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REPUBLIC OF NAMIBIA

NAMIBIA CIVIL AVIATION AUTHORITY

AERONAUTICAL INFORMATION CIRCULAR

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AIC
Series A
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AIRWORTHINESS
CAUTION
TOWING OF GLIDERS AND BANNERS

1. The installation of glider or banner towing equipment on aircraft is a modification which affects or is likely to affect the serviceability of the aircraft or the safety of its occupants. In accordance with the provisions of Regulation 43.02.16 of the Civil Aviation Regulations, 2020, as amended, such installation must have received the approval of the Executive Director. AIC A19/2024 refer to the procedures to be followed.
   1.1. Any alteration to an approved glider or banner towing installation also requires the approval of the Executive Director.
   1.2. The performance of a tug aircraft is appreciably influenced by the drag of the glider or banner. Since a number of different propellers giving different levels of performance are normally approved for each aircraft type, operators are requested to exercise care in the selection of replacement propellers to ensure that the level of performance of the aircraft does not fall below that established at the time of approval.

2. APPROVAL REQUIREMENTS
   2.1. Installation
      2.1.1. Strength: - The fuselage and towing attachment shall withstand, without suffering detrimental permanent deformation or deformations likely to interfere with the safe operation of the aeroplane, a load of 1, 5 times the breaking strength of the towing cable, or, the weak link.
      2.1.2. Each installation shall be statically tested by application of the load as defined in para. 2.1.1 unless a theoretical analysis is submitted to show that the structure meets such requirement.
      2.1.3. The load shall be applied at the towing attachment directly backward along the longitudinal axis and at angles of 35° to the longitudinal axis in upward, downward, left and right directions in turn. If only banner towing is to be undertaken, the application at 35 upward may be omitted.
      2.1.4. For static tests aircraft shall be restrained by reaction loads at the fuselage landing gear fittings.

   2.2. Quick Release Mechanism
      2.2.1. An approved quick release mechanism shall be fitted to the towing aircraft and shall be under the control of the pilot.

2.2.2. The quick release mechanism shall operate satisfactorily under the limit loads and at the angles stated in paragraph 2.1.3 and shall not require a force greater than 130N to operate.

2.2.3. The quick release lever shall be placarded to identify it and its direction of operation for release shall be indicated.

2.3. Tow line

2.3.1. If the breaking strength of the tow line exceeds the load for which the installation was tested a weak link shall be incorporated at the tug end of the tow line.

2.3.2. The maximum nominal breaking strength of the weak link or, if no weak link is fitted, of the tow line, shall be selected by the applicant.

NOTE: It is recommended that this value should not be less than 4450N for glider towing operations.

3. AIRCRAFT PERFORMANCE

3.1. The performance of the aircraft when towing shall be such that in all configurations for normal towing operations it is possible to fly the aircraft satisfactorily at a speed of 1, 25 times the speed at which the aircraft stalls with the throttles closed and the aircraft aerodynamically clean.

3.2. Prolonged operation at the speed shown in paragraph 3.1 shall not result in the engine temperature limitations being exceeded.

4. OPERATION

4.1. Pilot's licenses

Towing operations shall be done only by pilots who hold licenses with appropriate ratings. Refer to NAMCAR Part 61, of the Namibia Civil Aviation Regulations, 2001, as amended.

4.2. Passengers

No passengers shall be carried in the tug aircraft while towing operations are in progress.

4.3. Minimum altitudes

The minimum safe altitudes prescribed by Regulation 91.07.2 of the Civil Aviation Regulations, 2024, as amended, shall be adhered to during all towing operations.

4.4. Manoeuvres

Manoeuvres of the aircraft during all towing operations shall be limited so that the tow line is kept extended rearward as nearly as possible in line with the direction of flight of the aircraft and any abrupt changes in aircraft altitude or direction of flight shall be avoided.

4.5. Atmospheric conditions

Towing operations shall not be conducted in turbulent atmospheric conditions which may adversely affect the control of the aircraft.

4.6. Visibility

When the pilot of the tug aircraft cannot effectively see the glider or banner being towed a suitable rear-view mirror is recommended to eliminate the need for the tug pilot to look back at the glider or banner during towing operations.

4.7. Inspection

4.7.1. The tow line, including the weak link if fitted, and its release mechanism shall be inspected and found serviceable before any towing operation is started.

4.7.2. When banner towing is to be conducted the banner and its associated equipment must be inspected and found serviceable before any towing operations are started.

4.8. Release of glider or banner

4.8.1. At the conclusion of a glider towing operation the glider shall be released in such an area and at such a height as will permit it to make a safe landing.

4.8.2. Banners and tow ropes shall be released in such an area and at such a height as will ensure that all danger to life and property on the ground is avoided.