicators, located on the overhead panel, give the data necessary to check the operation of each engine. The FAU, located in the hold, supplies this data (Failure Annunciator Unit).

The Central Warning Panel, located on the instrument panel, consists of a set of warning lights which alert the pilot in the event of an operation anomaly.

The engine check instruments, located on the instrument panel, consists of a set of indicators: 14 info panel, the torqueometer, the NR/2 NTL indicator and delta NG.



Engine indication in the cockpit - Description

Figure 001



### B. BAP

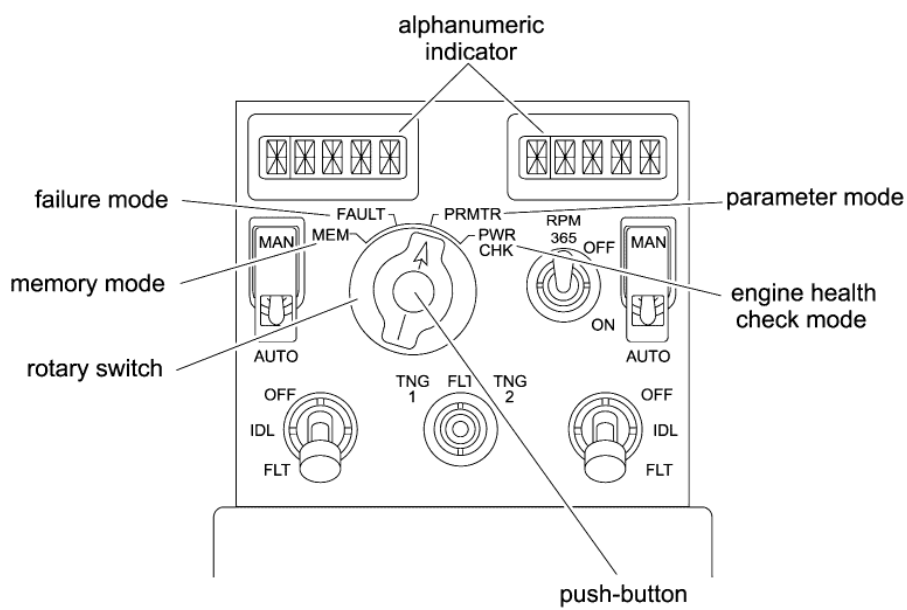
The FAU has 4 modes: Refer to Figure 002

- The failure mode
- The parameter mode
- The memory mode
- The engine health check mode.

The switch (rotary switch) which has a push-button is used to switch from one mode to another.

The push-button only operates for the memory and parameter modes. Each time this push-button is depressed, it causes the parameters of the menu to scroll.

Each alphanumeric indicator has 5 digits.



FAU - Operation

Figure 002

### (1) Failure mode

This mode enables the pilot or the maintenance teams to identify the failures that the DECU detects.

The alphanumeric indicators show the failure codes from the real time data as follows:

- The digital data, on the ARINC 429 bus bar
- The discrete data, supplied by the DECU
- The discrettes, supplied by the transmitters installed on the engine.

There is no storage in this mode. The display is refreshed and maintained from one frame to the other.

If one channel has several failures, the display performs in sequence every two seconds.

### (2) Parameter mode

This mode enables the pilot to display the engine parameters such as N1, T4.5, N2, P0, T0 etc... used by the control.

A parameter can be selected through its alphabetic code using the push-button:

- The code displays in the left digit
- The parameter value is displayed in the four right digits. It changes each time the related digital message appears.

This display remains on screen as long as the pilot has not selected another parameter.

### (3) Memory mode

This mode enables the pilot to read, after the flight, the data displayed during the flight.

At the end of the flight, after engine shut-down, the pilot or the mechanic can switch the rotary switch to "MEMORY" and make the recorded codes scroll using the push-button.

An identification letter is given for each memory on the left digit, the four right digits being used for the presentation of the parameters.

The parameters saved are overwritten at the next engine shut-down.

In flight, i.e N1 > 20%, the display is inhibited.

At each engine shut-down, (N1 = 40% decreasing), the FAU reads on the digital message.

The FAU stores:

- The DATA on the digital message
- The aircraft configuration
- The accumulated counting of starts (N1 = 40% increasing = + 1 start).

***NOTE: Particular case of the max. torque and max. T4.5, these two values are the max. values reached during the normal flight (no counting in the training mode).***

### (4) Engine health check mode

This mode enables to display the T4.5 and engine power limitations in relation to the engine.

The DECU makes the engine health check calculations.

The results are shown to the pilot on the alphanumeric indicators and are stored on the FAU where the maintenance teams can have access to the data using a mechanic's interface tool.

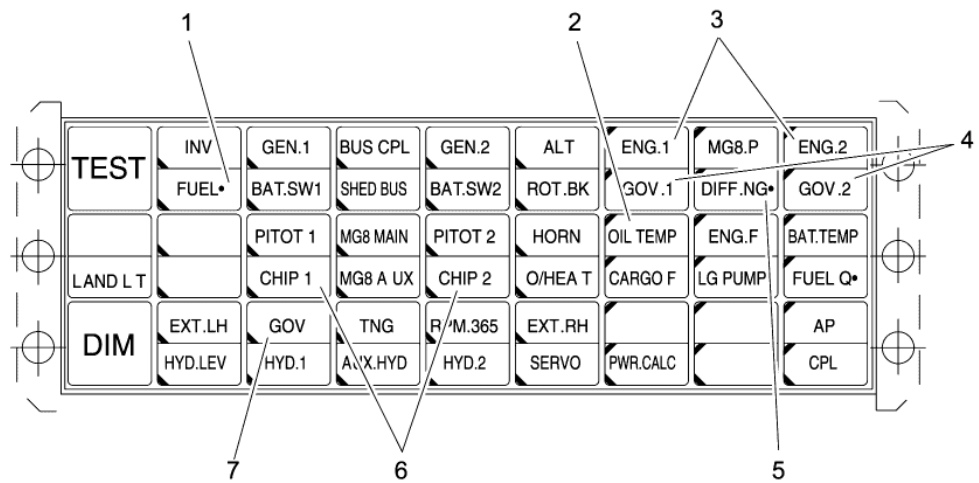
## C. Warning light table

Seven indicator lights of the warning light table inform of an operation anomaly of the engine. The engine indication system provides this data. Refer to Figure 003

**NOTE:** Red GOV and Amber GOV (solid) can appear every time (whatever the selector position). Flashing amber GOV appears when the selector leaves the FLIGHT position.  
The FUEL indicator light is associated with the two other indicator lights located on the fuel table.

FUEL and FILT	Amber	Pre-blockage of the fuel filter	Engine sensor
FUEL and FUEL P	Amber	Low fuel pressure	Engine sensor

<i>Indicator light</i>	<i>Designation</i>	<i>Color</i>	<i>Definition</i>	<i>Data from</i>
1	FUEL	Amber	Fuel system	Engine sensor
2	OIL TEMP	Red	Excessive engine oil temperature	Aircraft manufacturer system
3	ENG 1 and ENG 2	Red	Min. engine oil pressure	Engine sensor
4	GOV 1 and GOV 2	Red	Major failure or engine power anomaly	DECU
5	Diff. NG	Red	N1 deviation	"Power loss" board
6	CHIP 1 and CHIP 2	Amber	Chip detection	Engine sensor
7	GOV	Amber/Flashing amber	Control minor failure/Redundancy failure	DECU



Indicator lights of the warning light table

Figure 003

### 3. FAILURES OBSERVED DURING USE

The 3rd section of this manual gives the failures observed during use.

These failures are reported by the flight crew. They correspond either to a flight incident without indication to the instrument panel (surge for example), or to an indication on the alphanumeric indicators supplied by the FAU or on the warning light table showing the exceedance of the flight parameters (exceedance of the N2 limitations for example) or to an anomaly indicated by the control systems (lighting up of the magnetic plug indicator light for example).

The contents are divided up as follows:

1. The operation phase: power on, start, operation, shutdown.
2. The identification of the helicopter identification means: warning light table, FAU (see general).
3. The failure description.
4. The task number of the corresponding trouble shooting in the last section of the manual.

Exemple :

#### A. At power on (a)

<i>INDICATION (b)</i>		<i>DESCRIPTION (c)</i>	<i>TASK No.(d)</i>
<i>FAU</i>	<i>Warning lights</i>		
	Amber FUEL and FILT on	Pre-blockage signal of the fuel filtering element	71-00-06-811-801

### 4. FAILURES OBSERVED DURING MAINTENANCE

The 4th section of this manual gives the failures observed during maintenance.

The maintenance personnel find these failures following the periodic inspections or after the application of a test procedure.

The contents consist of:

1. The failure description.
2. The task number of the corresponding trouble shooting procedure in the last section of the manual.

Exemple:

<i>DESCRIPTION (a)</i>	<i>TASK No.(b)</i>
Fumes at the exhaust pipe	71-00-06-816-801

### 5. FAU FAILURE CODES

The 5th section of this manual gives the FAU failure codes of the engine.

The FAU displays the failures that the DECU detects. The FAU displays the codes according to the selected mode (failure mode, memory mode) and the engine rating (flight, shutdown).

#### A. Failure mode

- (1) In flight Refer to Figure 004

The failures are displayed in flight when they are detected.

There is no recording during engine shutdown. The failures detected by the DECU are transmitted to the FAU which displays them on the alphanumeric indicators. These are simple failure codes.

Example of detected failures, alphanumeric display:

	W	D	O	G
P	I	T	C	H
			T	4

This indication is associated with the lighting up of a GOV warning light which gives the effect of the failure on the operation of the DECU.

If a failure affects the main control law, the system uses the back-up law.

The main functions (N1 and N2 control, acceleration and deceleration control) are still ensured.

If a failure affects the main control law and the back-up law at the same time, the system cannot ensure the control, it automatically freezes the stepper motor.

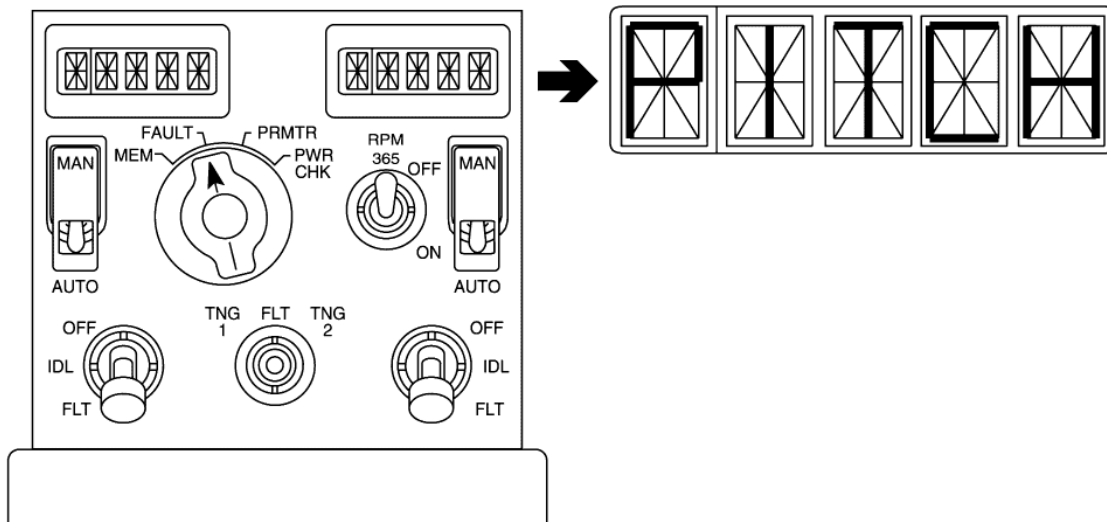
For each input signal, the DECU uses criteria to decide on the signal validity.

Three levels are indicated: Refer to Figure 005

- Level 3: Major failure (stepper motor frozen)
- Level 2: Minor failure (the operation of the system is degraded but the main functions are ensured)
- Level 1: Minor anomaly (loss of redundancy or of a related function and no effect on the engine operation).

Two warning lights indicate the failures: Red GOV and amber GOV:

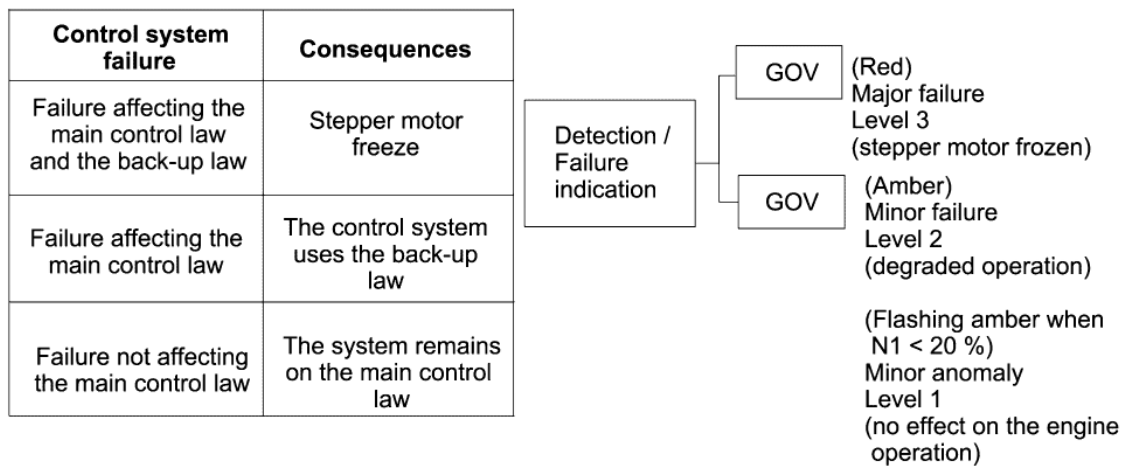
- Red GOV and Amber GOV (solid) can appear every time (whatever the selector position). Flashing amber GOV appears when the selector leaves the FLIGHT position.



Failure mode - In flight

Figure 004





Failure tolerance and indication

Figure 005

(2) Failure message contents for the failure mode

The contents consist of:

1. The identification of the helicopter indication means: the warning light table, the FAU (see general).
2. The failure description.
3. The task number of the corresponding trouble shooting procedure in the last section of the manual.

For example:

<i>INDICATION (a)</i>		<i>DESCRIPTION (b)</i>	<i>TASK No. (c)</i>
<i>FAU codes</i>	<i>GOV warning lights</i>		
WDOG	Red	Watchdog trip	71-00-06-817-801

### B. Memory mode

(1) Engine shutdown Refer to Figure 006

These failures which appeared during the flight are recorded by the FAU. The failure messages are no longer in the form of the failure mode (in alphanumeric).

The failures are displayed as follows:

A	0	0	0	0
---	---	---	---	---

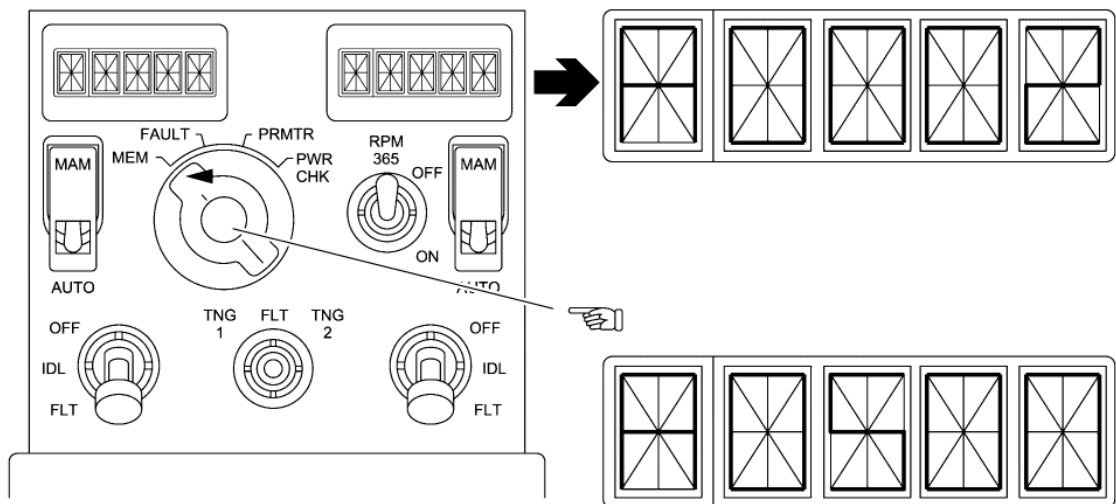
or

B	0	0	0	0
---	---	---	---	---

Two identification letters on the left digit are used to record the failure codes. On the other four digits, the failure code is displayed in the form of an hexadecimal code.

A	0	0	0	1
---	---	---	---	---

If several failure codes are recorded, the pilot or the mechanic can display them one by one using the push-button.



Memory mode - Engine shutdown

Figure 006

- (2) Contents of the failure messages for the memory mode

The contents consist of:

1. The identification of the helicopter indication means: warning light table, FAU (see general).
2. The failure description.
3. The task number of the corresponding trouble shooting procedure in the last section of the manual.

Example:

<i>INDICATION (a)</i>		<i>DESCRIPTION (b)</i>	<i>TASK No. (c)</i>
<i>FAU codes</i>	<i>GOV warning lights</i>		
A 0 0 0 1	Red	Watchdog trip	71-00-06-817-801

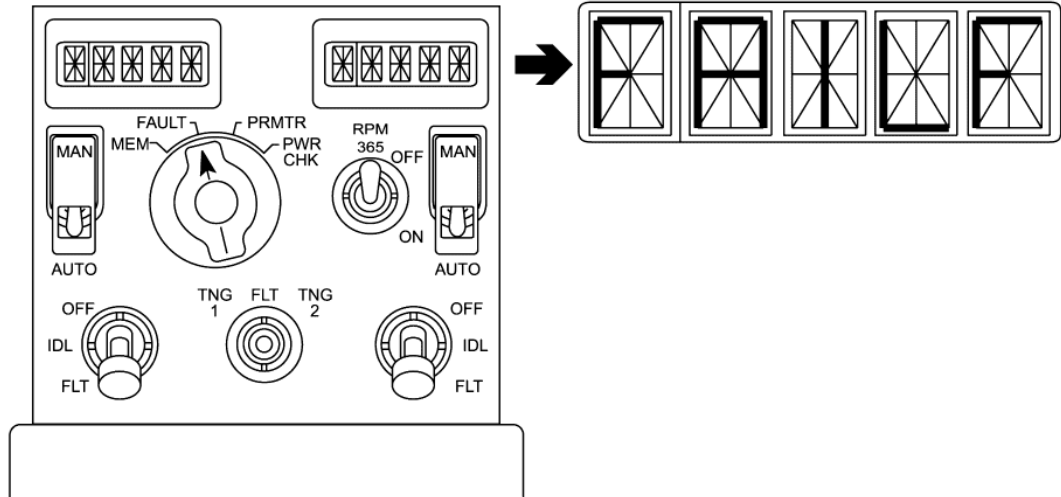
### C. Memory mode and failure mode

- (1) In flight or during engine shutdown Refer to Figure 007

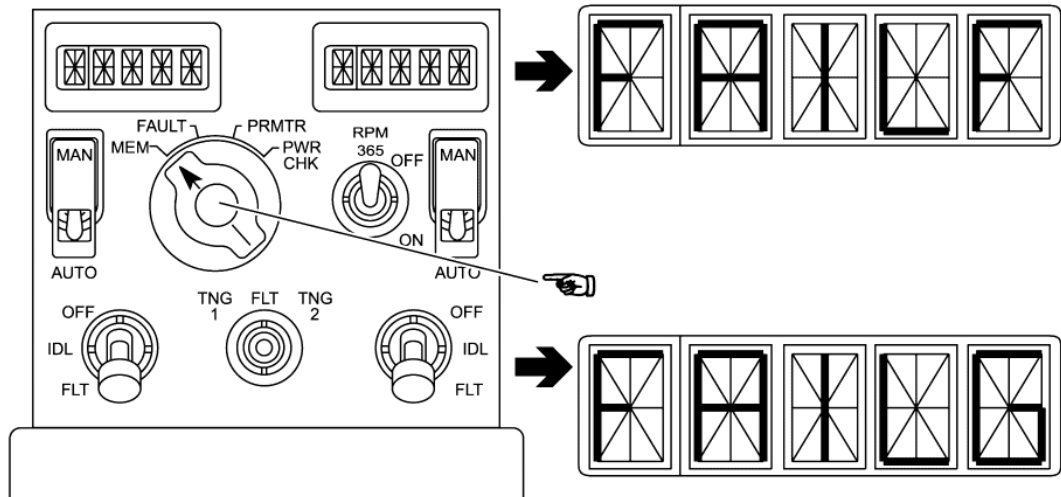
These failures are displayed in flight when they are detected by the FAU in the failure mode. During engine shutdown, the FAU records them and they can be displayed in the memory mode. The failure code displayed is identical in the failure mode and in the memory mode.

Example of display of the detected failures:

F	A	I	L	F
F	A	I	L	G



flight position



stop position

Memory mode and failure mode

Figure 007

- (2) Contents of the failure messages for the memory mode and the failure mode

The contents consist of:

1. The identification of the helicopter indication means: warning light table, FAU (see general).
2. The failure description.
3. The task number of the corresponding trouble shooting procedure in the last section of the manual

For example:

<i>INDICATION</i>	<i>DESCRIPTION</i>	<i>TASK No.</i>
<i>FAU codes</i>		
F A I L F	No LABEL 350	71-00-06-817-973

## 6. TROUBLE SHOOTING

The 6th section of this manual gives, in the form of trouble shooting, the tasks from the contents.

The descriptive part of the trouble shooting procedure is function of:

- The helicopter indication means: the warning light table, the FAU through the alphanumeric indicators
- The operation phase, power on, start, operation, shutdown for the failures observed during use
- The reference to the check, inspection or test tasks for the failures observed during maintenance
- The effects of the failure on the engine use for the FAU messages
- A reminder of the normal operating condition
- The list of components.

The failure handling, in the form of a tree, is developed by comparing the reliability data, the accessibility criteria and the complexity of check or test tasks of the concerned components.

***NOTE:*** *The trouble shooting which are in this manual only concern the engine section of the systems concerned.*

***NOTE:*** *Before you do any trouble shooting, make sure that all the checks and instructions have been respected.*

***NOTE:*** *Before you do any trouble shooting, make sure that all the procedures described in the flight manual are correctly applied.*

***NOTE:*** *Before you do any trouble shooting, make sure that the warning or indicator light is serviceable before you consider that the corresponding system is definitely defective.*

## 7. APPENDIX - PARAMETERS

### A. Complete diagnosis

In order to help you find the reasons for the failures, some parameters are available in the BAP in the parameter mode " PRMTR ".

Only press the scroll push-buttons to get the parameters that are identified by their alphabetic code.

Logical outputs 1 and 2 and logical inputs are available respectively to alphabetic codes B, C and D. The outputs and inputs are displayed in the hexadecimal form.

<b>PARAMETER MODE</b>		
<b>IDENTIFIER</b>	<b>NAMES</b>	<b>UNIT</b>
A	Torque	%
B	* Logical output 1	Hexa
C	* Logical output 2	Hexa
D	* Logical input	Hexa
E	* OEI 2min. rating	sec
F	* OEI 30s rating	sec
G	Engine P0	mbar
H	Engine T0	°C
J	* take off max NG	%
K	* Max 30 NG	%
L	* Helicopter speed	Kts
M	NG	%
N	NTL	%
P	NG deviation	%
R	Collective pitch	%
S	T4	°C
T	P3	bar
U	P0 helico	mbar
V	Blank	
W	Blank	
X	Blank	
Y	Blank	

### B. Designation of the messages

The designation of these messages is given in the tables below.

The hexadecimal codes displayed for letters B, C and D are state combinations:

Example : B 8804

This message " B 8804 " is divided into 4 different states:

B	8	–	–	–	Inhibited balancing
B	–	8	–	–	Increased two-engine stop
B	–	–	1	–	Control state: SHUTDOWN
B	–	–	–	4	Completed self-test

(1) Logical states visible in PRMTR mode at BAP

Default values:

<b>Letter</b>	<b>B</b>	<b>C</b>	<b>D</b>
	Logical outputs 1	Logical outputs 2	Logical inputs
GTM 1	8814	00 00	040C

<i>Letter</i>	<i>B</i>	<i>C</i>	<i>D</i>
GTM 2	8814	00 00	040C

(2) Logical outputs 1 Letter B

<i>Code</i>	<i>Designation</i>
0---	The bleed valve is not closed AND no overspeed is detected AND the control is not in proportional mode AND the balancing is not inhibited.
1---	Bleed valve closed.
2---	Overspeed detected.
3---	Bleed valve closed AND overspeed detected.
4---	Proportional mode.
5---	Bleed valve closed AND proportional mode.
6---	Overspeed detected AND proportional mode.
7---	Bleed valve closed AND overspeed detected AND proportional mode.
8---	Balancing inhibited.
9---	Bleed valve closed AND balancing inhibited.
A---	Overspeed detected AND balancing inhibited.
B---	Bleed valve closed AND overspeed detected AND balancing inhibited.
C---	Proportional mode AND balancing inhibited.
D---	Bleed valve closed AND proportional mode AND balancing inhibited.
E---	Overspeed detected AND proportional mode AND balancing inhibited.
F---	Bleed valve closed AND overspeed detected AND proportional mode AND balancing inhibited.
-0---	The control state is not ACCELERATION, FLIGHT, FLAMED OUT AND the two-engine stop is not increased.
-1---	Control state: ACCELERATION.
-2---	Control state: FLIGHT.
-3---	Control state: ACCELERATION AND control state: FLIGHT.
-4---	Control state: FLAME OUT.
-5---	Control state: ACCELERATION AND control state: FLAME OUT.
-6---	Control state: FLIGHT AND control state: FLAME OUT.
-7---	Control state: ACCELERATION AND control state: FLIGHT AND control state: FLAME OUT.
-8---	Two-engine stop increased.
-9---	Control state: ACCELERATION AND two-engine stop increased.
-A---	Control state: FLIGHT AND two-engine stop increased.
-B---	Control state: ACCELERATION AND control state: FLIGHT AND two-engine stop increased.
-C---	Control state: FLAME OUT AND two-engine stop increased.
-D---	Control state: ACCELERATION AND control state: FLAME OUT AND two-engine stop increased.
-E---	Control state: FLIGHT AND control state: FLAME OUT AND two-engine stop increased.
-F---	Control state: ACCELERATION AND control state: FLIGHT AND control state: FLAME OUT AND two-engine stop increased.
--0-	The control is different from SHUTDOWN, START, NG idle, FROST state.
--1-	Control state: SHUTDOWN.



<b>Code</b>	<b>Designation</b>
--2-	Control state: START.
--3-	Control state: SHUTDOWN AND control state: START.
--4-	Control state: NG IDLE
--5-	Control state: SHUTDOWN AND control state: NG IDLE.
--6-	Control state: START AND control state: NG IDLE.
--7-	Control state: SHUTDOWN AND control state: START AND control state: NG IDLE.
--8-	Control state: FROST.
--9-	Control state: SHUTDOWN AND control state: FROST.
--A-	Control state: START AND control state: FROST.
--B-	Control state: SHUTDOWN AND control state: START AND control state: FROST.
--C-	Control state: NG IDLE AND control state: FROST.
--D-	Control state: SHUTDOWN AND control state: NG IDLE AND control state: FROST.
--E-	Control state: START AND control state: NG IDLE AND control state: FROST.
--F-	Control state: SHUTDOWN AND control state: START AND control state: NG IDLE AND control state: FROST.
---0	The DECU is not in engine bench mode AND the self-test or the stepper engine test is not in progress AND the self-test is not completed AND the control is not at the initialization state.
---1	Engine bench mode.
---2	Self-test or stepper engine test in progress.
---3	Engine bench mode AND self-test or stepper engine test in progress.
---4	Self-test completed.
---5	Engine bench mode AND self-test completed.
---6	Self-test or stepper engine test in progress AND self-test completed.
---7	Engine bench mode AND self-test or stepper engine test in progress AND self-test completed.
---8	Control state: INITIALIZATION.
---9	Engine bench mode AND control state: INITIALIZATION.
---A	Self-test or stepper engine test in progress AND control state: INITIALIZATION.
---B	Engine bench mode AND self-test or stepper engine test AND control state: INITIALIZATION.
---C	Self-test completed AND control state: INITIALIZATION.
---D	Engine bench mode AND self-test completed AND control state: INITIALIZATION.
---E	Self-test or stepper engine test in progress AND self-test completed AND control state: INITIALIZATION.
---F	Engine bench mode AND self-test or stepper engine test in progress AND self-test completed AND control state: INITIALIZATION.

(3) Logical outputs 2 Letter C

<b>Code</b>	<b>Designation</b>
0---	No NG differential AND OEI 2min. stop not selected AND mixed mode not selected AND start accessories not controlled.
1---	NG differential.
2---	OEI 2min. stop selected.
3---	NG differential AND OEI 2min. stop selected.
4---	Mixed mode.
5---	NG differential AND mixed mode.
6---	OEI 2min. stop selected AND mixed mode.
7---	NG differential AND OEI 2min. stop selected AND mixed mode.
8---	Start accessories controlled.
9---	NG differential AND start accessories controlled.
A---	OEI 2min. stop selected AND start accessories controlled.
B---	NG differential AND OEI 2min. stop selected AND start accessories controlled.
C---	Mixed mode AND start accessories controlled.
D---	NG differential AND mixed mode AND start accessories controlled.
E---	OEI 2min. stop selected AND mixed mode AND start accessories controlled.
F---	NG differential AND OEI 2min. stop selected AND mixed mode AND start accessories controlled.
-0---	The 30s indicator light does not flash AND no total failure AND OEI continuous stop not selected AND OEI 30s stop not selected.
-1---	30s indicator light flashing.
-2---	Total failure.
-3---	30s indicator light flashing AND total failure.
-4---	OEI continuous stop selected.
-5---	30s indicator light flashing AND OEI continuous stop selected.
-6---	Total failure AND OEI continuous stop selected.
-7---	30s indicator light flashing AND total failure AND OEI continuous stop selected.
-8---	OEI 30s stop selected.
-9---	30s indicator light flashing AND OEI 30s stop selected.
-A---	Total failure AND OEI 30s stop selected.
-B---	30s indicator light flashing AND total failure AND OEI 30s stop selected.
-C---	OEI continuous stop selected AND OEI 30s stop selected.
-D---	30s indicator light flashing AND OEI continuous stop selected AND OEI 30s stop selected.
-E---	Total failure AND OEI continuous stop selected AND OEI 30s stop selected.
-F---	30s indicator light flashing AND total failure AND OEI continuous stop selected AND OEI 30s stop selected.
--0-	The 2min. indicator light does not flash AND the operation is not degraded AND no failure with no effect on the control AND NG or Torque not in the 30s limit.
--1-	2min. indicator light flashing.
--2-	Operation degraded.
--3-	2min. indicator light flashing AND operation degraded.
--4-	Failure with no effect on control.

<b>Code</b>	<b>Designation</b>
--5-	2min. indicator light flashing AND failure with no effect on control.
--6-	Operation degraded AND failure with no effect on control.
--7-	2min. indicator light flashing AND operation degraded AND failure with no effect on control.
--8-	NG or torque in 30s limit.
--9-	2min. indicator light flashing AND NG or torque in 30s limit.
--A-	Operation degraded AND NG or torque in 30s limit.
--B-	2min. indicator light flashing AND operation degraded AND NG or torque in 30s limit.
--C-	Failure with no effect on control AND NG or torque in 30s limit.
--D-	2min. indicator light flashing AND failure with no effect on control AND NG or torque in 30s limit.
--E-	Operation degraded AND failure with no effect on control AND NG or torque in 30s limit.
--F-	2min. indicator light flashing AND operation degraded AND failure with no effect on control AND NG or torque in 30s limit.
---0	The training flight is not selected AND the training idle is not selected AND the MANUAL mode is not selected AND NG or Torque is not in 2 min. limit.
---1	Training flight.
---2	Training idle.
---3	Training flight AND training idle.
---4	MANUAL mode.
---5	Training flight AND MANUAL mode.
---6	Training idle AND MANUAL mode.
---7	Training flight AND training idle AND MANUAL mode.
---8	NG or Torque in 2min. limit.
---9	Training flight AND NG or Torque in 2min. limit.
---A	Training idle AND NG or Torque in 2min. limit.
---B	Training flight AND training idle AND NG or Torque in 2min. limit.
---C	MANUAL mode AND NG or Torque in 2min. limit.
---D	Training flight AND MANUAL mode AND NG or Torque in 2min. limit.
---E	Training idle AND MANUAL mode AND NG or Torque in 2min. limit.
---F	Training flight AND training idle AND MANUAL mode AND NG or Torque in 2min. limit.

(4) Logical inputs Letter D

<b>Code</b>	<b>Designation</b>
0---	The Training idle input is not selected AND the OEI 2min. / OEI 30s stop is not selected AND the input SBR1 is not activated AND the sand filter is not active.
1---	Training idle selected.
2---	OEI 2min. / OEI 30s stop selected.
3---	Training idle selected AND OEI 2min. / OEI 30s stop selected.
4---	Logical input SBR1 selected.
5---	Training idle selected AND logical input SBR1 selected.
6---	OEI 2min. / OEI 30s stop AND logical input SBR1 selected.

<b>Code</b>	<b>Designation</b>
7---	Training idle selected AND OEI 2min. / OEI 30s stop AND logical input SBR1 selected.
8---	Sand filter active.
9---	Training idle selected AND sand filter active.
A---	OEI 2min. / OEI 30s stop selected AND sand filter active.
B---	Training idle selected AND OEI 2min. / OEI 30s stop selected AND sand filter active.
C---	Logical input SBR1 selected AND sand filter active.
D---	Training idle selected AND logical input SBR1 selected AND sand filter active.
E---	OEI 2min. / OEI 30s stop selected AND logical input SBR1 selected AND sand filter active.
F---	Training idle selected AND OEI 2min. / OEI 30s stop selected AND logical input SBR1 selected AND sand filter active.
-0---	The OEI continuous stop is not selected AND upper NTL instruction is not selected AND upper NTL instruction is not selected AND the bleed valve is closed AND the Training Flight input is not selected.
-1---	OEI continuous stop selected.
-2---	Upper NTL instruction activated.
-3---	OEI continuous stop selected AND upper NTL instruction activated.
-4---	Bleed valve in open position.
-5---	OEI continuous stop selected AND bleed valve in open position.
-6---	Upper NTL instruction activated AND bleed valve in open position.
-7---	OEI continuous stop selected AND upper NTL instruction activated AND bleed valve in open position.
-8---	Training flight selected.
-9---	OEI continuous stop selected AND Training flight selected.
-A---	Upper NTL instruction activated AND Training flight selected.
-B---	OEI continuous stop selected AND upper NTL instruction activated AND Training flight selected.
-C---	Bleed valve in open position AND Training flight selected.
-D---	OEI continuous stop selected AND bleed valve in open position AND Training flight selected.
-E---	Upper NTL instruction activated AND bleed valve in open position AND Training flight selected.
-F---	OEI continuous selected AND upper NTL instruction activated AND bleed valve in open position AND Training flight selected.
--0-	FLIGHT input not selected AND IDLE input not selected AND civil power software AND MANUAL mode not selected.
--1-	FLIGHT input selected.
--2-	IDLE input selected.
--3-	FLIGHT input selected AND IDLE input selected.
--4-	Military power software.
--5-	FLIGHT input selected AND military power software.
--6-	IDLE input selected AND military power software.
--7-	FLIGHT input selected AND IDLE input selected AND military power software.

Code	Designation
--8-	MANUAL mode selected.
--9-	FLIGHT input selected AND MANUAL mode selected.
--A-	IDLE input selected AND MANUAL mode selected.
--B-	FLIGHT input selected AND IDLE input selected AND MANUAL mode selected.
--C-	Military power software AND MANUAL mode selected.
--D-	FLIGHT input selected AND military power software AND MANUAL mode selected.
--E-	IDLE input selected AND military power software AND MANUAL mode selected.
--F-	FLIGHT input selected AND IDLE input selected AND military power software AND MANUAL mode selected.
---0	Position outside neutral notch AND SHUTDOWN input not selected.
---4	Neutral notch position.
---8	SHUTDOWN input selected.
---C	Neutral notch position AND SHUTDOWN input selected.

### 8. TASK NUMBERING

The standardized numbering of the task is an extension of the three-digit A.T.A. system. In this chapter, the numbering system has 5 groups of characters.

Example:

Task No.	71	00	06	811	801
Group	1	2	3	4	5

#### A. The group 1, 2, 3 gives the chapter, section, subject:

71 : turboshaft engine  
 00 : general  
 06 : subject order

#### B. The group 4 gives the type of maintenance function

The first two digit 81 are the code number of the maintenance program (trouble shooting).  
 The third digit in this group gives the engine operating phase when the failure is detected or its detection mode:

1 : Power on  
 2 : Start  
 3 : Transient rating  
 4 : During operation  
 6 : Check and inspection  
 7 : Failure message

#### C. The group 5 gives, to each group 4, a serial number from 801

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## LIST OF FAILURES FOUND DURING OPERATION

**CAUTION:** BEFORE THE REMOVAL OF THE ENGINE FROM THE AIRFRAME, (REFER TO TASK 71-02-16-280-801) "TREATMENT OF AN ENGINE/MODULE BEFORE RETURN TO A MAINTENANCE CENTER".

1. LIST

## A. At power on

INDICATION		DESIGNATION	TASK No.
Alarms on the FAU	Warning lights		
	Amber FUEL-FILT on	Pre-blockage signal of the fuel filtering element	71-00-06-811-801
	FUEL and amber FUEL P off	No low fuel pressure signal	71-00-06-811-802
	Red ALARM and ENG 1 or ENG 2 off	No low oil pressure signal	71-00-06-811-803
	Red GOV/Amber GOV Red GOV/Amber GOV Flashing amber GOV	Lighting up of the GOV warning light	71-00-06-811-804
	Red GOV	Lighting up of the GOV warning light	71-00-06-811-808

## B. At starting

INDICATION		DESIGNATION	TASK No.
Alarms on the FAU	Warning lights		
	Amber FUEL and FUEL P on	No extinguishing of the low fuel pressure signal	71-00-06-812-802
		T4.5 overtemperature	71-00-06-812-804
		Gas generator not driven	71-00-06-812-805
	ALARM and red ENG 1 or ENG 2 on	No extinguishing of the low oil pressure signal	71-00-06-812-806
		Aborted start - No ignition	71-00-06-812-807
		Aborted start - Stagnation	71-00-06-812-808
		Aborted start - Flame out	71-00-06-812-810
		Aborted start - Flames at the exhaust pipe	71-00-06-812-812
		No oil pressure rise at starting	71-00-06-812-813
		Helicopter rotor movement that occurs after the usual time during engine start	71-00-06-812-816

## C. Engine running

<i>INDICATION</i>		<i>DESIGNATION</i>	<i>TASK No.</i>
<i>Alarms on the FAU</i>	<i>Warning lights</i>		
		Surge	71-00-06-813-801
	Amber CHIP 1 or CHIP 2 on	Indicator light of the electrical magnetic plug on	71-00-06-814-801
	Amber FUEL and FILT on	Pre-blockage signal of the fuel filtering element	71-00-06-814-802
	Amber FUEL and FUEL P on	Low fuel pressure signal	71-00-06-814-803
		Torque limitations exceeded	71-00-06-814-805
		N1 limitations exceeded	71-00-06-814-806
O V S P	Red GOV, DIFF NG	N2 limitations exceeded	71-00-06-814-807
		Abnormal evolution of the oil pressure	71-00-06-814-808
	ALARM and red ENG 1 or ENG 2 on	Low oil pressure signal	71-00-06-814-809
	ALARM and red OIL TEMP on	Oil overtemperature	71-00-06-814-810
		Delta NG indication failure	71-00-06-814-813
Torque "FLI" indic.		Loss or fluctuation of torque indication	71-00-06-814-812

## D. Engine shutdown

<i>INDICATION</i>		<i>DESIGNATION</i>	<i>TASK No.</i>
<i>Alarms on the FAU</i>	<i>Warning lights</i>		
		Abnormal noise during the rundown phase	71-00-06-815-801
		Rundown time out of limit	71-00-06-815-802
	Amber FUEL and FUEL P off	No low fuel pressure signal	71-00-06-815-804
	ALARM and red ENG 1 or ENG 2 off	No low oil pressure signal	71-00-06-815-805
		Power turbine blocked	71-00-06-815-806



## LIST OF FAILURES FOUND DURING MAINTENANCE

**CAUTION:** BEFORE THE REMOVAL OF THE ENGINE FROM THE AIRFRAME,  
(REFER TO TASK 71-02-16-280-801) "TREATMENT OF AN ENGINE/MODULE BEFORE  
RETURN TO A MAINTENANCE CENTER".

1. **LIST**

## A. Failures observed during maintenance

<i>DESIGNATION</i>	<i>TASK No.</i>
Unusual noise during the rundown phase	71-00-06-815-801
Rundown time out of limit	71-00-06-815-802
Fumes at the exhaust pipe	71-00-06-816-801
Particles in the oil filtering element	71-00-06-816-803
Oil or fuel leakage	71-00-06-816-804
Out of tolerance fuel flow at the tank return pipe	71-00-06-816-805
Fuel filter clogging indicator popped out	71-00-06-816-806
Fuel dilution rate in oil not compliant	71-00-06-816-807
Incorrect operation of one of the ignition device lines	71-00-06-816-808
Bleed valve anomaly observed	71-00-06-817-884
Particles on a magnetic plug	71-00-06-816-810
Non conform oil consumption	71-00-06-816-811
Check of abnormal oil pressure	71-00-06-816-812
Popping out of the pre-blockage visual indicator of the oil filter	71-00-06-816-813
Oil leakage between M03 and M04	71-00-06-816-814
Vibration out of tolerance detected by the M'ARMS system	71-00-06-816-815
Engine power check - incorrect margin	71-00-06-816-819
Fuel odor in the cabin	71-00-06-816-821
Oil tank level slowly decreases after engine shut-down	71-00-06-816-833

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### LIST OF FAILURES CODES

#### 1. LIST OF THE FAU FAILURE CODES

##### A. Failure mode

<i>INDICATION</i>		<i>DESIGNATION</i>	<i>TASK No.</i>
<i>FAU codes</i>	<i>GOV warning lights</i>		
W D O G	Red	Watchdog trip	71-00-06-817-801
T R N G	Flashing amber	TNG selector failure	71-00-06-817-807
O N O F F	Red/Amber/Flashing amber	OFF/IDLE/ON selector failure	71-00-06-817-811
I A S \ H	Flashing amber	Helicopter speed input failure pre TU067C	71-00-06-817-815
	Amber	Helicopter/software configuration inconsistency post TU067C	71-00-06-817-815
P I T C H	Amber/Flashing amber	Collective pitch failure	71-00-06-817-823
T 4	Amber/Flashing amber	Raw T4.5 failure	71-00-06-817-825
T 1	Amber/Flashing amber	T0 failure	71-00-06-817-828
P 3	Amber	P3 failure	71-00-06-817-833
T Q	Amber	Raw torque failure	71-00-06-817-842
T 4 C A 1	Amber/Flashing amber	T4.5 conformation failure before power on	71-00-06-817-844
T Q C A 1	Amber	Torque conformation failure before power on	71-00-06-817-847
T 4 C A 2	Flashing amber	T4.5 conformation failure after power on	71-00-06-817-852
T Q C A 2	Flashing amber	Torque conformation failure after power on	71-00-06-817-860
E E C U	Flashing amber	DECU internal failure	71-00-06-817-861
F L O U T	Amber	P3 drift or flame-out	71-00-06-817-864
P 0 \ \ E	Amber/Flashing amber	Engine P0 failure	71-00-06-817-869
R E S O L	Red/Flashing amber	Fuel valve resolver failure pre TU067C	71-00-06-817-878
R E S O L	Red/Flashing amber	Fuel valve resolver failure post TU067C	71-00-06-817-878
M O T O R	Red	Stepper motor failure pre TU067C	71-00-06-817-880
M O T O R	Red	Stepper motor failure post TU067C	71-00-06-817-880
B L E E D	Amber	Bleed valve failure	71-00-06-817-884
E Q U I L	Amber	Balance link (ARINC 429) failure	71-00-06-817-890
N 2 \ \ C	Flashing amber/Red	N2 failure (B/harness)	71-00-06-817-907

INDICATION		DESIGNATION	TASK No.
FAU codes	GOV warning lights		
N 1 \ \ C	Flashing amber/Red	N1 failure (B/sensor)	71-00-06-817-909
N 2 \ \ B	Flashing amber/Red	N2 failure (C/harness)	71-00-06-817-913
N 1 \ \ B	Flashing amber/Red	N1 failure on the alternator electrical connector (alternateur/alternator on the harness)	71-00-06-817-918
P 0 \ \ H	Flashing amber/Amber	Helicopter P0 failure	71-00-06-817-928
B U S \ H	Amber	No helicopter ARINC message	71-00-06-817-929
A C P W R	Amber	Alternator failure	71-00-06-817-931
D C P W R	Red/Flashing amber	28 V failure	71-00-06-817-937
X P 0 \ \	Amber	P0 inconsistency	71-00-06-817-948
S H T O F	Amber	Stop electro-valve failure	71-00-06-817-949
O V S M N	Flashing amber	Overspeed protection failure	71-00-06-817-955
S O F T	Red	Real time software failure	71-00-06-817-959
O V S P	Red	Detected overspeed	71-00-06-814-807
A E O T Q	No GOV alarm	Torque limitation exceeded in twin-engine mode	71-00-06-814-805
O E I T Q	No GOV alarm	Torque limitation exceeded in single-engine mode	71-00-06-814-805

## B. Memory mode

### (1) Introduction

In memory mode, failure messages are displayed as follows:

A XXXX or B XXXX, where XXXX is a hexadecimal number.

A failure message can group together different failure codes, either on different digit or on the same.

- Failures codes on different digit:

FAILURE MESSAGE	DESCRIPTION
A 0001	WATCHDOG TRIP
A 0010	COLLECTIVE PITCH FAILURE
A 0011	= A 0001 + A 0010 => WATCHDOG TRIP and COLLECTIVE PITCH FAILURE

- Failures code on the same digit:

A single failure can be associated with the values 1, 2, 4 or 8.

In case of multiple failure indicated on the same digit, the failure message correspond to the sum of all the single failure.

FAILURE MESSAGE	DESCRIPTION
A 0001	WATCHDOG TRIP

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<b>FAILURE MESSAGE</b>	<b>DESCRIPTION</b>
A 0002	TNG SELECTOR FAILURE
A 0003	= A 0001 + A 0002 => WATCHDOG TRIP and TNG SELECTOR FAILURE

- We remind you that to hexadecimal code, 10 will be displayed as A, 11 as B, 12 as C, 13 as D, 14 as E and 15 as F.

<b>FAILURE MESSAGE</b>	<b>DESCRIPTION</b>
A 0001	WATCHDOG TRIP
A 0002	TNG SELECTOR FAILURE
A 0008	HELICOPTER SPEED INPUT FAILURE
A 000B	= A 0001 + A 0002 + A 0008 => WATCHDOG TRIP and TNG SELECTOR FAILURE and HELICOPTER SPEED INPUT FAILURE

### (2) Failure code

<b>Indication</b>		<b>Failure identification</b>	<b>Task No.</b>
<b>AVIONIC DISPLAY</b>	<b>Warning indicator lights</b>		
A 0 0 0 1	Red	Watchdog trip	71-00-06-817-801
A 0 0 0 2	Flashing amber	TNG selector failure	71-00-06-817-805
A 0 0 0 3	Red	Watchdog trip and TNG selector failure	71-00-06-817-805
A 0 0 0 4	Red/Amber/Flashing amber	OFF/IDLE/ON selector failure	71-00-06-817-808
A 0 0 0 5	Red	Watchdog trip and OFF/IDLE/ON selector failure	71-00-06-817-808
A 0 0 0 6	Red/Amber/Flashing amber	TNG selector failure and OFF/IDLE/ON selector failure	71-00-06-817-812
A 0 0 0 7	Red	Watchdog trip, TNG selector failure and OFF/IDLE/ON selector failure	71-00-06-817-813
A 0 0 0 8	Flashing amber	Helicopter speed input failure	71-00-06-817-815
A 0 0 0 9	Red	Watchdog trip and Helicopter speed input failure	71-00-06-817-816
A 0 0 0 A	Flashing amber	TNG selector failure and Helicopter speed input failure	71-00-06-817-817

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<i>Indication</i>		<i>Failure identification</i>	<i>Task No.</i>
<i>AVIONIC DISPLAY</i>	<i>Warning indicator lights</i>		
A 0 0 0 B	Red	Watchdog trip, TNG selector failure and Helicopter speed input failure	71-00-06-817-818
A 0 0 0 C	Red/Amber/Flashing amber	OFF/IDLE/ON selector failure and Helicopter speed input failure	71-00-06-817-819
A 0 0 0 D	Red	Watchdog trip, OFF/IDLE/ON selector failure and Helicopter speed input failure	71-00-06-817-820
A 0 0 0 E	Red/Amber/Flashing amber	TNG selector failure, OFF/IDLE/ON selector failure and Helicopter speed input failure	71-00-06-817-821
A 0 0 0 F	Red	Watchdog trip, TNG selector failure, OFF/IDLE/ON selector failure and Helicopter speed input failure	71-00-06-817-822
A 0 0 1 0	Amber/Flashing amber	Collective pitch failure	71-00-06-817-823
A 0 0 2 0	Amber/Flashing amber	Raw T4.5 failure	71-00-06-817-825
A 0 0 3 0	Amber/Flashing amber	Collective pitch failure and Raw T4.5 failure	71-00-06-817-827
A 0 0 4 0	Amber/Flashing amber	T0 failure	71-00-06-817-828
A 0 0 5 0	Amber/Flashing amber	Collective pitch failure and T0 failure	71-00-06-817-830
A 0 0 6 0	Amber/Flashing amber	Raw T4.5 failure and T0 failure	71-00-06-817-831
A 0 0 7 0	Amber/Flashing amber	Collective pitch failure, Raw T4.5 failure and T0 failure	71-00-06-817-832
A 0 0 8 0	Amber	P3 failure	71-00-06-817-833
A 0 0 9 0	Amber	Collective pitch failure and P3 failure	71-00-06-817-835
A 0 0 A 0	Amber	Raw T4.5 failure and P3 failure	71-00-06-817-836
A 0 0 B 0	Amber	Collective pitch failure, Raw T4.5 failure and P3 failure	71-00-06-817-837
A 0 0 C 0	Red	T0 failure and P3 failure	71-00-06-817-838

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<i>Indication</i>		<i>Failure identification</i>	<i>Task No.</i>
<i>AVIONIC DISPLAY</i>	<i>Warning indicator lights</i>		
A 0 0 D 0	Red	Collective pitch failure, T0 failure and P3 failure	71-00-06-817-839
A 0 0 E 0	Red	Raw T4.5 failure, T0 failure and P3 failure	71-00-06-817-840
A 0 0 F 0	Red	Collective pitch failure, Raw T4.5 failure, T0 failure and P3 failure	71-00-06-817-841
A 0 1 0 0	Amber	Raw torque failure	71-00-06-817-842
A 0 2 0 0	Amber/Flashing amber	T4.5 conformation failure before power on	71-00-06-817-844
A 0 3 0 0	Amber	Raw torque failure and T4.5 conformation failure before power on	71-00-06-817-846
A 0 4 0 0	Amber	Torque conformation failure before power on	71-00-06-817-847
A 0 5 0 0	Amber	Raw torque failure and Torque conformation failure before power on	71-00-06-817-849
A 0 6 0 0	Amber	T4.5 conformation failure before power on and Torque conformation failure before power on	71-00-06-817-850
A 0 7 0 0	Amber	Raw torque failure, T4.5 conformation failure before power on and Torque conformation failure before power on	71-00-06-817-851
A 0 8 0 0	Flashing amber	T4.5 conformation failure after power on	71-00-06-817-852
A 0 9 0 0	Amber	Raw torque failure and T4.5 conformation failure after power on	71-00-06-817-853
A 0 A 0 0	Amber/Flashing amber	T4.5 conformation failure before power on and T4.5 conformation failure after power on	71-00-06-817-854
A 0 B 0 0	Amber	Raw torque failure, T4.5 conformation failure after power on and T4.5 conformation failure before power on	71-00-06-817-855

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

<i>Indication</i>		<i>Failure identification</i>	<i>Task No.</i>
<i>AVIONIC DISPLAY</i>	<i>Warning indicator lights</i>		
A 0 C 0 0	Amber	Torque conformation failure before power on and T4.5 conformation failure after power on	71-00-06-817-856
A 0 D 0 0	Amber	Raw torque failure, Torque conformation failure before power on and T4.5 conformation failure after power on	71-00-06-817-857
A 0 E 0 0	Amber	T4.5 conformation failure before power on, Torque conformation failure before power on and T4.5 conformation failure after power on	71-00-06-817-858
A 0 F 0 0	Amber	Raw torque failure, T4.5 conformation failure before power on, Torque conformation failure before power on and T4.5 conformation failure after power on	71-00-06-817-859
A 1 0 0 0	Flashing amber	Torque conformation failure after power on	71-00-06-817-860
A 2 0 0 0	Flashing amber	DECU internal failure	71-00-06-817-861
A 3 0 0 0	Flashing amber	Torque conformation failure after power on and DECU internal failure	71-00-06-817-863
A 4 0 0 0	Amber	P3 drift or flame-out	71-00-06-817-864
A 5 0 0 0	Amber	Torque conformation failure after power on and P3 drift or flame-out	71-00-06-817-866
A 6 0 0 0	Amber	DECU internal failure and P3 drift or flame-out	71-00-06-817-867
A 7 0 0 0	Amber	Torque conformation failure after power on, DECU internal failure and P3 drift or flame-out	71-00-06-817-868
A 8 0 0 0	Amber/Flashing amber	Engine P0 failure	71-00-06-817-869
A 9 0 0 0	Amber/Flashing amber	Torque conformation failure after power on and Engine P0 failure	71-00-06-817-871



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

<i>Indication</i>		<i>Failure identification</i>	<i>Task No.</i>
<i>AVIONIC DISPLAY</i>	<i>Warning indicator lights</i>		
A A 0 0 0	Amber/Flashing amber	DECU internal failure and Engine P0 failure	71-00-06-817-872
A B 0 0 0	Amber/Flashing amber	Torque conformation failure after power on, DECU internal failure and Engine P0 failure	71-00-06-817-873
A C 0 0 0	Red/Amber	P3 drift or flame-out and Engine P0 failure	71-00-06-817-874
A D 0 0 0	Red/Amber	Torque conformation failure after power on, P3 drift or flame-out and Engine P0 failure	71-00-06-817-875
A E 0 0 0	Red/Amber	DECU internal failure, P3 drift or flame-out and Engine P0 failure	71-00-06-817-876
A F 0 0 0	Red/Amber	Torque conformation failure after power on, DECU internal failure, P3 drift or flame-out and Engine P0 failure	71-00-06-817-877
B 0 0 0 1	Red/Flashing amber	Fuel valve resolver failure	71-00-06-817-878
B 0 0 0 2	Red	Stepper motor failure	71-00-06-817-880
B 0 0 0 3	Red	Fuel valve resolver failure and Stepper motor failure	71-00-06-817-883
B 0 0 0 4	Amber	Bleed valve failure	71-00-06-817-884
B 0 0 0 5	Red/Amber	Fuel valve resolver failure and Bleed valve failure	71-00-06-817-886
B 0 0 0 6	Red	Stepper motor failure and Bleed valve failure	71-00-06-817-887
B 0 0 0 7	Red	Fuel valve resolver failure, Stepper motor failure and Bleed valve failure	71-00-06-817-888
B 0 0 0 8	Amber	Balance link (ARINC 429) failure	71-00-06-817-890
B 0 0 0 9	Red/Amber	Fuel valve resolver failure and Balance link failure	71-00-06-817-892

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

<i>Indication</i>		<i>Failure identification</i>	<i>Task No.</i>
<i>AVIONIC DISPLAY</i>	<i>Warning indicator lights</i>		
B 0 0 0 A	Red	Stepper motor failure and Balance link failure	71-00-06-817-894
B 0 0 0 B	Red	Fuel valve resolver failure, Stepper motor failure and Balance link failure	71-00-06-817-896
B 0 0 0 C	Amber	Bleed valve failure and Balance link failure	71-00-06-817-898
B 0 0 0 D	Red/Amber	Fuel valve resolver failure, Bleed valve failure and Balance link failure	71-00-06-817-900
B 0 0 0 E	Red	Stepper motor failure, Bleed valve failure and Balance link failure	71-00-06-817-902
B 0 0 0 F	Red	Fuel valve resolver failure, Stepper motor failure, Bleed valve failure and Balance link failure	71-00-06-817-904
B 0 0 1 0	Flashing amber	N2 failure (B/harness)	71-00-06-817-907
B 0 0 2 0	Flashing amber	N1 failure (B/sensor)	71-00-06-817-909
B 0 0 3 0	Flashing amber	N2 failure (B/harness) and N1 failure (B/sensor)	71-00-06-817-912
B 0 0 4 0	Flashing amber	N2 failure (C/harness)	71-00-06-817-913
B 0 0 5 0	Red	N2 failure (B/harness) and N2 failure (C/harness)	71-00-06-817-915
B 0 0 6 0	Flashing amber	N1 failure (B/sensor) and N2 failure (C/harness)	71-00-06-817-916
B 0 0 7 0	Red	N2 failure (B/harness), N1 failure (B/sensor) and N2 failure (C/harness)	71-00-06-817-917
B 0 0 8 0	Flashing amber	N1 failure on the alternator electrical connector (Alternateur/ Alternator on the harness)	71-00-06-817-918

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

<i>Indication</i>		<i>Failure identification</i>	<i>Task No.</i>
<i>AVIONIC DISPLAY</i>	<i>Warning indicator lights</i>		
B 0 0 9 0	Flashing amber	N2 failure (B/harness) and N1 failure on the alternator electrical connector (Alternateur/ Alternator on the harness)	71-00-06-817-921
B 0 0 A 0	Red	N1 failure (B/sensor) and N1 failure on the alternator electrical connector (Alternateur/ Alternator on the harness)	71-00-06-817-922
B 0 0 B 0	Red	N2 failure (B/harness), N1 failure (B/sensor) and N1 failure on the alternator electrical connector (Alternateur/ Alternator on the harness)	71-00-06-817-923
B 0 0 C 0	Flashing amber	N2 failure (C/harness) and N1 failure on the alternator electrical connector (Alternateur/ Alternator on the harness)	71-00-06-817-924
B 0 0 D 0	Red	N2 failure (B/harness), N2 failure (C/harness) and N1 failure on the alternator electrical connector (Alternateur/ Alternator on the harness)	71-00-06-817-925
B 0 0 E 0	Red	N1 failure (B/sensor), N2 failure (C/harness) and N1 failure on the alternator electrical connector (Alternateur/ Alternator on the harness)	71-00-06-817-926
B 0 0 F 0	Red	N2 failure (B/harness), N1 failure (B/sensor), N2 failure (C/harness) and N1 failure on the alternator electrical connector (Alternateur/ Alternator on the harness)	71-00-06-817-927

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

<i>Indication</i>		<i>Failure identification</i>	<i>Task No.</i>
<i>AVIONIC DISPLAY</i>	<i>Warning indicator lights</i>		
B 0 1 0 0	Amber/Flashing amber	Helicopter P0 failure	71-00-06-817-928
B 0 2 0 0	Amber	No helicopter ARINC message	71-00-06-817-929
B 0 3 0 0	Amber	Helicopter P0 failure and No helicopter ARINC message	71-00-06-817-930
B 0 4 0 0	Flashing amber	Alternator failure	71-00-06-817-931
B 0 5 0 0	Amber	Helicopter P0 failure and Alternator failure	71-00-06-817-934
B 0 6 0 0	Amber	No helicopter ARINC message and Alternator failure	71-00-06-817-935
B 0 7 0 0	Amber	Helicopter P0 failure, No helicopter ARINC message and Alternator failure	71-00-06-817-936
B 0 8 0 0	Red/Flashing amber	28 V failure	71-00-06-817-937
B 0 9 0 0	Red/Amber/Flashing amber	Helicopter P0 failure and 28 V failure	71-00-06-817-940
B 0 A 0 0	Red/Amber	No helicopter ARINC message and 28 V failure	71-00-06-817-941
B 0 B 0 0	Red/Amber	Helicopter P0 failure, No helicopter ARINC message and 28 V failure	71-00-06-817-942
B 0 C 0 0	Red	Alternator failure and 28 V failure	71-00-06-817-943
B 0 D 0 0	Red	Helicopter P0 failure, Alternator failure and 28 V failure	71-00-06-817-944
B 0 E 0 0	Red	No helicopter ARINC message, Alternator failure and 28 V failure	71-00-06-817-945
B 0 F 0 0	Red	Helicopter P0 failure, No helicopter ARINC message, Alternator failure and 28 V failure	71-00-06-817-946
B 1 0 0 0	Amber	P0 inconsistency	71-00-06-817-948
B 2 0 0 0	Amber	Stop electrovalve failure	71-00-06-817-949

<i>Indication</i>		<i>Failure identification</i>	<i>Task No.</i>
<i>AVIONIC DISPLAY</i>	<i>Warning indicator lights</i>		
B 3 0 0 0	Amber	P0 inconsistency and stop electrovalve failure	71-00-06-817-951
B 4 0 0 0	Flashing amber	Overspeed protection failure	71-00-06-817-955
B 5 0 0 0	Amber/Flashing amber	P0 inconsistency and overspeed protection failure	71-00-06-817-956
B 6 0 0 0	Amber/Flashing amber	Stop electro valve failure and Overspeed protection failure	71-00-06-817-957
B 7 0 0 0	Amber/Flashing amber	P0 inconsistency, Stop electrovalve failure and Overspeed protection failure	71-00-06-817-958
B 8 0 0 0	Red	Real time software failure	71-00-06-817-959
B 9 0 0 0	Red	P0 inconsistency and Real time software failure	71-00-06-817-961
B A 0 0 0	Red/Flashing amber	Stop electrovalve failure and Real time software failure	71-00-06-817-962
B B 0 0 0	Red/Amber	P0 inconsistency, Stop electrovalve failure and Real time software failure	71-00-06-817-963
B C 0 0 0	Red/Flashing amber	Overspeed protection failure and Real time software failure	71-00-06-817-969
B D 0 0 0	Red/Flashing amber	P0 inconsistency, and Real time software failure	71-00-06-817-970
B E 0 0 0	Red/Amber	Stop electrovalve failure, Overspeed protection failure and Real time software failure	71-00-06-817-971
B F 0 0 0	Red/Amber	P0 inconsistency, Stop electrovalve failure, Overspeed protection failure and Real time software failure	71-00-06-817-972

### C. Memory mode and failure

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

<i>INDICATION</i>					<i>DESIGNATION</i>	<i>TASK No.</i>
<i>FAU codes</i>						
F	A	I	L	F	No LABEL 350	71-00-06-817- 973
F	A	I	L	G	No LABEL 351	71-00-06-817- 973
F	A	I	L	H	Parity error 350	71-00-06-817- 973
F	A	I	L	I	Parity error 351	71-00-06-817- 973
F	A	I	L	J	SSM not valid on LABEL 350	71-00-06-817- 973
F	A	I	L	K	SSM not valid on LABEL 351	71-00-06-817- 973
F	A	I	L	R	SSM not valid on LABEL 353	71-00-06-817- 973
F	A	I	L	S	No LABEL 353	71-00-06-817- 973
F	A	I	L	T	Parity error 353	71-00-06-817- 973

TASK 71-00-06-811-801-A01

### FUEL FILT ON - PRE-BLOCKAGE SIGNAL OF THE FUEL FILTERING ELEMENT TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
AT POWER ON		Amber FUEL and FILT on

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

At power on, the FUEL light is on and FILT light is off.

##### C. POSSIBLE CAUSES

- Pre-blockage pressure switch of the fuel filter
- Control and monitoring harness
- Aircraft

#### 2. PROCEDURE

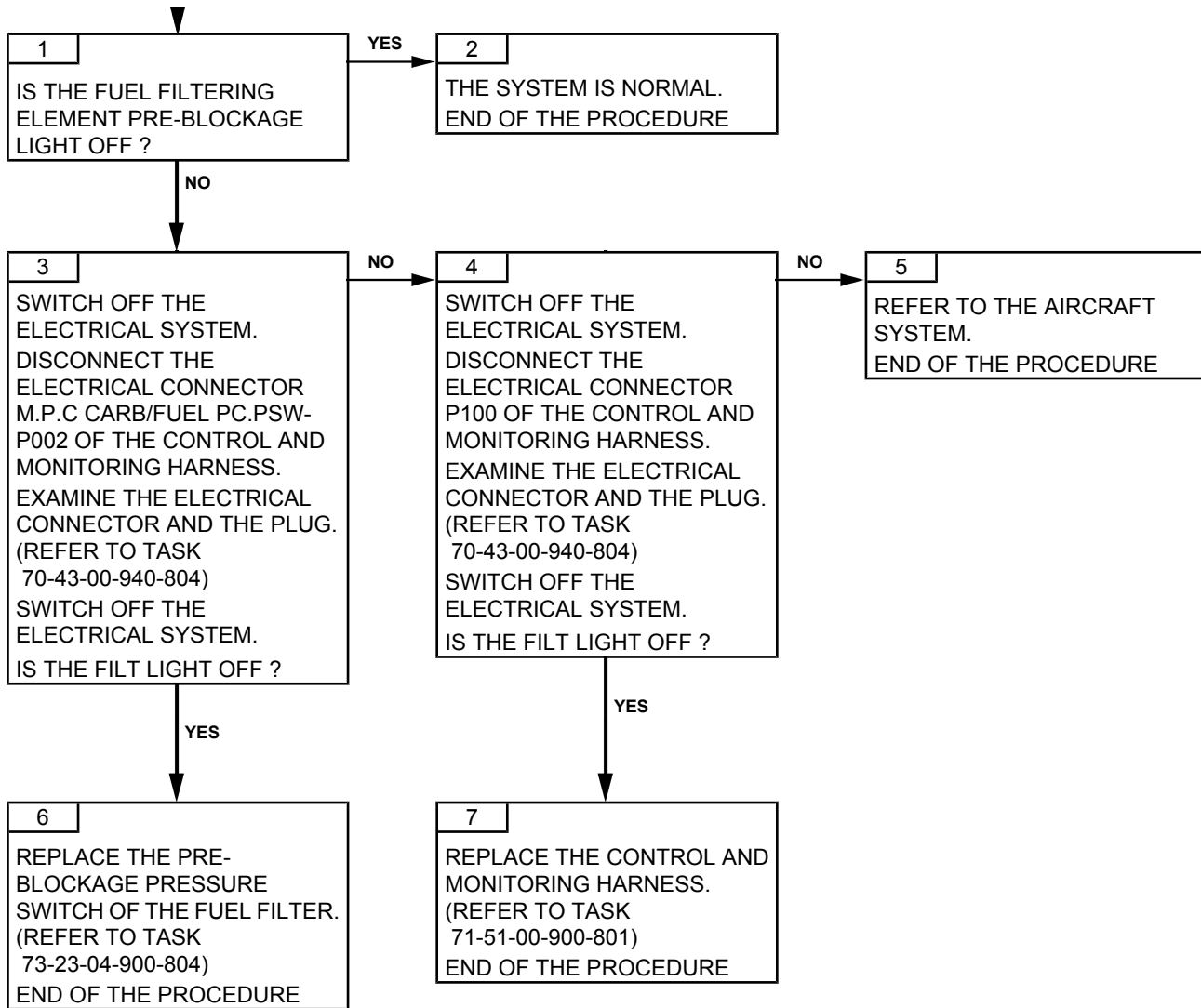
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Effectivity: C

Failures observed during engine operation

# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation



TASK 71-00-06-811-802-A01

### FUEL P OFF - NO LOW FUEL PRESSURE SIGNAL TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
AT POWER ON		Amber FUEL and FUEL P off

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

At power on, the amber FUEL and FUEL P must be on.

##### C. POSSIBLE CAUSES

- Low fuel pressure-switch
- Control and monitoring harness
- Aircraft

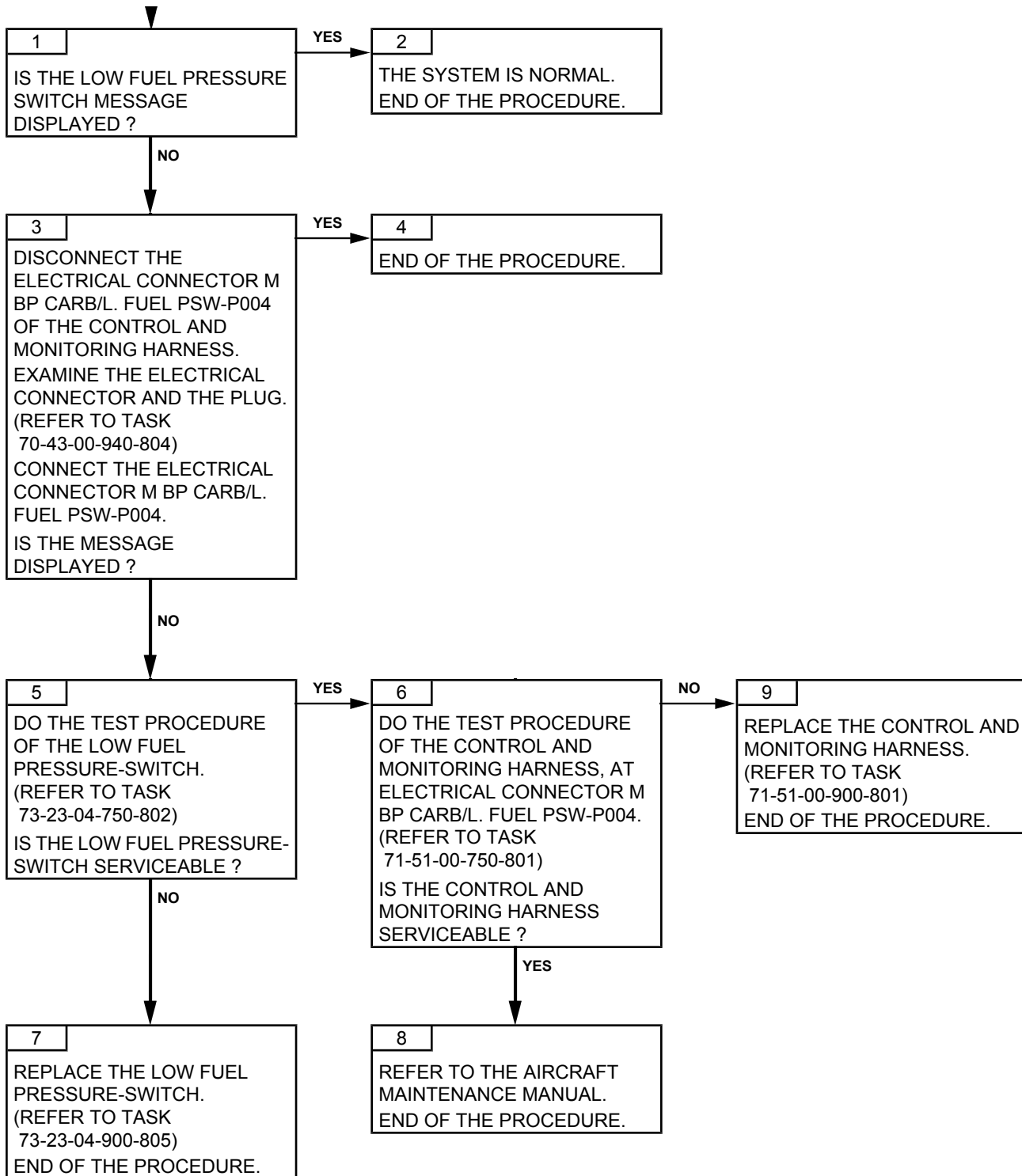
#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation

TASK 71-00-06-811-803-A01

### ENG P OFF - NO LOW OIL PRESSURE SIGNAL TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
AT POWER ON		Red ENG 1 or ENG 2 off

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

At power on, the red ENG 1 or ENG 2 lights must be on.

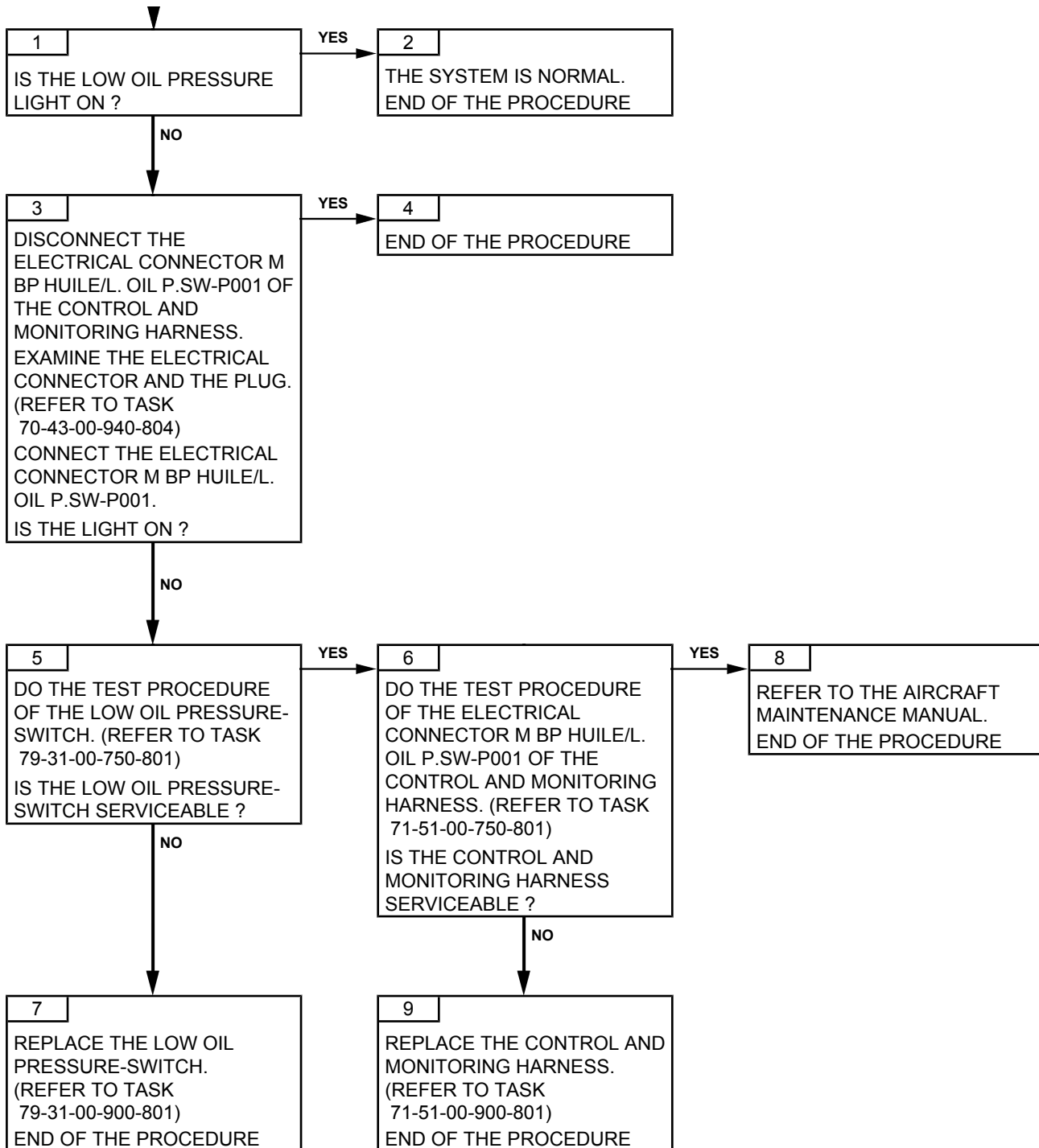
##### C. POSSIBLE CAUSES

- Low oil pressure-switch
- Control and monitoring harness
- Aircraft

#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation



TASK 71-00-06-811-804-A01

### RED GOV OR AMBER GOV OR FLASHING GOV ON - LIGHTING OF GOV WARNING LIGHT TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
AT POWER ON		GOV light : red, amber and flashing amber

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

At power on, the GOV lights must be off.

##### C. POSSIBLE CAUSES

- Failures detected by the DECU

#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation

▼  
1

LOOK FOR THE FAILURE CODE CORRESPONDING TO THE LIGHTING UP OF THE GOV WARNING LIGHT IN THE FAILURE/MEMORY MODE OF THE FAU.  
REFER TO THE LIST OF FAU FAILURE CODES OF THIS MANUAL TO DO THE RELATED TASK.

TASK 71-00-06-811-808-A01

**RED GOV AT POWER ON  
TROUBLESHOOTING****1. GENERALITY****A. PHASE AND FAILURE DETECTION**

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms VEMD</i>	<i>Warning indicator lights</i>
POWER ON		RED GOV

**B. REMINDER OF THE OPERATING NORMAL CONDITION OR FAILURE DETECTION**

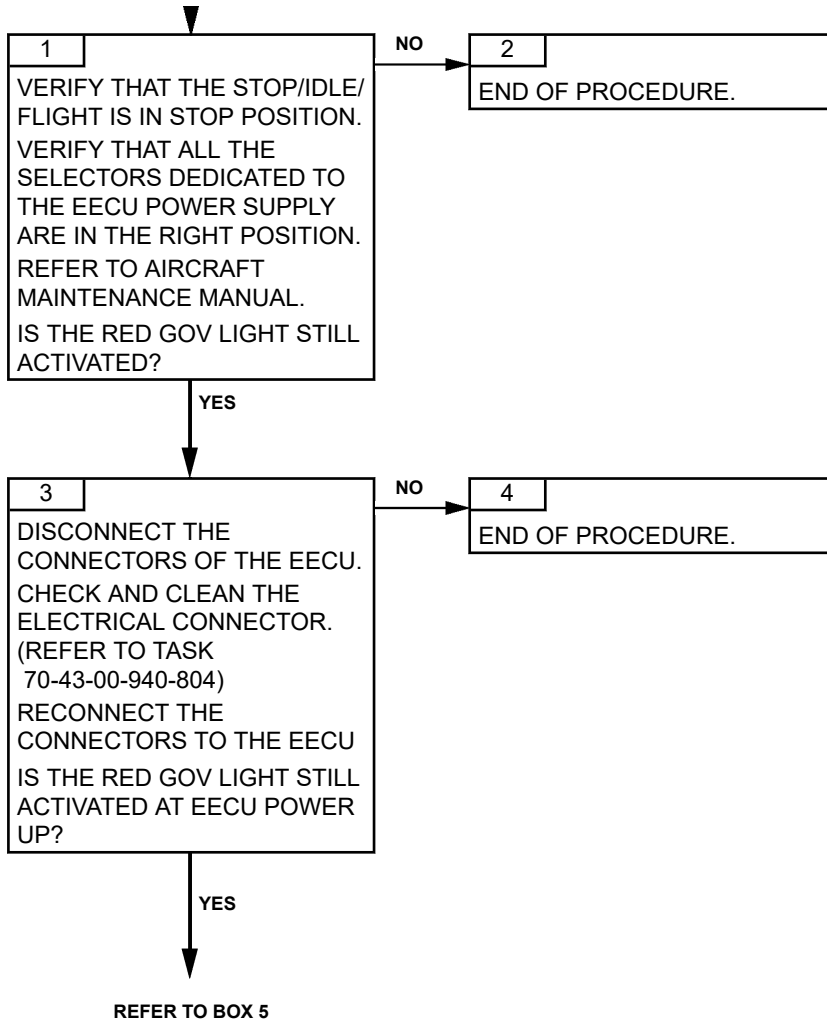
At power on, the EECU switches off the RED GOV warning light and performs its power on built in tests.

The RED GOV light remains activated at power on when either the EECU is not correctly supplied or EECU starting selector input is different from STOP.

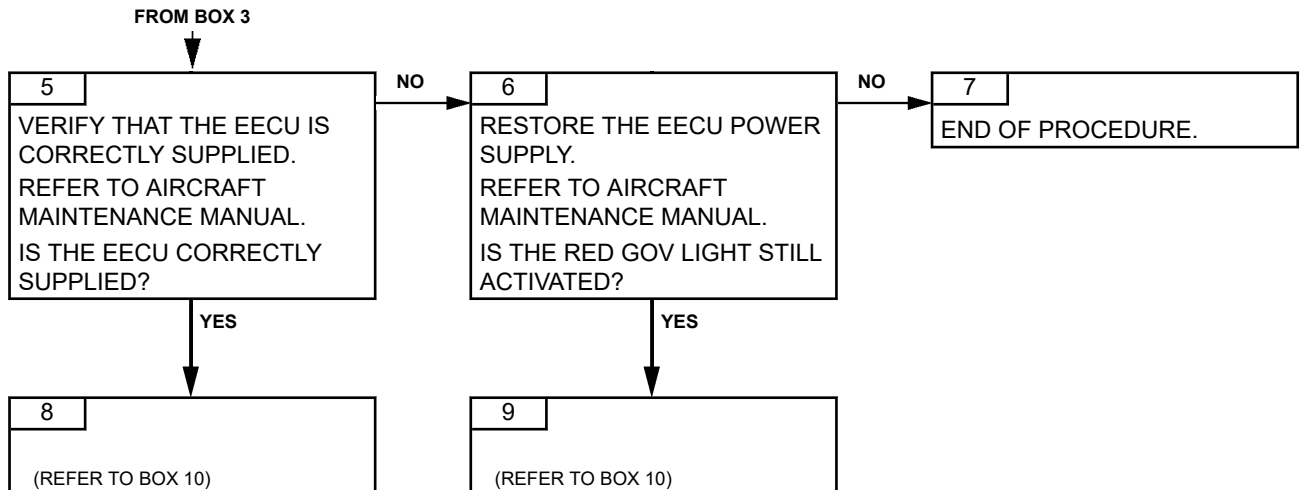
**C. POSSIBLE CAUSES**

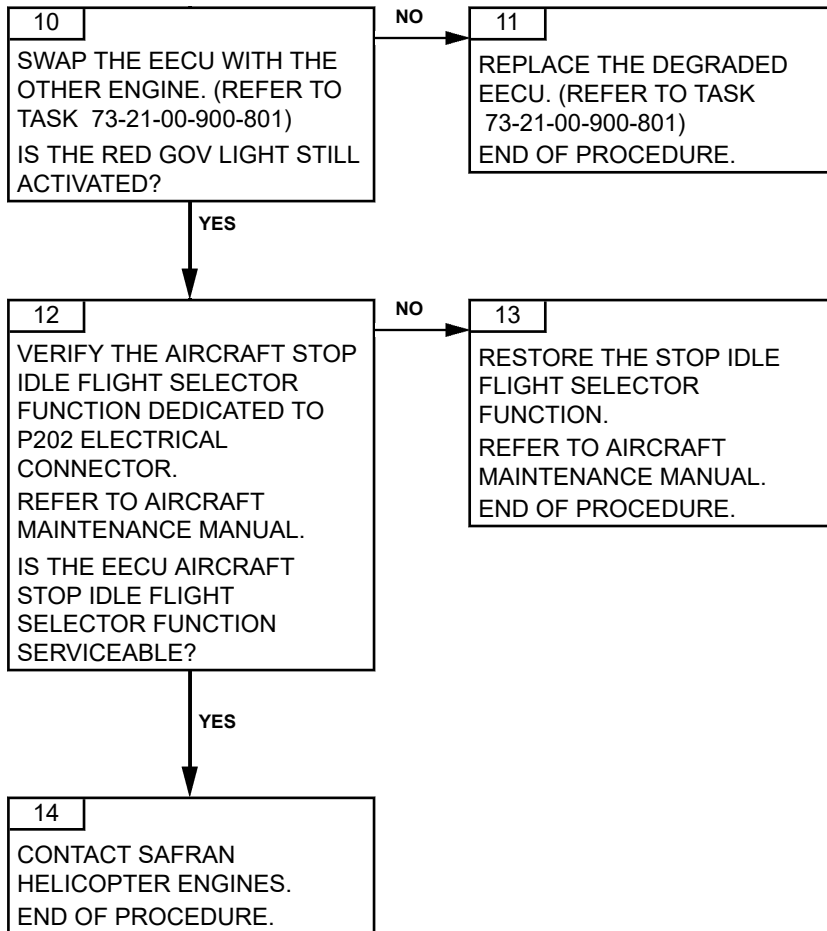
- AIRCRAFT
- EECU

**2. PROCEDURE**









TASK 71-00-06-812-802-A01

### FUEL P ON - NO EXTINGUISHING OF THE LOW FUEL PRESSURE SIGNAL TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
AT STARTING		Amber FUEL and FUEL P on

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

The start is normal and the amber FUEL and FUEL P lights are off at ground idle.

##### C. POSSIBLE CAUSES

- Low fuel pressure-switch
- Control and monitoring harness
- Aircraft

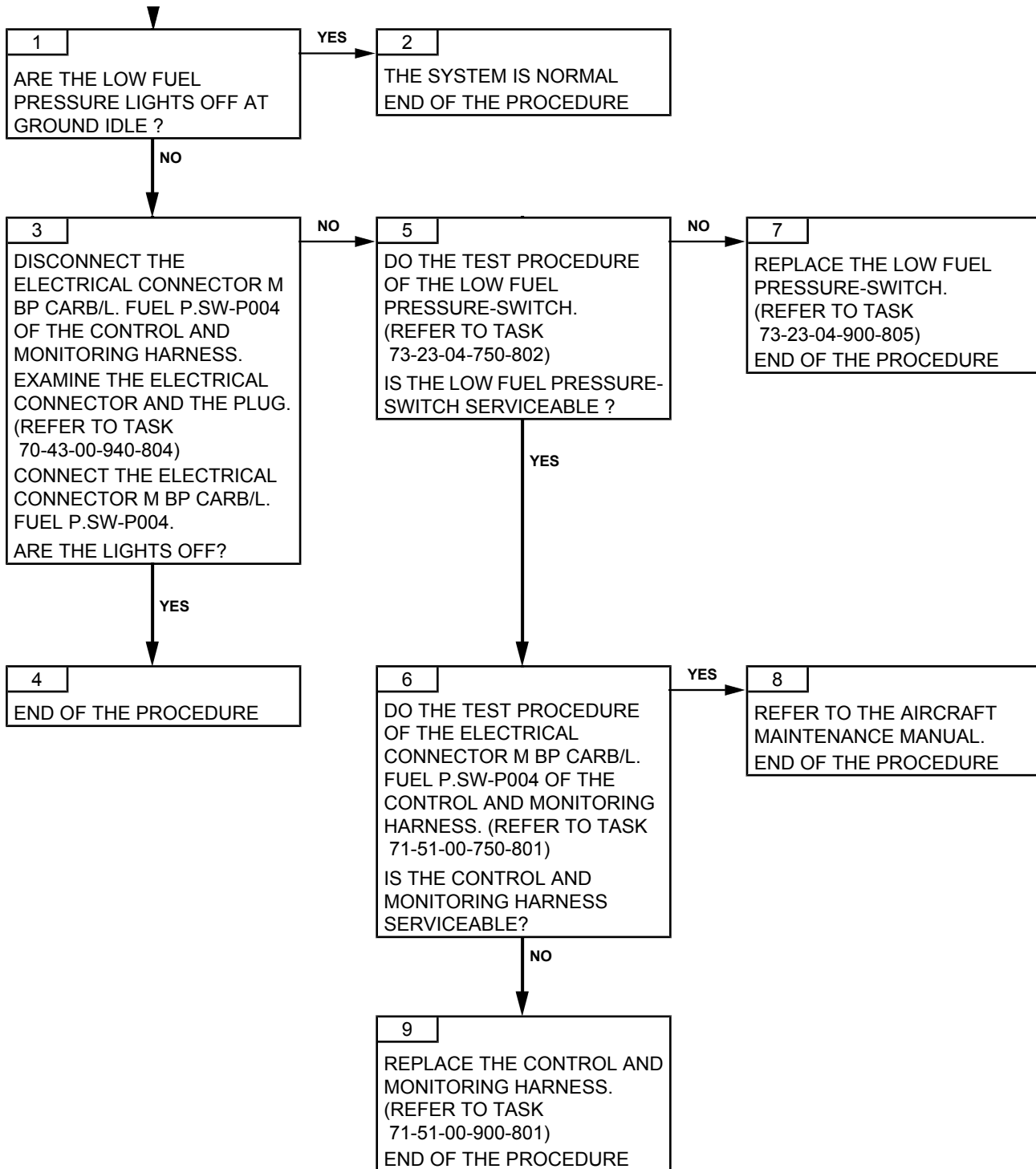
#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation

TASK 71-00-06-812-804-A01

### ENGINE PARAMETER OUT OF LIMIT - T4.5 LIMITATIONS EXCEEDED TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Avionic warning</i>	<i>Warning light</i>
AT STARTING or ENGINE RUNNING		

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

T4.5 limitation, (Refer to Task 71-00-01-940-801).

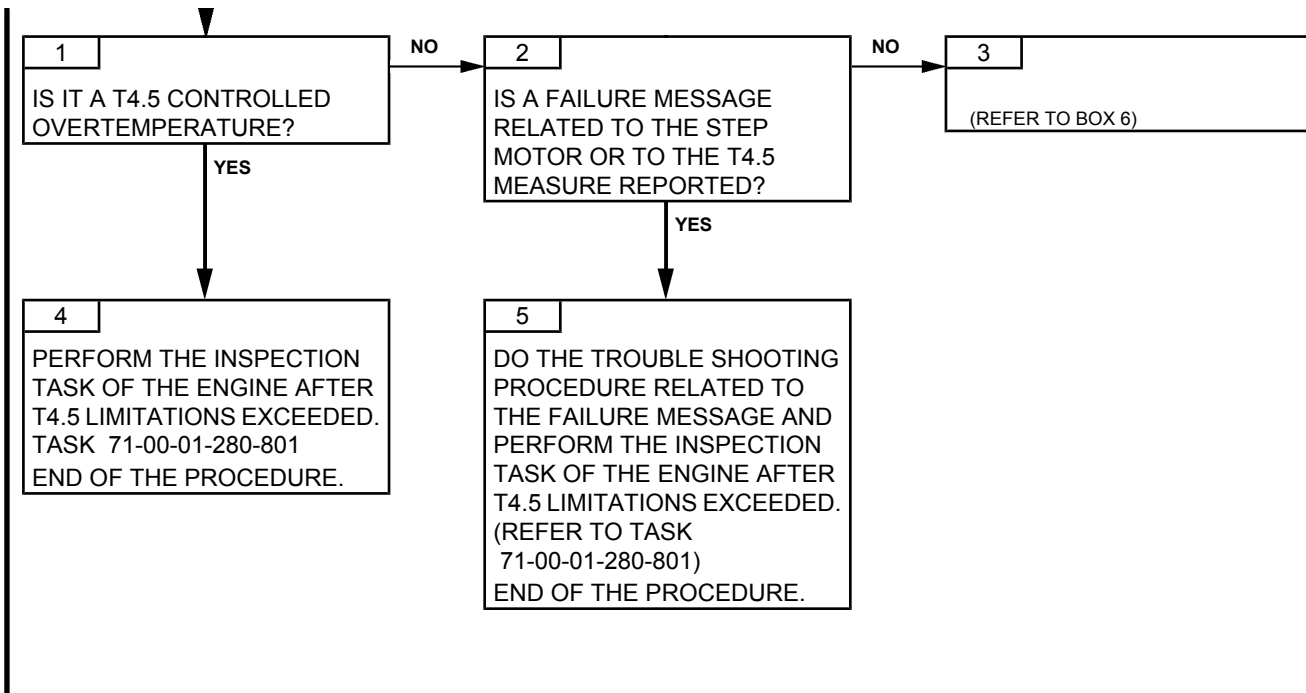
##### C. POSSIBLE CAUSES

- Controlled overtemperature
- Pump and metering unit
- T4.5 measurement system
- Drain valve of the turbine casing
- Starter
- Starter power supply

#### 2. PROCEDURE

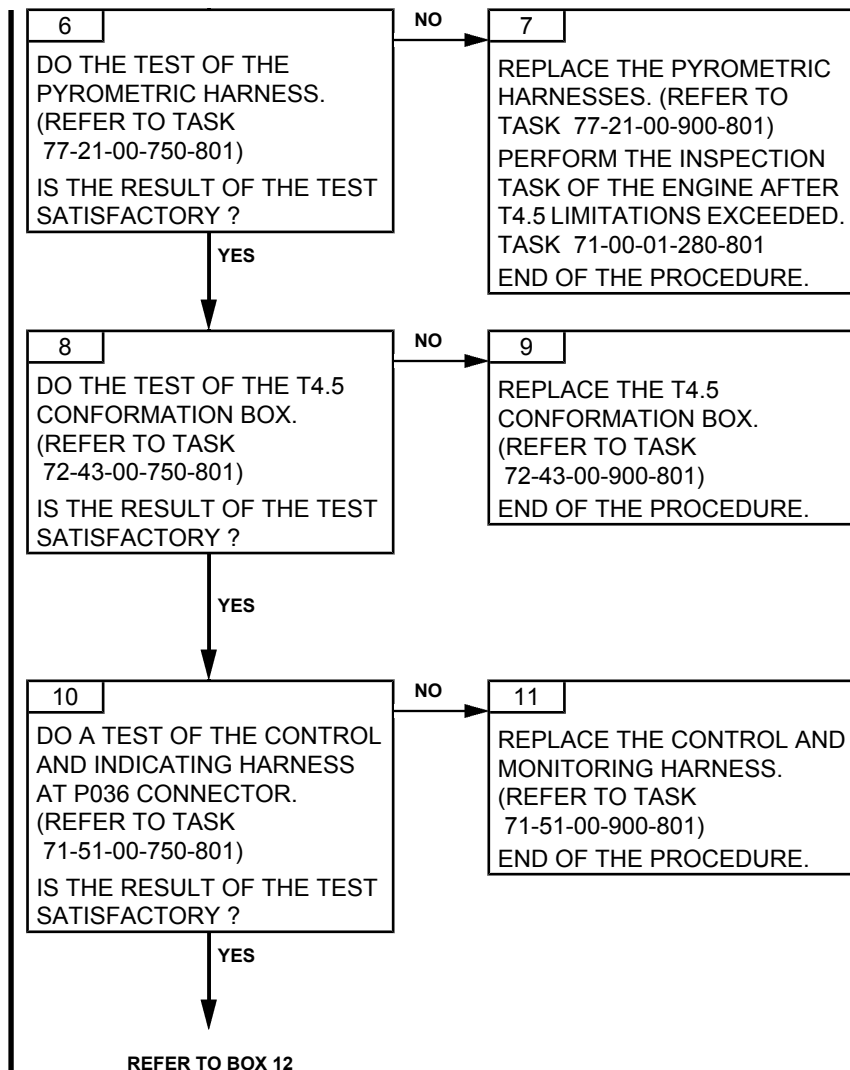
Effectivity: C

Failures observed during engine operation



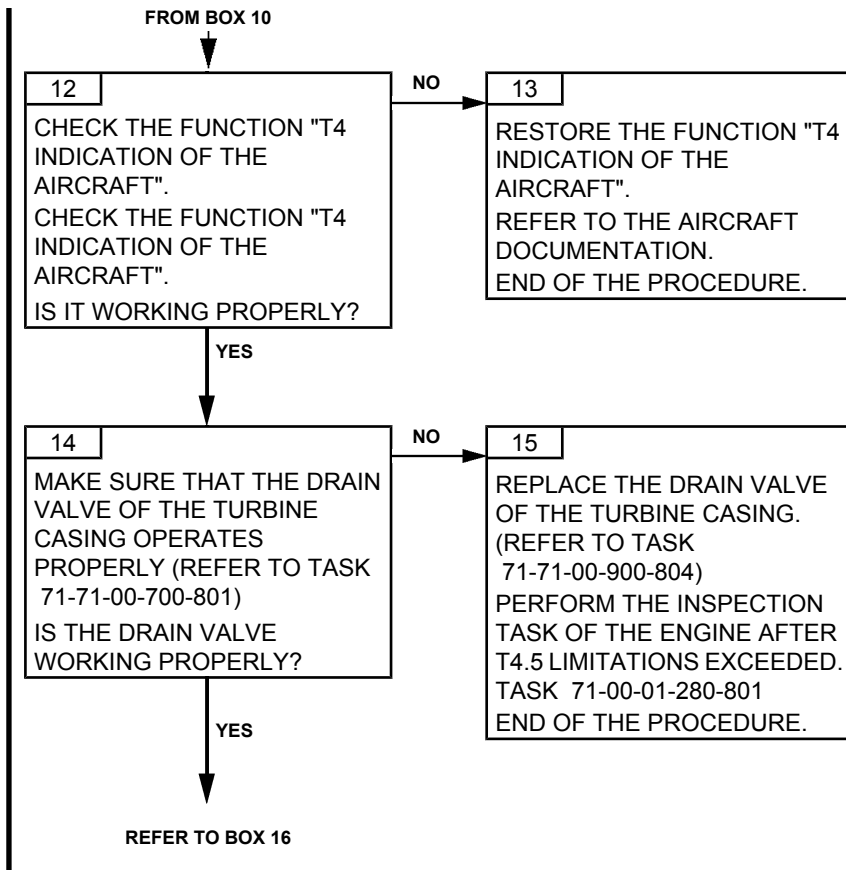
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

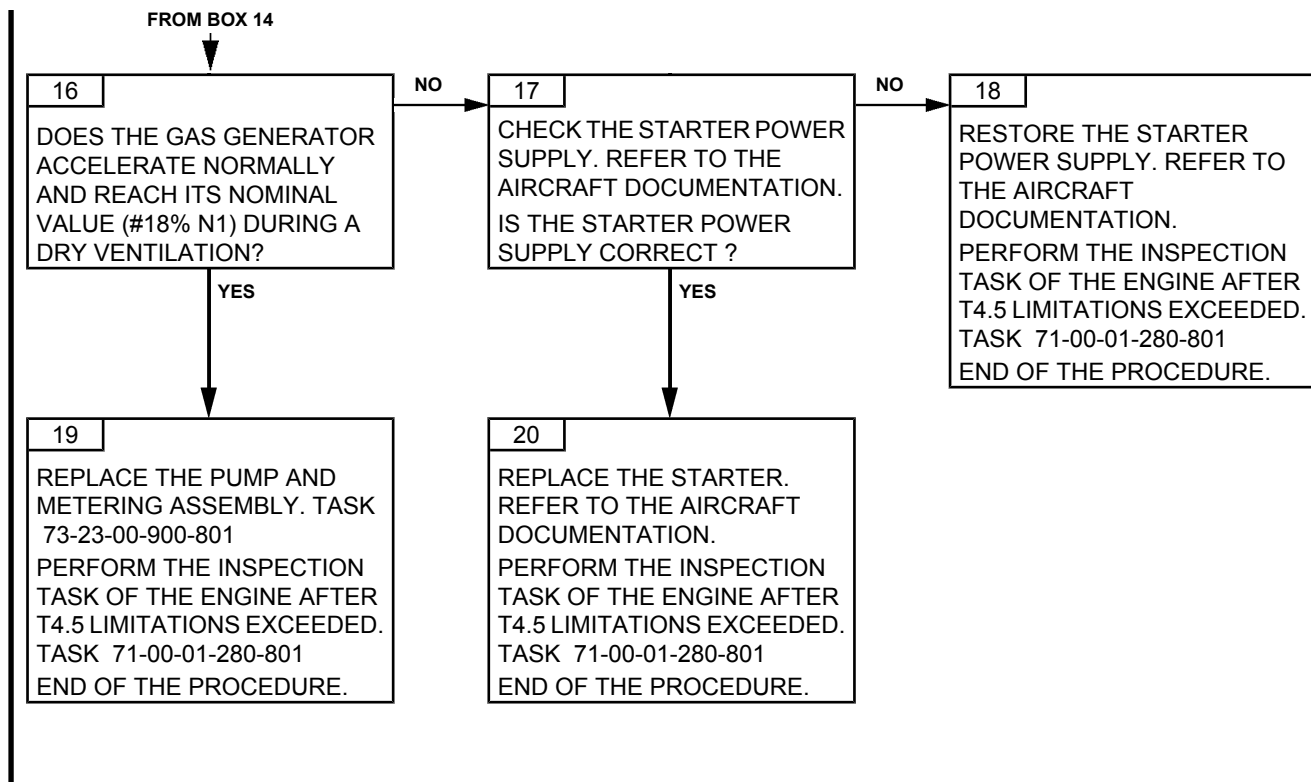
Failures observed during engine operation





# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation

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TASK 71-00-06-812-805-A01

**ABORTED START - GAS GENERATOR NOT DRIVEN  
TROUBLESHOOTING****1. GENERAL****A. GENERAL DESCRIPTION**

In the troubleshooting book, there are different troubleshooting tasks concerning aborted start. Titles are:

- **“Aborted start: gas generator not driven”**: Do this troubleshooting task if the gas generator is not driven at all (N1 = 0 %) at the engine start selection or during cranking.
- **“Aborted start: no ignition”**: When the pilot turns the main selector STOP/IDLE/FLIGHT to IDLE or FLIGHT, the EECU launches the starting sequence. At starting, the gas generator is driven but no ignition of the combustion chamber (T4 does not increase).
- **“Aborted start: first start aborted”**: Do this **preventive task** when there are starting difficulties only at the first start of the day, or after the aircraft has been sitting for several hours, i.e. the engine is at ambient temperature.
- **“Aborted start: slow start or stagnation”**: Do this troubleshooting task when the ignition in the combustion chamber is observed, but the N1 speed increases more slowly than usual, or the N1 speed stops increasing during start (and the pilot has to abort manually the starting sequence).
- **“Aborted start: flames at the exhaust pipe”**: Do this troubleshooting task when the starting sequence generates abnormal flames at the exhaust pipe.
- **“Aborted start: flame out”**: Do this troubleshooting task when ignition is observed, the N1 speed increases but the combustion chamber flames out without any action by the pilot.
- **“T4.5 limitations exceeded”**: Do this troubleshooting task when a T4.5 overtemperature is observed during engine running or during starting sequence.

**B. POSSIBLE CAUSES**

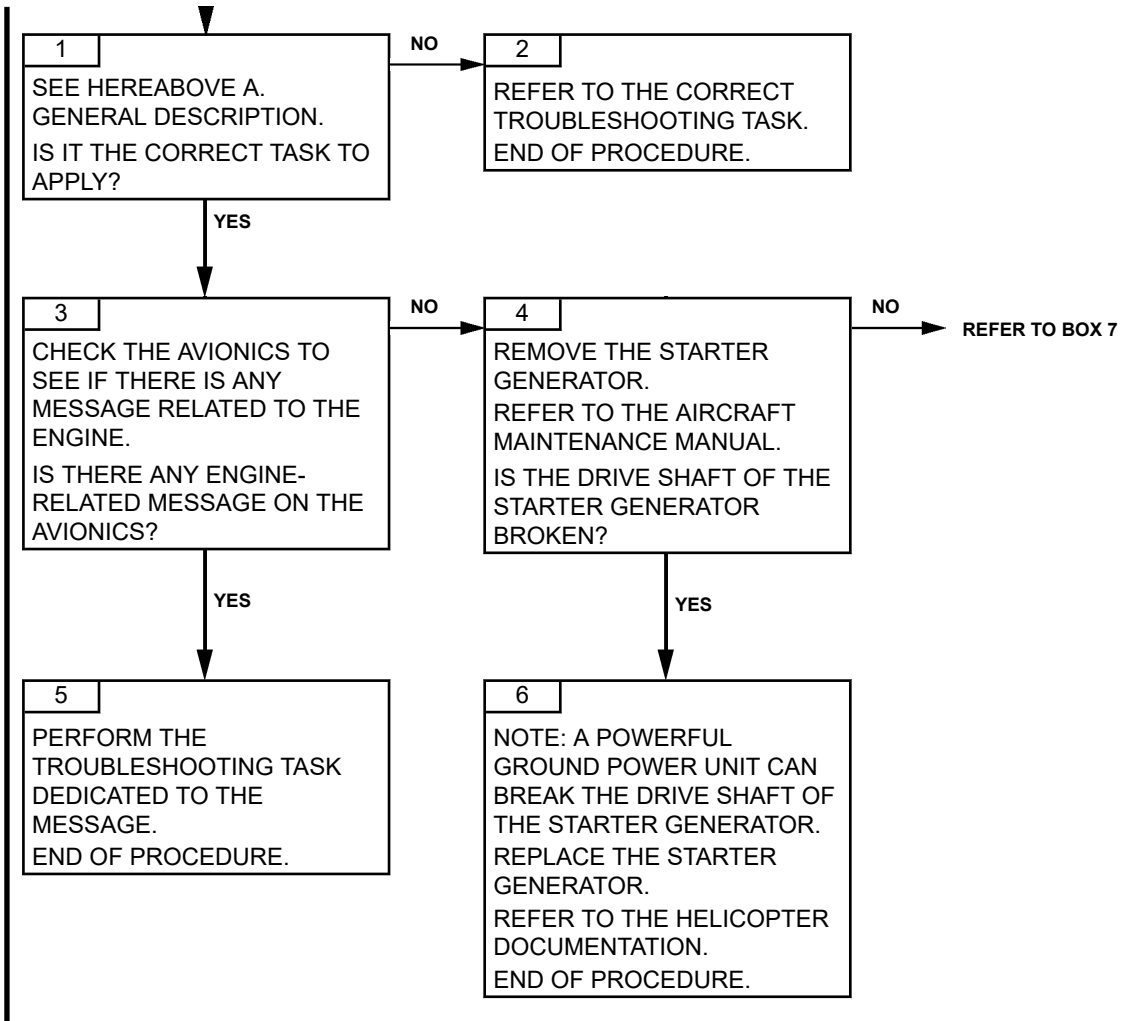
- Starter generator
- Alternator
- Oil pump
- Fuel pump and metering unit
- Module 01 (Transmission shaft and accessory gearbox)
- Module 02 (Axial compressor)
- Module 03 (Gas generator)
- Aircraft

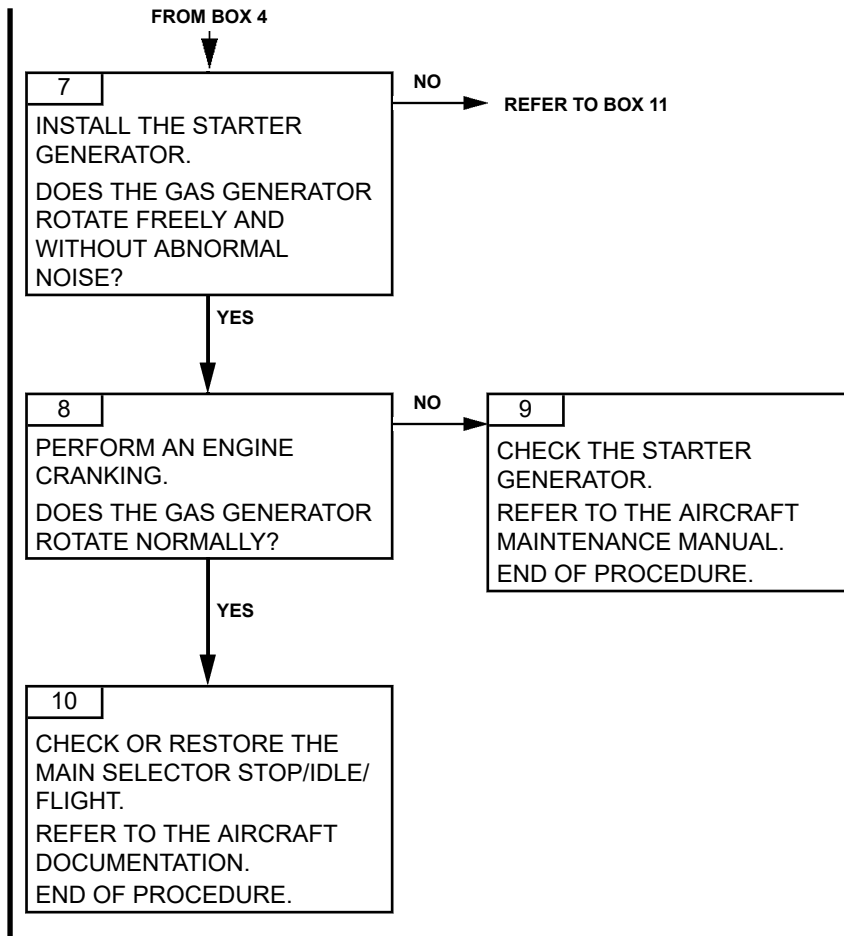
**2. PROCEDURE**

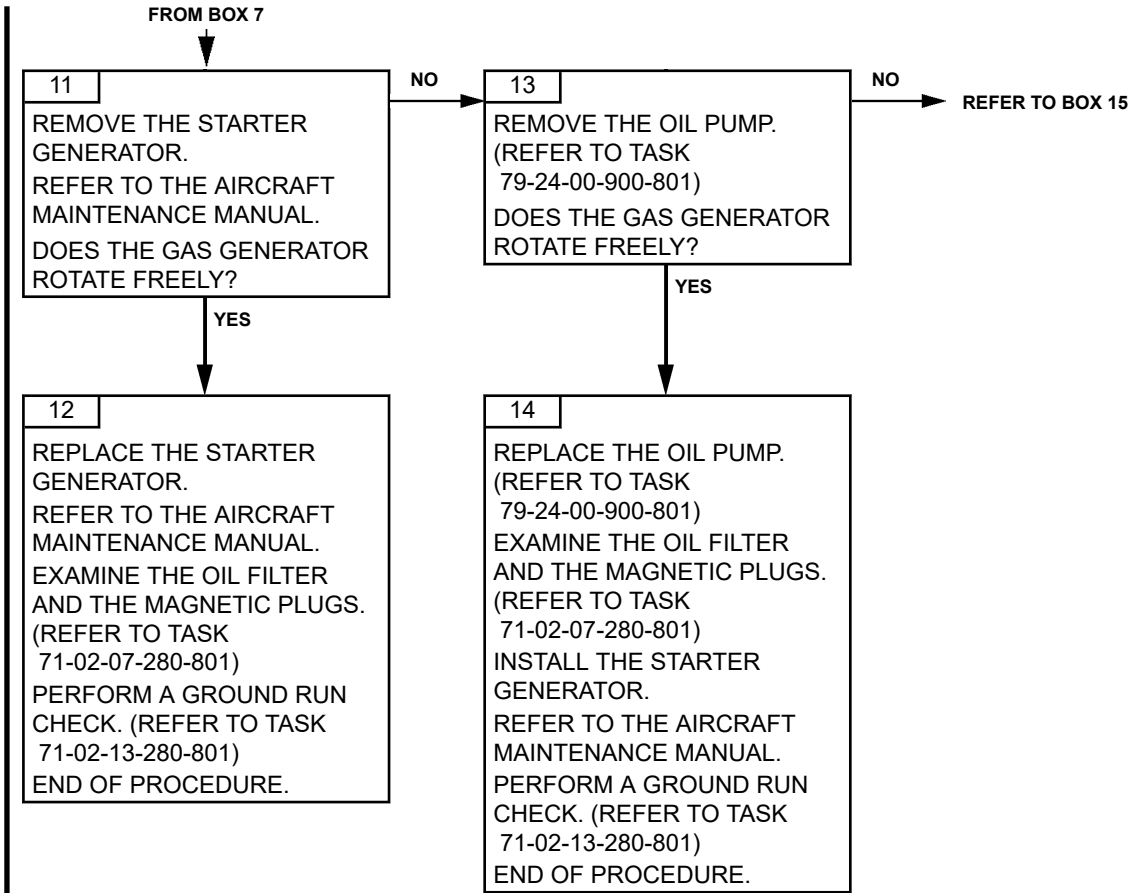
**NOTE:** *In case of a recent maintenance operation performed on this engine or on the aircraft starting system (starter, battery, fuse, selector, harness...), check first the sub-assembly concerned by this maintenance operation, in particular the plug and connectors.*

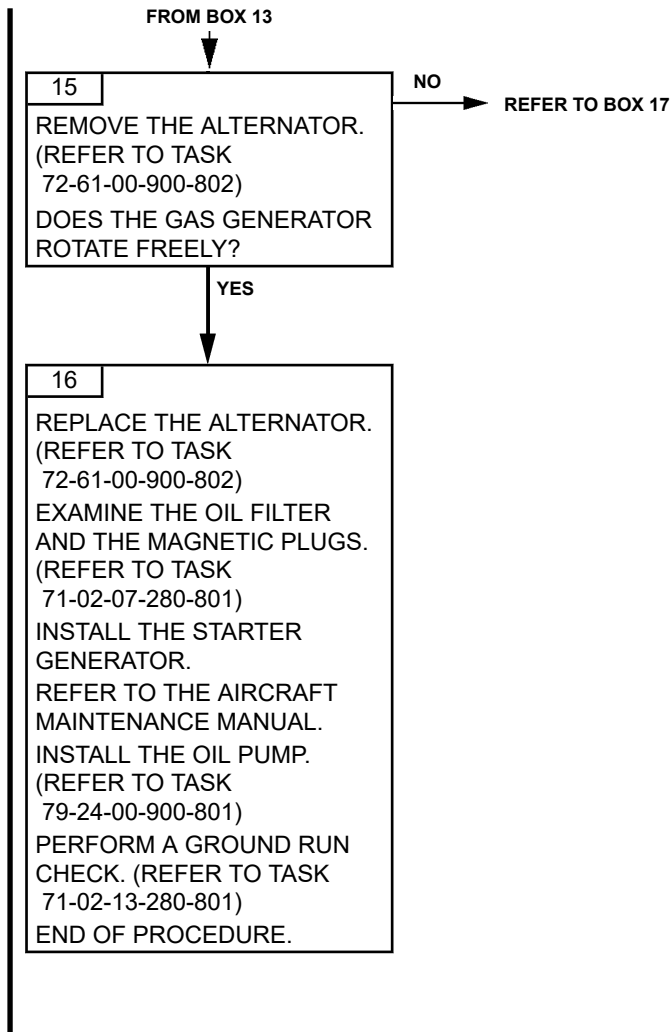
Effectivity: C

Failures observed during engine operation

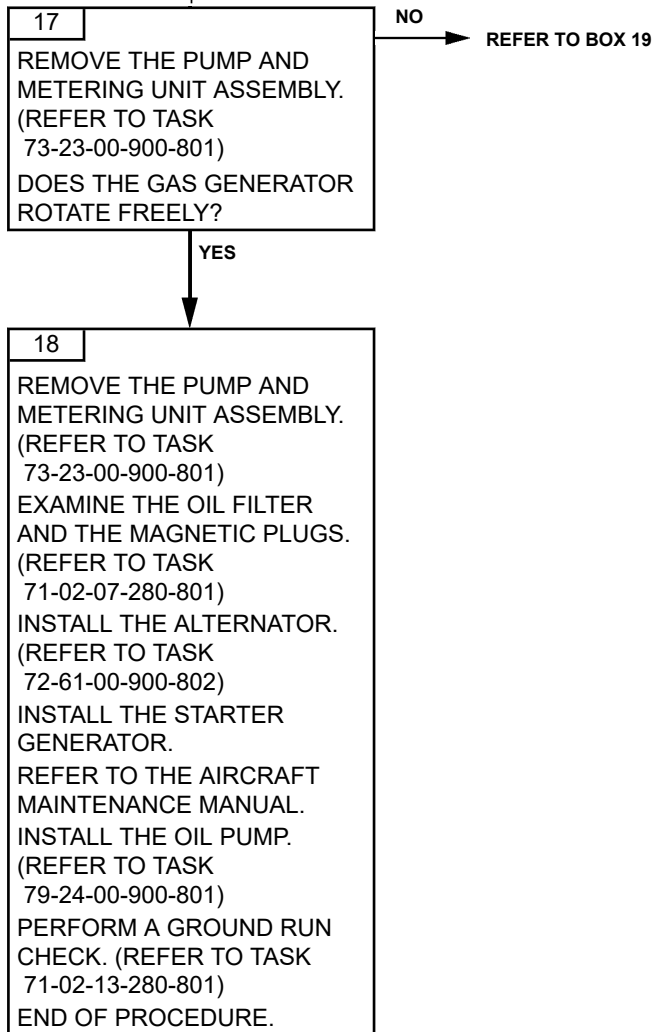




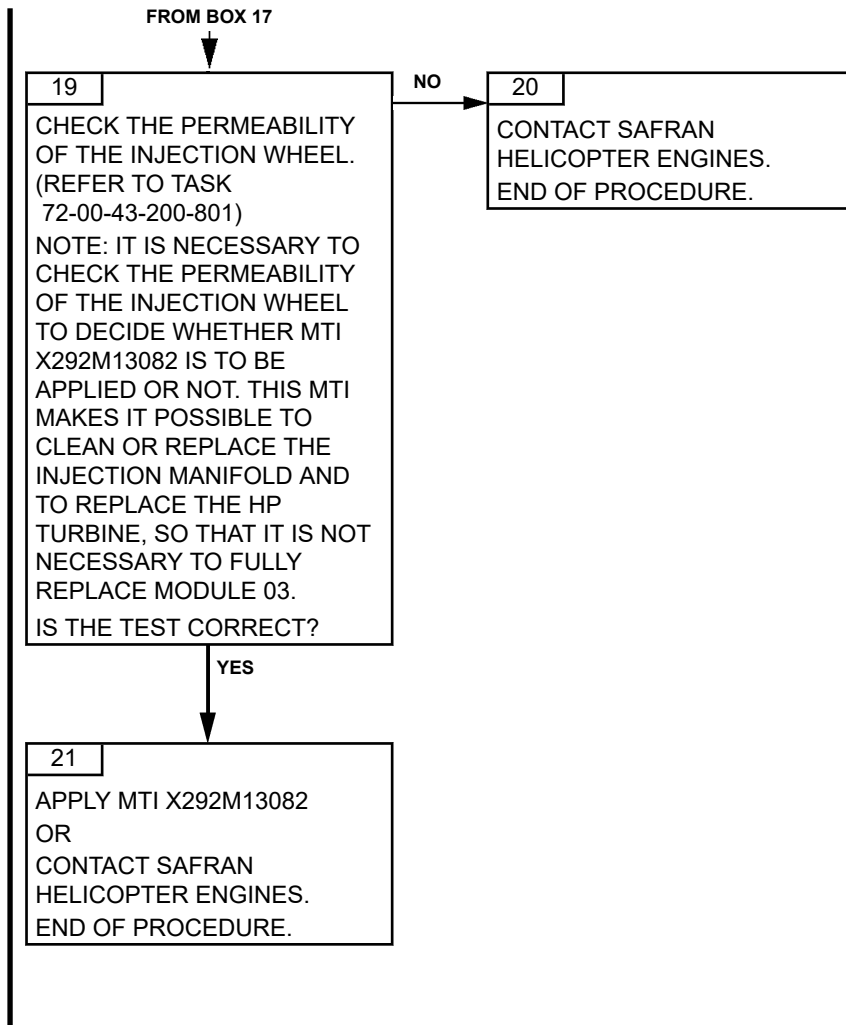




FROM BOX 15







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TASK 71-00-06-812-806-A01

### ENG P ON - NO EXTINGUISHING OF THE LOW OIL PRESSURE SIGNAL TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
AT STARTING		ALARM and red ENG 1 or ENG 2 on

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

The oil pressure indication is normal and the ALARM and ENG1 or ENG2 lights are off at ground idle.

##### C. POSSIBLE CAUSES

- Low oil pressure-switch
- Control and monitoring harness
- Aircraft

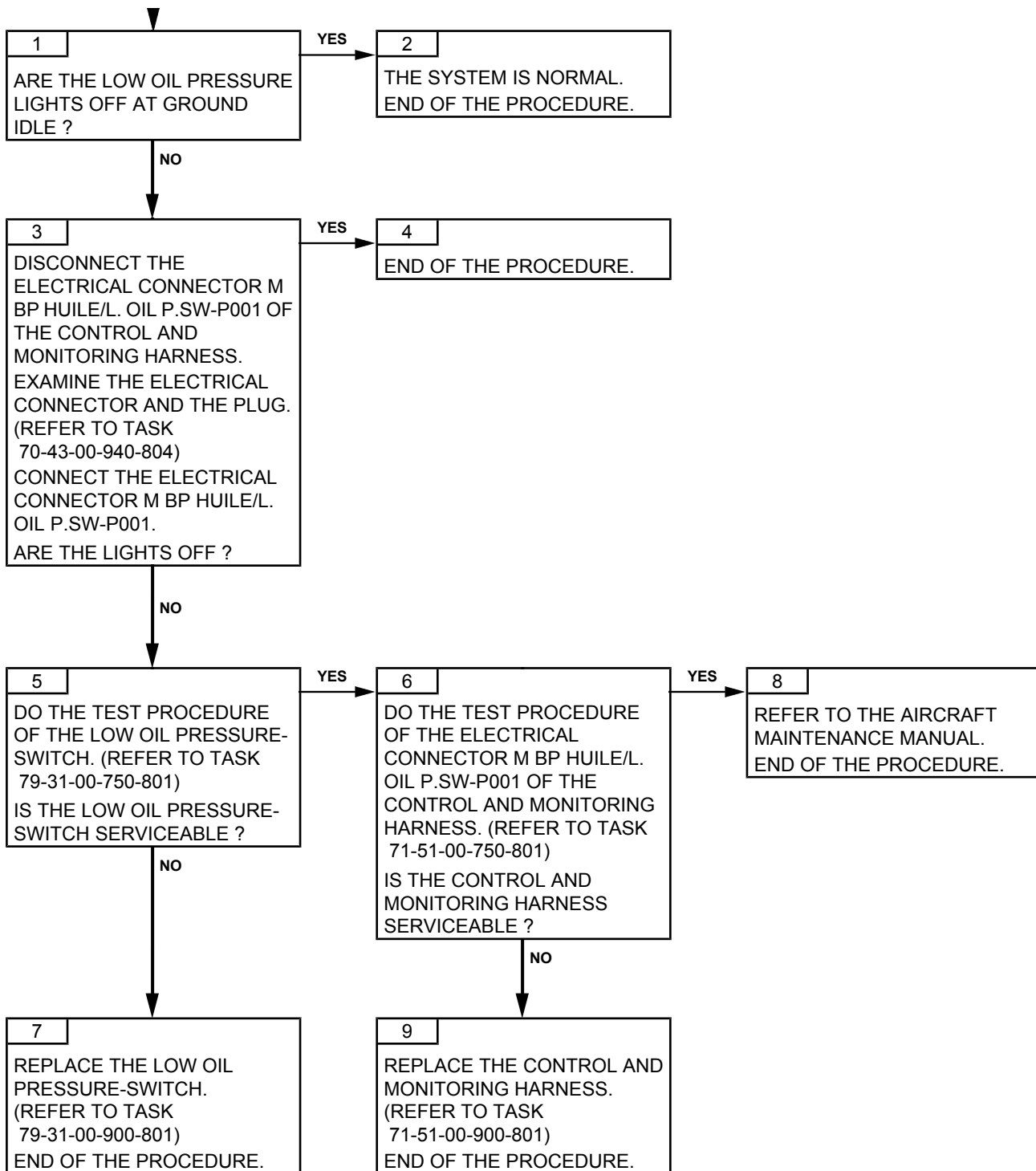
#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation

TASK 71-00-06-812-807-A01

**ABORTED START - NO IGNITION  
TROUBLESHOOTING****1. GENERAL****A. GENERAL DESCRIPTION**

In the troubleshooting book, there are different troubleshooting tasks concerning aborted start. Titles are:

- **“Aborted start: gas generator not driven”**: Do this troubleshooting task if the gas generator is not driven at all (N1 = 0 %) at the engine start selection or during cranking.
- **“Aborted start: no ignition”**: When the pilot turns the main selector STOP/IDLE/FLIGHT to IDLE or FLIGHT, the EECU launches the starting sequence. At starting, the gas generator is driven but no ignition of the combustion chamber (T4 does not increase).
- **“Aborted start: first start aborted”**: Do this **preventive task** when there are starting difficulties only at the first start of the day, or after the aircraft has been sitting for several hours, i.e. the engine is at ambient temperature.
- **“Aborted start: slow start or stagnation”**: Do this troubleshooting task when the ignition in the combustion chamber is observed, but the N1 speed increases more slowly than usual, or the N1 speed stops increasing during start (and the pilot has to abort manually the starting sequence).
- **“Aborted start: flames at the exhaust pipe”**: Do this troubleshooting task when the starting sequence generates abnormal flames at the exhaust pipe.
- **“Aborted start: flame out”**: Do this troubleshooting task when ignition is observed, the N1 speed increases but the combustion chamber flames out without any action by the pilot.
- **“T4.5 limitations exceeded”**: Do this troubleshooting task when a T4.5 overtemperature is observed during engine running or during starting sequence.

**B. POSSIBLE CAUSES**

- Igniters plugs
- Ignition unit
- Ignition cable
- Fuel valve assembly
- Start injectors
- Control and monitoring harness
- Pump and metering unit assembly
- EECU
- Aircraft.

**2. PROCEDURE**

**NOTE:** 1. *In case of a recent maintenance operation performed on this engine or on the aircraft starting system (starter, battery, fuse, selector, harness...), check first the sub-assembly concerned by this maintenance operation, in particular the plug and connectors.*

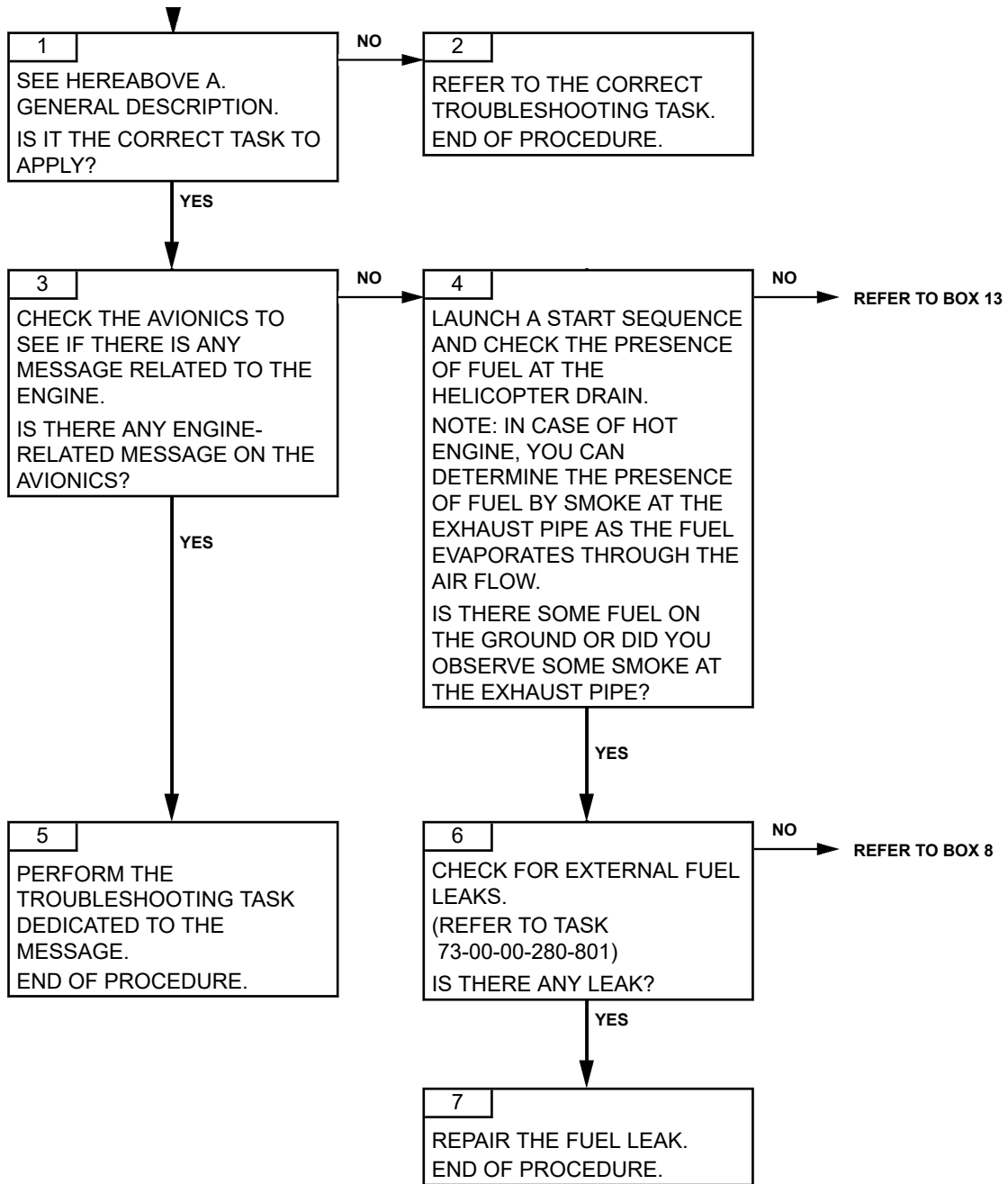
**NOTE:** 2. *It is possible to interchange an equipment item with another engine.*

Effectivity: C

Failures observed during engine operation

- *If the engine starts normally, both equipment items should be reinstalled in their original location in order to confirm the anomaly. If the anomaly is confirmed, then the unserviceable equipment item has to be replaced.*
- *If the engine does not start normally, both the equipment items should be reinstalled in their original location and you should perform the next step of the troubleshooting tree.*

ARRIEL 2 C

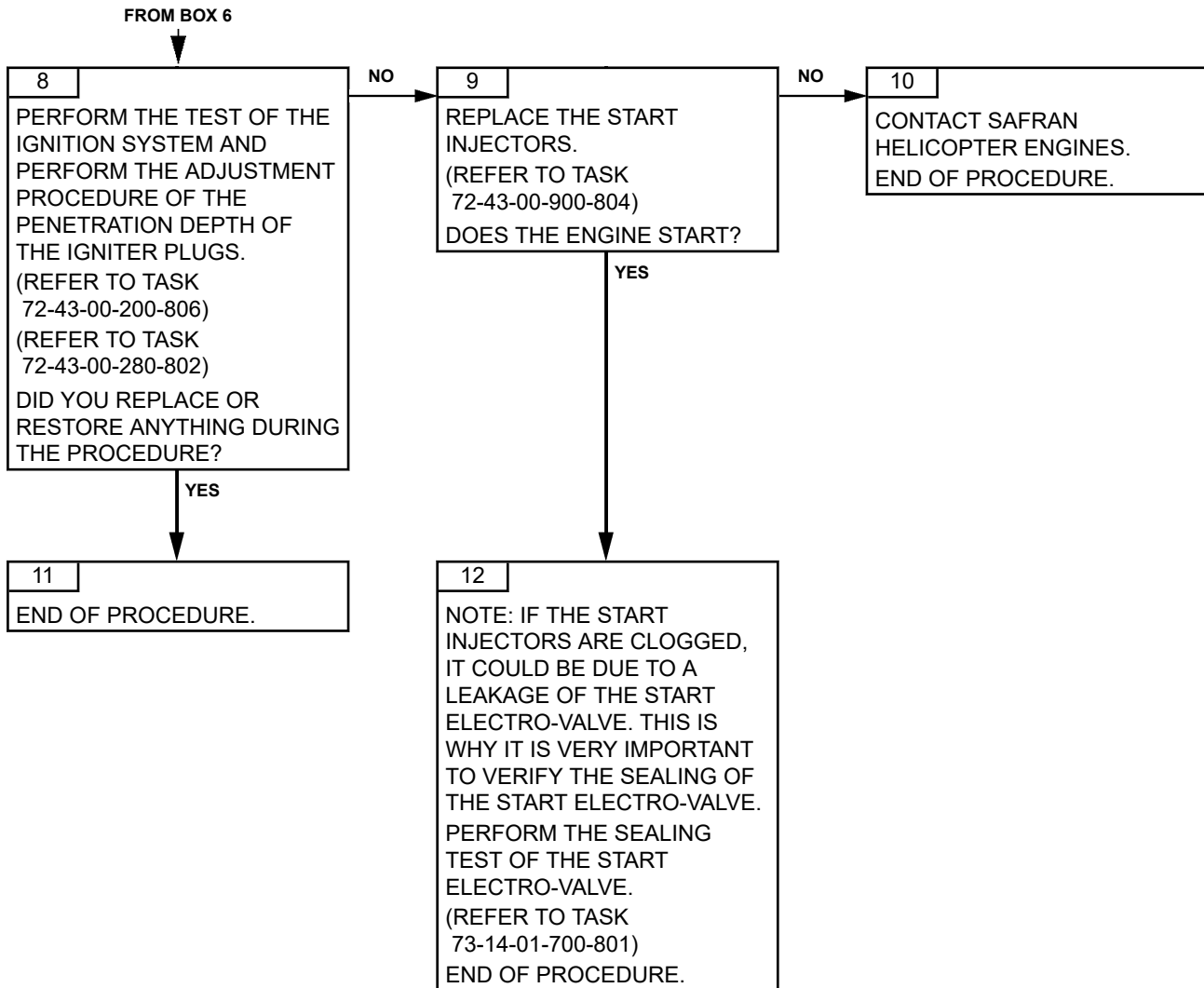


Effectivity: C

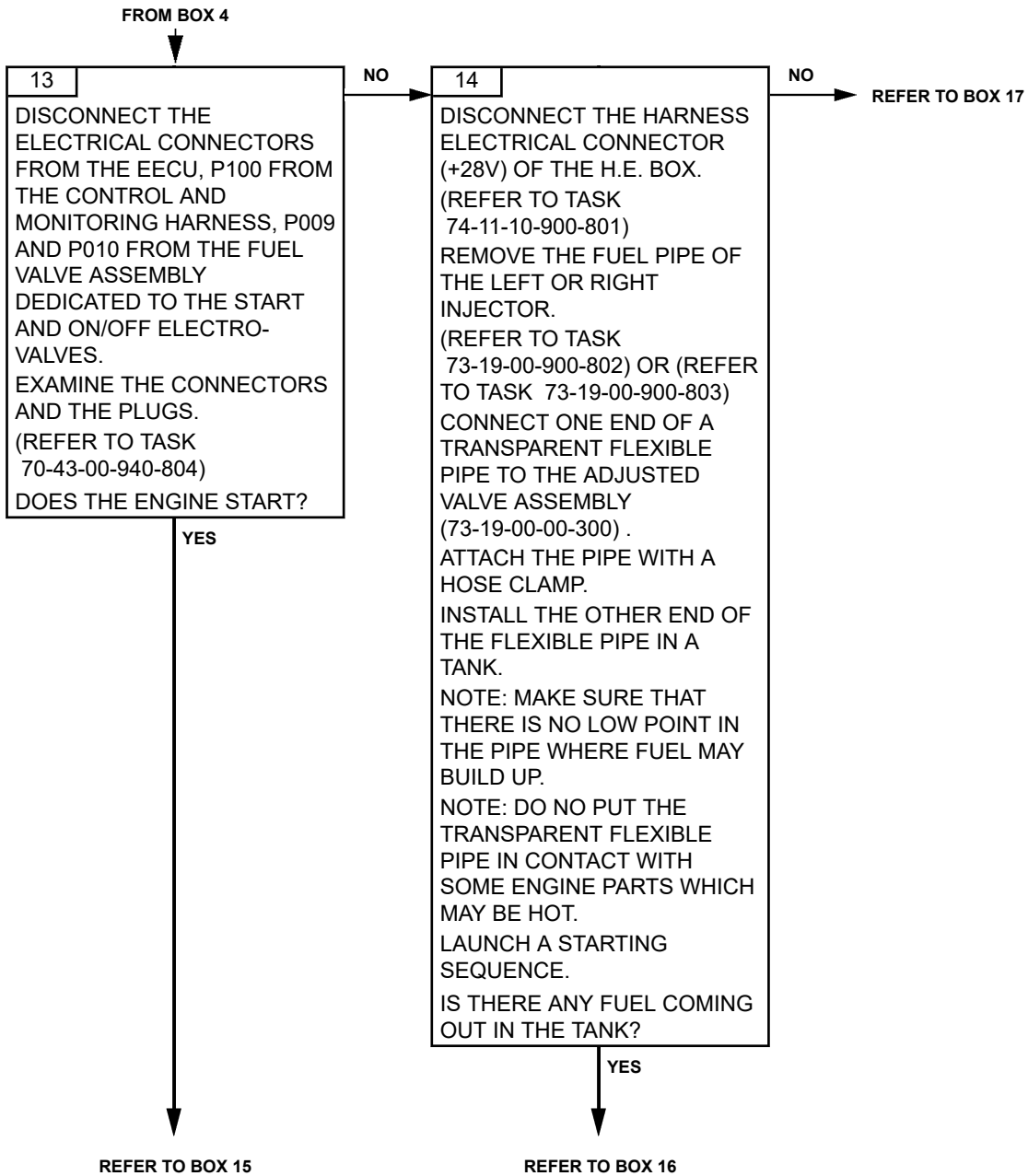
Failures observed during engine operation

71-00-06-812-807-A01

Page 103  
Dec. 30/2021







FROM BOX 13

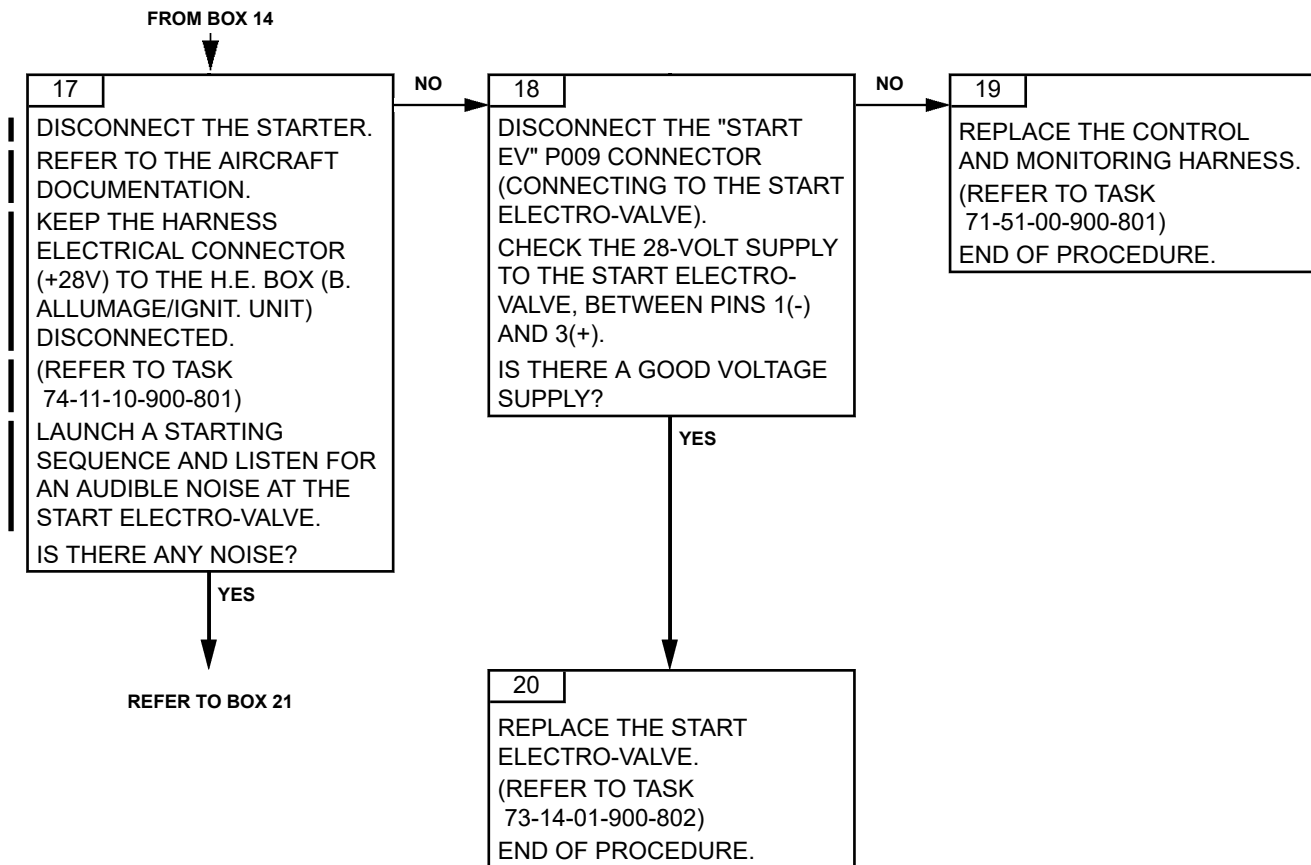


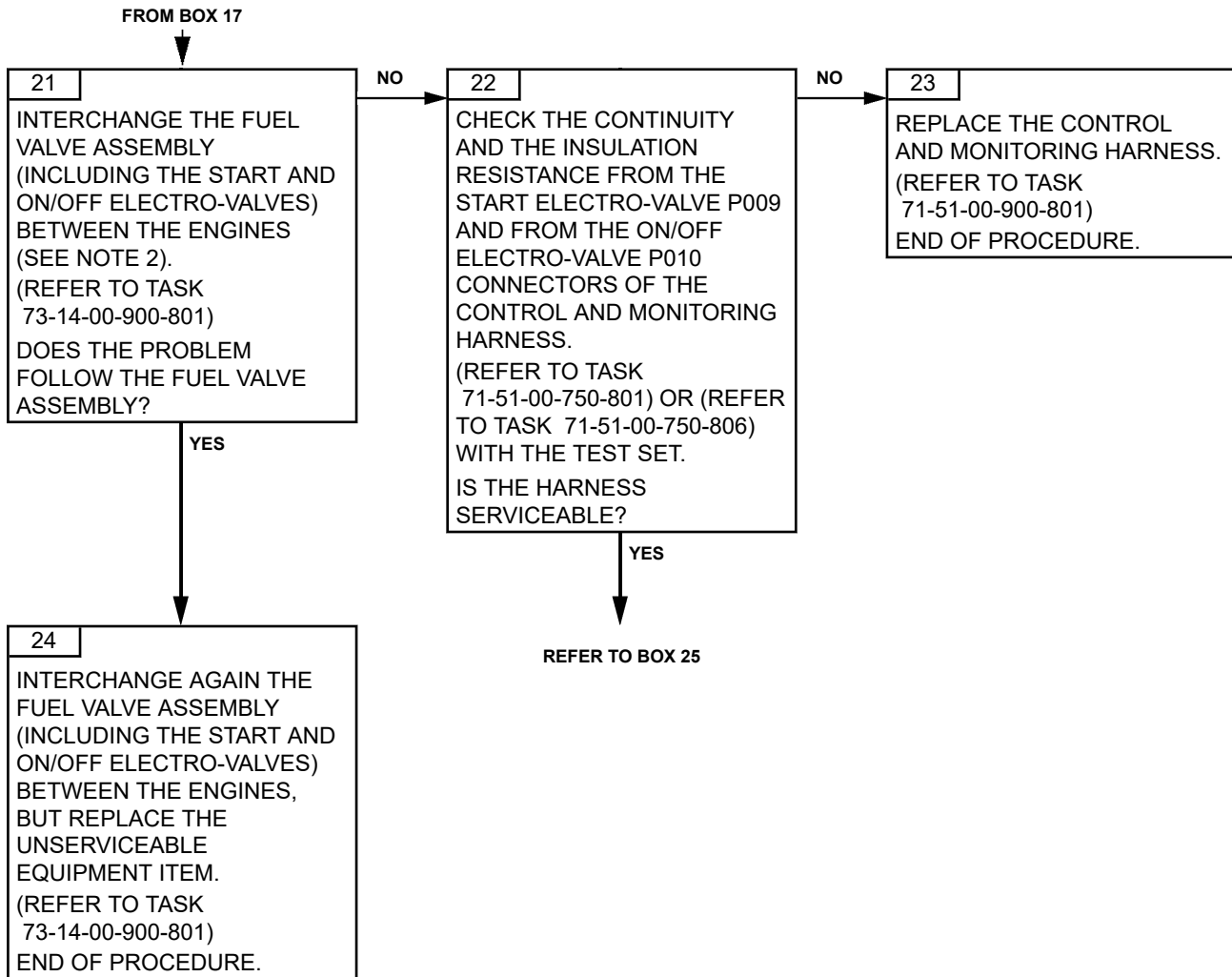
15
END OF PROCEDURE.

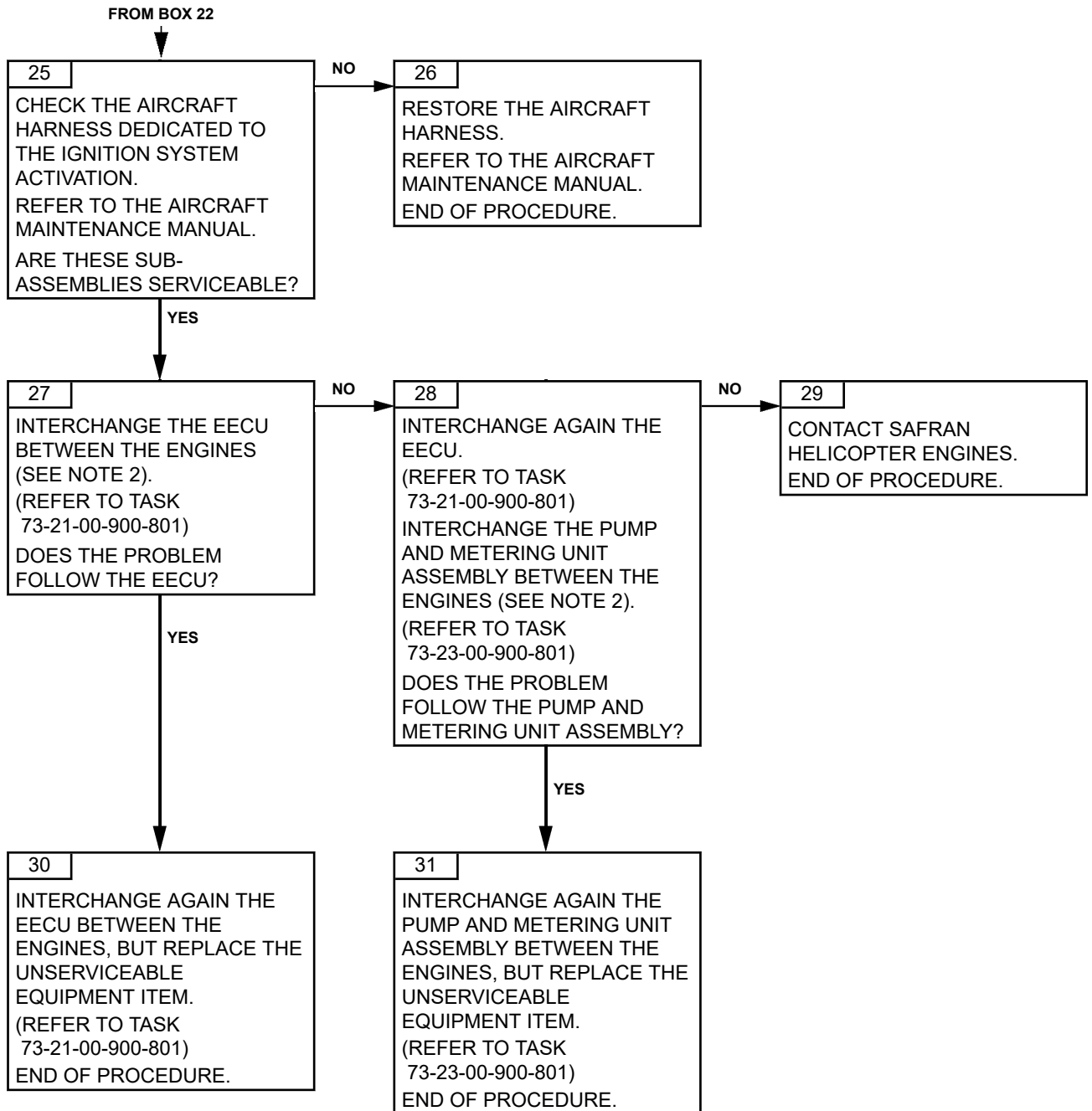
FROM BOX 14



16
REPLACE THE START INJECTORS. (REFER TO TASK 72-43-00-900-804) NOTE: IF THE START INJECTORS ARE CLOGGED, IT COULD BE DUE TO A LEAKAGE OF THE START ELECTRO-VALVE. THIS IS WHY IT IS VERY IMPORTANT TO VERIFY THE SEALING OF THE START ELECTRO-VALVE. PERFORM THE SEALING TEST OF THE START ELECTRO-VALVE. (REFER TO TASK 73-14-01-700-801) END OF PROCEDURE.







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TASK 71-00-06-812-808-A01

**ABORTED START - SLOW START OR STAGNATION  
TROUBLESHOOTING****1. GENERAL****A. GENERAL DESCRIPTION**

In the troubleshooting book, there are different troubleshooting tasks concerning aborted start. Titles are:

- **“Aborted start: gas generator not driven”**: Do this troubleshooting task if the gas generator is not driven at all (N1 = 0 %) at the engine start selection or during cranking.
- **“Aborted start: no ignition”**: When the pilot turns the main selector STOP/IDLE/FLIGHT to IDLE or FLIGHT, the EECU launches the starting sequence. At starting, the gas generator is driven but no ignition of the combustion chamber (T4 does not increase).
- **“Aborted start: first start aborted”**: Do this **preventive task** when there are starting difficulties only at the first start of the day, or after the aircraft has been sitting for several hours, i.e. the engine is at ambient temperature.
- **“Aborted start: slow start or stagnation”**: Do this troubleshooting task when the ignition in the combustion chamber is observed, but the N1 speed increases more slowly than usual, or the N1 speed stops increasing during start (and the pilot has to abort manually the starting sequence).
- **“Aborted start: flames at the exhaust pipe”**: Do this troubleshooting task when the starting sequence generates abnormal flames at the exhaust pipe.
- **“Aborted start: flame out”**: Do this troubleshooting task when ignition is observed, the N1 speed increases but the combustion chamber flames out without any action by the pilot.
- **“T4.5 limitations exceeded”**: Do this troubleshooting task when a T4.5 overtemperature is observed during engine running or during starting sequence.

**B. POSSIBLE CAUSES**

- Pyrometric harness
- Fuel valve assembly (Pressurizing valve not LRU)
- Start electro-valve
- Junction and T4.5 conformation box
- Aircraft

**2. PROCEDURE**

**NOTE:** *1. In case of a recent maintenance operation performed on this engine or on the aircraft starting system (starter, battery, fuse, selector, harness...), check first the sub-assembly concerned by this maintenance operation, in particular the plug and connectors.*

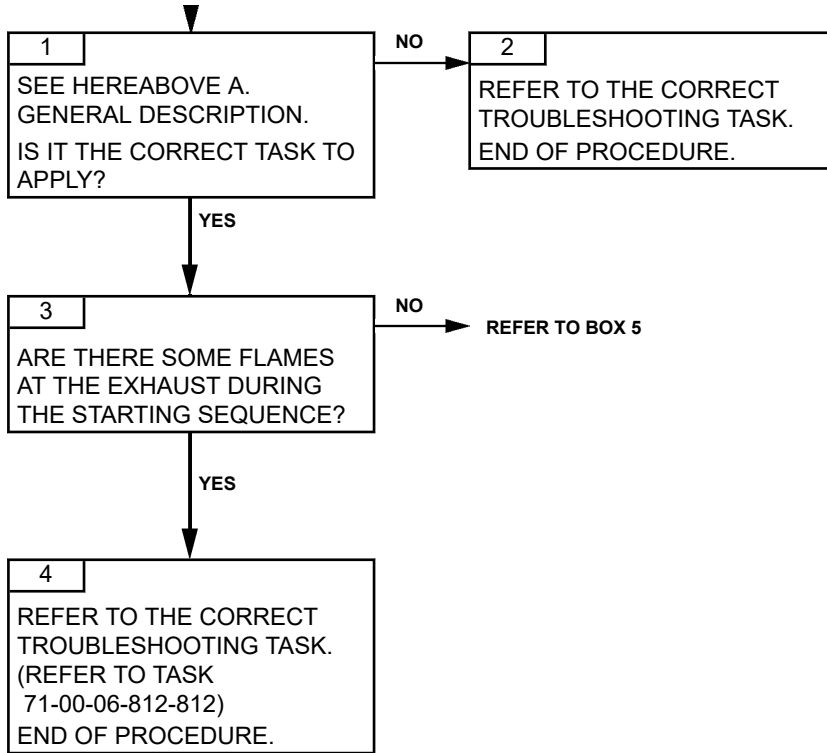
**NOTE:** *2. It is possible to interchange an equipment item with another engine.*

- *If the engine starts normally, both equipment items should be reinstalled in their original location in order to confirm the anomaly. If the anomaly is confirmed, then the unserviceable equipment item has to be replaced.*

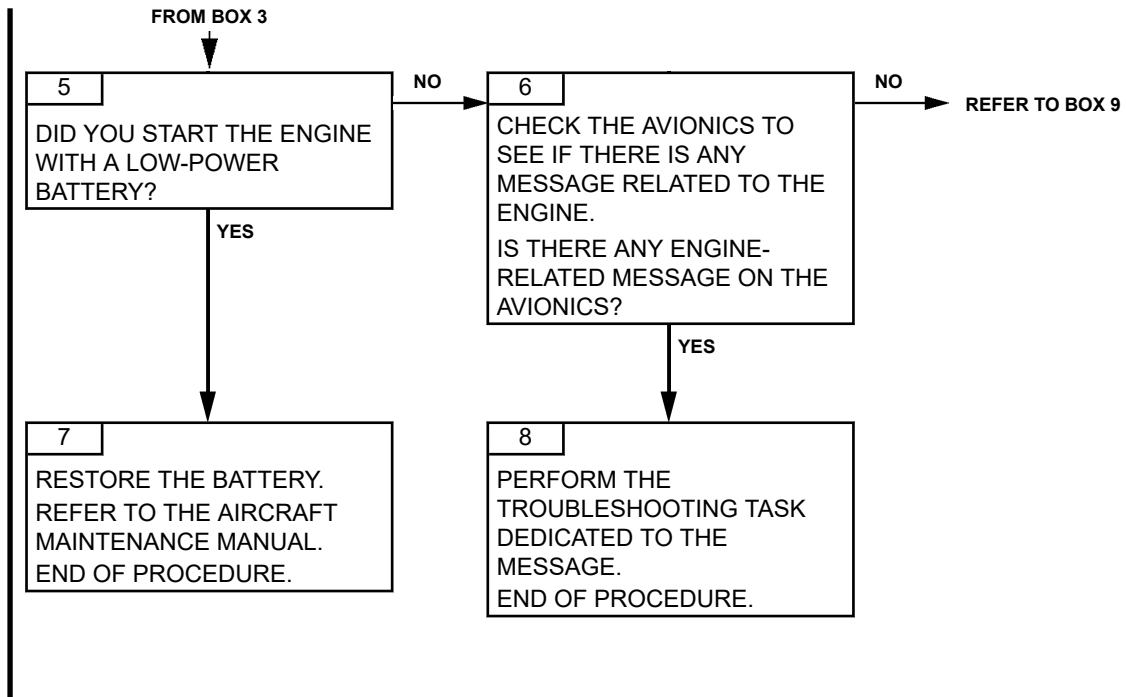
Effectivity: C

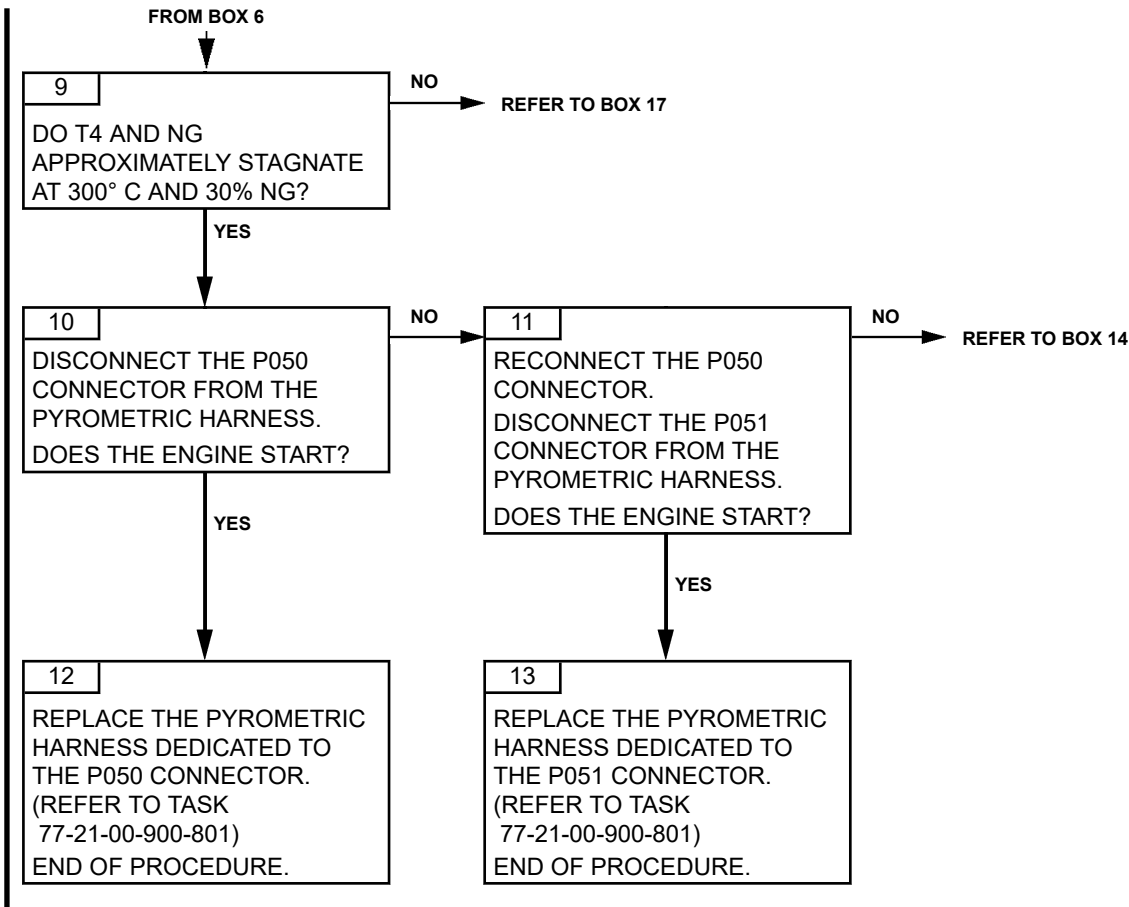
Failures observed during engine operation

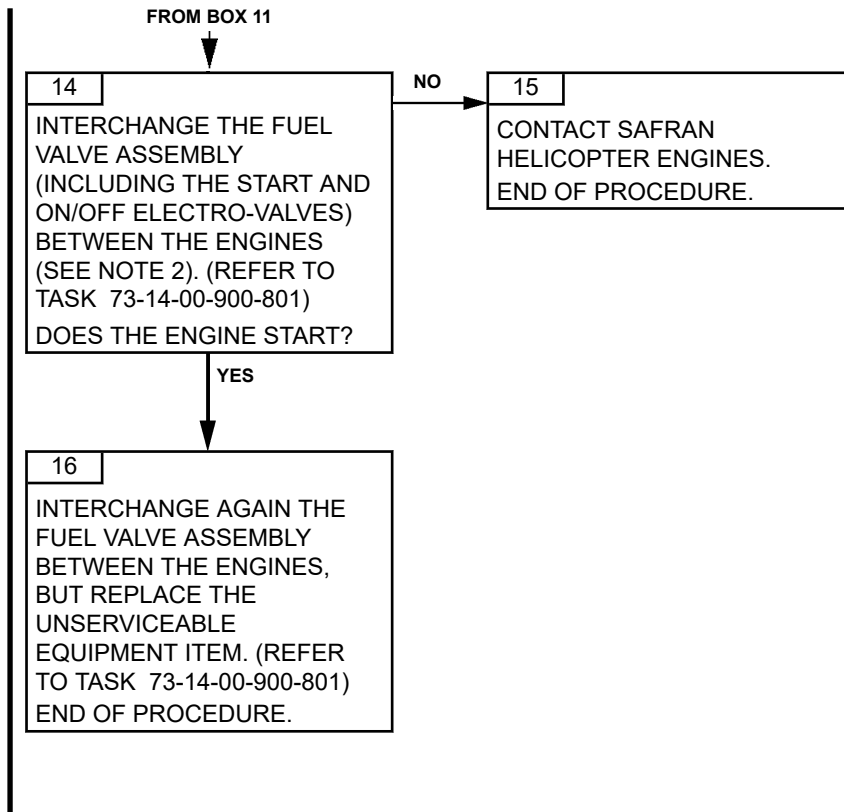
- *If the engine does not start normally, both the equipment items should be reinstalled in their original location and you should perform the next step of the troubleshooting tree.*





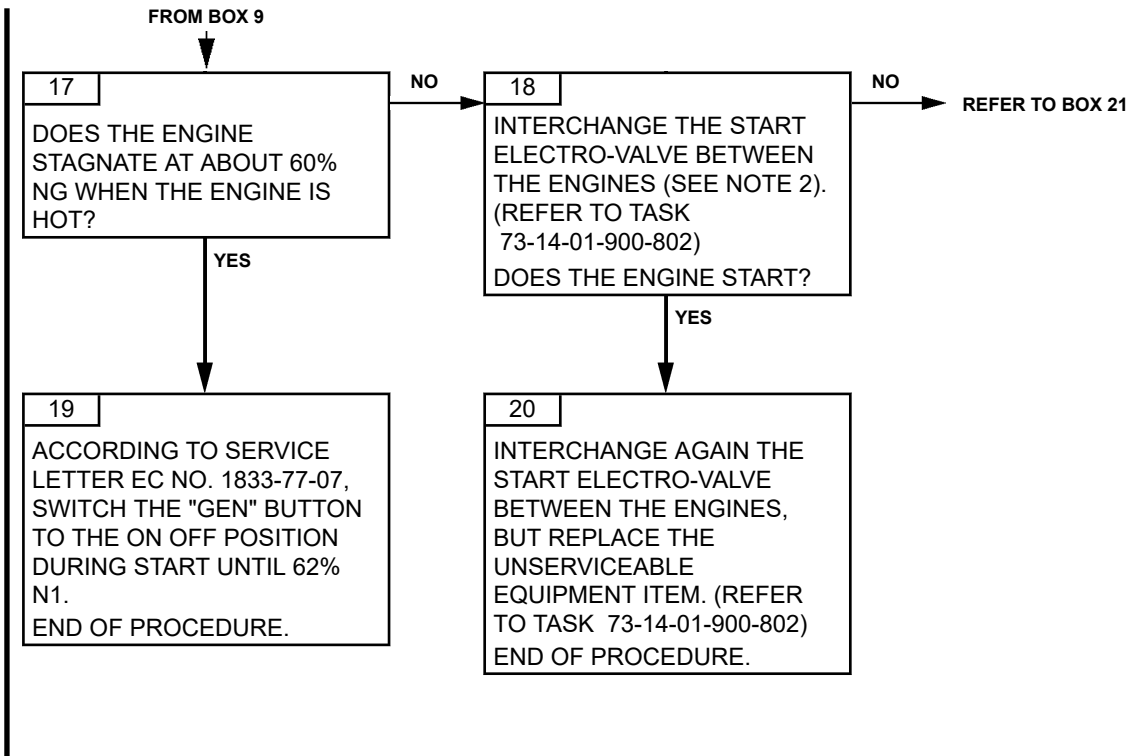


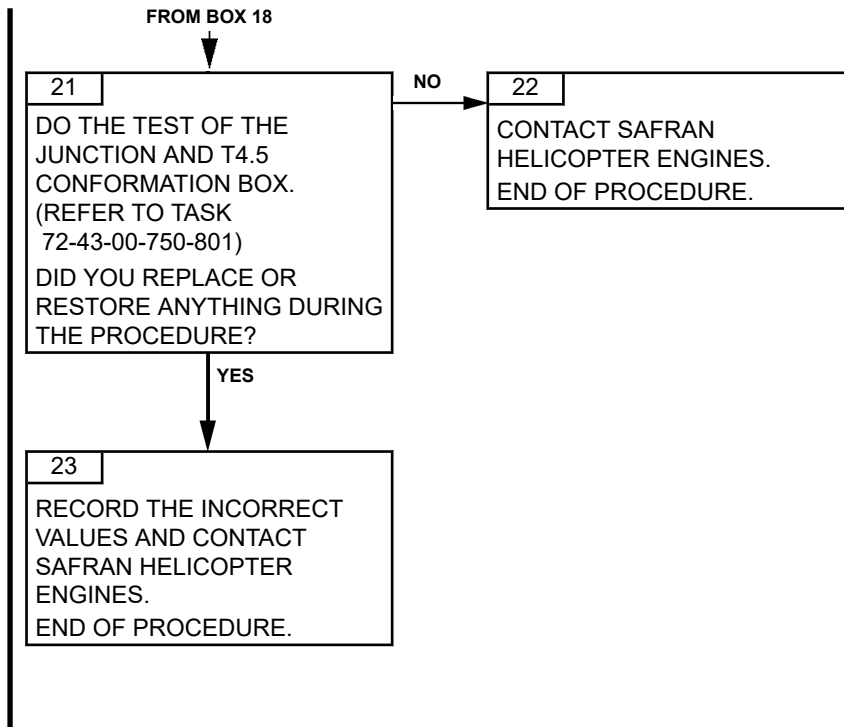




Effectivity: C

Failures observed during engine operation





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TASK 71-00-06-812-810-A01

**ABORTED START - FLAME OUT  
TROUBLESHOOTING****1. GENERAL****A. GENERAL DESCRIPTION**

In the troubleshooting book, there are different troubleshooting tasks concerning aborted start. Titles are:

- **“Aborted start: gas generator not driven”**: Do this troubleshooting task if the gas generator is not driven at all (N1 = 0 %) at the engine start selection or during cranking.
- **“Aborted start: no ignition”**: When the pilot turns the main selector STOP/IDLE/FLIGHT to IDLE or FLIGHT, the EECU launches the starting sequence. At starting, the gas generator is driven but no ignition of the combustion chamber (T4 does not increase).
- **“Aborted start: first start aborted”**: Do this **preventive task** when there are starting difficulties only at the first start of the day, or after the aircraft has been sitting for several hours, i.e. the engine is at ambient temperature.
- **“Aborted start: slow start or stagnation”**: Do this troubleshooting task when the ignition in the combustion chamber is observed, but the N1 speed increases more slowly than usual, or the N1 speed stops increasing during start (and the pilot has to abort manually the starting sequence).
- **“Aborted start: flames at the exhaust pipe”**: Do this troubleshooting task when the starting sequence generates abnormal flames at the exhaust pipe.
- **“Aborted start: flame out”**: Do this troubleshooting task when ignition is observed, the N1 speed increases but the combustion chamber flames out without any action by the pilot.
- **“T4.5 limitations exceeded”**: Do this troubleshooting task when a T4.5 overtemperature is observed during engine running or during starting sequence.

**B. POSSIBLE CAUSES**

- Fuel valve assembly

**2. PROCEDURE**

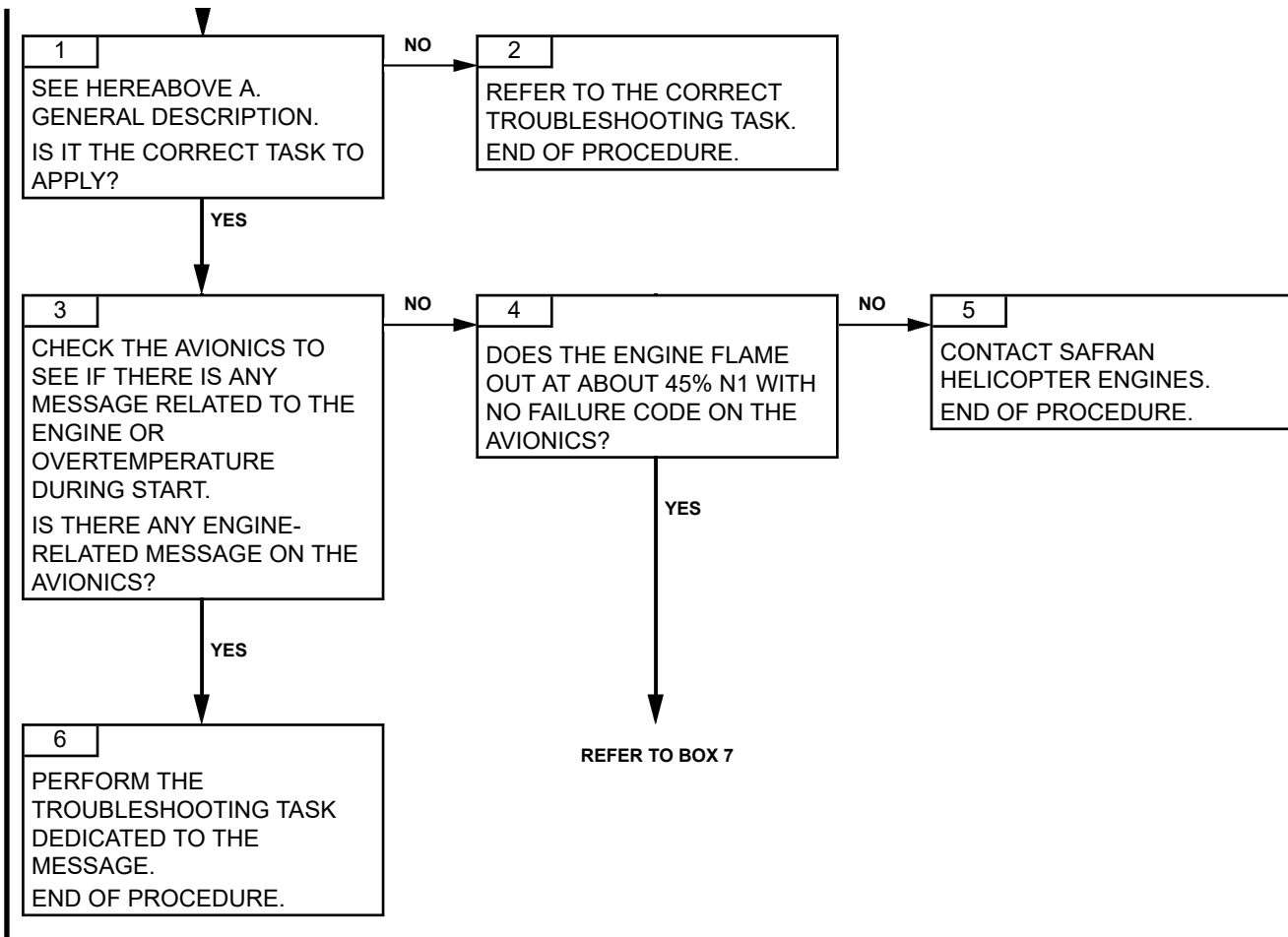
**NOTE:** 1. *In case of a recent maintenance operation performed on this engine or on the aircraft starting system (starter, battery, fuse, selector, harness...), check first the sub-assembly concerned by this maintenance operation, in particular the plug and connectors.*

**NOTE:** 2. *It is possible to interchange an equipment item with another engine.*

- *If the engine starts normally, both equipment items should be reinstalled in their original location in order to confirm the anomaly. If the anomaly is confirmed, then the unserviceable equipment item has to be replaced.*
- *If the engine does not start normally, both the equipment items should be reinstalled in their original location and you should perform the next step of the troubleshooting tree.*

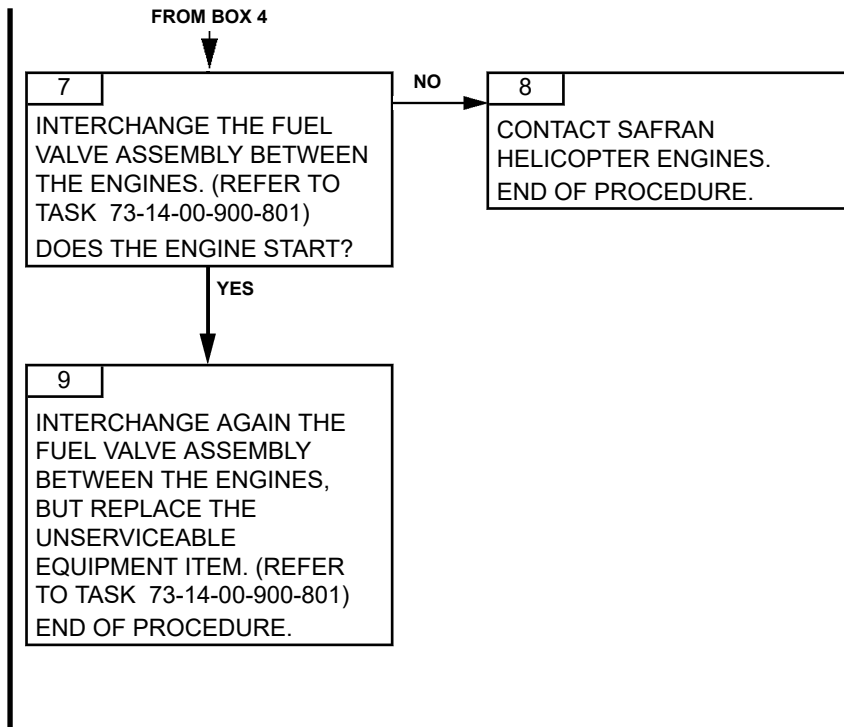
Effectivity: C

Failures observed during engine operation





ARRIEL 2 C



Effectivity: C

Failures observed during engine operation

71-00-06-812-810-A01

The information in this manual is subject to the warning given on the information page.

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June 15/2020

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TASK 71-00-06-812-811-A01

**ABORTED START - FIRST START ABORTED  
TROUBLESHOOTING****1. GENERAL****A. GENERAL DESCRIPTION**

In the troubleshooting book, there are different troubleshooting tasks concerning aborted start. Titles are:

- **“Aborted start: gas generator not driven”**: Do this troubleshooting task if the gas generator is not driven at all (N1 = 0%) at the engine start selection or during cranking.
- **“Aborted start: no ignition”**: When the pilot turns the main selector STOP/IDLE/FLIGHT to IDLE or FLIGHT, the EECU launches the starting sequence. At starting, the gas generator is driven but no ignition of the combustion chamber (T4 does not increase).
- **“Aborted start: first start aborted”**: Do this preventive task when there are starting difficulties only at the first start of the day, or after the aircraft has been sitting for several hours, i.e. the engine is at ambient temperature.
- **“Aborted start: slow start or stagnation”**: Do this troubleshooting task when ignition in the combustion chamber is observed, but the N1 speed increases more slowly than usual, or the N1 speed stops increasing during start (and the pilot has to abort manually the starting sequence).
- **“Aborted start: flames at the exhaust pipe”**: Do this troubleshooting task when the starting sequence generates abnormal flames at the exhaust pipe.
- **“Aborted start: flame out”**: Do this troubleshooting task when ignition is observed, the N1 speed increases but the combustion chamber flames out without any action by the pilot.
- **“T4.5 limitations exceeded”**: Do this troubleshooting task when a T4.5 overtemperature is observed during engine running or during starting sequence.

**B. POSSIBLE CAUSES**

- Varilip seal from the pump and metering unit
- Pump and metering unit assembly (starting drain valve not RLU)
- Aircraft (boost pump)

**2. PROCEDURE**

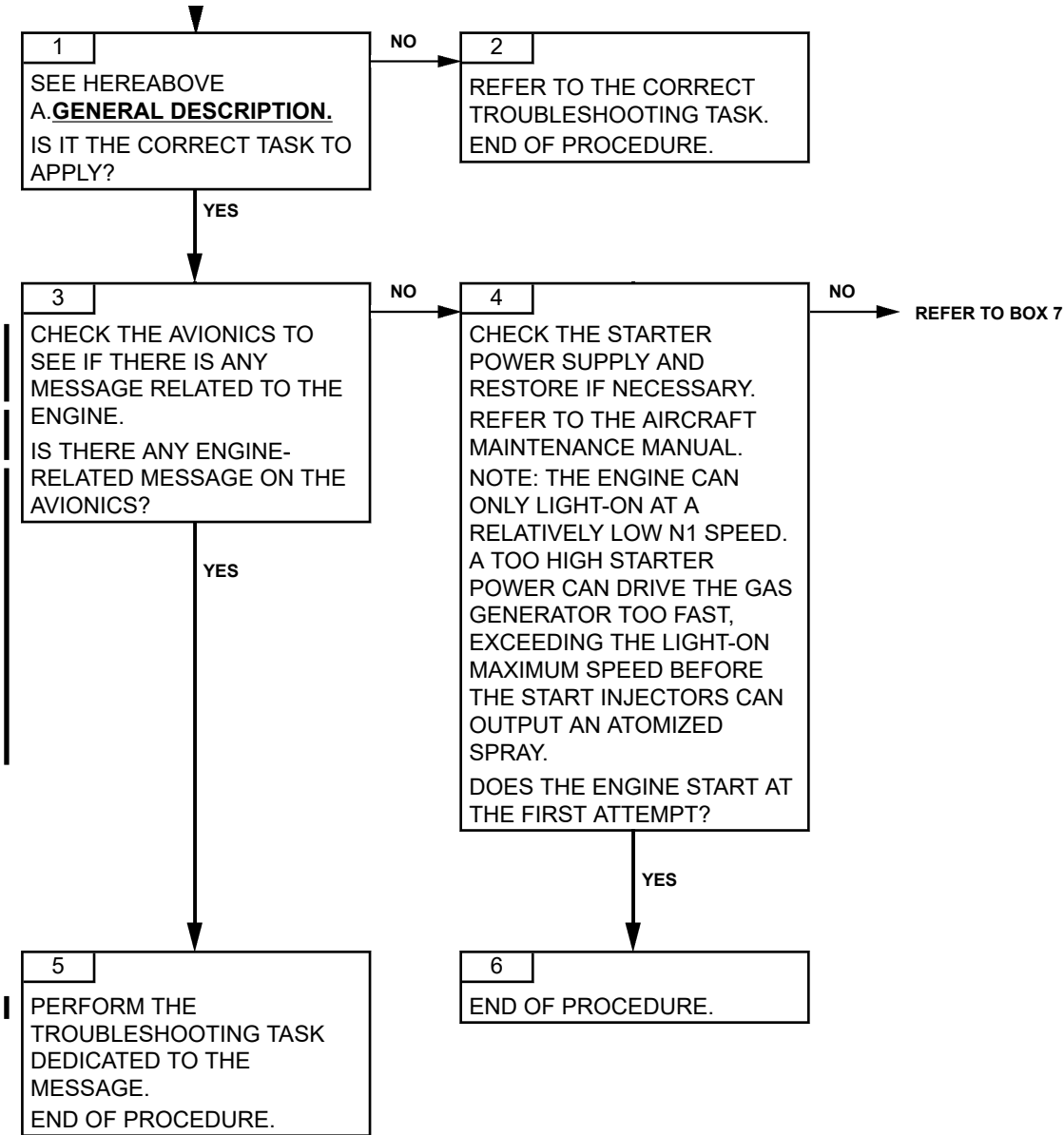
**NOTE:** 1. *In case of a recent maintenance operation performed on this engine or on the aircraft starting system (starter, battery, fuse, selector, harness...), check first the sub-assembly concerned by this maintenance operation, in particular the plug and connectors.*

**NOTE:** 2. *It is possible to interchange an equipment item with another engine.*

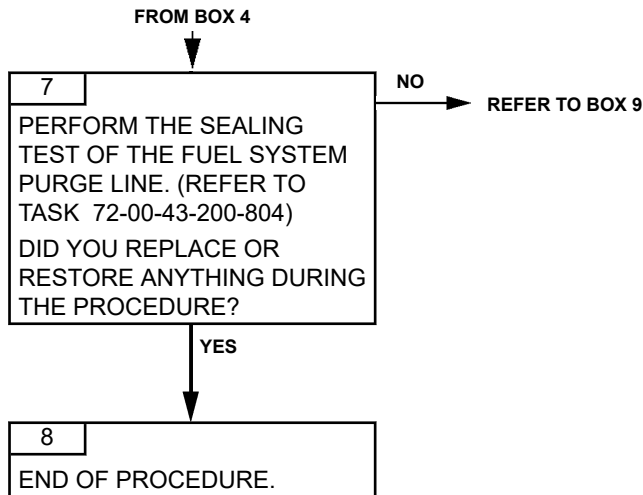
- *If the engine starts normally, both equipment items should be reinstalled in their original location in order to confirm the anomaly. If the anomaly is confirmed, then the unserviceable equipment has to be replaced.*
- *If the engine does not start normally, both the equipment items should be reinstalled in their original location and you should perform the next step of the troubleshooting tree.*

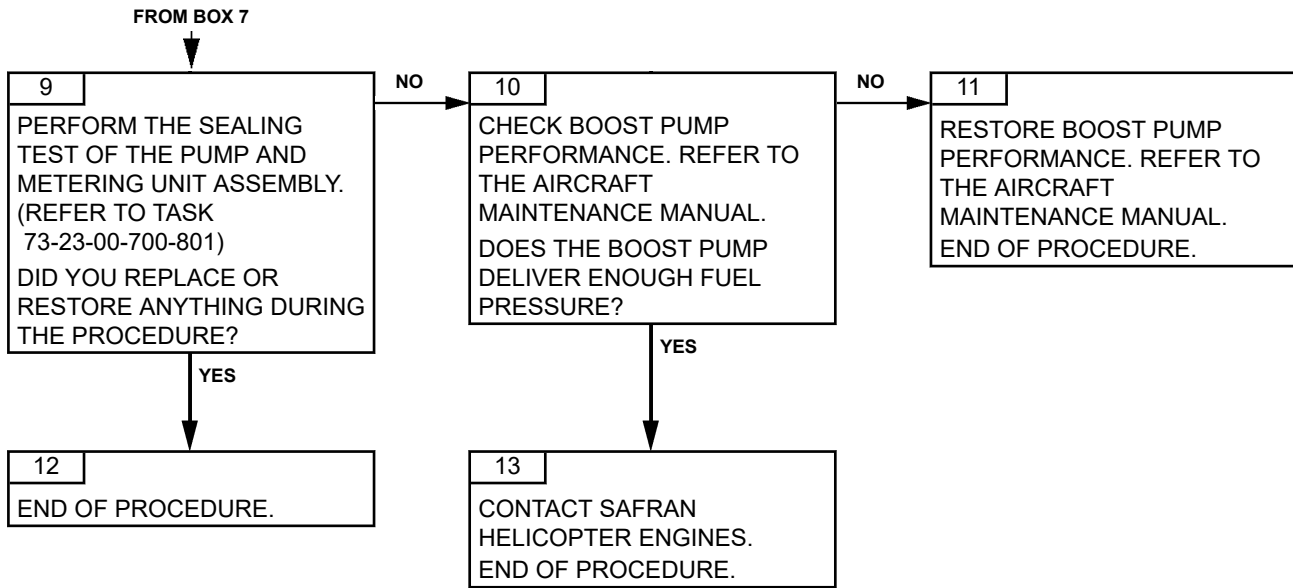
Effectivity: C

Failures observed during engine operation



ARRIEL 2 C





TASK 71-00-06-812-812-A01

**ABORTED START - FLAMES AT THE EXHAUST PIPE  
TROUBLESHOOTING****1. GENERAL****A. GENERAL DESCRIPTION**

In the troubleshooting book, there are different troubleshooting tasks concerning aborted start. Titles are:

- **“Aborted start: gas generator not driven”**: Do this troubleshooting task if the gas generator is not driven at all (N1 = 0%) at the engine start selection or during cranking.
- **“Aborted start: no ignition”**: When the pilot turns the main selector STOP/IDLE/FLIGHT to IDLE or FLIGHT, the EECU launches the starting sequence. At starting, the gas generator is driven but no ignition of the combustion chamber (T4 does not increase).
- **“Aborted start: first start aborted”**: Do this preventive task when there are starting difficulties only at the first start of the day, or after the aircraft has been sitting for several hours, i.e. the engine is at ambient temperature.
- **“Aborted start: slow start or stagnation”**: Do this troubleshooting task when ignition in the combustion chamber is observed, but the N1 speed increases more slowly than usual, or the N1 speed stops increasing during start (and the pilot has to abort manually the starting sequence).
- **“Aborted start: flames at the exhaust pipe”**: Do this troubleshooting task when the starting sequence generates abnormal flames at the exhaust pipe.
- **“Aborted start: flame out”**: Do this troubleshooting task when ignition is observed, the N1 speed increases but the combustion chamber flames out without any action by the pilot.
- **“T4.5 limitations exceeded”**: Do this troubleshooting task when a T4.5 overtemperature is observed during engine running or during starting sequence.

**B. POSSIBLE CAUSES**

- Start injectors
- Combustion chamber drain valve

**2. PROCEDURE**

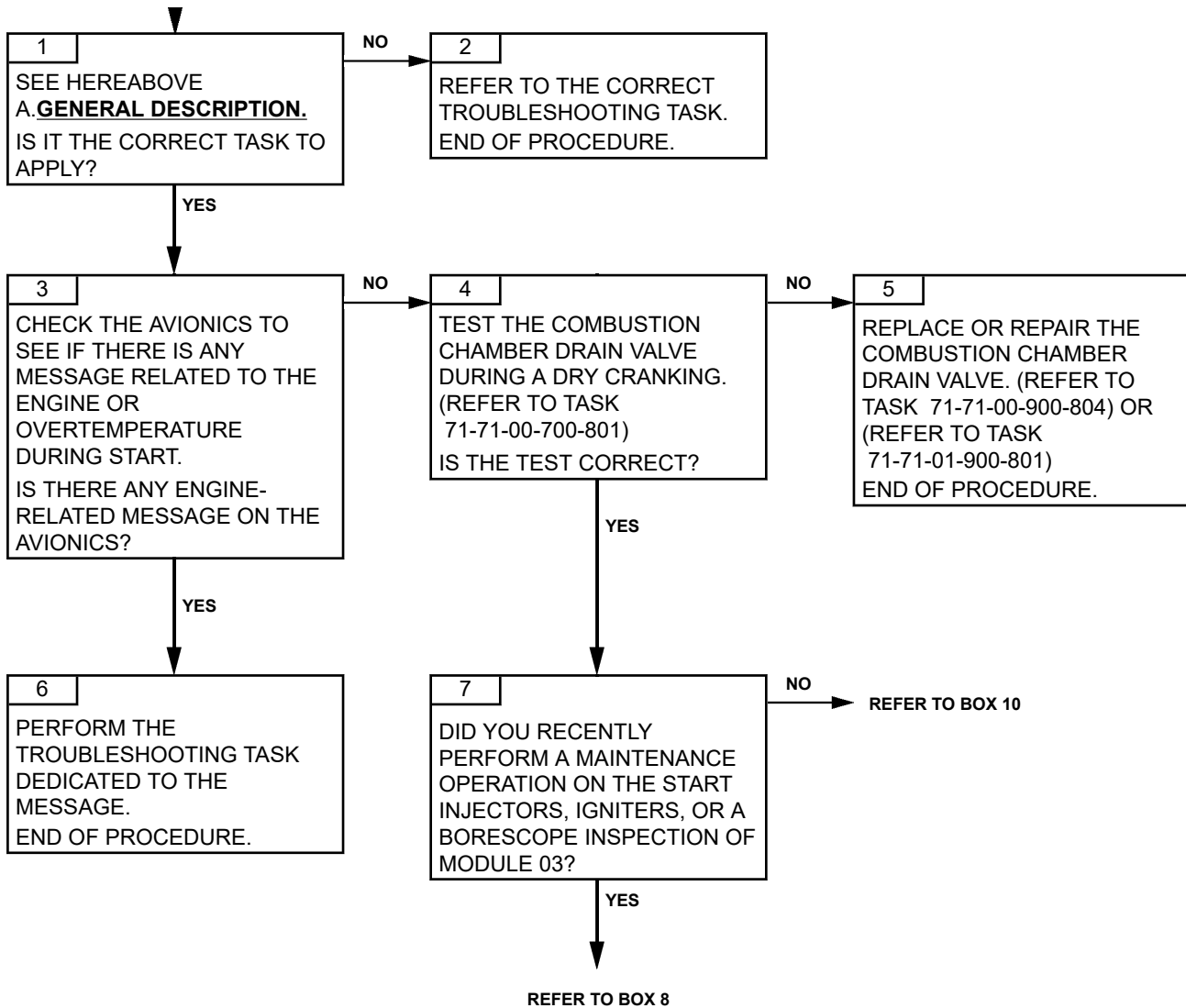
**NOTE:** *1. In case of a recent maintenance operation performed on this engine or on the aircraft starting system (starter, battery, fuse, selector, harness...), check first the sub-assembly concerned by this maintenance operation, in particular the plug and connectors.*

**NOTE:** *It is possible to interchange an equipment item with another engine.*

- *If the engine starts normally, both equipment items should be reinstalled in their original location in order to confirm the anomaly. If the anomaly is confirmed, then the unserviceable equipment has to be replaced.*
- *- If the engine does not start normally, both the equipment items should be reinstalled in their original location and you should perform the next step of the troubleshooting tree.*

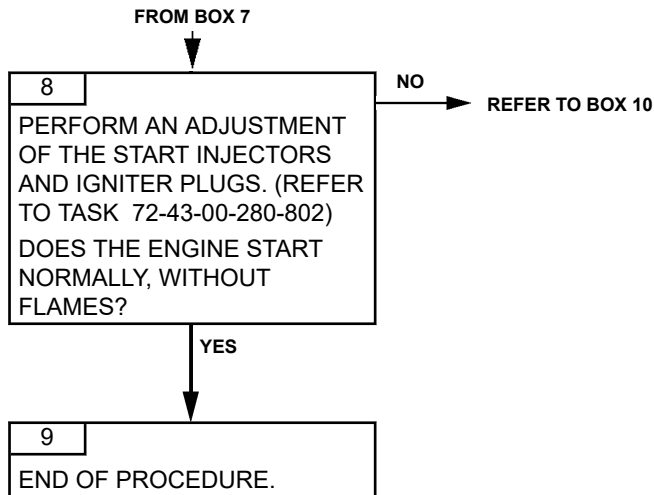
Effectivity: C

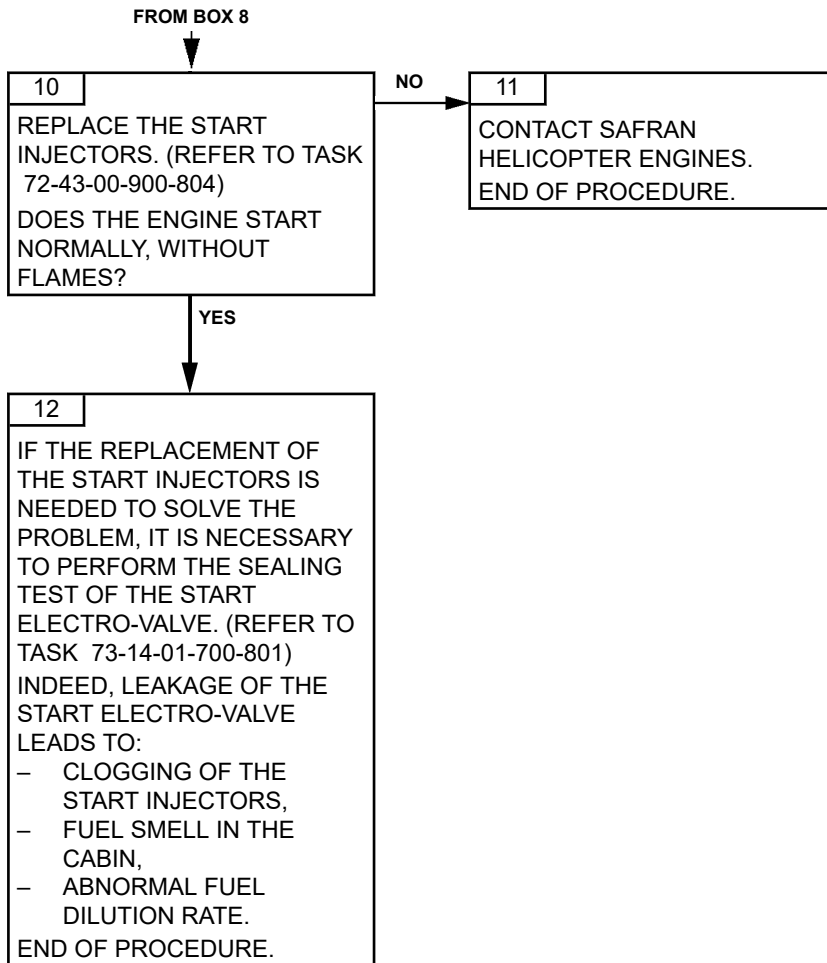
Failures observed during engine operation





ARRIEL 2 C





TASK 71-00-06-812-813-A01

### NO OIL PRESSURE RISE AT STARTING TROUBLESHOOTING

#### 1. GENERAL

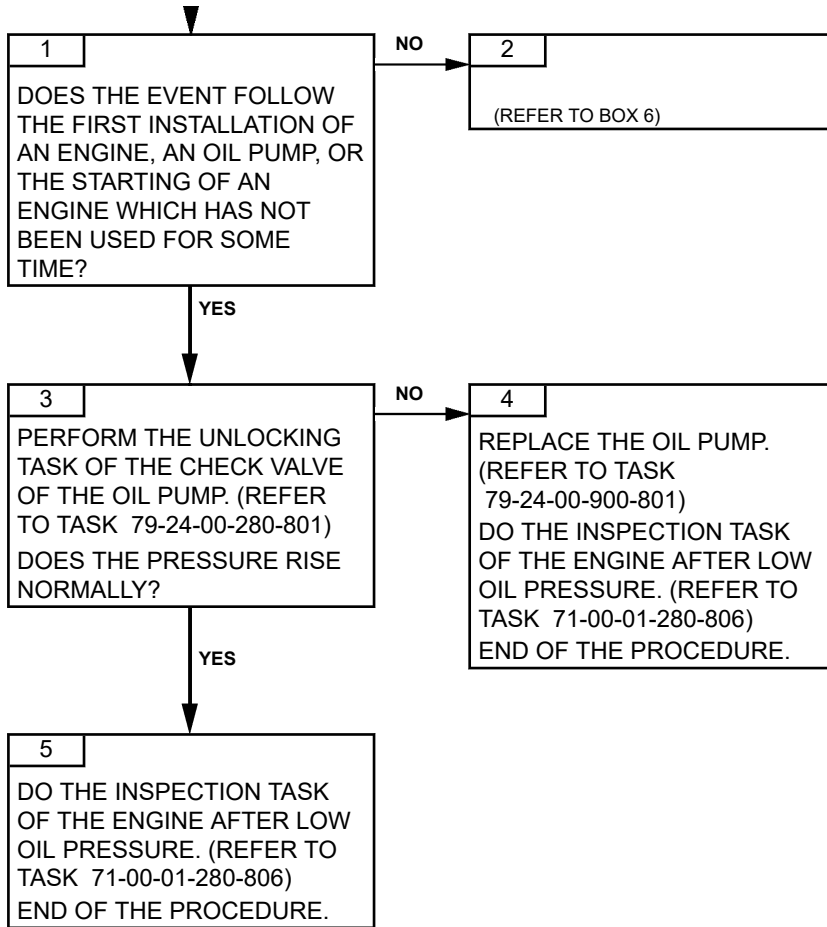
##### | A. GENERAL DESCRIPTION

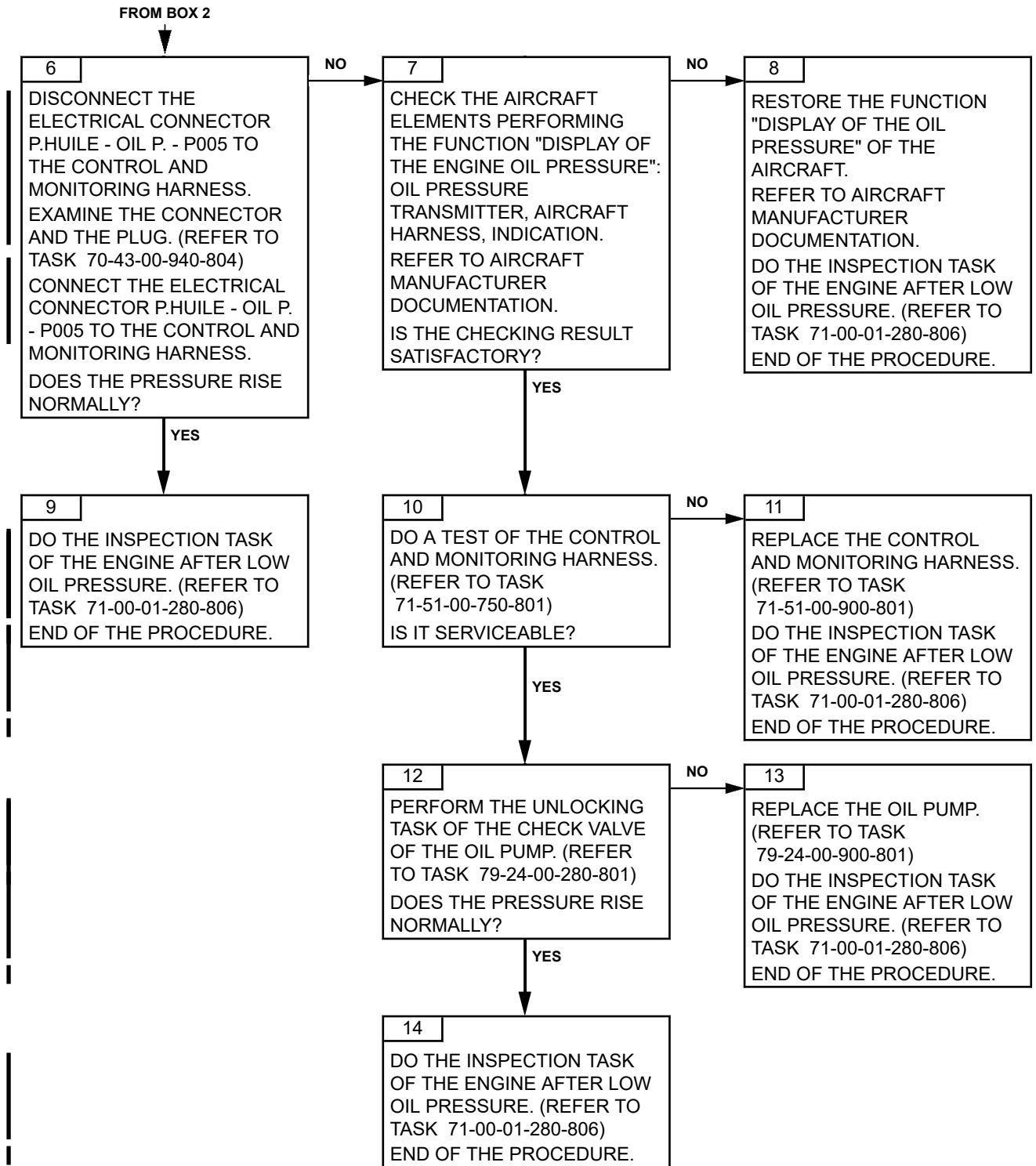
| In normal operation, at engine start, the oil pressure must rise.

##### | B. POSSIBLE CAUSES

- Oil pump
- Control and monitoring harness
- Aircraft (oil pressure transmitter, harnesses, indication)

#### 2. PROCEDURE





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TASK 71-00-06-812-816-A01

**HELICOPTER ROTOR MOVEMENT THAT OCCURS  
AFTER THE USUAL TIME DURING ENGINE START  
TROUBLESHOOTING****1. GENERAL****A. PHASE AND FAILURE DETECTION**

<i>PHASE</i>	<i>INDICATION</i>	
	<i>ALARMS VEMD</i>	<i>WARNING INDICATOR LIGHTS</i>
Start		

**B. REMINDER OF THE NORMAL OPERATING CONDITION OR FAILURE  
DETECTION**

- Refer to the rotor movement criteria in the Flight Manual (chapter "Engine starting")

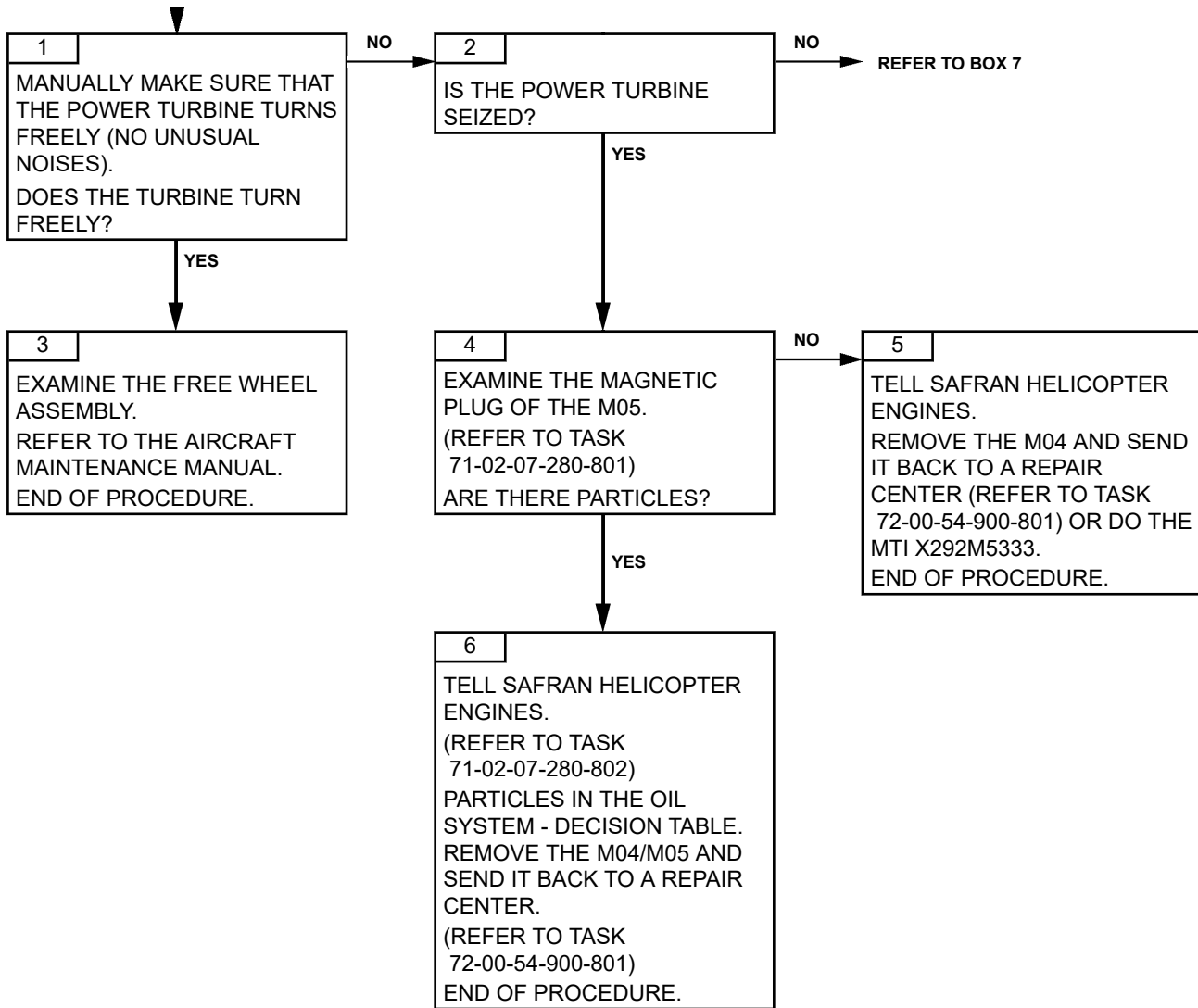
**C. POSSIBLE CAUSES**

- Signs of rub of the PT blade tip against the PT shroud (M04)
- Free wheel assembly - sliding
- Labyrinth ring

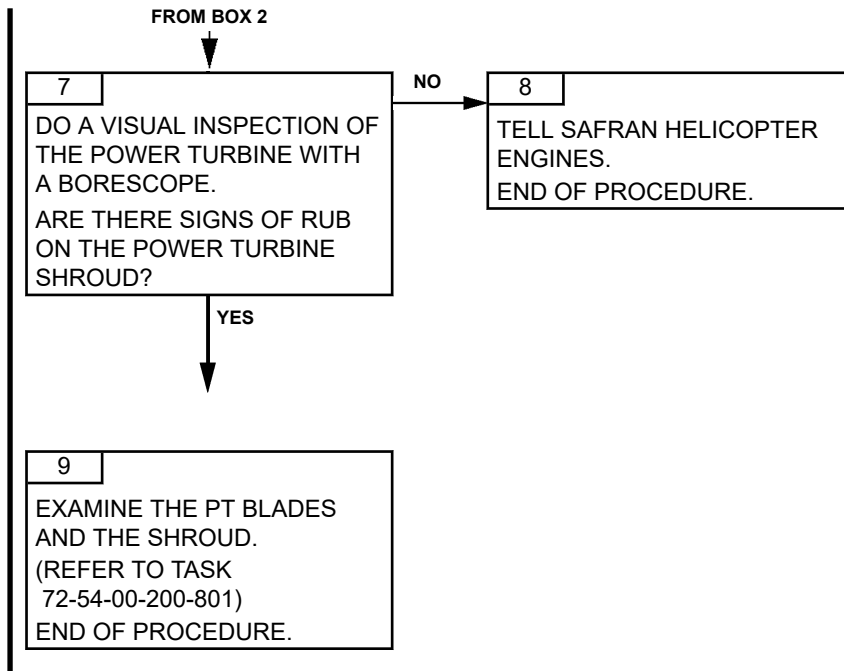
**2. PROCEDURE**

Effectivity: C

Failures observed during engine operation







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TASK 71-00-06-813-801-A01

**SURGE  
TROUBLESHOOTING****1. GENERAL****A. GENERAL DESCRIPTION**

The engine surge is an abnormal phenomenon.

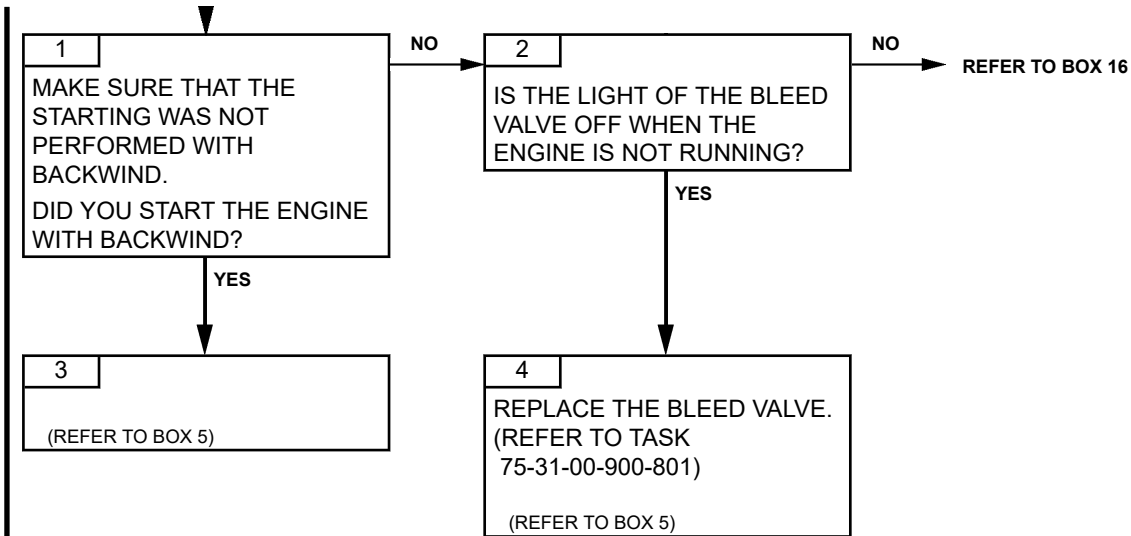
It is important to understand and to treat the root cause before treating the engine after surge.

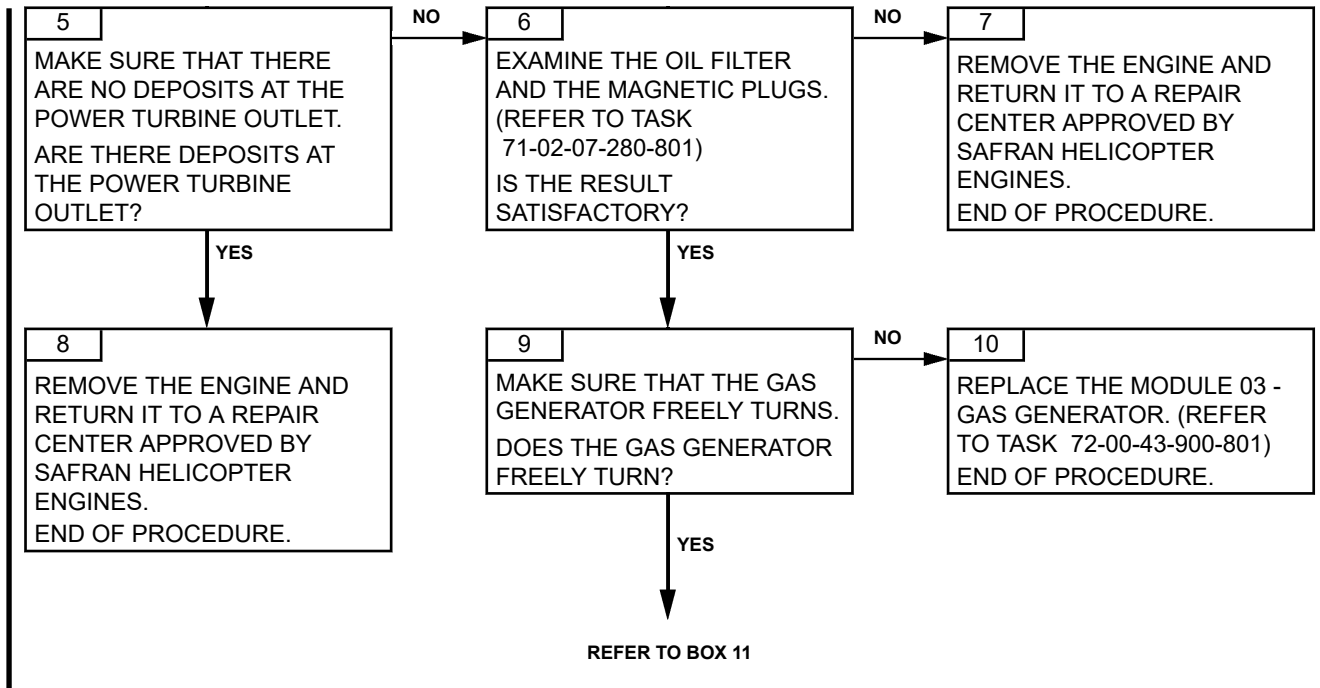
**B. POSSIBLE CAUSES**

- Air intake
- Bleed valve

**2. PROCEDURE**

***NOTE:*** *First, the fault isolation procedure helps you to find the root cause and to repair the engine part related to that root cause. After that, the troubleshooting procedure gives the checks and repairs of the event consequences on the engine.*

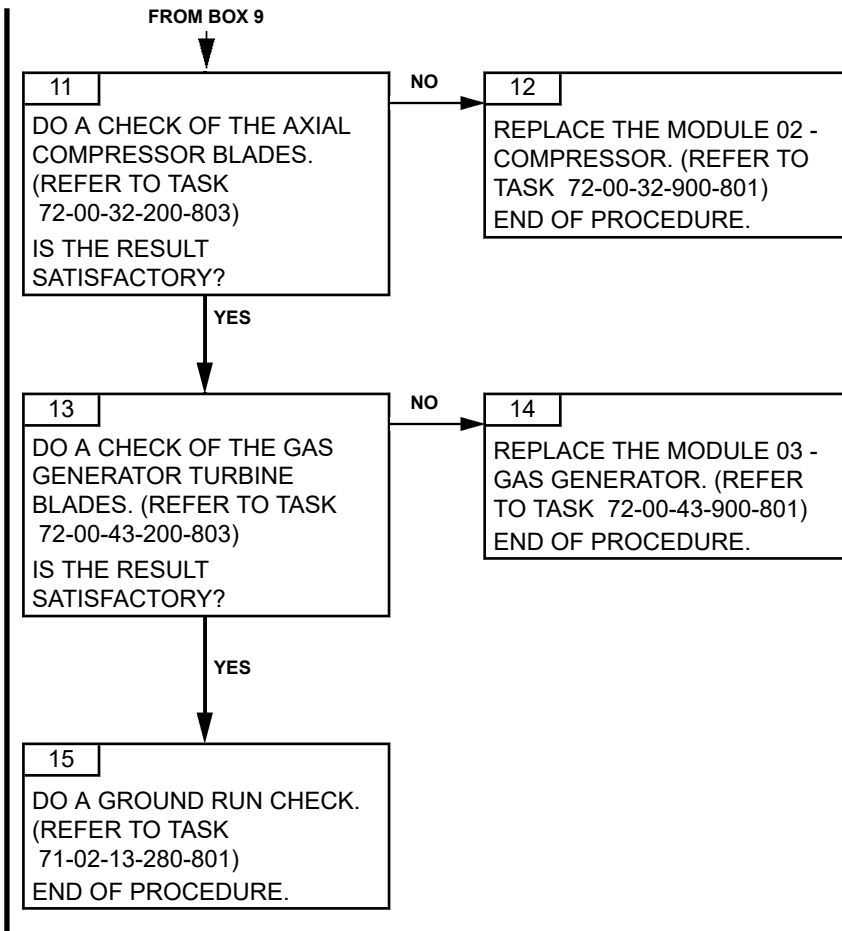


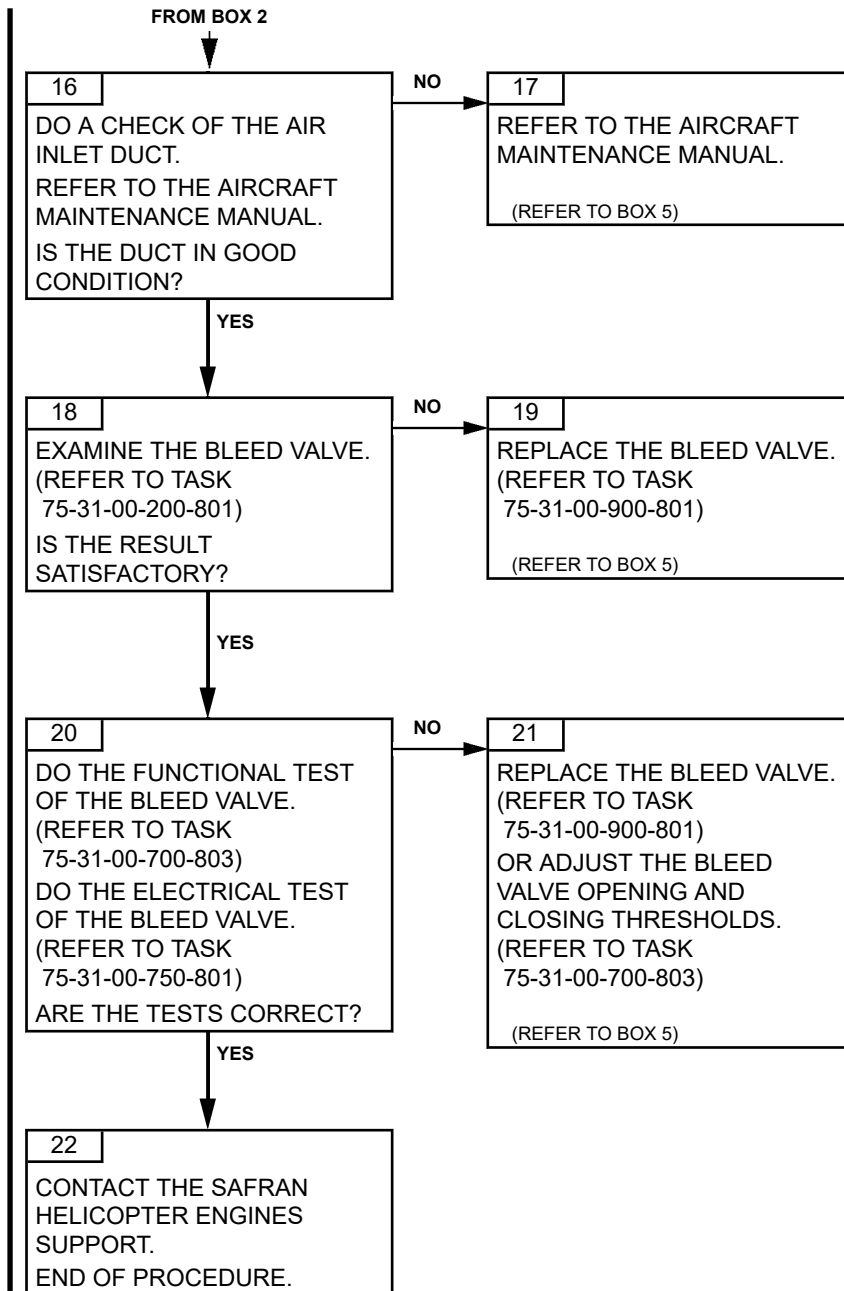


Effectivity: C

Failures observed during transient rating

71-00-06-813-801-A01





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TASK 71-00-06-814-801-A01

**ENG CHIP ON - INDICATOR LIGHT OF THE ELECTRICAL MAGNETIC PLUG ON TROUBLESHOOTING****1. GENERAL****A. INDICATION ON THE AVIONICS**

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE RUNNING		Amber CHIP 1 or CHIP 2

**B. GENERAL DESCRIPTION**

During operation, the amber CHIP 1 and CHIP 2 messages must not show. The use of the particle burners must not have switched them off.

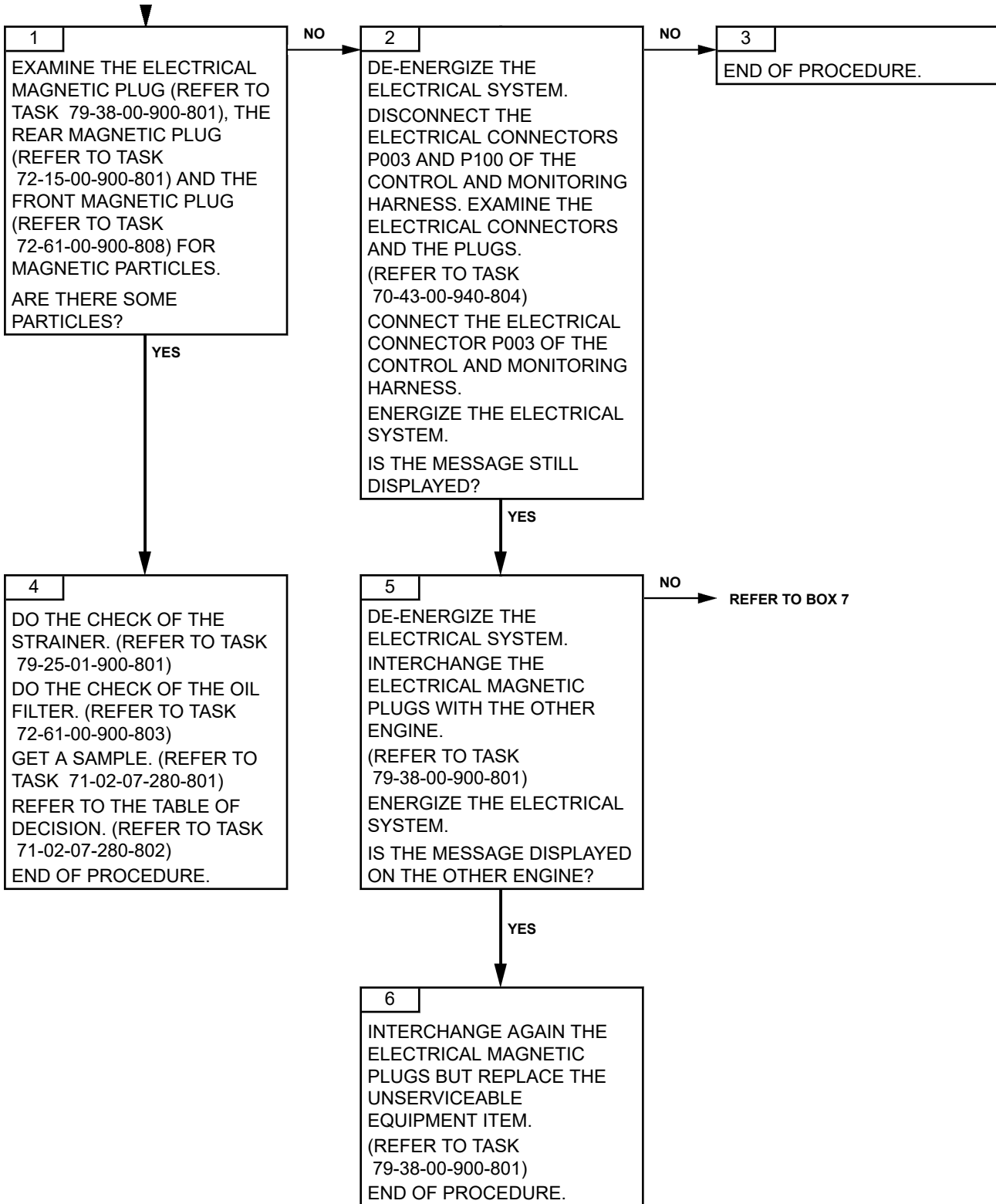
**C. POSSIBLE CAUSES**

- Engines modules
- Electrical magnetic plug
- Control and monitoring harness
- Aircraft

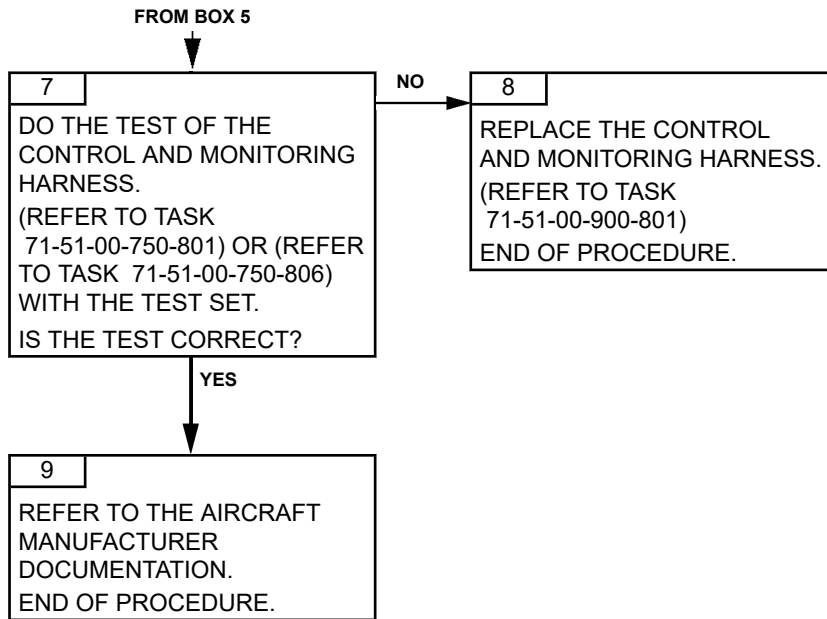
**2. PROCEDURE**

Effectivity: C

Failures observed during engine operation



ARRIEL 2 C



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TASK 71-00-06-814-802-A01

## FUEL FILT ON - PRE-BLOCKAGE SIGNAL OF THE FUEL FILTERING ELEMENT TROUBLESHOOTING

### 1. GENERAL

#### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE RUNNING		Amber FUEL and FILT on

#### B. GENERAL DESCRIPTION

The engine is equipped of:

- one fuel filter pre-blockage pressure switch connected to the aircraft.
- one red fuel filter mechanical blockage indicator.

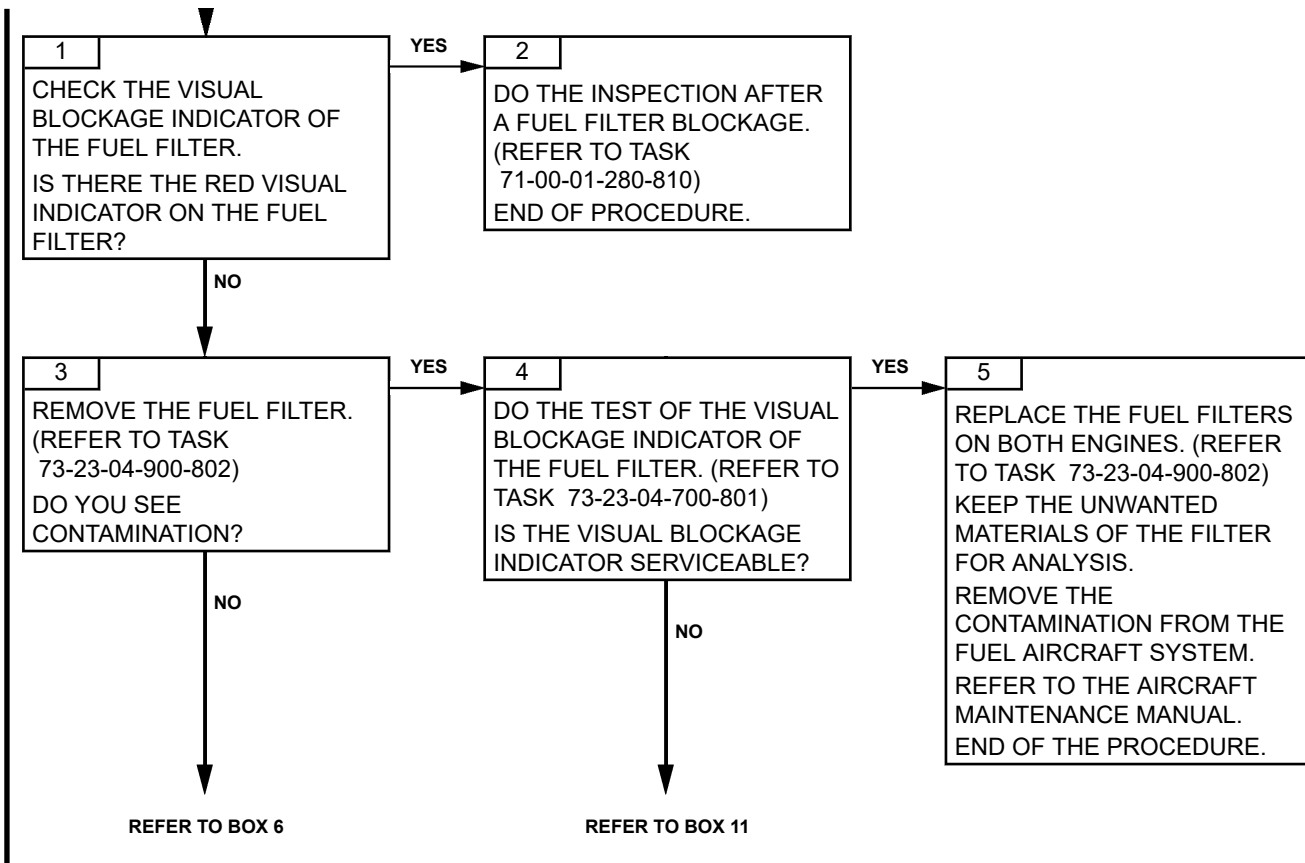
#### C. POSSIBLE CAUSES

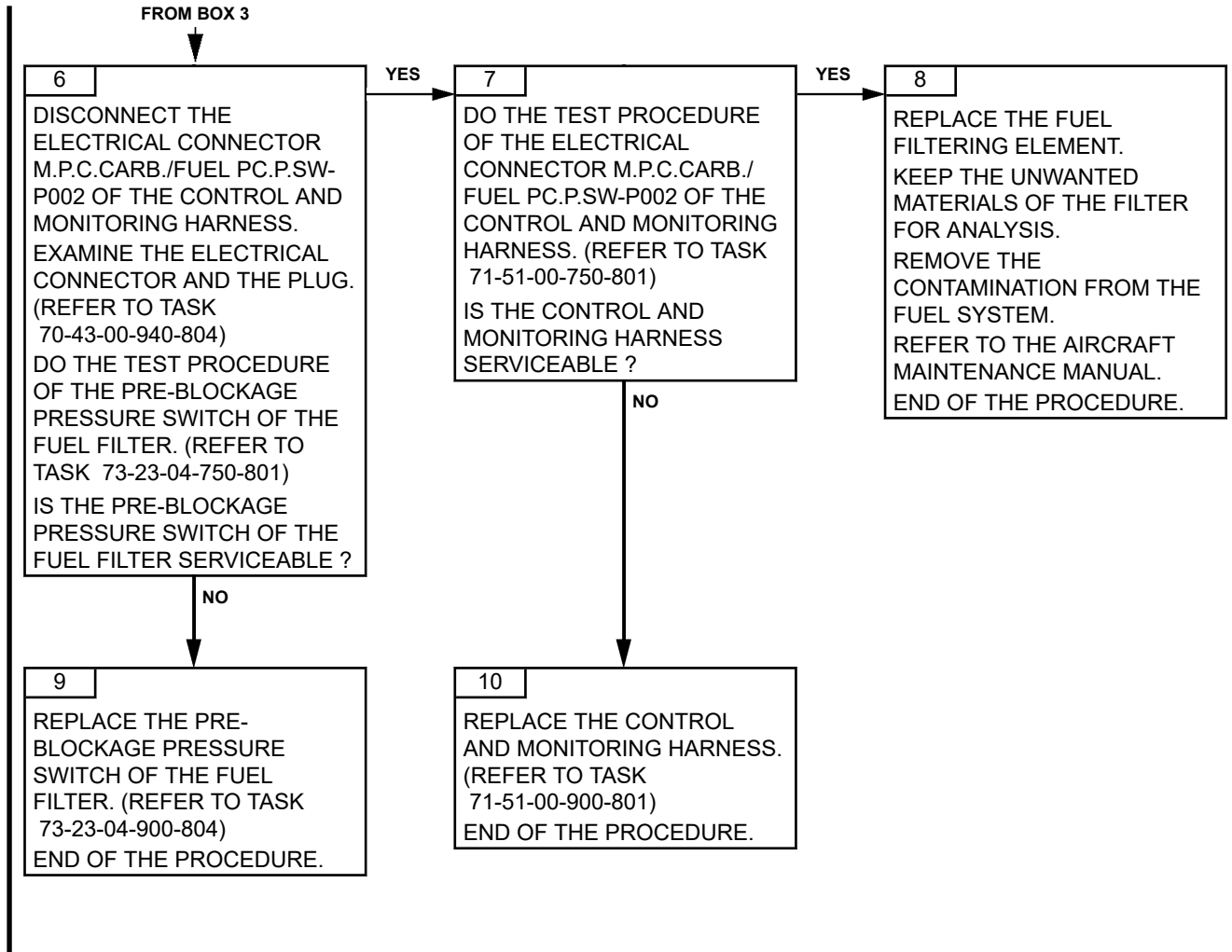
- Pre-blockage pressure switch of the fuel filter
- Control and monitoring harness
- Visual blockage indicator of the fuel filter
- Fuel contamination.

### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation





FROM BOX 4



11

DO THE INSPECTION AFTER  
A FUEL FILTER BLOCKAGE.  
(REFER TO TASK  
71-00-01-280-810)  
END OF PROCEDURE.



TASK 71-00-06-814-803-A01

### FUEL P ON - LOW FUEL PRESSURE SIGNAL TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE RUNNING		Amber FUEL and FUEL P on

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

During operation, the amber FUEL and FUEL P lights must be off.

##### C. POSSIBLE CAUSES

- Low fuel pressure-switch
- Control and monitoring harness
- Aircraft electrical harness
- Pump and metering unit assembly

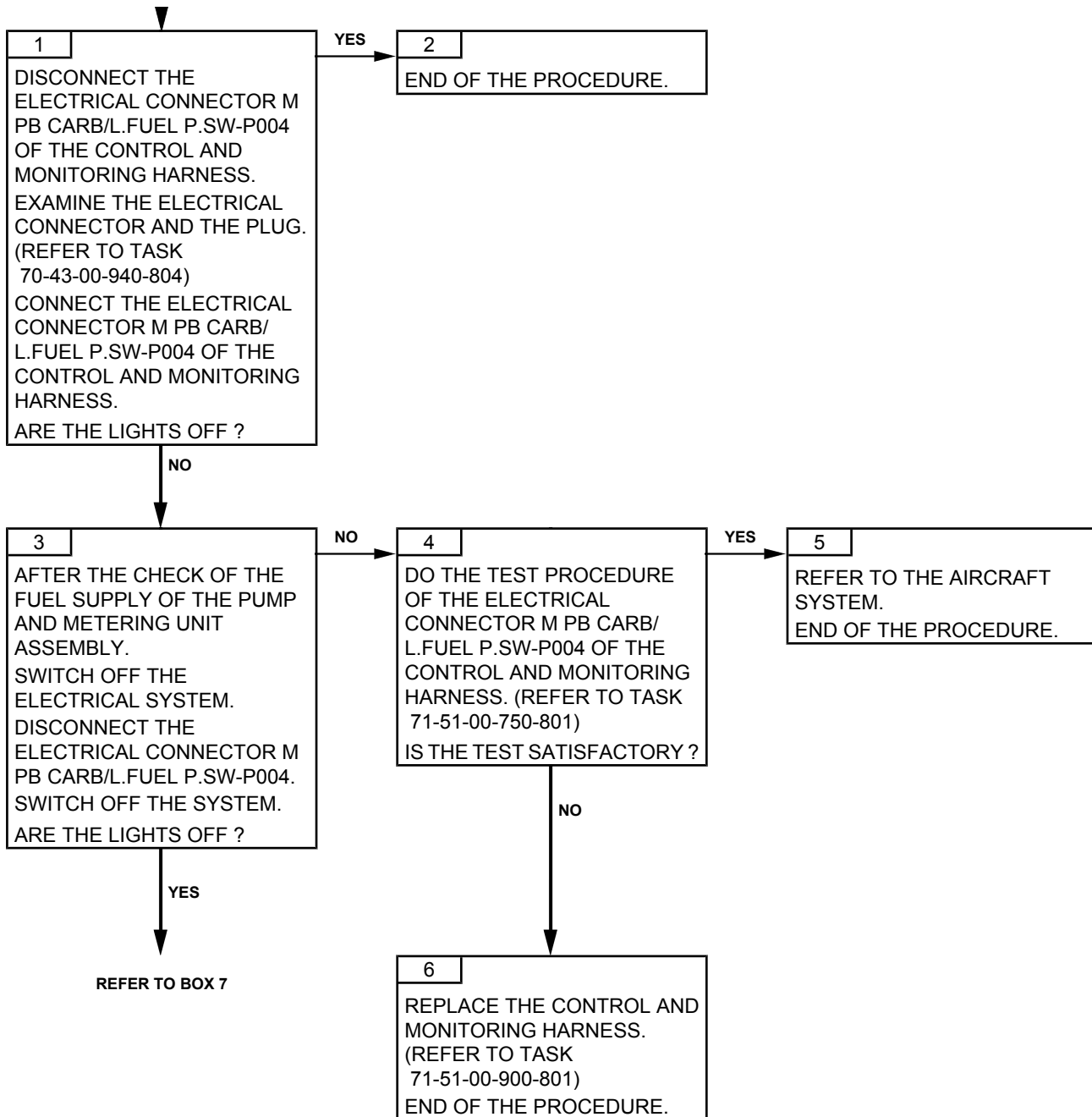
#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation

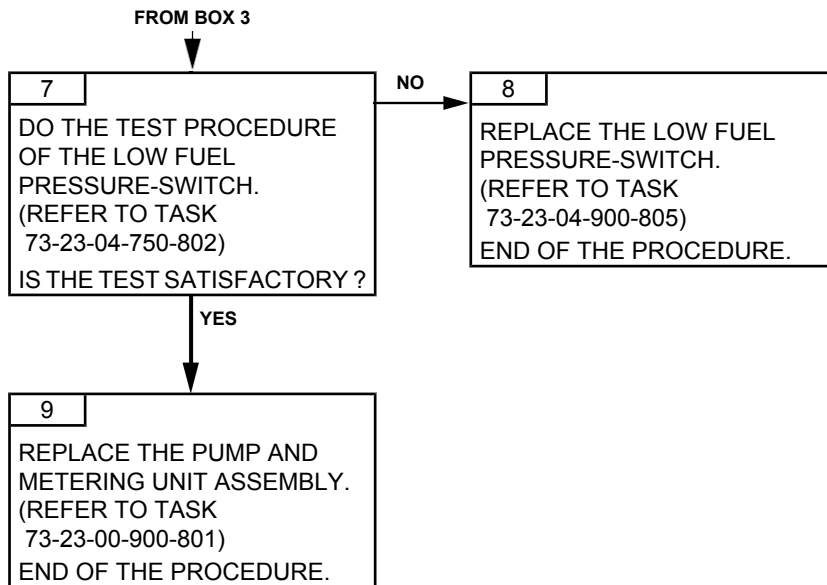
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation



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TASK 71-00-06-814-805-A01

### ENGINE PARAMETER OUT OF LIMIT - TORQUE LIMITATIONS EXCEEDED TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE RUNNING	A E O T Q O E I T Q	

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

Torque limitations:

- (Refer to Task 71-00-01-940-801) for the engine limitation.
- Refer to the aircraft maintenance documentation for the limitations of the main gearbox.

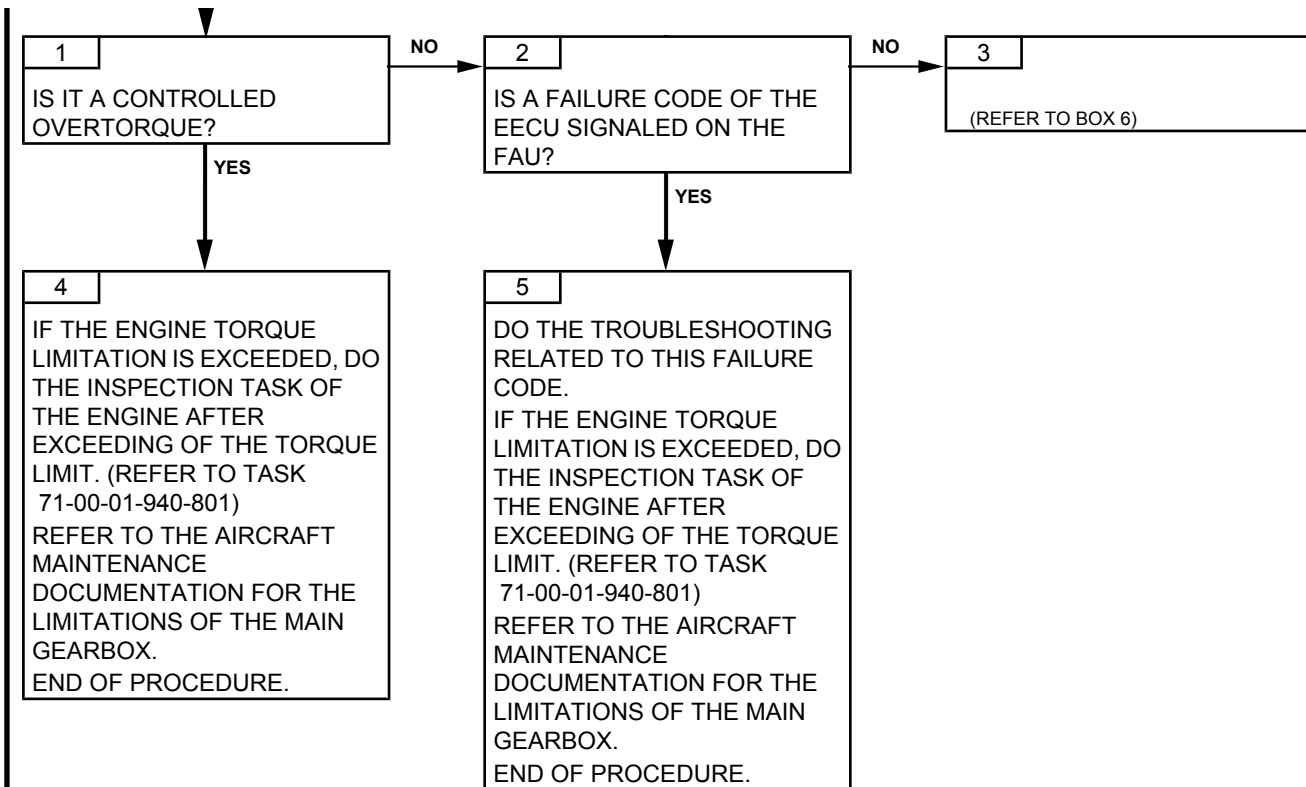
##### C. POSSIBLE CAUSES

- Controlled overtorque
- Pump and Metering Unit assembly
- Measurement system.

#### 2. PROCEDURE

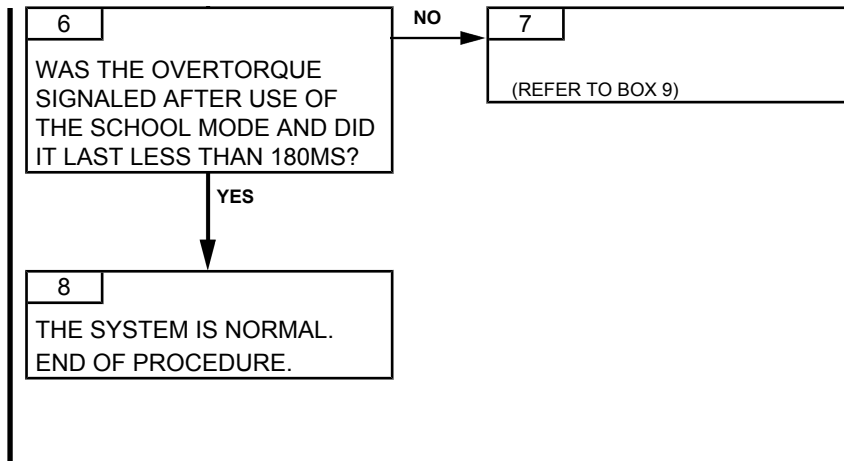
Effectivity: C

Failures observed during engine operation



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

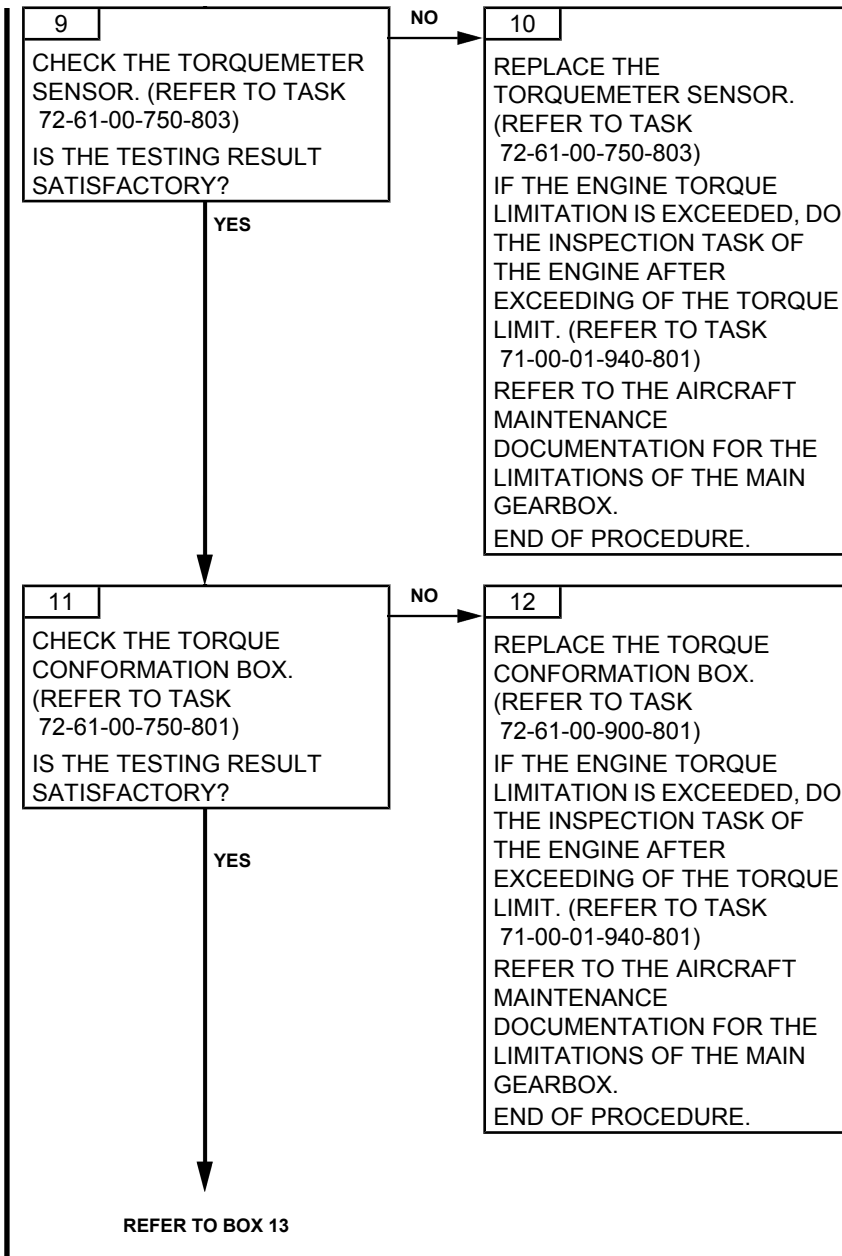


Effectivity: C

Failures observed during engine operation

# TURBOMECA ARRIEL 2 C

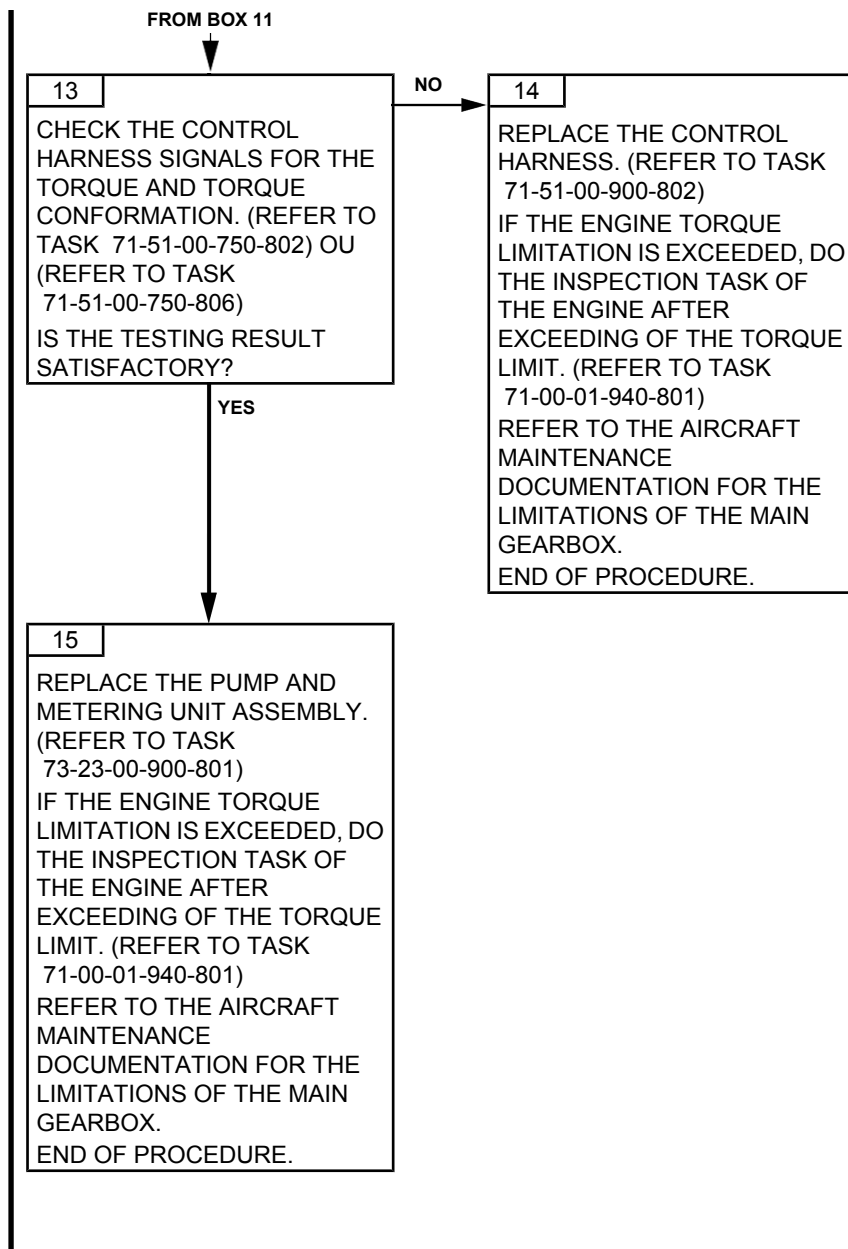
## MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation





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TASK 71-00-06-814-806-A01

### ENGINE PARAMETER OUT OF LIMIT - N1 LIMITATIONS EXCEEDED TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE RUNNING		

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

N1 limitations (Refer to Task 71-00-01-940-801).

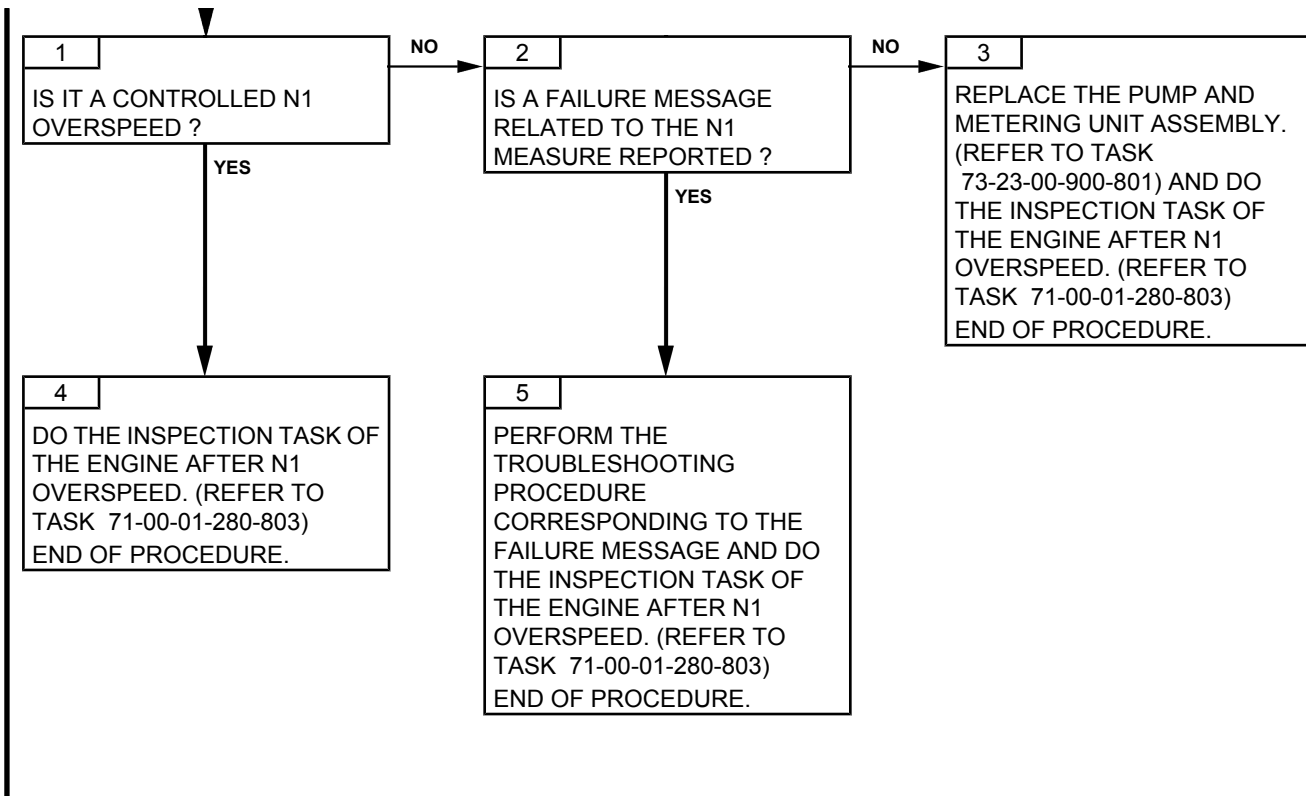
##### C. POSSIBLE CAUSES

- Controlled overspeed
- Pump and metering Unit assembly
- N1 measurement system.

#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation



Effectivity: C

Failures observed during engine operation

TASK 71-00-06-814-807-A01

### ENGINE PARAMETER OUT OF LIMIT - N2 LIMITATIONS EXCEEDED TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE RUNNING	OVSP	Red GOV, DIFF NG

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

N2 limitations (Refer to Task 71-00-01-940-801)

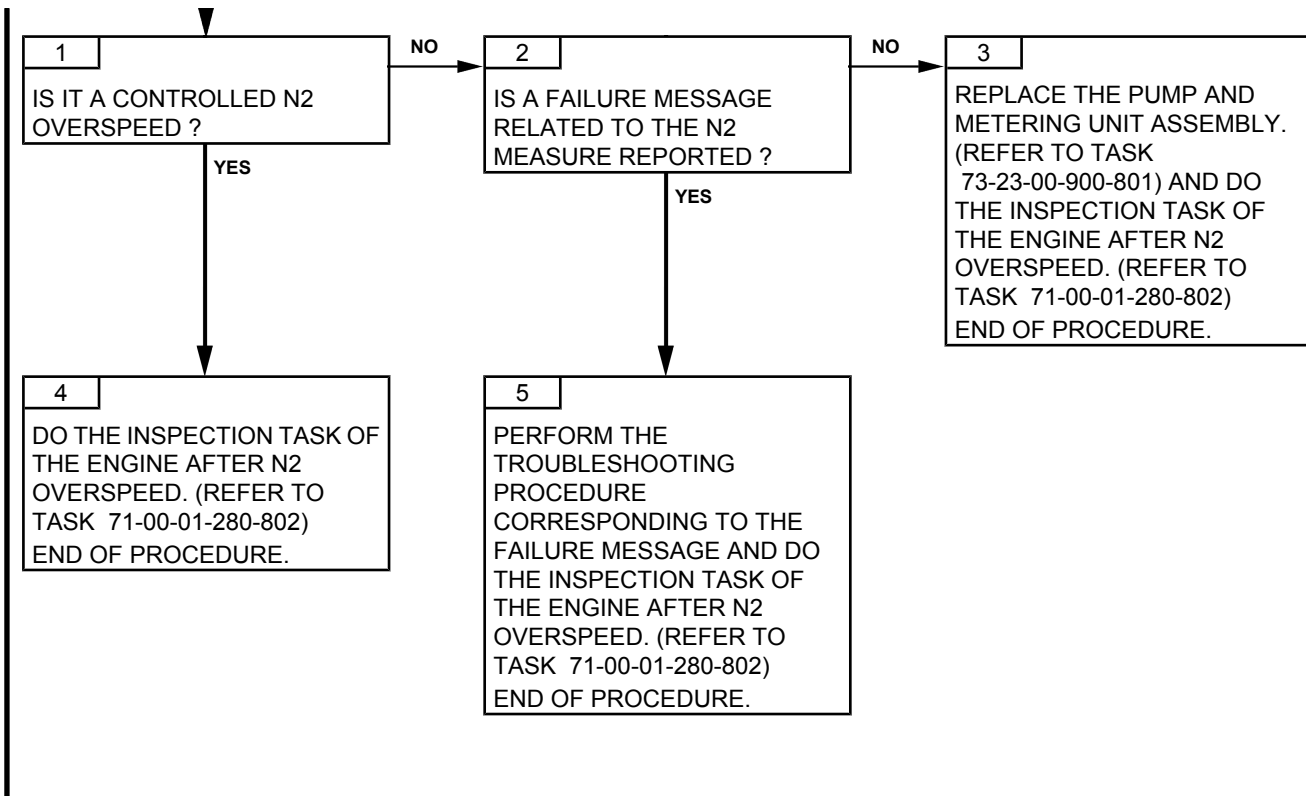
##### C. POSSIBLE CAUSES

- Controlled overspeed
- Pump and metering Unit assembly
- N2 measurement system.

#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation



TASK 71-00-06-814-808-A01

### PARAMETER INSTABILITY - OIL PRESSURE TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE RUNNING		

##### B. FAILURE DETECTION CONDITIONS

Evolution of the oil pressure during the flight.

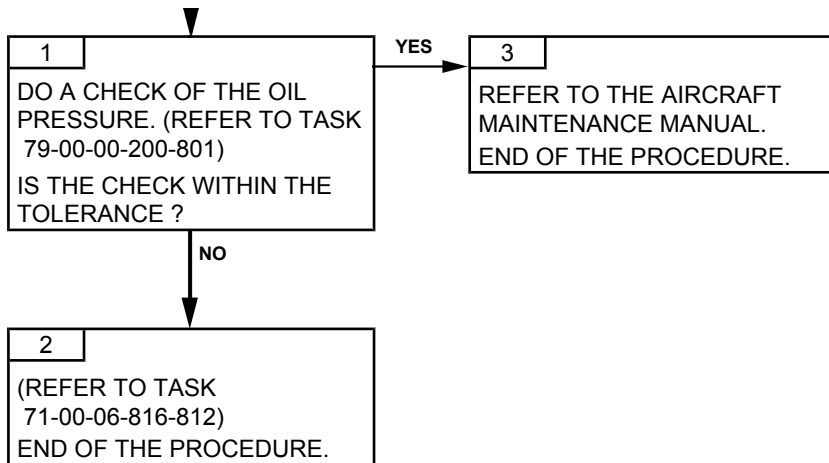
##### C. POSSIBLE CAUSES

- Leakage
- Oil system contamination
- Oil pump
- Reduction gearbox module (M05)

#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation





TASK 71-00-06-814-809-A01

### ENG P ON - LOW OIL PRESSURE SIGNAL TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE RUNNING		Red ALARM and ENG 1 or ENG 2 on

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

During operation, the ALARM and ENG1 or ENG2 lights must be off for an oil pressure  $P > 130$  kPa (18.9 PSI).

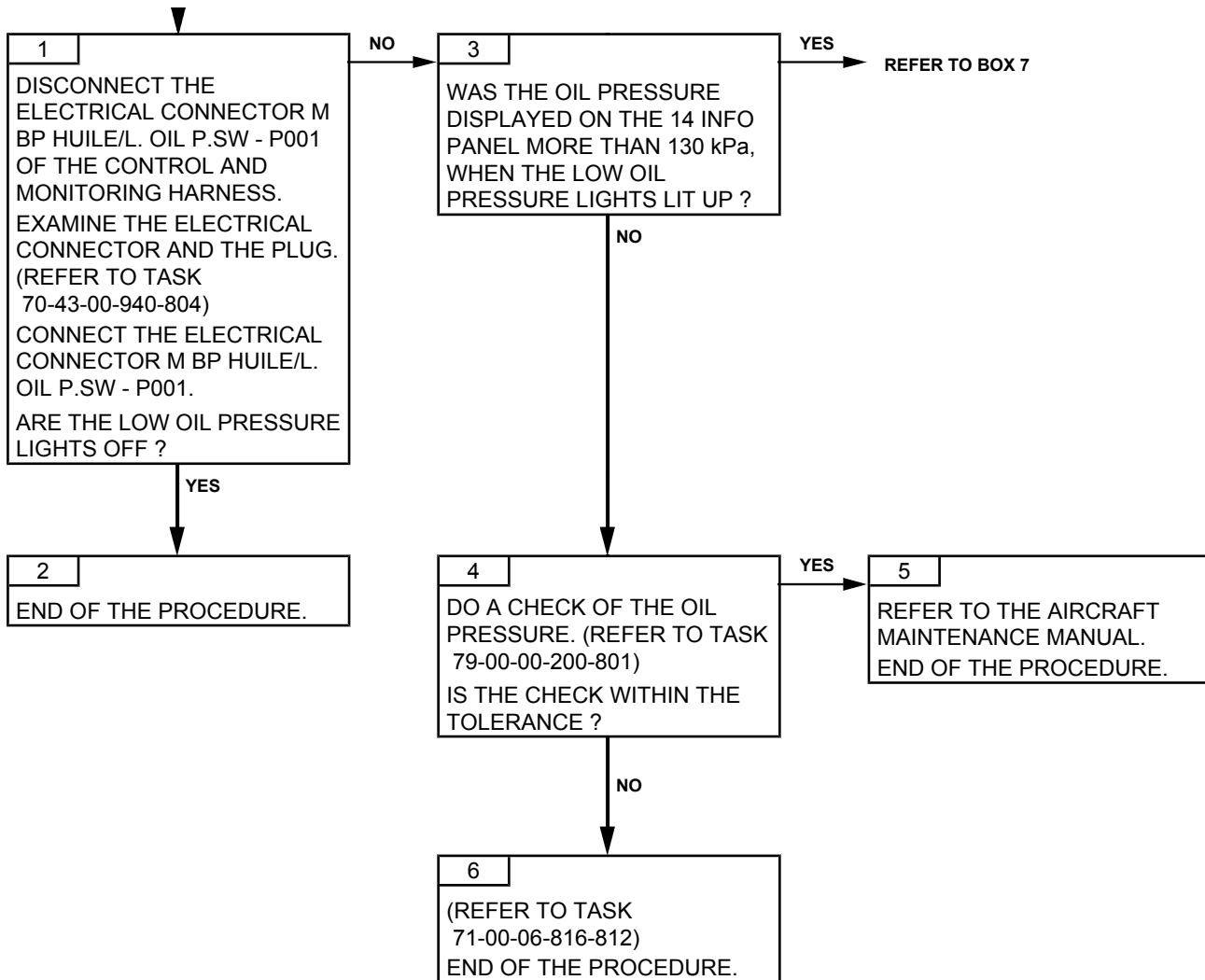
##### C. POSSIBLE CAUSES

- Low oil pressure-switch
- Control and monitoring harness

#### 2. PROCEDURE

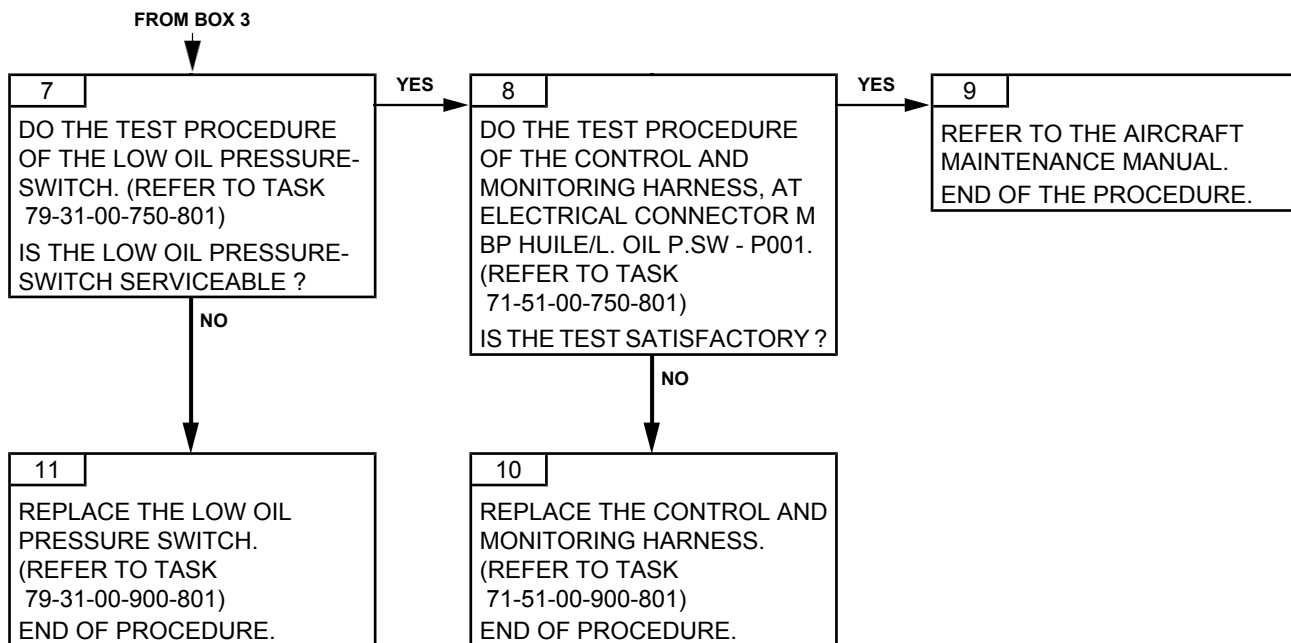
Effectivity: C

Failures observed during engine operation



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation

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TASK 71-00-06-814-810-A01

### ENGINE PARAMETER OUT OF LIMIT - OIL OVERTEMPERATURE TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms</i>	<i>Warning lights</i>
RUNNING		

##### B. REMINDER OF THE OPERATING NORMAL CONDITION OR FAILURE DETECTION

Refer to limitations. (Refer to Task 71-00-01-940-801)

##### C. POSSIBLE CAUSES

- Aircraft oil temperature measuring system
- Oil quantity
- Aircraft oil cooling system

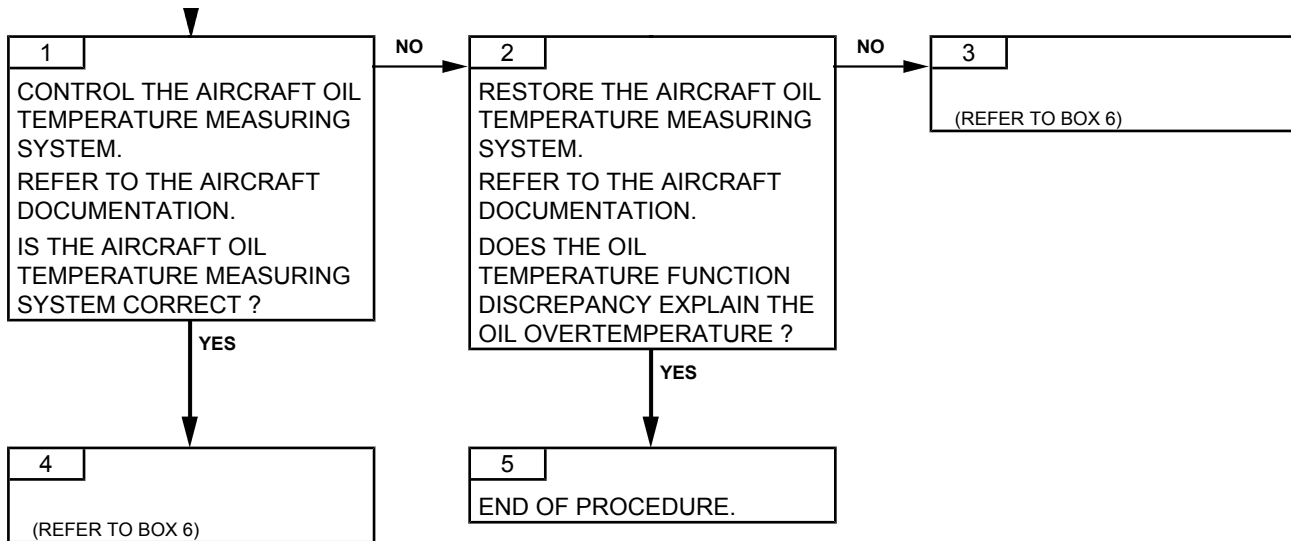
#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

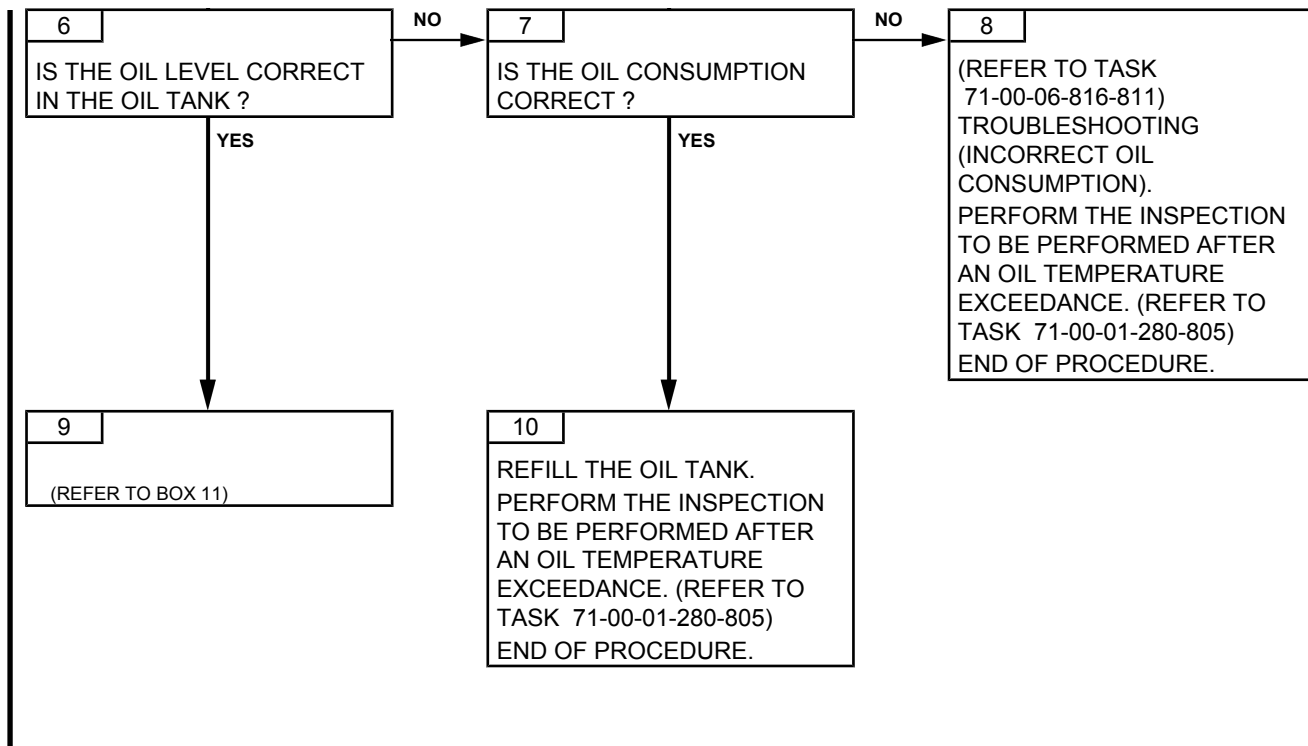


Effectivity: C

Failures observed during engine operation

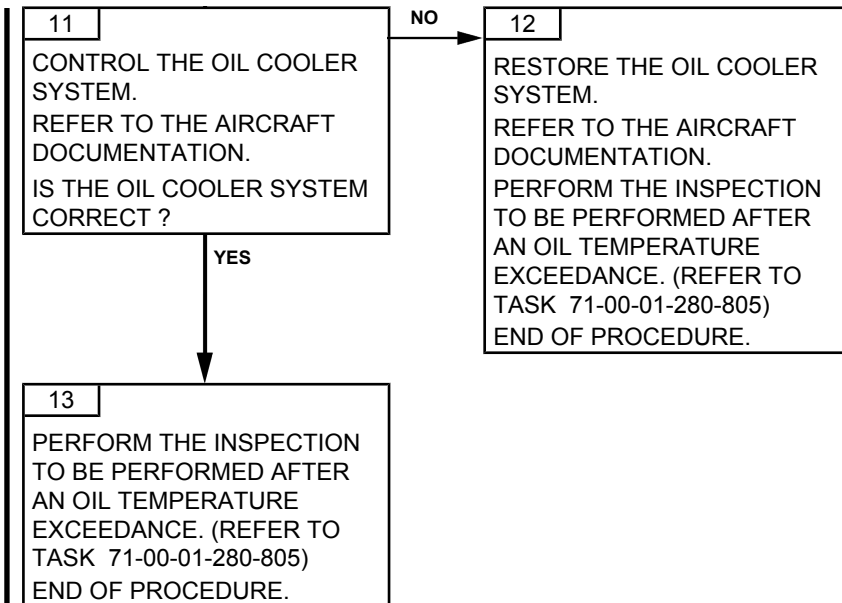
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation



Effectivity: C

Failures observed during engine operation



TASK 71-00-06-814-812-A01

### PARAMETER INSTABILITY - TORQUE TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

Phase	Indication	
	Alarms VEMD	Warning lights
ENGINE RUNNING	Torque "FLI" indication	

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

Normal torque indication

##### C. POSSIBLE CAUSES

- Torquemeter sensor
- Torque conformation box
- Control harness
- DECU
- Aircraft manufacturer system
- Power shaft

***NOTE:*** *Make sure the torque measurement system is serviceable; to do so, make sure that no messages among the messages that follow are displayed on the VEMD:*

***FAIL1-0100, FAIL1-0300, FAIL1-0400, FAIL1-0500, FAIL1-0600, FAIL1-0700, FAIL1-0800, FAIL1-0900, FAIL1-0C00, FAIL1-0D00, FAIL1-0E00, FAIL1-0F00, FAIL1-1000, FAIL1-2000, FAIL1-3000, FAIL1-5000, FAIL1-7000, FAIL1-9000, FAIL1-B000, FAIL1-D000, FAIL1-F000.***

#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation



1

REPLACE THE MODULE 01.  
(REFER TO TASK  
72-00-61-900-801)  
END OF PROCEDURE

TASK 71-00-06-814-813-A01

### NG INDICATION FAILURE ON THE ANALOG INDICATORS TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *Procedures to be applied in the event of a NG indication failure on the analog indicators without lighting up of the DIFF NG Light.*

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE RUNNING		

##### B. FAILURE DETECTION CONDITIONS

Important deviation between the two analog indications, without lighting up of the DIFF NG Light.

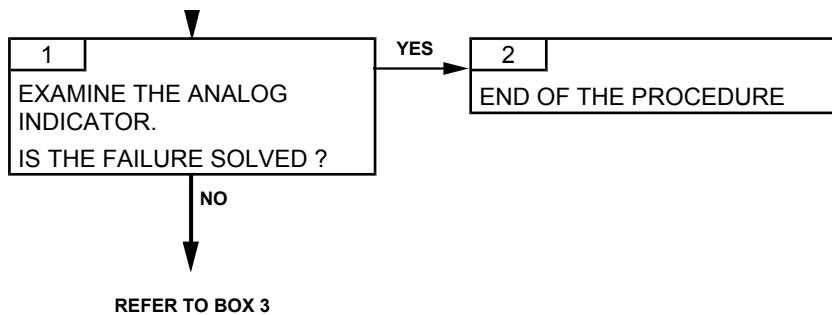
##### C. POSSIBLE CAUSES

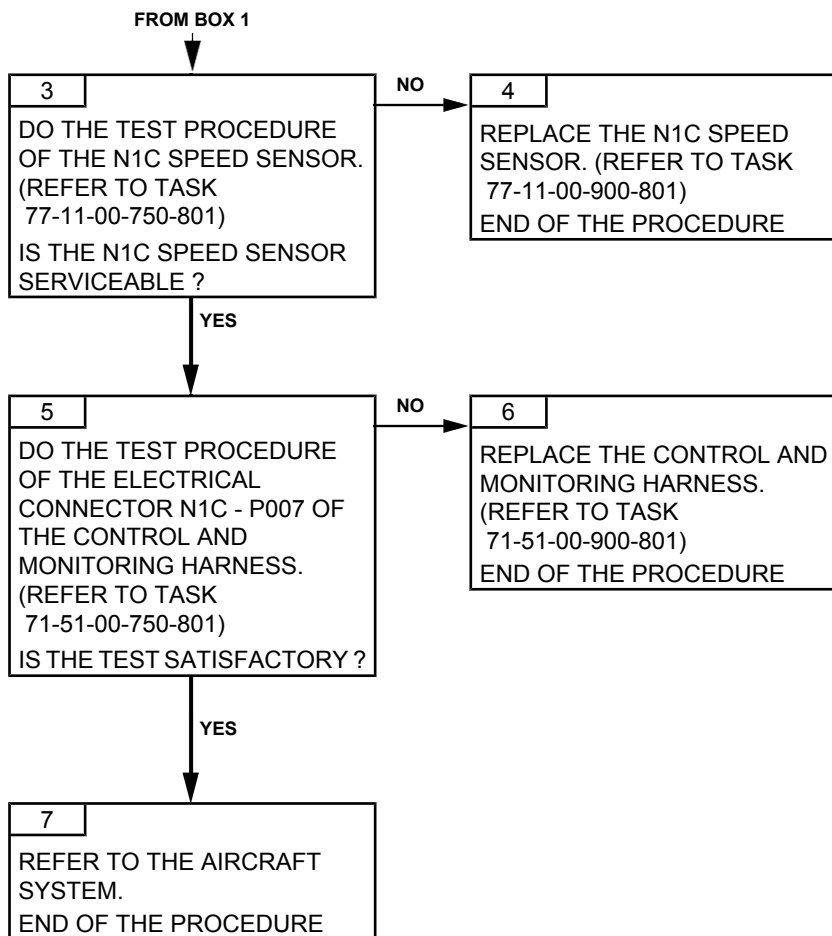
- Analog indicator
- N1C speed sensor
- Control and monitoring harness

#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation





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TASK 71-00-06-815-801-A01

## UNUSUAL NOISES DURING RUNDOWN PHASE TROUBLESHOOTING

### 1. GENERAL

#### A. PHASE AND FAILURE DETECTION

Phase	Indication	
	Alarms on the FAU	Warning lights
SHUTDOWN		

#### B. FAILURE DETECTION CONDITIONS

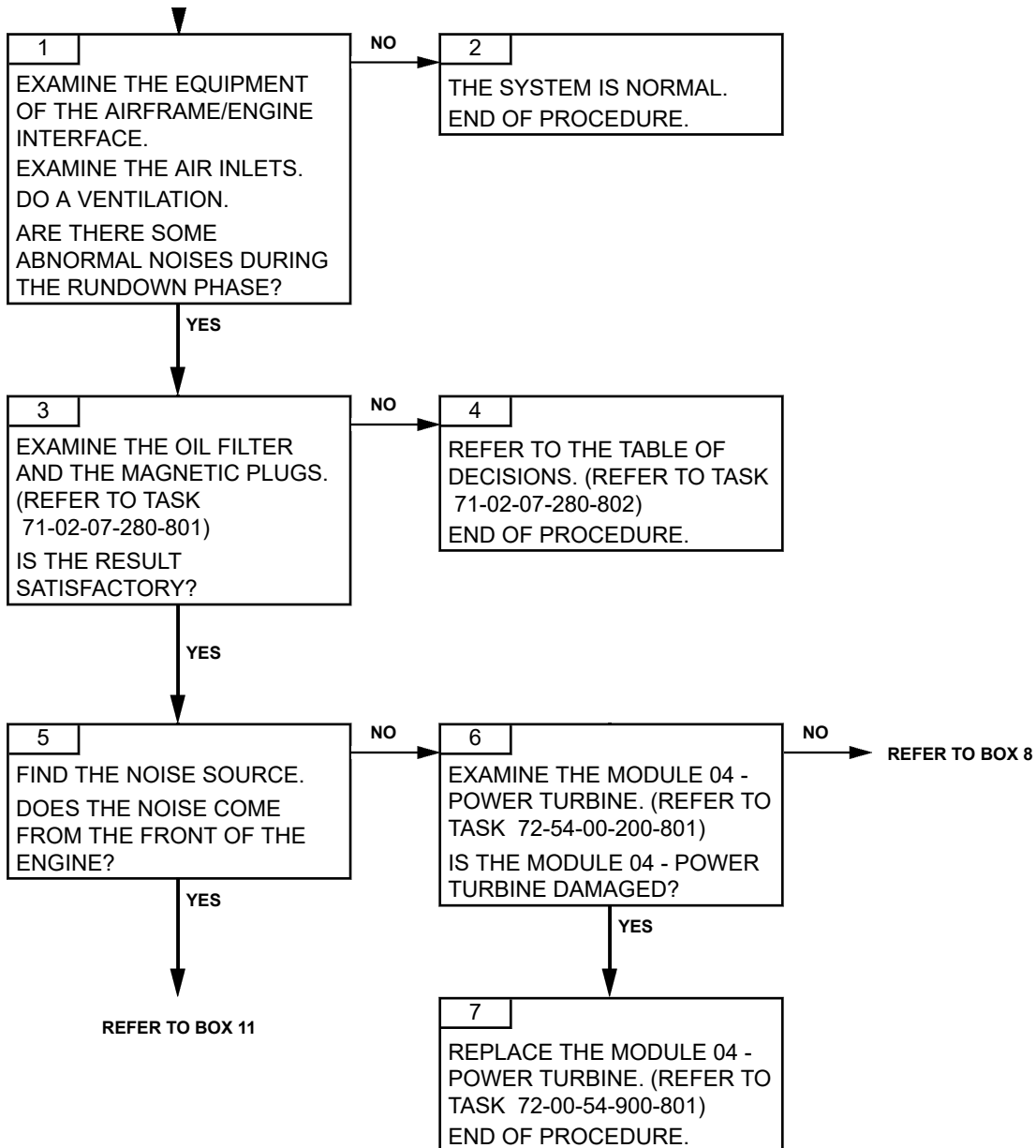
At engine shutdown (after stabilization at 30-second idle rating).

#### C. POSSIBLE CAUSES

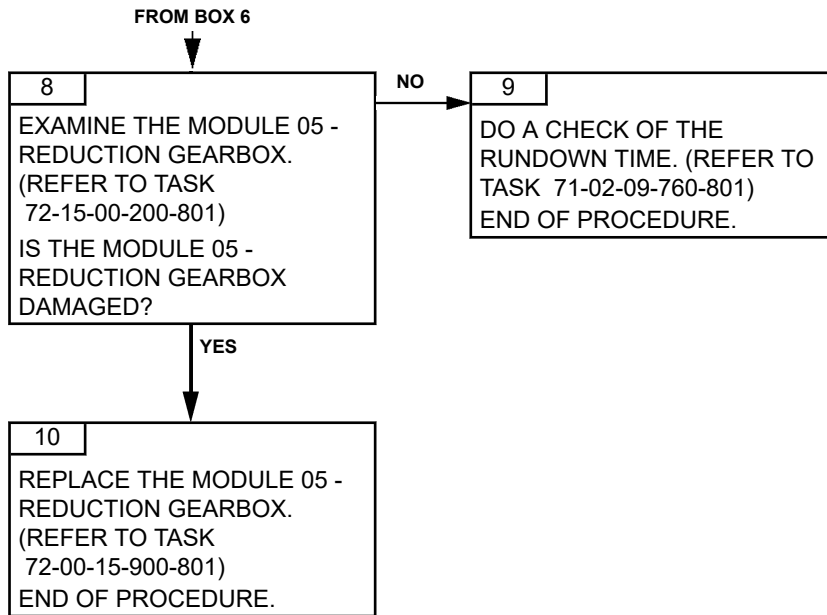
- Compressor module (M02)
- Starter
- Pump and metering unit assembly
- Alternator
- Oil pump
- Gas generator module (M03)
- Reduction gearbox module (M05)
- Power turbine module (M04)

### 2. PROCEDURE

**NOTE:** *It is necessary to check the permeability of the injection wheel so as to rule on the effectivity of the MTI X292M1308. This MTI makes it possible to clean or replace the injection manifold and to replace the HP turbine. It makes it possible to free from the full replacement of the module 03.*

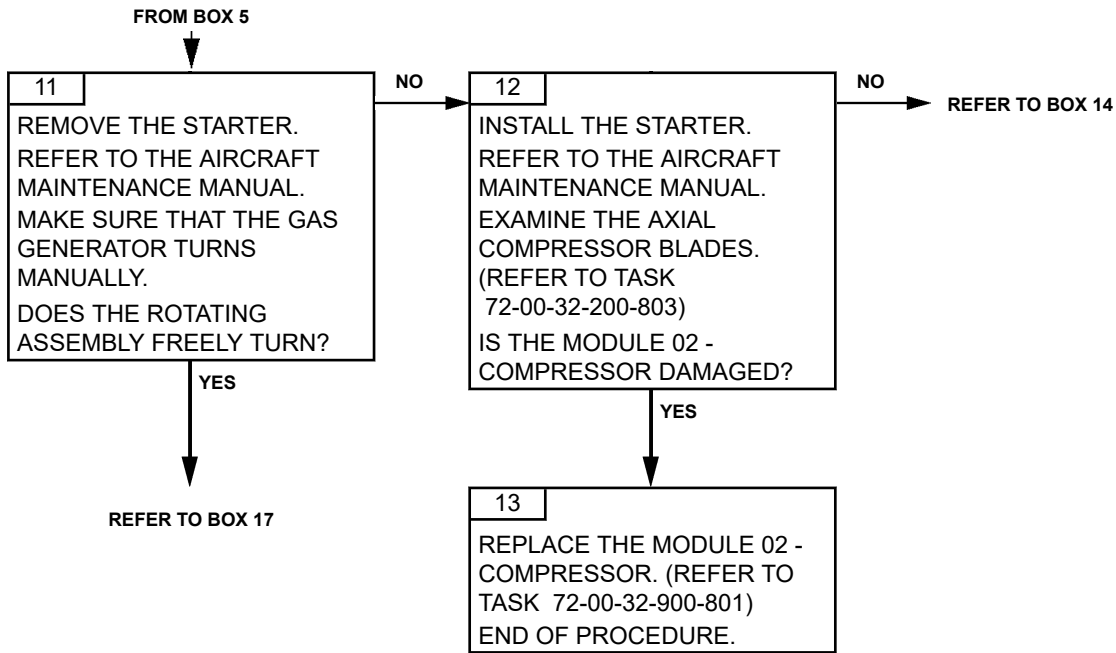


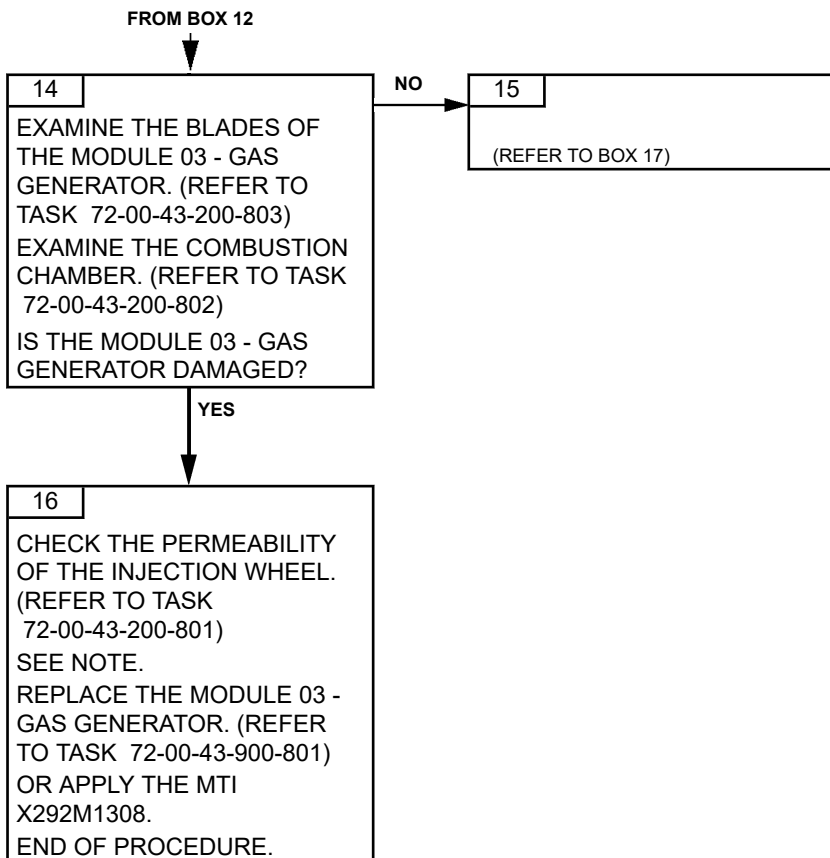


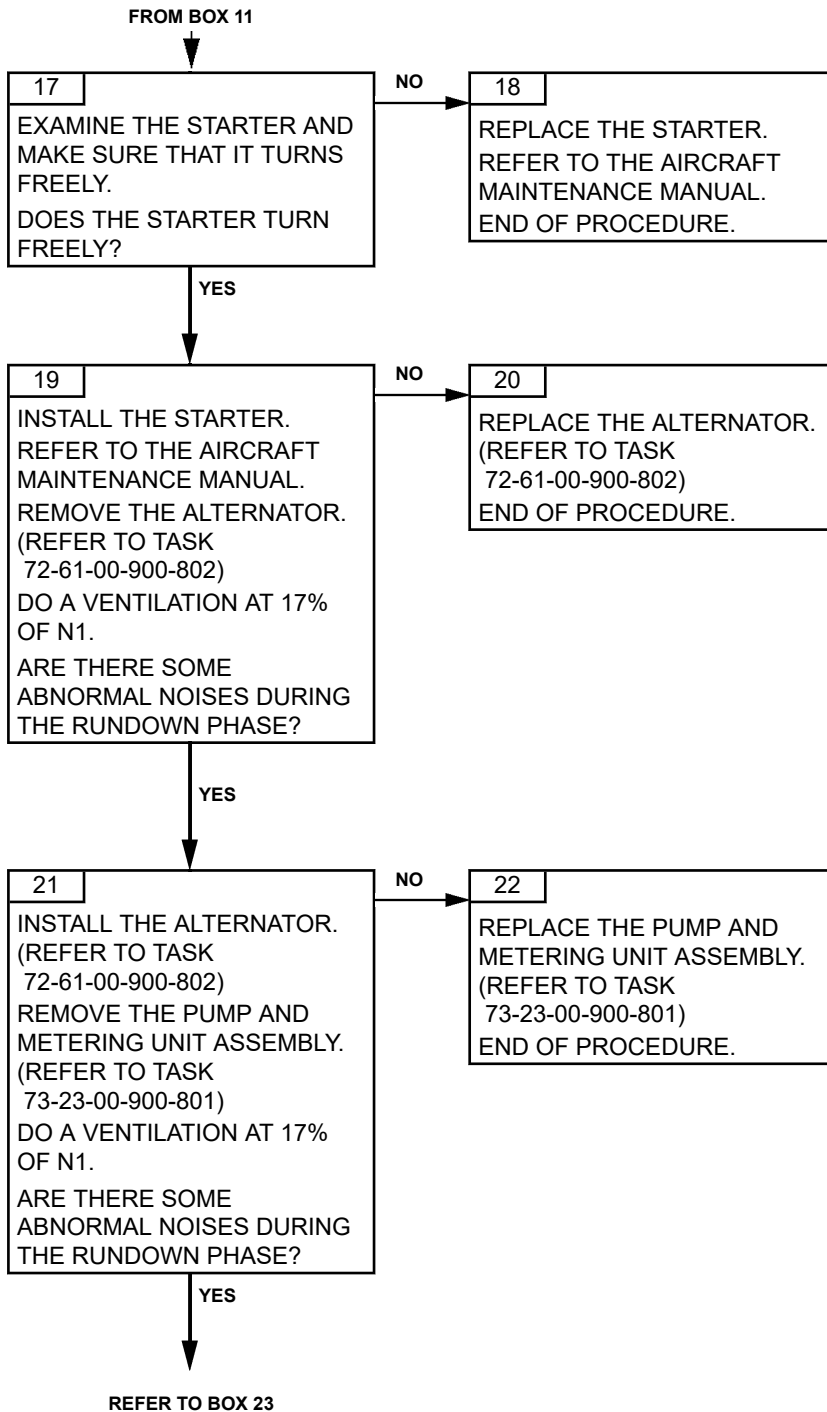


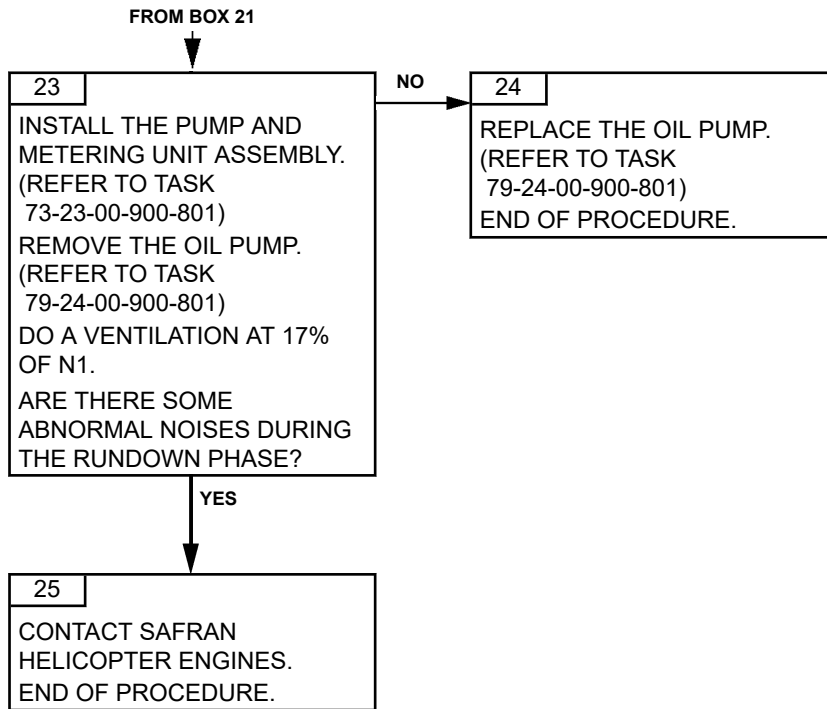
Effectivity: C

Failures observed during engine operation









Effectivity: C

Failures observed during engine operation

**71-00-06-815-801-A01**

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 Dec. 30/2022

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TASK 71-00-06-815-802-A01

**RUNDOWN TIME OUT OF LIMIT  
TROUBLESHOOTING****1. GENERAL****A. PHASE AND FAILURE DETECTION**

Phase	Indication	
	Alarms on the FAU	Warning lights
SHUTDOWN		

**B. REMINDER OF THE NORMAL OPERATING CONDITION OR FAILURE  
DETECTION**

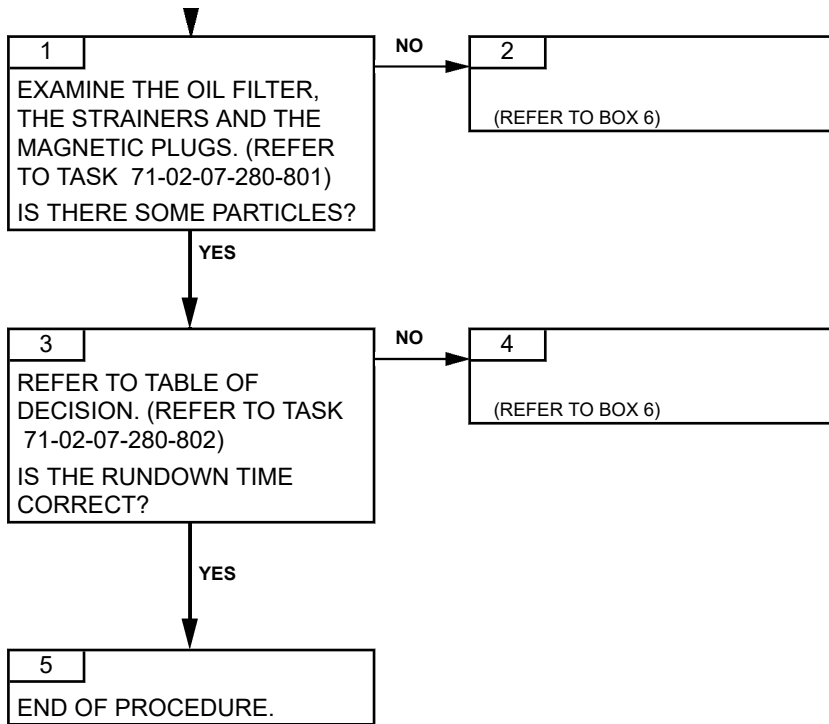
In normal condition, the rundown time of the gas generator must be higher than the criteria given in Maintenance Manual task. (Refer to Task 71-02-09-760-801).

**C. POSSIBLE CAUSES**

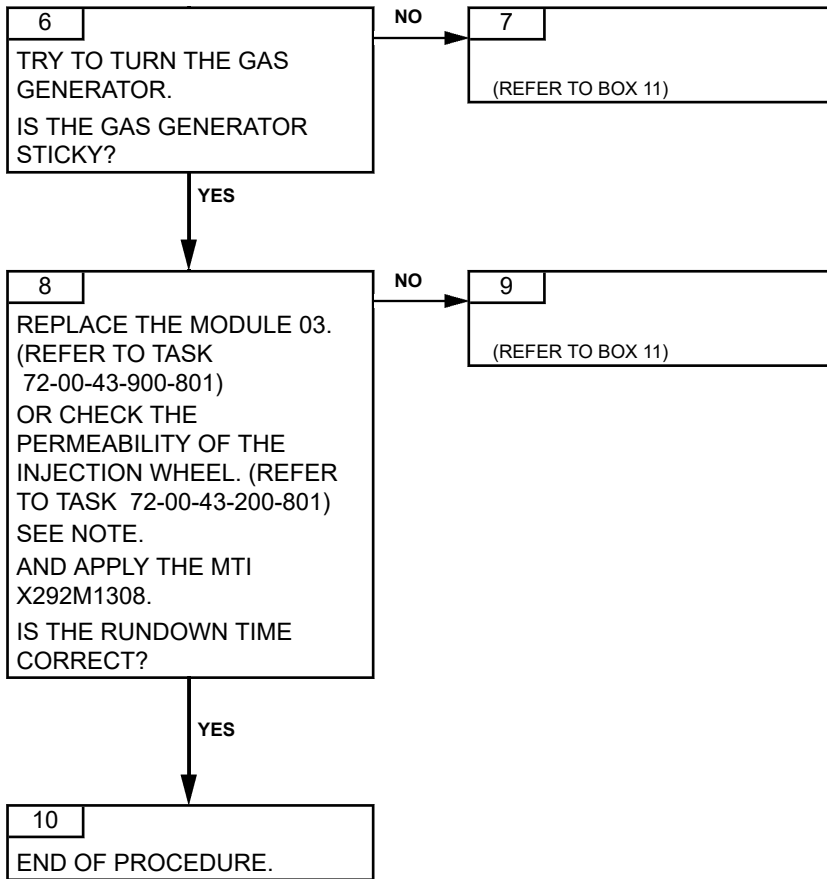
- Module 01 - Accessory gearbox and transmission shaft
- Module 02 - Compressor
- Module 03 - Gas generator
- Starter generator
- Oil pump
- HMU
- Alternator

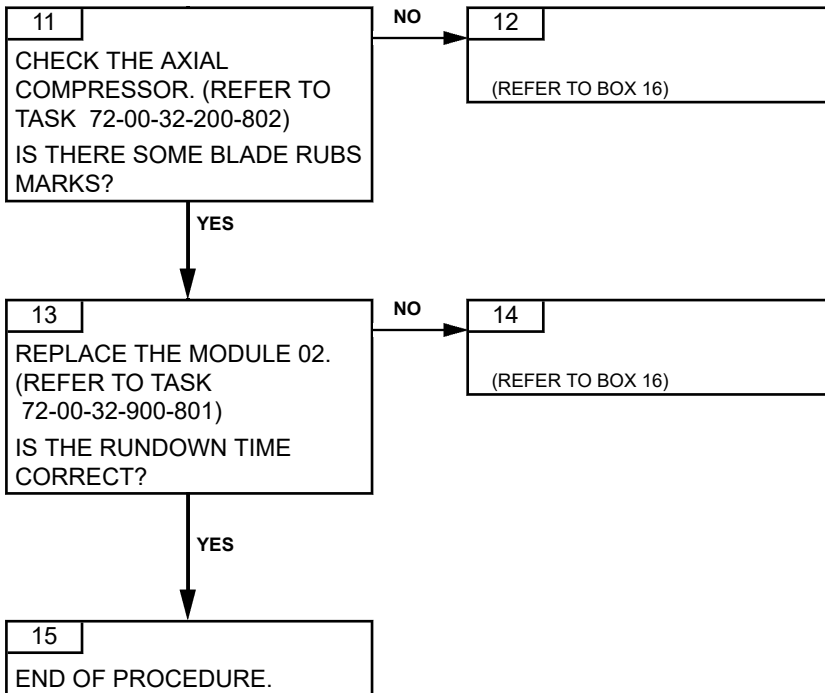
**2. PROCEDURE**

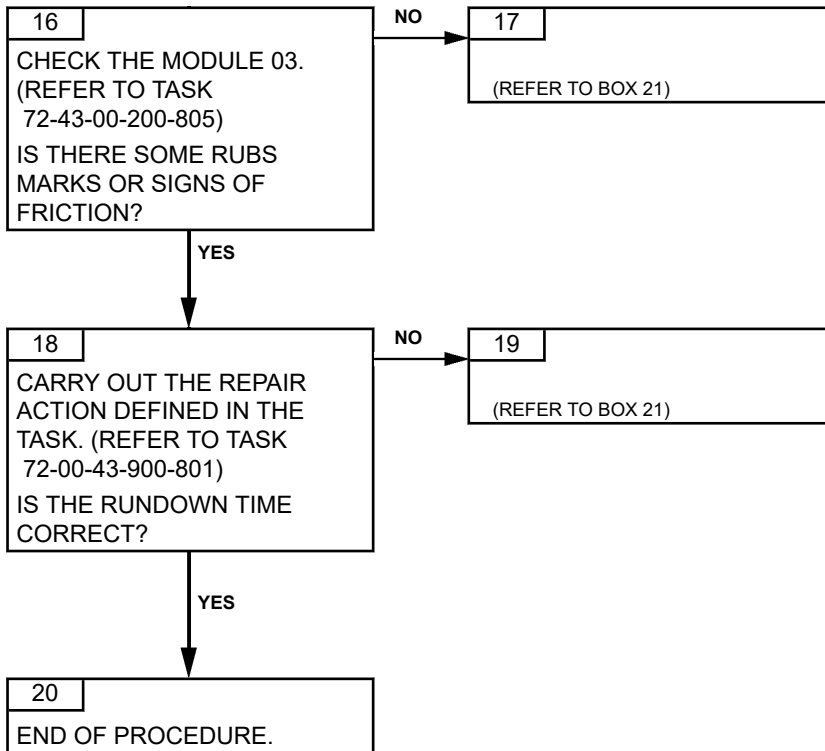
**NOTE:** *It is necessary to check the permeability of the injection wheel so as to rule on the effectivity of the MTI X292M1308. This MTI makes it possible to clean or replace the injection manifold and to replace the HP turbine. It makes it possible to free from the full replacement of the module 03.*

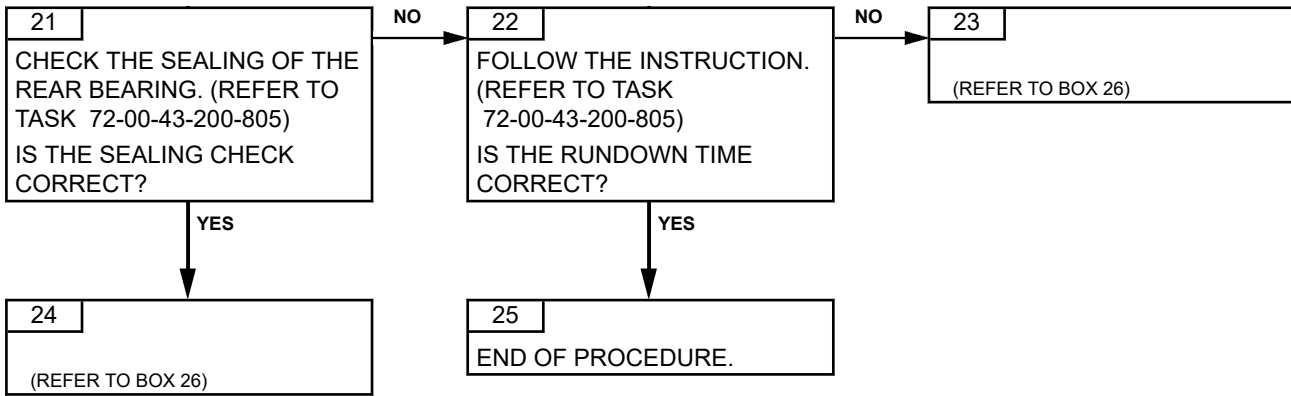


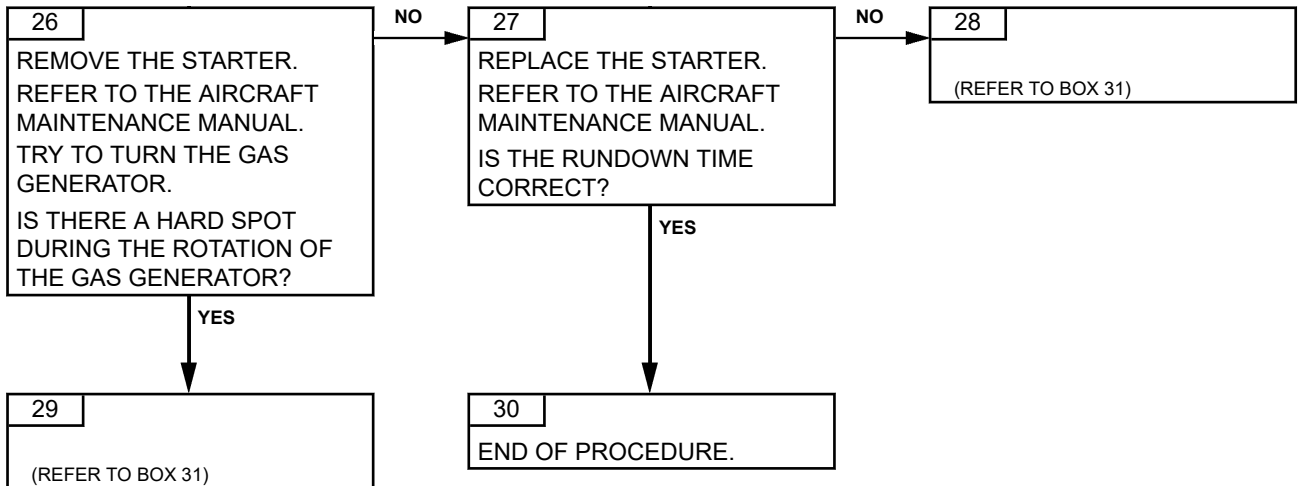


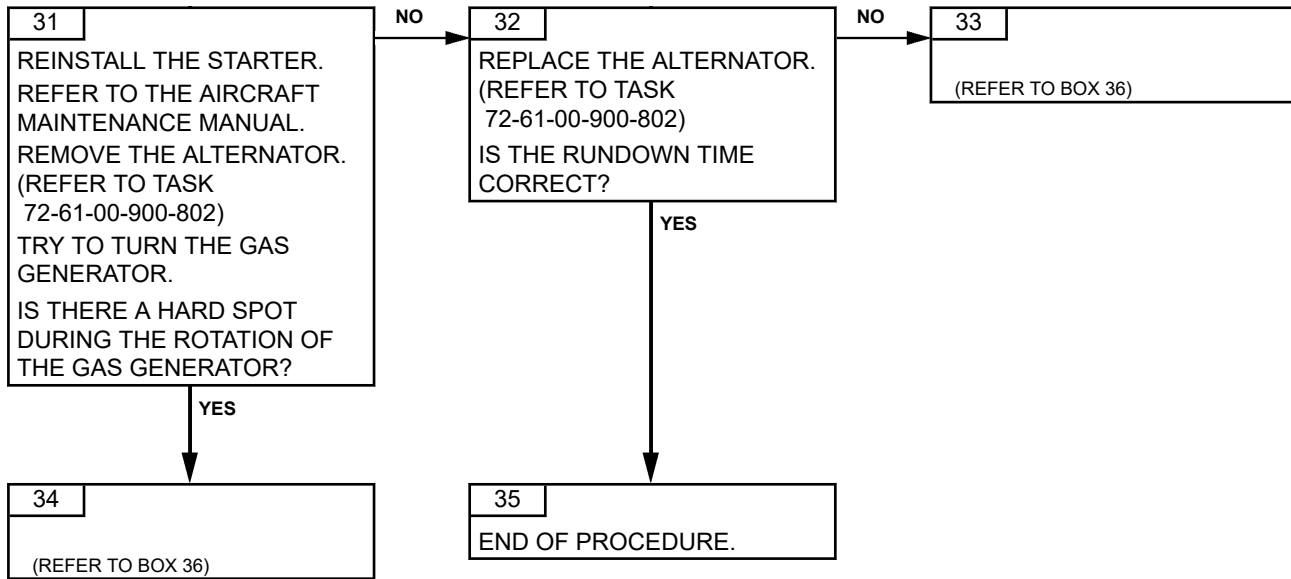


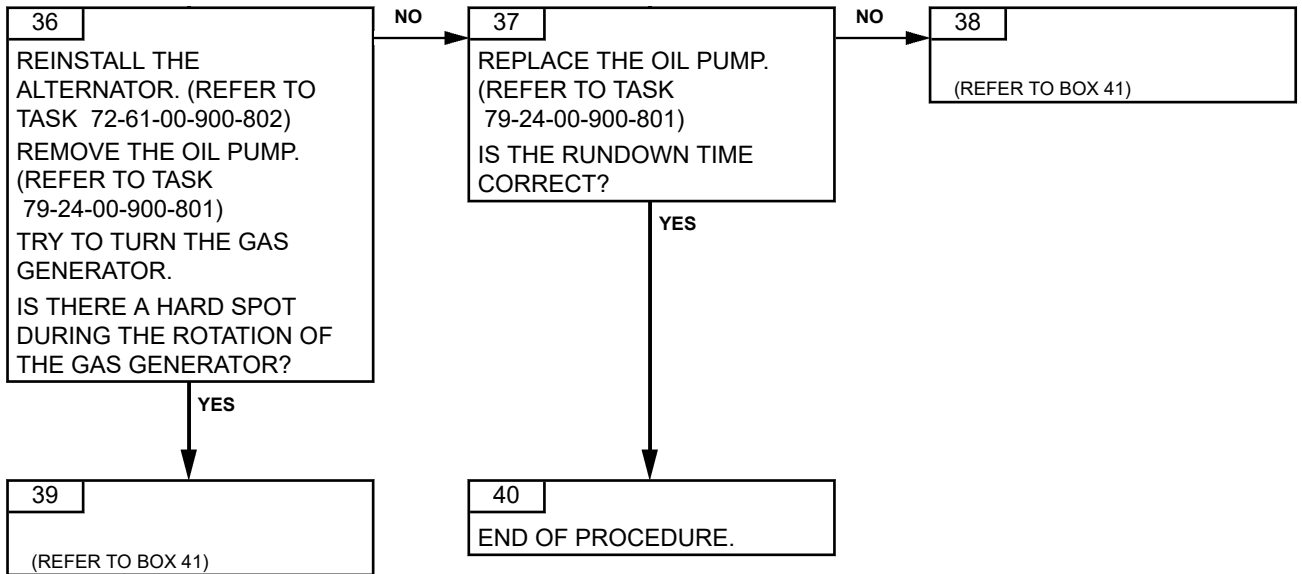


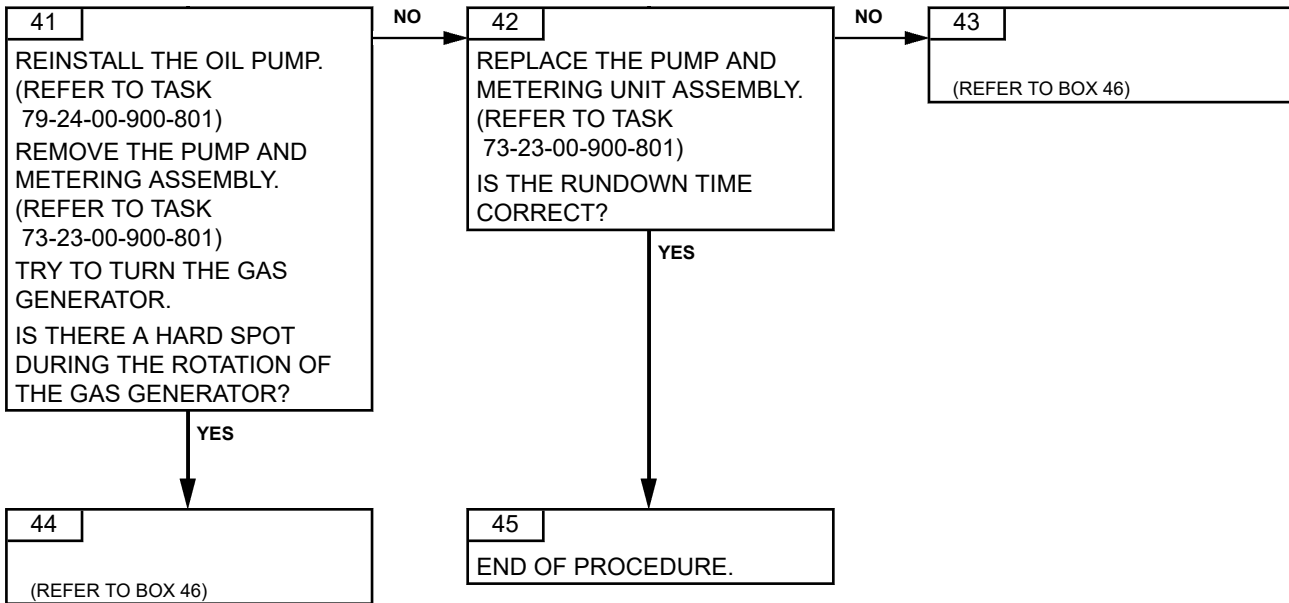






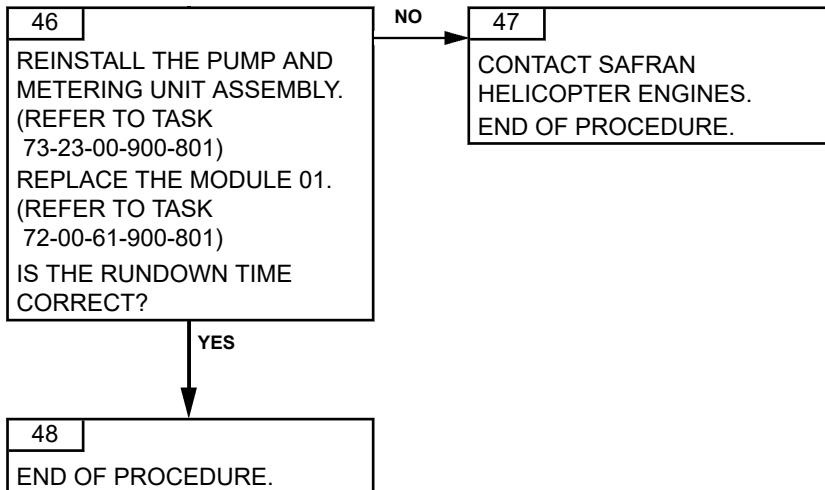








ARRIEL 2 C



Effectivity: C

Failures observed during engine operation

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TASK 71-00-06-815-804-A01

### FUEL P OFF - NO LOW FUEL PRESSURE SIGNAL TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE SHUTDOWN		Amber FUEL and FUEL P off

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

At engine shutdown, the amber FUEL and FUEL P lights must be on.

##### C. POSSIBLE CAUSES

- Low fuel pressure-switch
- Control and monitoring harness
- Aircraft

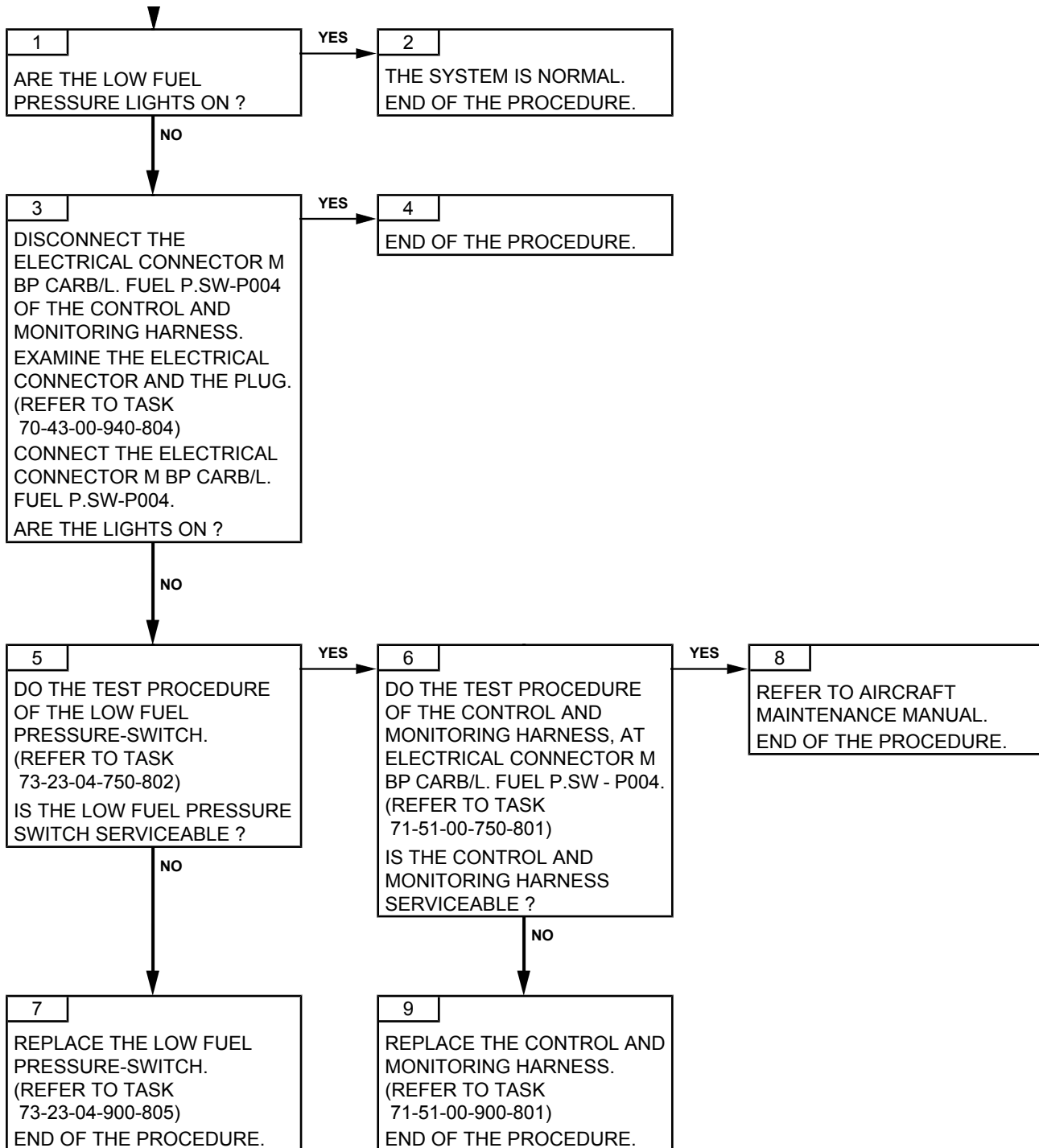
#### 2. PROCEDURE

Effectivity: C

Failures observed during engine operation

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

Failures observed during engine operation

TASK 71-00-06-815-805-A01

### ENG P OFF - NO LOW OIL PRESSURE SIGNAL TROUBLESHOOTING

#### 1. GENERAL

##### A. PHASE AND FAILURE DETECTION

<i>Phase</i>	<i>Indication</i>	
	<i>Alarms on the FAU</i>	<i>Warning lights</i>
ENGINE SHUTDOWN		Red ENG 1 or ENG 2 off

##### B. REMINDER OF THE NORMAL OPERATING CONDITION

At engine shutdown, the ENG 1 or ENG 2 Lights must be on.

##### C. POSSIBLE CAUSES

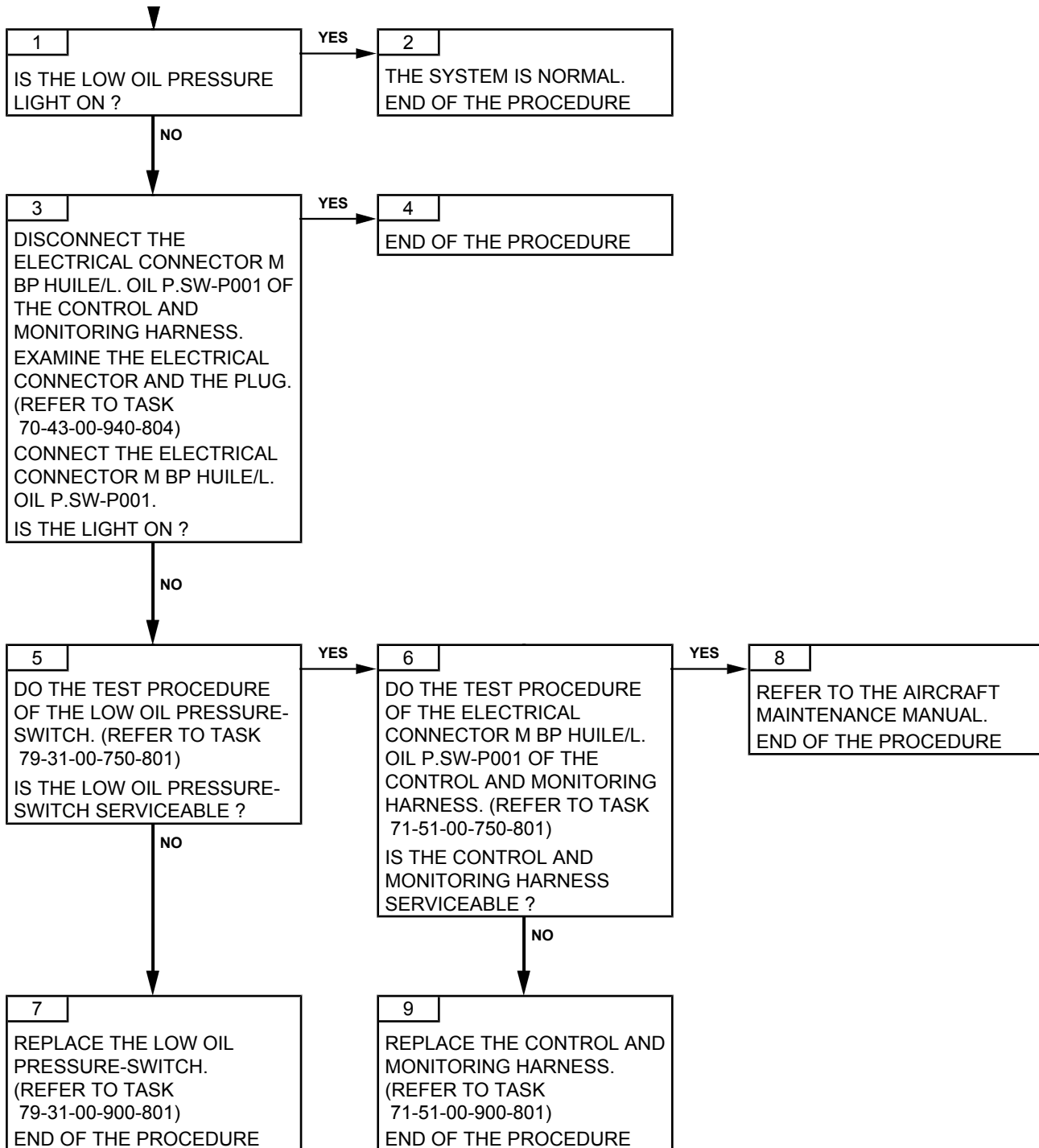
- Low oil pressure-switch
- Control and monitoring harness
- Aircraft

#### 2. PROCEDURE

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Effectivity: C

Failures observed during engine operation



TASK 71-00-06-815-806-A01

**POWER TURBINE BLOCKED  
TROUBLESHOOTING**

**1. GENERAL**

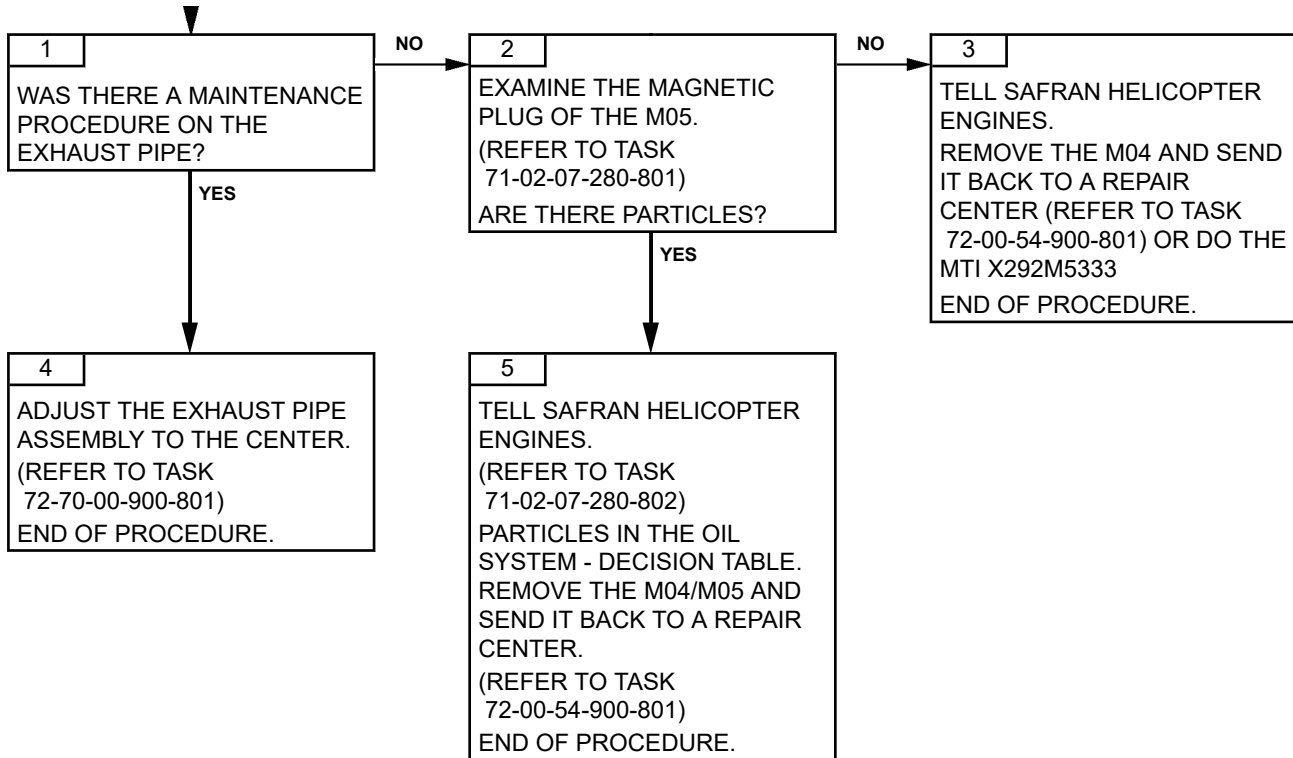
**A. GENERAL DESCRIPTION**

At engine shutdown, the power turbine must turn freely.

**B. POSSIBLE CAUSES**

- Exhaust pipe assembly
- Labyrinth ring

**2. PROCEDURE**





TASK 71-00-06-816-801-A01

**SMOKE FROM EXHAUST PIPE  
TROUBLESHOOTING****1. GENERAL****A. REMINDER OF THE NORMAL OPERATING CONDITION**

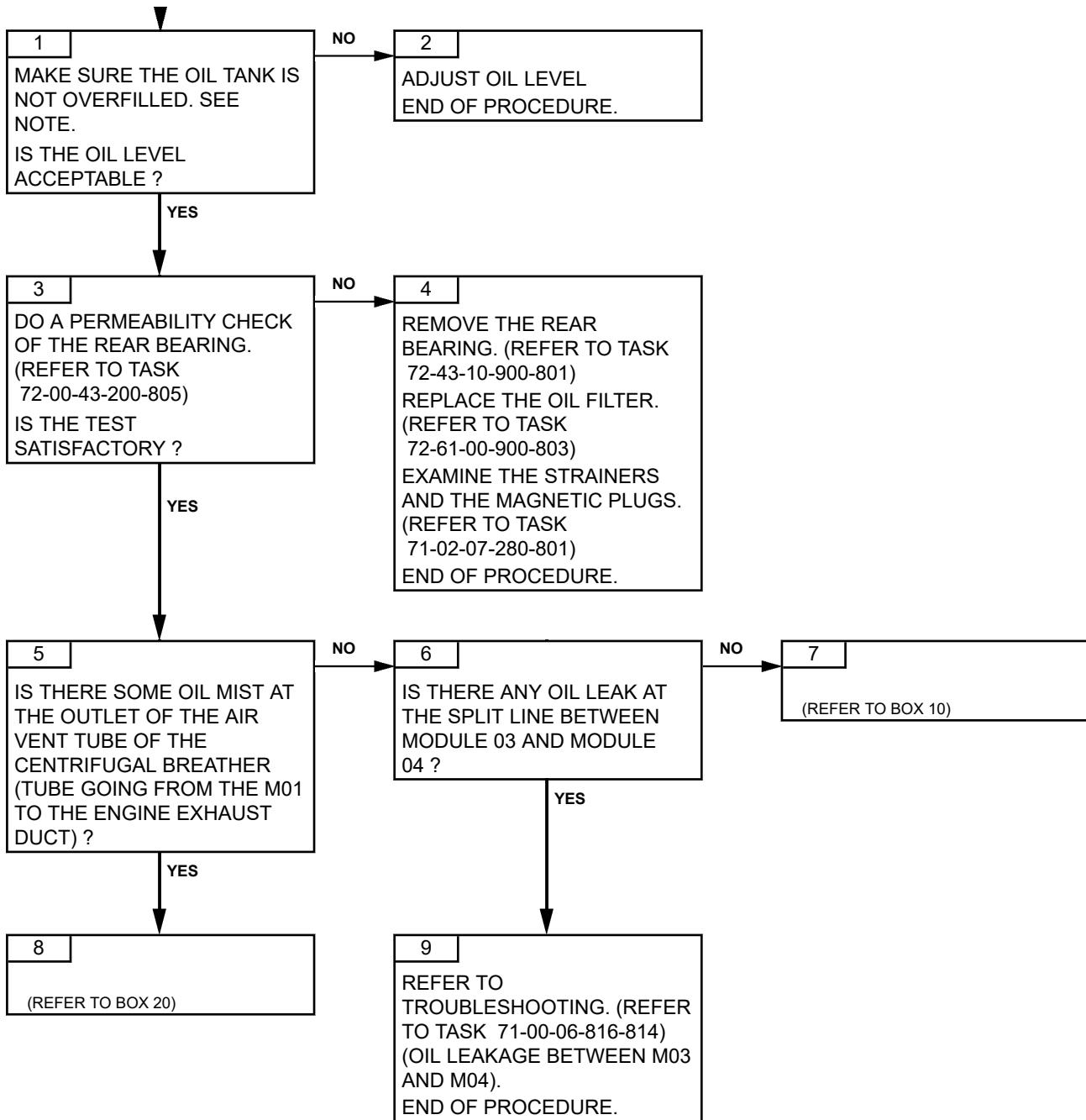
- In normal operating condition, no white smoke at the exhaust pipe outlet and no important oil consumption.

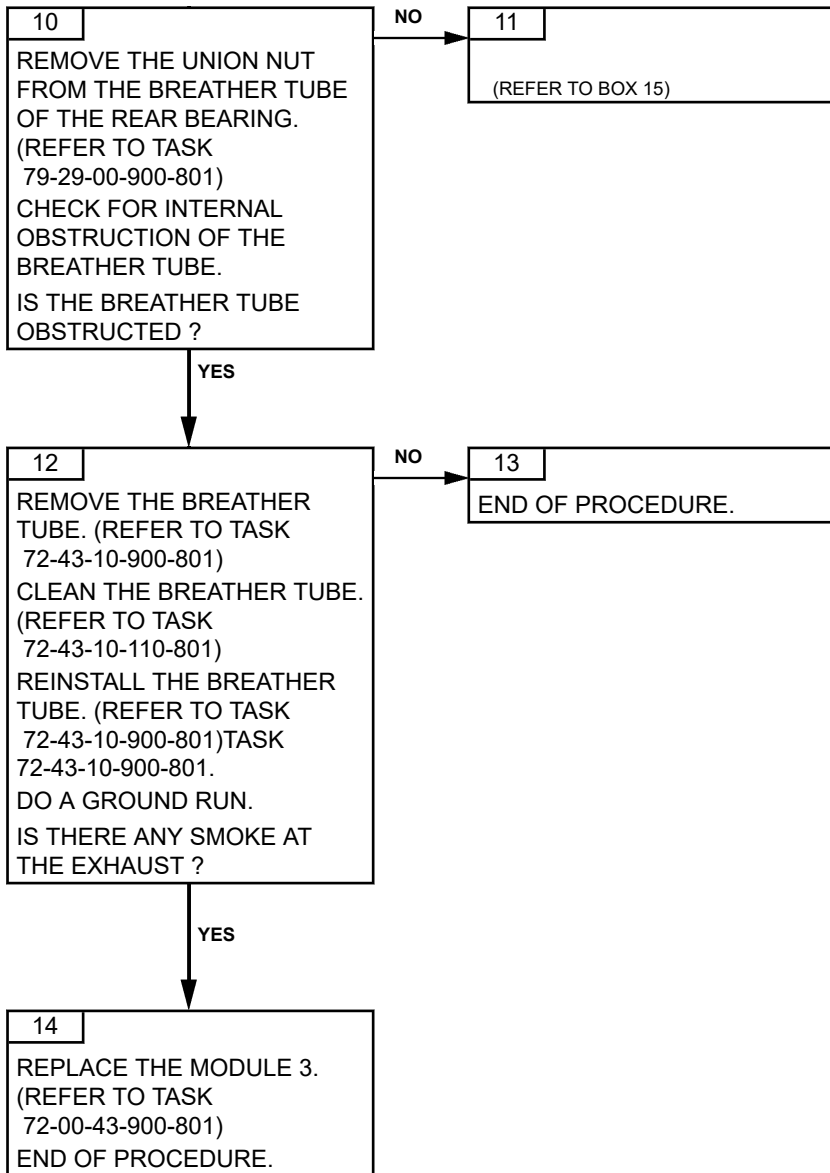
**B. POSSIBLE CAUSES**

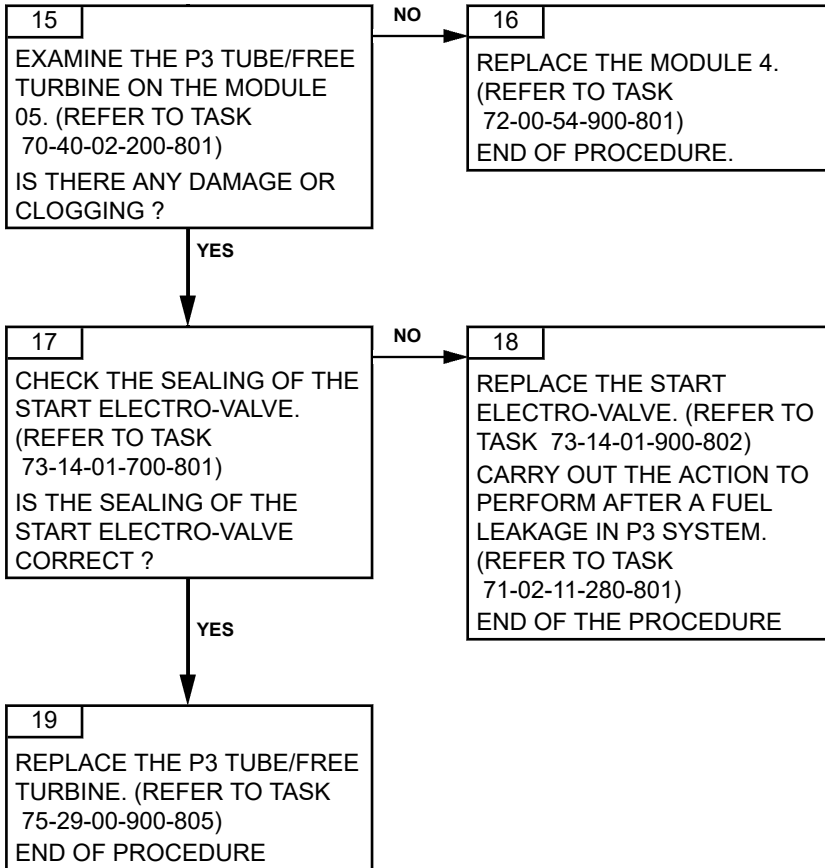
- Clogging of the rear bearing
- Breather sealing ring
- Module 03
- P3 tube of module 05
- Module 04
- Module 03 breather pipe
- Vent line
- Start electro-valve

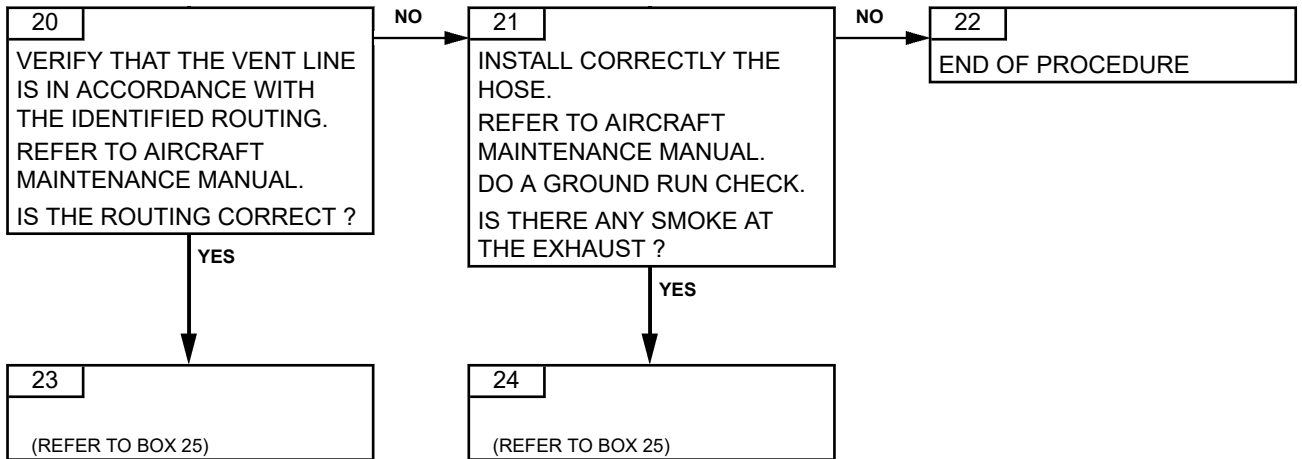
**2. PROCEDURE**

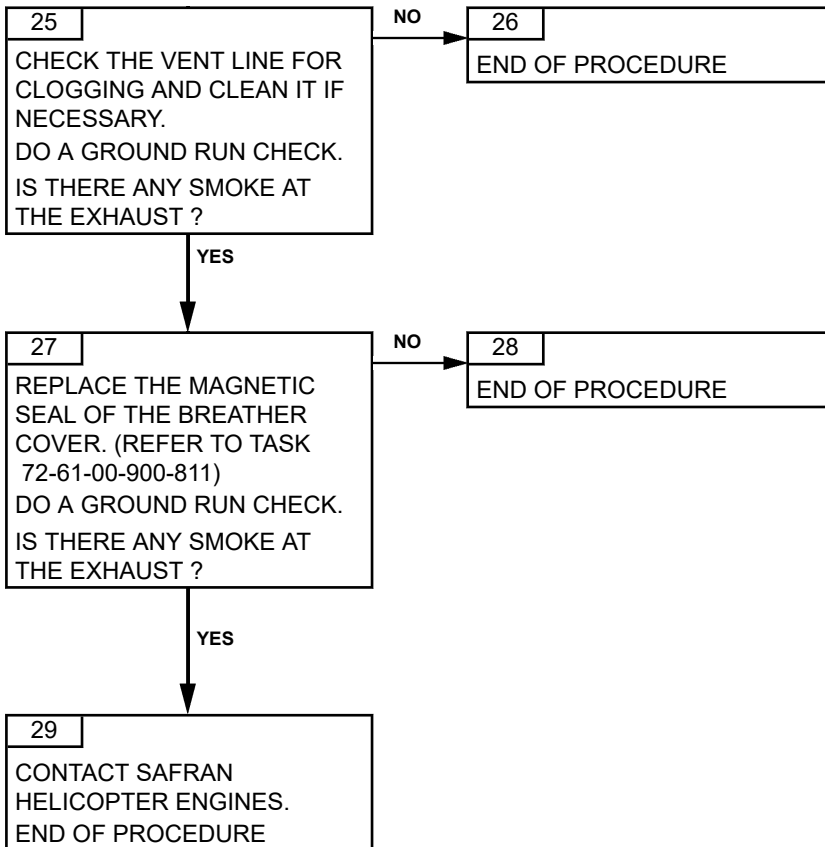
**NOTE:** *If the oil tank is overfilled, excess oil will be consumed via the vent line until optimum oil tank level is reached. This may cause some oil smoke at the exhaust.*











TASK 71-00-06-816-803-A01

### PARTICLES IN THE OIL FILTERING ELEMENT TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** ACCEPT THE PRESENCE OF SOME CUTTING CHIPS ONLY DURING THE 20 FIRST HOURS OF THE ENGINE OPERATION.

**CAUTION:** SEND THE PARTICLES TO A SPECIALIZED LABORATORY FOR ANALYSIS. ONLY A SPECIALIZED LABORATORY CAN MAKE AN ACCURATE DIAGNOSIS.

#### A. FAILURE DETECTION CONDITIONS

- Findings made from the application of the removal procedure of the oil filtering element (Refer to Task 72-61-00-900-803)

#### B. POSSIBLE CAUSES

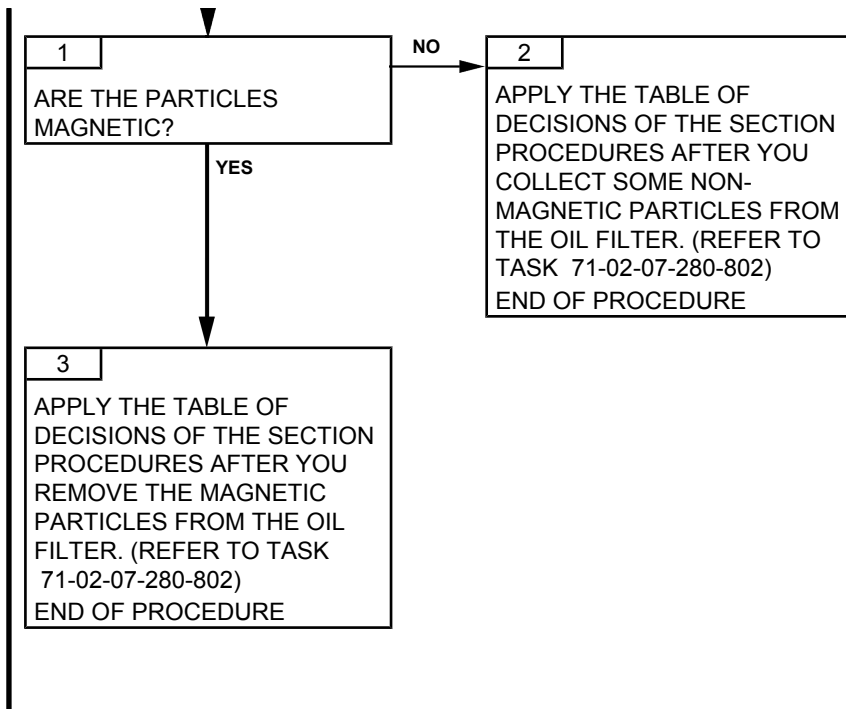
- Damage of a rotating assembly
- Damage of a seal, etc
- Clogging of the rear bearing.

#### 2. PROCEDURE

---

Effectivity: C

Failures observed during maintenance





TASK 71-00-06-816-804-B01

**LEAK AT THE AIRCRAFT DRAIN CLUSTER  
TROUBLESHOOTING****1. GENERAL****A. REMINDER OF THE NORMAL OPERATING CONDITION OR FAILURE  
DETECTION**

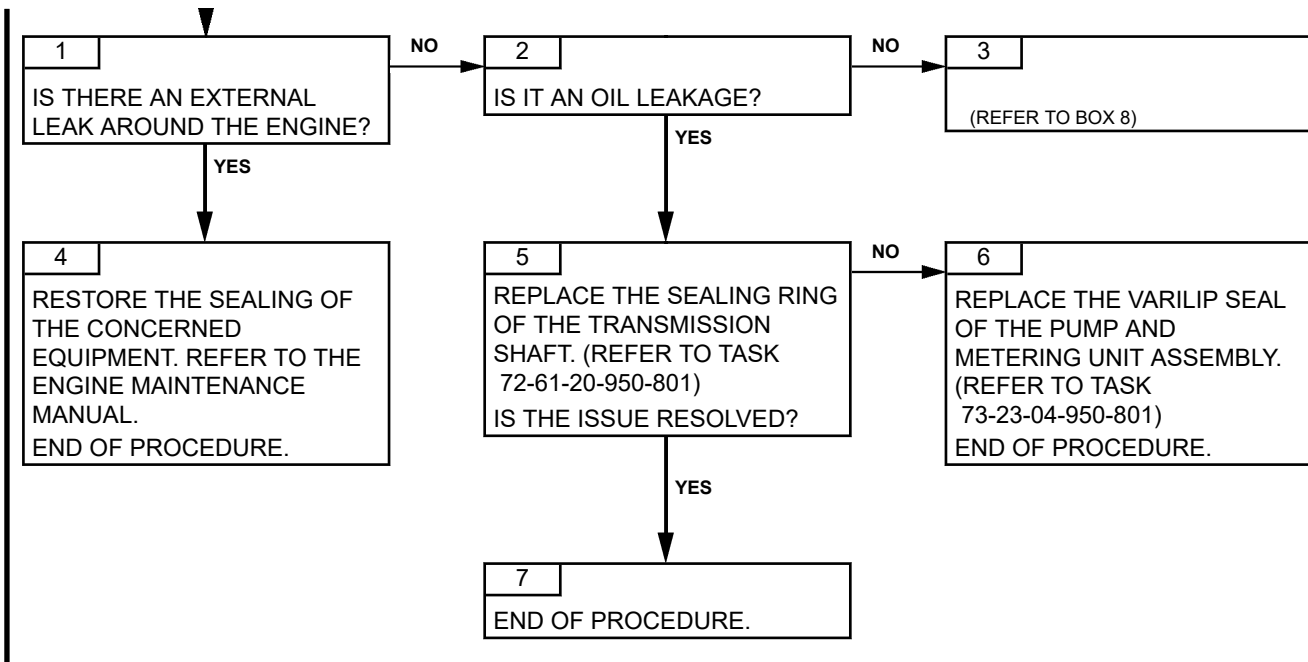
This troubleshooting task is relevant in case of abnormal leak noticed at the helicopter drain under the engine deck.

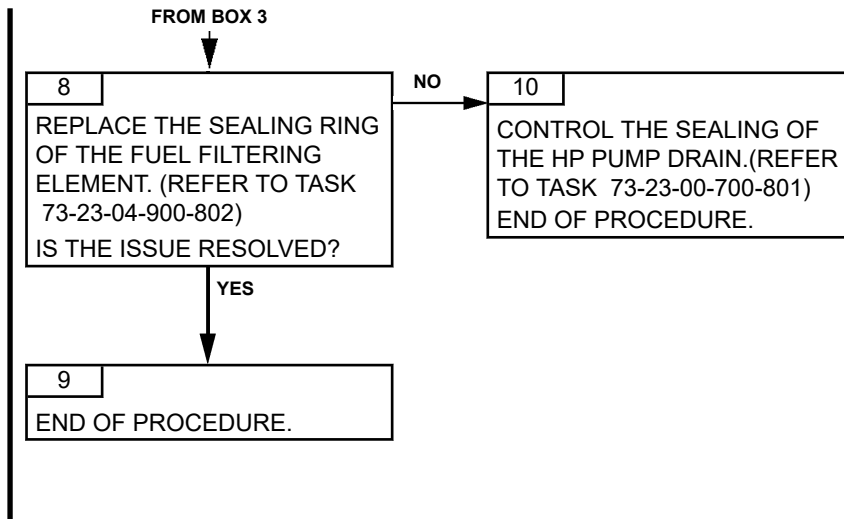
- In the event of an oil leakage, this one must meet the criteria defined on the Task Task 79-00-00-280-801.
- In the event of a fuel leakage, this one must meet the criteria defined on the Task Task 73-23-00-700-801.

**B. POSSIBLE CAUSES**

- Magnetic seal of the transmission shaft
- Sealing ring of the fuel filtering element
- Varilip seal of the pump and metering unit assembly.
- Engine or equipment external leakage

**2. PROCEDURE**





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TASK 71-00-06-816-805-A01

### ABNORMAL FUEL LEAKAGE AT THE TANK RETURN FUEL TUBE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAILURE DETECTION CONDITIONS

- Findings made after the application of the inspection procedure of the fuel system bleed-system(Refer to Task 72-00-43-200-804)

##### B. POSSIBLE CAUSES

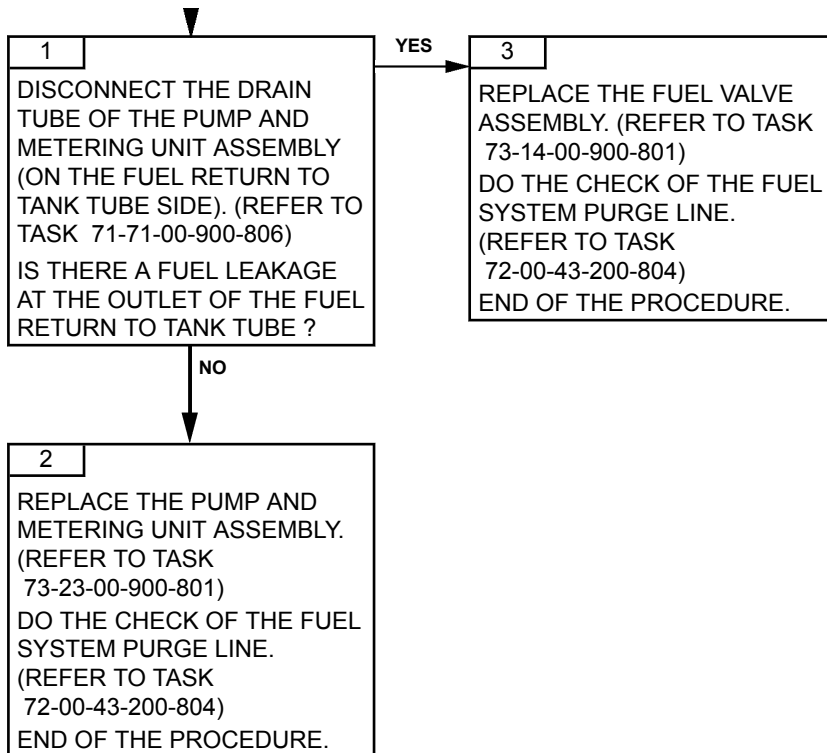
- Purge valve of the pump and metering unit assembly
- Fuel valve assembly

#### 2. PROCEDURE

---

Effectivity: C

Failures observed during maintenance



TASK 71-00-06-816-806-A01

**FUEL FILTER CLOGGING INDICATOR POPPED OUT  
TROUBLESHOOTING****1. GENERAL****A. PHASE AND FAILURE DETECTION**

- The red fuel filter mechanical blockage indicator is popped out.

**B. GENERAL DESCRIPTION**

The engine is equipped of:

- one fuel filter pre-blockage pressure switch connected to the aircraft.
- one red fuel filter mechanical blockage indicator.

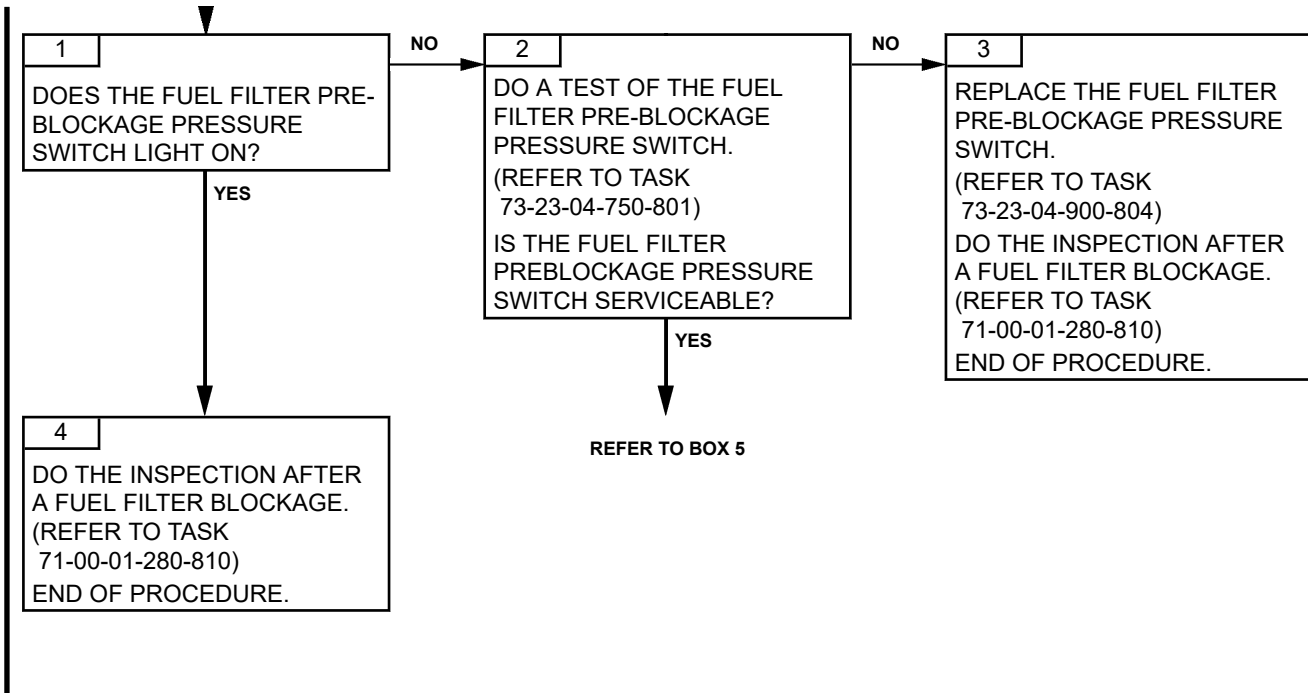
**C. POSSIBLE CAUSES**

- Pre-blockage pressure switch of the fuel filtering element
- Control and indicating harness
- Blockage visual indicator of the fuel filter
- Fuel contamination

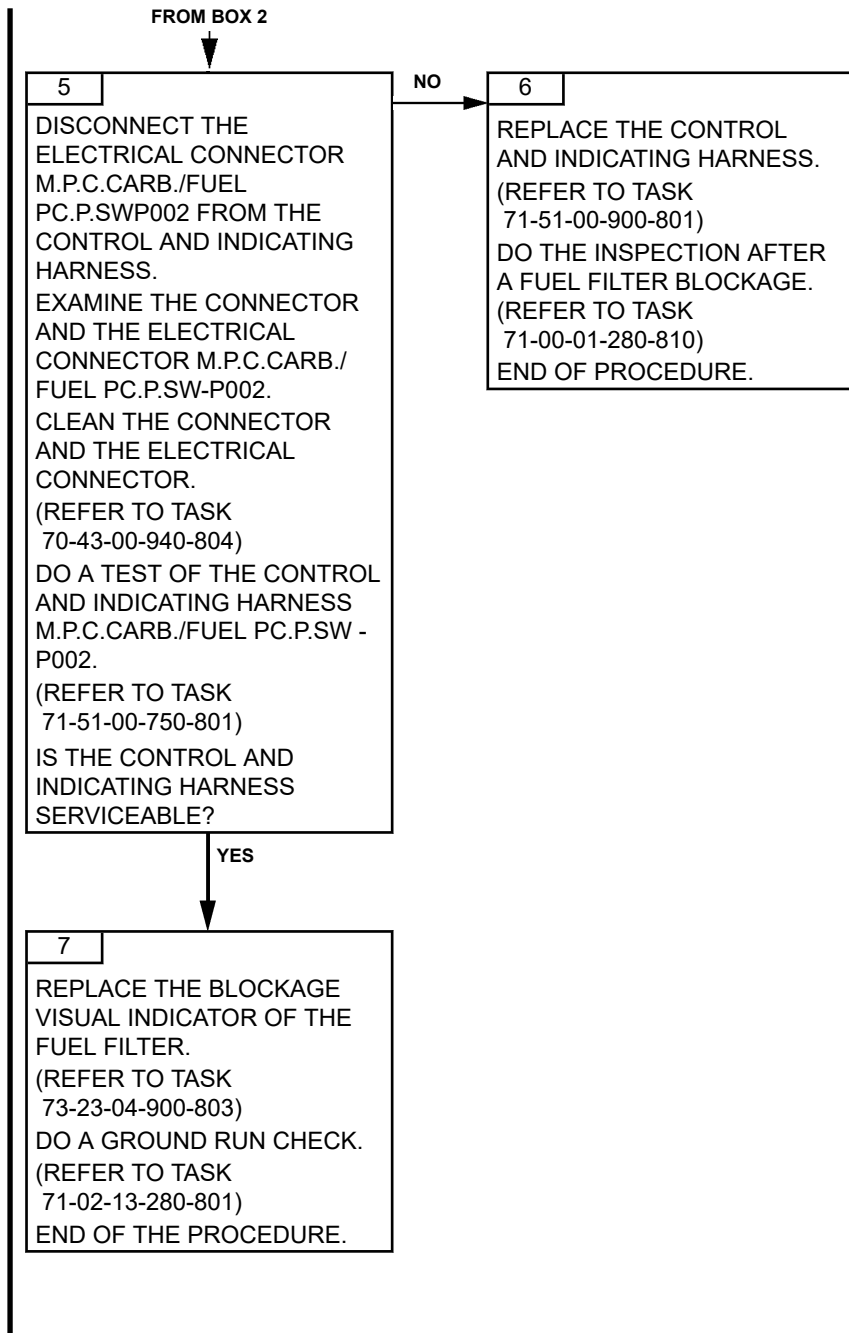
**2. PROCEDURE**

Effectivity: C

Failures observed during maintenance







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TASK 71-00-06-816-807-A01

**FUEL DILUTION RATE IN OIL NOT COMPLIANT  
TROUBLESHOOTING****1. GENERAL****A. REMINDER OF THE NORMAL OPERATING CONDITION**

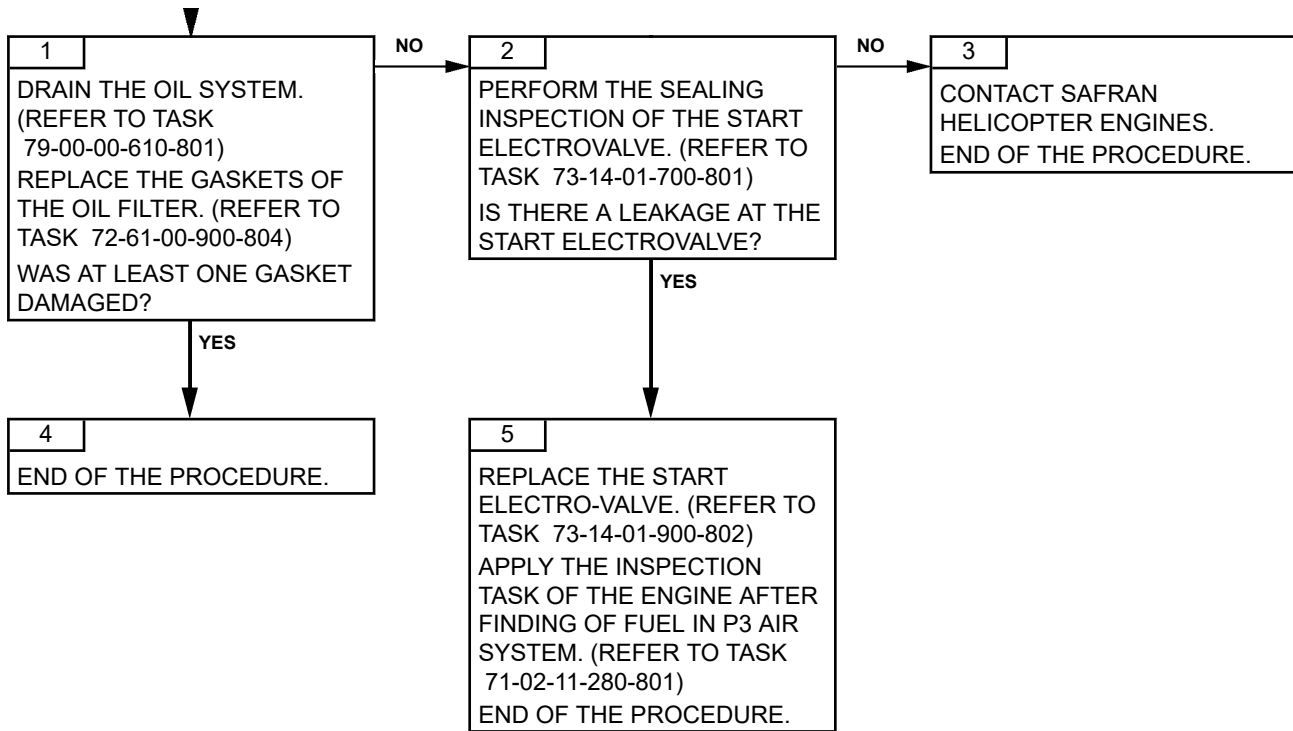
This troubleshooting task is applicable when the result of the control of the fuel dilution in oil defined in Task 70-02-00-940-801 is not compliant.

**B. POSSIBLE CAUSES**

- Oil filter
- Start electrovalve

**NOTE:** *A failure at the start electrovalve can come along with a smell of fuel in the cockpit and/or of smoke at the exhaust pipe.*

**2. PROCEDURE**



TASK 71-00-06-816-808-A01

### INCORRECT OPERATION OF ONE OF THE IGNITION DEVICE LINES TROUBLESHOOTING

#### 1. GENERAL

##### A. FAILURE DETECTION CONDITIONS

- Finding after the application of the check and inspection procedure of the ignition system (Refer to Task 72-43-00-200-806)
- The second ignition SYSTEM is serviceable after the application of task (Refer to Task 72-43-00-200-806)

##### B. POSSIBLE CAUSES

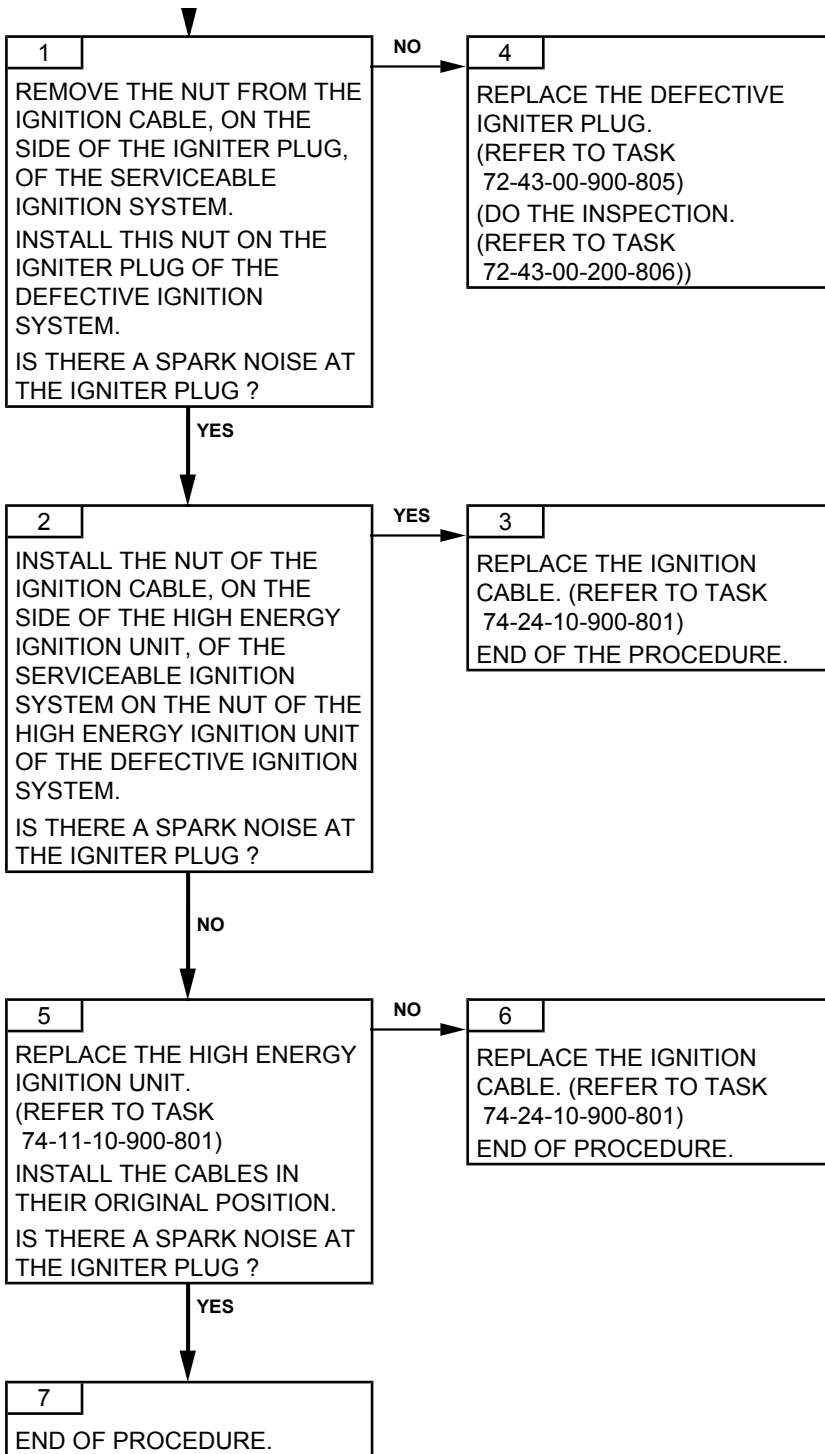
- High energy ignition unit
- Ignition cable
- Igniter plug

#### 2. PROCEDURE

---

Effectivity: C

Failures observed during maintenance



TASK 71-00-06-816-810-A01

### **PARTICLES ON A MAGNETIC PLUG TROUBLESHOOTING**

#### **1. GENERAL**

**CAUTION:** ACCEPT THE PRESENCE OF SOME CUTTING CHIPS ONLY DURING THE FIRST 20 HOURS OF THE ENGINE OPERATION.

**CAUTION:** SEND THE PARTICLES TO A SPECIALIZED LABORATORY FOR THE ANALYSIS. ONLY A SPECIALIZED LABORATORY CAN MAKE AN ACCURATE DIAGNOSIS.

#### **A. FAILURE DETECTION CONDITIONS**

- Findings made from the application of the particles sampling procedure in the oil system (Refer to Task 71-02-07-280-801)

#### **B. POSSIBLE CAUSES**

- Damage of a rotating assembly
- Incorrect positioning of a mechanical assembly after a maintenance task.

#### **2. PROCEDURE**

---

Effectivity: C

Failures observed during maintenance

1

APPLY THE TABLE OF  
DECISIONS OF THE SECTION  
PROCEDURES AFTER YOU  
GET A SAMPLE OF THE  
PARTICLES ON THE  
MAGNETIC PLUGS(REFER TO  
TASK 71-02-07-280-802)  
END OF PROCEDURE



## ARRIEL 2 C

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TASK 71-00-06-816-811-A01

### NON CONFORM OIL CONSUMPTION TROUBLESHOOTING

#### 1. GENERAL

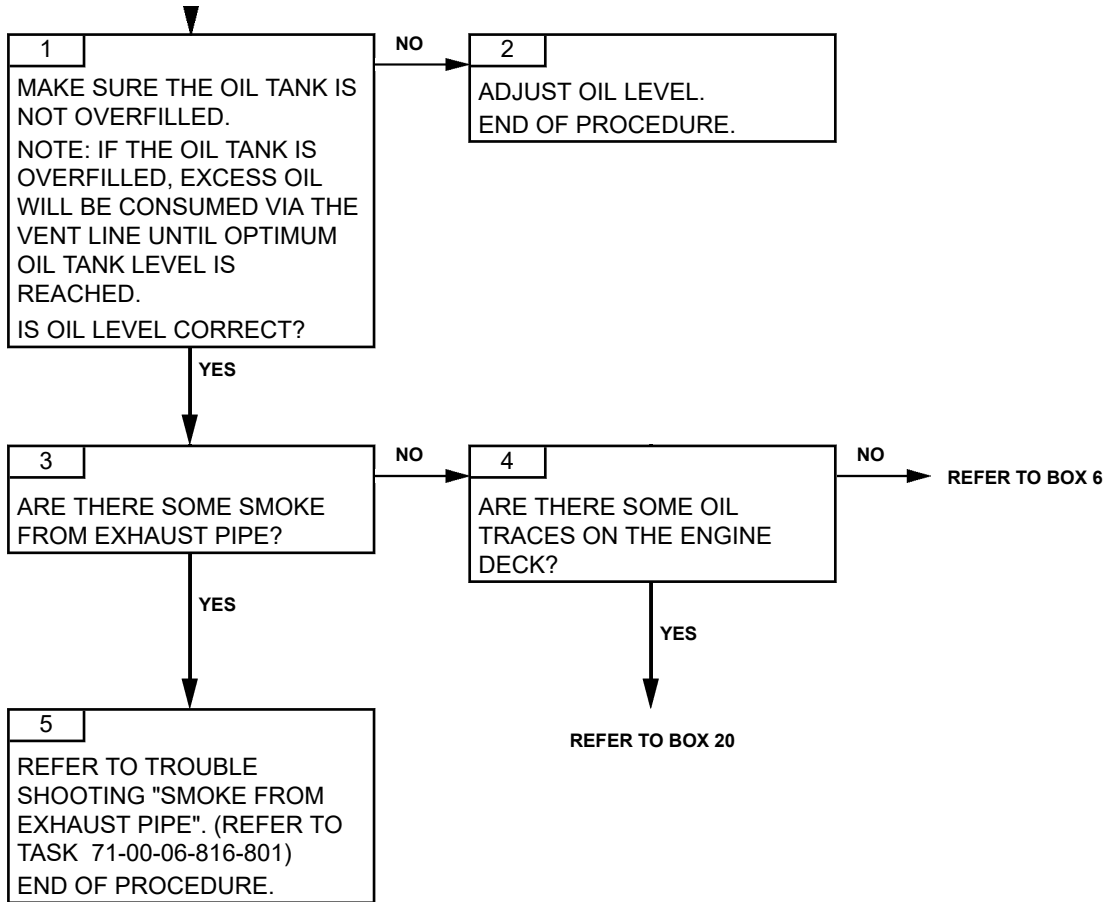
##### A. REMINDER OF THE NORMAL OPERATING CONDITION

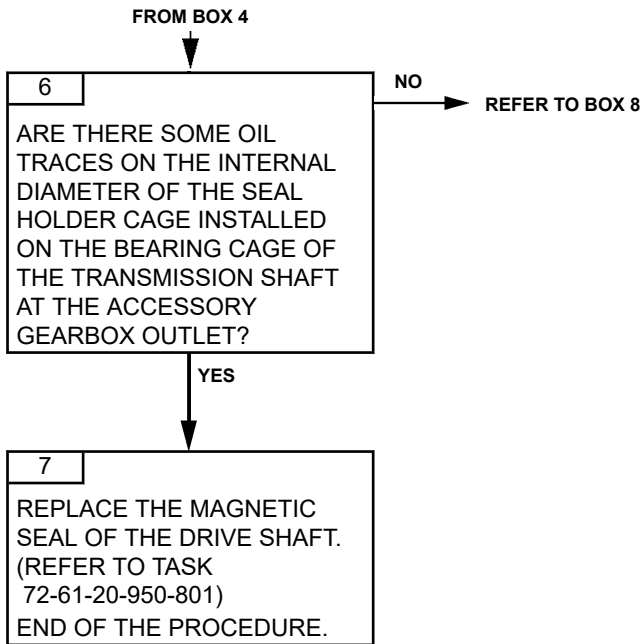
- During operation, the oil consumption must be less than the limit defined.  
(Refer to Task 79-00-00-200-801).

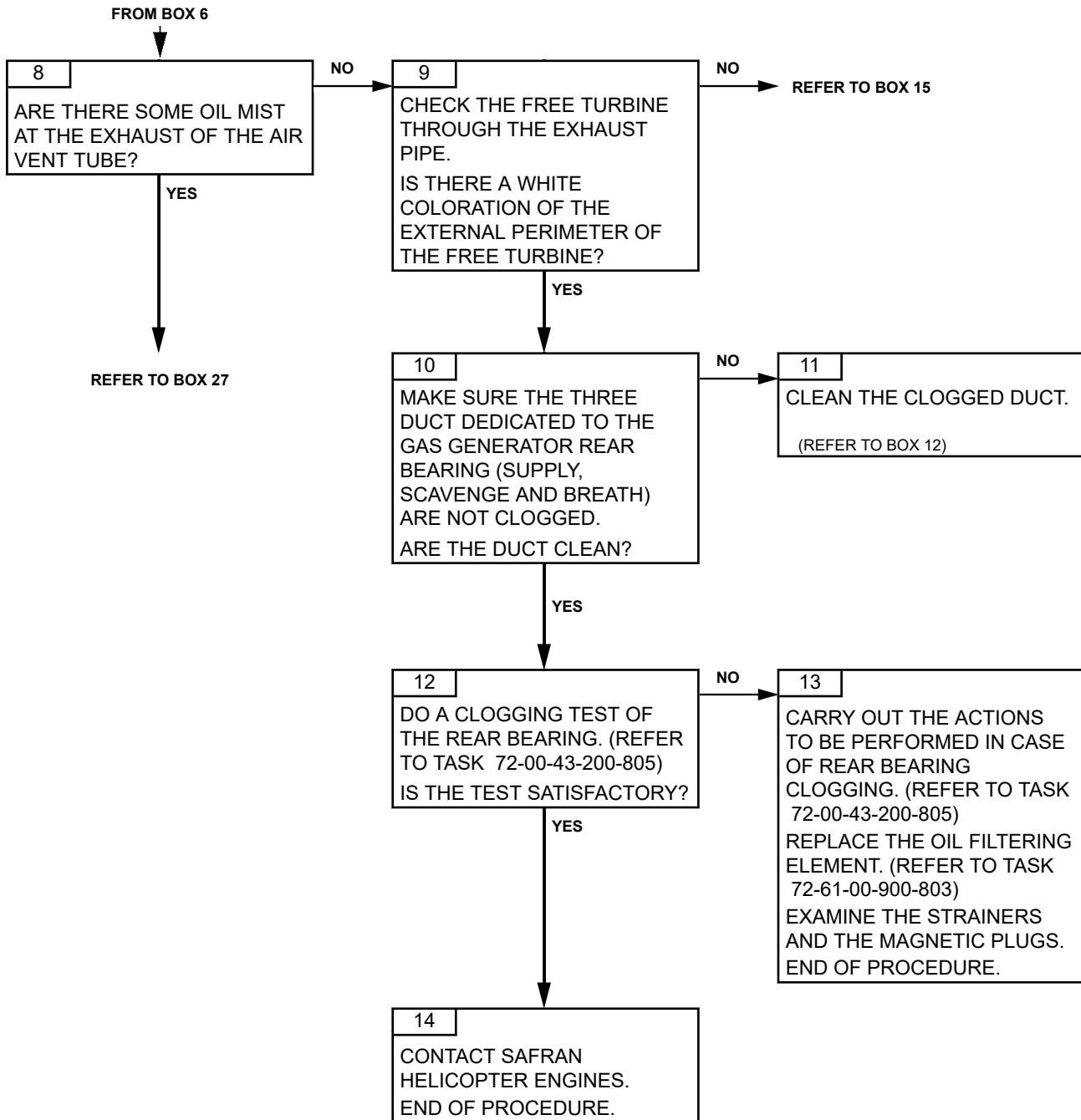
##### B. POSSIBLE CAUSES

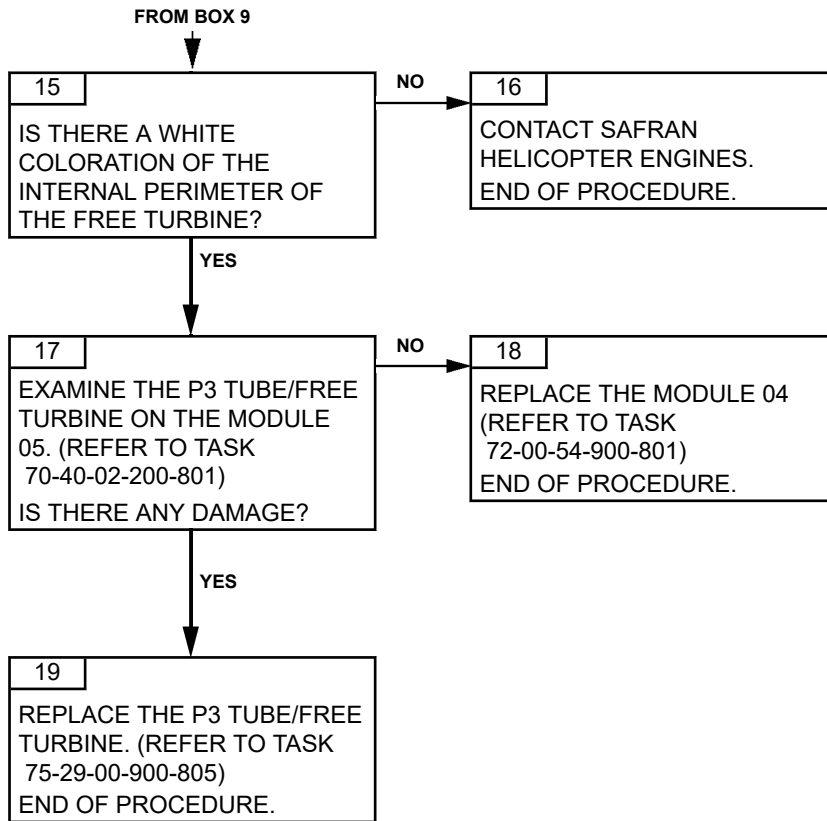
- Rear bearing (clogging of duct)
- Module 04 (bad sealing of labyrinth seal)
- Magnetic seal of the drive shaft
- Aircraft (vent pipe, hose)
- Magnetic seal of the breather
- P3 tube of the module 05 (bad sealing of M04 labyrinth seal)
- Preformed packing of the breather cover
- Oil tubes and unions.

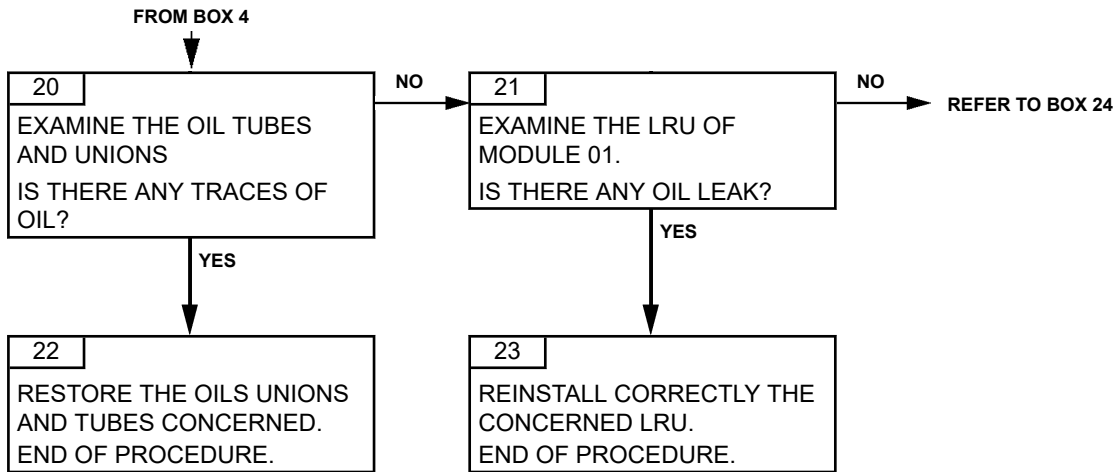
#### 2. PROCEDURE







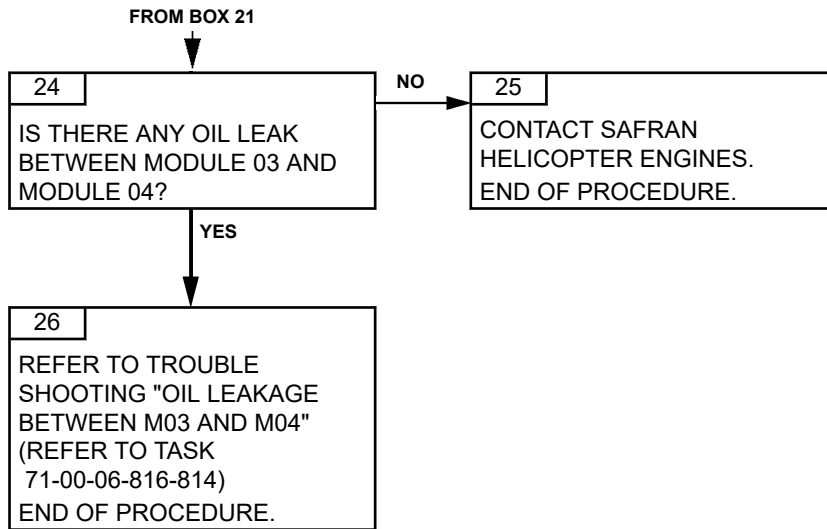


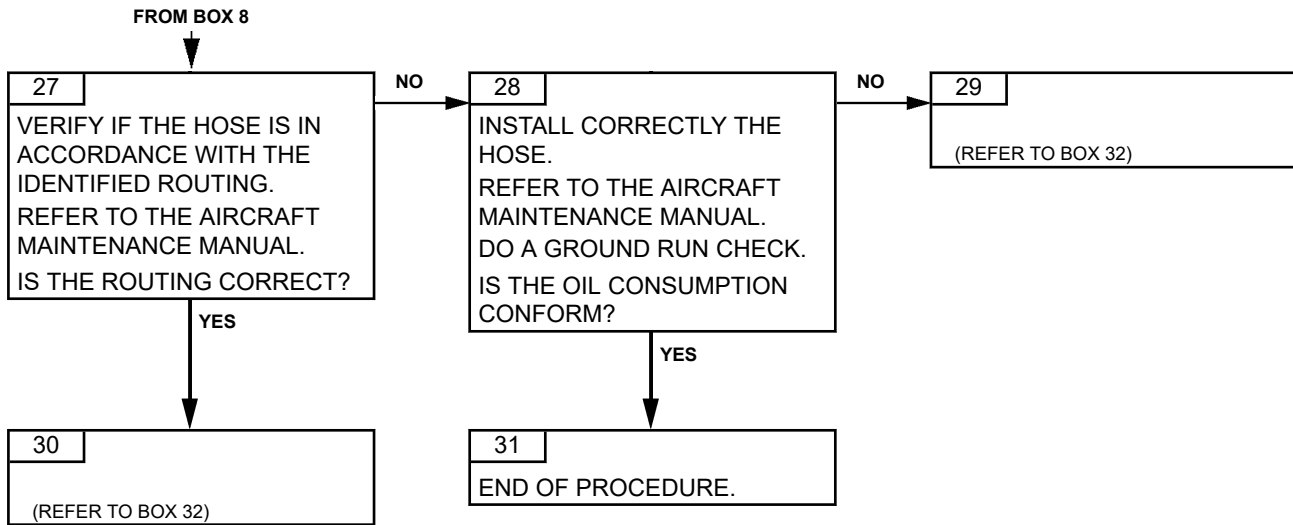


Effectivity: C

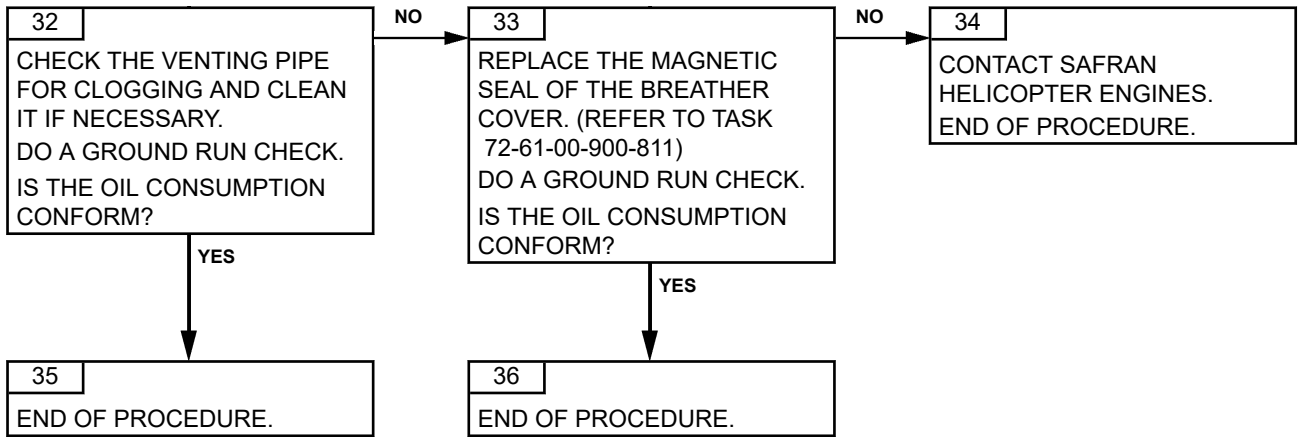
Failures observed during maintenance

ARRIEL 2 C









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TASK 71-00-06-816-812-A01

**CHECK OF ABNORMAL OIL PRESSURE  
TROUBLESHOOTING**

**1. GENERAL**

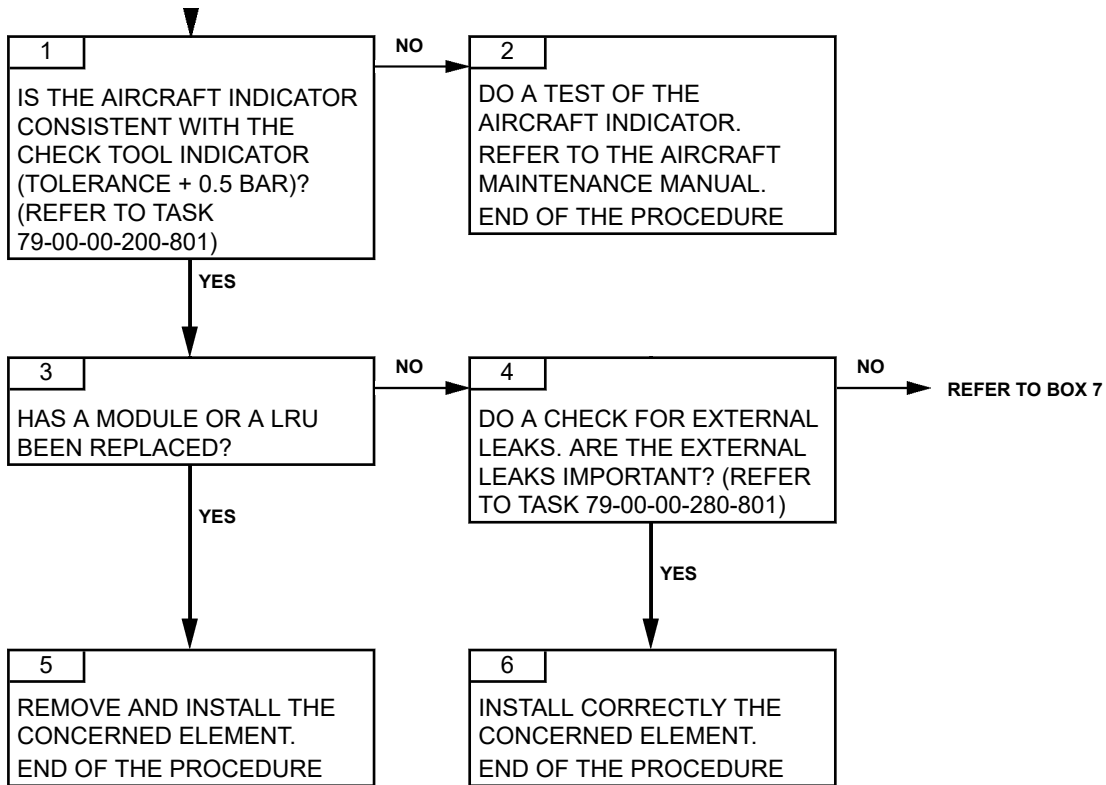
**A. PHASE AND FAILURE DETECTION**

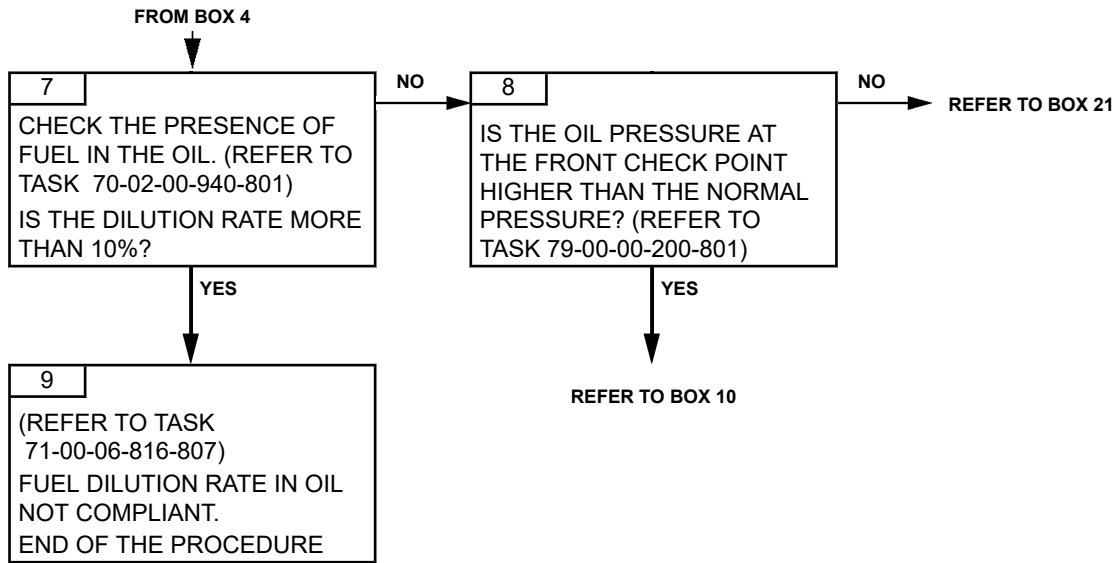
- After a check of the oil pressure (Refer to Task 79-00-00-200-801).

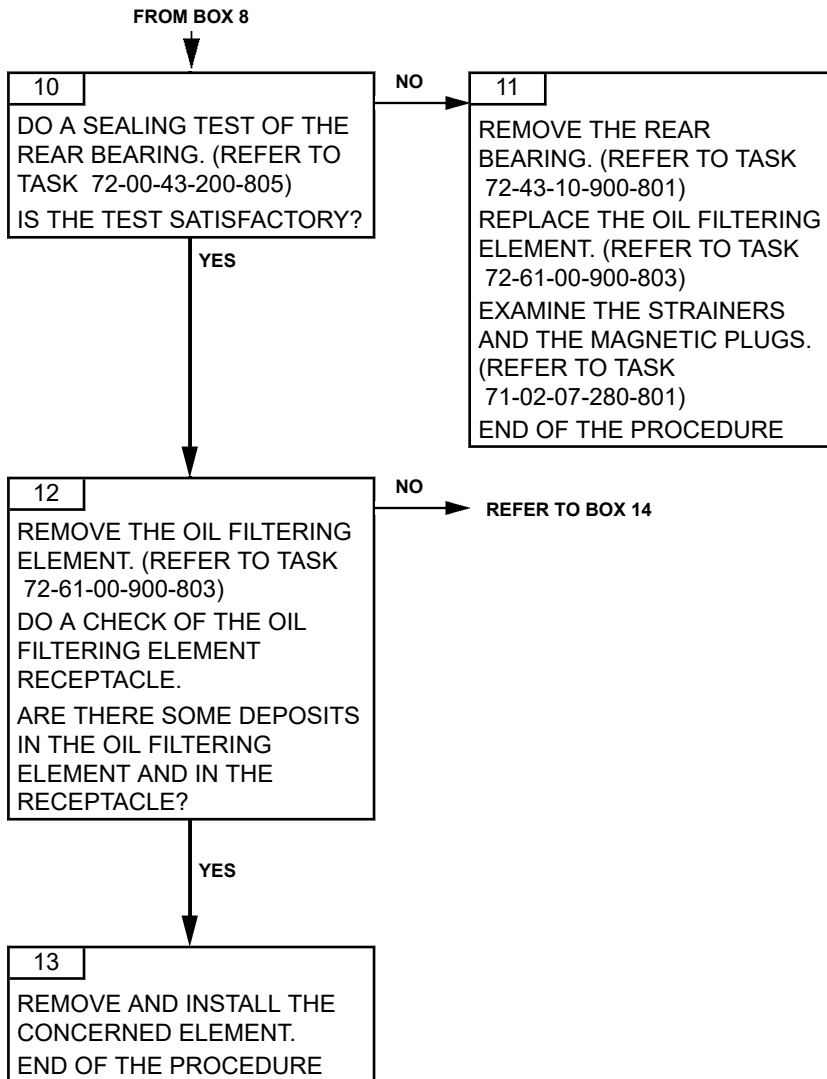
**B. POSSIBLE CAUSES**

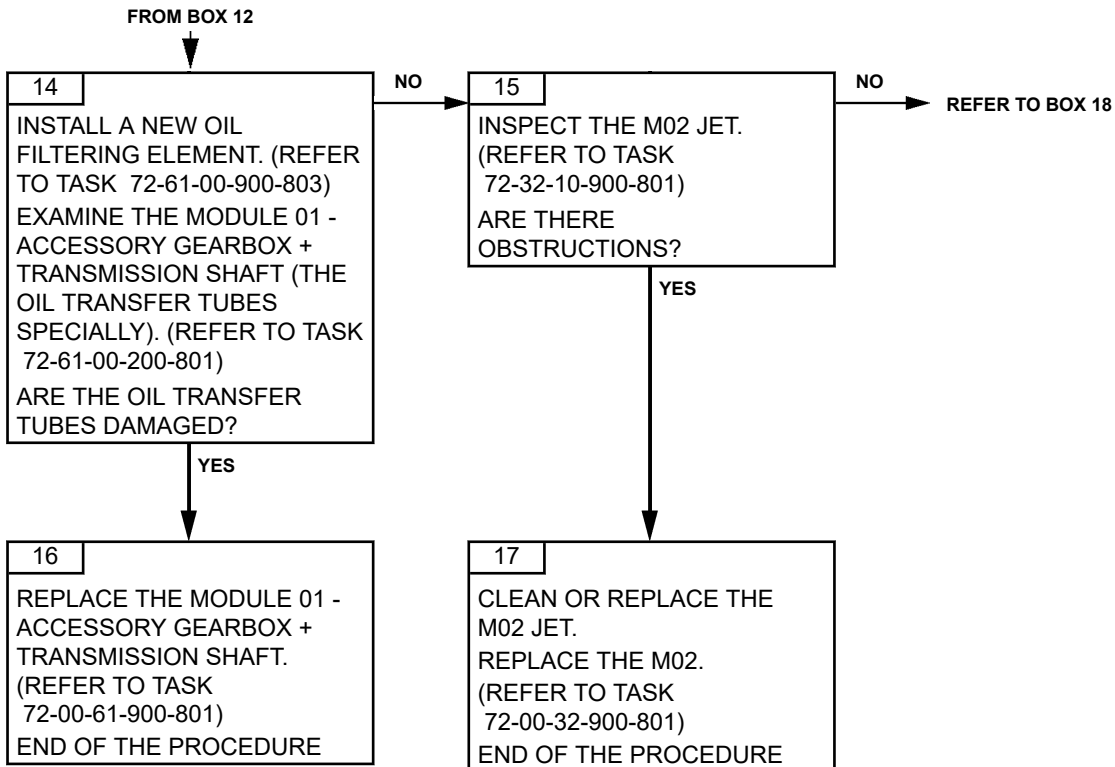
- Clogging of the rear bearing
- Leaks
- Oil system contamination
- Oil pump
- Reduction gearbox module (M05).

**2. PROCEDURE**

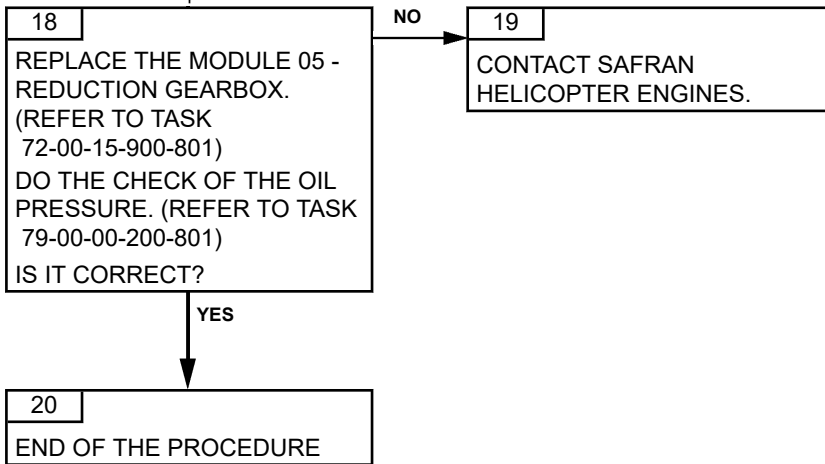




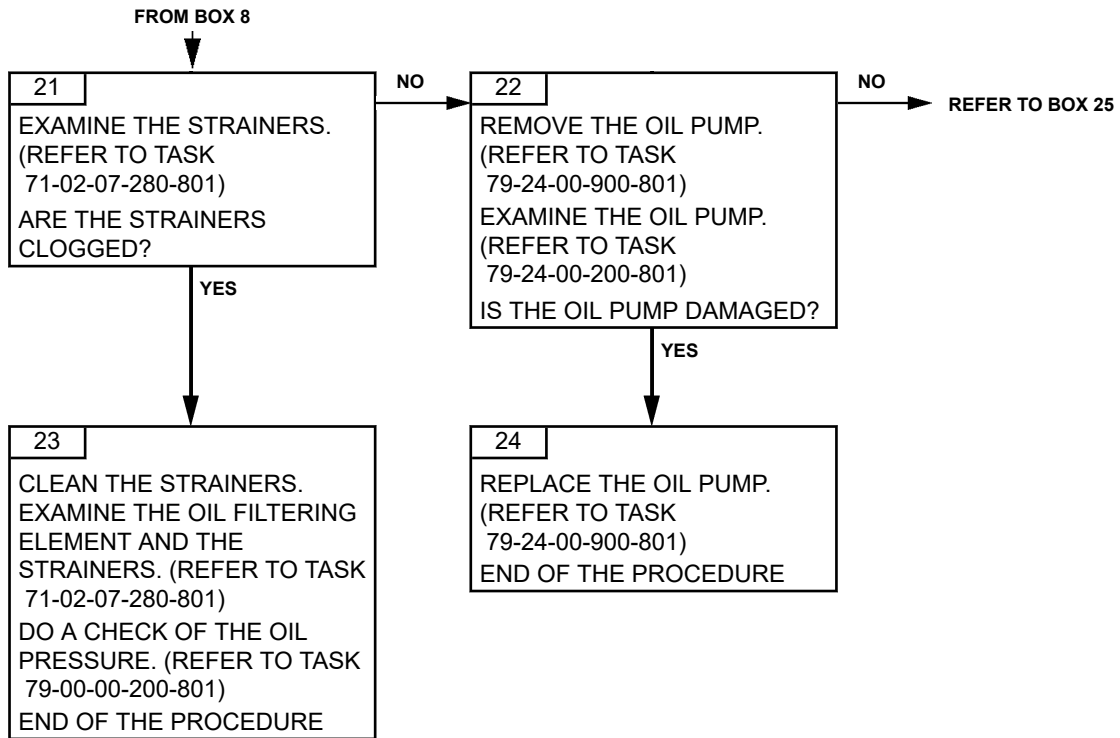


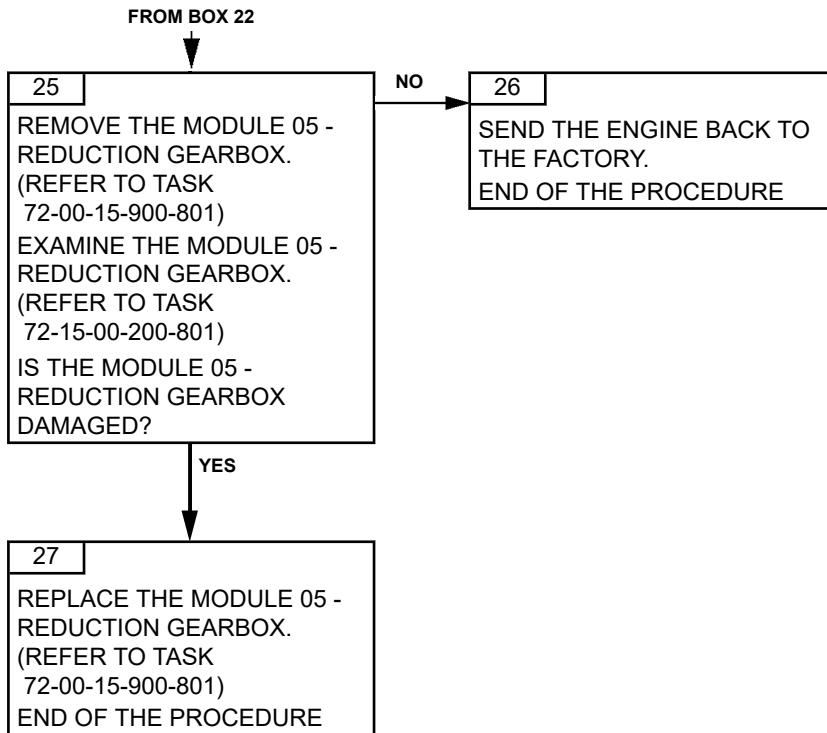


FROM BOX 15









TASK 71-00-06-816-813-A01

**POPPING OUT OF THE PRE-BLOCKAGE INDICATOR  
OF THE OIL FILTER  
TROUBLESHOOTING**

**1. GENERAL**

**A. GENERAL DESCRIPTION**

- The pre-blockage indicator of the oil filter must always be ARMED (not apparent).

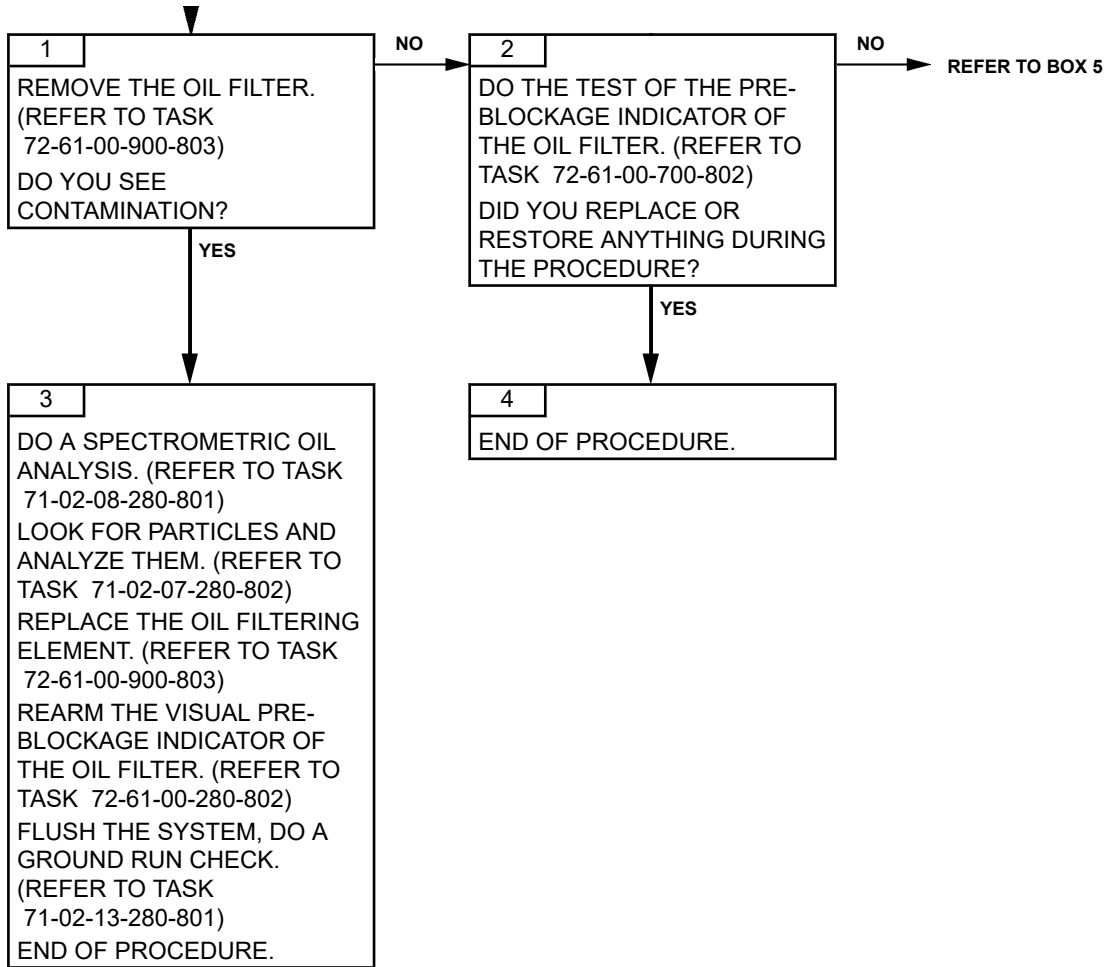
**B. POSSIBLE CAUSES**

- Pre-blockage indicator of the oil filter
- Oil system contamination.

**2. PROCEDURE**

Effectivity: C

Failures observed during maintenance



FROM BOX 2



5

DO A SPECTROMETRIC OIL ANALYSIS. (REFER TO TASK 71-02-08-280-801)

LOOK FOR PARTICLES AND ANALYZE THEM. (REFER TO TASK 71-02-07-280-802)

REPLACE THE OIL FILTERING ELEMENT. (REFER TO TASK 72-61-00-900-803)

REARM THE VISUAL PRE-BLOCKAGE INDICATOR OF THE OIL FILTER. (REFER TO TASK 72-61-00-280-802)

FLUSH THE SYSTEM, DO A GROUND RUN CHECK. (REFER TO TASK 71-02-13-280-801)

END OF PROCEDURE.

Effectivity: C

Failures observed during maintenance

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## ARRIEL 2 C

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TASK 71-00-06-816-814-A01

### OIL LEAKAGE BETWEEN M03 AND M04 TROUBLESHOOTING

#### 1. GENERAL

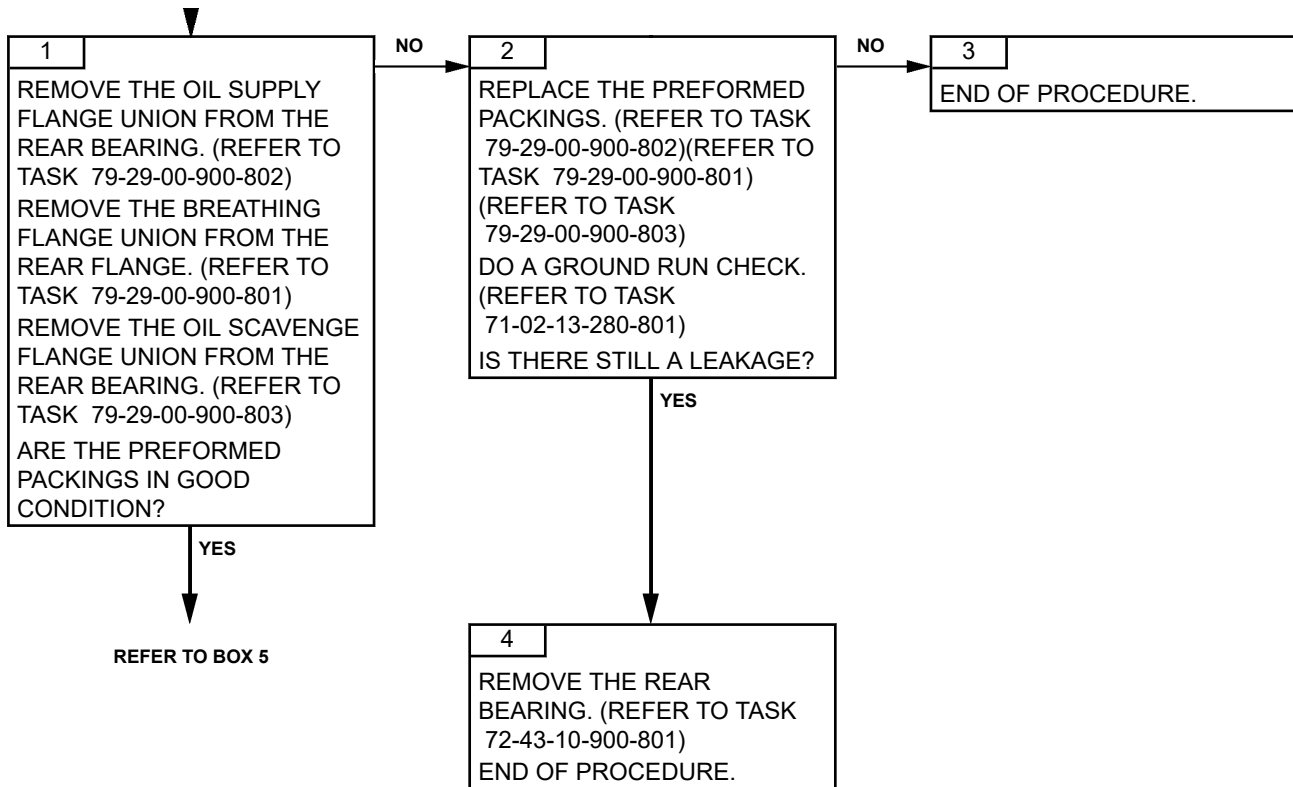
##### I A. GENERAL DESCRIPTION

- No leakage finding after visual inspection and the engine compartment floor. Refer to chapter 05.

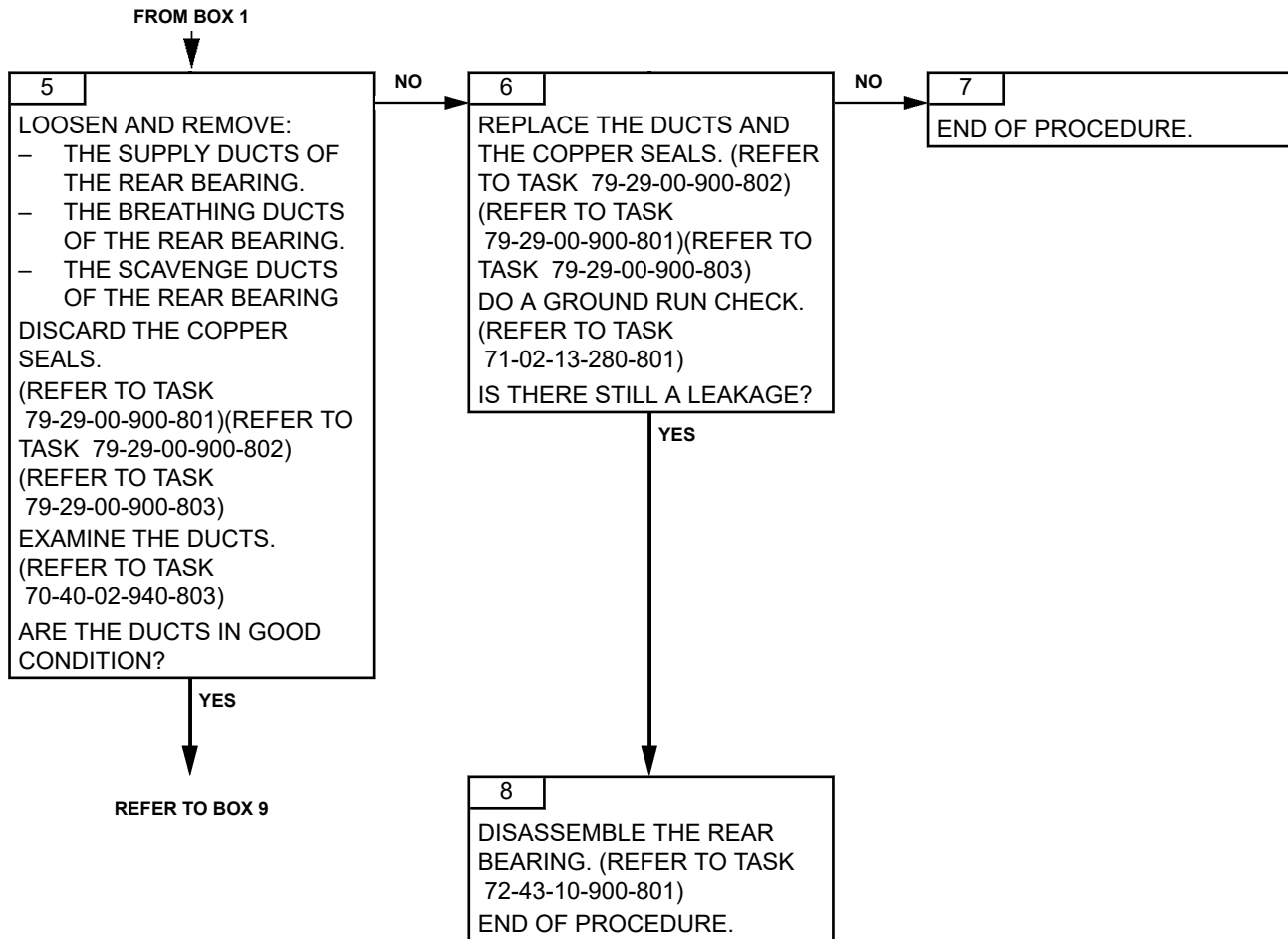
##### B. POSSIBLE CAUSES

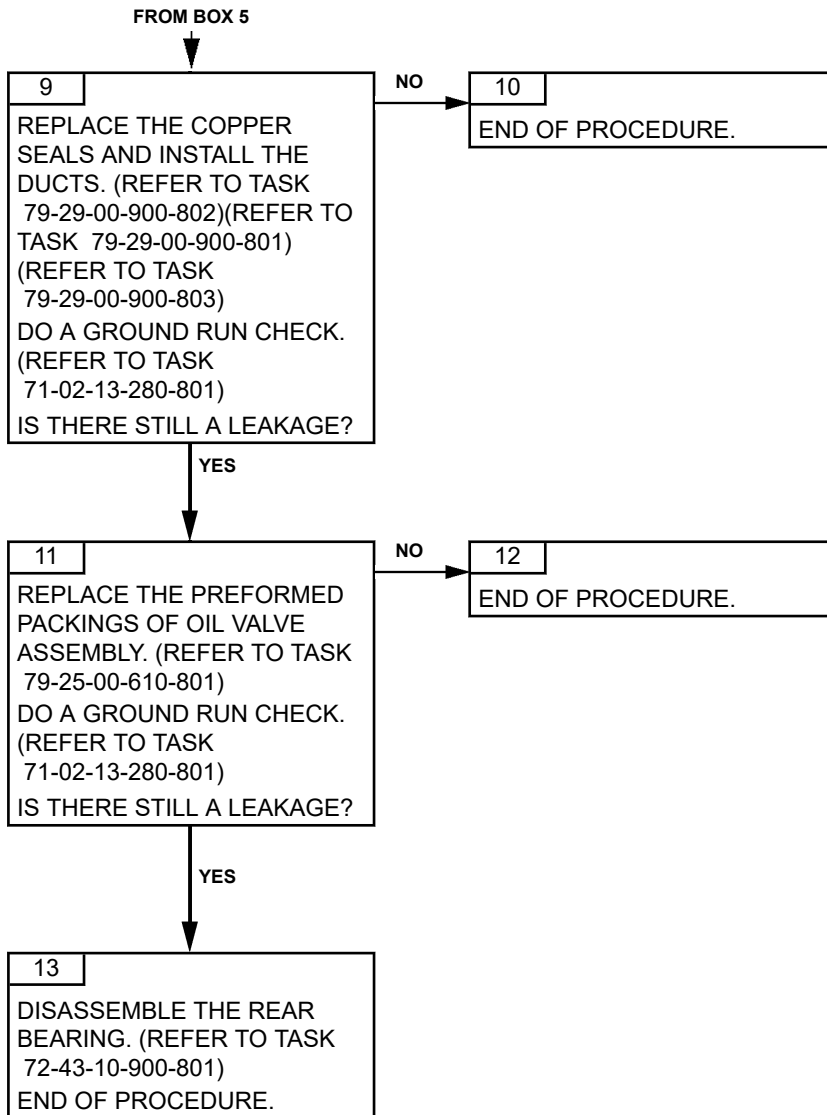
- Wear on the preformed packing at the top of the oil inlet duct
- Defective sealing at the copper seal of the duct at the rear bearing box
- Defective sealing of the preformed packings of the oil valve assembly

#### 2. PROCEDURE









TASK 71-00-06-816-815-A01

### VIBRATION OUT OF TOLERANCE DETECTED BY THE M'ARMS SYSTEM TROUBLESHOOTING

#### 1. GENERAL

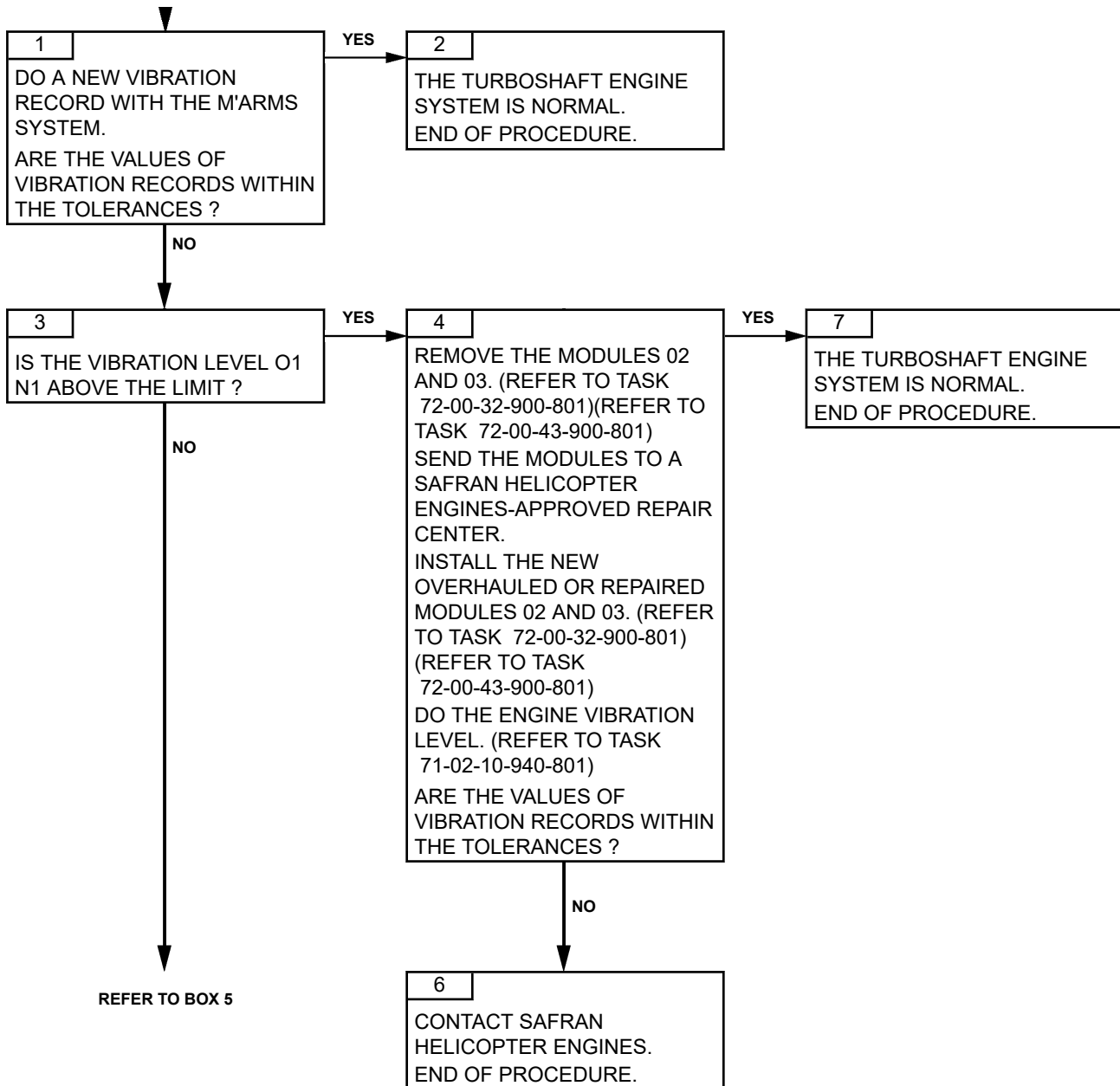
##### A. FAILURE DETECTION CONDITIONS

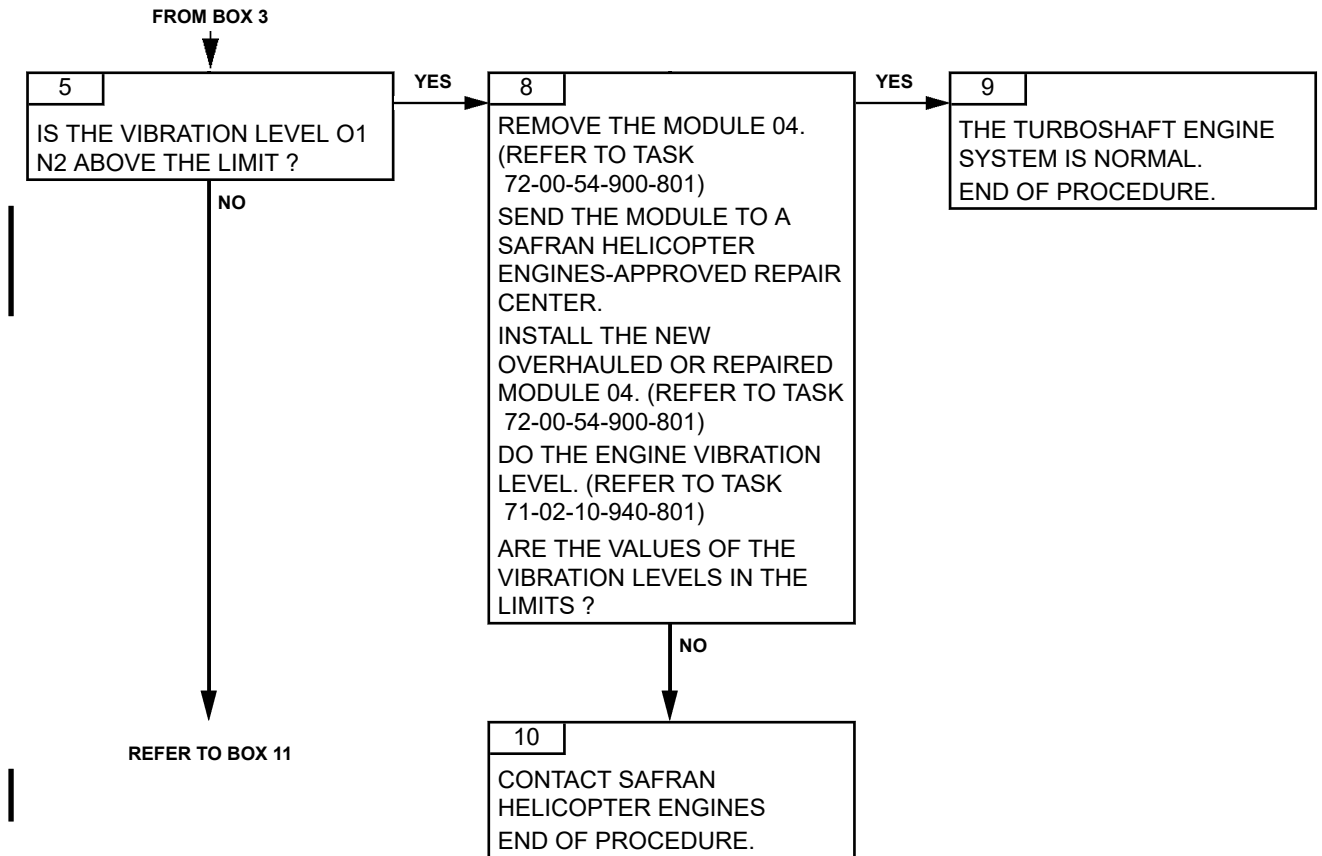
- The M'ARMS system has detected an out of tolerance vibration level on the turboshaft engine.

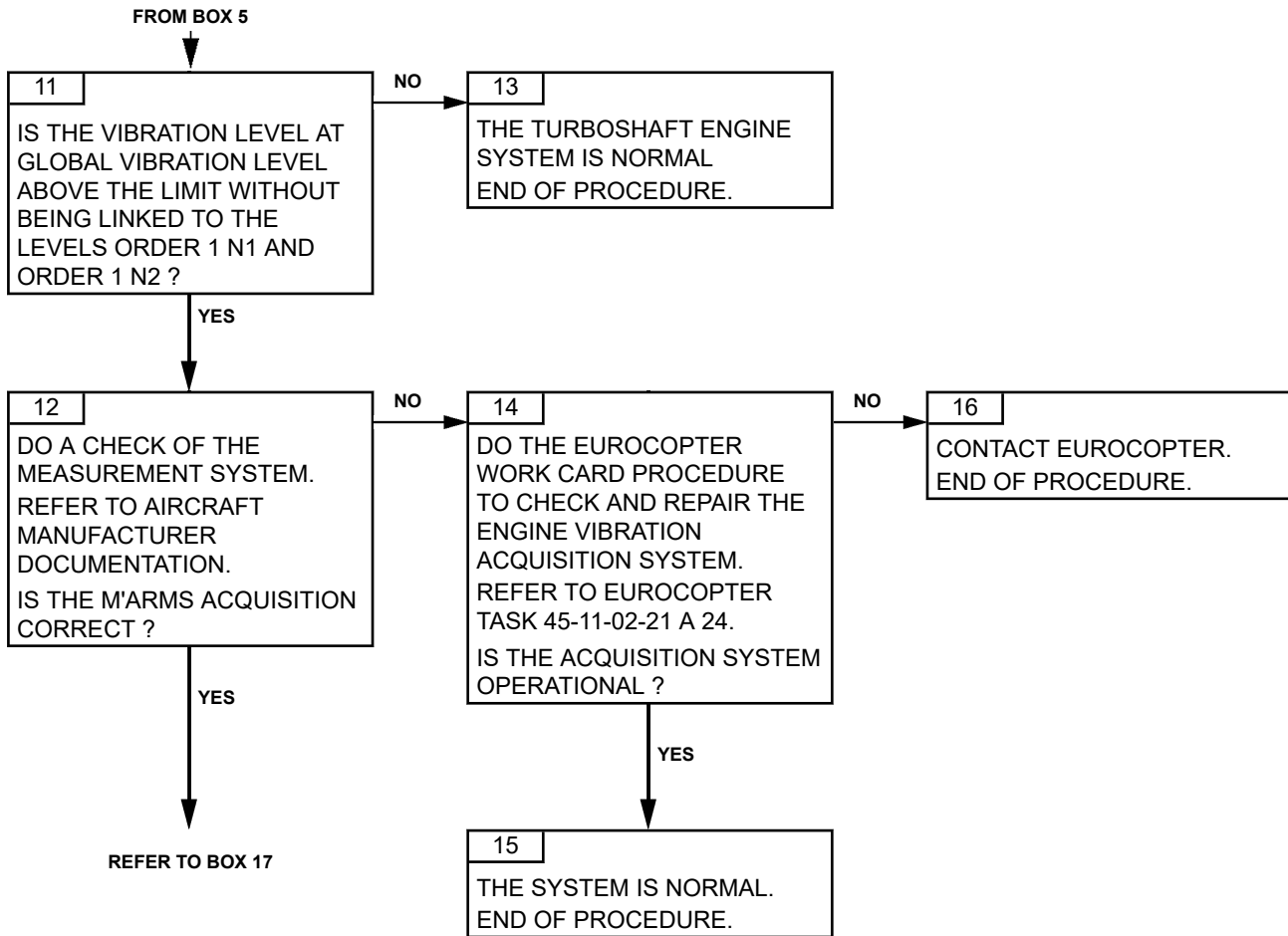
##### B. POSSIBLE CAUSES

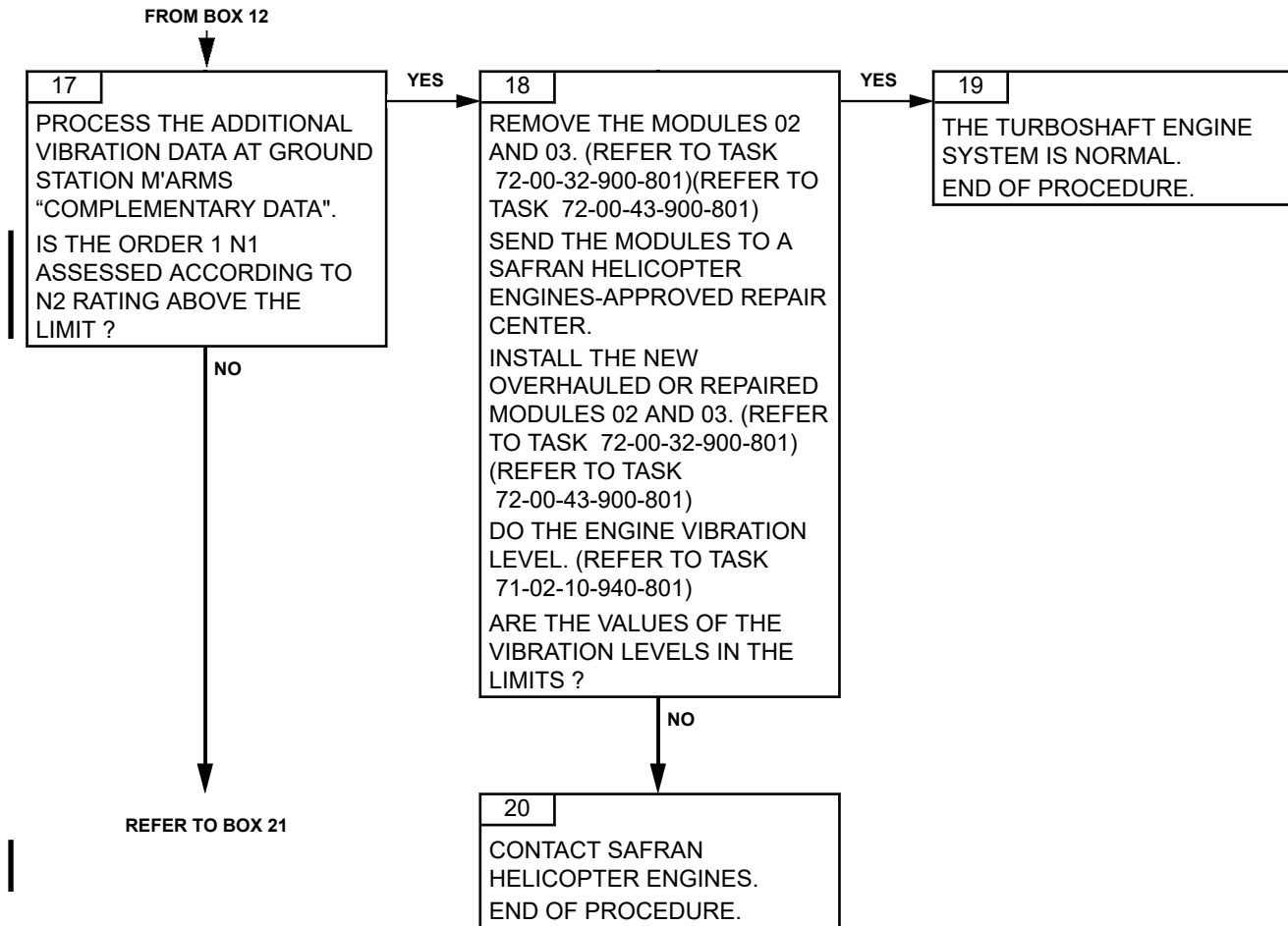
- Modules M01, M02, M03, M04, M05
- Starter generator
- Alternator
- Pump and metering unit assembly
- Oil pump
- Output shaft

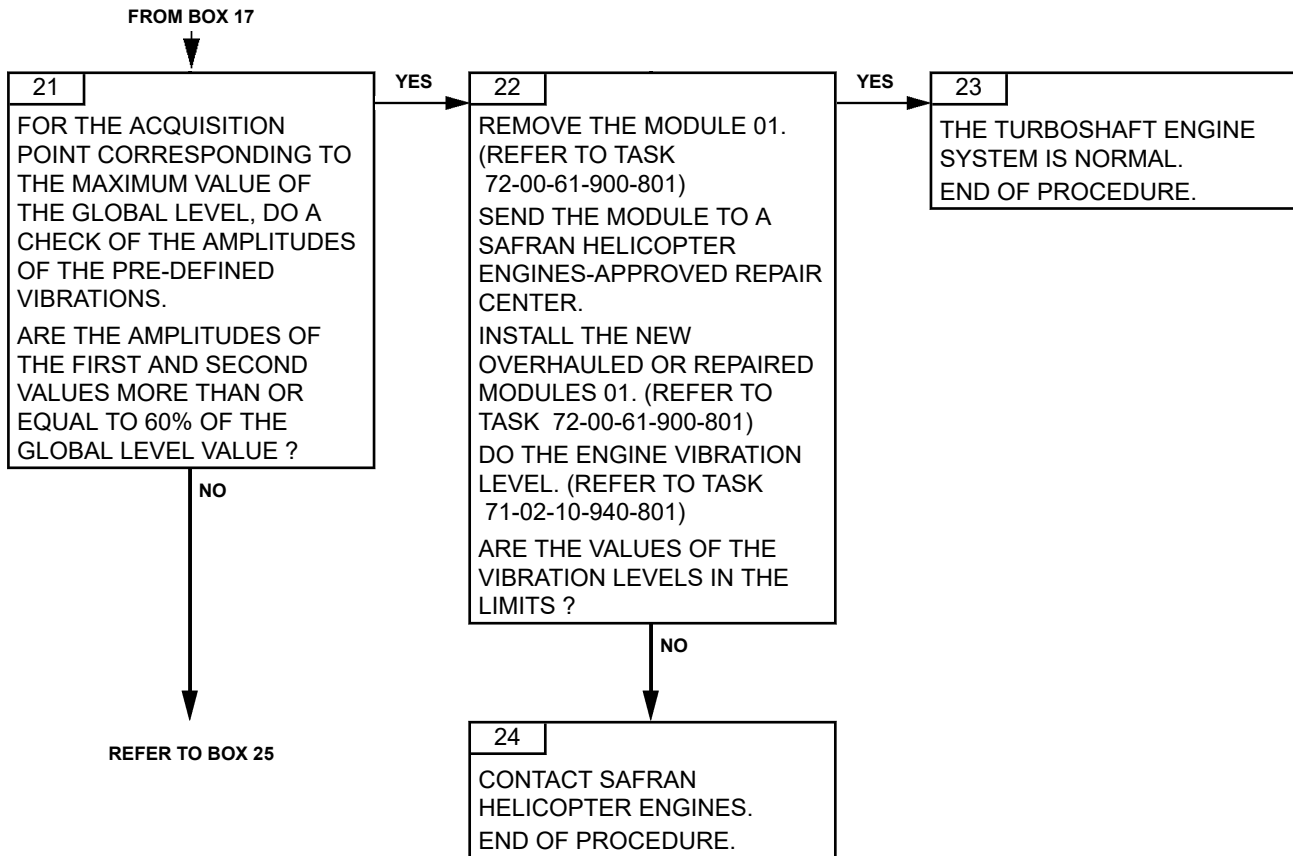
#### 2. PROCEDURE



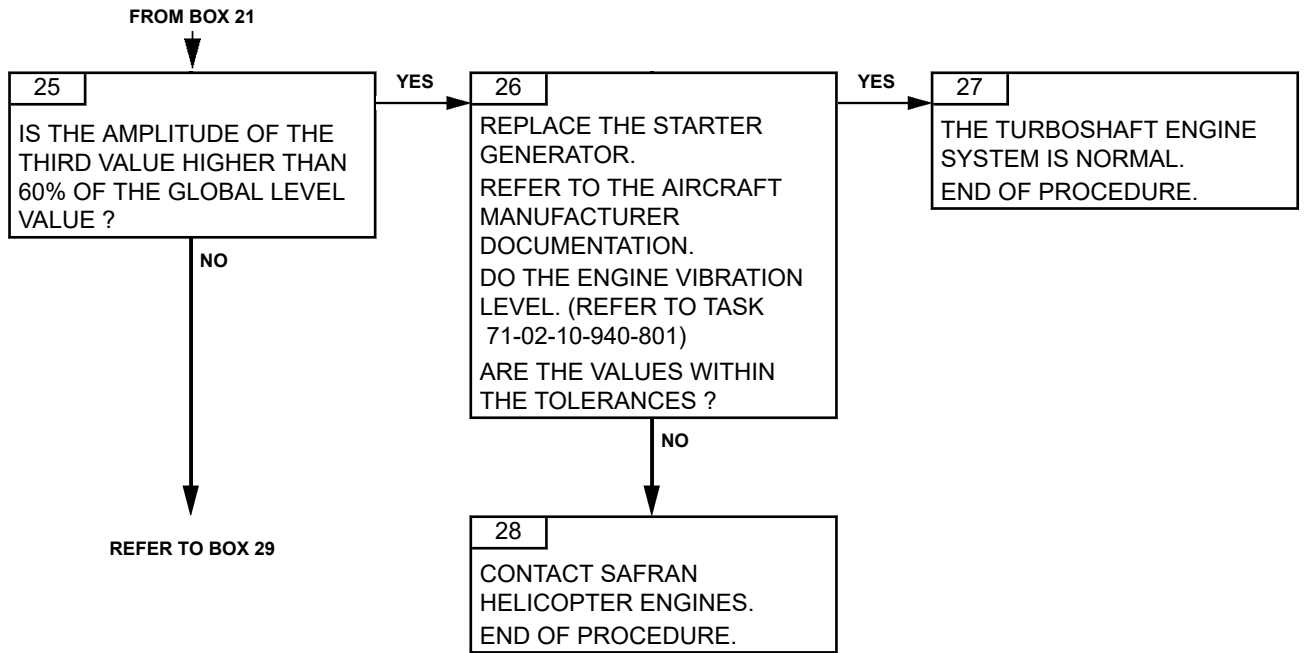


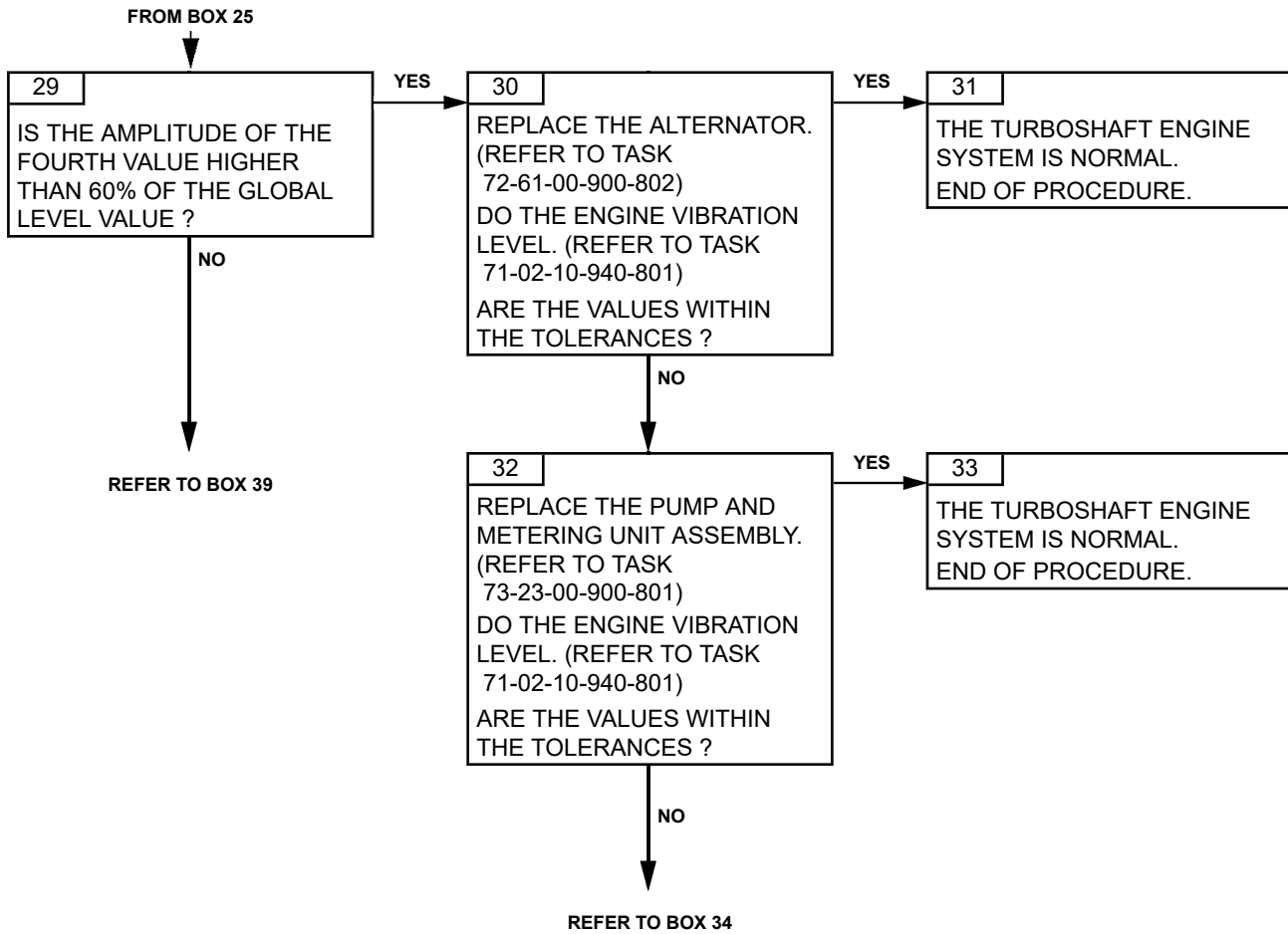




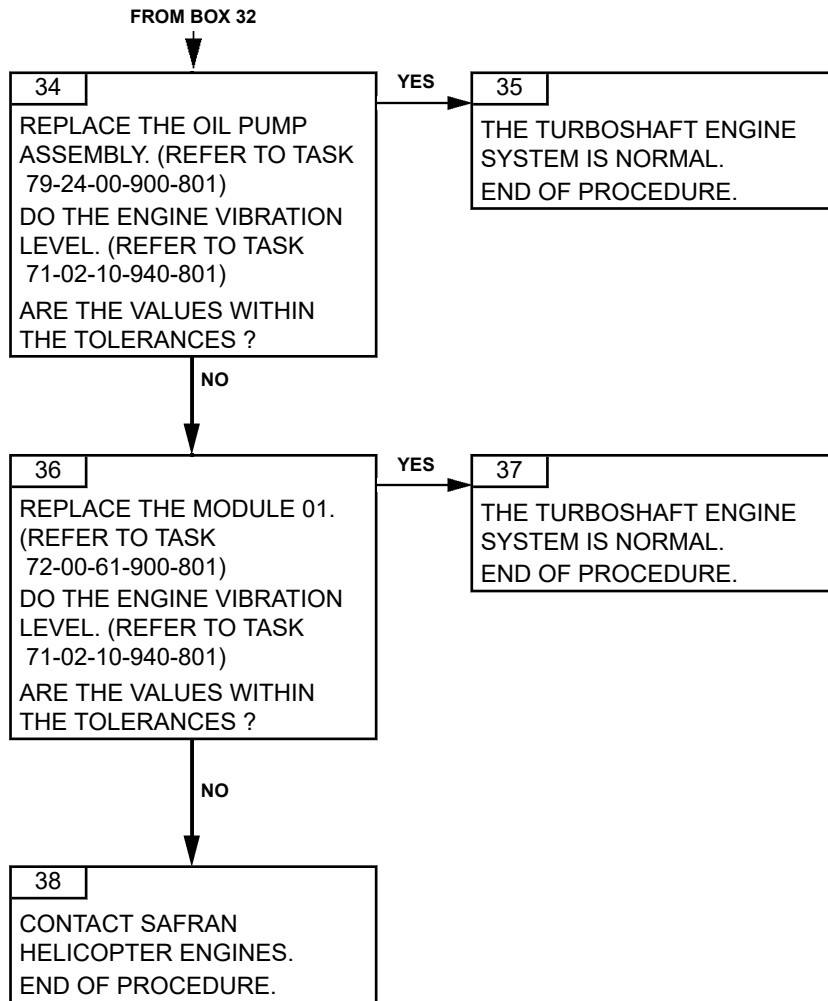


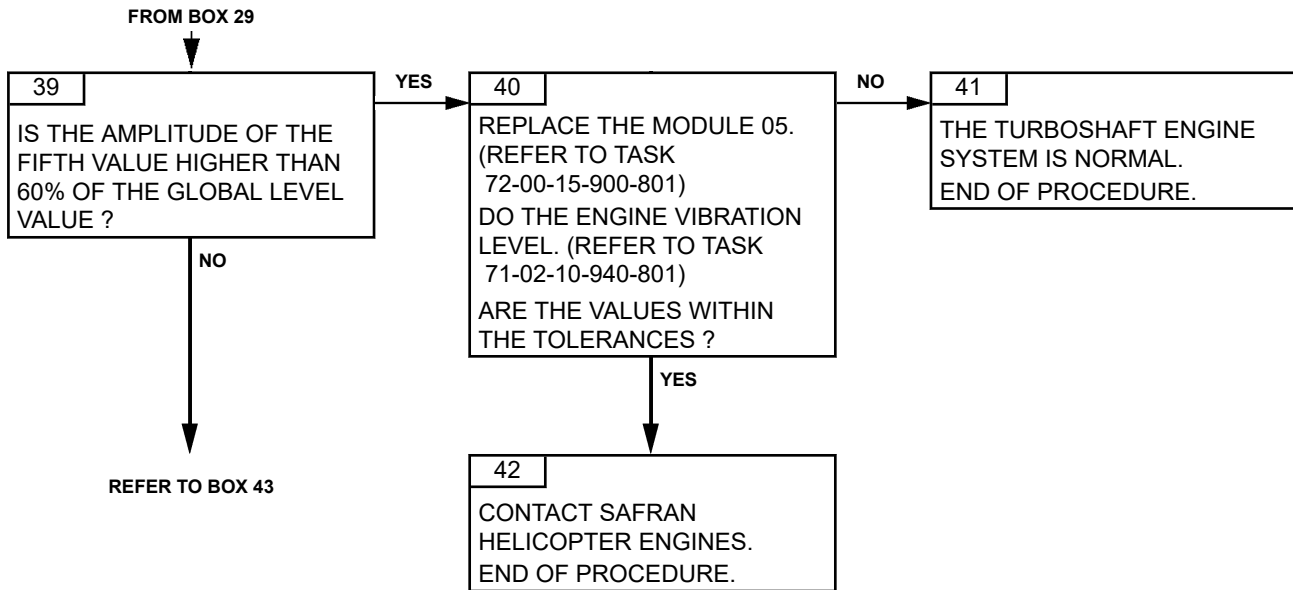


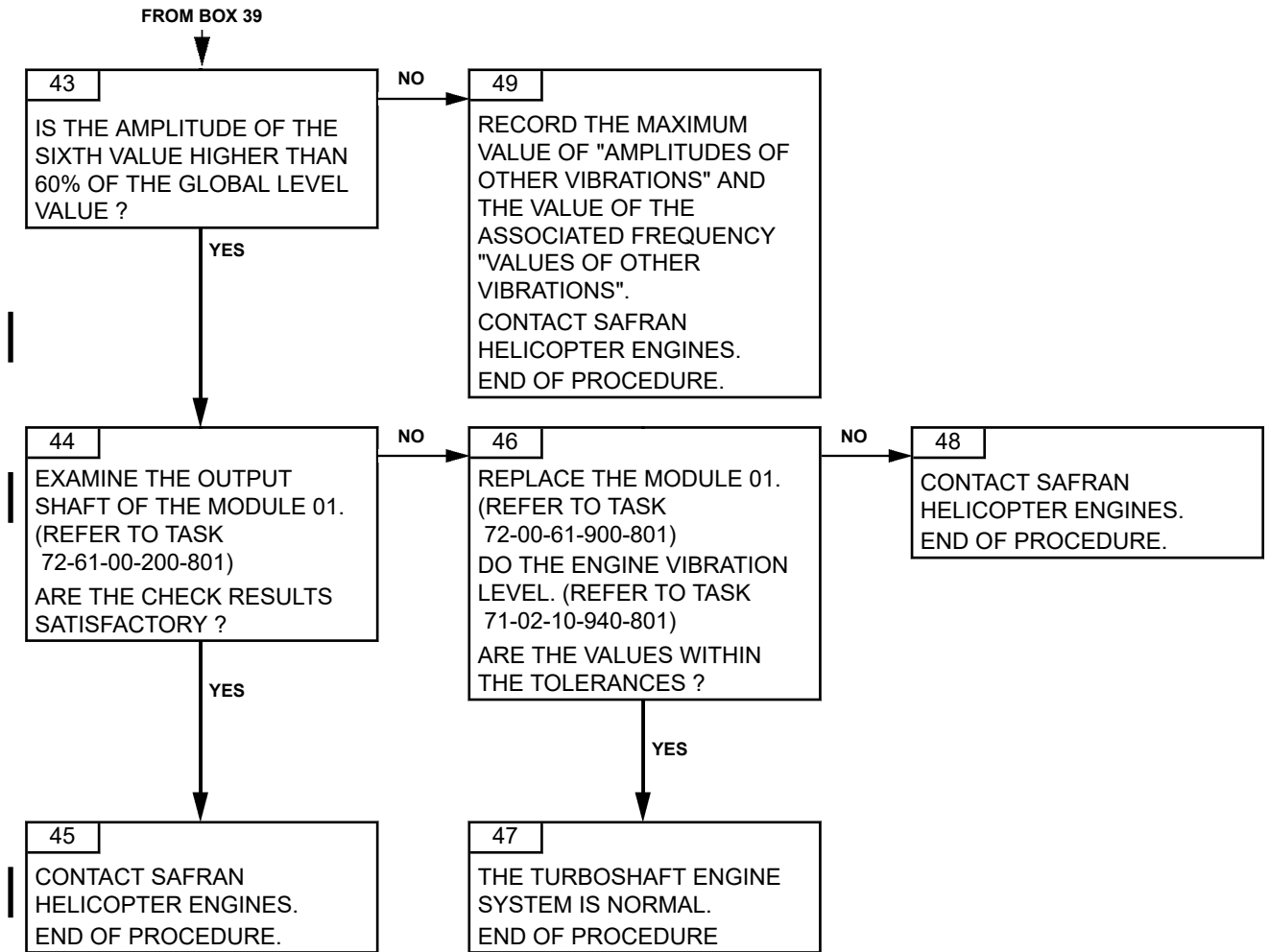




ARRIEL 2 C







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TASK 71-00-06-816-819-A01

**ENGINE POWER CHECK - INCORRECT MARGIN  
TROUBLESHOOTING****1. GENERAL****A. INDICATION ON THE AVIONIC**

The engine power check is incorrect.

**B. GENERAL DESCRIPTION**

Monitoring of in-service performance is a great help for engine health assessment. Trend monitoring improves troubleshooting through interpretation of performance and degradation localization. (Refer to Task 71-02-14-940-801).

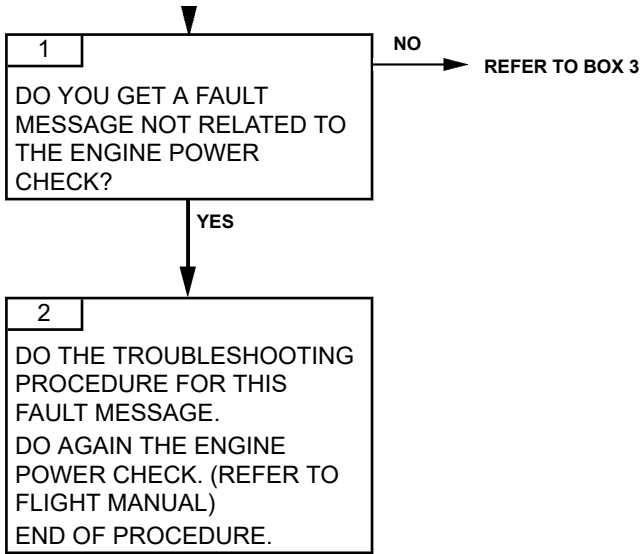
**CAUTION: MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE ANY INTERVENTION ON THE ENGINE.**

**C. POSSIBLE CAUSES**

- T45 conformation
- Torque conformation
- Torque sensor
- Control harness
- Pyrometric harness
- Module 02 Axial Compressor
- Module 03 Gas Generator (Centrifugal compressor and HP Turbine)
- Module 04 Power Turbine
- Air path fouling
- Air leakage
- Air intake
- P0 aircraft measuring system
- T0 aircraft measuring system

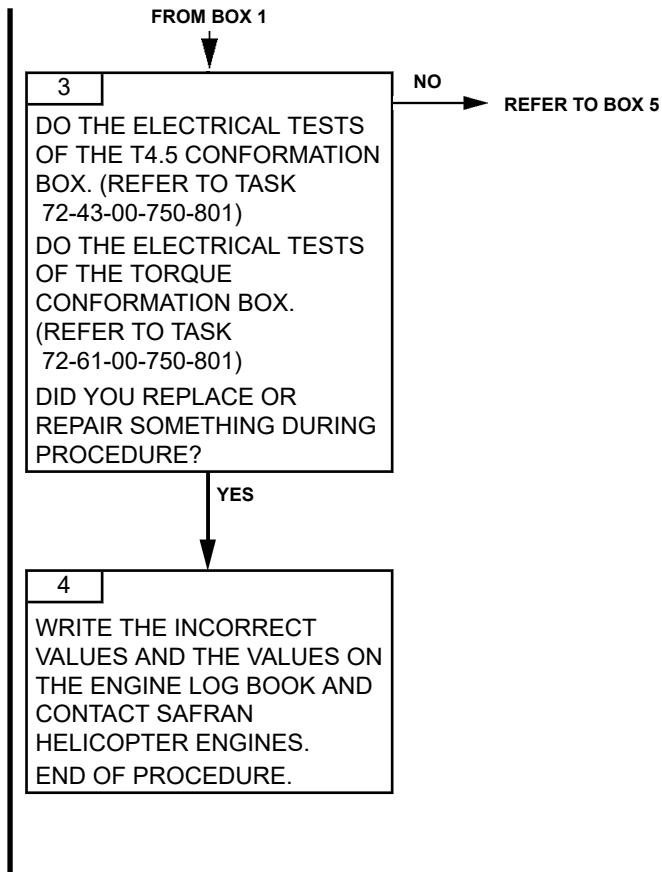
**2. PROCEDURE**

**NOTE: If it is the first installation of the engine, it is possible that there is an incompatible unit measurement (Kelvin / Degres Celsius) of the T45 signal between the engine and the aircraft. Do a check of the aircraft harness dedicated to the T45 measurement. Refer to the Aircraft Maintenance Manual.**



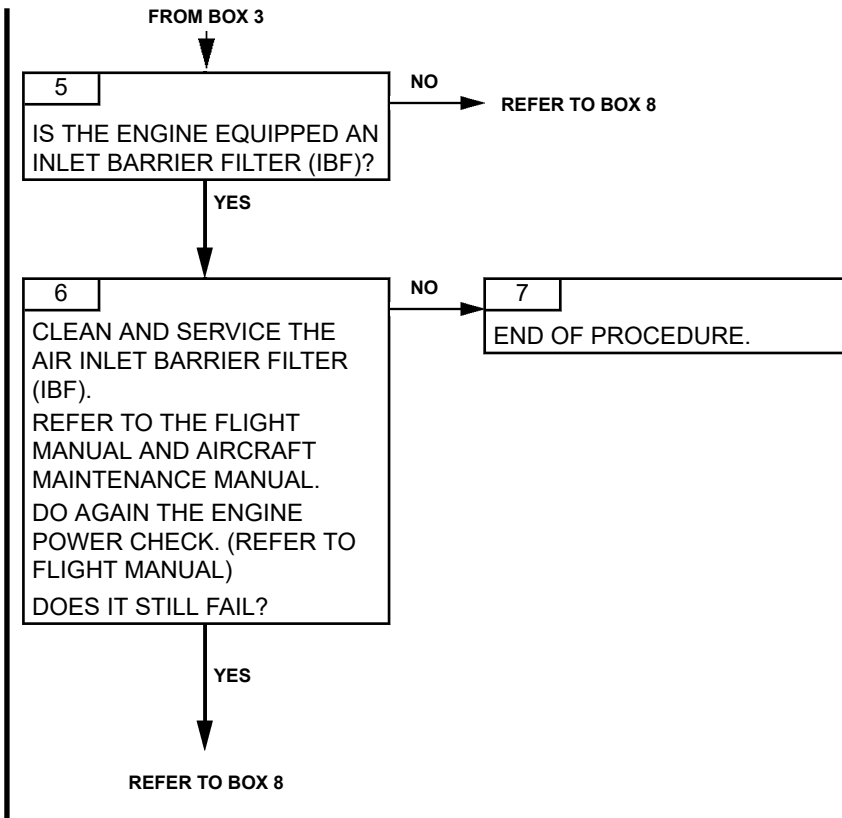


## ARRIEL 2 C

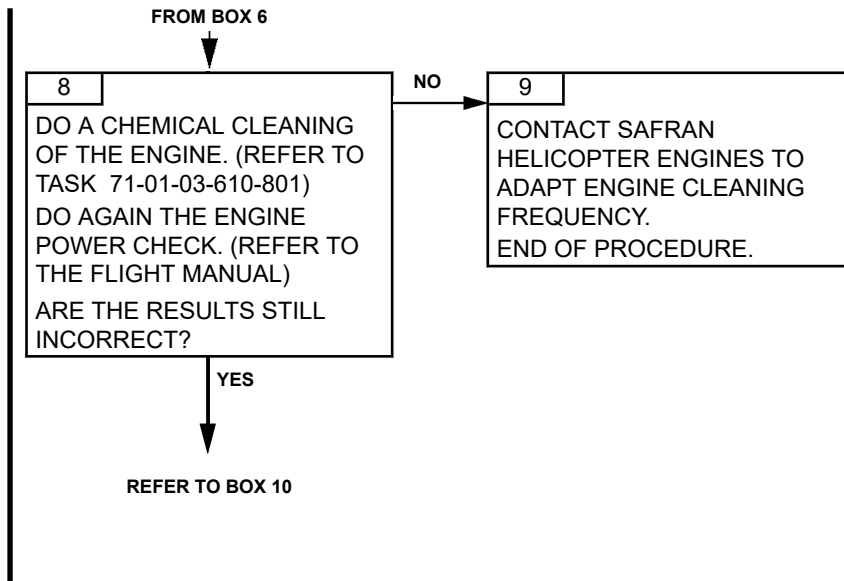


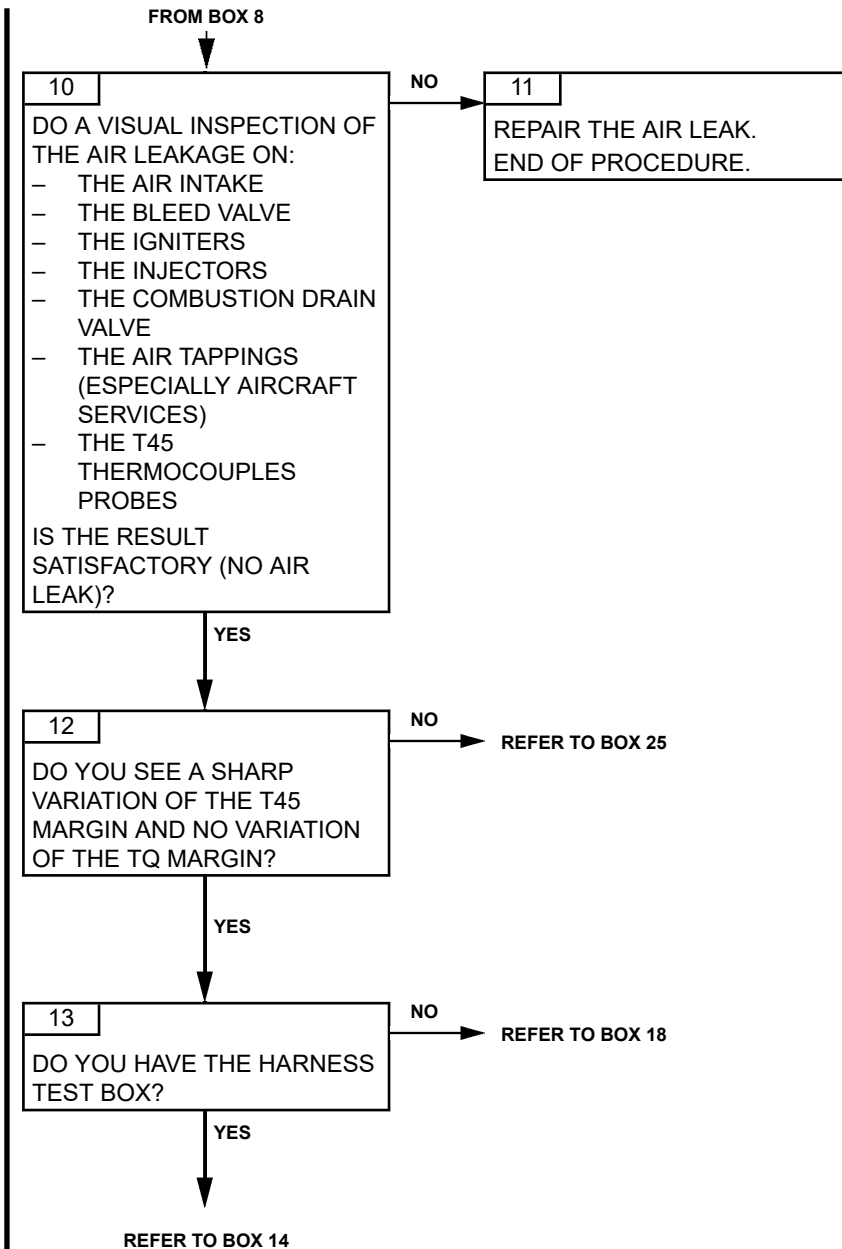
Effectivity: C

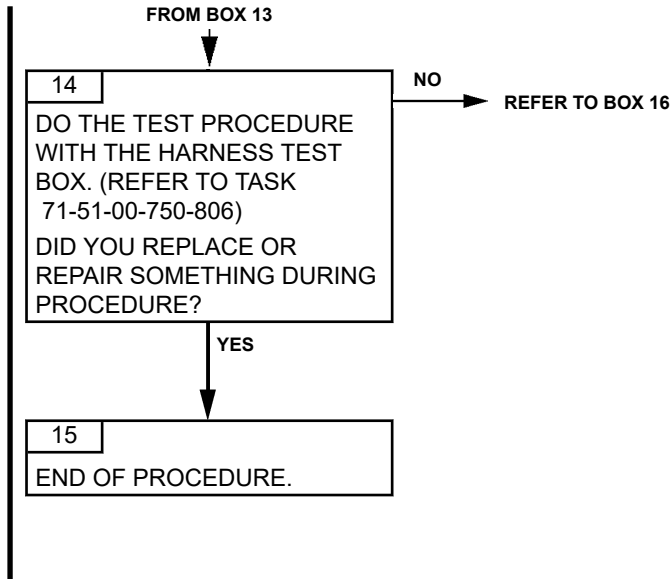
Failures observed during maintenance

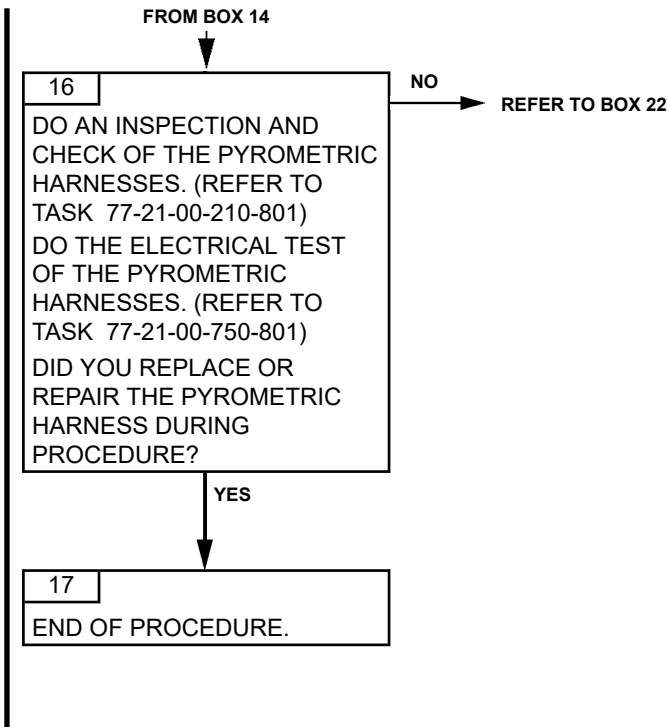


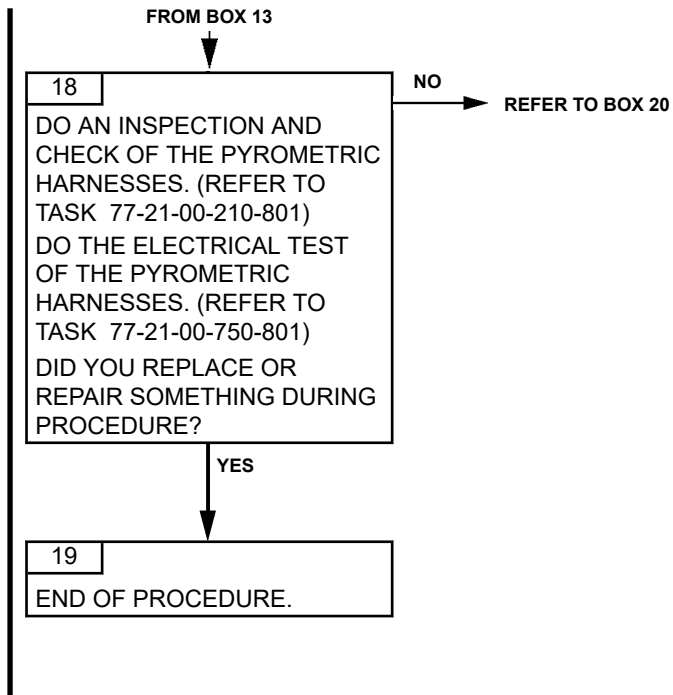
ARRIEL 2 C











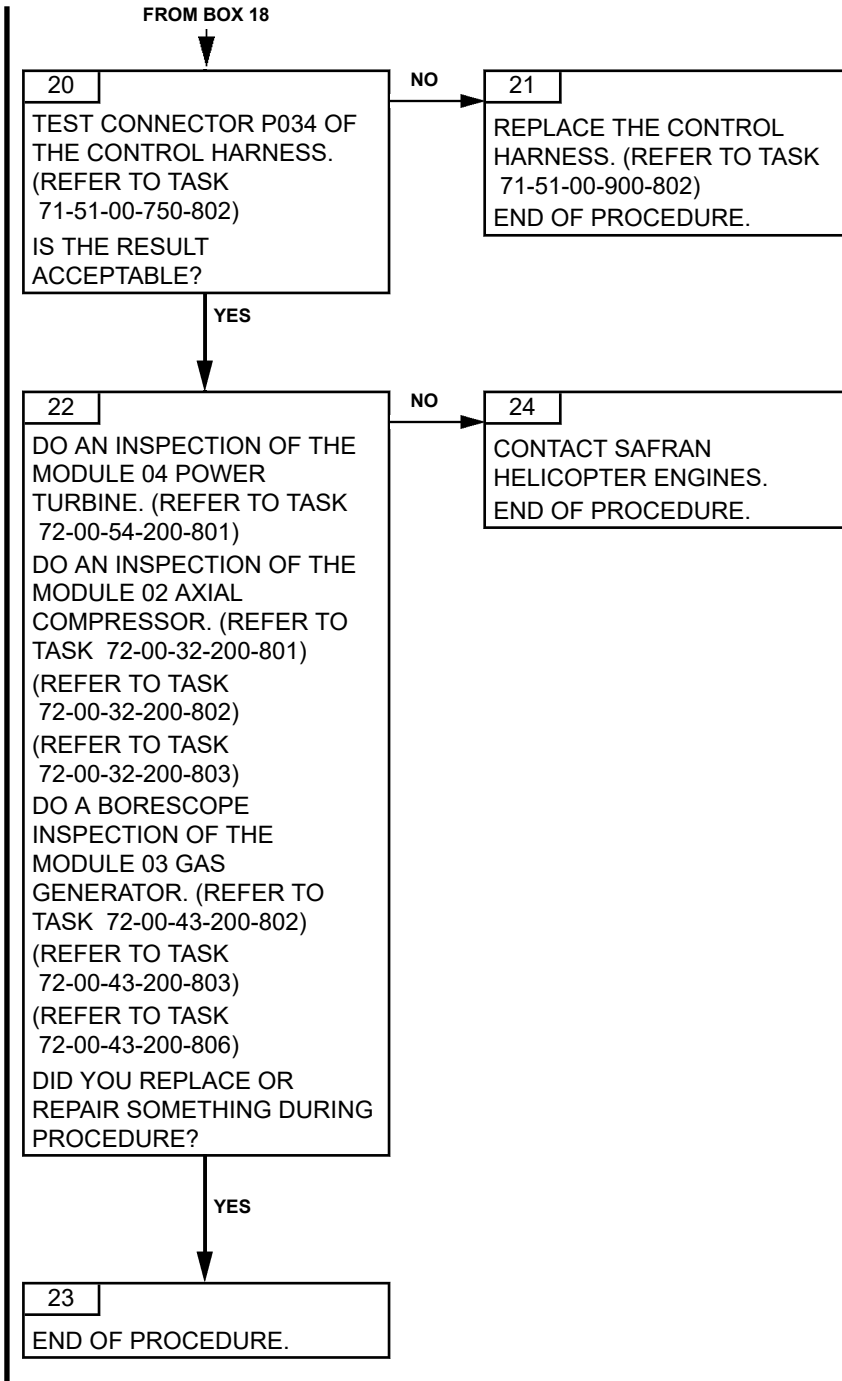
Effectivity: C

Failures observed during maintenance

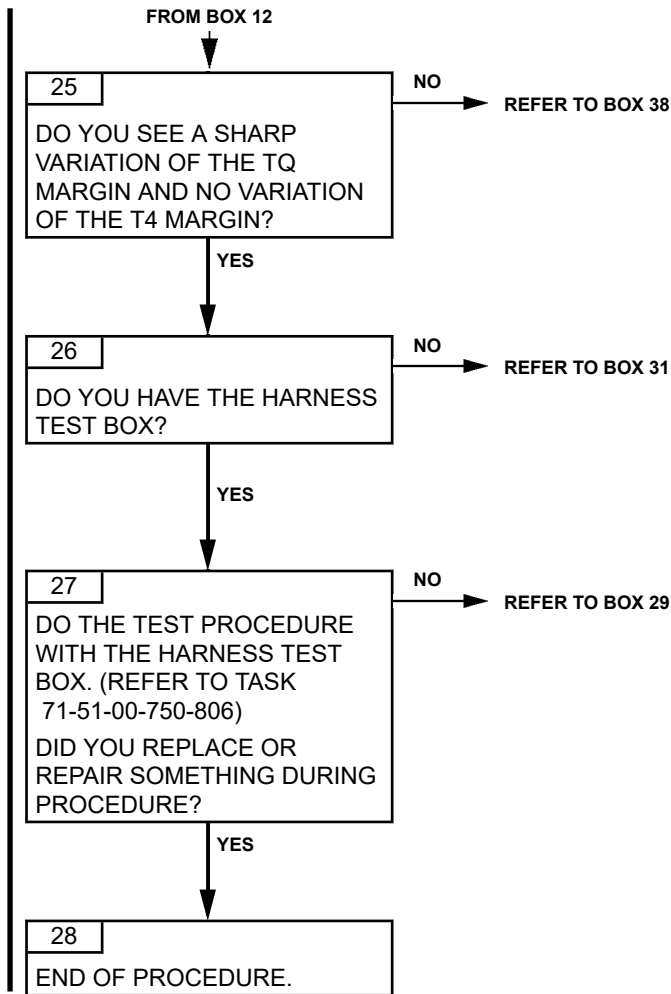
The information in this manual is subject to the warning given on the information page.

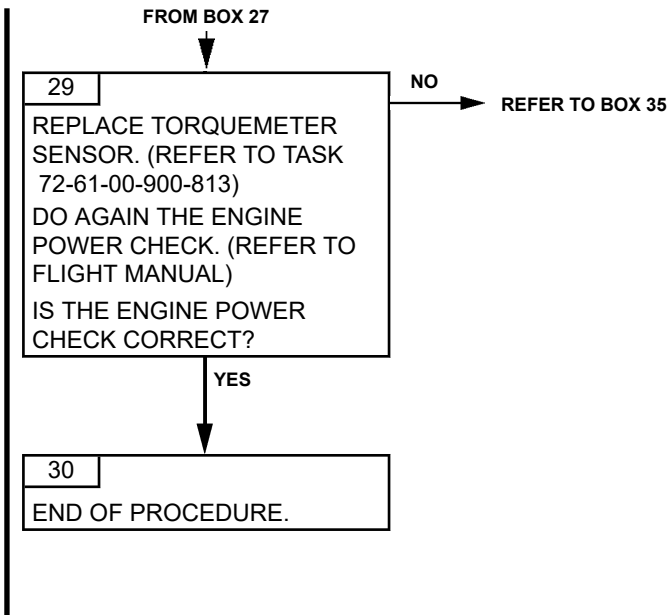
**71-00-06-816-819-A01**

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June 15/2022

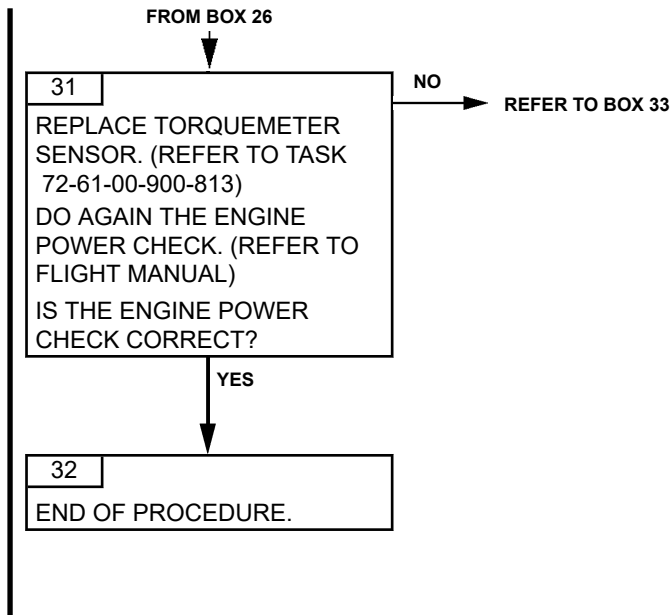


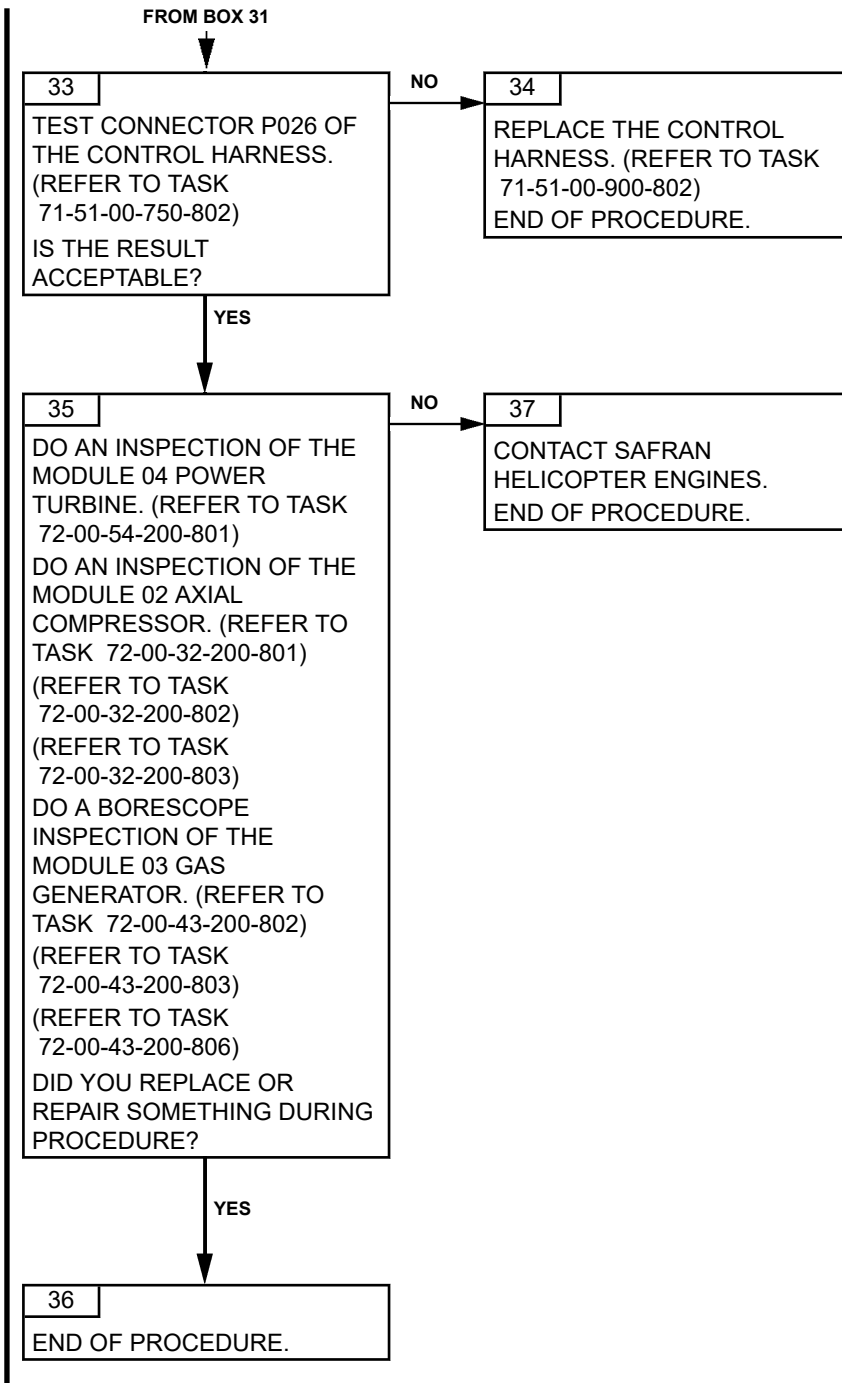


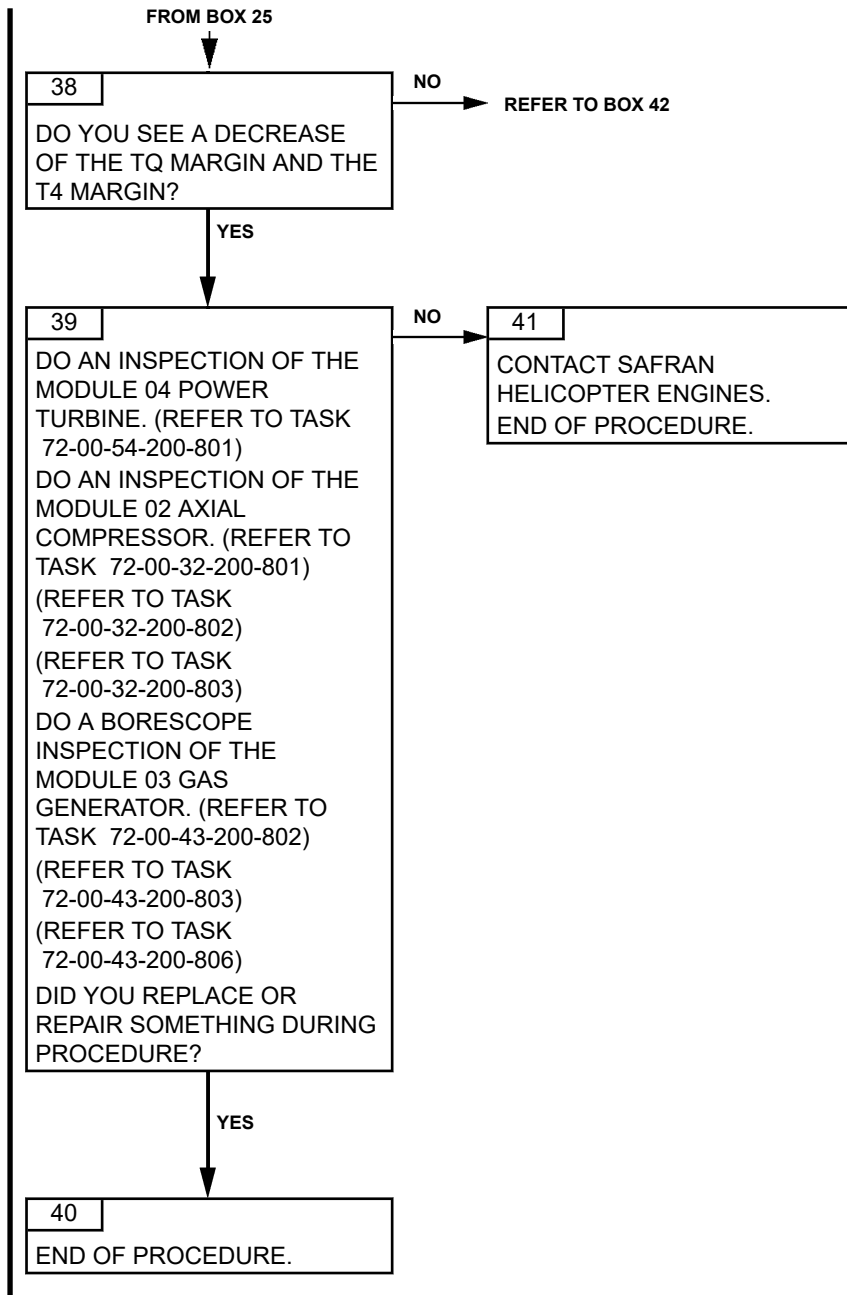


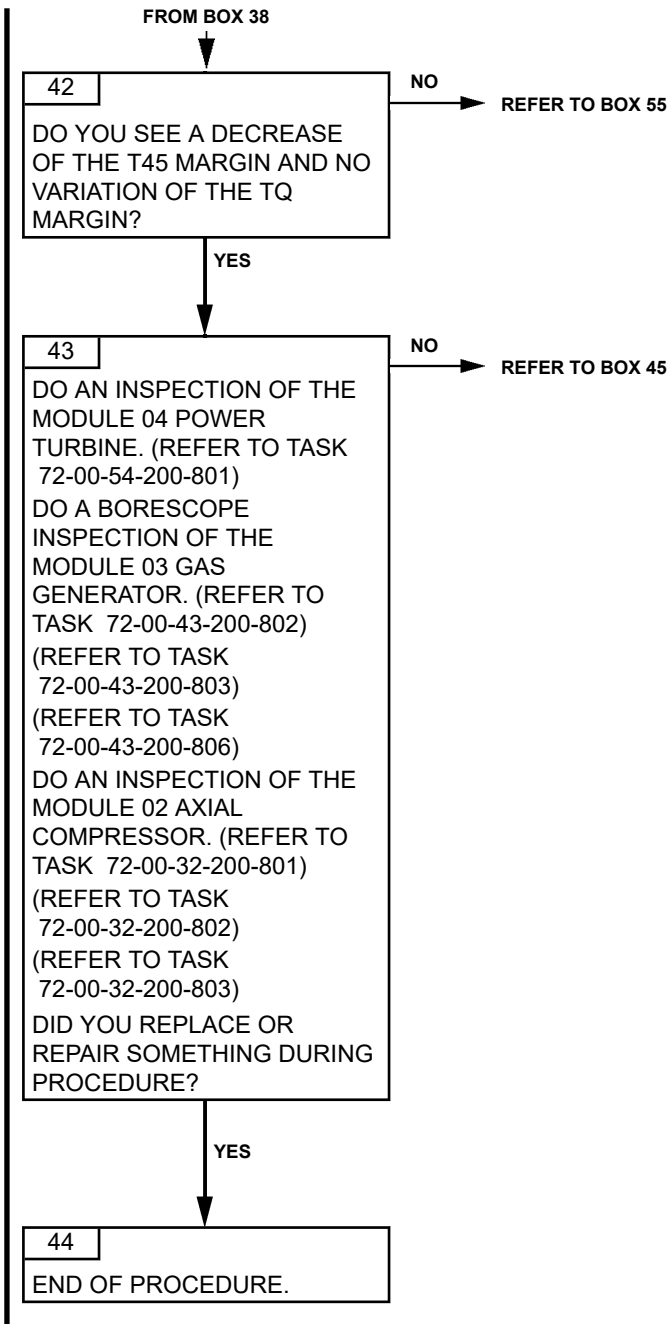


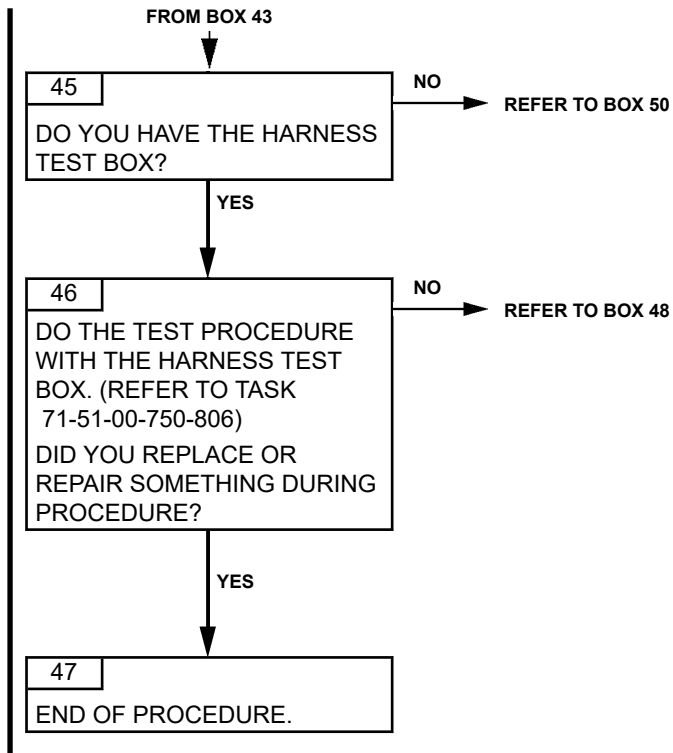
ARRIEL 2 C





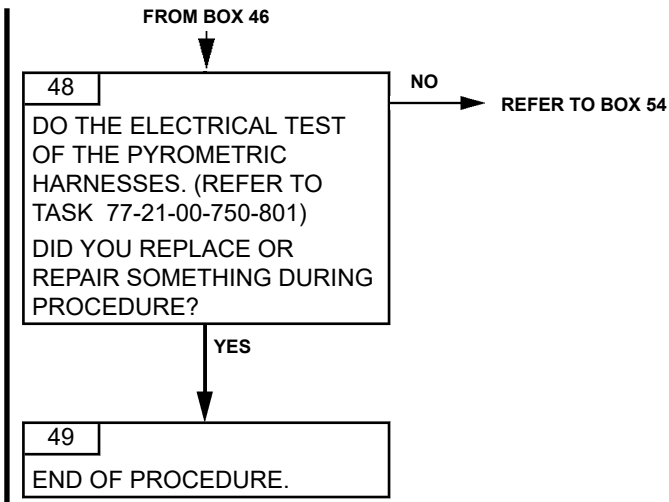






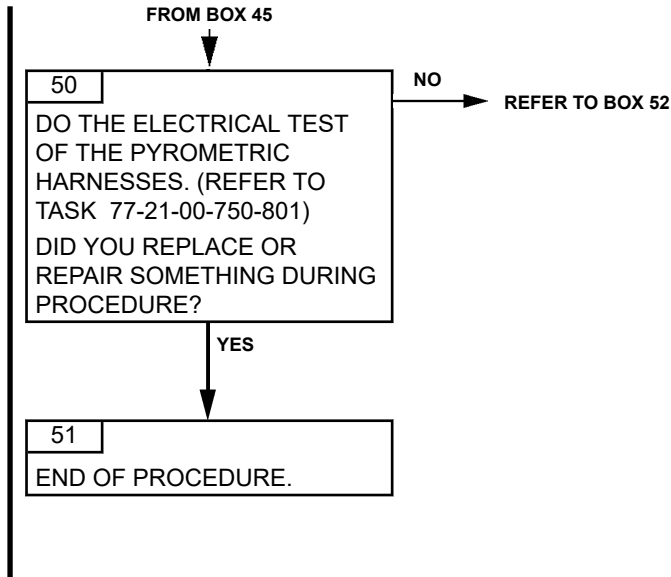
Effectivity: C

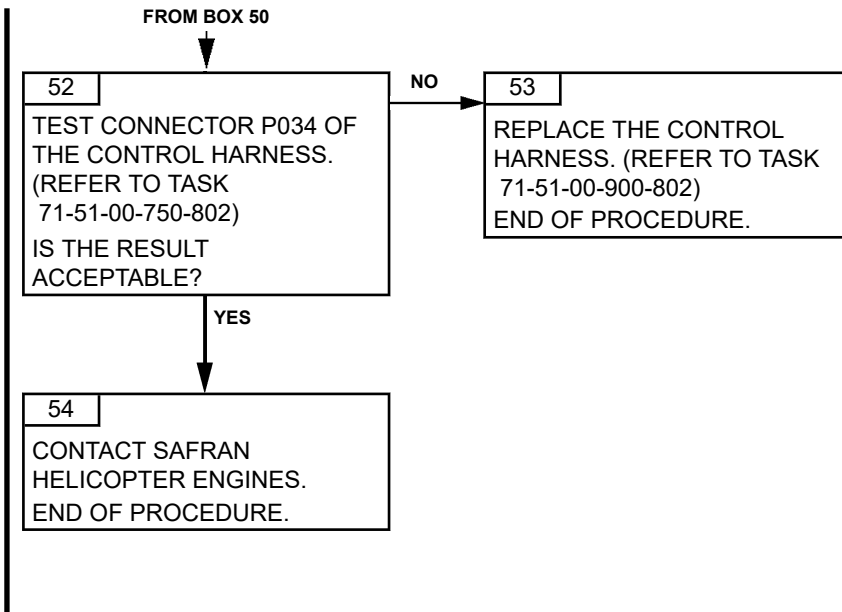
Failures observed during maintenance

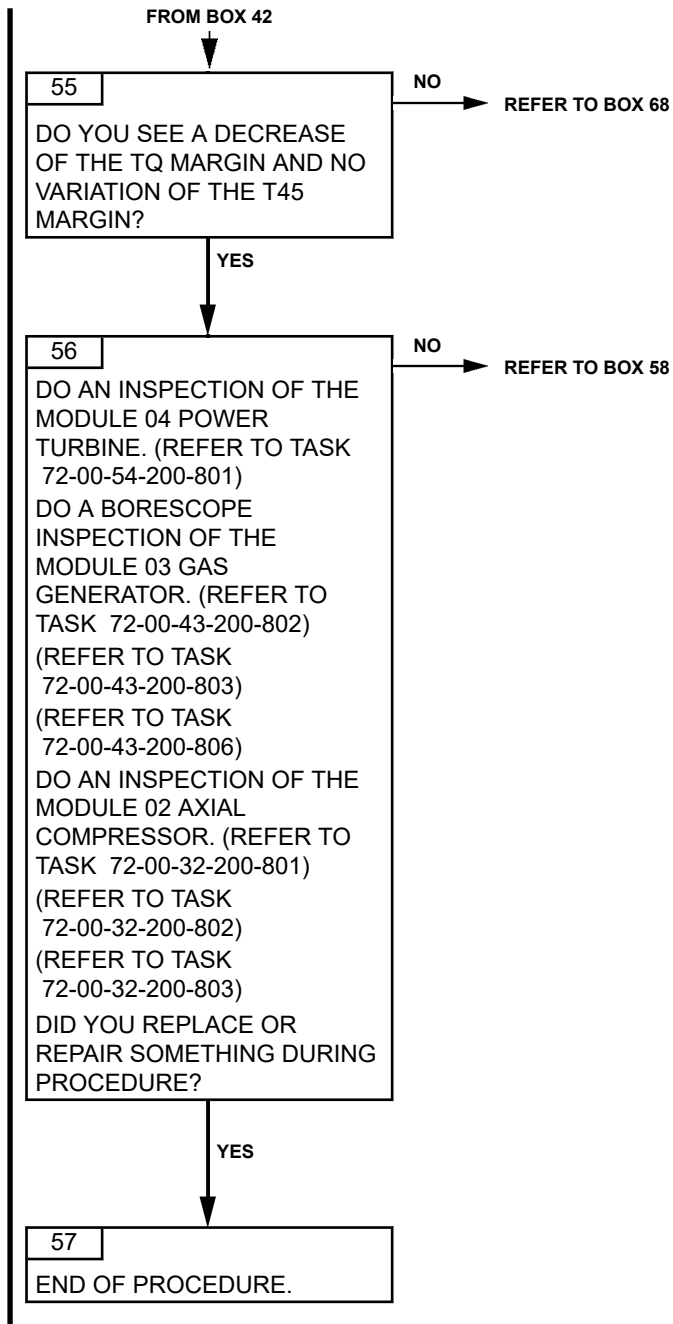


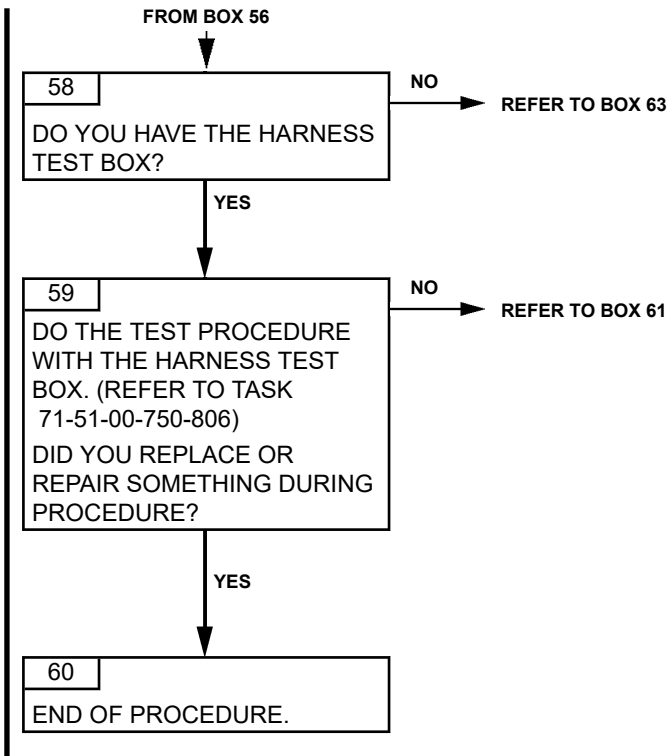


ARRIEL 2 C

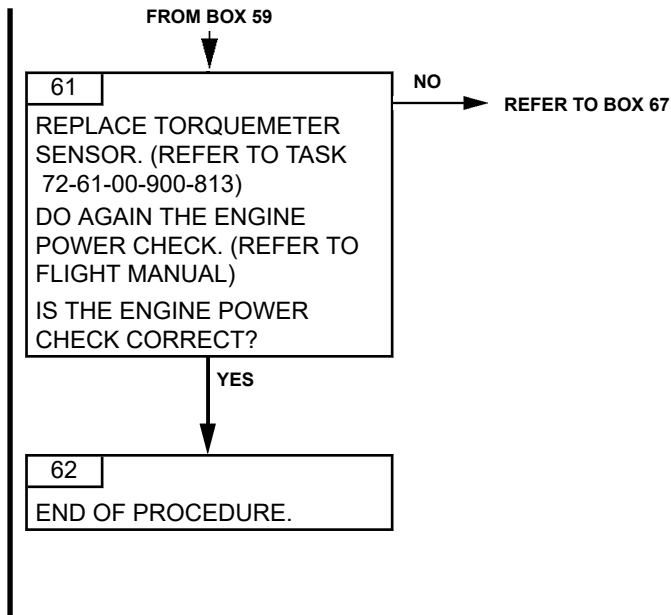


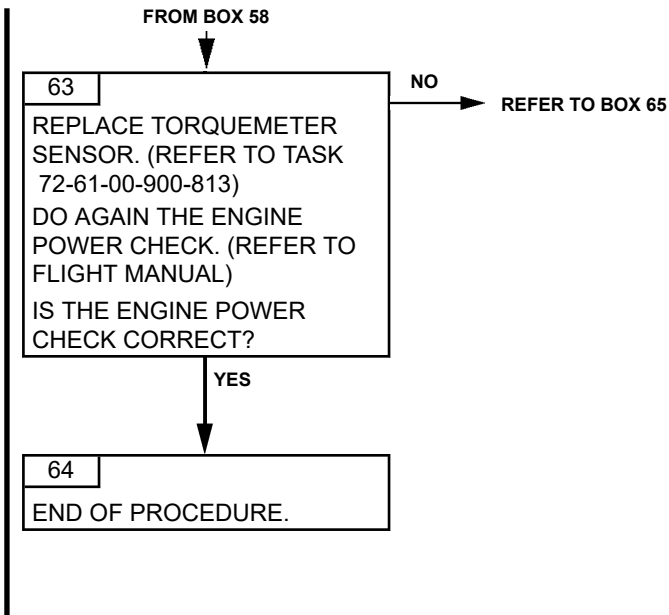




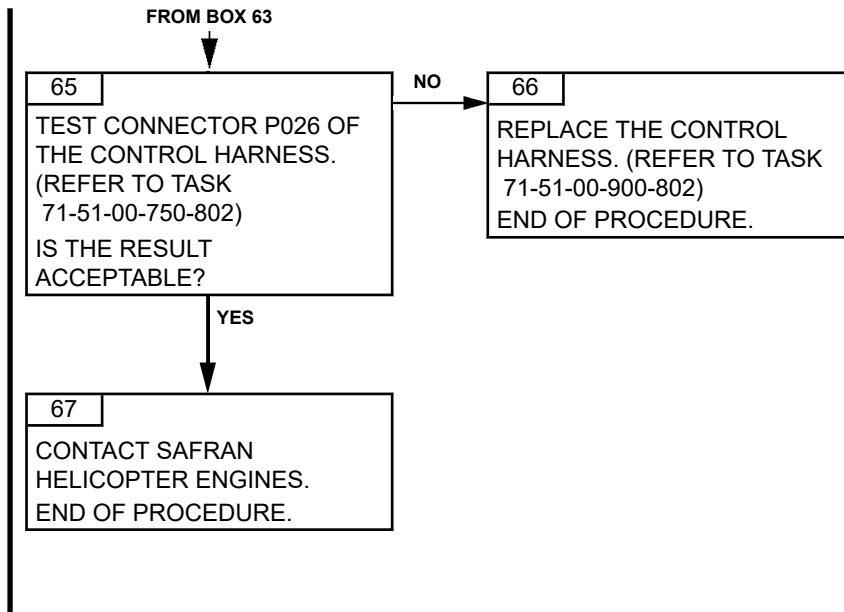


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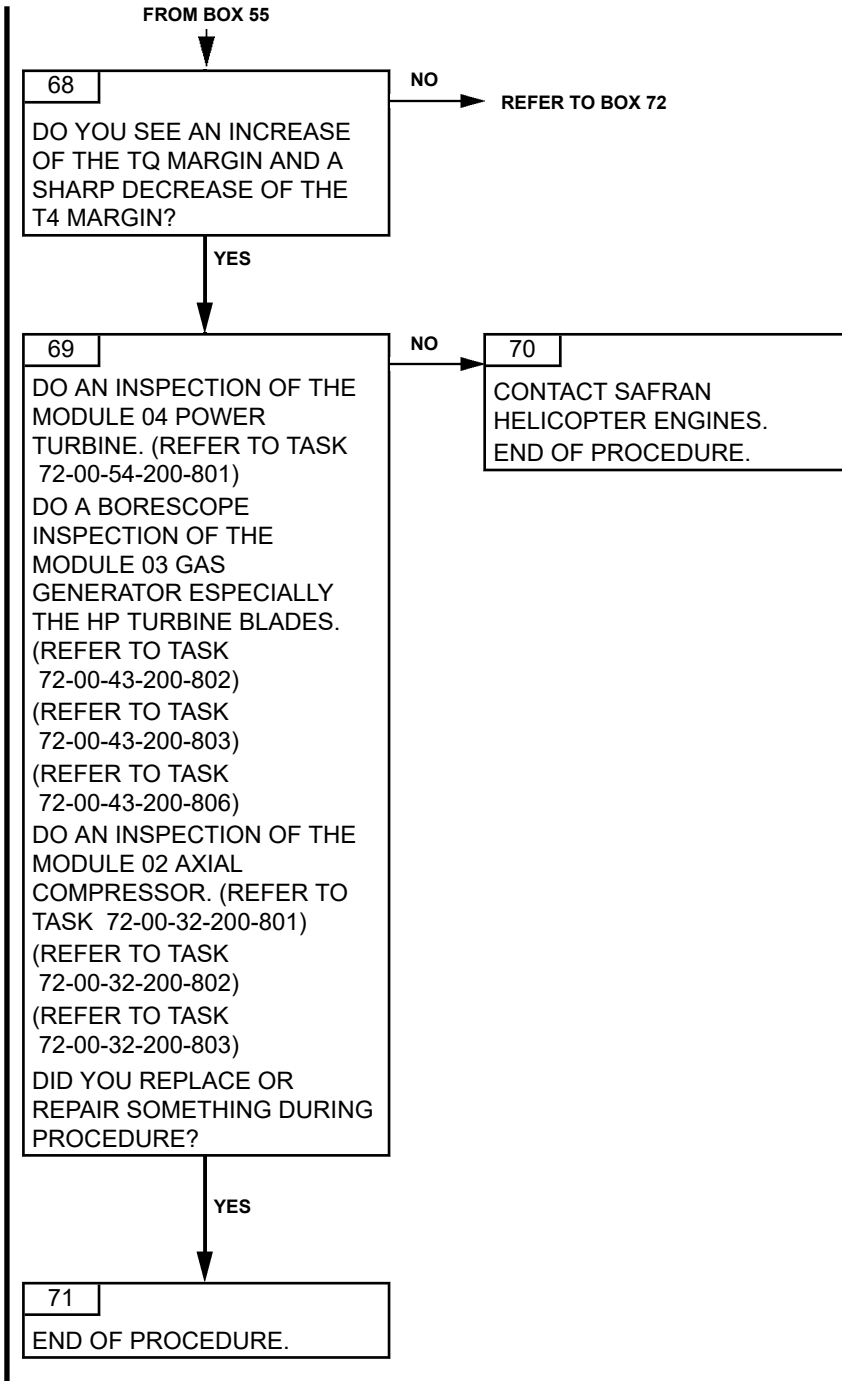


ARRIEL 2 C



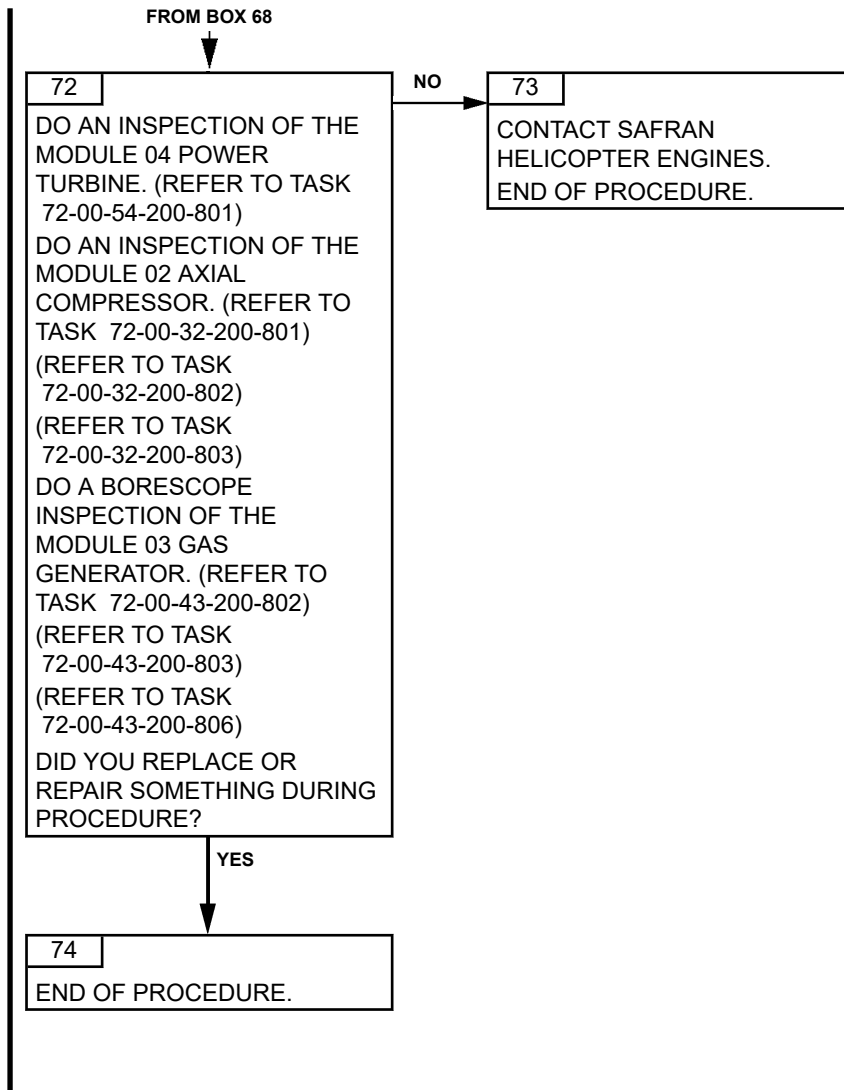
Effectivity: C

Failures observed during maintenance





ARRIEL 2 C



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TASK 71-00-06-816-821-A01

**FUEL ODOR IN THE CABIN  
TROUBLESHOOTING**

**1. GENERAL**

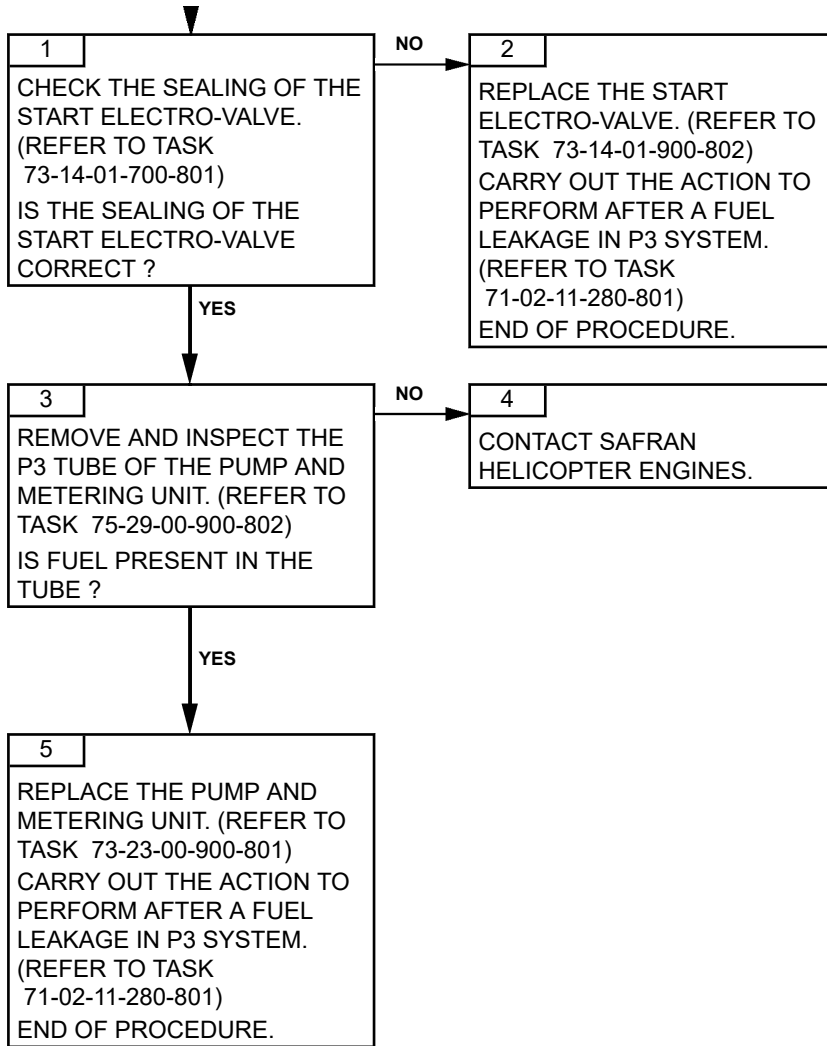
**A. FAILURE DETECTION CONDITIONS**

- Fuel odor in cabin

**B. POSSIBLE CAUSES**

- Start electro-valve
- Pump and metering unit
- Module 03
- Aircraft

**2. PROCEDURE**



TASK 71-00-06-816-825-A01

**OIL LEAK AT BLEED VALVE OR AIR INTAKE  
TROUBLESHOOTING****1. GENERAL****A. REMINDER OF THE NORMAL OPERATING CONDITION**

- In normal operation, while the engine is running there is no oil leak at the bleed valve or the air intake.

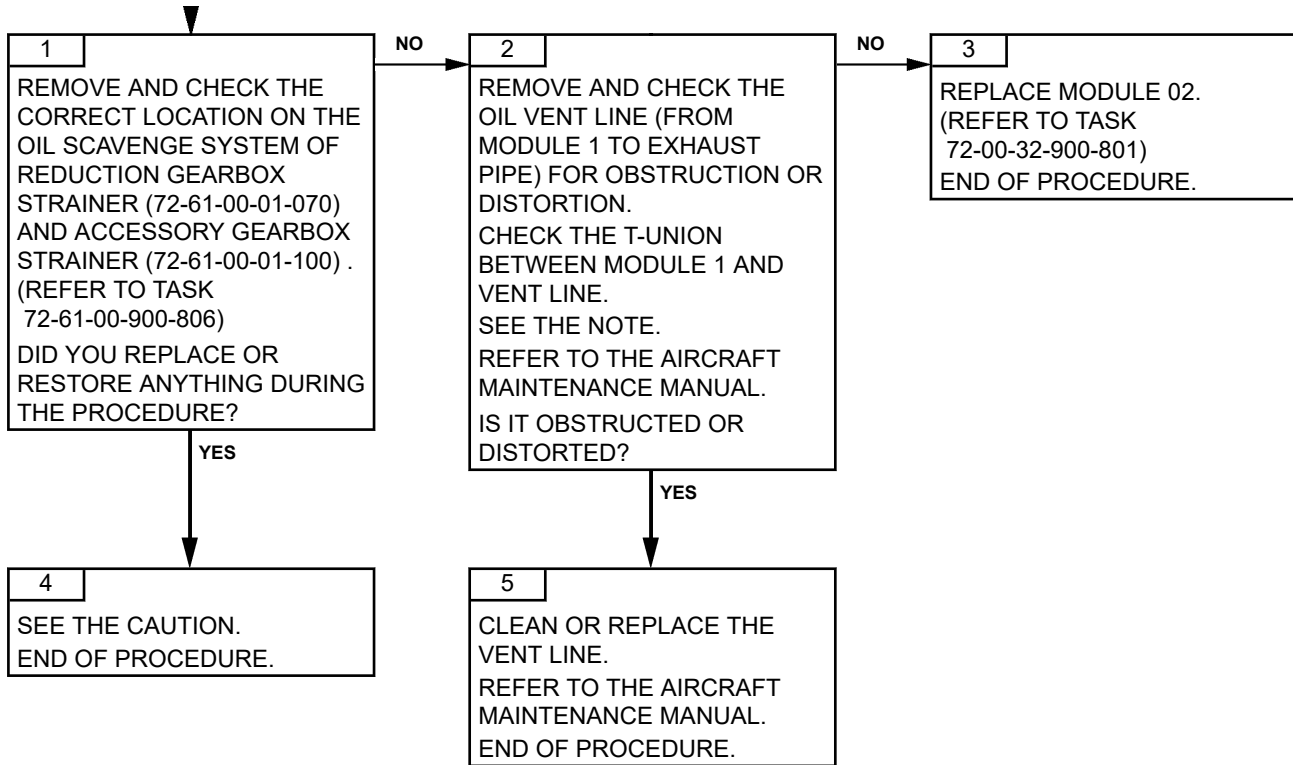
**B. POSSIBLE CAUSES**

- Blockage from the oil vent system (Airframe parts)
- Module 02
- Wrong assembly of the M01 strainers

**CAUTION:** AN INVERSION OF THE STRAINERS (72-61-00-01-070) AND (72-61-00-01-100) (REFER TO TASK 72-61-00-900-806) COULD LEAD TO AN INCORRECT OIL RETURN TO THE TANK. THAT WILL GENERATE AN OIL OVERFLOW THROUGH BEARING, ALLOWING OIL TO ESCAPE TO THE BLEED VALVE OR THE AIR TAPPINGS DURING NEXT ENGINE RUN.

**2. PROCEDURE**

**NOTE:** *Distortion or partial obstruction of the vent line can cause back pressure into the vent system that may increase oil leak from the vent line and also cause oil leak from the bleed valve or the air intake. Pay particular attention to distortion at the tip of the vent line in the exhaust pipe.*



TASK 71-00-06-816-827-A01

**OIL LEAKAGE OF THE POWER DRIVE OF THE  
STARTER  
TROUBLESHOOTING**

**1. GENERAL**

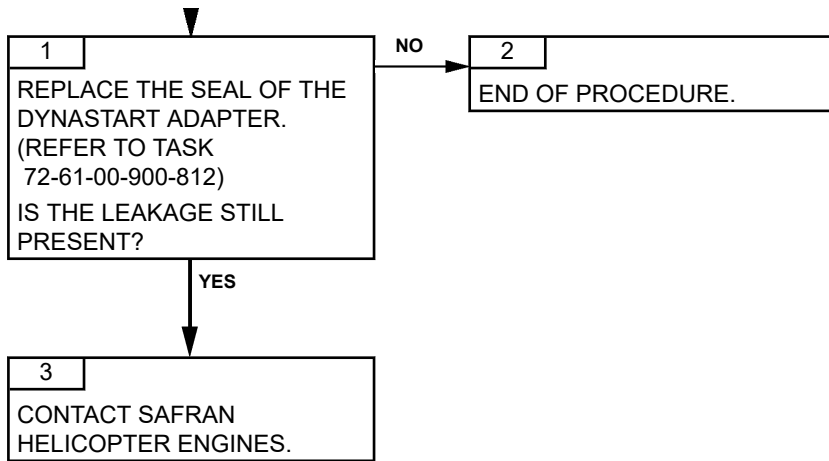
**I A. GENERAL DESCRIPTION**

In the event of an oil leakage at the starter power drive, this one must meet the criteria defined on the Task 79-00-00-280-801 (Lubrication system-external leakage/ Special procedure).

**B. POSSIBLE CAUSES**

- Seal of the Dynastart Adapter.

**2. PROCEDURE**





TASK 71-00-06-816-833-A01

**OIL TANK LEVEL SLOWLY DECREASES AFTER  
ENGINE SHUTDOWN  
TROUBLESHOOTING****1. GENERAL****A. FAILURE DETECTION CONDITIONS**

After an engine is stopped for one day or more, it is possible that the oil level does not return to normal. An internal leak of the oil pump slowly occurs by gravity due to the check valve leakage.

**B. POSSIBLE CAUSES**

- Oil pump

**2. PROCEDURE**

Effectivity: C

Failures observed during maintenance

1

REPLACE THE OIL PUMP.  
(REFER TO TASK  
79-24-00-900-801)

**NOTE:** AFTER AN ENGINE IS STOPPED FOR ONE DAY OR MORE, IT IS POSSIBLE THAT THE OIL LEVEL DOES NOT RETURN TO NORMAL. AN INTERNAL LEAK OF THE OIL PUMP SLOWLY OCCURS BY GRAVITY DUE TO THE CHECK VALVE LEAKAGE.  
END OF PROCEDURE.

TASK 71-00-06-817-801-A01

### WATCHDOG TRIP TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE		W	D	O	G
MEMORY	A	0	0	0	1

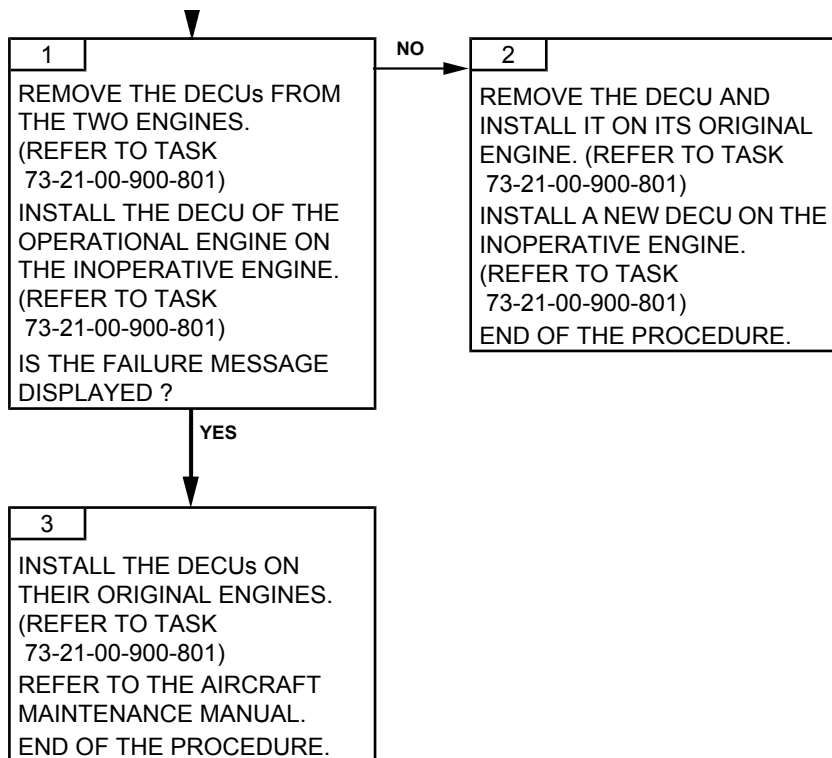
<i>EFFECT</i>	<i>GOV</i>
Total failure Reversion to manual mode	Red

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-805-A01

### TNG SELECTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE		T	R	N	G
MEMORY	A	0	0	0	2

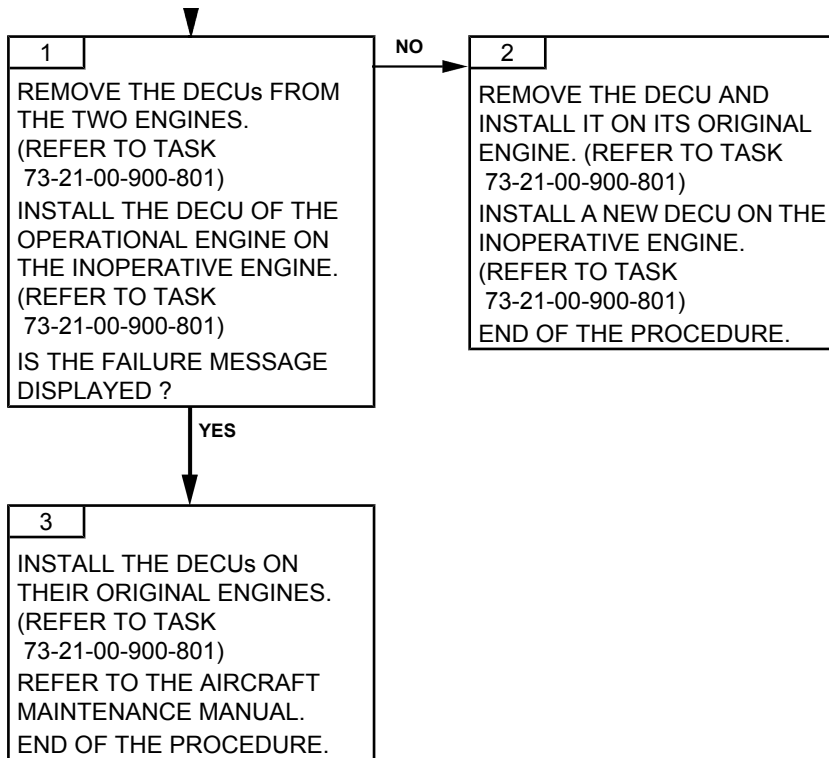
<i>EFFECT</i>	<i>GOV</i>
Inhibition of the training mode. Impossible to use the training mode.	Flashing amber

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-807-A01

### WATCHDOG TRIP AND TNG SELECTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	0	3

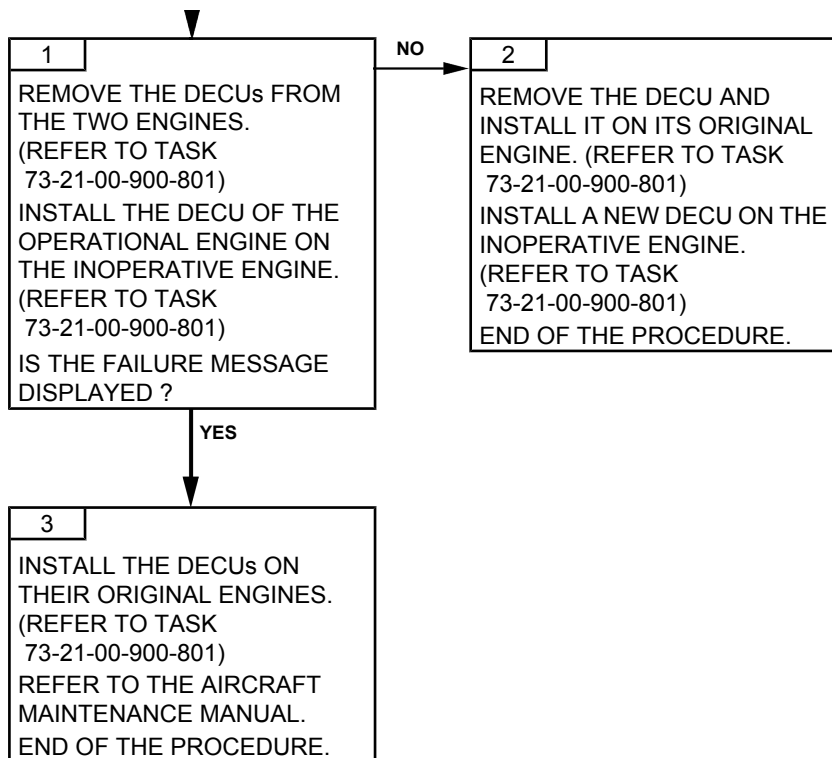
<i>EFFECT</i>	<i>GOV</i>
Total failure Reversion to manual mode	Red

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C





TASK 71-00-06-817-808-A01

### OFF/IDLE/ON SELECTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	O	N	O	F	F
MEMORY	A	0	0	0	4

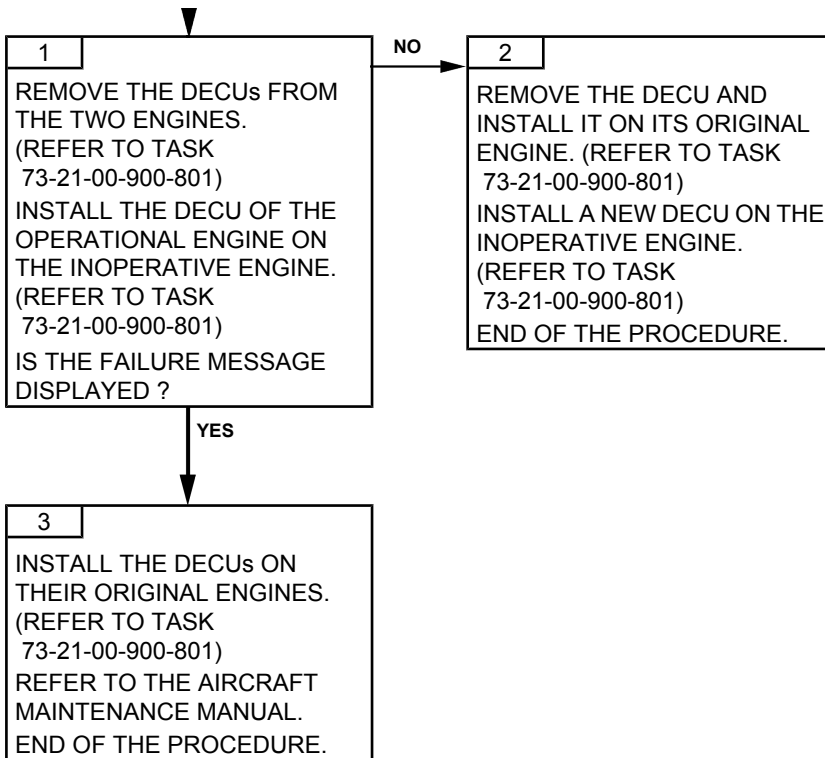
<i>EFFECT</i>	<i>GOV</i>
AT INITIALISATION OR ENGINE SHUTDOWN Total failure Reversion to manual mode	Red
AFTER INITIALISATION OR ENGINE RUNNING WITH THE SELECTOR ON FLIGHT The selected mode remains flight. Possibility to stop the engine using the stop electro-valve but the idle mode cannot be selected	Flashing Amber
AFTER INITIALISATION, ENGINE RUNNING WITH THE SELECTOR ON IDLE OR SHUTDOWN The selected mode remains fixed  1. Idle, possibility to stop the engine using the stop electro-valve but the flight mode cannot be selected.  2. Shutdown, the DECU stops the engine but the flight and idle modes cannot be selected.	Amber

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-811-A01

### WATCHDOG TRIP AND OFF/IDLE/ON SELECTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	0	5

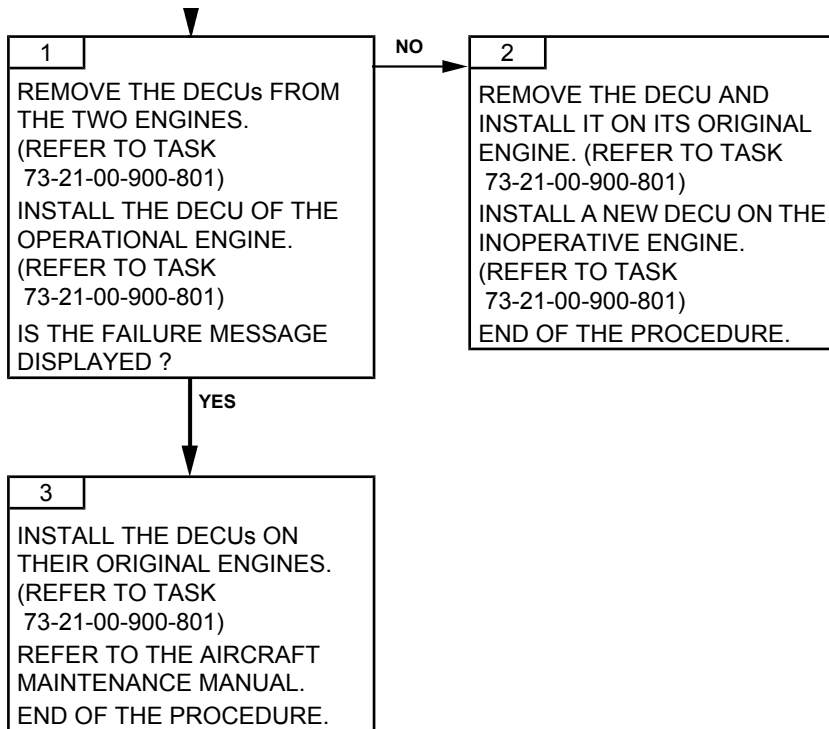
<i>EFFECT</i>	<i>GOV</i>
Total failure Reversion to manual mode	Red

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-812-A01

### TNG SELECTOR FAILURE AND OFF/IDLE/ON SELECTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	0	6

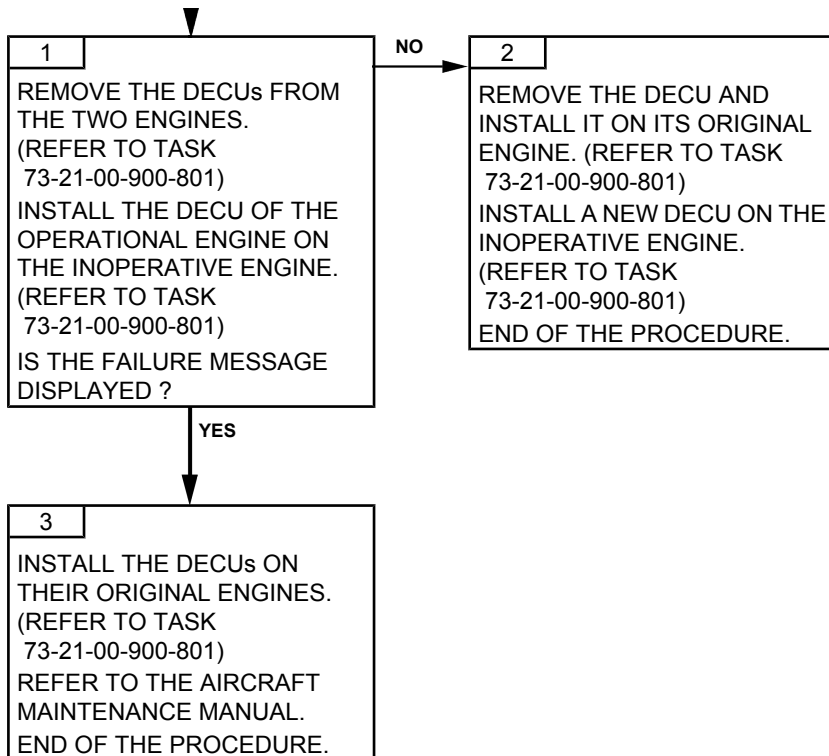
<i>EFFECT</i>	<i>GOV</i>
AT INITIALISATION OR ENGINE SHUTDOWN Total failure. Reversion to manual mode.	Red
AFTER INITIALISATION, ENGINE RUNNING WITH THE SELECTOR ON IDLE OR SHUTDOWN The selected mode remains fixed  1. Idle, possibility to stop the engine using the stop electro-valve but the flight mode cannot be selected.  2. Shutdown, the DECU stops the engine but the flight and idle modes cannot be selected.	Amber
AFTER INITIALISATION, ENGINE RUNNING WITH THE SELECTOR ON FLIGHT The selected mode remains flight. Possibility to stop the engine using the stop electro-valve but the idle mode cannot be selected.	Flashing amber
TRAINING SELECTION Inhibition of the training mode Impossibility to use the training mode	Flashing amber

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-813-A01

### WATCHDOG TRIP, TNG SELECTOR FAILURE AND OFF/IDLE/ON SELECTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	0	7

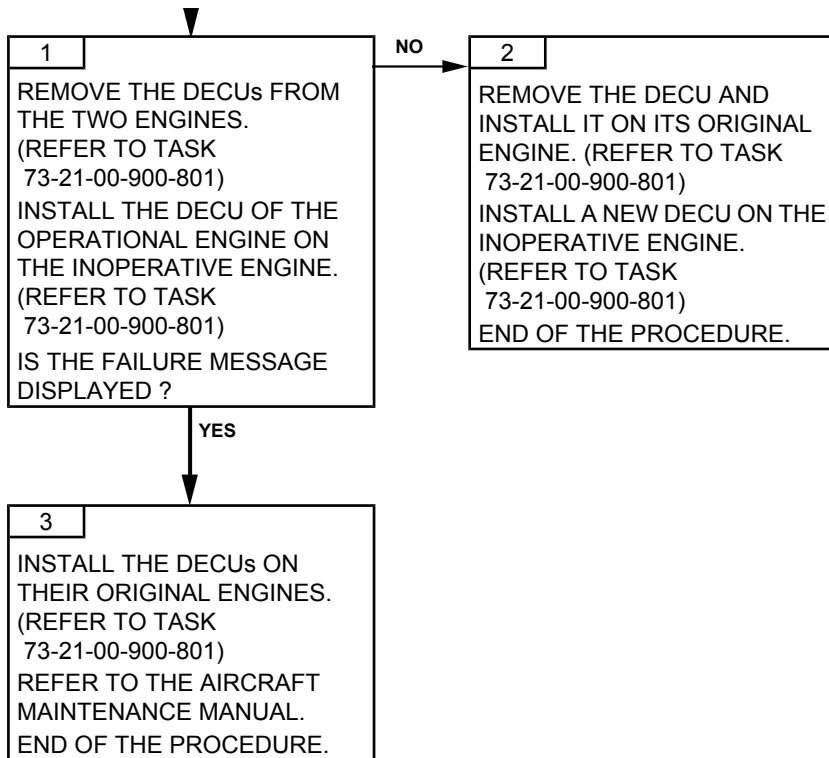
<i>CONSEQUENCE</i>	<i>GOV</i>
Total failure Reversion to manual mode	Red

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C





TASK 71-00-06-817-815-A01

### HELICOPTER SPEED INPUT FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	I	A	S	\	H
MEMORY	A	0	0	0	8

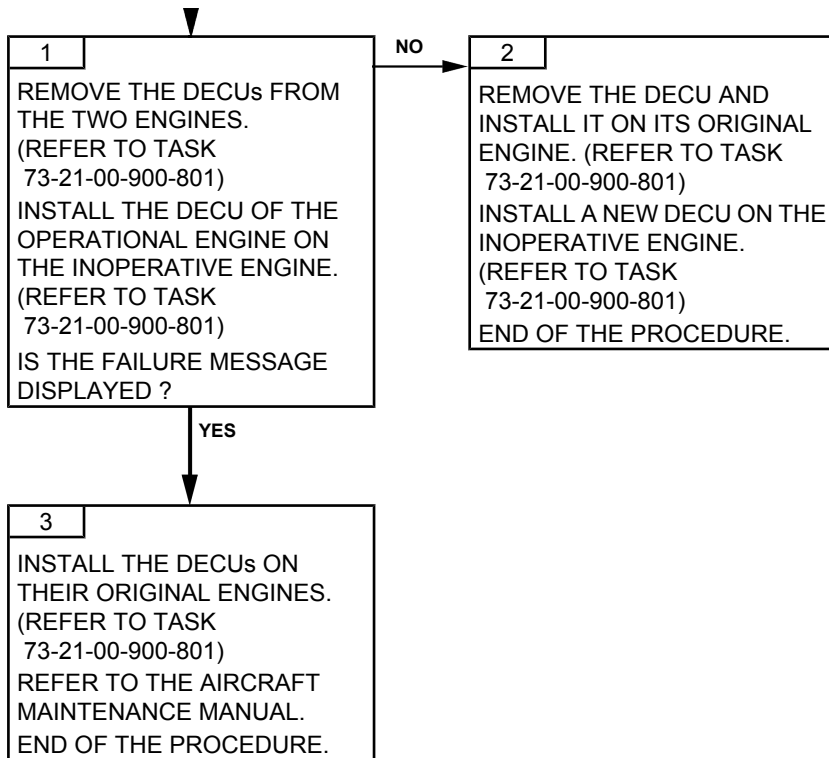
<i>EFFECT</i>	<i>GOV</i>
Loss of IAS Back-up IAS = 0 and NR $\geq$ 355 rpm. Erroneous or fluctuating IAS Possibility to select back-up NR at 365 rpm.	Flashing amber

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C BASE



TASK 71-00-06-817-815-B01

### HELICOPTER/SOFTWARE CONFIGURATION INCONSISTENCY TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

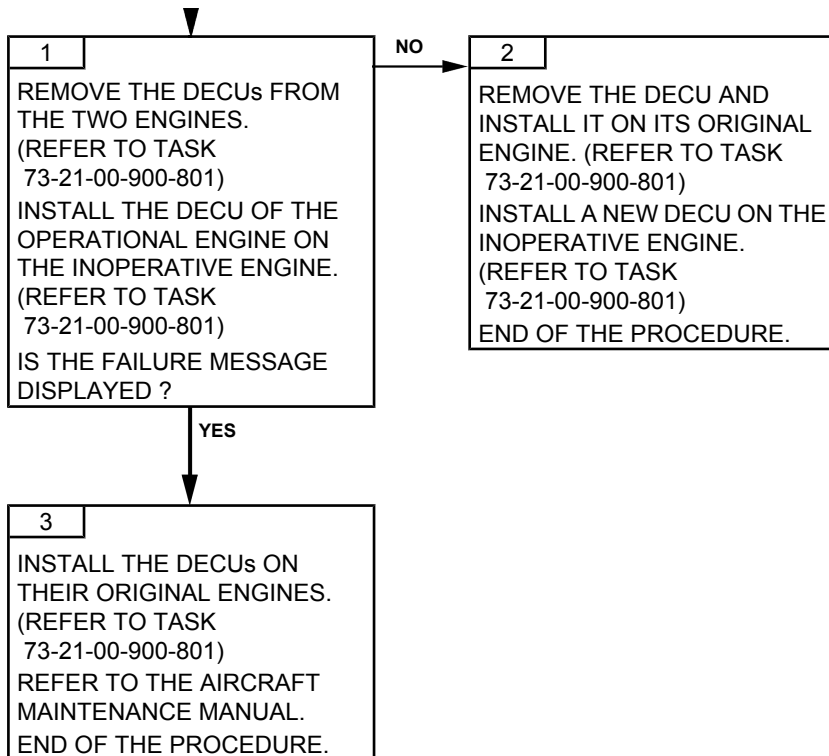
<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE					
MEMORY	A	0	0	0	8

<i>EFFECT</i>	<i>GOV</i>
One can face a situation where the helicopter is configured in a military version whereas the DECU is programmed with a civilian version. The max. speed is not available in the twin-engine rating The functions related to the military versions are not available	Amber

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE



TASK 71-00-06-817-816-A01

### WATCHDOG TRIP AND HELICOPTER/SOFTWARE CONFIGURATION INCONSISTENCY TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	0	9

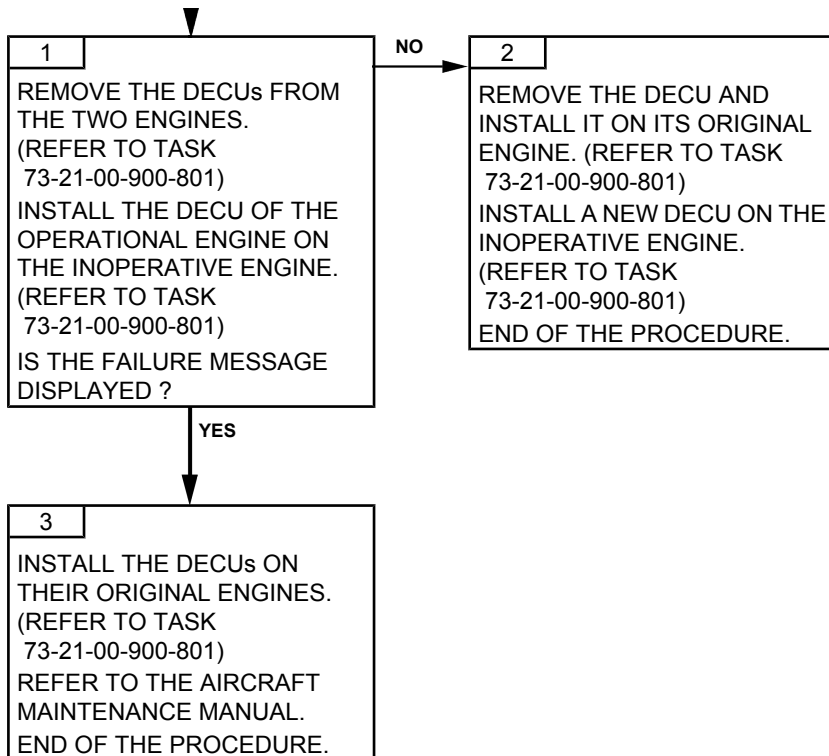
<i>EFFECT</i>	<i>GOV</i>
Total failure Reversion to manual mode	Red

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-817-A01

### TNG SELECTOR FAILURE AND HELICOPTER SPEED INPUT FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU FAILURE MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	0	A

##### B. FAILURE EFFECTS

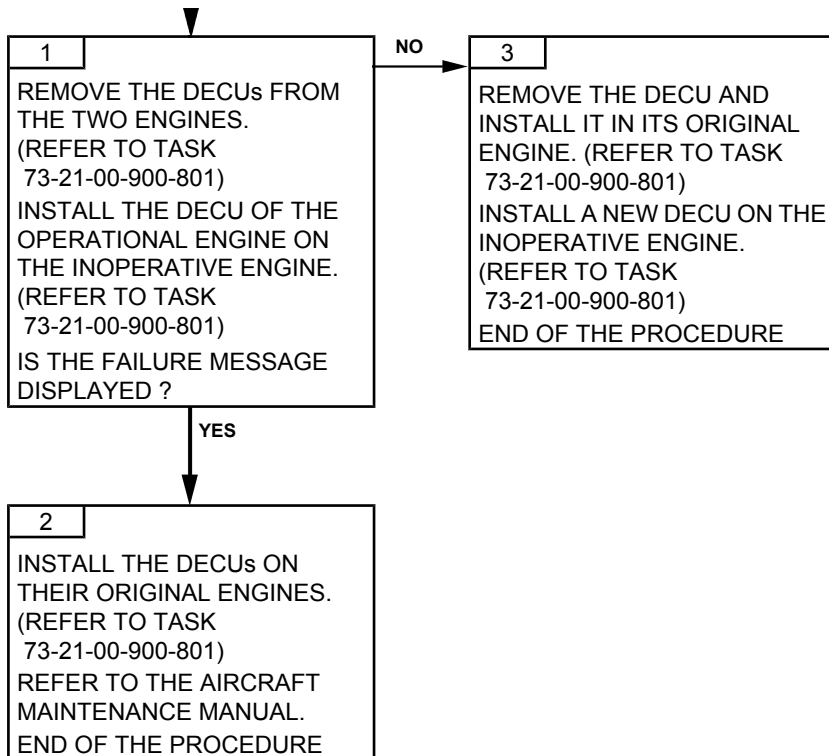
<i>EFFECTS</i>	<i>GOV</i>
TRAINING SELECTION Inhibition of the training mode Impossibility to use the training mode Loss of IAS Back-up speed = 0 and NR ≥ 355 rpm. Erroneous or fluctuating IAS Possibility to select back-up NR at 365 rpm.	Flashing Amber

##### C. POSSIBLE CAUSES

- DECU.

#### 2. PROCEDURE

Effectivity: C





TASK 71-00-06-817-818-A01

### WATCHDOG TRIP, TNG SELECTOR FAILURE AND HELICOPTER/SOFTWARE CONFIGURATION INCONSISTENCY TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU SWAP THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	0	B

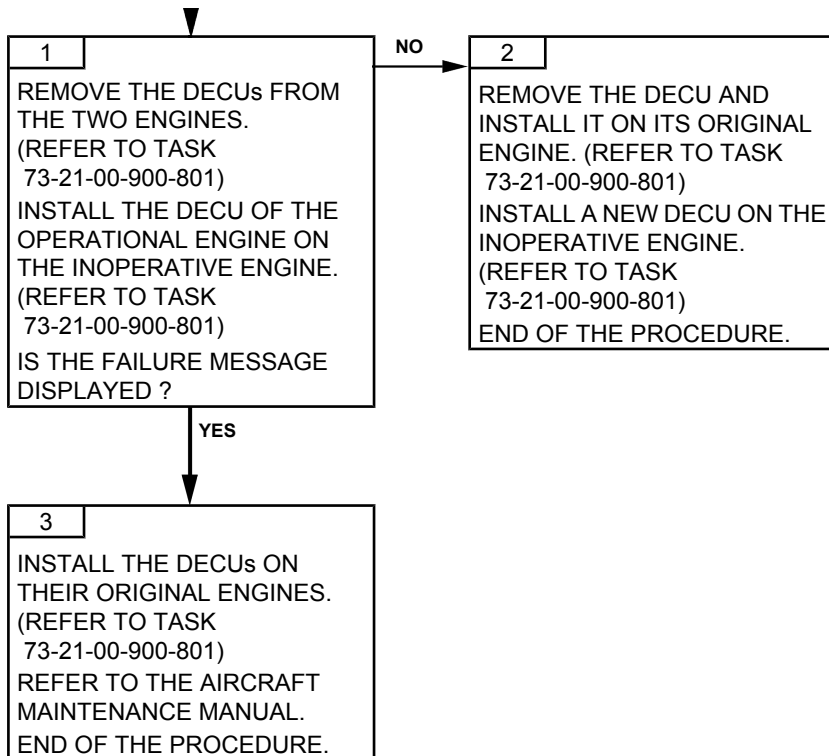
<i>EFFECT</i>	<i>GOV</i>
Total failure Reversion to manual mode	Red

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-819-A01

### OFF/IDLE/ON SELECTOR FAILURE AND HELICOPTER SPEED INPUT FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

##### A. FAU FAILURE MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	0	0	C

##### B. FAILURE EFFECTS

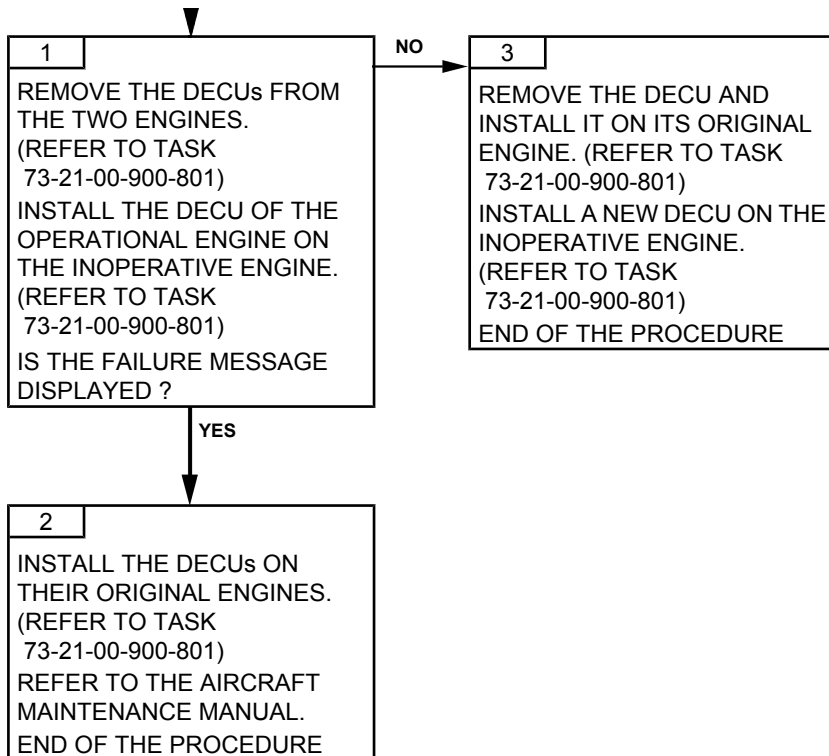
EFFECTS	GOV
AT INITIALISATION OR ENGINE SHUTDOWN Total failure. Reversion to manual mode.	Red
AFTER INITIALISATION, ENGINE RUNNING WITH THE SELECTOR ON FLIGHT Loss of IAS: back-up IAS = 0 and NR $\geq$ 355 rpm. Erroneous or fluctuating IAS: possibility to select the back-up NR at 365 rpm. The selected mode remains flight. Possibility to stop the engine using the stop electro-valve but the idle mode cannot be selected.	Flashing Amber
AFTER INITIALISATION, ENGINE RUNNING WITH THE SELECTOR ON IDLE OR SHUTDOWN The selected mode remains fixed 1 - Idle, possibility to stop the engine using the stop electro-valve but the flight mode cannot be selected. 2 - Shutdown, the DECU stops the engine but the flight and idle modes cannot be selected.	Amber

##### C. POSSIBLE CAUSES

- DECU.

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-820-A01

### WATCHDOG TRIP, OFF/IDLE/ON SELECTOR FAILURE AND HELICOPTER/SOFTWARE CONFIGURATION INCONSISTENCY TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU SWAP THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	0	D

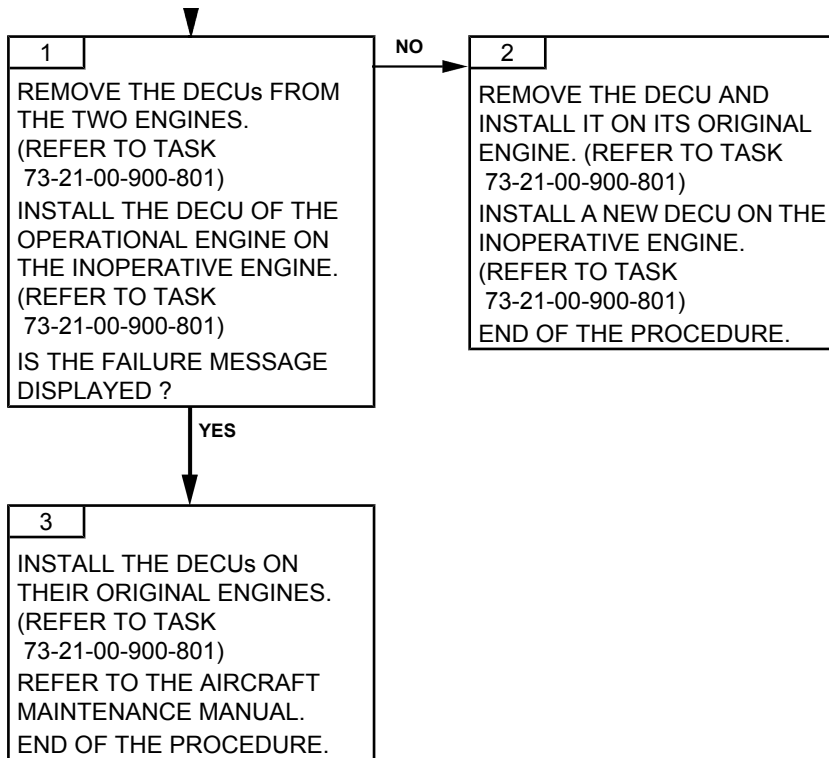
<i>EFFECT</i>	<i>GOV</i>
Total failure Reversion to manual mode	Red

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-821-A01

### TNG SELECTOR FAILURE, OFF/IDLE/ON SELECTOR FAILURE AND HELICOPTER SPEED INPUT FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU FAILURE MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	0	0	E

#### B. FAILURE EFFECTS

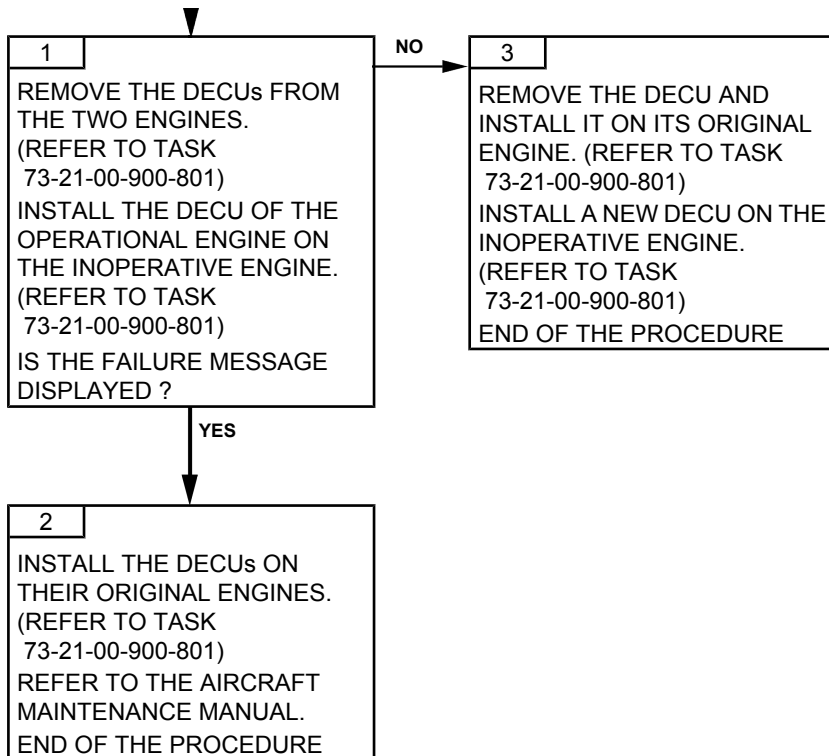
EFFECTS	GOV
AT INITIALISATION OR ENGINE SHUTDOWN Total failure. Reversion to manual mode.	Red
AFTER INITIALISATION, ENGINE RUNNING WITH THE SELECTOR ON IDLE OR SHUTDOWN The selected mode remains fixed 1 - Idle, possibility to stop the engine using the stop electro-valve but the flight mode cannot be selected. 2 - Shutdown, the DECU stops the engine but the flight and idle modes cannot be selected.	Amber
AFTER INITIALISATION, ENGINE RUNNING WITH THE SELECTOR ON FLIGHT Loss of IAS: back-up IAS = 0 and NR $\geq$ 355 rpm. Erroneous or fluctuating IAS: possibility to select the back-up NR at 365 rpm. The selected mode remains flight. Possibility to stop the engine using the stop electro-valve but the idle mode cannot be selected.	Flashing Amber
TRAINING SELECTION Inhibition of the training mode Impossibility to use the training mode	Flashing Amber

#### C. POSSIBLE CAUSES

- DECU.

#### 2. PROCEDURE

Effectivity: C





TASK 71-00-06-817-822-A01

### WATCHDOG TRIP, TNG SELECTOR FAILURE, OFF/ IDLE/ON SELECTOR FAILURE AND HELICOPTER/ SOFTWARE CONFIGURATION INCONSISTENCY TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU SWAP THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	0	F

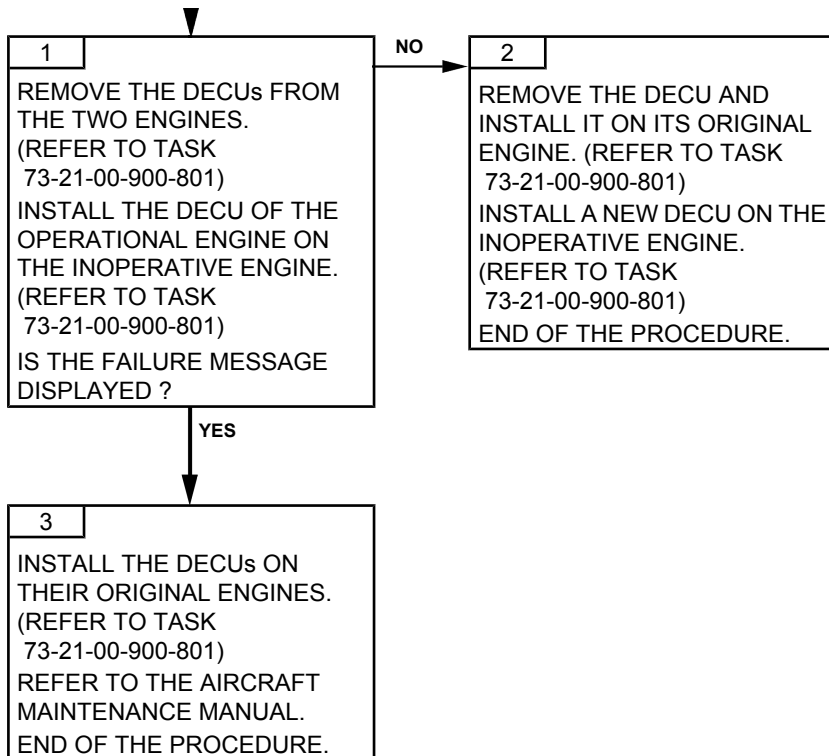
<i>EFFECT</i>	<i>GOV</i>
Total failure Reversion to manual mode	Red

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-823-A01

### COLLECTIVE PITCH FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	P	I	T	C	H
MEMORY	A	0	0	1	0

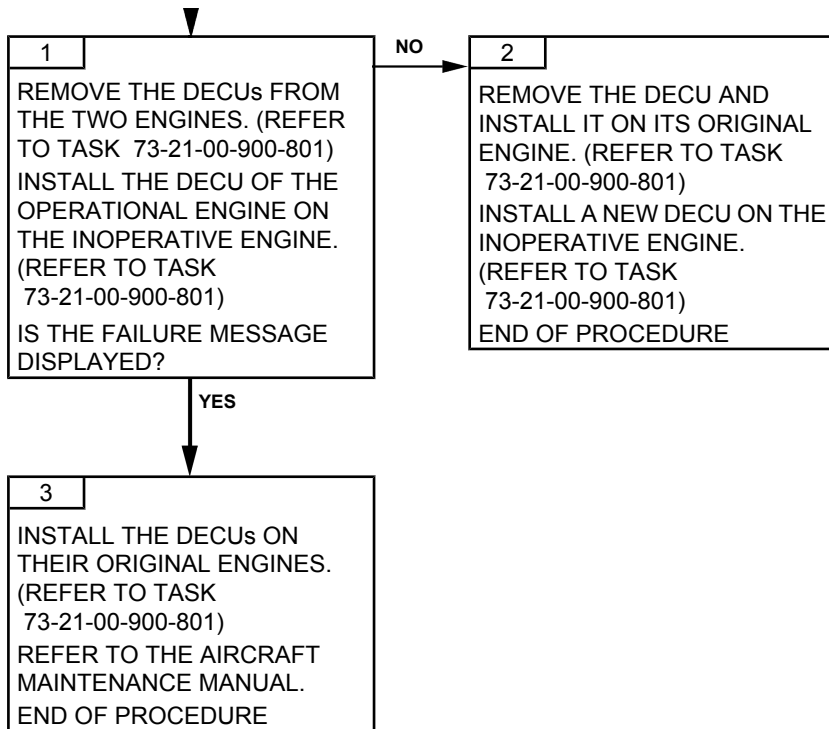
<i>EFFECT</i>	<i>GOV</i>
Back-up value XPC available in reception on the inter-DECU link. Use of this back-up value. No effect.	Flashing amber
Back-up value XPC not available in reception on the inter-DECU link. Use of the back-up value and adjustment of N2 control such as N2 speed can be regulated to its nominal value in all the power range. Transients degraded. Engines misaligned during transients.	Amber

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-825-A01

### RAW T4.5 FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
FAILURE				T	4
MEMORY	A	0	0	2	0

EFFECT	GOV
BEFORE END OF START T4.5 back-up value. Start aborted. Impossible start.	Amber
AFTER END OF THE START T4.5 back-up value No effect on the control up to engine shutdown.	Flashing amber

##### B. POSSIBLE CAUSES

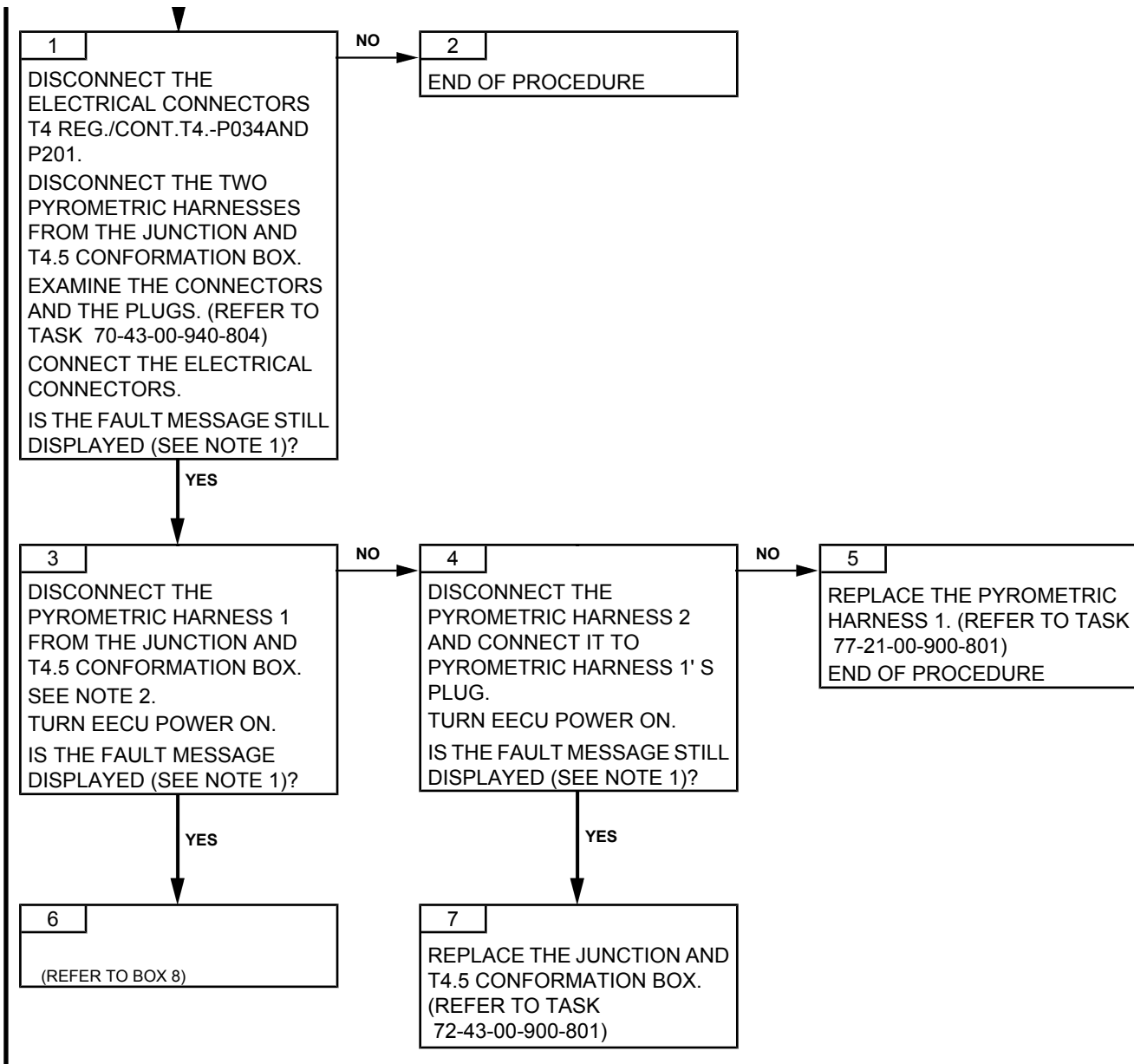
- DECU
- Pyrometric harnesses
- Junction and T4.5 conformation box
- Control harness

#### 2. PROCEDURE

**NOTE:** *This fault may happen only when the pyrometric probes are hot. In this case, it will normally not be present at EECU power-on. However, if the check is done right after an engine run, when the probes are still hot, the fault may occur at EECU power-on and you will be able to troubleshoot the faulty pyrometric harness on ground, as per this fault tree. In this case you must always confirm failure disappearance with an engine ground run (to make sure that the fault did not disappear only because the probes cooled down)*

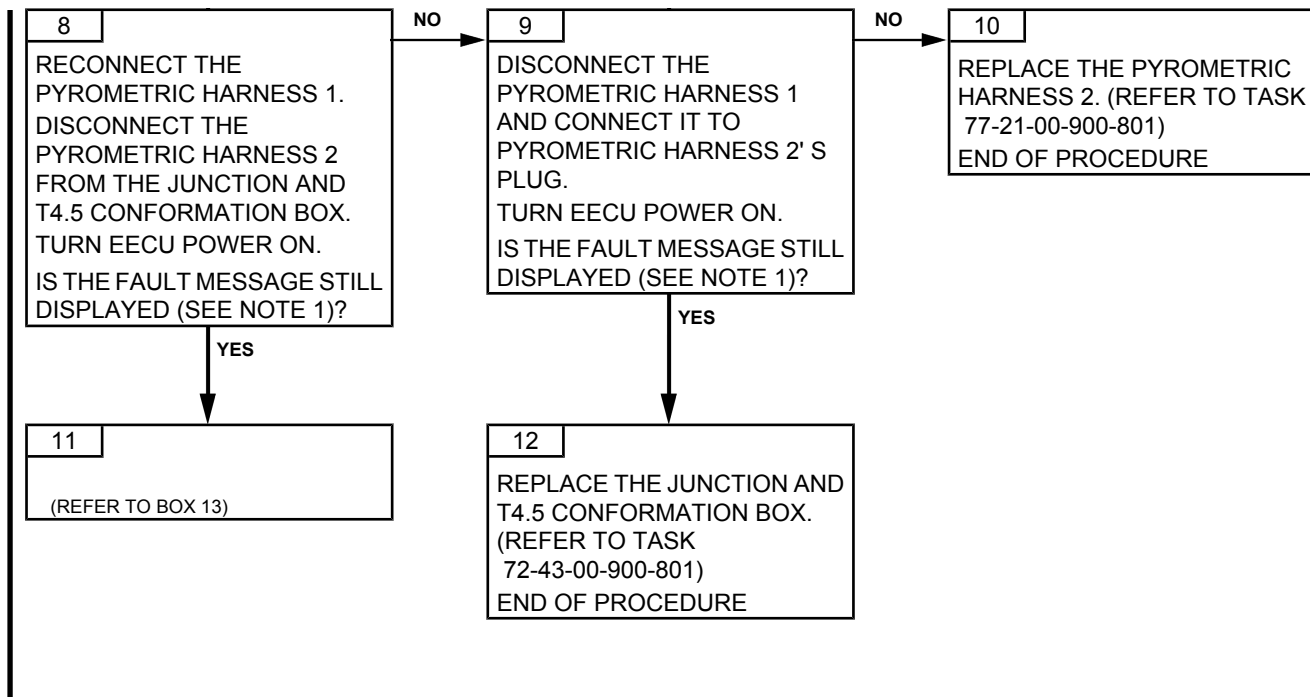
**NOTE:** *The pyrometric harnesses are identified as pyrometric harness 1 or 2 for the clarity of the procedure. You may start the procedure by disconnecting any of the 2 harnesses. The one that you disconnect first will be considered "pyrometric harness 1" for the rest of the procedure.*

Effectivity: C

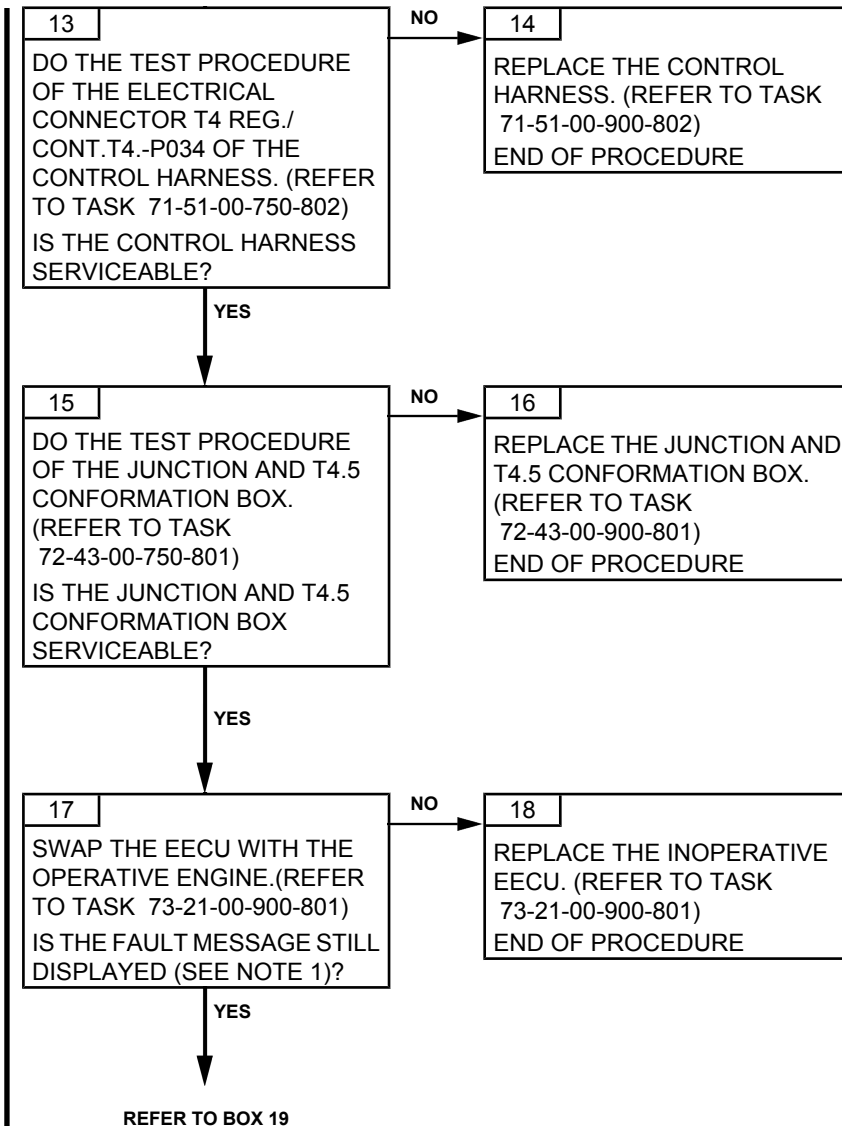


# TURBOMECA ARRIEL 2 C

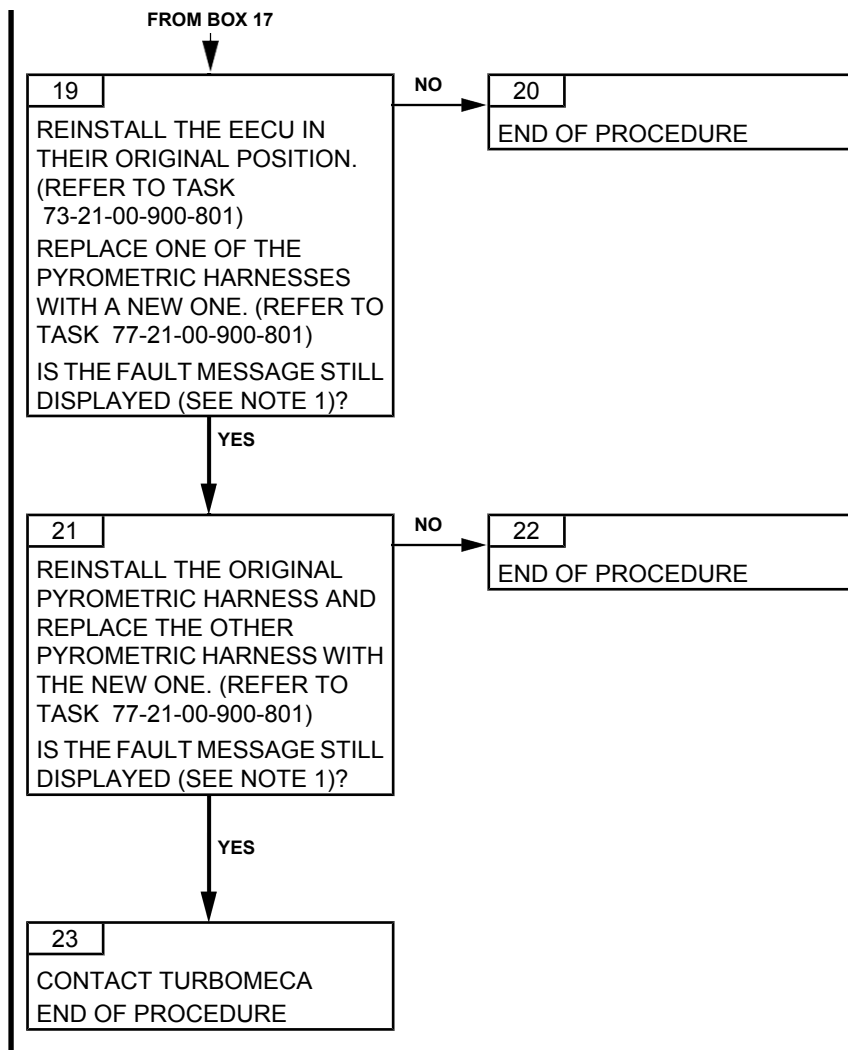
## MAINTENANCE MANUAL



Effectivity: C







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TASK 71-00-06-817-827-A01

## COLLECTIVE PITCH FAILURE AND RAW T4.5 FAILURE TROUBLESHOOTING

### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	3	0

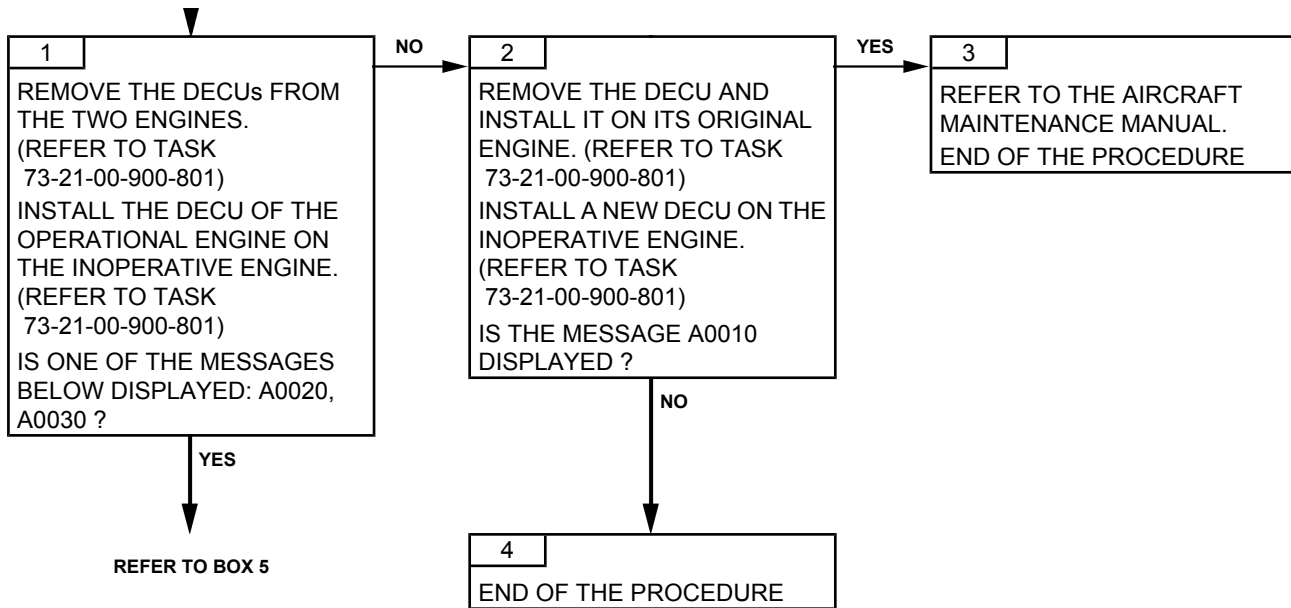
<i>EFFECT</i>	<i>GOV</i>
BEFORE END OF START T4.5 back-up value. Start aborted. No start.	Amber
AFTER END OF START Back-up value XPC available in reception on the inter-DECU link. Use of this back-up value. No effect T4.5 back-up value No influence on the control up to engine shutdown	Flashing amber
Back-up value XPC not available in reception on the inter-DECU link. Use of the back-up value and adjustment of N2 control such as N2 speed can be regulated to its nominal value in all the power range. Transients degraded. Engines misaligned during transients.	Amber

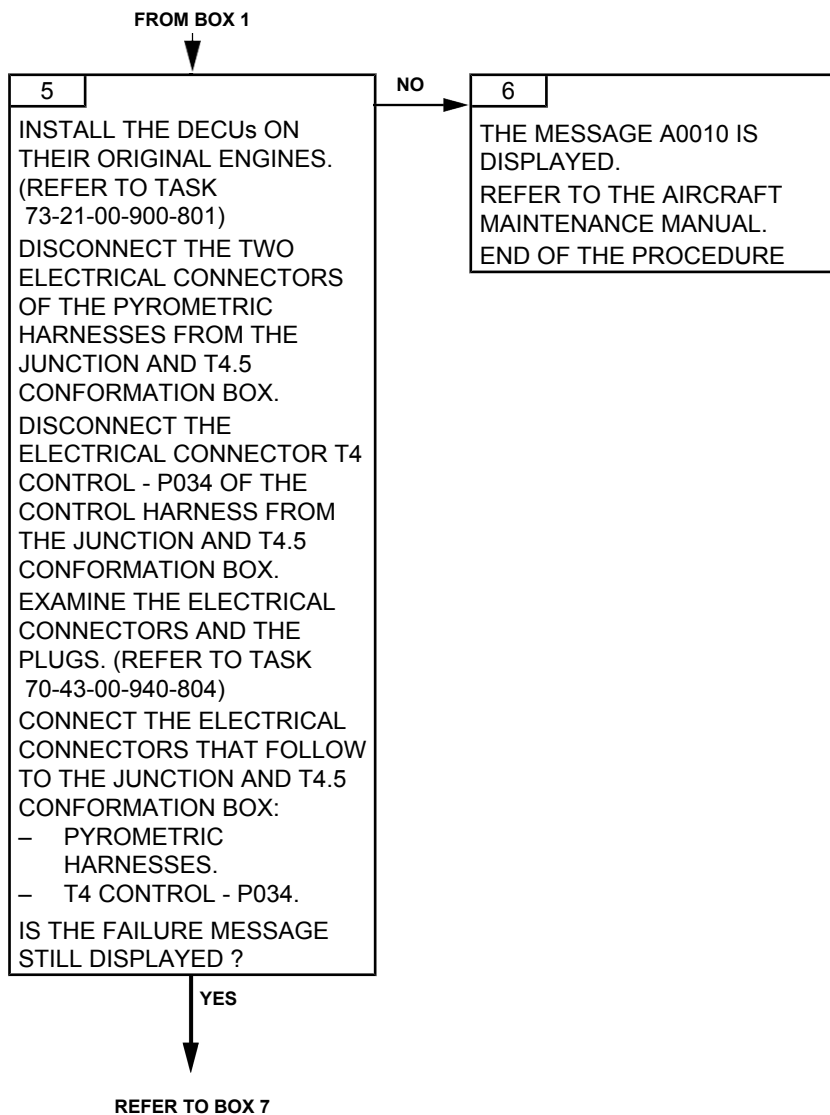
#### B. POSSIBLE CAUSES

- DECU
- Pyrometric harnesses
- Junction and T4.5 conformation box
- Control harness

### 2. PROCEDURE

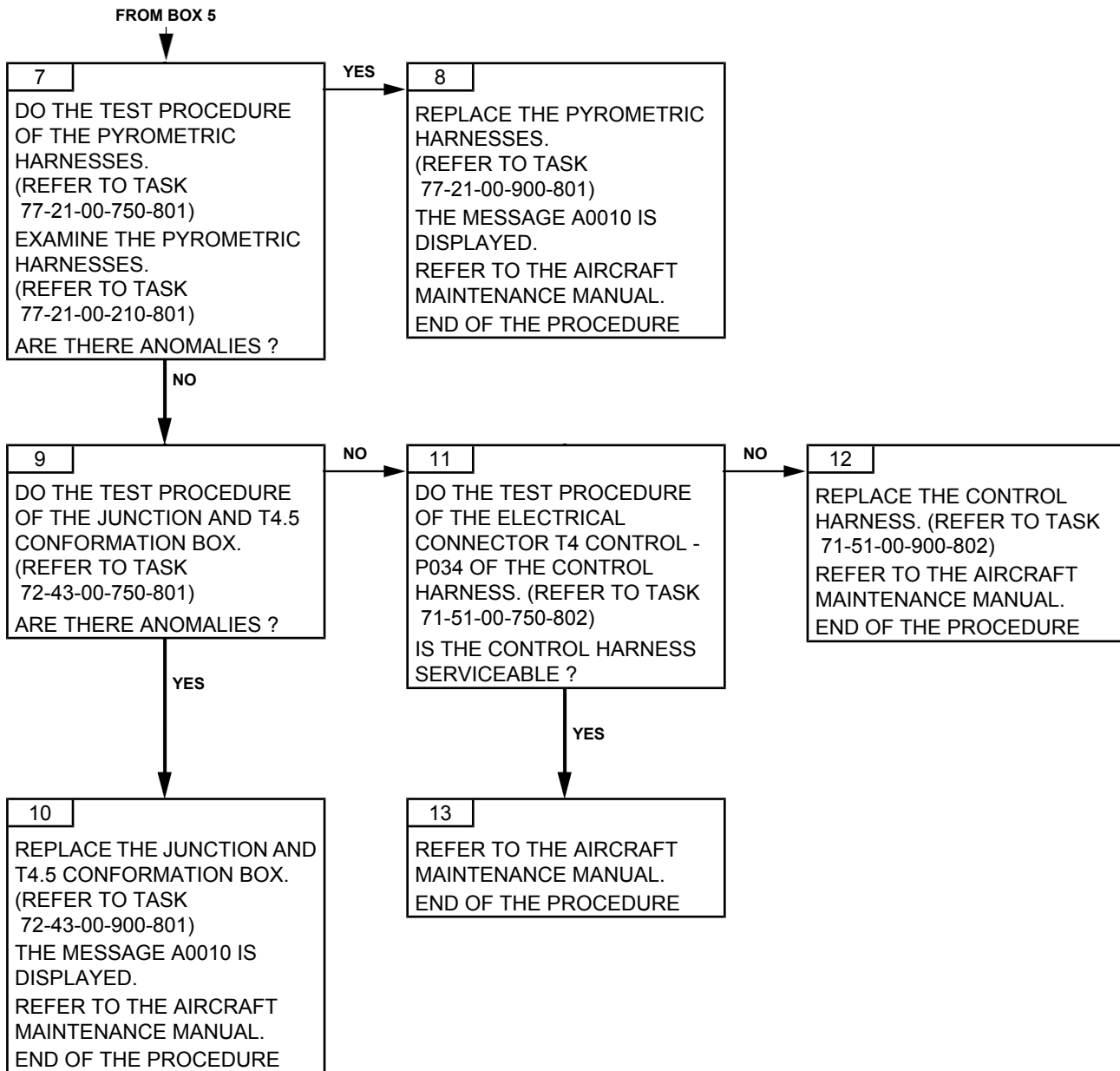
Effectivity: C





# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

TASK 71-00-06-817-828-A01

## T0 FAILURE TROUBLESHOOTING

### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE				T	1
MEMORY	A	0	0	4	0

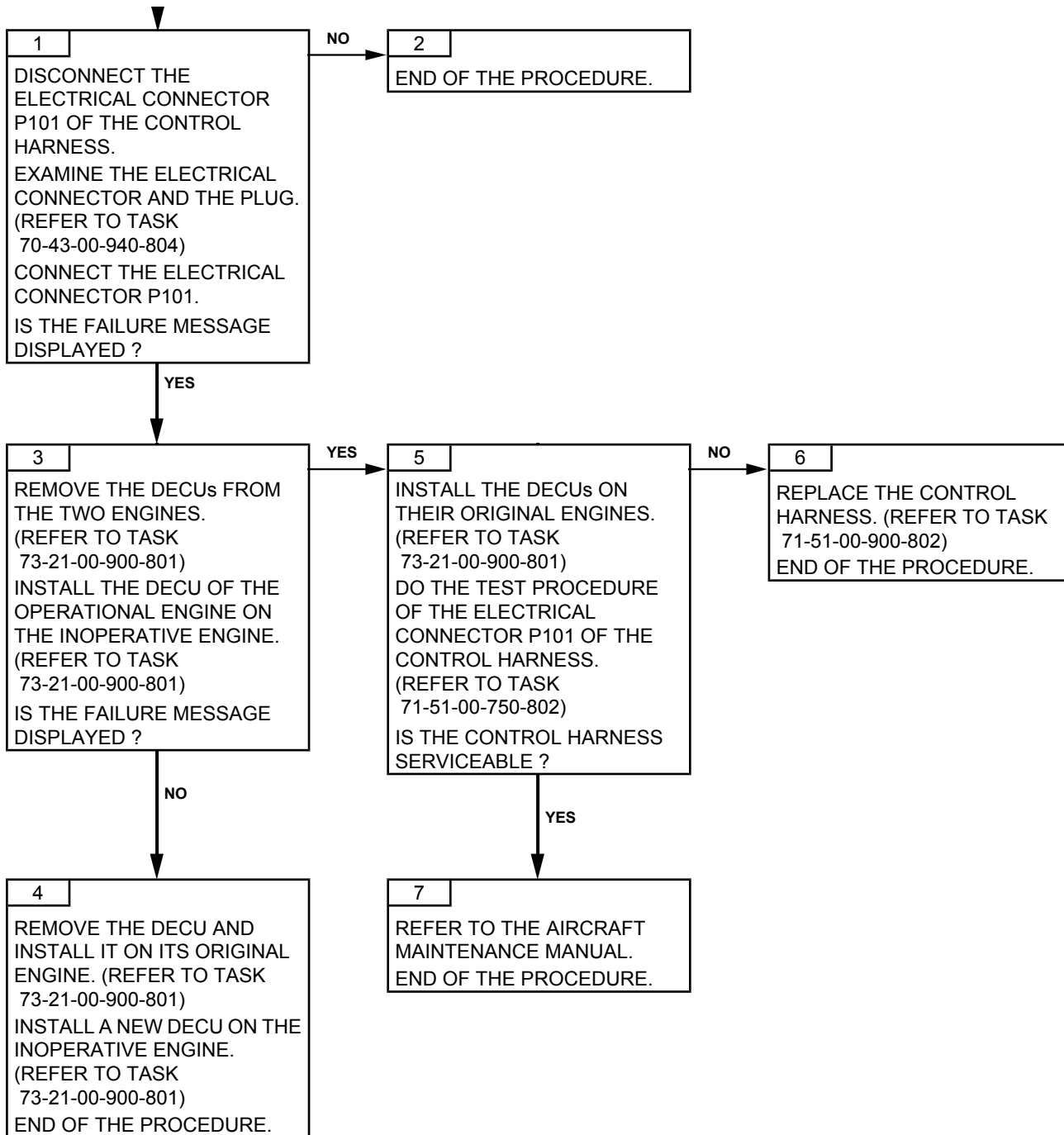
<i>EFFECT</i>	<i>GOV</i>
Valid T0 value available in reception on the inter-DECU link. Use of this back-up value. No effect.	Flashing amber
Valid T0 value not available in reception on the inter-DECU link. N1 limitation not corrected in T0 but the max. ratings remain available. The engine thermal protection is ensured by the pilot by means of N1 and/or T4.5 indications. The transients are degraded but the engine remains protected against surge and flame-out. The start function is degraded.	Amber

#### B. POSSIBLE CAUSES

- DECU
- Control harness

### 2. PROCEDURE

Effectivity: C





# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL

TASK 71-00-06-817-830-A01

## COLLECTIVE PITCH FAILURE AND HELICOPTER T0 FAILURE TROUBLESHOOTING

### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	5	0

<i>EFFECT</i>	<i>GOV</i>
Back-up XPC value available in reception on the inter-DECU link. Use of this back-up value. No consequence. Valid T0 value available in reception on the inter-DECU Link. Use of this back-up value. No effect.	Flashing amber
Back-up XPC value not available in reception on the inter-DECU link. Use of the back-up value and adjustment of N2 control such as N2 speed can be regulated to its nominal value in all the power range. Transients degraded. Engines misaligned during transients. Valid T0 value available in reception on the inter-DECU Link. Use of this back-up value. Valid T0 value not available in reception on the inter-DECU link. N1 limitation not corrected in T0 but the max. ratings remain available. The engine thermal protection is ensured by the pilot by means of the N1 and/or T4.5 indications. The transients are degraded but the engine remains protected against surge and flame-out. The start function is degraded.	Amber

#### B. POSSIBLE CAUSES

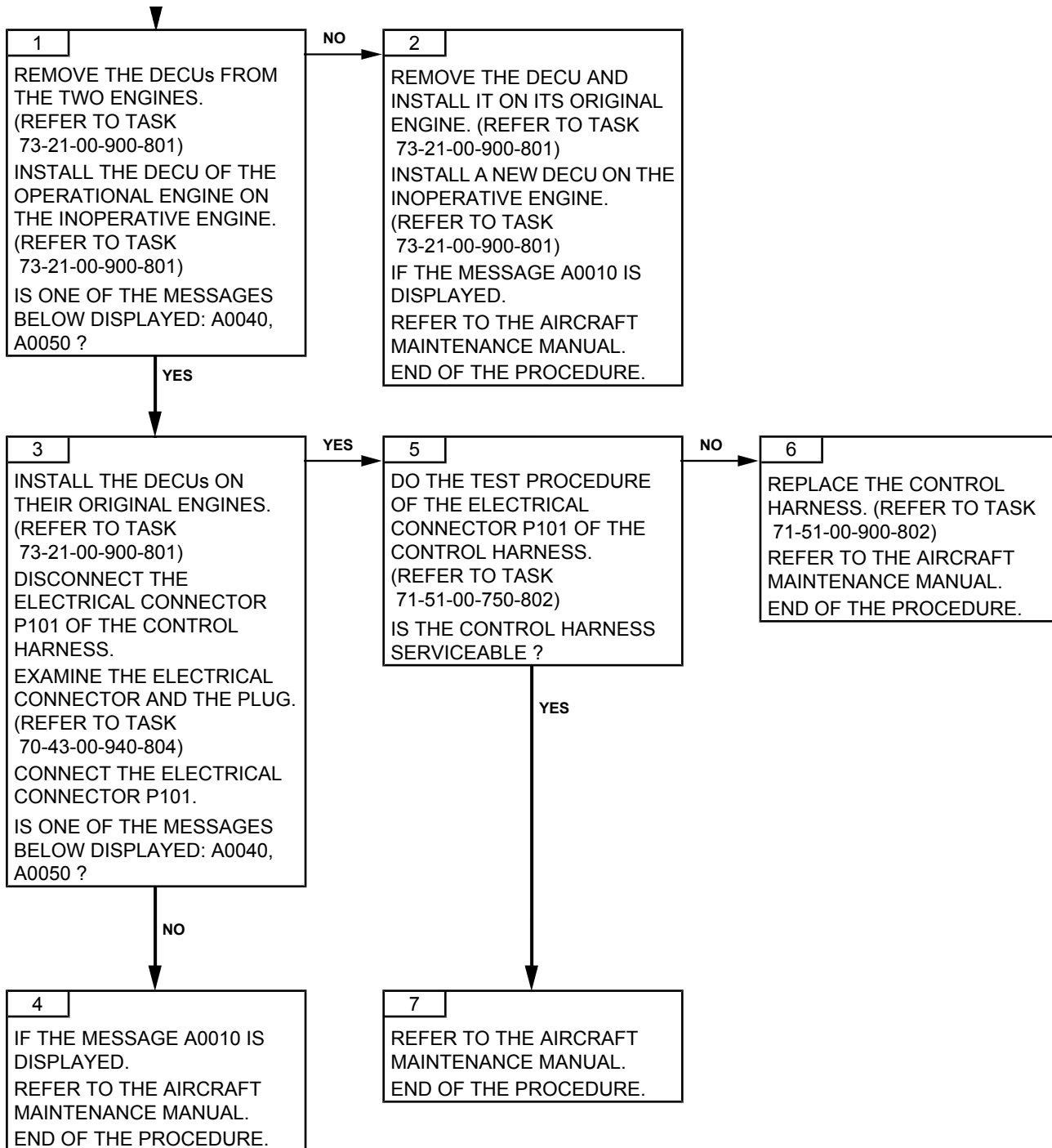
- DECU

### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

TASK 71-00-06-817-831-A01

## T0 FAILURE AND RAW T4.5 FAILURE TROUBLESHOOTING

### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU FAILURE MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	0	6	0

#### B. FAILURE EFFECTS

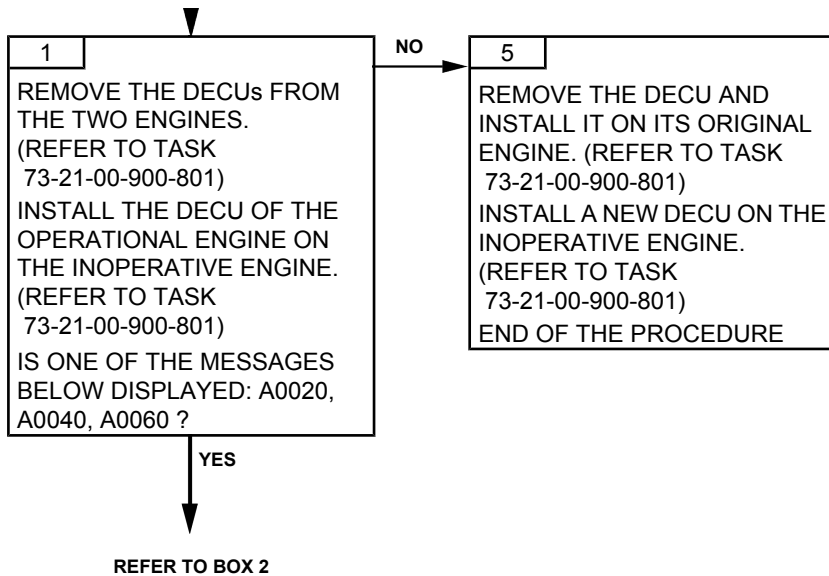
EFFECTS	GOV
BEFORE END OF START T4.5 back-up value. Start aborted. No start.	Amber
AFTER END OF START Valid TO value available in reception on the inter-DECU link. Use of this back-up value. No effect. T4.5 back-up value. No effect on control up to engine shutdown.	Flashing Amber
Valid TO value not available in reception on the inter-DECU link. N1 limitation not corrected in TO but the max. ratings remain available. The engine thermal protection is ensured by the pilot by means of the N1 and/or T4.5 indications. The transients are degraded but the engine remains protected against surge and flame-out.	Amber

#### C. POSSIBLE CAUSES

- DECU
- Pyrometric harnesses
- Junction and T4.5 conformation box
- Control harness.

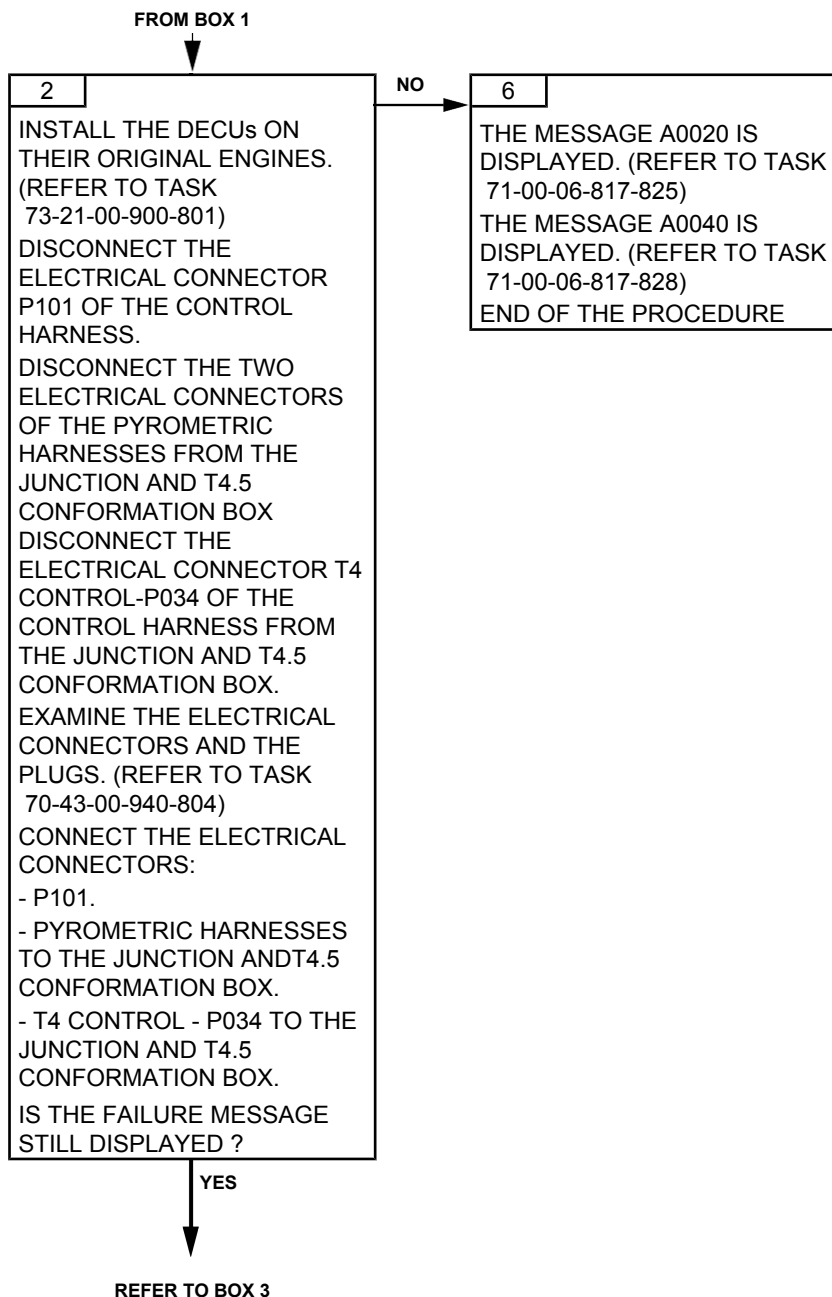
### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

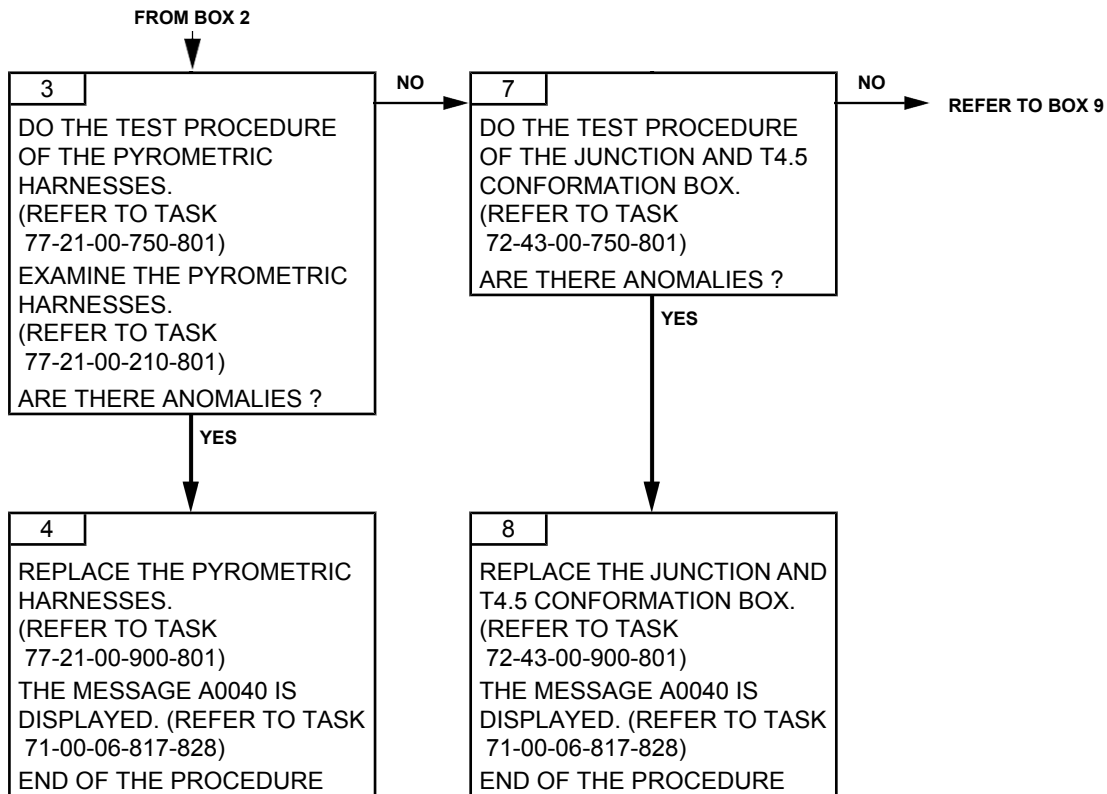
## MAINTENANCE MANUAL



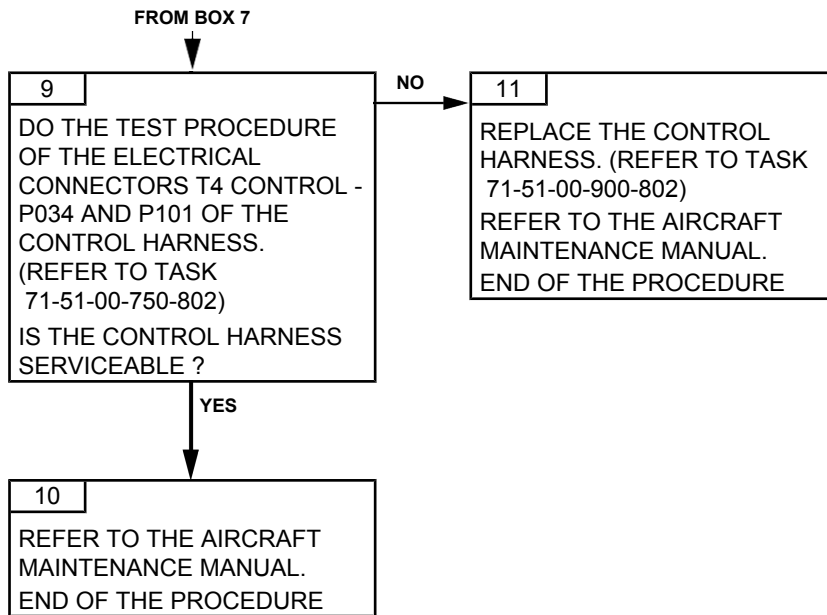
Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



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TASK 71-00-06-817-832-A01

### COLLECTIVE PITCH FAILURE, RAW T4.5 FAILURE AND HELICOPTER T0 FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	0	7	0

EFFECT	GOV
BEFORE END OF START T4.5 back-up value. Start aborted. No start.	Amber
AFTER END OF START T4.5 back-up value. No effect on control up to engine shutdown. XPC back-up value available in reception on the inter-DECU link. Use of this back-up value. Valid T0 value available in reception on the inter-DECU link. Use of this back-up value.	Flashing amber
T4.5 back-up value. Valid T0 value not available in reception on the inter-DECU link. N1 limitation not corrected in T0 but the max. ratings remain available. The engine thermal protection is ensured by the pilot by means of the N1 and/or T4.5 indications The transients are degraded but the engine remains protected against surge and flame-out. XPC back-up value not available in reception on the inter-DECU link Use of the back-up value and adjustment of the N2 control such as N2 speed can be regulated to its nominal value in all the power range. Transients degraded Engines misaligned during transients	Amber

#### B. POSSIBLE CAUSES

- DECU
- Pyrometric harnesses

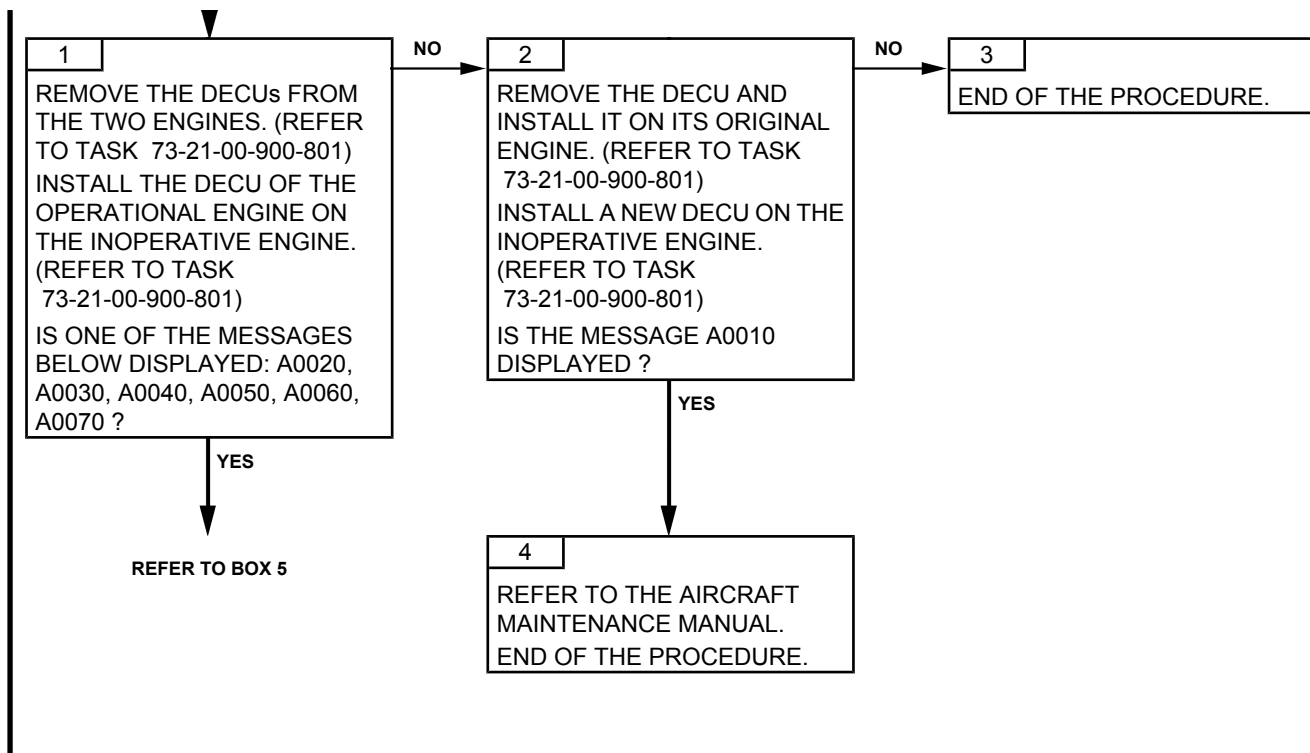
Effectivity: C

- Junction and T4.5 conformation box
- Control harness

## 2. PROCEDURE

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

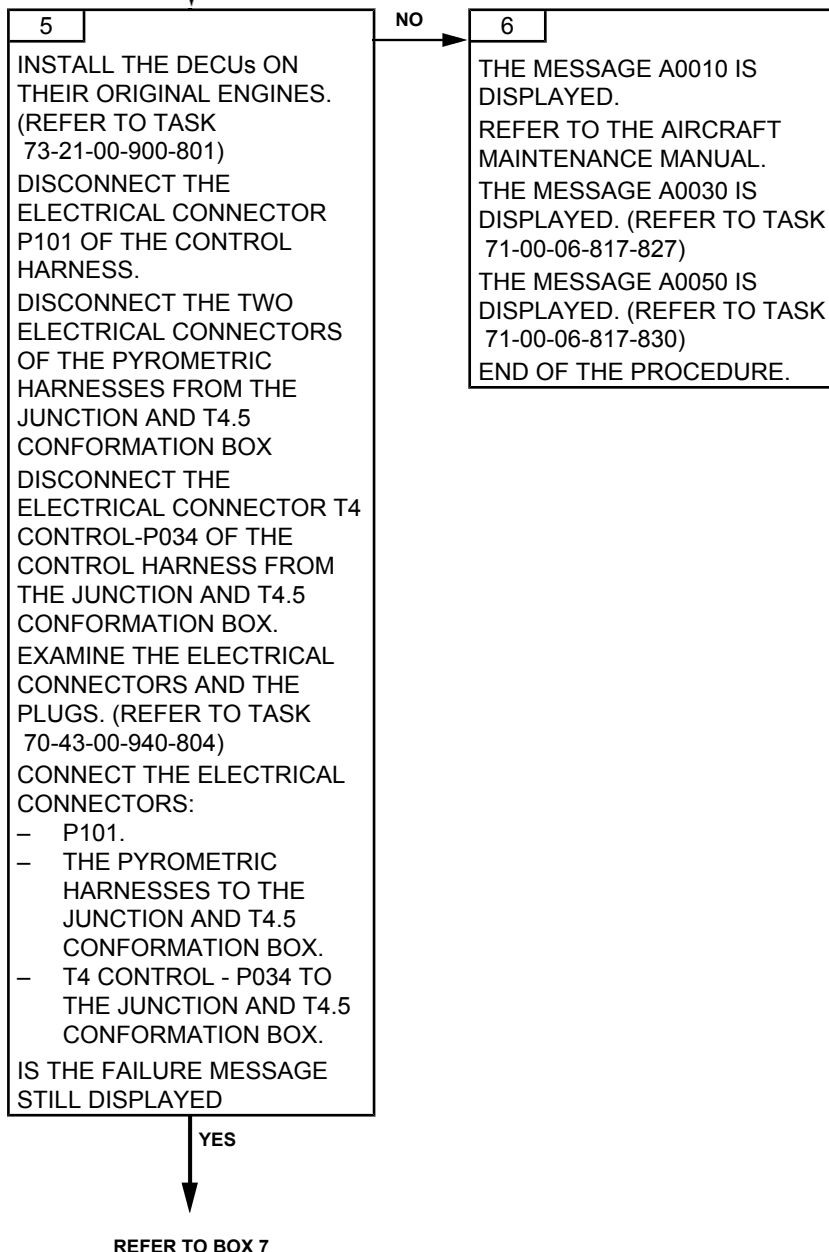


Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

FROM BOX 1



Effectivity: C

The information in this manual is subject to the warning given on the information page.

### 71-00-06-817-832-A01

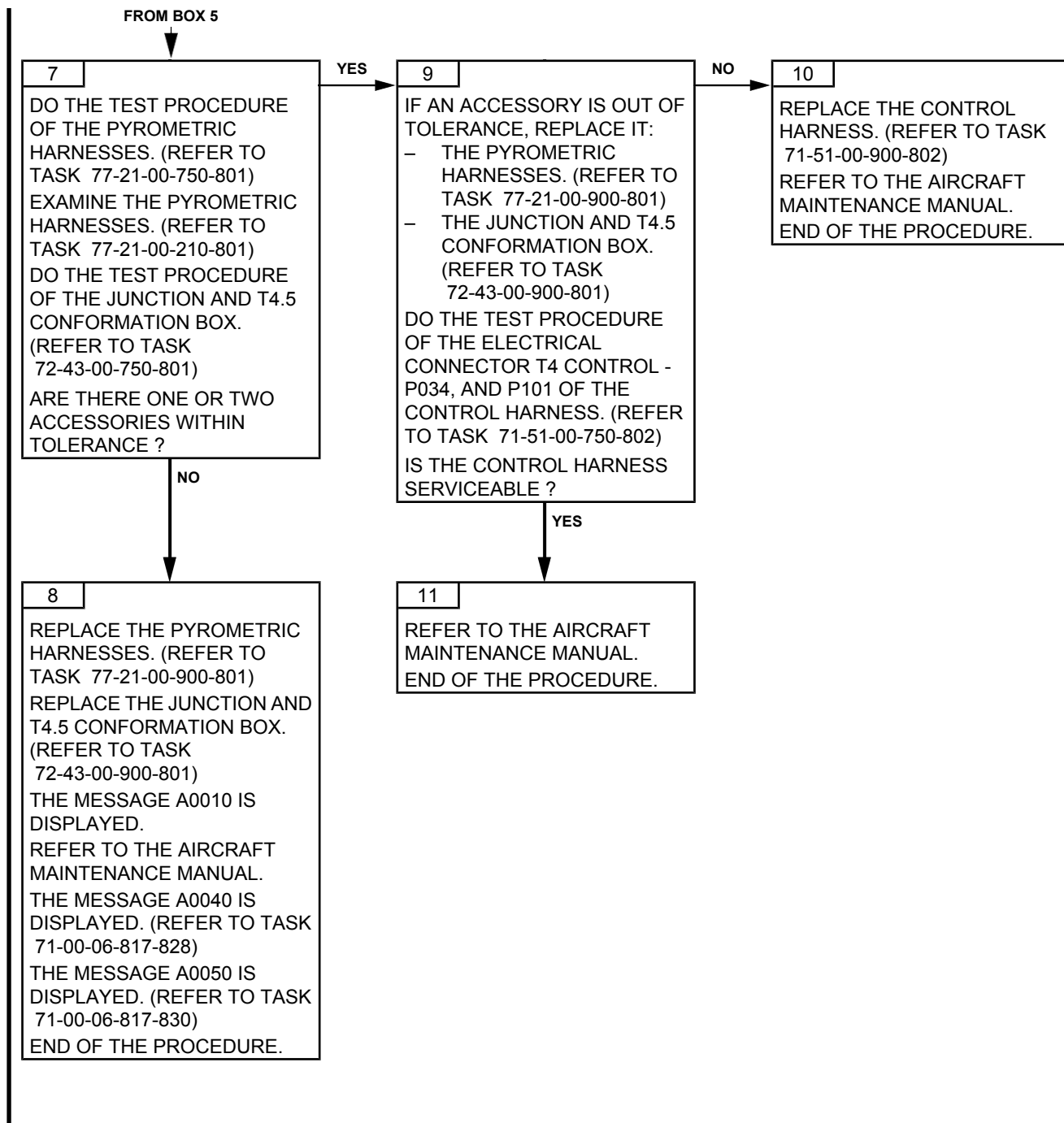
Failure codes

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May 30/2011

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-833-A01

**P3 FAILURE  
TROUBLESHOOTING****1. GENERAL****A. FAU MESSAGE**

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE				P	3
MEMORY	A	0	0	8	0

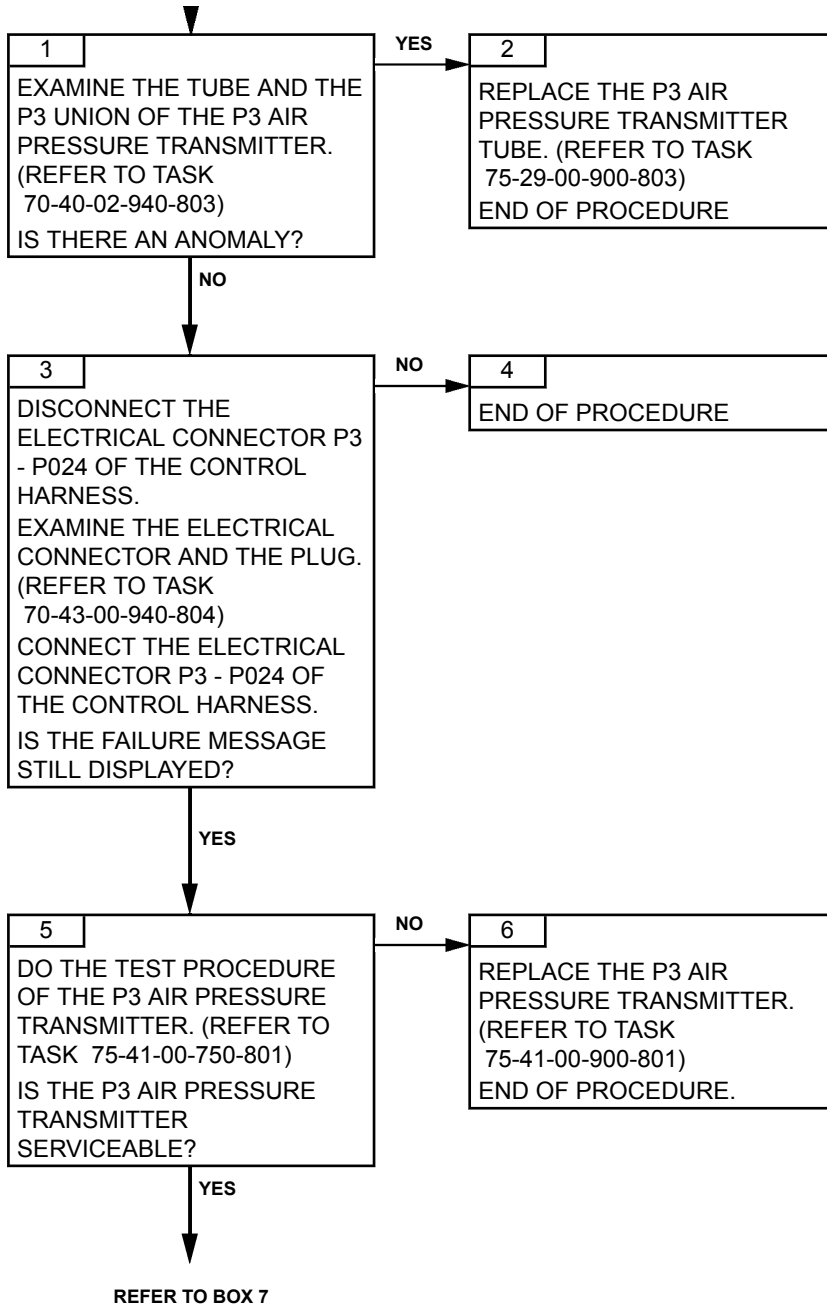
<i>EFFECT</i>	<i>GOV</i>
The transients are degraded but the engine remains protected against surge and flame-out. In case of unexpected surge, risk of not managing it.	Amber

**B. POSSIBLE CAUSES**

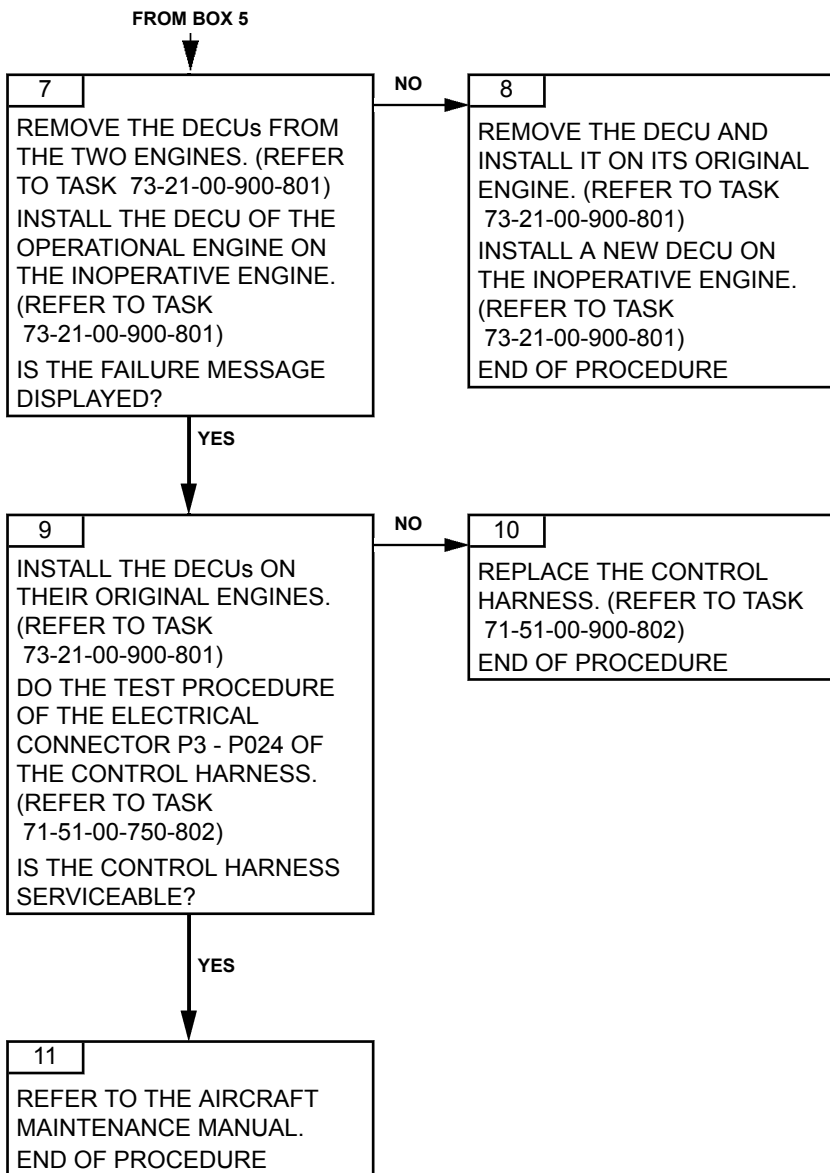
- P3 air pressure transmitter
- DECU
- Control harness

**2. PROCEDURE**

Effectivity: C







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TASK 71-00-06-817-835-A01

### COLLECTIVE PITCH FAILURE AND P3 FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU DO THE PROCEDURE.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	9	0

<i>EFFECT</i>	<i>GOV</i>
XPC back-up value available in reception on the inter-DECU link. Use of this back-up value. XPC back-up value not available in reception on the inter-DECU Link. Use of this back-up value and adjustment of the N2 control such as N2 speed can be regulated to its nominal value in all the power range. Engines misaligned during transients. The transients are degraded but the engine remains protected against surge and flame-out. In case of unexpected surge, risk of not managing it.	Amber

#### B. POSSIBLE CAUSES

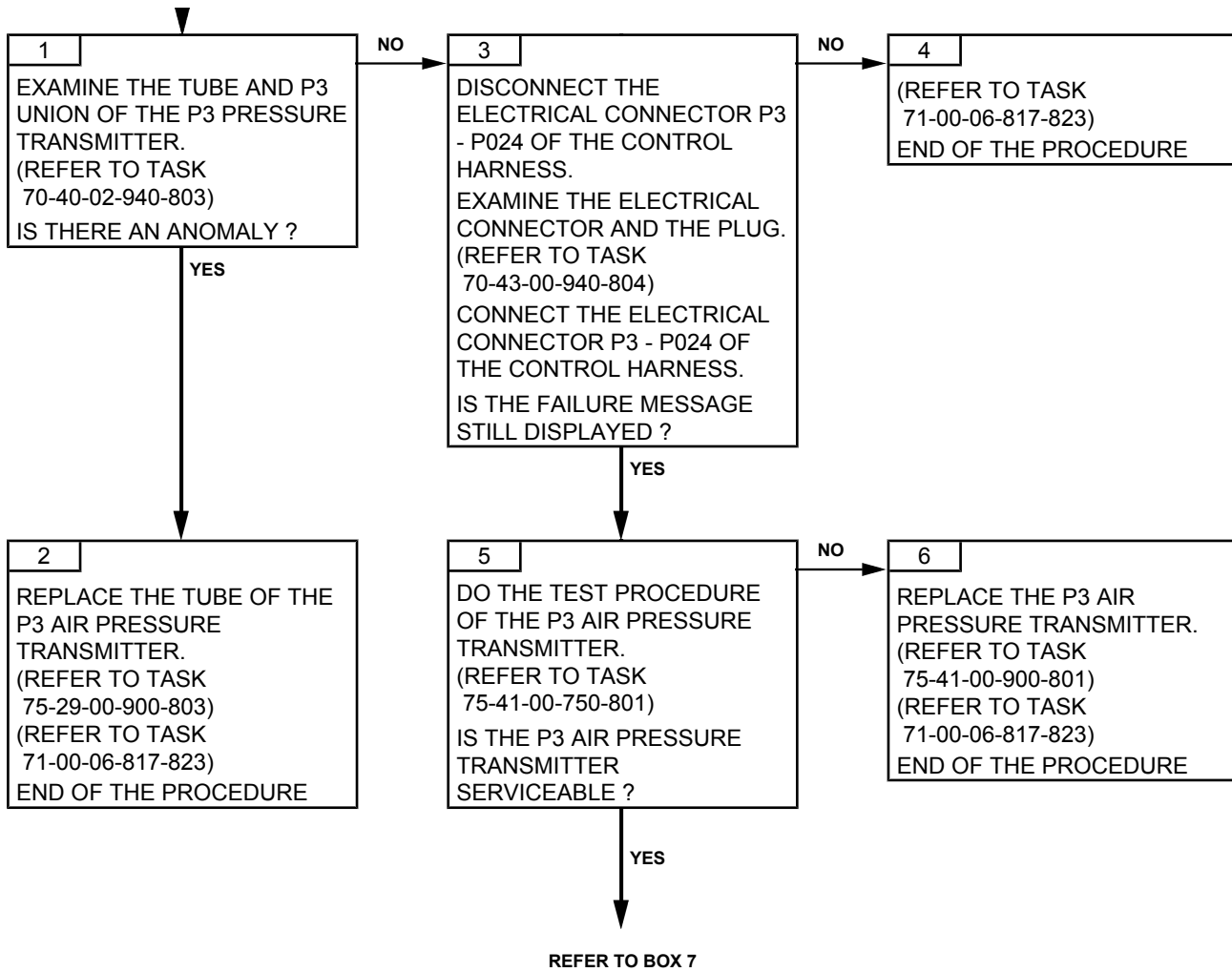
- Tube of the P3 air pressure transmitter
- P3 air pressure transmitter
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

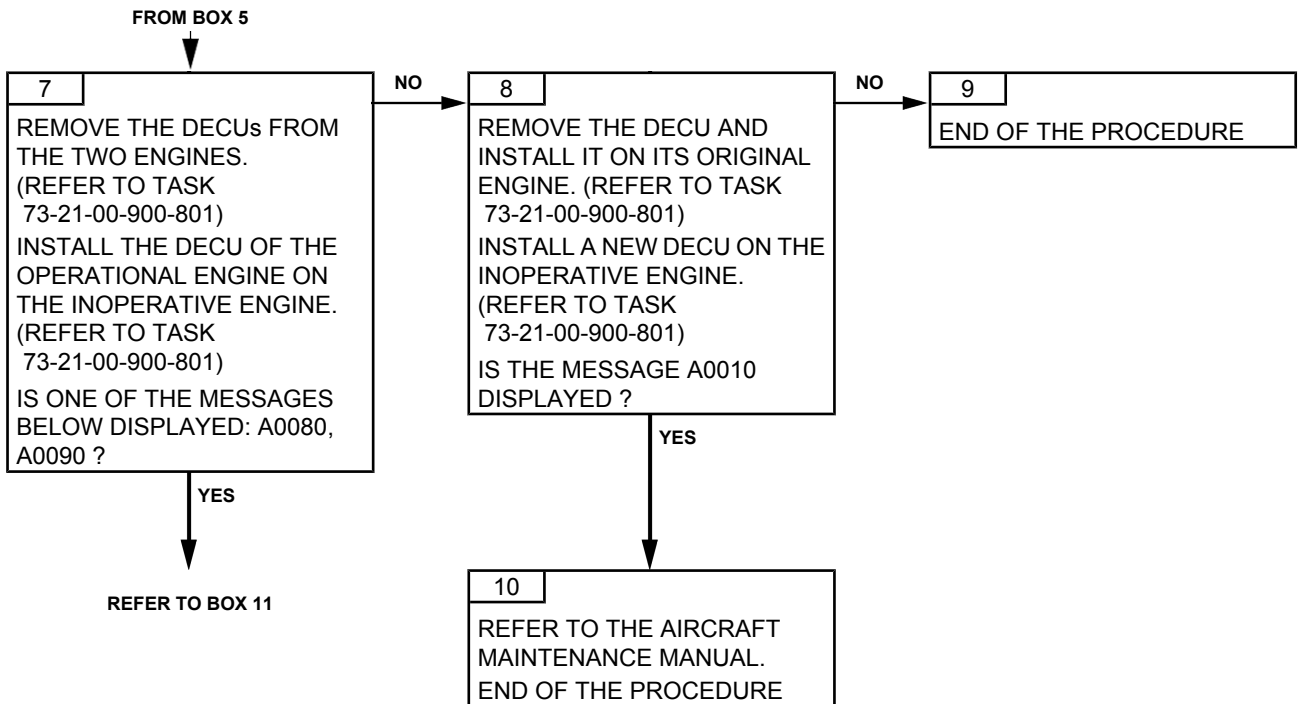
## MAINTENANCE MANUAL



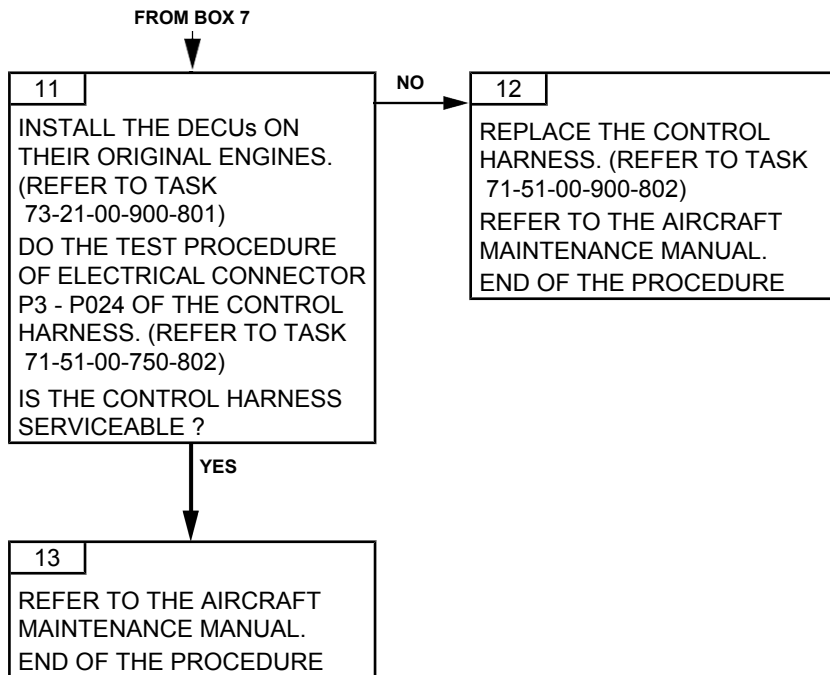
Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-836-A01

### RAW T4.5 FAILURE AND P3 FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	A	0

<i>EFFECT</i>	<i>GOV</i>
<p>BEFORE END OF START The transients are degraded but the engine remains protected against surge and flame-out. In case of unexpected surge, risk of not managing it. T4.5 back-up value. Start aborted. No start.</p>	Amber
<p>AFTER END OF START The transients are degraded but the engine remains protected against surge and flame-out. In case of unexpected surge, risk of not managing it. T4.5 back-up value No effect on control up to engine shutdown</p>	Amber

##### B. POSSIBLE CAUSES

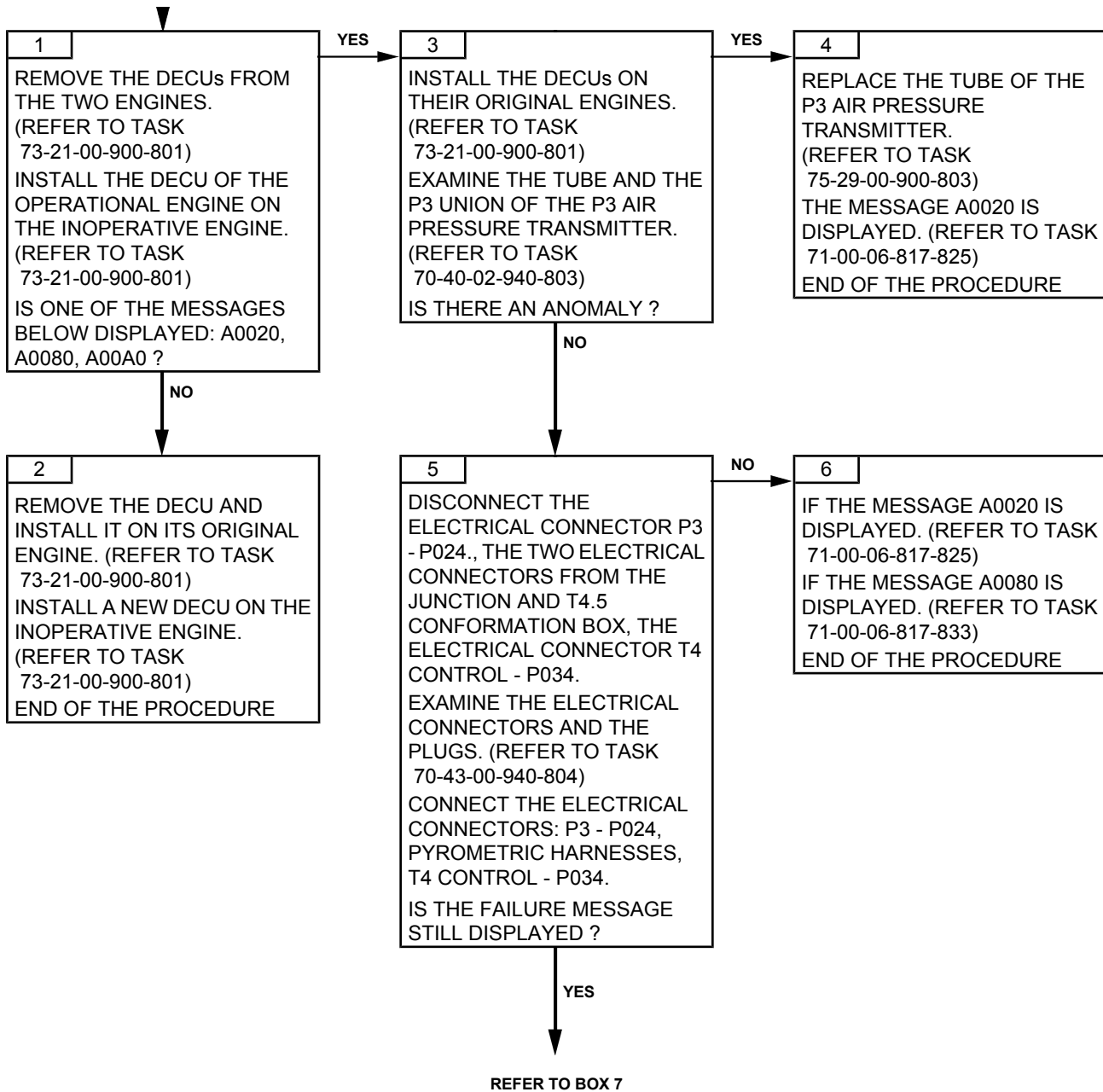
- DECU
- Tube of the P3 air pressure transmitter
- P3 air pressure transmitter
- Pyrometric harnesses
- Junction and T4.5 conformation box
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

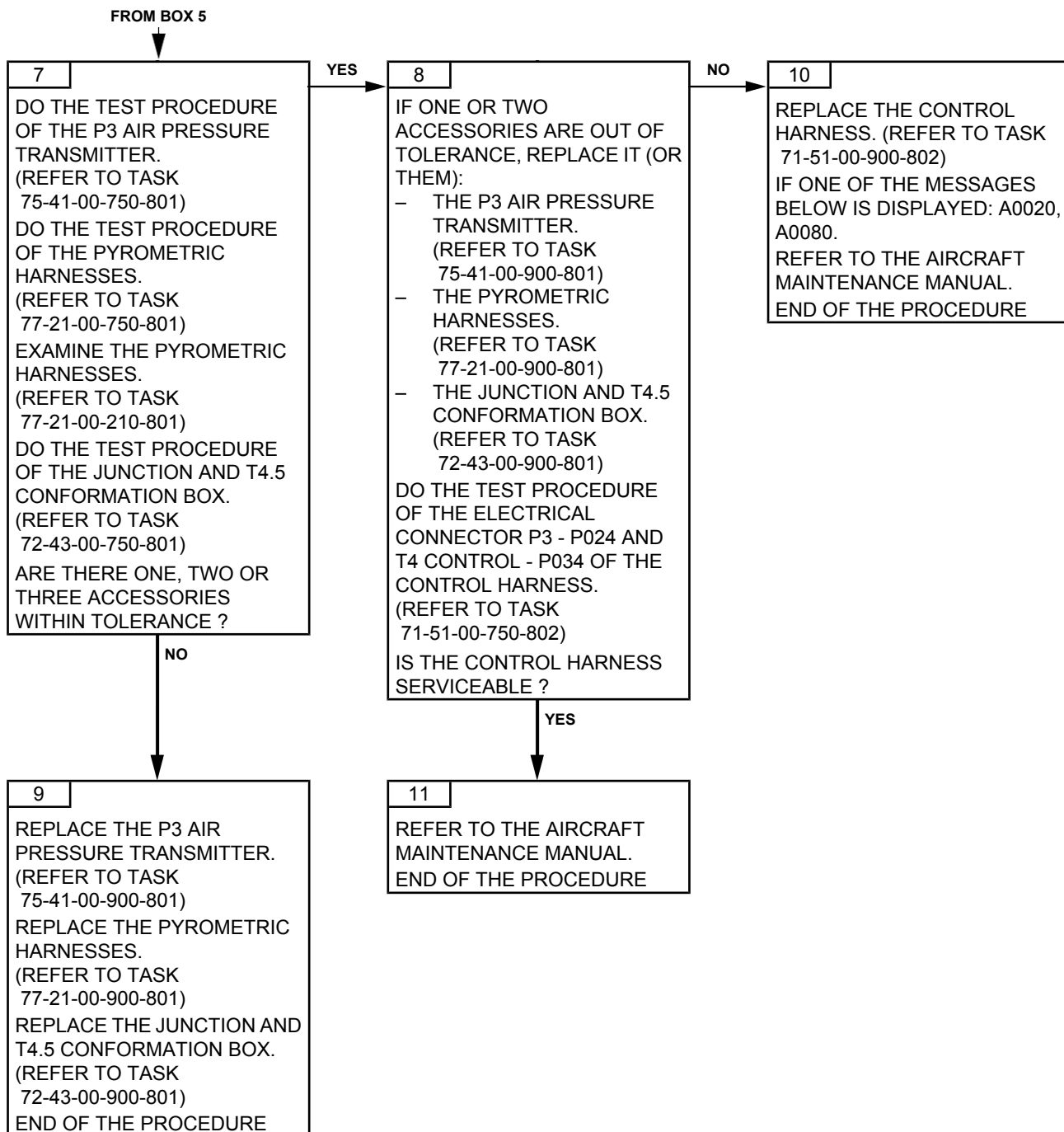


Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-837-A01

### COLLECTIVE PITCH FAILURE, RAW T4.5 FAILURE AND P3 FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	B	0

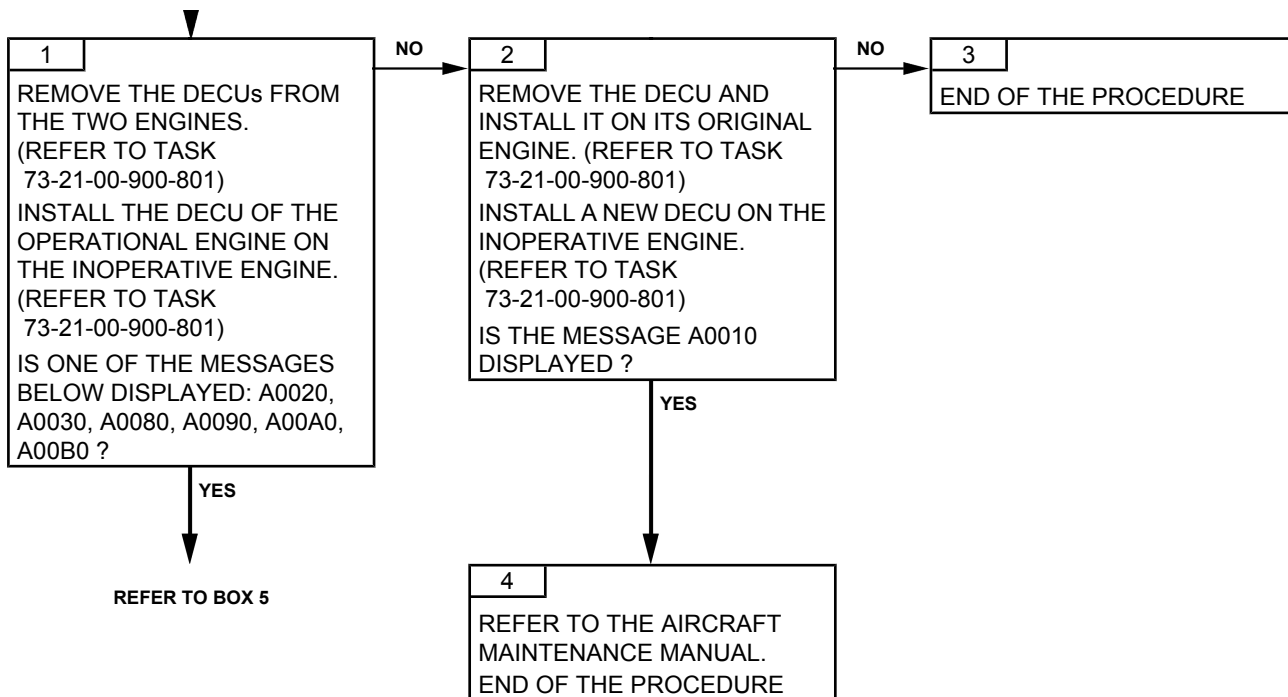
<i>EFFECT</i>	<i>GOV</i>
BEFORE END OF START T4.5 back-up value. Start aborted. No start.	Amber
AFTER END OF START XPC back-up value available in reception on the inter-DECU link. Use of this back-up value. XPC back-up value not available in reception on the inter-DECU link. Use of the back-up value and adjustment of the N2 control such as N2 speed can be regulated to its nominal value in all the power range. Engines misaligned during transients. T4.5 back-up value. No effect on control up to engine shutdown. The transients are degraded but the engine remains protected against surge and flame-out. In case of unexpected surge, risk of not managing it.	Amber

#### B. POSSIBLE CAUSES

- DECU
- Tube of the P3 air pressure transmitter
- P3 air pressure transmitter
- Pyrometric harnesses
- Junction and T4.5 conformation box
- Control harness

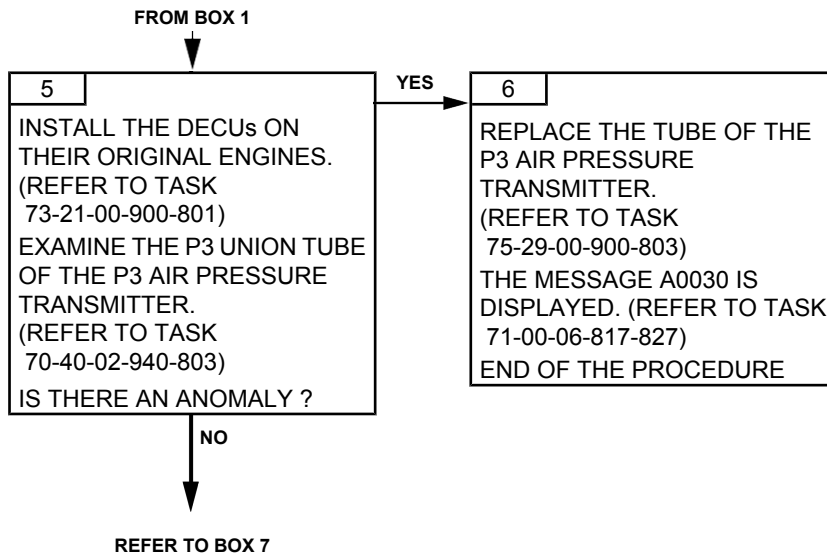
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

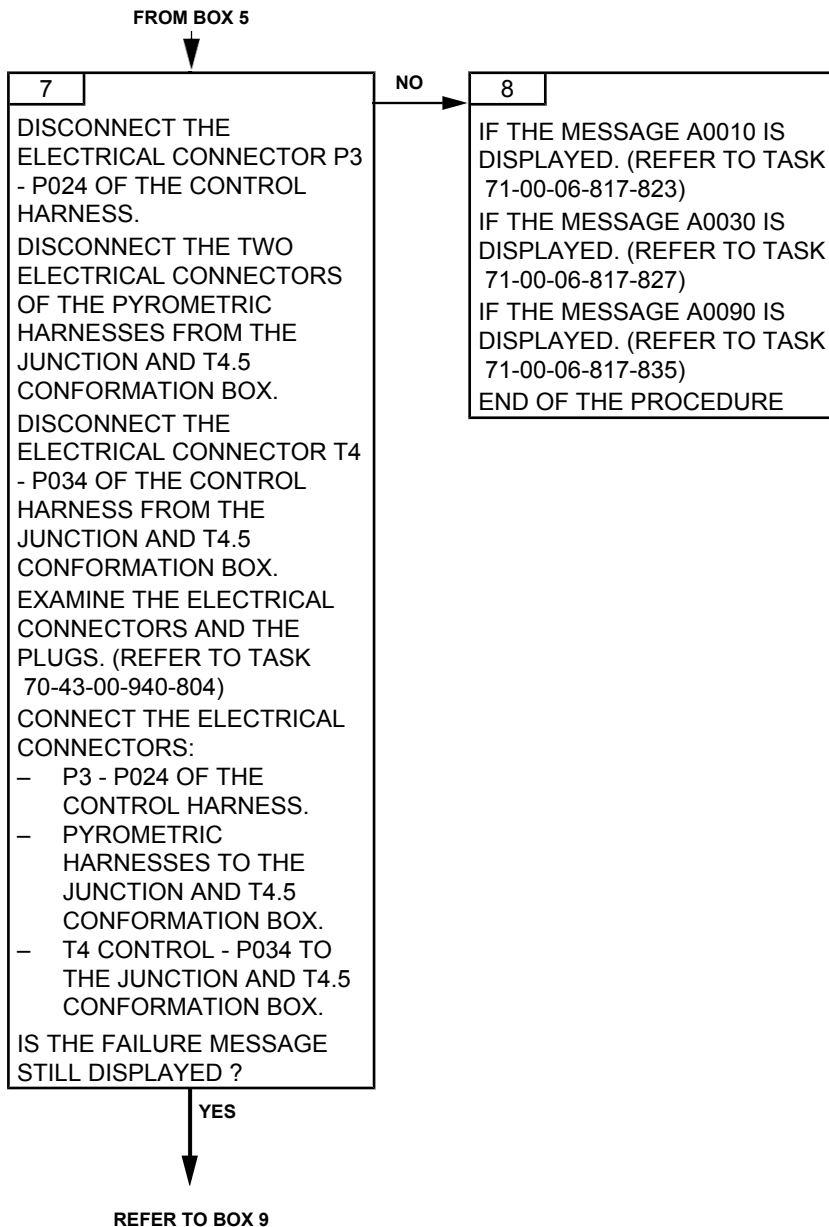
## MAINTENANCE MANUAL



Effectivity: C

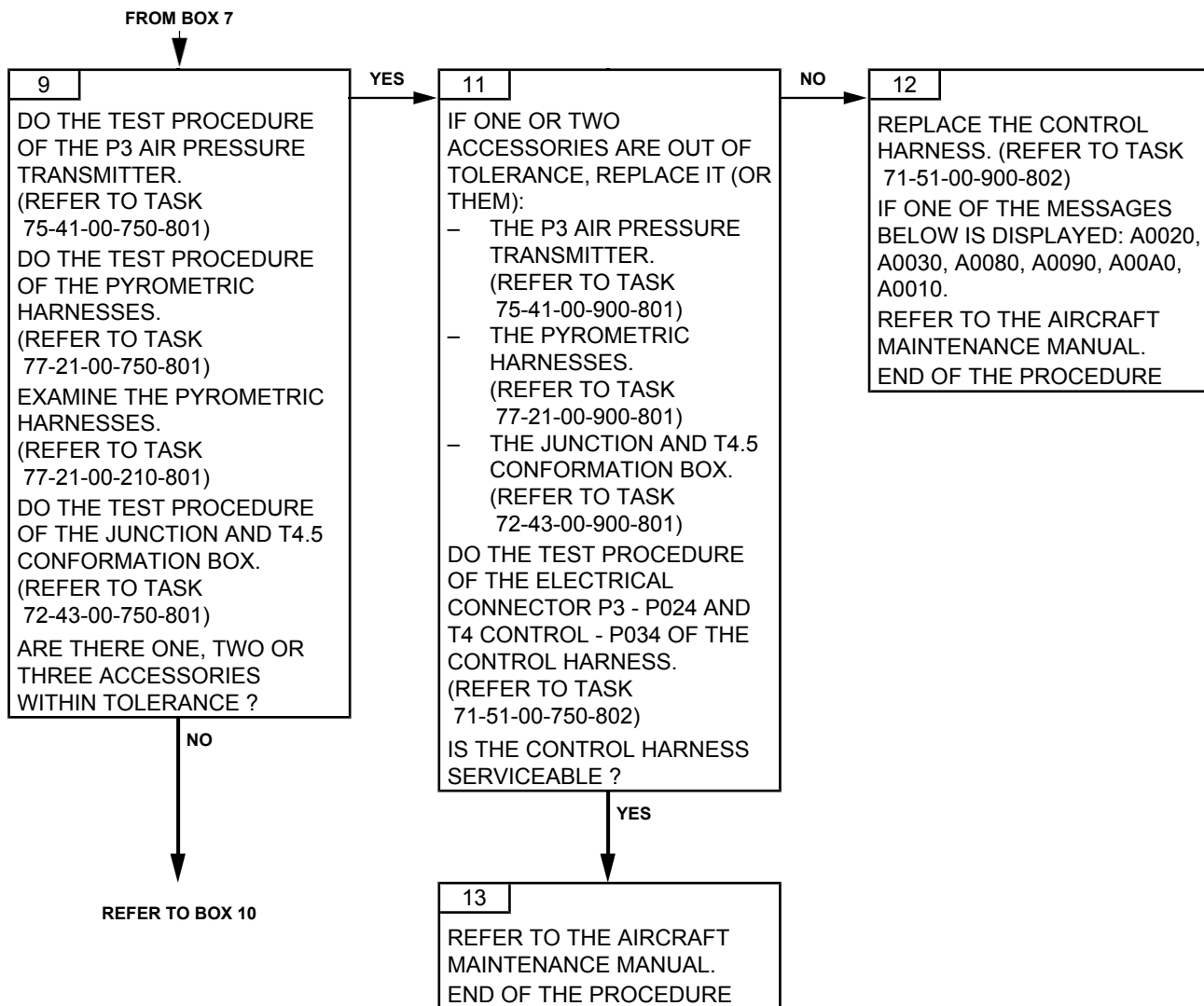
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

FROM BOX 9



10

REPLACE THE P3 AIR  
PRESSURE TRANSMITTER.

(REFER TO TASK  
75-41-00-900-801)

REPLACE THE PYROMETRIC  
HARNESSES.

(REFER TO TASK  
77-21-00-900-801)

REPLACE THE JUNCTION AND  
T4.5 CONFORMATION BOX.

(REFER TO TASK  
72-43-00-900-801)

THE MESSAGE A0010 IS  
DISPLAYED. (REFER TO TASK  
71-00-06-817-823)

END OF THE PROCEDURE

---

Effectivity: C



TASK 71-00-06-817-838-A01

### T0 FAILURE AND P3 FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	C	0

<i>EFFECT</i>	<i>GOV</i>
Total failure. Reversion to manual mode.	Red

#### B. POSSIBLE CAUSES

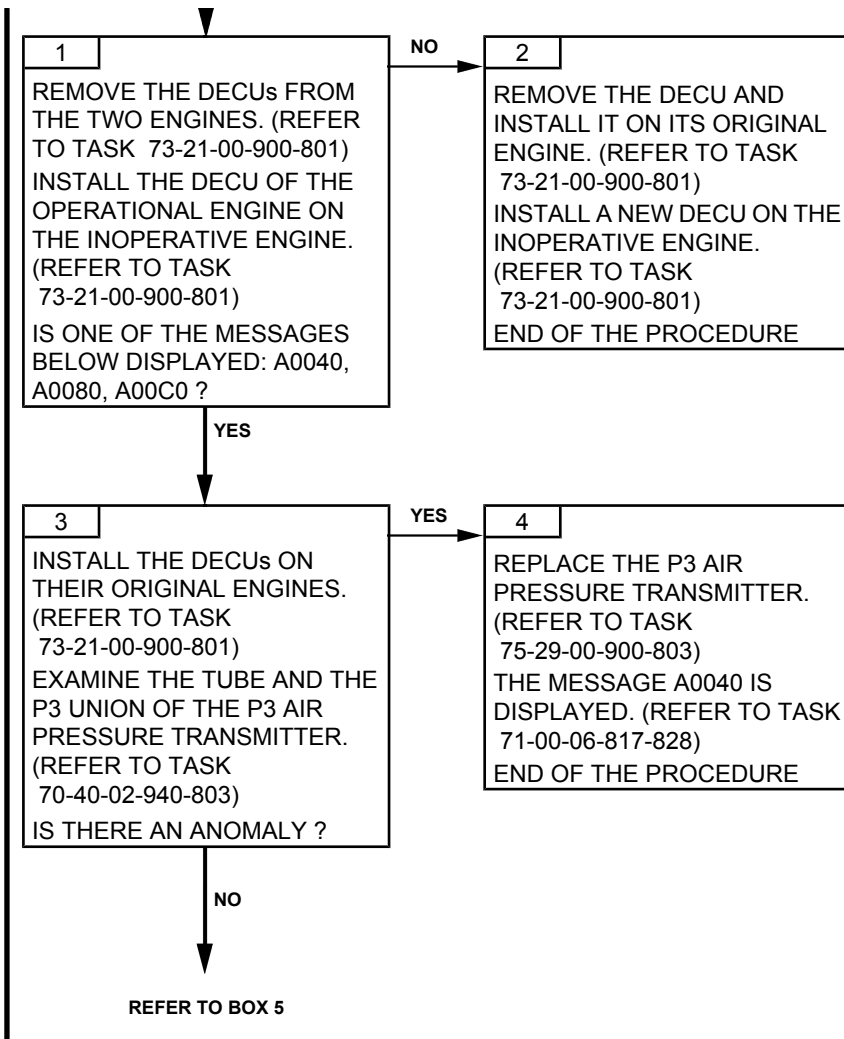
- Tube of the P3 air pressure transmitter
- DECU
- P3 air pressure transmitter
- Control harness

#### 2. PROCEDURE

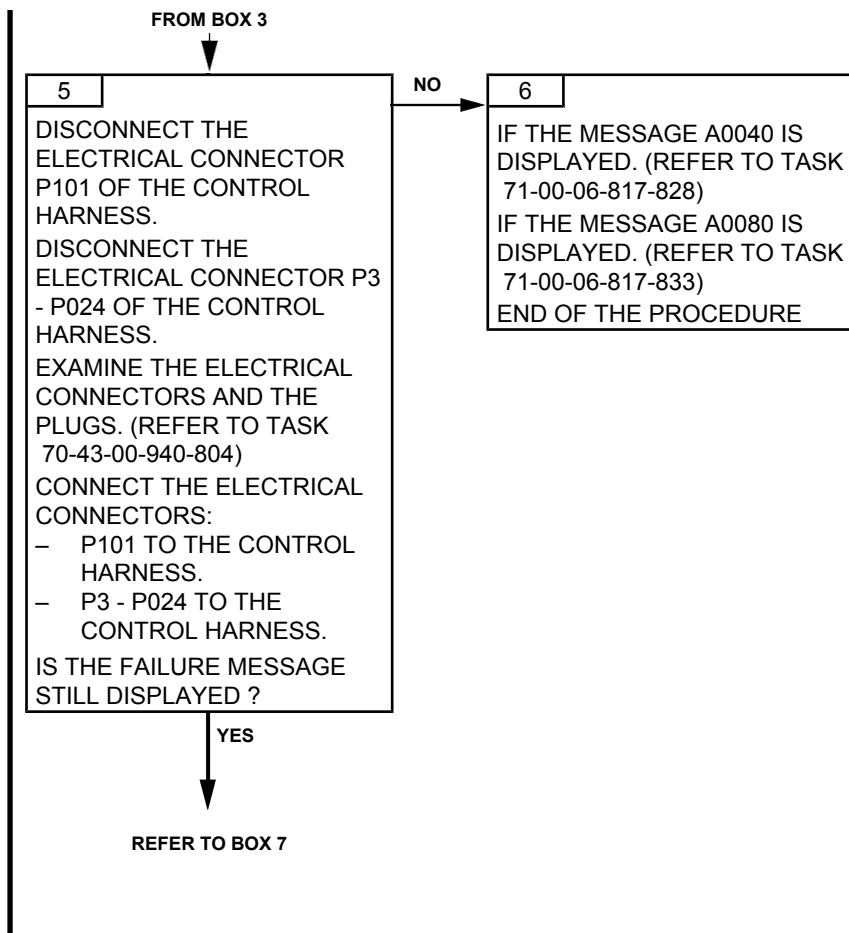
Effectivity: C

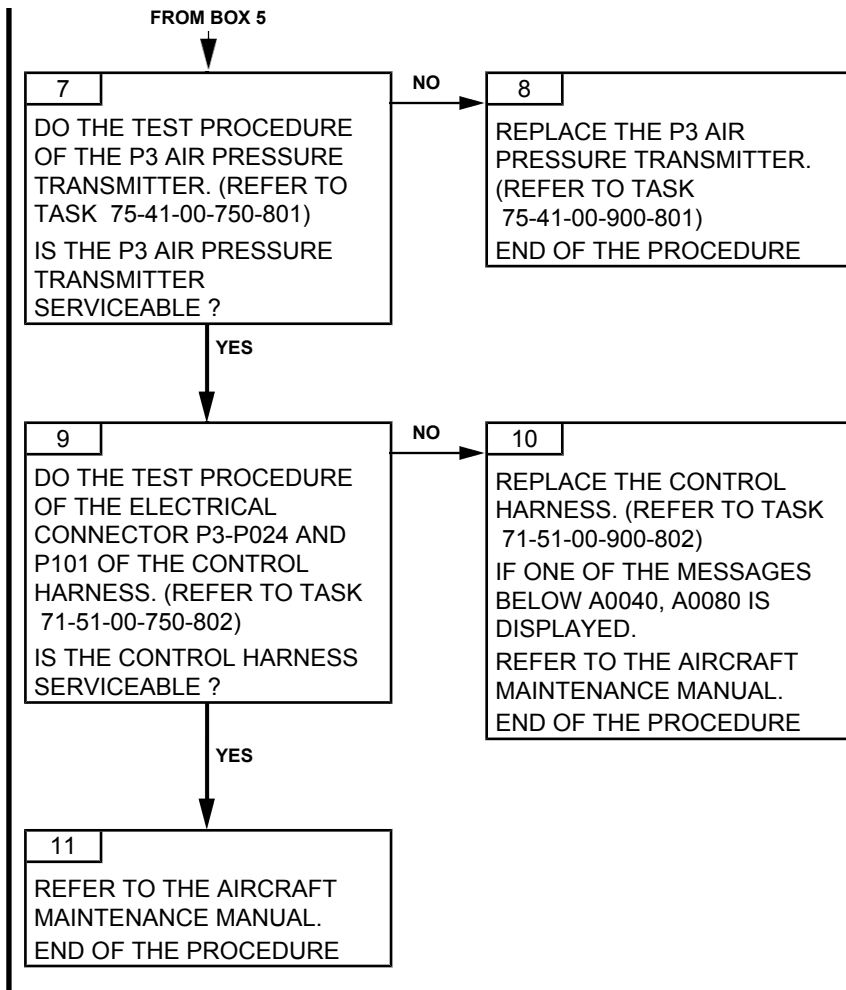
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C





TASK 71-00-06-817-839-A01

### COLLECTIVE PITCH FAILURE, T0 FAILURE AND P3 FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	D	0

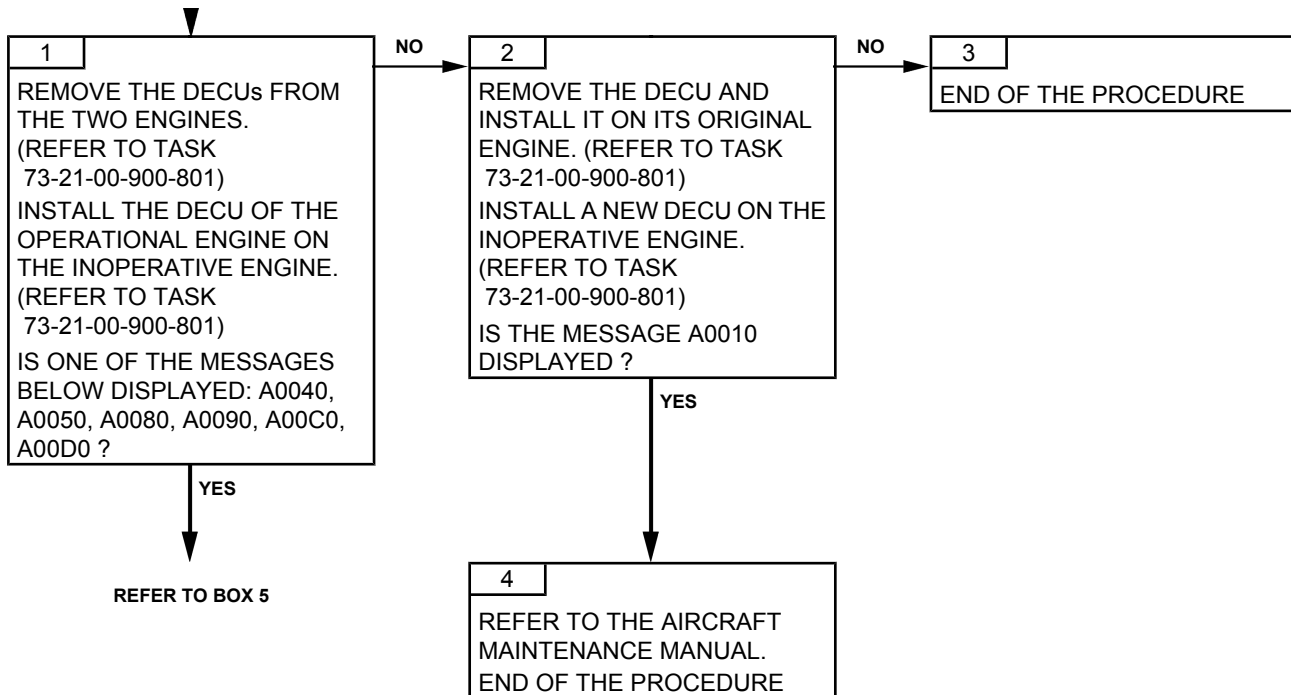
  

<i>EFFECT</i>	<i>GOV</i>
Total failure. Reversion to manual mode.	Red

#### B. POSSIBLE CAUSES

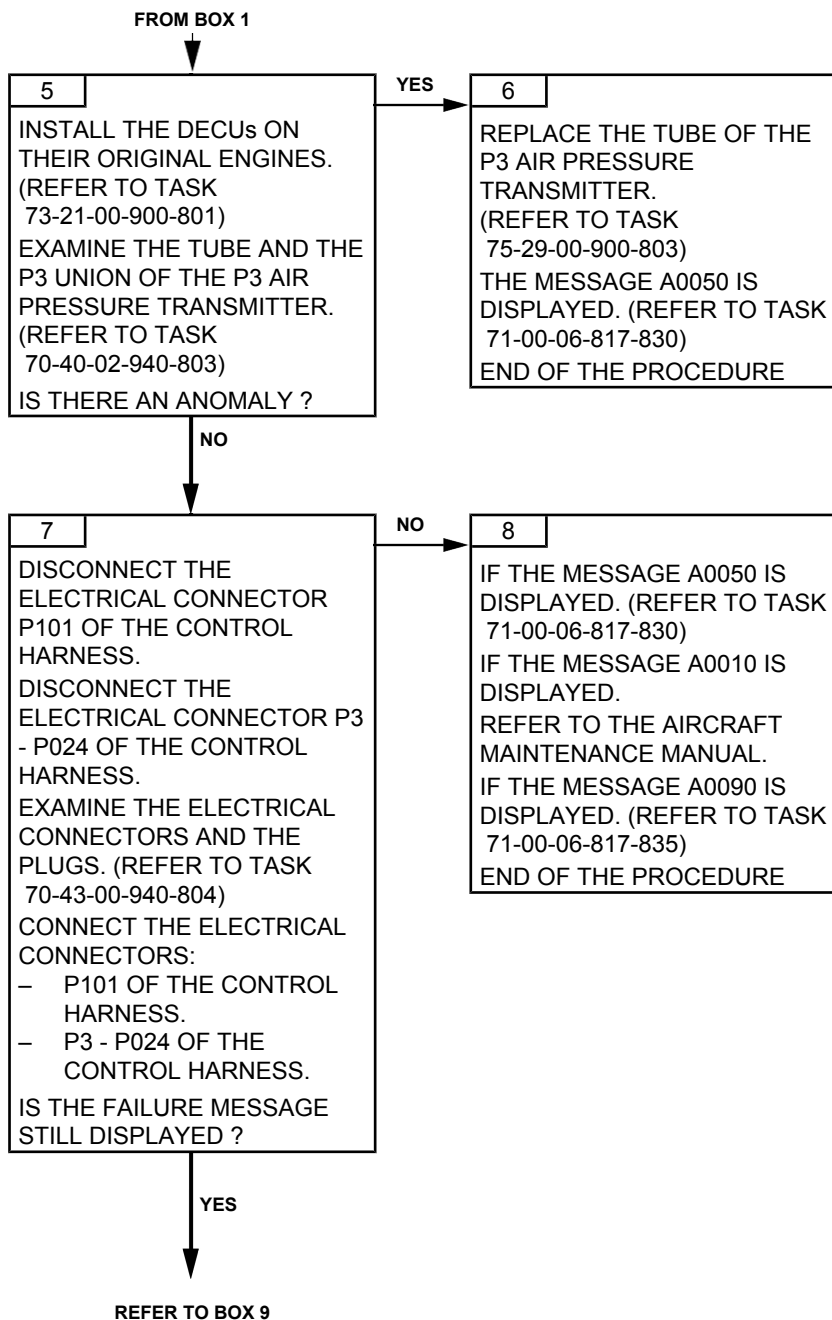
- DECU
- Tube of the P3 air pressure transmitter
- P3 air pressure transmitter
- Control harness

#### 2. PROCEDURE



# TURBOMECA ARRIEL 2 C

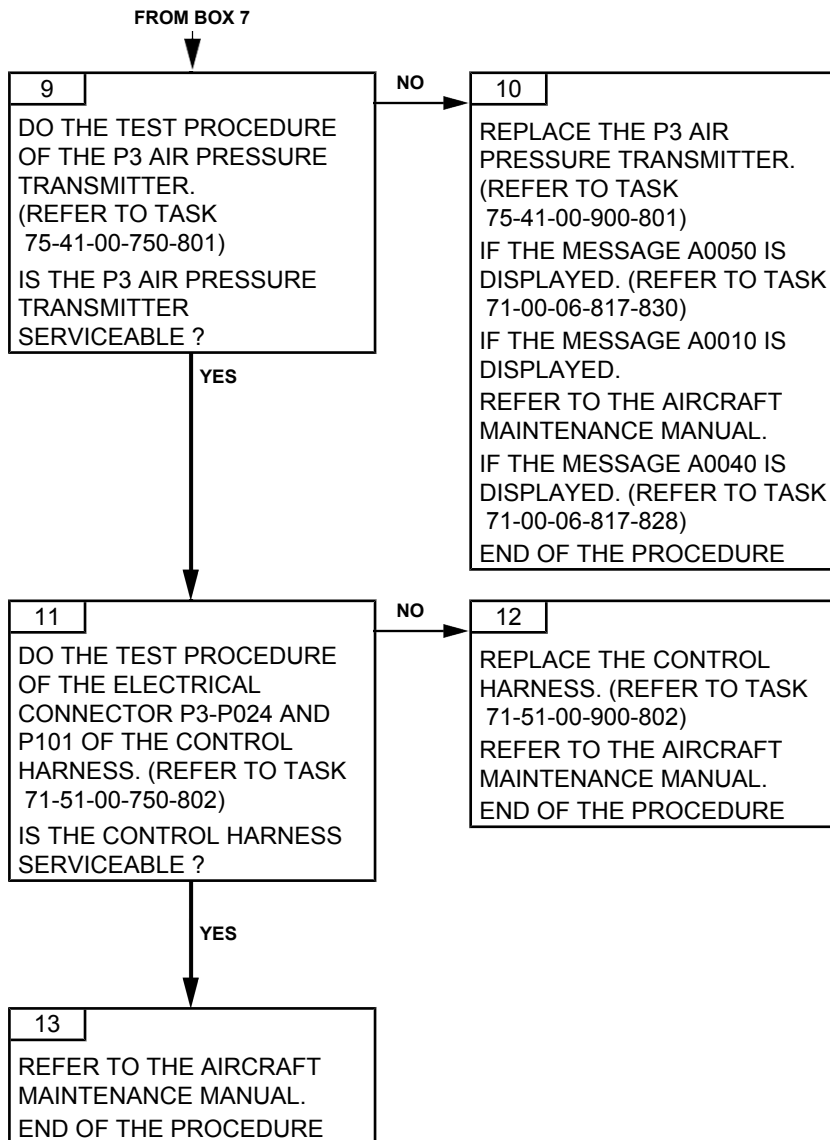
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-840-A01

### RAW T4.5 FAILURE, P3 FAILURE AND T0 FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	E	0

<i>EFFECT</i>	<i>GOV</i>
Total failure. Reversion to manual mode.	Red

##### B. POSSIBLE CAUSES

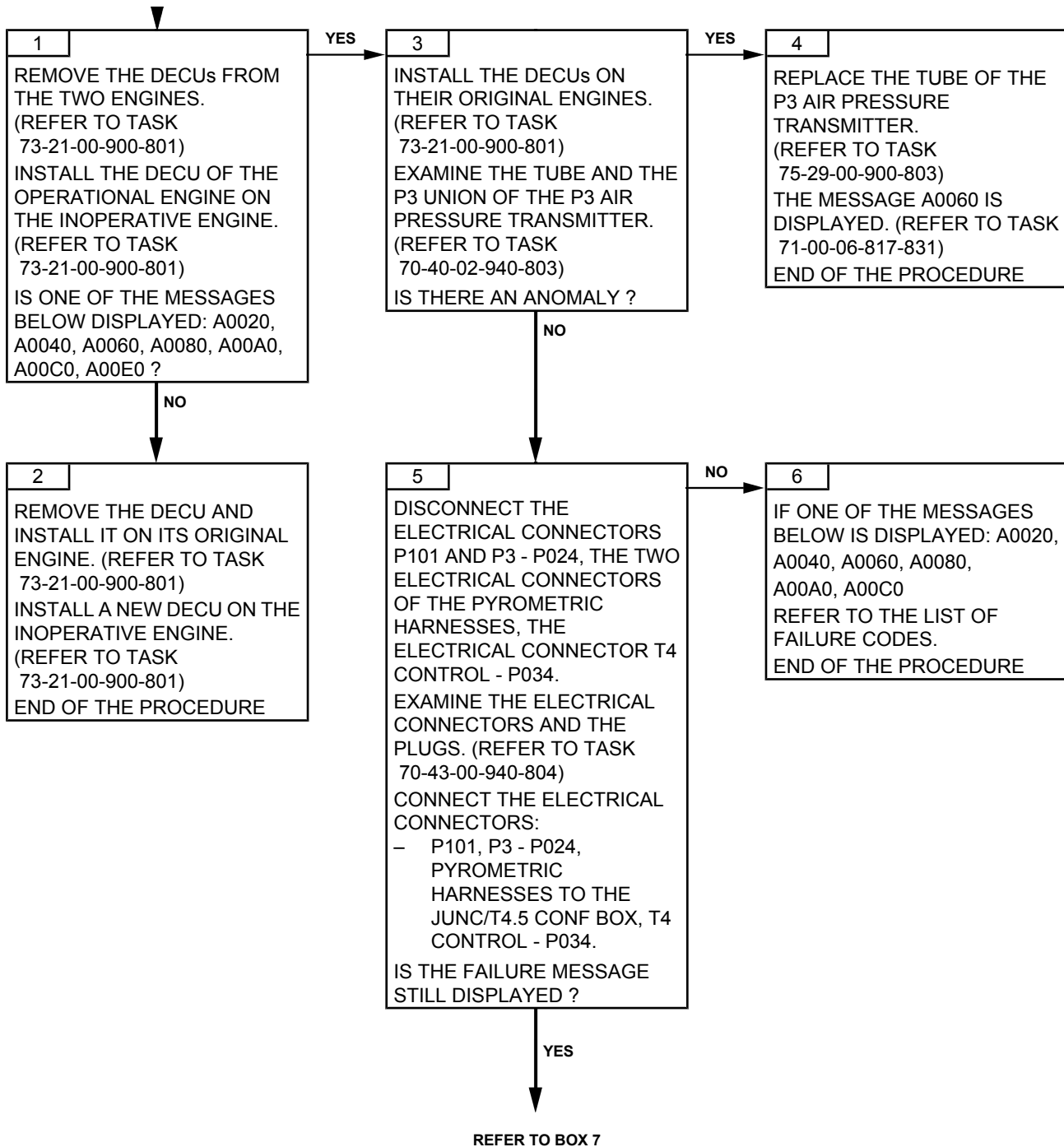
- DECU
- Tube of the P3 air pressure transmitter
- P3 air pressure transmitter
- Pyrometric harnesses
- Junction and T4.5 conformation box
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

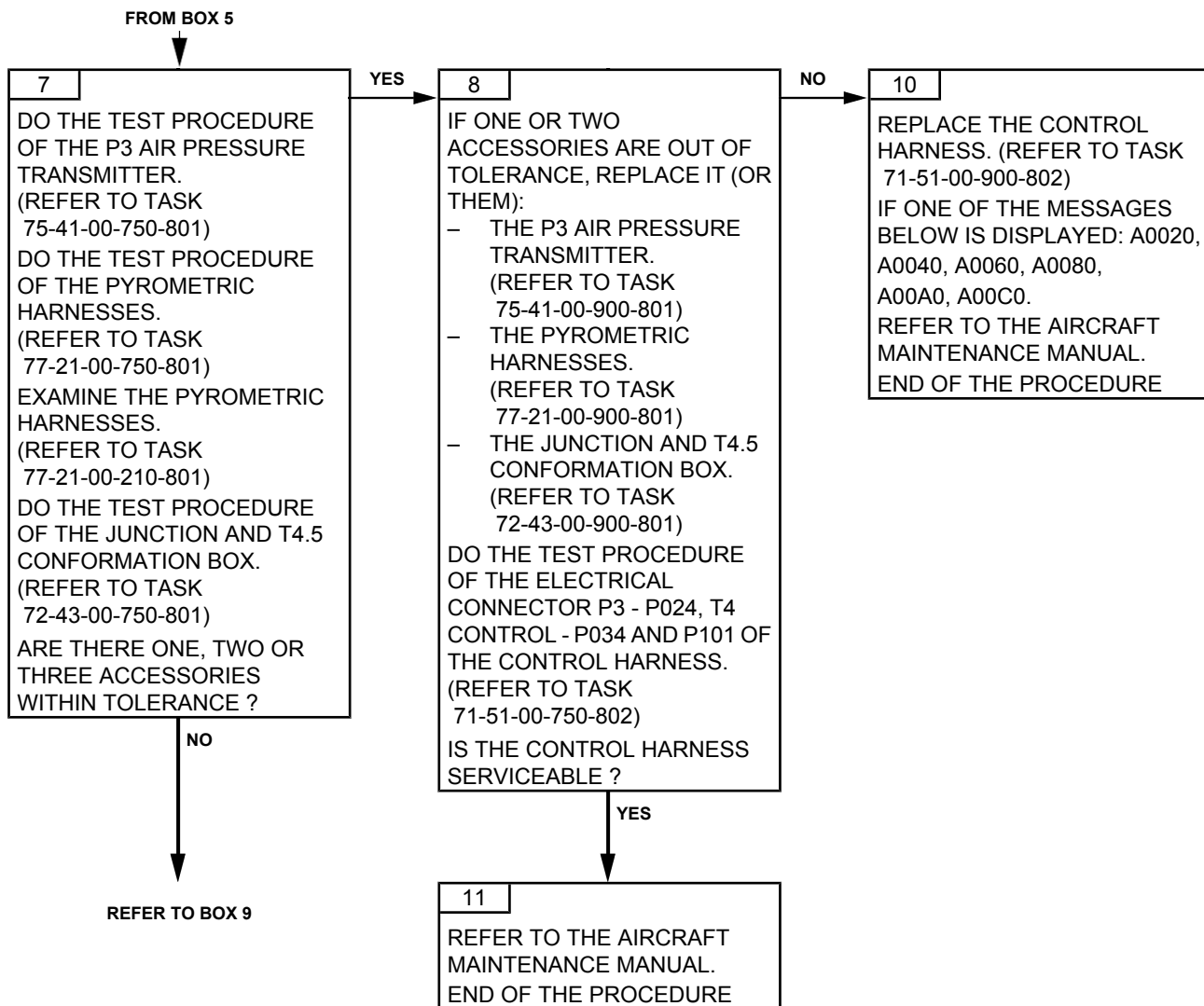
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

FROM BOX 7



9

REPLACE THE P3 AIR  
PRESSURE TRANSMITTER.

(REFER TO TASK  
75-41-00-900-801)

REPLACE THE PYROMETRIC  
HARNESSES.

(REFER TO TASK  
77-21-00-900-801)

REPLACE THE JUNCTION AND  
T4.5 CONFORMATION BOX.

(REFER TO TASK  
72-43-00-900-801)

THE MESSAGE A0040 IS  
DISPLAYED. (REFER TO TASK  
71-00-06-817-828)

END OF THE PROCEDURE

---

Effectivity: C

TASK 71-00-06-817-841-A01

### COLLECTIVE PITCH FAILURE, RAW T4.5 FAILURE, P3 FAILURE AND T0 FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	0	F	0

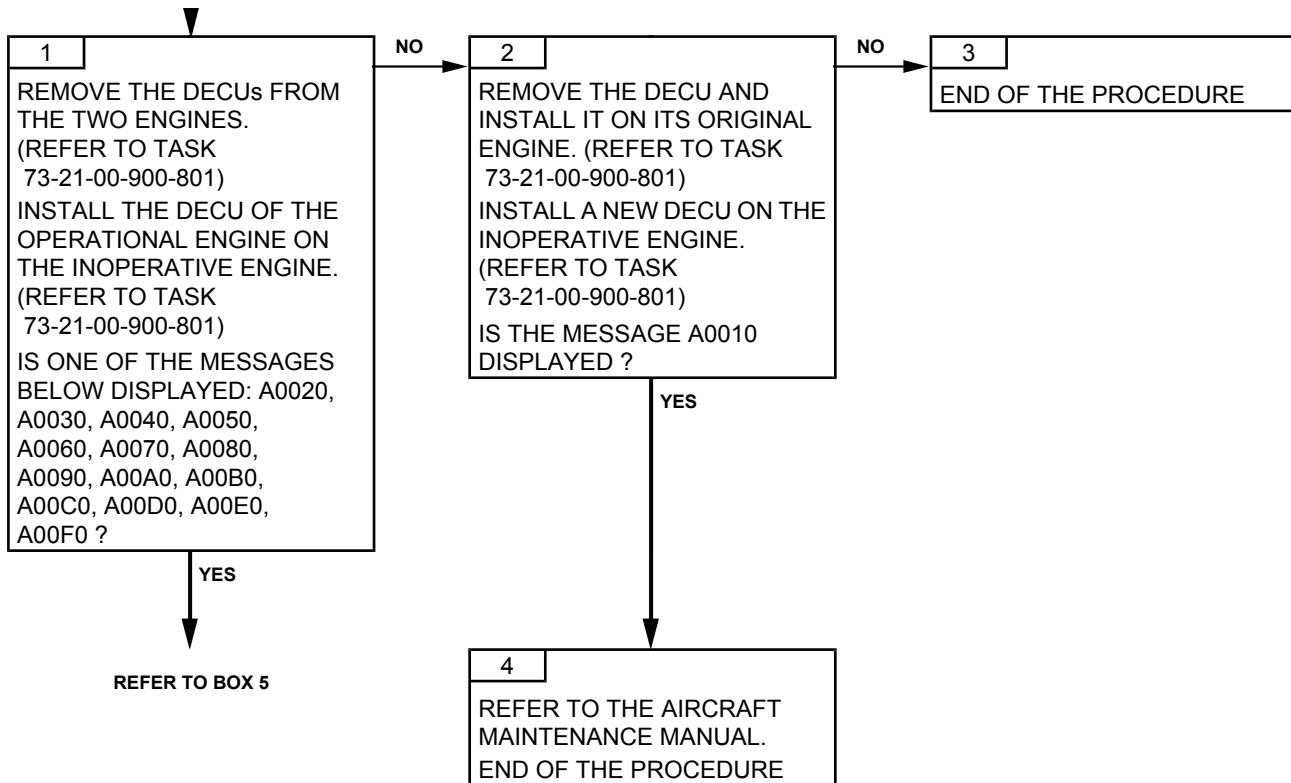
<i>EFFECT</i>	<i>GOV</i>
Total failure. Reversion to manual mode.	Red

##### B. POSSIBLE CAUSES

- Tube of the P3 air pressure transmitter
- P3 air pressure transmitter
- Pyrometric harnesses
- Junction and T4.5 conformation box
- DECU
- Control harness

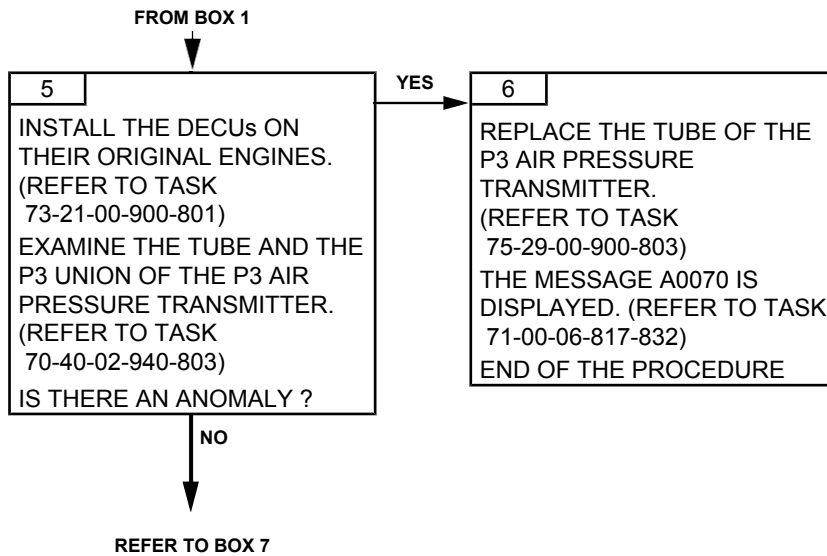
#### 2. PROCEDURE

Effectivity: C

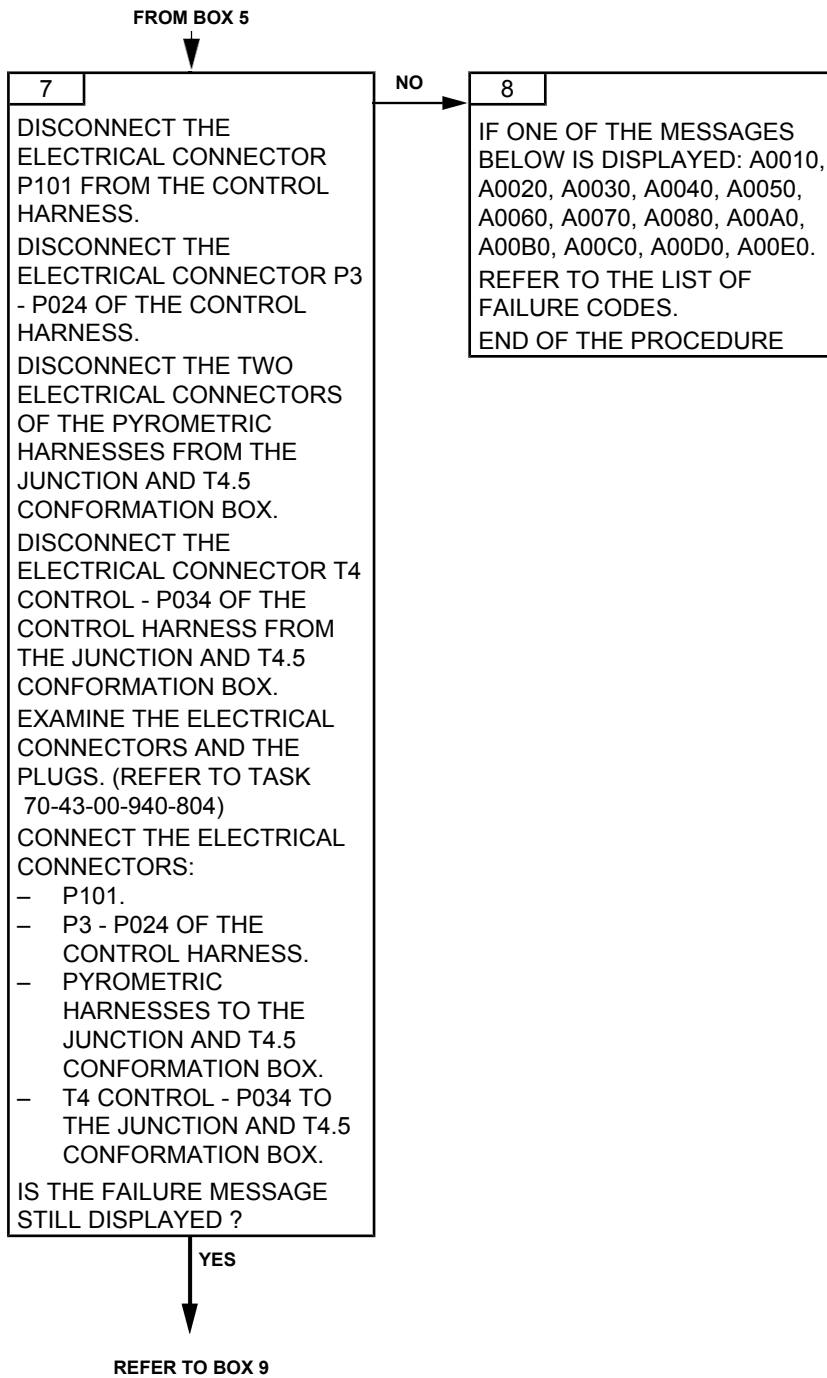


# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



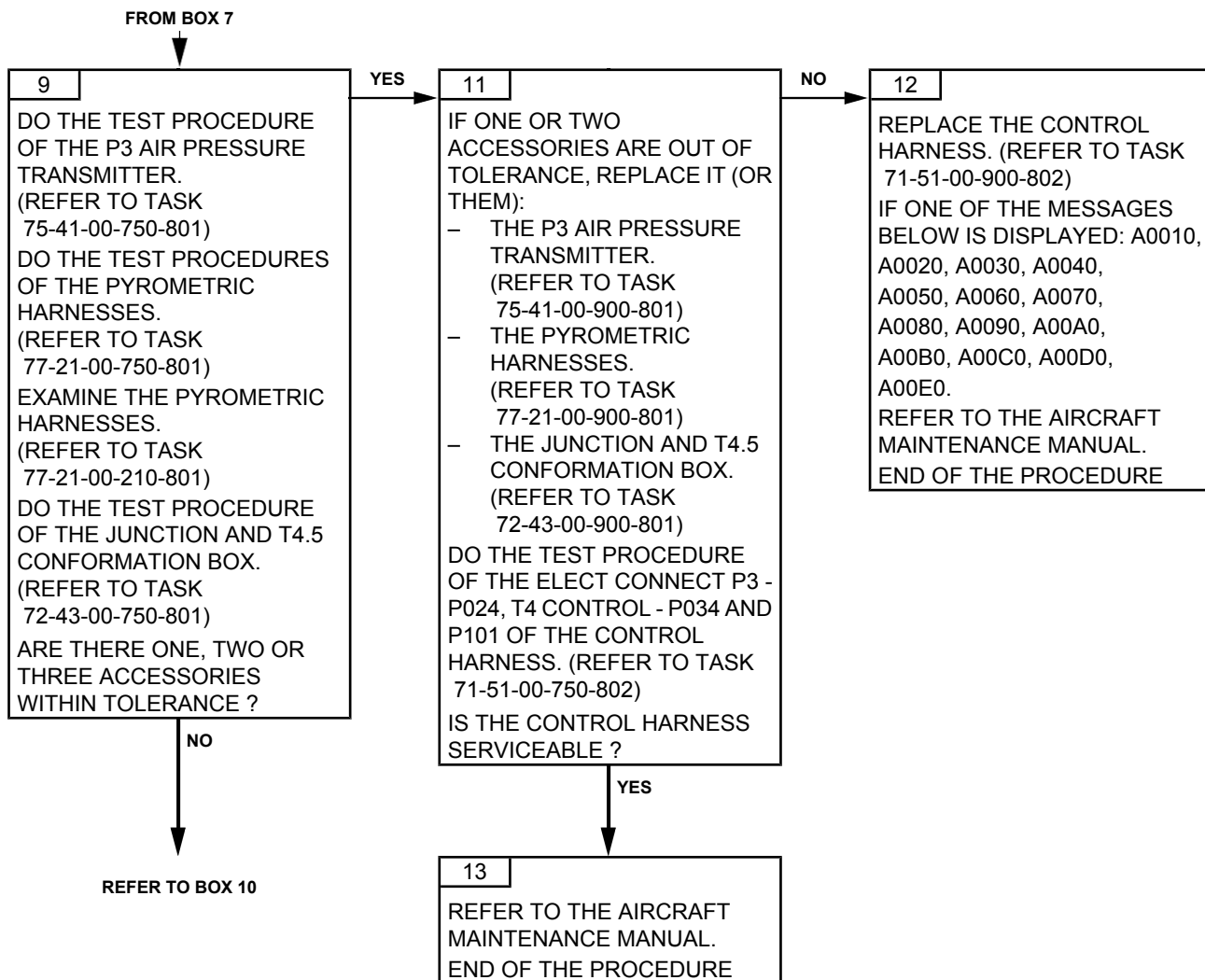
Effectivity: C





# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

FROM BOX 9



10

REPLACE THE P3 AIR  
PRESSURE TRANSMITTER.

(REFER TO TASK  
75-41-00-900-801)

REPLACE THE PYROMETRIC  
HARNESSES.

(REFER TO TASK  
77-21-00-900-801)

REPLACE THE JUNCTION AND  
T4.5 CONFORMATION BOX.

(REFER TO TASK  
72-43-00-900-801)

THE MESSAGE A0050 IS  
DISPLAYED. (REFER TO TASK  
71-00-06-817-830)

END OF THE PROCEDURE

---

Effectivity: C

TASK 71-00-06-817-842-A01

### RAW TORQUE FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE				T	Q
MEMORY	A	0	1	0	0

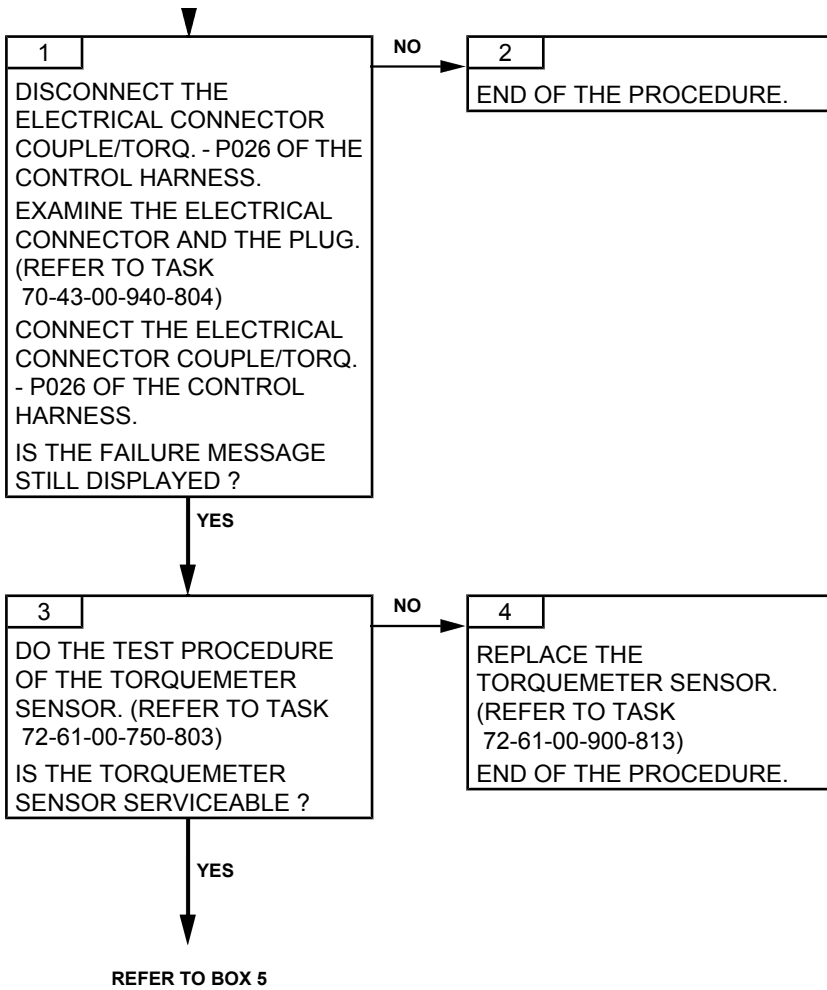
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or N1 indication according to a law as a function of P0, T0.	Amber

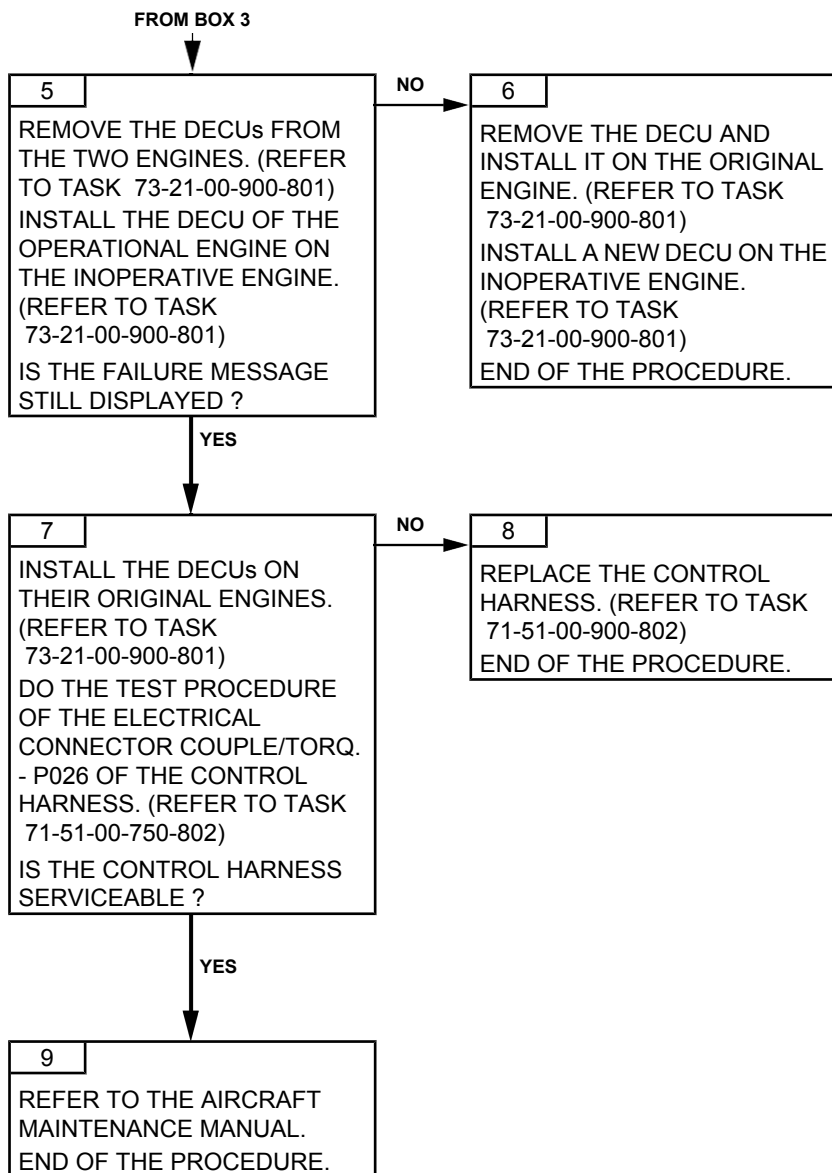
##### B. POSSIBLE CAUSES

- Torquemeter sensor
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C





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TASK 71-00-06-817-844-A01

### T4.5 CONFORMATION FAILURE BEFORE POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

<b>MODE</b>	<b>FAU MESSAGE</b>				
FAILURE	T	4	C	A	1
MEMORY	A	0	2	0	0

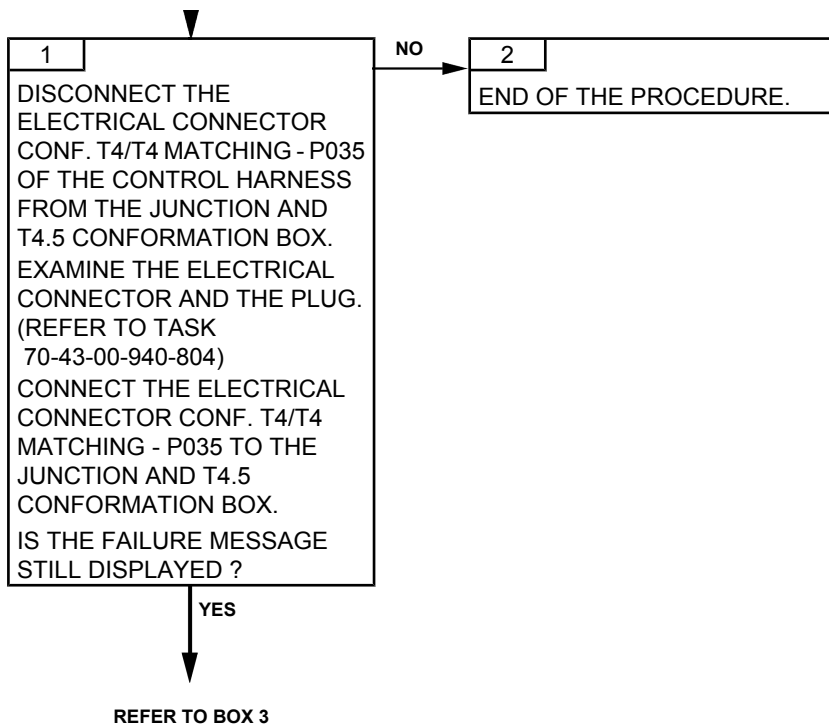
<b>EFFECT</b>	<b>GOV</b>
DURING START Protection of T4.5 using the back-up values. Start is degraded.	Amber
AFTER START No effect on the engine.	Flashing amber

##### B. POSSIBLE CAUSES

- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

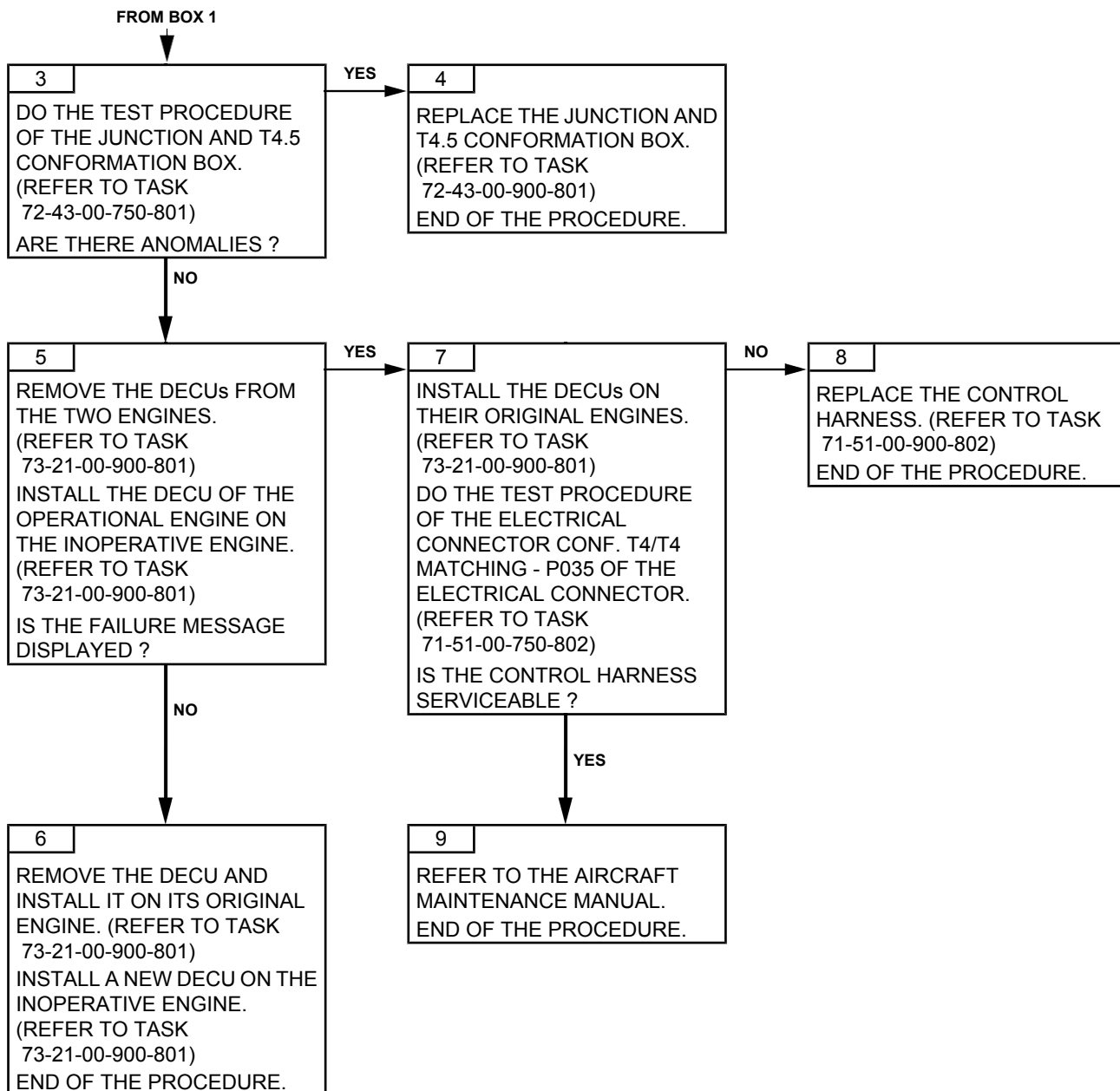
Effectivity: C





# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-846-A01

### RAW TORQUE FAILURE AND T4.5 CONFORMATION FAILURE BEFORE POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	3	0	0

EFFECT	GOV
<b>DURING START</b> Protection of T4.5 using the back-up values. The start is degraded. Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or N1 indication according to a law as a function of P0, T0.	Amber
<b>AFTER START</b> Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.	Amber

##### B. POSSIBLE CAUSES

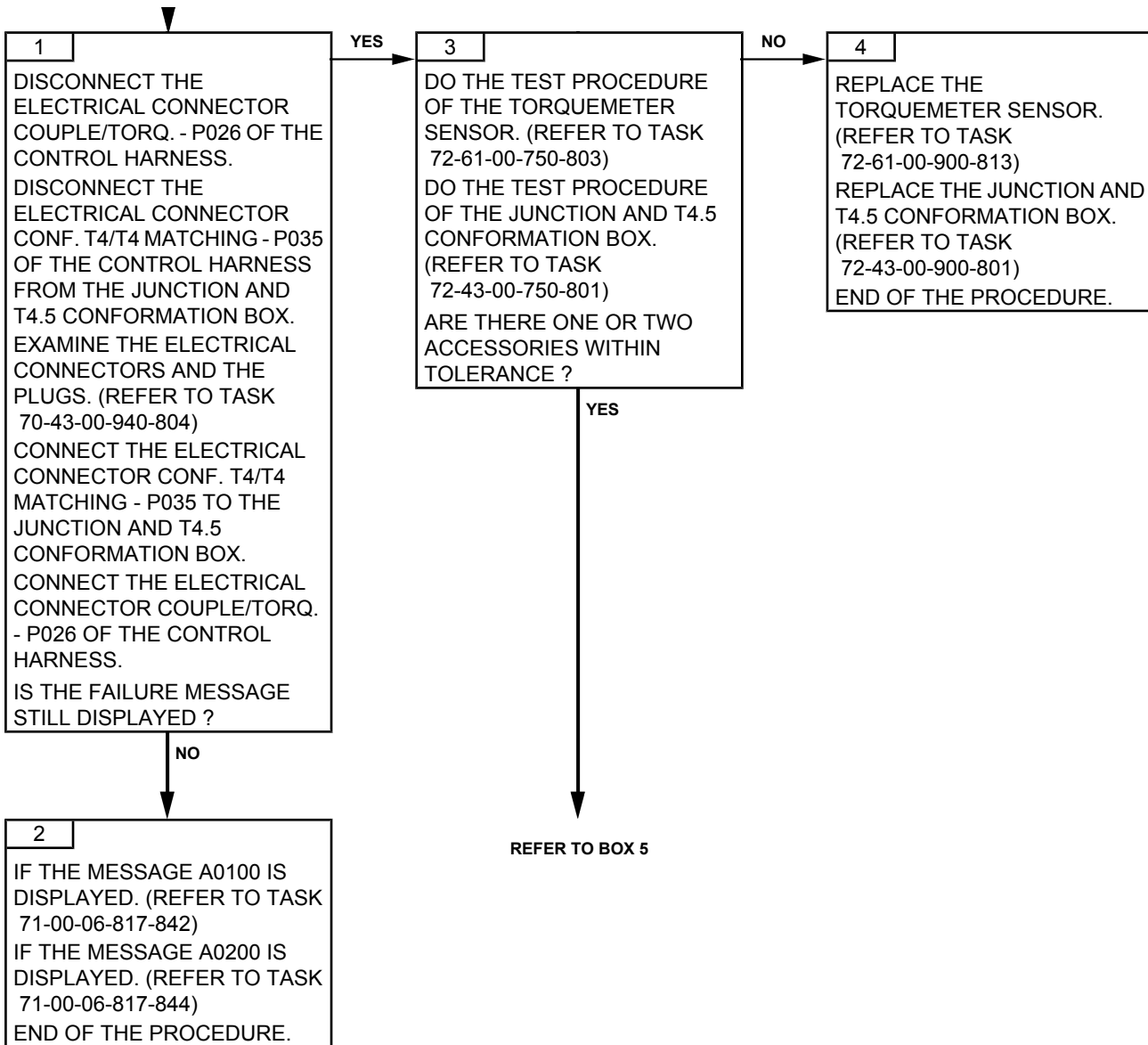
- Torquemeter sensor
- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

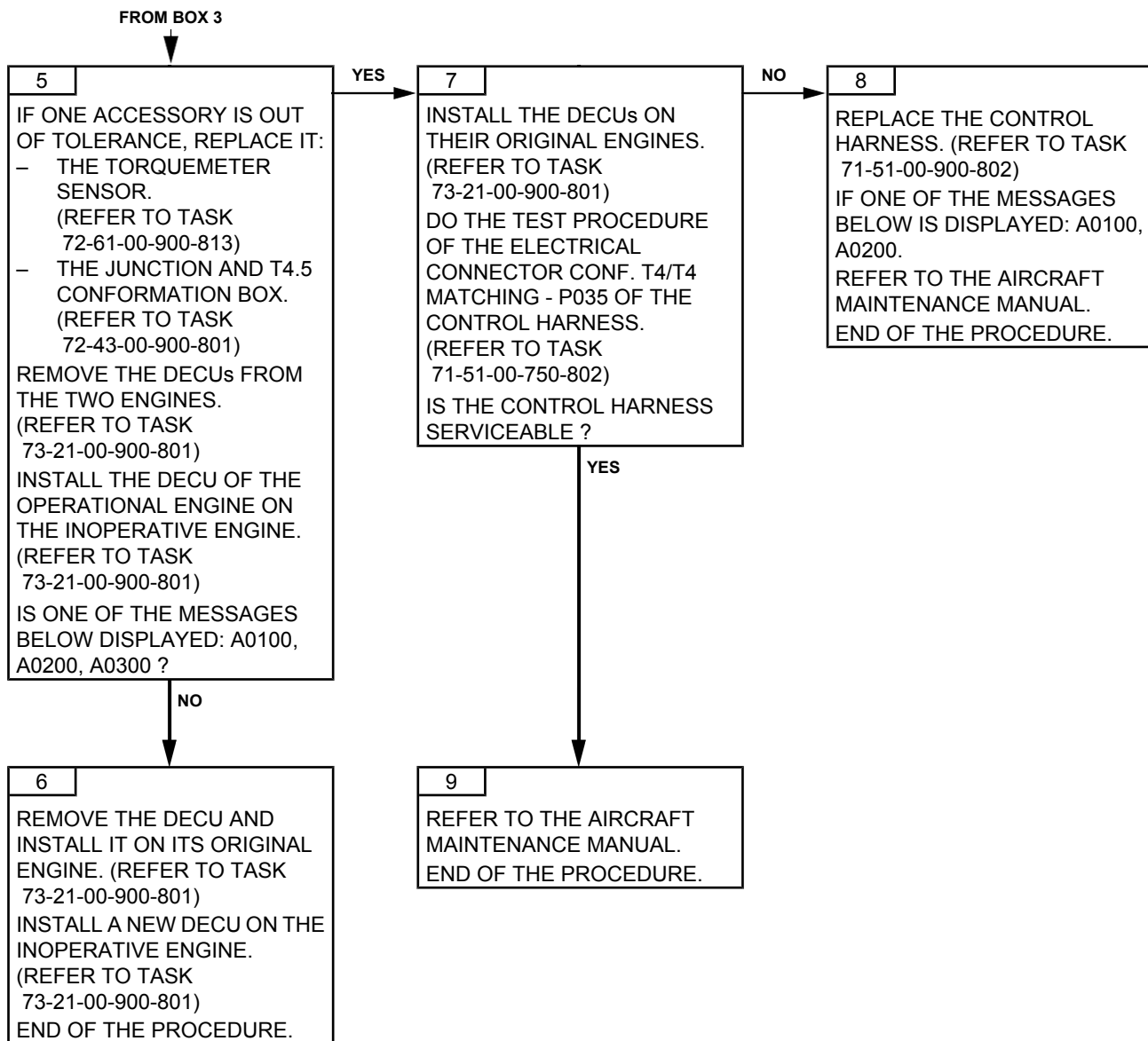
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-847-A01

### TORQUE CONFORMATION FAILURE BEFORE POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	T	Q	C	A	1
MEMORY	A	0	4	0	0

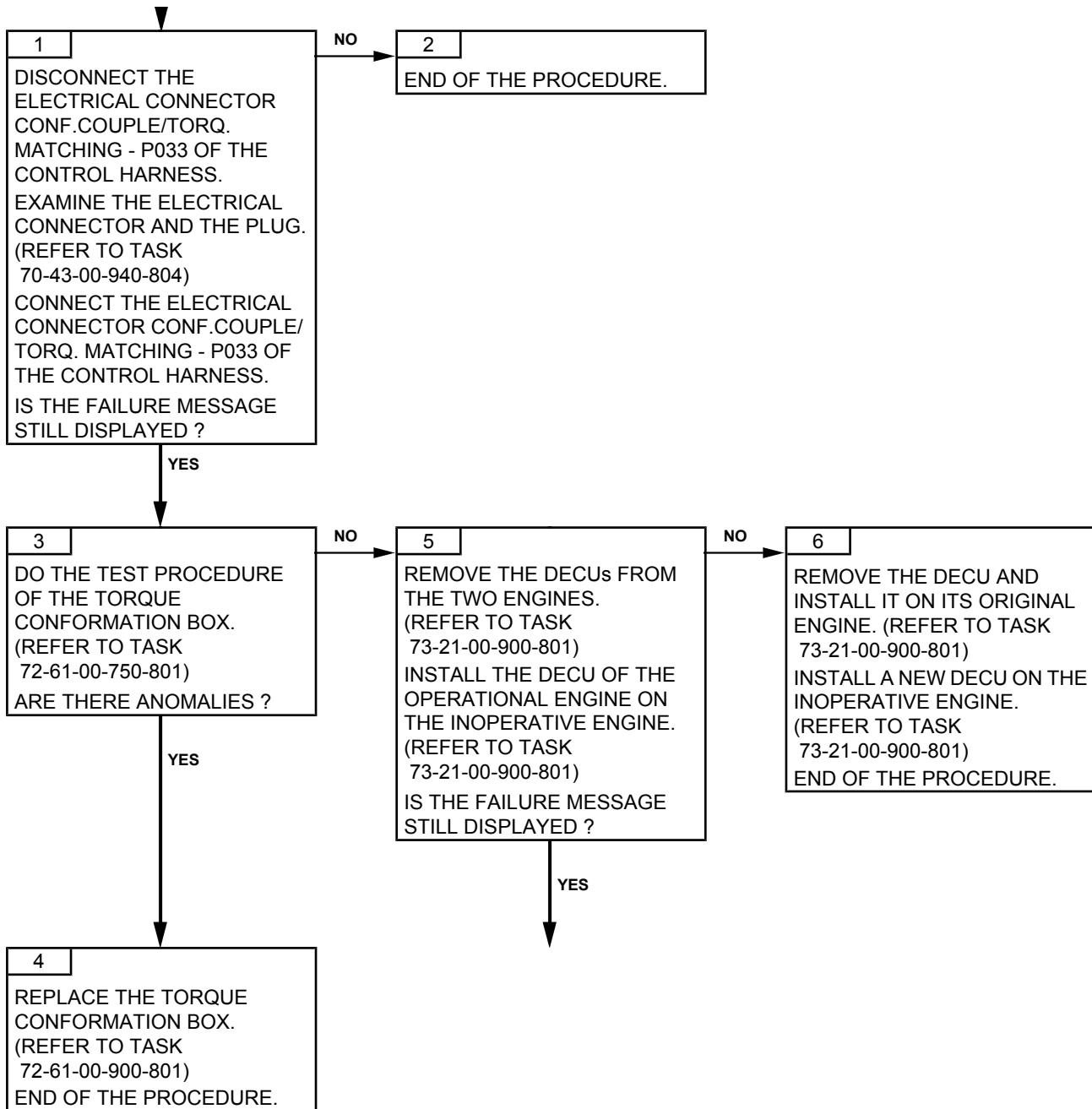
<i>EFFECT</i>	<i>GOV</i>
Use of the back-up values The torque limitation is indefinite, but the min. torque is always available. The pilot ensures MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.	Amber

##### B. POSSIBLE CAUSES

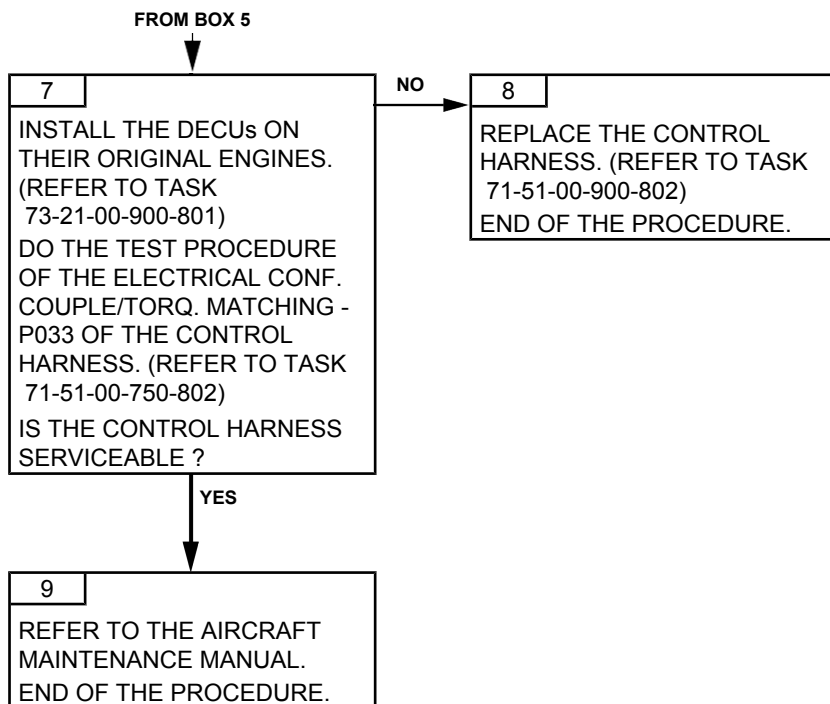
- Torque conformation box
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C







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TASK 71-00-06-817-849-A01

### RAW TORQUE FAILURE AND TORQUE CONFORMATION FAILURE BEFORE POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	5	0	0

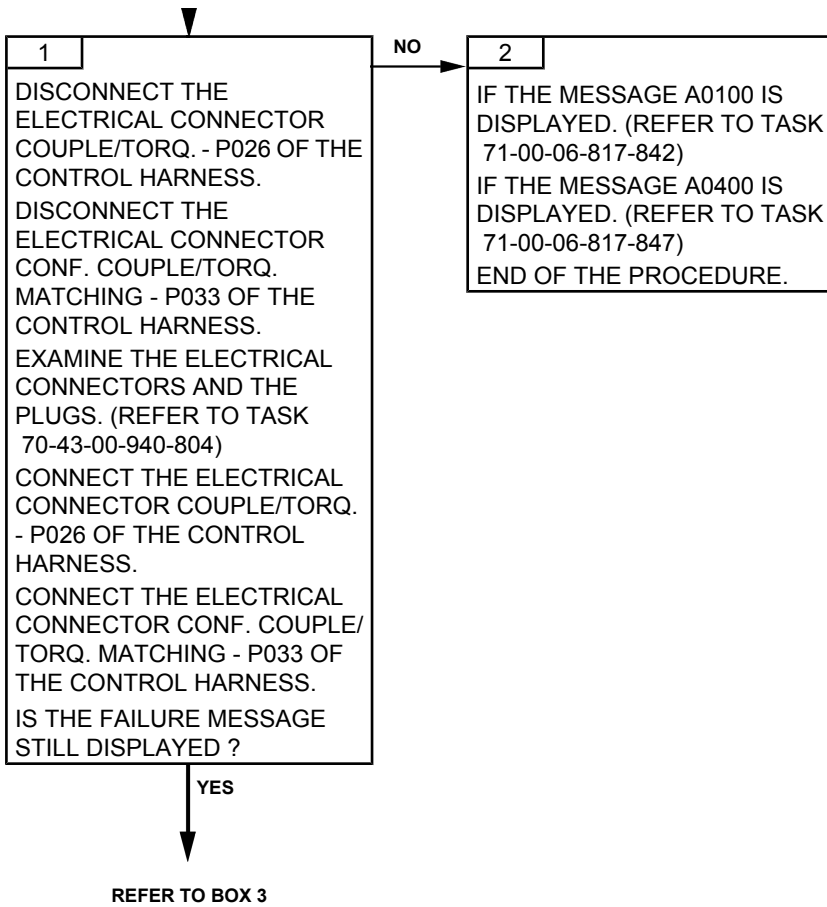
<i>EFFECT</i>	<i>GOV</i>
Inhibition of the torque limitation function. The pilot ensures MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.	Amber

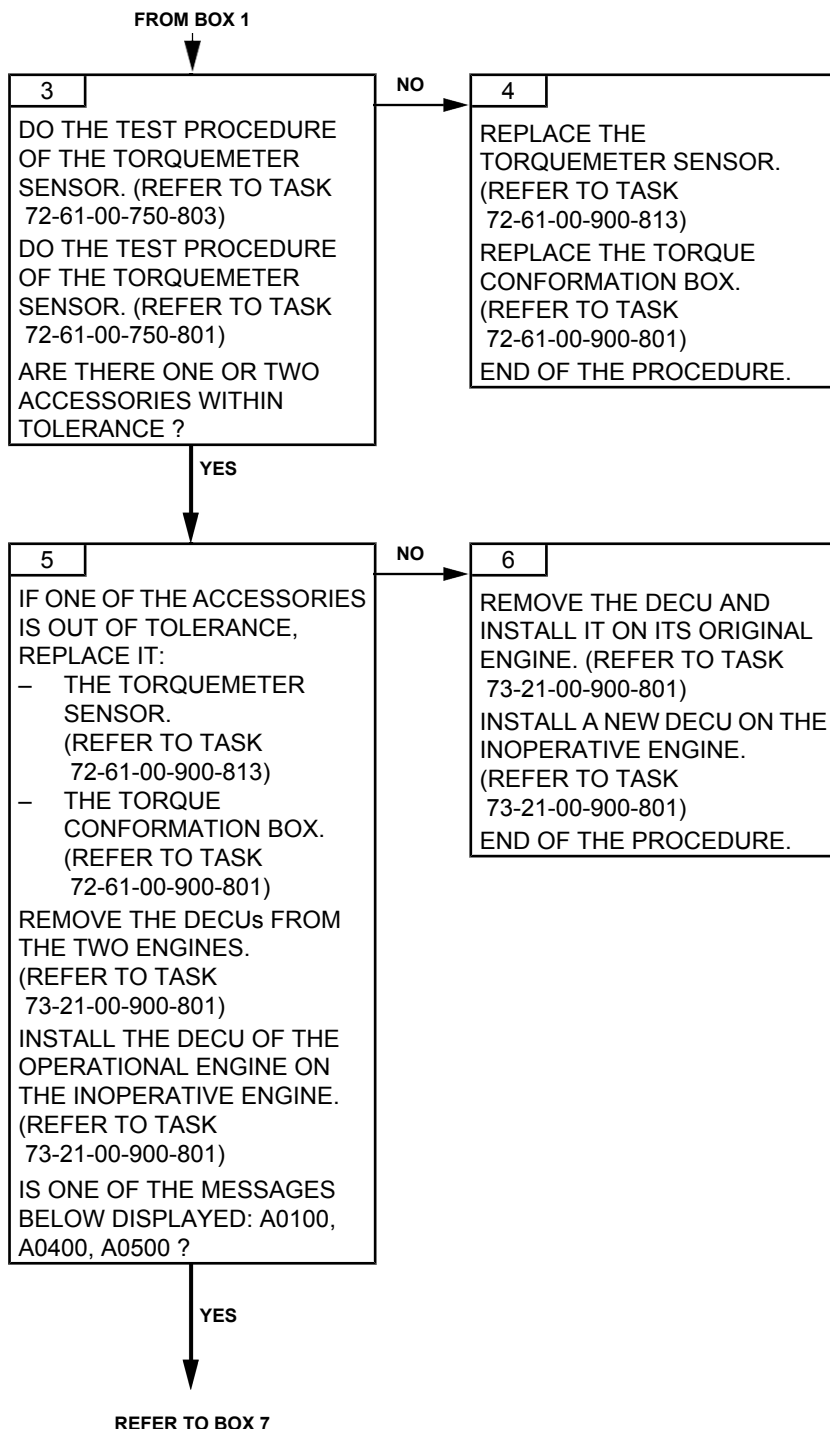
##### B. POSSIBLE CAUSES

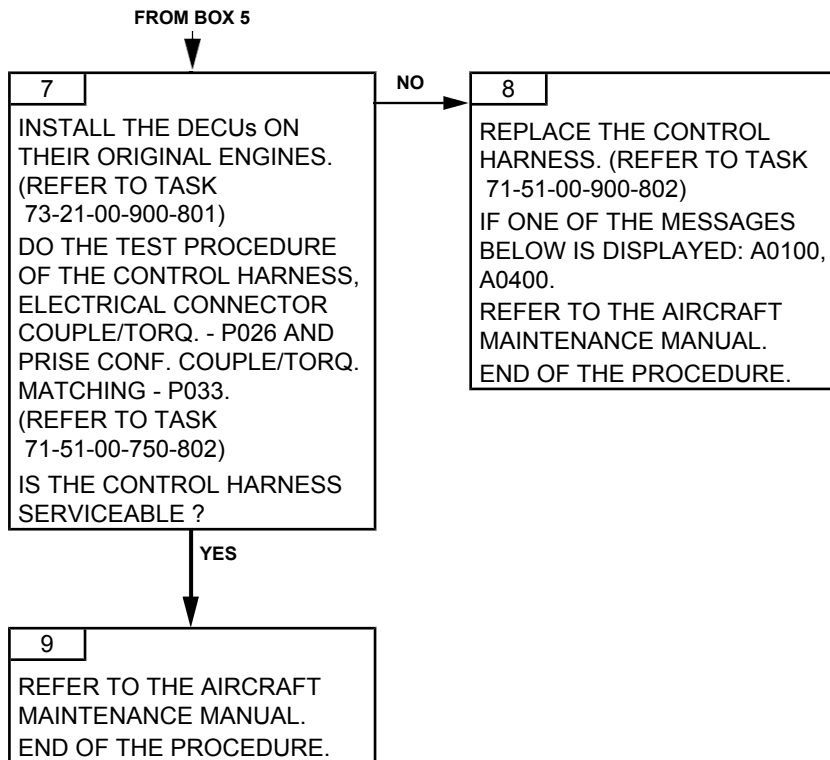
- Torquemeter sensor
- Torque conformation box
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C







TASK 71-00-06-817-850-A01

## T4.5 CONFORMATION FAILURE BEFORE POWER ON AND TORQUE CONFORMATION FAILURE BEFORE POWER ON TROUBLESHOOTING

### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

#### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	6	0	0

EFFECT	GOV
<p>DURING START Protection of T4.5 using the back-up values. Start is degraded. Use of the torque conformation back-up values. The torque limitation is indefinite, but a min. torque is always available. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.</p>	Amber
<p>AFTER START Use of the torque conformation back-up values. The torque limitation is indefinite, but a min. torque is always available. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.</p>	Amber

#### B. POSSIBLE CAUSES

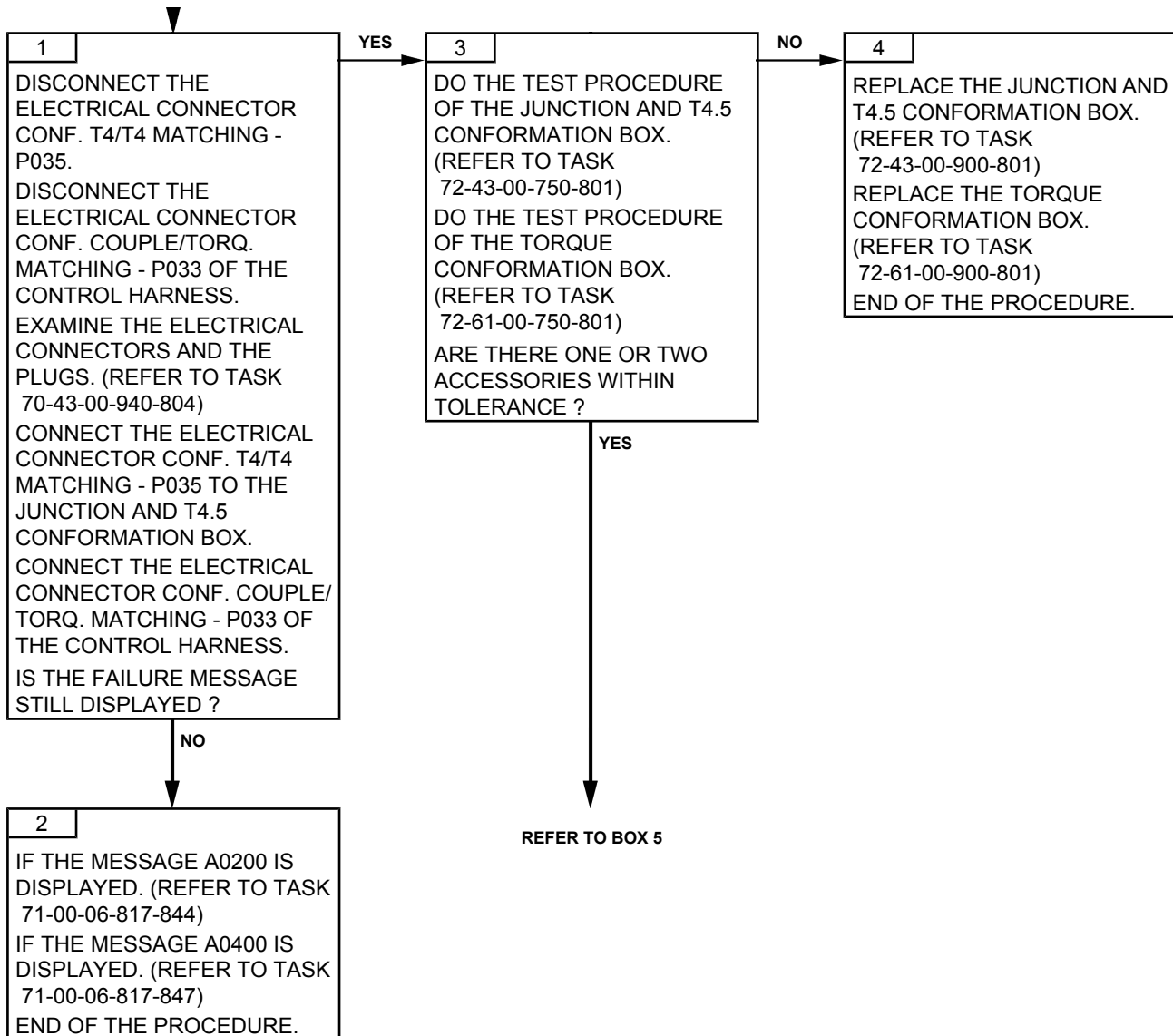
- Torque conformation box
- Junction and T4.5 conformation box
- DECU
- Control harness

### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

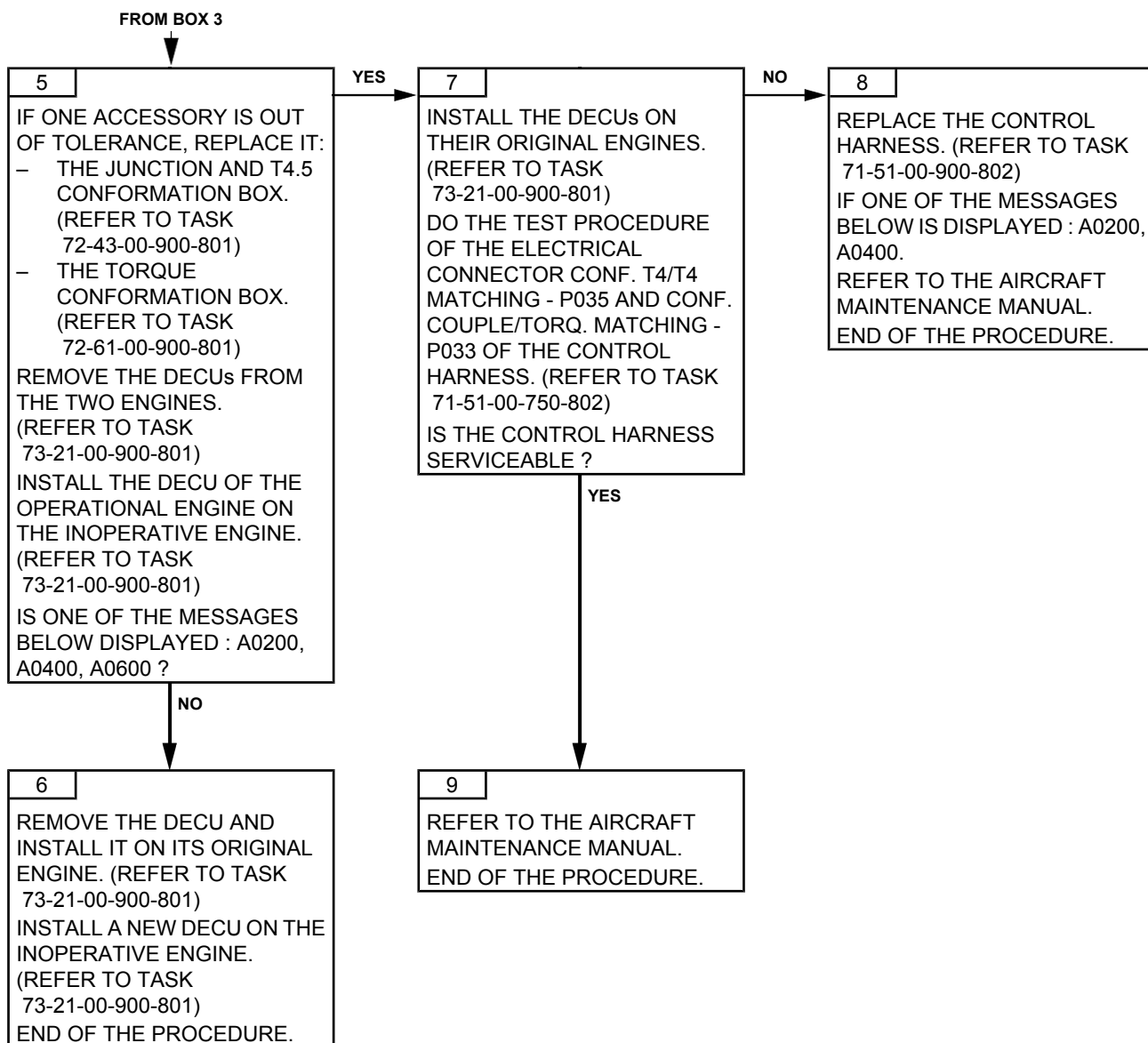


Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-851-A01

### RAW TORQUE FAILURE, T4.5 CONFORMATION FAILURE BEFORE POWER ON AND TORQUE CONFORMATION FAILURE BEFORE POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	7	0	0

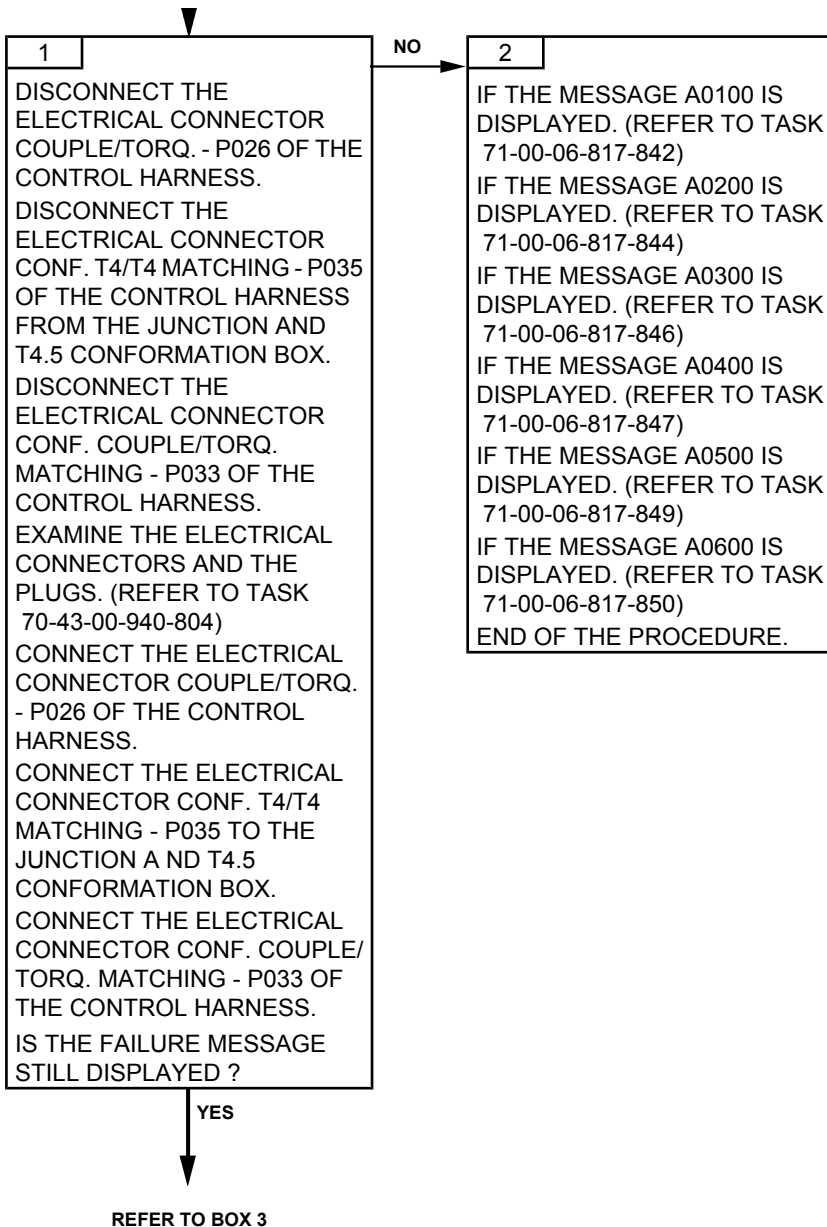
EFFECT	GOV
<b>DURING START</b> Protection of T4.5 using the back-up values. Start is degraded. Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.	Amber
<b>AFTER START</b> Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.	Amber

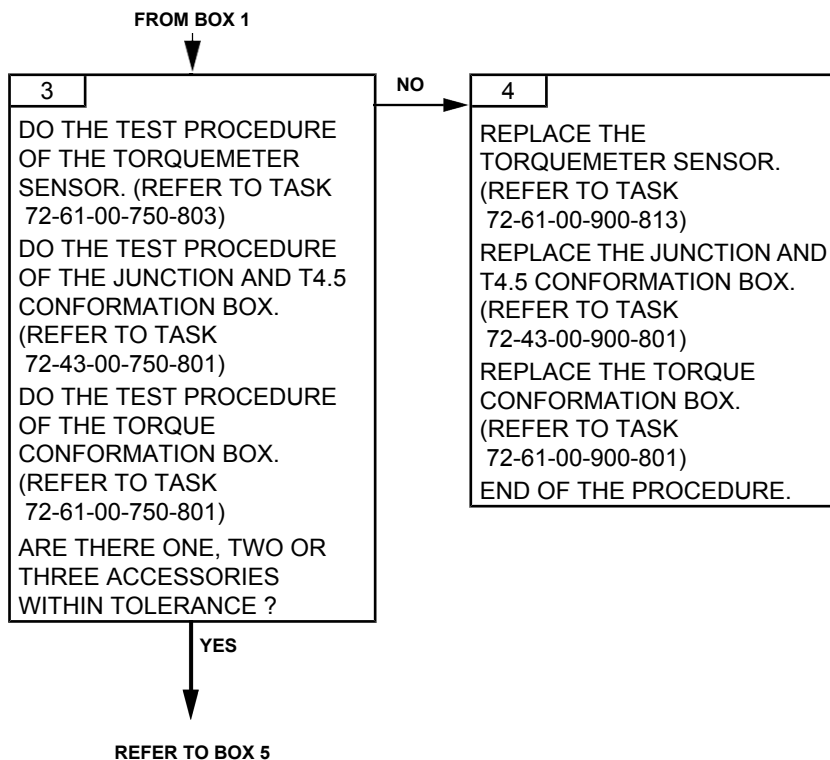
##### B. POSSIBLE CAUSES

- Torquemeter sensor
- Torque conformation box
- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

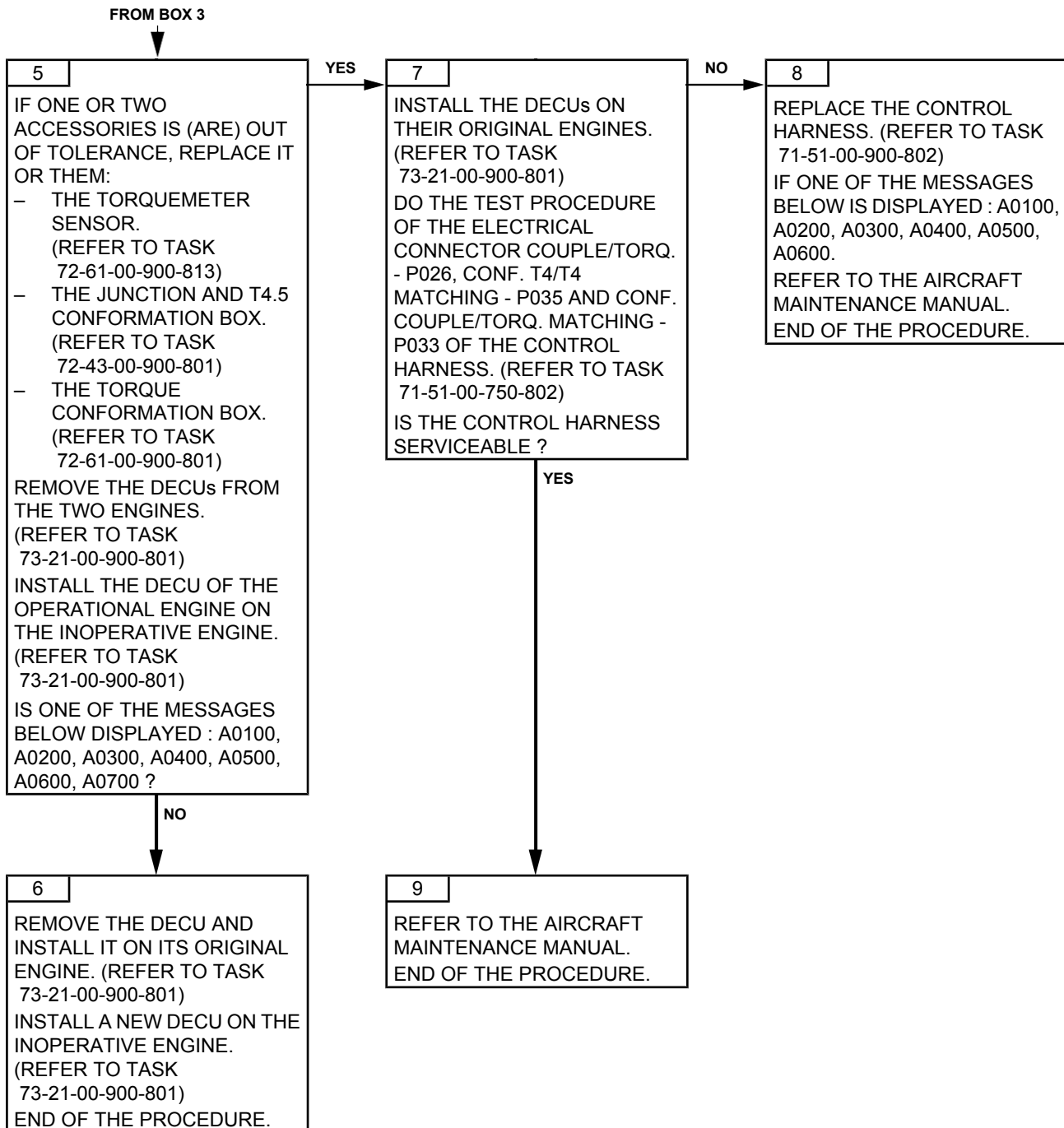
Effectivity: C





# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

TASK 71-00-06-817-852-A01

### T4.5 CONFORMATION FAILURE AFTER POWER ON TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	T	4	C	A	2
MEMORY	A	0	8	0	0

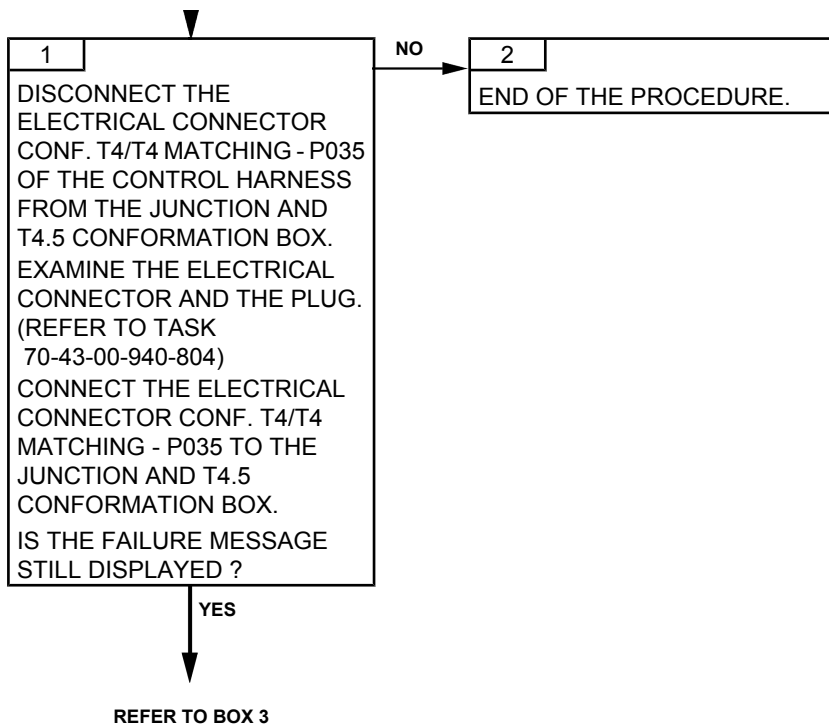
<i>EFFECT</i>	<i>GOV</i>
Use of the value read by the system before the failure. No effect on the engine.	Flashing amber

##### B. POSSIBLE CAUSES

- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

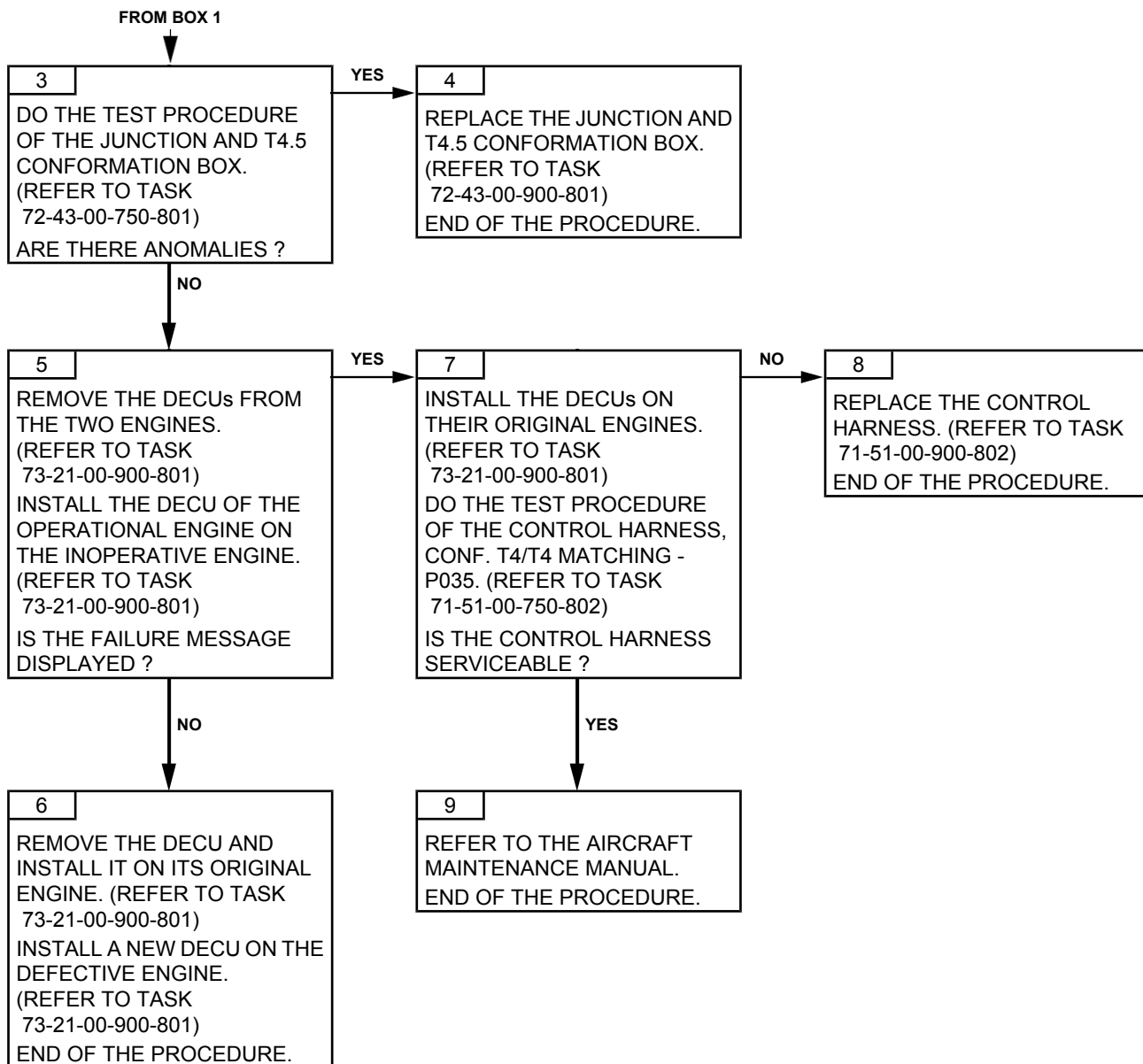
Effectivity: C





# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-853-A01

### RAW TORQUE FAILURE AND T4.5 CONFORMATION FAILURE AFTER POWER ON TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	9	0	0

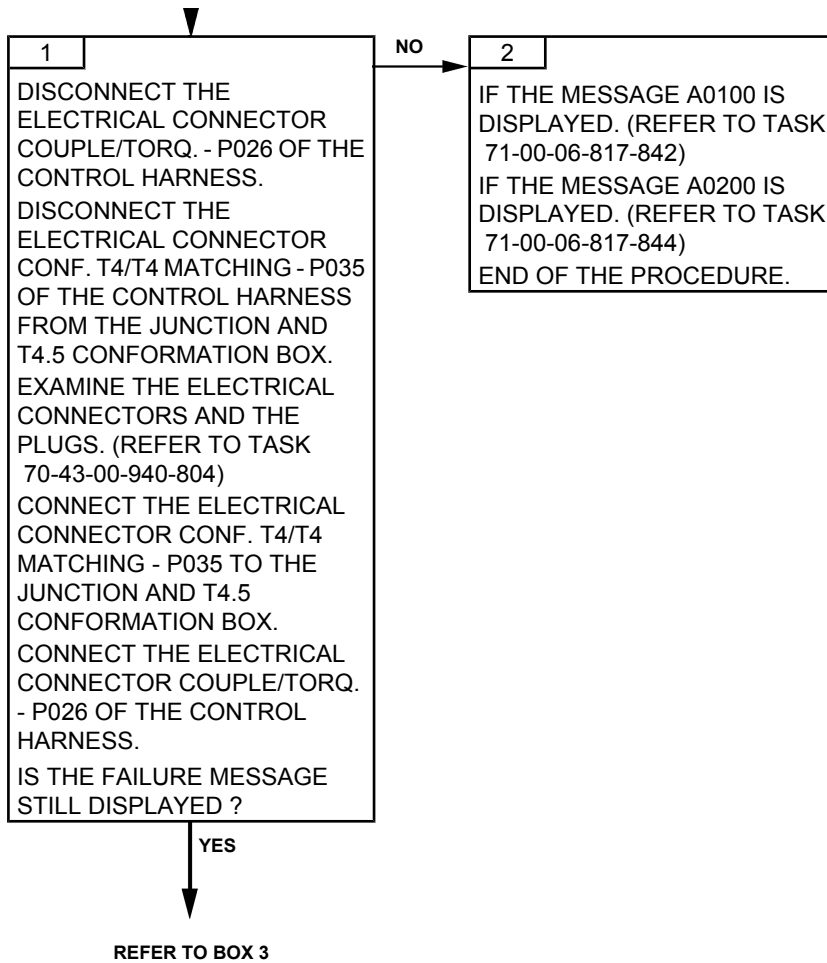
<i>EFFECT</i>	<i>GOV</i>
Use of the T4.5 conformation value read by the system before the failure. Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or N1 indication according to a law as a function of P0, T0.	Amber

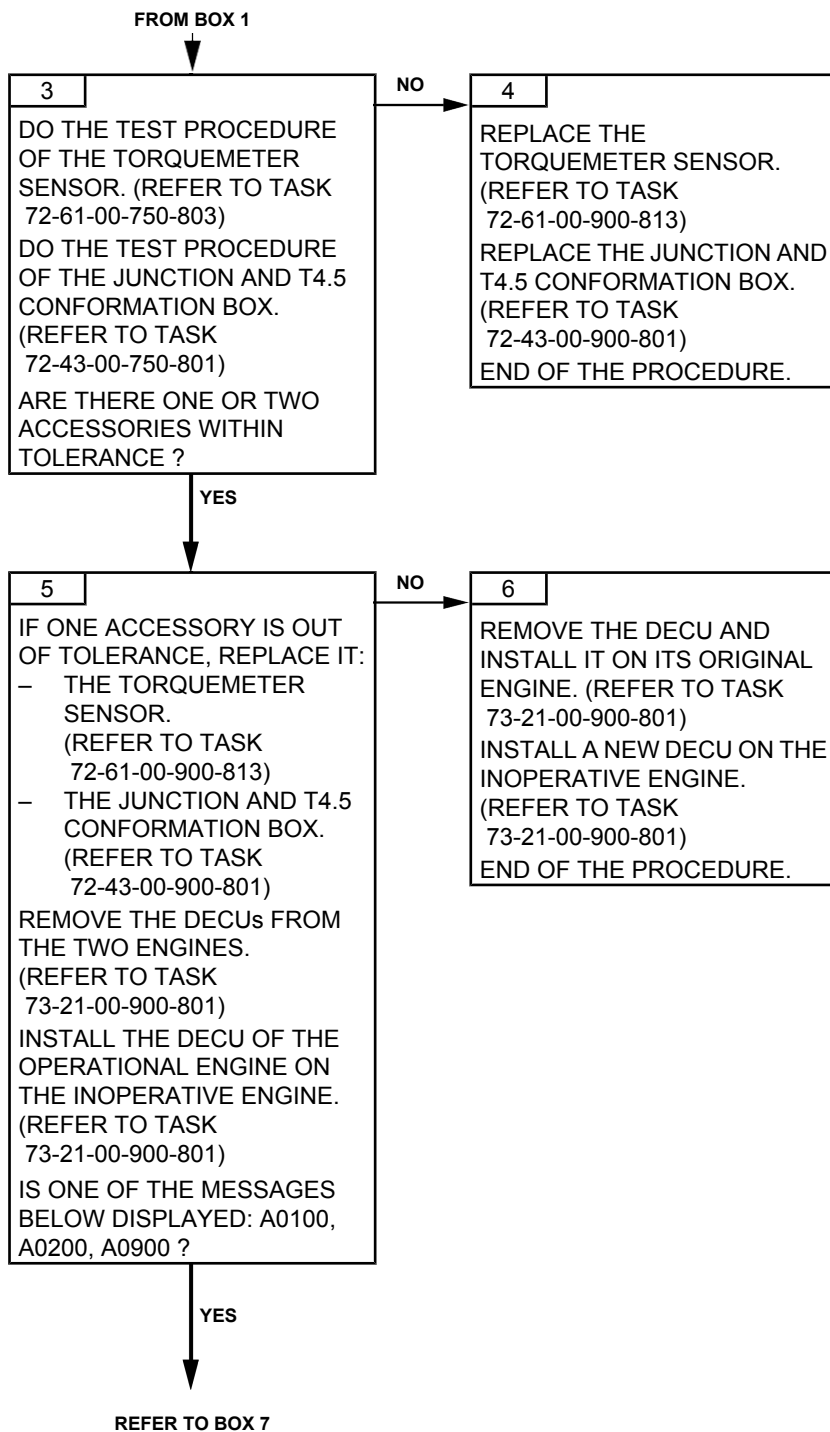
##### B. POSSIBLE CAUSES

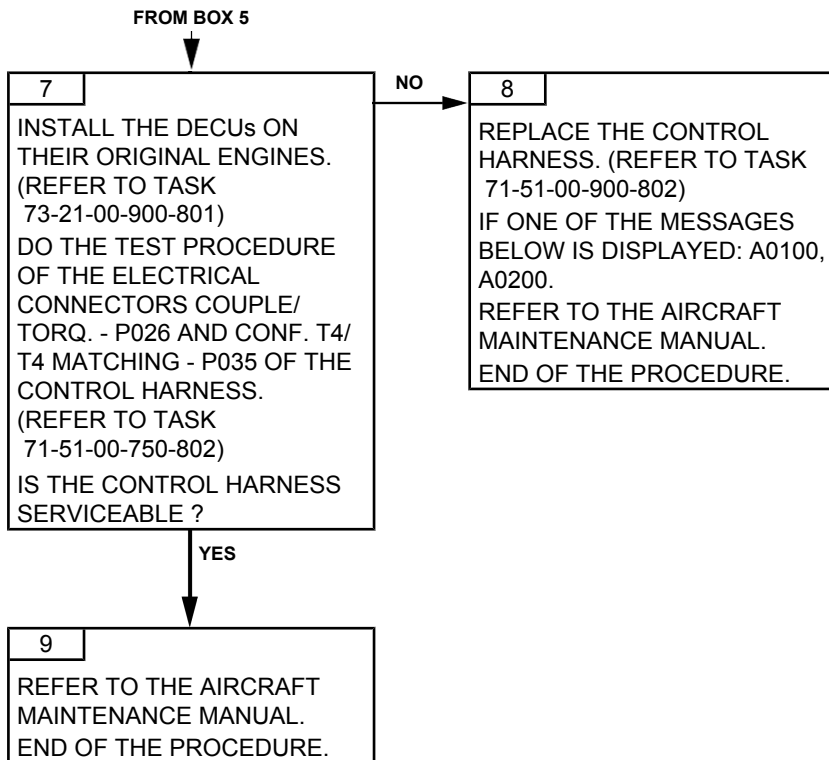
- Torquemeter sensor
- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C







TASK 71-00-06-817-854-A01

### T4.5 CONFORMATION FAILURE BEFORE POWER ON AND T4.5 CONFORMATION FAILURE AFTER POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	A	0	0

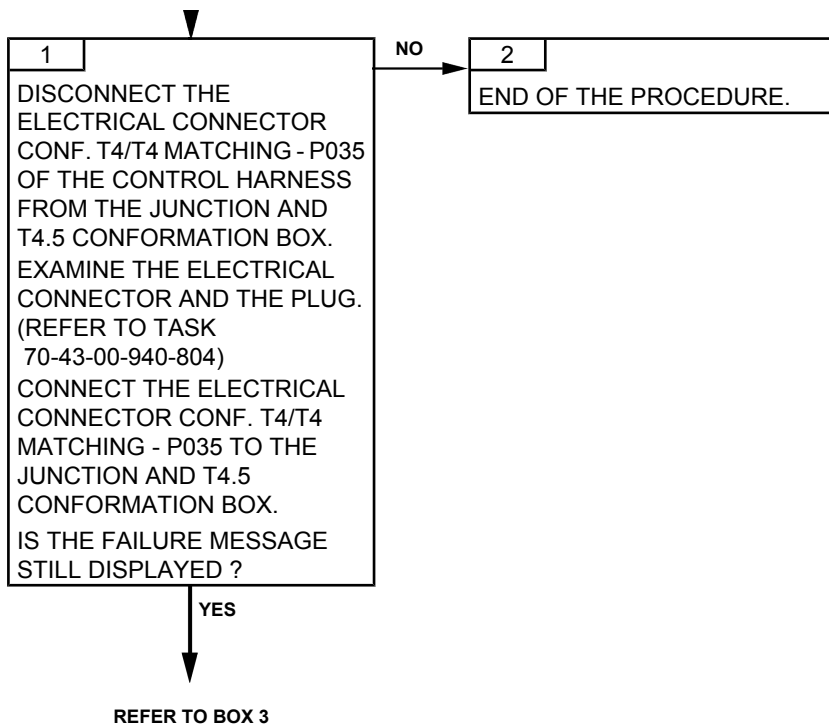
<i>EFFECT</i>	<i>GOV</i>
DURING START Protection of T4.5 using the back-up values. Start is degraded.	Amber
AFTER START No effect on the engine.	Flashing amber

##### B. POSSIBLE CAUSES

- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

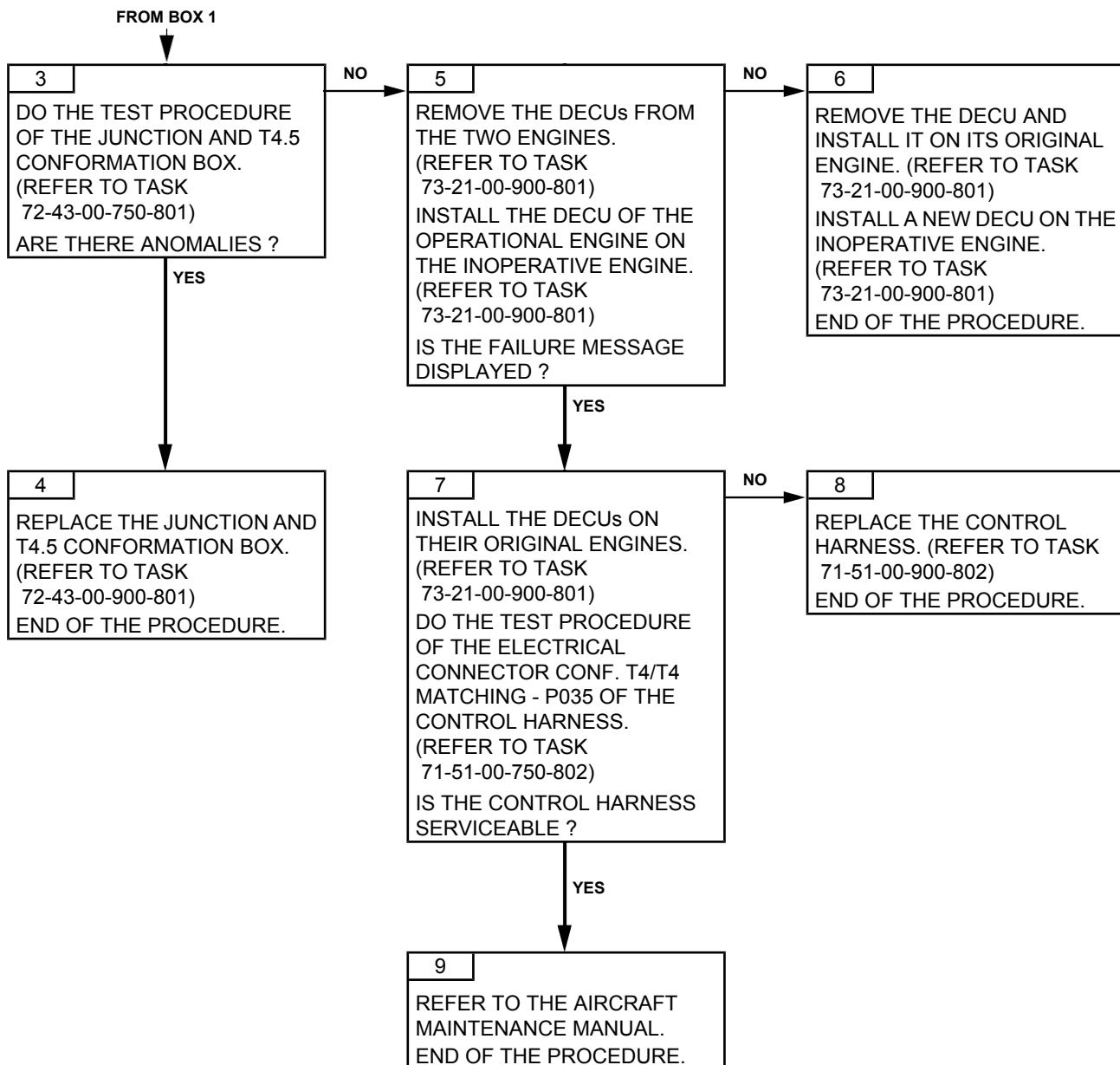
Effectivity: C





# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-855-A01

### RAW TORQUE FAILURE, T4.5 CONFORMATION FAILURE AFTER POWER ON AND T4.5 CONFORMATION FAILURE BEFORE POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	B	0	0

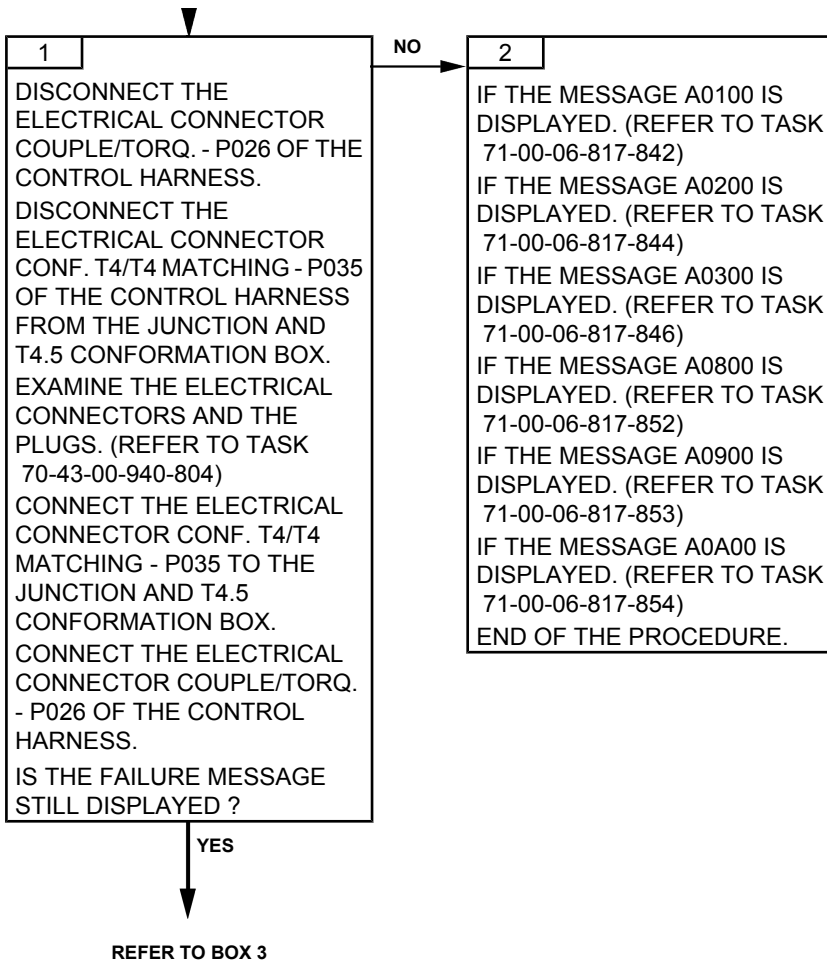
<i>EFFECT</i>	<i>GOV</i>
<p>DURING START</p> <p>Protection of T4.5 using the back-up values. Start is degraded. Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.</p>	Amber
<p>AFTER START</p> <p>Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.</p>	Amber

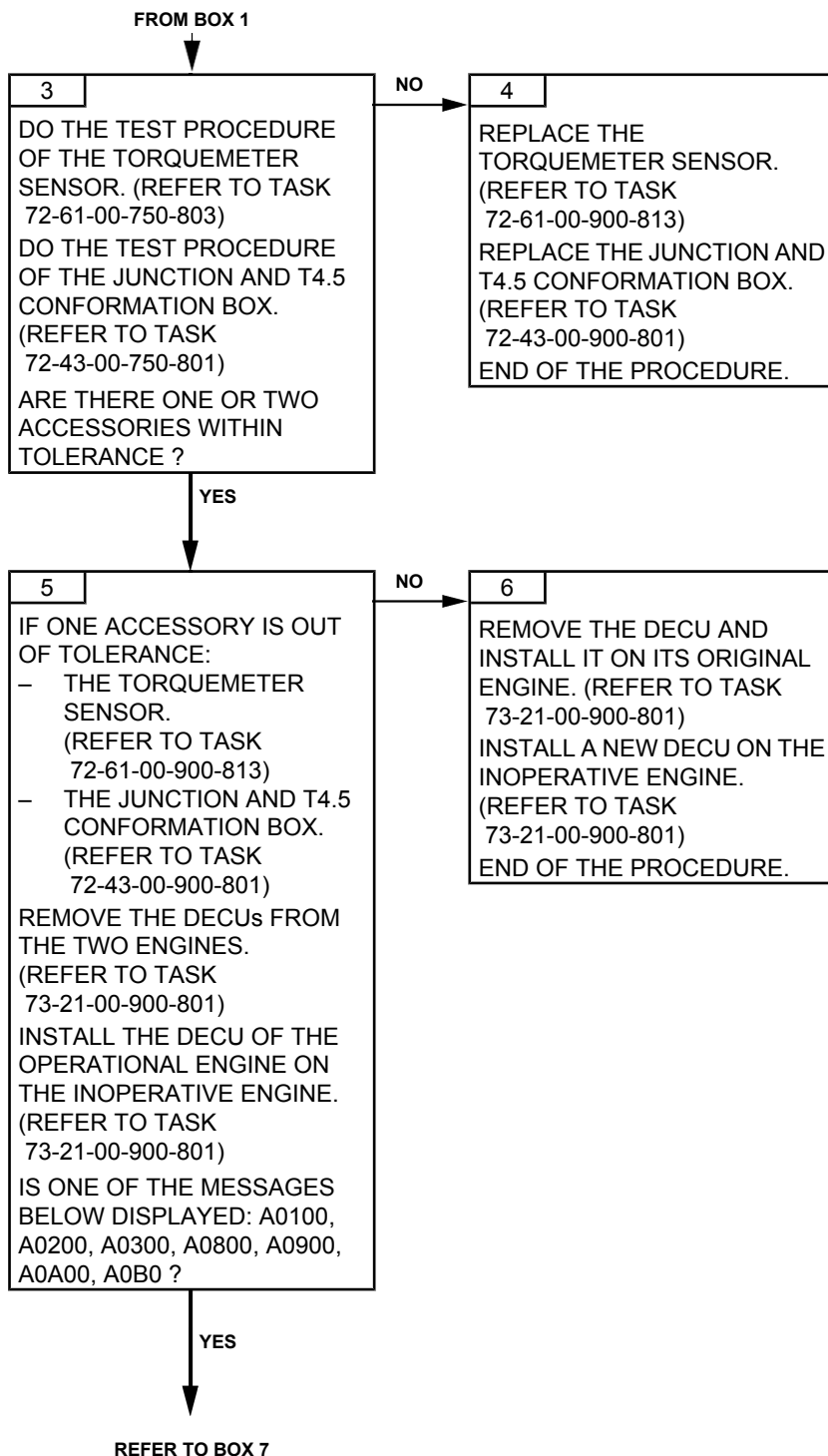
##### B. POSSIBLE CAUSES

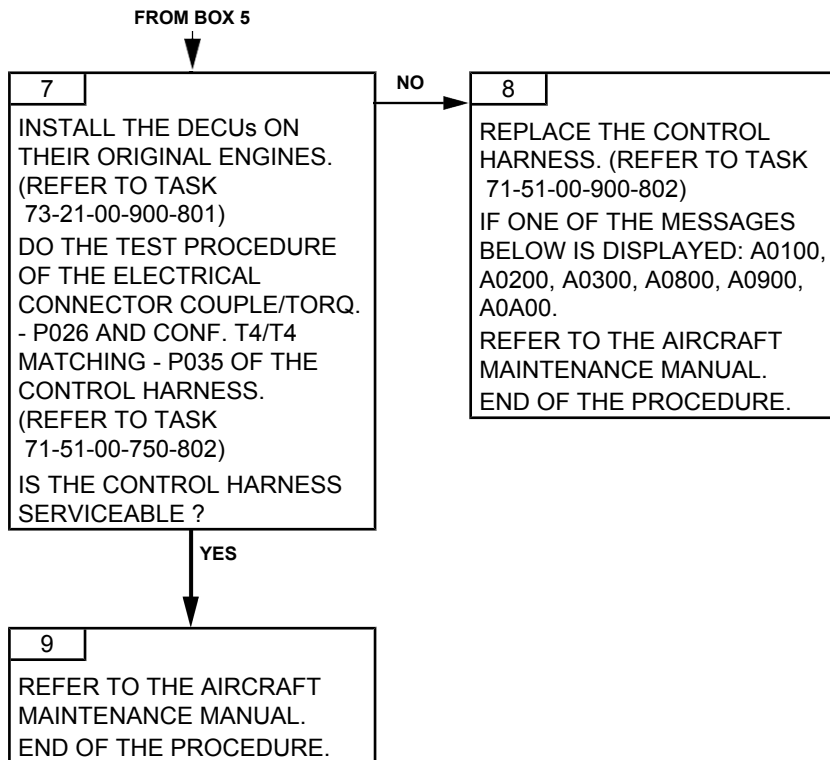
- Torquemeter sensor
- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C







TASK 71-00-06-817-856-A01

### TORQUE CONFORMATION FAILURE BEFORE POWER ON AND T4.5 CONFORMATION FAILURE AFTER POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	0	C	0	0

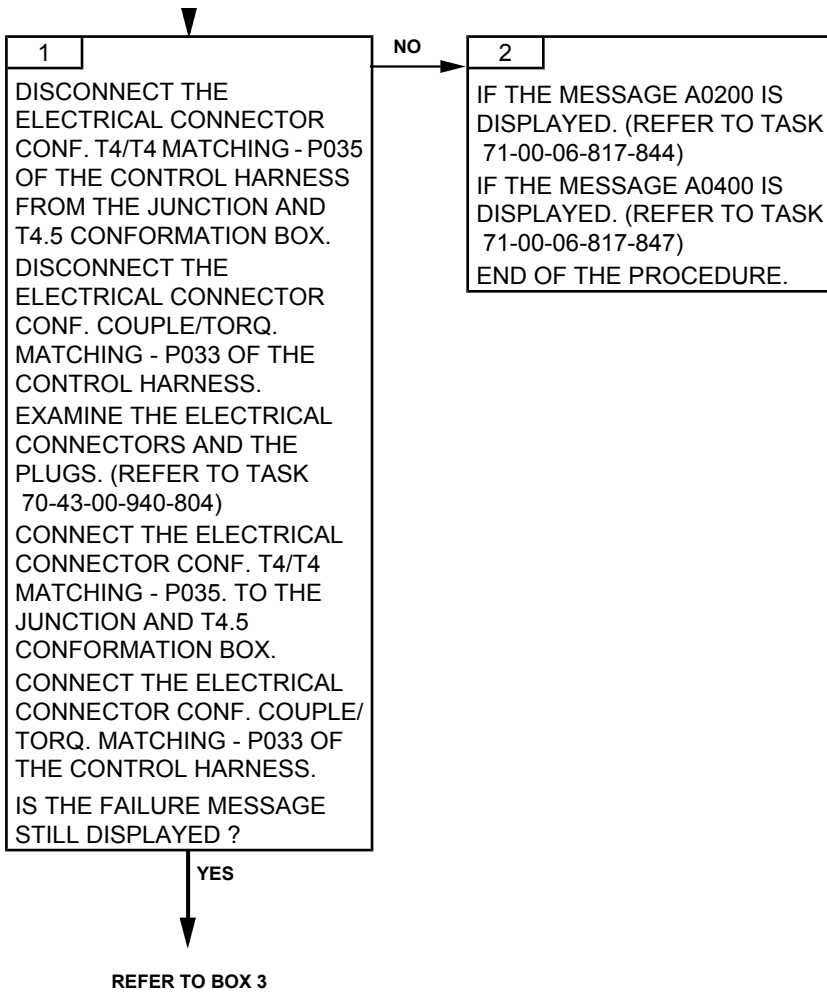
<i>EFFECT</i>	<i>GOV</i>
Use of the T4.5 conformation value read by the system before the failure. Use of the torque conformation back-up values. The torque limitation is indefinite, but a min. torque is always available. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.	Amber

##### B. POSSIBLE CAUSES

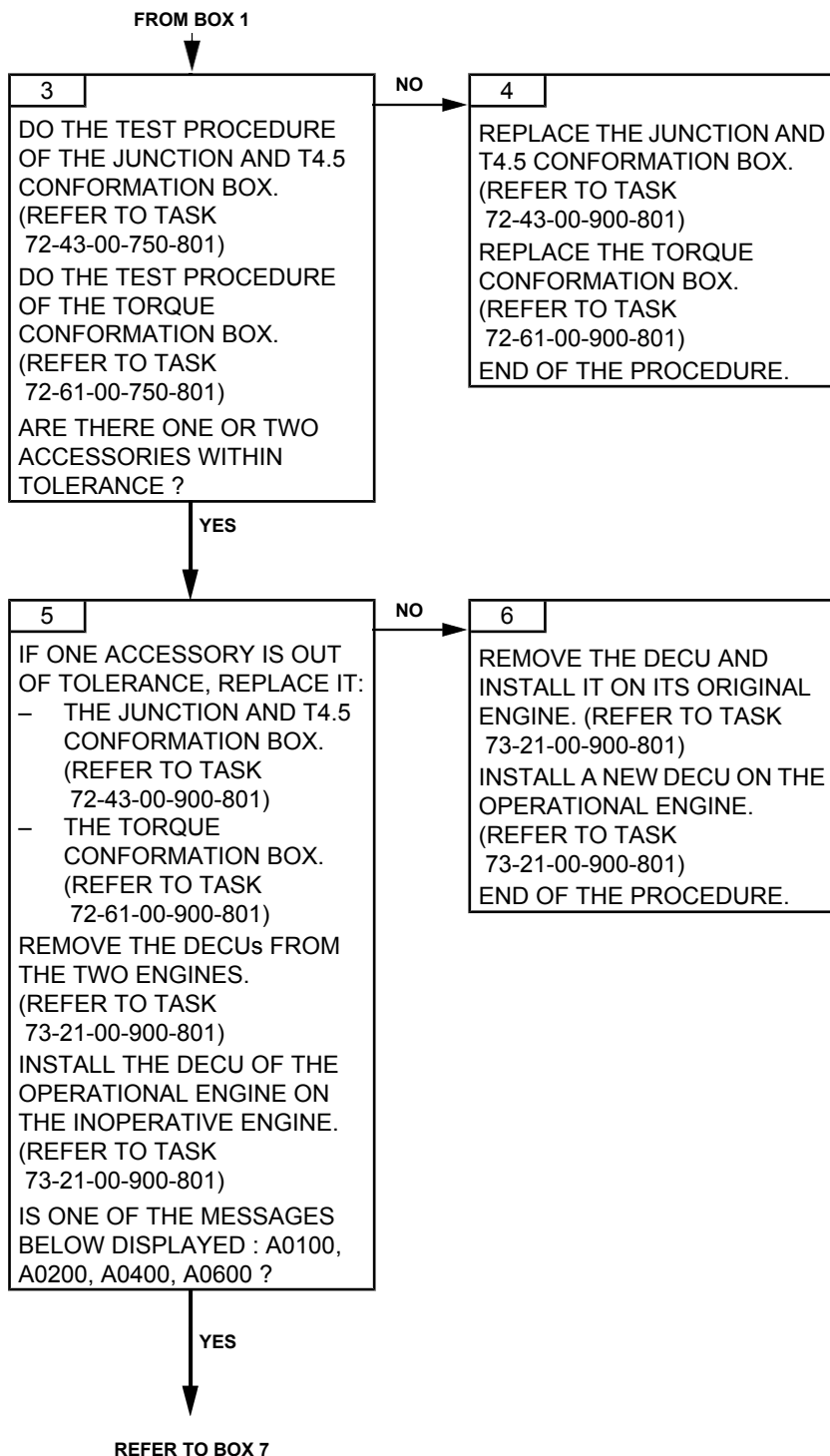
- Torque conformation box
- Junction and T4.5 conformation box
- DECU
- Control harness

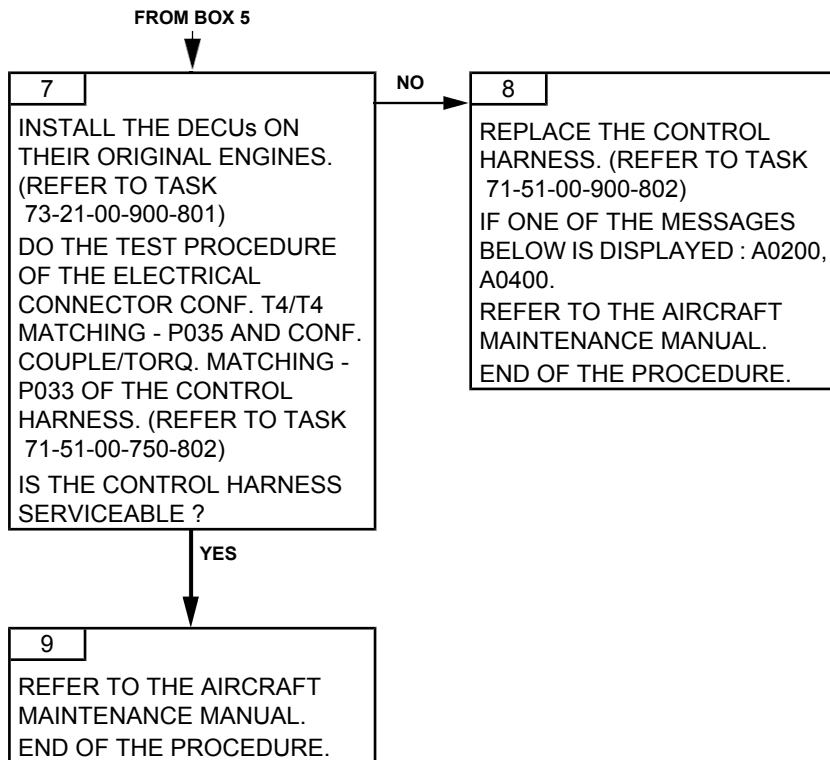
#### 2. PROCEDURE

Effectivity: C









TASK 71-00-06-817-857-A01

### RAW TORQUE FAILURE, TORQUE CONFORM. FAILURE BEFORE POWER ON AND T4.5 CONFORM. FAILURE AFTER POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	D	0	0

EFFECT	GOV
Use of the T4.5 conformation value read by the system before the failure. Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.	Amber

##### B. POSSIBLE CAUSES

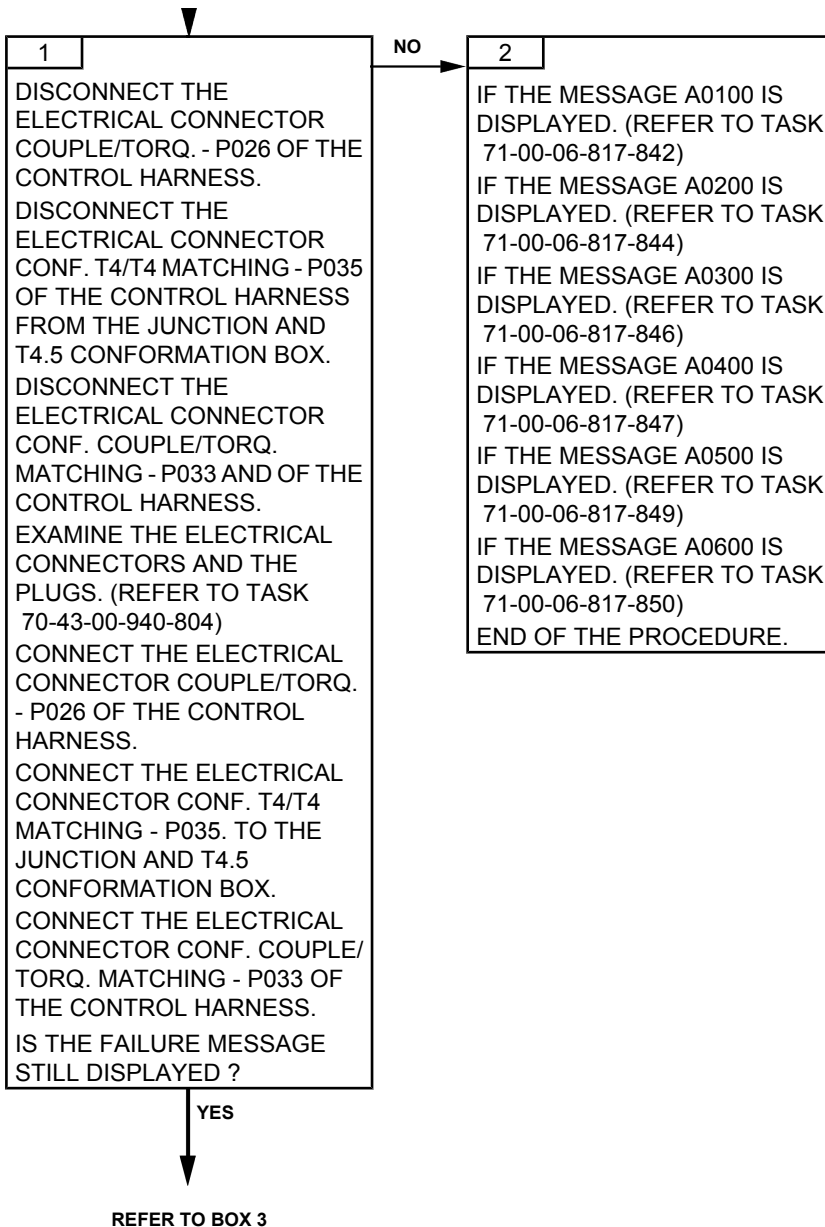
- Torquemeter sensor
- Torque conformation box
- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

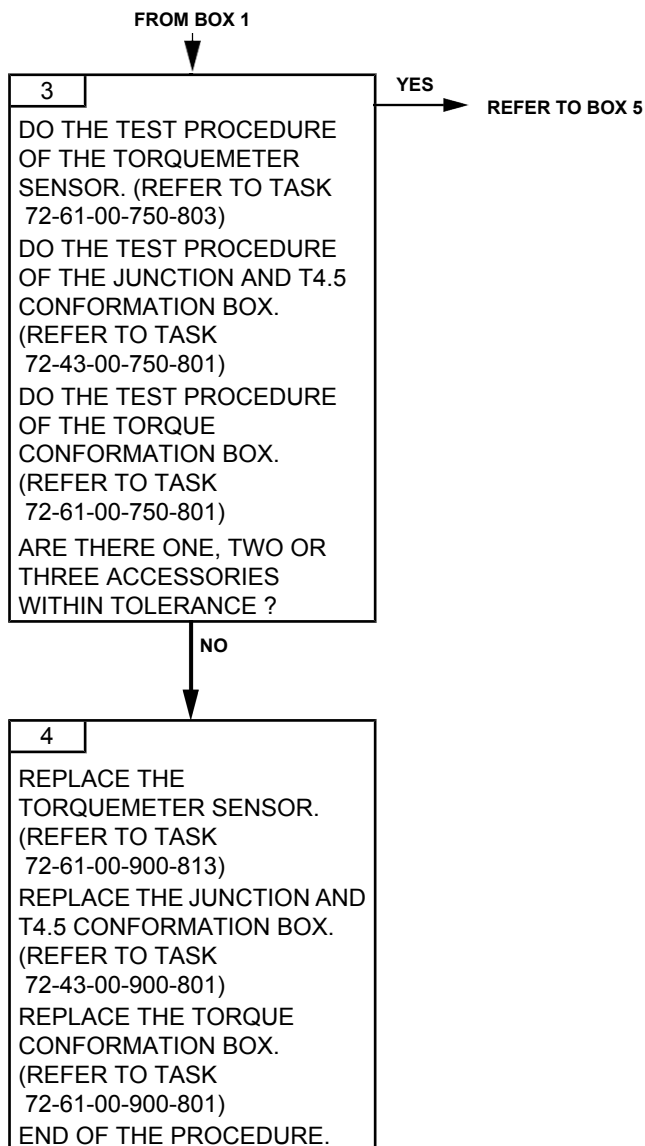
Effectivity: C

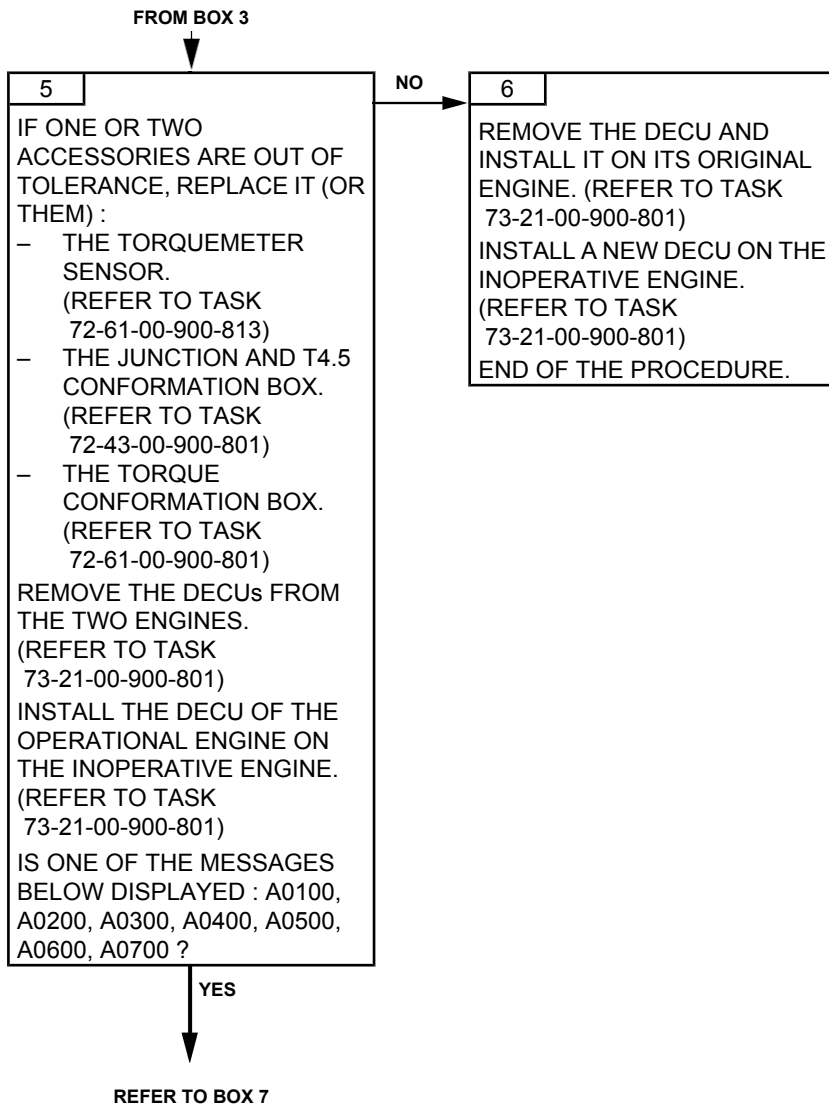
# TURBOMECA ARRIEL 2 C

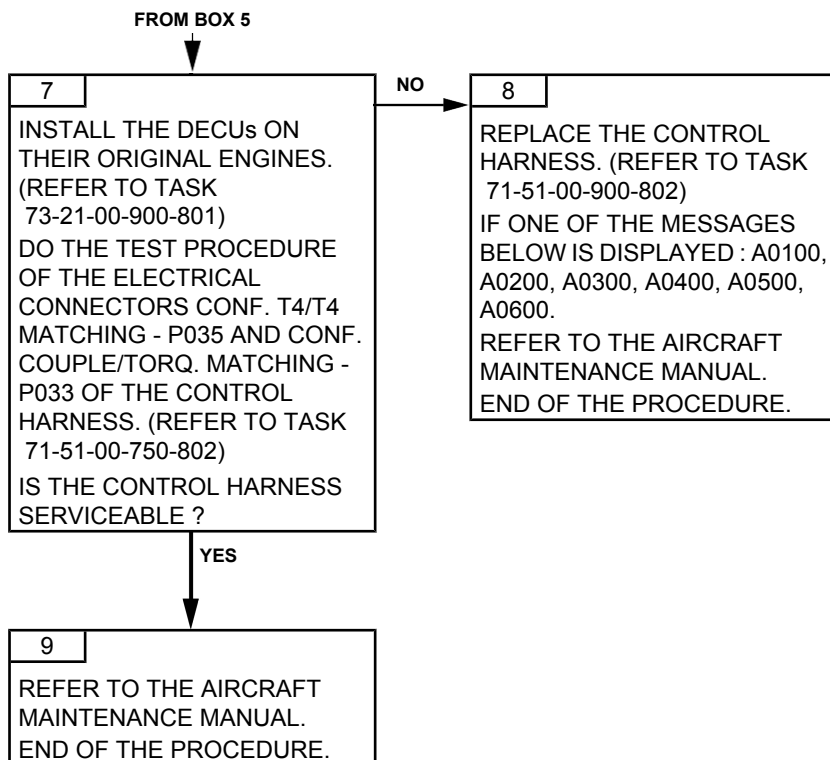
## MAINTENANCE MANUAL



Effectivity: C







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TASK 71-00-06-817-858-A01

### TORQUE CONFORMATION FAILURE BEFORE POWER ON AND T4.5 CONFORMATION FAILURE BEFORE AND AFTER POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	E	0	0

EFFECT	GOV
<p>DURING START</p> <p>Protection of T4.5 using the back-up values. Start is degraded. Use of the torque conformation back-up values. The torque limitation is indefinite, but a min. torque is always available. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.</p>	Amber
<p>AFTER START</p> <p>Use of the torque conformation back-up values. The torque limitation is indefinite, but a min. torque is always available. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0</p>	Amber

##### B. POSSIBLE CAUSES

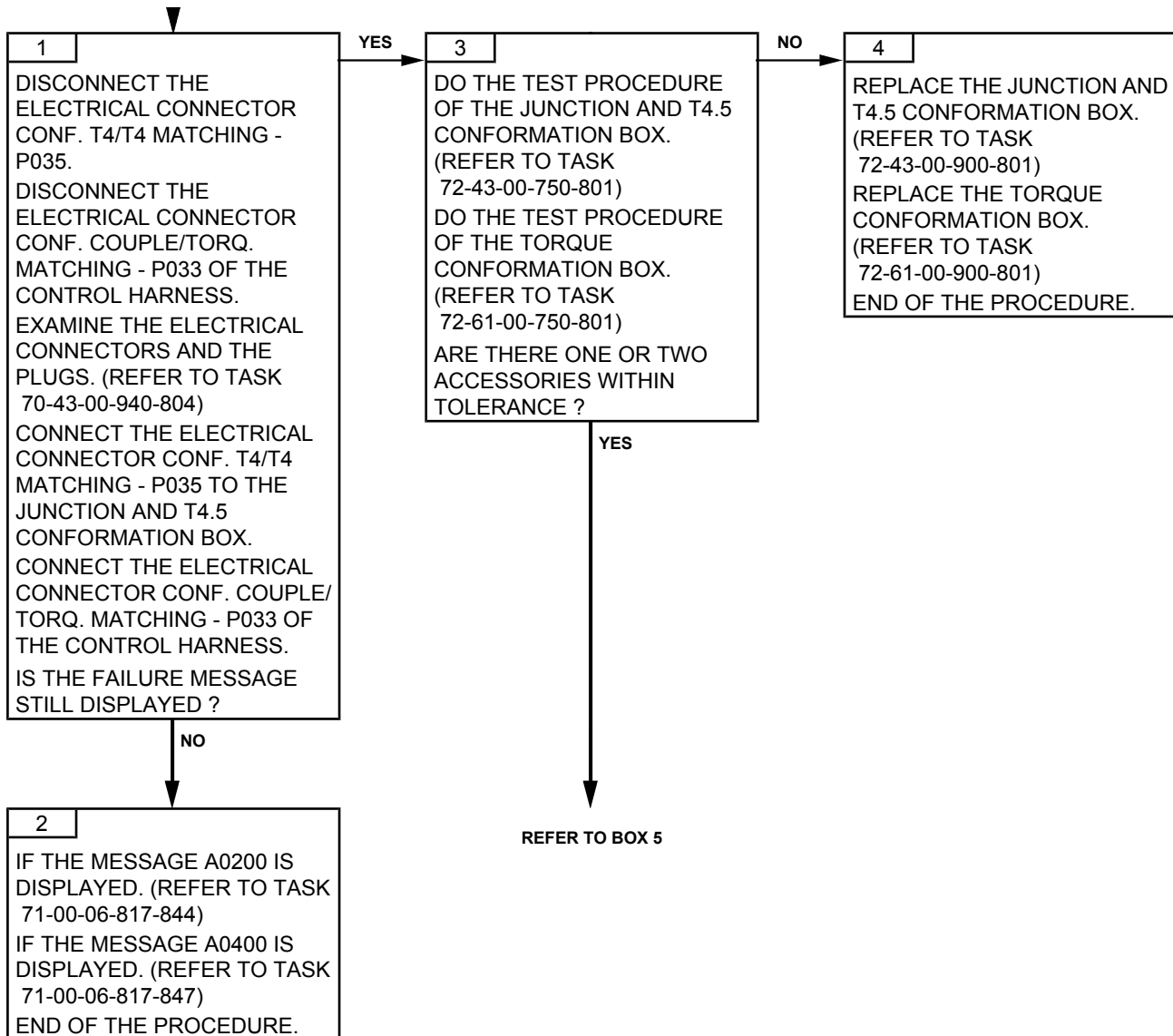
- Torque conformation box
- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

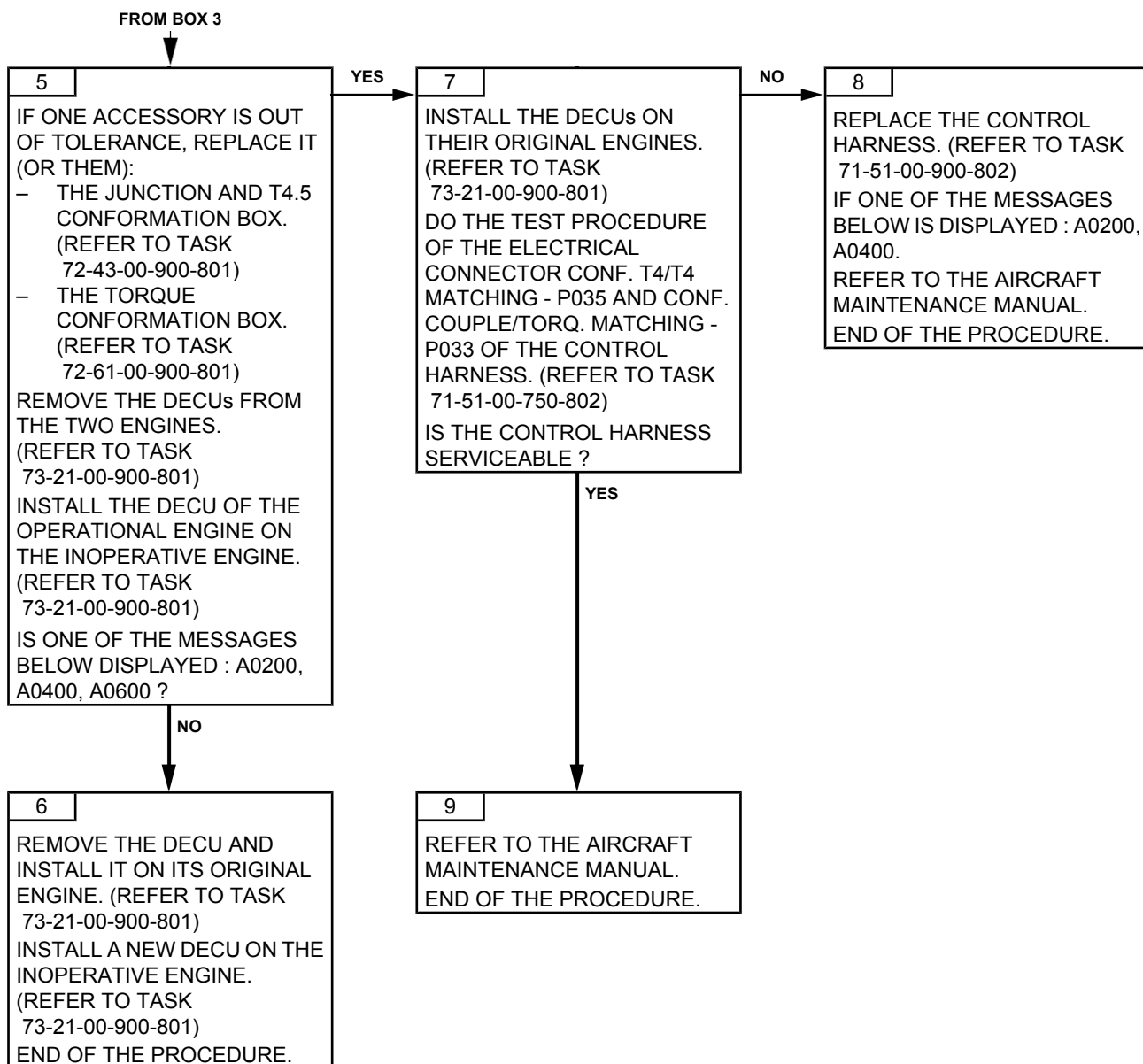
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-859-A01

### RAW TORQUE FAILURE, TORQUE CONFORMATION FAILURE BEFORE POWER ON, T4.5 CONFORMATION FAILURE BEFORE AND AFTER POWER ON TROUBLESHOOTING

#### 1. GENERAL

**NOTE:** *The failure occurred before power on but it is indicated at power on.*

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	0	F	0	0

EFFECT	GOV
<b>DURING START</b> Protection of T4.5 using the back-up values. Start is degraded. Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.	Amber
<b>AFTER START</b> Inhibition of the torque limitation function. The pilot ensures the MGB protection according to the torque indication of the other engine and/or the N1 indication according to a law as a function of P0, T0.	Amber

##### B. POSSIBLE CAUSES

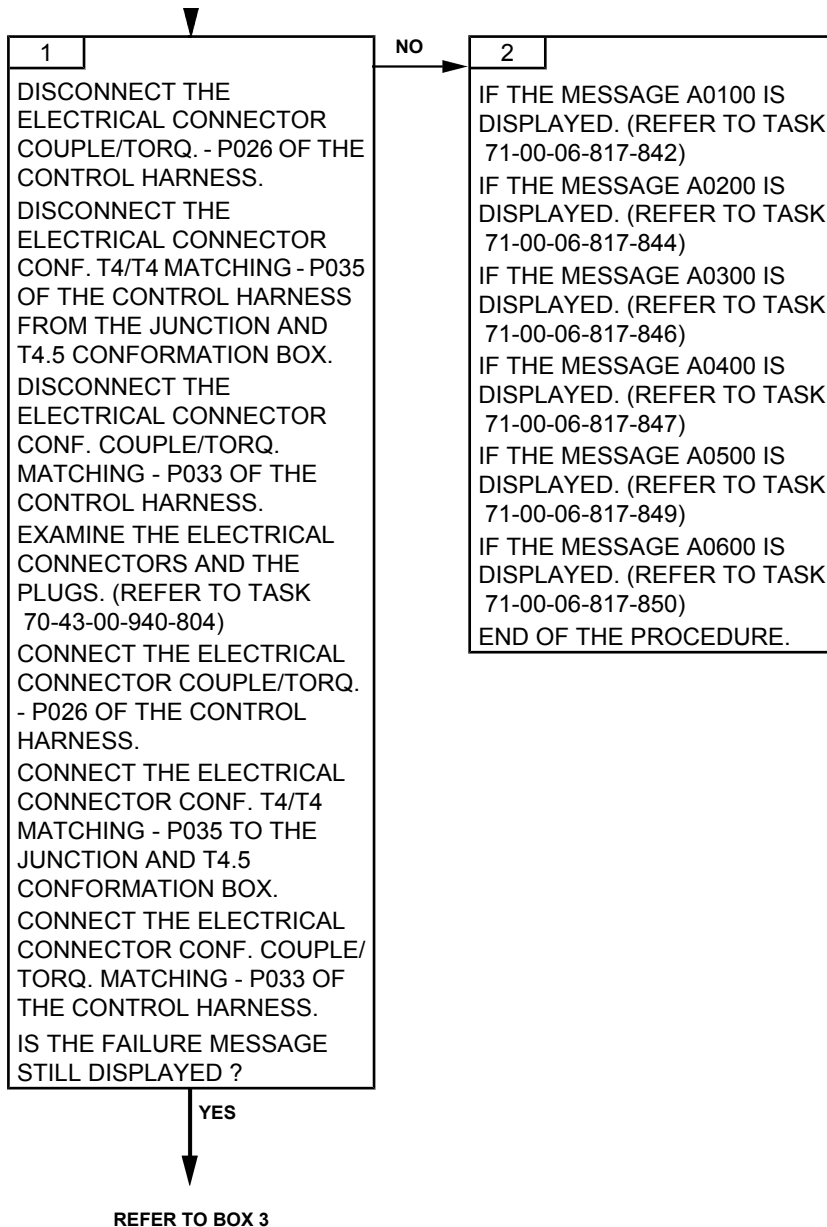
- Torquemeter sensor
- Torque conformation box
- Junction and T4.5 conformation box
- DECU
- Control harness

#### 2. PROCEDURE

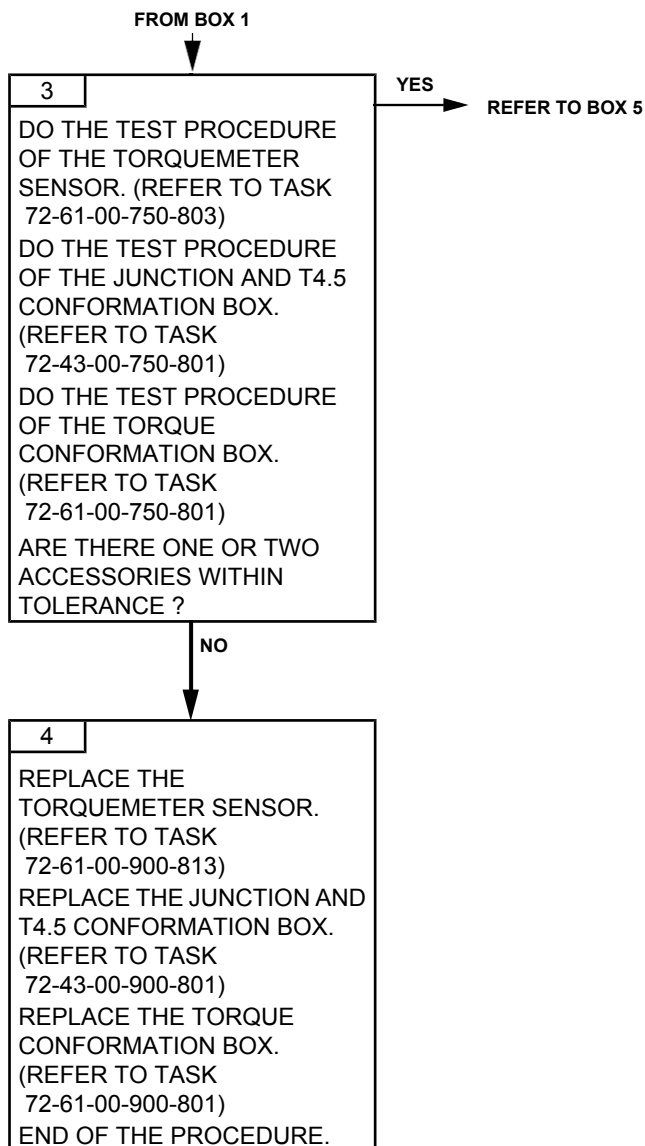
Effectivity: C

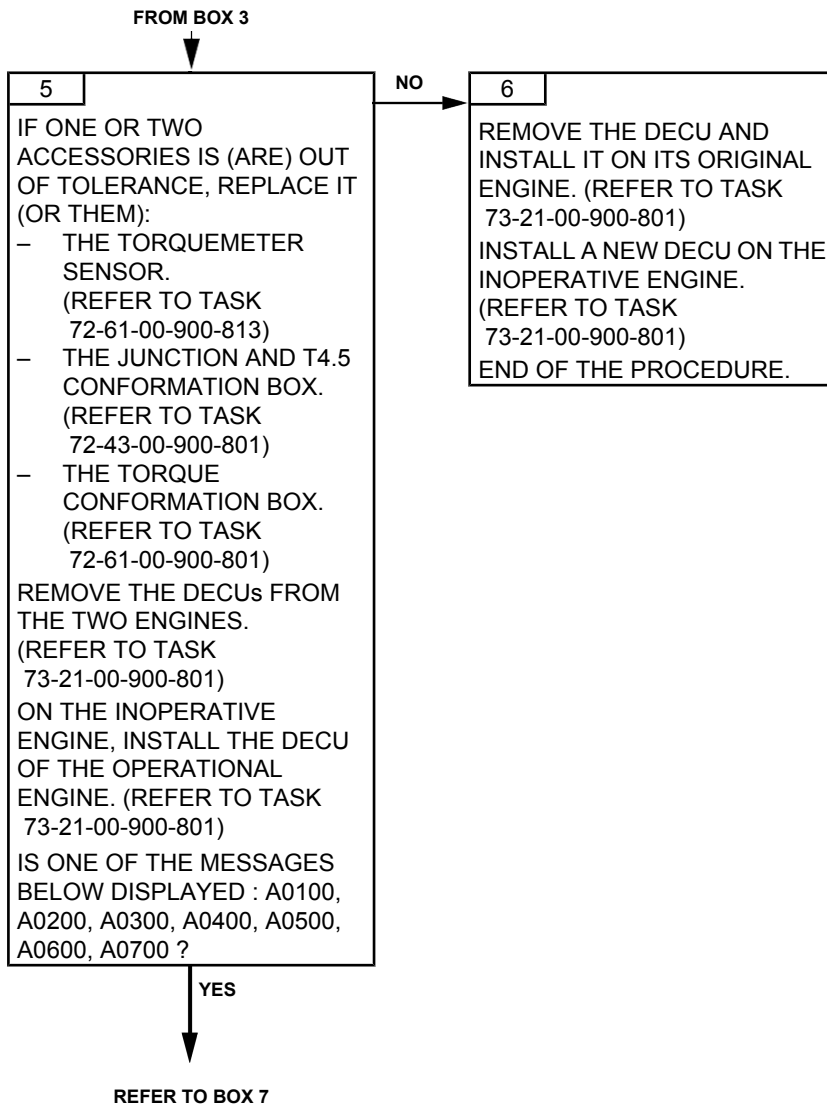
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

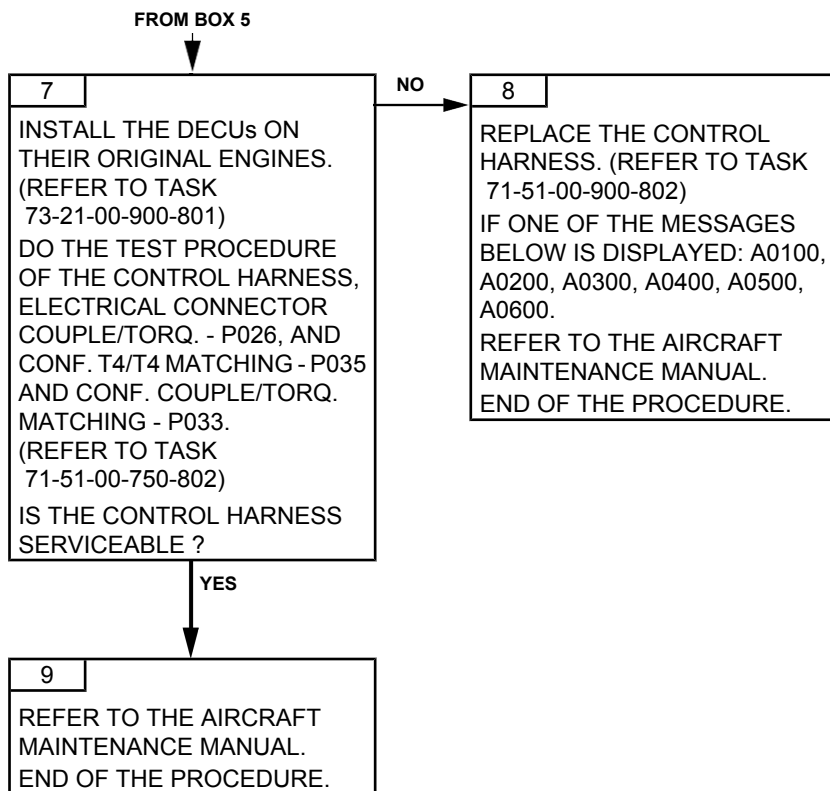






# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-860-A01

### TORQUE CONFORMATION FAILURE AFTER POWER ON TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	T	Q	C	A	2
MEMORY	A	1	0	0	0

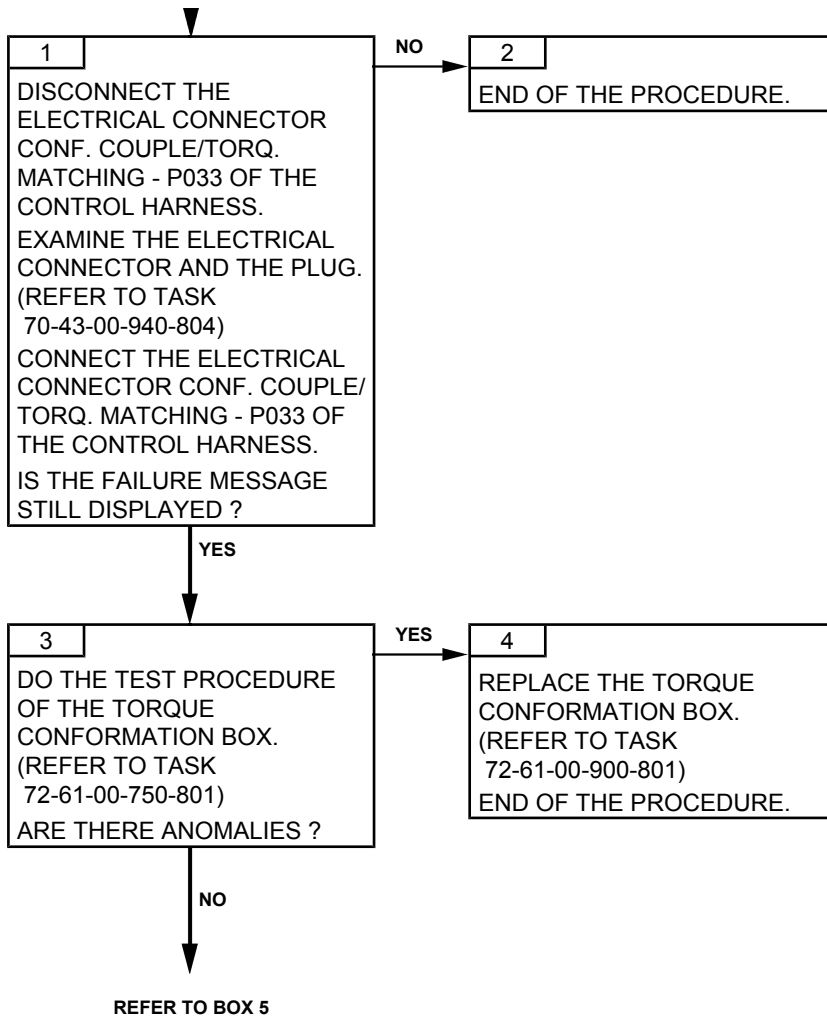
<i>EFFECT</i>	<i>GOV</i>
Use of the value read by the system before the failure. No effect on the engine.	Flashing amber

##### B. POSSIBLE CAUSES

- Torque conformation box
- DECU
- Control harness

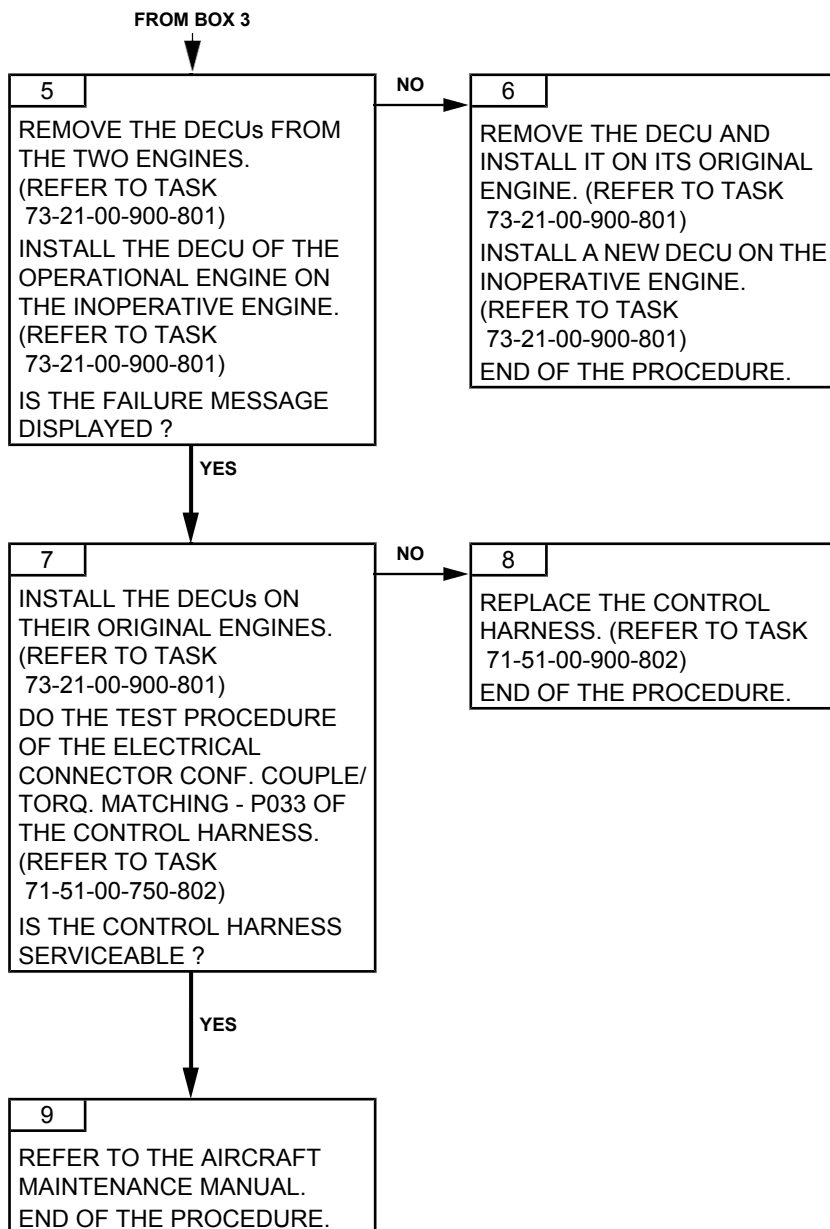
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-861-A01

### DECU INTERNAL FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE		D	E	C	U
MEMORY	A	2	0	0	0

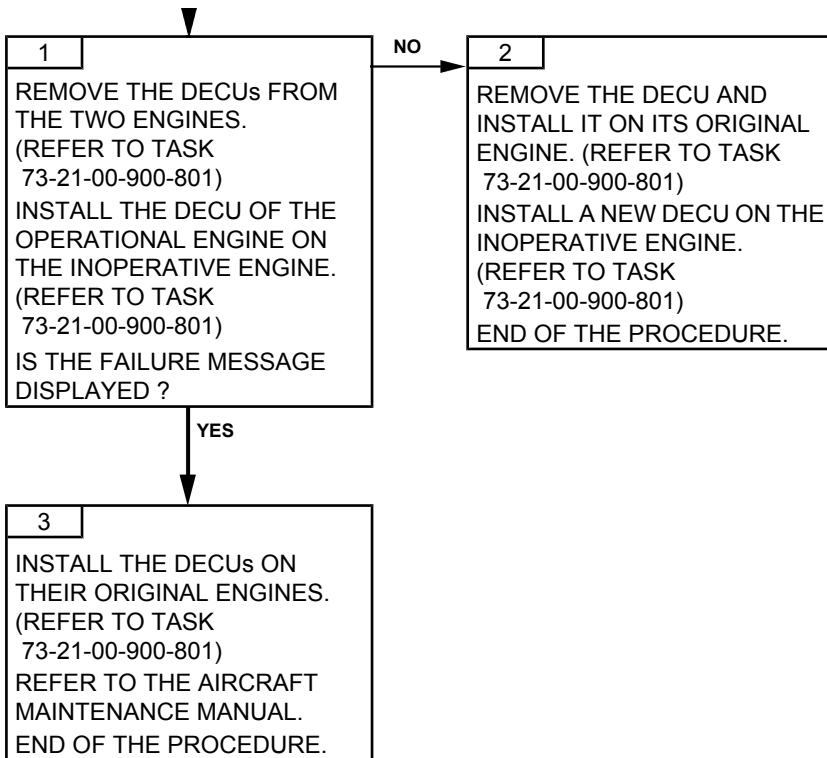
<i>EFFECT</i>	<i>GOV</i>
No effect.	Flashing amber

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C





TASK 71-00-06-817-863-A01

### TORQUE CONFORMATION FAILURE AFTER POWER ON AND DECU INTERNAL FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	3	0	0	0

<i>EFFECT</i>	<i>GOV</i>
Use of the torque conformation value read by the system before the failure.	Flashing amber

##### B. POSSIBLE CAUSES

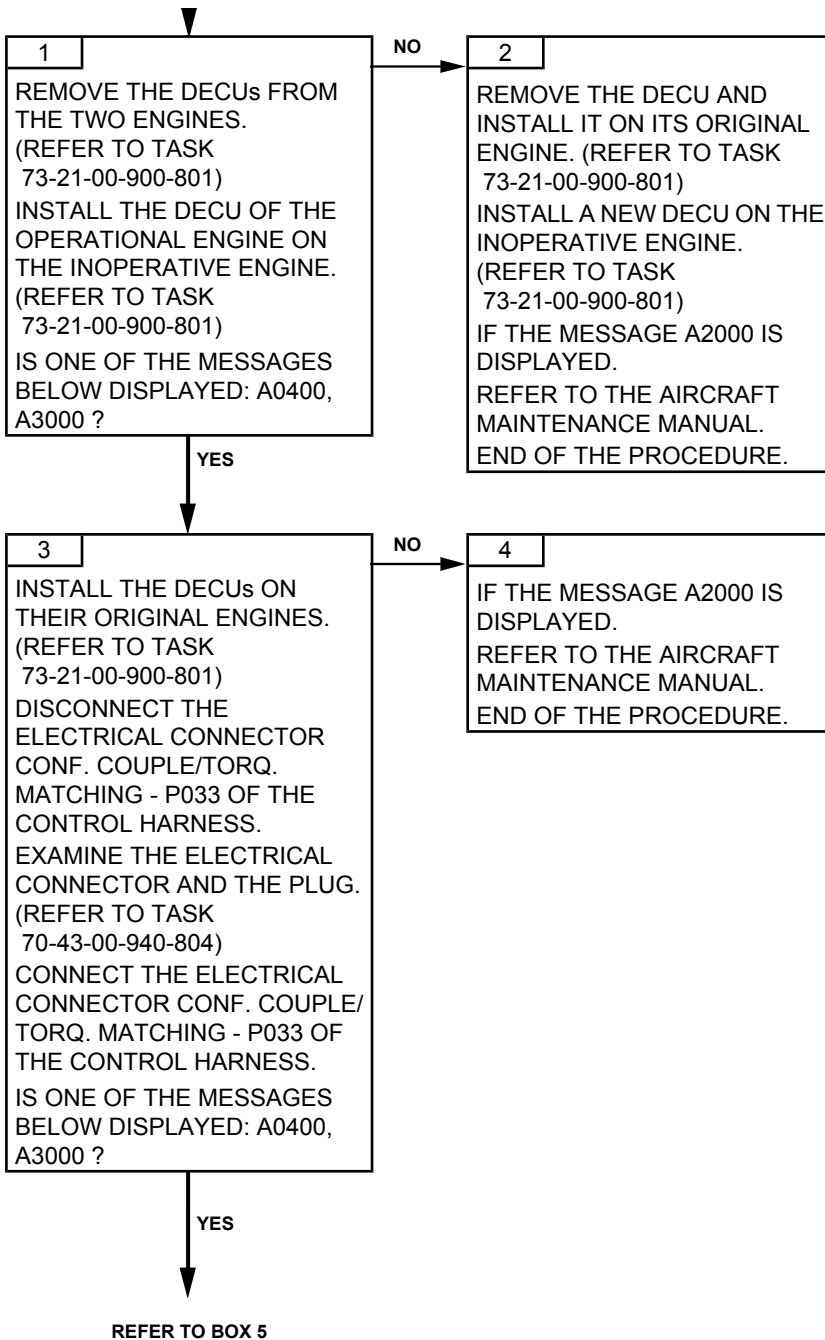
- Torque conformation box
- DECU
- Control harness

#### 2. PROCEDURE

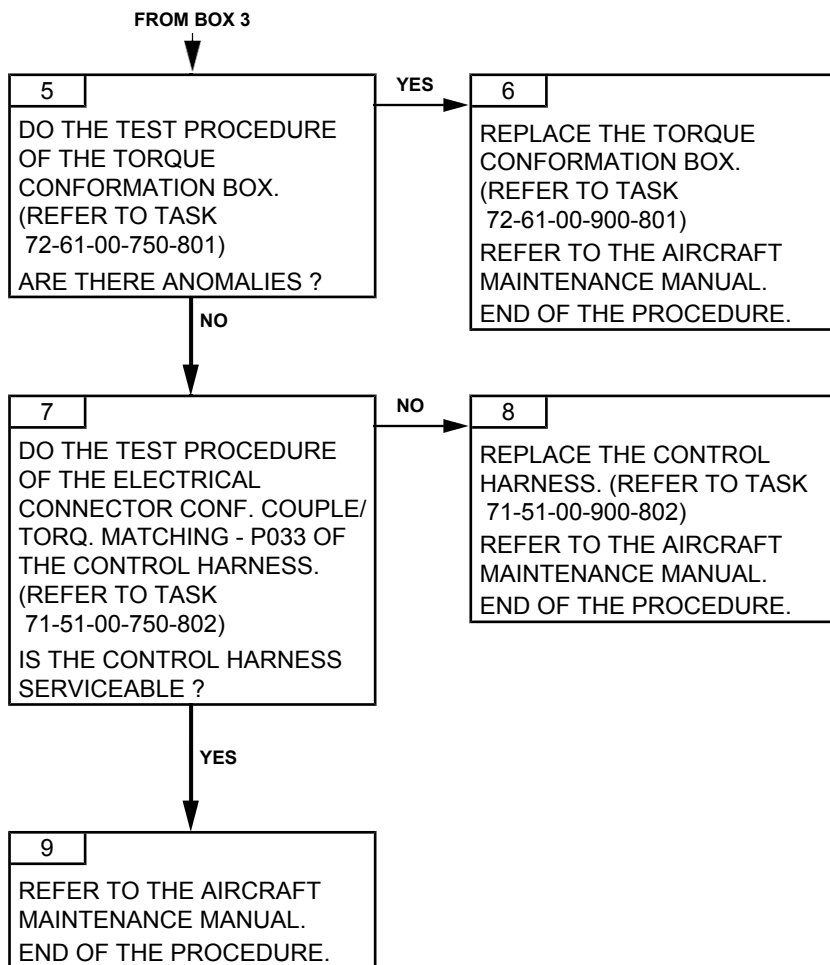
Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



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TASK 71-00-06-817-864-A01

### P3 DRIFT TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	F	L	O	U	T
MEMORY	A	4	0	0	0

<i>EFFECT</i>	<i>GOV</i>
Excessive limitation of the fuel flow according to P3 (no engine acceleration).	Amber

***NOTE:*** *Make sure that the fuel supply system of the pump and metering unit assembly is serviceable.*

##### B. POSSIBLE CAUSES

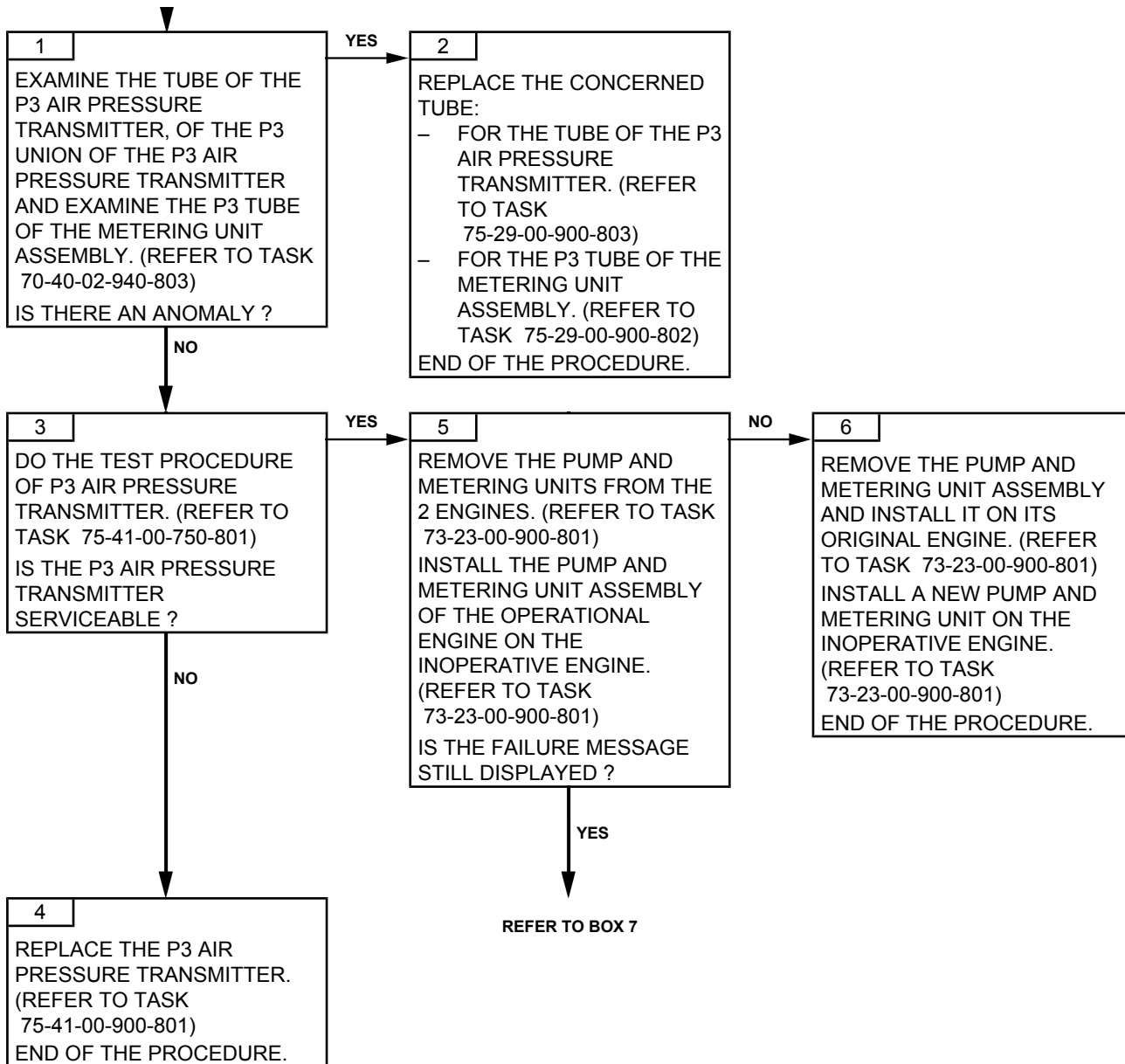
- Tube of the P3 air pressure transmitter
- P3 tube of the metering unit
- P3 air pressure transmitter
- Pump and metering unit assembly
- DECU
- Control harness

#### 2. PROCEDURE

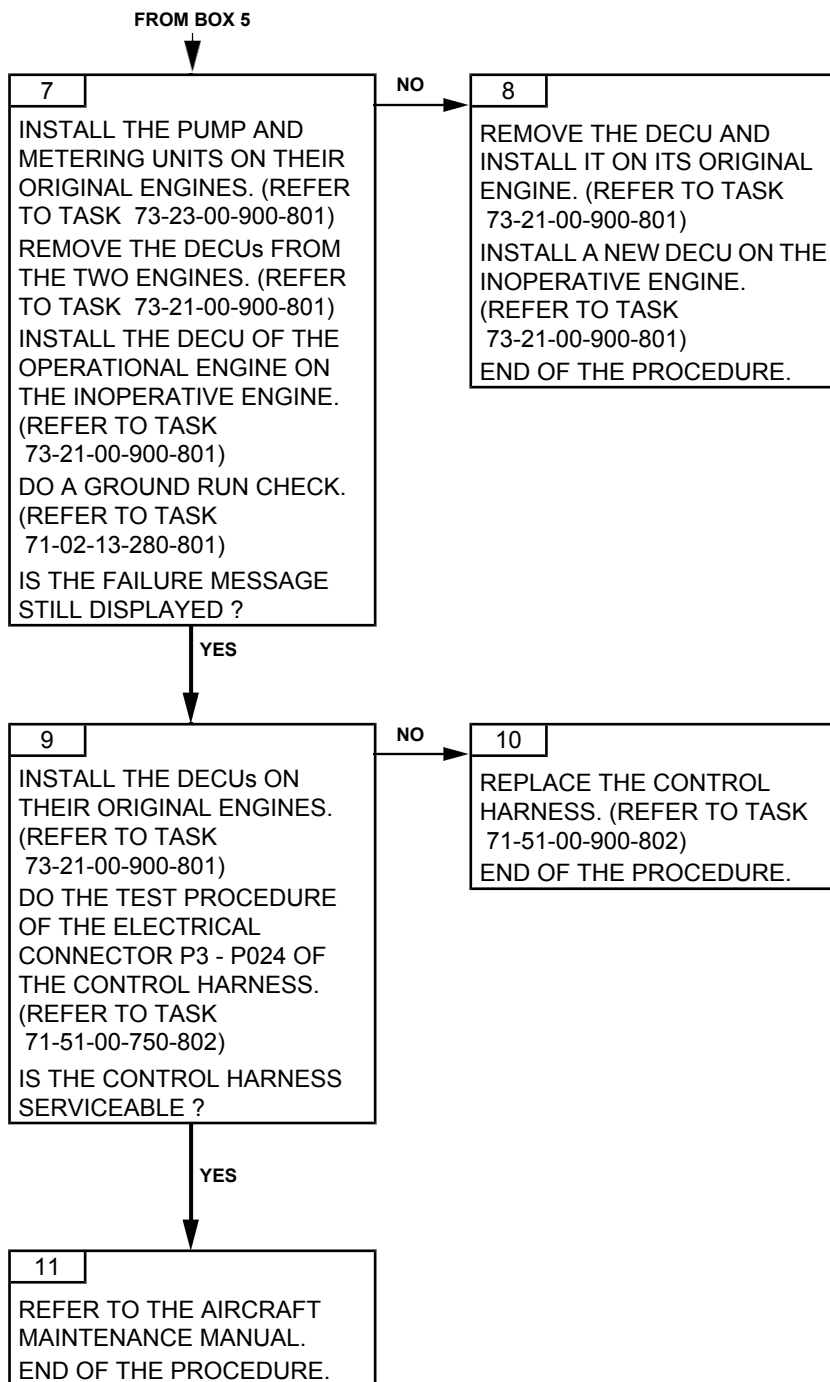
Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



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TASK 71-00-06-817-866-A01

### TORQUE CONFORMATION FAILURE AFTER POWER ON AND P3 DRIFT OR FLAME-OUT TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	5	0	0	0

EFFECT	GOV
Excessive limitation of the fuel flow according to P3 (no engine acceleration) Use of the torque conformation value read by the system, before the failure	Amber

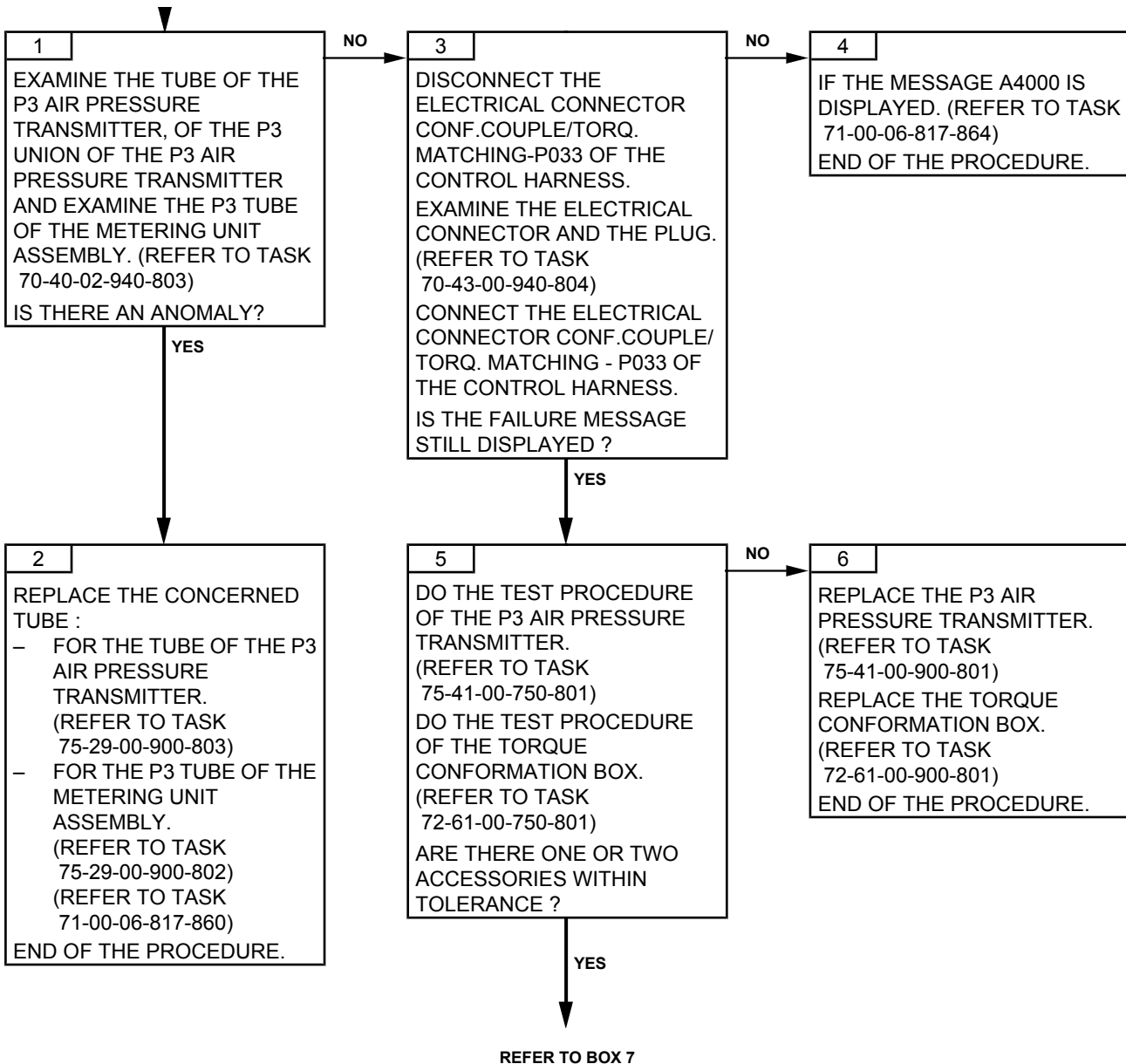
**NOTE:** *Make sure that the fuel supply system of the pump and metering unit assembly is serviceable.*

##### B. POSSIBLE CAUSES

- Tube of the P3 air pressure transmitter
- P3 tube of the metering unit assembly
- P3 air pressure transmitter
- Torque conformation box
- Pump and metering unit assembly
- DECU
- Control harness

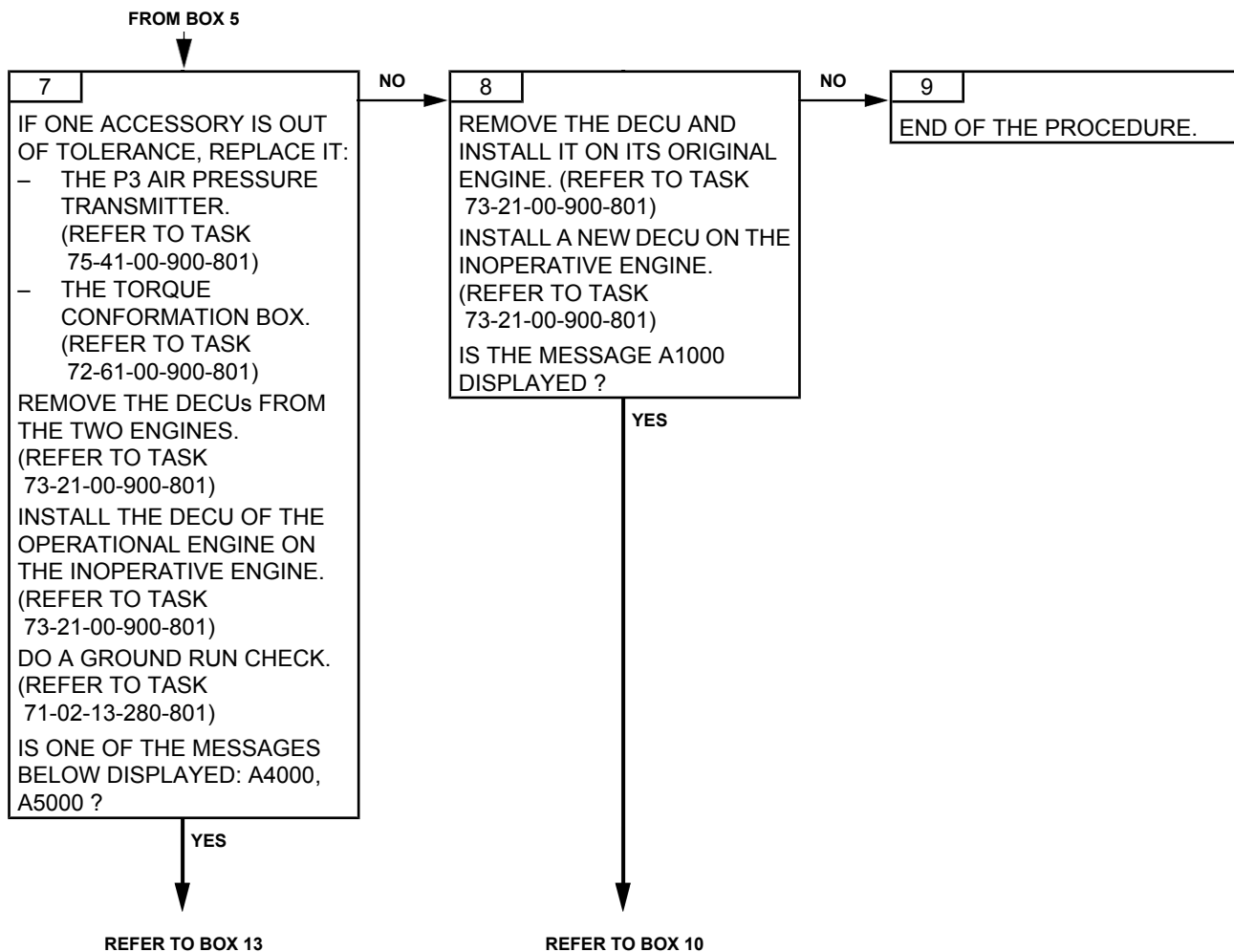
#### 2. PROCEDURE

Effectivity: C

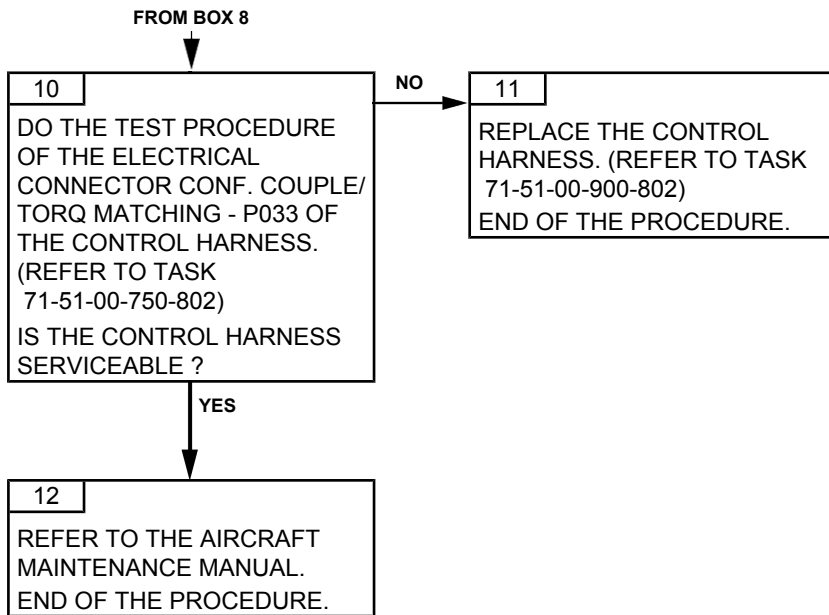


# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL

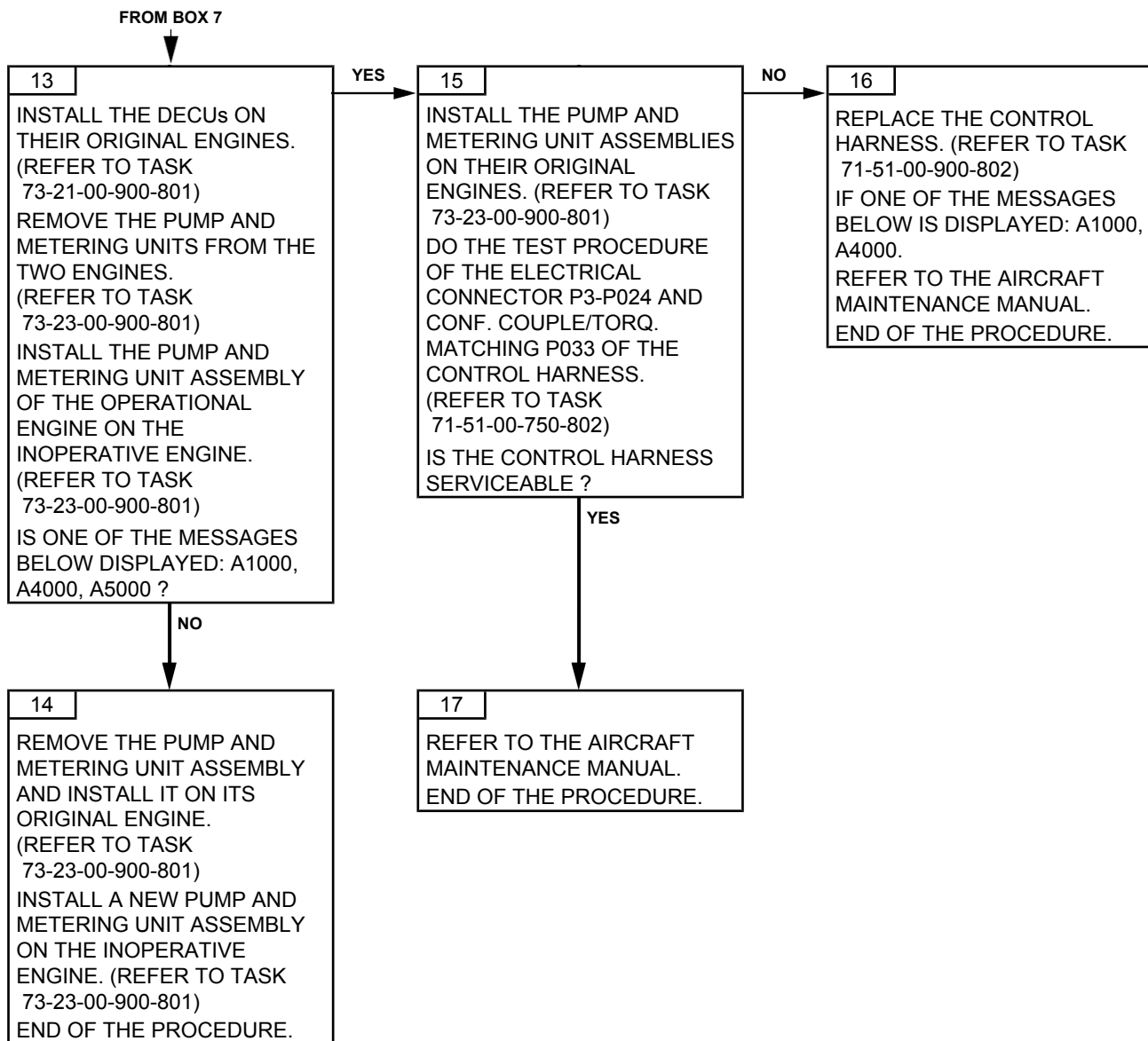


Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-867-A01

### DECU INTERNAL FAILURE AFTER POWER ON AND P3 DRIFT OR FLAME-OUT TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	6	0	0	0

<i>EFFECT</i>	<i>GOV</i>
Excessive limitation of the fuel flow according to P3 (no engine acceleration)	Amber

***NOTE:*** *Make sure that the fuel supply system of the pump and metering unit assembly is serviceable.*

##### B. POSSIBLE CAUSES

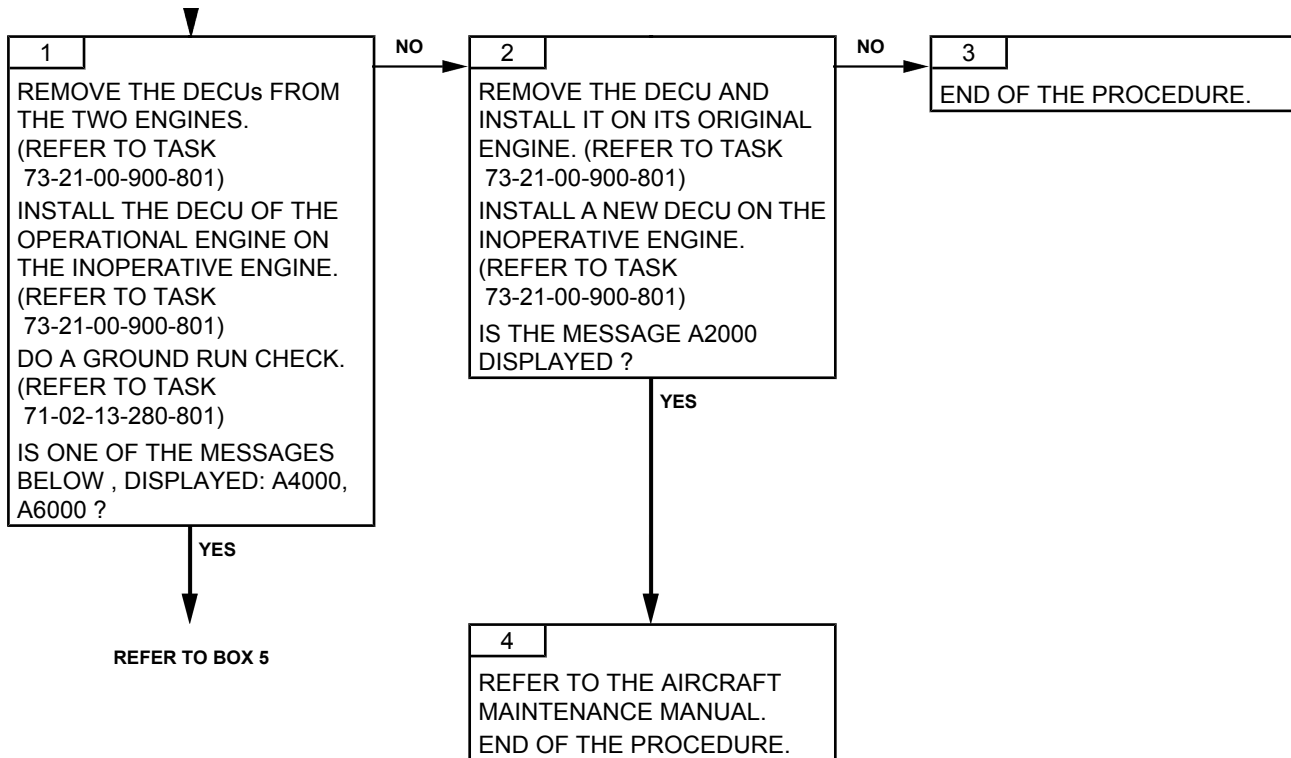
- DECU
- Tube of the P3 air pressure transmitter
- P3 tube of the metering unit assembly
- P3 air pressure transmitter
- Torque conformation box
- Pump and metering unit assembly
- Control harness

#### 2. PROCEDURE

Effectivity: C

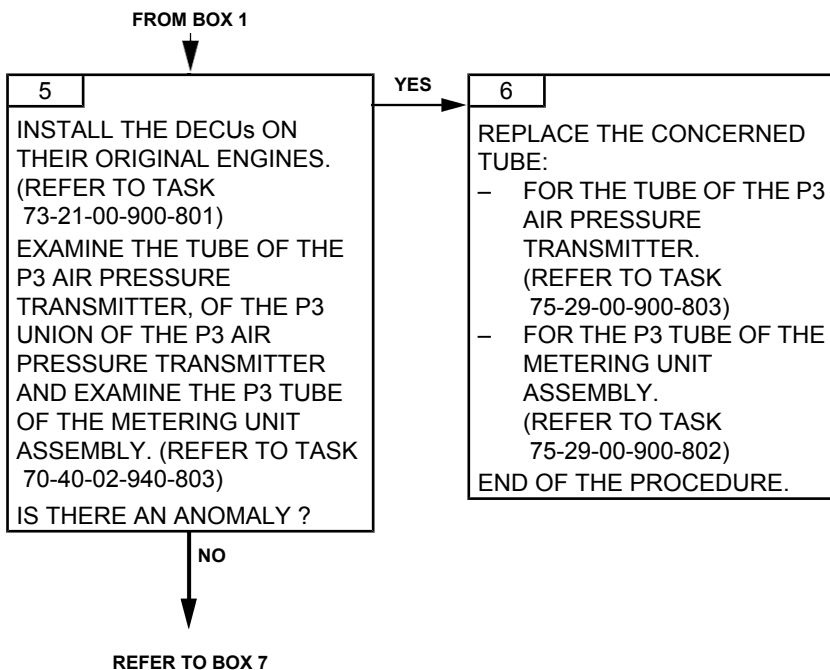
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



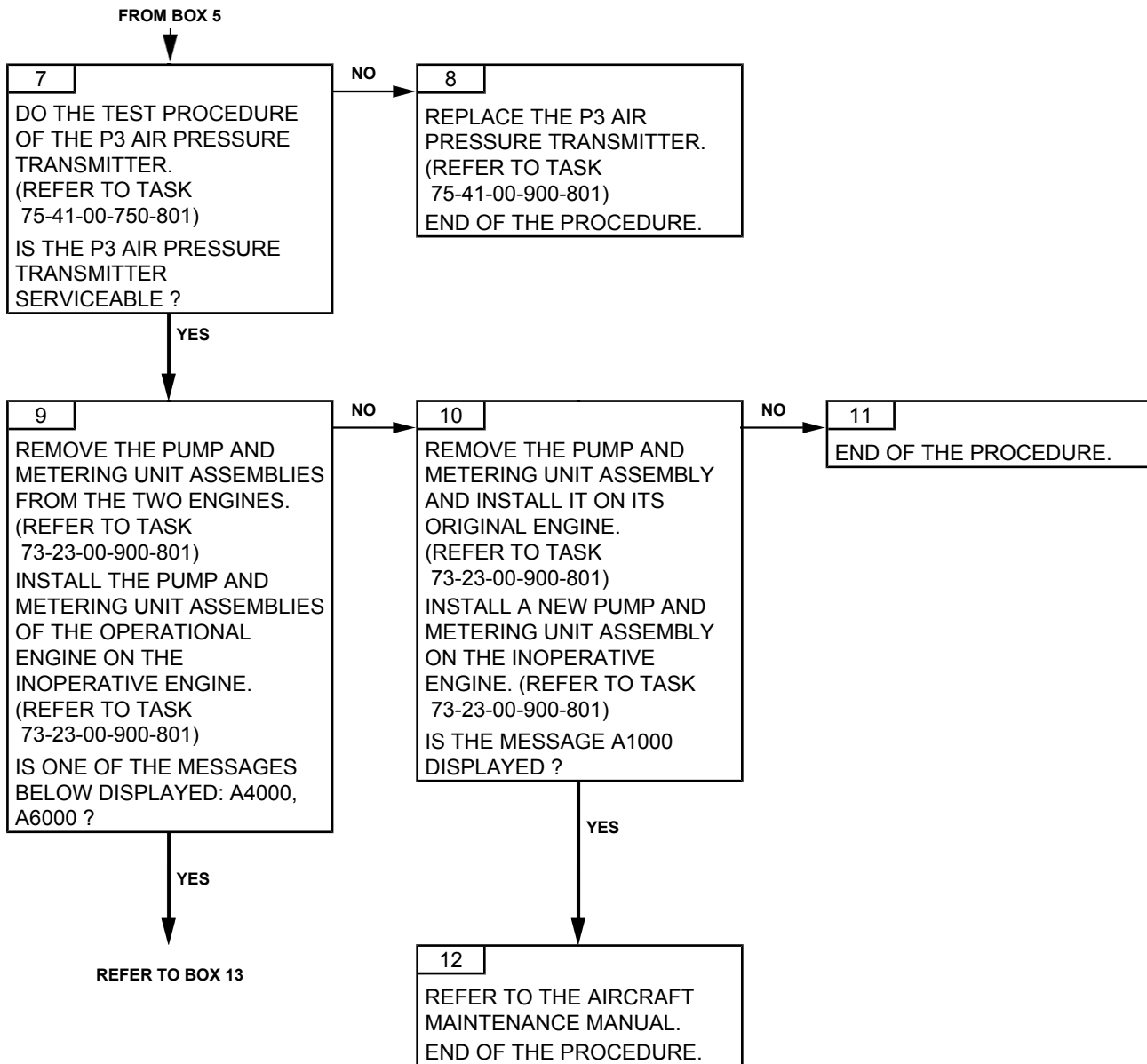
Effectivity: C



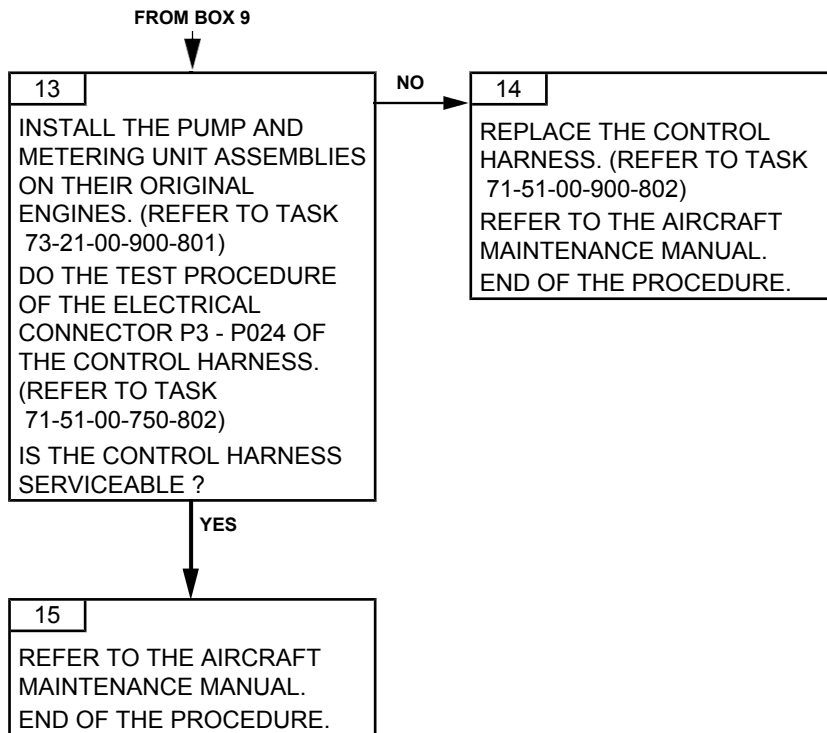


# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



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TASK 71-00-06-817-868-A01

### TORQUE CONFORMATION FAILURE AFTER POWER ON, DECU INTERNAL FAILURE AND P3 DRIFT OR FLAME-OUT TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	7	0	0	0

<i>EFFECT</i>	<i>GOV</i>
Excessive limitation of the fuel flow according to P3 (no engine acceleration) Use of the torque conformation value read by the system, before the failure	Amber

***NOTE:*** *Make sure that the fuel supply system of the pump and metering unit assembly is serviceable.*

##### B. POSSIBLE CAUSES

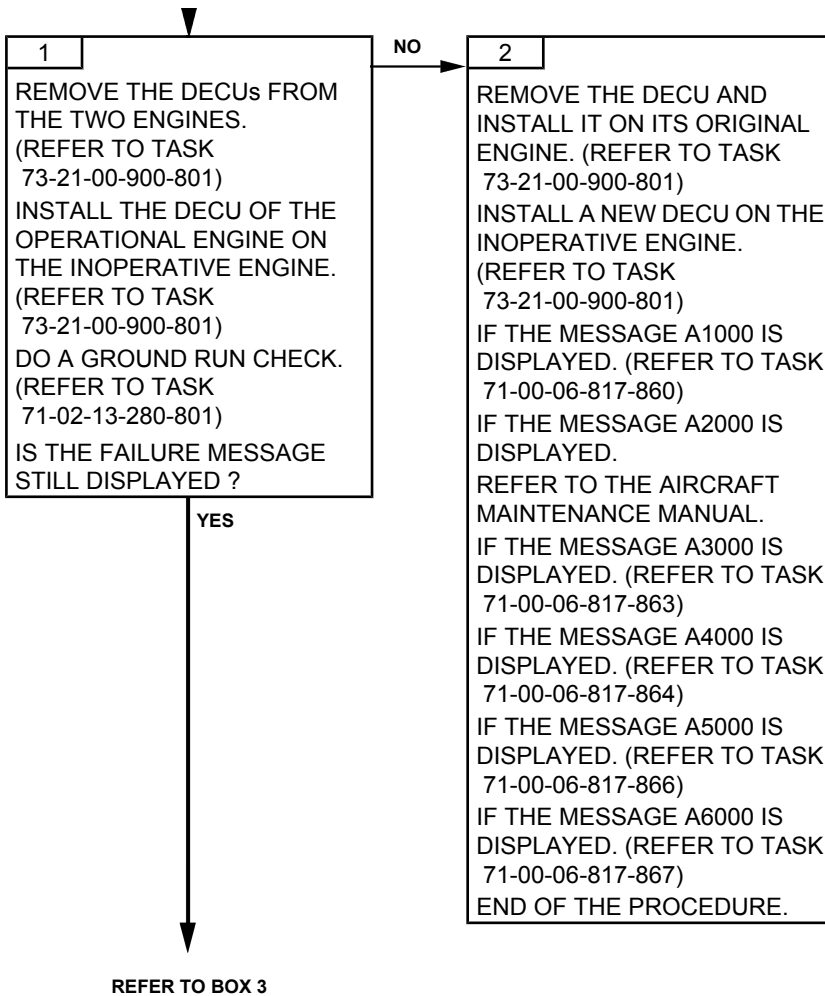
- DECU
- Tube of the P3 air pressure transmitter
- P3 tube of the metering unit assembly
- P3 air pressure transmitter
- Torque conformation box
- Pump and metering unit assembly
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

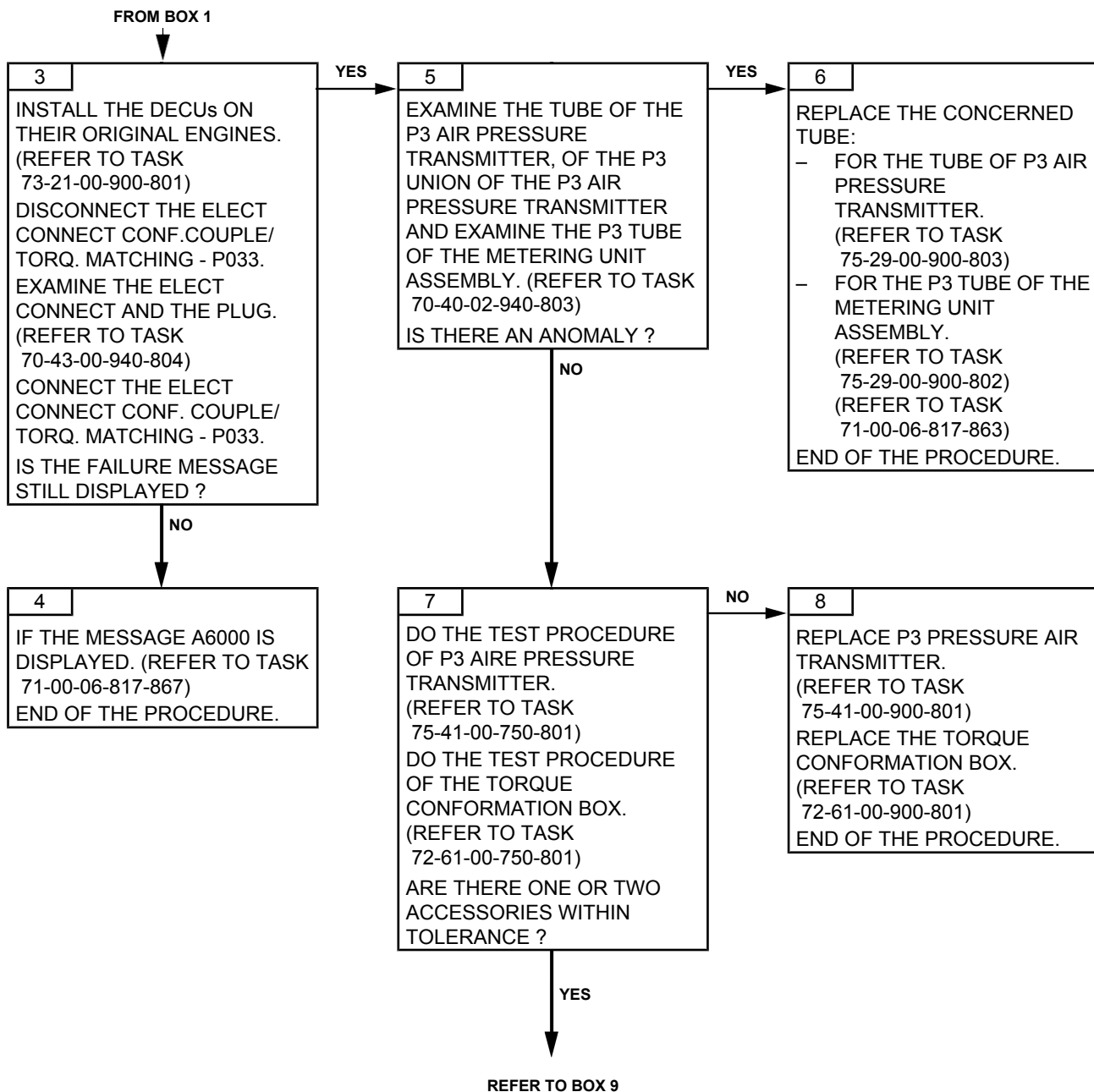
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

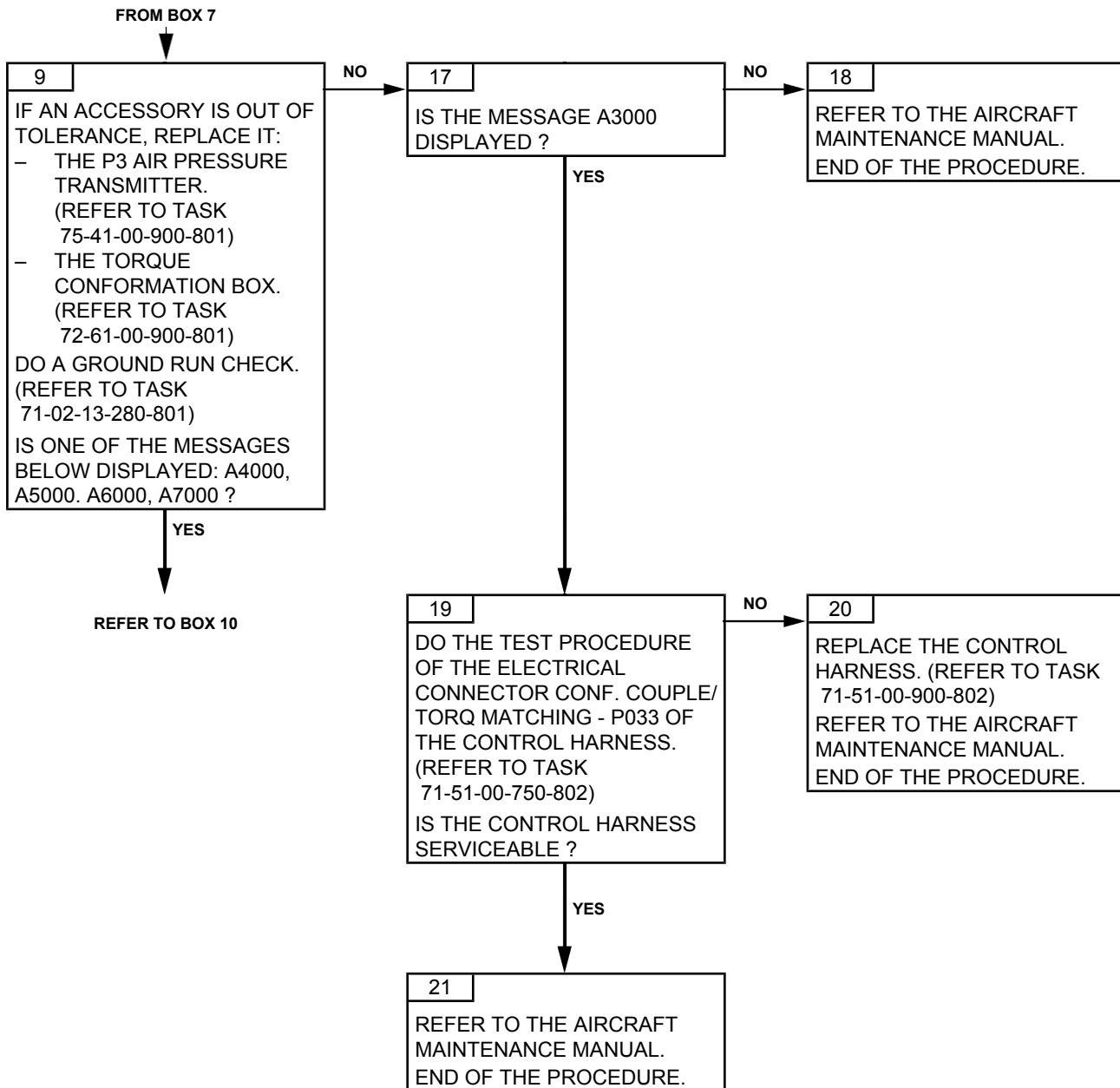
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

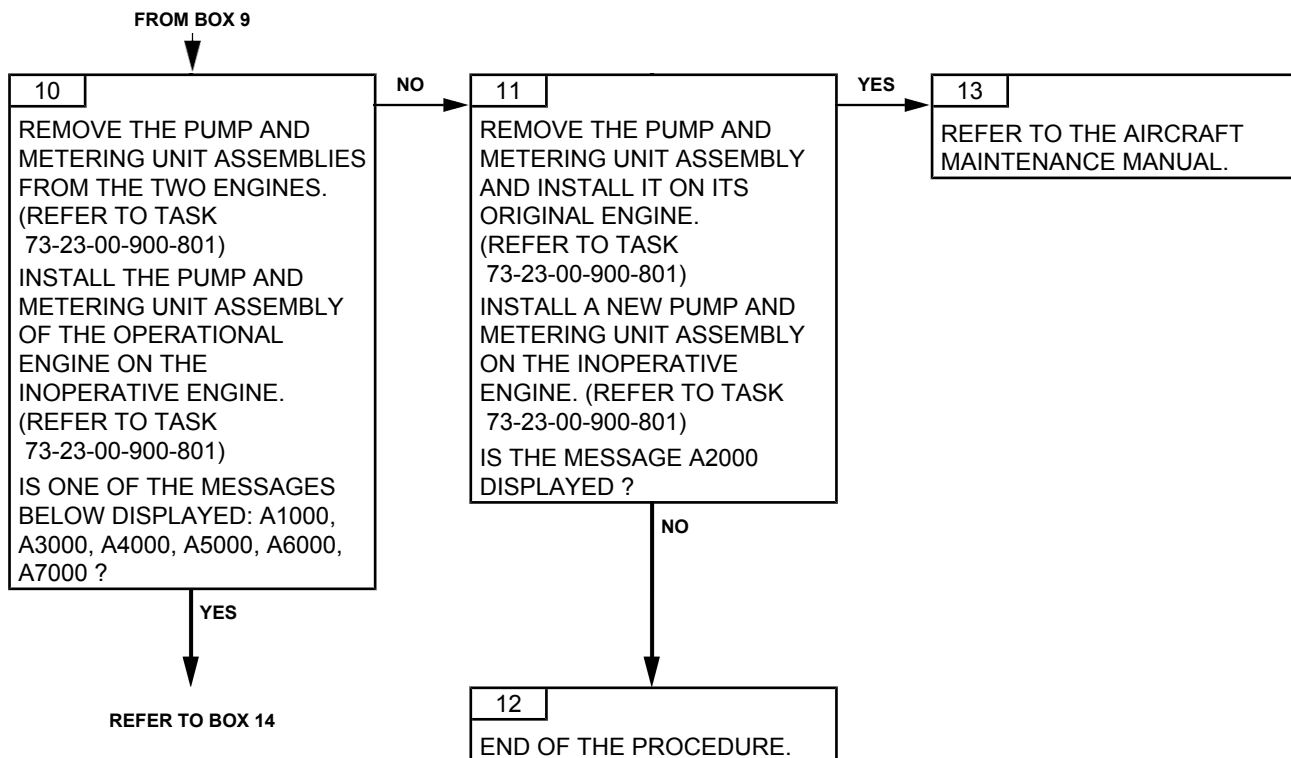


Effectivity: C

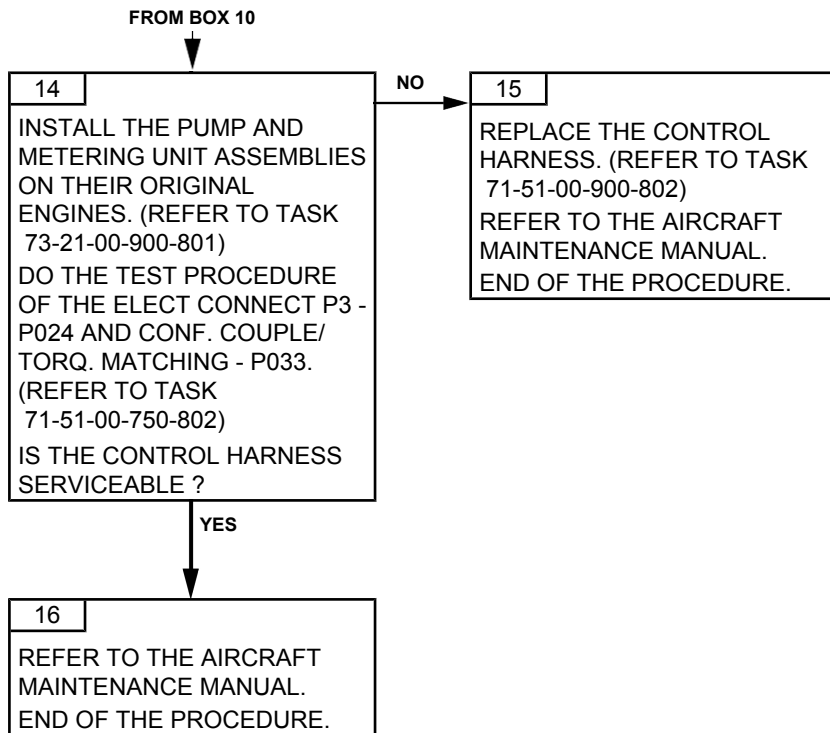


# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-869-A01

## ENGINE P0 FAILURE TROUBLESHOOTING

### 1. GENERAL

#### A. FAU MESSAGE

MODE	FAU MESSAGE				
FAILURE	P	O	\	\	E
MEMORY	A	8	0	0	0

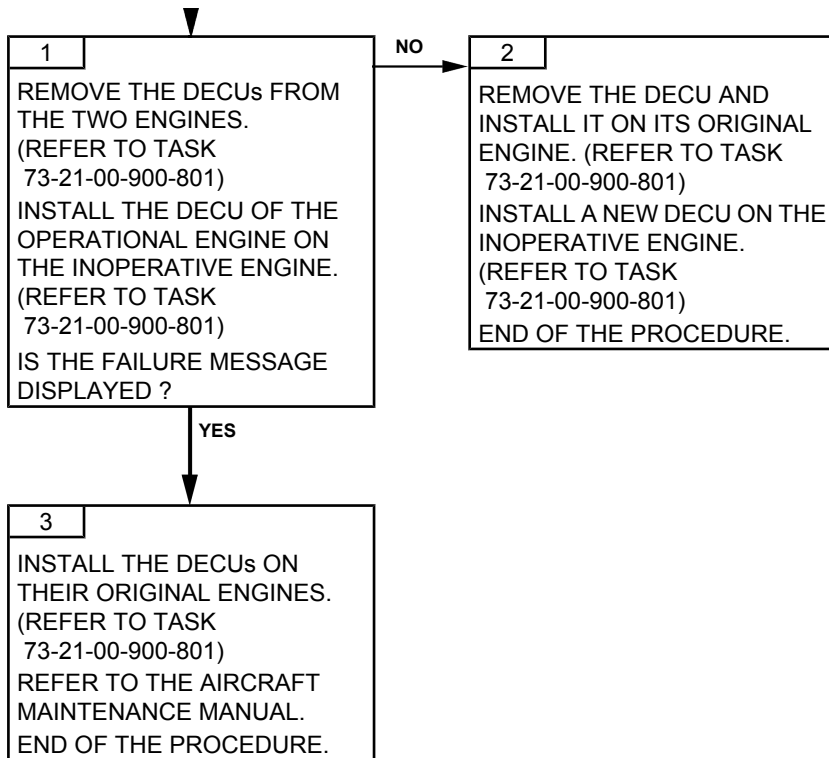
EFFECT	GOV
Valid P0 value available in reception on the inter-DECU link. Use of this back-up value. No effect.	Flashing amber
Valid P0 value not available in reception on the inter-DECU link. N1 link not corrected in P0 but the max. ratings remain available. The pilot ensures the engine thermal protection by means of the N1 and/or T4.5 indications. Transients are degraded but the engine remains protected against surge and flame-out. The start function is degraded.	Amber

#### B. POSSIBLE CAUSES

- DECU

### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-871-A01

## TORQUE CONFORMATION FAILURE AFTER POWER ON AND ENGINE P0 FAILURE TROUBLESHOOTING

### 1. GENERAL

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	9	0	0	0

<i>EFFECT</i>	<i>GOV</i>
Valid P0 value available in reception on the inter-DECU link. Use of this back-up value. No effect Use of the torque conformation value read by the system, before the failure	Flashing amber
Valid P0 value not available in reception on the inter-DECU link. N1 limitation not corrected in P0 but the max. ratings remain available. The pilot ensures the engine thermal protection by means of the N1 and/or T4.5 indications Transients are degraded but the engine remains protected against surge and flame-out Use of the torque conformation value read by the system, before the failure	Amber

#### B. POSSIBLE CAUSES

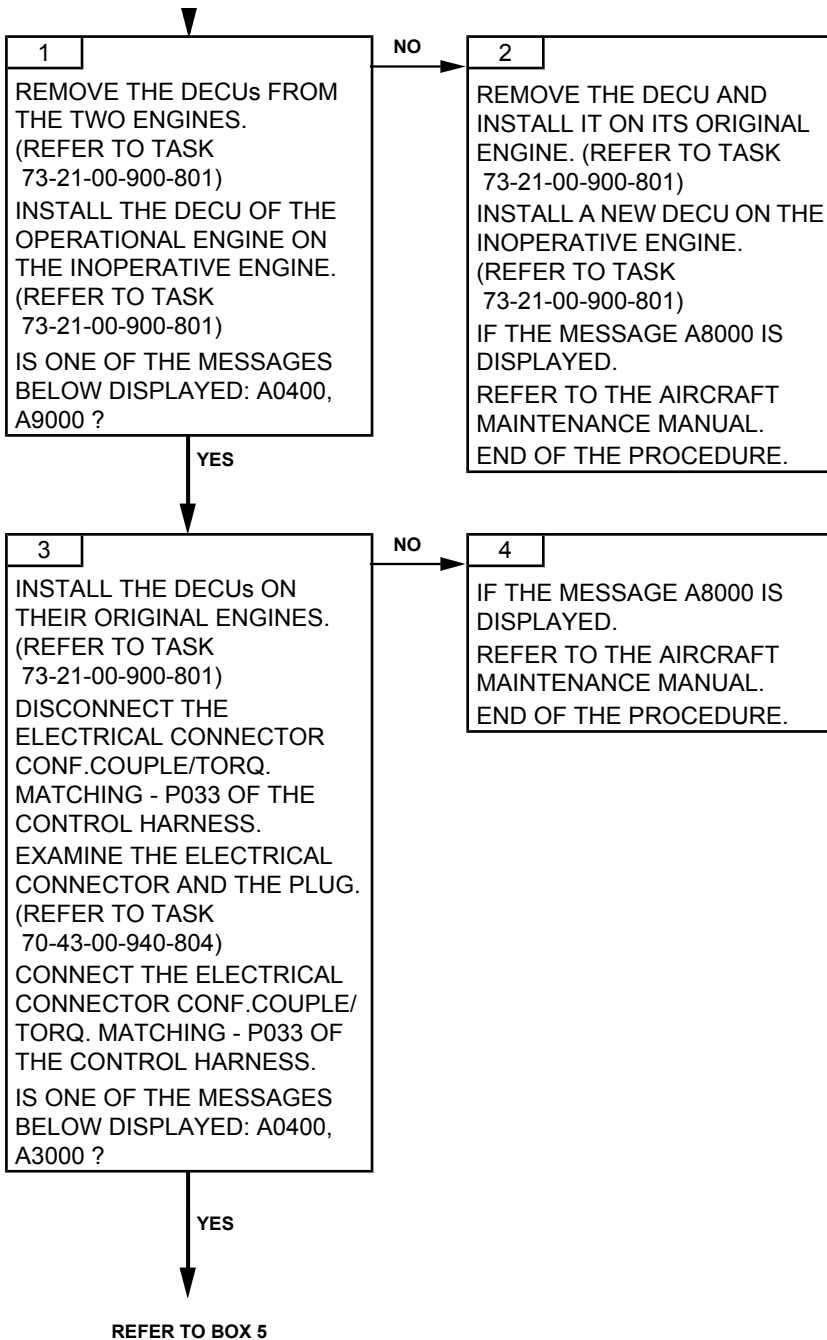
- DECU
- Torque conformation box
- Control harness

### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

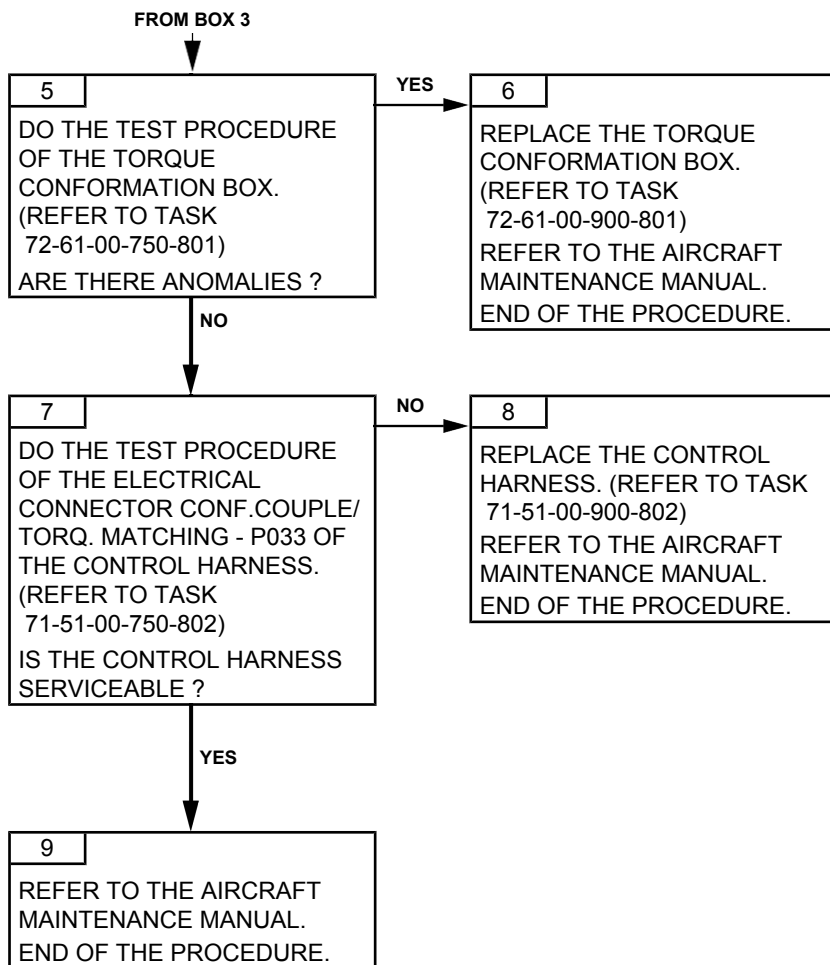
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-872-A01

### DECU INTERNAL FAILURE AND ENGINE P0 FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	A	A	0	0	0

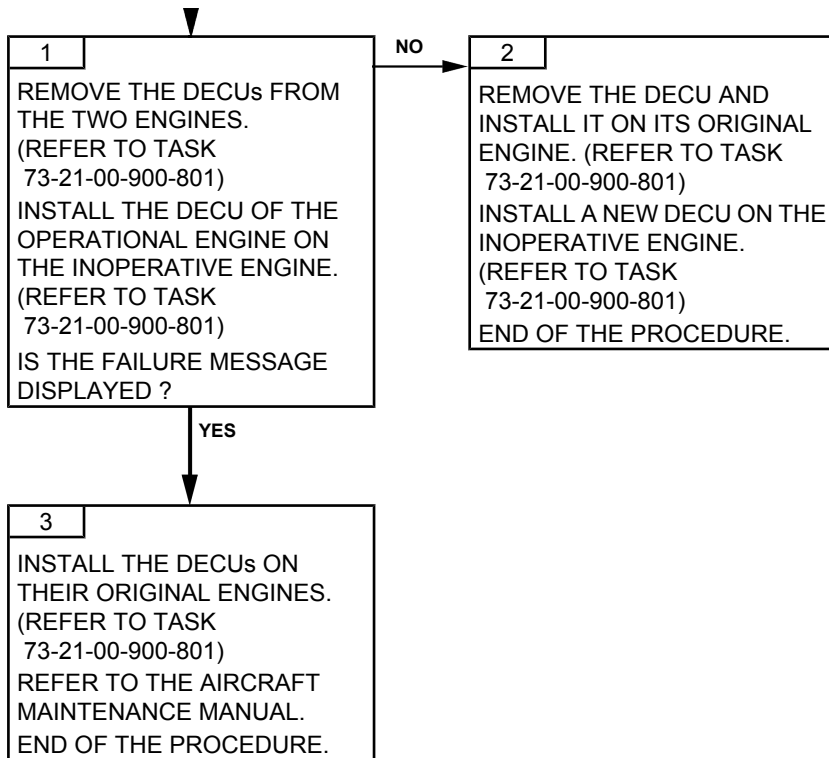
<i>EFFECT</i>	<i>GOV</i>
Valid P0 value available in reception on the inter-DECU link. Use of this back-up value. No effect	Flashing amber
Valid P0 value not available in reception on the inter-DECU link. N1 limitation not corrected in P0 but the max. ratings remain available. The pilot ensures the engine thermal protection by means of the N1 and/or T4.5 indications Transients are degraded but the engine remains protected against surge and flame-out The start function is degraded.	Amber

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-873-A01

## TORQUE CONFORMATION FAILURE AFTER POWER ON, DECU INTERNAL FAILURE AND ENGINE P0 FAILURE TROUBLESHOOTING

### 1. GENERAL

#### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	B	0	0	0

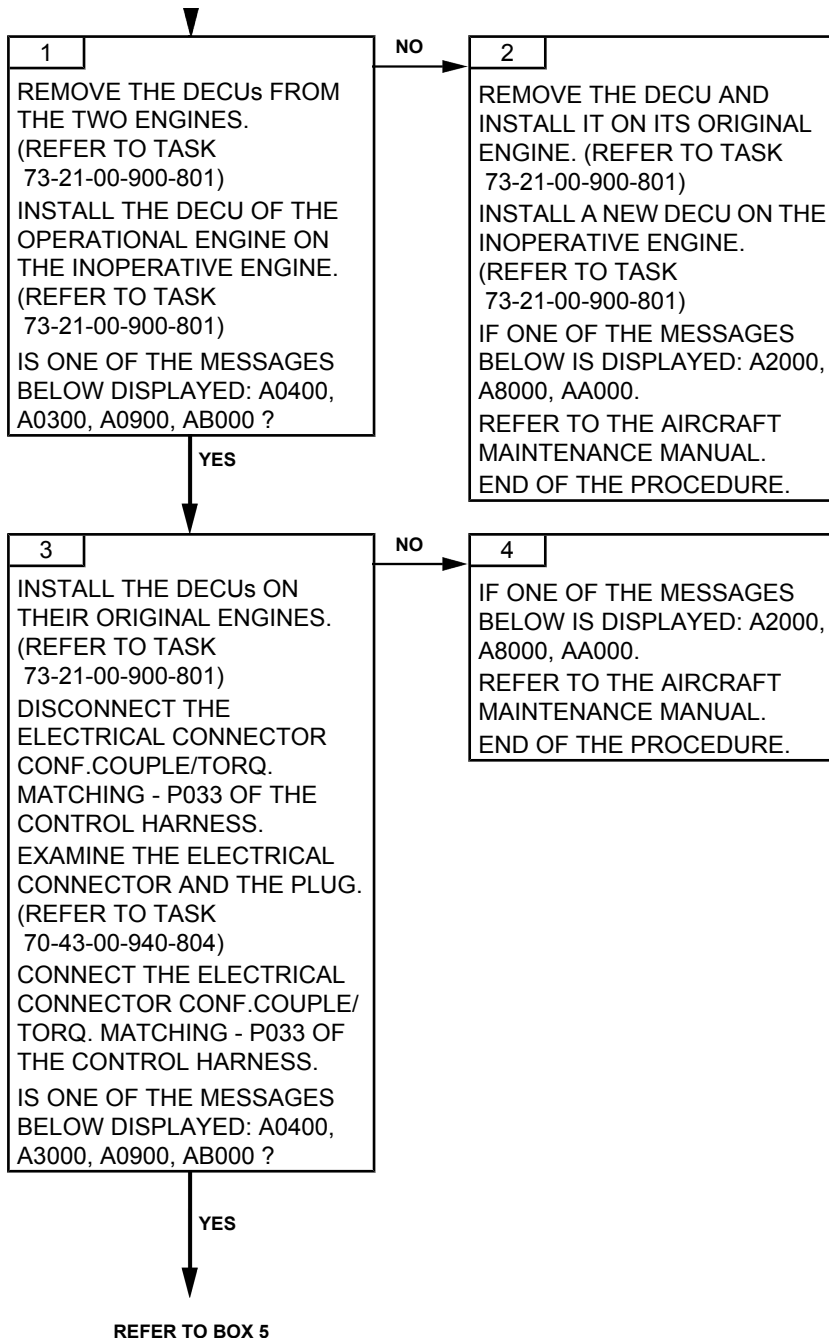
EFFECT	GOV
Valid P0 value available in reception on the inter-DECU link. Use of this back-up value. No effect Use of the torque conformation value read by the system, before the failure	Flashing amber
Valid P0 value not available in reception on the inter-DECU link. N1 limitation not corrected in P0 but the max. ratings remain available. The pilot ensures the engine thermal protection by means of the N1 and/or T4.5 indications Transients are degraded but the engine remains protected against surge and flame-out Use of the torque conformation value read by the system, before the failure	Amber

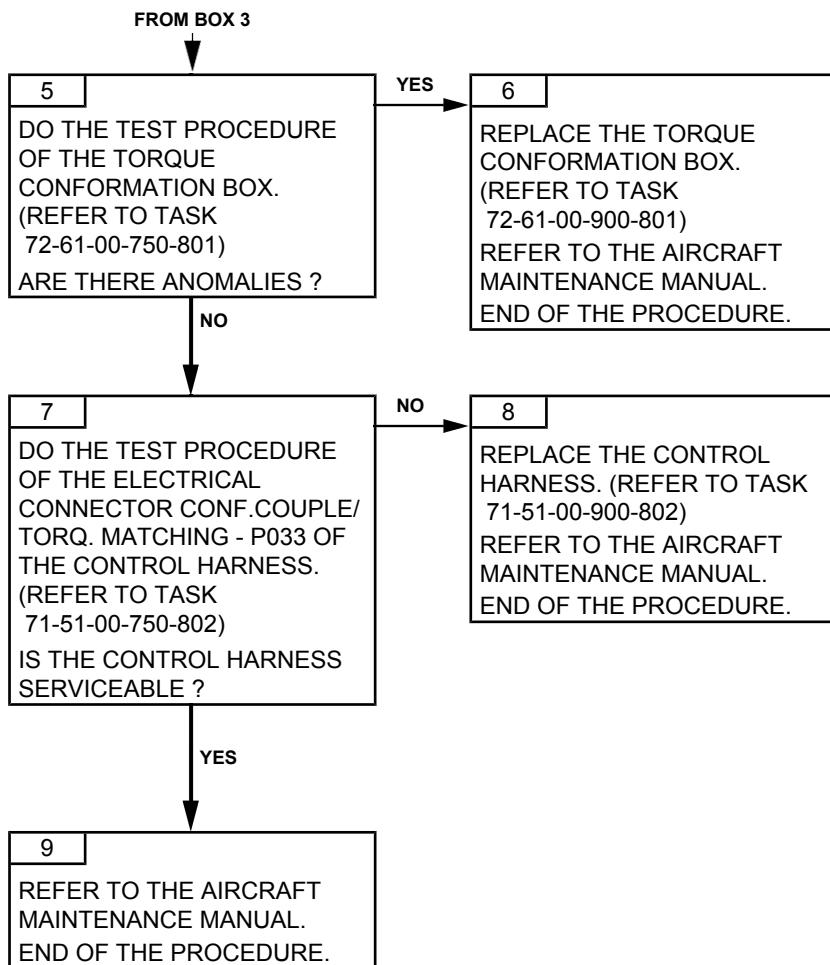
#### B. POSSIBLE CAUSES

- DECU
- Torque conformation box
- Control harness

### 2. PROCEDURE

Effectivity: C





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TASK 71-00-06-817-874-A01

### P3 DRIFT OR FLAME-OUT AND ENGINE P0 FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	C	0	0	0

EFFECT	GOV
Valid P0 value available in reception on the inter-DECU link. Use of this back-up value. Excessive limitation of the fuel flow according to P3 (no engine acceleration). Use of the torque conformation value read by the system, before the failure	Amber
Valid P0 value not available in reception on the inter-DECU link. Total failure, reversion to manual mode.	Red

***NOTE:*** *Make sure that the fuel supply system of the pump and metering unit assembly is serviceable.*

##### B. POSSIBLE CAUSES

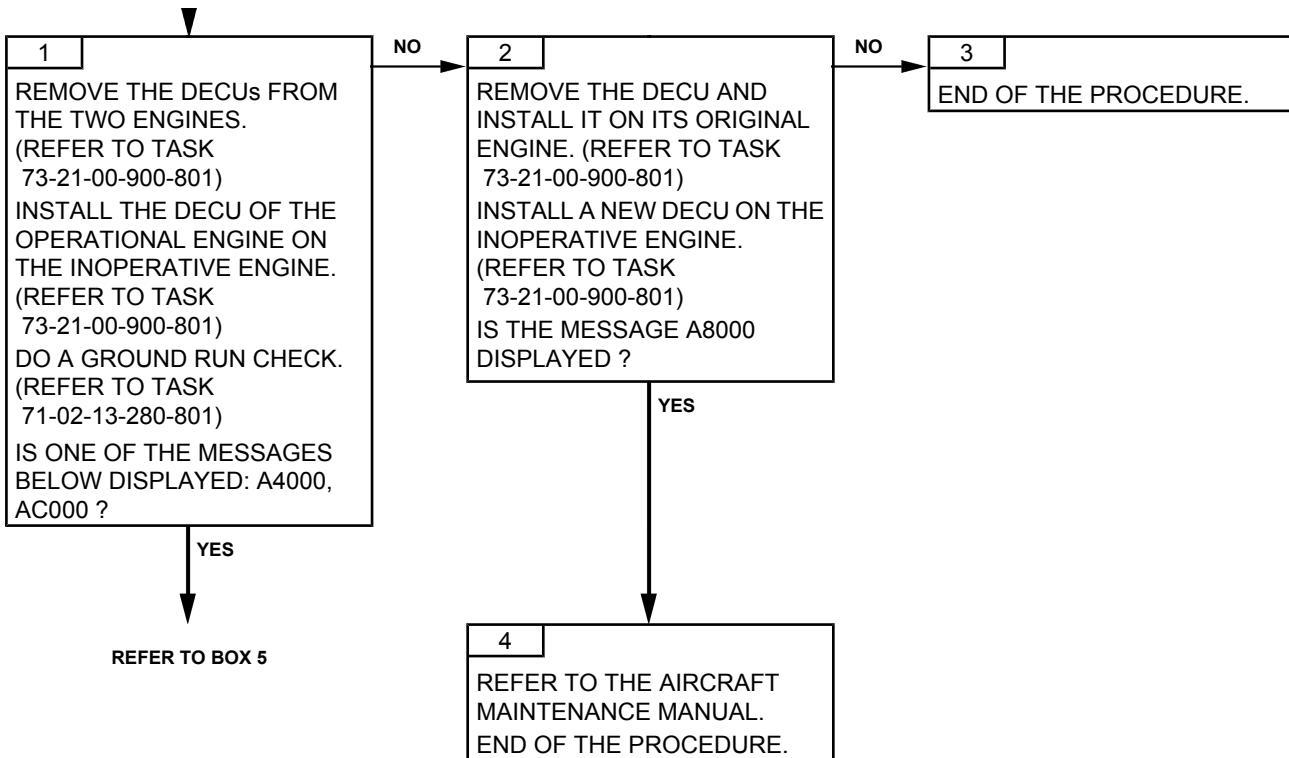
- DECU
- Tube of the P3 air pressure transmitter
- P3 tube of the metering unit assembly
- P3 air pressure transmitter
- Pump and metering unit assembly
- Control harness

#### 2. PROCEDURE

Effectivity: C

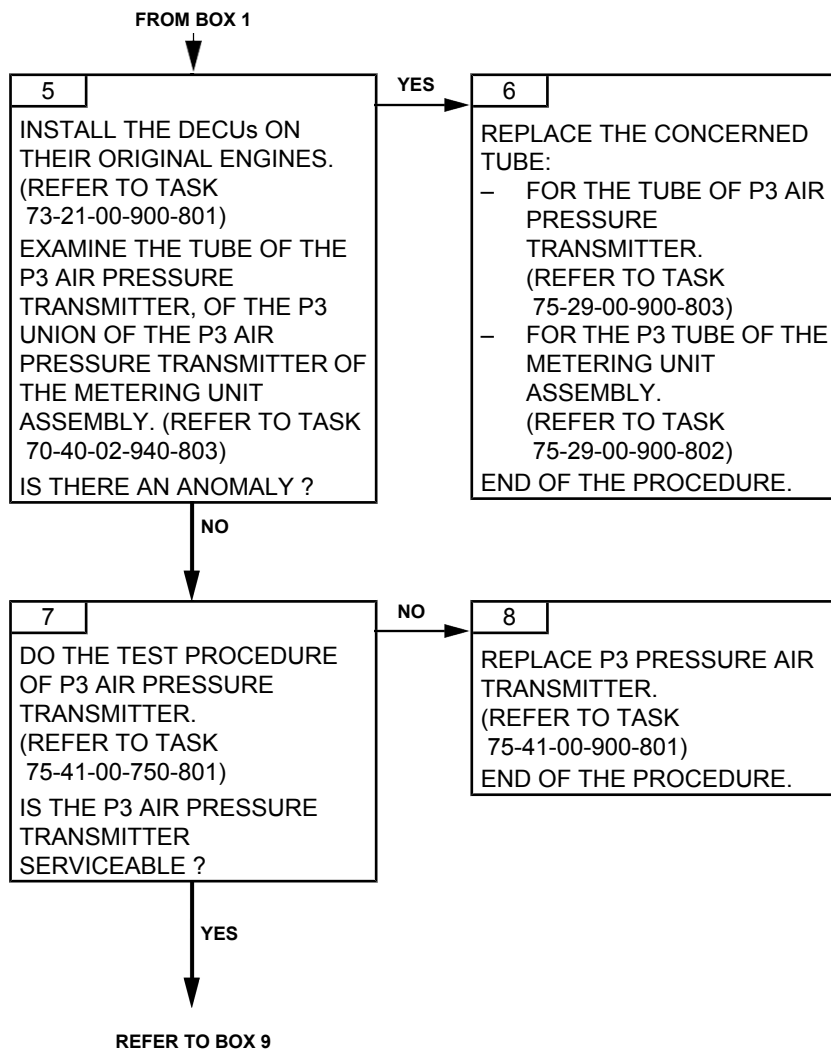
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



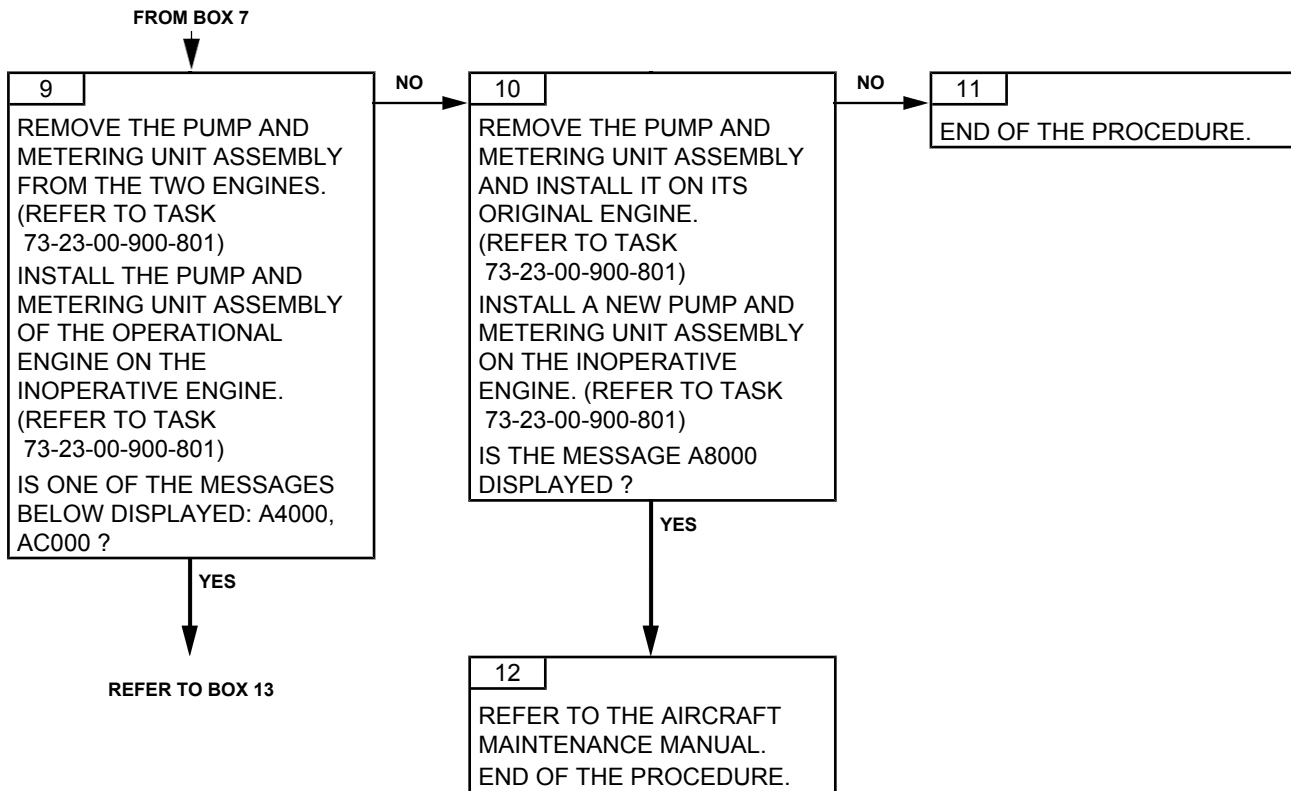
Effectivity: C





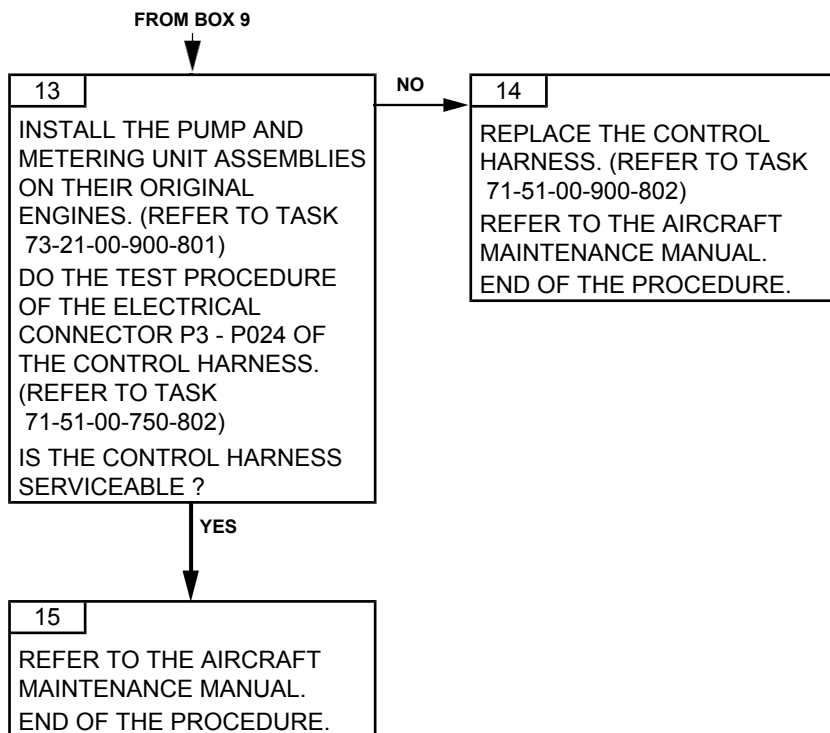
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-875-A01

### TORQUE CONFORMATION FAILURE AFTER POWER ON, P3 DRIFT OR FLAME-OUT AND ENGINE P0 FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	D	0	0	0

EFFECT	GOV
Valid P0 value available in reception on the inter-DECU link. Use of this back-up value. Excessive limitation of the fuel flow according to P3 (no engine acceleration) Use of the torque conformation value read by the system, before the failure	Amber
Valid P0 value not available in reception on the inter-DECU link Total failure, reversion to manual mode.	Red

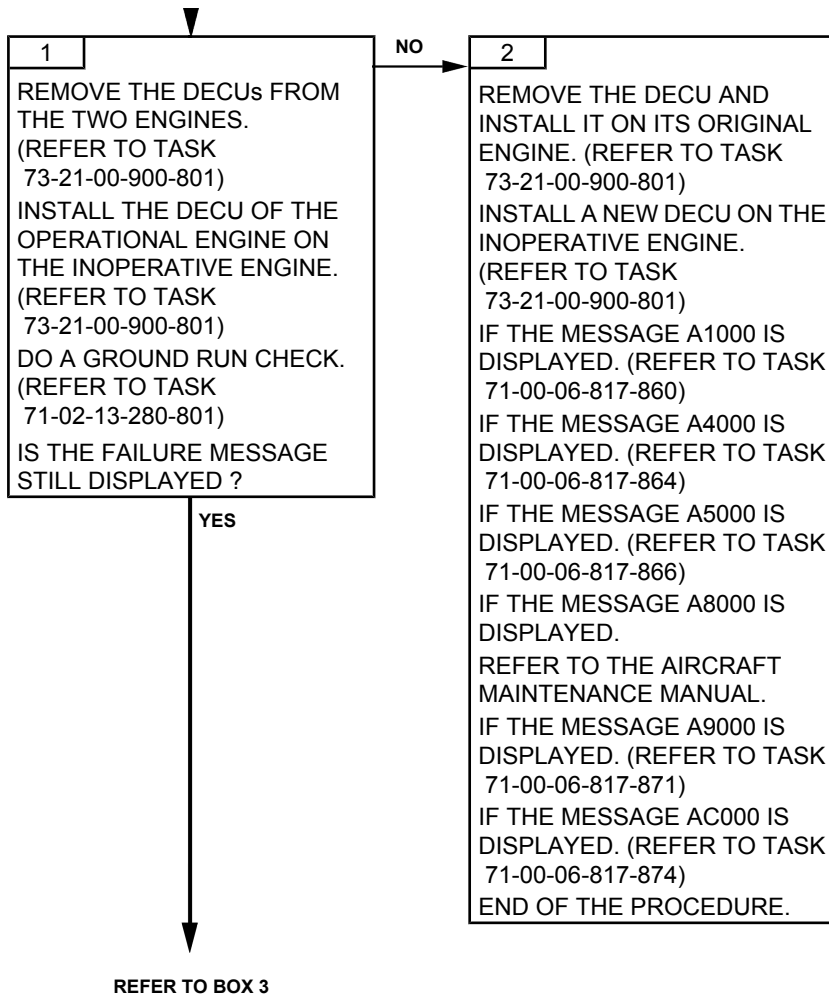
**NOTE:** *Make sure that the fuel supply system of the pump and metering unit assembly is serviceable.*

##### B. POSSIBLE CAUSES

- DECU
- Tube of the P3 air pressure transmitter
- P3 tube of the metering unit assembly
- P3 air pressure transmitter
- Torque conformation box
- Pump and metering unit assembly
- Control harness

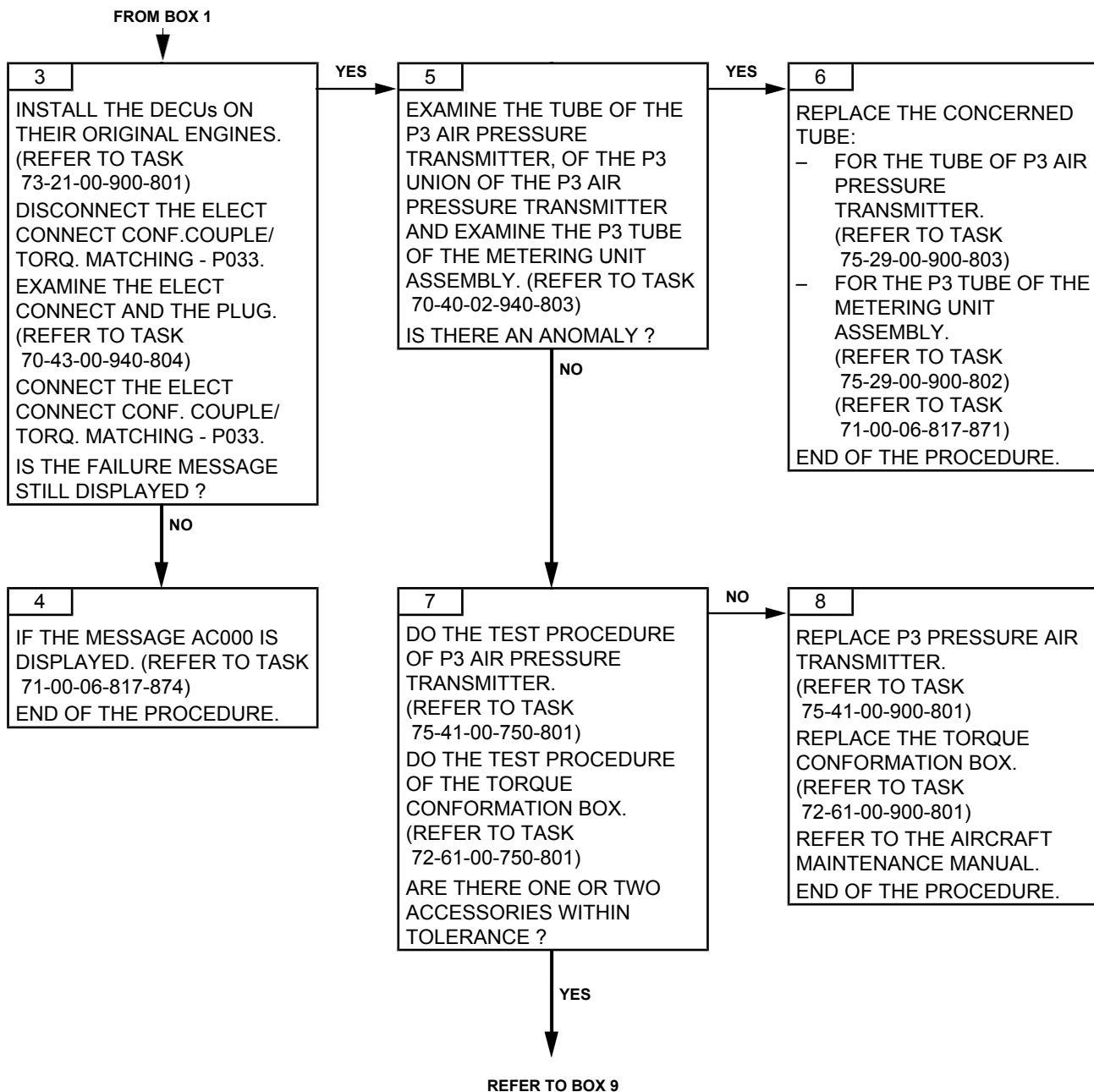
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

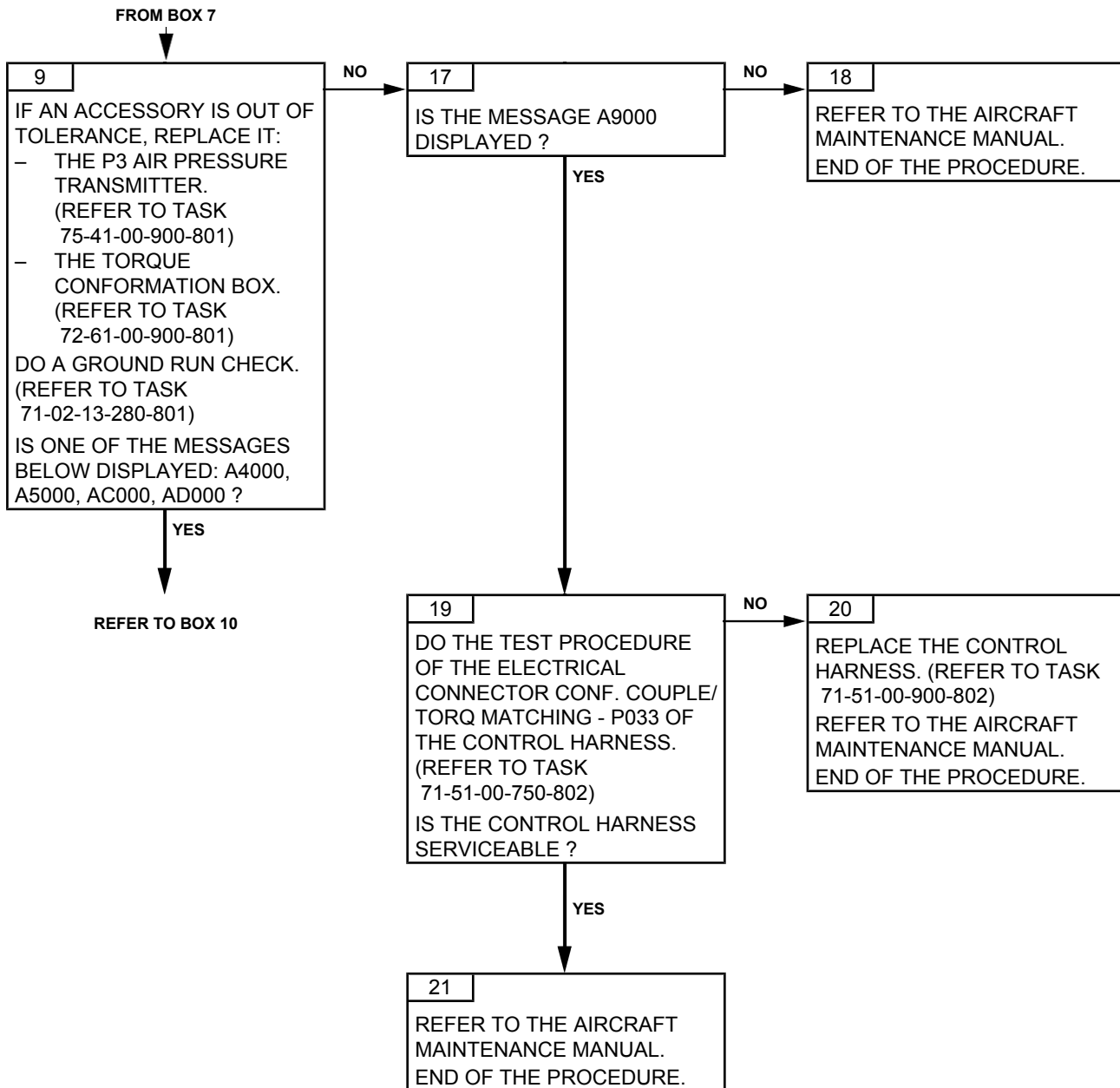
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

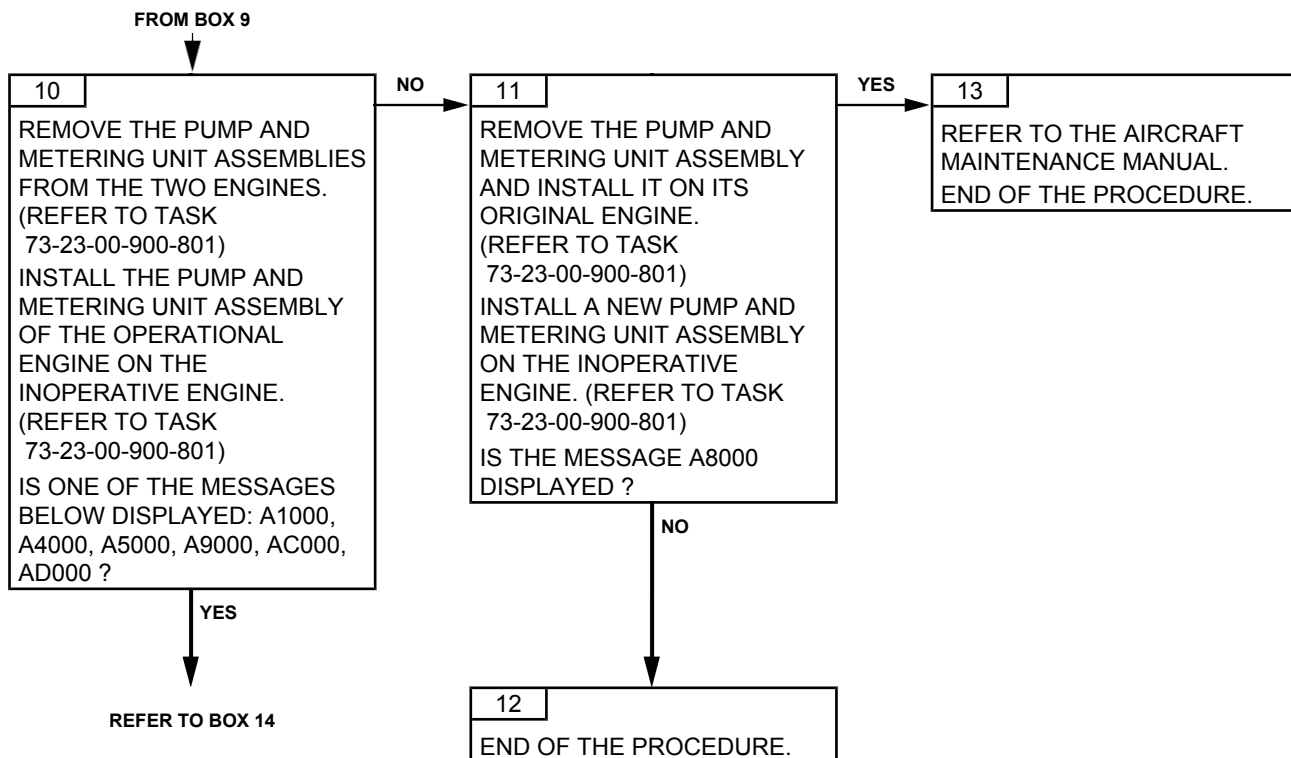


Effectivity: C



# TURBOMECA ARRIEL 2 C

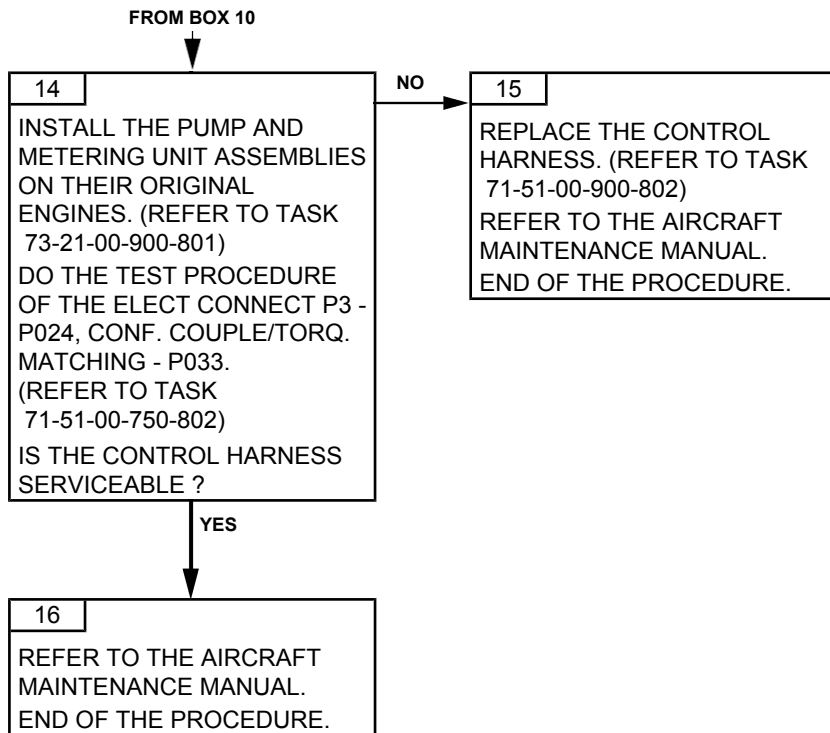
MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

TASK 71-00-06-817-876-A01

### DECU INTERNAL FAILURE, P3 DRIFT OR FLAME-OUT AND ENGINE P0 FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	E	0	0	0

EFFECT	GOV
Valid P0 value available in reception on the inter-DECU link. Use of this back-up value. Excessive limitation of the fuel flow according to P3 (no engine acceleration).	Amber
Valid P0 value not available in reception on the inter-DECU link. Total failure, reversion to manual mode.	Red

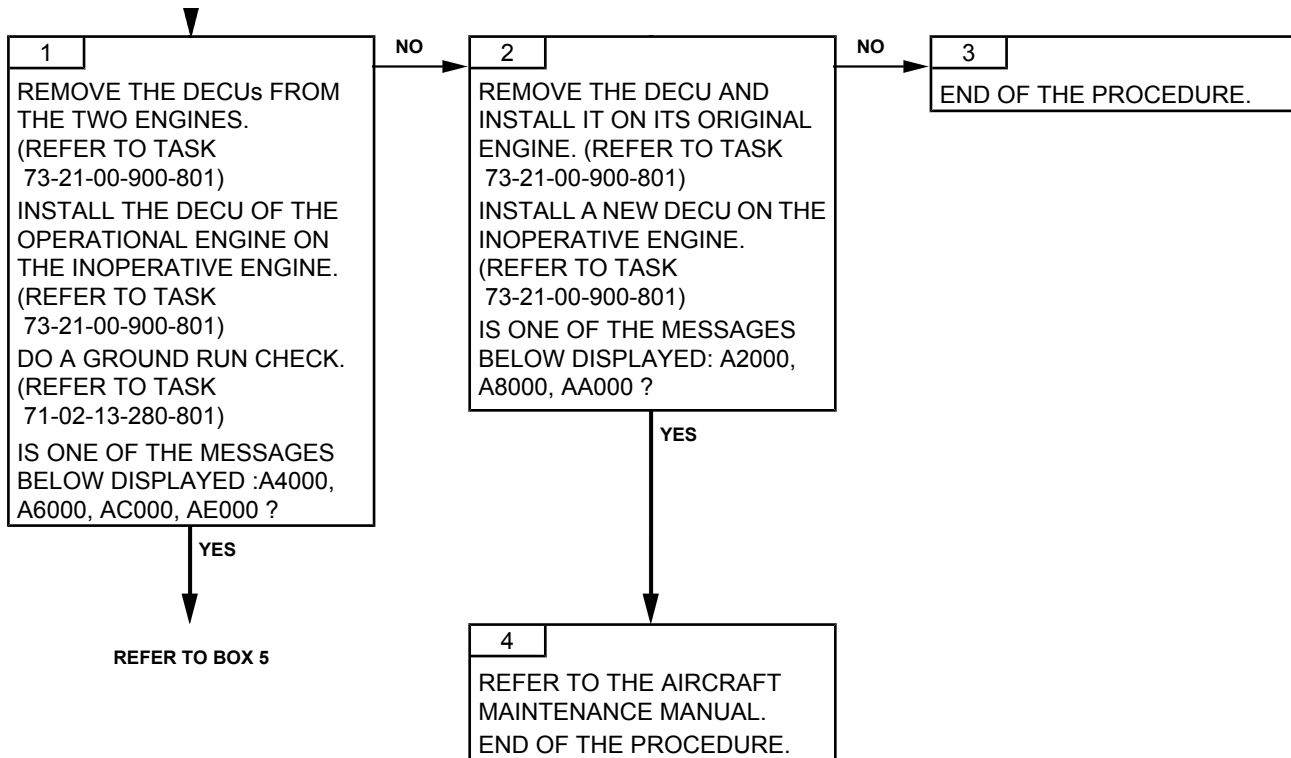
**NOTE:** *Make sure that the fuel supply system of the pump and metering unit assembly is serviceable.*

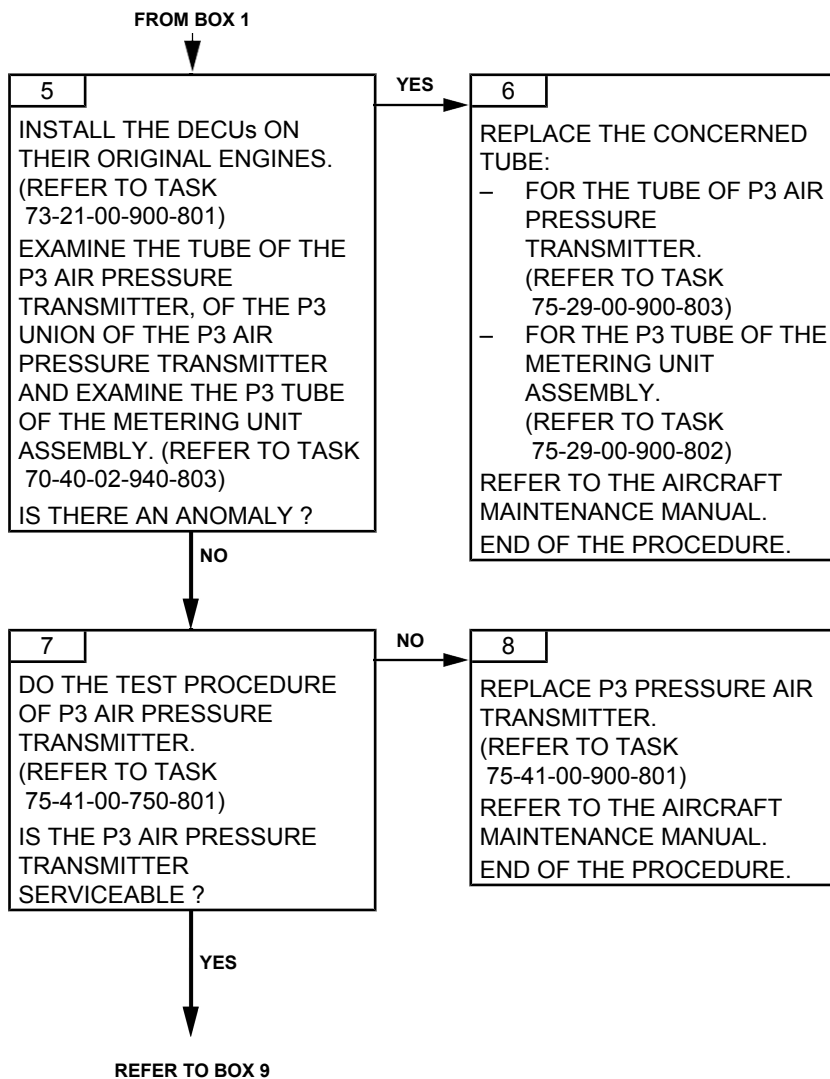
##### B. POSSIBLE CAUSES

- DECU
- Tube of the P3 air pressure transmitter
- P3 tube of the metering unit assembly
- P3 air pressure transmitter
- Pump and metering unit assembly
- Control harness

#### 2. PROCEDURE

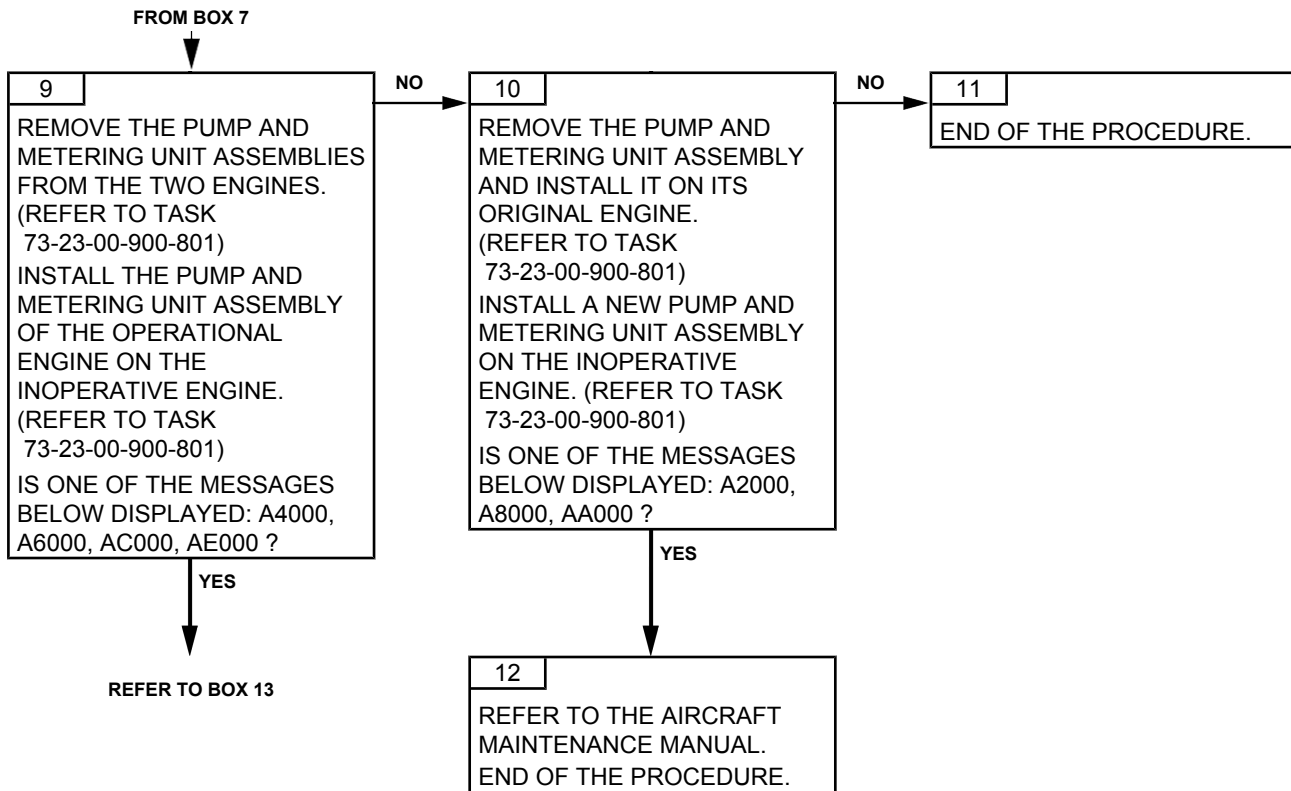
Effectivity: C





# TURBOMECA ARRIEL 2 C

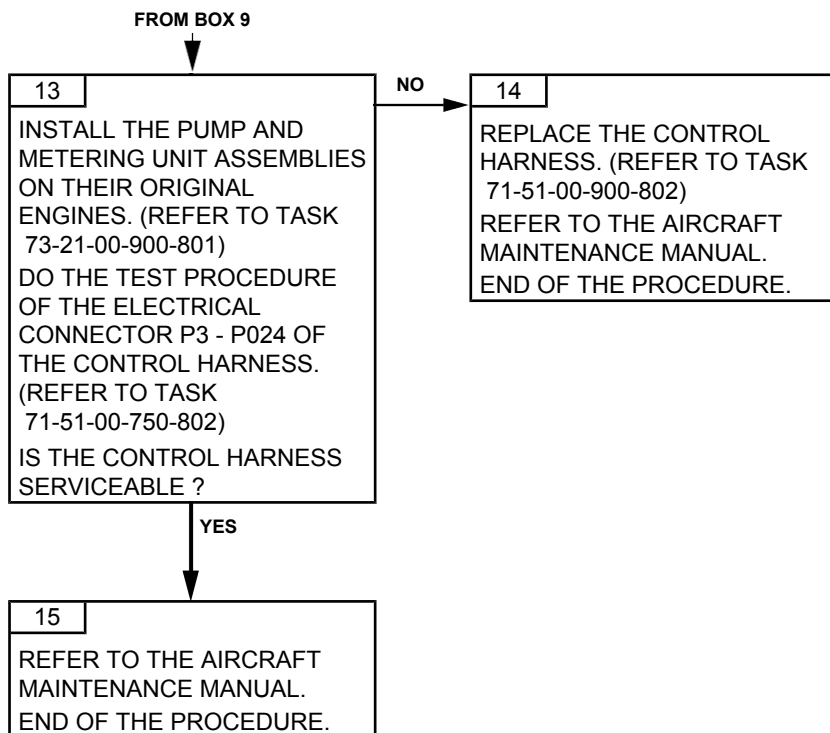
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-877-A01

### TORQUE CONFORM. FAILURE AFTER POWER ON, DECU INTERNAL FAILURE, P3 DRIFT OR FLAME-OUT AND ENGINE P0 FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	A	F	0	0	0

EFFECT	GOV
Valid P0 value available in reception on the inter-DECU link. Use of this back-up value. Excessive limitation of the fuel flow according to P3 (no engine acceleration) Use of the torque conformation value read by the system, before the failure	Amber
Valid P0 value not available in reception on the inter-DECU link Total failure, reversion to manual mode.	Red

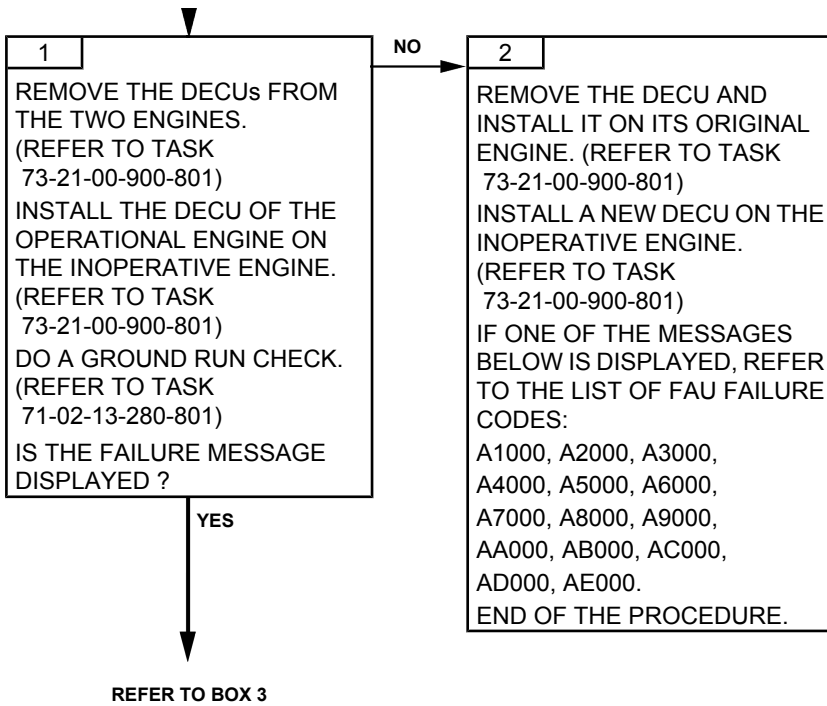
**NOTE:** *Make sure that the fuel supply system of the pump and metering unit assembly is serviceable.*

##### B. POSSIBLE CAUSES

- DECU
- Tube of the P3 air pressure transmitter
- P3 tube of the metering unit assembly
- P3 air pressure transmitter
- Torque conformation box
- Pump and metering unit assembly
- Control harness

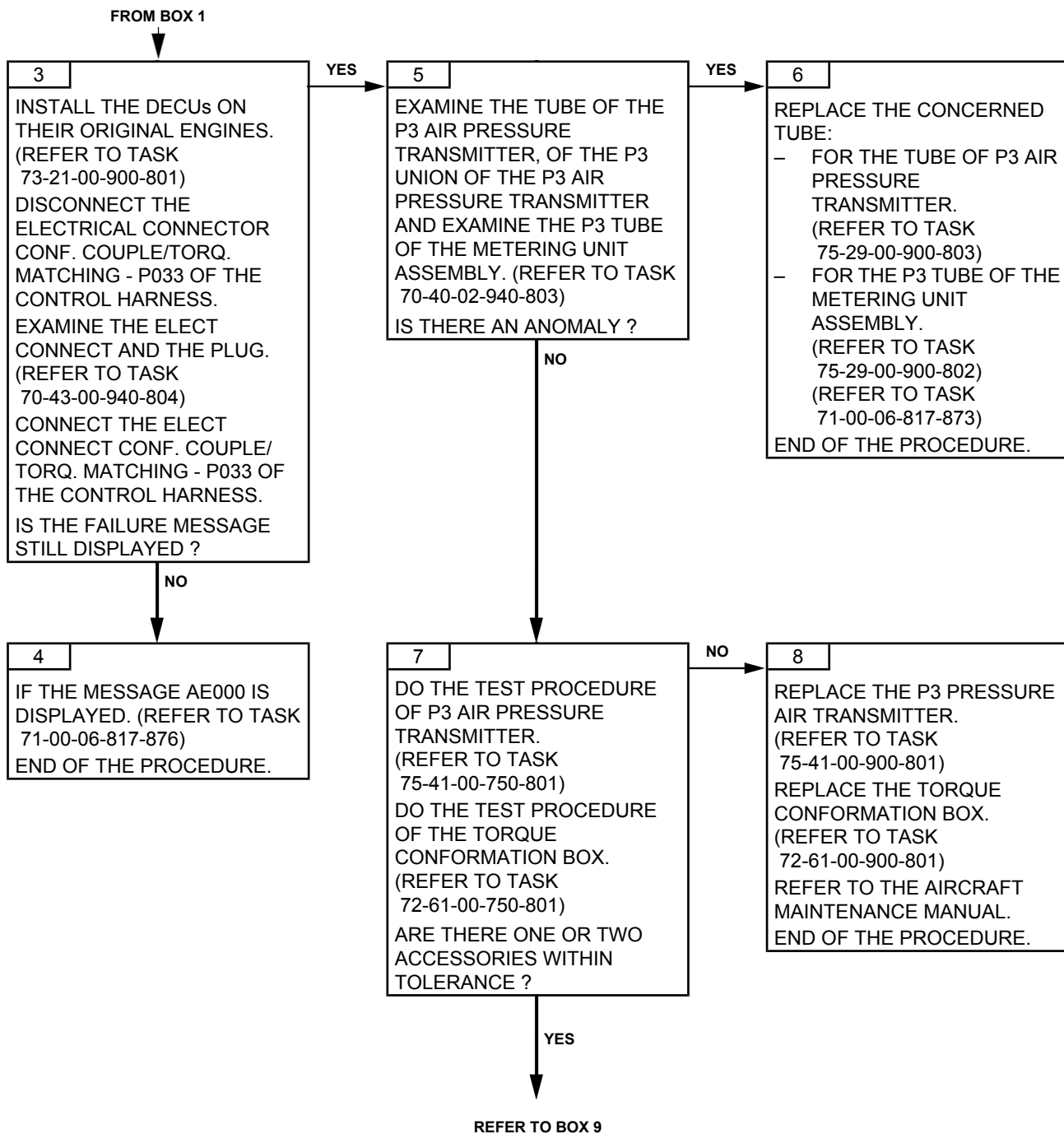
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

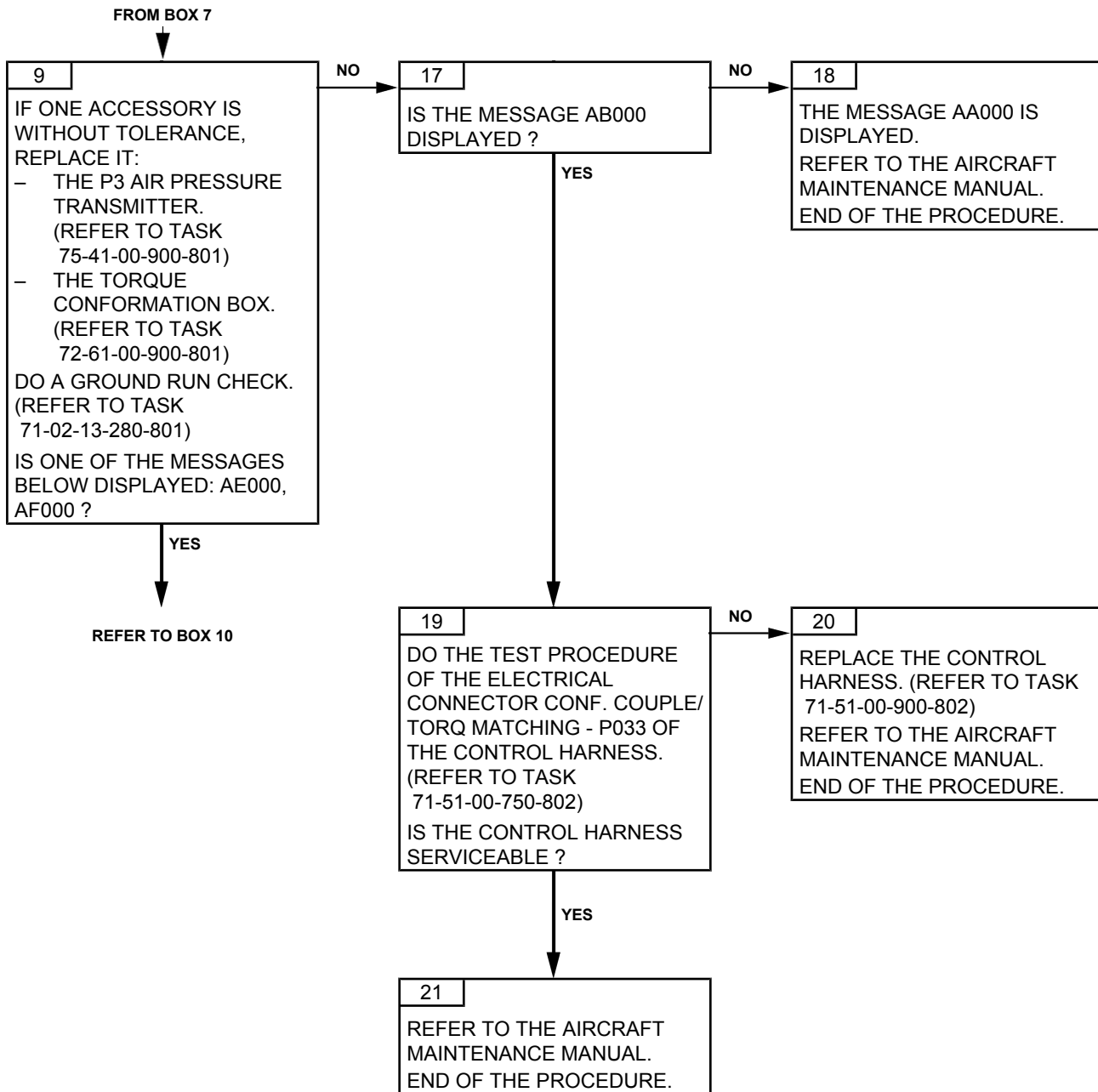
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

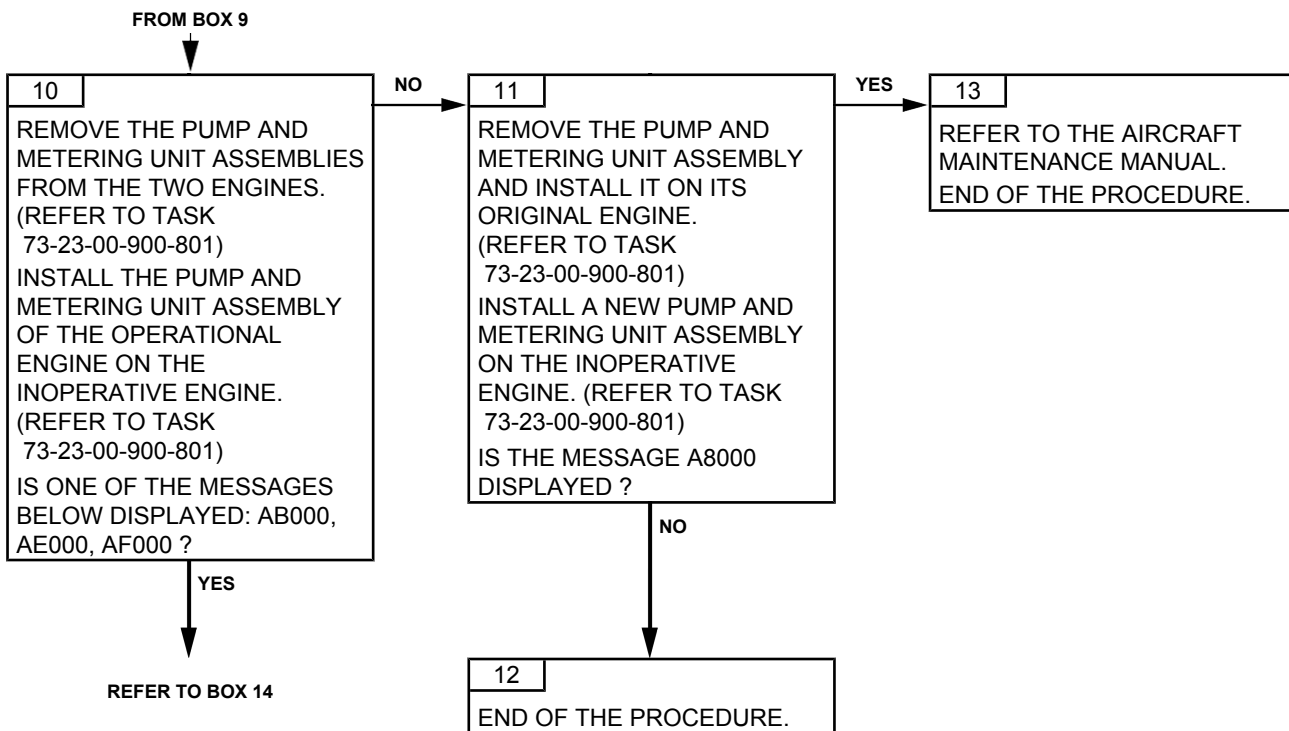
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

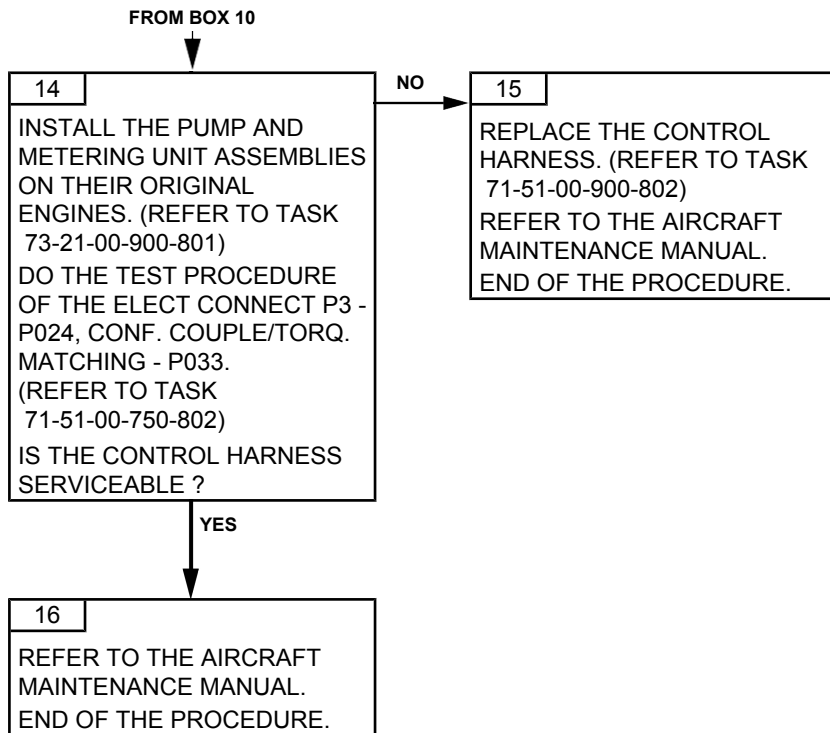
MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

TASK 71-00-06-817-878-A01

### FUEL VALVE RESOLVER FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

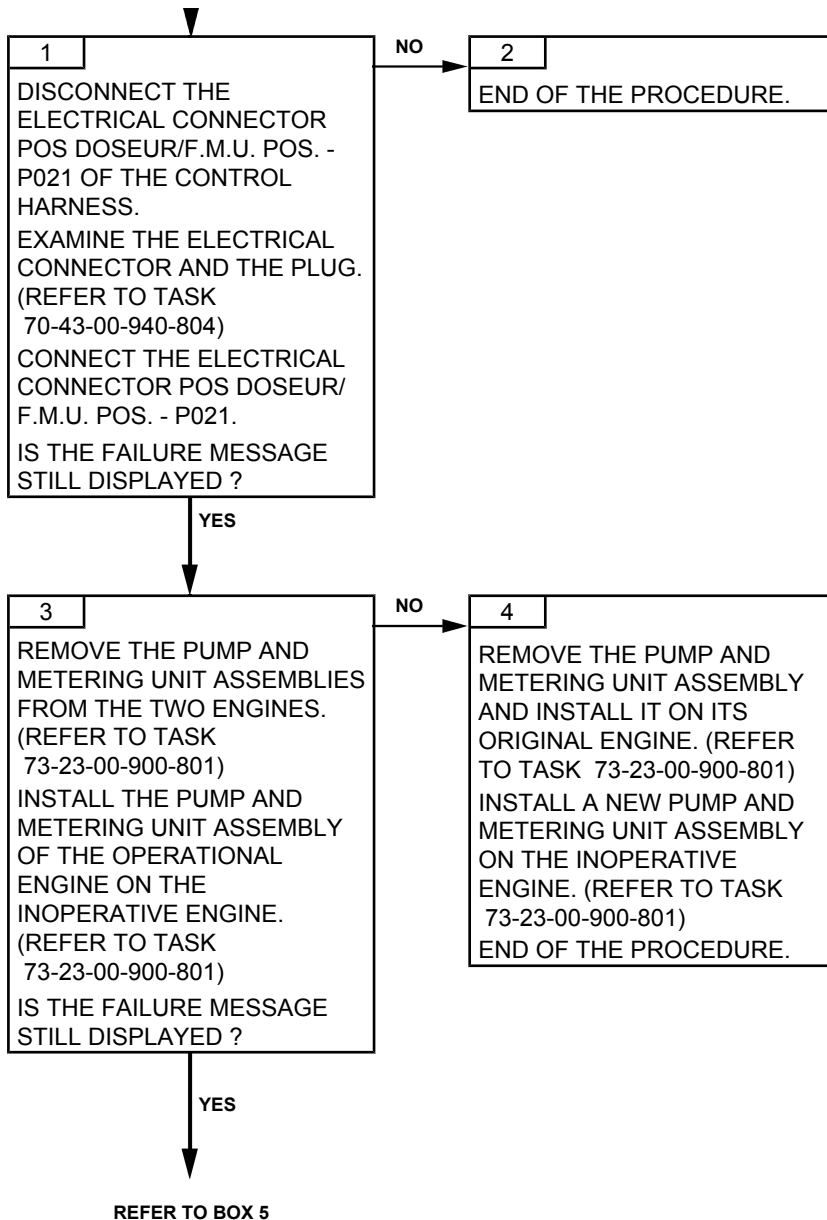
<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	R	E	S	O	L
MEMORY	B	0	0	0	1

<i>EFFECT</i>	<i>GOV</i>
AT INITIALISATION Total failure. Reversion to manual mode.	Red
AFTER INITIALISATION, AND MANUAL CONTROL IN NEUTRAL POSITION AND AUTOMATIC MODE No effect on control whilst in automatic mode and manual control in neutral position.	Flashing amber
AFTER INITIALISATION, AND MANUAL CONTROL OUT OF NEUTRAL POSITION OR MANUAL MODE Total failure. Reversion to manual mode.	Red

##### B. POSSIBLE CAUSES

- Pump and metering unit assembly
- DECU
- Control harness

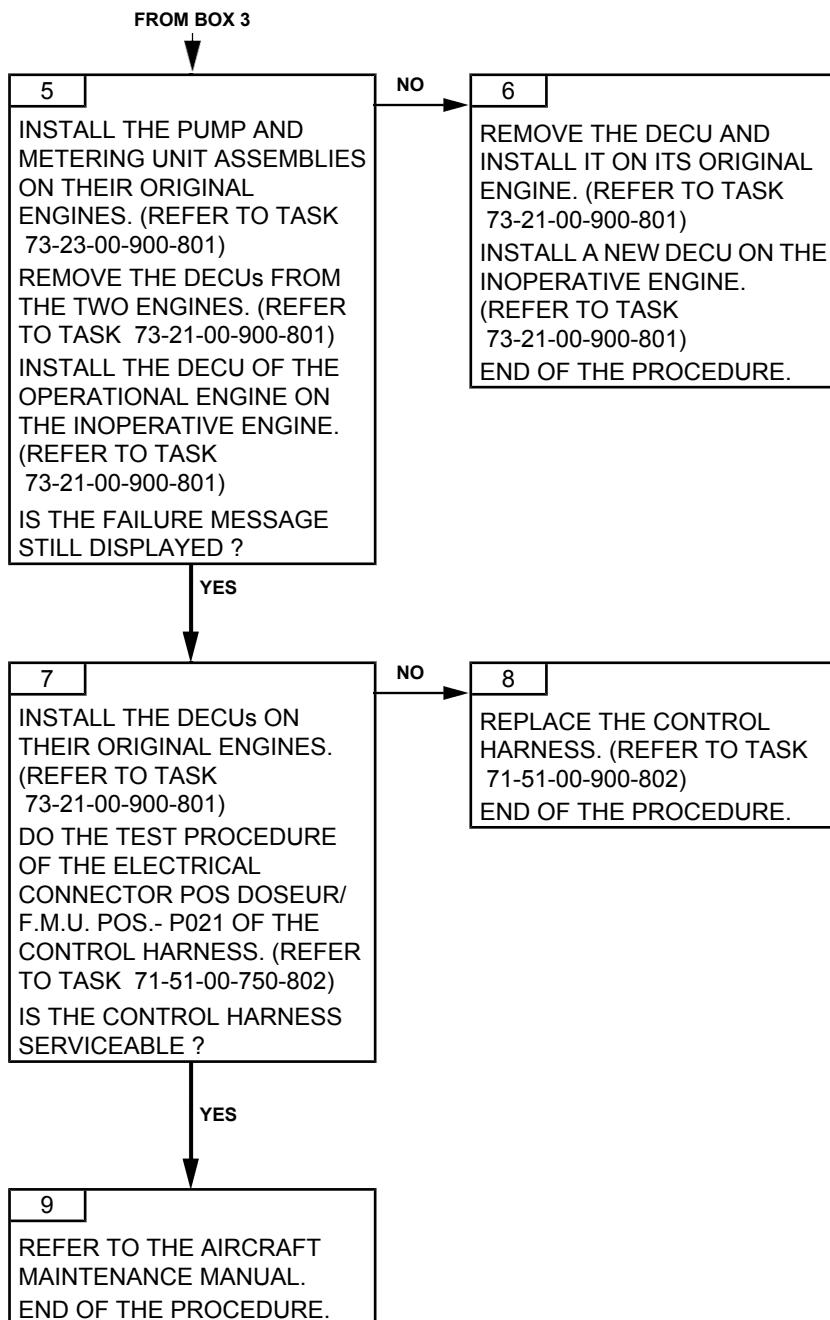
#### 2. PROCEDURE





# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C BASE

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TASK 71-00-06-817-878-B01

### FUEL VALVE RESOLVER FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	R	E	S	O	L
MEMORY	B	0	0	0	1

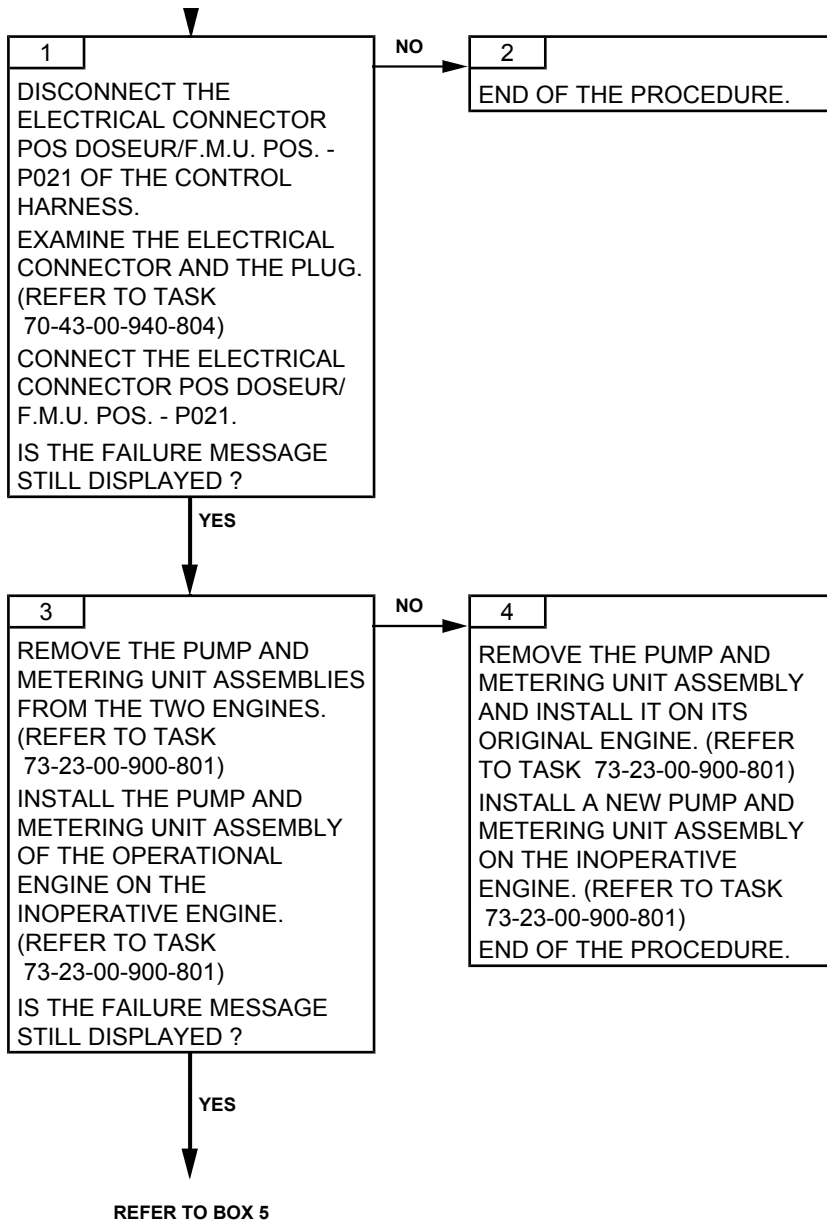
<i>EFFECT</i>	<i>GOV</i>
AT INITIALISATION Total failure. Reversion to manual mode.	Red
AFTER INITIALISATION, AND MANUAL CONTROL IN NEUTRAL POSITION AND AUTOMATIC MODE No effect on control whilst in automatic mode and manual control in neutral position.	Amber
AFTER INITIALISATION, AND MANUAL CONTROL OUT OF NEUTRAL POSITION OR MANUAL MODE Transients are degraded but the engine remains protected against surge and Flame-out	Amber

##### B. POSSIBLE CAUSES

- Pump and metering unit assembly
- DECU
- Control harness

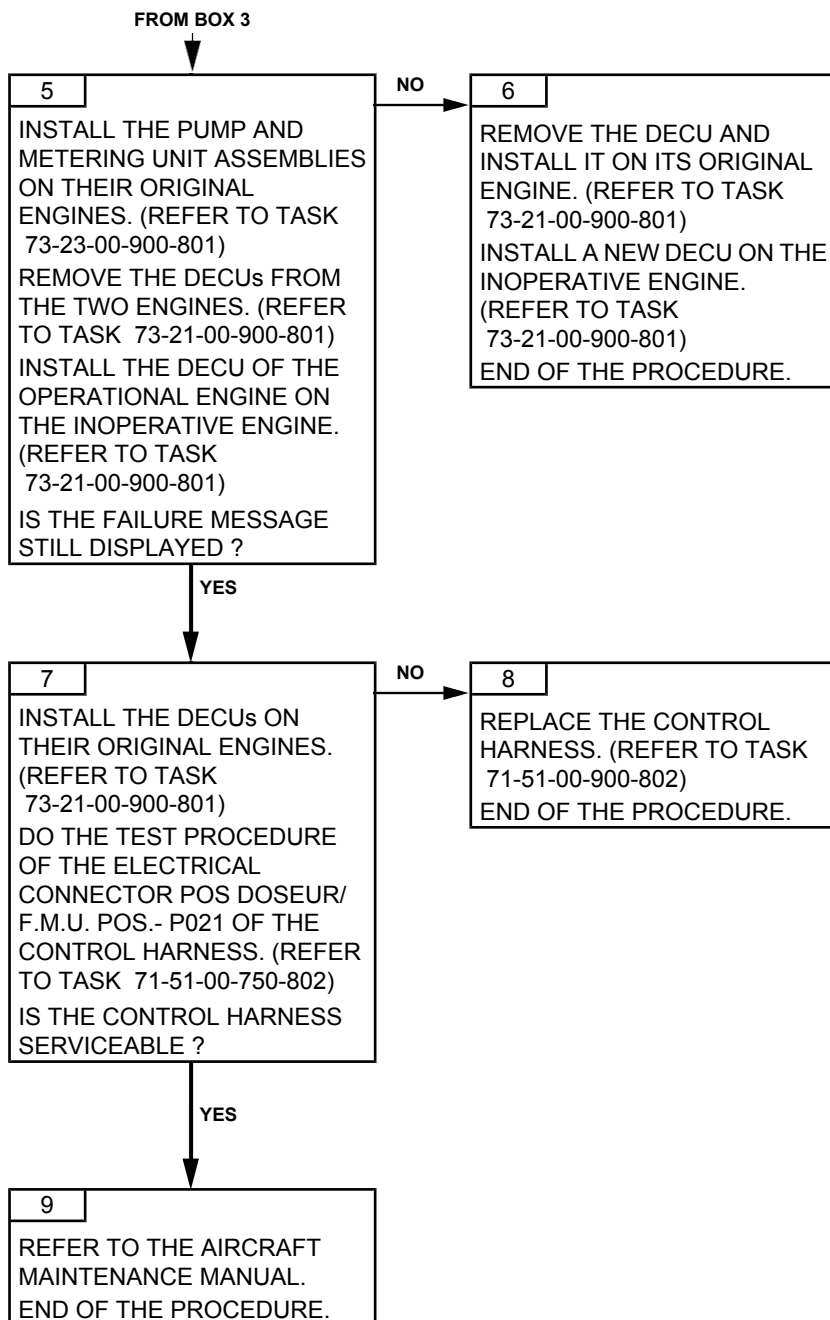
#### 2. PROCEDURE

Effectivity: C TU 067C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



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TASK 71-00-06-817-880-A01

**STEPPER MOTOR FAILURE  
TROUBLESHOOTING****1. GENERAL**

**CAUTION:** IF THE FAILURE MESSAGE IS STILL DISPLAYED AT NEXT POWER ON,  
ROTATE FIRST THE DECUS.

**A. FAU MESSAGE**

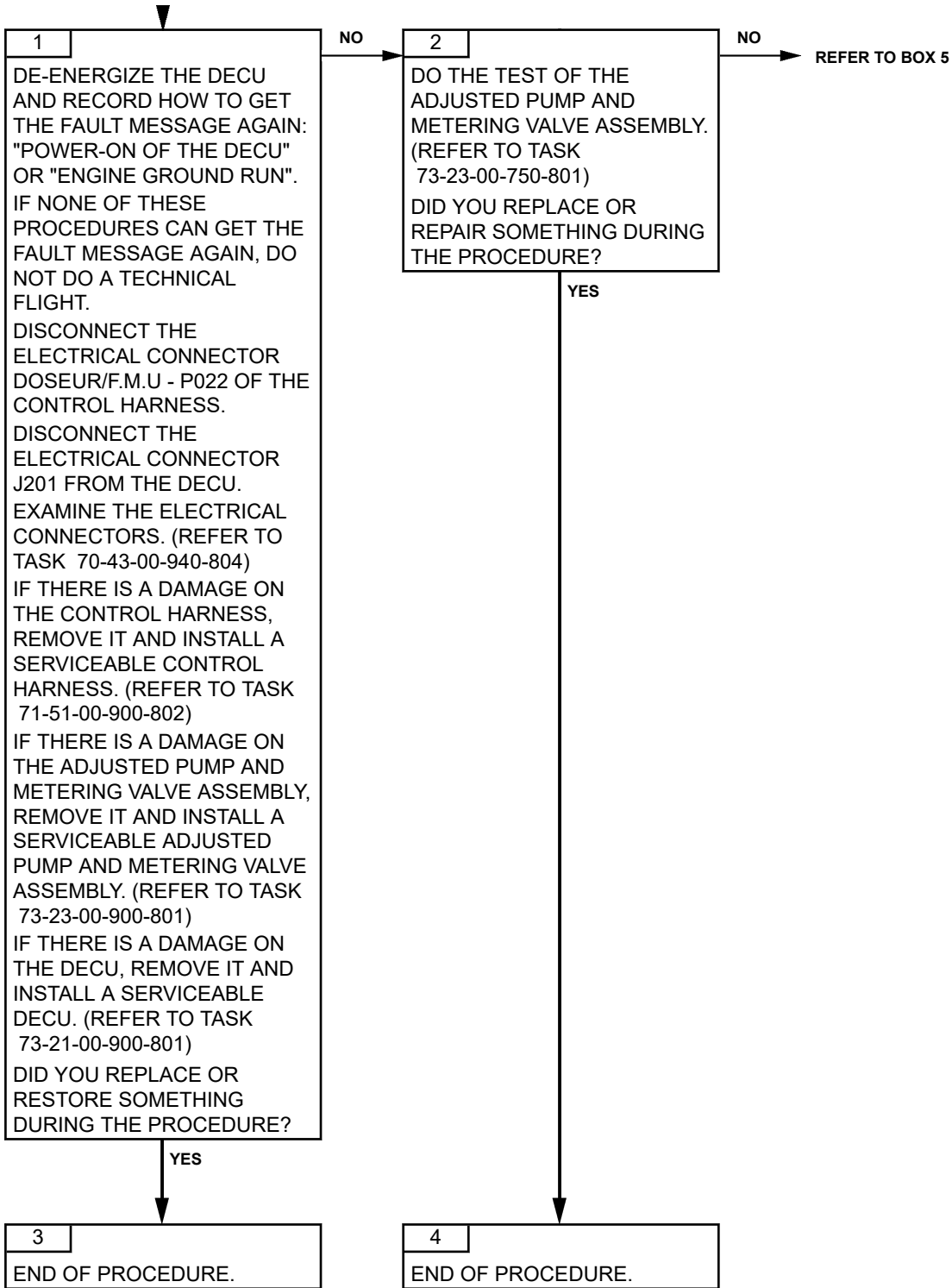
<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	M	O	T	O	R
MEMORY	B	0	0	0	2

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Total failure. Reversion to manual mode.	Red

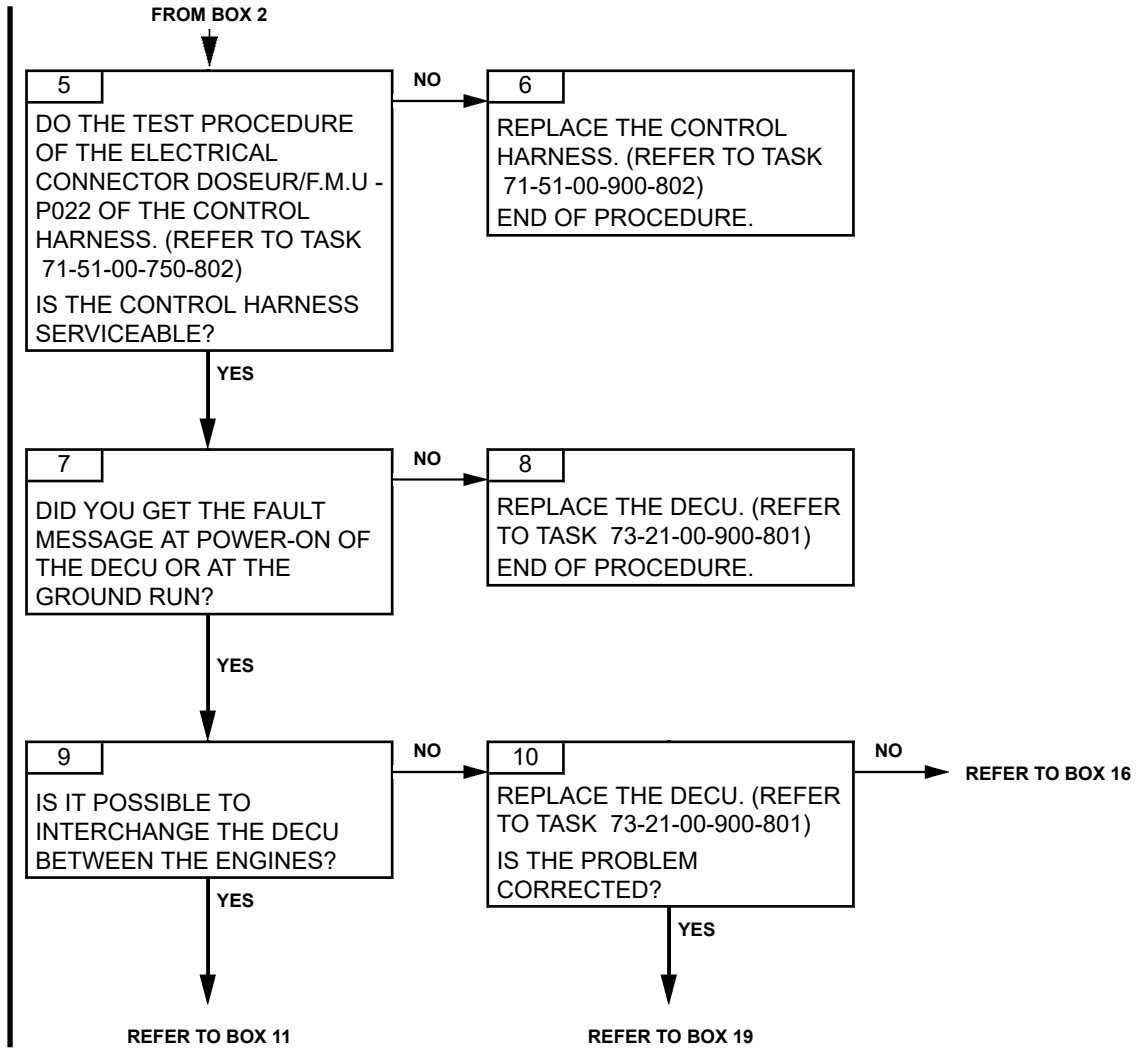
**B. POSSIBLE CAUSES**

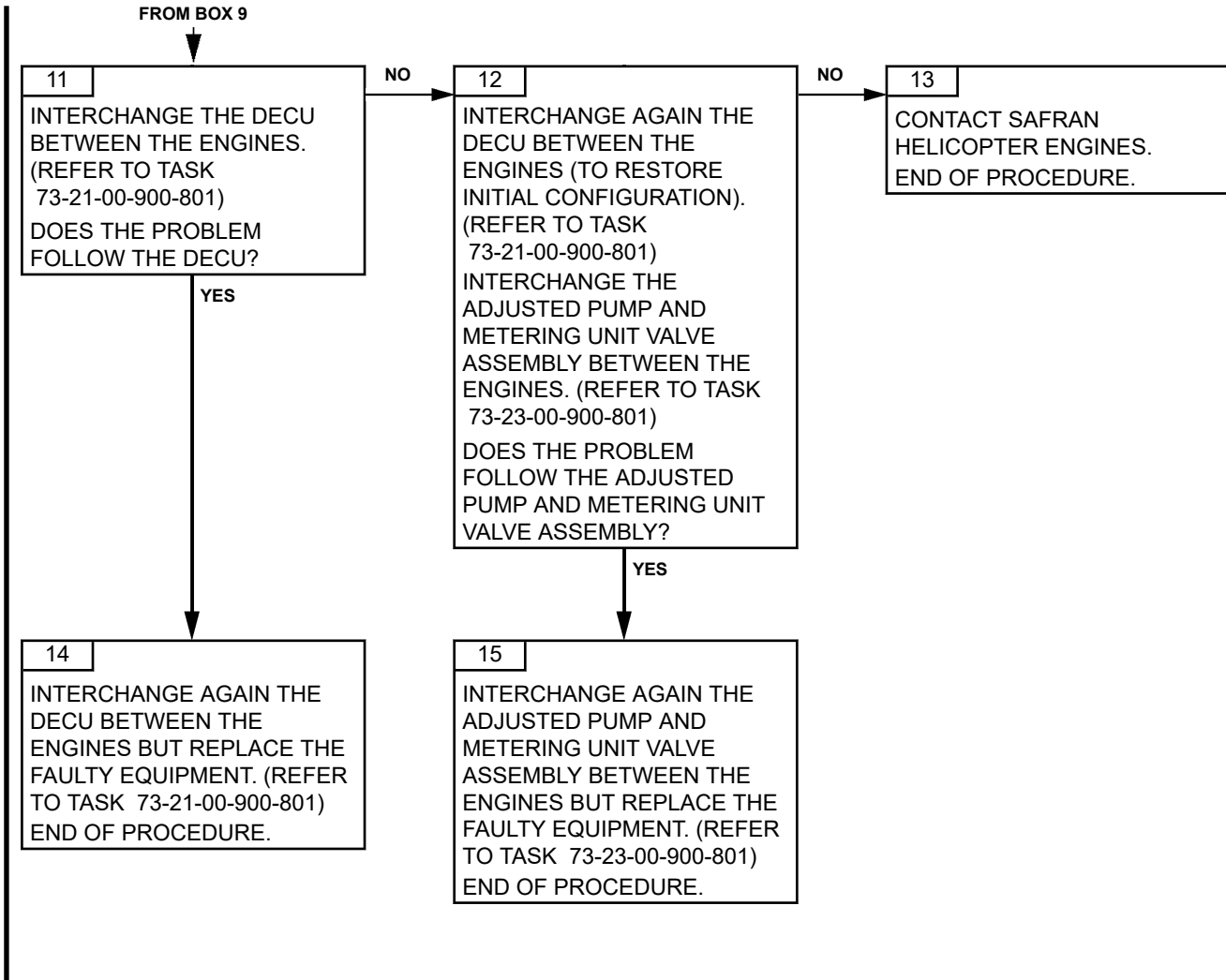
- Pump and metering unit assembly
- DECU
- Control harness

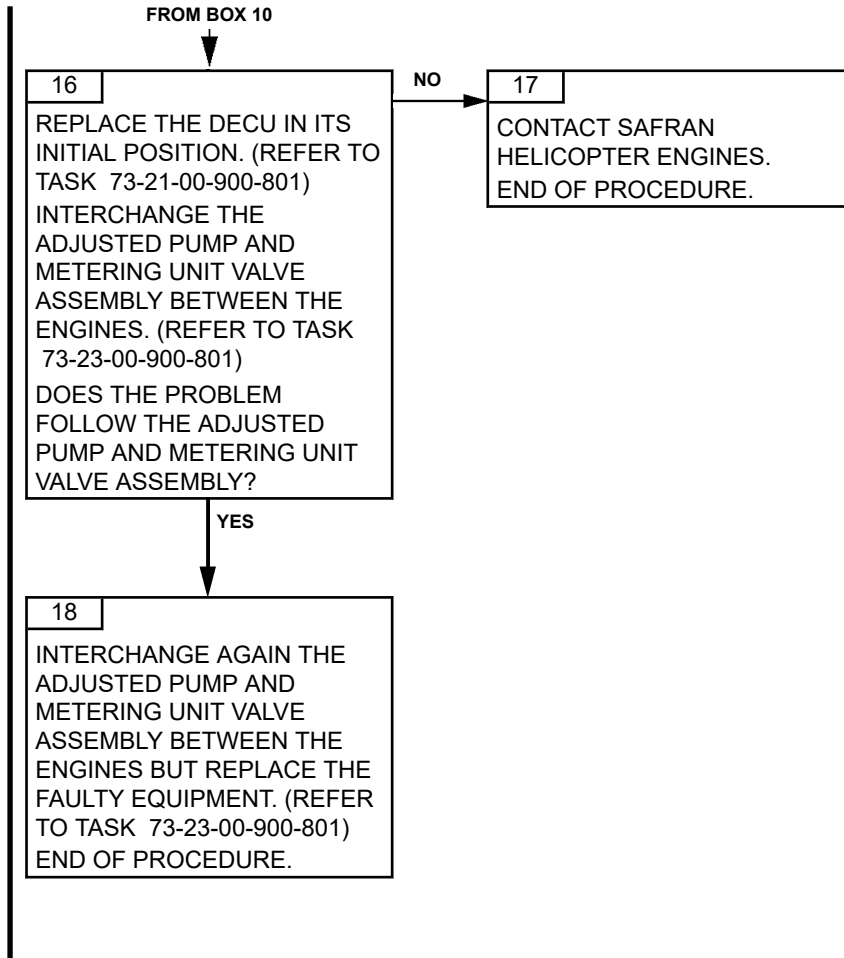
**2. PROCEDURE**

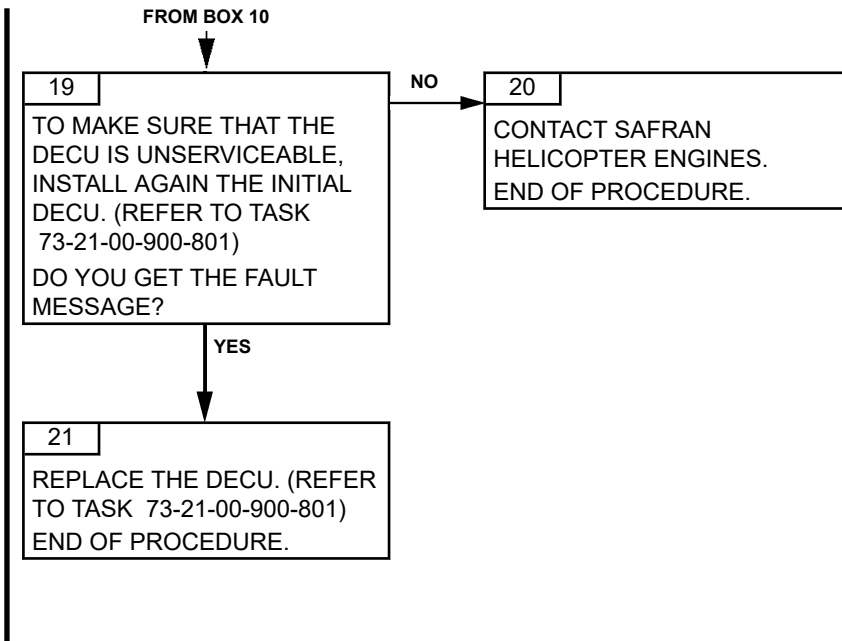












TASK 71-00-06-817-880-B01

**STEPPER MOTOR FAILURE  
TROUBLESHOOTING****1. GENERAL**

**CAUTION:** IF THE FAILURE MESSAGE IS STILL DISPLAYED AT NEXT POWER ON,  
ROTATE FIRST THE DECUS.

**A. FAU MESSAGE**

<b>MODE</b>	<b>FAU MESSAGE</b>				
FAILURE	M	O	T	O	R
MEMORY	B	0	0	0	2

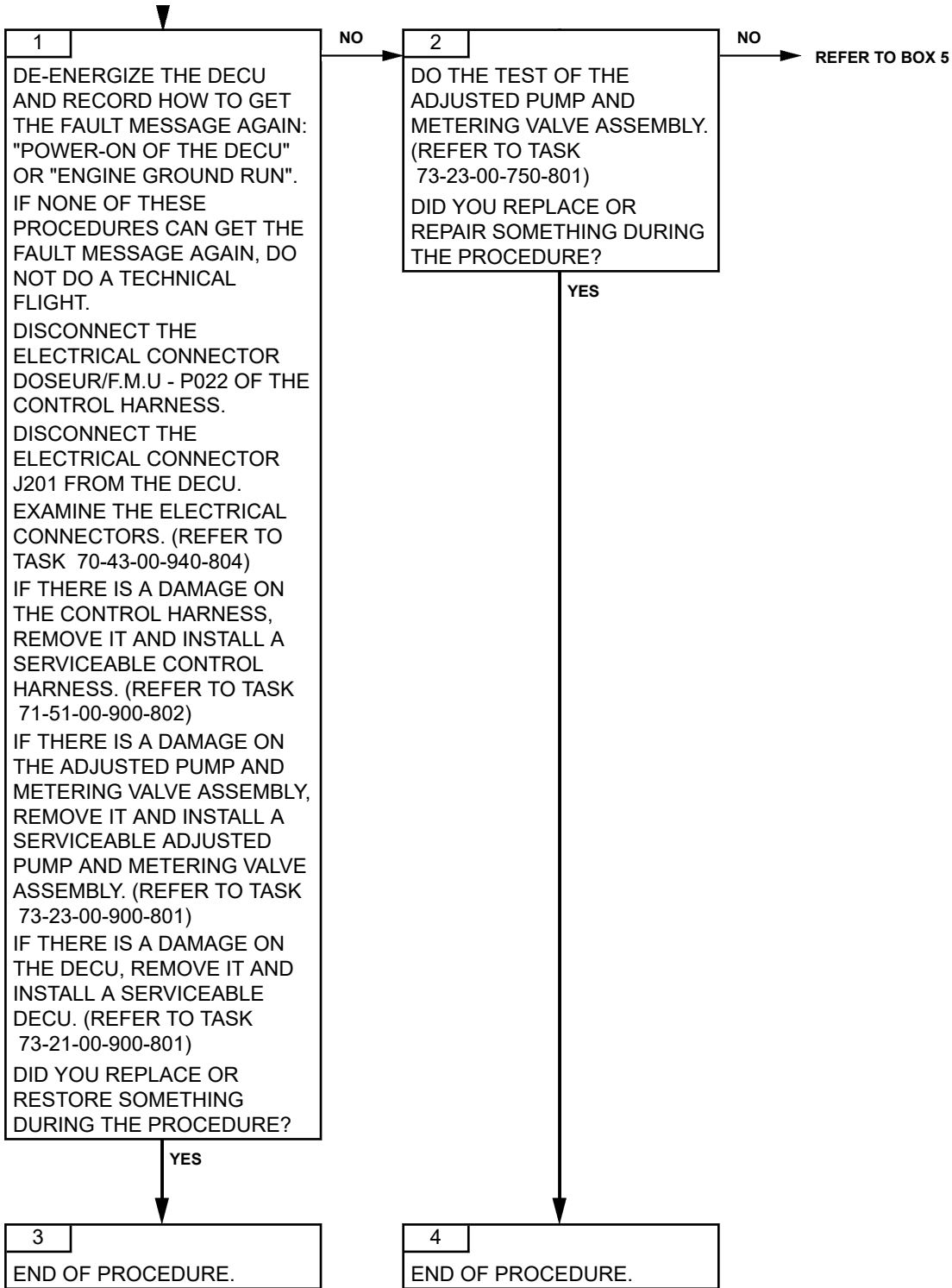
<b>EFFECT</b>	<b>GOV</b>
ENGINE RUNNING AND MAJOR FAILURE OF THE STEPPER MOTOR Total failure. Reversion to manual mode.	Red
AT INITIALISATION OR ENGINE SHUTDOWN OR DURING START Total failure. Reversion to manual mode.	Red
AFTER INITIALISATION, ENGINE TO THE IDLE RATING OR IN ACCELERATION OR IN FLIGHT AND MAJOR FAILURE OF THE STEPPER MOTOR Transients are degraded but the engine remains protected against surge and flame-out. The max. speed is still available.	Amber

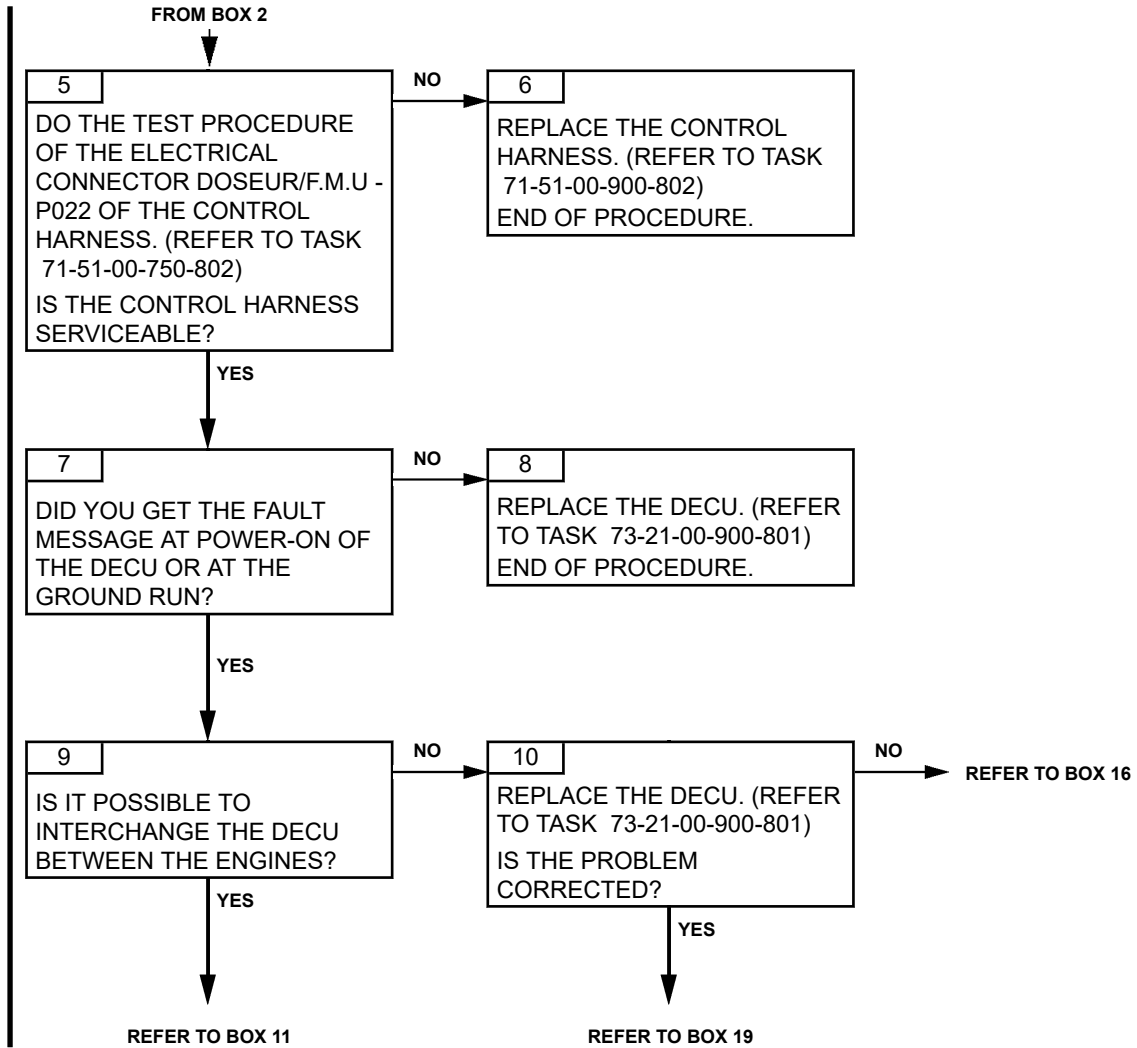
**B. POSSIBLE CAUSES**

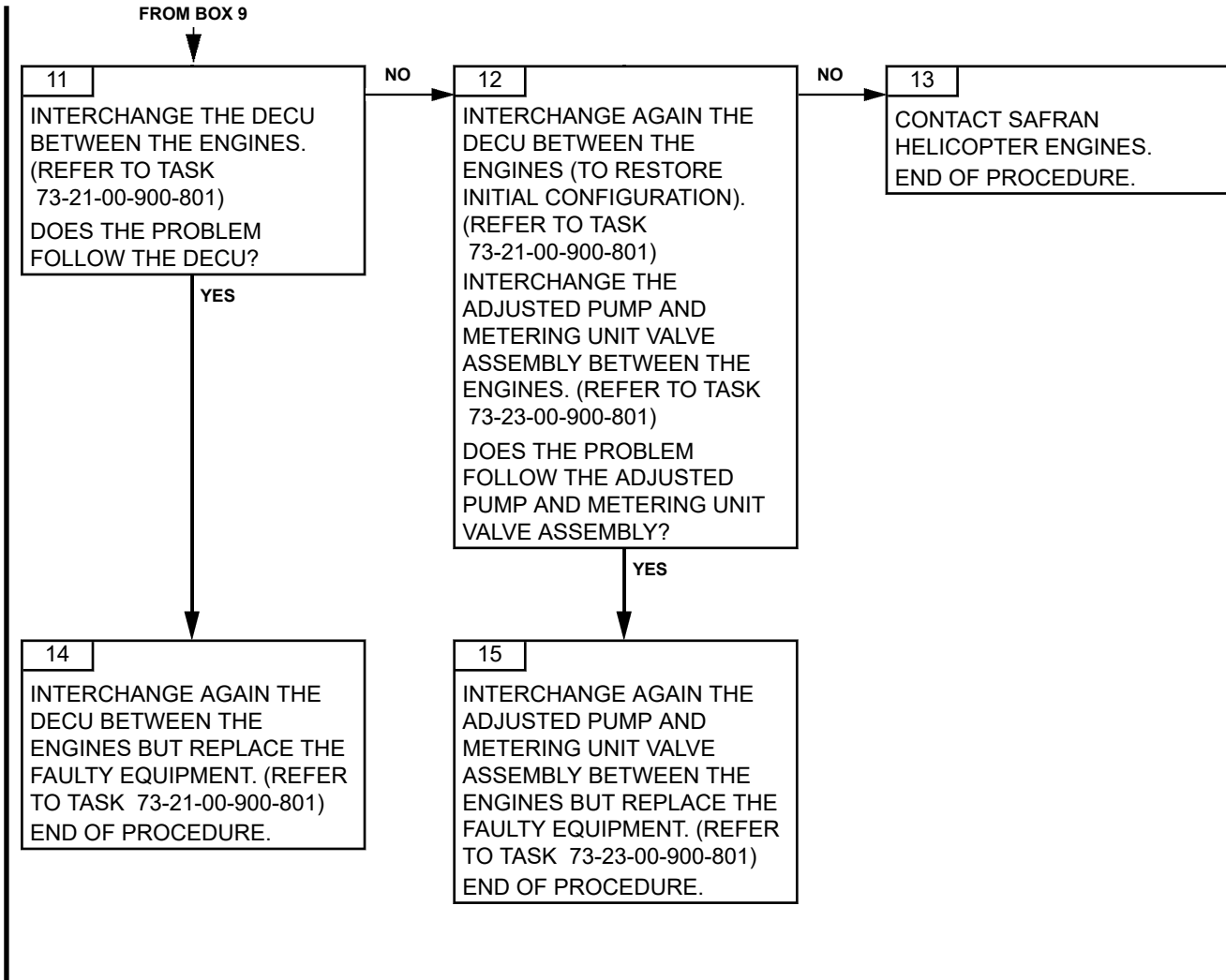
- Pump and metering unit assembly
- DECU
- Control harness

**2. PROCEDURE**

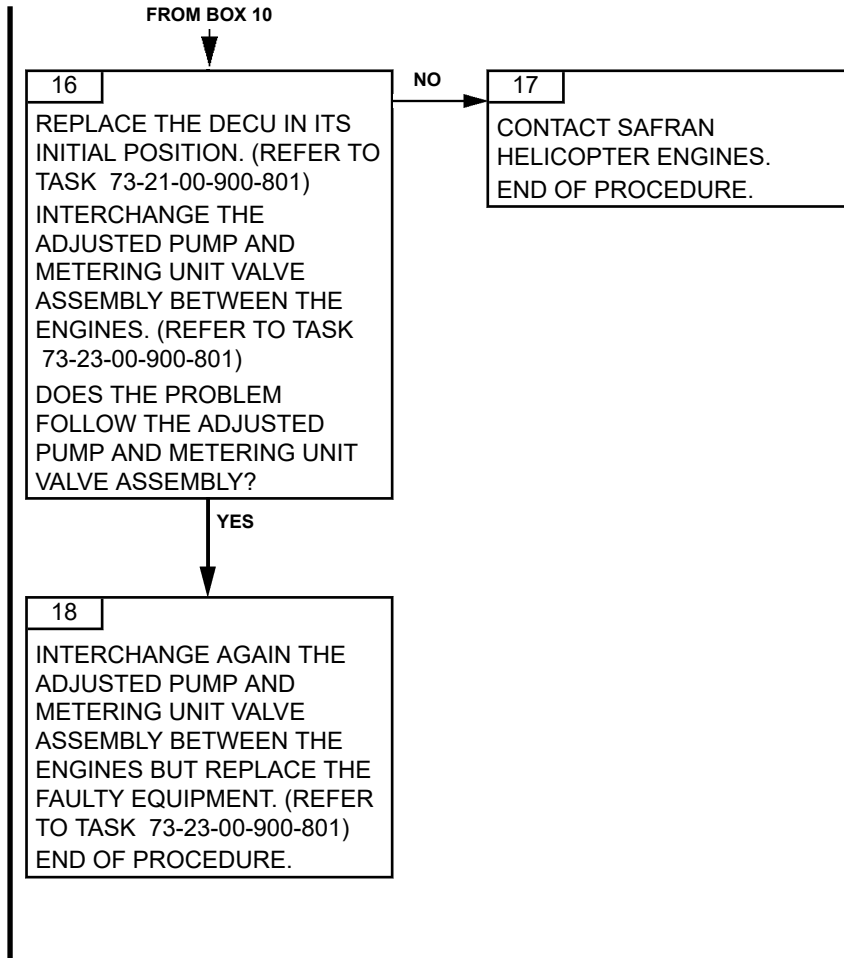
Effectivity: C TU 067C

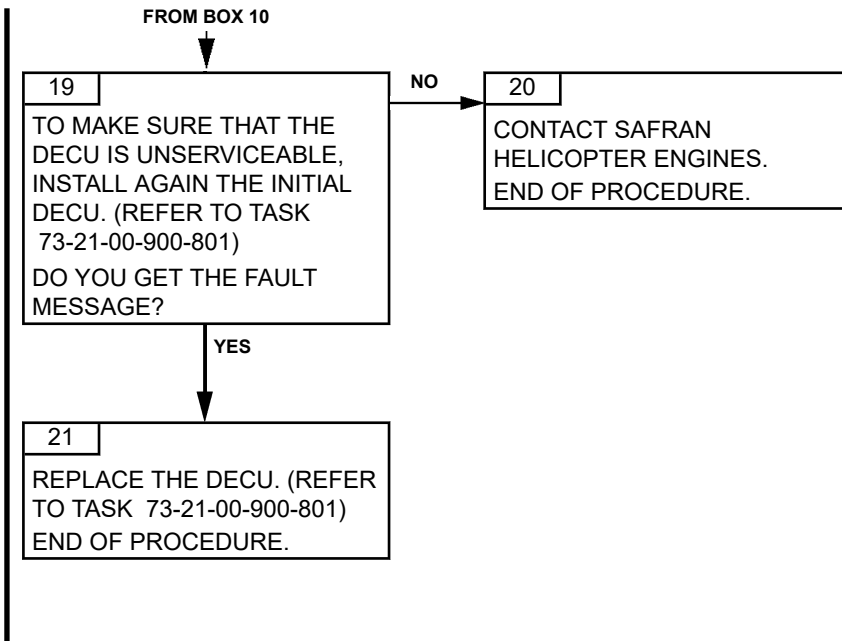












TASK 71-00-06-817-883-A01

### FUEL VALVE RESOLVER FAILURE AND STEPPER MOTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	3

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Total failure. Reversion to manual mode.	Red

##### B. POSSIBLE CAUSES

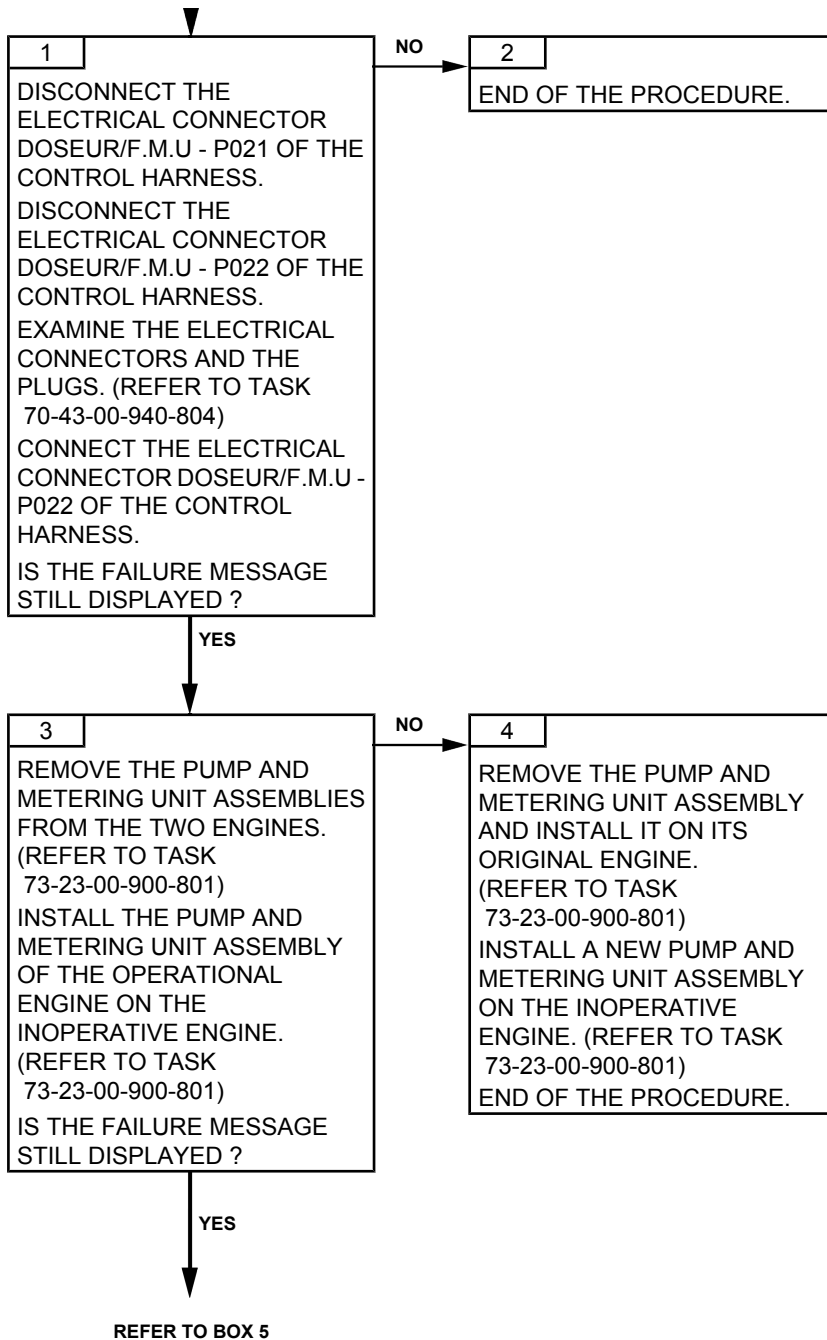
- Pump and metering unit assembly
- DECU
- Control harness

#### 2. PROCEDURE

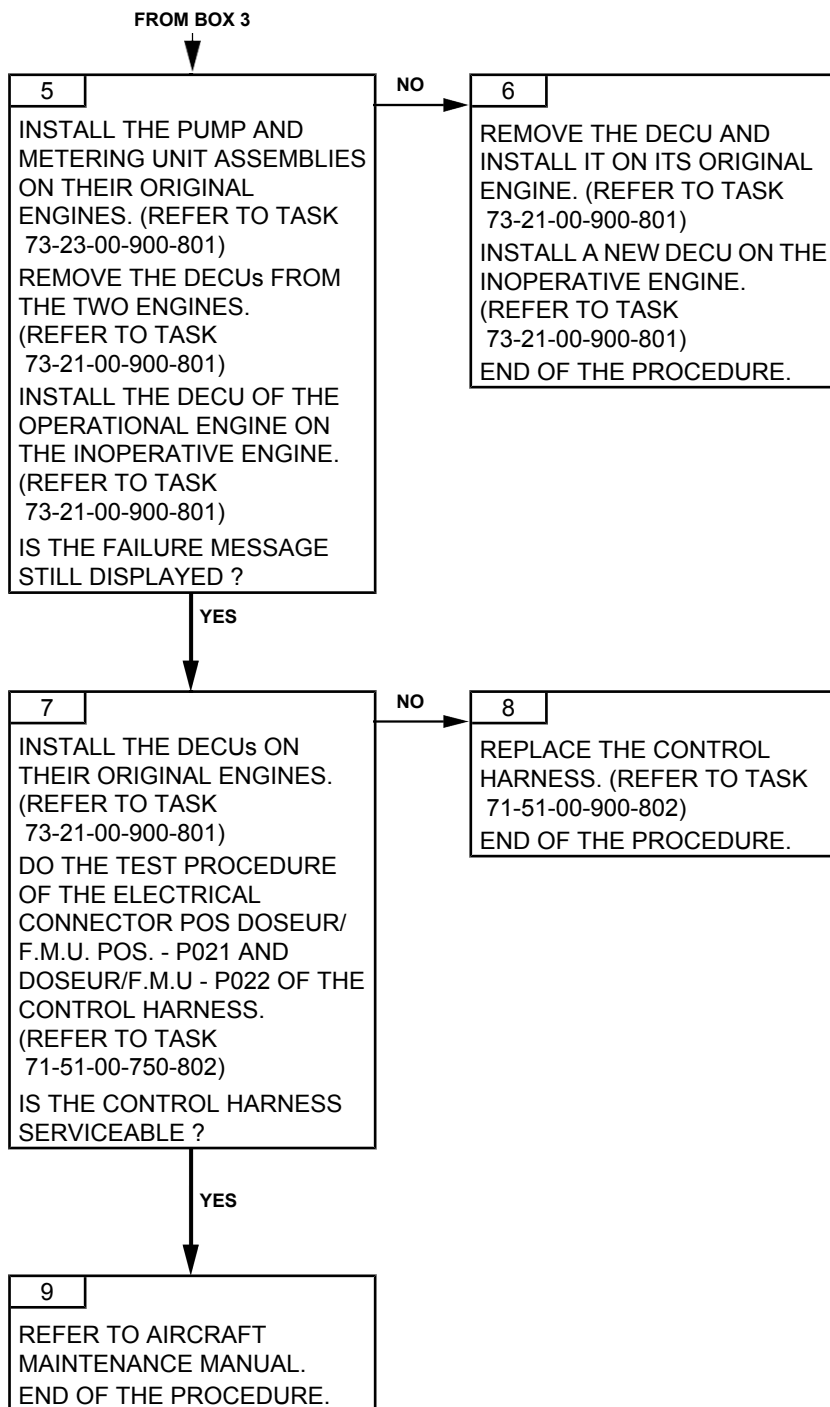
Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



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TASK 71-00-06-817-884-A01

## BLEED VALVE POSITION INCONSISTENCY OR BLEED VALVE ANOMALY OBSERVED TROUBLESHOOTING

### 1. GENERAL

#### A. INDICATION ON THE AVIONICS

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	B	L	E	E	D
MEMORY	B	0	0	0	4

#### B. GENERAL DESCRIPTION

The bleed valve opening and closing are not controlled by the EECU. The P3/P0 ratio controls the bleed valve opening and closing. A position detector (microswitch) sends the position signal of the bleed valve to the EECU.

During the starting phase, the bleed valve is open until a sufficient P3/P0 ratio is obtained to close the bleed valve. During the rundown phase, the bleed valve is closed until P0/P3 ratio becomes sufficiently low to open the bleed valve.

The failure messages "BLEED" and "B0004" are displayed when the position data received by the EECU is inconsistent with the bleed valve position calculated by the EECU.

This troubleshooting task can be applied when either the failure messages "BLEED" and "B0004" are displayed or a bleed valve anomaly is observed.

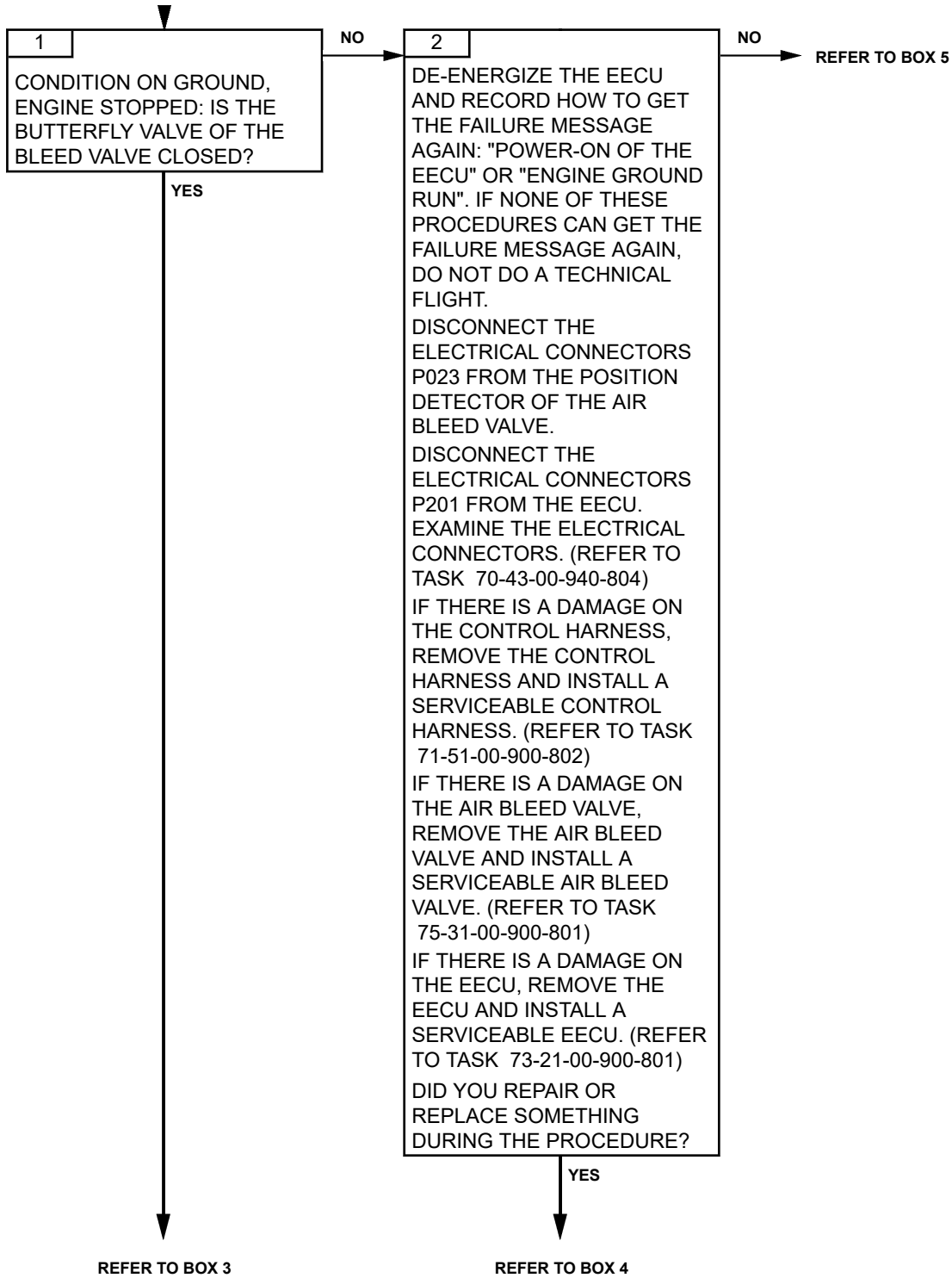
There is a risk of surge if the bleed valve is stuck closed or the maximum power is not available if the bleed valve is stuck open.

#### C. POSSIBLE CAUSES

- Bleed valve
- Bleed valve filter
- P3 air tube
- EECU
- Control harness
- Microswitch (position detector) of the bleed valve

### 2. PROCEDURE

Effectivity: C



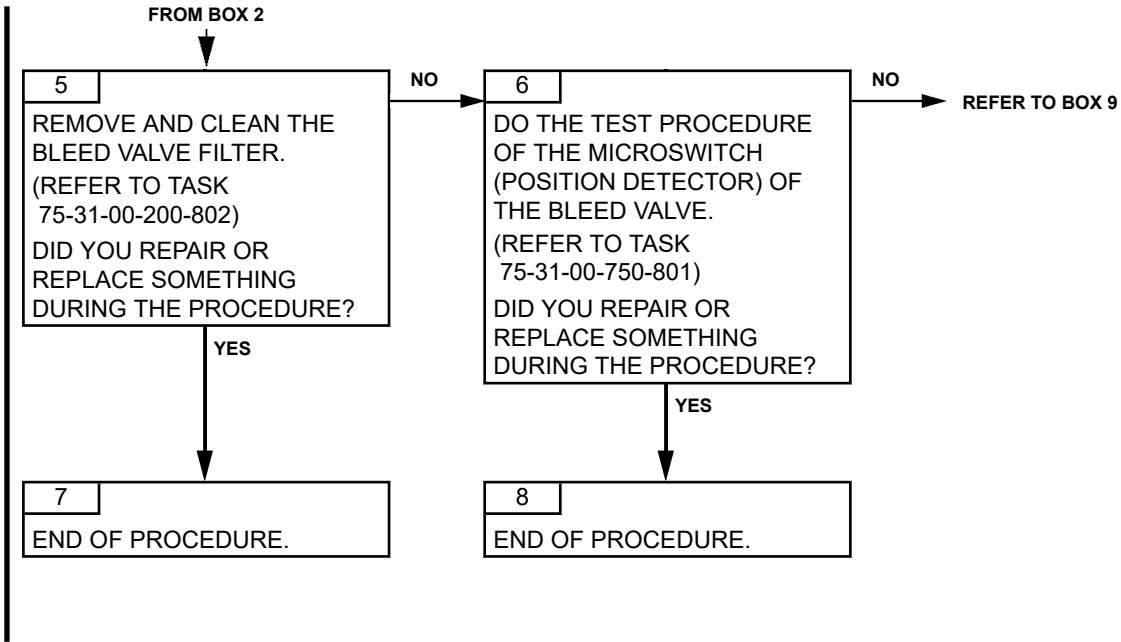


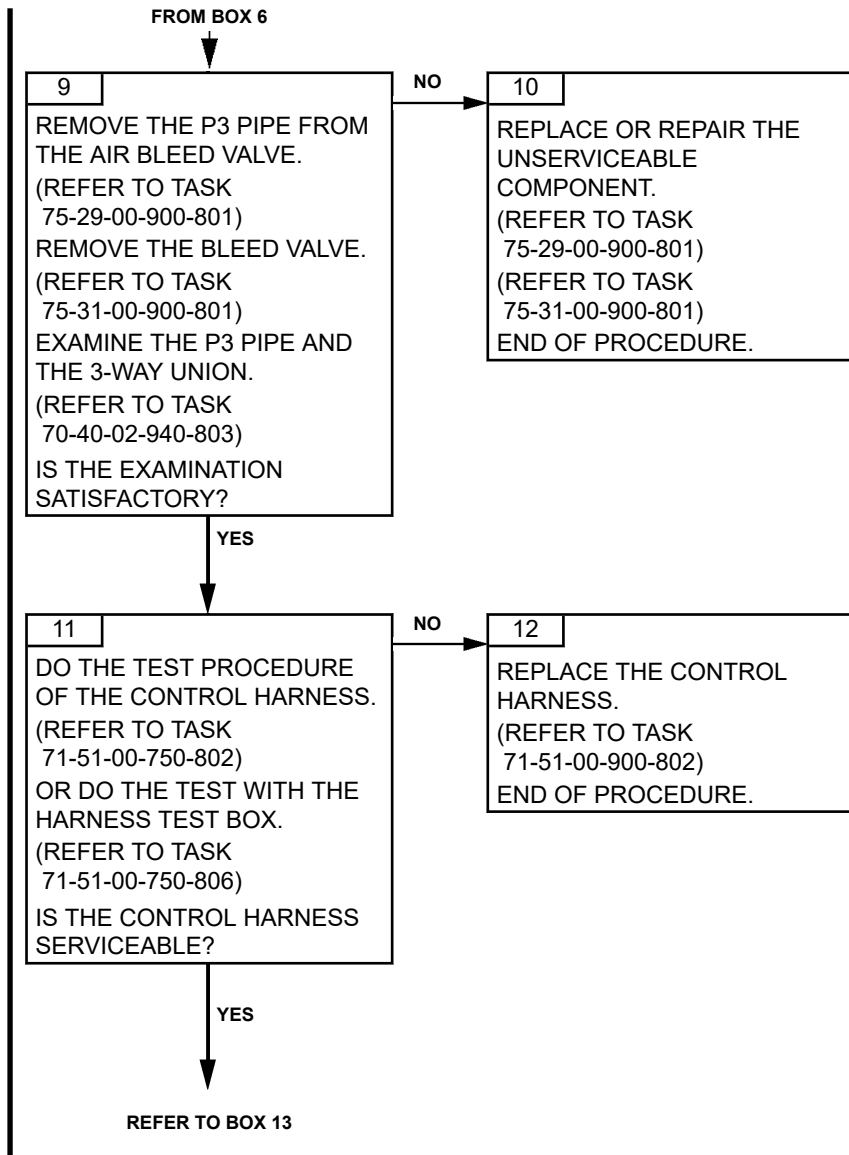
3

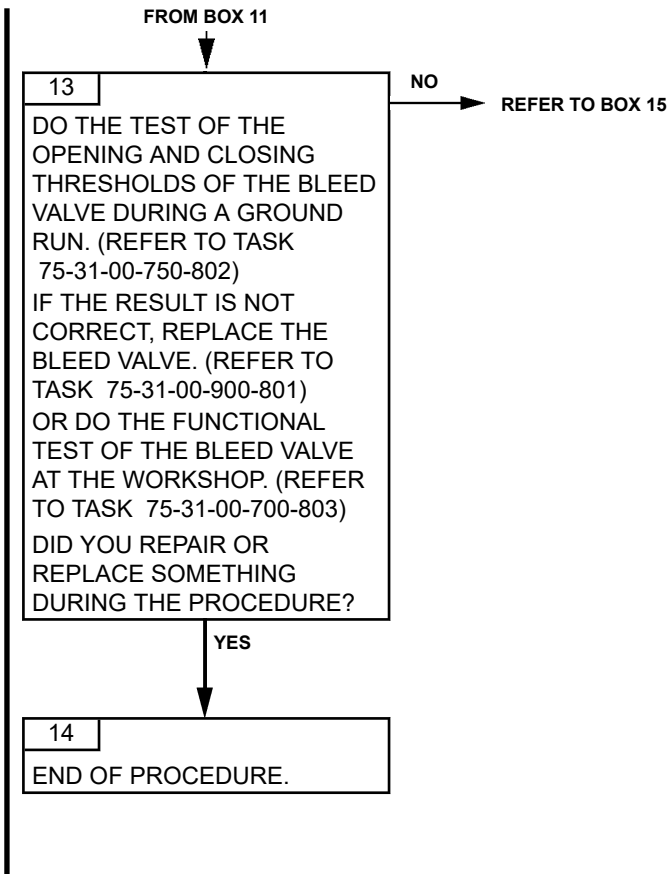
REPLACE THE BLEED VALVE.  
(REFER TO TASK  
75-31-00-900-801)  
END OF PROCEDURE.

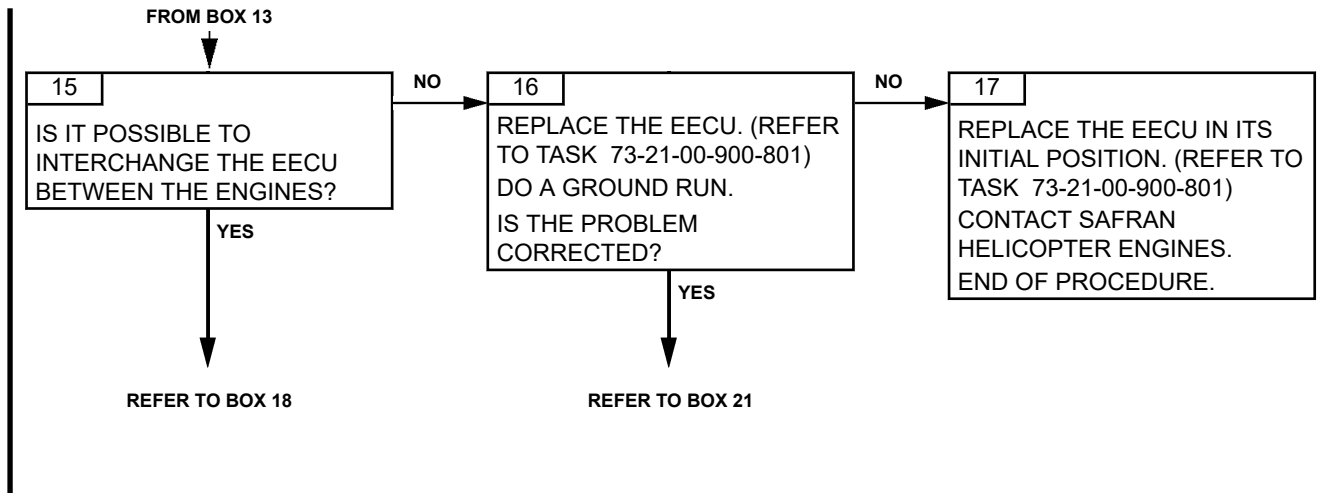
4

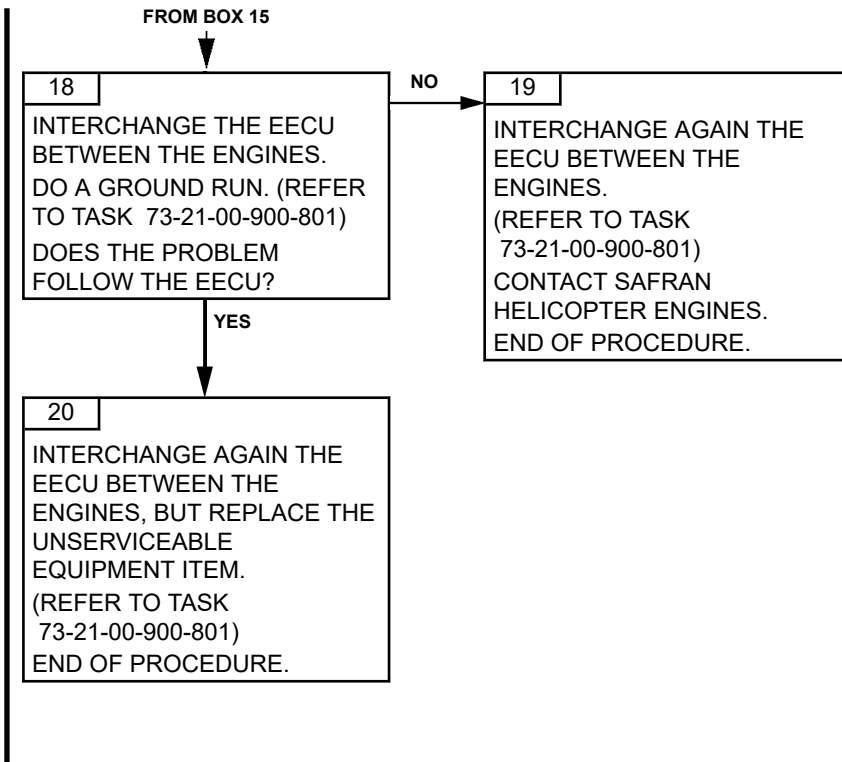
END OF PROCEDURE.

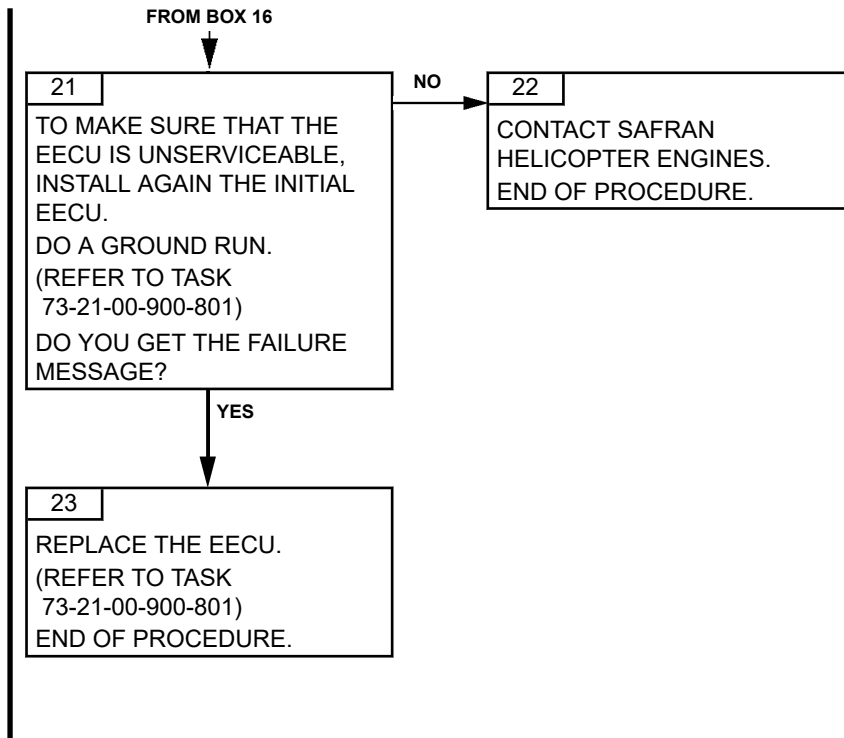












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TASK 71-00-06-817-886-A01

### FUEL VALVE RESOLVER FAILURE AND BLEED VALVE FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	5

<i>EFFECT</i>	<i>GOV</i>
AT INITIALISATION Total failure. Reversion to manual mode.	Red
AFTER INITIALISATION, AND MANUAL CONTROL IN NEUTRAL POSITION AND AUTOMATIC MODE No effect on control whilst in automatic mode and manual control in neutral position Risk of surge or max. power not available	Amber
AFTER INITIALISATION, AND MANUAL CONTROL OUT OF NEUTRAL POSITION OR MANUAL MODE Total failure. Reversion to manual mode.	Red

##### B. POSSIBLE CAUSES

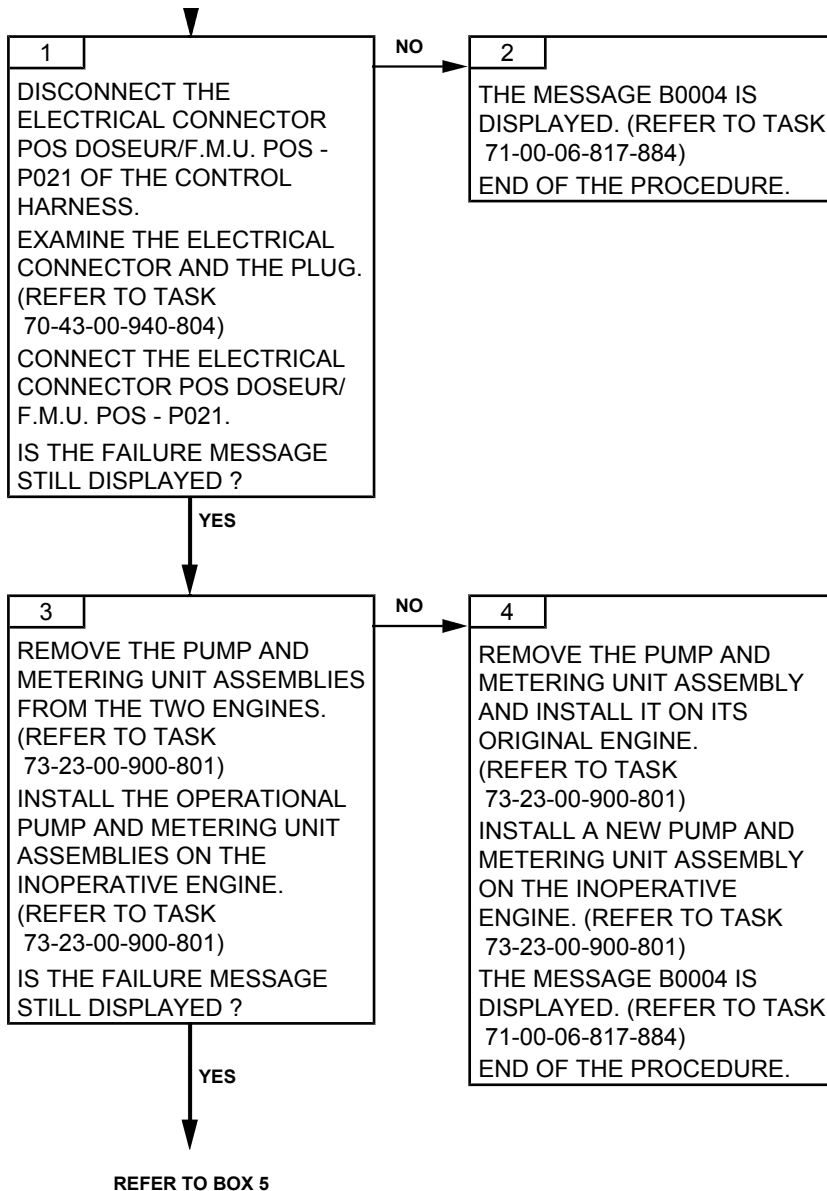
- Pump and metering unit assembly
- Bleed valve
- Bleed valve filter
- P3 air tube/bleed valve
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

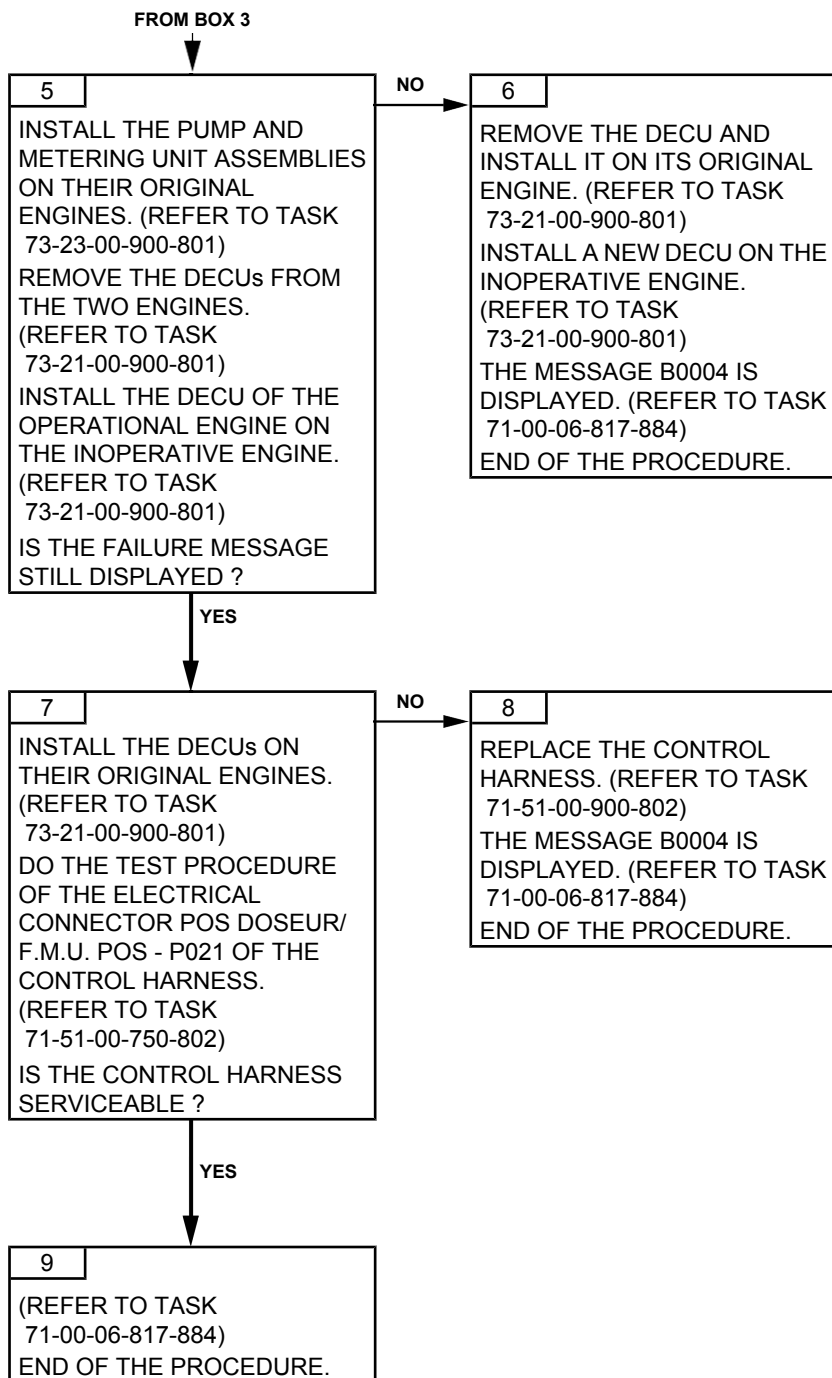
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-887-A01

### STEPPER MOTOR FAILURE AND BLEED VALVE FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	6

<i>EFFECT</i>	<i>GOV</i>
AT POWER ON, SYSTEM TEST If out of tolerance: total failure, reversion to manual mode	Red
OUT OF SYSTEM TEST Total failure, reversion to manual mode. Position measurement of the bleed valve which has no effect on control, but risk of surge or max. power not available	Red

##### B. POSSIBLE CAUSES

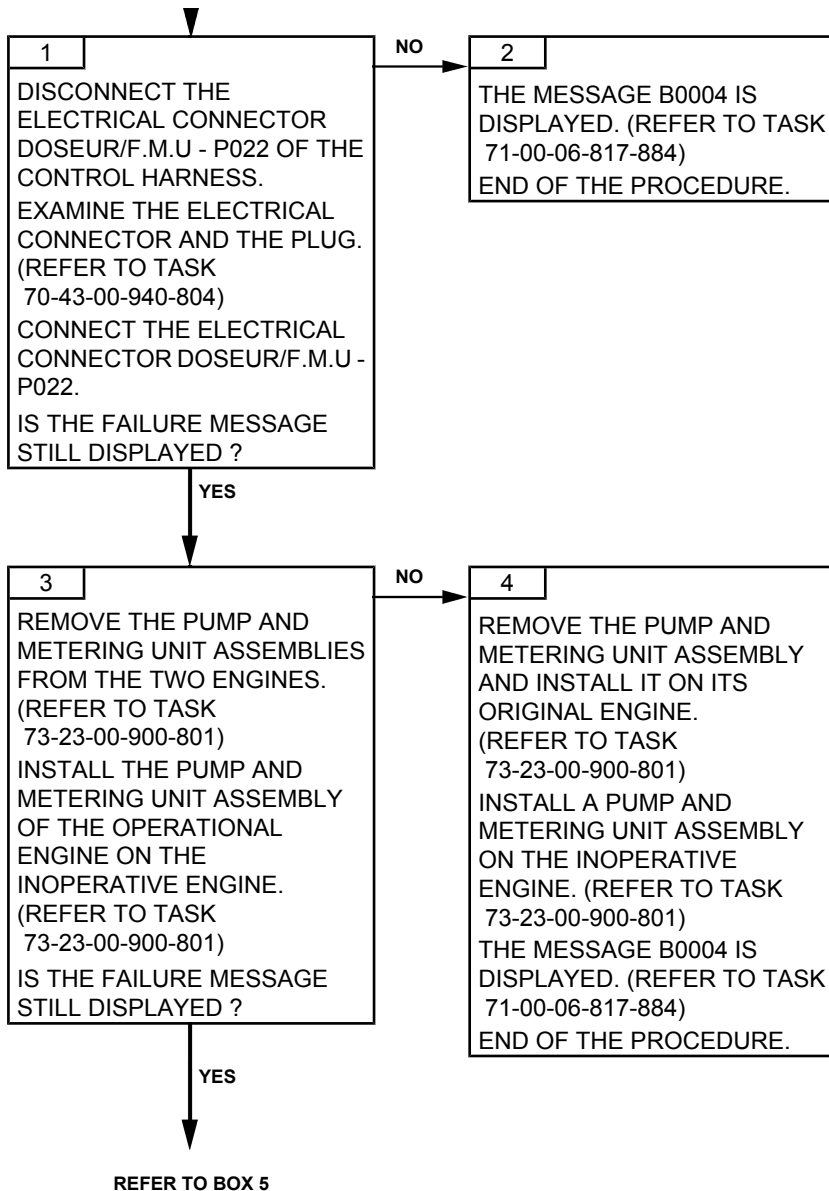
- Pump and metering unit assembly
- Bleed valve
- Bleed valve filter
- P3 air tube/bleed valve
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

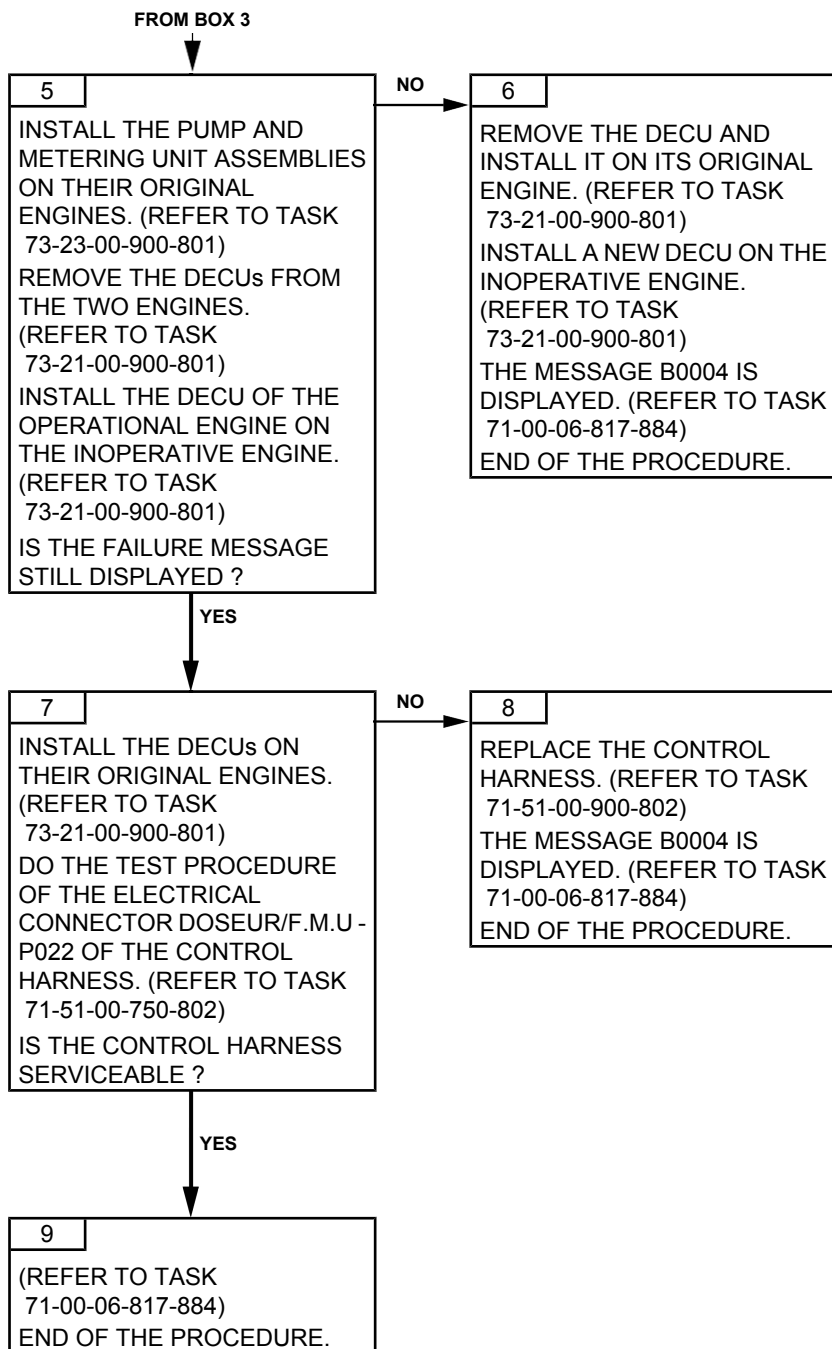
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-888-A01

### FUEL VALVE RESOLVER FAILURE, STEPPER MOTOR FAILURE AND BLEED VALVE FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	7

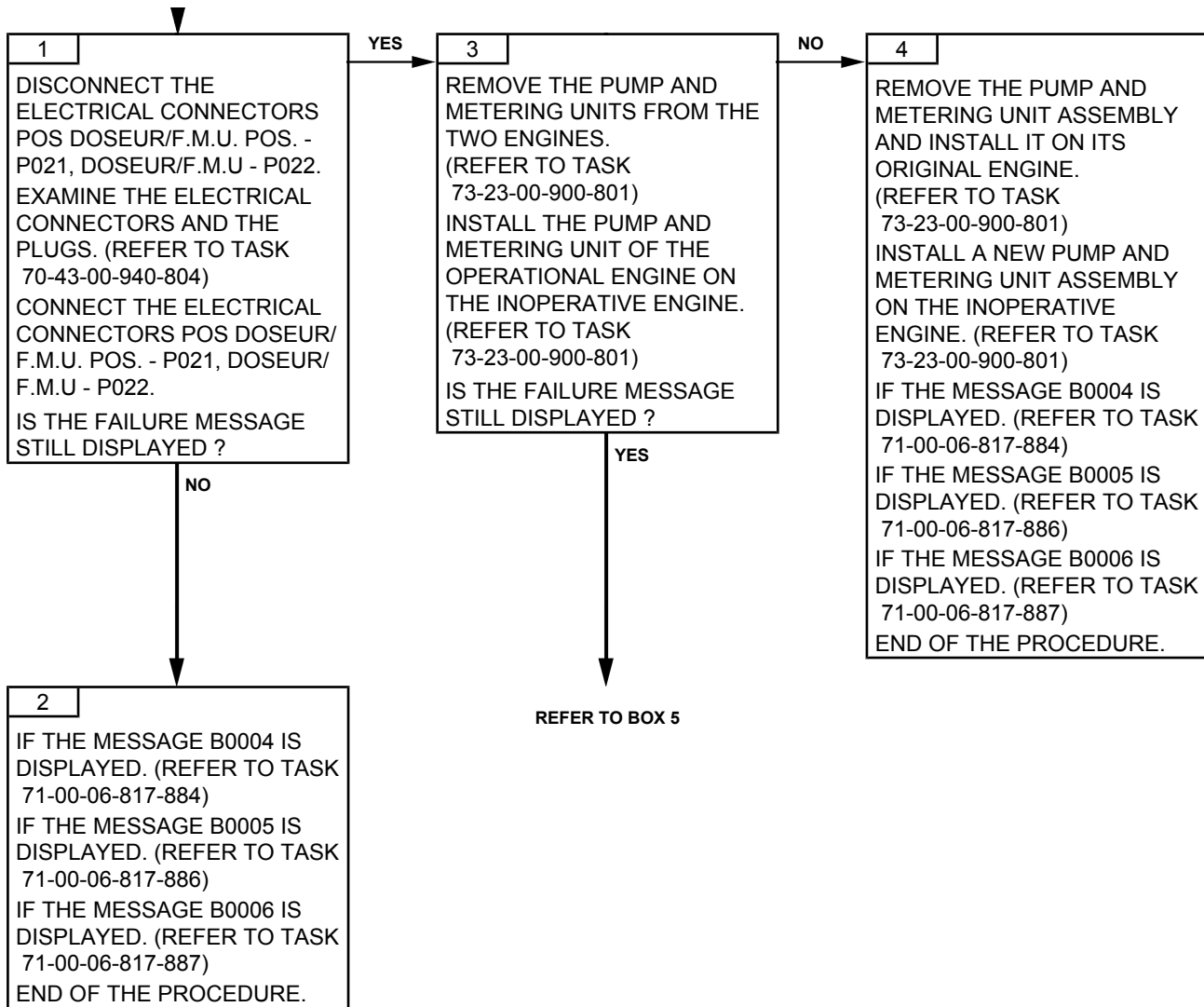
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Total failure, reversion to manual mode. Position measurement of the bleed valve which has no effect on control, but risk of surge or max. power not available	Red

##### B. POSSIBLE CAUSES

- Pump and metering unit assembly
- Bleed valve
- Bleed valve filter
- P3 air tube/bleed valve
- DECU
- Control harness

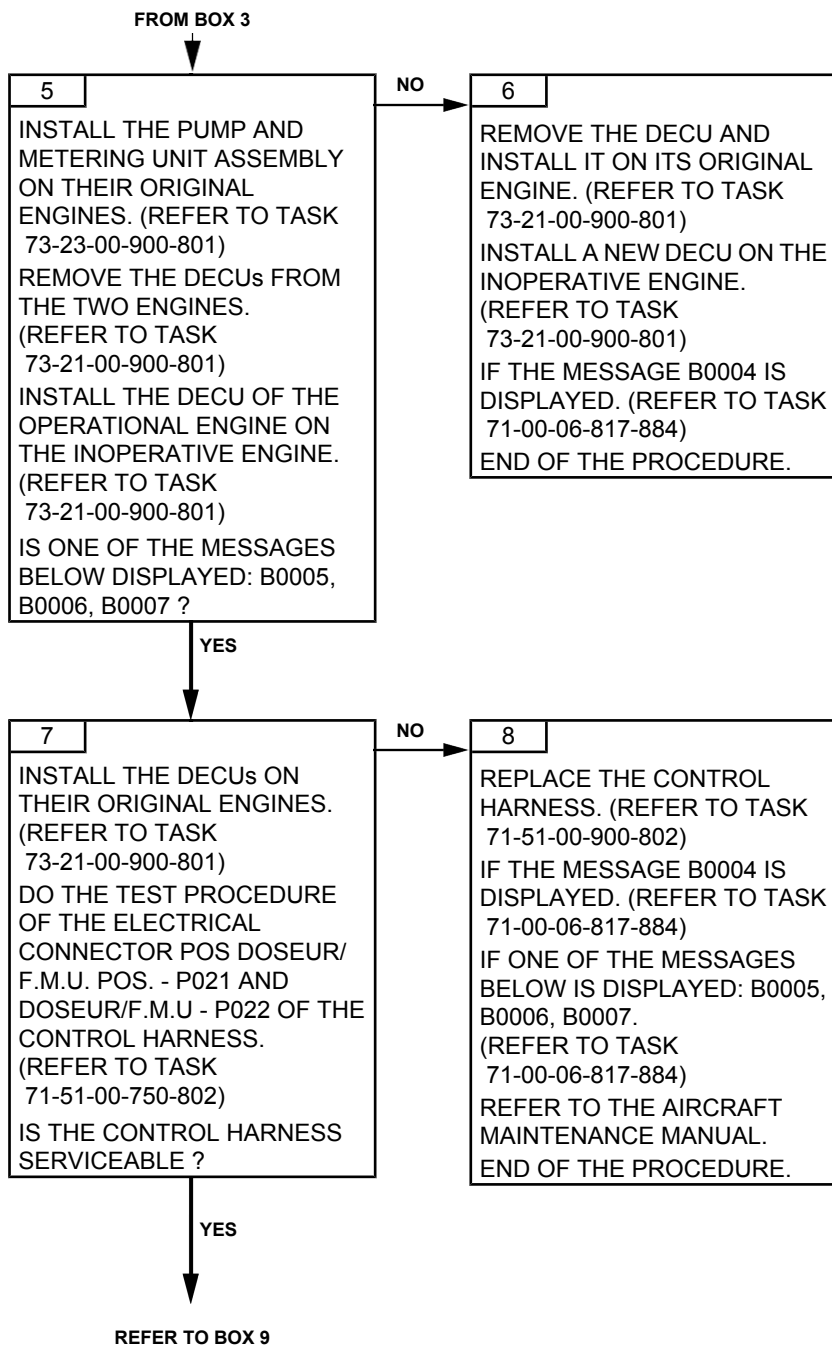
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

FROM BOX 7



9

(REFER TO TASK  
71-00-06-817-884)  
REFER TO THE AIRCRAFT  
MAINTENANCE MANUAL.  
END OF THE PROCEDURE.

---

Effectivity: C

The information in this manual is subject to the warning  
given on the information page.

# 71-00-06-817-888-A01

**Failure codes**

Page 104

Nov. 30/2009

TASK 71-00-06-817-890-A01

### BALANCE LINK (ARINC 429) FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** PROCEDURES TO BE APPLIED AS A FUNCTION OF THE ENGINE OPERATING MODE:

##### 1. IN STOP - IDLE - START MODE.

##### RESET THE SYSTEM:

IF THE ENGINE OPERATES; STOP IT, SWITCH OFF THE SYSTEM THEN SWITCH IT ON. IF THE FAILURE IS STILL PRESENT, MAKE SURE THAT THE HARNESS IS SERVICEABLE (CONTINUITY, ISOLATION) THEN DO THE TROUBLE SHOOTING PROCEDURE.

THE FAILURE IS REVERSIBLE IN THESE MODES; IF THE LINK IS RESTORED, THE FAILURE MESSAGE DISAPPEARS (CASE OF INTERMITTENT FAILURE).

##### 1. IN RUN-UP - FLIGHT MODE.

STOP THE ENGINE AND SWITCH OFF THE SYSTEM (AFTER LANDING IF FLIGHT). DO THE TROUBLE SHOOTING PROCEDURE.

THE FAILURE IS NON REVERSIBLE IN THESE MODES.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	E	Q	U	I	L
MEMORY	B	0	0	0	8

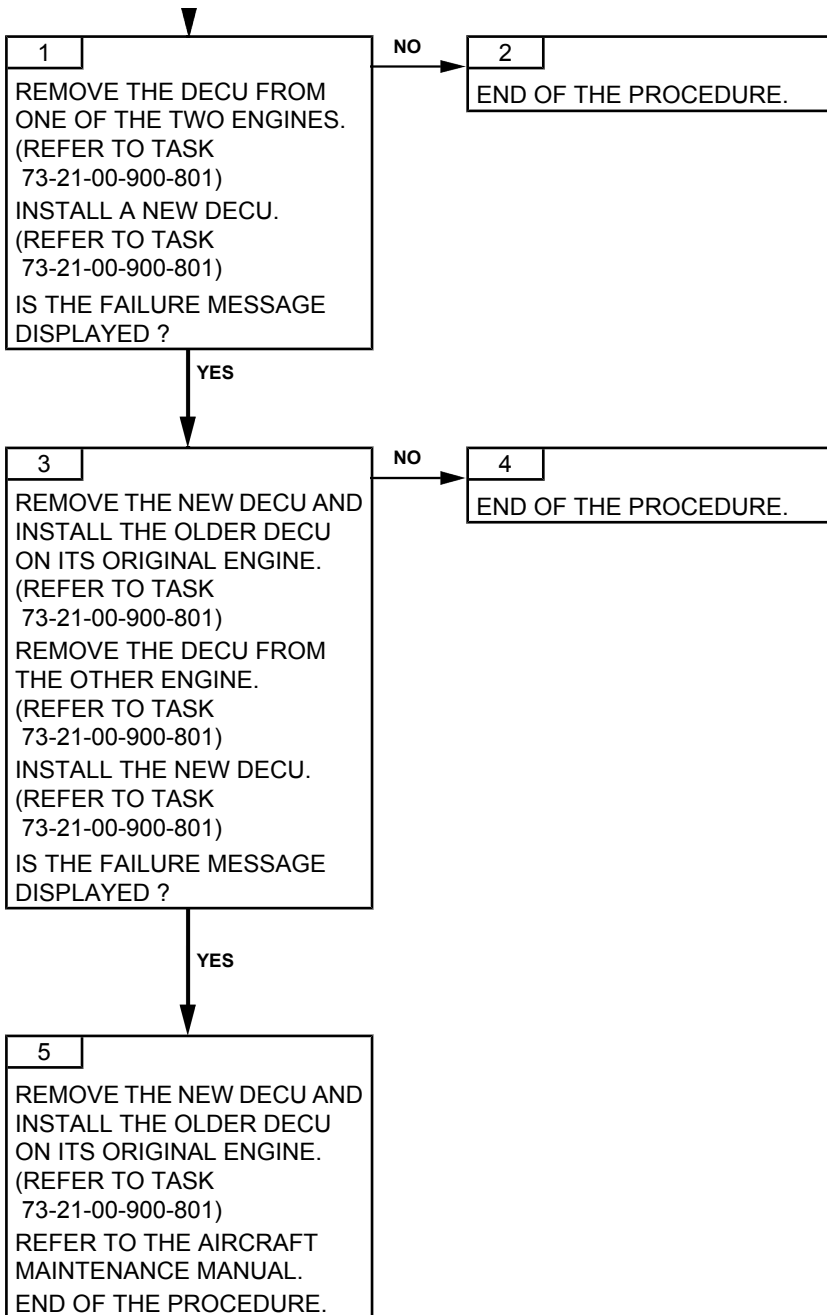
<i>EFFECT</i>	<i>GOV</i>
N2 control is in proportional mode (loss of NR revolutions). The inter DECU communication is cut out (as a consequence, both engines will be in the proportional mode). Simultaneous display of failure message by both DECUs. Accuracy of the N2 control degraded.	Amber

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-892-A01

### BALANCE LINK FAILURE AND FUEL VALVE RESOLVER FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU FAILURE MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	9

##### B. FAILURE EFFECTS

<i>EFFECTS</i>	<i>GOV</i>
AT INITIALISATION Total failure. Reversion to manual mode.	Red
AFTER INITIALISATION, AND MANUAL CONTROL IN NEUTRAL POSITION Accuracy of the N2 control degraded.	Amber
AFTER INITIALISATION, AND MANUAL CONTROL OUT OF NEUTRAL POSITION Total failure. Reversion to manual mode.	Red

##### C. POSSIBLE CAUSES

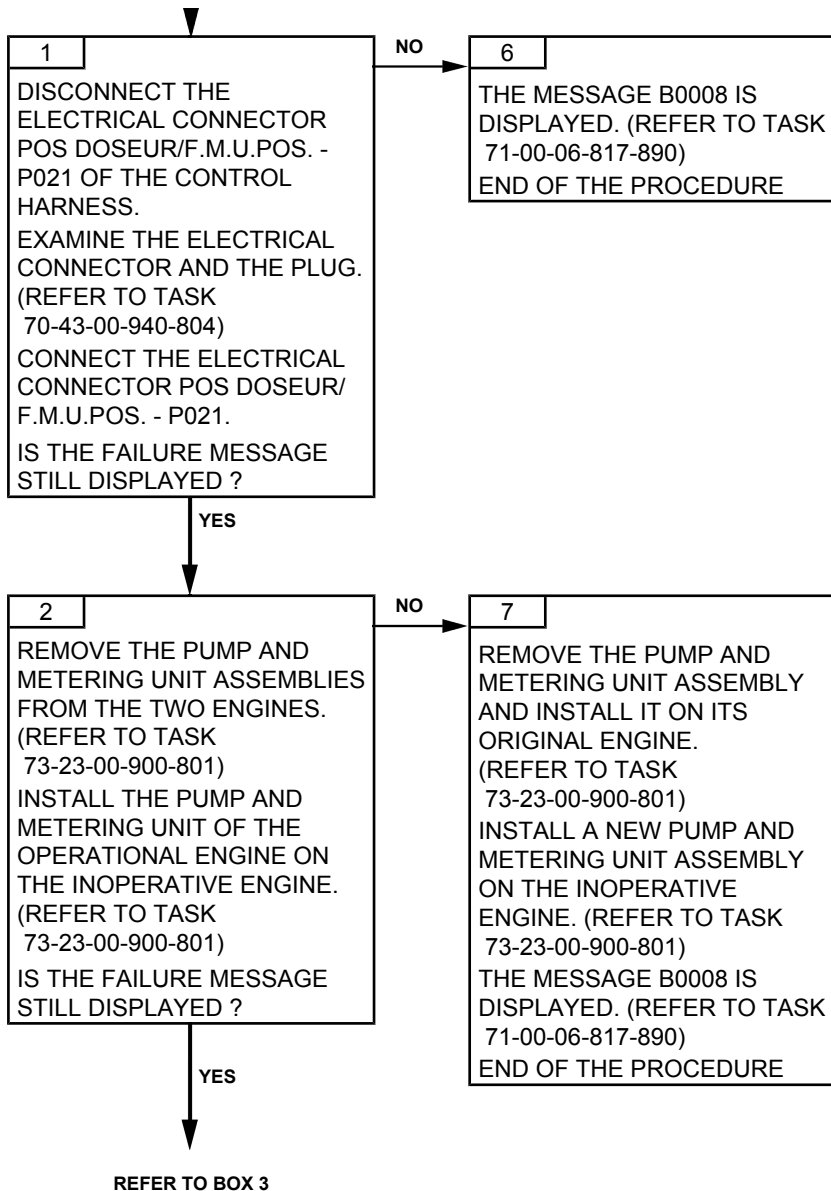
- Pump and metering unit assembly
- DECU
- Control harness.

#### 2. PROCEDURE

Effectivity: C

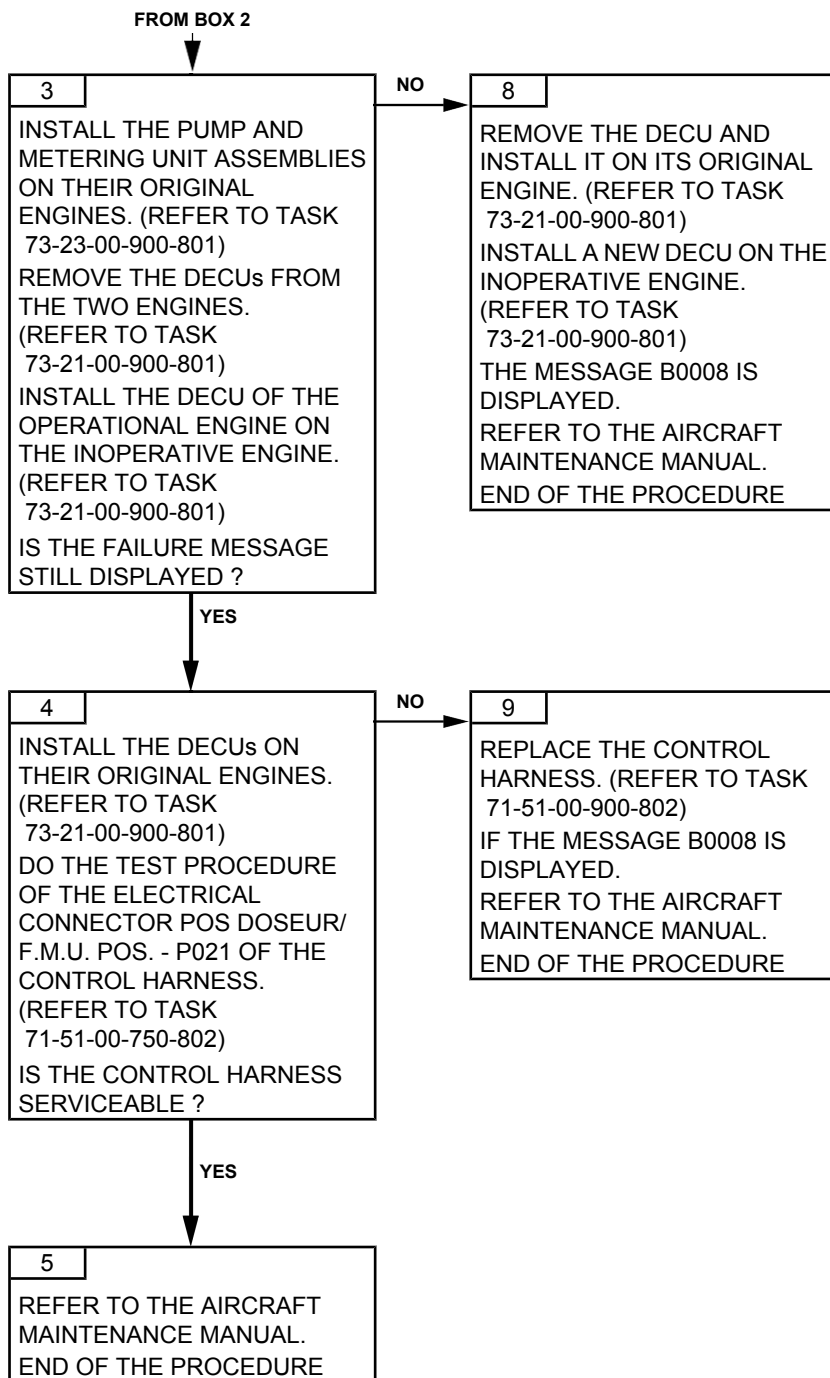
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C





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TASK 71-00-06-817-894-A01

### BALANCE LINK FAILURE AND STEPPER MOTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU FAILURE MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	A

##### B. FAILURE EFFECTS

<i>EFFECTS</i>	<i>GOV</i>
ENGINE RUNNING Total failure. Reversion to manual mode.	Red

##### C. POSSIBLE CAUSES

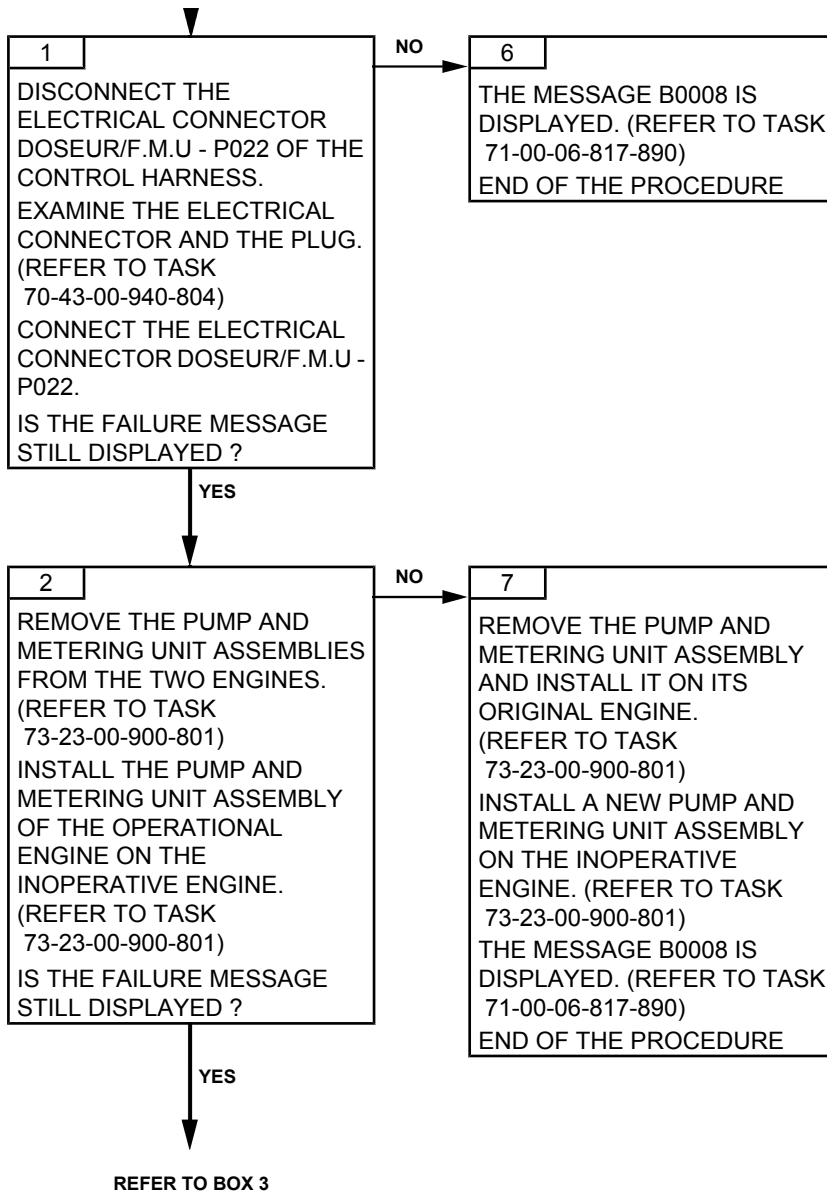
- Pump and metering unit assembly
- DECU
- Control harness.

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

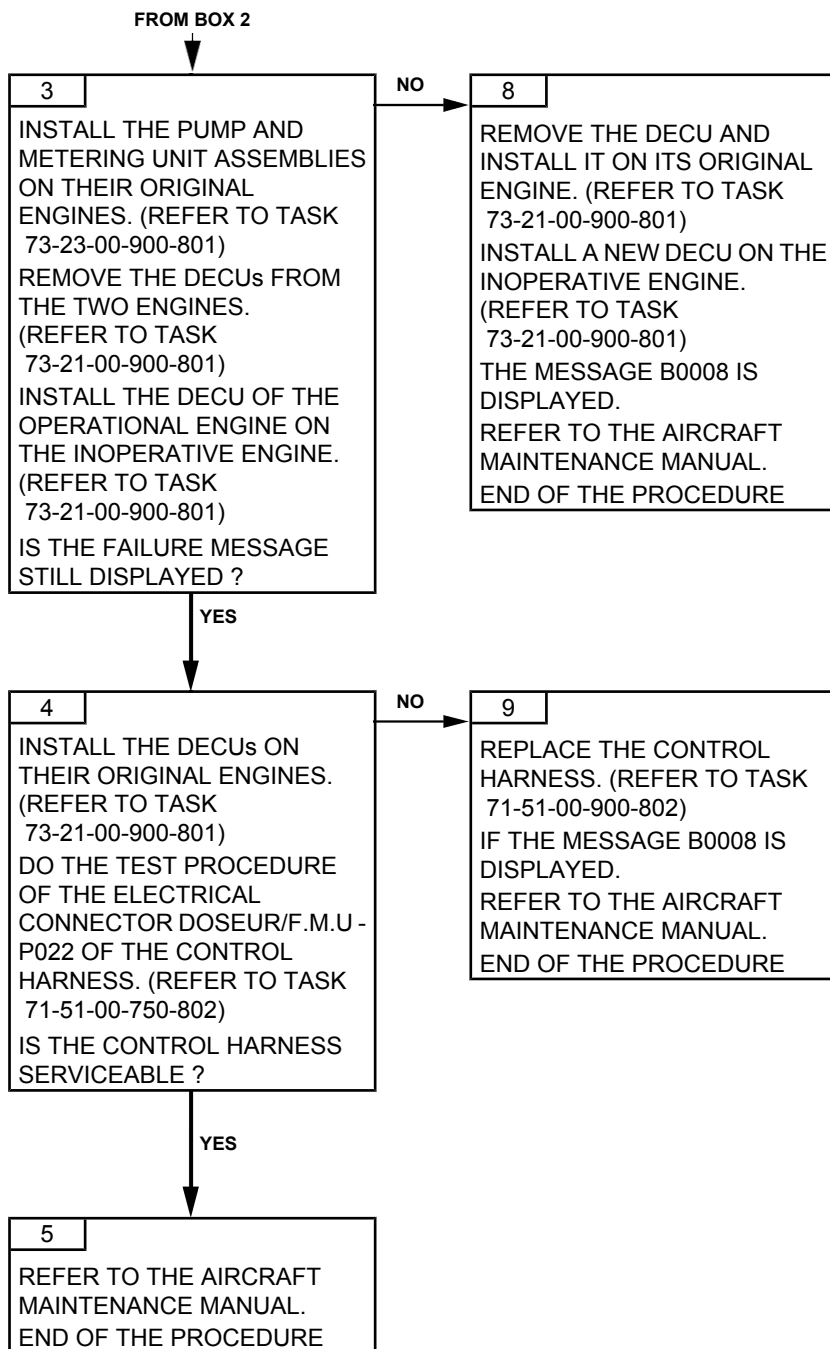
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-896-A01

### BALANCE LINK FAILURE, FUEL VALVE RESOLVER FAILURE AND STEPPER MOTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU FAILURE MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	B

##### B. FAILURE EFFECTS

<i>EFFECTS</i>	<i>GOV</i>
ENGINE RUNNING Total failure. Reversion to manual mode.	Red

##### C. POSSIBLE CAUSES

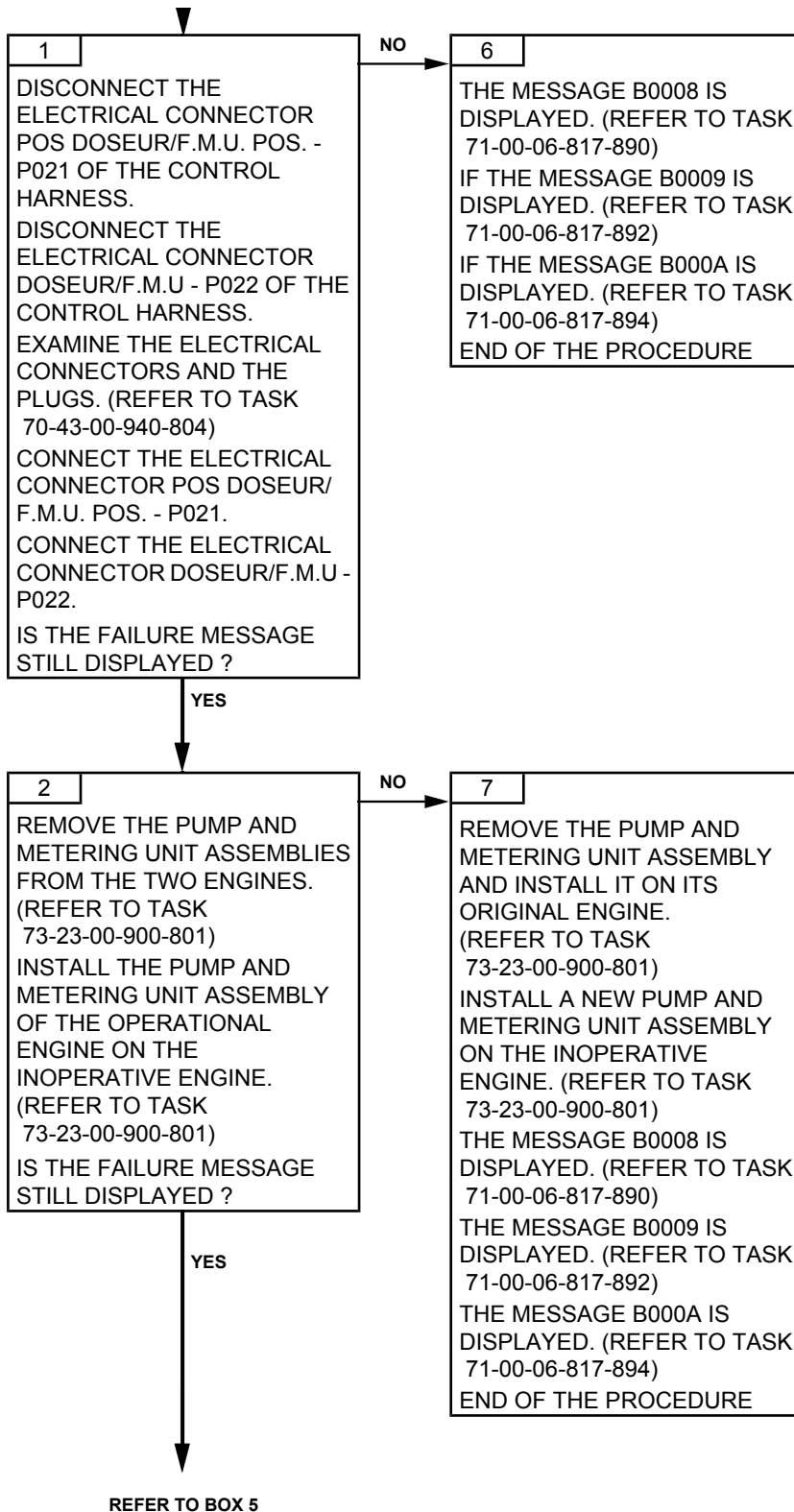
- Pump and metering unit assembly
- DECU
- Control harness.

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

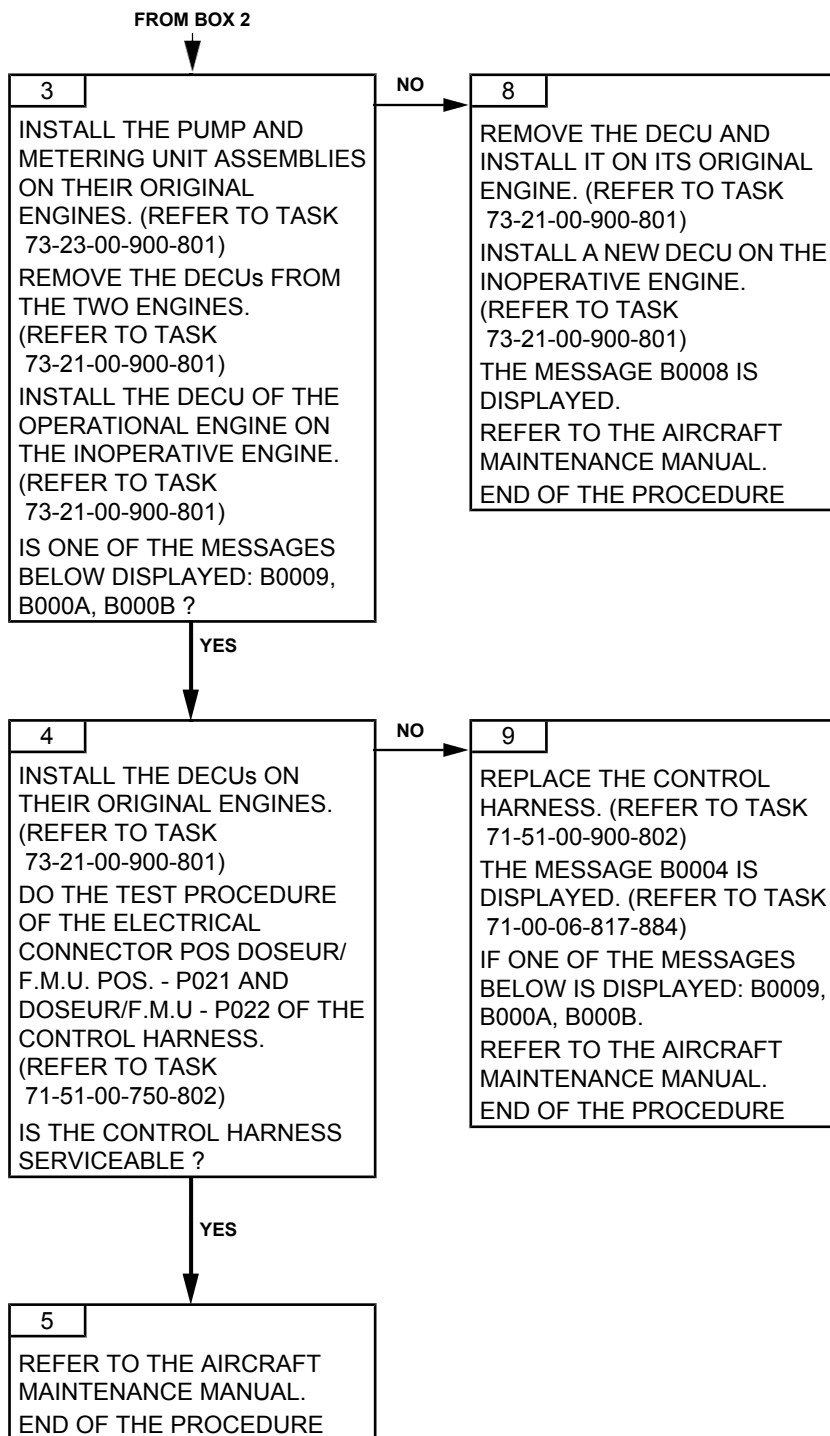


Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-898-A01

## BALANCE LINK FAILURE AND BLEED VALVE FAILURE TROUBLESHOOTING

### 1. GENERAL

#### A. FAU FAILURE MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	C

#### B. FAILURE EFFECTS

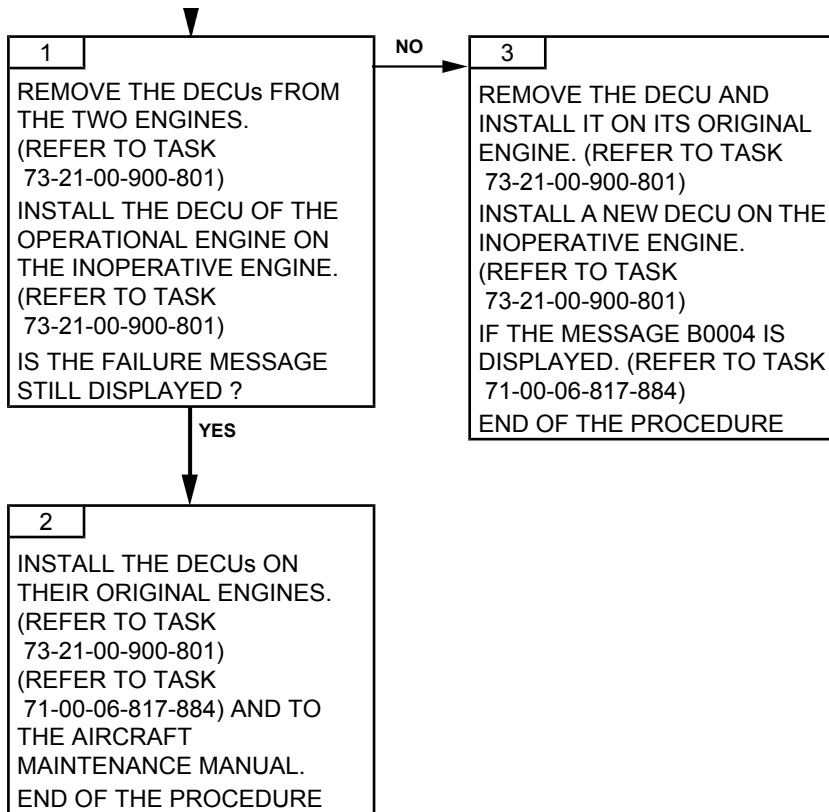
<i>EFFECTS</i>	<i>GOV</i>
ENGINE RUNNING Accuracy of the control degraded. Risk of surge (if the bleed valve is closed) Max. power not available (if the bleed valve is open)	Amber

#### C. POSSIBLE CAUSES

- DECU
- Bleed valve
- Bleed valve filter
- P3 air tube/bleed valve
- Control harness.

### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-900-A01

### BALANCE LINK FAILURE, BLEED VALVE FAILURE AND FUEL VALVE RESOLVER FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU FAILURE MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	D

##### B. FAILURE EFFECTS

<i>EFFECTS</i>	<i>GOV</i>
AT INITIALISATION Total failure. Reversion to manual mode.	Red
AFTER INITIALISATION, AND MANUAL CONTROL IN NEUTRAL POSITION AND AUTOMATIC MODE Accuracy of the N2 control degraded. Risk of surge or max. power not available.	Amber
AFTER INITIALISATION, AND MANUAL CONTROL OUT OF NEUTRAL POSITION OR MANUAL MODE Total failure. Reversion to manual mode.	Red

##### C. POSSIBLE CAUSES

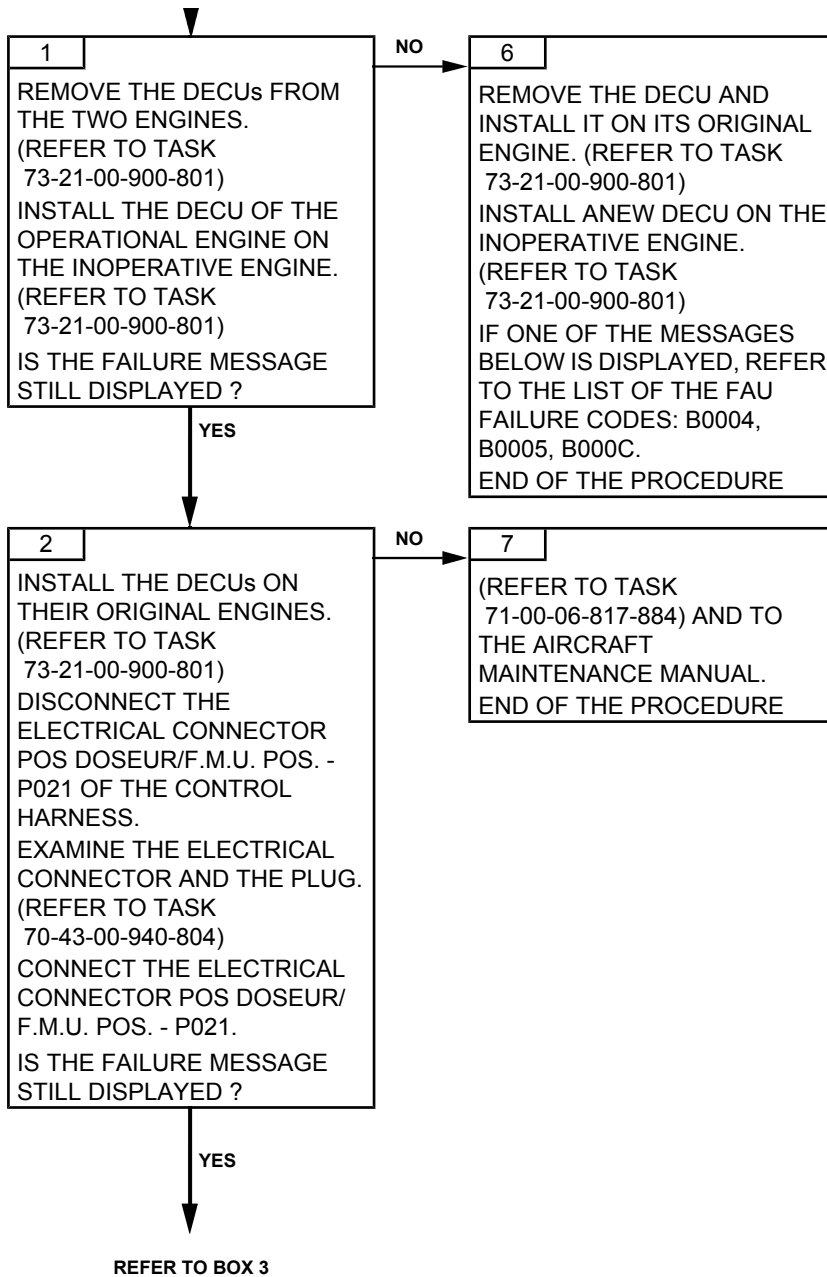
- DECU
- Pump and metering unit assembly
- Bleed valve
- Bleed valve filter
- P3 air tube/bleed valve
- Control harness.

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

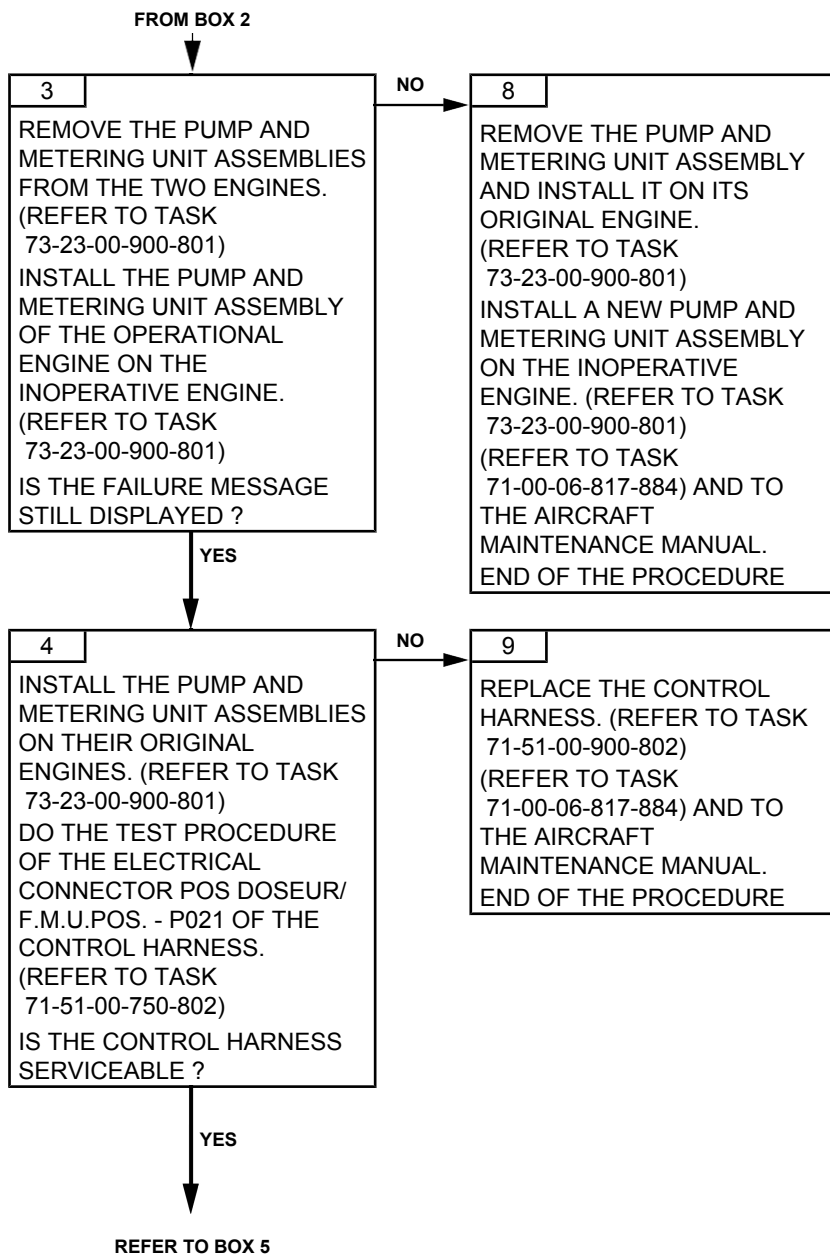
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

FROM BOX 4



5

(REFER TO TASK  
71-00-06-817-884) AND TO  
THE AIRCRAFT  
MAINTENANCE MANUAL.  
END OF THE PROCEDURE

---

Effectivity: C



TASK 71-00-06-817-902-A01

### BALANCE LINK FAILURE, BLEED VALVE FAILURE AND STEPPER MOTOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU FAILURE MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	E

##### B. FAILURE EFFECTS

<i>EFFECTS</i>	<i>GOV</i>
AT POWER ON, SYSTEM TEST If out of tolerance: total failure, reversion to manual mode.	Red
OUT OF SYSTEM TEST Total failure, reversion to manual mode. Risk of surge or max. power not available.	Red

##### C. POSSIBLE CAUSES

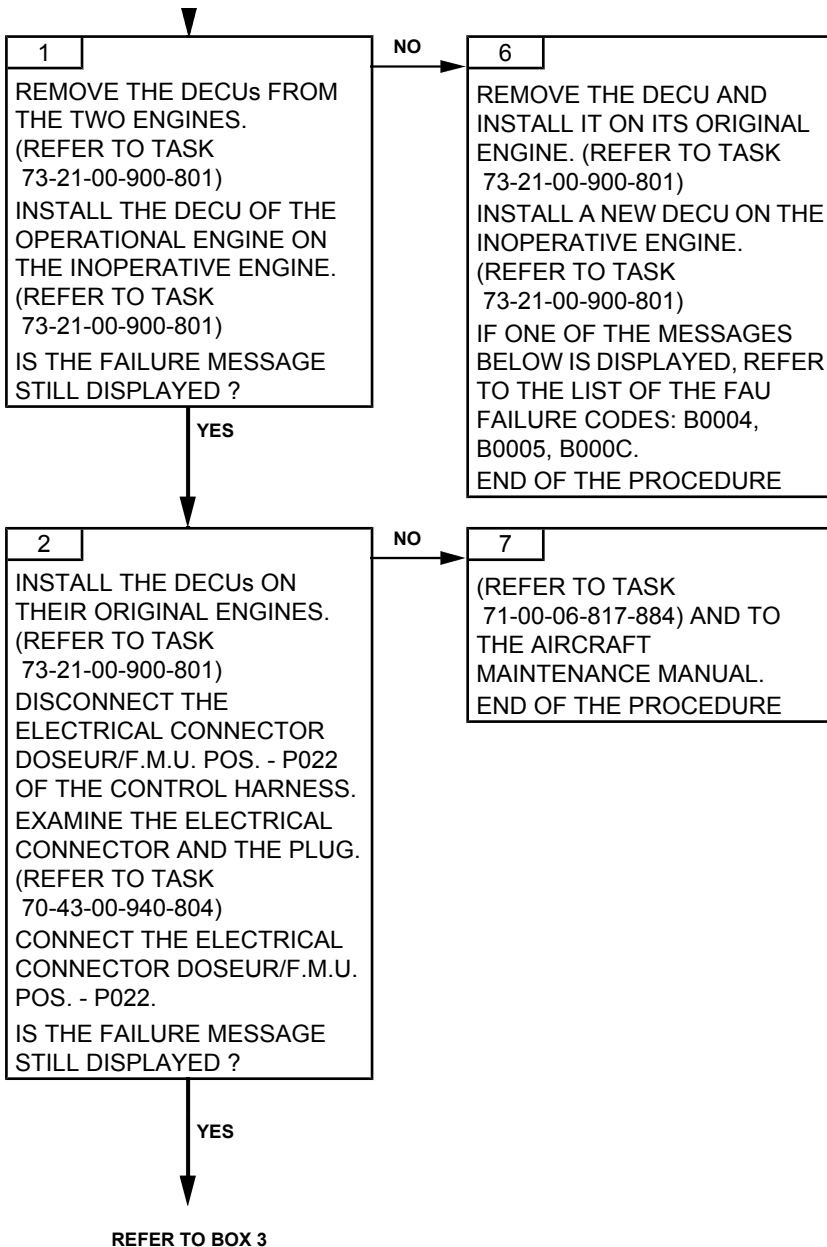
- DECU
- Pump and metering unit assembly
- Bleed valve
- Bleed valve filter
- P3 air tube/bleed valve
- Control harness.

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

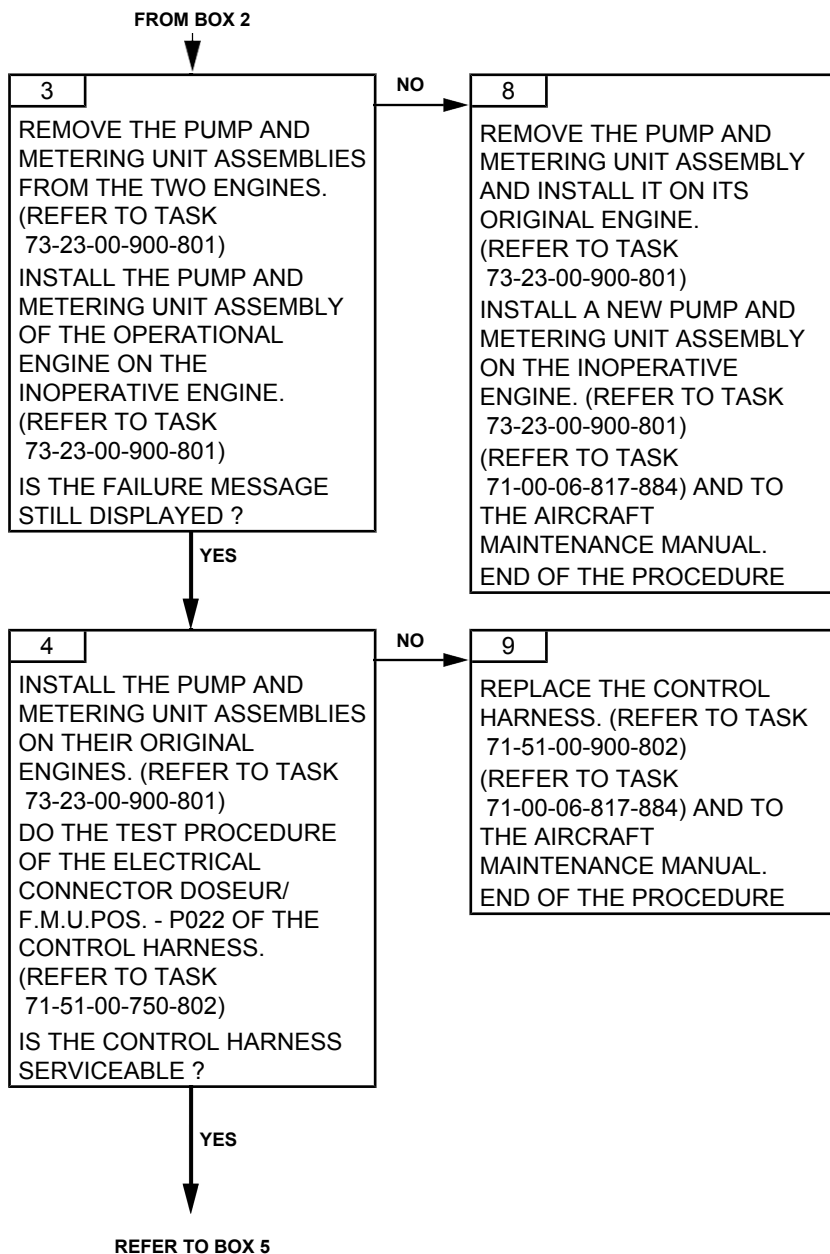
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

FROM BOX 4



5

(REFER TO TASK  
71-00-06-817-884) AND TO  
THE AIRCRAFT  
MAINTENANCE MANUAL.  
END OF THE PROCEDURE

---

Effectivity: C

TASK 71-00-06-817-904-A01

**BALANCE LINK FAILURE, BLEED VALVE FAILURE,  
FUEL VALVE RESOLVER FAILURE AND STEPPER  
MOTOR FAILURE  
TROUBLESHOOTING**

**1. GENERAL****A. FAU FAILURE MESSAGE**

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	0	F

**B. FAILURE EFFECTS**

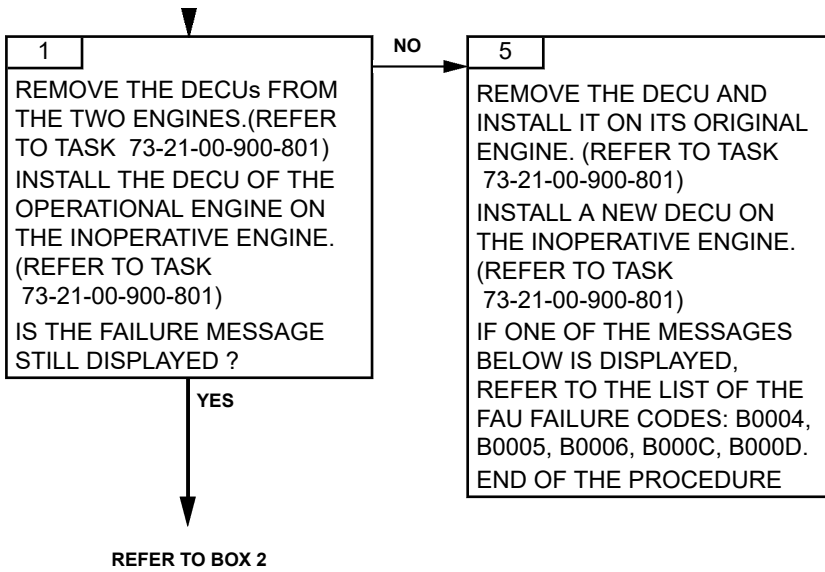
<i>EFFECTS</i>	<i>GOV</i>
ENGINE RUNNING Total failure. Reversion to manual mode.	Red

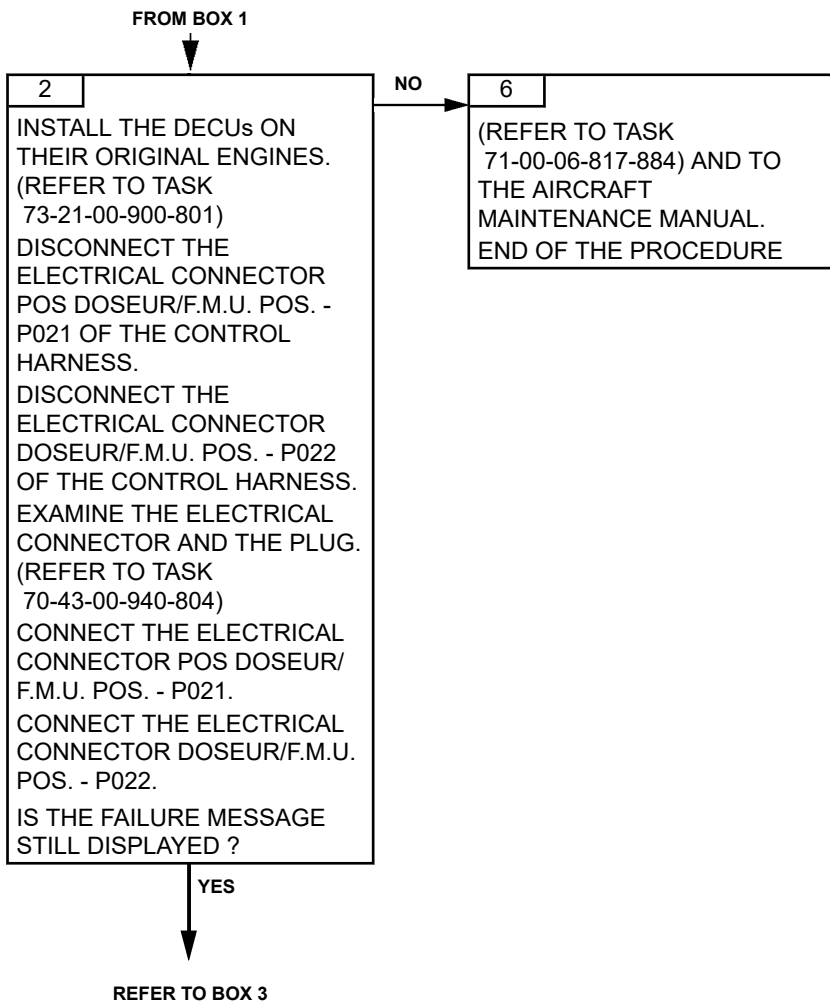
**C. POSSIBLE CAUSES**

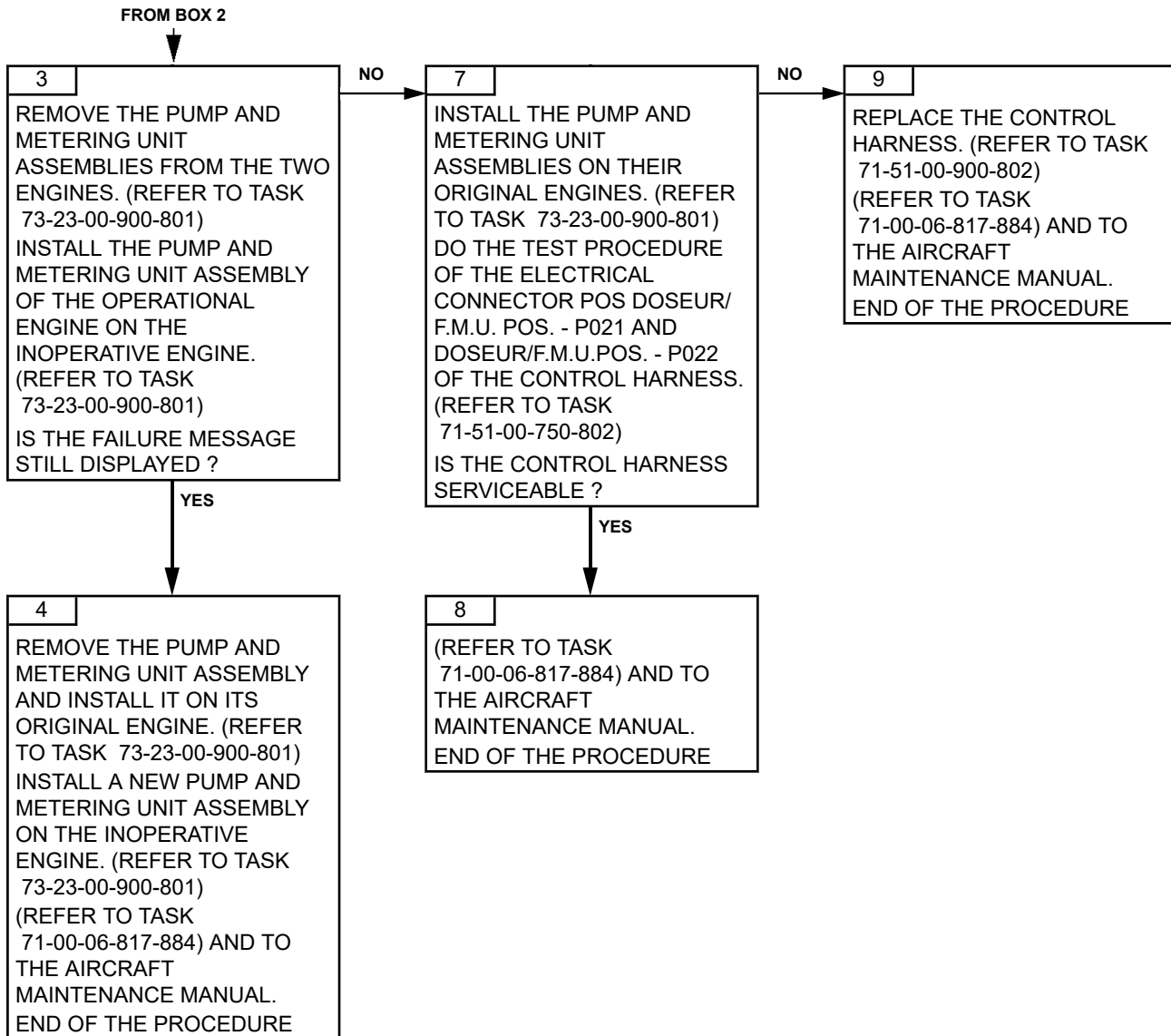
- DECU
- Pump and metering unit assembly
- Bleed valve
- Bleed valve filter
- P3 air tube/bleed valve
- Control harness.

**2. PROCEDURE**

Effectivity: C









TASK 71-00-06-817-907-A01

### N2 FAILURE (B ON THE HARNESS) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	N	2	\	\	C
MEMORY	B	0	0	1	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Minor failure Use of the N2C information No effect on the engine operation	Flashing amber

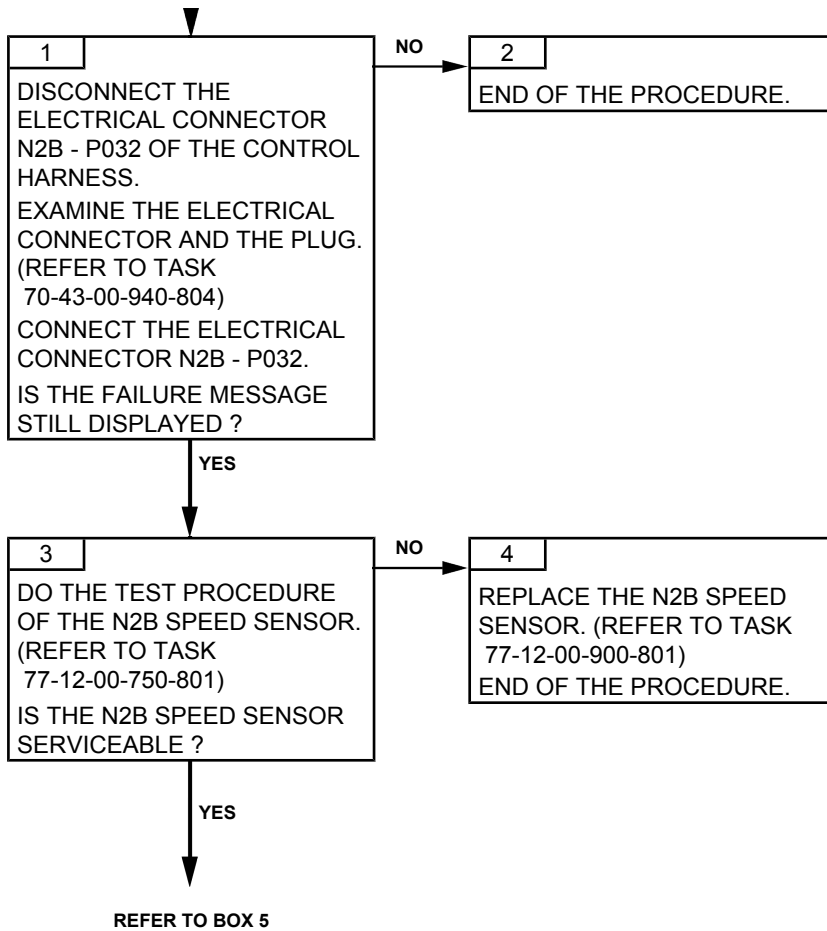
**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N2 SENSOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N2 SPEED INFORMATION.

##### B. POSSIBLE CAUSES

- N2B speed sensor
- DECU
- Control harness

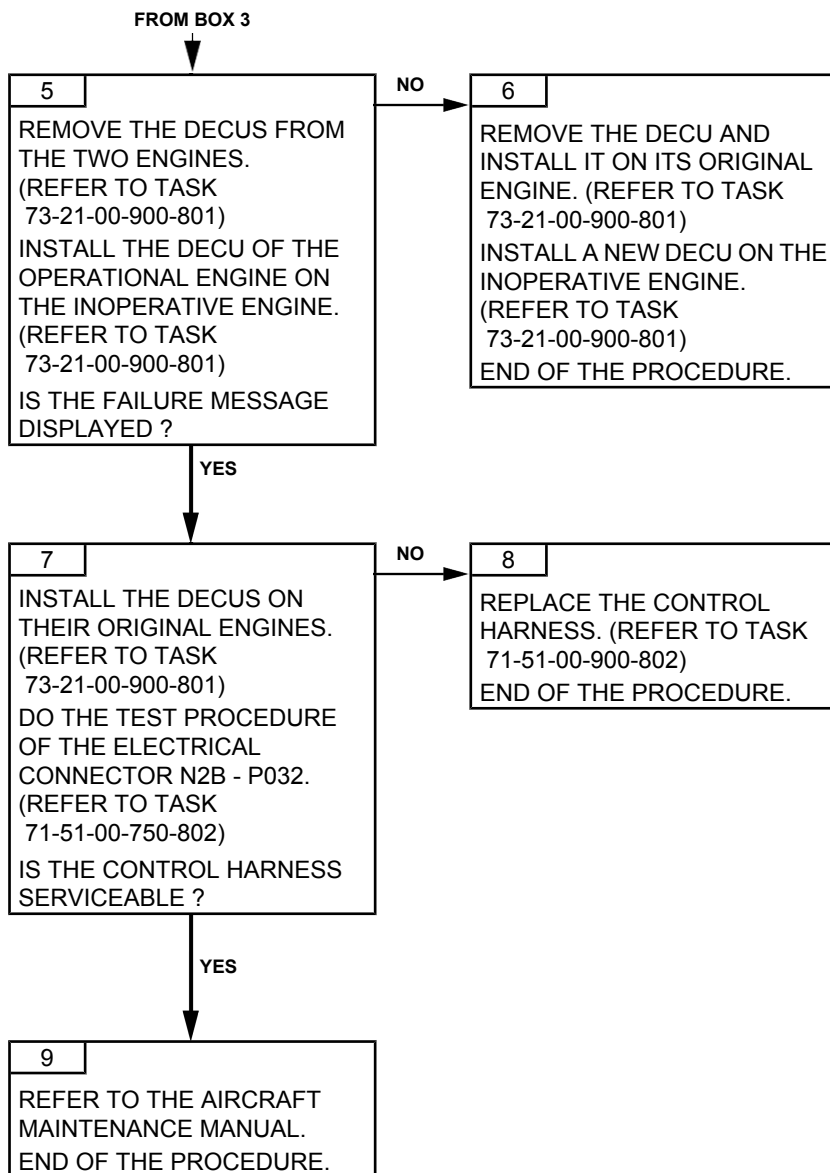
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-909-A01

### N1 FAILURE (B ON THE SENSOR) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	N	1	\	\	C
MEMORY	B	0	0	2	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Minor failure Use of the alternator redundancy information No effect on the engine operation	Flashing amber

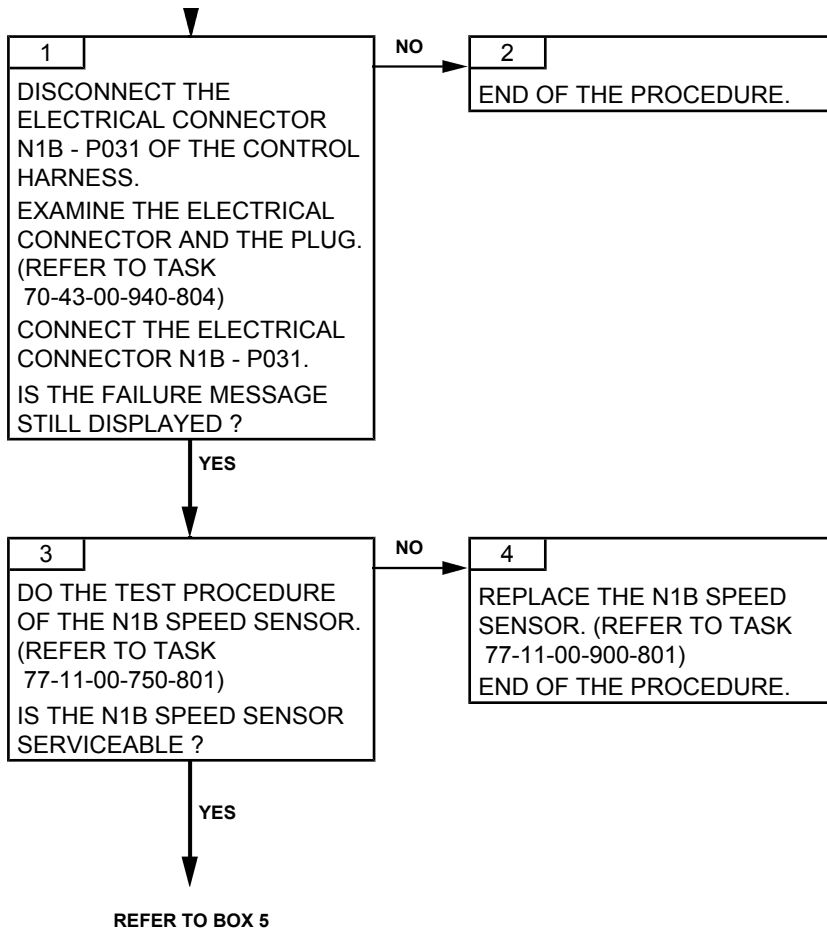
**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N1 SENSOR AND N1 ALTERNATOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N1 SPEED INFORMATION.

##### B. POSSIBLE CAUSES

- N1B speed sensor
- DECU
- Control harness

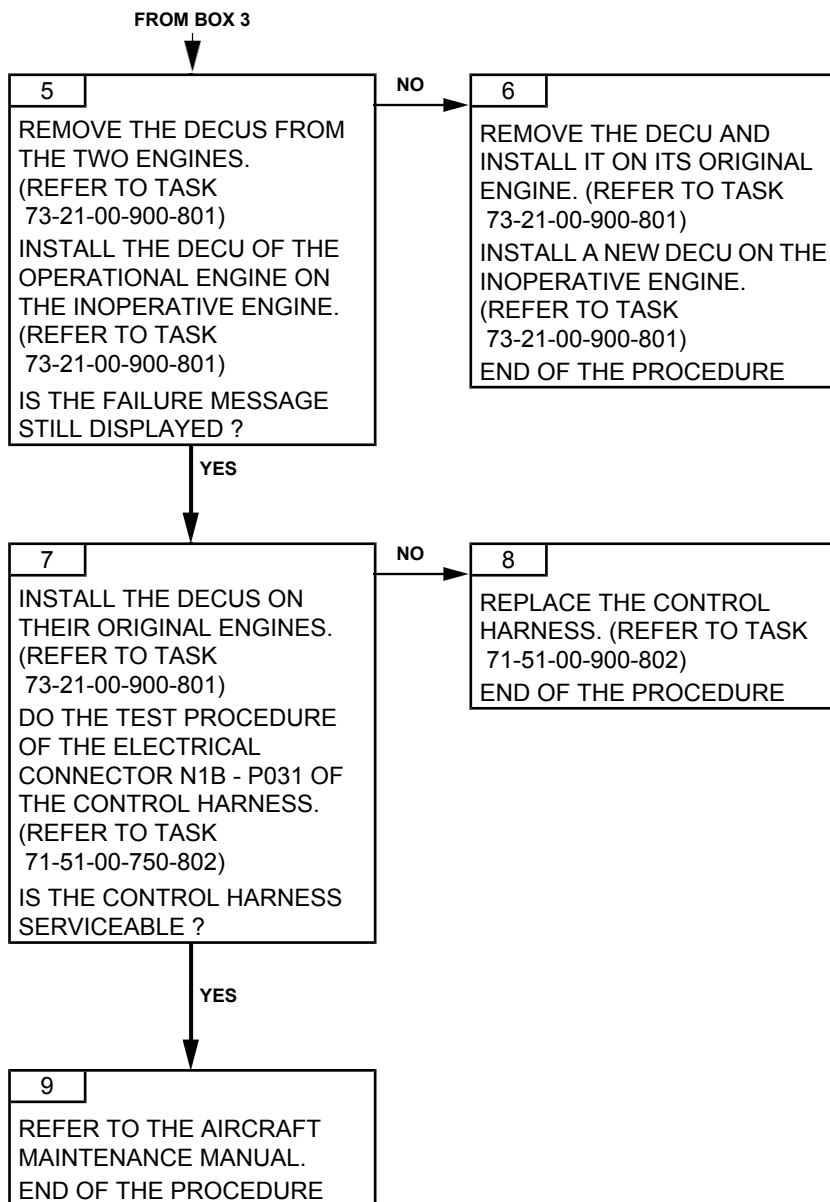
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-912-A01

### N2 FAILURE (B ON THE HARNESS) AND N1 FAILURE (B ON THE SENSOR) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	3	0

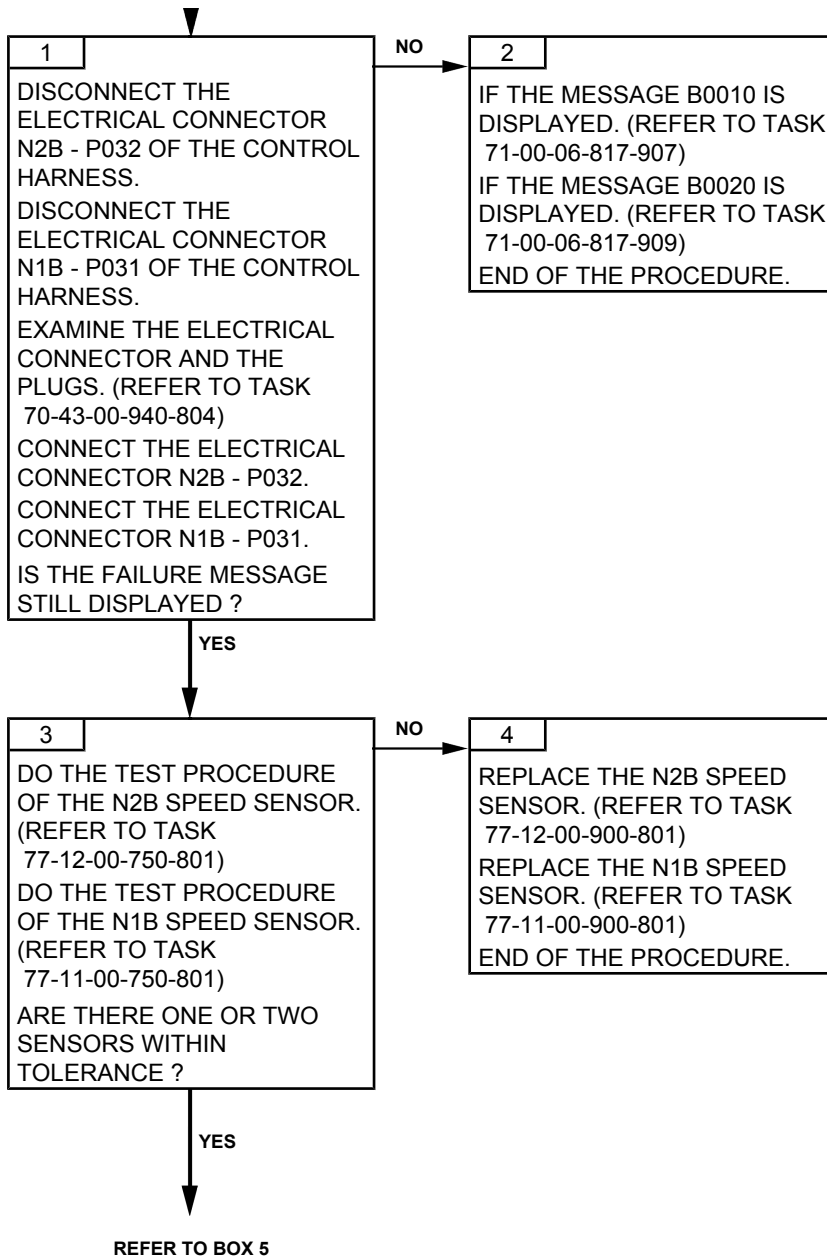
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Minor failure Use of the alternator redundancy information and of N2C. No effect on the engine operation	Flashing amber

##### B. POSSIBLE CAUSES

- N1B speed sensor
- N2B speed sensor
- DECU
- Control harness

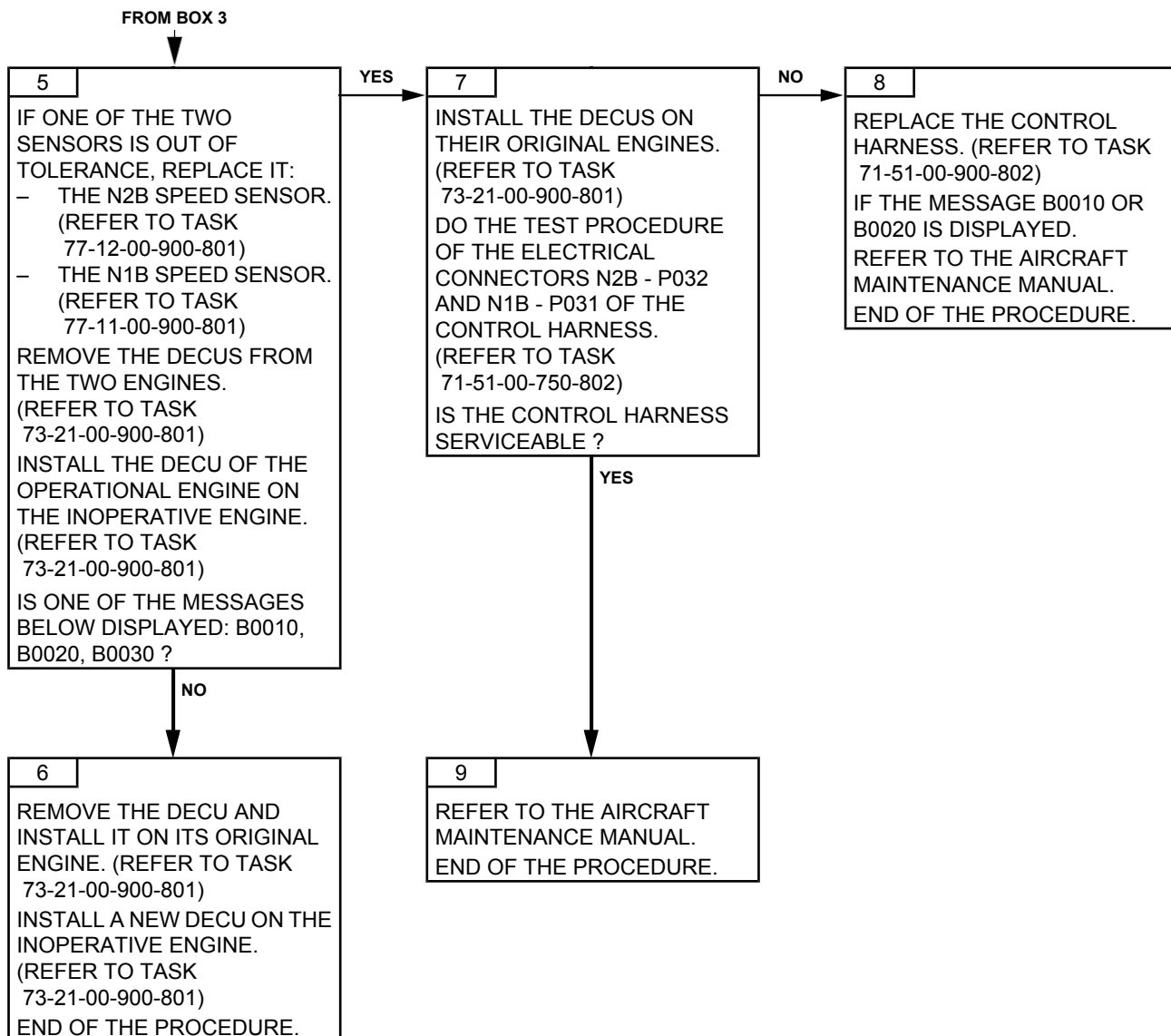
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-913-A01

### N2 FAILURE (C ON THE HARNESS) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	N	2	\	\	B
MEMORY	B	0	0	4	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Minor failure Use of the N2B information No effect on the engine operation	Flashing amber

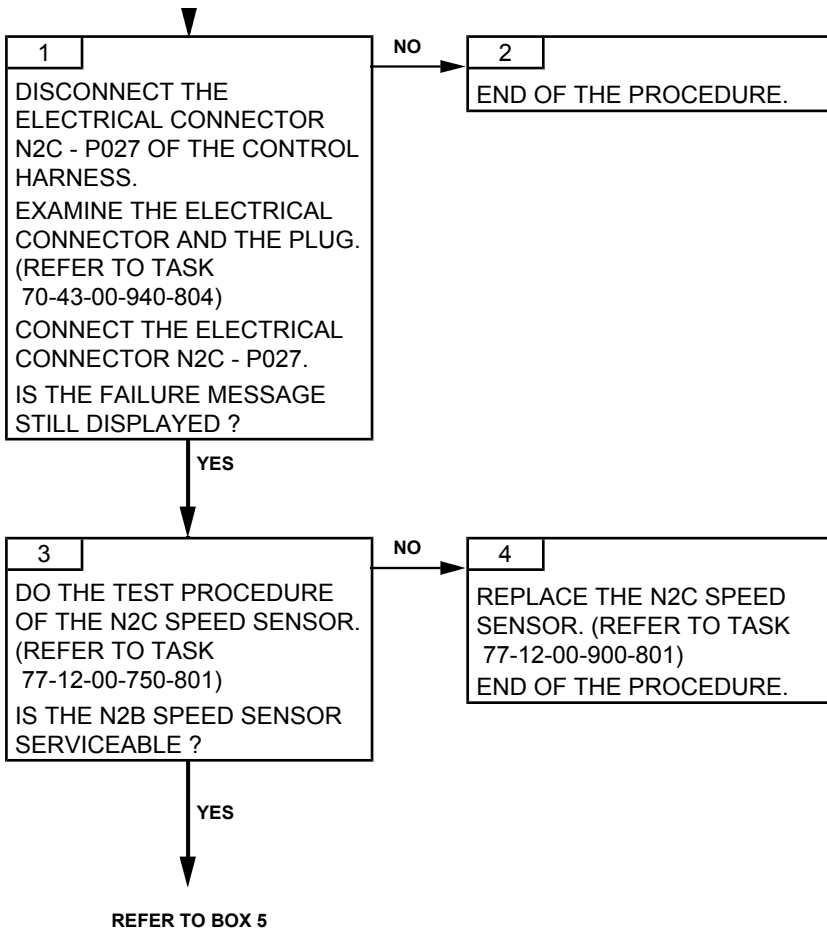
**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N2 SENSOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N2 SPEED INFORMATION.

##### B. POSSIBLE CAUSES

- N2C speed sensor
- DECU
- Control harness

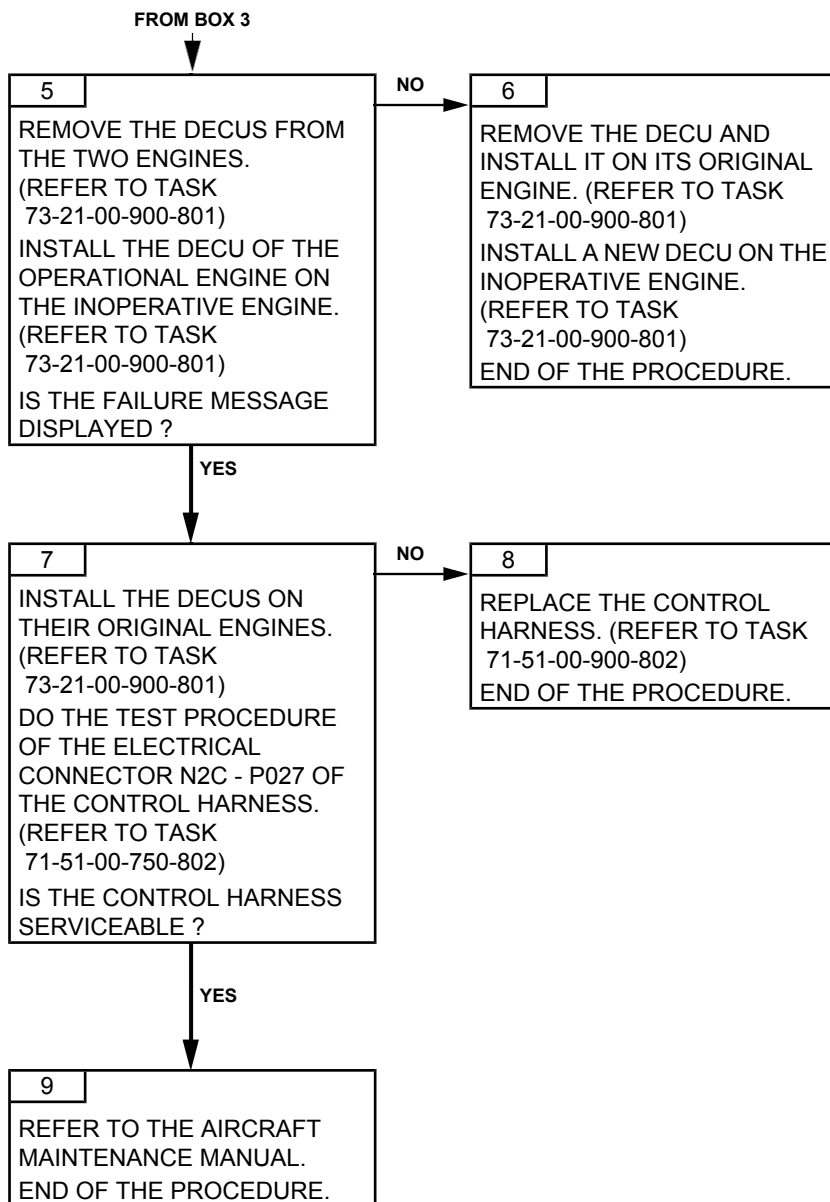
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-915-A01

### N2 FAILURE (B ON THE HARNESS) AND N2 FAILURE (C ON THE HARNESS) TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** IF, AT THE NEXT POWER ON (COLD ENGINE), THE FAILURE MESSAGE IS NO LONGER DISPLAYED, THERE IS A GOOD CHANCE THAT THE TWO SENSORS WILL FAIL. DO THE TEST PROCEDURE.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	5	0

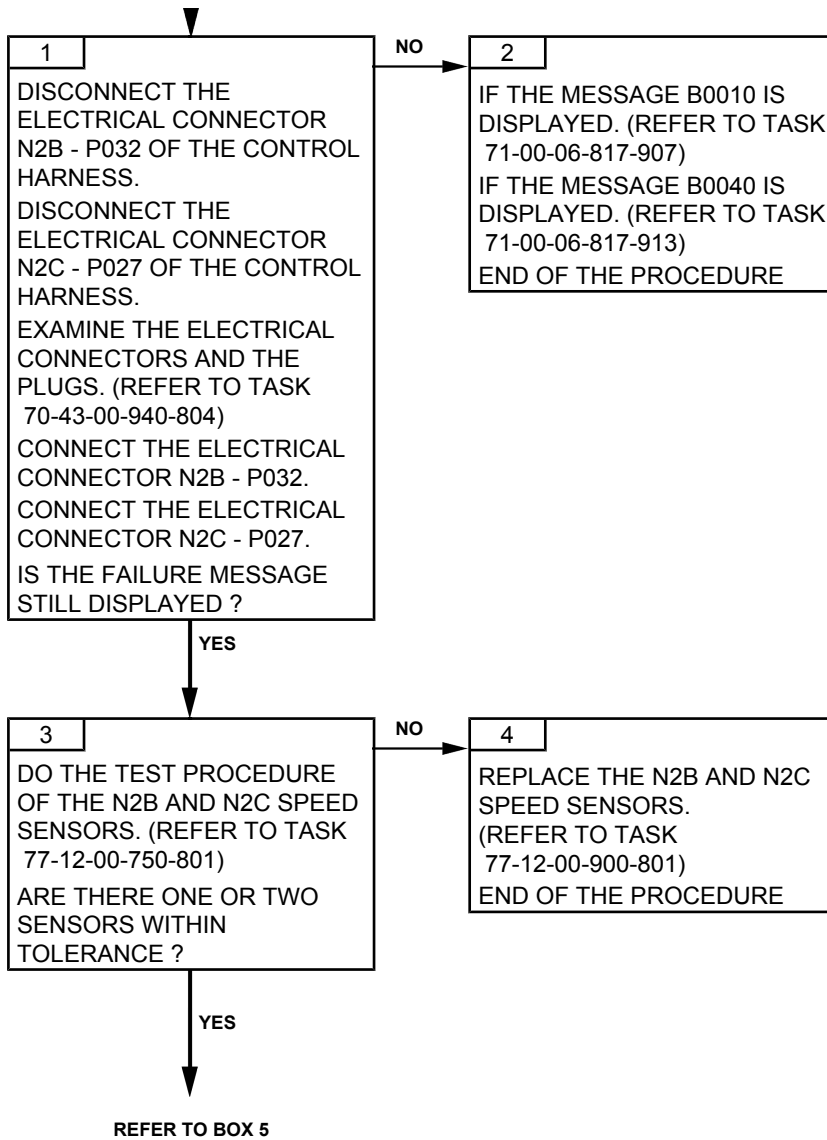
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING N2B and N2C not available Major failure Reversion to manual mode	Red

#### B. POSSIBLE CAUSES

- N2B speed sensor
- N2C speed sensor
- DECU
- Control harness

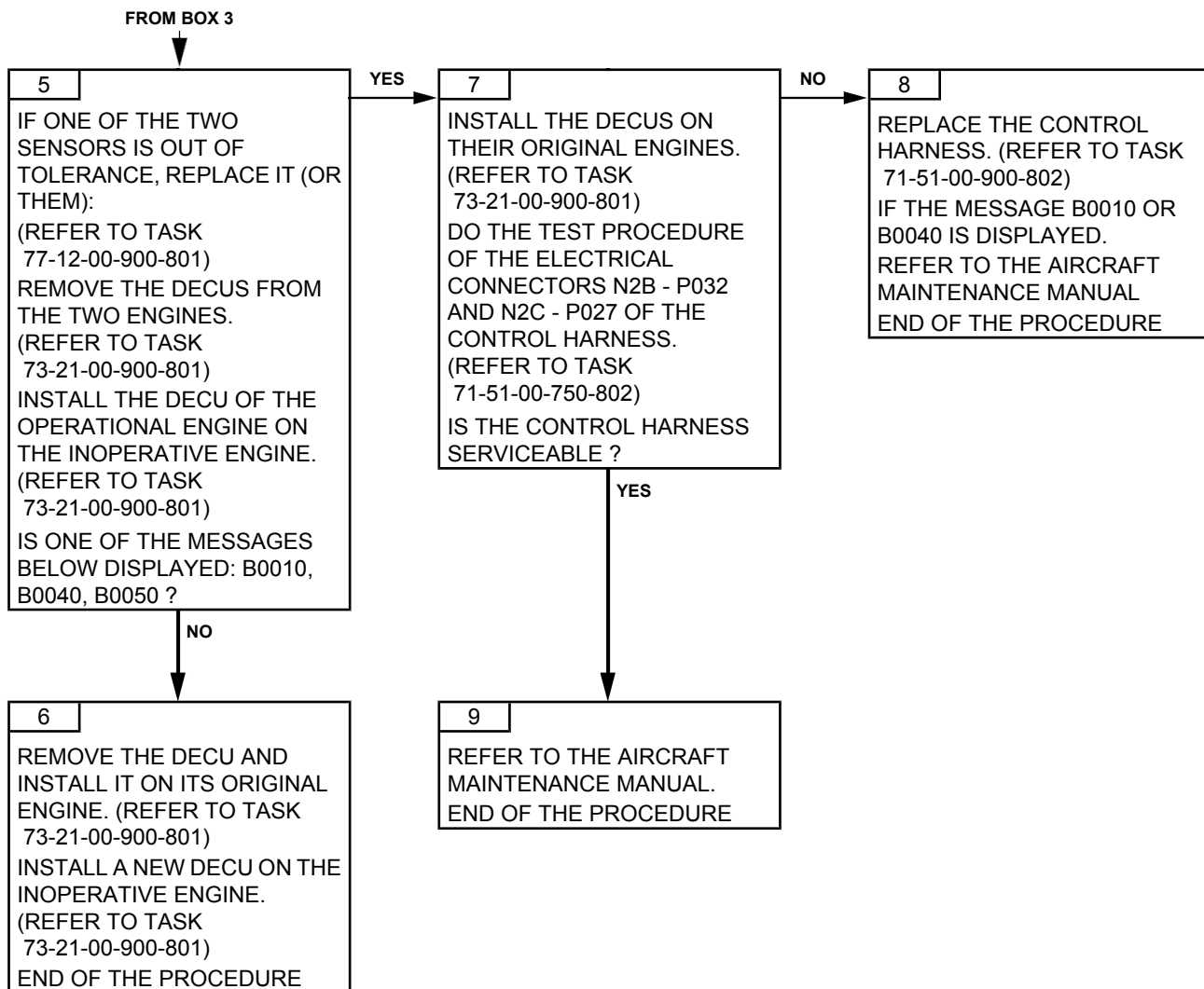
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-916-A01

### N1 FAILURE (B ON THE SENSOR) AND N2 FAILURE (C ON THE HARNESS) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	6	0

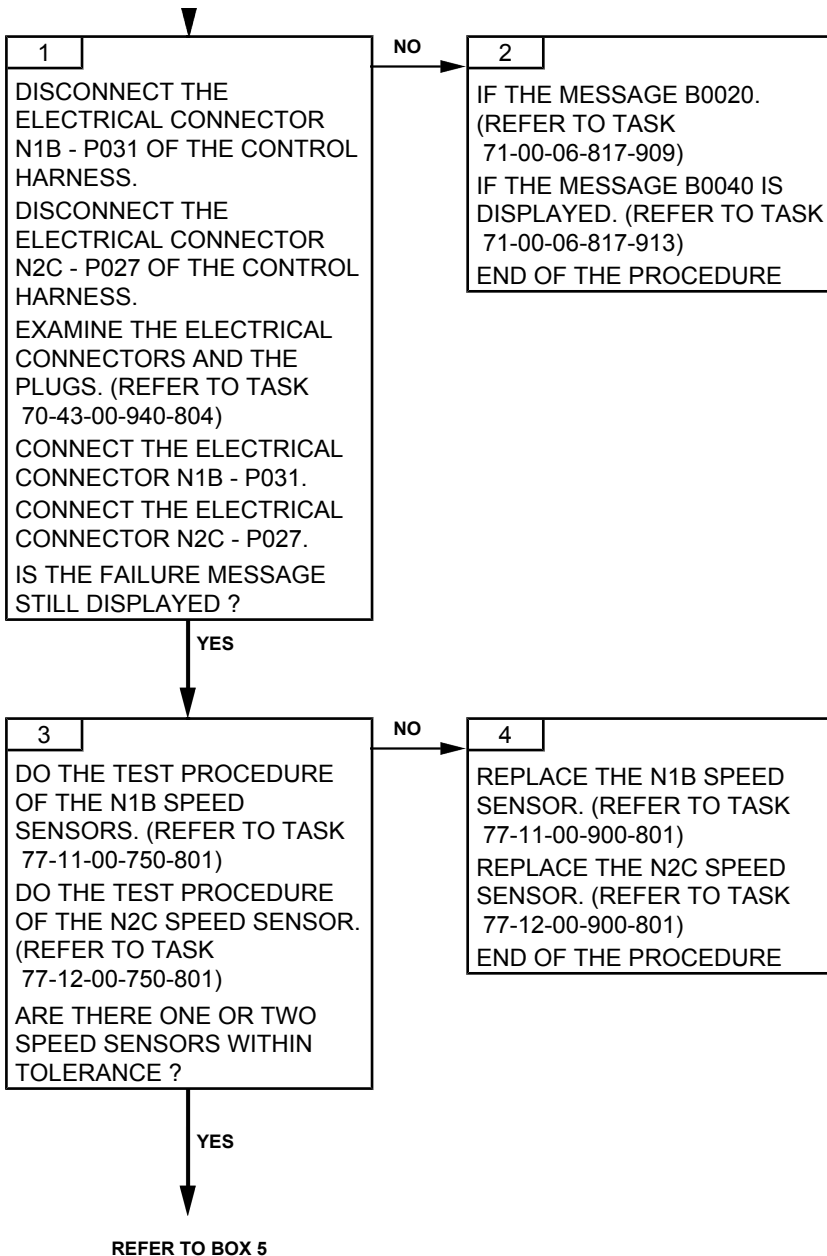
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Minor failure Use of the alternator redundancy information and of N2B No effect on the engine operation	Flashing amber

##### B. POSSIBLE CAUSES

- N1B speed sensor
- N2C speed sensor
- DECU
- Control harness

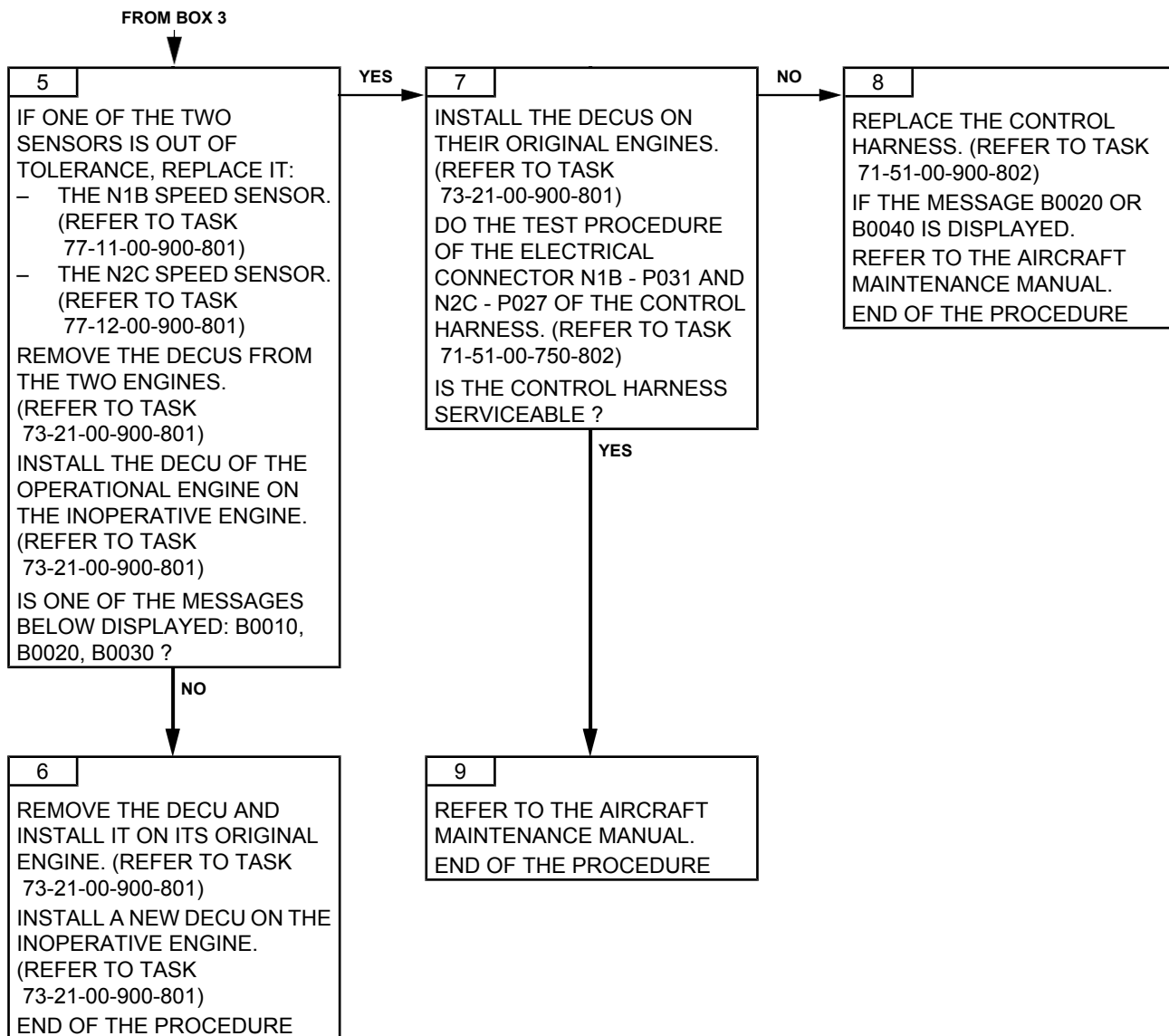
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-917-A01

### N2 FAILURE (B ON THE HARNESS), N1 FAILURE (B ON THE SENSOR) AND N2 FAILURE (C ON THE HARNESS) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	7	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Major failure Reversion to manual mode	Red

**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N2 SENSOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N2 SPEED INFORMATION.

##### B. POSSIBLE CAUSES

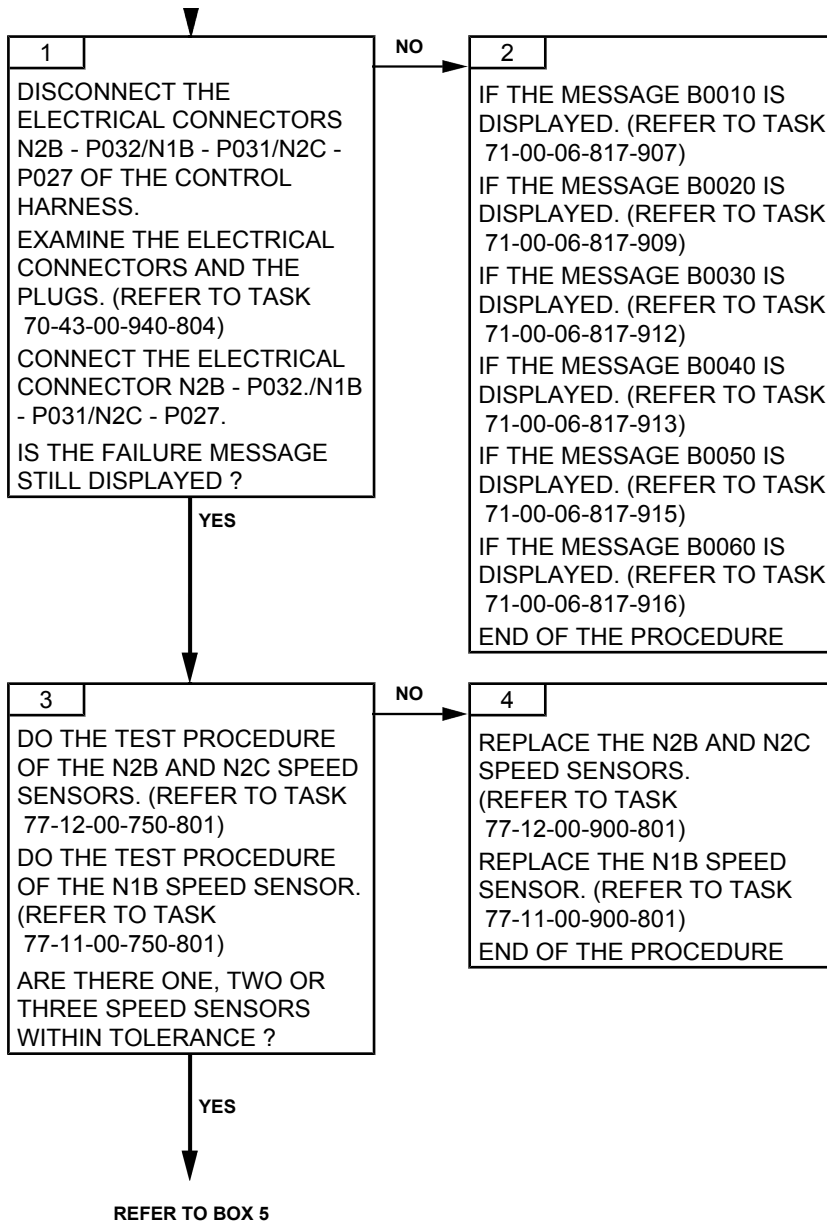
- N2B speed sensor
- N1B speed sensor
- N2C speed sensor
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

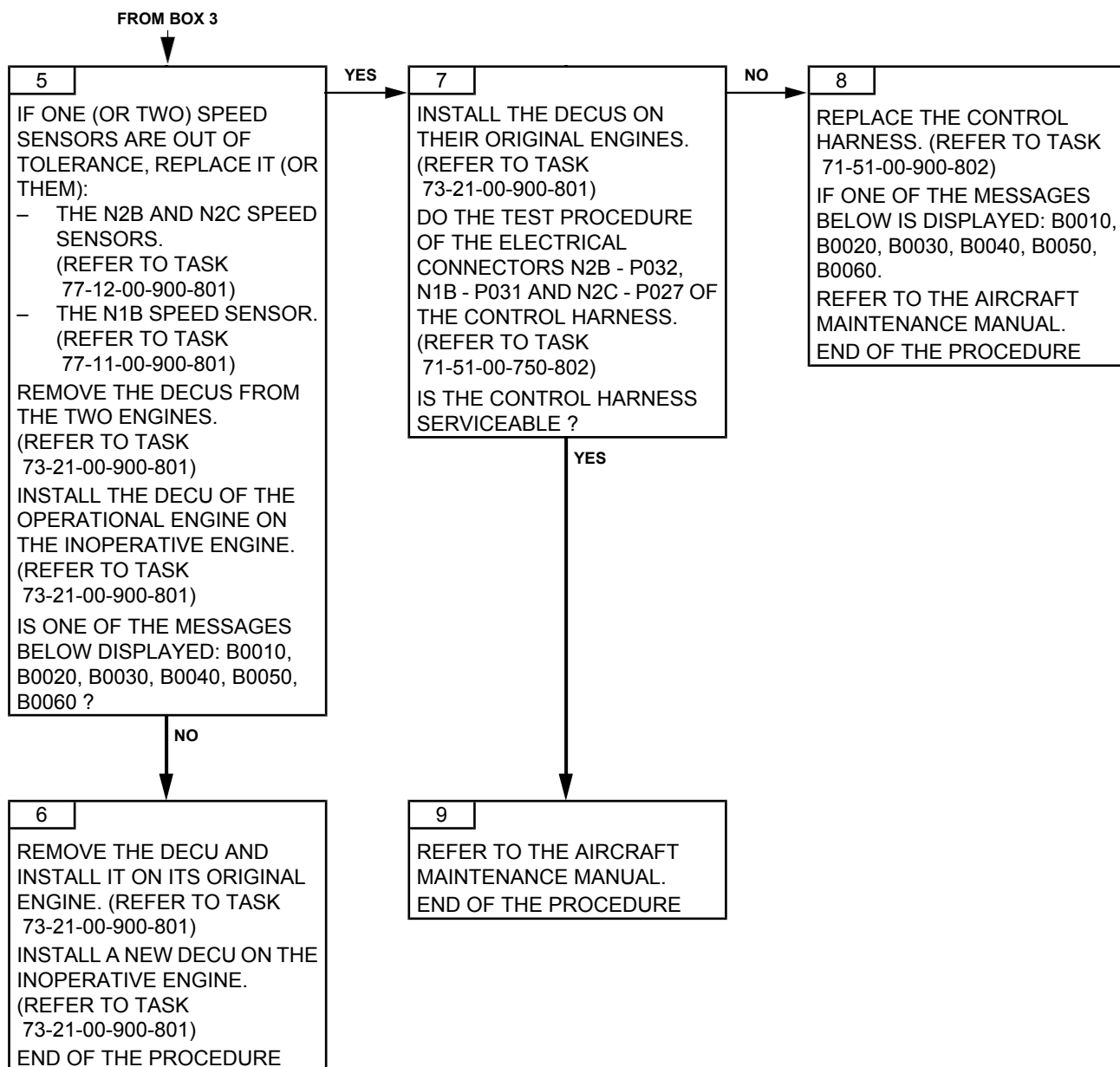
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-918-A01

### N1 FAILURE (A ALTERNATOR ON THE HARNESS) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	N	1	\	\	B
MEMORY	B	0	0	8	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Minor failure Use of the N1B information No effect on the engine operation	Flashing amber

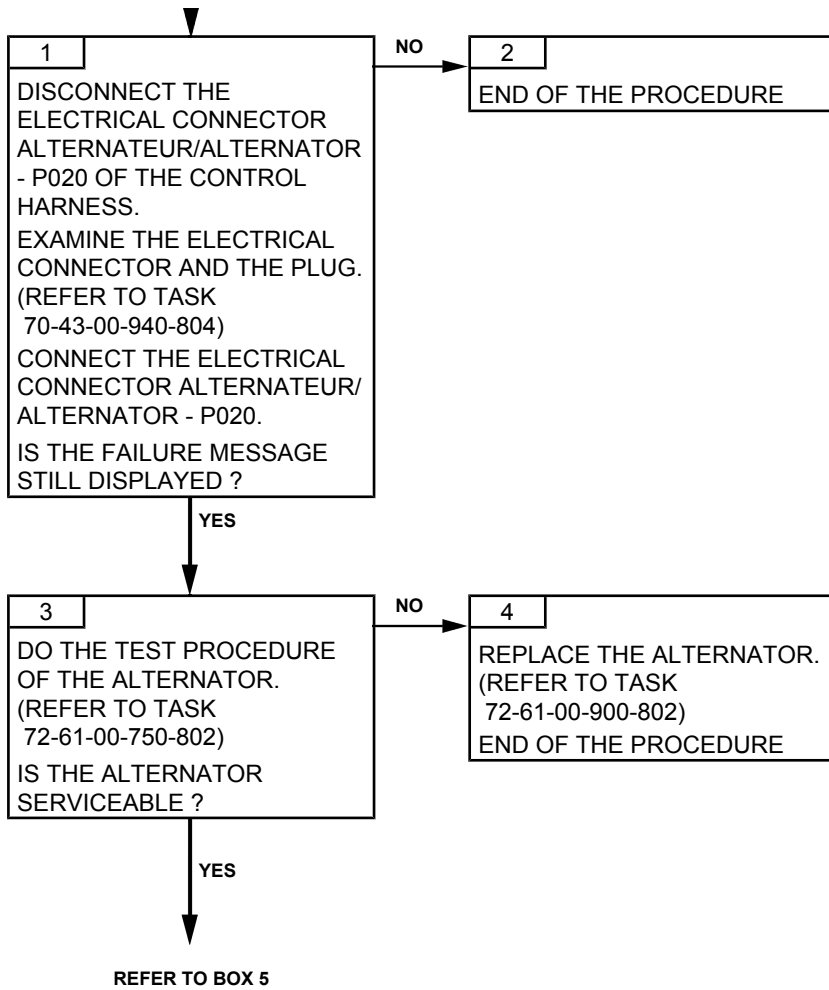
**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N1 SENSOR AND N1 ALTERNATOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N1 SPEED INFORMATION.

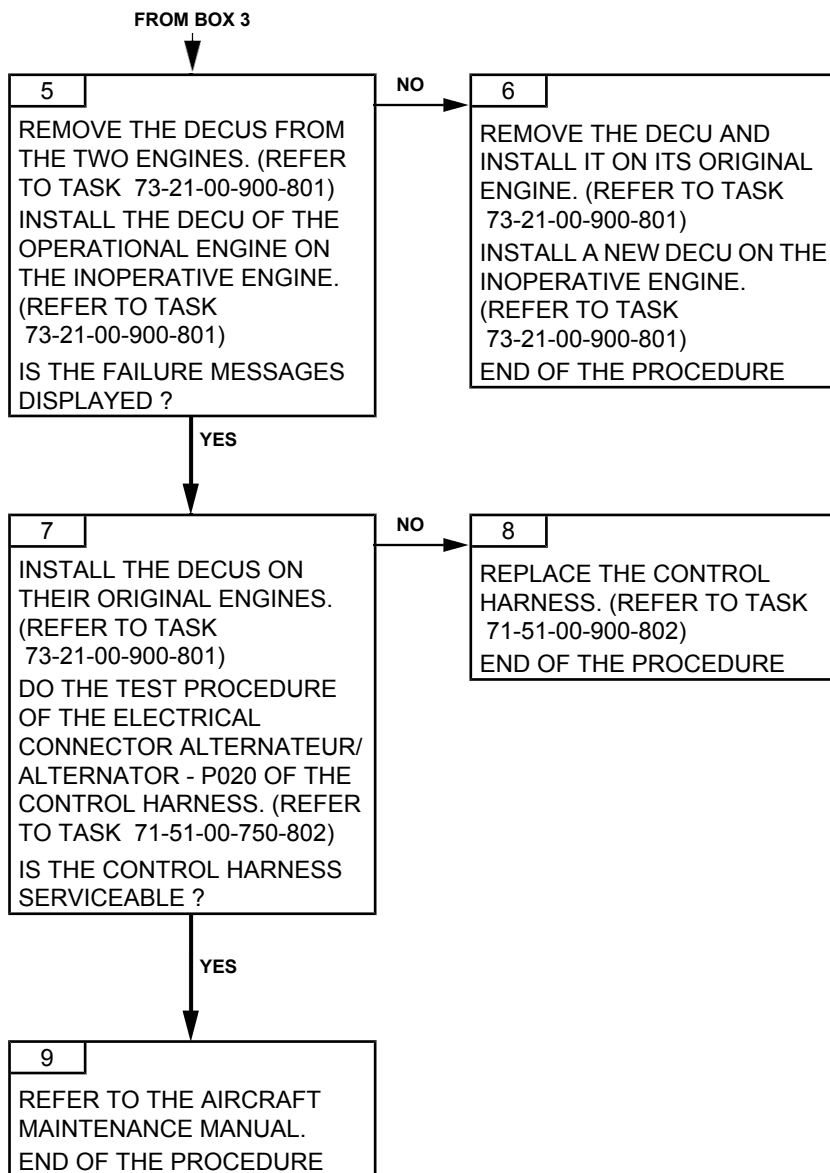
##### B. POSSIBLE CAUSES

- Alternator
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C





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TASK 71-00-06-817-921-A01

### N2 FAILURE (B ON THE HARNESS) AND N1 FAILURE ON THE ALTERNATOR ELECTRICAL CONNECTOR (ALTERNATEUR/ALTERNATOR ON THE HARNESS) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	9	0

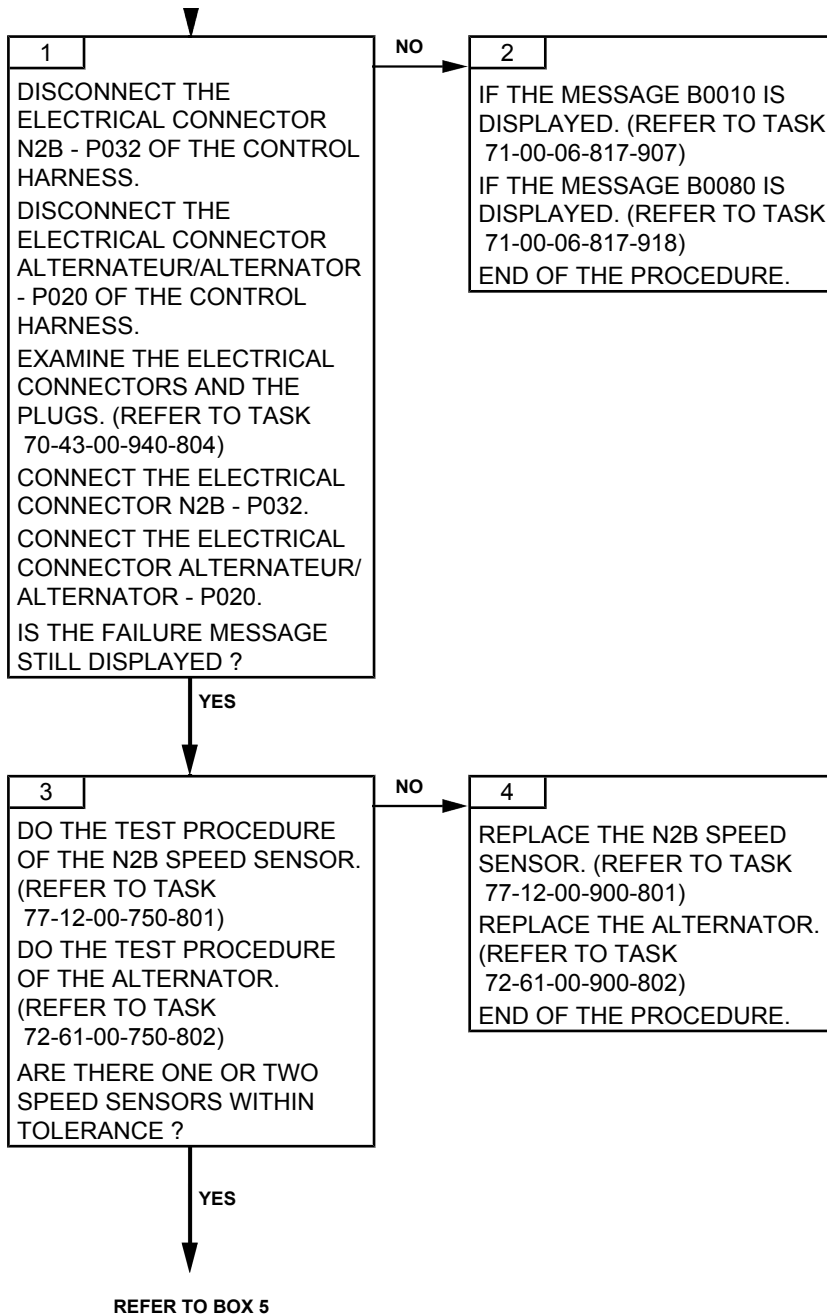
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Minor failure Use of the N2C and N1B information No effect on the engine operation	Flashing amber

##### B. POSSIBLE CAUSES

- N2B speed sensor
- Alternator
- DECU
- Control harness

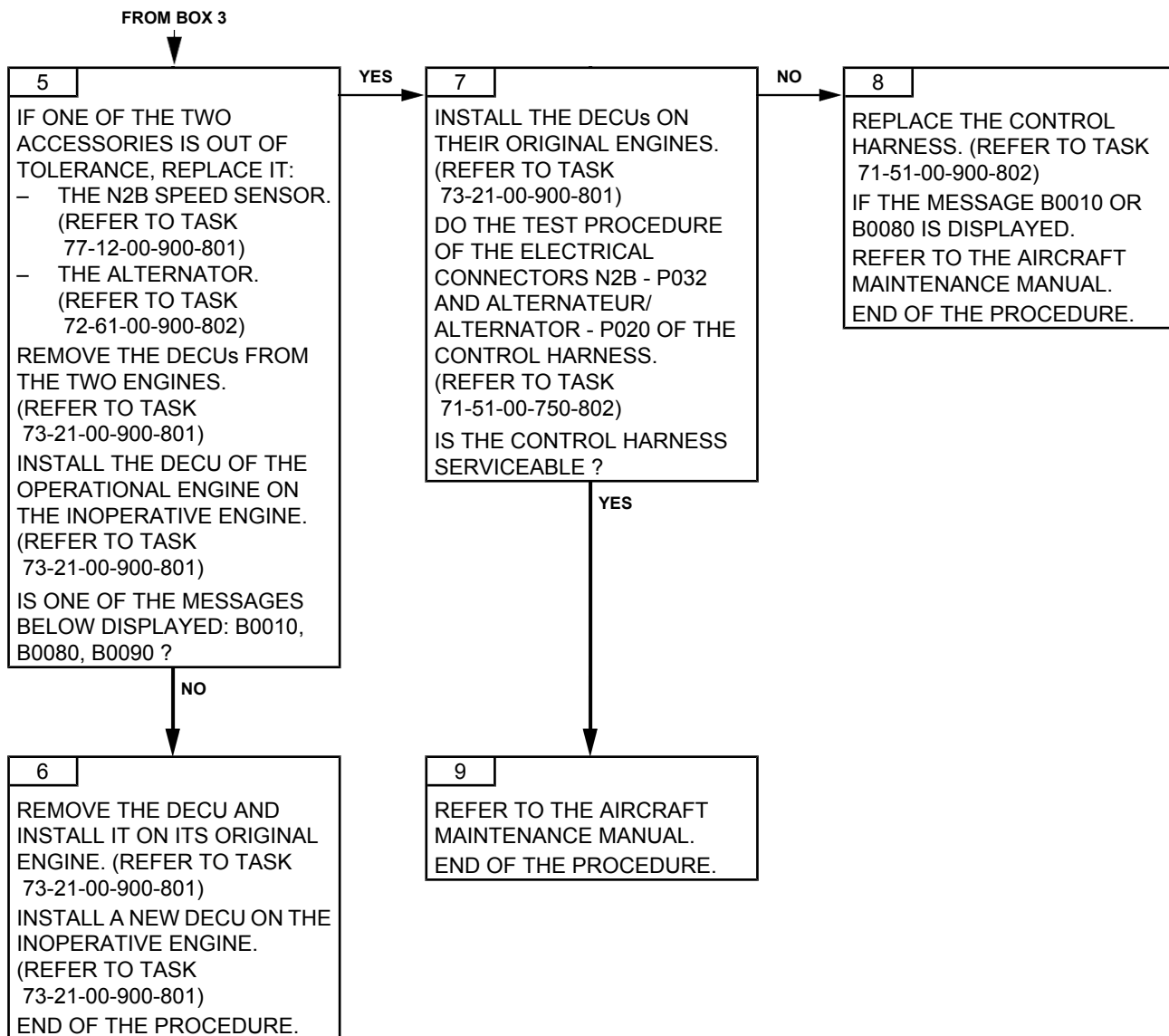
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-922-A01

### N1 FAILURE (B ON THE SENSOR) AND N1 FAILURE ON THE ALTERNATOR ELECTRICAL CONNECTOR (ALTERNATEUR/ALTERNATOR ON THE HARNESS) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	A	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Total failure Reversion to manual mode	Red

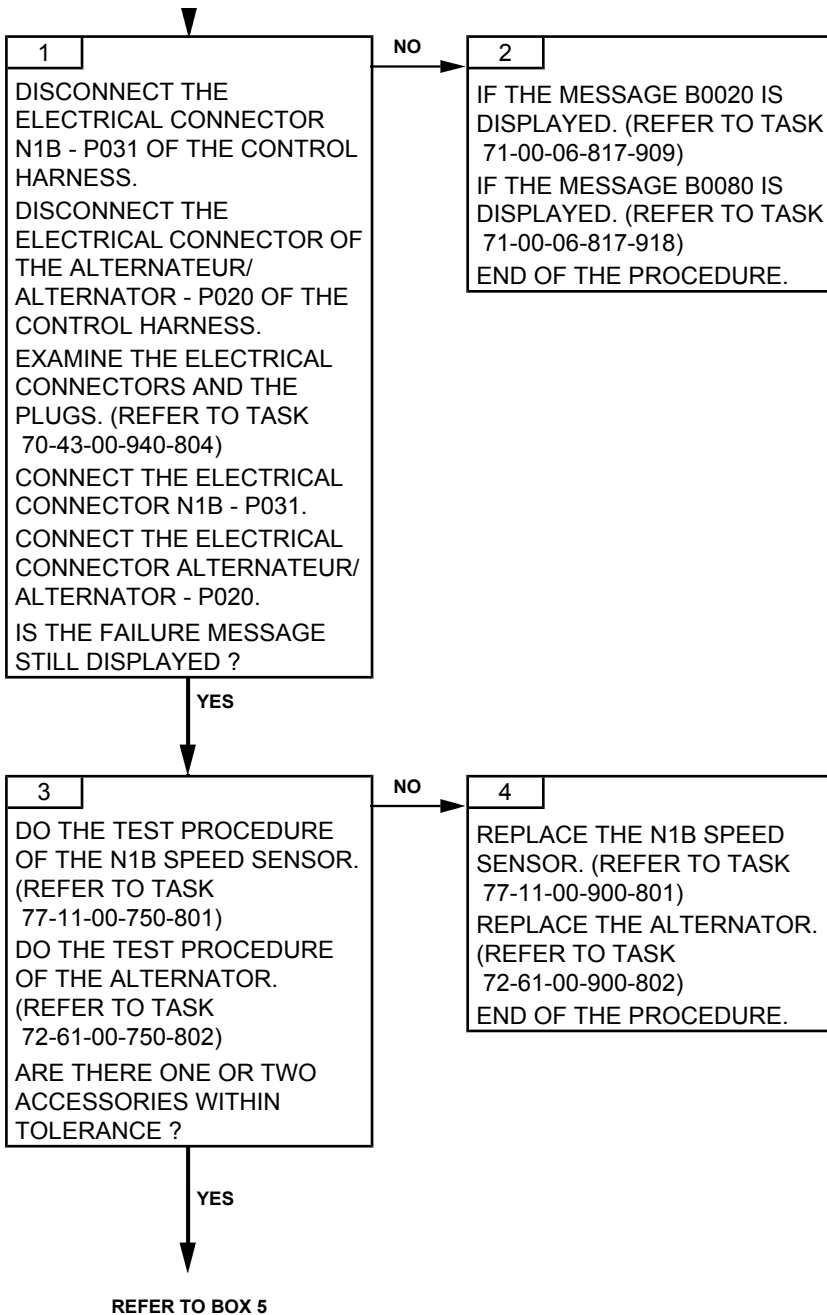
**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N1 SENSOR AND N1 ALTERNATOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N1 SPEED INFORMATION.

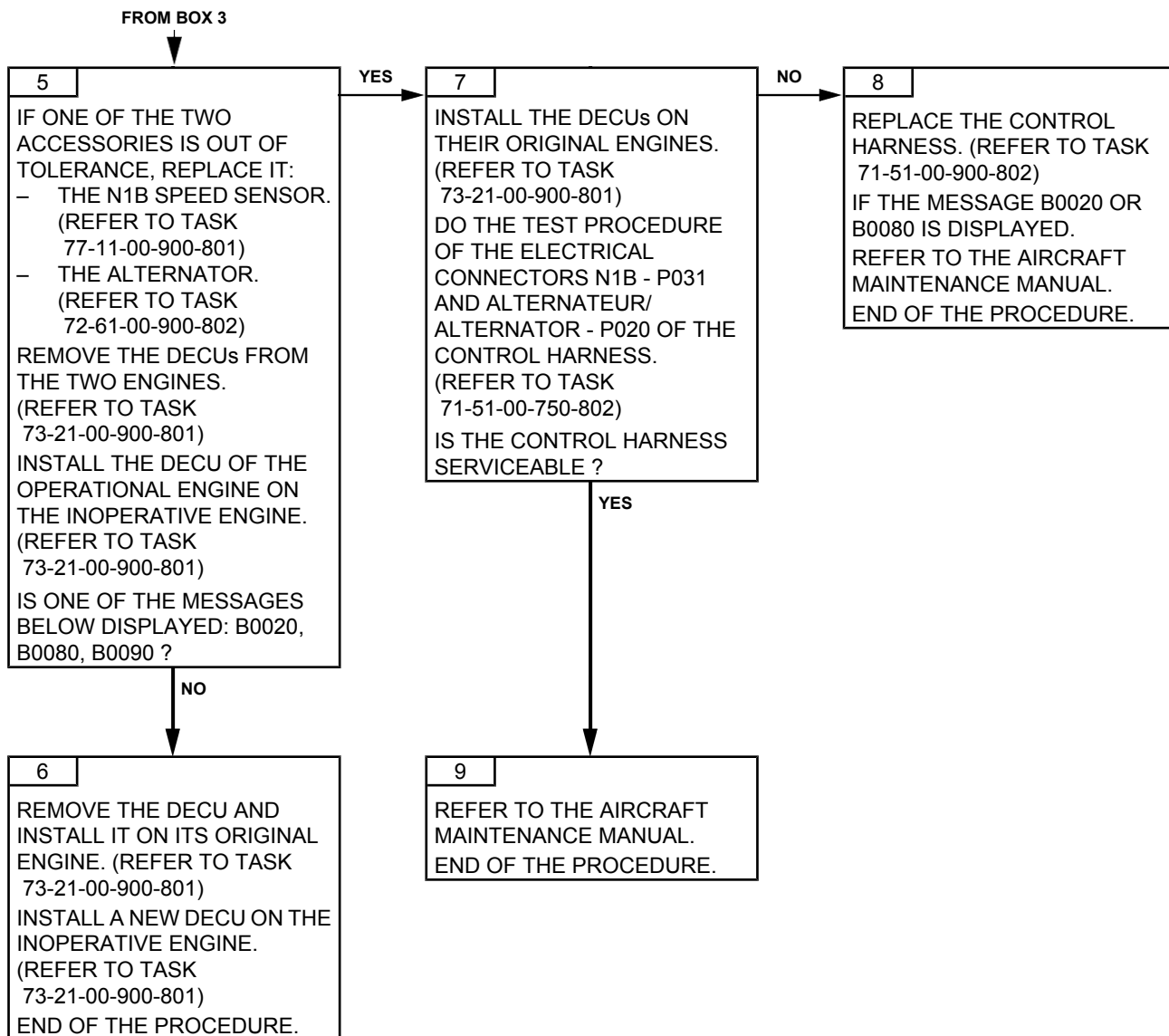
##### B. POSSIBLE CAUSES

- N1B speed sensor
- Alternator
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C





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TASK 71-00-06-817-923-A01

### N2 FAILURE (B ON THE HARNESS), N1 FAILURE (B ON THE SENSOR) AND N1 FAILURE (ALTERNATOR CONNECTOR) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	B	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Major failure Reversion to manual mode	Red

**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N1 SENSOR AND N1 ALTERNATOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N1 SPEED INFORMATION.

##### B. POSSIBLE CAUSES

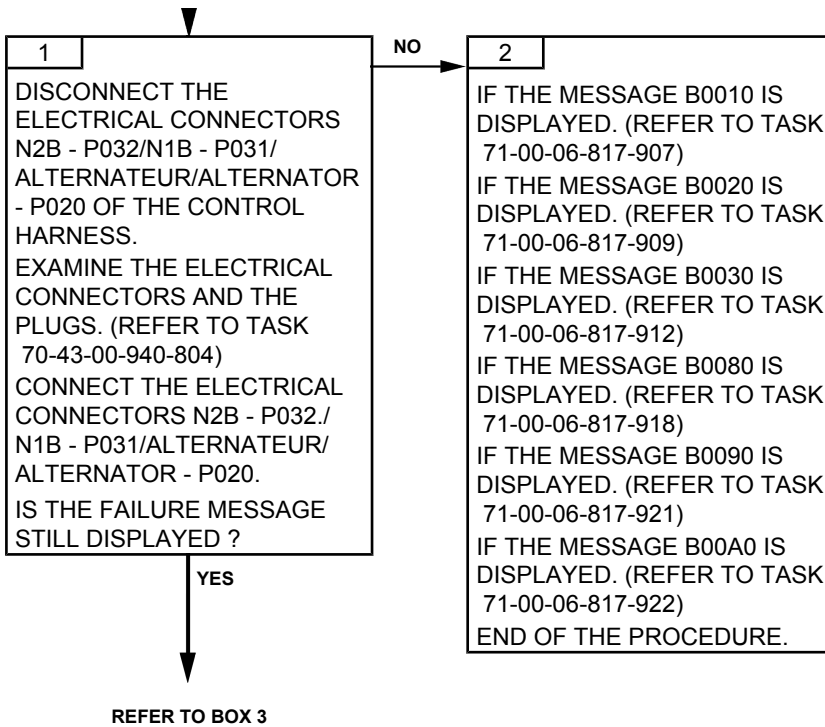
- N2B speed sensor
- N1B speed sensor
- Alternator
- DECU
- Control harness

#### 2. PROCEDURE

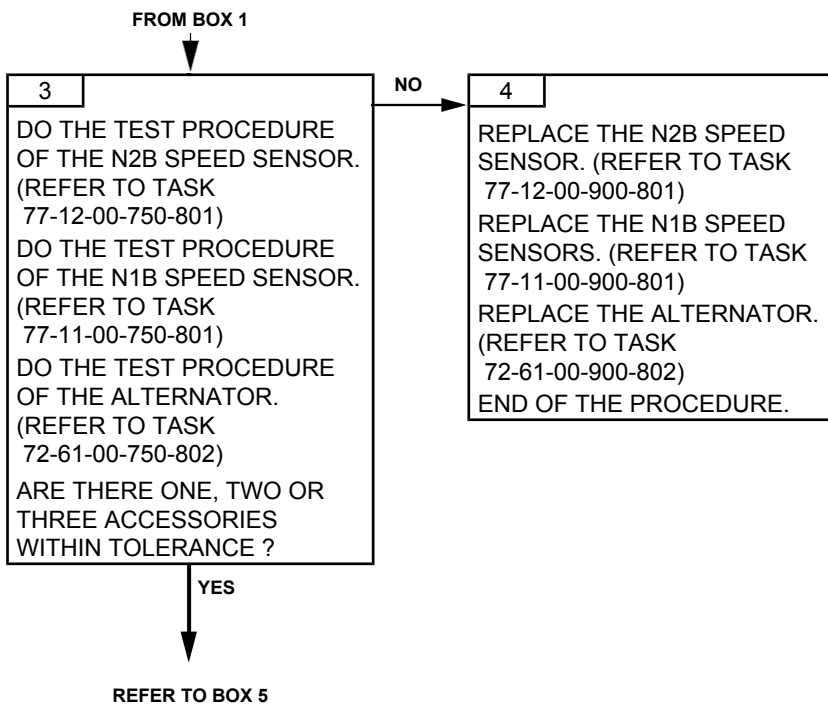
Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

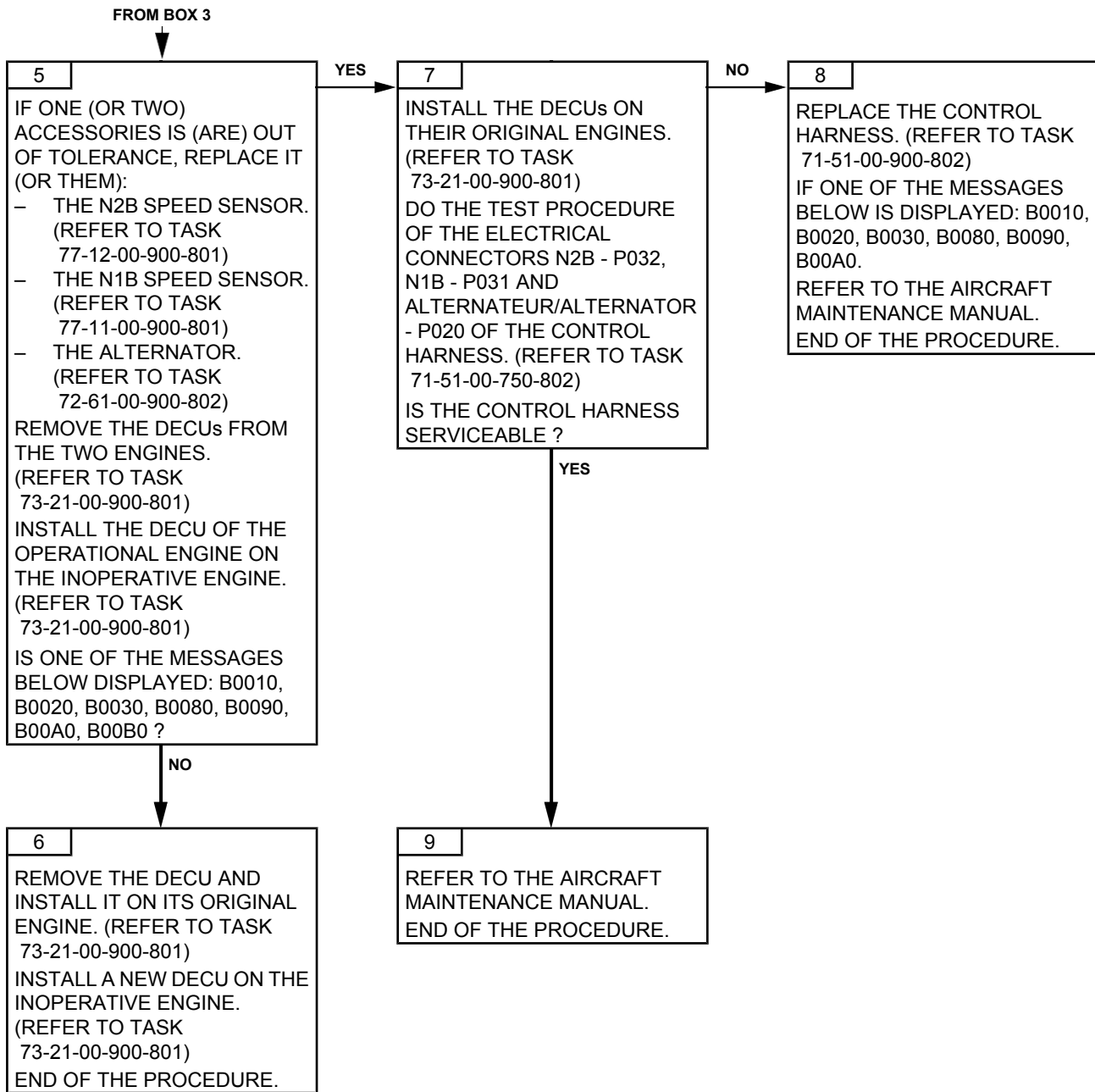


Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

TASK 71-00-06-817-924-A01

### N2 FAILURE (C ON THE HARNESS) AND N1 FAILURE ON THE ALTERNATOR CONNECTOR (ALTERNATEUR/ALTERNATOR ON THE HARNESS) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	C	0

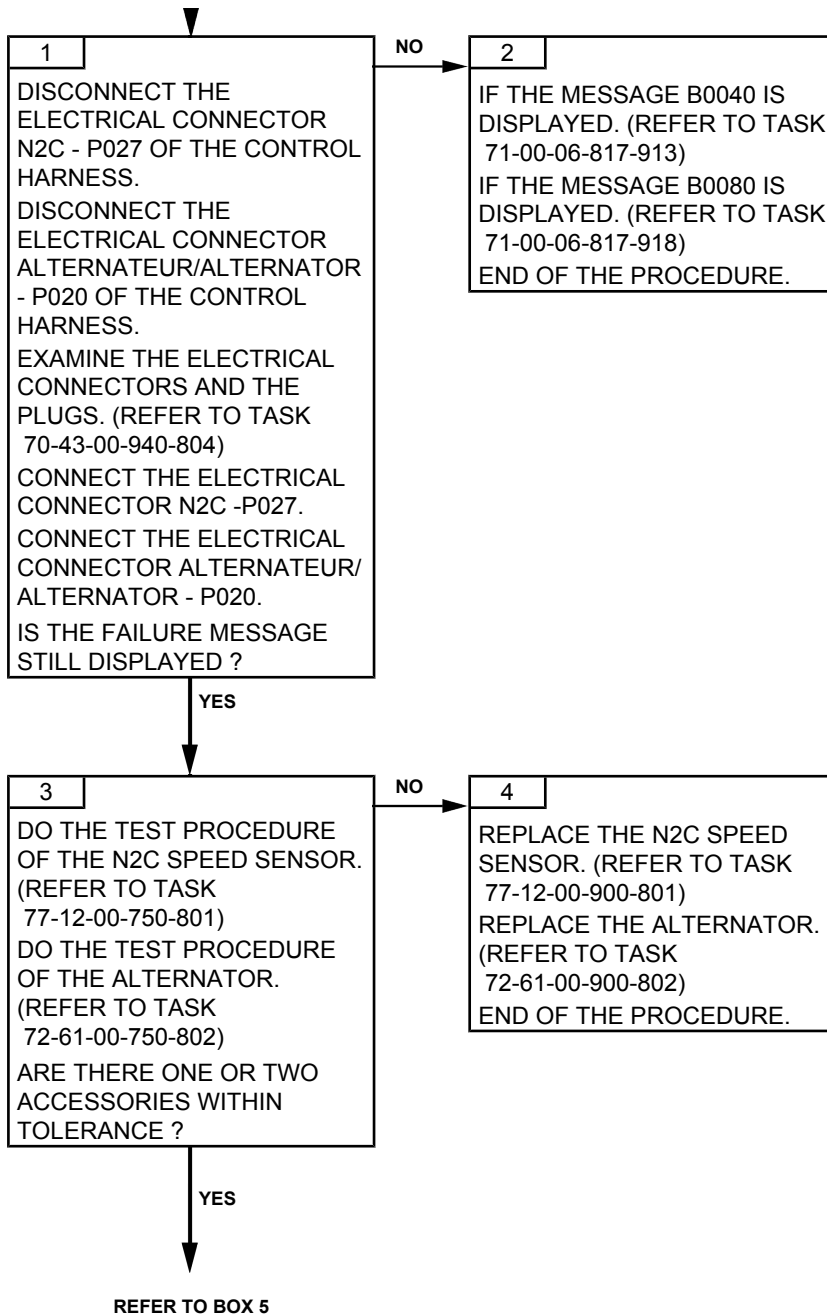
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Minor failure Use of the N2B and N1B information No effect on the engine operation	Flashing amber

##### B. POSSIBLE CAUSES

- N2C speed sensor
- Alternator
- DECU
- Control harness

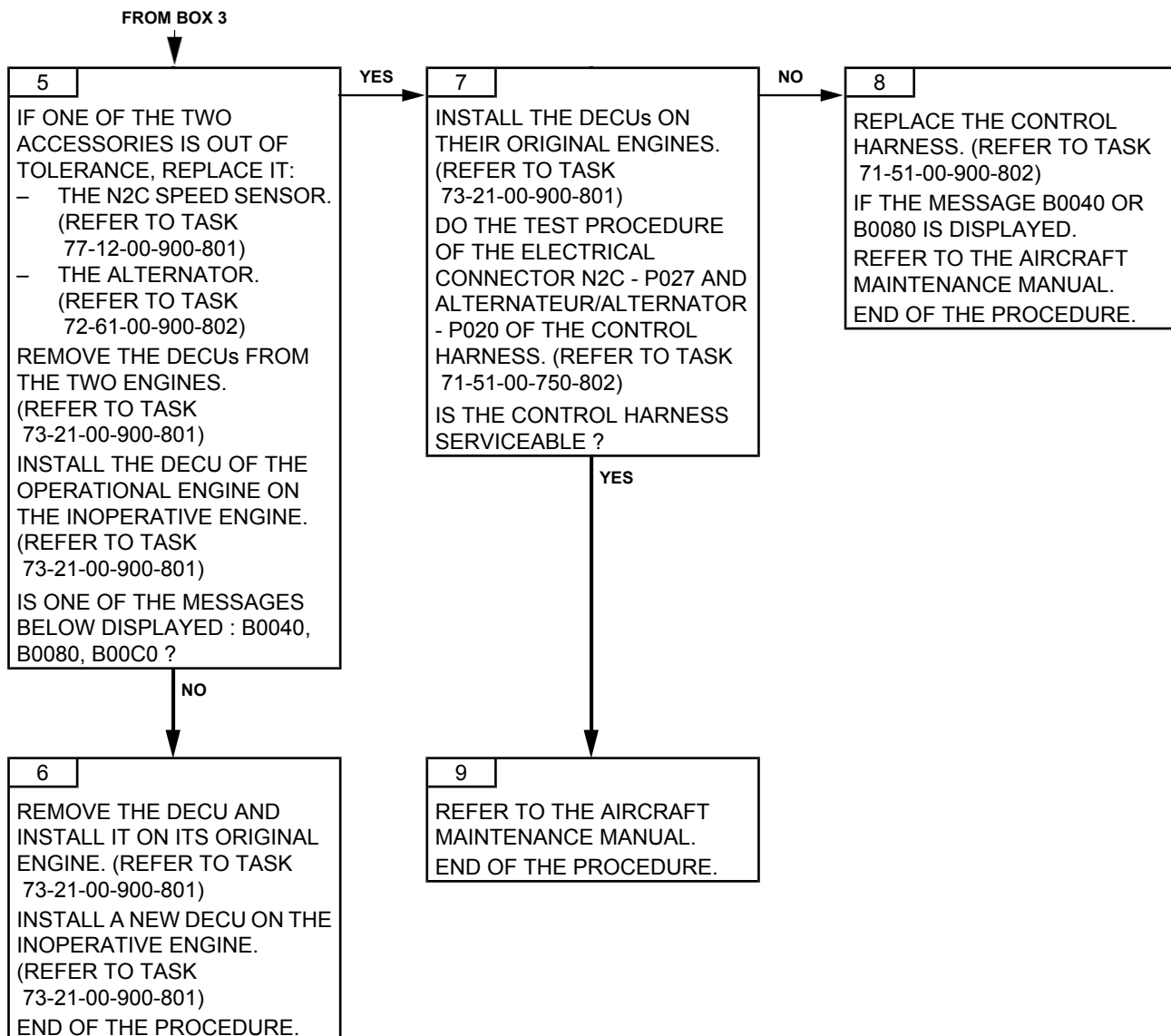
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-925-A01

### N2 FAILURE (B ON THE HARNESS), N2 FAILURE (C ON THE HARNESS) AND N1 FAILURE (ALTERNATOR) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	D	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Major failure Reversion to manual mode	Red

**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N2 SENSOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N2 SPEED INFORMATION.

##### B. POSSIBLE CAUSES

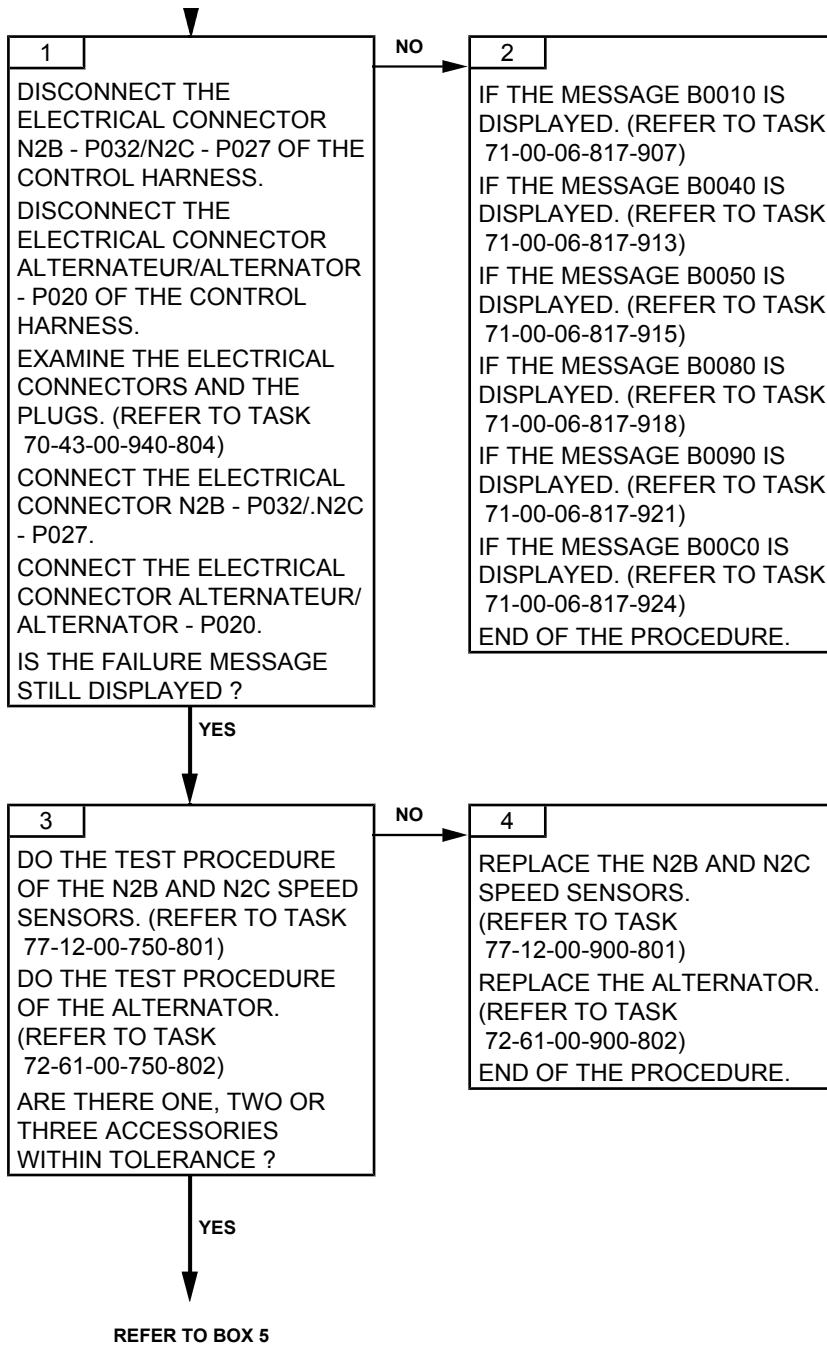
- N2B speed sensor
- N2C speed sensor
- Alternator
- DECU
- Control harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

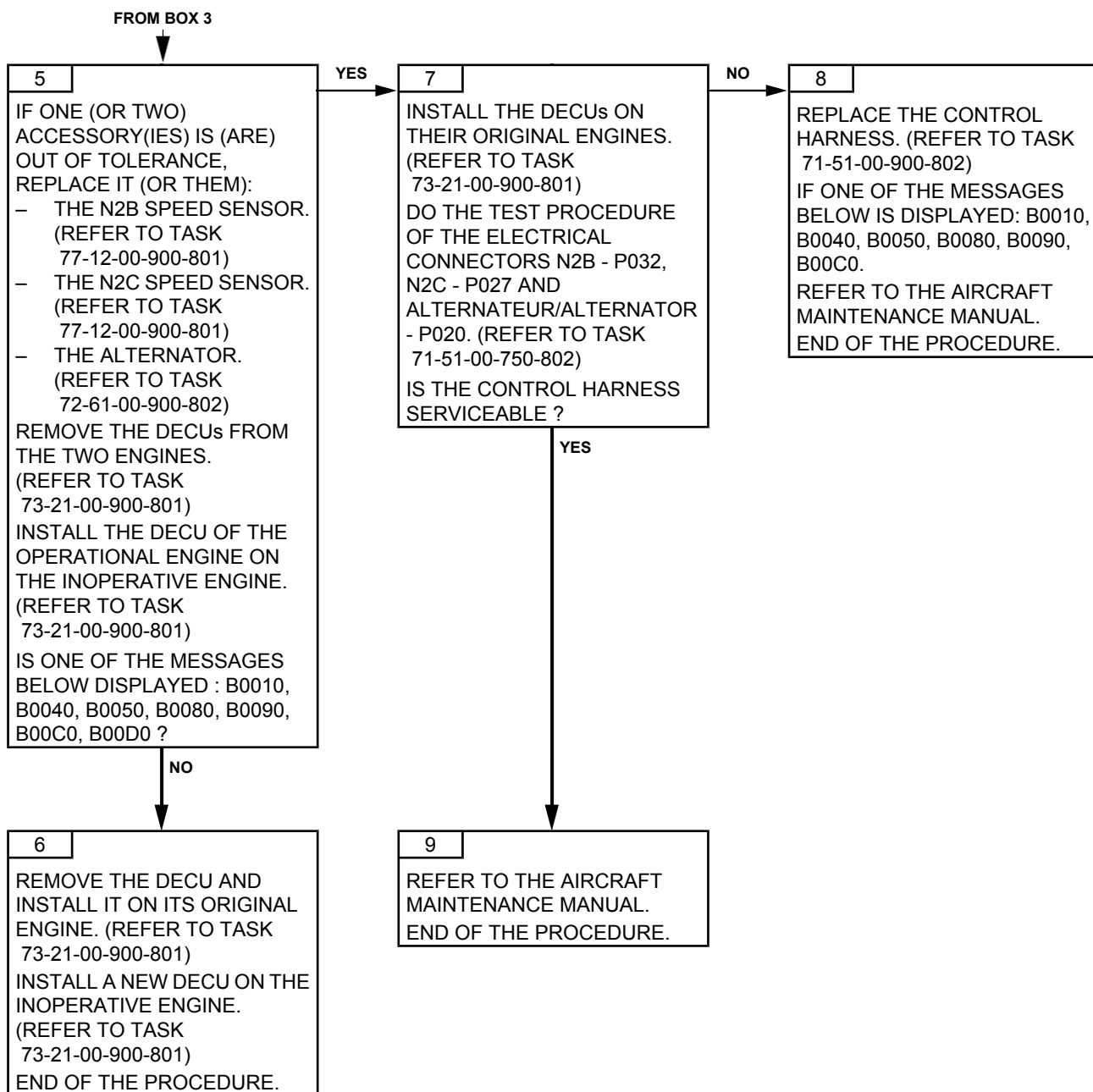
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-926-A01

### N1 FAILURE (B ON THE SENSOR), N2 FAILURE (C ON THE HARNESS) AND N1 FAILURE AT ALTERNATOR CONNECTOR (ALTERNATEUR/ALTERNATOR) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	E	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Major failure Reversion to manual mode	Red

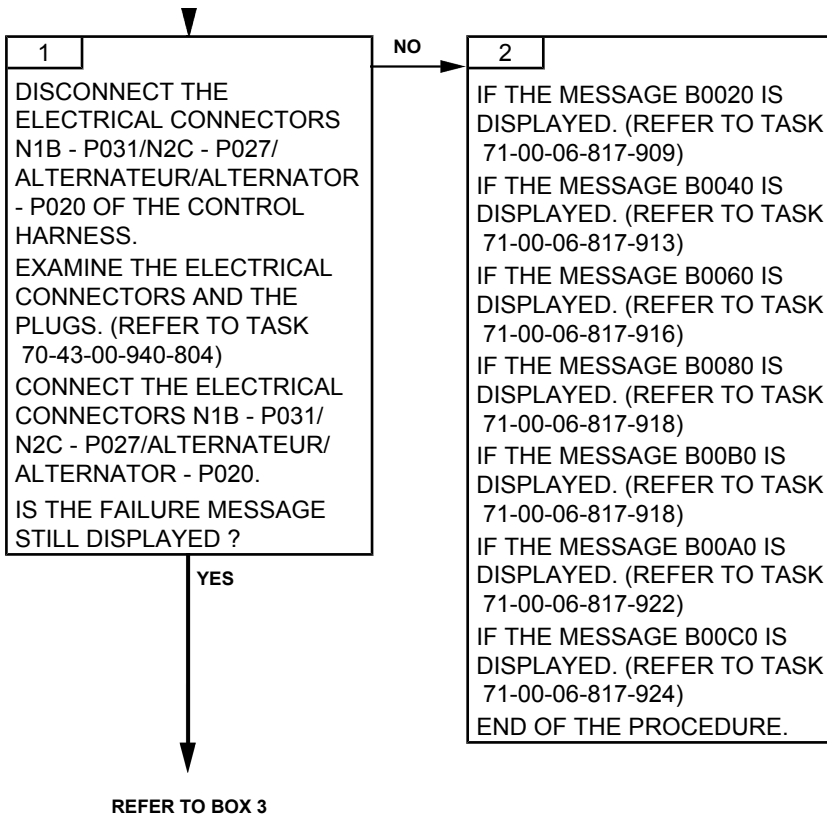
**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N1 SENSOR AND N1 ALTERNATOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N1 SPEED INFORMATION.

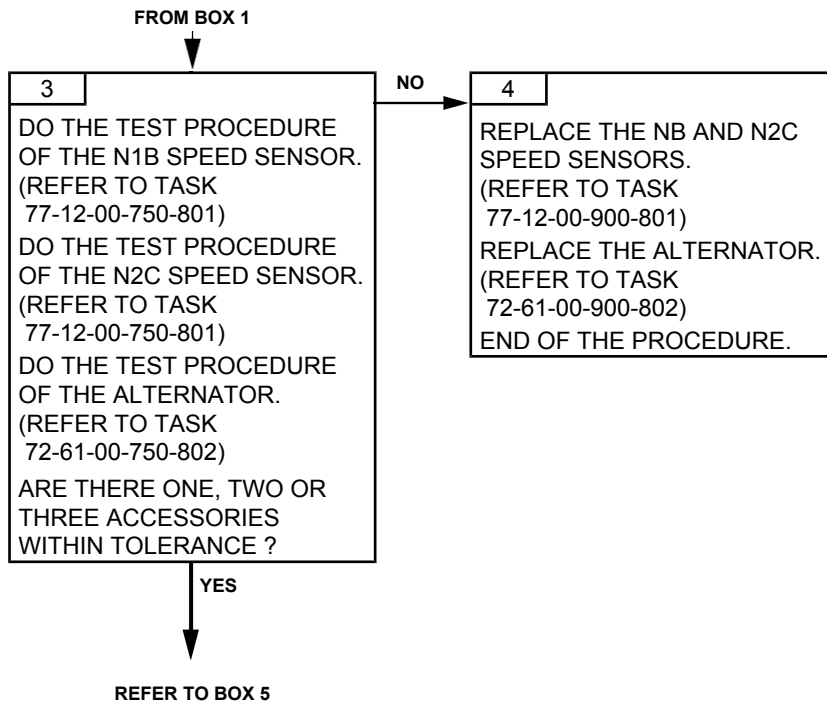
##### B. POSSIBLE CAUSES

- N1B speed sensor
- N2C speed sensor
- Alternator
- DECU
- Control harness

#### 2. PROCEDURE

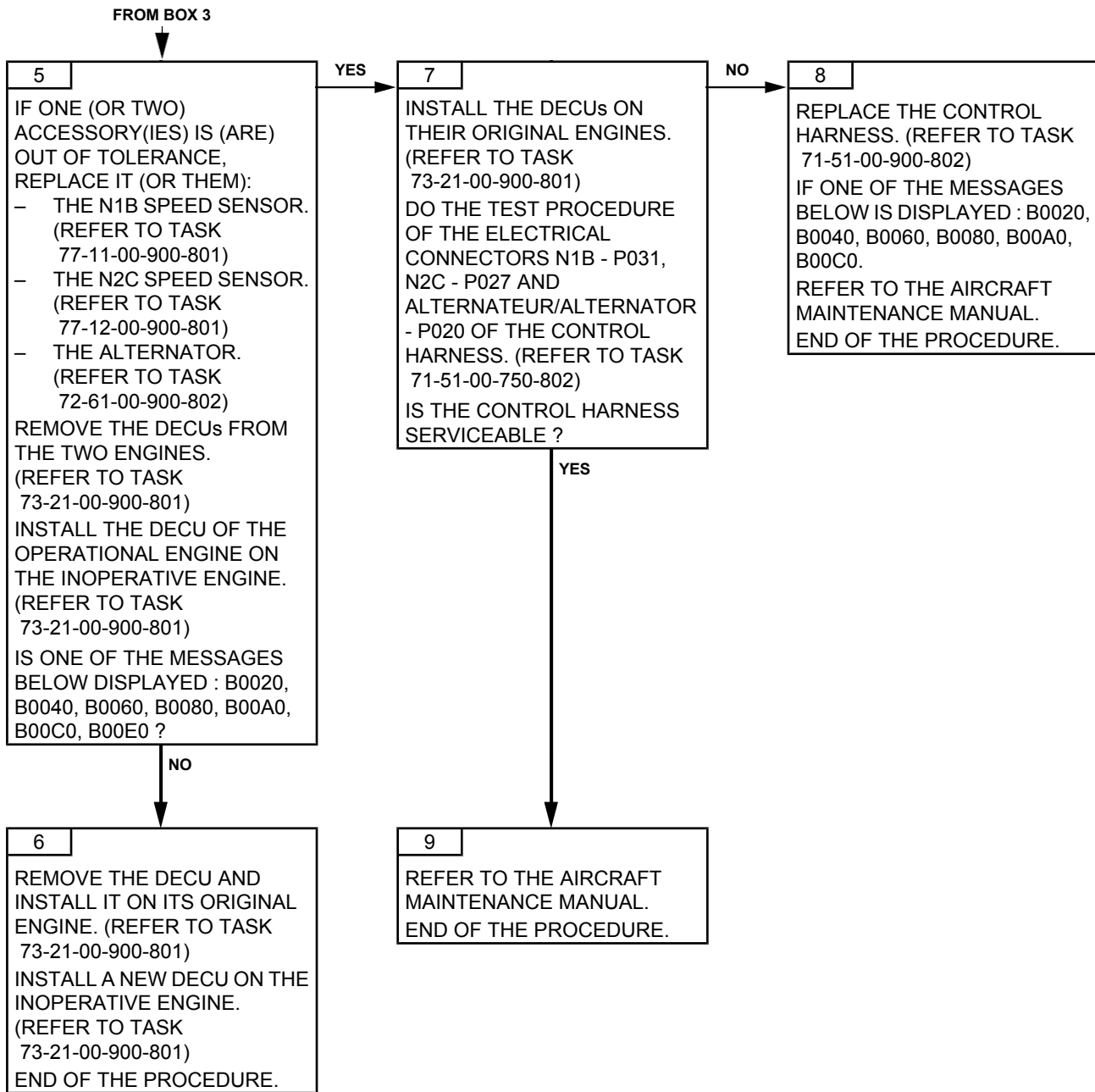
Effectivity: C





# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-927-A01

**N1 FAILURE (B ON THE SENSOR), N2 FAILURE (B ON THE HARNESS), N2 FAILURE (C ON THE HARNESS) AND N1 FAILURE AT ALTERNATOR CONNECTOR TROUBLESHOOTING**

### 1. GENERAL

#### A. FAU FAILURE MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	0	F	0

#### B. FAILURE EFFECTS

<i>EFFECTS</i>	<i>GOV</i>
ENGINE RUNNING Major failure. Reversion to manual mode.	Red

**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N1 SENSOR AND N1 ALTERNATOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N1 SPEED INFORMATION.

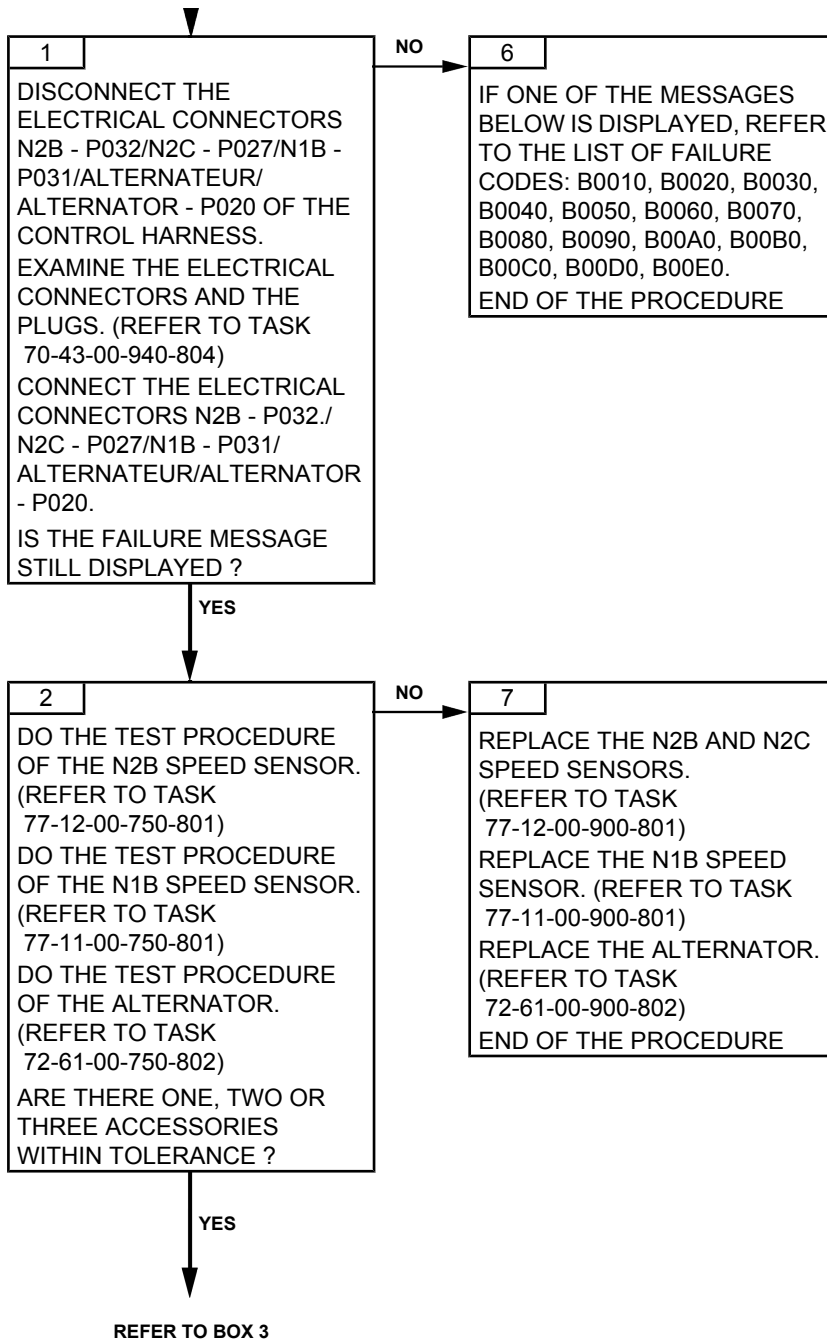
**CAUTION:** THE DECU CAN DETECT THIS FAILURE IF THE DIFFERENCE BETWEEN N2 SENSOR MEASUREMENTS IS MORE THAN 3% AND IF THE VALUES ARE WITHIN THE LIMITS. IF THE DECU CANNOT FIND THE ACCURATE CAUSE OF THE FAILURE, IT DECLARES THE LOSS OF THE TWO N2 SPEED INFORMATION.

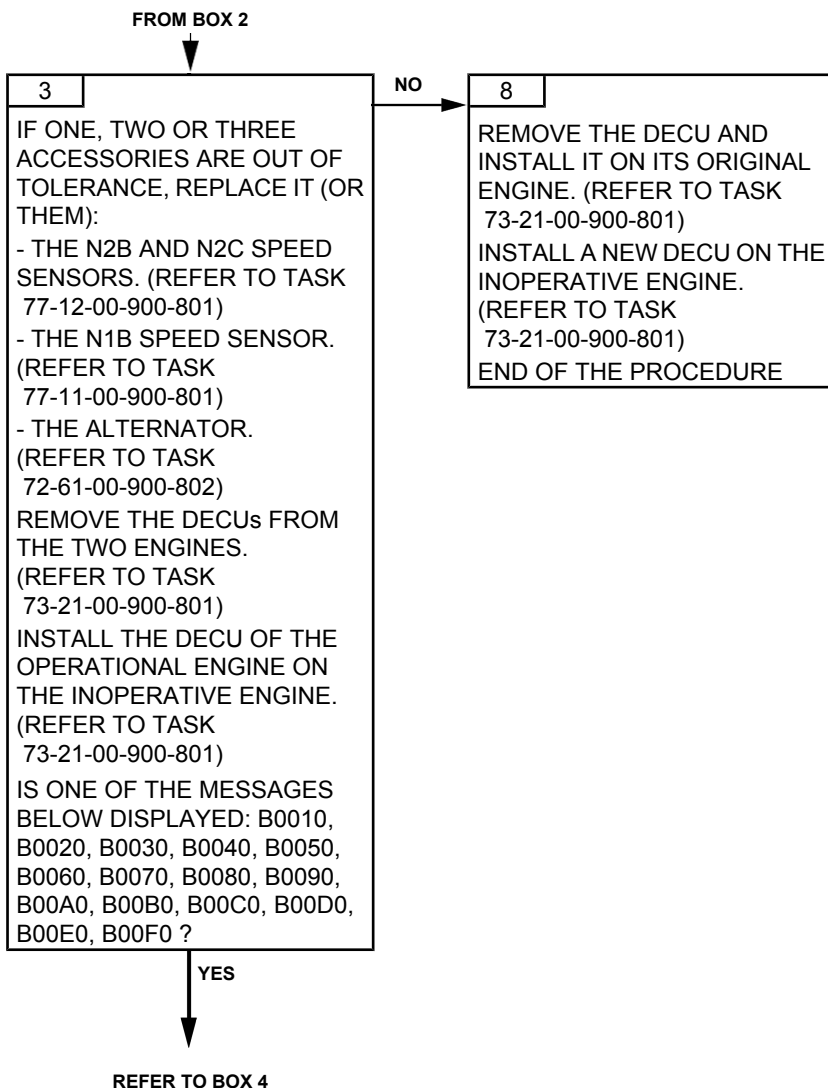
#### C. POSSIBLE CAUSES

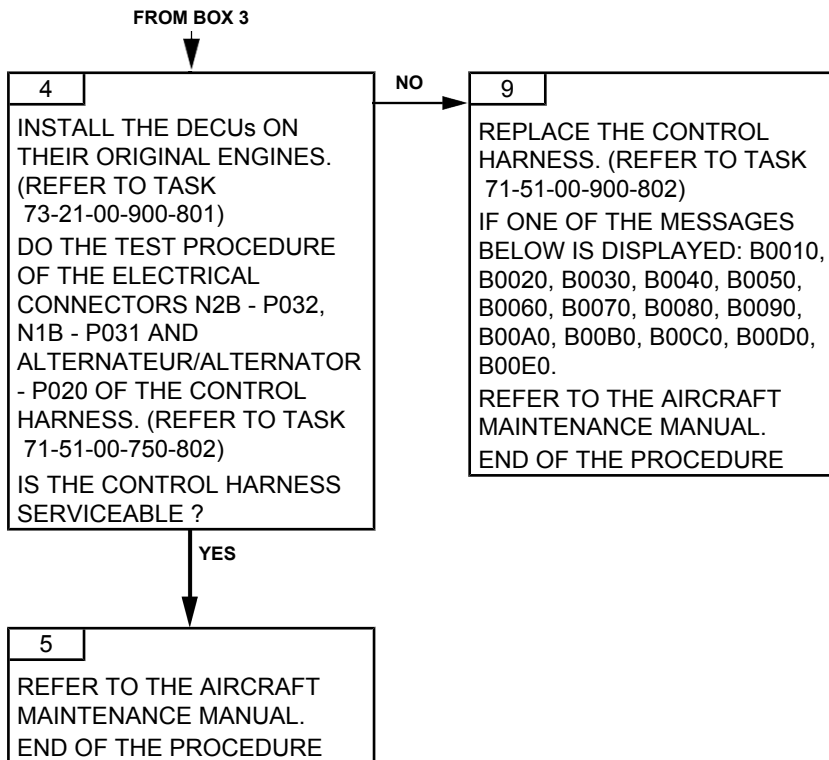
- N2B speed sensor
- N2C speed sensor
- N1B speed sensor
- Alternator
- DECU
- Control harness.

### 2. PROCEDURE

Effectivity: C







TASK 71-00-06-817-928-A01

**HELICOPTER P0 FAILURE  
TROUBLESHOOTING****1. GENERAL****A. FAU MESSAGE**

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	P	0	\	\	H
MEMORY	B	0	1	0	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING	
Engine P0 available Use of this back-up value. No effect except the accuracy of P0 used	Flashing Amber
Engine P0 not available Use of the back-up value No more effect of P0 on N2 datum	Amber

The helicopter P0 is sent to the EECU through the ARINC link label 215.

This message shows that the EECU operates correctly: an incorrect communication between the aircraft and the EECU can cause an ARINC message.

**B. POSSIBLE CAUSES**

– Aircraft

**2. PROCEDURE**

Effectivity: C



1

DO THE CHECK OF THE  
HELICOPTER P0 FUNCTION/  
ACCURACY ON THE  
AIRCRAFT SYSTEM.  
REFER TO THE AIRCRAFT  
MAINTENANCE MANUAL.  
END OF PROCEDURE.

TASK 71-00-06-817-929-A01

**NO HELICOPTER ARINC MESSAGE  
TROUBLESHOOTING****1. GENERAL****A. FAU MESSAGE**

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	B	U	S	\	H
MEMORY	B	0	2	0	0

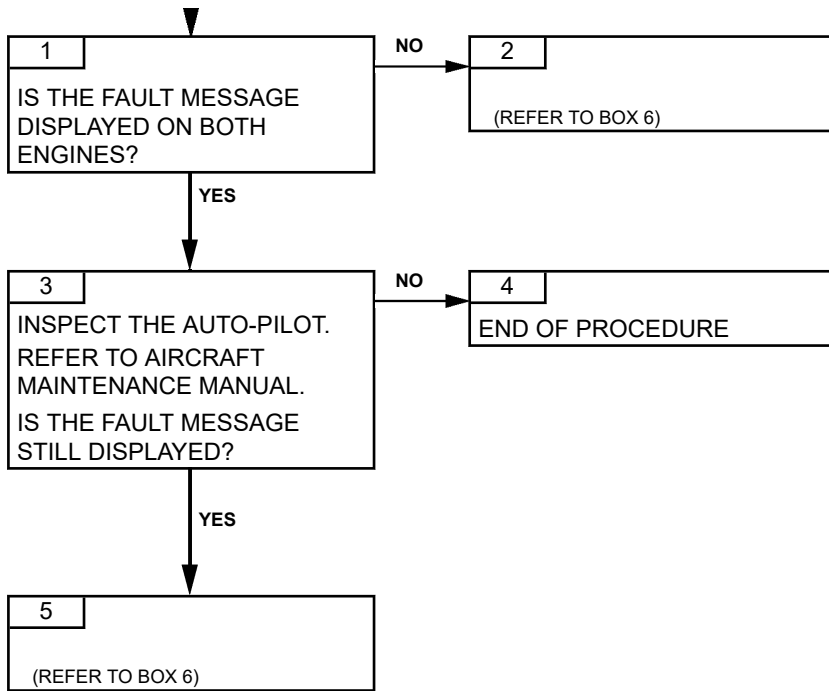
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING: Start function degraded No effect on the engine operation since back-up laws are used The engine health inspection or the maintenance functions cannot be used	Amber

**B. POSSIBLE CAUSES**

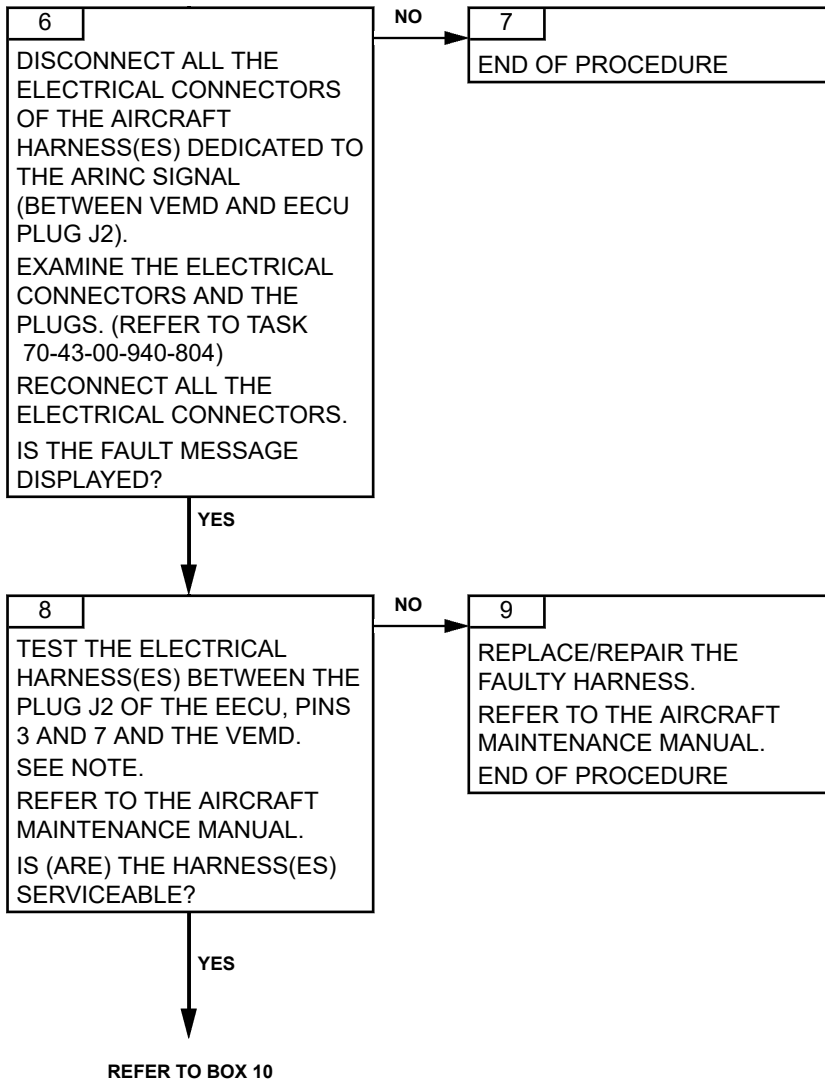
- EECU
- Helicopter ARINC message function (Aircraft System)
- VEMD to EECU Electrical wiring (Aircraft System)

**2. PROCEDURE**

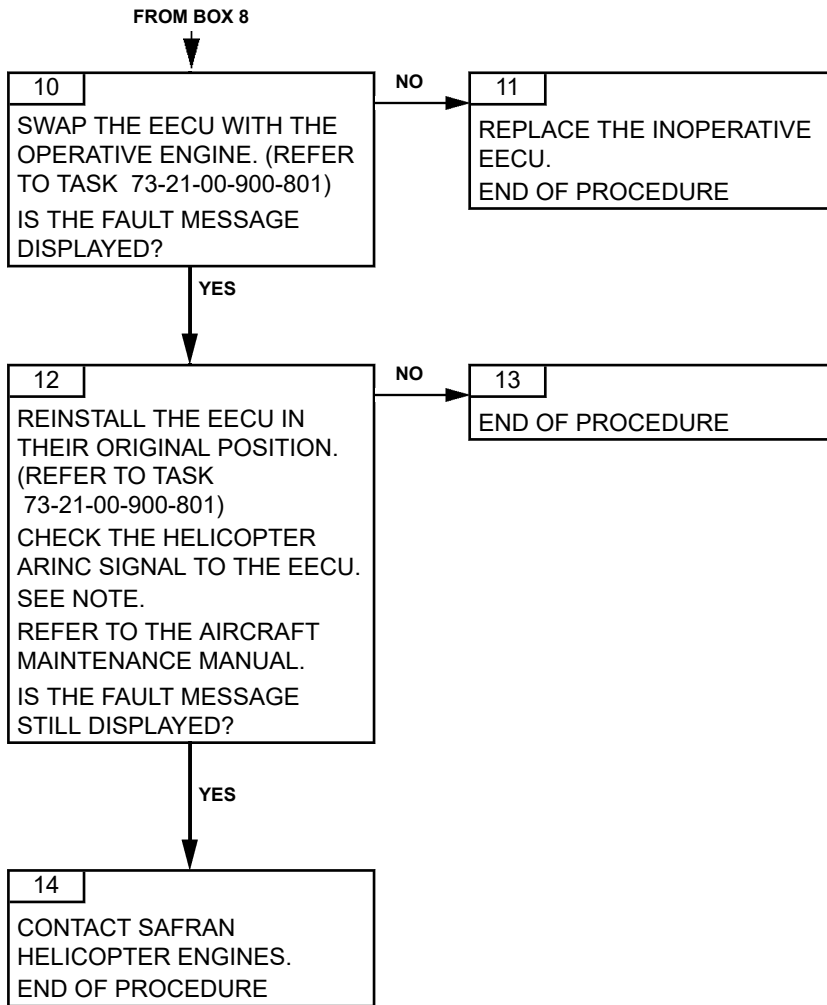
**NOTE:** *The EECU receives the helicopter ARINC signal at connector P2, pin 7 (high) and pin 3 (low). P2 connects to plug J2 of the EECU.*







Effectivity: C



TASK 71-00-06-817-930-A01

### HELICOPTER P0 FAILURE AND NO HELICOPTER ARINC MESSAGE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

**CAUTION:** THE FAILURE CODE B0200 AND ITS DERIVATIVES INVOLVING THE ARINC LINK CAN DISPLAY WHEN THE ARINC LINK NORMALLY OPERATES IN THE THREE CASES THAT FOLLOW:

1. WHEN THE ENGINE IS ON ANOTHER POSITION THAN THE SHUTDOWN MODE CAUSING THEREFORE THE MESSAGE TO ERASE WHEN THE DECU RESETS.
2. WHEN THE ENGINE IS IN THE SHUTDOWN MODE, CAUSING THEREFORE THE MESSAGE TO ERASE WHEN SWITCHING TO THE OPERATIONAL MODE (NO NEED TO RESET THE DECU).
3. WHEN THE HELICOPTER IS IN THE OPERATIONAL MODE AND WHEN THE MESSAGE SENT TO FADEC THROUGH ARINC LINK IS INCOMPLETE (ABSENCE OF ONE OR SEVERAL ELEMENTS: HELICOPTER T4, HELICOPTER P0, T0, ENGINE HEALTH INSPECTION CONFIGURATION AND CONTROL WORD).

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	3	0	0

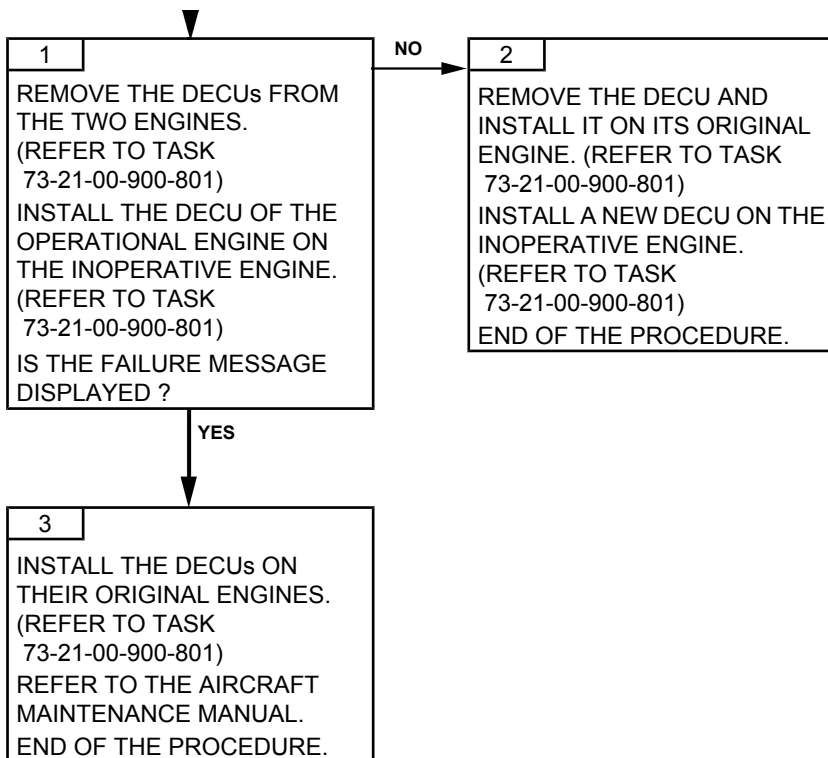
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING	
Engine P0 available Use of this back-up value No effect except the accuracy of P0 used Impossible to use the engine health inspection or the maintenance functions.	Amber
Engine P0 not available Use of the back-up value No effect of P0 on N2 datum Impossible to use the engine health inspection or the maintenance functions.	Amber

#### B. POSSIBLE CAUSES

- DECU

Effectivity: C

**2. PROCEDURE**



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TASK 71-00-06-817-931-A01

### ALTERNATOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	A	C	P	W	R
MEMORY	B	0	4	0	0

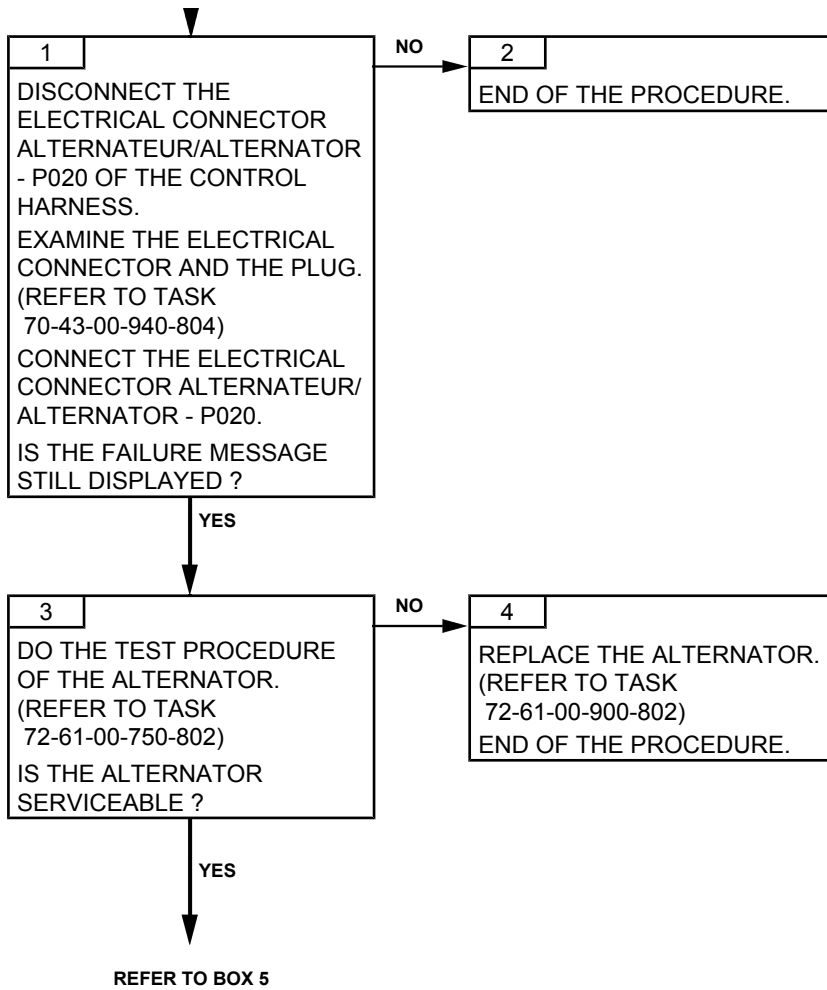
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Minor failure No effect on the engine operation (power supply from the aircraft 28 VDC bus bar)	Flashing amber

##### B. POSSIBLE CAUSES

- Alternator
- DECU
- Control harness

#### 2. PROCEDURE

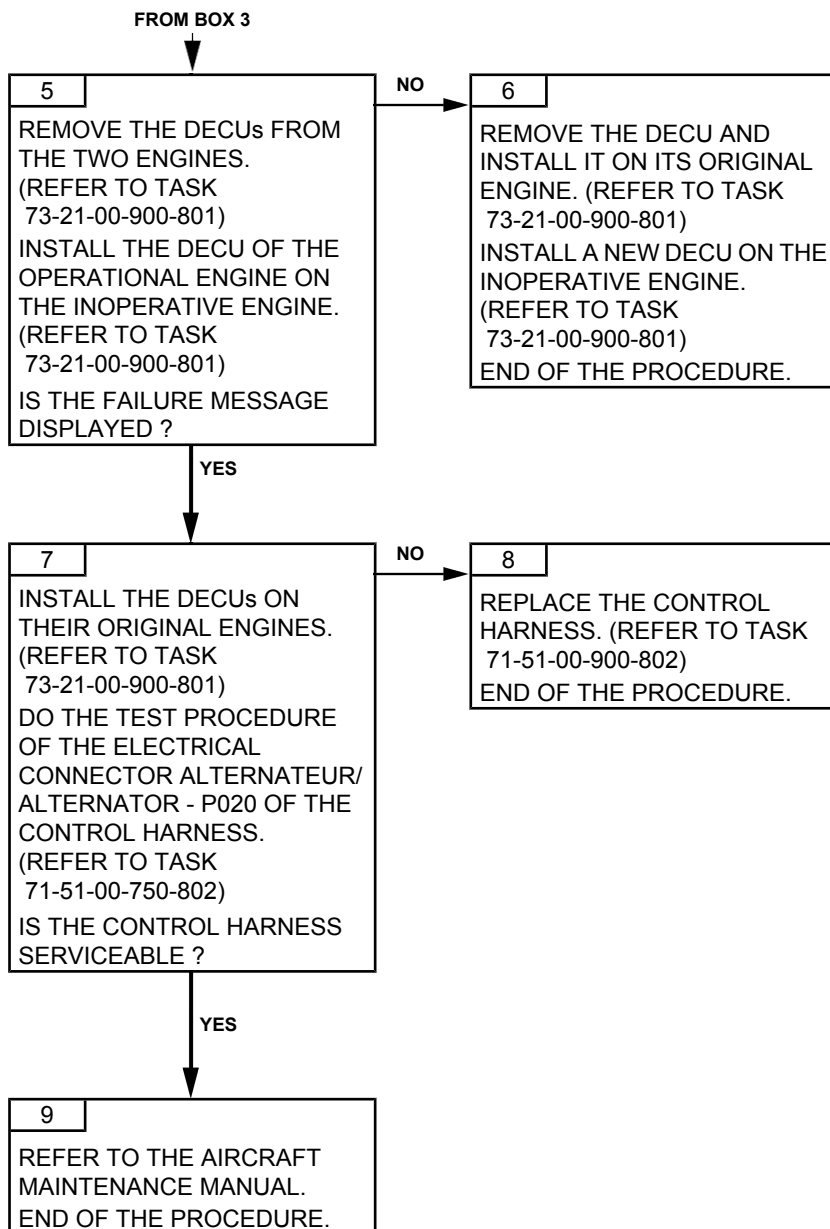
Effectivity: C





# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-934-A01

### HELICOPTER P0 FAILURE AND ALTERNATOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	5	0	0

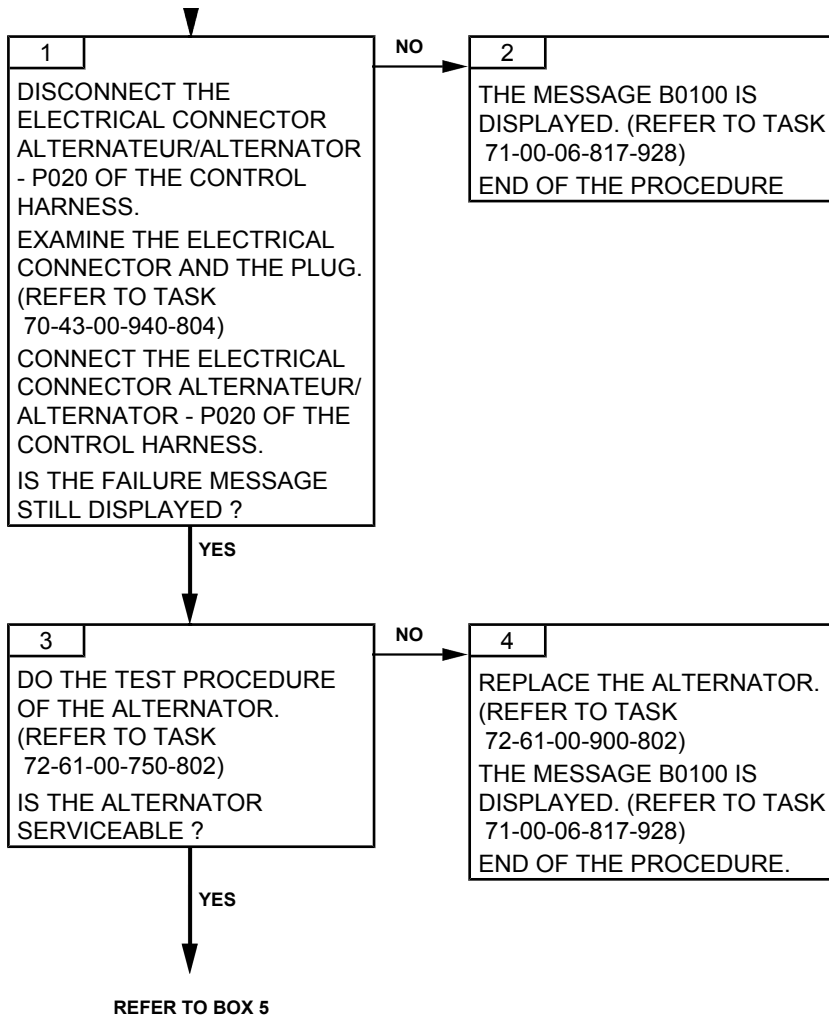
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Engine P0 available Use of this back-up value No effect except the accuracy of P0 used Power supply from the aircraft 28 VDC bus bar	Amber
Engine P0 not available Use of the back-up value No P0 effect on the N2 datum Power supply from the aircraft 28 VDC bus bar	Amber

##### B. POSSIBLE CAUSES

- Alternator
- DECU
- Control harness

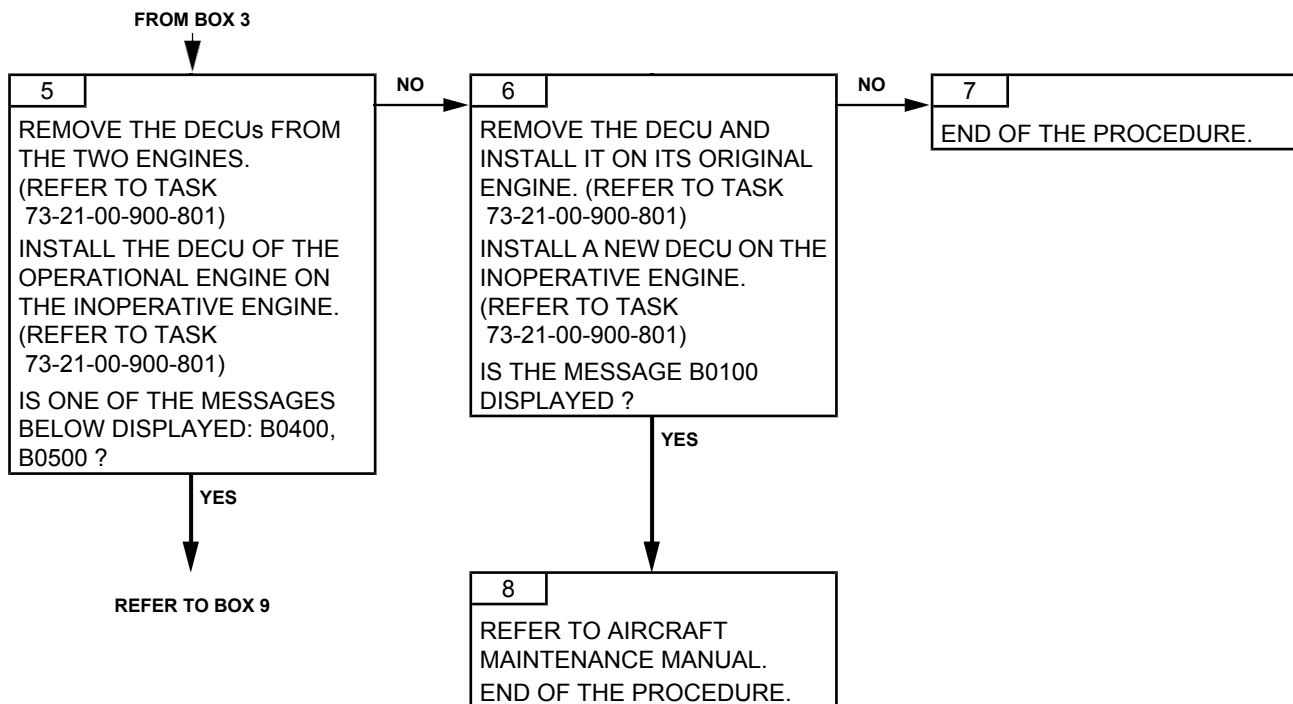
#### 2. PROCEDURE

Effectivity: C

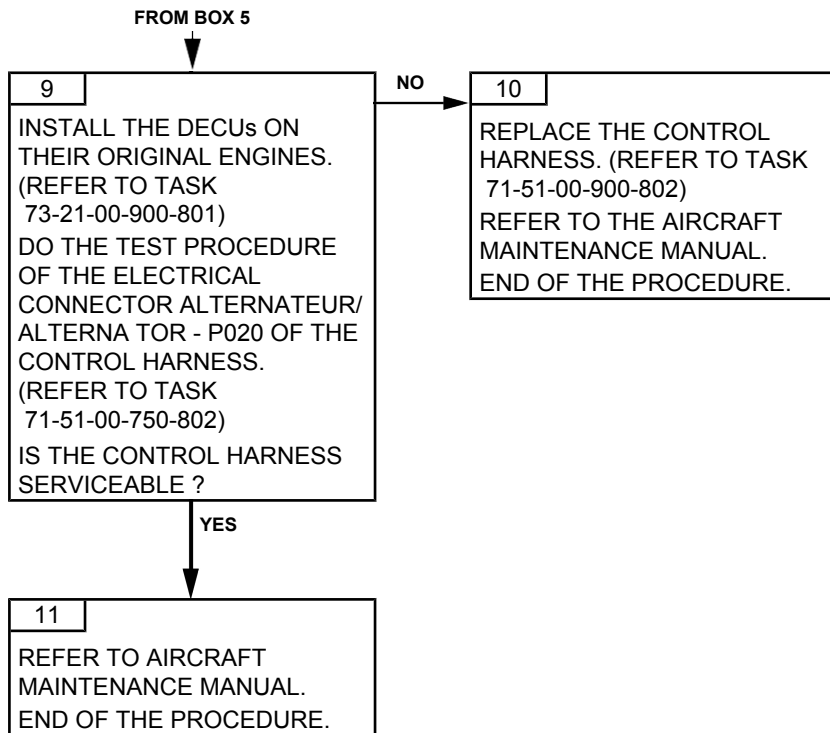


# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-935-A01

### NO HELICOPTER ARINC MESSAGE AND ALTERNATOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** THE FAILURE CODE B0200 AND ITS DERIVATIVES INVOLVING THE ARINC LINK CAN DISPLAY WHEN THE ARINC LINK NORMALLY OPERATES IN THE THREE CASES THAT FOLLOW:

1. WHEN THE ENGINE IS ON ANOTHER POSITION THAN THE SHUTDOWN MODE CAUSING THEREFORE THE MESSAGE TO ERASE WHEN THE DECU RESETS.
2. WHEN THE ENGINE IS IN THE SHUTDOWN MODE, CAUSING THEREFORE THE MESSAGE TO ERASE WHEN SWITCHING TO THE OPERATIONAL MODE (NO NEED TO RESET THE DECU).
3. WHEN THE HELICOPTER IS IN THE OPERATIONAL MODE AND WHEN THE MESSAGE SENT TO FADEC THROUGH ARINC LINK IS INCOMPLETE (ABSENCE OF ONE OR SEVERAL ELEMENTS: HELICOPTER T4, HELICOPTER P0, T0, ENGINE HEALTH INSPECTION CONFIGURATION AND CONTROL WORD).

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	6	0	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Engine P0 available Use of the back-up value No effect except the accuracy of P0 used Impossible to use the engine health inspection or the maintenance functions Power supply from the aircraft 28 VDC bus bar	Amber
Engine P0 not available Use of the back-up value No effect of P0 engine on N2 datum Impossible to use the engine health inspection or the maintenance functions Power supply from the aircraft 28 VDC bus bar	Amber

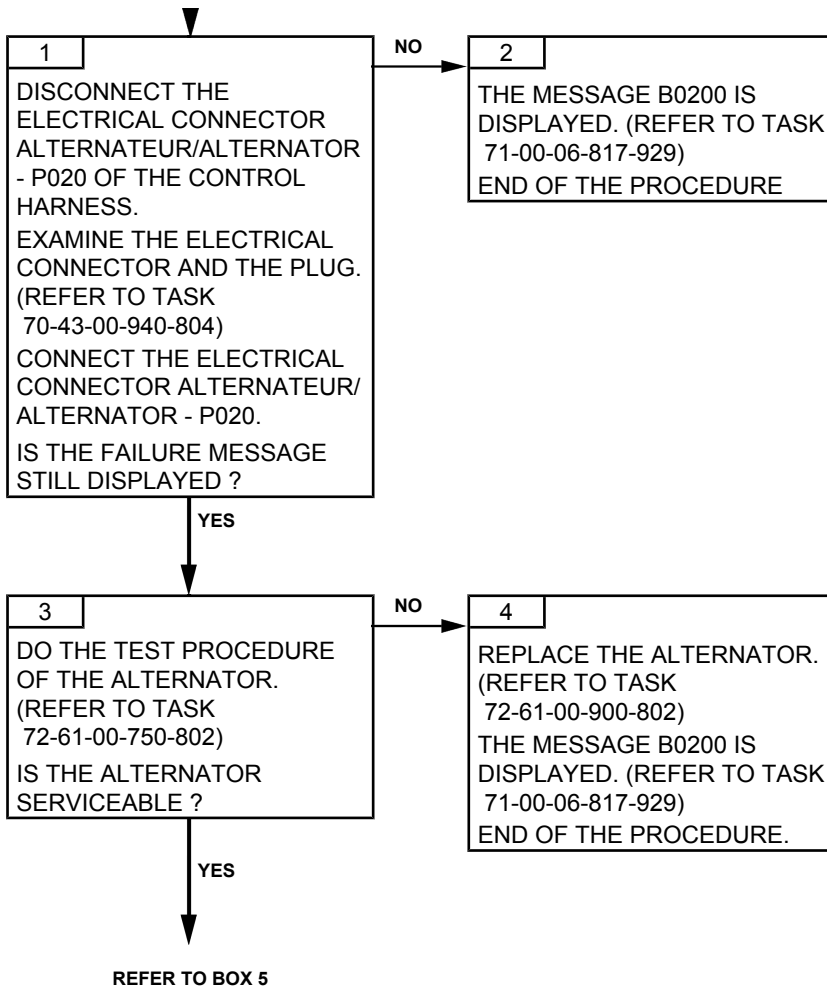
#### B. POSSIBLE CAUSES

- Alternator
- DECU
- Control harness

Effectivity: C

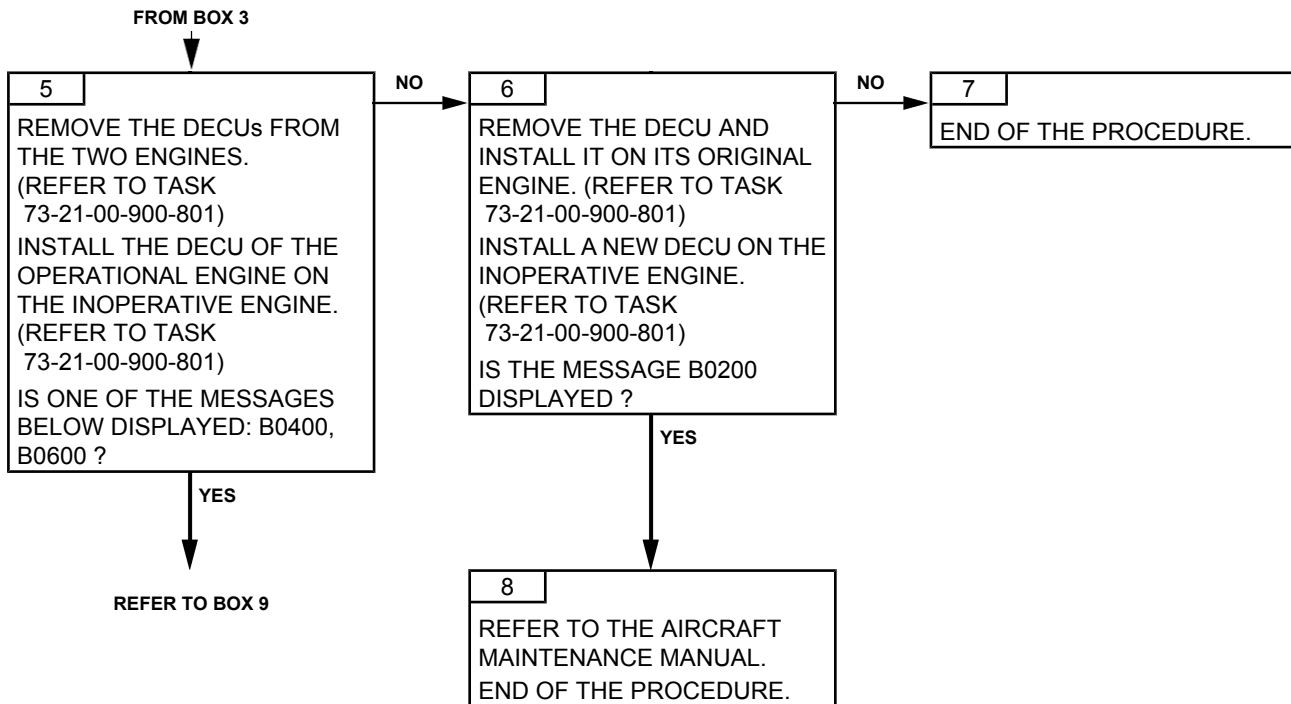
**2. PROCEDURE**





# TURBOMECA ARRIEL 2 C

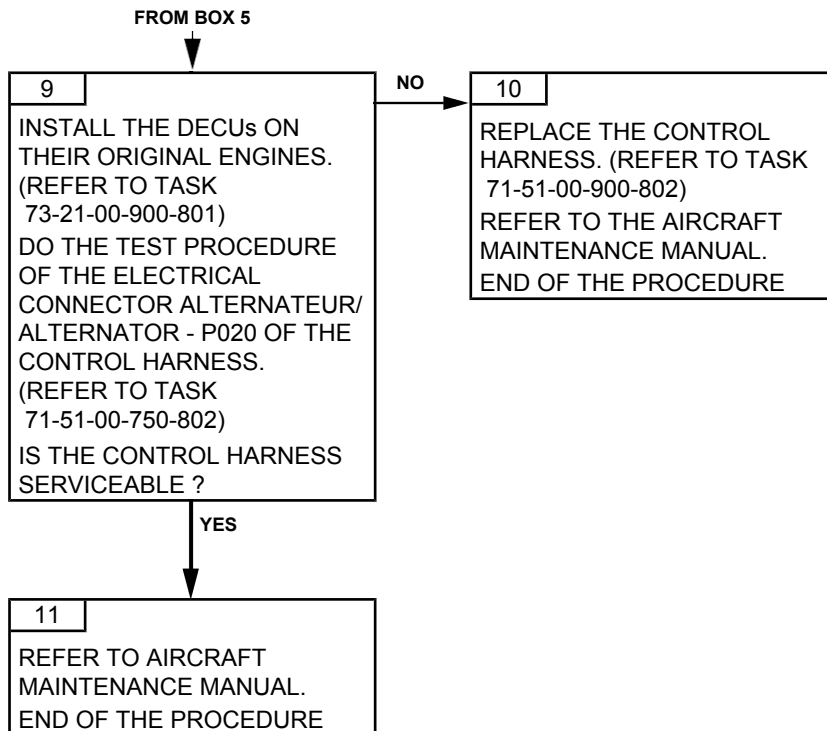
## MAINTENANCE MANUAL



Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-936-A01

### HELICOPTER P0 FAILURE, NO HELICOPTER ARINC MESSAGE AND ALTERNATOR FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** THE FAILURE CODE B0200 AND ITS DERIVATIVES INVOLVING THE ARINC LINK CAN DISPLAY WHEN THE ARINC LINK NORMALLY OPERATES IN THE THREE CASES THAT FOLLOW:

1. WHEN THE ENGINE IS ON ANOTHER POSITION THAN THE SHUTDOWN MODE CAUSING THEREFORE THE MESSAGE TO ERASE WHEN THE DECU RESETS.
2. WHEN THE ENGINE IS IN THE SHUTDOWN MODE, CAUSING THEREFORE THE MESSAGE TO ERASE WHEN SWITCHING TO THE OPERATIONAL MODE (NO NEED TO RESET THE DECU).
3. WHEN THE HELICOPTER IS IN THE OPERATIONAL MODE AND WHEN THE MESSAGE SENT TO FADEC THROUGH ARINC LINK IS INCOMPLETE (ABSENCE OF ONE OR SEVERAL ELEMENTS: HELICOPTER T4, HELICOPTER P0, T0, ENGINE HEALTH INSPECTION CONFIGURATION AND CONTROL WORD).

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	7	0	0

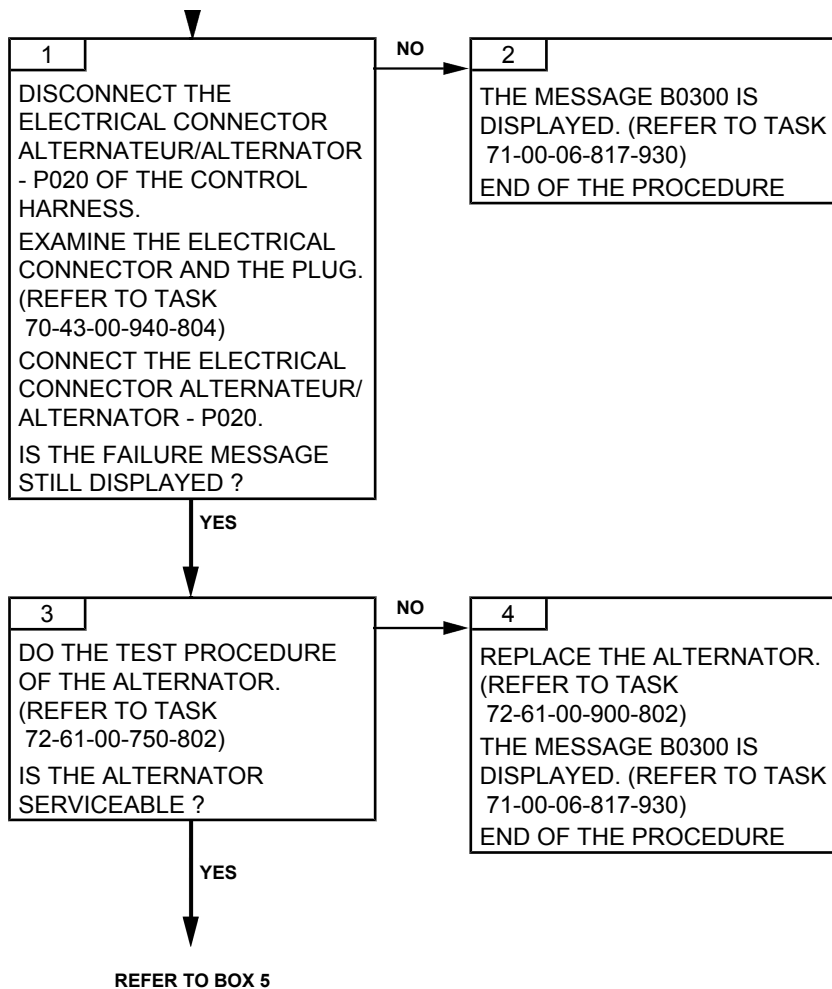
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING Engine P0 available Use of the back-up value No effect except the accuracy of P0 used Impossible to use the engine health inspection or the maintenance functions Power supply from the aircraft 28 VDC bus bar	Amber
Engine P0 available Use of this back-up value No effect of P0 on N2 datum Impossible to use the engine health inspection or the maintenance functions Power supply from the aircraft 28 VDC bus bar	Amber

#### B. POSSIBLE CAUSES

- Alternator
- DECU
- Control harness

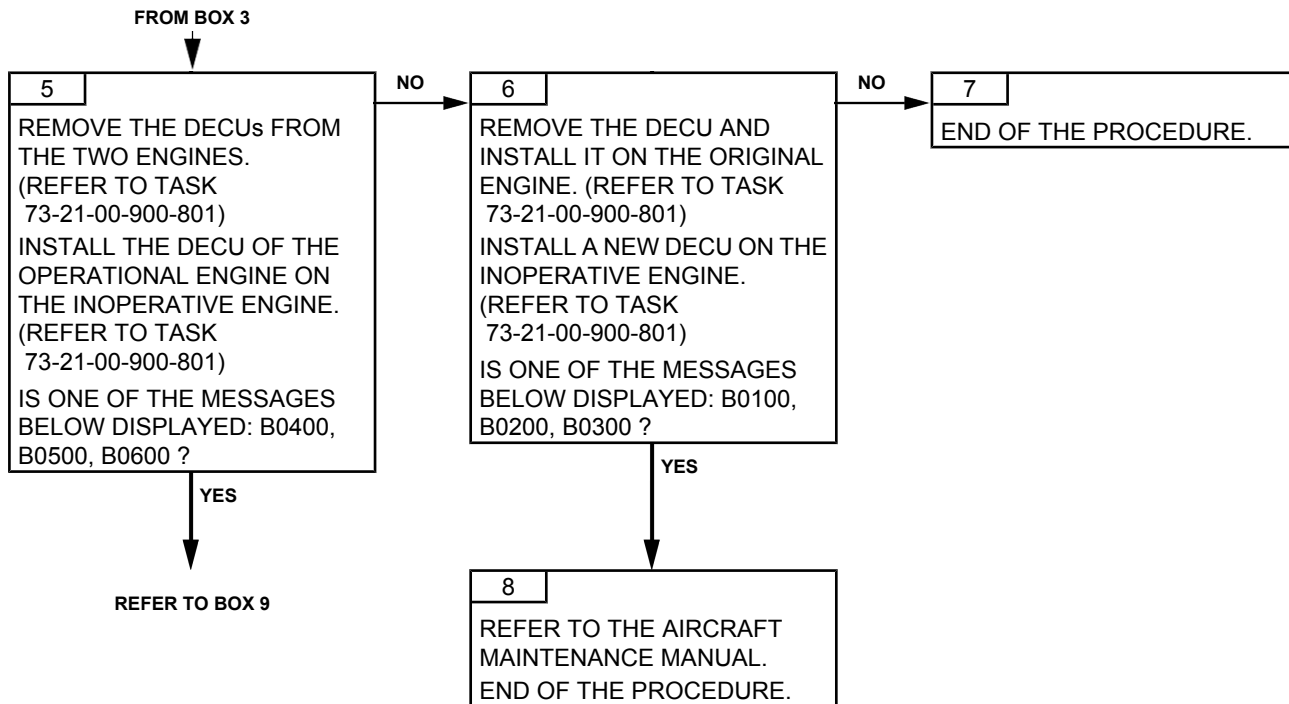
Effectivity: C

**2. PROCEDURE**



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL

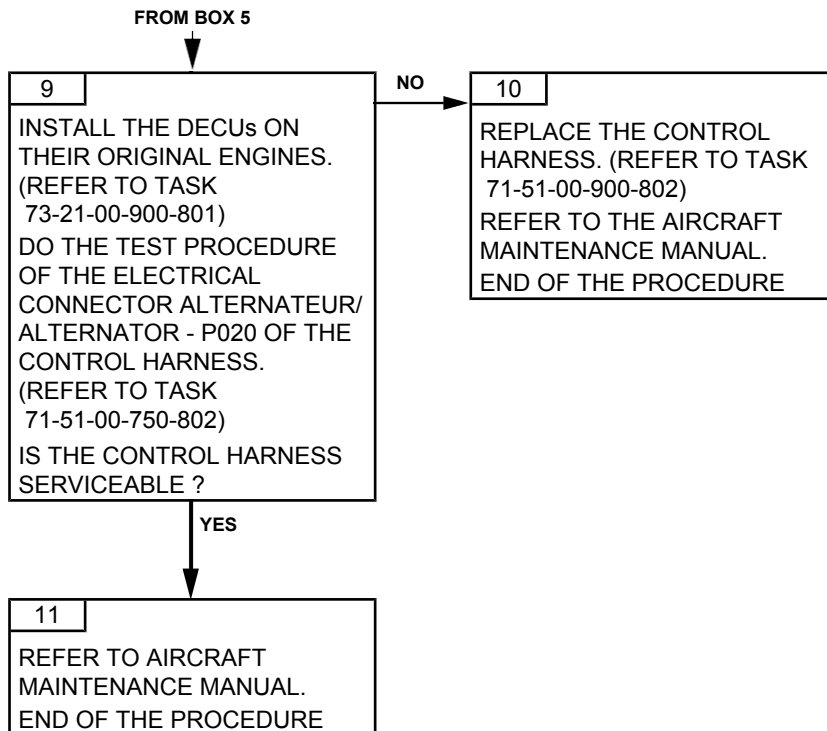


Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-937-A01

**28 V FAILURE  
TROUBLESHOOTING****1. GENERAL****A. FAU MESSAGE**

<b>MODE</b>	<b>FAU MESSAGE</b>				
FAILURE	D	C	P	W	R
MEMORY	B	0	8	0	0

<b>EFFECT</b>	<b>GOV</b>
If the EECU is not supplied with 28 V. ENGINE STOPPED: – Start impossible ENGINE RUNNING (flight mode) : – No effect on the engine operation. The EECU is supplied by the alternator as the voltage is sufficient (at about 60% NG) ENGINE RUNNING (idle speed) : – No effect on the engine operation. The EECU is supplied by the alternator as the voltage is sufficient (at about 60% NG)	RED  None  None if the 28 VDC power supply is re-stored. FLASHING AMBER otherwise.

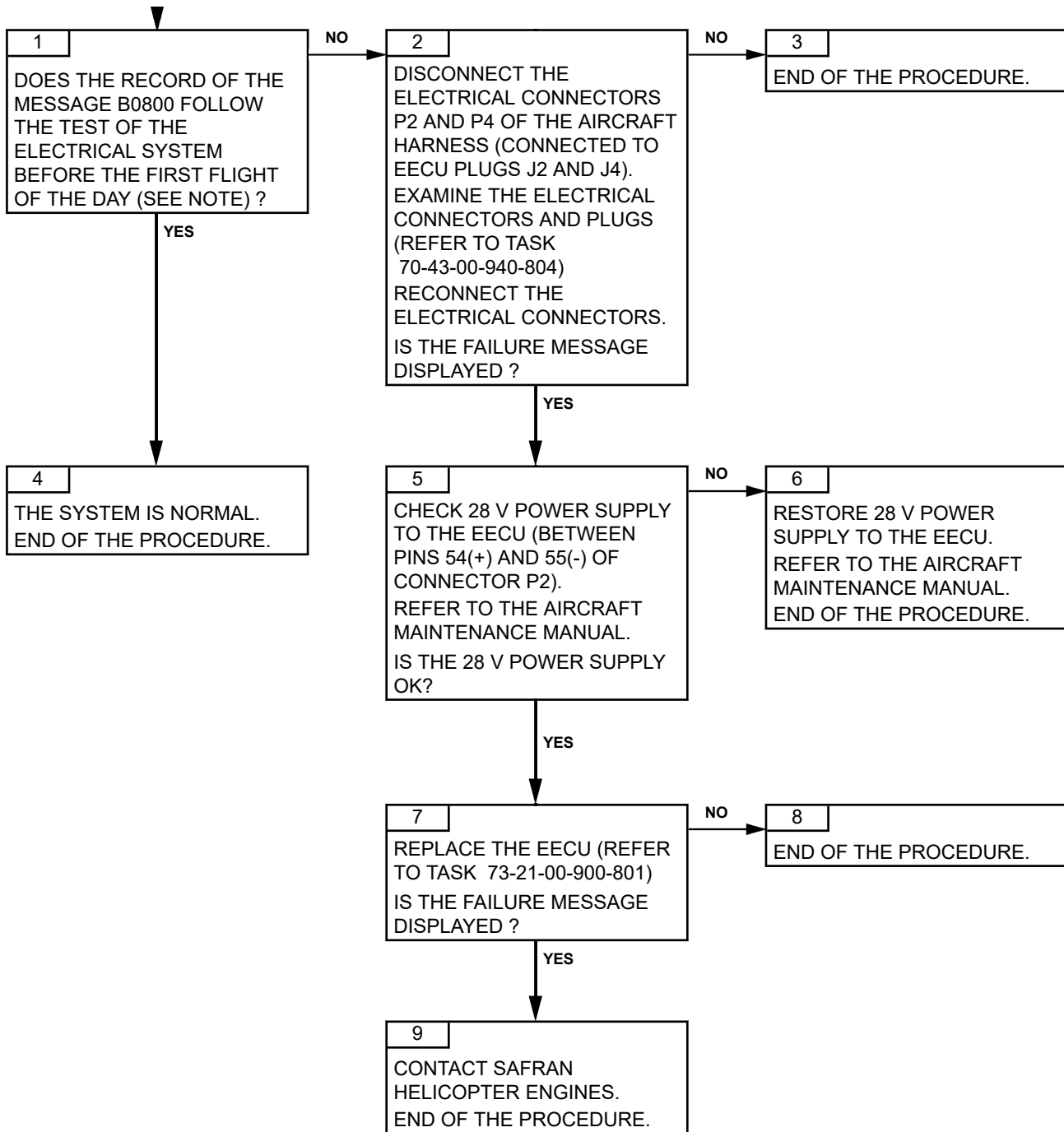
**B. POSSIBLE CAUSES**

- EECU
- 28 V Power supply (aircraft circuit).

**2. PROCEDURE**

**NOTE:** *The test of the electrical system before the first flight of the day implies the breaking of the 28 VDC power supply of the EECU while this one is supplied by the alternator. With the engine running (flight mode), the EECU detects the failure without indicating it through a GOV warning light. As the 28 VDC is restored at the end of the test, the EECU does not detect the 28 VDC failure any longer. At the end of the test it is thus possible to observe this temporary loss of power supply just through the failure code B0800 in the memory of the BAP.*

Effectivity: C



TASK 71-00-06-817-940-A01

### HELICOPTER P0 FAILURE AND 28 V FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	9	0	0

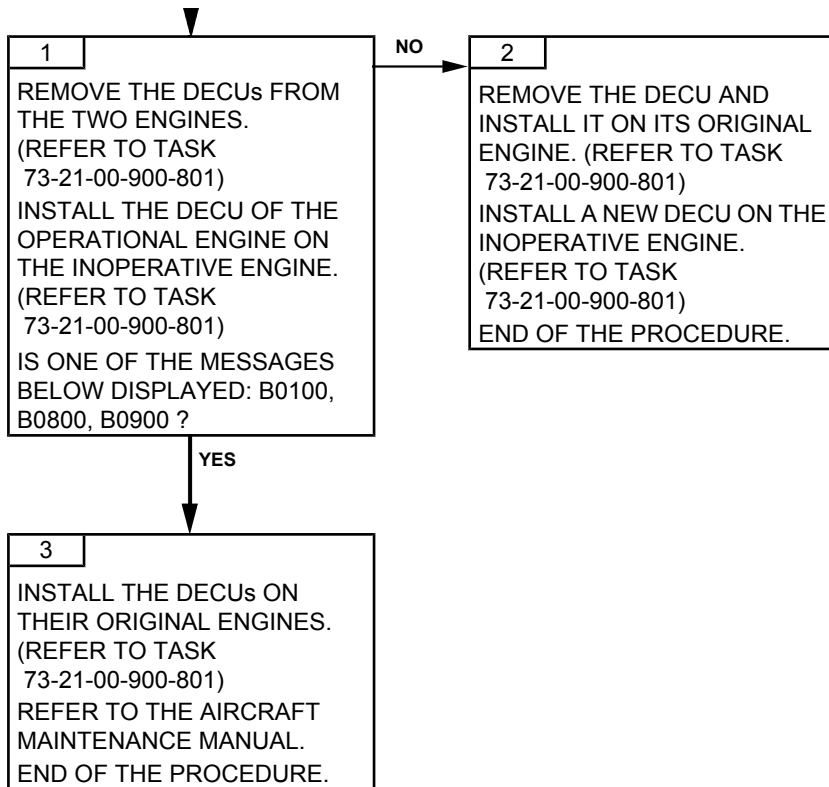
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure Start impossible	Red
ENGINE RUNNING Engine P0 available Use of this back-up value No effect except the accuracy of P0 used Alternator supply when voltage is sufficient	Flashing amber
Engine P0 not available Use of this back-up value No effect of P0 on N2 datum Alternator supply when voltage is sufficient	Amber

#### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL

TASK 71-00-06-817-941-A01

## NO HELICOPTER ARINC MESSAGE AND 28 V FAILURE TROUBLESHOOTING

### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

**CAUTION:** THE FAILURE CODE B0200 AND ITS DERIVATIVES INVOLVING THE ARINC LINK CAN DISPLAY WHEN THE ARINC LINK NORMALLY OPERATES IN THE THREE CASES THAT FOLLOW:

1. WHEN THE ENGINE IS ON ANOTHER POSITION THAN THE SHUTDOWN MODE CAUSING THEREFORE THE MESSAGE TO ERASE WHEN THE DECU RESETS.
2. WHEN THE ENGINE IS IN THE SHUTDOWN MODE, CAUSING THEREFORE THE MESSAGE TO ERASE WHEN SWITCHING TO THE OPERATIONAL MODE (NO NEED TO RESET THE DECU).
3. WHEN THE HELICOPTER IS IN THE OPERATIONAL MODE AND WHEN THE MESSAGE SENT TO FADEC THROUGH ARINC LINK IS INCOMPLETE (ABSENCE OF ONE OR SEVERAL ELEMENTS: HELICOPTER T4, HELICOPTER P0, T0, ENGINE HEALTH INSPECTION CONFIGURATION AND CONTROL WORD).

### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	A	0	0

<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure Start aborted	Red
ENGINE RUNNING Engine P0 available Use of this back-up value No effect except the accuracy of P0 used Impossible to use the engine health inspection or the maintenance functions. Alternator supply when voltage is sufficient	Amber
Engine P0 not available Use of this back-up value No effect of P0 on N2 datum Impossible to use the engine health inspection or the maintenance functions. Alternator supply when voltage is sufficient	Amber

Effectivity: C

**B. POSSIBLE CAUSES**

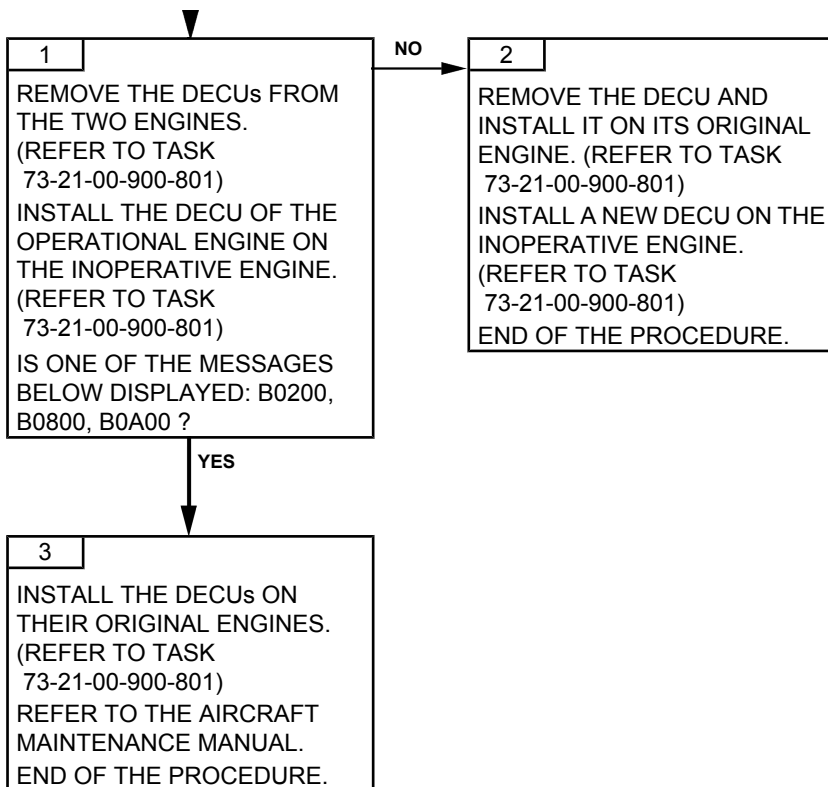
- DECU

**2. PROCEDURE**



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-942-A01

### HELICOPTER P0 FAILURE, NO HELICOPTER ARINC MESSAGE AND 28 V FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

**CAUTION:** THE FAILURE CODE B0200 AND ITS DERIVATIVES INVOLVING THE ARINC LINK CAN DISPLAY WHEN THE ARINC LINK NORMALLY OPERATES IN THE THREE CASES THAT FOLLOW:

1. WHEN THE ENGINE IS ON ANOTHER POSITION THAN THE SHUTDOWN MODE CAUSING THEREFORE THE MESSAGE TO ERASE WHEN THE DECU RESETS.
2. WHEN THE ENGINE IS IN THE SHUTDOWN MODE, CAUSING THEREFORE THE MESSAGE TO ERASE WHEN SWITCHING TO THE OPERATIONAL MODE (NO NEED TO RESET THE DECU).
3. WHEN THE HELICOPTER IS IN THE OPERATIONAL MODE AND WHEN THE MESSAGE SENT TO FADEC THROUGH ARINC LINK IS INCOMPLETE (ABSENCE OF ONE OR SEVERAL ELEMENTS: HELICOPTER T4, HELICOPTER P0, T0, ENGINE HEALTH INSPECTION CONFIGURATION AND CONTROL WORD).

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	B	0	0

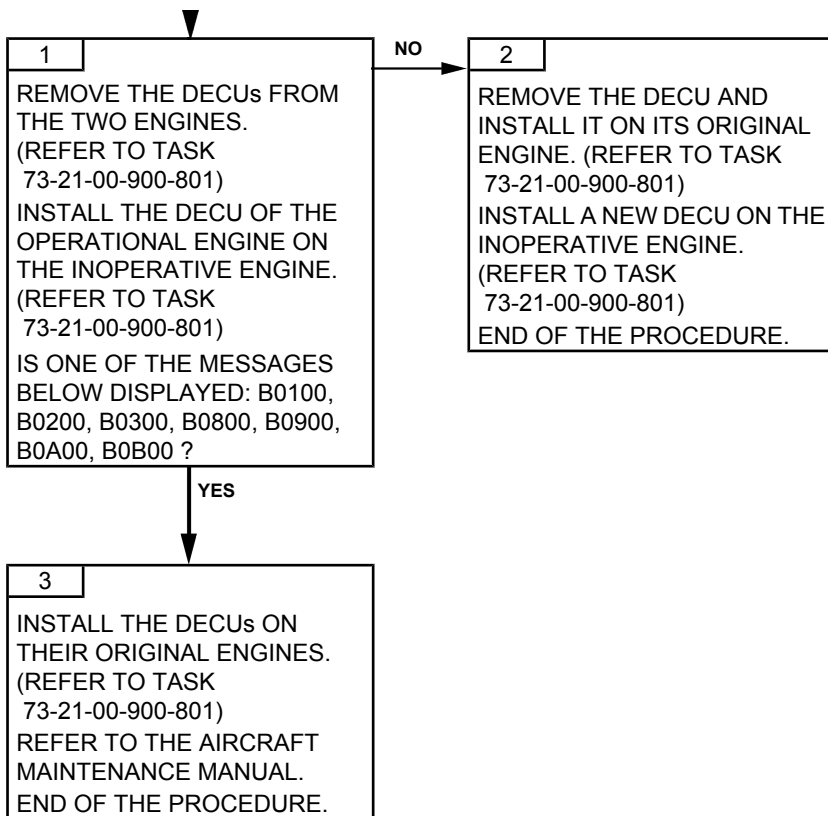
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure Start impossible	Red
ENGINE RUNNING Engine P0 available Use of this back-up value No effect except the accuracy of P0 used Impossible to use the engine health inspection or the maintenance functions. Alternator supply when voltage is sufficient	Amber
Engine P0 not available Use of this back-up value No effect of P0 on N2 datum Impossible to use the engine health inspection or the maintenance functions. Alternator supply when voltage is sufficient	Amber

Effectivity: C

**B. POSSIBLE CAUSES**

- DECU

**2. PROCEDURE**



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TASK 71-00-06-817-943-A01

## ALTERNATOR FAILURE AND 28 V FAILURE TROUBLESHOOTING

### 1. GENERAL

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	C	0	0

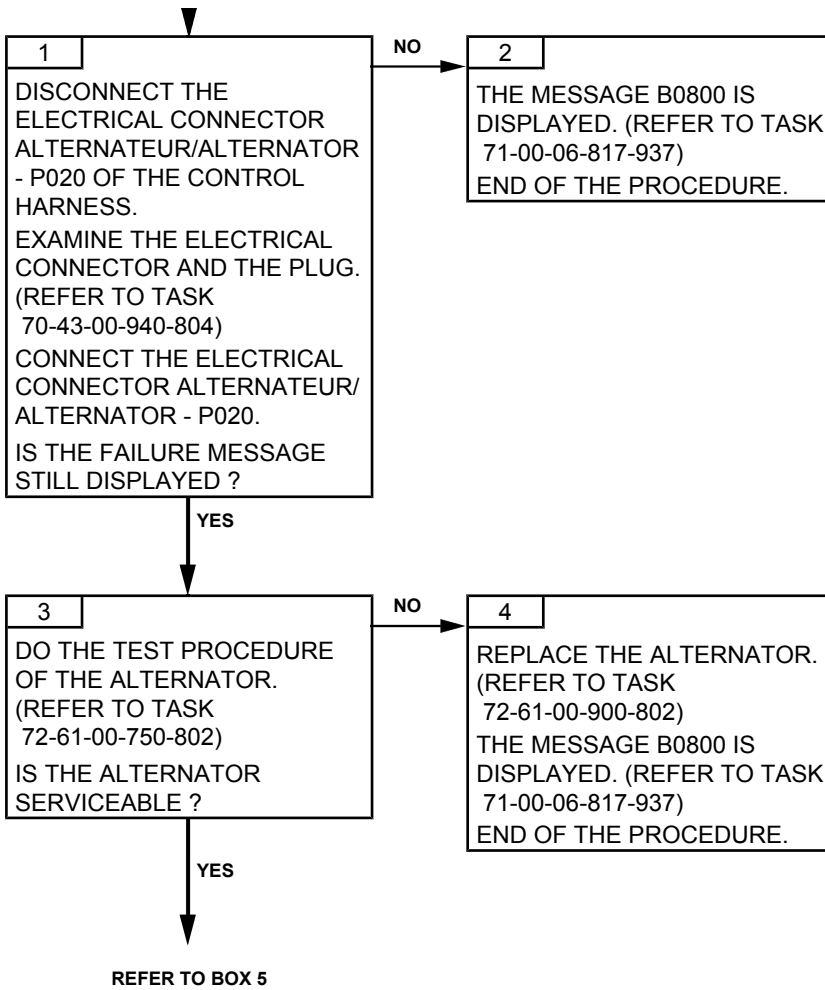
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure Start impossible	Red
ENGINE RUNNING: Major failure Alternator supply when voltage is sufficient Reversion to manual mode	Red

#### B. POSSIBLE CAUSES

- Alternator
- DECU
- Control harness

### 2. PROCEDURE

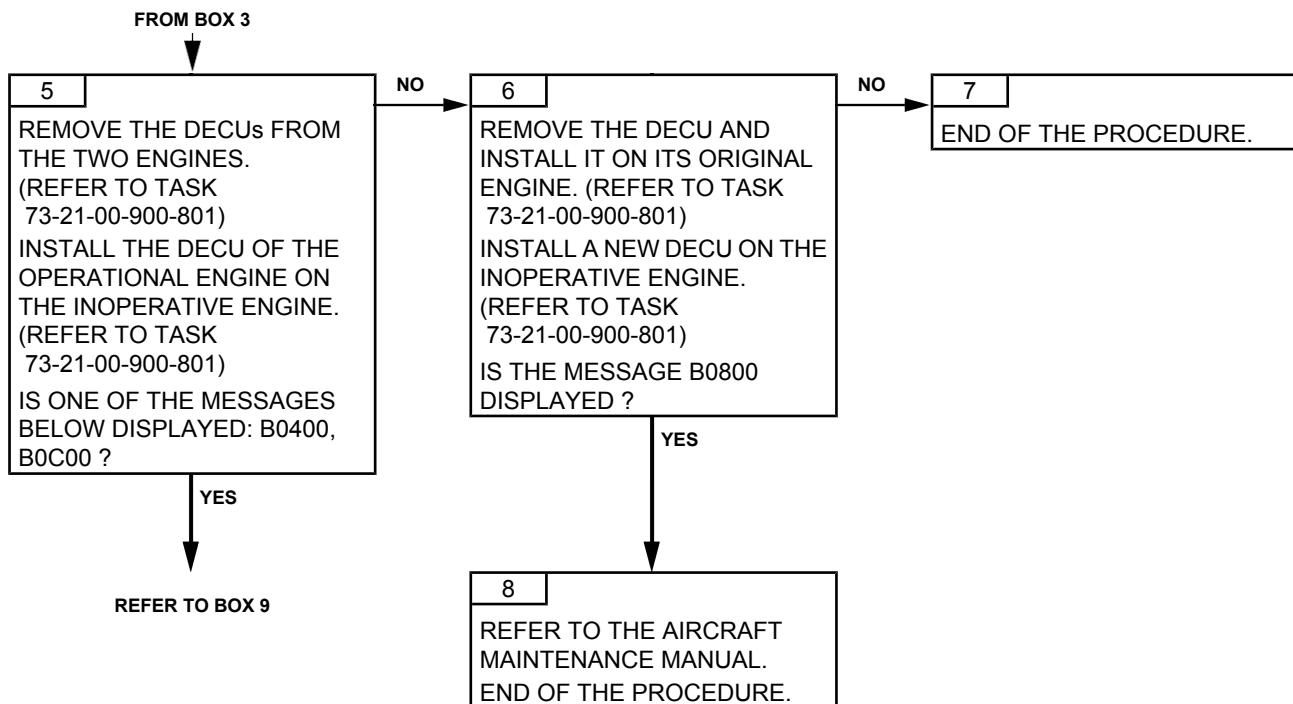
Effectivity: C



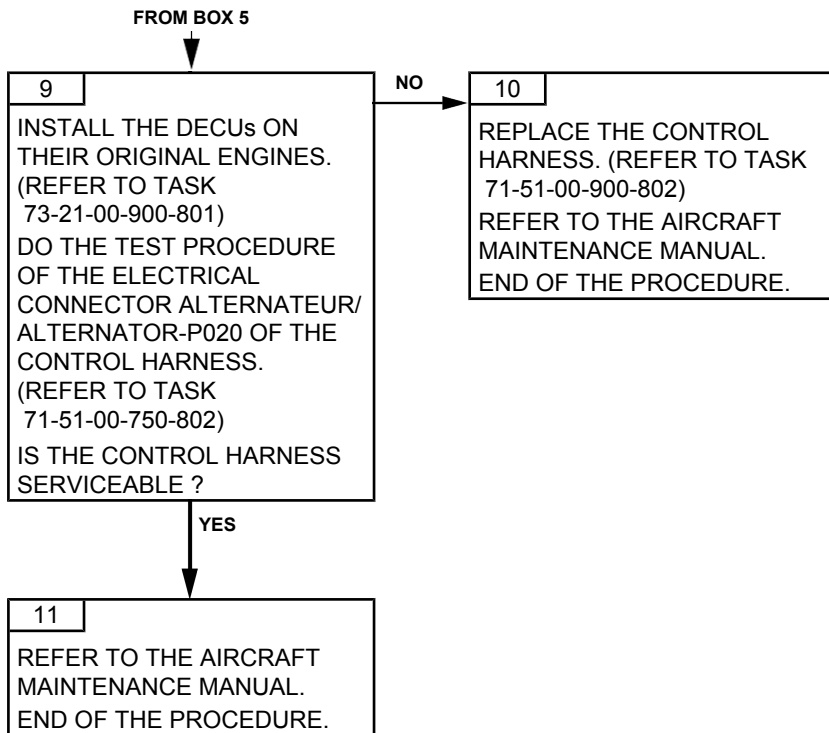


# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-944-A01

### HELICOPTER P0 FAILURE, ALTERNATOR FAILURE AND 28 V FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	D	0	0

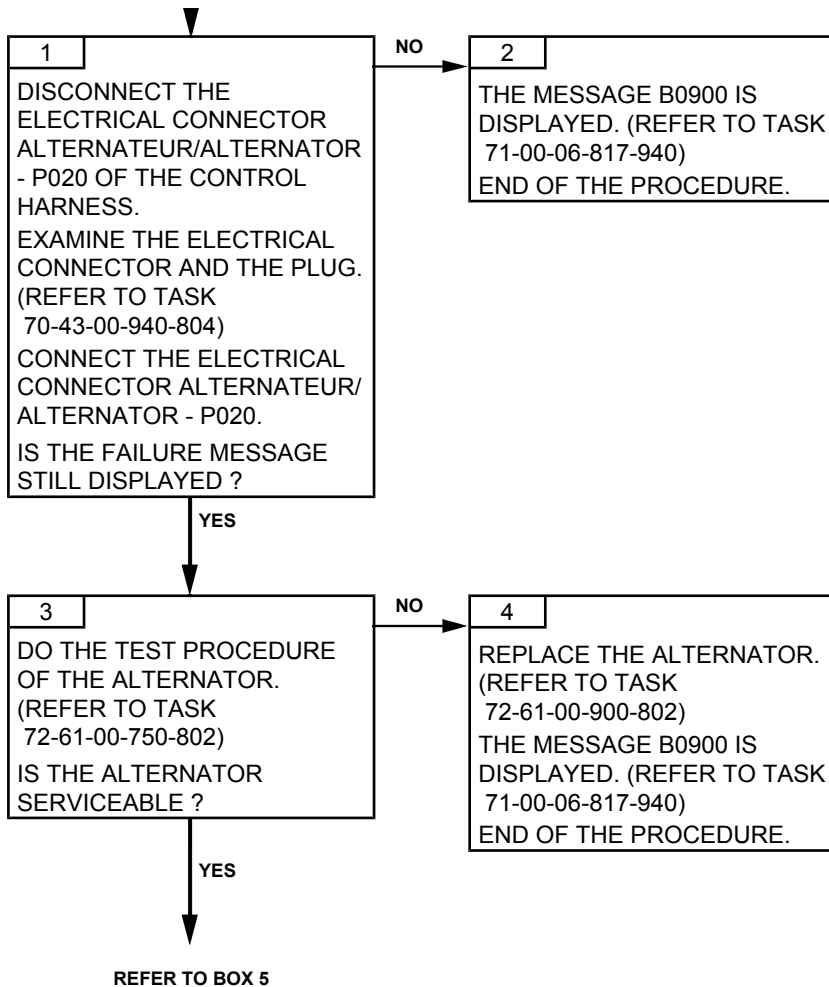
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure Start impossible	Red
ENGINE RUNNING Major failure Alternator supply when voltage is sufficient Reversion to manual mode Use of engine P0 (if available) or of the back-up value	Red

##### B. POSSIBLE CAUSES

- Alternator
- DECU
- Control harness

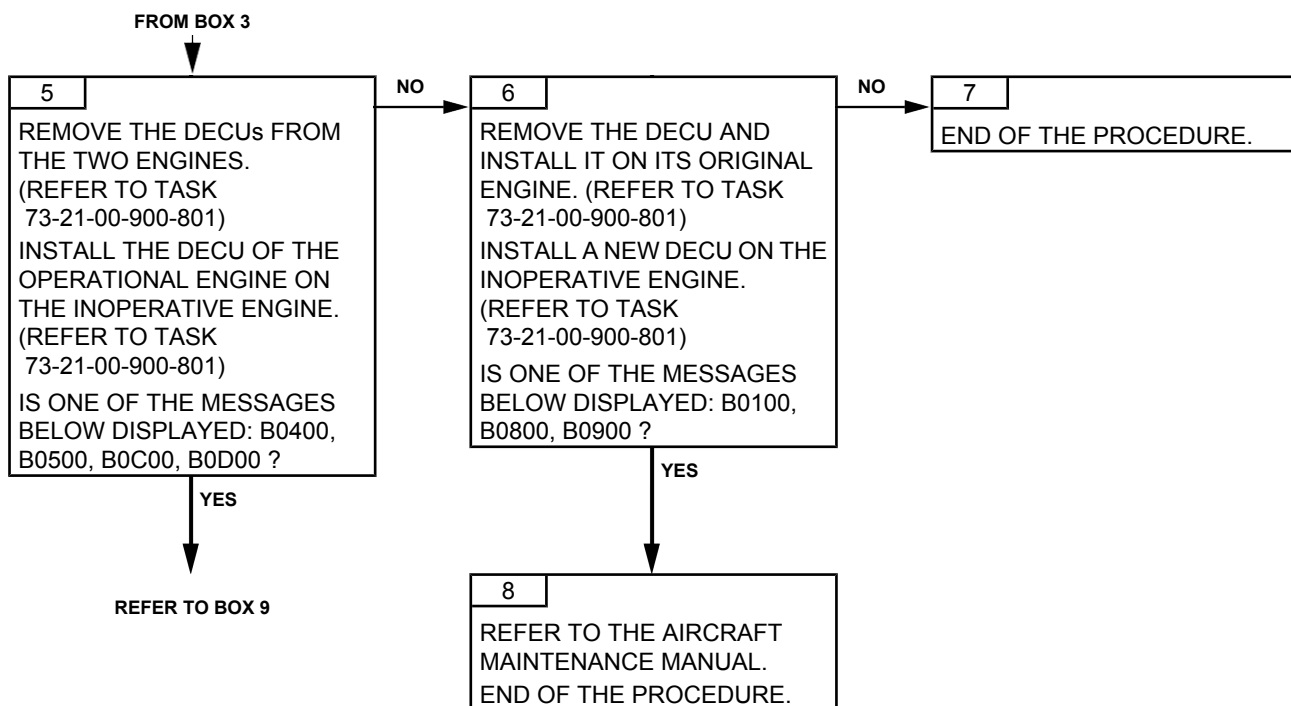
#### 2. PROCEDURE

Effectivity: C

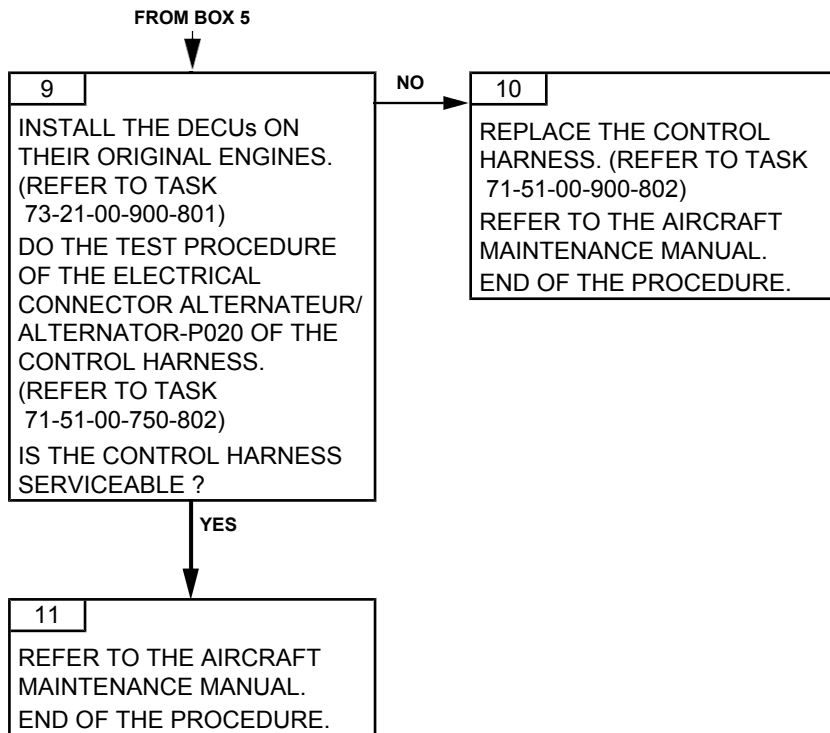


# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-945-A01

### NO HELICOPTER ARINC MESSAGE, ALTERNATOR FAILURE AND 28 V FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** THE FAILURE CODE B0200 AND ITS DERIVATIVES INVOLVING THE ARINC LINK CAN DISPLAY WHEN THE ARINC LINK NORMALLY OPERATES IN THE THREE CASES THAT FOLLOW:

1. WHEN THE ENGINE IS ON ANOTHER POSITION THAN THE SHUTDOWN MODE CAUSING THEREFORE THE MESSAGE TO ERASE WHEN THE DECU RESETS.
2. WHEN THE ENGINE IS IN THE SHUTDOWN MODE, CAUSING THEREFORE THE MESSAGE TO ERASE WHEN SWITCHING TO THE OPERATIONAL MODE (NO NEED TO RESET THE DECU).
3. WHEN THE HELICOPTER IS IN THE OPERATIONAL MODE AND WHEN THE MESSAGE SENT TO FADEC THROUGH ARINC LINK IS INCOMPLETE (ABSENCE OF ONE OR SEVERAL ELEMENTS: HELICOPTER T4, HELICOPTER P0, T0, ENGINE HEALTH INSPECTION CONFIGURATION AND CONTROL WORD).

#### A. FAU MESSAGE

MODE	FAU MESSAGE				
MEMORY	B	0	E	0	0

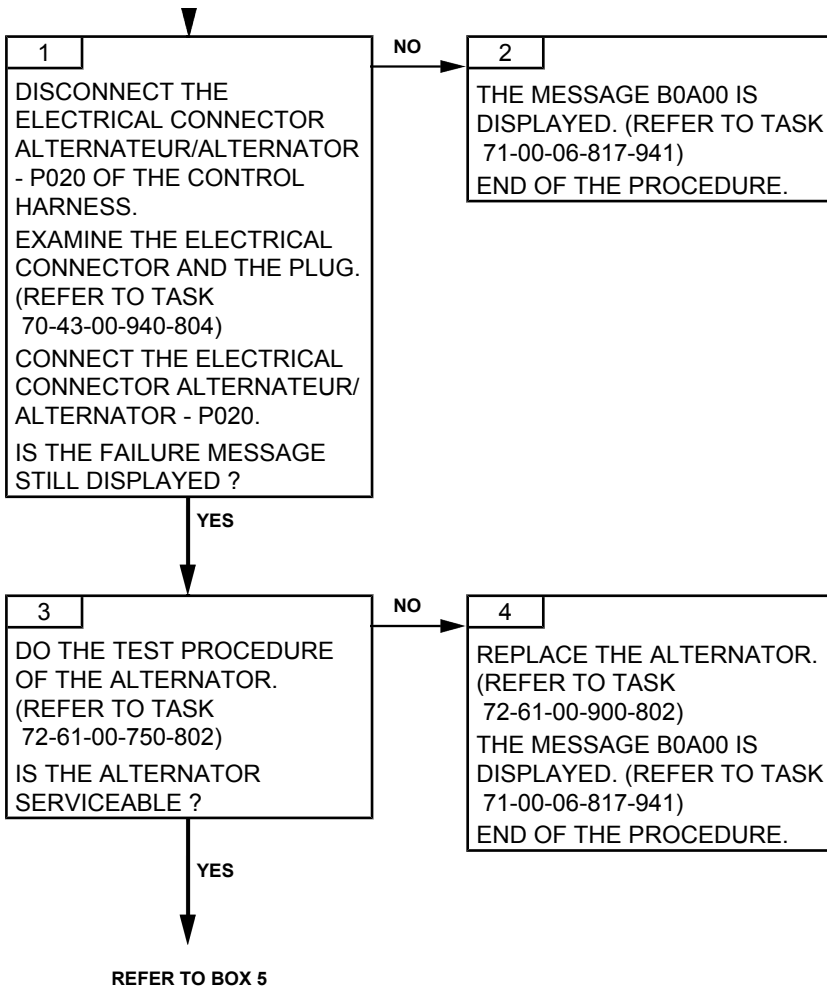
EFFECT	GOV
AT STARTING Major failure Start impossible	Red
ENGINE RUNNING Major failure Alternator supply when voltage is sufficient Reversion to manual mode Use of engine P0 (if available) or of the back-up value Impossible to use the engine health inspection or the maintenance functions.	Red

#### B. POSSIBLE CAUSES

- Alternator
- DECU
- Control harness

#### 2. PROCEDURE

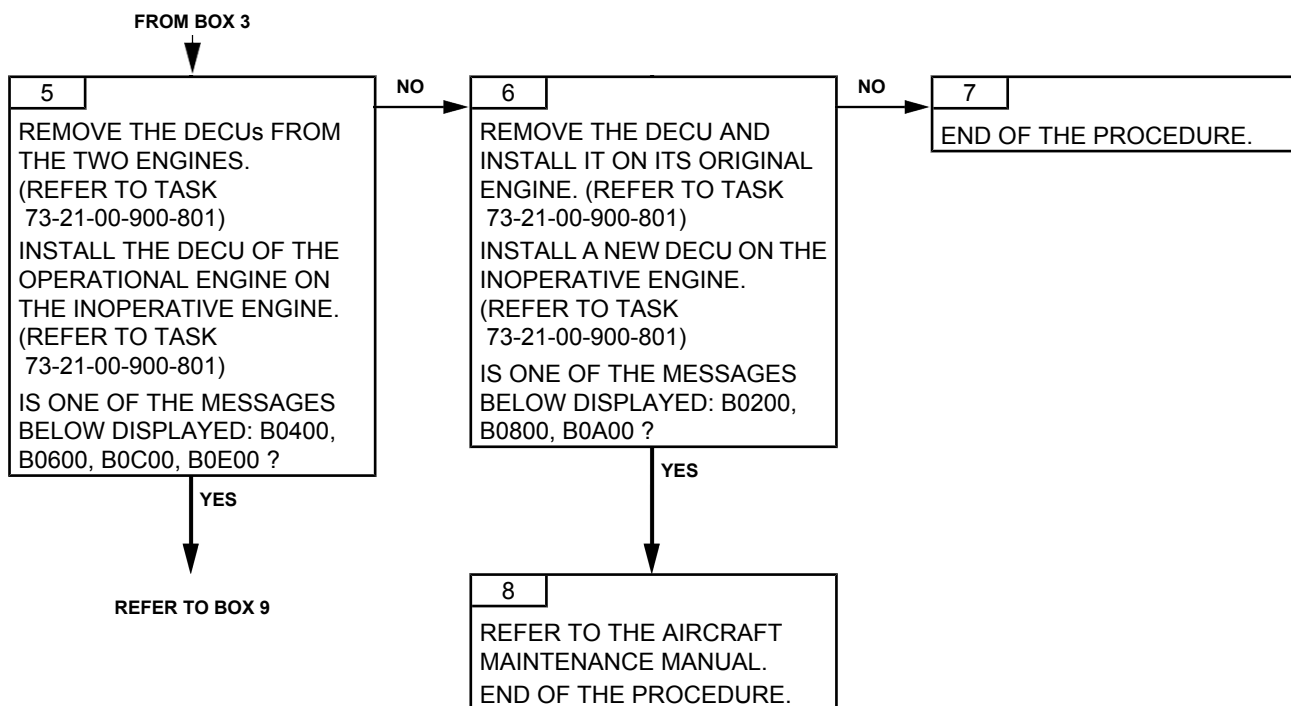
Effectivity: C



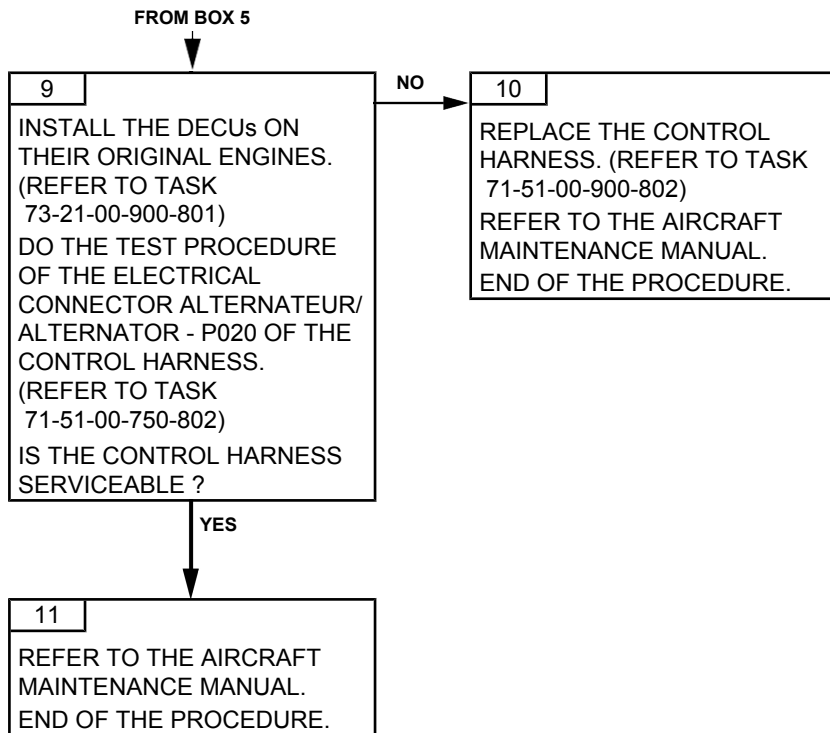


# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-946-A01

### HELICOPTER P0 FAILURE, NO HELICOPTER ARINC MESSAGE, ALTERNATOR FAILURE AND 28 V FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** THE FAILURE CODE B0200 AND ITS DERIVATIVES INVOLVING THE ARINC LINK CAN DISPLAY WHEN THE ARINC LINK NORMALLY OPERATES IN THE THREE CASES THAT FOLLOW:

1. WHEN THE ENGINE IS ON ANOTHER POSITION THAN THE SHUTDOWN MODE CAUSING THEREFORE THE MESSAGE TO ERASE WHEN THE DECU RESETS.
2. WHEN THE ENGINE IS IN THE SHUTDOWN MODE, CAUSING THEREFORE THE MESSAGE TO ERASE WHEN SWITCHING TO THE OPERATIONAL MODE (NO NEED TO RESET THE DECU).
3. WHEN THE HELICOPTER IS IN THE OPERATIONAL MODE AND WHEN THE MESSAGE SENT TO FADEC THROUGH ARINC LINK IS INCOMPLETE (ABSENCE OF ONE OR SEVERAL ELEMENTS: HELICOPTER T4, HELICOPTER P0, T0, ENGINE HEALTH INSPECTION CONFIGURATION AND CONTROL WORD).

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	0	F	0	0

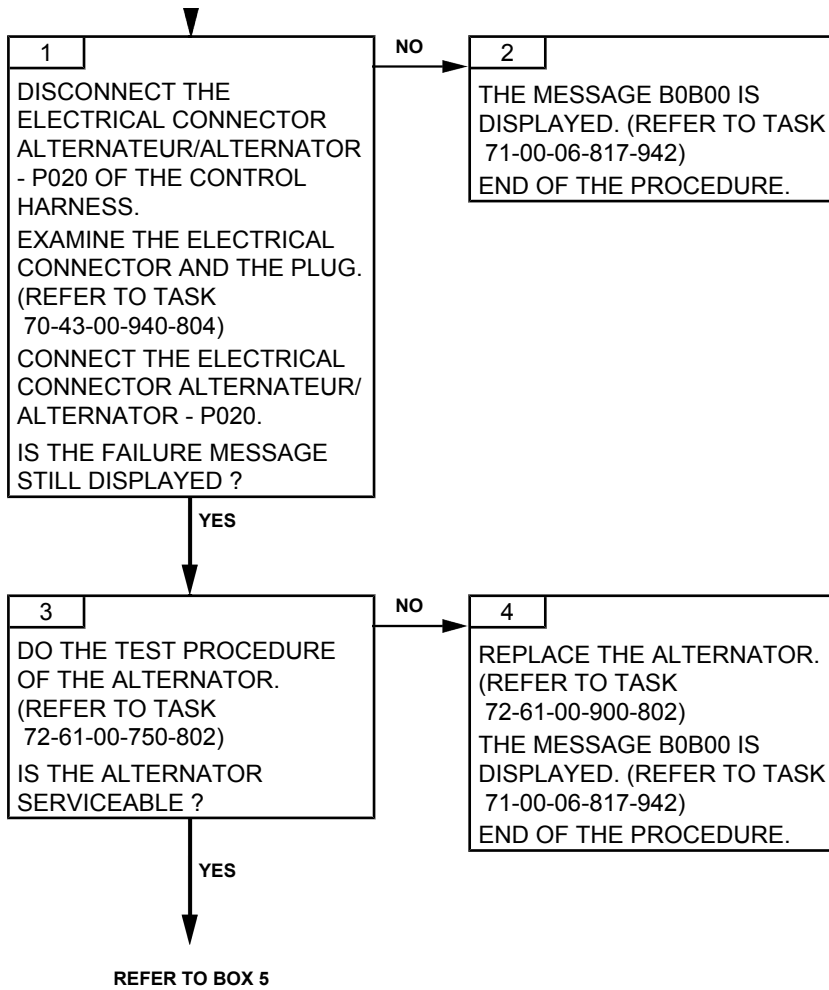
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure Start impossible	Red
ENGINE RUNNING Major failure Alternator supply when voltage is sufficient Reversion to manual mode Use of engine P0 (if available) or of the back-up value Impossible to use the engine health inspection or the maintenance functions.	Red

#### B. POSSIBLE CAUSES

- Alternator
- DECU
- Control harness

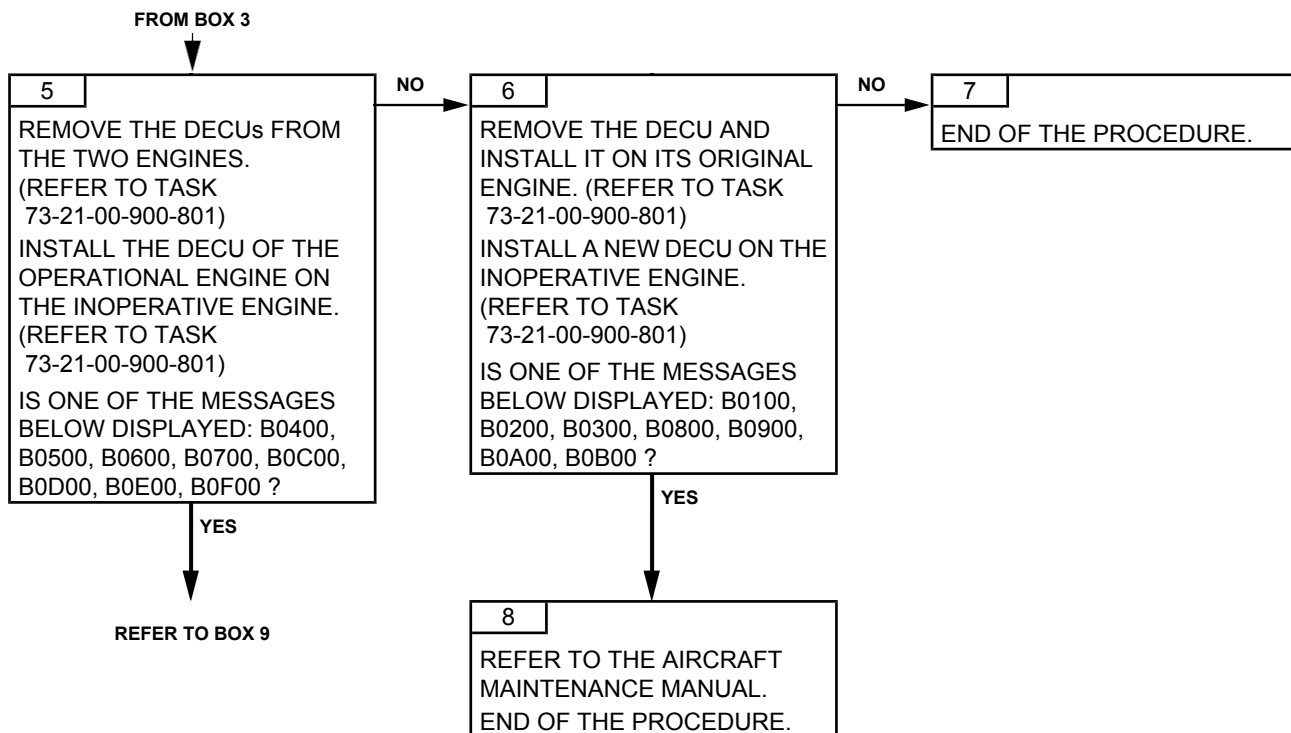
#### 2. PROCEDURE

Effectivity: C

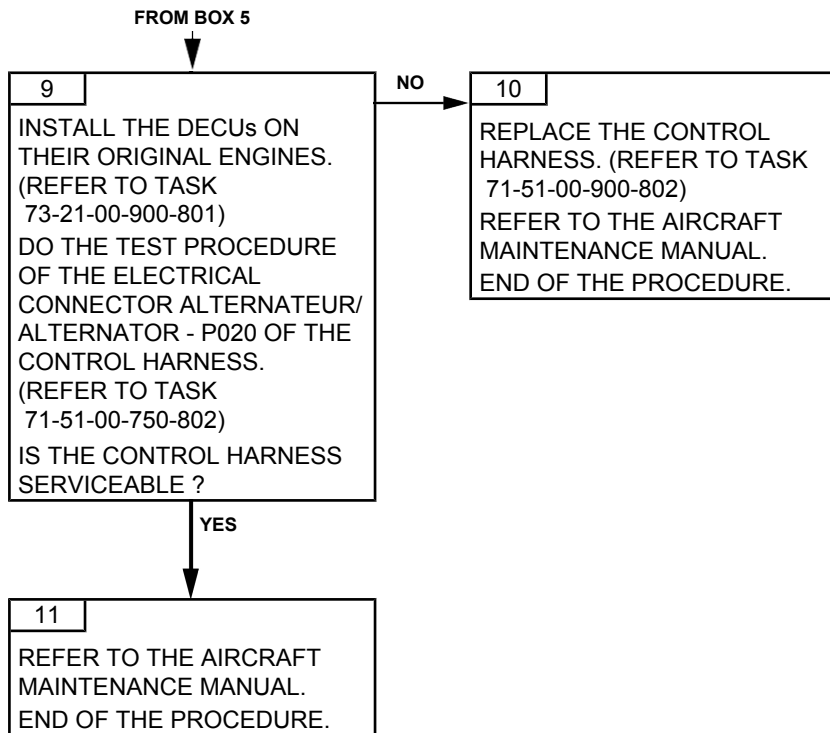


# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-948-A01

**P0 INCONSISTENCY  
TROUBLESHOOTING****1. GENERAL**

**CAUTION:** MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU ROTATE THE ENGINE ELECTRONIC CONTROL UNITS.

**A. FAU MESSAGE**

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	X	P	0	\	\
MEMORY	B	1	0	0	0

<i>EFFECT</i>	<i>GOV</i>
(Helicopter P0 - engine P0) > max. deviation Use of the back-up value	Amber

**B. POSSIBLE CAUSES**

- EECU
- Helicopter P0 accuracy (Aircraft System)

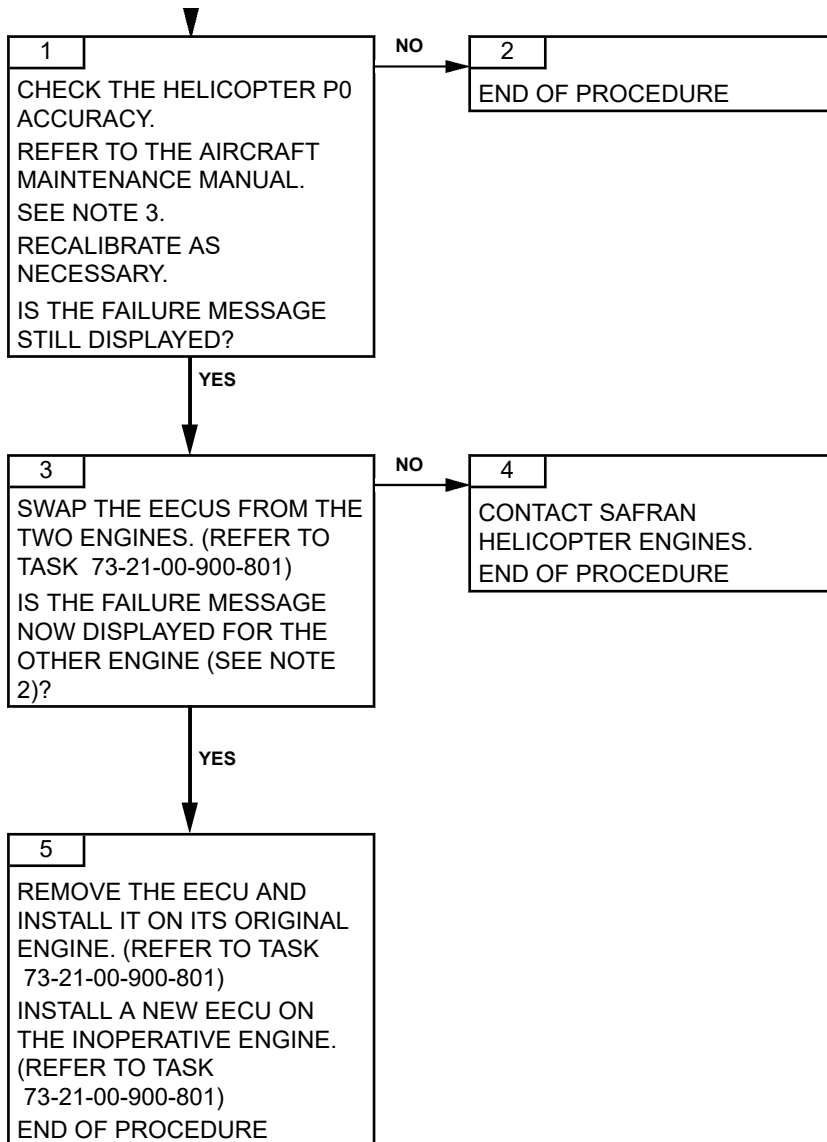
**2. PROCEDURE**

**NOTE:** The EECU P0 sensor is internal to the EECU. The helicopter P0 is received by the EECU via the ARINC data link.

**NOTE:** The P0 inconsistency fault is declared if the difference between EECU P0 and helicopter P0 exceeds 28 mbars. Even if this condition is not present on ground, it may occur in flight especially during rapid altitude change.

**NOTE:** The engine P0 and helicopter P0 are visible on the FAU (Fault Annunciator Unit), knob in "PRMTR" position. Engine P0 is parameter G. Helicopter P0 is parameter U. This may help you identify which P0 is inaccurate.

Effectivity: C





TASK 71-00-06-817-949-A01

### STOP ELECTRO-VALVE FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** MAKE SURE THAT THE AIRCRAFT CONTROL SYSTEM IS SERVICEABLE BEFORE YOU DO THE PROCEDURE.

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	S	H	T	O	F
MEMORY	B	2	0	0	0

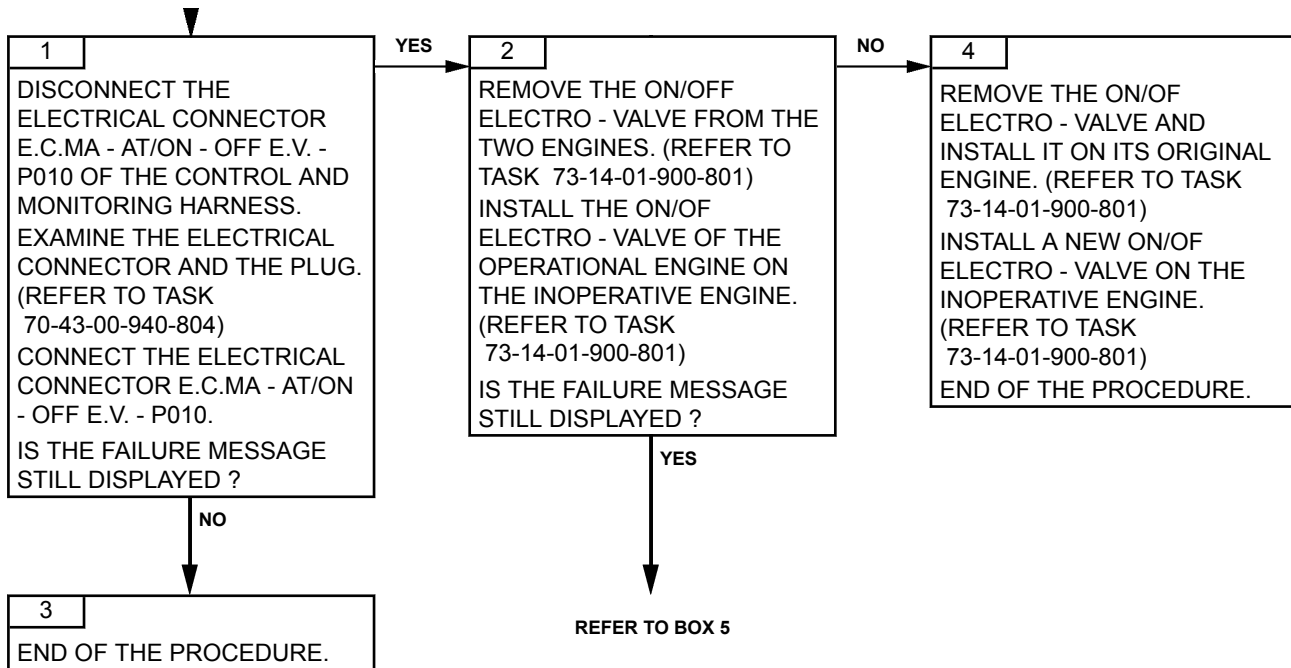
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING: No effect in flight on the engine operation	Amber
ENGINE SHUTDOWN: Engine shutdown by stepper motor closing Loss of the overspeed protection function	Amber

##### B. POSSIBLE CAUSES

- Fuel valve assembly
- DECU
- Control and monitoring harness

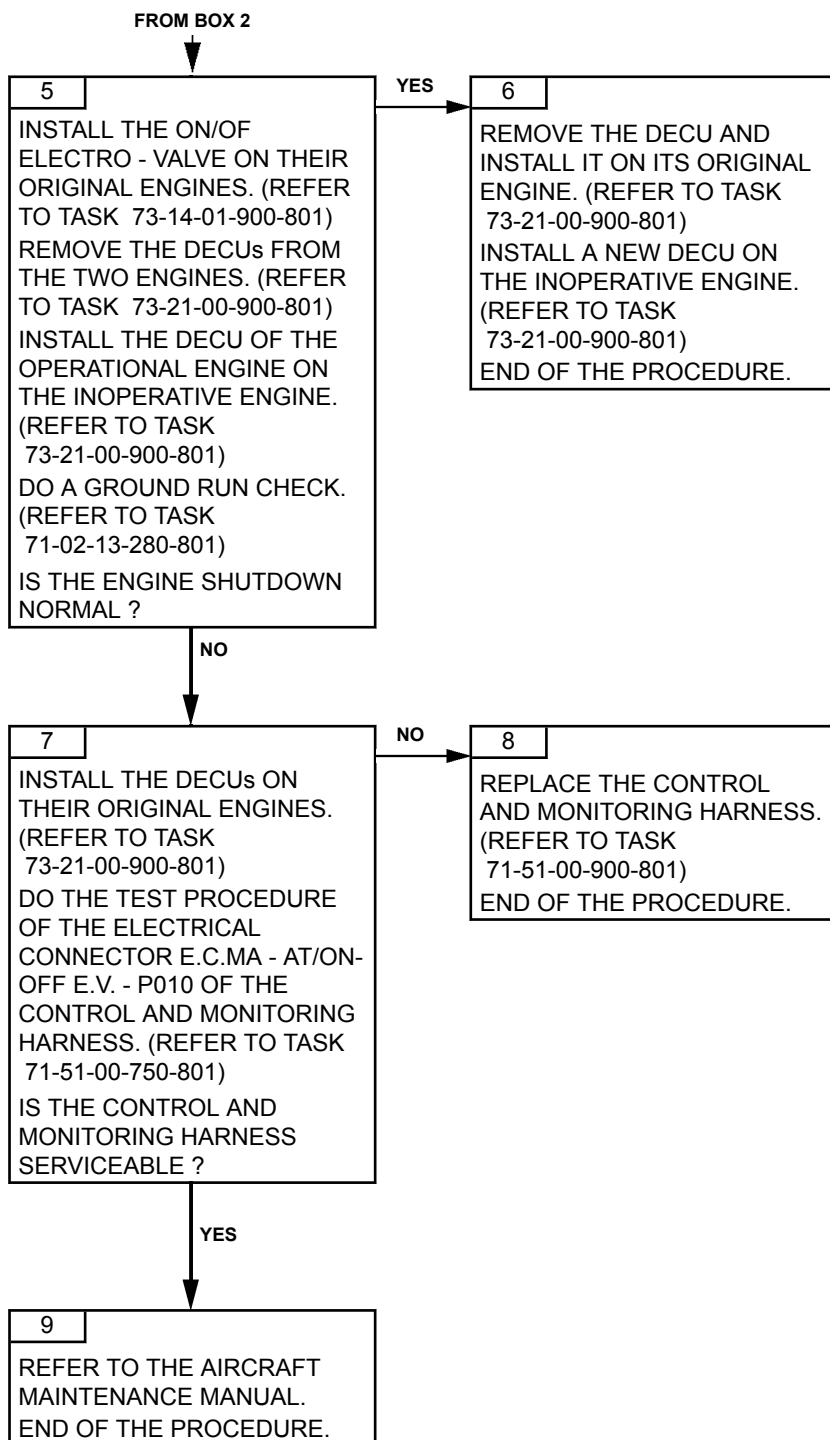
#### 2. PROCEDURE

Effectivity: C



# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

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TASK 71-00-06-817-951-A01

### P0 INCONSISTENCY AND STOP ELECTRO-VALVE FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** FOR THE ON-OFF ELECTROVALVE FAILURE, MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU DO THE PROCEDURE.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	3	0	0	0

<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING No effect in flight on the engine operation Use of the P0 back-up value	Amber
ENGINE SHUTDOWN Engine shutdown by stepper motor closing Loss of the overspeed protection function	Amber

#### B. POSSIBLE CAUSES

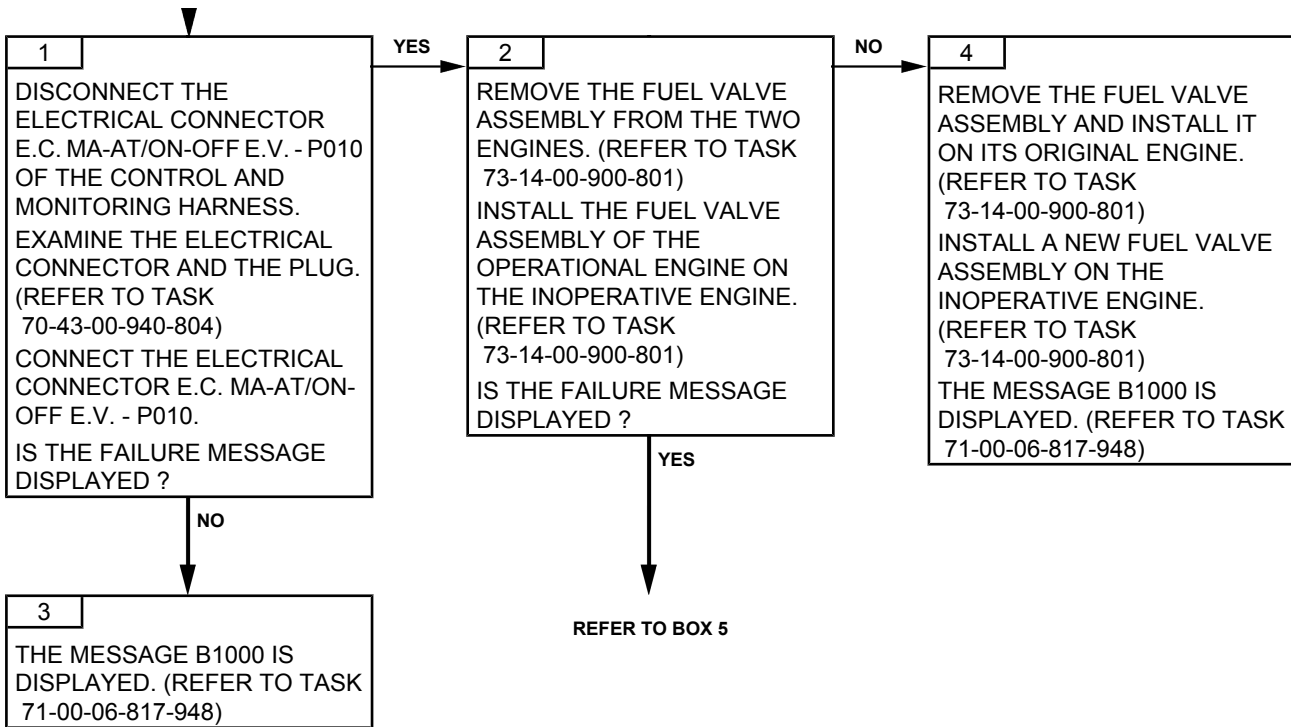
- Fuel valve assembly
- DECU
- Control and monitoring harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

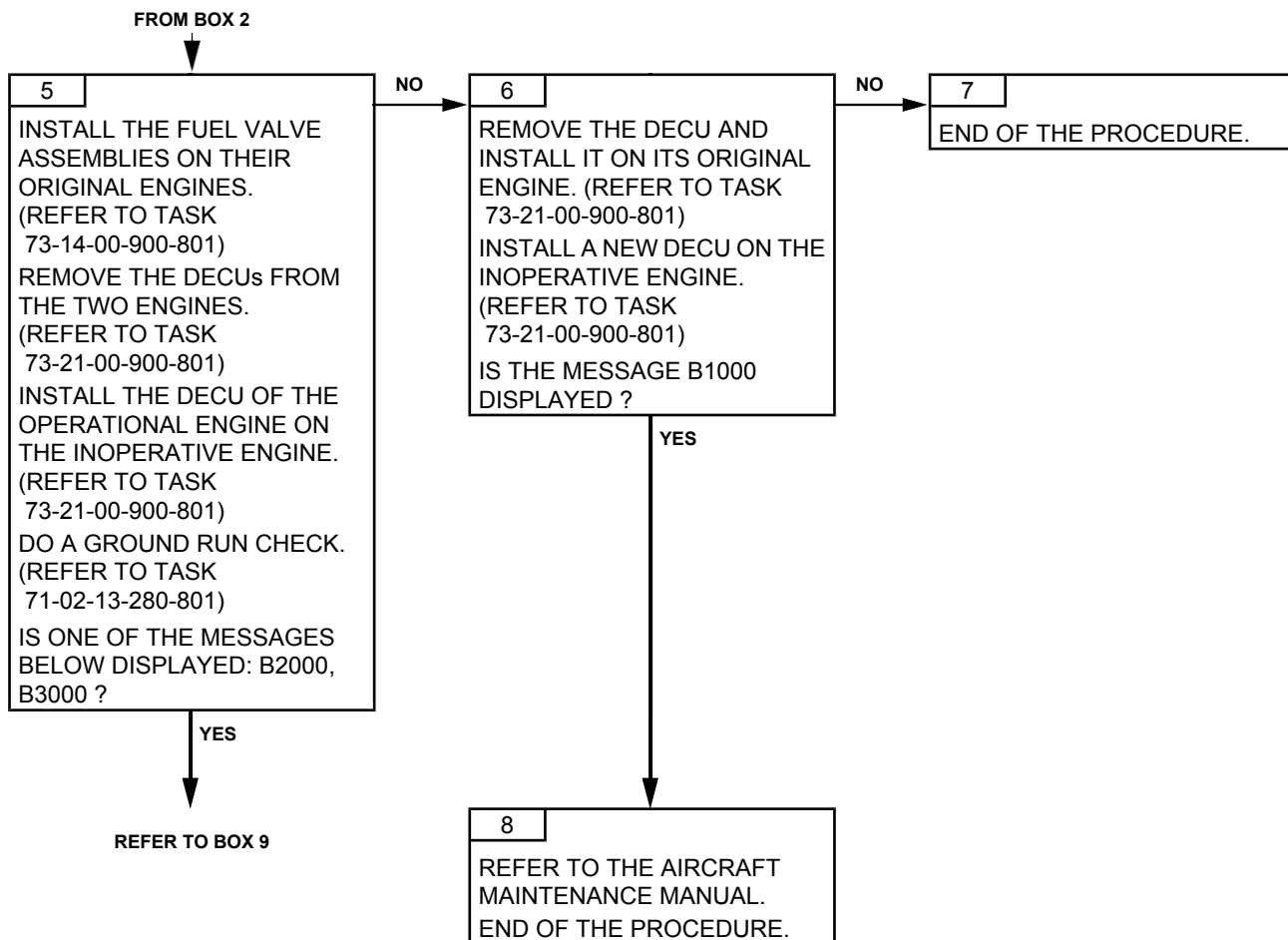
## MAINTENANCE MANUAL



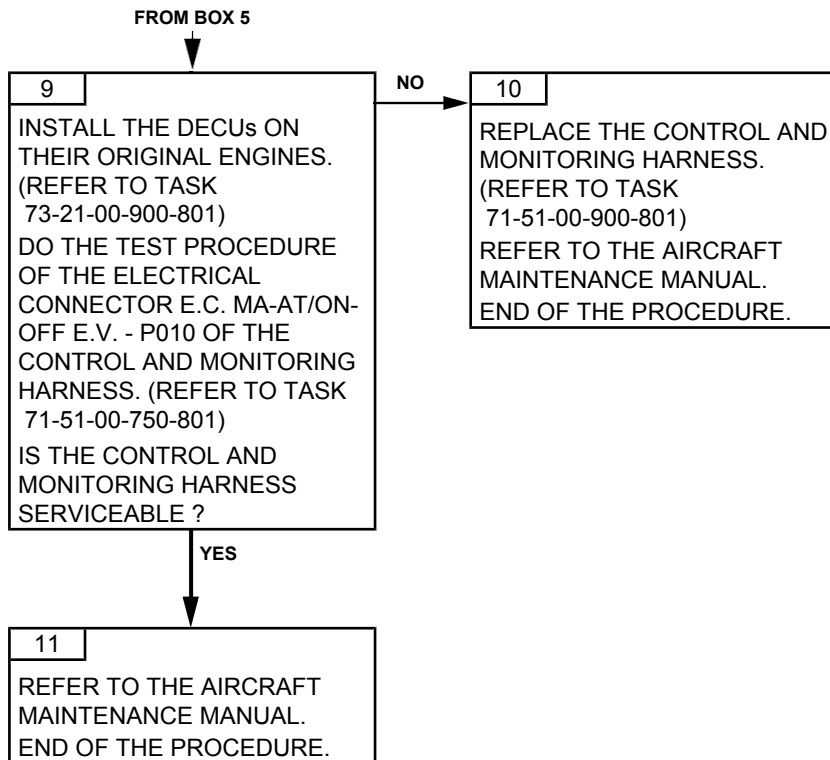
Effectivity: C

# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL



Effectivity: C





TASK 71-00-06-817-955-A01

### OVERSPEED PROTECTION FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE	O	V	S	M	N
MEMORY	B	4	0	0	0

<i>EFFECT</i>	<i>GOV</i>
NO DISPLAY IN FLIGHT DURING SHUTDOWN OR STARTING No overspeed protection for the concerned engine	Flashing amber

##### B. POSSIBLE CAUSES

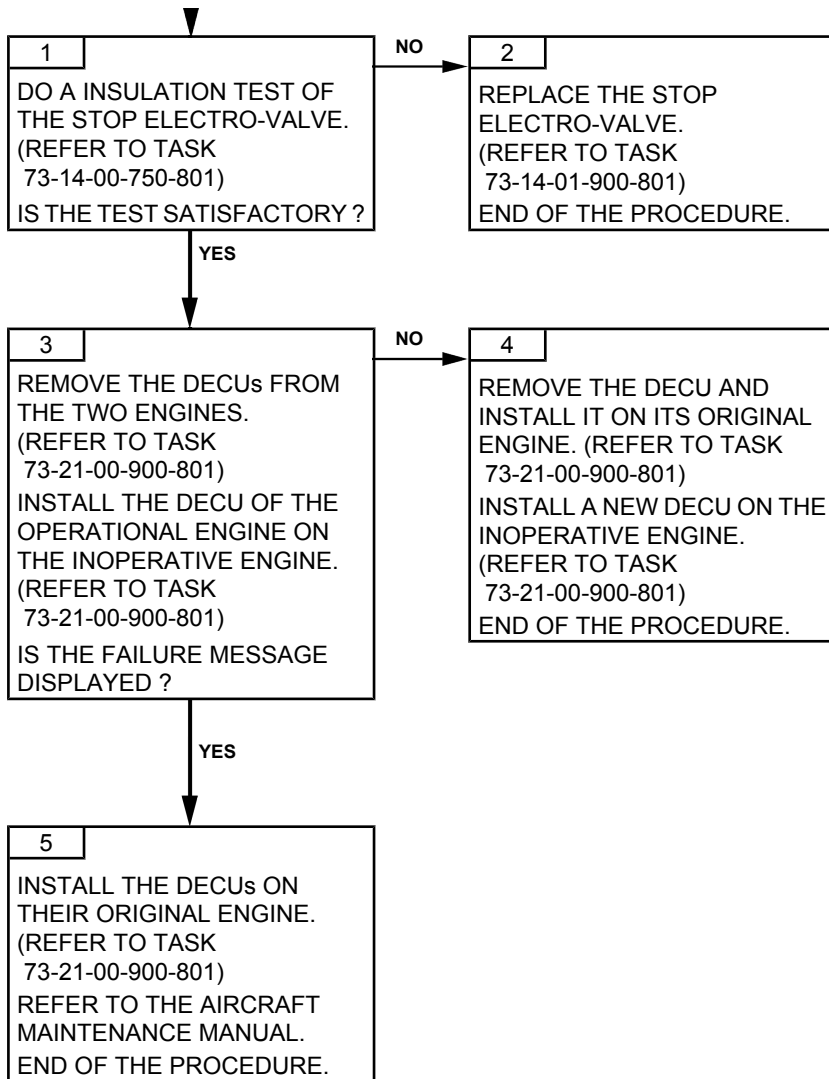
- Stop electro-valve
- DECU

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C

TASK 71-00-06-817-956-A01

### P0 INCONSISTENCY AND OVERSPEED PROTECTION FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	5	0	0	0

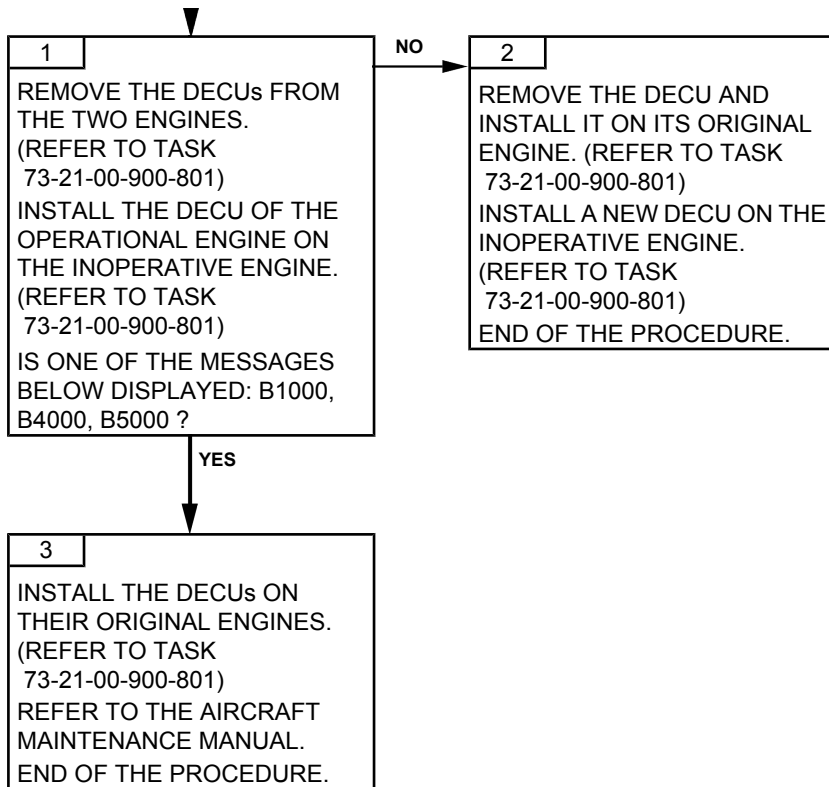
<i>EFFECT</i>	<i>GOV</i>
ENGINE RUNNING (Helicopter P0 - Engine P0) > max. deviation Use of the back-up value.	Amber
OVERSPEED PROTECTION FAILURE NO DISPLAY IN FLIGHT DURING SHUTDOWN OR STARTING No overspeed protection for the concerned engine	Flashing amber

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-957-A01

### STOP ELECTRO-VALVE FAILURE AND OVERSPEED PROTECTION FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** FOR THE ON-OFF ELECTROVALVE FAILURE, MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU DO THE PROCEDURE.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	6	0	0	0

<i>EFFECT</i>	<i>GOV</i>
DURING STARTING No overspeed protection for the concerned engine	Flashing amber
ENGINE RUNNING No effect in flight on the engine operation No overspeed protection for the concerned engine	Amber
ENGINE SHUTDOWN Engine shutdown by stepper motor closing Loss of the overspeed protection	Amber

#### B. POSSIBLE CAUSES

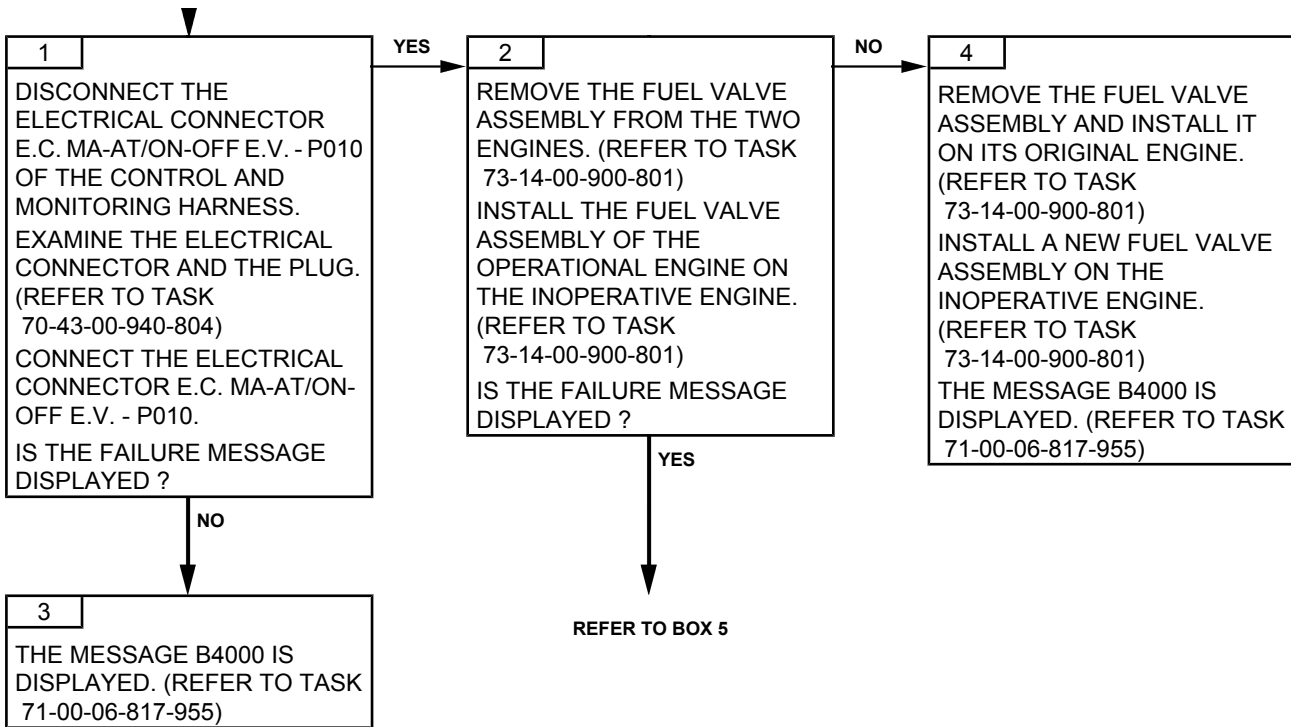
- Fuel valve assembly
- DECU
- Control and monitoring harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

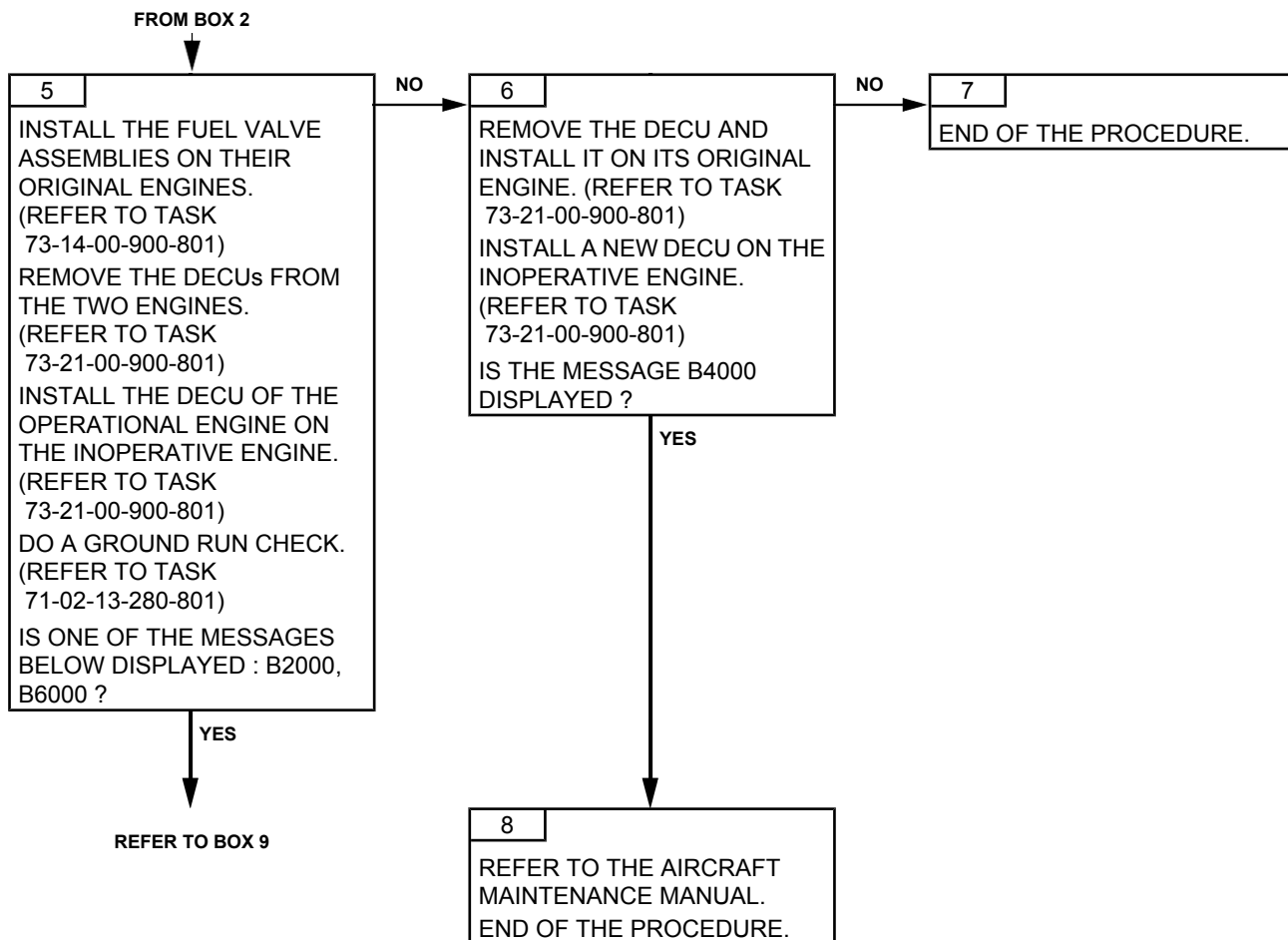
## MAINTENANCE MANUAL



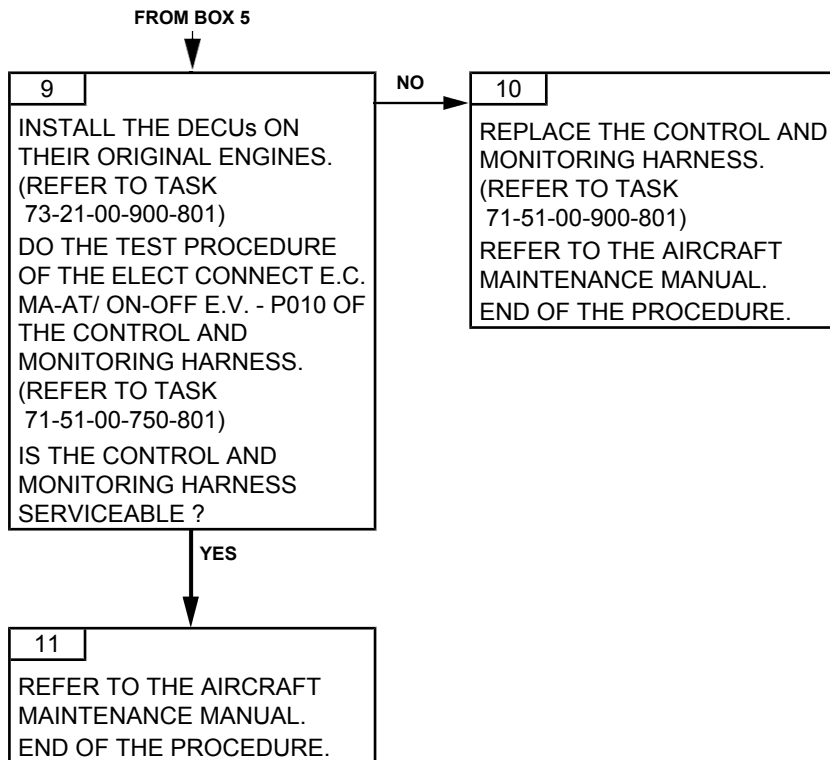
Effectivity: C

# TURBOMECA ARRIEL 2 C

MAINTENANCE MANUAL



Effectivity: C





TASK 71-00-06-817-958-A01

### P0 INCONSISTENCY, STOP ELECTRO-VALVE FAILURE AND OVERSPEED PROTECTION FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** FOR THE ON-OFF ELECTROVALVE FAILURE, MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU DO THE PROCEDURE.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	7	0	0	0

<i>EFFECT</i>	<i>GOV</i>
DURING STARTING No overspeed protection for the concerned engine	Flashing amber
ENGINE RUNNING No effect in flight on the engine operation Use of the P0 back-up value No overspeed protection for the concerned engine	Amber
ENGINE SHUTDOWN Engine shutdown by stepper motor closing Loss of the overspeed protection function	Amber

#### B. POSSIBLE CAUSES

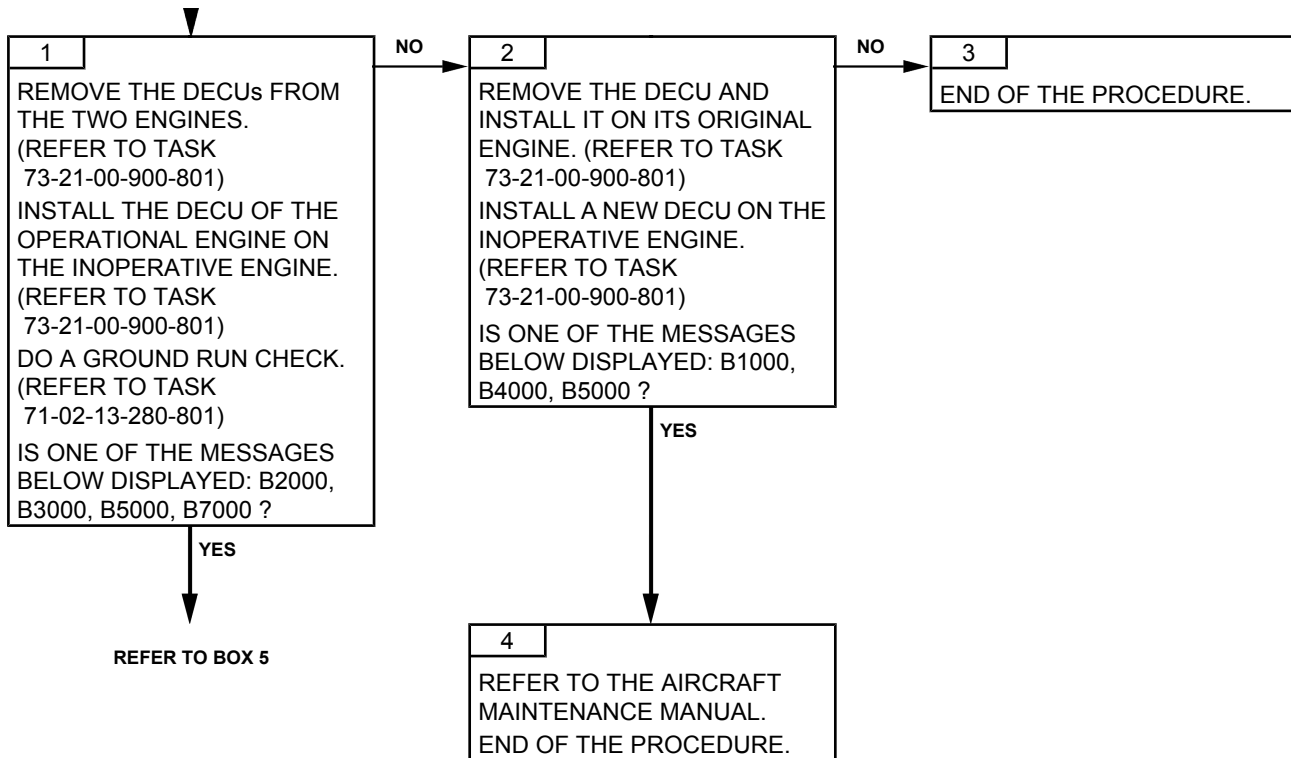
- Fuel valve assembly
- DECU
- Control and monitoring harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

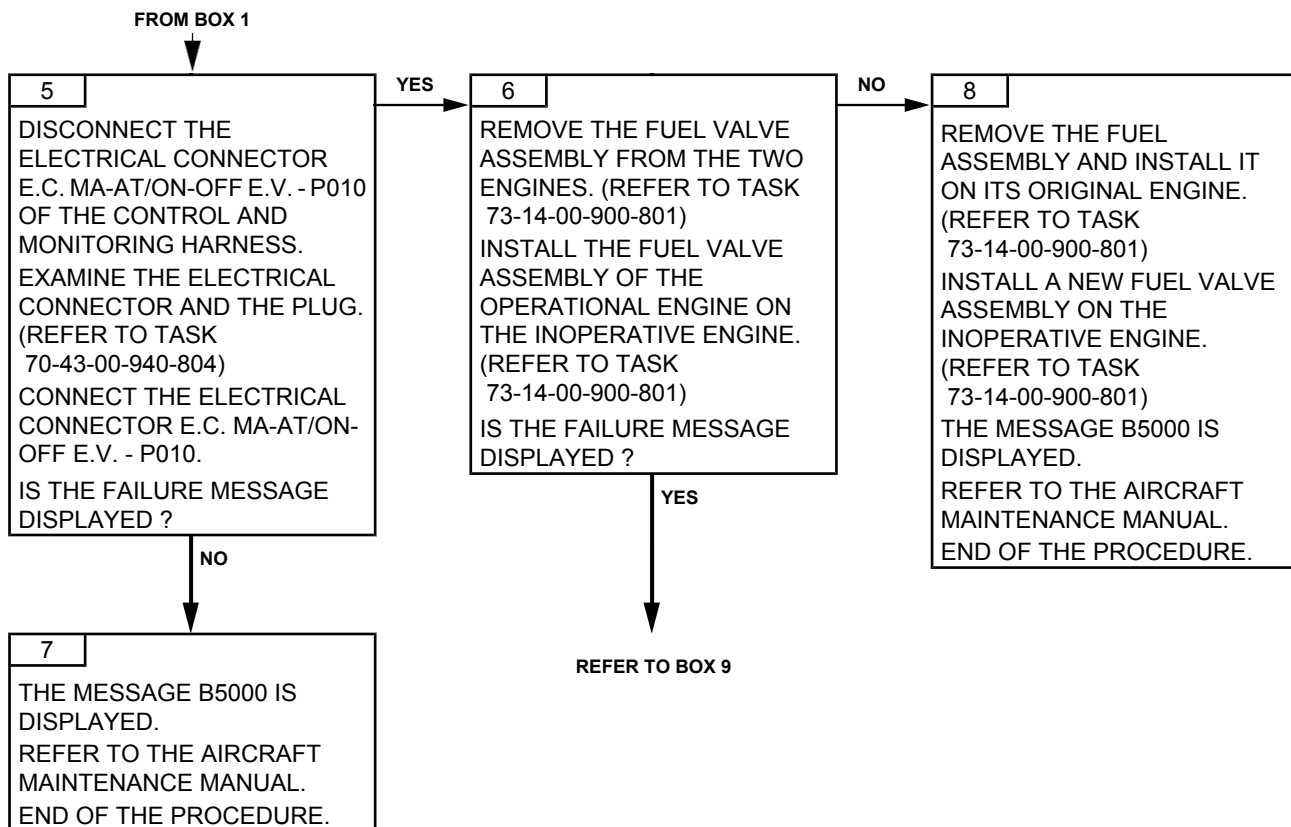
## MAINTENANCE MANUAL



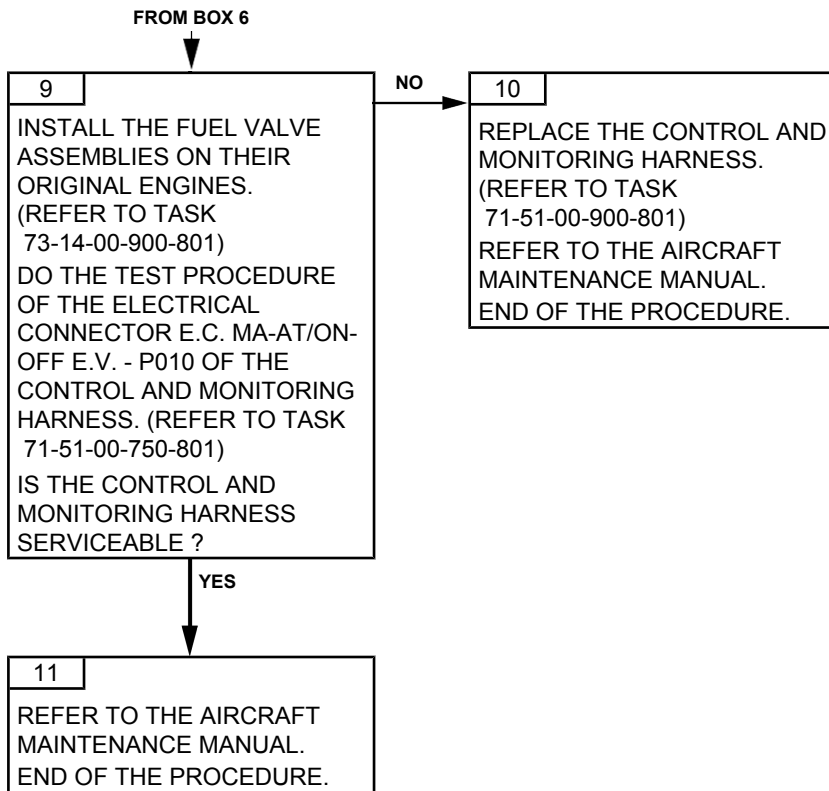
Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-959-A01

### REAL TIME SOFTWARE FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
FAILURE		S	0	F	T
MEMORY	B	8	0	0	0

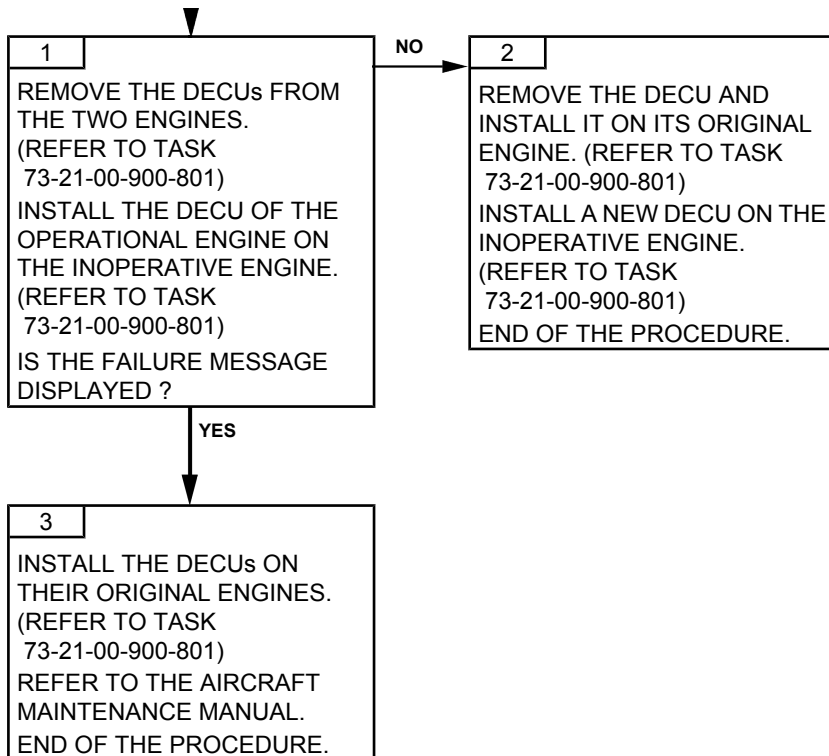
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure (Start impossible)	Red
ENGINE RUNNING Total failure. Reversion to manual mode.	Red

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-961-A01

## P0 INCONSISTENCY AND REAL TIME SOFTWARE FAILURE TROUBLESHOOTING

### 1. GENERAL

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	9	0	0	0

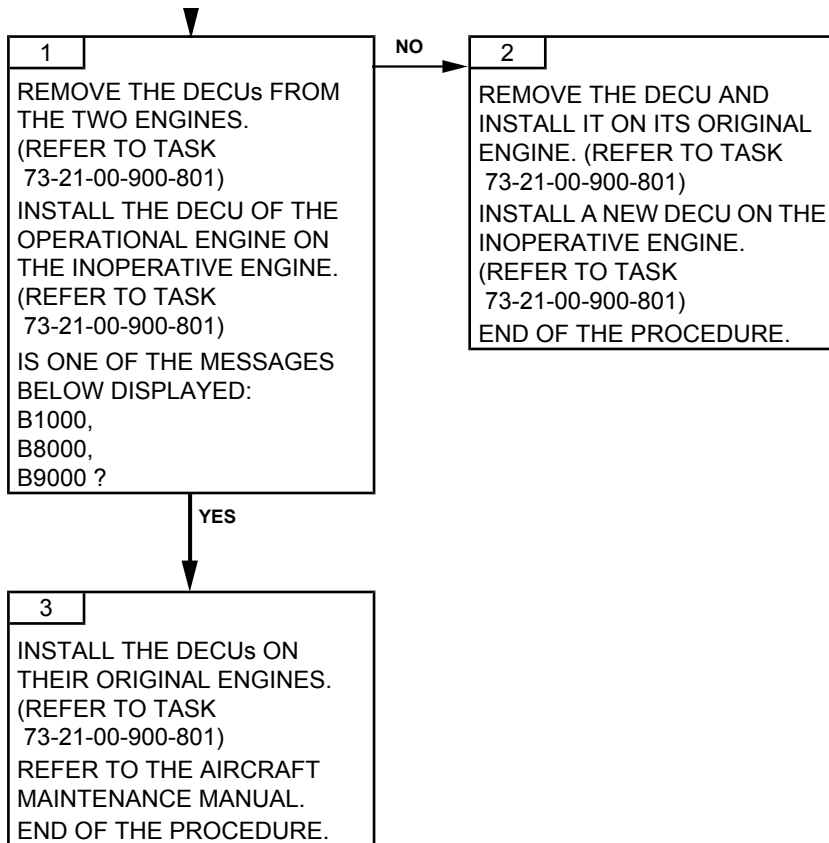
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure (Start impossible)	Red
ENGINE RUNNING Total failure. Reversion to manual mode.	Red

#### B. POSSIBLE CAUSES

- DECU

### 2. PROCEDURE

Effectivity: C





TASK 71-00-06-817-962-A01

### STOP ELECTRO-VALVE FAILURE AND REAL TIME SOFTWARE FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** FOR THE ON-OFF ELECTROVALVE FAILURE, MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU DO THE PROCEDURE.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	A	0	0	0

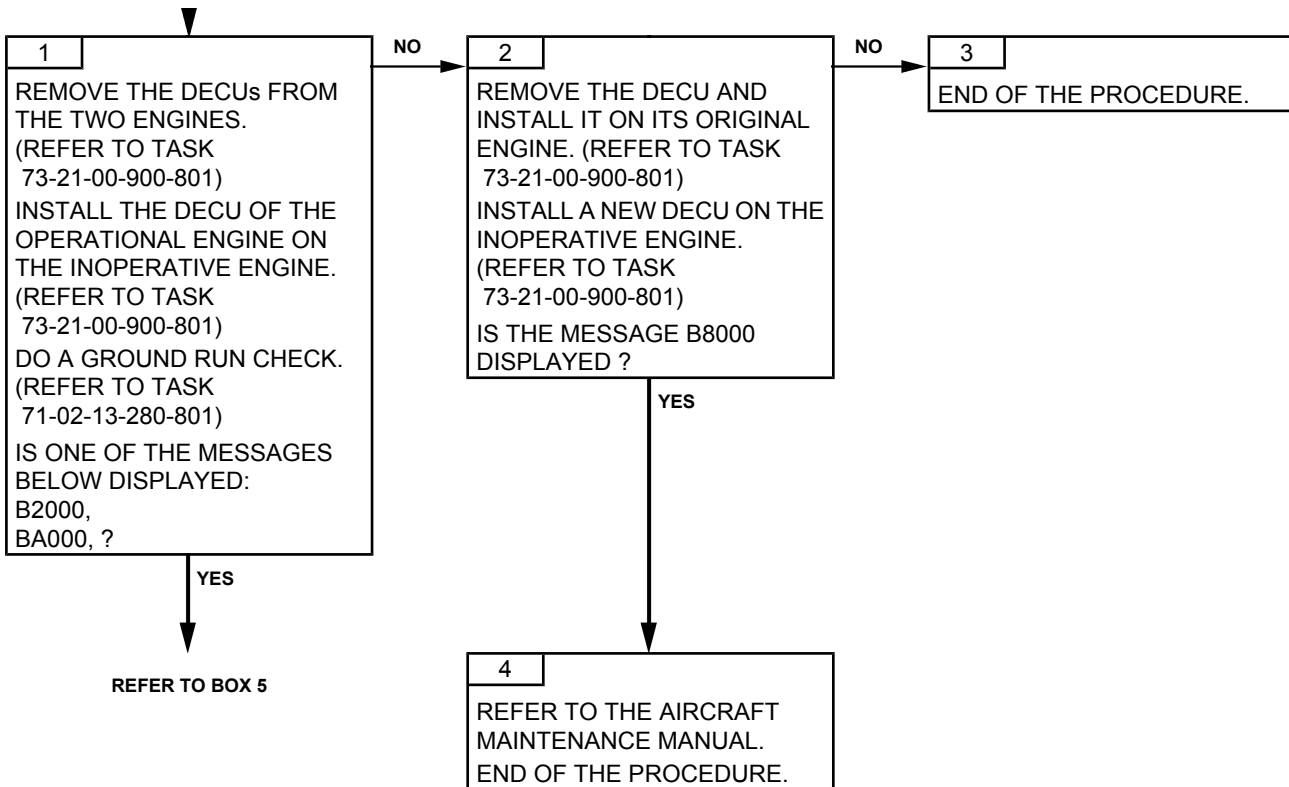
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure (Start impossible)	Red
ENGINE RUNNING: Total failure Reversion to manual mode	Red
ENGINE SHUTDOWN: Engine shutdown by stepper motor closing Loss of the overspeed protection function	Amber

#### B. POSSIBLE CAUSES

- DECU
- Fuel valve assembly
- Control and monitoring harness

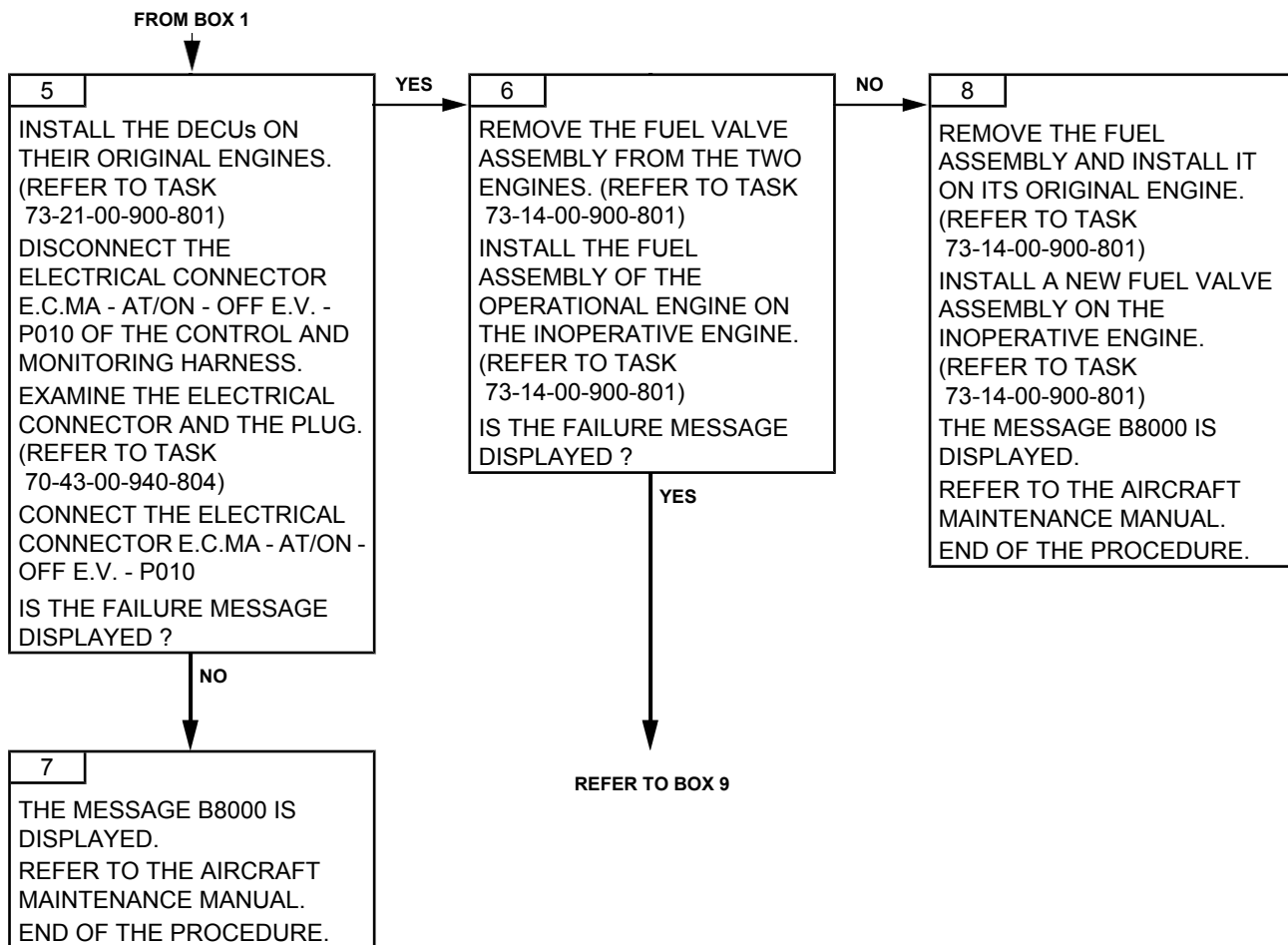
#### 2. PROCEDURE

Effectivity: C

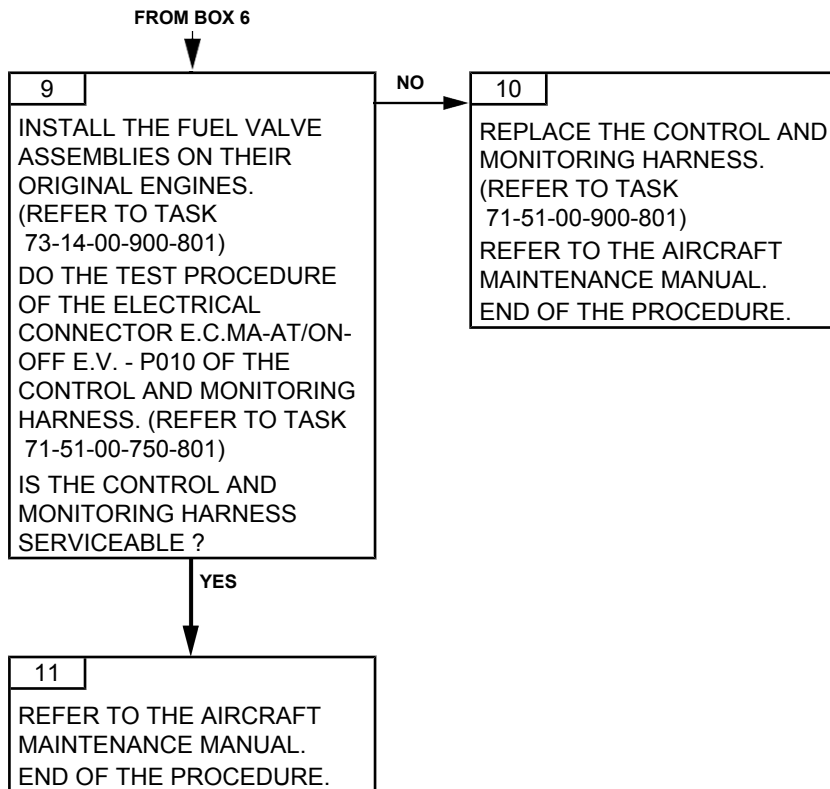


# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-963-A01

### P0 INCONSISTENCY, STOP ELECTRO-VALVE FAILURE AND REAL TIME SOFTWARE FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** FOR THE ON-OFF ELECTROVALVE FAILURE, MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU DO THE PROCEDURE.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	B	0	0	0

<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure (Start impossible)	Red
ENGINE RUNNING: Total failure Reversion to manual mode	Red
ENGINE SHUTDOWN: Engine shutdown by stepper motor closing Loss of the overspeed protection function	Amber

#### B. POSSIBLE CAUSES

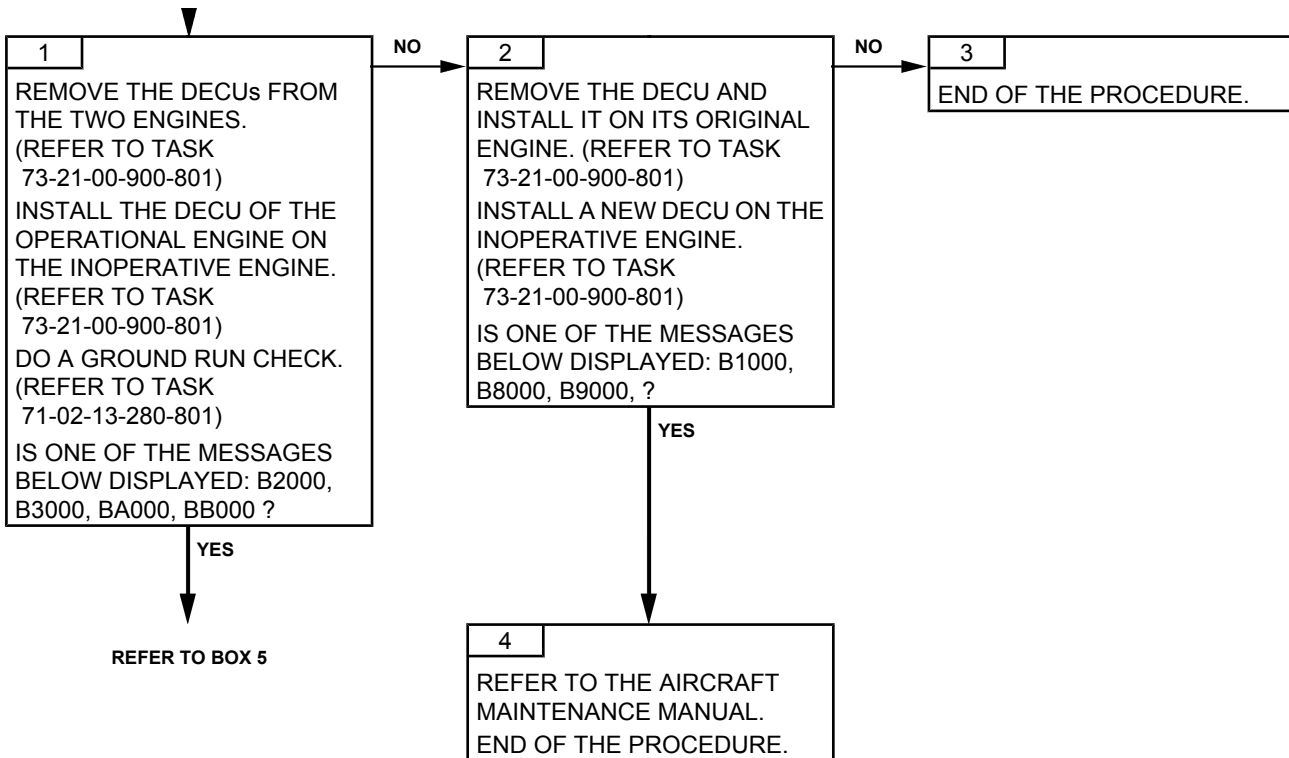
- DECU
- Fuel valve assembly
- Control and monitoring harness

#### 2. PROCEDURE

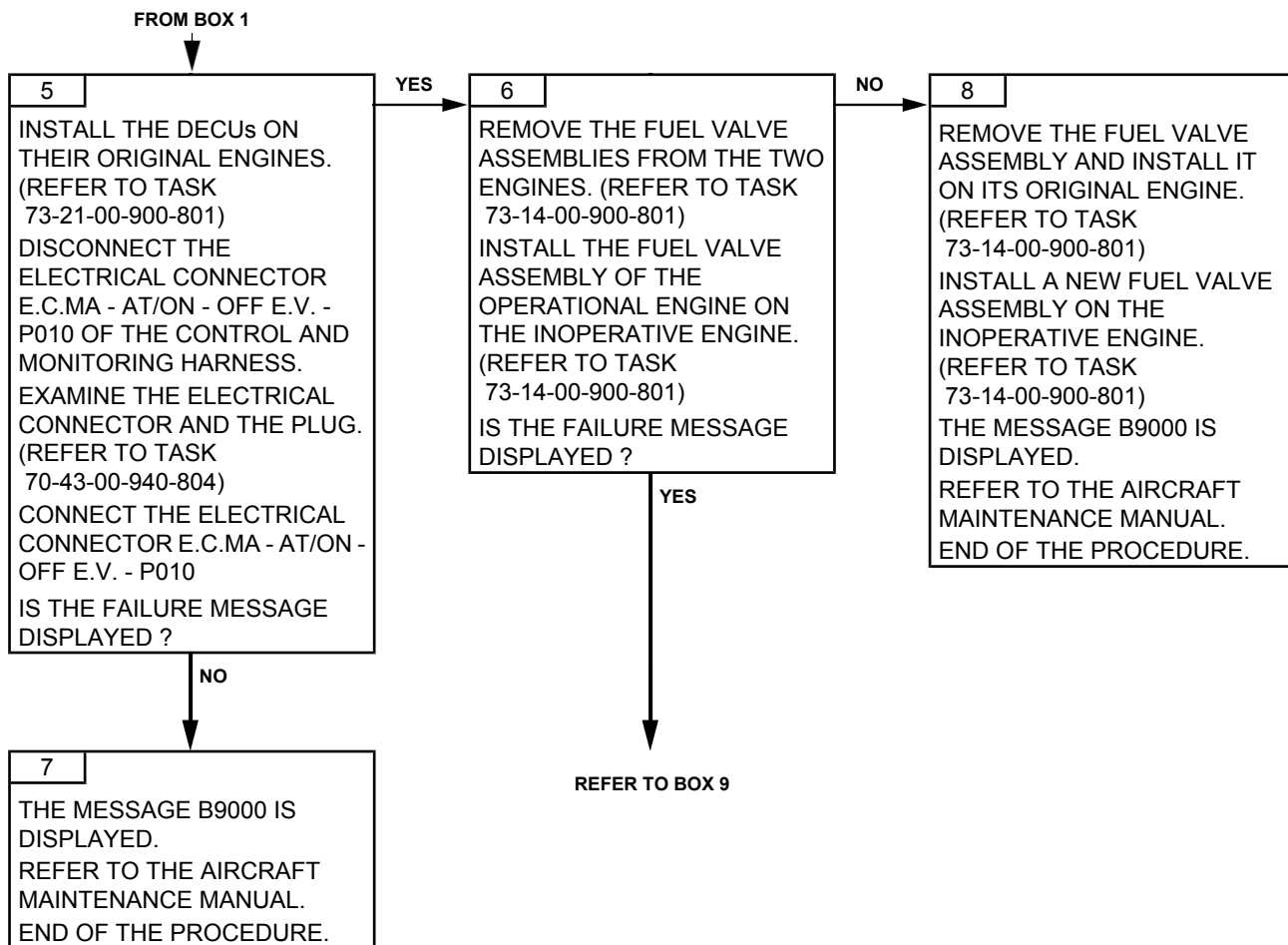
Effectivity: C

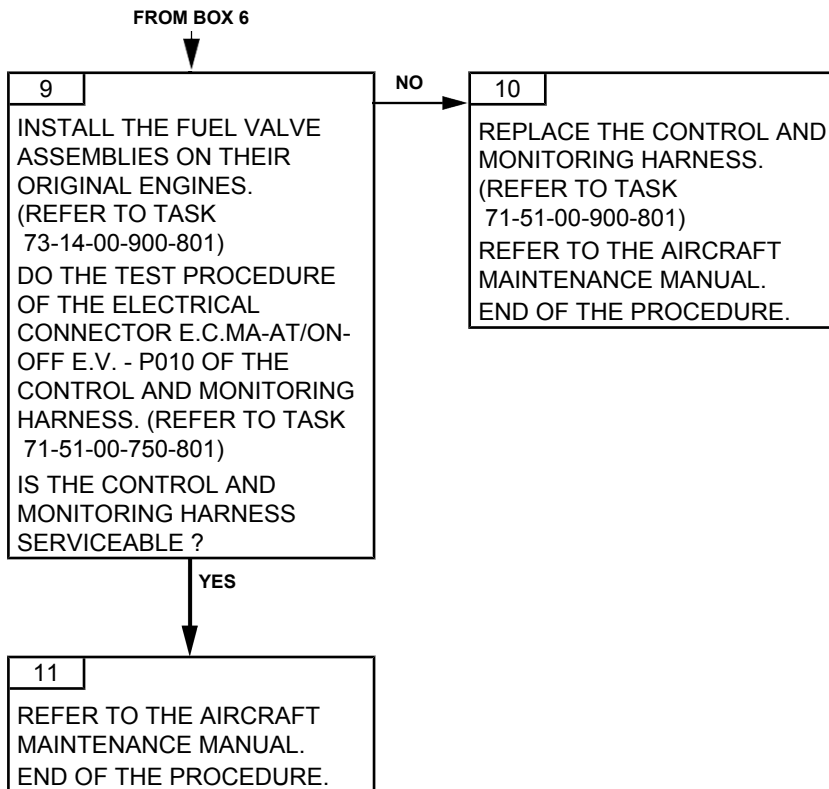
# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C







TASK 71-00-06-817-969-A01

### OVERSPEED PROTECTION FAILURE AND REAL TIME SOFTWARE FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	C	0	0	0

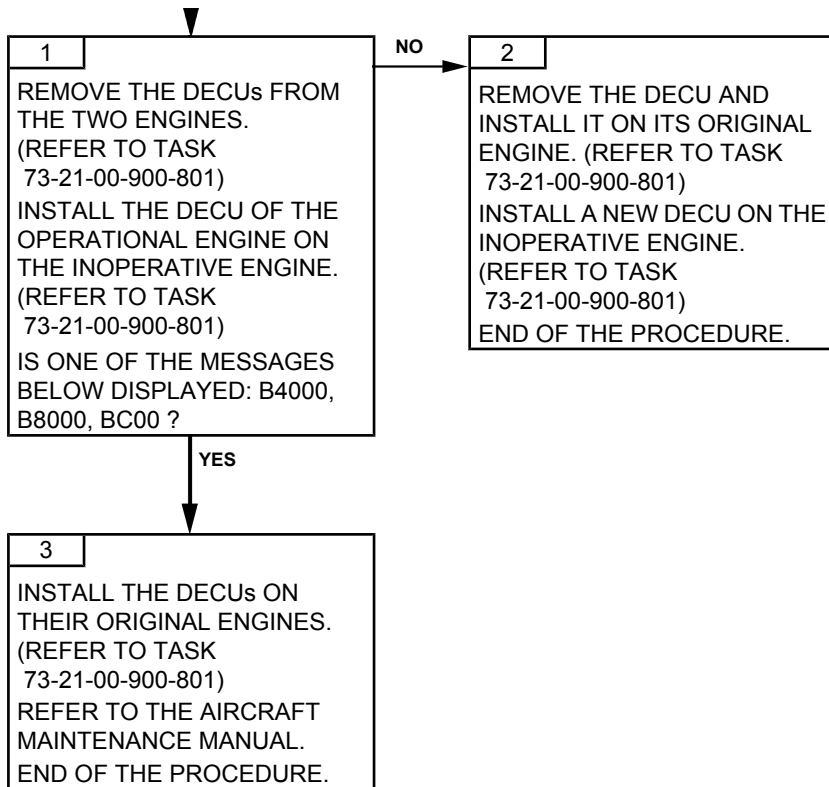
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure (Start impossible)	Red
ENGINE RUNNING Total failure. Reversion to manual mode.	Red
ENGINE SHUTDOWN No overspeed protection of the concerned engine	Flashing amber

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-970-A01

### P0 INCONSISTENCY, OVERSPEED PROTECTION FAILURE AND REAL TIME SOFTWARE FAILURE TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	D	0	0	0

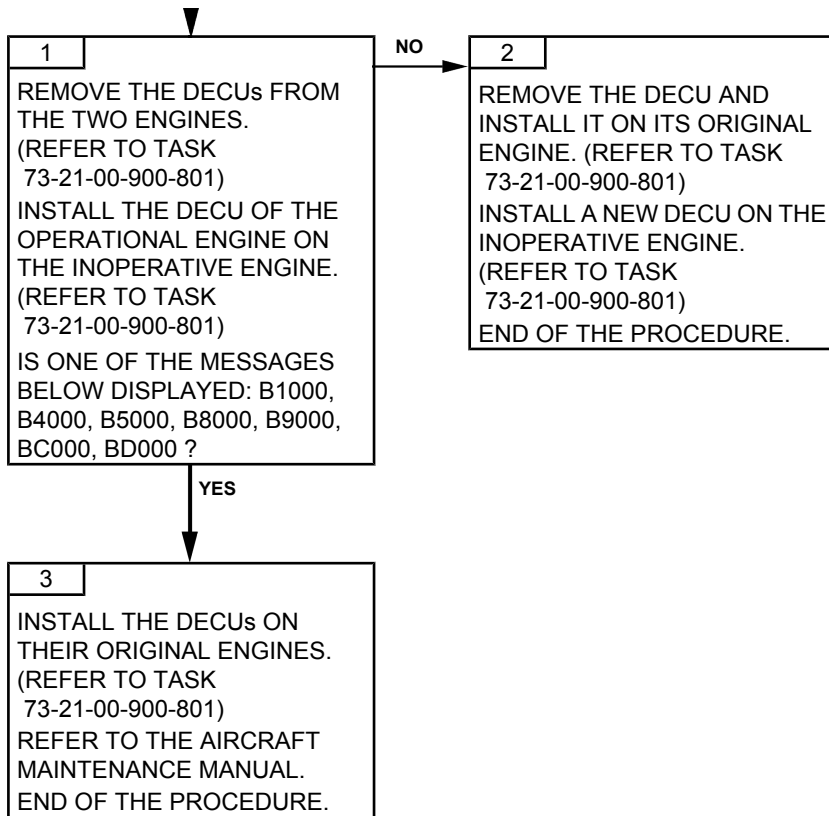
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure (Start impossible)	Red
ENGINE RUNNING Total failure. Reversion to manual mode.	Red
ENGINE SHUTDOWN No overspeed protection of the concerned engine	Flashing amber

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C



TASK 71-00-06-817-971-A01

### STOP ELECTRO-VALVE FAILURE, OVERSPEED PROTECTION FAILURE AND REAL TIME SOFTWARE FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** FOR THE ON-OFF ELECTROVALVE FAILURE, MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU DO THE PROCEDURE.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	E	0	0	0

<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure (Start impossible)	Red
ENGINE RUNNING Total failure. Reversion to manual mode.	Red
ENGINE SHUTDOWN Engine shutdown by stepper motor closing Loss of the overspeed protection function	Amber

#### B. POSSIBLE CAUSES

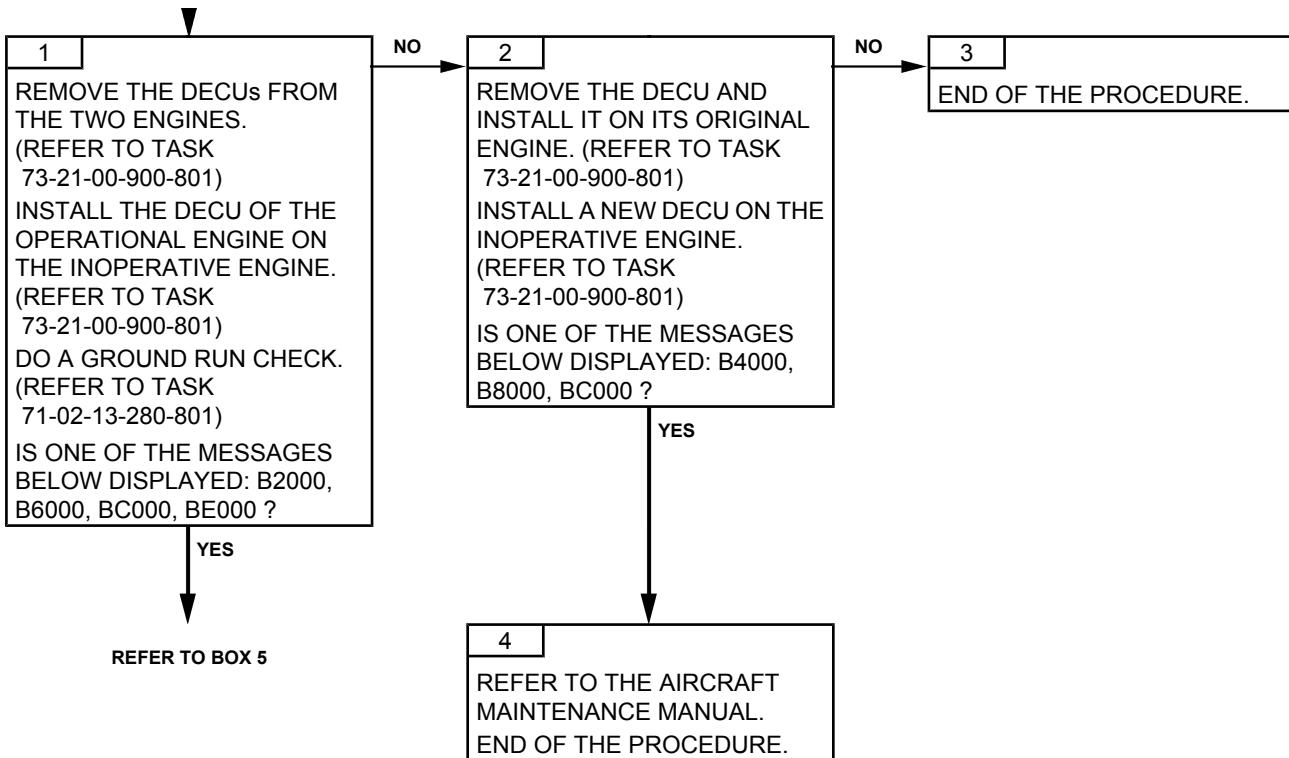
- DECU
- Fuel valve assembly
- Control and monitoring harness

#### 2. PROCEDURE

Effectivity: C

# TURBOMECA ARRIEL 2 C

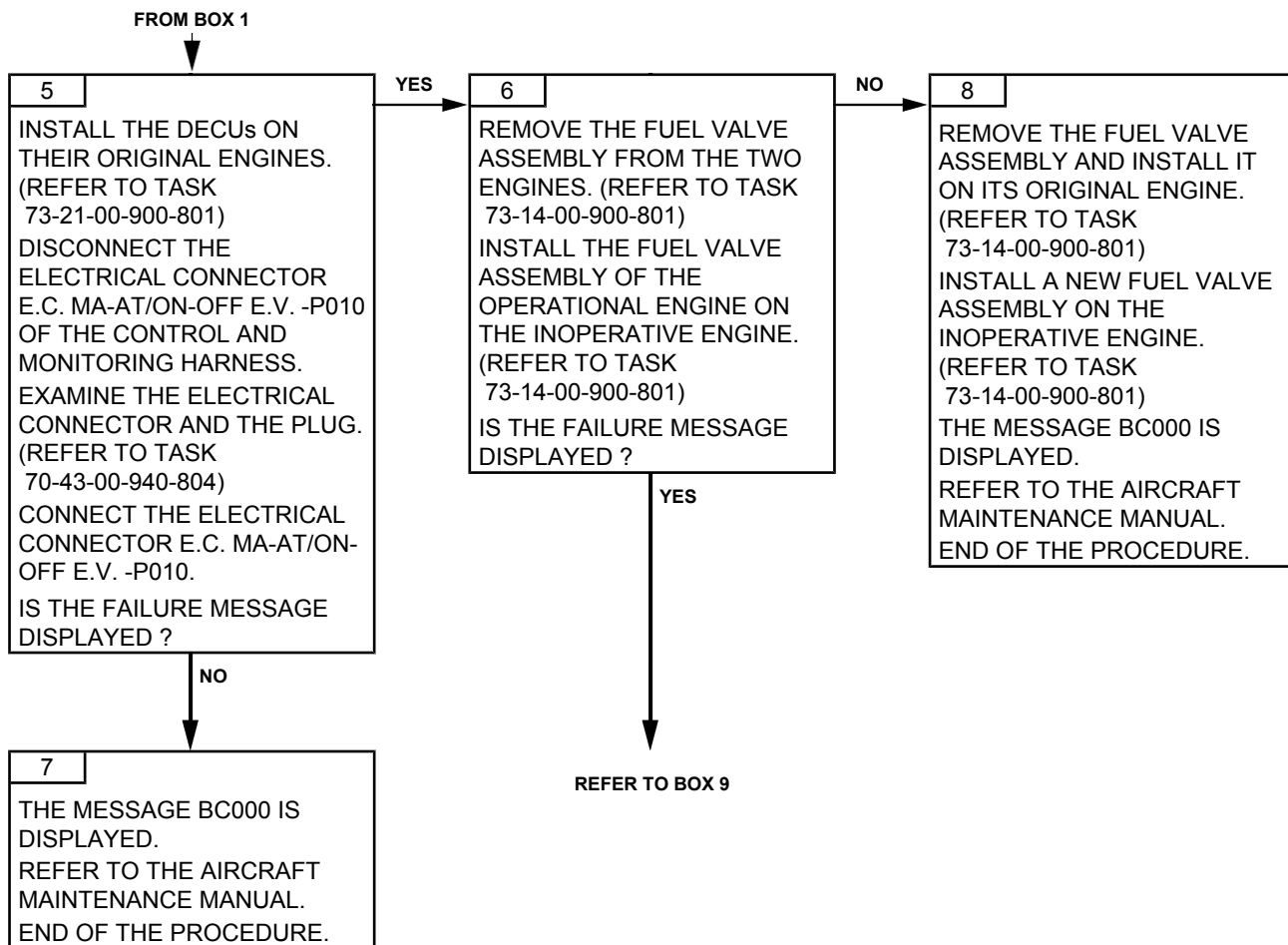
## MAINTENANCE MANUAL



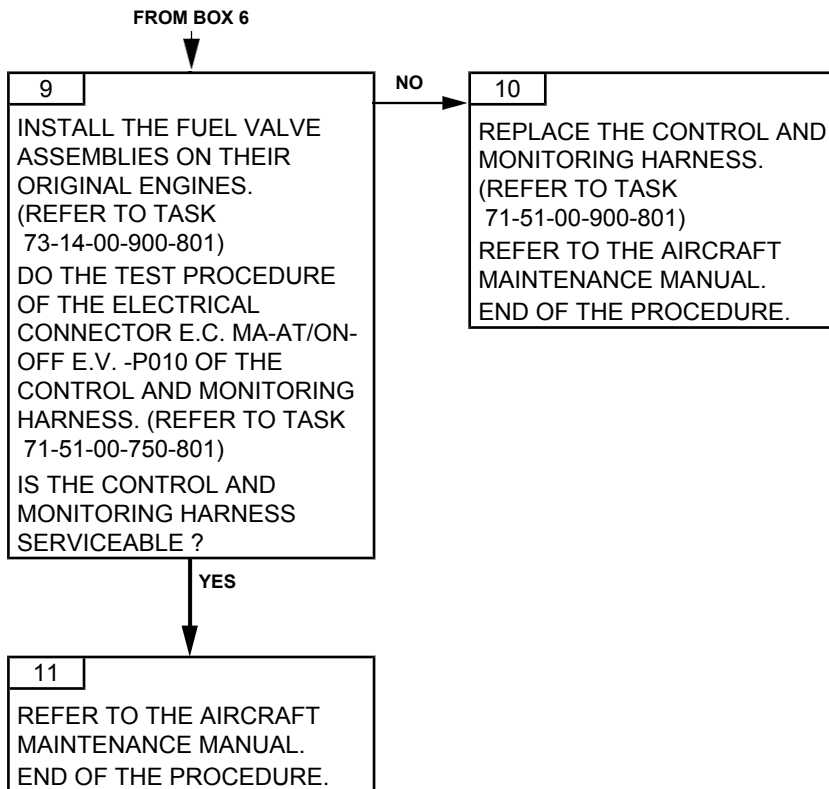
Effectivity: C

# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C





TASK 71-00-06-817-972-A01

### P0 INCONSISTENCY, STOP ELECTRO-VALVE FAILURE, OVERSPEED PROTECTION FAILURE AND REAL TIME SOFTWARE FAILURE TROUBLESHOOTING

#### 1. GENERAL

**CAUTION:** FOR THE ON-OFF ELECTROVALVE FAILURE, MAKE SURE THAT THE CONCERNED AIRCRAFT SYSTEM IS SERVICEABLE BEFORE YOU DO THE PROCEDURE.

#### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>				
MEMORY	B	F	0	0	0

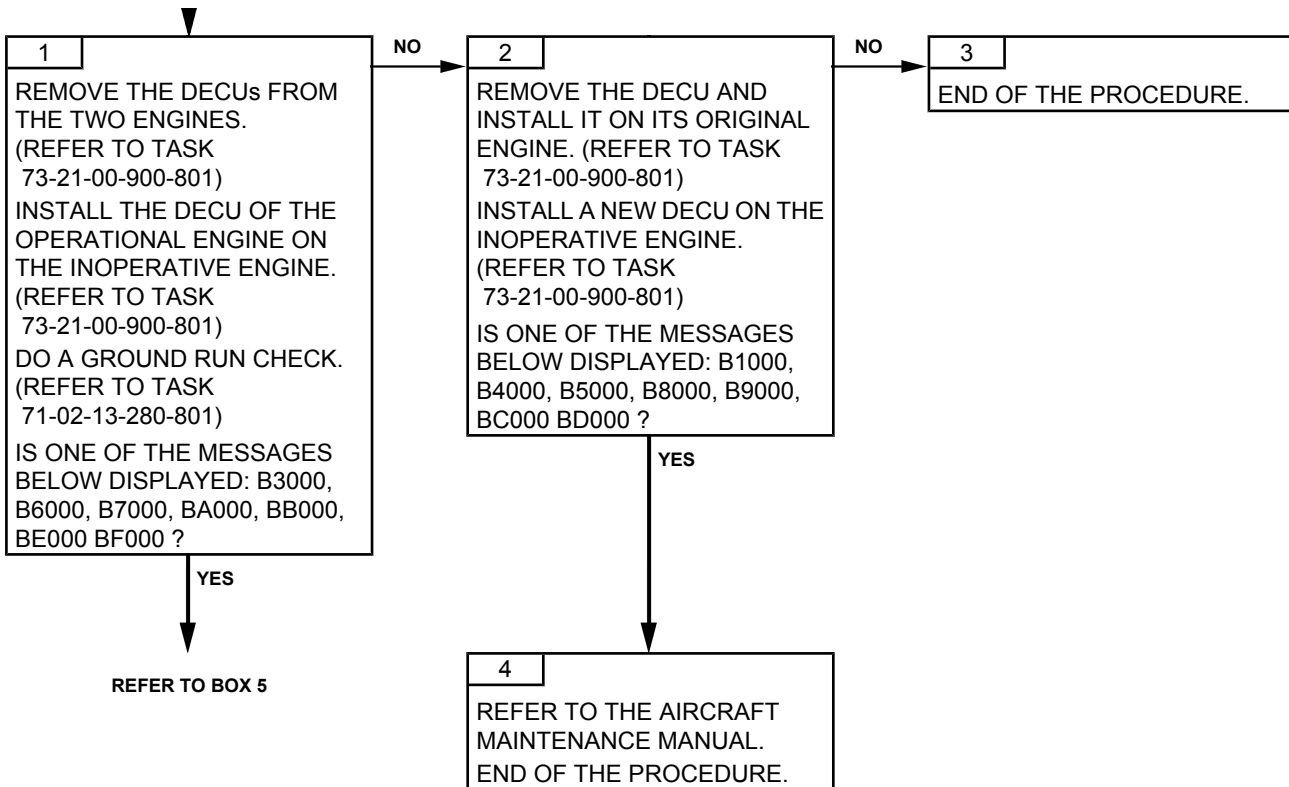
<i>EFFECT</i>	<i>GOV</i>
AT STARTING Major failure (Start impossible)	Red
ENGINE RUNNING Total failure. Reversion to manual mode.	Red
ENGINE SHUTDOWN Engine shutdown by stepper motor closing Loss of the overspeed protection function	Amber

#### B. POSSIBLE CAUSES

- DECU
- Fuel valve assembly
- Control and monitoring harness

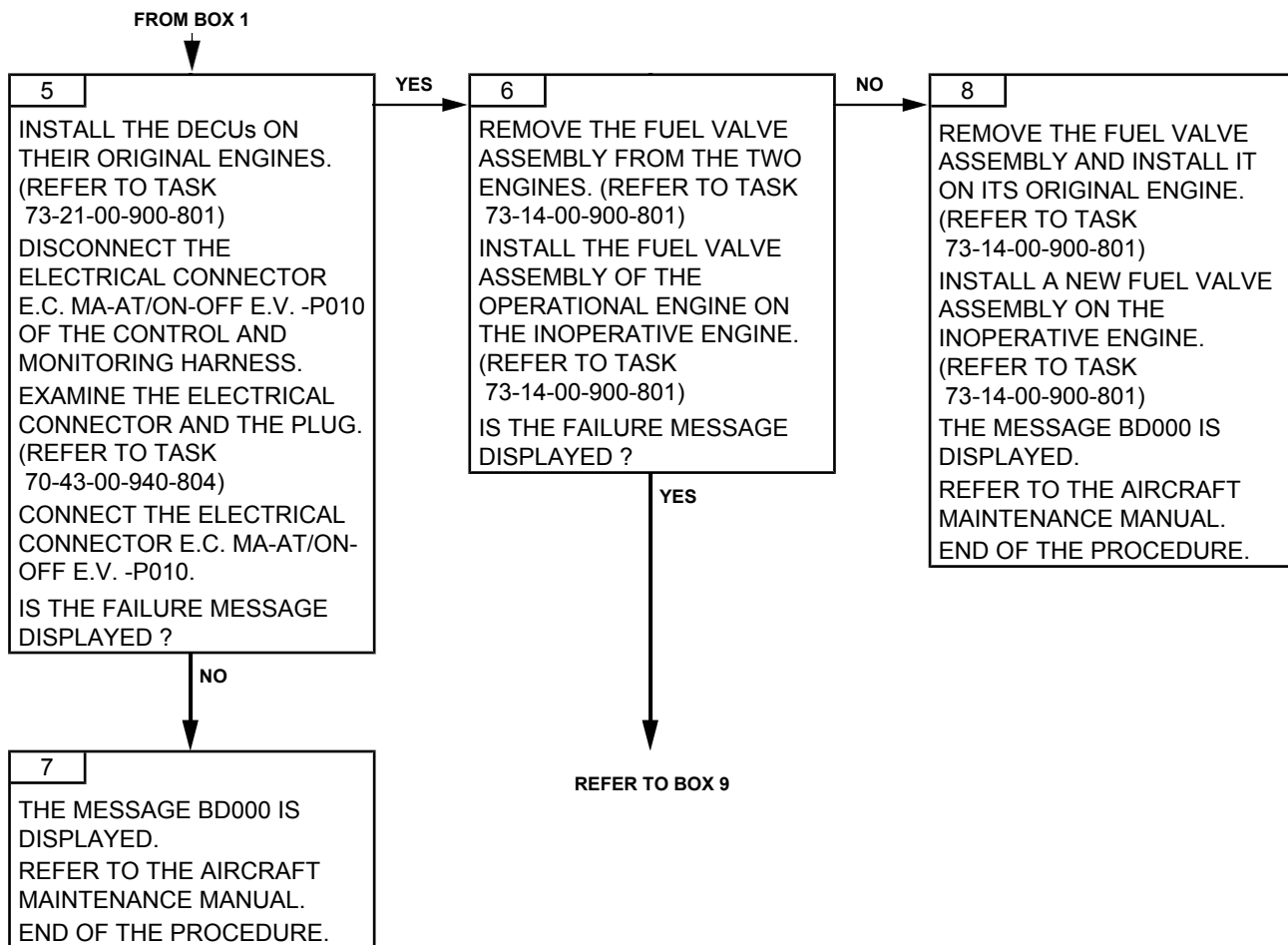
#### 2. PROCEDURE

Effectivity: C

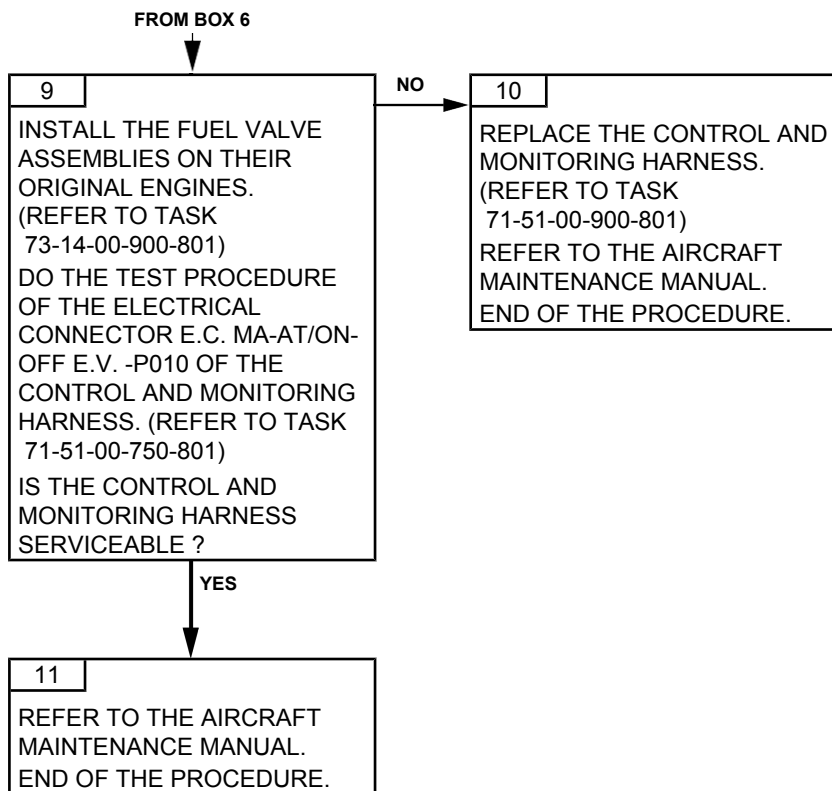


# TURBOMECA ARRIEL 2 C

## MAINTENANCE MANUAL



Effectivity: C



TASK 71-00-06-817-973-A01

### NON-CONFORMING FRAME FORMAT (LABEL 350, 351, 353) TROUBLESHOOTING

#### 1. GENERAL

##### A. FAU MESSAGE

<i>MODE</i>	<i>FAU MESSAGE</i>					<i>DESCRIPTION</i>
FAILURE AND MEMORY	F	A	I	L	F	No LABEL 350
FAILURE AND MEMORY	F	A	I	L	G	No LABEL 351
FAILURE AND MEMORY	F	A	I	L	H	350 parity error
FAILURE AND MEMORY	F	A	I	L	I	351 parity error
FAILURE AND MEMORY	F	A	I	L	J	Invalid SSM on LABEL 350
FAILURE AND MEMORY	F	A	I	L	K	Invalid SSM on LABEL 351
FAILURE AND MEMORY	F	A	I	L	R	Invalid SSM on LABEL 353
FAILURE AND MEMORY	F	A	I	L	S	No LABEL 353
FAILURE AND MEMORY	F	A	I	L	T	353 parity error

##### B. POSSIBLE CAUSES

- DECU

#### 2. PROCEDURE

Effectivity: C

