



# British Gliding Association Aircraft Inspection

Mandatory

Number: 015/04/2001	Issue: 2
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Date: 27 June 2003

- Subject: Air Brake System – Failure of bevel drive gears.
- Applicability: SZD 51-1 Junior.
- Accomplishment: Part 1 – Within 10 flight hours and at each annual C of A inspection.  
Part 2 – At each Pre Flight (DI) inspection – optional.
- Reason: The failure of one of the airbrake mechanism bevel gears will cause asymmetric deployment of the airbrakes, there is a possibility that this may have contributed to a recent accident.
- Instructions: Part 1.  
1/ De-rig aircraft.  
2/ Locate air brake bevel gears in wing root and ensure they are clean, remove excessive grease as far as possible.  
3/ Using an endoscope or magnifying mirror, strong light or other suitable inspection equipment inspect both bevel gears over entire visible surface and meshed area for cracks, splits, distortion, surface pits or blow holes. Slowly actuate airbrake during inspection. Pay particular attention to the root area of each tooth and the area surrounding the retention ring nut.  
4/ Inspect the face of the meshing teeth for signs of foreign object damage (FOD)  
Note: This inspection is difficult, as the access is poor.  
5/ If any damage is found or suspected the gears must be removed from the wing and dismantled from the drive shafts for a close inspection prior to further flight. It should be possible to remove the air brake gear carrier assembly through the access hole in the wing root after removal of the aileron control bellcranks and bracket. The mounting nuts are staked; it is permissible to replace them with suitable self-locking nuts.  
6/ **The aircraft is grounded if defects are present.**

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Note: Mandatory inspections must be recorded in the aircraft log book, unless specified, and certified by an appropriately rated BGA inspector.

Optional inspections should be entered into the D.I. book or log book as appropriate. Optional inspections may be certified by a BGA Pilot.

6/cont. Please inform the BGA immediately of any defects found as this may have implications for the depth of inspection required on the other aircraft. (Please use BGA 1022 Engineering Occurrence form if possible)

7/ Defective gears must be replaced before further flight.

8/ Record compliance with this inspection in the Glider log book.

Part 2 – Optional inspection.

To be carried out at each pre flight (DI) inspection and may be certified as part of the daily inspection by a qualified pilot.

1/ Pay special attention to the operation of the air brake system.

2/ Check for smooth even operation, lumpiness, stiff spots and excessive over centre lock forces.

3/ Any abnormality found must be investigated before flight.

Issue 2:

An improved gear is available, identified by colour black as is made from black nylon material, available from All-Star PZL Glider or Henryk Mynarski (via Stan K).

Fitment of the improved gear removes the annual inspection requirement.

Approved By

Jim Hammerton, Chief Technical Officer

(Issue 2 supersedes issue 1)

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