

Wheels and Tyres

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**AD/WHE/4  
Amdt 4**

**Inflation of Tyres with an Inert Gas**

**9/98**

**Applicability:** All aircraft over 5700 kg MTOW and all those below 5700 kg MTOW fitted with tyres with a rating in excess of 266 km per hour (160 mph), except those tyres installed on aircraft with fixed non-retracting undercarriages.

**Requirement:** To ensure that all tyres fitted to braked wheels do not contain more than 5% of oxygen by volume, accomplish paragraph 1 or 2 below. Either of these procedures is acceptable, or they may be used together:

1. Install a placard, either in each wheel well or on or near each landing gear strut incorporating braked wheels, and in a location so as to be easily seen by a person performing routine tyre servicing. The placard shall state  
  
“INFLATE TYRES WITH NITROGEN ONLY”; or,
2. Incorporate into the aircraft maintenance program, procedures that include the following items:
  - a. On braked wheels, install only tyres that have been inflated with dry nitrogen or other gases shown to be inert such that the gas mixture does not exceed 5% oxygen by volume.
  - b. Tyres on braked wheels may be serviced with air at remote locations where dry nitrogen is not available, provided that:
    - i. the oxygen content does not exceed 5% by volume; or,
    - ii. within the next 15 hours time in service, the tyre must be purged of air and inflated with dry nitrogen so that the oxygen does not exceed 5% by volume.

*Note: FAA AD 87-08-09 Amdt 39-5613 refers.*

**Compliance:** This amendment becomes effective on 13 August 1998.

**SCHEDULE OF AIRWORTHINESS DIRECTIVES**

Background: This Directive was issued in response to the catastrophic loss of an airliner and reports of severe damage to others as a result of wheel well tyre explosions. The explosion of the tyres has been attributed to the spontaneous combustion of gases generated within the tyres at elevated tyre temperatures. Inflation of tyres with an inert gas reduces the oxygen content to a level below that at which ignition is sustainable.

Amendment 2 reflected the fact that 120+ mph tyres, though “high speed” may be fitted to some aircraft not intended to be affected by this directive.

Amendment 3 excluded those fixed undercarriage aircraft that have over time been recertificated at higher weights and now exceed the 5700 kg crossover point.

Amendment 4 is issued to align this directive more closely with the FAA AD that prompted the initial issue of this directive.

Amendment 3 of this airworthiness directive became effective on 6 November 1997.

Amendment 2 of this airworthiness directive became effective on 25 February 1988.

The original issue of this airworthiness directive became effective on 31 August 1987.