

	Acrobatic and utility category operations	All operations
Group 1	190 hours time-in-service (TIS) only in these categories. Operation only in the Normal category thereafter.	3,500 hours TIS. New wings must be installed prior to further operation.
Group 2	450 hours TIS only in these categories. Operation only in the Normal category thereafter.	5,500 hours TIS. New wings must be installed prior to further operation.

Accomplishment of AD 2003–03–13 is required in accordance with the following:

- Mandatory Service Bulletin Z 242L/27a—Rev. 1, dated October 31, 2000: This service bulletin includes procedures for installing strengthened wings on airplanes with a serial number in the range of 0001 through 0656; and
- Mandatory Service Bulletin Z 242L/37a (Z 142C/17a), Rev. 1, and Mandatory Service Bulletin Z 242L/38a (Z 142C/18a), both dated October 31, 2000: These service bulletins include criteria for a new technical service life of the affected airplanes and specify operational limitations for Acrobatic and Utility category operations.

What Has Happened Since AD 2003–03–13 To Initiate This Action?

The Civil Aviation Authority Czech Republic (CAA CZ), which is the airworthiness authority for the Czech Republic, notified FAA of the need to change AD 2003–03–13. The CAA reports that the restriction and replacement actions of AD 2003–03–13 do not completely address the unsafe condition.

The restrictions only take account for the aerobatic load spectrum and do not account for the aerobatic frequency. Although the aerobatic frequency will extend the operational times, it more importantly will ensure that all airplanes (even those that have not reached the operational limits) are not subject to fatigue cracking caused by exceeding the aerobatic frequency.

The restrictions also address the life limit of the wings when they should address the life limit of the entire airframe (life limit of the airplane). The CAA CZ reports that the AD change is necessary to:

- Address the aerobatic frequency so affected airplanes that are operated in accordance with the current restrictions do not continue to be subject to the unsafe condition because the aerobatic frequency was not accounted for;
- Life limit the entire airplane instead of just the wings; and
- Prevent structural failure of the wing due to fatigue cracking. Such failure could result in a wing separating from

the airplane with consequent loss of airplane control.

Why Should the Affected Airplanes Be Life Limited?

The airframe of the Moravan Model Z–242L airplanes has always been life limited. The problem is that there have been numerous changes to the Airworthiness Limitations section of the maintenance manual, which has caused confusion as to what the actual life limits are. These life limits vary between 3,500 hours time-in-service (TIS) and 5,500 hours TIS, and the affected airplanes incorporate both unstrengthened wings and strengthened wings.

In addition, the CAA CZ has accomplished fatigue testing on both the unstrengthened wings and strengthened wings using the FAA-approved load spectrum and aerobatic frequency. This testing shows that:

- The 3,500-hour TIS total airframe life limit and 190-hour TIS acrobatic and utility category restriction is necessary for airplanes with the unstrengthened wings; and
- The airplanes with strengthened wings are safe to fly up to 5,500 hours TIS total time.

The CAA CZ is continuing to test and analyze the strengthened wings. This testing and analysis could show that, with certain modifications or additional equipment, the airplanes could be operated past 5,500 hours TIS. As the CAA CZ shares this information, FAA may initiate additional rulemaking to address this matter. We will also consider alternative methods of compliance submitted in accordance with the procedures specified in the AD on a case-by-case basis.

Is There Service Information That Applies to This Subject?

Moravan has issued the following revised service information:

- Mandatory Service Bulletin Z 242L/38a—Rev. 1, dated April 15, 2003; and
- Mandatory Service Bulletin Z 242L/27a—Rev. 2, dated April 15, 2003;

The service bulletin revisions incorporate updated information and specify which AFM and maintenance manual revisions apply to individual airplanes.

What Action Did the CAA CZ Take?

The CAA CZ classified these service bulletins as mandatory and issued CAA-AD-T–100/2000R1, dated April 28, 2003, in order to ensure the continued airworthiness of these airplanes in the Czech Republic.

Was This in Accordance With the Bilateral Airworthiness Agreement?

This airplane model is manufactured in Czech Republic and is type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement.

Pursuant to this bilateral airworthiness agreement, the CAA CZ has kept us informed of the situation described above.

The FAA's Determination and an Explanation of the Provisions of This AD

What Has FAA Decided?

The FAA has examined the findings of Czech Republic; reviewed all available information, including the service information referenced above; and determined that:

- The unsafe condition referenced in this document exists or could develop on type design Moravan Model Z 242L airplanes that are registered for operation in the United States;
- The actions specified in the previously-referenced service information (as specified in this AD) should be accomplished on the affected airplanes; and
- AD action should be taken in order to correct this unsafe condition.

What Does This AD Require?

This action supersedes AD 2003–03–13 with a new AD that requires an adjustment to the operational limitations based on the aerobatic frequency and changes the life limit to the entire airplane instead of just the wings. The operational limitations adjustment consists of incorporating information into the Limitations Section of the Airplane Flight Manual (AFM) and the Airworthiness Limitations section of the maintenance manual.