CSG / ESG Air Asset Management

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The overall classification of this brief is: UNCLASSIFIED
Objective

- Present the roles, responsibilities, and processes of US Navy and Marine Corps aviation assets in Carrier Strike Group (CSG) and Expeditionary Strike Group (ESG) operations
References

- JP 3-02 (JAN 2019) – Amphibious Operations
- NTRP 3-20.6.06 (NOV 2014) – CVN Class Tactical Publication
- NTTP 3-02.1.3 (SEP 2017) – Amphibious/Expeditionary Operations Air Control
- NTTP 3-03.4 (AUG 2015) – Naval Strike and Air Warfare
- NTTP 3-03.4.3 (JAN 2018) – Multi-Service Tactics, Techniques, and Procedures for Strike Coordination and Reconnaissance
- NWP 3-30 (DEC 2017) – Maritime Command and Control of Air Operations (MC2AO)
Overview

• Define the CWC Strike Warfare Commander (STWC)
• Define the CWC Air Resource Element Coordinator (AREC)
• Describe Papa/Romeo watch roles & responsibilities
• Discuss APB planning factors
• Present CVW/CVN resources
  – CVW composition
  – CVN flight operations
  – EMCON Considerations
• Present ESG (ARG/MEU) factors and resources
  – Air Combat Element (ACE) composition
  – LHD/LHA/MAGTF operations
CWC Organization

COMPOSITE WARFARE COMMANDER (CWC) “_B/V”

- AIR & MISSILE DEFENSE COMMANDER (AMDC) “_W/C”
- STRIKE WARFARE COMMANDER (STWC) “_P/K”
- INFORMATION OPERATIONS WARFARE COMMANDER (IWC) “_Q/I”
- SEA COMBAT COMMANDER (SCC) “_Z”
- SURFACE WARFARE COMMANDER (SUWC) “_S/T”
- ANTISUBMARINE WARFARE COMMANDER (ASWC) “_X/Y”

- BALLISTIC MISSILE DEFENSE CDR “_U”
- UNDERWAY REPLENISHMENT GROUP CDR (URG) “_N/D”
- SCREEN COMMANDER (SC) “_F”
- OPERATIONAL DECEPTION GROUP CDR (ODGC)
- MIO COMMANDER (MIOC) “_J”
- AIR RESOURCES ELEMENT COORDINATOR (AREC) “_R”
- AIRSPACE CONTROL AUTHORITY (ACA)
- TLAM LAUNCH AREA COORDINATOR (LAC)
- FORCE TRACK COORDINATOR (FTC) “_E”
- CRYPTOLOGIC RESOURCE COORDINATOR (CRC)
- HELO ELEMENT COORDINATOR (HEC) “_L”
- TLAM STRIKE COORDINATOR (TSC)
- COMMON TACT PICTURE MANAGER (CTPM)
PAPA Responsibilities

- Airborne power projection ashore
  - Air Interdiction (AI)
  - Close Air Support (CAS) / Forward Air Control (Airborne): FAC(A)
  - Offensive Counter Air (OCA)
  - Airborne Electronic Attack (AEA)
  - Suppression of Enemy Air Defenses (SEAD)
  - Strike Coordination and Armed Reconnaissance (SCAR)
  - Tomahawk Land Attack Missile (TLAM) coordination
  - Naval Surface Fire Support (NSFS) coordination

- Plan, direct, monitor, and assess assigned strike missions

- Integrate and coordinate CVW resources with MOC and CAOC (via LNO ashore)
PAPA Watch

- PAPA’s direct representative
  - Execution of power projection ashore
  - Emergent / external (ATO) tasking coordination
- Manned only during flight ops
- O-4: CAG’s Staff (or squadron DH)
- POC to CAOC Combat Ops Division (via LNO)
- Primary coordination authority with outside units and scheduling activities during execution day
ROMEO Responsibilities

• AREC (R) - CVN CO’s representative
  – Delegated to TAOs (Tactical Action Officers) outside of flight ops
  – Delegated to the air wing watch during flight ops

• Responsibilities:
  – Execute the airplan
  – Manage and coordinate efficient employment of sea-based aircraft (availability, maintenance, configuration)
  – Maintain awareness of mission to aircraft requirements and communicate airplan deviations to all concerned
• Current day airplan execution
  – Coordinate asset allocation to emergent requirements and communicate airplan changes to all concerned

• Must determine 2\textsuperscript{nd} and 3\textsuperscript{rd} order effects of airplan changes

• Primary coordinator for Warfare CDR’s emergent air support requirements or changes
Air Planning Board (APB)

- Three day planning cycle (24 / 48 / 72 hours out)
  - 48 and 72 hour out plans fed to LNO at CAOC

- Led by CVW Operations Officer

- Warfare Commander Representation
  - Must be able to speak for the commander
APB Tasks and Deliverables

Tasks
• Identify external ranges / non-organic assets required
• Coordinate with AOC Combat Plans Division to verify tasking
• Submit Air Support Requests (AIRSUPREQs or ASRs) / Airspace Control Measure Requests (ACMRs)

Deliverables
• Daily Air Plan (and subsequent draft air plans for 24 / 48 / 72 hrs out)
• Weapons Load Plans
**Example Airplan**
Battle Rhythm

- Strike Group (and higher)
  - Flag Brief (Warfare CDR’s Board / CUB)
  - Future Ops (FOPS)
  - Current Ops (COPS)
  - Operational Planning Teams (OPTs)

- CVW
  - Warfare Action Board (WAB)
  - Mission Planning Team (MPT)
Typical CVW Composition

- 44 x F/A-18C/E/F / F-35C
- 5-7 x EA-18G
- 4/5 x E-2C/D
- 8 x MH-60S
- 11 x MH-60R
- 2 x C-2 or 3 x CMV-22B
- 74-78-ish total

Over 100 pilots to keep current
• 4 "Rhino" squadrons
  – If VMFA embarked, then 1 “Hornet/Charlie”
• 10-12 aircraft per squadron
• Multi-mission fighter-attack
  – CAS / FAC(A) (F/A-18F only FAC/A)
  – Fleet Air Defense / DCA
  – Offensive Counter-Air (OCA)
  – Air Interdiction (AI)
  – War at Sea (WAS)
  – Organic tanker (Rhino)
  – Non-Traditional ISR (NTISR)
• Rhino vs. Hornet
  – Combat systems
  – Range / ordnance carriage
# F-35 A/B/C

<table>
<thead>
<tr>
<th></th>
<th>CTOL</th>
<th>STOVL</th>
<th>CV</th>
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<tbody>
<tr>
<td>Span (ft)</td>
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<td>43</td>
</tr>
<tr>
<td>Length (ft)</td>
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<td>51.1</td>
<td>51.4</td>
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<tr>
<td>Wing Area (ft²)</td>
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<td>460</td>
<td>668</td>
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</tbody>
</table>

- **CTOL**
  - Weight Empty (lb): 29,036
  - Internal Fuel (lb): 18,480

- **STOVL**
  - Weight Empty (lb): 32,161
  - Internal Fuel (lb): 14,003

- **CV**
  - Weight Empty (lb): 32,072
  - Internal Fuel (lb): 20,085

**Combat radius:**
- CTOL: 579nm
- STOVL: 505nm
- CV: 615nm
• Replacement for EA-6B Prowler
• 5 aircraft per squadron
  – Super Hornet airframe & radar
• Improved all-digital EA / EW / ES / CTTG
• Limited self-protect capability (1 or 2 x AIM-120)
• Higher fuel burn rate due to configuration

7 aircraft per squadron “Airwing of the Future”
E-2 Hawkeye / C-2 Greyhound

- **E-2C/D**: 4 or 5, max 3 on flight deck
  - Airborne C2 / AEW / MAC / NIFC-CA
  - ESM capable
  - Requires HVAA-P in contested environment

- **C-2A**: Detachment of 2 per CVW
  - Detachment based ashore
  - Typical cargo load: 10k lbs max
  - Typical pax load: 24
  - Limited MEDEVAC
  - Daylight operations only
  - CMV-22B transition
19 “Seahawk” aircraft with CSG
- (8) MH-60S (SUW / CSAR / SOF / LOG)
- (11) MH-60R (SUW / ASW / MAC for WAS)

- M240 / GAU-21 / AGM-114 (S & R)
- MK50 / MK54 torpedoes (R)
- PAX: S (9) vice R (2)
- MH-60S Link-16
- MH-60R Hawklink+Link-16
• Typically, 45-50 Aircraft spotted on the flight deck
  – Not all are FMC/MC
  – Remainder are in the hangar bay

• Flight deck elevator use restricted during:
  – Flight ops
  – Heavy sea states
  – High winds
  – Ship maneuvering
Flight Operations

- 10-14 Flight Hour days
- Single flight Deck Crew
  - Launch, Recover, Re-spot, Refuel, Re-arm, and Repeat…
- Sortie generation:
  - Normal: 65-80 (Indefinite)
  - Heavy: 80-100 (1-2 weeks)
  - Surge: 100-120+ (3-4 day sustainment only)
- Recovery types
  - Case I: Day, clear weather
  - Case II: Day, overcast
  - Case III: Night or poor weather
  - Takes longer than Case I/II (longer approach, more time between aircraft, more fuel required)
Flight Deck Ops

- Types of CVN flight deck operations
  - Cyclic
  - Flex Deck
  - Open Deck
  - Alerts
    - Alert Postures
    - Alert Packages
• Most common
• Established rhythm
  – 8 to 10 launch/recovery events of 1+15 / 1+30 hour cycles
  – Usually launch/recover 8-12 aircraft per cycle
  – Strike package: 20-22 aircraft
• Set cycle lengths
  – Time between launch and recovery
  – Predicated on CVN posit, mission, and/or fuel constraints
• Follows a specific launch and recovery sequence
  – Transition number: Sum total of fixed wing launches and recoveries
    • 18 to 25 is optimal
• No fixed cycle times
  – Launch/recover at any time, simultaneously

• Designed to support dynamic operations
  – Generates more sorties; good for AD / CAS
  – Can mitigate endurance / fuel management concerns
  – Requires extensive sea space
  – May impact aircraft maintenance
Open Deck

- Open Deck ≠ Flex Deck
- Applies to recovery of aircraft only
- Ship remains into the wind ready to recover aircraft
- Set for a specific window of time
• Alert 5 (A5)
  – Ship at Flight Quarters
  – Aircraft lined up with catapults, no aircraft maintenance
  – Aircrew in the aircraft, engines off, ground power applied
  – Catapults and arresting gear manned and ready
  – Maximum of 2 aircraft at Alert 5

• Alert 15 (A15)
  – Ship at Flight Quarters
  – Aircraft positioned with a clear path to the catapults, no maintenance
  – Aircrew in flight gear in the Ready Room
  – Catapults manned, arresting gear crew in the crew shelter

• Counts against aircrew and flight deck crew duty day limits
Alert Postures cont.

- Alert 30 (A30)
  - Aircrew with flight gear at the ready – may be asleep
  - Aircraft on the flight deck, no maintenance
  - Catapults and arresting gear ready, but unmanned

- Alert 60 (A60)
  - Aircrew assigned
  - Aircraft maintenance authorized
  - Minor catapult and arresting gear maintenance authorized

- Do not count against aircrew or flight deck crew duty days
Alert Packages

• Set by warfare area
• Includes supporting aircraft
  – E-2C/D (AEW), EA-18G (EA), Tankers
• Alert A – Imminent threat to CSG
  – Highest alert posture is A5
  – Support assets at lower alert posture
• Alert B – Flexible, quick response to threats
  – Highest alert posture is A15
• Alert C – Routine deployed operations
  – Highest alert posture is A30
• Alert D – Low threat environment
  – Highest alert posture is A60
  – Typically at night, far from land
• Alert B – AW (Air Warfare)
  – 1 x A15 MH-60S (Plane Guard)
  – 2 x A15 Fighters
  – 2 x A30 Fighters
  – 1 x A30 Growler
  – 1 x A30 Hawkeye
  – 1 x A30 Tanker
  – 1 x A60 Tanker

• There is a difference between launching the A15 Fighters and launching the Alert B package
  – What is the capability you need?
EMCON Considerations

• Comms
  – Launching aircraft transmit outside of EMCON circle
  – CVN utilize J-voice, SATCOM, or chat to communicate with aircraft

• Radars
  – Utilize E-2 for AD and to control MISR missions
  – Case II/III recoveries
    • No ACLS
    • No CVN radars
    • HCA (Hawkeye Control Approach)

• Potential Strike Package Impacts
  – Join up of package may require time and thus more fuel required

• Decreased opportunity for on deck system checks, thus requiring increased number of ready spares
ESG(ARG/MEU) Composition

• Navy Staffs
  – Flag-led Command Element (ESG) (as required)
  – O-6 led Amphibious Squadron Staff (PHIBRON)
  – O-5 OIC of Tactical Air Control Squadron (TACRON) Detachment

• Navy Units
  – 3 Amphibious Class ships (LHD, LPD, LSD)
  – Cruiser / Destroyer Class ships (as available) provide ‘W’ and ‘Z’
  – External MPRA support

• MEU sized MAGTF (2,000+ personnel)
  – O-6 led
  – Contains Ground Combat Element (GCE/BLT), Aviation Combat Element (ACE), Logistics Combat Element (LCE), and HQ element-dispersed throughout ARG
ESG Air Assets

- MEU air assets are structured and intended to support the MEU, not the maritime missions of the ESG
- MEU
  - 6 x AV-8B Harrier, or
  - 8 x F-35B Lightning II (FY18)
  - 4 x AH-1Z Cobra
  - 4 x UH-1Y Huey
  - 10-12 x MV-22B Osprey
  - 4 x CH-53E Super Stallion
- Navy
  - 2-3 x MH-60S
  - MH-60R (CRUDES)
AV-8B Harrier

- Short Takeoff and Vertical Landing (STOVL) capable
- Air-Air (limited)
- Air-Ground
  - Primary mission: Close Air Support for ground forces
  - LITENING Targeting pod
  - Guided and unguided weapons
  - In-flight refueling capable
  - 300 nm combat radius
- Must have clear deck for takeoff
• Vertical Takeoff and Landing (VTOL) capable
• Very Low Observable (VLO) Stealth
• Air-Air
• Air-Ground
  – Primary mission: Close Air Support for ground forces
  – Advanced Electro-Optical Targeting System (EOTS)
  – Guided and unguided weapons
  – In-flight refueling capable
  – 505 nm combat radius
• Must have clear deck for takeoff
AH-1Z Cobra / UH-1Y Huey
"Skids"

• Cobra: Air-to-ground
  – Primary mission:
    Close Air Support for ground forces
  – FLIR
  – M197 Gatling gun, rockets, AGM-114, AIM-9

• Huey: C2, Forward Air Control, Assault transport, and Medevac
  – 2.75” rockets, 7.62 mm machine guns
CH-53E Super Stallion

- Assault transport
  - 55 troops
- Heavy lift capacity
  - Up to 36,000 lbs externally
MV-22B Osprey

- Replacement for CH-46
- Assault transport
  - 24 troops, or up to 15,000 lbs cargo externally
  - C2 platform
- Shipboard ops & maintenance intensive
- Inflight refuel capable
LHA / LHD Flight Operations

- Similar planning process as CSG
  - Still produce an air plan via daily battle rhythm
  - Still use this air plan for execution guidance
  - MUST deconflict ship/well-deck operations/evolutions w/flight ops

- Similar wind / PIM issues as CSG
  - Fixed wing launches require wind over deck/restrict other evolutions
  - Fixed wing launches lock down deck / requires clear deck run
  - Deck spotting/handling

- Well-deck operations during flight ops
  - Possible, but limitations based on sea state and other factors
  - Fixed wing launches versus helo ops
  - Usually need to launch helos first, make room for Fixed Wing deck runs
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<th>LHD/A – CVN Comparison</th>
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<td><strong>ARG/MEU</strong></td>
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<tr>
<td>TACRON OIC</td>
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<tr>
<td>AATCC</td>
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<td>“GREENCROWN”</td>
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<td>LHD/A AIR-O / TACRON OIC</td>
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<td>ACE CO</td>
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Summary

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  - Considerations
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  - LHD/LHA/MAGTF operations
Additional Fires Training

• Maritime Fires Course, CDP: J-2G-0655
  – Staff Watch Officers
  – Intelligence Watch Officers
  – Targeteers attached to:
    • Carrier Air Wings (CVWs)
    • Carrier Strike Groups (CSGs)
    • Amphibious Ready Groups (ARGs)
    • Fleet Maritime Operations Centers (MOCs)

• JFACC Augmentation Staff Course (JASC), CDP: K-2G-5001
  – Personnel expected to augment the JFACC afloat or shore-based
  – TACRON
  – CVW Staff
  – CVN Strike Ops Personnel

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Questions?