

POMS at NACON 2005 in Orlando

The POMS Support Team will be available at NACON (1 - 3 September 2005) for one-on-one POMS discussions / education / problem resolution. We will have access to POMS and AUXDATA to review any concerns with the POMS Application.

If you have a small group with common interests / concerns with POMS, we can schedule a specific time to meet with your group. To schedule a small group POMS session at NACON, contact us at: POMS.NACON@Statronics.com Let us know what topics you want covered in your small group POMS session and we will tailor the session for your group.

**AUXAIR
Is A Multi-
Mission
Enterprise!**

Introduction

Virtually every patrol undertaken by AUXAIR is multi-mission in nature. These missions may be concurrent or sequential. When flying a patrol, it will often be the case that several different tasks are carried out within the same time frame or during the same flight. For example, the following kinds of missions are often combined into one patrol:

- Maritime Safety and area familiarization

- Marine Environmental Protection (MEP) and maritime safety
- Ports, Waterways and Coastal Security (PWCS)
- Verification of Aids to Navigation
- Ice Reconnaissance

These missions can be undertaken in almost any way, subject only to the capabilities of the aircraft and crew and the time involved for operation. Let's look, in detail, at each item in the multi-mission list above.

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Number 7

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- **AUXAIR IS A MULTI-MISSION ENTERPRISE!**
- **WEIGHTY ISSUES**

Weighty Issues

Weight & Balance is an important part of every preflight preparation for the Pilot in Command (PIC). All PICs should prepare a weight and balance form, and then check the appropriate performance data for the aircraft.

First a PIC should ensure during preflight preparation that the aircraft gross weight is within safe limits for the intended flight. The total weight of passengers, cargo, and fuel load must be adjusted to provide an adequate margin of safety, and to remain within published limitations for the aircraft.

Pilots must understand that in many general aviation aircraft it is not possible to fill all seats, load the baggage compartment to capacity, carry full fuel, and remain within approved weight and balance center of gravity (c.g.) limits.

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(MDA) Maritime Domain Awareness

MDA is defined as “the effective understanding of anything associated with the global maritime environment that could impact the security, safety, economy or environment of the United States.” Maritime Domain Awareness is a concept that underscores almost all AUXAIR missions. MDA principles and practices should be kept in mind throughout all multi-mission patrols. AUXAIR missions include MDA precepts by:

- Increasing vigilance on patrol in the maritime areas
- Observing and reporting both normal and abnormal maritime situations
- Maintaining a visible presence in and around critical infrastructure
- Performing specific tasking by Coast Guard units

AUXAIR Missions

Have you ever heard the expression “same stuff, different day”? The new Auxiliary Operations Policy Manual lays out the new terms

to describe our missions. You could say, “same stuff, different terms”! Many of the old missions have been “re-engineered” to meet 21st century needs.

Maritime Safety

Maritime safety is a generic term for a class of mission flown over the operational areas of Coast Guard Groups, Sectors, and Activities. Such missions are focused on keeping the boating public safe. These missions usually involve one or more generalized sweeps of the Sector while keeping a lookout for vessels in distress or unusual activity on the waterways. These missions consist of:

- Promoting safe boating
- Providing SAR response when needed
- Rendering assistance to distressed persons in the marine environment

The legacy missions of the safety patrol and search and rescue are encompassed in the maritime safety mission.

Ports, Waterways and Coastal Security

The objective of PWCS missions is to search for and report any incidents that affect the safety and security of the

waterway or coastal area, such as obstructions to navigation, fires, or other disasters, and boaters in distress. A PWCS mission may include specific tasking to search for or identify vessels near bridges, in shipping lanes, or in the approaches to harbors or sensitive locations. Some PWCS missions may have been termed as MDA patrols, homeland security patrols or harbor patrols. These PWCS missions are routinely flown to seek and report on the items listed in the introduction above, but occasionally they will be specifically requested and will contain precise instructions for a more narrow set of tasks. For example, the mission may include flights in close proximity to sensitive locations such as power plants, bridges, LPG terminals, inner harbors, and cruise ships.

Marine Safety/Marine Environmental Protection

Marine safety and marine environmental protection (MEP) are two essential Coast Guard programs. The principal objectives of the MEP program are to:

- Minimize damage caused by pollutants released into navigable waters

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- Overcome or reduce threats to the marine environment caused by potential spills of oil or other hazardous substances
- Assist in national and international pollution response planning

Pollution response activities are managed using the Incident Command System (ICS). All Auxiliarists are encouraged to complete ICS training appropriate to their operational roles. Auxiliarists interested in assisting with pollution response and investigation activities should take the Auxiliary course, Introduction to Marine Safety and Environmental Protection (IMSEP).

Aids to Navigation

AUXAIR assists the Coast Guard's aids to navigation program by flying over navigation aids and waterways; observing aids and markings; reporting discrepancies and changes; and transporting personnel and material. The relatively

high speed of the typical Auxiliary aircraft permits the rapid search of an area to identify aids that may have discrepancies of one type or another.

Ice Reconnaissance

Ice reconnaissance missions support the safe transit of vessels in major ports and harbors. Ice reports can also assist Sectors/MSOs in developing plans for breaking ice and maximizing commercial interests in a region.

Other Missions

There are many other missions that AUXAIR has performed and additional missions will be developed as time goes on. These might include logistics support, training, law enforcement support, agency support and waterways management.

**David A. Elliot, DC-Od and
Robert T. Shafer, DVC-OA**

**Weighty Issues
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This misunderstanding has caused more than a few accidents! Fuel is the usual variable, as most people and bags are less easily controlled. The heavily loaded aircraft may require a few more fuel

stops, but the mission can still be carried out if fuel is properly managed. If added fuel stops are not feasible, then people or cargo must be sacrificed. Overloading is not an option!!

Overloading an aircraft has the following adverse effects on performance:

- Increases speed required for takeoff
- Increases runway length required for takeoff
- Decreases maximum rate of climb
- Decreases maneuverability
- Increases required landing distance
- Decreases controllability
- Decreases maximum altitude capability
- Decreases operational range
- Increases stall speed
- Increases required approach speed

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Every pilot must consider how these changes in characteristics would affect the aircraft in an **emergency situation**. How such changes interact with high elevations, and /or hot and humid weather is yet another consideration!

Balance refers to the location of the center of gravity (c.g.) along the longitudinal axis of the aircraft. There are forward and aft limits beyond which the c.g. must not be located without the likelihood of severe consequences to the safety of flight. These limits are established by the aircraft design engineers to assure proper, predictable aircraft control about the horizontal, vertical, and lateral axes. The operational weight and balance limits for each aircraft are contained in the aircraft owners or flight manual. The weight and balance information for each aircraft must be amended when repairs or alterations have been made that effect a change in the aircraft empty weight or c.g. location (reference FARs 43.5(ax4) and 91.31(b)).

To assure aircraft controllability during flight, the

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aircraft must be loaded within the design weight and c.g. limits. A forward c.g. limit is specified to assure that sufficient elevator deflection is available at minimum speed as is needed for landing. The aft c.g. limit is the most critical during flight maneuvers or operation of the aircraft. Aircraft stability decreases as the c.g. moves aft, and the ability of the aircraft to right itself after maneuvering is correspondingly decreased. An aircraft with aft located c.g. is highly unstable in gusting or turbulent air, making attitude and directional control extremely difficult. If, after the

aircraft is loaded, the c.g. does not fall within the allowable limits, it is necessary to shift loads before flight is attempted. The actual location of the c.g. is determined by a number of factors under control of the pilot:

- Assignment of seats to passengers according to each individual's weight
- Fuel load; Selective use of fuel from various tanks is needed to maintain balance
- Placement of baggage and cargo

Byron Moe, BC-OAS