NATO STANDARD

AJP-3.3.3

ALLIED JOINT DOCTRINE FOR AIR-MARITIME COORDINATION

Edition B, Version 1

JULY 2021

NORTH ATLANTIC TREATY ORGANIZATION

ALLIED JOINT PUBLICATION

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

12 July 2021

1. The enclosed Allied Joint Publication AJP-3.3.3, Edition B, Version 1, ALLIED JOINT DOCTRINE FOR AIR-MARITIME COORDINATION, which has been approved by the nations in the Military Committee Joint Standardization Board, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 3703.

2. AJP-3.3.3, Edition B, Version 1, is effective upon receipt and supersedes AJP-3.3.3, Edition A, Version 1, which shall be destroyed in accordance with the local procedure for the destruction of documents.

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4. This publication shall be handled in accordance with C-M(2002)60.

Dimitrios SIGOULAKIS
Major General, GRC (A)
Director, NATO Standardization Office

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RECORD OF NATIONAL RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
FRA	FRA needs the responsibilities between COMJFAC and maritime commanders described in para 1.7 to be clarified. The second phrase in para 1.7 should be read as follow: « Commander Maritime Air (COMMARAIR) holds operational control (OPCON) over assigned maritime patrol aircrafts (MPA) / maritime patrol helicopters (MPH), but normally delegates tactical control (TACON) to maritime commanders for maritime air assets tasked to support maritime operations. COMJFAC holds OPCON over assigned air assets tasked to support maritime operations and delegates TACON to COMMARAIR for those assets.»
GBR	1. The UK does not consider joint personnel recovery a core air power role but rather a joint mission. In UK doctrine,air's contribution to personnel recovery is considered a subset of air mobility operations along with airlift and air to airrefuelling. 2. The UK does not use the term 'air power contribution to counter-maritime operations (APCMO)'. The UK terms air missions flown in support of maritime operations as 'counter-maritime operations'. 3. The UK does not use the term 'air power contribution to counter-land operations (APCLO)'. The UK terms air attack missions flown in support of land operations as 'counter-land operations'. 4. The UK does not use the terms 'Counter-air' and 'contribution to JISR'. They are referred to as 'control of the air' and 'ISR', respectively, in UK doctrine.
USA	Reservation 1. The United States rejects glossary/lexicon terms and definitions and shortened word forms (abbreviations, acronyms, initialisms) that are neither NATO Agreed, quoted verbatim from

	NATOTerm, correctly cited IAW AAP-47 Allied Joint Doctrine Development, correctly introduced/revised IAW AAP-77 NATO Terminology Manual, nor have terminology tracking forms submitted. This reservation will be lifted when the relevant terms, definitions, and shortened word forms are corrected (see matrix for any specificity with terms). Reservation 2. The United States rejects content that is not harmonized with capstone and operations keystone AJPs. United States personnel are directed to use national joint doctrine to overcome variances. This reservation will be lifted when relevant frameworks and constructs are corrected [see matrix for specifics (ex. creation of joint operation areas or domains)]. Reservation 3. The United States rejects the usage of certain command relationships between military Services. Due to the multi-mission capabilities of naval warships, the owning military Service will not delegate OPCOM, OPCON, TACOM, or TACON to another military service. While certain ships can be tasked with missions, TACON will not be approved. This reservation will be lifted when the relevant term usage is corrected or removed (see matrix for any specificity with terms).
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

Summary of changes

AJP-3.3.3, Edition B, Version 1, is a complete rewrite of AJP-3.3.3, Edition A, Version 1. The document has been completely restructured and content has been expanded. Some content e.g. CASP-related doctrine has been added along with other content from ATP-3.3.3.1 that was deemed to be more doctrinal than procedural in nature.

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Related documents

a. AAP-6, NATO Glossary of Terms and Definitions (English and French)

b. AAP-15, NATO Glossary of Abbreviations Used in NATO Documents and Publications

c. NATOTerm database

d. AAP-47, Allied Joint Doctrine Development

e. AJP-01, Allied Joint Doctrine

f. AJP-2.7, Allied Joint Doctrine for Joint Intelligence, Surveillance and Reconnaissance

g. AJP-3, Allied Joint Doctrine for the Conduct of operations

h. AJP-3.1, Allied Joint Doctrine for Maritime Operations

i. AJP-3.3, Allied Joint Doctrine for Air and Space Operations

j. AJP-3.3.1, Allied Joint Doctrine for Counter-Air

k. AJP-3.3.2, Allied Joint Doctrine for Close Air Support and Air interdiction

l. ATP-3.3.2.2(B), Joint Terminal Attack Controller Program

m. AJP-3.3.5, Allied Joint Doctrine for Airspace Control

n. AJP-3.7, Allied Joint Doctrine for Recovery of Personnel in a Hostile Environment

o. AJP-3.9, Allied Joint Doctrine for Joint Targeting

p. AJP-3.10, Allied Joint Doctrine for Information Operations

q. AJP-3.19, Civil-Military Cooperation (CIMIC)

r. AJP-5, Allied Joint Doctrine for the Planning of Operations

s. ATP-06, Naval Mine Warfare Principles

t. ATP-8, Volume I, Doctrine for Amphibious Operations

u. ATP-24, Volume II, Naval Mining – Planning, Evaluation, Tactics and Execution

v. ATP-28, Allied Antisubmarine Warfare Manual

w. ATP-31, NATO Above Water Warfare Manual

x. ATP-113, NATO Maritime Information Warfare

y. ATP-3.3.3.1, Air-Maritime Coordination Procedures

z. APP-11, NATO Message Catalogue

aa. MC 389/2, MC Policy on NATO's Combined Joint Task Force

bb. AIRCOM Manual 80-6, Tactical Employment of Air Power

cc. AD 80-65, Concept of Operations for Air Operations Coordination Centres Land and Maritime (AOCC(L), AOCC(M)) in Allied Command Operations (ACO)

dd. AD 80-70, Joint Targeting in ACO

ee. Concept of Operations for Alliance Air Command and Control (Air C2 CONOPS)

ff. BI-SC DIRECTIVE 080-006 LESSONS LEARNED

gg. NATO Lessons Learned Policy, PO (2011) 0293-AS1

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Preface

Context

1. Allied Joint Publication (AJP)-3.3.3 is the NATO doctrine for cooperation between air and maritime forces. AJP-3.1 and AJP-3.3 explains doctrine for maritime and air operations respectively, while AJP- 3.3.3 is the bridge between the two.

Scope

2. AJP-3.3.3 is the NATO doctrine for integration and coordination between air and maritime components during planning and execution of Allied joint operations. It addresses air operations by both the air and maritime components and how air capabilities from both elements are able to conduct operations in support of either component.

Purpose

3. AJP-3.3.3 is a reference for both the air and maritime communities. Although not all encompassing, it provides the user with the most important and commonly used aspects of Air-Maritime Coordination (AMC). AMC, in the context of this document, refers to the employment of non-maritime air [Allied Air Command (AIRCOM)] forces and dedicated maritime air [Allied Maritime Command (MARCOM)] forces in mutually supporting operations.

Application

4. AJP-3.3.3 provides guidance for NATO operational commanders and their staffs. However, the doctrine is instructive too, and provides a useful framework for operations conducted by a coalition of NATO nations, partners, non-NATO nations and other organizations. AJP-3.3.3 is primarily intended for NATO forces, the doctrine is also applicable to operations within the framework of a Combined Joint Task Force (CJTF) or Multinational Force (MNF) of NATO and non-NATO nation units. Therefore references to the Commander Joint Force Command (COM JFC) throughout this publication would apply equally to the Commander Joint Task Force (COM JTF) or COM MNF in those situations.

Linkages

5. AJP-3.3.3 should be used in conjunction with Allied Tactical Publication ATP-3.3.3.1, Air-Maritime Coordination Procedures, which contains detailed coordinated air-maritime procedures.

Environmental factors

6. While there are many similarities between air operations over land and sea, important differences exist. The physical properties of the land-sea and air-sea interfaces, unique undersea properties, and the sheer vastness of the maritime environment, render the sea largely impenetrable to many sensors. It provides a possible hiding space for illegal activity or adversary operations, e.g. sub-surface missile launches or naval movement and manoeuvre.

7. Ships/surface units can be detected by a range of maritime, land, space or air-based sensors; however, it is often difficult to identify specific vessels as targets with sufficient certainty to engage them, especially if they are not radiating unique electromagnetic and/or acoustic signatures. Additionally, weather conditions can change rapidly, and unique maritime environmental factors such as wave height and sea spray may impact visibility and radar or sensor effectiveness of platforms and weapons systems.

8. The lack of visual references at sea adversely affects not only the ability to navigate but also the ability to quickly apprise aircrew of the tactical situation for flight safety and targeting. The lack of terrain eliminates the capability of low altitude aviation assets to employ terrain masking for threat avoidance. Therefore, these assets will often be within range of a surface unit's weapon systems when attack criteria are achieved. However, lack of terrain is not always a disadvantage as vessels cannot hide behind obstructions. Providing a target remains within line-of-ight from a sensor, near 100% tracking could theoretically be achieved.

9. The very nature of airborne operations is that they are mobile; aircraft carriers, some amphibious warfare ships and surface combatants possess aviation detachments. The location of high-density flight operations is ever changing, requiring constant coordination for safe de-confliction. Additionally, aviation in the maritime environment is a particularly challenging activity when one considers weather conditions (sea state), the lack of suitable landing areas, their mobility (location and pitch/roll) and suitable diversion airfields.

Chapter 1 – Command and Control (C2)

Section 1 – Introduction

1.1 Allied Maritime Command (MARCOM)[1] as maritime theatre component command (MTCC) forms the Alliance's maritime hub as well as being NATO's Principal Maritime Advisor and Advocate. MARCOM commands NATO maritime operations (including the Standing Naval Forces) during baseline activities and current operations (BACO) and until handover to a joint force command (JFC) or a designated NATO force structure (NFS) HQ as decided by Supreme Allied Commander Europe (SACEUR). The MTCC provides 360 degree maritime focused situational awareness and connectivity throughout the entirety of SACEUR's Area of Responsibility (AOR).

1.2 Commander Maritime Component Command (COM MCC) is the commander responsible for the maritime aspects of the JFC's mission. The MCC coordinates operations with other components, ensures unity of effort, and establishes liaison accordingly. The MCC ensures that assigned land and sea-based maritime air forces are coordinated and deconflicted with joint force air component (JFAC) operations. The MCC can be either COM MARCOM or a NFS MCC designated by SACEUR for a specific operation.

1.3 Commander JFAC will be responsible for the delivery of Alliance air power in most operational circumstances. COM JFAC plans, integrates, allocates, controls and tasks joint air operations based on the JFC's guidance and objectives, in accordance with the air apportionment decision and the authority, command relationships and responsibilities established by the JFC. Depending on the situation, air operations can be run by the NATO command structure (NCS) JFAC, a NFS JFAC or a national JFAC.

1.4 NATO's command structure is intentionally flexible to enable C2 of forces throughout the full range of Alliance missions. Air, land, maritime, cyber, space and special operations are considered as integrated building blocks of joint operations. Though designed to operate with a single-service focus, for joint operations these components must be able to deploy/partially deploy with the right mix of capabilities in order to contribute to and integrate into joint operations.

[1] Commander Submarines NATO (COMSUBNATO), Commander Maritime Air NATO (COMMARAIRNATO) and Commander Surface Forces NATO (COMSURFNATO) are subordinate maritime commands within HQ MARCOM which are fully integrated.

1.5 Maritime air operations are an integral part of the maritime component. Maritime air assets support maritime operations, but can also play a significant role in COM JFAC's air operations. Maritime aircraft can operate independently or as an integral part of a task force. The planning, tasking and control of maritime air operations is conducted by a maritime component command headquarter (MCC HQ) through a maritime air operations centre (MAOC). Depending on the scale and scope of the operation, the MAOC may be located ashore with the MCC, within an existing NFS organization, or co-located with the commander task force (CTF) at sea. The MAOC coordinates and deconflicts maritime and non-maritime air assets through dialogue and liaison with the JFAC elements at all levels. The MAOC provides air tasking order (ATO) inputs to the JFAC battle staff and is responsible for planning, coordinating, executing, monitoring and assessing the maritime air portion of maritime operations. Inclusion of these missions into the ATO through a MAOC ensures situational awareness for all elements (Air/Sea/Land) on all air assets employed inside the joint operations area (JOA).

Section 2 – C2 Challenges

1.6 Coordination and integration are essential because maritime forces, including organic and supporting air forces, increasingly operate alongside other aircraft during joint littoral and overland operations. This increases the need for closer coordination between the JFAC and MCC to avoid mutual interference, minimise the risk of friendly fire and improve the efficiency and effectiveness of both the maritime and air components in contribution to the overall joint campaign. Rather than there being simply a need to "coordinate to deconflict", there is now an increased requirement to "coordinate to integrate". Some key forces like a carrier strike group (CSG) or cruise missile capability may remain under national command, thus adding an additional layer of complexity.

1.7 COM JFAC will make recommendations on the apportionment and employment of all air assets assigned to him to support COM JFC. Commander Maritime Air (COMMARAIR) holds operational control (OPCON) over assigned maritime patrol aircraft (MPA)/maritime patrol helicopters (MPH), but normally delegate tactical control (TACON) to maritime commanders for air assets tasked to support maritime operations. COM JFAC will usually be designated as the air and missile defence commander (AMDC) and the airspace control authority (ACA), with authorities that extend throughout the area of responsibility (AOR). With this comes the requirement for overall integration of all air operations, responsibility for integrated air and missile defence plans, production of a recognized air picture (RAP) using all available sensors, and development of airspace control procedures. Therefore, the JFAC HQ must coordinate with the other components to ensure inclusion of all air assets in air operations directive (AODs), airspace control order (ACOs), airspace control plan (ACPs), ATOs and special instructions (SPINS).

Section 3 – C2 Considerations

1.8 C2 in a joint operation is in general conducted centralized (COM JTF) and executed decentralized.
COM JTF allocates air capabilities ("apportionment") to the different CCs, dependant on the operational phases, in order to enable the Components to achieve their goals. Therefore, the CC's plan the assigned sorties parallel through their separate C2 chains (MAOC & JFAC HQ) but continue to liaise throughout this process and thereby assure a synchronization and unity of effort.

1.9 COM JFAC plans, integrates, allocates, controls and tasks joint air operations based on the COM JTF's guidance and objectives, in accordance with the air apportionment decision and the authority, command relationships and responsibilities laid down by the JTF. In order to best employ the available capabilities, COM JFAC translates higher-level guidance, such as that provided in the joint coordination order (JCO), into tactical level air instructions through the Air Operations Directive (AOD), which provides direction and guidance to the planning and execution branches of the JFAC, and forms the basis for the Air Tasking Order (ATO).

1.10 Throughout the process, from the development of the air plan to the execution of the ATO, the MCC should be in close coordination with the JFAC HQ through appropriate liaison elements (LEs) in order to ensure planning coherence.[2]

1.11 The air apportionment will be the major coordination instrument between the two components. This indicator should not be seen as a rigid framework for maritime air allocation, but the starting point for discussion between both CCs. It will be even more complex when an aircraft carrier is involved in the operation.

1.12 COM JFAC provides an air apportionment recommendation of the joint air effort to COM JTF, after consultation with the other CCs, considering the higher level guidance and objectives. The apportionment recommendation is driven by capabilities and priorities that should be devoted to the various air operation phases.

[2] Although MCC/JFAC HQ discussion is important, COM JFC has the final say through their apportionment guidance.

1.13 Maritime air assets are tasked according to the JFC's air apportionment decision and can, if appropriate to the operational situation, be made available by the MCC for tasking by the JFAC. Such maritime air missions will normally operate under tactical control (TACON) of the JFAC.

1.14 Joint air operations do not include air capabilities and assets, which post apportionment, remain allocated to the maritime component. These assets or capabilities are allocated or retained solely for maritime operations in order to accomplish the mission assigned to the MCC. Although such missions are dedicated to MCC they still have to be included in the ATO to enable coordination and deconfliction as well as minimize the risk of friendly fire. Appearance on the ATO neither implies any command or tasking authority, nor does it restrict the MCC's flexibility to respond to changing battlespace dynamics. However, these missions must adhere to the guidance provided in the ACP, the ACO and the air defence plan (ADP) to assure integration.

1.15 The maritime inputs for the AOD, ACO and ATO are transferred by the MAOC to the JFAC as maritime 'feeders'.

1.16 With the increasing integration of maritime air assets into joint air operations, the degree of coordination required with JFAC increases to the same extent. For a large scale operation, the magnitude of joint planning, tasking and execution demands a level of coordination that would require a tailored MAOC. A robust maritime air C2 structure is required, centred on the MCC HQ but with sufficient planning and coordination elements located within both the MCC and JFAC organizations.

1.17 The stand-up of a major joint operation (MJO) or the transition from ongoing NATO Response Force (NRF) activities will involve the transfer of command of maritime air assets to the MCC HQ and the designation of a Commander Maritime Air (COMMARAIR). A prime function of COMMARAIR is to integrate maritime air assets apportioned to the MCC into the joint battle space. Depending on the operation, these assets might include NRF assets already in theatre, but may also include a significant increase in both numbers and capability as the maritime component of the operation ramps up. To assist COMMARAIR in his duties, a tailored MAOC may be established using personnel drawn from the static HQ MARCOM, with augmentation as required. This MAOC would be established at the MCC to oversee the planning and execution of maritime air missions, however it will be limited in capability. Therefore, afloat and static MAOCs at the task force level would continue to operate but would plug into the air-maritime C2 integration arrangements. If one or more CSGs are participating, C2 arrangements for these will likely be different. For US or European carrier vessels, ad-hoc C2 responsibilities will be established between SACEUR, STRIKFORNATO, National Carrier CTF and the MCC HQ.

Section 4 – Roles and responsibilities

1.18 COMMARAIRNATO is an integrated sub-command of HQ MARCOM. COMMARAIRNATO exercise C2 of land based or organic maritime air assets allocated to Allied Maritime Command.

1.19 Naval Striking and Support Forces NATO (STRIKFORNATO)/ (SFN) provides a Maritime Battle Staff Operational Command directly to SACEUR, as a rapidly deployable and scalable headquarters capable of planning and executing full spectrum joint maritime expeditionary operations and providing C2 of maritime ballistic missile defence (BMD), primarily through integration of U.S naval and amphibious forces.

1.20 Commander Allied Air Command (COM AIRCOM) is responsible to SACEUR for exercising Air C2 for the enduring peacetime tasks NATO air policing (AP) and ballistic missile defence (BMD) as part of NATO integrated air and missile defence (NIAMD). During crisis and conflict, and within a designated JOA, SACEUR will appoint a COM JFAC who will conduct Air C2 for a specific operation. JFAC is the CC with the preponderance of air assets and the capability to plan, task and control joint air operations. COM JFAC exercises OPCON on assigned air assets and capabilities through the JFAC.

1.21 COM AIRCOM has been delegated OPCON of all NATO airborne early warning and control force (NAEW&CF) aircraft as well as OPCON of the NAGSF (NATO Alliance Ground Surveillance Force). COM AIRCOM employs the NAEW&CF aircraft in support of NATO Integrated Air and Missile defence (NIAMD), NATO support to high visibility events (HVE), NATO crisis management operations, and other designated operations. Same applies for the NAGSF.

NAEW&CF assets can be employed in joint activities, supporting air C2 operations, providing air surveillance, electronic surveillance, air weapons control and maritime surface surveillance.

Section 5 – Liaison elements

1.22 The air and maritime liaison/ coordination elements (LEs/ CEs) will report to and remain structurally part of their parent command but become functionally part of the headquarters to which they are attached. The actual size and disposition of these organizations will depend upon the operation being conducted.

1.23 The various liaison and coordination elements that integrate the air-maritime C2 structure and support joint planning are shown in Figure 1-1. The MCC is represented at the JFAC through the maritime liaison element (MLE). This arrangement allows the MCC to advise COM JFAC on matters relating to maritime operations and to coordinate additional requirements to support maritime operations as required. Additionally, COMMARAIR will deploy a maritime air liaison element (MALE) to integrate the maritime air mission into the planning of joint air operations. The MALE will support the MLE and will provide additional liaison to the JFAC command group and strategy division (STD) and combat plans division (CPD). It will also enable the MCC, if needed, to call on JFAC expertise and capabilities in air defence (AD), air-to-air refuelling (AAR), electronic warfare (EW), intelligence surveillance & reconnaissance (ISR), airspace control, and joint personnel recovery (JPR). Conversely, COM JFAC will dispatch an air liaison element (ALE) to the MCC HQ that will be responsible for operational level inter-component coordination and liaison.

1.24 The MALE also support JFAC CPD by providing subject matter expertise in the planning and tasking of maritime air operations including coordination and finally implementation of ATO 'feeders' from MCC.

1.25 To facilitate coordinated execution of the ATO, a direct line of contact is also required between the MCC and the JFAC at the tactical level. To fully integrate air and maritime operations, the MCC will dispatch a maritime coordination element[3] (MCE) to JFAC HQ and COMMARAIR will attach a maritime air coordination element (MACE). The MCE provides MCC representation at the tactical level of the air organization while the MACE provides subject matter expertise for coordinating the execution of maritime air operations with the combat operations division (COD) of the JFAC HQ.

1.26 An air operations coordination centre-maritime [AOCC(M)], subordinate to the JFAC and collocated to the MAOC, will be established to provide JFAC non-maritime air expertise and liaison to the appropriate supported maritime commander. The AOCC(M) coordinates the planning and tasking of JFAC missions allocated in support of maritime operations and will also monitor the execution of these missions. The AOCC(M) provides air expertise and integrates the liaison and coordination functions relating to air operations, including, but not limited to APCMO, coordination of air defence assets such as air defence units, coordinated air/space procedures, and airspace control. The AOCC(M) will also provide a connection for the ALE team to the JFAC.

[3] This is a separate organization that is established as required for operations and is separate from the MCEs that are part of the framework peacetime establishment of combined air operations centres (CAOCs).

1.27 The ALE will focus on issues at the operational level and provide air operational expertise and advice to the MCC concentrating on the operational planning cycle (3 to 7 days). By contrast, the AOCC(M) will coordinate current and future operations within the ATO planning cycle at the tactical level. The same holds true with the MLE/MALE focussed at the operational level and the MCE/MACE at the tactical level. The MLE/MALE coordinates any MCC air sortie in support of JFAC, and ensures organic maritime air sorties are properly processed in the ATO.

Section 6 – JFAC/MCC liaison

1.28 Besides the command and supported/supporting relationship, the basic guiding principle for coordination between the JFAC and MCC is to ensure concentration of force and economy of effort. In order to facilitate this seamlessly and effectively, LEs are established as outlined previously. In addition to organic maritime air support, maritime principle warfare commanders (PWC) and/or the composite warfare commander (CWC)/officer in tactical command (OTC) may identify a need for support from land-based air assets to support maritime operations. Such support could be air defence, air power contribution to counter-maritime operations (APCMO) or other supporting air operations. In the same manner, other component commands may have a requirement that can be fulfilled by maritime air assets and as such, support may be requested for their operations. Under normal circumstances requests are forwarded via an air support request regardless of the type of air support required.

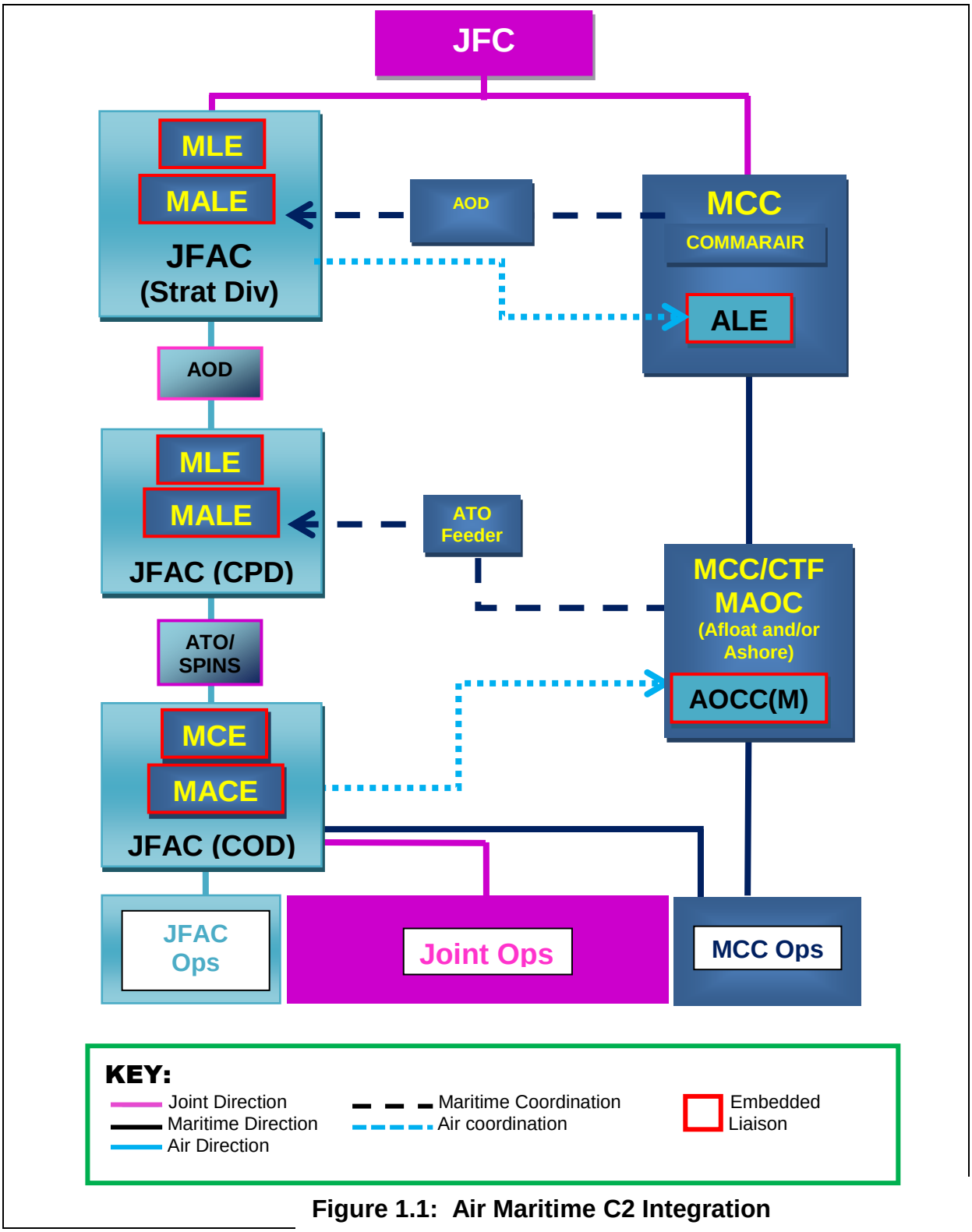

Figure 1.1: Air Maritime C2 Integration

Chapter 2 – Fundamentals of air-maritime coordination

Section 1 – Air-maritime coordination

2.1 There is an increased need for closer coordination during a joint operation which employs forces from different CCs as mutually supported elements within the same joint operations area (JOA). Key to this is the establishment of a coordinated multi-domain shared understanding of the JOA and the effective integration of air, maritime, land, space, cyberspace, electromagnetic operations (EMO), logistic and other support capabilities. Therefore, air maritime coordination (AMC) identifies the C2 structure and the procedures required to:

- Maximise air power combat effectiveness;
- Ensure flight safety;
- Avoid mutual interference through spectrum management;
- Minimize potential for friendly fire;
- Avoid duplication of efforts;
- Improve efficiency and effectiveness.

2.2 Furthermore, whenever those forces are mutually supporting each other to accomplish the assigned mission, rather than “coordinate to de-conflict”, AMC has to be intended as “coordinate to integrate”, regardless of how the supported/supporting relationship between the components has been established (or ordered) by the Commander Joint Task Force.

The assets that might be employed within the framework of AMC are not limited to aircraft and will generally include:

- Air defence units (ADU)/(theatre) ballistic missile defence ((T)BMD) units;
- Tactical data link (TDL) capable units or Data link Forward capable units;
- Land attack cruise missile (LACM) units;
- Units executing Joint Fire Support (JFS)
- Intelligence, surveillance and reconnaissance (ISR) assets;
- Electronic warfare (EW) assets;
- Air surveillance and control system (ASACS) assets;
- Airborne early warning and control (AEW&C) system aircraft;
- Unmanned aircraft system (UAS).

- PR units/ assets

2.3 Consequently, all air missions, including both fixed, rotary-wing aircraft, and UAS (if their operating altitude conflicts with other air operations) of all components should appear on the appropriate ATO and/or flight plan and all aircraft must adhere to common procedures. This type of rigorous control is necessary because the mix of friendly, adversary and neutral aircraft and mission constraints require a strict control of flights in the JOA.

Section 2 – Air support operations

2.4 Should a component lack in total or not have sufficient air capabilities to achieve their assigned missions, COM JFAC may task available component commander assets based on the COM JTF's air apportionment decision. These aircraft may be assigned to provide support to forces at sea in one of three ways:

a. **Direct Support.** Aircraft assigned to DS are tasked to support and protect a specific force. Tactical control (TACON) of supporting aircraft is delegated to the supported force's Officer in Tactical Command (OTC). While in DS, control is normally exercised through the supported force's aircraft control unit. The radius of direct support operations about the force will be determined by the OTC and will vary according to mission specifics. Note that the OTC is required to inform the tasking authority of the dimensions of their surveillance area and of subsequent changes, emission control policy permitting.

b. **Associated Support**. Aircraft tasked in AS will operate independently of a specified force or group, but will provide contact information and to receive intelligence from and, if authorized, cooperate and coordinate operations with the supported force. TACON of the aircraft remains with the assigning authority who coordinates tasking and movement of the aircraft in response to the requirements of the supported force. The OTC should be briefed on the amount of support they can expect from the aircraft on AS.

c. **Area Operations**. These operations are conducted in a geographic area and are not directly related to the support of a specific force. They are conducted in areas where adversary forces are known to be, areas through which adversary forces are likely to transit, areas in which friendly forces are planned to operate, or areas within which it is desirable to deny the adversary freedom of action.

Section 3 – Informing the officer in tactical command (OTC) of air operations in his vicinity

2.5 The appropriate coordinating authority must inform the OTC of any friendly aircraft operating in the vicinity of the force.[4]

2.6 If a force at sea is to be supported by land-based aircraft, the appropriate coordinating authority must inform the OTC of the type and nature of support being provided in response to support request (AIRSUPREQ IAW APP-11).

2.7 In the case of ship-borne aircraft support, the OTC of the force providing the support should keep the OTC of the supported force, shore authorities, as well as ACA/AMDC informed of the flying schedule and intentions using the standard message text formats (MTF) or other appropriate means (e.g. Email).

Section 4 – Support operations tasked by maritime authorities

2.8 Air operations in support of forces at sea are TACON to MCC and are normally tasked by standard MTF or the ATO. The tasking authority should stipulate the form of support of each mission and the specific mission type by promulgating mission designators as described in ATP-3.3.3.1 and ATP-1.

Section 5 – Planning considerations

2.9 While planning for mutual air support, among the key principles of operations listed for allied joint and multinational operations, the following must be considered[5];

- Unity of effort;
- Concentration of force;
- Economy of effort;
- Freedom of action;
- Definition of objectives;
- Flexibility;
- Initiative;
- Offensive spirit;
- Surprise;

[4] In a joint operation, this is normally done by disseminating the ATO and ACO.

[5] See AJP-01 and for further details AJP-03.

- Security;
- Simplicity;
- Maintenance of Morale

2.10 At the early stages of the operational planning process (OPP)[6] both Component Commanders (CCs) will exchange their initial request for support based on the proposed military response options (MROs) and the possible courses of action (COAs). The mutual LEs[7] will collect all available information on the forces available and their capabilities and limitations to support the development of the JFC OPLAN which will define the assigned mission and the supported-supporting relationship.

2.11 The supported-supporting relationship between the components will be ordered by COM JTF and stated in the joint coordination order (JCO). Details about the coordination and synchronization between the CCs will then be detailed within the CC's OPLANs/SUPPLANs. Therefore, the air operations planning group (AOPG) and the maritime operations planning group (MOPG) will each develop, review, update and coordinate the respective air and maritime plans required to successfully conduct any given operation. The AOPG coordinate, synchronize, and integrate all other activities related to the development of JFAC plans, policy and orders. The result will be the air operations directive (AOD). An operational document that translates higher-level direction and guidance (D&G), such as that provided in the JCO, into tactical level air instructions, providing direction and guidance about air operations to the planning and execution branches and therefore forming the basis for the ATO. Throughout this process an intensive and effective use of component-to-component liaison elements has to be ensured.

[6] See AJP-5 and COPD for details on the OPP.

[7] The Liaison and the Coordination Structure is defined in AD80-65 and depicted in AJP-3.3.

Section 6 – Planning process

2.12 **Deliberate planning.** During development of the joint campaign plan, the broad terms of support each commander will provide the other CCs is described in the concept of operations (CONOPS). Within the joint force command headquarters (JFC HQ), the joint coordination orders (JCOs) to the plan will further outline the tasks to each CC and describe the supported/ supporting relationship. This information will be among the different inputs to AOD. These requirements then become part of the apportionment plan issued to COM JFAC and MCC through the AOD. The AOD is then used to develop an ACO and ATO.

2.13 Initial support requests should be made in accordance with the established battle rhythm in order to be considered at the joint level. The request should indicate the type and scale of support required as well as the approximate time frame and location. When planning continues, an increasing level of detail for the mission requirements should be supplied at the times specified in the established battle rhythm through established liaison/co-ordination elements.

2.14 Air assets may be tasked through the ATO to react to possible unforeseen tactical circumstances commonly known as “on alert”. If aircraft are “on alert”, the ATO must detail scramble authority/ scrambling agency and the principal warfare commander (PWC)/composite warfare commander (CWC) or OTC must establish a communication circuit through an appropriate communication link via voice and/or chat means (further details IAW ATP-3.3.3.1) with the alert aircraft or the JFAC combat operations division (COD).

2.15 If a support requirement was not foreseen, but still occurs prior to AOD release, the MCC will provide a request on the anticipated support requirements direct to the JFAC HQ, to include a request for airspace to the ACA. Based on advice from the MLE, the JFAC will facilitate the request in the AOD within the limits of the direction and guidance provided by the JFC. The same process would be used if the JFAC HQ identifies a requirement that can be filled by maritime air assets allocated to the MCC.

2.16 Should a requirement for support arise after the release of the AOD but prior to the release of the ATO, the MCC can provide an ATO input directly to the JFAC HQ or the JFAC HQ can provide an ATO input directly to the MCC. This input should provide detailed information regarding the requested support such as time on/off station, ACM details e.g. hand-over gates (HOG), and control frequencies. Based on advice from the MLE/AOCC(M), the JFAC HQ will facilitate the request into the ATO within the limits of the AOD and joint direction and guidance. Because the air tasking cycle is a fixed 72 hrs-cycle, such a support request must be received by the JFAC HQ (via MLE/AOCC(M)) within this cycle. Otherwise, an air tasking message (ATM) will be required.

2.17 **Immediate requests.** In exceptional circumstances a commander from any component can request immediate support directly from the MAOC or JFAC (COD). Established LEs/CEs should best possibly support the request process in order to enhance the successful support process. These requests may be met by aircraft on alert (ground/air) if fitted for the task and not assigned to a different task requiring the alert status. If imminent danger to own forces occurs or a time sensitive target (TST) appears, a re-tasking of sorties can be done at the discretion of the commander holding tactical command (TACOM). For unforeseen support it is more likely to task sorties which have fulfilled their original tasking but still have fuel and ammunition left to react on any additional task. Tasking of aircraft to respond to immediate requests would be accomplished through the use of a written or verbal ATM.

2.18 **Additional offerings.** Organic maritime air assets apportioned to but not required by the MCC for maritime operations may be offered to other CCs. The procedures and timelines are the same for support offerings as they are for support requests.

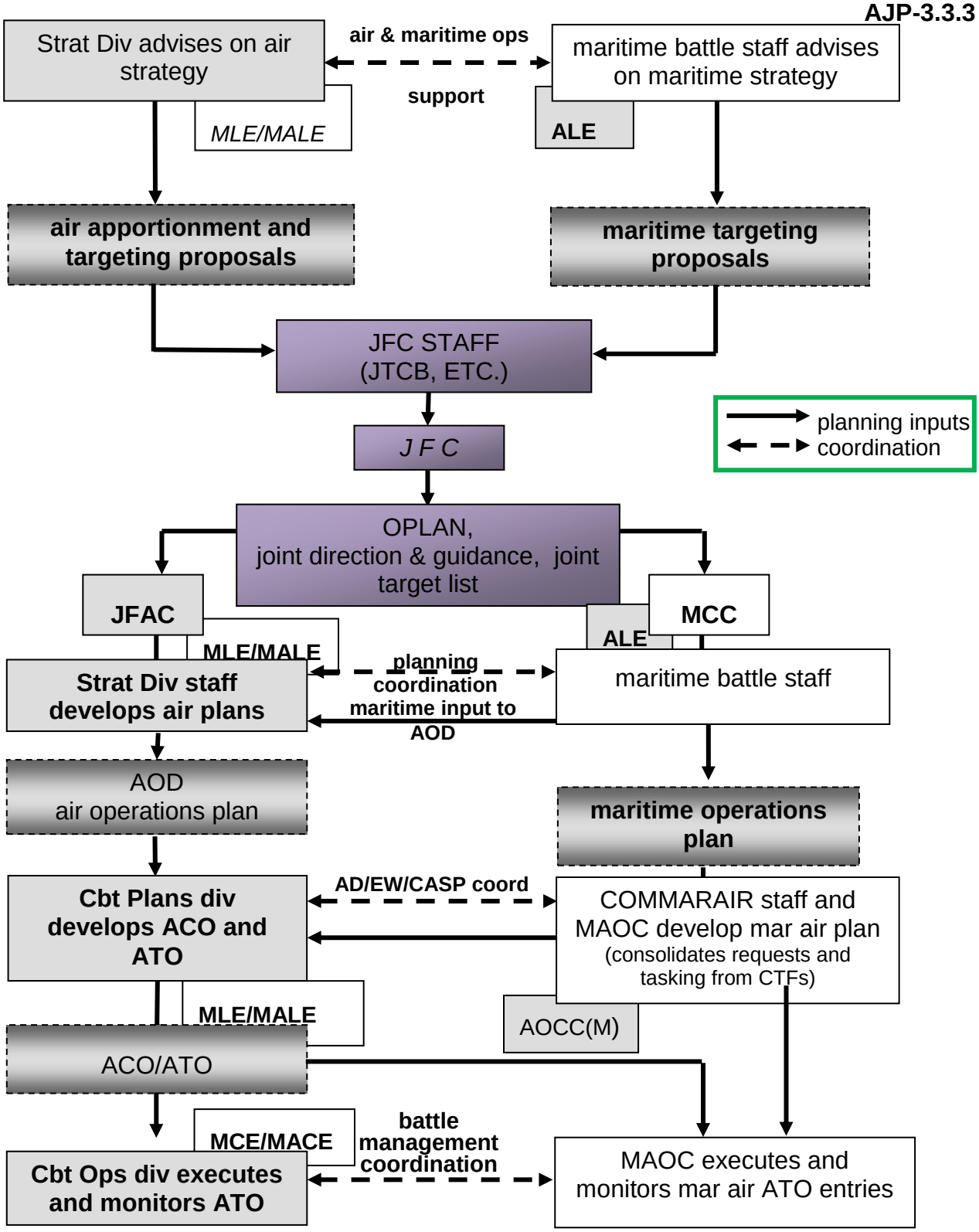

Figure 2.1 - JFAC/MCC Planning

Section 7 – Risk management

2.19 As detailed in ATP-31, the authority holding OPCON is responsible for promulgating the level of risk authorized for aircraft under his command. Accordingly, he shall include a maximum risk level in the order delegating or assigning control to another commander. In case of shore-based aircraft, the maximum risk level shall be included in the appropriate tasking order (ATO, Green). If no risk level is included in the message, the lowest level is to be used.

Section 8 – Air tasking cycle

2.20 As detailed in AJP-3.3, COM JFAC employs a joint air tasking cycle to provide the efficient and effective employment of the joint air capabilities. The ATO articulates the tasking for joint air operation for a specific time period. The ATO cycle is coordinated with the joint targeting cycle described in AJP-3.9. MCC provides input to all processes, e.g. support requests, offering up excess sorties for JFAC tasking or nominating targets possibly to be serviced by other CCs.

Section 9 – Airspace coordination

2.21 The JFAC will establish airspace control procedures during peacetime, crisis and conflict within the assigned area. The airspace control plan (ACP) is used to deconflict, identify and minimize friendly fire and provide air defence (AD) forces with the appropriate means to maximize the effectiveness of military operations by promoting the ability of air, land and maritime forces to operate in an efficient, integrated and flexible manner with minimum mutual interference and without undue restraint and risk to friendly forces and/or neutral air.

2.22 A combination of electronic identification and a procedural system of airspace control will be established to achieve airspace control (ASC). This system is based on airspace control means (ACM) designated and activated by an ACO. The ACO is compiled and promulgated by the joint airspace coordination centre (JACC) located within the CPD of the JFAC.

2.23 To meet their operational requirements, CCs will submit requests for activation/deactivation of ACMs (ACMREQ) to the JACC in accordance with the procedures contained in operational documents (e.g. SUPPLAN M). Requests for activation/deactivation will be coordinated by the JACC staff and promulgated by means of the ACO. All air, land and maritime weapon systems and airspace users operating within the JOA are to be integrated within the ASC system.

Section 10 – Coordinated Air Sea Procedures (CASP)

Coordinated air sea procedures for air and missile defense (AMD)

2.24 CASP provide a structure to coordinate air and missile defence (AMD) or anti-air warfare (AAW) operations when warships are operating in a JOA. Warships are to report their individual CASP categories to MCC, JFAC and AOC, and then may operate under one of three CASP control statuses. This permits them to contribute, to varying degrees, to the counter-air campaign and to coordinate their AAW operations with land-based aircraft and/or weapon systems. [8],[9]

General principles

2.25 In times of crisis and conflict, maritime units afloat may operate beneath high intensity, friendly air traffic in areas of an air threat. Maritime forces will comply with (regional) airspace control procedures and with the air and missile defence plan. Ships with a (T)BMD capability ((T)BMD radar and/or upper layer/lower layer interceptors) may be able to contribute to (T)BMD by providing early warning, cueing and/or by engaging enemy ballistic missiles. Ships with an AD capability (air surveillance radar, electronic support measures (ESM), medium range (MR)/long range (LR) surface-to-air-missiles (SAMs), link capability and/or fighter control capability) may be able to contribute to AD by providing early warning (radar and ESM) and by engaging enemy aircraft with AD aircraft and SAMs. The nominated air and missile defence commander (AMDC) should employ shore-based SAM batteries and AD aircraft to defend maritime forces within the JOA where this can be achieved without impeding effect to the primary mission. Therefore, there is a requirement for procedures to coordinate maritime AAW operations with shore-based AD to ensure that:

- Air and missile threat are efficiently countered.
- AEW aircraft may be tasked to support more than one component simultaneously.
- Employment of ISR platforms is coordinated between components.
- Maritime protection is enhanced by land-based assets.
- AAW early warning to the responsible air C2 unit is increased by ships' sensor inputs.

[8] For further information about CASP see ATP-3.3.3.1.

[9] For deeper discussion on C2 responsibility and planning of NATO BMD mission see AJP-3.3.

- AAW early warning enhancement for the common operational picture by maritime sensors.

Command and control

2.26 In general, the MCC and JFAC HQ (or equivalent headquarters) coordinate the application of CASP. Air operations centres (AOCs) compile and disseminate the recognized air picture (RAP) and may be tasked with promulgating weapon control status (WCS), weapon control orders (WCOs) and target engagement messages (TEMs). When good command, control and communications (C3) exist, area coordination should be used in preference to zone coordination.[10] Irrespective of any promulgated rules of engagement (ROE), WCS, WCOs or TEMs in force, ships retain the right of self-defence at all times.

CASP Unit Categories (CASPCAT)

2.27 Units report their capabilities and status via CASPSTATS. A CASPSTAT has 4 main categories:

CAT I **BMD Interceptor**. (T)BMD capable warships able to assist in compiling the missile defense picture and able to engage ballistic missiles.

CAT S **BMD Sensor**. (T)BMD capable warships able to assist in early warning/cueing without the weapons to engage ballistic missiles.

CAT A **AD-Ship**. Warships with Long Range 3D Air Surveillance Radar and MR/LR AAW Weapons[11].

CAT N **Non-AD-Ship.** Warships not belonging to aforementioned categories.

CASPSTATS may be subdivided to provide additional information as detailed in Table 2-2.[12]

CASP Control Status (CASPCONSTAT)

2.28 Ships' primary tasking, capability and area of operation will determine the CASP control status that may be allocated. CASP control statuses are as follows:

[10] For further explanation on area vs zone coordination, see ATP-1 Vol I and ATP-3.3.3.1.

[11] Carrier borne Air Defence Fighters to be considered MR/LR AAW Weapons.

[12] For further information see ATP-3.3.3.1.

A TACON for AD tasking

Ships operating under CASP Control Status A are allocated to the AMDC for AD duties as their primary task. If CASP Control Status A status is ordered, the MCC will delegate TACON to the COM JFAC who may, in turn, delegate this TACON to the AMDC. OPCON and the responsibility for logistic support will always remain with the MCC. The primary task of a CASP Control Status A ship will be to assist the respective AOC in compiling the RAP.
Additional tasks, as directed by the AMDC may include fighter control and engagement of enemy aircraft.

T TACON for (T)BMD tasking

Ships operating under CASP Control Status T are allocated to the shore-based (regional) AMDC for (T)BMD duties as their primary task. If CASP Control Status T status is ordered, the MCC will delegate TACON to the COM JFAC who may, in turn, delegate this TACON to the AMDC. OPCON and the responsibility for logistic support will always remain with the MCC. The primary task of a CASP Control Status T ship will be to assist the respective AMDC in compiling the missile defence picture. Additional tasks, as directed by the AMDC, may include engagement of enemy ballistic missiles.

M TACON for maritime tasking

CASP Control Status M is the standard status for maritime units; TACON is usually delegated to an OTC to accomplish the respective maritime mission, nevertheless units capable may assist the respective AOC in compiling the RAP if the maritime mission permits. If operating inside a JOA the use of their LR/MR SAMs or allocated combat air patrol (CAP) against targets that do not pose an immediate threat to the ship or units being supported will be coordinated with the respective AOC.

Remark: In a maritime heavy smaller joint operation the AMDC may be subordinate to the MCC vice the COM JFAC. In this case TACON for units in CASPCONSTAT A or T remains with the MCC and will be delegated directly to the maritime AMDC or to the CTG/AAWC responsible for the overall AMD mission.

CASP Unit Category	BMD Weapon	BMD Capable Radar	MR/LR AAW Weapon		LR Radar	AD aircraft Control capability	TDL	Possible CASP CONSTAT
I1	X	X	X		X	X	X	A, T, M
I2	X	X	X		X		X	A, T, M
I3	X	X			X	X	X	A, T, M
I4	X	X			X		X	A, T, M
S1		X	X		X	X	X	A, T, M
S2		X	X		X		X	A, T, M
S3		X			X	X	X	A, T, M
S4		X			X		X	A, T, M
A1			X		X	X	X	A, M
A2			X		X		X	A, M
N1					X	X	X	A, M
N2					X		X	A, M
N3							X	M
N4								M

Table 2-2: CASP UNIT Category

Examples: USS Stout with SM3, SM2 and fighter controller (FC) reports CASPCAT I1
HNLMS De Ruyter with SM 2 without FC reports CASPCAT A2
HNoMS Fridtjof Nansen with FC reports CASPCAT N1

Chapter 3 – Operations

Section 1 – Maritime operations and warfare areas

3.1 Maritime operations are categorized into distinct warfare functions or warfare areas. These operations are generally divided into the following warfare areas and types of operations. Some of the warfare areas are further explained in section 5 as part of air power contribution to counter- maritime operations (APCMO).

3.2 **Anti-air warfare (AAW).** In the maritime environment, AAW is the term used for those measures taken to defend a maritime force against attack by airborne weapons launched from aircraft, ships, submarines and land-based. This is achieved by destroying the threat (launching platform and secondarily the weapon), or reducing it to an acceptable level through effective employment of available sensors and weapon systems. Denial of intelligence and achieving adequate attack warning (known as Indication & Warning (I&W)) are crucial to the AAW battle. The most common posture for AAW is defence in depth or layered defence utilizing organic and shore-based aircraft, long and medium range Surface-to-air missile (SAM) systems, point defence missile systems, guns, close-in weapons systems and ECM. These layers are necessary to gain early warning, counter the threat's surveillance and targeting effort, destroy attacking aircraft before they can achieve weapon release and/or destroy/decoy missiles in flight. In a joint operation, AAW is part of the overall air defence (AD) effort.

3.3 **Antisurface warfare (ASUW)** [see para 3.22]

3.4 **Antisubmarine warfare (ASW)** [see para 3.24]

3.5 **Mine warfare (MW)** [see para 3.25]

3.6 **Amphibious operations** incorporates virtually all types of ships, aircraft, weapons and landing forces (LFs) in a concerted effort launched from the sea with the principal purpose of projecting the LFs ashore tactically. By their nature, these operations are complex and require detailed planning, training and specialist equipment. These operations will require air support for protection and support of the amphibious task force during all phases of the operation, with a special emphasis during the shaping operations and the ship-to-shore movement (action phase). Air support may also be required for integration and deconfliction of air missions and routes in support of the ship-to-shore movement by helicopter or tilt-rotor aircraft. Those aspects of air operations directly tied to the conduct of amphibious operations are covered in ATP-8 Vol I and II [Doctrine for Amphibious Operations].

3.7 **Strike[13] warfare**. Maritime forces can contribute to the joint operations against targets ashore utilizing carrier-based strike aircraft, sea-launched cruise missiles, naval guns and SOF. Joint fire support is considered a part of strike warfare. Strike warfare requires close coordination and deconfliction between the MCC and JFAC.

3.8 **Air and missile defence (AMD)**. Maritime forces can contribute to air and missile defence using capabilities that require enhanced data link architecture, optimized sensors, and SAM systems. This mission requires close coordination and deconfliction between all component commanders.

3.9 **Maritime interdiction operations (MIO)** are operations conducted to enforce prohibition on the maritime movement of specific persons or material within a defined geographic area.

3.10 **Non-combatant evacuation operation (NEO)**. An operation conducted to relocate designated non-combatants threatened in a foreign country to a place of safety.

3.11 **Electronic warfare (EW).** This involves military action that exploits electromagnetic energy to provide situational awareness and achieve offensive and defensive effects.

Section 2 – Airborne maritime patrol operations

Maritime patrol aircraft

3.12 Depending on sensors, equipment and weapons, maritime patrol aircraft (MPA) can perform a multitude of missions over water, as well as over land. Operational control (OPCON) for MPA is usually assigned to the MCC/ COMMARAIR, who has the responsibility for the execution and control of MPA operations. MPA not required for assigned maritime missions will normally be made available for tasking via the joint air tasking process. MPA sorties allocated to the JFAC will be under COM JFAC TACON unless otherwise directed.

3.13 Most MPA will be fitted with imaging radar, as well as some form of acoustic suite to allow sonobuoys to be dropped and monitored from the air. Many modern MPA are also fitted with electro-optical systems and ESM capable of stand-off identification of contacts of interest by day or night. Capabilities will vary dramatically depending on the MPA type; therefore pre-flight liaison is recommended to maximize use of these assets.

3.14 MPA are versatile platforms capable of undertaking much more than just traditional maritime patrol missions. The long range and capable sensor suites of MPA make them ideal intelligence, surveillance and reconnaissance (ISR) platforms if the threat situation

[13] In this context, the term ‘strike’ is used in the conventional weapons sense.

allows. Their altitude and endurance advantages over rotary wing assets allow them to clear search areas well ahead of a force and provide both electronic support and radar warning of potential hostile units well beyond the force's radar horizon. When trained fire support teams (spotters) are added to the crew, MPA capabilities can be exploited to detect, identify and fix suitable land targets for naval firing units, attack helicopters or tactical air assets, as well as conduct battle damage assessments depending on current risk level. Most MPA will also carry some form of weapon system, e.g. torpedoes or anti-surface ship missile (ASSM) or standoff land attack missiles (SLAM). MPA weapons should normally be used first to conserve ship and organic helicopter stores.

Maritime patrol helicopters (MPH)

3.15 Maritime patrol helicopters are also adaptable and able to support a variety of missions. Many are equipped with capable sensor suites and are also able to conduct ISR missions, albeit they are limited in endurance and altitude in comparison to MPA. Considered an extension of the ship, embarked helicopters are normally OPCON to and tasked by the OTC to provide direct support, however advantage can be taken of capabilities that are beyond the requirements for traditional maritime helicopter support. Shore-based maritime helicopters would normally be assigned OPCON to the MCC/ COMMARAIR and receive detailed tasking in the ATO.

Unmanned aircraft system (UAS)

3.16 UAS[14] can support maritime operations with a variety of missions such as ISR or target acquisition and engagements. Doctrinally, UAS can be treated similarly to manned systems in the application of established air and space principles. They must be included in the development of the ACO, ATO and special instructions (SPINS) and must follow all approved planning, guidance and procedures. However, there are some unique differences which commanders and planners should consider when employing these assets:

- High altitude long endurance (HALE) UAS can significantly contribute to maritime situational awareness and will feed into the Joint ISR process. They will normally stay under OPCON of COM JFAC or under C2 of the contributing nation.

[14] Some UAS are referred to as "remotely piloted air systems (RPAS)" to differentiate those that are controlled by an operator who has been trained to equivalent standards as a manned aircraft pilot.

- Medium altitude long endurance (MALE) UAS can be employed and tasked similarly to MPA. Transfer of authority (OPCON or TACON) to the MCC or subordinate units should be considered, especially where direct communications between the UAS crews and supported maritime forces are possible.

- Shipborne tactical UAS such as vertical take-off and landing (VTOL) systems are employed in flight envelopes and conditions similar to organic helicopters. Therefore, the same command and control principles should be applied. Typically, it is not necessary to include Class 1a/1b (Small/Mini/Micro) UAS operated from ships into the ATO unless their planned operating altitude conflicts with other airborne operations. However, all Class 1 operators must be aware of the airspace in which they are approved to operate and shall be familiar with the applicable orders (ATO, ACO, SPINS).

[For additional information on UAS characteristics, planning considerations, and employment TTP, see ATP-3.3.8.2, UAS Tactics, Techniques, and Procedures as well as RA1600 Remotely Piloted Air Systems regarding classification of UAS.]

Section 3 – Maritime air support to JFAC

Aircraft carrier operations

3.17 The carrier strike group (CSG) power projection is a critical enabler of NATO maritime power, and can conduct operations either on its own or in cooperation with JFAC assets within a JOA. A CSG is a flexible naval force that can operate during day and night and in all weather conditions. CSGs are capable of conducting anti-air, antisurface (including STRIKE), and antisubmarine warfare as well as providing power projection ashore. Such air operations require the highest degree of synchronization of air activities, as well as coordination with the supported commander.

a. **Air sortie integration:**
Even when the missions flown by a carrier air wing fall under national OPCON, they need to be fully integrated into the JFAC ATO cycle for coordination, de-confliction and safety purposes (See AJP 3.3). This could be carried out directly between the MAOC and the JFAC (CPD) in independent activities, and between the national MAOC and a MARCOM MAOC during crisis. Detailed coordination between the CSG and JFAC staff is also essential to capture and integrate requests for support from JFAC AAR or long range ISR aircraft

b. **Integration into the Joint Targeting cycle:**
A CSG is one of the major creators of lethal effects in the joint operation. The integration of the CSG air assets into the joint targeting battle rhythm is an operational requirement (See AJP-3.9). National liaison elements should be located at the right level to exercise authority and control of national maritime air assets supporting JOINT missions, or for the incorporation of national tasking when contributing to a JOINT campaign.

Section 4 – JFAC support to MCC

3.18 Air operations contribute to maritime operations by extending the application of air forces over the high seas or the littoral. Air assets under OPCON of COM JFAC work in close cooperation with maritime forces to ensure the most effective use of available air assets to detect, monitor, neutralize or destroy the enemy, achieve defence in depth and seize and retain initiative.

3.19 Most of the time dedicated and specifically designed aircraft provide support to maritime operations. However, at times aircraft with additional capabilities might be useful. Therefore, maritime operations can also be supported by air forces assigned to COM LCC or COM JFAC. Depending upon the area of operations (AOO), a choice may exist between employing ship-borne or land-based aircraft. The advantages and limitations of each should be evaluated before selecting the optimum assignment of assets. The nature and location of the threat is likely to be the major influence in this decision.

3.20 Maritime forces may also require support from the JFAC to enable theatre entry or to provide freedom of movement for the maritime force. For example, through the suppression of enemy coastal defences.

Section 5 – Air power contribution to counter maritime operations (APCMO)

3.21 APCMO are defined as the air operations flown in support of maritime operations extending the application of air power into the high seas or the littoral (AJP-3.3). APCMO are typically flown in support of friendly naval forces, but they may be flown independently when no friendly forces are in the area.

APCMO will contribute to two specific maritime warfare areas;

3.22 **Antisurface warfare (ASUW)** operations are conducted in order to destroy or neutralize enemy naval surface forces or to defend against surface threat. ASUW operations should ensure the timely detection and engagement of enemy surface forces to deny their effective employment. TACON of forces participating in such operations may be assigned to the antisurface warfare commander (ASUWC). ASUW covers a wide range of operations involving surveillance and reconnaissance missions that may culminate in the attack of enemy vessels. There are four distinct elements to an ASUW mission as follows:

- **Surveillance** of a particular area is used to locate maritime forces and contribute to the recognised maritime picture (RMP) to aid in maritime situational awareness (MSA) so the MCC can coordinate further action. Information can also be passed to the JFAC to add to the RAP.

- **Identification and recognition** is part of the process of establishing the RMP, and determines the identity of detected contacts.

- **Shadowing** is the continual observation of a ship or force for the purpose of reporting its location, movement, composition and other relevant information.

- **Attack** can be carried out autonomously by a platform or the platform can act as a target reporting unit (TRU) for attack by other assets.

3.23 Surveillance, identification, recognition and shadowing require sensors that can provide accurate target discrimination, position and identification, supported by secure and robust communications. MPA, maritime helicopters or ship-borne UAS can provide this capability, but so too can airborne early warning (AEW) aircraft and other suitably equipped air component assets. When asset numbers and capabilities permit, the concept of high boy/low boy may be used if no asset is capable of identifying contacts from altitude. In this scenario, aircraft equipped with advanced maritime radar and maritime automatic identification system receivers operate at altitude to extend on station time and increase radar coverage. This aircraft would provide cueing to other assets operating at medium to low altitude or to surface units when Contacts of Interest (COIs) are detected. This high boy/low boy concept maximises effectiveness of assets operating at lower levels as they can be directed from COI to COI to gain positive identification or engagement rather than spending time in search mode. AEW aircraft, HALE UAS are well suited to the high boy task, while less capable MPA, maritime helicopters, UAS or even fighter assets could be used in the low boy role.

[For additional information, see ATP-31 NATO Above Water Warfare Manual.]

3.24 **Antisubmarine warfare (ASW)** operations are conducted to deny the adversary the effective use of submarines. The antisubmarine warfare commander (ASWC) may be assigned TACON over forces participating in such operations. There are two overall options that are available to the maritime commander when conducting ASW operations;

- **Offensive ASW**. The purpose of offensive ASW is to deny the submarine access to the environment where it can operate with tactical freedom. It could involve the blockade of ports or an attack before the submarines can manoeuvre into the open ocean. Though a maritime mission, JFAC strike assets could be requested to conduct offensive ASW tasks.

- **Defensive ASW**. Defensive ASW is conducted in areas where the submarine can

operate with tactical freedom. The reactive speed and endurance of MPA often means that they are the primary assets available to counter the submarine threat. Close coordination between maritime and air assets, as well as sound water and airspace management are essential to enhance the probability of detection.

[For additional information see ATP-28 Allied Antisubmarine Warfare Manual]

3.25 **Aerial mining**

- Maritime mining operations can be classified as strategic, operational or tactical; offensive, defensive or protective; and embrace all methods whereby damage may be inflicted or adversary maritime operations hindered by the use of naval mines.

- Aircraft by their nature may be the most suitable vehicles for offensive mine laying operations and for replenishing existing fields. The speed of a mine laying aircraft is a great advantage during mining operations that must be executed quickly. Also aircraft can penetrate areas that are denied to surface vessels and submarines, and are not endangered by previously laid mines when replenishing a minefield.

[For additional information see ATP-06 Naval Mine Warfare Principles.]

3.26 **Maritime Information Warfare (MIW)**

In the maritime environment, MIW is the term used for those procedures and plans to maximise the exploitation of that information and achieve information superiority and decision making advantage. Maritime air maybe required to utilize or support any one functions within the three pillars of MIW: Assured C2, battlespace awareness and integrated and joint operations as defined in ATP 113. Maritime air will, when working in “direct support”, and may when operating in either “associated support” or “area operations” be integrated into the task group assured C2 structure to ensure the vital communications links are operational in order to support the commander’s objectives.

Section 6 – Core joint air power roles and types of air operations[15]

Additionally, JFAC assets may contribute to maritime operations via the broad, fundamental and enduring operational roles of air power: counter-air; attack; air mobility, contribution to joint ISR (JISR) and support to joint personnel recovery (JPR).

Control of the air helps shape the operational area wherein friendly operations can proceed at the optimum place and time without prohibitive air interference, while providing force protection.

Counter-air

3.27 Counter-air operations may be offensive or defensive in nature; the balance between which will depend on the nature and stage of a campaign, the depth, density and capabilities of an enemy's integrated air defence system (IADS) as well as their offensive air and missile capabilities.

3.28 Offensive counter-air (OCA) consists of offensive operations to destroy, disrupt or degrade enemy air and missile capabilities. Ideally, most OCA operations will prevent the launch of aircraft and missiles by destroying them and their supporting infrastructure and systems on the surface, or failing that, as close to their source as possible. OCA includes surface attack operations, air-to-air missions and suppression of enemy air defences.

3.29 Defensive counter-air (DCA) operations protect friendly forces and vital interests from enemy air and missile attacks; as such it is synonymous with air defence (AD). DCA consists of all active and passive air defence operations to detect, identify, intercept, and destroy or negate enemy air and missile forces attempting to attack or penetrate friendly airspace, or to nullify or reduce the effectiveness of such attacks should they escape destruction.

[For additional information see AJP-3.3.1 Allied Joint Doctrine for Counter-Air]

Attack

3.30 Attack lies at the heart of air power's capacity to create influence by changing behaviours or the course of events. Air attack is coercive in the broadest sense of the term as it creates tactical, operational and strategic effects through the threat and use of force. The Alliance uses air-attack capabilities to target adversaries through strategic attack, counter-land operations, counter-maritime operations and information activities.

[15] Information taken from AJP-3.3

3.31 Strategic attack is a JTF-directed offensive action against a lawful military objective that is specifically selected to achieve military strategic objectives. These attacks seek to weaken the enemy's ability or will to engage in conflict or continue an action and as such, could be part of a campaign, major operation, or conducted independently as directed by the Alliance. Additionally, these attacks may achieve strategic objectives without necessarily having to achieve operational objectives as a precondition. Suitable targets may include but are not limited to enemy centre of gravity (CoG).

3.32 Counter-land and counter-maritime operations (also referred to as counter surface force operations) are conducted to: defeat the enemy's fielded forces; destroy their supporting infrastructure; or generate psychological effects to shatter their cohesion or will to fight.

[For additional information see AJP-3.3 Allied Joint Doctrine for Air and Space Operations.]

3.33 Air power contribution to counter-land operations (APCLO). How counter-land operations are conducted is dependent on overall joint campaign strategy and the specific circumstances of the conflict; such factors include enemy disposition, phase of the operation, whether ground combat is also occurring, the degree of control of the air and the need to support, or be supported by, surface forces. Operations generally fall under two mission types: air interdiction (AI) and close air support (CAS).

- Air interdiction (AI) are air operations conducted to divert, disrupt, delay, degrade or destroy an adversary's military potential before it can be brought to bear effectively and at such distance that detailed integration of each air mission with the fire and manoeuvre of friendly forces is normally not required. The flexibility of AI enables it to be conducted in support of surface operations or as main effort against the enemy surface force without the presence of any friendly ground forces (or with discrete ground force elements providing target cueing); thus, it may offer the potential to reduce the requirement for ground combat.

- Close air support (CAS) is air action against hostile targets which are close to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces for friendly fire avoidance and targeting guidance performed by certified and qualified joint terminal attack controllers (JTACs) and forward air controllers (airborne) (FAC[A]). CAS provides land or amphibious forces with fires in offensive and defensive operations, by day and night, to destroy, suppress, neutralize, disrupt, fix or delay enemy forces close to friendly forces. The firepower and mobility of aircraft can make an immediate and direct contribution to the land and maritime battle, especially against targets that are either inaccessible or invulnerable to available weapons effects. The variety of targets likely to be encountered makes it important to be able to employ a variety of weapons and delivery systems, thus reliable and interoperable communications with the supported force are essential features in the CAS environment.

[For additional information, see AJP-3.3.2 Allied Joint Doctrine for Close Air Support and Air interdiction.]

- Air power contribution to counter-maritime operations (APCMO).

[See section 5 of this chapter.]

- Air-delivered Information Activities.

  Such activities primarily focus on non-lethal effects to influence a threat's will, understanding and subsequent behaviour. Information Operations staff coordinates the different and sometimes competing activities to support the commander's overarching campaign objectives. Beyond the broad attributes of presence, posture and profile, Air-delivered Information Activities commonly precede/lead or support the following objectives:

  - Changing, influencing, or reinforcing perceptions and attitudes of adversaries.
  - Preserving and protecting Alliance freedom of manoeuvre in the information environment.
  - Countering command functions and capabilities by affecting the data and information that support adversaries.

  [For additional information see AJP-3.10 Allied Joint Doctrine for Information Operations.]

Air mobility

3.34 Air mobility enables the deployment, sustainment and recovery of military and civilian personnel and material by air; it is critical to the success of joint operations. The speed and responsiveness of air mobility provides political flexibility, thereby offering options to create immediate strategic influence. At the operational level air mobility operations are differentiated into two fundamental categories: air transport (AT) (sometimes referred to as airlift) and air-to-air refuelling (AAR).

- AT enables a JTF to move and sustain forces anywhere in the world and across the entire range of operations. It provides rapid and flexible mobility options to military, national and international government agencies to quickly respond to various crisis situations worldwide. Cargo is delivered via two methods: airland or airdrop.

AT operations are typically classified as inter- or intra-theatre

- Inter-theatre AT provides the air bridge that links theatres to home bases and/or other theatres. Given the ranges usually involved, inter-theatre AT is normally

comprised of heavy, strategic AT or larger civilian aircraft, but may be augmented by tactical-range AT if/when required.

- Intra-theatre AT provides air movement within a specific theatre or JOA and is normally fulfilled by tactical AT capable of operation under a wide range of tactical conditions, including small, austere field operations. Intra-theatre fixed and rotary wing air assets provide time-sensitive AT to a commander, and enable the conduct of air manoeuvre operations; the air delivery of combat power to seize ground or installations via air assault, airdrop or airland.

- Air-to-air refuelling (AAR) is an air support operation consisting of the in-flight transfer of fuel between tanker and suitable receiver aircraft. AAR is an essential capability that increases the range, endurance, payload and flexibility of all capable receiver aircraft, and is especially important when forward basing is limited or unavailable. AAR enhances the ability of air power to achieve surprise by enabling indirect approaches and multiple axes of attack to seek out targets the enemy least expects to be attacked. AAR also maximizes the use of each combat/combat support asset launched by increasing flight time or on-station time. Most carrier based strike operations will require some degree of land based AAR support provided by the JFAC. During planning and execution of operations special attention must be given to tanker/receiver aircraft interoperability in order to avoid mismatches that could lead to receivers being unable to take fuel.

Contribution to joint intelligence, surveillance and reconnaissance (JISR)

3.35 JISR is an integrated intelligence and operations set of capabilities, which synchronizes and integrates the planning and operations of all collection capabilities with processing, exploitation, and dissemination of the resulting information in direct support of planning, preparation, and execution of operations. Air and space based ISR can be used strategically to build an early understanding of potential crisis points and enhance the quality of political and high-level military decision-making. At the operational and tactical level it enables observation of a threat's actions and dispositions thereby enabling commanders to identify dependencies, vulnerabilities and strengths.

Support to joint personnel recovery (JPR)

3.36 JPR encompasses all military, diplomatic and civil efforts to affect the recovery and reintegration of military or civilian personnel, who are separated from their unit or organization in a situation that may require them to survive, evade, resist exploitation, or escape while awaiting recovery. JPR missions range from recovering a survivor by a single unit penetrating hostile territory without any support to a JPR task force where the operations may involve a variety of forces including C2, CAS, suppression of enemy air defences (SEAD), Intelligence, AEW, MEDEVAC, AAR and SOF (to name just a few). JPR operations are normally conducted in five distinct tasks: report, locate, support, recover, and reintegrate.
NOTE: organic maritime helicopters can become a mean of the JPR effort and will then no longer be under the command of the OTC.

[For additional information see AJP-3.7 Allied Joint Doctrine for Recovery of Personnel in a Hostile Environment.]

Lexicon

Part 1 – Acronyms and abbreviations

AAP	Allied administrative publication
AAR	air-to-air refuelling
AAW	anti-air warfare
AAWC	anti-air warfare commander
ACA	airspace control authority
ACM	airspace control means
ACMREQ	airspace control means request
ACO	airspace control order
ACO	Allied Command Operations
ACP	airspace control plan
ACU	aircraft control unit
AD	air defence
AD	ACO directive
ADC	air defence commander
ADP	air defence plan
ADU	air defence unit
AEW	airborne early warning
AEW&C	airborne early warning and control
AJP	Allied joint publication
AI	air interdiction
AIRCOM	Allied Air Command
AIRSUPREQ	air support request
ALCM	air-launched cruise missile
ALE	air liaison element
AMC	air-maritime coordination
AMD	air and missile defence
AMDC	air and missile defence commander
AOA	amphibious objective area
AOC	air operations centre
AOCC(M)	air operations coordination centre (maritime)
AOD	air operations directive

AOPG	air operations planning group
AOR	area of responsibility
AP	air policing
APCLO	air power contribution to land operations
APCMO	air power contribution to maritime operations
APP	Allied procedural publication
ASACS	air surveillance and control system
ASC	airspace control
ASSM	anti-surface ship missile
ASUW	antisurface warfare
ASUWC	antisurface warfare commander
ASW	antisubmarine warfare
ASWC	antisubmarine warfare commander
AT	air transport
ATM	air tasking message
ATO	air tasking order
ATP	Allied tactical publication
BACO	baseline activities and current operations
BMD	ballistic missile defence
C2	command and control
C3	command, control and communications
CAOC	combined air operations centre
CAP	combat air patrol
CAS	close air support
CASP	coordinated air/sea procedures
CC	component command
CE	coordination element
CJTF	combined joint task force
COA	course of action
COD	combat ops division
CoG	centre of gravity
COM AIRCOM	Commander Allied Air Command

COM JFAC	Commander Joint Forces Air Component
COM JFC	Commander Joint Force Command
COM MARCOM	Commander Allied Maritime Command
COMMARAIR	Commander Maritime Air
COMMARAIRNATO	Commander Maritime Air NATO
COM MCC	Commander Maritime Component Command
COMSUBNATO	Commander Submarines NATO
COMSURFNATO	Commander Surface Forces NATO
COI	contact of interest
COP	common operational picture
COPD	comprehensive operations planning directive
CPD	combat plans division
CSG	carrier strike group
CTF	combined task force
CTG	commander task group
CWC	composite warfare commander
DCA	defensive counter air
DS	direct support
ECM	electronic countermeasures
EMO	electromagnetic operations
ESM	electronic warfare support measures
EW	electronic warfare
FAC[A]	forward air controller (airborne)
FC	fighter controller
HALE	high altitude – long endurance (class of UAS)
HVE	high visibility event

IADS	integrated air defence system
IAMD	integrated air and missile defence
ISR	intelligence, surveillance and reconnaissance
JACC	joint airspace coordination centre
JCO	joint coordination order
JFC	joint force command
JFAC	joint force air component
JISR	joint intelligence surveillance reconnaissance
JOA	joint operations area
JPR	joint personnel recovery
JTAC	joint terminal attack controller
JTCB	joint targeting coordination board
JTF	joint task force
LACM	land attack cruise missile
LE	liaison element
LF	landing force
LR	long range
MACA	maritime air control authority
MACE	maritime air coordination element
MALE	maritime air liaison element
MALE	medium-altitude long endurance (class of UAS)
MAOC	maritime air operations centre
MAOP	master air operations plan
MARCOM	Allied Maritime Command
MCC	maritime component commander
MCC	maritime component command
MCE	maritime coordination element
MIO	maritime interdiction operation
MIW	maritime information warfare
MJO	major joint operation
MLE	maritime liaison element

MLE	maximum level effort
MNF	multinational force
MOPG	maritime operations planning group
MPA	maritime patrol aircraft
MR	medium range
MRO	military response option
MTCC	maritime theatre component command
MTF	message text format
MW	mine warfare
NAEW&CF	NATO Airborne Early Warning and Control Force
NATINAMDS	NATO integrated air and missile defense system
NCS	NATO command structure
NEO	non-combatant evacuation operation
NFS	NATO force structure
NIAMD	NATO integrated air and missile defence
NRF	NATO Response Force
OCA	offensive counter air
OPCON	operational control
OPLAN	operation plan
OPP	operations planning process
OTC	officer in tactical command
PWC	principal warfare commander
RAP	recognized air picture
RMP	recognized maritime picture
ROE	rules of engagement
SACEUR	Supreme Allied Commander Europe
SAM	surface-to-air-missile
SEAD	suppression of enemy air defences
SFN	Naval Striking and Support Forces NATO

SJO	smaller joint operation
SOF	special operations forces
SLAM	standoff land-attack missile
SPINS	special instructions
STRIKFORNATO	Naval Striking and Support Forces NATO
SUPPLAN	support plan
TACOM	tactical command
TACON	tactical control
TDL	tactical data link
TEM	target engagement message
TRU	target reporting unit
TST	time sensitive targets
UAS	unmanned aircraft system
VTOL	vertical take-off and landing
WCO	weapon control order
WCS	weapon control status

Part 2 – Terms and definitions

allocation
The translation of the apportionment into total numbers of sorties by aircraft type available for each operation or mission.
(Ref AAP-06)

apportionment
The quantification and distribution by percentage of the total expected effort, in relation to the priorities which are to be given to the various air operations in geographic areas for a given period.
(Ref. AAP-6)

amphibious operation
A military operation launched from the sea by a naval and landing force embarked in ships or craft, with the principal purpose of projecting the landing force ashore tactically into an environment ranging from permissive to hostile.
(NATOTerm - NATO Agreed)

antisubmarine warfare
Operations conducted with the intention of denying the enemy the effective use of their submarines. Also called **ASW**.
(NATOTerm - NATO Agreed)

area of operations
An area within a joint operations area defined by the joint force commander for conducting tactical level operations. Also called **AOO**.
(NATOTerm - NATO Agreed)

associated support
In naval usage, operations in which a designated unit operates independently of a specified force or group, but is tasked to provide contact information to, receive intelligence from and, if authorized, to cooperate and coordinate operations with the supported force. Tactical control of the unit remains with the assigning authority who coordinates tasking and movement of the unit in response to the requirements of the supported force commander. Also called **AS**.
(NATOTerm - NATO Agreed)

ballistic missile defence
Defence of NATO European territory against ballistic missiles
Also called **BMD**.
(NATOTerm - NATO Agreed)

battlespace
The environment, factors and conditions that must be understood to apply combat power, protect a force or complete a mission successfully. Note: It includes the land, maritime, air and space environments; the enemy and friendly forces present therein; facilities; terrestrial and space weather; health hazards; terrain; the electromagnetic spectrum; and the information environment in the joint operations area and other areas of interest.
(NATOTerm - NATO Agreed)

composite warfare commander
The officer to whom the officer in tactical command has assigned some or all of his authority and responsibilities for the overall direction and control of the defense of the force. Also called **CWC**.
(This term and definition are only applicable in this publication.)

campaign
A set of military operations planned and conducted to achieve a strategic objective.
(NATOTerm - NATO Agreed)

component command
1. In the NATO military command structure, a third-level command organization with specific air, maritime or land capabilities that is responsible for operational planning and conduct of subordinate operations as directed by the NATO commander.
2. A functional component command or service component command responsible for the planning and conduct of a maritime, land, air, special or other operation as part of a joint force.
(NATOTerm - NATO Agreed)

component commander
1. A single-service or functional component commander at the third level of the NATO military command structure.
2. A designated commander responsible for the planning and conduct of a maritime, land, air, special or other operation as part of a joint force.
(NATOTerm - NATO Agreed)

control
The authority exercised by a commander over part of the activities of subordinate organizations, or other organizations not normally under his command that encompasses the responsibility for implementing orders or directives.
(NATOTerm - NATO Agreed)

direct support
1. In land operations, a primary tactical task given to an artillery unit to provide fire requested by a support unit other than an artillery unit, without specifying the command relationship.
2. In maritime usage, operations related to the protection of a specific force by other units, normally under the tactical control of that force.
3. The support provided by a unit not attached to or under the command of the supported unit or formation, but required to give priority to the support required by that unit or formation.
(NATOTerm - NATO Agreed)

electronic countermeasures
That division of electronic warfare involving actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum through the use of electromagnetic energy. There are three subdivisions of electronic countermeasures: electronic jamming, electronic deception and electronic neutralization. Also called **ECM**.
(NATOTerm - NATO Agreed)

electronic warfare support measures
That division of electronic warfare involving actions taken to search for, intercept and identify electromagnetic emissions and to locate their sources for the purpose of immediate threat recognition. It provides a source of information required for immediate decisions involving electronic countermeasures, electronic protective measures and other tactical actions. Also called **ESM**.
(NATOTerm - NATO Agreed)

joint air power
The ability to coordinate, control, and exploit the air domain in the pursuit of Alliance objectives.
(NATOTerm - NATO Agreed)

joint force commander
A general term applied to a commander authorized to exercise command authority or operational control over a joint force.
(Not NATO Agreed)

joint operations area
A temporary area within a theatre of operations defined by the Supreme Allied Commander Europe, in which a designated joint force commander plans and executes a specific mission at the operational level.
(NATOTerm - NATO Agreed)

littoral
In military operations, a coastal region consisting of the seaward area from the open ocean to the shore that must be controlled to support operations ashore, and the landward area inland from the shore that can be supported and defended directly from the sea. Note: This definition does not have any implications on rules of international law of the sea and the rights and duties of states arising from rules on international law of the sea and the rights and duties of states arising from rules on international law of the sea.
(This term and definition are only applicable in this publication.)

maritime interdiction operation
An operation conducted to enforce prohibition on the maritime movement of specified persons or material within a defined geographic area. Also called **MIO**.
(NATOTerm - NATO Agreed)

maritime air control authority (MACA) is that national entity through which the Commander Maritime Air (COMMARAIR) NATO may exercise operational command and control (C2) of assigned MARAIR maritime patrol aircraft (MPA)/maritime patrol helicopter (MPH) through an air operations centre.
(This term and definition are only applicable in this publication.)

maritime forces are scalable in size and capabilities; therefore, a unique naming convention has evolved to oversee and execute warfare functions under the composite warfare commander's[16] structure. Air, surface and sub-surface fires are coordinated at this level.
(This term and definition are only applicable in this publication.)

maritime operation
An action performed by forces on, under, or over the sea to gain or exploit control of the sea or to deny its use to the enemy.
(NATOTerm - NATO Agreed)

mine warfare
The strategic and tactical use of mines their and counter-measures.
(NATOTerm - NATO Agreed)

non-combatant evacuation operation
An operation conducted to relocate designated non-combatants threatened in a foreign country to a place of safety. Also called **NEO**.
(NATOTerm - NATO Agreed)

[16] For CWC functions explained, see AJP-3.1 Ch3 Section4

officer in tactical command
In maritime usage, the senior officer present, eligible to assume command, or the officer to whom he has delegated tactical command. Also called **OTC**.
(NATOTerm - NATO Agreed)

operation
A sequence of coordinated actions with a defined purpose.
Note:
1. NATO operations are military.
2. NATO operations contribute to a wider approach including non-military actions.
(NATOTerm - NATO Agreed)

operational control
The authority delegated to a commander to direct forces assigned so that the commander may accomplish specific missions or tasks which are usually limited by function, time, or location; to deploy units concerned, and to retain or assign tactical control of those units. It does not include authority to assign separate employment of components of the units concerned. Neither does it, of itself, include administrative or logistic control. Also called **OPCON**.
(NATOTerm - NATO Agreed)

recognized maritime picture
An electronically produced display compiled from active and passive sensors covering a three-dimensional volume of interest in which all detected maritime contacts have been evaluated against threat parameters and assigned a recognition category and track number. Also called **RMP**.
(This term and definition are only applicable in this publication.)

rules of engagement
Directives to military forces, including individuals, that define the circumstances, conditions, degree, and manner in which force, or actions which might be construed as provocative, may be applied. Also called **ROE**.
(NATOTerm - NATO Agreed)

supported commander
A commander having primary responsibility for all aspects of a task assigned by a higher NATO military authority and who receives forces or other support from one or more supporting commanders.
(NATOTerm - NATO Agreed)

supporting commander
A commander who provides a supported commander with forces or other support and/or who develops a supporting plan.
(NATOTerm - NATO Agreed)

tactical C2.
While the maritime environment utilizes common tactical C2 elements such as Forward Air Controller (AIR) (FAC[A]) and Airborne Early Warning (AEW), it also employs tactical C2 unique to the maritime environment such as an Air Coordinator (AC), Aircraft Control Unit (ACU) and MACA.
(This term and definition are only applicable in this publication.)

tactical command
The authority delegated to a commander to assign tasks to forces under his command for the accomplishment of the mission assigned by higher authority. Also called **TACOM**.
(NATOTerm - NATO Agreed)

tactical control
The detailed and, usually, local direction and control of movements or manoeuvres necessary to accomplish missions or tasks assigned. Also called **TACON.**
(NATOTerm - NATO Agreed)

targeting
The process of selecting and prioritizing targets and matching the appropriate response to them, taking into account operational requirements and capabilities.
(NATOTerm - NATO Agreed)

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