

AIRWORTHINESS DIRECTIVE

released by DIRECTION GENERALE DE L'AVIATION CIVILE

Inspection and/or modifications described below are mandatory. No person may operate a product to which this Airworthiness Directive applies except in accordance with the requirements of this Airworthiness Directive.

Translation of 'Consigne de Navigabilité' ref. : 1999-160-096(B) R3
In case of any difficulty, reference should be made to the French original issue.

AIRBUS INDUSTRIE

A330 aircraft

A330-200 - Landing gear - Steering limits and main landing gear inspections (ATA 32)

APPLICABILITY:

Airbus A330 aircraft models -202, -203, -223, -243, all serial numbers.

Note: "Basic" Main strut and dressings (P/N 201254001-xxx to 201254032-xxx) are not certified for A330-200 series which are basically fitted with modification 43029 (growth main fitting).

REASONS:

An A340 operator experienced a complete rupture of R/H main landing gear during landing. Investigation revealed a fatigue crack initiation in the upper part of the MLG main fitting cylindrical barrel.

This fatigue crack resulted from high steering and/or high towing angles when turning the aircraft. This condition, if not corrected could ultimately lead to a possible MLG failure on ground.

This Airworthiness Directive is applicable to A330-200 aircraft and replaces AD 98-473-083(B) that remains applicable to A330-300 aircraft from Revision 1.

The Revision 1 of this AD takes into account the availability of modification 46982 under Service Bulletin AIRBUS INDUSTRIE A330-31-3033 for automatic recording of all NWS angle exceedance.

Reason for Revision 2:

AIRBUS INDUSTRIE has designed Modification 47487 which introduces a scallop machining to the aft end of the MLG fitting in order to remove the areas where high stress concentrations have been found and to allow the NWS angles up to 72°.

In addition, the investigation results allow the NWS angle to be increased up to 72° for A330-200 aircraft which are basically fitted with modification 43029 (growth main fitting).
MLG are temporary life limited while awaiting completion of investigation and testing.

Reason for Revision 3:

The temporary life limits for "Growth" Main strut and dressings have been removed from this AD and will be published in the Chapter 5 of the AMM.

In addition, as a result of an in-service evaluation, it is now acceptable to remove the ACMS software (Mod 47787) which automatically recorded NWS exceedances.

COMPLIANCE:

To prevent the possible failure of a MLG resulting from fatigue crack propagation, the following measures are rendered mandatory from the effective date of the original issue of this Airworthiness Directive:

A) Maintenance:

1. BSCU std 8B/8D:

Unless already accomplished, modify the aircraft steering system in accordance with AIRBUS INDUSTRIE Service Bulletin A330-32-3115 (Mod 47500) - BSCU std 8D which limits the nose wheel steering angle to a maximum of 72° or, Service Bulletin A330-32-3092 (Mod 46810) - BSCU std 8B which limits the nose wheel steering angle to a maximum of 60°.

Note: When BSCU std 8D or 8B is installed, the NWS angle is limited for self-powered turns. The flight crew cannot override the angle limitation value which depends on the installed BSCU standard:

Installed BSCU standard	NWS angle limitation for self-powered turns
8D	72°
8B	60°

2. ACMS software:

ACMS recording of NWS angle exceedances are no longer required.

3. NLG doors markings:

Unless accomplished previously, install Markings of the Steering angle limitation on NLG Doors in accordance with AIRBUS INDUSTRIE:

- Service Bulletin A330-32-3089 or AIRBUS INDUSTRIE Note 957.4055/98 or modification 46769 which installs markings for maximum towing/pushback turning angles (+/-60°), or
- Service Bulletin A330-32-3120/modification 47701 which installs markings for maximum towing/pushback turning angles (+/-65°).

Note: If markings are installed on the NLG fittings in addition to the NLG doors markings, they must be installed in accordance with SB A330-32-3100 (Modification 47318) for 60° or with SB A330-32-3121 (Modification 47734) for 65°. Consistent angles (60° or 65°) must be used for the Nose Landing gear main fitting and door markings.

4. MLG Inspections: None.

5. Temporary life limits: the life limits will be published in the AMM Chapter 5.

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B) Operations:**1. Towing and Pushback:**

Aircraft Towing and Pushback Steering angle is limited to a maximum of 60° or 65° depending on the NLG doors markings installed in accordance with the above paragraph A)3) of this AD, using the procedure described in AIRBUS INDUSTRIE FOT 999.0099/98 Rev 2 of November 23, 1998.

2. Powered Taxi:

- For aircraft which are fitted with BSCU std 8B: do not exceed a 60° steering limit during taxi and powered turns.
- For aircraft which are fitted with BSCU std 8D: do not exceed a 72° steering limit during taxi and powered turns.
- No braked pivot turn is allowed (ie differential braking cannot be used to fully stop one main gear).
- Asymmetric thrust may be used to maintain the turn only, but NOT to tighten it.

[...]

REF.: AIRBUS INDUSTRIE Service Bulletin A330-32-3089
AIRBUS INDUSTRIE Service Bulletin A330-32-3092
AIRBUS INDUSTRIE Service Bulletin A330-32-3100
AIRBUS INDUSTRIE Service Bulletin A330-32-3115
AIRBUS INDUSTRIE Service Bulletin A330-32-3120
AIRBUS INDUSTRIE Service Bulletin A330-32-3121
AIRBUS INDUSTRIE FOT 999.0099/98 Revision 2 dated November 23, 1998
AIRBUS INDUSTRIE Service Bulletin A330-31-3038
Any further approved revision of these SB or FOT is acceptable.

This Revision 3 replaces AD 1999-160-096(B) R2 dated July 26, 2000.

EFFECTIVE DATES :

Original AD : MAY 01, 1999
Revision 1 : OCTOBER 16, 1999
Revision 2 : AUGUST 05, 2000
Revision 3 : SEPTEMBER 15, 2001