


EASA	PROPOSED AIRWORTHINESS DIRECTIVE
	<p>PAD No: 07-129 R1</p> <p>Date: 07 September 2007</p>
No person may operate an aircraft, to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: ATR - GIE Avions de Transport Régional	Type/Model designation(s): ATR 42-200, 42-300 and 42-320
TCDS Number: EASA A.084	
Foreign AD: Not applicable	
Supersedure: This AD supersedes EASA AD 2007-0112 issued on 27 April 2007.	
ATA 32	Landing Gear – MLG Side Brace Assembly Upper Arm – Inspection / Modification / Replacement
Manufacturer(s):	ATR - GIE Avions de Transport Régional (formerly AEROSPATIALE – AERITALIA, AEROSPATIALE – ALENIA, AEROSPATIALE ATR– ALENIA, EADS ATR – ALENIA)
Applicability:	ATR 42-200, 42-300 and 42-320 aircraft models, all serial numbers, unless MLG side brace assemblies Part Number (P/N) D22710000 with suffix “-9” are installed <u>on both sides</u> , as specified in ATR Service Bulletin (SB) ATR 42-32-0092 (ATR modification No. 8463).
Reason:	<p>One ATR 42-300 experienced a collapse of the Right (RH) Main Landing Gear (MLG) when taxiing, caused by failure of the side brace assembly. Investigations revealed a crack propagation that occurred from a corrosion pit, in a very high stressed area of the upper arm. Dimensions of the corrosion pit were lower than the minimum defect size that can be detected by usual inspection means used during landing gear overhaul. The superseded EASA Airworthiness Directive (AD) 2007-0112 was issued to require repetitive inspections on affected high stressed areas on MLG side brace assemblies for crack detection and to replace the affected side brace assembly if any defect was found.</p> <p>Since the issuance of that AD, a modification of side brace upper arm has been developed as terminating action. However, production non-conformity of the inspection tool was discovered..</p> <p>In order to correct the discrepancy of the initial tool, new inspection tool components have been manufactured and the Service Bulletin (SB) Messier Dowty 631-32-191 has been updated to revision 2 accordingly. This directive mandates re-inspection of MLG side brace assemblies previously inspected i.a.w. revision 1 of the Messier Dowty SB 631-32-191 and reduces the inspection interval initially proposed in AD 2007-0112 in order to maintain the same level of confidence.</p>

	<p>For the reasons stated above, this new AD:</p> <ul style="list-style-type: none"> - retains partially the requirements of AD 2007-0112; - requires that all Eddy Current inspections have to be done with the corrected tool kits as instructed in Messier Dowty SB 631-32-191 Rev 2. - requires re-inspection at a reduced interval of all affected MLG side brace assemblies previously inspected with the defective tool kits. - requires as terminating action of this AD, installation of a new side braces protected by sealant. 										
Effective Date:	14 days after final AD issue date										
Compliance:	<p><u>Note 1:</u> Unless otherwise specified, the Flight Cycles (FC) and times indicated in this directive must be interpreted as Total Cycles Since Overhaul (TCSO) or time since overhaul (TSO) and as Total Cycles Since New (TCSN) or time since manufacture for side brace assemblies that have not undergone any overhaul yet.</p> <p>1. For MLG side brace assemblies P/N D22710000 without suffix “-9”.</p> <p>1.1 For MLG side brace assemblies NOT previously inspected per Revision 1 of Messier Dowty SB 631-32-191, perform the first Eddy current inspection in accordance with the accomplishment instructions of Messier Dowty SB 631-32-191 Revision 2 at thresholds given in Table 1:</p> <table border="1"> <tr> <th colspan="2">Table 1</th></tr> <tr> <th>For MLG Side Brace Assembly with TCSN or TCSO on 11 May 2007 [effective date of AD 2007-0112]</th><th>after 11 May 2007 do the initial Eddy current inspection</th></tr> <tr> <td>More than 8 000 FC</td><td>Within the next 500 FC</td></tr> <tr> <td>Between 5 000 and 8 000 FC</td><td>Within the next 1 000 FC or before accumulating 8 500 FC, whichever occurs first</td></tr> <tr> <td>Less than 5 000 FC</td><td>Within the next 2 000 FC or before accumulating 6 000 FC, whichever occurs first.</td></tr> </table> <p><u>Note 2:</u> Prior to the inspection, it is necessary to disconnect the hydraulic pipe from the MLG side brace unlocking actuator. Refer to ATR Technical Instruction No.ATR42-07-01 for aircraft preparation, hydraulic pipe disconnection and reconnection, and for subsequent landing gear normal extension and retraction functional tests.</p> <p>1.2 For MLG side brace assemblies previously inspected per revision 1 of Messier Dowty SB 631-32-191, within the next 1 000 FC from the last inspection or within the next 200 FC after the effective date of this AD, whichever occurs later, perform an Eddy current inspection on MLG side brace assemblies in accordance with the accomplishment instructions of Messier Dowty SB 631-32-191 Revision 2.</p> <p>1.3 After accomplishment of § 1.1 or 1.2 of this AD,, repeat at intervals not to exceed 2 600 FC, the Eddy current inspection of the MLG side brace in accordance with the accomplishment instructions of Messier Dowty SB 631-32-191 Revision 2;</p> <p>1.4 If any defect is found on the side brace assembly during the inspections as required by § 1.1, 1.2 and 1.3 of this AD, replace the</p>	Table 1		For MLG Side Brace Assembly with TCSN or TCSO on 11 May 2007 [effective date of AD 2007-0112]	after 11 May 2007 do the initial Eddy current inspection	More than 8 000 FC	Within the next 500 FC	Between 5 000 and 8 000 FC	Within the next 1 000 FC or before accumulating 8 500 FC, whichever occurs first	Less than 5 000 FC	Within the next 2 000 FC or before accumulating 6 000 FC, whichever occurs first.
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	<p>affected side brace within the compliance times given in Table 2:</p> <table border="1"> <tr> <th colspan="2">Table 2</th></tr> <tr> <th>If the depth of detected defect is:</th><th>Replace the side brace:</th></tr> <tr> <td>More than 0.3 mm</td><td>Before next flight</td></tr> <tr> <td>From 0.15 mm to 0.3 mm</td><td>Within the next 200 FC after the detection date</td></tr> </table> <p><u>Note 3:</u> Indications less than 0.15 mm (half of the calibration signal) are considered as not significant.</p> <p>2. During the next application of ATR42 MRBR task 321000-01 or 321000-01A (removal of MLG and associated brace assemblies for restoration) after the effective date of this AD, but not later than:</p> <ul style="list-style-type: none"> □ accumulating 16 000 FC or 8.5 years (ref. Note 1), whichever occurs first; or □ accumulating 19 000 FC or 8.5 years (ref. Note 1), whichever occurs first for side brace assemblies incorporating MESSIER DOWTY SB 631-32-072 (refer to MESSIER DOWTY Service Letter (SL) 631-32-139), <p>2.1 Inspect the MLG side brace assemblies P/N D22710000 without suffix “-9” in accordance with the accomplishment instructions of MESSIER DOWTY Service Bulletin 631-32-194;</p> <p>2.2 When no defects of any kind are found, before re-installation of the MLG on an aircraft, modify and re-identify the MLG side brace assembly by adding a suffix “-9” to P/N D22710000 in accordance with the accomplishment instructions of MESSIER DOWTY Service Bulletin 631-32-194;</p> <p>2.3 When any crack, corrosion or other defect is revealed during the inspection as required by § 2.1 of this directive, before re-installation of the MLG on an aircraft, replace the affected MLG side brace assembly upper arm with an airworthy part;</p> <p>3. Before 31 December 2015, replace any remaining unmodified MLG side brace assembly P/N D22710000 without suffix “-9” with assemblies P/N D22710000 with suffix “-9” modified in accordance with the accomplishment instructions of Service Bulletin ATR42-32-0092.</p> <p>4. As of 31 December 2015, no person shall install any MLG side brace assembly P/N D22710000 on any ATR 42-200, 42-300 and 42-320 series aircraft, unless it has previously been modified to P/N D22710000 with suffix “-9” standard in accordance with the accomplishment instructions of Service Bulletin ATR42-32-0092.</p> <p>NOTE 4: An airworthy part is:</p> <ul style="list-style-type: none"> • Before 31 December 2015: EITHER an unmodified MLG side brace assembly P/N D22710000 without suffix “-9” and compliant with applicable actions and intervals on Paragraph 1 above i.a.w. Messier Dowty SB 631-32-191 Revision 2 OR an assembly P/N D22710000 with suffix “-9”. • As of 31 December 2015 only those modified assemblies P/N D22710000 with suffix “-9” shall be deemed to be an airworthy part. 	Table 2		If the depth of detected defect is:	Replace the side brace:	More than 0.3 mm	Before next flight	From 0.15 mm to 0.3 mm	Within the next 200 FC after the detection date
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Ref. Publications:	<p>Service Bulletin ATR 42-32-0092;</p> <p>Messier Dowty SB 631-32-191 revision 2, SB 631-32-194 original issue and 631-32-072;.</p> <p>Messier Dowty Service Letter No 631-32-139</p>								

	<p>ATR Technical Instruction No. ATR42-07-01 original Issue.</p> <p>Any later approved revision of these documents is acceptable</p>
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. Owing to comments received during the initial consultation, this PAD has been revised and is re-submitted for consultation until 21 September 2007. 3. Enquiries regarding this AD should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 4. For any question concerning the technical content of the requirements in this AD, please contact: ATR - GIE Avions de Transport Régional, Continued Airworthiness Service, 1, allée Pierre Nadot - 31712 Blagnac cedex France, Tel.: +33 (0)5 62 21 62 21 - Fax: +33 (0) 5 62 21 67 18; Email: continued.airworthiness@atr.fr