AD/BELL 212/40 Main Transmission Spiral Bevel Gear 7/89

Applicability: All 212 series helicopters with main transmission containing spiral bevel gear P/N 204-040-701-103 with less than 250 hours total time in service.

Requirement:

1. Remove and inspect the transmission internal sump oil filter for evidence of metal contamination (eg, steel particles in splinter, granular or flake form). If metal contamination is evident replace worn parts before further flight. Refit oil filter.

2. Remove a quill pad cover P/N 204-040-174-001 or rotor brake quill from the transmission main ring gear case to allow access to the spiral bevel gear. Inspect all teeth of the gear for evidence of cracks, chipping and deformation. If cracks, chipping or metal deformation is evident replace gear before further flight. Refit component removed for access.

Note: FAA Emergency AD 89-08-05 refers.

Compliance:

1. Within 10 hours time in service or seven days whichever occurs first after 8 May 1989. Thereafter reinspect before the first flight of the day until gear has operated for 250 hours time in service.

2. Within 10 hours time in service or seven days whichever occurs first after 8 May 1989. Thereafter reinspect at intervals not exceeding 50 hours time in service until gear has operated for 250 hours time in service.

Background: After a pilot reported an occasional unusual noise in flight, inspection of the main transmission revealed two large pieces of gear teeth that had fractured from the spiral bevel gear P/N 204-040-701-103. Metallurgical examination revealed the presence of a low alloy metallic inclusion which occurred during processing of the gear material. This inclusion may result in failure of the gear within the first 250 hours time in service.