	AIRWORTHINESS DIRECTIVE No F-2005-106	Distribution: B	Issue date: July 06, 2005	Page : 1/3
	Direction générale de l'aviation civile France GSAC publication	This Airworthiness Directive is published by the DGAC on behalf of EASA, Airworthiness Authority of the State of Design for the affected product, part or appliance.		<i>Translation of « Consigne de Navigabilité » of same number. In case of difficulty, reference should be made to the French issue.</i>
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.				
Corresponding foreign Airworthiness Directive(s): Not applicable		Airworthiness Directive(s) replaced: F-2005-054 cancelled by its Revision 1		
Person in charge of airworthiness: ATR		Type(s): ATR 42 aircraft		
Type certificate(s) No. 176 TCDS No 176				
ATA chapter: 32	Subject: Landing gear - Main landing gear - Side brace assembly			

1. EFFECTIVITY:

ATR 42-200, -300 and -320 aircraft models, all serial numbers, whose main landing gear (MLG) are fitted with side brace assemblies Part Number (PN) D22710000 not incorporating suffix -8 (ATR modification 8346 - MESSIER DOWTY Service Bulletin (SB) 631-32-176) and equipped with upper arm PN D56778-10.

2. REASONS:

One ATR aircraft experienced, during taxiing, a MLG unlock warning activation. During investigation, a upper MLG side brace assembly was found cracked. The expertise of the failed side brace assembly revealed that a crack propagation occurred from a corrosion pit on the surface under the identification plate location.


Analysis revealed that identification plate was located in a high stressed area and its accidental tear down could damage the protective treatment resulting in possible crack initiation.

The identification plate torn down and the protection stripped could lead to a development of corrosion and then to a crack initiation on a safe life part.

Regarding the identification plate location, ATR and MESSIER DOWTY developed an improvement consisting in relocating the plate. This is covered by ATR modification No. 8346 and MESSIER DOWTY SB 631-32-176.

In addition to repetitive visual inspection, MESSIER DOWTY had developed a NDT ultrasonic inspection, which had been included in MESSIER DOWTY SB 631-32-181 Revision 1, in order to detect possible crack initiation. First NDT inspections performed according to MESSIER DOWTY SB 631-32-181 Revision 1 have evidenced some difficulties in using the tool and possible incomplete inspection. A second revision of MESSIER DOWTY SB 631-32-181 has been issued to improve the NDT kit tool and to provide a more detailed inspection procedure. Parts on which NDT inspection has been performed in accordance with MESSIER DOWTY SB 631-32-181 Revision 1 are affected by this new SB revision.

Consequently, the present AD, which is intended to prevent a possible rupture of MLG side brace assembly, which could lead to the involved MLG collapse, replaces AD F-2005-054 which is cancelled.

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3. MANDATORY ACTIONS AND COMPLIANCE TIMES:

The following measures are rendered mandatory from the effective date of this AD:

3.1. For parts on which NDT inspection has not been performed yet:

3.1.1. Within the next 500 flight hours (FH) and at the latest before 2 months, whichever occurs first, perform the visual inspection of the side brace assemblies in accordance with MESSIER DOWTY SB 631-32-181 Revision 2.

If one plate is found torn down or unstuck, or if the bead of glue is in bad condition, within the next 25 FH, perform the NDT ultrasonic inspection in accordance with MESSIER DOWTY SB 631-32-181 Revision 2.

Note: For aircraft formerly submitted to repetitive visual inspection mandated by AD F-2005-054 every 500 FH or at the latest every 2 months, the next visual inspection requested in paragraph 3.1.1 must be performed within 500 FH since, or at the latest 2 months after the last visual inspection and not since the effective date of this AD.

3.1.2. For parts not subjected to NDT ultrasonic inspection, as defined in paragraph 3.1.1., repeat the visual inspection defined in paragraph 3.1.1. every 500 FH or at the latest every 2 months, whichever occurs first.

3.2. For parts on which NDT inspection has been performed according to MESSIER DOWTY SB 631-32-181 Revision 1 (parts identified with "ISB 181 R1")

Within the next 25 FH, perform the NDT ultrasonic inspection in accordance with MESSIER DOWTY SB 631-32-181 Revision 2.

3.3. For all parts

At first opportunity, replace the MLG side brace assemblies PN D22710000 not incorporating suffix -8 and equipped with upper arm PN D56778-10 by modified side brace assemblies PN D22710000-8, in accordance with MESSIER DOWTY SB 631-32-176.

In any case, MESSIER DOWTY SB 631-32-176 embodiment must be performed at the latest:


- at 15,000 Flight Cycles (FC) or 8 years, whichever occurs first, or,
- at 18,000 FC or 8 years, whichever occurs first, for side brace assemblies incorporating MESSIER DOWTY SB 631-32-072 (refer to MESSIER DOWTY Service Letter (SL) 631-32-139).

These cycles or times are to be calculated from manufacture for side brace assemblies that have not undergone an overhaul since new, and since last overhaul for side brace assemblies that have already undergone one.

Action requested in paragraph 3.3 constitutes the terminating action of this AD and cancels inspections requested in paragraph 3.1 and 3.2.

4. REFERENCE PUBLICATIONS:

Service Letter MESSIER-DOWTY 631-32-139
 MESSIER-DOWTY Service Bulletin 631-32-072
 MESSIER-DOWTY Service Bulletin 631-32-176
 MESSIER-DOWTY Service Bulletin 631-32-181 Revision 2
 (Any further approved revision of these SB's is acceptable).

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5. EFFECTIVE DATE:

July 16, 2005.

6. REMARK:

For questions concerning the technical contents of this AD's requirements, contact:
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7. APPROVAL:

This AD is approved under reference No EASA.A.AD.01002 dated June 28, 2005.