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## AIRWORTHINESS

### MAINTENANCE

#### AIRCRAFT COMPASSES

##### 1. Compass Swing Requirements

###### Aircraft compass requirements

NAMCARs Part 43.02.20, 2020, as amended, any compass fitted to an aircraft, shall be swung and maintained in accordance with the requirements as prescribed in NAM-CATS-GMR.

1.1. All compasses fitted to Namibian registered civil aircraft must be swung as follows:-

- 1.1.1. On installation.
- 1.1.2. At 12 monthly intervals thereafter.

NOTE: Whilst under the most favourable conditions an annual check is sufficient; it is recommended that owners of aircraft carry out a check swing every six months.

- 1.1.3. Before a newly registered aircraft is placed into service in the country.
- 1.1.4. Immediately after material or equipment which may affect the compass is installed, removed or replaced.
- 1.1.5. After an aircraft has been struck by lightning.
- 1.1.6. After each engine change, except where it has been established that non-compliance with this requirement will not affect the compass readings. The Director is to be advised accordingly.
- 1.1.7. Whenever cargo which is likely to affect the compass reading is carried. In such cases a check should be made on the cardinal headings and headings to be flown and a temporary deviation card installed. The original card should be replaced when such cargo is unloaded.

##### 1.2. Deviation cards

- 1.2.1. A deviation card shall be installed on or in close proximity to each compass or, for remote reading compasses, the main indicator or repeaters and shall contain the following information:-
  - 1.2.1.1. The readings at intervals not greater than 45 degrees.
  - 1.2.1.2. Whether the compass was swung with radio and/or navigational aid equipment on or off as applicable. The space marked A as shown on the

examples of the deviation cards referred to in para. 1.2.1.6 below, may be used for this purpose.

NOTE: Under certain conditions radio contact must be maintained with one aeronautical station at all times and if the radio receiver affects the compass, it will be necessary to install a card which will indicate the readings with such receiver on.

- 1.2.1.3. The signature and license number of the person responsible for the swing and the date it was done.
- 1.2.1.4. After the magnetic compass has been compensated the reading shall be such that the residual deviation in level flight does not exceed 10 degrees on any heading.
- 1.2.1.5. Remote-reading compasses shall be adjusted to obtain minimum deviations, but where the construction of the compasses is such that all deviations can be adjusted for, no deviation card will be necessary.
- 1.2.1.6. It is recommended that the compass deviation card be completed in a manner similar to the examples shown below:-

A								
FOR	000	045	090	135	180	225	270	315
STEER	001	046	090	135	179	225	272	316
A								
FOR		STEER		FOR		STEER		
000		001		180		179		
045		046		225		225		
090		090		270		272		
135		134		315		316		

- 1.2.1.7. Deviation cards must be placed in holders which should be provided for this purpose.

### 1.3. Logbook entries

The date on which the compass was swung must be entered in the airframe logbook and certified by an appropriately licensed aircraft maintenance engineer or maintenance organisation, or by the holder of a navigator or commercial pilot or senior commercial pilot or airline transport pilot license.

### 1.4. Compass swing areas and equipment

- 1.4.1. Before any compass is swung it must be established that the swinging area is free from unwanted magnetic effects and that the landing compass is serviceable.
- 1.4.2. Where the landing compass is replaced by a permanent base it must be borne in mind that the magnetic north on the base is not a fixed point but is a point which moves due to local magnetic variations. The magnetic bearings of the compass base should therefore be checked at periods not exceeding 4 years.

### 1.5. General

Operators using aircraft equipped with astronomical navigation instruments may record in a compass logbook actual observations of deviations found on normal scheduled flights. A satisfactory record of such deviations found in the air may be used to

determine the serviceability of the compass and the correctness of its current deviation card. It may also be used to compile compass deviation cards and may, if so approved in the operations manual, replace periodic swings. Systematic air checks by means of astronomical navigation instruments provided they are sufficiently recent and

2. Qualifying experience for compensation of compasses
  - 2.1. In terms of Regulation Part 66.07.2 of the Namibia Civil Aviation Regulations 2001, as amended, read together with Part 66.02.4 13(1) and (2) of the Namibia Civil Aviation Technical Standards - Aircraft Maintenance, Engineer License applicants for the issue of or addition to a license under Category "X" (Compasses) shall have had recent general practical experience satisfactory to the Director.
  - 2.2. In pursuance of this regulation the minimum practical experience acceptable to the Executive Director shall consist of the satisfactory carrying out of the compensation in aircraft, including the compilation of the final deviation cards, of at least three compasses of the type on which the applicant desires to be licensed. Such experience shall have been during the six months immediately preceding the application for the issue of or addition to a license.
  - 2.3. Compensation of compasses for the required practical experience is to be done under the supervision of the holders of appropriately rated aircraft maintenance engineer, or aircraft maintenance organisation or flight navigator or commercial pilot or airline transport pilot licenses.
  - 2.4. Application for the issue of or addition to a license under Category "X" for the compensation of compasses in aircraft must be accompanied by certificates from the persons supervising the compensations done for the required practical experience. Such certificates must indicate whether or not the compensations, including the compilation of the final deviation card, were satisfactorily carried out and also indicate the dates and aircraft registrations on which the compensations were made.