



# **MANDATORY PERMIT DIRECTIVE**

In accordance with Article 9A(5)(b) of the Air Navigation Order 2000 as amended, the following action required by this Mandatory Permit Directive (MPD) is mandatory for applicable aircraft registered in the United Kingdom operating on a UK CAA Permit to Fly.

## **MPD: 1998-017 R5 YAKOVLEV / AEROSTAR SA / INTREPRINDEREA DE AV BACAU**

**Subject:** Airframe life limitations and overhaul life.

**Applicability:** Yakovlev Yak-52 aeroplanes (manufactured by Aerostar SA or Intreprinderea De Av Bacau).

**Reason:** It has been identified that this aeroplane type is subject to both airframe life limitations and to a defined overhaul life. It is emphasized that these lives must be assessed separately although any changes to the airframe life limitations would depend in part on the aeroplane being in compliance with the overhaul life requirements. This MPD is raised to Revision 5 as further information has become available that corrects some information provided in Revision 4.

### Airframe life limitations

Correspondence with the Design Authority, Yakovlev Design Bureau, has confirmed that there is an initial airframe life limit, which varies with the Series of the aeroplane.

The initial airframe life limit can be extended by the implementation of an approved maintenance and inspection programme.

### Overhaul life

At initial manufacture the aeroplane is released for an overhaul life of a defined number of hours, landings and calendar time. This information is contained in an entry in the aeroplane log book.

The aeroplane can be released for a further period of operation subject to the implementation of an approved overhaul.

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**Compliance:**

Airframe life limitations

There are some different limitations on individual aeroplanes depending on the build standard of the aeroplane. An individual aeroplane will fall into one of the Groups in the following table:

Group	Series	Modification State	Limitations
1	01 to 64 inclusive	Without Bulletins 59-R, 60-R and 107-BD incorporated	Load factors +5/-3g, non-aerobatic, initial airframe life 1000 flying hours, 5000 landings or 15 years from new.
2	01 to 64 inclusive	With Bulletins 59-R and 60-R incorporated and without Bulletin 107-BD incorporated	Load factors +7/-5g, aerobatic, no flick manoeuvres, initial airframe life 1000 flying hours, 6000 landings or 15 years from new.
3	01 to 64 inclusive	With Bulletins 59-R, 60-R and 107-BD incorporated	Load factors +7/-5g, aerobatic, initial airframe life 1500 flying hours, 7000 landings or 20 years from new.
	65 to 112 inclusive	With Bulletin 107-BD incorporated	
	113 and later	As factory built	

Notes:

1. Yak-52 serial numbers are made up as follows:

Example 899404	made up of	89	Year of manufacture
		94	Series
		04	Sequential aeroplane number

2. Modifications listed above are:

59-R	Reinforcement of wing junction
60-R	Replacement of fuselage beam
107-BD	Fitting of reinforcement strap for the wing spar

3. Aeroplanes originally in one group, when suitably modified, can be treated as being in a higher group appropriate to their modification standard.

Action in accordance with the following paragraphs:

Determine the series of aeroplane and whether modifications 59-R, 60-R and 107-BD have been embodied. The modification state of the aeroplane should be obtained from the aeroplane log books, but in the absence of this, positive visual inspection is acceptable.

Aeroplanes in Group 1 shall be placarded 'No aerobatics, max load factors +5/-3g' in both cockpits, in full view of the crew. Aeroplanes that are in Group 1 that are subsequently modified to be equivalent to Group 2 or 3 modification standard shall be treated as Group 2 or 3 aeroplanes in terms of limitations and placards.

Aeroplanes in Group 2 shall be placarded 'No flick manoeuvres' in both cockpits, in full view of the crew. Aeroplanes that are in Group 2 that are subsequently modified to be equivalent to Group 3 modification standard shall be treated as Group 3 aeroplanes in terms of limitations and placards.

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When any of the initial airframe life limits is reached, a maintenance and inspection programme, approved by the Design Authority, Yakovlev, must be implemented in order to extend the airframe life. This programme must include the incorporation of Bulletins 59-R, 60-R and 107-BD if they are not already incorporated. The programme must also include activities to ensure compliance with the overhaul life requirements. The revised airframe life, as notified by Yakovlev, will be the lesser of the allowed number of hours, landings or years. Following receipt of the life extension from Yakovlev, the aeroplane log books must be suitably annotated to reflect the Yakovlev approved reference for the life extension and the revised airframe life. Embodiment of 59-R and 60-R must be in accordance with the documentation, equipment and technical standards prescribed in the Service Bulletins. A Permit Maintenance Release (PMR) must be issued certifying compliance with this MPD.

If the aeroplane has exceeded the calendar initial airframe life limit it may continue in service until the next annual inspection is due when the approved maintenance and inspection programme must be implemented.

#### Overhaul life

Before further flight from 30 June 2003, determine the overhaul life of the aeroplane from the latest relevant entry in the aeroplane log book. The overhaul life will be the lesser of the allowed number of hours, landings or years until the next overhaul.

If it is not possible to ascertain from the aeroplane log books when an overhaul was last carried out or the aeroplane has exceeded the allowed number of hours, landings or years since the last overhaul, it may continue in service until the next annual inspection is due when an overhaul must be carried out.

When the overhaul life is reached or when an overhaul is required as part of the annual inspection, an overhaul must be carried out in accordance with technical documentation approved by the Design Authority, Yakovlev, and the aeroplane released for a further period of service as specified in the approved documentation. Currently the further period of service specified by Yakovlev is 600 flying hours, 3500 landings or 16 years.

#### **Additional information:**

Yakovlev contact details are as follows:

Mr D K Dratch  
Chief Designer  
A S Yakovlev Design Bureau  
68 Leningradsky Prospect  
Moscow 125315  
Russia

Further information on the airframe life extension and the overhaul content may also be obtained from some UK Companies that specialise in these aeroplanes.

Record compliance with this MPD in the aircraft log book.

The original MPD became effective on 1 December 1998. Revision 1 became effective on 1 March 1999, Revision 2 on 30 June 2003, Revision 3 on 30 September 2003 and Revision 4 on 31 December 2003. Revision 5 becomes effective on 12 March 2004.

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