



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-1101; Product Identifier 2016-NM-030-AD; Amendment 39-19122; AD 2017-25-08]**

**RIN 2120-AA64**

**Airworthiness Directives; ATR – GIE Avions de Transport Régional Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain ATR – GIE Avions de Transport Régional Model ATR42-500 and ATR72-212A airplanes. This AD requires revising the airplane flight manual to provide procedures to the flightcrew for operational restrictions affecting in-flight use of the autopilot (AP) or yaw damper (YD) during single source operation. This AD was prompted by flight test evaluations that revealed discrepancies with the YD and AP when in single source operation on certain airplanes. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD becomes effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

We must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1101; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 1601 Lind Avenue

SW., Renton, WA 98057-3356; telephone 425-227-1112; fax 425-227-1149.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive 2016-0046, dated March 9, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition on certain ATR—GIE Avions de Transport Régional Model ATR42-500 and Model ATR72-212A airplanes. The MCAI states:

Following investigations after EASA AD 2015-0237R1 was issued, additional flight tests evaluations performed on ATR aeroplanes equipped with New Avionics Suite Standard 2 have revealed an unsatisfactory behaviour of the Yaw Damper / Autopilot (YD/AP), when in ‘single source operation’ (i.e. one Air Data Computer (ADC) inoperative, one Attitude and Heading Reference System (AHRS) inoperative, or failure of both Direct Current (DC) Generators), upon a sudden engine power asymmetry at low Indicated Air Speed (IAS).

This unsatisfactory behavior is due to the YD limited authority in single source and is characterized by inappropriate flight equilibrium, with important flight control efforts needed on the roll axis to safely control the aeroplane.

This condition, if not corrected, could result in loss of control of the aeroplane.

For the reasons described above, this [EASA] AD requires amendment of the applicable Airplane Flight Manual (AFM) to introduce AP and YD operational restrictions, when in single source and operating at an IAS below 160kt.

This [EASA] AD is considered an interim action and

further [EASA] AD action may follow.

You may examine the MCAI on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1101.

#### **FAA’s Determination and Requirements of this AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI referenced above. We are issuing this AD because we evaluated all pertinent information and determined the unsafe condition exists and is likely to exist or develop on other products of these same type designs.

#### **FAA’s Determination of the Effective Date**

There are currently no domestic operators of this product. Therefore, we find good cause that notice and opportunity for prior public comment are unnecessary. In addition, for the reason(s) stated above, we find that good cause exists for making this amendment effective in less than 30 days.

#### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2017-1101; Product Identifier 2016-NM-030-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and

energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

### **Costs of Compliance**

Currently, there are no affected U.S.-registered airplanes. If an affected airplane is imported and placed on the U.S. Register in the future, we provide the following cost estimates to comply with this AD:

We estimate that it will take about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$85 per product.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes to the Director of the System Oversight Division.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**2017-25-08 ATR – GIE Avions de Transport Régional:** Amendment 39-19122; Docket No. FAA-2017-1101; Product Identifier 2016-NM-030-AD.

#### **(a) Effective Date**

This AD becomes effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to ATR–GIE Avions de Transport Régional Model ATR42-500 and ATR72-212A airplanes, certificated in any category, all manufacturer serial numbers, as specified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Airplanes modified in production by incorporation of Avions de Transport Régional modification 6977 (New Avionics Suite Standard 2).

(2) Airplanes modified in service by incorporation of Avions de Transport Régional Service Bulletin ATR42-31-0091, Revision 02, January 18, 2016, or Avions de Transport Régional Service Bulletin ATR72-31-1092, Revision 03, dated January 18, 2016, as applicable.

**(d) Subject**

Air Transport Association (ATA) of America Code 22, Auto Flight.

**(e) Reason**

This AD was prompted by flight test evaluations that revealed discrepancies with the yaw damper (YD) and autopilot (AP) when in single source operation on certain airplanes. We are issuing this AD to prevent failure of certain operational systems in flight, which could result in loss of control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Revise the Airplane Flight Manual**

(1) Within 15 days after the effective date of this AD, revise the Limitations Section, Emergency Procedures section, and Procedures Following Failures section of the ATR-42 and ATR-72 airplane flight manuals (AFMs), as applicable, to include the information in figure 1 to paragraph (g) of this AD or figure 2 to paragraph (g) of this AD, as applicable; inform all flight crews; and thereafter operate the airplane accordingly.

(2) Revising the AFM as specified in paragraph (g)(1) of this AD can be done by inserting a copy of figure 1 to paragraph (g) of this AD or figure 2 to paragraph (g) of this AD, as applicable, into the applicable AFM.

Figure 1 to paragraph (g) of this AD – AFM 42-500 revision

 AFM	<b>LIMITATIONS</b>  SYSTEMS	<b>2-05</b>	
		PAGE : 1	820
		EASA APPROVED	FEB 16
<p><b><u>2.05.01 - AIR PRESSURIZATION</u></b></p> <p>Maximum differential pressure ..... 6.35 PSI                  Maximum negative differential pressure ..... - 0.5 PSI                  Maximum differential pressure for landing ..... 0.35 PSI                  Maximum differential pressure for OVBD VALVE full open selection ..... 1 PSI                  Maximum altitude for one bleed off operation ..... 20000 ft</p> <p><b><u>2.05.02 - HYDRAULIC SYSTEM</u></b></p> <p>All hydraulic fluids compliant with technical specification : NSA 307110                  Compliant fluids are listed in the AMM (Chapter20, 20-31-30)</p> <p><b><u>2.05.03 - LANDING GEAR</u></b></p> <ul style="list-style-type: none"> <li>- Do not perform pivoting (sharp turns) upon a landing gear with fully braked wheels except in case of emergency.</li> <li>- In case of ground speed over 165 kt all tires to be replaced.</li> <li>- Towbarless Towing is prohibited, unless the towbarless towing operations are performed in compliance with the appropriate operational requirements (JAR-OPS-1 for Commercial Air Transportation) using towbarless towing vehicles that are designed and operated to preclude damage to the aeroplane nose wheel steering system or which provide a reliable and unmistakable warning when damage to the steering system may have occurred. Towbarless towing vehicles that are specifically accepted for ATR aircraft are listed in ATR Service Letter 42-09-5001.</li> </ul> <p><b><u>2.05.04 - FLAPS</u></b></p> <p>Holding with any flaps extended is prohibited in icing conditions (except for single engine operations).</p> <p><b><u>2.05.05 - AUTOMATIC FLIGHT CONTROL SYSTEM (AFCS)</u></b></p> <ul style="list-style-type: none"> <li>- Minimum height for autopilot engagement on take off : 100 ft.</li> <li>- Limitation in use when in single source configuration (one ADC FAIL and/or, one AHRS FAIL, and/or DUAL DC GEN LOSS)                         <ul style="list-style-type: none"> <li>- Do not use AP and/or YD:                                 <ul style="list-style-type: none"> <li>- below 1000 ft AGL and/or</li> <li>- IAS below 160 kt</li> </ul> </li> <li>- Do not use AP with the stall warning inoperative</li> </ul> </li> <li>- NAV mode for VOR approach, using either autopilot or flight director is authorized only if :                         <ul style="list-style-type: none"> <li>- a co-located DME is available, and</li> <li>- DME HOLD is not selected</li> </ul> </li> <li>- Minimum height for use of either autopilot or flight director :                         <ul style="list-style-type: none"> <li>- Except during take off or executing an approach : 1000 ft</li> <li>- VS or IAS mode during approach : 160 ft</li> <li>- CAT 1 APP mode : 160 ft</li> </ul> </li> </ul> <p>Refer to 7.01.03 for CAT II operation</p>			
Mod : 5948 + 6977		ATR42 Model: 500	

Figure 1 to paragraph (g) of this AD – AFM 42-500 revision (Continued)

 AFM	<b>EMERGENCY PROCEDURES</b>	<b>4 -04</b>					
	ELECTRICAL SYSTEM	PAGE : 1	820				
		EASA APPROVED	FEB 16				
<b>4 . 04 . 01 - DUAL DC GEN LOSS</b>							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">PF .....</td> <td style="padding: 2px;">CAPT</td> </tr> <tr> <td style="padding: 2px;">DC GEN 1+2 .....</td> <td style="padding: 2px;">OFF then ON</td> </tr> </table> <p> <span style="color: black;">■</span> <b>If no generator recovered</b>                  HYD GREEN PUMP ..... OFF                  TRU ..... ON             </p> <p>Make sure that TRU arrow illuminates and BAT arrows extinguish.</p> <p><b>NOTE:</b> If TRU FAULT LAND ASAP</p> <p>                 MAN RATE KNOB ..... 9 O'CLOCK                  CAB PRESS MODE SEL ..... MAN                  AVIONICS VENT EXHAUST MODE ..... OVB                  BAT SW ..... OVRD                  F/O ATT HDG ..... SWITCH TO SYS 1                  F/O ADC ..... SWITCH TO SYS 1                  AP USE ..... AS RQD                  YD USE ..... AS RQD             </p> <p><b>CAUTION:</b> use of AP and / or YD are prohibited below 1000 ft AGL                  use of AP and / or YD are prohibited for IAS &lt; 160 kt</p> <p><b>CAUTION:</b> In single engine operation , AP may disconnect with rapid power change . Avoid large PL movement.</p> <p>                 COM / SURV / NAV ..... USE MCDU1                  XPDR ..... SET XPDR 1                  ATC (VHF 1 or HF or HF 2) ..... NOTIFY                  MIN CAB LIGHT ..... OFF             </p> <p><b>NOTE:</b> NAV lights switch set to ON is necessary to provide IEP illumination</p> <p>TLU ..... MAN MODE LO SPD</p> <p> <span style="color: black;">●</span> <b>When TLU LO SPD illuminates</b>                  TLU ..... AUTO             </p> <p><b>CAUTION:</b> Avoid large rudder input if IAS above 180 kt.</p> <p>                 STICK PUSHER / SHAKER ..... OFF                  STICK PUSHER / SHAKER FAULT procedure ..... APPLY                  SIDE WINDOW / WINDSHIELD HTG ..... OFF                  DE-/ANTI-ICING MODE SEL AUTO FAULT procedure ..... APPLY                  AUTO PRESS FAULT procedure ..... APPLY                  BUS EQPT LIST ..... CHECK             </p> <p><b>NOTE:</b> periodically compare PFD with IESI, crosscheck HDG / TK / STBY-HDG</p> <p style="text-align: right;">..... to be continued next page .../...</p>				PF .....	CAPT	DC GEN 1+2 .....	OFF then ON
PF .....	CAPT						
DC GEN 1+2 .....	OFF then ON						
Mod:5948+6977		ATR42 Model : 500					

Figure 1 to paragraph (g) of this AD – AFM 42-500 revision (Continued)

 AFM	<b>EMERGENCY PROCEDURES</b>	<b>4 -04</b>	
	ELECTRICAL SYSTEM	PAGE : 2	820
		EASA APPROVED	FEB 16
<p style="text-align: center;"><i>...</i></p> <ul style="list-style-type: none"> <li>● <b>Before descent</b> <ul style="list-style-type: none"> <li>PAX INSTRUCTIONS ..... USE PA</li> <li>HYD X FEED ..... ON</li> </ul> </li> <li><u>NOTE:</u> Selecting HYD X FEED ON allows to recover green hydraulic system</li> <li>● <b>At touch down</b> <ul style="list-style-type: none"> <li>IDLE GATE LEVER ..... PULL</li> </ul> </li> </ul>			
Mod:5948 +6977		ATR42 Model : 500	

Figure 1 to paragraph (g) of this AD – AFM 42-500 revision (Continued)

 AFM	<b>PROCEDURES FOLLOWING FAILURES</b>  SYSTEMS	<b>5 - 04</b>	
		PAGE : 18	820
		EASA APPROVED	FEB 16
<b>5 . 04 . 11 - MISCELLANEOUS</b>			
<p>▶ <b>ONE AHRS FAIL</b></p> <p>AFFECTED ATT / HDG SWITCHING ..... ALTERNATE SYS                  FD MODES ..... CONFIRM                  AP USE ..... AS RQRD                  YD USE ..... AS RQRD</p> <p><u>Note</u>: RNP AR IS PROHIBITED IF NOT STARTED (if available).</p> <p>WHEN WINGS LEVELED :                  PERIODICALLY COMPARE PFD with IESI.                  CROSSCHECK HDG / TK / STBY-COMPASS</p> <p><b>CAUTION</b> : use of AP and / or YD are prohibited below 1000 ft AGL                  use of AP and / or YD are prohibited for IAS &lt; 160 kt</p> <p><b>CAUTION</b> : In single engine operation , AP may disconnect with                  rapid power change . Avoid large PL movement.</p>			
<p>▶ <b>AHRS 1 + 2 LOSS</b></p> <p>PF ..... CAPT                  IESI ..... USE                  STBY COMPASS ..... USE                  AIRCRAFT ..... STABILIZE SPEED AND LEVEL                  VISUAL FLYING CONDITIONS ..... MAINTAIN IF POSSIBLE                  ATC ..... NOTIFY                  FMS PROG PAGE ..... USE</p> <p><u>Note</u>: PFD ATT and HDG are lost, ILS deviation and ADF BRG are valid  <u>Note</u>: TERRAIN PICTURE DISPLAY IS AVAILABLE  <u>Note</u>: RNP AR IS PROHIBITED (if available)</p>			
<p>▶ <b>AHRS NOT ALIGN</b></p> <p>■ <b>If AHRS not align on ground</b>                  AIRCRAFT ..... STOP UNTIL ALERT DISAPPEARS</p> <p>■ <b>If AHRS not align in flight</b>                  AHRS FAULT ..... IDENTIFIED                  AIRCRAFT ..... STABILIZE SPEED AND LEVEL DURING 90s</p> <p>■ <b>If alert disappears</b>                  AP may be re-engaged</p> <p>■ <b>If AHRS NOT ALIGN persists after 3 minutes</b>                  ONE AHRS FAIL procedure ..... APPLY</p>			
Mod : 5948 + 6977		ATR42 Model : 500	

Figure 1 to paragraph (g) of this AD – AFM 42-500 revision (Continued)

 AFM	<b>PROCEDURES FOLLOWING FAILURES</b>	<b>5-04</b>	
	SYSTEMS	PAGE : 17	820
		EASA APPROVED	FEB 16
<p><b>5.04.11 - MISCELLANEOUS</b></p> <p>▶ <b>ADC FAIL</b></p> <p>■ <b>If one ADC fail</b></p> <p>AFFECTED ADC SWITCHING ..... ALTERNATE SYS                  FD MODES ..... CONFIRM                  AP USE ..... AS RQRD                  YD USE ..... AS RQRD</p> <p>PERIODICALLY COMPARE IAS/ALT ON PFDs WITH IESI</p> <p><b>CAUTION</b> : use of AP and / or YD are prohibited below 1000 ft AGL                  use of AP and / or YD are prohibited for IAS &lt; 160 kt</p> <p><b>CAUTION</b> : In single engine operation , AP may disconnect with                  rapid power change . Avoid large PL movement.</p> <p><b>CAUTION</b> : baro setting is available only on non affected side</p> <p><u>Note</u> : RNP AR IS PROHIBITED IF NOT STARTED (if available)</p> <p>■ <b>If ADC 1 lost</b></p> <p>LANDING ELEVATION ..... SET PRESSURE ALTITUDE</p> <p>■ <b>If ADC 1 + 2 are lost</b></p> <p>PF ..... CAPT                  IESI ..... USE                  MAN RATE KNOB ..... 9 O'CLOCK                  CAB PRESS MODE SEL ..... MAN                  AUTO PRESS FAULT procedure ..... APPLY                  ENG PARAMETERS ..... MONITOR                  TCAS ..... STBY                  GPWS ..... OFF                  TLU ..... HI or LO ACCORDING TO IAS                  TLU FAULT procedure ..... APPLY</p> <p><u>Note</u>: DE-/ANTI-ICING auto mode selection is lost.  <u>Note</u> : RNP AR IS PROHIBITED (if available)</p>			
Mod : 5948 + 6977		ATR42 Model : 500	

Figure 2 to paragraph (g) of this AD – AFM 72-212A revision

 ATR 72 A AFM	<b>LIMITATIONS</b>  SYSTEMS	2 - 05	
		PAGE : 1	820
		EASA APPROVED	FEB 16
<p><b><u>2 . 05 . 01 - PRESSURIZATION</u></b></p> <p>Maximum differential pressure ..... 6.35 PSI                  Maximum negative differential pressure ..... - 0.5 PSI                  Maximum differential pressure for landing ..... 0.35 PSI                  Maximum differential pressure for OVBD VALVE full open selection ..... 1 PSI                  Maximum altitude for one bleed off operation ..... 20000 ft</p> <p><b><u>2 . 05 . 02 - HYDRAULIC SYSTEM</u></b></p> <p>All hydraulic fluids compliant with technical specification : NSA 307110                  Compliant fluids are listed in the AMM (Chapter20, 20-31-30)</p> <p><b><u>2 . 05 . 03 - LANDING GEAR</u></b></p> <ul style="list-style-type: none"> <li>- Do not perform pivoting (sharp turns) upon a landing gear with fully braked wheels except in case of emergency.</li> <li>- In case of ground speed over 165 kt all tires to be replaced.</li> <li>- Towbarless Towing is prohibited, unless the towbarless towing operations are performed in compliance with the appropriate operational requirements (JAR-OPS-1 for Commercial Air Transportation) using towbarless towing vehicles that are designed and operated to preclude damage to the aeroplane nose wheel steering system or which provide a reliable and unmistakable warning when damage to the steering system may have occurred. Towbarless towing vehicles that are specifically accepted for ATR aircraft are listed in ATR Service Letter 72-09-6001.</li> </ul> <p><b><u>2 . 05 . 04 - FLAPS</u></b></p> <p>Holding with any flaps extended is prohibited in icing conditions (except for single engine operations).</p> <p><b><u>2 . 05 . 05 - AUTOMATIC FLIGHT CONTROL SYSTEM (AFCS)</u></b></p> <ul style="list-style-type: none"> <li>- Minimum height for autopilot engagement on take off : 100 ft.</li> <li>- Limitation in use when in single source configuration (one ADC FAIL and/or, one AHRS FAIL, and/or DUAL DC GEN LOSS)                         <ul style="list-style-type: none"> <li>- Do not use AP and/or YD:                                 <ul style="list-style-type: none"> <li>- below 1000 ft AGL and/or</li> <li>- IAS below 160 kt</li> </ul> </li> <li>- Do not use AP with the stall warning inoperative</li> </ul> </li> <li>- NAV mode for VOR approach, using either autopilot or flight director is authorized only if :                         <ul style="list-style-type: none"> <li>- a co-located DME is available, and</li> <li>- DME HOLD is not selected</li> </ul> </li> <li>- Minimum height for use of either autopilot or flight director :                         <ul style="list-style-type: none"> <li>- Except during take off or executing an approach : 1000 ft</li> <li>- VS or IAS mode during approach : 160 ft</li> <li>- CAT 1 APP mode : 160 ft</li> </ul> </li> </ul> <p>Refer to 7.01.03 for CAT II operation</p> <p style="text-align: right;">.../...</p>			
Mod : 5948 + 6977		Model : 212 A	

Figure 2 to paragraph (g) of this AD – AFM 72-212A revision (Continued)

 AFM	<b>ATR 72 A</b>	<b>EMERGENCY PROCEDURES</b>	<b>4 - 04</b>					
	ELECTRICAL SYSTEM		PAGE : 1	820				
			EASA APPROVED	FEB 16				
<b>4.04.01 - DUAL DC GEN LOSS</b>								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">PF .....</td> <td style="width: 20%;">CAPT</td> </tr> <tr> <td>DC GEN 1+2 .....</td> <td>OFF then ON</td> </tr> </table>					PF .....	CAPT	DC GEN 1+2 .....	OFF then ON
PF .....	CAPT							
DC GEN 1+2 .....	OFF then ON							
<p> <b>■ If no generator recovered</b>          HYD GREEN PUMP ..... OFF          TRU ..... ON       </p>								
<p>         Make sure that TRU arrow illuminates and BAT arrows extinguish.  <u>NOTE:</u> If TRU FAULT LAND ASAP          MAN RATE KNOB ..... 9 O'CLOCK          CAB PRESS MODE SEL ..... MAN          AVIONICS VENT EXHAUST MODE ..... OVBD          BAT SW ..... OVRD          F/O ATT HDG ..... SWITCH TO SYS 1          F/O ADC ..... SWITCH TO SYS 1          AP USE ..... AS RQD          YD USE ..... AS RQD       </p>								
<p> <b>CAUTION :</b> use of AP and / or YD are prohibited below 1000 ft AGL          use of AP and / or YD are prohibited for IAS &lt; 160 kt       </p>								
<p> <b>CAUTION :</b> In single engine operation , AP may disconnect with          rapid power change . Avoid large PL movement.       </p>								
<p>         COM / SURV / NAV ..... USE MCDU1          XPDR ..... SET XPDR 1          ATC (VHF 1 or HF or HF 2) ..... NOTIFY          MIN CAB LIGHT ..... OFF       </p>								
<p> <u>NOTE:</u> NAV lights switch set to ON is necessary to provide IEP illumination       </p>								
<p>         TLU ..... MAN MODE LO SPD       </p>								
<p> <b>● When TLU LO SPD illuminates</b>          TLU ..... AUTO       </p>								
<p> <u>CAUTION:</u> Avoid large rudder input if IAS above 180 kt.       </p>								
<p>         STICK PUSHER / SHAKER ..... OFF          STICK PUSHER / SHAKER FAULT procedure ..... APPLY          SIDE WINDOW / WINDSHIELD HTG ..... OFF          DE-/ANTI-ICING MODE SEL AUTO FAULT procedure ..... APPLY          AUTO PRESS FAULT procedure ..... APPLY          BUS EQPT LIST ..... CHECK       </p>								
<p> <u>NOTE:</u> periodically compare PFD with IESI, crosscheck HDG / TK /          STBY-HDG       </p>								
..... to be continued next page .../...								
Mod:5948+6977		Model : 212 A						

Figure 2 to paragraph (g) of this AD – AFM 72-212A revision (Continued)

 AFM	<b>EMERGENCY PROCEDURES</b>	<b>4 - 04</b>	
	ELECTRICAL SYSTEM	PAGE : 2	820
		EASA APPROVED	FEB 16
<p>.../...</p> <ul style="list-style-type: none"> <li>● <b>Before descent</b> <ul style="list-style-type: none"> <li>PAX INSTRUCTIONS ..... USE PA</li> <li>HYD X FEED ..... ON</li> </ul> </li> <li><b>NOTE:</b> Selecting HYD X FEED ON allows to recover green hydraulic system</li> <li>● <b>At touch down</b> <ul style="list-style-type: none"> <li>IDLE GATE LEVER ..... PULL</li> </ul> </li> </ul>			
Mod:5948 +6977		Model : 212 A	

Figure 2 to paragraph (g) of this AD – AFM 72-212A revision (Continued)

 <b>ATR 72 A</b>  AFM	<b>PROCEDURES FOLLOWING FAILURES</b>	<b>5-04</b>	
	SYSTEMS	PAGE : 17	820
		EASA APPROVED	FEB 16
<p><b>5.04.11 - MISCELLANEOUS</b></p> <p>▶ <b>ADC FAIL</b></p> <p>■ <b>If one ADC fail</b></p> <p>AFFECTED ADC SWITCHING ..... ALTERNATE SYS  FD MODES ..... CONFIRM  AP USE ..... AS RQRD  YD USE ..... AS RQRD</p> <p>PERIODICALLY COMPARE IAS/ALT ON PFDs WITH IESI</p> <p><b>CAUTION</b> : use of AP and / or YD are prohibited below 1000 ft AGL  use of AP and / or YD are prohibited for IAS &lt; 160 kt</p> <p><b>CAUTION</b> : In single engine operation , AP may disconnect with  rapid power change . Avoid large PL movement.</p> <p><b>CAUTION</b> : baro setting is available only on non affected side</p> <p><u>Note</u> : RNP AR IS PROHIBITED IF NOT STARTED (if available)</p> <p>■ <b>If ADC 1 lost</b></p> <p>LANDING ELEVATION ..... SET PRESSURE ALTITUDE</p> <p>■ <b>If ADC 1 + 2 are lost</b></p> <p>PF ..... CAPT  IESI ..... USE  MAN RATE KNOB ..... 9 O'CLOCK  CAB PRESS MODE SEL ..... MAN  AUTO PRESS FAULT procedure ..... APPLY  ENG PARAMETERS ..... MONITOR  TCAS ..... STBY  GPWS ..... OFF  TLU ..... HI or LO ACCORDING TO IAS  TLU FAULT procedure ..... APPLY</p> <p><u>Note</u>: DE-/ANTI-ICING auto mode selection is lost.  <u>Note</u> : RNP AR IS PROHIBITED (if available)</p>			
Mod : 5948 + 6977		Model : 212 A	

Figure 2 to paragraph (g) of this AD – AFM 72-212A revision (Continued)

 <b>ATR 72 A</b>  AFM	<b>PROCEDURES FOLLOWING FAILURES</b>  SYSTEMS	<b>5_04</b>	
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<b>5 . 04 . 11 - MISCELLANEOUS</b>			
<p>▶ <b>ONE AHRS FAIL</b></p> <p>AFFECTED ATT / HDG SWITCHING ..... ALTERNATE SYS  FD MODES ..... CONFIRM  AP USE ..... AS RQRD  YD USE ..... AS RQRD</p> <p><u>Note</u>: RNP AR IS PROHIBITED IF NOT STARTED (if available).</p> <p>WHEN WINGS LEVELED ;  PERIODICALLY COMPARE PFD with IESI.  CROSSCHECK HDG / TK / STBY-COMPASS</p> <p><b>CAUTION</b> : use of AP and / or YD are prohibited below 1000 ft AGL  use of AP and / or YD are prohibited for IAS &lt; 160 kt</p> <p><b>CAUTION</b> : In single engine operation , AP may disconnect with  rapid power change . Avoid large PL movement.</p>			
<p>▶ <b>AHRS 1 + 2 LOSS</b></p> <p>PF ..... CAPT  IESI ..... USE  STBY COMPASS ..... USE  AIRCRAFT ..... STABILIZE SPEED AND LEVEL  VISUAL FLYING CONDITIONS ..... MAINTAIN IF POSSIBLE  ATC ..... NOTIFY  FMS PROG PAGE ..... USE</p> <p><u>Note</u>: PFD ATT and HDG are lost, ILS deviation and ADF BRG are valid  <u>Note</u>: TERRAIN PICTURE DISPLAY IS AVAILABLE  <u>Note</u>: RNP AR IS PROHIBITED (if available)</p>			
<p>▶ <b>AHRS NOT ALIGN</b></p> <p>■ <b>If AHRS not align on ground</b>  AIRCRAFT ..... STOP UNTIL ALERT DISAPPEARS</p> <p>■ <b>If AHRS not align in flight</b>  AHRS FAULT ..... IDENTIFIED  AIRCRAFT ..... STABILIZE SPEED AND LEVEL DURING 90s</p> <p>■ <b>If alert disappears</b>  AP may be re-engaged</p> <p>■ <b>If AHRS NOT ALIGN persists after 3 minutes</b>  ONE AHRS FAIL procedure ..... APPLY</p>			
Mod : 5948 + 6977		Model : 212 A	

**(h) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Section, Transport Standards Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Section, send it to the attention of the person identified in paragraph (i)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or ATR – GIE Avions de Transport Régional’s EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

**(i) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2016-0046, dated March 9, 2016, for related information. You may examine the MCAI on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1101.

(2) For more information about this AD, contact Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1112; fax 425-227-1149.

**(j) Material Incorporated by Reference**

None.

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