



SUBJECT	: AIRCRAFT TOWING
REFERENCE NO	: QAN-011
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Approved by:

A handwritten signature in black ink, appearing to read 'Salman Bin Abu Zarim', is positioned above the printed name.

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Reference No.	QAN 011
Date of issue	05 TH February 2020
Compliance	Mandatory
Addressees	GAM-145 personnel

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1.0 INTRODUCTION

- 1.1 This notice describes ground handling tasks which may be necessary during normal day-to-day operation of an aircraft and details the procedures and precautions which are generally specified.
- 1.2 These tasks vary considerably according to the size and type of aircraft concerned and the layout of the aircraft systems;
- 1.3 This notice should, therefore, be read in respective Maintenance Manual Chapter 9 for specific precaution, permissible towing angles/loads, requirements and limitations.

2.0 GENERAL

- 2.1 Special ground equipment is often required to enable these tasks to be carried out satisfactorily; in the case of light-aircraft operations this equipment may be of a very rudimentary nature, but when dealing with large transport aircraft more sophisticated equipment may be necessary.
- 2.2 Preparations for the reception of an aircraft should be made in advance of its arrival. The positioning of aircraft in the reception area should be arranged so that access paths to the aircraft are available for all replenishing vehicles and for the loading and unloading of passengers or cargo as applicable.
- 2.3 All equipment likely to be required for the servicing of an aircraft should be readily available and should be in a fully serviceable condition.
- 2.4 When an aircraft has to be moved into a hangar in order to allow servicing operations or maintenance to be carried out, it should be positioned so as to avoid obstructing access to other working space or necessitating disturbance before the work is complete.
- 2.5 Account should also be taken of the location of all necessary facilities such as weighing platforms, electric and pneumatic power sources, lighting and of the necessity for providing docks or platforms to enable the work to be carried out.

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3.0 REFERENCES

- 3.1 GAM Maintenance Organisation Exposition, Reference: GAM/DCAM/MOE Part 2.24.3
- 3.2 Civil Aircraft Airworthiness Information and Procedures

4.0 CHANGES

- 4.1 NIL

5.0 PROCEDURE

- 5.1 The following instructions are guidelines to be followed by personnel involved in towing of aircraft.
- 5.2 A minimum crew of three personnel shall be in attendance before any towing operation is initiated within confined spaces such as within the hangar or congested parking apron where tip clearance is at minimum.
- 5.3 The crew shall be deployed as follows:
 - a. LAE or technician approved by the Chief engineer shall in charge of supervising and ensuring that towing is carried out in a correct and safe manner.
 - b. A competent tractor driver holding valid Malaysian driving license in class 'D', and if required, Malaysian Airport Bhd. Driving permit or equivalent shall tow the aircraft.
 - c. A competent person in flight compartment shall operate aircraft brakes, monitor radio communication and obtain clearance from Control Tower (as applicable).
- 5.4 Where visibility, safety or clearance in confined spaces is in doubt, additional personnel shall be stationed at appropriate locations to escort and guide the towing, and to effectively forewarn about potential danger before mishap occurs.
- 5.5 Where it is necessary to engage untrained/inexperienced persons for assistance, the person in charge shall brief and instruct these persons adequately before commencement of towing operations.

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- 5.6 If towing operation is to be carried out in clear and unobstructed area of hangar, apron or taxiway, where tip clearance can be determined by person in charge to be in excess of safe distance during towing manoeuvres, then a minimum of two crew is required, who will be deployed as follows:
- a. A LAE or Technician approved by the Chief engineer shall be in charge of supervising and ensuring that towing is carried out in correct and safe manner. He is also assigned to function as competent tractor driver holding valid Malaysian driving licence in class 'D' or equivalent to tow the aircraft.
 - b. A competent person in flight compartment shall operate aircraft brakes, monitor radio communication and obtain clearance from-Control Tower (as applicable).
- 5.7 The following safety precautions shall be observed before towing commences:
- a. Towing passage must be clear of any obstructions.
 - b. Towing equipment - tractor, tow bar, chocks must be in serviceable condition.
 - c. Brake accumulator pressure is to be adequately charged as applicable.
 - d. Undercarriage lever is to be in down position and ground lock pins are to be correctly installed (as applicable).
 - e. Nose wheel torque links are to be disconnected as applicable.
 - f. Nose landing gear self-centering lock or tail lock pin is to be released as applicable.
 - g. Center of gravity of aircraft should be known to ensure that there is sufficient weight on nose/tail Wheel and ballast installed as applicable.
- 5.8 All aircraft doors, panels shall be closed as applicable.
- 5.9 Person in charge shall clearly identify himself to towing crew and communicate using standard aural and/or visual marshalling signals during towing operations.
- 5.10 The tractor driver must stop towing immediately upon receiving instructions to that effect.
- 5.11 Person in charge shall then assess clearance situation and if satisfied, will allow operation to be resumed.
- a. Only person in charge can instruct tractor driver to resume towing operation.
 - b. Always connect tow bar to aircraft first before connecting tow bar to tow tractor.
 - c. Chocks shall not be removed from aircraft until tractor and tow bar have been connected to aircraft and tractor's brakes applied.
 - d. Tractor lights and aircraft navigation light shall be switched 'ON' under poor visibility condition.

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- e. Aircraft brakes shall be released before tractor moves and shall only be applied/released under direction of person in charge or in an emergency.
- f. In the event of tow bar shear pin bolt shearing, person in charge shall signal flight compartment personnel to apply 'BRAKES ON' while tractor driver shall ensure that tractor is moved away from aircraft so as to provide adequate clearance between aircraft and tow bar.
- g. No attempt shall be made to shift tractor gears during towing. Abrupt acceleration or deceleration must be avoided to minimize shock loading on tow bar.
- h. Always move aircraft in straight line first before initiating a turn and radii of turn shall be kept as large as possible to prevent distress to aircraft tires and oleo seals.
- i. Towing speed shall be kept down to reasonable safe 'walking' speed or up to five miles per hour (eight kilometres per hour). Extra care is to be exercised when towing on sloping ground or when negotiating bends.
- j. On arrival at intended parking location, centralise nose gear or tail wheel (as applicable) and tow or push back aircraft in a straight line for a short distance before stopping the aircraft. Avoid parking aircraft with nose gear or tail wheel in twisted positioned.
- k. Upon completion of towing operation, upon receiving instructions from person in charge, the person in flight compartment shall apply aircraft wheel brakes 'ON'.
- l. Tow bar shall be disconnected at tractor end first before disconnecting it from aircraft where applicable torque links must be reconnected.

6.0 RESPONSIBILITY

- 6.1 ALL LICENSE AIRCRAFT ENGINEER / APPROVAL HOLDER ARE REQUIRED TO FAMILIARISE THEMSELVES WITH THE CONTENT (POLICY AND PROCEDURE) OF MOE AND THIS NOTICES.
- 6.2 REFERENCE SHOULD BE MADE TO RESPECTIVE MAINTENANCE MANUAL CHAPTER 9 FOR SPECIFIC PRECAUTION, PERMISSIBLE TOWING ANGLES/LOADS, REQUIREMENTS AND LIMITATIONS.