



**DEPARTMENT OF THE NAVY**  
CARRIER AIRBORNE EARLY WARNING SQUADRON 120  
1027 BELLINGER BLVD.  
NAVAL STATION NORFOLK, VIRGINIA 23511-2216

CARAEWRON120INST 3710.5W  
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CARAEWRON 120 INSTRUCTION 3710.5W

Subj: SQUADRON STANDARD OPERATING PROCEDURES (SOP)

Ref: (a) COMACCLOGWINGINST 3710.2 (Series)  
(b) OPNAVINST 3710.7 (Series)  
(c) E-2C/E-2D/C-2A NATOPS Naval Flight Manuals  
(d) LSO NATOPS  
(e) E-2C STOP Manual  
(f) E-2C SOG Manual  
(g) C-2A STOP Manual  
(h) E-2D STOP Manual  
(i) E-2D SOG Manual  
(j) CARAEWRON120INST 3740.1 (Series)  
(k) CARAEWRON120INST 3560.1 (Series)  
(l) CNATRAININST 1500.4 (Series)  
(m) COMACCLOGWINGINST 11018.1 (Series)

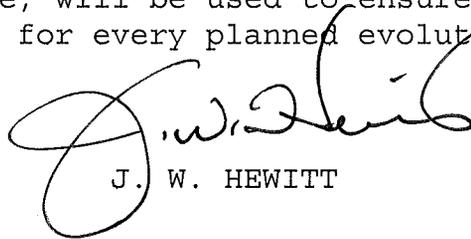
Encl: (1) VAW-120 SOP  
(2) Change Recommendation for VAW-120 SOP  
(3) VAW-120 E-2C/D Flight Brief  
(4) VAW-120 C-2A Flight Brief  
(5) FCF Brief  
(6) FCLP/CQ Brief  
(7) Formation Brief  
(8) Formation Brief ALPHA  
(9) VAW-120 NFO Right Seat Briefing Guide  
(10) VAW-120 Debriefing Guide  
(11) Cross-Country Request

1. Purpose. This instruction amplifies references (a) through (m) and delineates procedures for squadron personnel.

2. Cancellation. CARAEWRON120INST 3710.5V.

3. Discussion. Squadron Standard Operating Procedures (SOPs) are intended to standardize squadron operations not specifically outlined in references (a) through (m). In the event of a conflict between this SOP and aircraft NATOPS manuals, NATOPS will take precedence. Conflicts or recommended changes should be brought to the attention of the Operations Officer (OPSO). Change recommendations shall be submitted using enclosure (2).

4. Action. This instruction and enclosures apply to all squadron members and personnel assigned to other units conducting operations in VAW-120 aircraft or squadron spaces. All personnel involved with flight operations shall adhere to, and maintain familiarity with this instruction. Enclosures (1) through (10), as applicable, will be used to ensure aircrews are properly briefed and ready for every planned evolution.



J. W. HEWITT

## GLOSSARY OF TERMS

3P	- 3 <sup>rd</sup> Pilot
ACO	- Air Control Officer
ADB	- Aircraft Discrepancy Book
AFCS	- Automatic Flight Control System
AGL	- Above Ground Level
AIC	- Air Intercept Control
AOPSO	- Assistance Operations Officer
APU	- Auxiliary Power Unit
BITS	- Back in the Saddle
CAPC	- Carrier Aircraft Plane Commander
CAT	- Category
CDO	- Command Duty Officer
CIC	- Combat Information Center
CICO	- Combat Information Center Officer
CNS/ATM	- Communication, Navigation, Surveillance/Air Traffic Management System
CO	- Commanding Officer
COD	- Carrier Onboard Delivery
CQ	- Carrier Qualification
CRM	- Crew Resource Management
CTPC	- Carrier Transport Plane Commander
CTCC	- Carrier Transport Crew Chief
CVN	- Aircraft Carrier - Nuclear
EKMS	- Electronic Key Management System
EP	- Emergency Procedure
FCF	- Functional Check Flight
FCLP	- Field Carrier Landing Practice
FEC	- Forward Equipment Compartment
FOD	- Foreign Object Damage
FRS	- Fleet Replacement Squadron
HAA	- Height Above Airport
HAT	- Height Above Touchdown
ICS	- Internal Communication System
IFR	- Instrument Flight Rules
INFO	- Instructor Naval Flight Officer
IP	- Instructor Pilot
IUT	- Instructor Under Training
LSGI	- Low Speed Ground Idle
MEH	- Main Entrance Hatch
NATOPS	- Naval Air Training and Operating Procedures Standardization
NFO	- Naval Flight Officer
NFM	- NATOPS Flight Manual
OIC	- Officer in Charge
OPSO	- Operations Officer

P/C - Plane Captain  
PAC - Pilot at the Controls  
PC - Plane Commander  
PCL - NATOPS Pocket Checklist  
PFD - Primary Flight Display  
PFR - Primary Flight Reference  
PIC - Pilot in Command  
PSTAN - Pre-standardization Check Flight  
RAC - Replacement Aircrewman  
RON - Remain Over Night  
RP - Replacement Pilot  
RNFO - Replacement Naval Flight Officer  
RTB - Return to Base  
SAR - Search and Rescue  
SNAC - Student Naval Aircrewman  
SNFO - Student Naval Flight Officer  
STANX - NATOPS Standardization Check  
TARA - Towed Auxiliary Receiver Array  
TAWS - Terrain Awareness Warning System  
TCAS - Traffic Collision Avoidance System  
VFR - Visual Flight Rules  
XO - Executive Officer

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**CHAPTER 1  
GENERAL INFORMATION**

**1.1 CREW DEFINITIONS AND REQUIREMENTS**

**1.1.1 FLIGHT CREW.** An individual who is embarked to perform crew duties and/or specific training, receiving flight pay, and meets the requirements of Figure 1.2.

**1.1.2 ORIENTEES/PASSENGERS.** Orientees and passengers shall be defined according to paragraph 105 of reference (a).

**1.1.3 PASSENGER.** An individual who is embarked, but is not considered part of the Flight Crew. No passengers may embark in an E-2C/D.

**1.1.4 COCKPIT OPERATIONAL CONDUCT.** "The pilot at the controls is the pilot in control." This means that the pilot at the controls should initiate action in the cockpit by calling for the checklists and striving to maintain situational awareness at all times to the safe and orderly conduct of flight. The pilot at the controls should at all times have the aircraft and its situation under his/her positive control. This environment will in no way diminish the responsibilities and duties of the CAPC/CTPC.

**1.2 WATER SURVIVAL AND AVIATION PHYSIOLOGY REQUIREMENTS:**

	NATSP	Ditch & Bailout	Medical
Flight Crew	Aircrew Class 2 Indoc/Refresher	12 Months	Current Upchit
Orientees	Non-Aircrew Class 2	< 48 hours	Current Upchit

## 1.3 E-2C/D CREW REQUIREMENTS:

MISSION	Minimum Crew			Other Crew Positions	Ref. (c)
	AIRCRAFT COMMANDER	CO-PILOT Note 1	CIC CREW		
Training	Designated IP	Pilot, NFO, RP, Flight Surgeon, Note 2, Note 3	CIC Crewmember Note 4	Note 2, Note 3	5.2.3
FCLP	Designated IP with 10 left seat pilot training flights	Pilot, NFO, RP, Flight Surgeon, Note 2	CIC Crewmember Note 4		5.2.3
Carrier Ops (other than CQ)	CAPC	Pilot, NFO, RP, Flight Surgeon Note 2	CIC Crewmember Note 4	Note 2	5.2.3
CQ	CQ IP	E2C/D 3P, C2A 2P, RP	INFO Note 5		5.2.3
FCF	FCF CAPC or FCF PC	E2C/D 3P, E2C/D RP who is STAN Comp, E2C/D Fleet Experienced Pilot (any series)	FCF NFO	Note 6	11.1 and 5.2.3

**NOTE 1:** CO may authorize C-2A Plane Commander to act as a 3P in the E-2C/D in accordance with paragraphs 1.7.2 and 1.7.3.

**Note 2:** Any Flight Crew or Orientee may occupy the co-pilot seat. No more than two Orientees are allowed in the aircraft simultaneously. An Orientee in the CIC compartment should be seated in the CICO seat.

**NOTE 3:** IAW reference (b) and reference (c) chapter 5, the CO may authorize a designated aviator qualified in a different model to perform co-pilot duties or CIC crew duties. The Aircraft Commander or Mission Commander shall thoroughly brief co-pilot responsibilities for normal and emergency procedures.

**Note 4:** CIC Crewmember: Any E-2C/D T/M/S NATOPS Qualified NFO or Pilot. In addition, any SNFO or RP may act as the CIC Crewmember, except for CQ, if the following events have been completed: For SNFOs - completion of Min Crew Flight which requires a CIC Emergency Procedures Brief. For RPs - complete through syllabus flight FAM-3, and received a CIC Emergency Procedures Brief. After completing these events RNFOs and RPs will be considered FRS flight personnel trained in CIC emergency procedures and eligible as a CIC Crewmember in accordance with reference (c) section 5.2.3.3.

**Note 5:** For FRS CQ evolutions, a staff NFO shall be embarked in the CIC compartment.

**Note 6:** An additional NFO assistant as required is authorized.

## 1.4 C-2A CREW REQUIREMENTS:

MISSION	Minimum Crew			CABIN	Ref. (c)
	AIRCRAFT COMMANDER	CO-PILOT	CREW		
Training	Designated CTPC IP	Pilot, NFO, RP, Flight Surgeon Note 1	T2C	No Passengers No Cargo Note 2, Note 3	5.6 fig 5-2
FCLP	Designated CTPC IP with 10 left seat pilot training flights	Pilot, NFO, RP, Flight Surgeon, Note 1	T2C	No Passengers No Cargo Note 2, Note 3	5.6 fig 5-2
CQ	CTPC CQ IP	C-2A CT3P, RP	CT2C	No Passengers No Cargo Note 4	5.6 fig 5-2
FCF	FCF CTPC or FCF TPC	C2A T3P, E2 CAPC designated C2A T3P, Note 5	CT2C	No Passengers No Cargo Note 6	5.6 fig 5-2
Carrier Onboard Delivery (COD)	CTPC Note 7	CT3P, Note 5	CTCC and CT2C	Passengers and/or Cargo	5.6 fig 5-2
Shore Transport	TPC	T3P, Note 5	CTCC and T2C	Passengers and/or Cargo Note 8	5.6 fig 5-2

**Note 1:** Any Flight Crew or Orienteer may occupy the co-pilot seat.

**Note 2:** FRS staff instructors and RPs with current C-2A egress training may be embarked and are considered Flight Crew.

**Note 3:** Aircrew under instruction (trainees) are authorized and considered Flight Crew. The number of trainees cannot exceed two per aircrew instructor embarked.

**Note 4:** C-2A CQ switch pilots and additional C-2A Aircrewmembers embarked only for necessary transportation to/from ship are authorized.

**Note 5:** CO may authorize an E-2C/D CAPC to act as a 3P in the C-2A in accordance with paragraph 1.7.4.

**Note 6:** Minimum crew evolution and only one qualified Aircrewman shall be embarked.

**Note 7:** CTPC must be CQ current prior to launching or trapping with passengers.

**Note 8:** With only one qualified Aircrewman (CTCC or CT2C) only eight passengers and or 1,000 lbs. of cargo may be embarked.

**1.5 CRM EVALUATION FLIGHT REQUIREMENTS.** RPs and RAC shall fly their initial CRM Flight Evaluation concurrently with their NATOPS Standardization Check Flight. RNFOs shall fly their initial CRM Flight Evaluation concurrently with their Min Crew Flight. CAT III/IV students shall fly their CRM Flight Evaluation as part of their first flight with VAW-120.

#### 1.6 AIRCREW CURRENCY

Days since last flight	Flt Requirement	Other requirements
>14 days (IP and RP)	BITS Flt, CAPC/CTPC may sign for Aircraft when flying with another CAPC/CTPC if <30 days	BITS Exam
>21 days (INFO, RNFO and SNFO)	BITS Flt, NFO may not act as MISSION COMMANDER	BITS Exam
>30 days (C-2A Aircrew)	BITS Flt	BITS Exam
>60 days (Pilots, NFOs and Aircrew)	BITS Flt	Complete Closed Book NATOPS Exam

**1.6.1 PILOT BITS FLIGHT.** The Aircraft Commander shall ensure BITS exams are completed and graded prior to walking. A pilot BITS flight may be flown from either right or left seat at the discretion of the Aircraft Commander. Flights within 14 days in either E-2C or E-2D fulfill the BITS requirement for either aircraft. If aircrew have not flown within 30 days in a specific series (E-2C/E-2D), BITS flight and EP quiz are required before flight in that series (aircrew in CAT I, CAT Many, or IUT syllabus must adhere to this policy). IPs may fly BITS flights in the E-2C, E-2D or C-2A as long as they satisfy the requirements for 3P in that aircraft. The requirements for

a BITS flight should be one instrument approach and should be a minimum of three total touch-and-goes or landings. Pilots cannot complete BITS during an FCF or during any logistics mission.

**1.6.1.1 RP BITS FLIGHT.** The Aircraft Commander shall ensure BITS exams are completed and graded prior to walking. RPs must perform their BITS flight in their primary aircraft. RPs shall re-fly a similar syllabus flight event as a dedicated BITS when the time from their last flight exceeds 14 days for all scheduled syllabus flights except FAM-0, FAM-1 and mission hops which do not require currency.

**1.6.2 INFO/RNFO/SNFO BITS FLIGHT.** The Mission Commander shall ensure BITS exams are completed and graded prior to walking. Flights within 21 days in either E-2C or E-2D fulfill the BITS requirements for both series. If the INFO/RNFO/SNFO has no flight logged within 30 days in a specific series (E-2C/E-2D), a BITS flight and EP quiz are required before flight in that series. A BITS flight consists of performing normal checklist duties, getting airborne, and conducting a CRM drill. INFOS/RNFOS/SNFOS outside their BITS requirements may not act as minimum crew.

## **1.7 PILOT DESIGNATIONS AND REQUIREMENTS**

**1.7.1 CQ INSTRUCTOR.** Must meet requirements in references (d) and (k) and complete IUT CQ.

**1.7.2 E-2C 3P.** A NATOPS qualified E-2D CAPC or C-2A CTPC may obtain E-2C 3P designation by completing ditch and bailout training and a cockpit familiarization.

**1.7.3 E-2D 3P.** A NATOPS qualified E-2C CAPC or C-2A CTPC may obtain E-2D 3P designation by completing ditch and bailout training and a cockpit familiarization.

**1.7.4 C-2A 3P.** A NATOPS qualified E-2C/D CAPC may obtain C-2A 3P designation by completing ditch and bailout training, a cockpit familiarization and have CNS/ATM qualification.

**1.8 C-2A MAINTENANCE RESPONSIBILITIES.** For scheduled C-2A logistics flights, the VAW-120 Maintenance Department shall have all required cargo ready to load and staged three hours prior to scheduled take-off time. They shall also ensure that all maintenance personnel embarking on C-2A aircraft are provided with a cranial and personal flotation device for over water flights. Passengers will muster with the senior maintenance

representative two hours prior to scheduled take-off (location for muster to be determined by Maintenance) and provide copy of manifest to the CDO/SDO.

## **1.9 CREW REST AND SCHEDULING CONSIDERATIONS**

**1.9.1 CREW REST.** General guidance: The OPSO is responsible for ensuring that adequate crew rest is being provided for all aircrew. IAW reference (1) SNFOs shall be provided 12 hours of crew rest from completion of their previous day's last event (including associated debrief) to their first scheduled event (including associated brief) of the following day while RPs and RNFOs should be provided 10 hours crew rest. All efforts should be made to allow 10 hours between the previous day's last event and the first event of the day for instructors as well.

**1.9.1.1 CREW REST FOR RPS, RNFOs, SNFOs AND SNACS.** If any RP or RNFO is scheduled for three or more graded events or did not have 10 hours of crew rest from the prior day, the CO shall be notified by the OPSO or CDO prior to the RP or RNFO's next event. If any SNFO or SNAC is scheduled for more than two graded events the CO shall be notified by the OPSO or CDO.

**1.9.2 CREW DAY.** Crew day shall begin upon first arrival at the squadron spaces, whether arriving for a brief or for normal working hours. Crew day shall end upon completion of the last event of the day. Staff crew day shall be in accordance with ref (b), RP and RNFO crew day shall be 14 hours and SNFO and SNAC crew day shall be 12 hours unless waived by the Commanding Officer/OIC.

**1.9.2.1 CREW DAY FOR RPS, RNFOs, SNFOs AND SNACS.** If scheduling restrictions necessitate an RP, RNFO, SNFO or SNAC exceeding crew day (i.e. CQ), the OIC, OPSO or CDO shall monitor the student's crew rest and the student's schedule for the next 48 hours and brief the CO or Detachment OIC daily.

**1.9.3 MAN-UPS.** There should be no more than three man-ups per aircrew per day. Four man-ups per day are allowed during the FCLP/CQ phase. Staff aircrew may conduct four man-ups in a day, but the CO must be notified by the OPSO or CDO prior to take-off. A man-up is defined as completion of the brief and walk from Maintenance Control to aircraft.

**1.9.4 SCHEDULING CHANGES.** The following personnel are authorized to make changes to the daily flight schedule: CO, OPSO and the CDO. (In the absence of the CO and OPSO, the XO

and AOPSO are authorized to make changes to the daily flight schedule.) All changes are to be routed through the Operations Department.

**1.9.5 FCLP SCHEDULING.** CAT I/II RPs should be STANX complete prior to the FCLP phase. By exception and with CO's approval, CAT I/II RPs shall have successfully completed their FAM-7X, AI-2 and N-3X prior to beginning FCLP phase flights. CAT III/IV RPs should be complete with FAM events prior to commencing night FCLPs.

**1.9.6 IP SCHEDULING**

**1.9.6.1 IUT AS PIC.** Instructor pilots under training may act as a CAPC during NFO training events.

**1.9.6.2 IUT EVENTS.** IPs shall not instruct IUT or FCLP events until they have completed ten left seat RP training flights as an IP. IPs shall not instruct FAM-0 to FAM-3, an RP's first night event or RP STANX until they have completed five left seat pilot training flights as an IP.

**1.9.7 SCHEDULING FIRST TIME FLIGHTS.** An aircrew's first flight as part of the Flight Crew shall not be in conjunction with a hot switch.

**1.9.8 CARRIER QUALIFICATION.** CAT I/II RPs should be NATOPS qualified prior to performing Carrier Qualification.

**1.10 MEDICAL FLIGHT CLEARANCE AND GROUNDING NOTICES.** All Aircrew shall submit the original notices to NATOPS.

**CHAPTER 2**  
**GROUND OPERATIONS OF SQUADRON AIRCRAFT**

**2.1 BRIEFING.** Briefing guides shall be used to the maximum extent possible. Between flights (i.e. stops during Cross-Country flights) briefing must be conducted in accordance with reference (c). For flights conducted in the local area, a briefing board should be prepared in accordance with the Briefing Guide, references (e), (g) or (h). Aircraft Commanders will ensure weather is briefed using DD-175-1 to the maximum extent practicable.

**2.1.1 COMPARTMENTALIZATION AND THE BUBBLE.** From pre-mission planning until the completion of all required post flight debriefing and paperwork, aircrews are considered to be in "The Bubble". To ensure optimum aircrew safety and mission effectiveness, administrative duties not associated with the flight evolution to include phone calls, email, texting, etc., shall be avoided while in "The Bubble". "The Bubble" concept must be understood and adhered to by all hands.

**2.1.2 FORMATION BRIEFS**

**2.1.2.1 FORMATION BRIEFS INVOLVING TWO AIRCRAFT.** All two plane formation flights will be in accordance with Form Brief Alpha as outlined in enclosure (8). If any portion of the form flight will differ from Form Brief Alpha, it will be briefed prior to the flight or stated over the radio. Radio communication shall be established prior to join-up.

**2.1.2.2 FORMATION BRIEFS INVOLVING MORE THAN TWO AIRCRAFT.** For all formation flights involving more than two aircraft, a face-to-face brief shall occur prior to the flight. All participating crewmembers must be present during the brief. All phases of the flight shall be briefed per references (e), (g) or (h).

**2.1.3 REBRIEFING.** The CDQ and each Aircraft Commander shall ensure a flight is re-briefed if launch time is slid in excess of two hours.

**2.2 NATOPS, PCLS, AND COCKPIT CHECKLISTS.** Naval Flight Manuals (NFM), Pocket Checklists (PCLs) and Cockpit Checklists shall be maintained inside all VAW-120 C-2A, E-2C and E-2D aircraft. In the C-2A, one NFM, one PCL and one Cockpit Checklist shall be maintained in the cockpit. In the E-2C/D, one PCL and Cockpit

Checklist shall be maintained in the cockpit, and one PCL and NFM shall be maintained in the CIC. The current NFM, PCL and Cockpit Checklist inventory shall be maintained by the VAW-120 NATOPS Officers.

## **2.3 PROCEEDING TO AND FROM AIRCRAFT**

**2.3.1 WALK TIMES.** Aircrew shall walk to their aircraft no later than 60 minutes prior to scheduled launch time for all CAT I syllabus events and no later than 45 minutes prior to scheduled launch time for all other events. Walking to an aircraft is defined as flight gear on, ADB reviewed and leaving the hangar for the aircraft. Flight gear on is defined as helmet on with visor down, sleeves rolled down and gloves on.

### **2.3.2 HEARING PROTECTION**

a. Double hearing protection (earplugs/foamies with helmet or cranial) shall be worn on the flight line whenever an aircraft engine or C-2A APU hydraulic generator is being operated by VAW-120 or any squadron within or directly adjacent to the lines of the LP-34 and LP-27 hangars, as well as on detachment. Double hearing protection shall also be worn by personnel working within a five foot radius of operating ground support equipment.

b. Single hearing protection shall be worn while working in the hangar when aircraft engines are turning on the flight line, outside a five foot radius from operating ground support equipment, other aircraft are turning beyond LP-34 and LP-27 ramps, or when other loud noises (above 84 dB) dictate.

**2.3.3 JEWELRY/FOD PREVENTION.** All aircrew and ground launch personnel may wear a wrist watch but shall remove all jewelry (wedding rings should be removed at the discretion of the individual) and non-essential items such as uniform devices prior to manning up. Aircrew shall ensure that all loose items are secure and pockets are zipped.

**2.3.4 APPROACHING/EXITING AIRCRAFT.** Approaching/Exiting the aircraft regardless of whether the aircraft is turning or not, no personnel shall walk through a propeller arc or beneath the nacelle forward of the main mount except during propeller maintenance and/or propeller/engine preflight.

**2.3.4.1 APPROACHING/EXITING AIRCRAFT: E-2C/D.** When approaching a turning E-2C/D, all personnel shall proceed aft of the engine nacelle, well clear of the propeller arc, pass behind the main

mount and go straight to the fuselage, and then proceed forward to the MEH or hydraulic panel as applicable. The process shall be reversed when exiting the aircraft.

**2.3.4.2 APPROACHING/EXITING AIRCRAFT: C-2A.** When approaching a turning C-2A, all personnel shall proceed aft of the tail section and to the cargo ramp, remaining well clear of engines. The process shall be reversed when exiting the aircraft.

## **2.4 SUPPLEMENTAL GROUND SIGNALS**

### **2.4.1 TIME-TO-GO**

a. Day. Pilot point to wrist, then use number of fingers to indicate time in minutes.

b. Night. Pilot aims light at wrist, and then blinks light deliberately to indicate minutes delay.

### **2.4.2 LSGI**

a. Day. P/C points both index fingers from up to straight down repeatedly.

b. Night. P/C points wands from up to straight down repeatedly.

**2.4.3 AIRCREW SWITCH.** The signal for switch aircrew will be T-9. This will be signaled as four fingers horizontal or nine light flashes.

**2.5 E-2D CIRCUIT BREAKERS.** The following circuit breakers will remain pulled from engine shutdown to the following man-up and will be pushed in by the aircrew only.

<u>E-2D</u>	<u>Location</u>
PCMU CH A L ENG	Overhead
PCMU CH A R ENG	Overhead
PCMU CH B L ENG	Overhead
PCMU CH B R ENG	Overhead

**2.6 GROUND LOCKS.** Ground locks will be individually inspected by CIC crewmember (aircrew member in C-2A) upon being brought into the aircraft to ensure all pieces are present. Ground locks will be stowed in the seat storage compartment for C-2A and in the CIC drawers for the E-2C/D. The MEH storage compartment may be used in the E-2D while ashore.

**2.7 GROUND OPERATIONS DURING THUNDERSTORM CONDITION 1 OR 2.** The CDO shall inform Maintenance Control when Thunderstorm Warning (T1) or Thunderstorm Watch (T2) has been set by a competent authority. T1 is defined as destructive wind and accompanying thunderstorms within ten NM or expected within one hour. T2 is defined as destructive wind and accompanying thunderstorms within 25 NM or expected within six hours. Maintenance control will ensure all fueling is stopped and inform all supervisors when T1 has been set. Flight Line operations may continue under T1. When weather conditions become unsafe (i.e. heavy rains, winds, nearby lightning, etc., are approaching the airfield) the Flight Line Coordinator has the responsibility to secure the flight line until weather conditions improve.

**2.8 VAPOR CYCLE CONTROL.** During E-2C/D front-end mission flights, Vapor Cycle Control shall be maintained in the cockpit to ensure that in the event of Smoke/Fumes/Fire, the Vapor Cycle can be quickly secured without the CIC Crewmember having to unstrap to switch seats. Cockpit Vapor Cycle Switch position shall be verbalized during appropriate checklist to remind the Pilot that it is in the Pilot's control should the Vapor Cycle need to be secured during flight.

**2.9 C-2A CARGO DOOR MANUAL OPERATION.** If operation of the cargo ramp using the hand pump is required, personnel shall obtain approval from Maintenance Control or the Aircraft Commander. To open or close the ramp with the hand pump, there shall be an E-6 QAR or E-7 and above on-site to supervise the entire evolution.

## **2.10 PRE-START REQUIREMENTS**

**2.10.1 TROUBLESHOOTERS.** All troubleshooters shall exit the aircraft prior to start unless required for start-related troubleshooting.

**2.10.2 EGRESS ROUTES.** Just prior to starts, the pilot at the controls shall report which engine is about to be started and the best egress route in the event of a fire (main entrance hatch for a right engine fire, overhead hatches in an E-2C/D or cargo ramp in a C-2 for a left engine fire).

## **2.11 GROUND OPERATIONS**

**2.11.1 HAND SAFE.** Any time pilots receive Plane Captain direction to show their hands safe, the pilot shall verify the nose wheel handle is stowed and safe by verbalizing, "Nosewheel Stowed, hands safe."

**2.11.2 E-2C/D GENERATORS ON/OFF.** The pilot shall inform the CICO when ready to turn on/off the respective generator. The CICO will report ready for the respective generator.

**2.11.3 NO ICS DURING GROUND OPS.** Whenever a crewmember is in the FEC without ICS, any signal from the pilot, co-pilot or CICO, such as a flashing light or waving a hand indicates the crewmember should return to his or her seat.

**2.11.4 TAXI OPERATIONS.** All crewmembers shall be connected to their lower Koch fittings (E-2C/D) or lap belt (C-2A) during taxi operation unless aircrew responsibilities require otherwise.

**2.11.5 HOT BAKE INSPECTION.** After landings, the aircraft brakes shall be checked for excessive heat before the aircraft is allowed to taxi into the squadron line.

**2.12 NIGHT FLIGHT LINE OPS: LOWER ANTI-COLLISION LIGHT.** In the line area at night, the lower strobe will be turned on only during P/C checks.

### **2.13 HOT PUMP/CREW SWITCH**

**2.13.1 E-2C/D HOT PUMP/CREW SWITCH.** A hot pump evolution involves having the aircraft receive fuel with an engine online; a crew switch evolution involves replacing the aircrew in the aircraft with one or both engines online. Prior to an aircrew's first crew switch evolution, the procedures shall be demonstrated on a static aircraft. If crew switch demonstration was not previously completed on static aircraft, then the port engine shall be secured for the aircrew's first crew switch evolution. PSTAN and STANX should not crew switch into the aircraft. Pilot STANX flights that begin with a crew switch should conclude with both engines shut down in order to be considered complete. After all crew switch evolutions, the oncoming pilot at the controls will initiate the PRE-TAKEOFF CHECKLIST indicating he/she is ready to begin the event.

**2.13.1.1 MAINTENANCE SUPPORTED HOT SWITCH.** When VAW-120 maintenance personnel are present for a crew switch (i.e. during normal launches, maintenance supported detachments or CVN operations):

a. A minimum of two personnel (maintainers and/or contractors) are required, one to function as a P/C and one as a MEH operator.

b. After a pilot has opened an overhead ditching hatch and upon P/C signal, the maintainer/contractor will open the MEH.

c. The exiting aircrew will depart the aircraft, turn left, and proceed aft of the port main mount, then turn outboard and parallel the port wing until well clear of the aircraft. When clear, the exiting aircrew shall signal the pilot that he is clear. The oncoming aircrew will proceed to the MEH opposite the exact route taken by the exiting aircrew.

d. After the aircrew has boarded the aircraft and clearance to shut the MEH has been obtained from the P/C, the maintainer/contractor will shut the MEH.

**2.13.1.2 NON-MAINTENANCE SUPPORTED CREW SWITCH.** If VAW-120 maintenance personnel are not present (i.e. during FCLPs at NALF Fentress, Cross-Countries, or non-maintenance supported detachment sites):

a. The Co-pilot will open the overhead hatch. The oncoming pilot shall check with the Aircraft Commander for an OK (thumbs up-day/circle w/colored light-night) to approach the aircraft.

b. The oncoming pilot will proceed to the port wingtip and along the trailing edge of the wing to the fuselage.

c. The oncoming pilot will open the door, enter the aircraft and wait in the FEC for the off-going pilot to exit the aircraft and close the door.

d. The oncoming pilot will ensure the MEH is closed properly then go forward and strap in.

e. If the door is still open the oncoming pilot will return to the MEH and re-secure the door.

f. Once clear of the wing, the off-going pilot will perform a visual inspection of the aircraft. The off-going will then go forward and receive a thumbs up/down (day) or circular/horizontal light motion (night) and remain in sight of the crew in the cockpit.

**2.13.2 C-2A HOT SPIN/CREW SWITCH.** The oncoming aircrew will approach the aircraft as specified in paragraph 2.3.4.2. After clearance has been obtained from the Aircraft Commander the

aircrew will visually check aircraft and enter through cargo ramp. The exiting crew will depart via the cargo ramp and perform a visual inspection of the aircraft and signal when clear.

**2.14 HOT REFUELING.** Crews shall limit hot refueling to 12K in E-2C, E-2D and C-2A. All C-2A passengers will disembark the aircraft before refueling.

**2.15 NON-OPERATING ENGINES ON CROSSBLEED CAPABLE AIRCRAFT.** All maintenance performed on non-operating engines when the other engine is turning shall be limited to areas aft of the starter turbine rotation line. Any maintenance requirement forward of the starter rotation line shall require pilots to show their hands. Additionally, a Safety Observer shall maintain visual contact with active maintenance personnel and the P/C during the entire evolution. Should an improper or unsafe condition develop, the Safety Observer will signal the P/C to direct the aircrew to immediately shut down the operating engine.

**2.16 MAINTENANCE TURNS**

a. Maintenance Control shall request, through Operations and the CDO, a pilot to perform high and low-power turns if a turn-qualified Petty Officer is not available.

b. Minimum turn crew requirements are delineated in reference (m), with the occupant of the co-pilot's seat acting as the safety observer. The safety observer shall assist the pilot/operator by reading checklists and performing any other functions as assigned. If other personnel are required for the turn (e.g. propeller balancing), they must be in communication with the pilot/operator via a helmet/headset while engines are starting. No one is permitted to enter or exit the aircraft during engine start.

c. Before the turn, the pilot/operator shall conduct all pre-flight checklists and procedures normally conducted with the intent to fly.

d. Low-power turns shall be conducted in accordance with reference (m). The pilot/operator shall ensure, at a minimum, the nose gear ground lock and the AOA probe cover have been removed prior to any engine start. If the aircraft is to be taxied after the turn, all ground locks must be removed, all panels fastened, and a pilot shall be at the controls.

e. High-power turns shall be conducted in accordance with reference (m). Only a NATOPS qualified pilot may taxi the aircraft. The pilot shall conduct a complete preflight inspection, ensure all ground locks are removed, and all panels fastened. The pilot must coordinate with ground control for clearance to the designated high power area (normally Echo taxiway at Chambers Field).

f. In accordance with reference (m), an IBIT turn ashore is still considered a low power turn at 1800 IHP; however, the aircraft shall be positioned where its engine exhaust is pointed toward the runway, so there is no possibility of personnel or GSE in the propeller wash area. Shipboard IBIT turns shall be considered high power turns.

**CHAPTER 3**  
**FLIGHT OPERATIONS**

**3.1 C-2A CARGO RAMP.** The C-2A cargo ramp shall remain closed when airborne except during actual emergency, FCF "A" or when specifically authorized by the CO (photograph exercises, reenlistments, etc.).

**3.2 AIRBORNE CREW SWITCHES.** When performing airborne crew switches, the evolution must be briefed by the Aircraft Commander and the following procedures apply:

- a. The aircraft will be at a minimum of 2,000 feet AGL.
- b. Aircraft trimmed to a "hands off" condition (AFCS engagement is optional).
- c. Pilots unstrap.

**3.2.1 SIDE-TO-SIDE SWITCHES.** In addition to those cited in section 3.2, the following procedures apply:

- a. Pilot not at the controls will slide seat aft, disconnect from ICS and move between the seats to the rear of the cockpit.
- b. Pilot at the controls will disconnect from ICS and move to the new seat and reconnect to ICS, maintaining positive control of the aircraft and lookout doctrine.
- c. Pilot not at the controls will connect ICS, strap into new seat and report when ready to take control of the aircraft, thus allowing pilot at controls to strap in.
- d. For E-2C/D, a crewmember in the CIC shall monitor airspeed, altitude and radio communications during the switch.
- e. For C-2A, the aft crewmember shall monitor radio communications during the switch.

**3.2.2 E-2C/D FRONT-TO-BACK SWITCHES.** In addition to those cited in section 3.2, the following procedures apply:

- a. When prompted by the CAPC, the off going switch pilot will proceed aft into the FEC and will remain next to the MEH until the ongoing switch pilot passes on the way towards the cockpit.

b. The oncoming switch pilot will climb into the cockpit and connect to the ICS.

c. The off going switch pilot will ensure the cockpit door is closed prior to proceeding to the CIC.

**3.2.3 C-2A FRONT-TO-BACK SWITCHES.** In addition to those cited in section 3.2, the following procedures apply:

a. When prompted by the Crew Chief, the oncoming switch pilot will proceed forward towards the cockpit and remain next to the MEDB until the off going switch pilot opens the cockpit door.

b. The oncoming switch pilot will climb into the cockpit and connect to the ICS.

c. The off going switch pilot will help the oncoming switch pilot with the harness and then ensure the cockpit door is closed prior to returning to the cabin.

### **3.3 FCLP OPERATIONS**

**3.3.1 FCLP LIGHTING.** Taxi light shall be selected ON and anti-collision lights to BOTH and WHITE for all takeoffs. Once at pattern altitude, the taxi light should be selected OFF and anti-collision lights selected to UPPER only, RED. During a "depart and re-enter," the taxi light shall be selected ON and anti-collision lights selected to BOTH and WHITE, and shall be used until sequenced into the pattern.

**3.3.2 DELTA.** When Delta Easy is called over the radio, all aircraft will remain at pattern altitude and select the anti-collision lights to BOTH and WHITE while maintaining 150 KIAS. When given the signal to "Charlie", the aircraft closest to the 180 position will commence their normal approach. When Delta Clean is called over the radio, all aircraft will climb to briefed delta altitude and configure to gear up, flaps 1/3, anti-collision lights selected BOTH and WHITE, and maintain 150 KIAS while maintaining interval. When given the "Charlie" signal, all aircraft will configure for landing and descend back to pattern altitude while maintaining interval.

**3.4 RADALT DOCTRINE**

Phase of Flight	RADALT Setting
Takeoff	CAPC/CTPC discretion but no lower than: (1) 200' (ashore) (2) 50' (afloat)
Climb	Passing platform set 5,000'.
Descent	Passing platform ensure good aural tone.
Below 5000' AGL	10% below all anticipated level off altitudes.
Landing	(1) Ashore: HAT or HAA (2) Afloat CASE I/II: 450' (3) Afloat CASE III: CAPC discretion, but no lower than 200'

**3.5 WEAPON SYSTEM RESTRICTIONS.** Radar transmissions are prohibited below 3,000 feet AGL. Transmissions in radar channels one through four for E-2C and one through fifteen for E-2D are prohibited inside the continental United States.

**3.5.1 TARA CABLE EXTENSION/SEVER/JETTISON.** TARA cable extensions shall be accomplished IAW NATOPS over an unpopulated area. In the event it becomes necessary to sever/jettison TARA, aircrew should plan to the maximum extent practicable to jettison over an unpopulated portion of a military facility. If a military facility is unavailable, it is desirable to jettison over water. Aircrew shall record the latitude/longitude, course, speed and altitude at the time of jettison to facilitate recovery of the TARA.

**3.6 PRACTICE ABORTED TAKEOFF.** Maximum airspeed for practicing aborted takeoffs for initial day familiarization flights (FAM 1-7X) is 80 KIAS. Length of runway available must be taken into consideration.

**3.7 MINIMUM FUEL.** For planning purposes, minimum fuel upon arrival at any planned destination will be 2,000 lbs. when the field is forecasted to be VFR and 3,000 lbs. when the field is forecasted to be IFR. This shall not preclude fuel required by reference (b) for Cross-Country flights or use of alternate airfields.

**3.8 E-2D FLIGHT DISPLAY COORDINATION.** Prior to commencement of the approach checklist, both pilot and co-pilot PFDs shall be configured to the PFR configuration.

**3.9 LANDING CHECKLIST.** During landing checklist, Pilot, Co-pilot and CICO will visually inspect the condition of the strut and tire on their side of the aircraft. When challenged during the Landing Checklist the Pilots will respond with "three down and locked, good (AOA) indexer, visual on the left/right." The CIC crew will respond to "Harness and Crew" with "locked and ready with a visual on the right." The C-2A Aircrew will state "locked and ready."

**3.10 ICS DISCIPLINE.** During Takeoff/Landing evolutions, all Aircrew, with the exception of C-2A Aircrewmen, will place each crew position on the ICS panel to the HOT position to facilitate quick communication in the event of an emergency. During afloat operations, the ACO will select the COLD position while the CIC ditching hatch is removed.

**3.11 AIRCRAFT STATUS.** To maximum extent possible all Aircraft Commanders or Mission Commanders shall radio in the status of their aircraft to Maintenance Control approximately 20 minutes prior to RTB. This will allow Maintenance the option of troubleshooting the aircraft once it has returned with all applicable systems still on line.

**3.12 FUNCTIONAL CHECK FLIGHTS**

a. All FCF aircrew shall be a Level III or higher and be designated at the discretion of the CO.

b. The aircraft shall not launch for an FCF until 30 minutes after sunrise and shall be on deck 30 minutes prior to sunset.

**3.13 CROSS-COUNTRY PROCEDURES**

a. A Cross-Country request must be submitted for each Cross-Country no later than five working days in advance of departure.

b. Minimum required aircraft items include:

- (1) Aircraft locking bars (MEH and ACO ditching hatch) and pad lock
- (2) Bingo bag
- (3) Tool pouch
- (4) Propeller system bus reader (ARINC) when available
- (5) External power adapter

c. When safely on deck, the CAPC/CICO shall ensure the CDO is notified of aircraft status, flight times, and estimated takeoff and land times for the next leg of the flight or the return trip.

d. To the maximum extent possible, the wings shall remain spread and flaps placed at 1/3 when at fields other than Chambers Field, and aircrew that self-park/shut down at home-field shall configure the same.

e. The CAPC shall ensure all ground locks are properly installed following engine shut down.

**3.13.1 STARTING ENGINES.** It is the CAPC's responsibility to brief transient line and host squadron personnel on aircraft particular start procedures. At airfields where line personnel are unfamiliar with aircraft start procedures, a crewmember shall act as Plane Captain for engine starts. The CAPC shall brief the acting Plane Captain and line personnel on start procedures and hand signals to include when to apply air, when to cut air, when to pull power and the signal for fire. The acting Plane Captain shall walk around the aircraft after both engines are started at the CAPC's direction in order to inspect for open panels, hydraulic leaks, and etc., prior to entering the aircraft.

### **3.13.2 STATIC DISPLAYS**

a. Prior to departing for a static display or air show, the Aircraft Commander /CICO shall receive a brief from the CO or Operations Officer on expectations as well as provide a brief covering flight plan and air show procedures. The Aircraft Commander shall also review reference (a) on Cross-Country and static display flights. The Mission Commander shall ensure all COMSEC equipment is zeroized.

b. All aircrew shall conduct a FOD walkdown in the immediate area of the aircraft and proposed taxi route.

c. If guests are to be permitted in the aircraft, they shall be directed to remove all potential FOD from their pockets/person prior to entering the aircraft. If guests were in the aircraft, all aircrew shall conduct a thorough search for FOD in the aircraft in addition to the standard pre-flight prior to launch.

**CHAPTER 4**  
**SPECIAL/CARRIER OPERATIONS**

**4.1 AIRCRAFT CARRIER OPERATIONS.** See Reference (j) CARAEWRON120INST 3740.1 (series) for information concerning CQ detachments.

**4.1.1 ROTODOME.** The rotodome shall be secured for all catapult launches, touch-and-goes and arrested landings.

**4.1.2 HOLD DOWN FUELS.** Hold down shall be BINGO + 400 lbs. during Case I or II operations, and BINGO + 800 lbs. during Case III operations. BINGO fuel shall be predicated on existing conditions at the primary divert field. Minimum hold down for C-2A will be 4,500 lbs. and TE-2C will be 4,000 lbs. for RPs, due to handling characteristics and VMC considerations.

**4.1.3 AIRCRAFT STATUS REPORT.** Upon completion of arrested landings, with the hook up and the wings folded, the co-pilot shall signal the FDC with the status of the aircraft (front and back end).

**4.1.4 CQ CREW SWITCHES.** All student switch aircrew shall be escorted to and from their aircraft by appropriate maintenance personnel or Instructor Crewmembers during flight operations.

**4.1.5 CVN BACKING PROCEDURES**

**4.1.5.1 REVERSE THRUST.** The use of reserve thrust to back the E-2C/E-2D/C-2A into a parking spot shall be allowed only under favorable conditions. In all cases, the CAPC/CTPC's judgment shall prevail. If the CAPC/CTPC perceives the evolution to be dangerous or any confusion exists during the procedure, he or she shall terminate the backing evolution and request a shut down and tow. Some basic guidelines to follow are:

- a. Relatively steady, dry flight deck.
- b. Wind not greater than 30 knots over the deck.
- c. List not to exceed 2 degrees.
- d. No other aircraft in close proximity.
- e. Tail not over water.

**4.1.5.2 TOW TRACTOR ATTACHED.** The CIC crew or passengers and aircrew of the C-2A should be disembarked during any towing evolution. The tow bar may be connected in lieu of tie-down chains prior to securing engines, but the aircraft shall not be towed until the propellers have stopped turning. To expedite parking, pilots shall act as brake riders if line crewmen are not available.

**4.2 FUEL DUMPING.** During fuel dumping, the pilot or co-pilot will notify the Mission Commander or CIC Crewmember upon initiating fuel dump. The Mission Commander or CIC Crewmember will notify the cockpit after the first 60 seconds of fuel dump and then every 60 seconds thereafter. The pilot or co-pilot will then inform the Mission Commander or CIC Crewmember when fuel dumping has been secured. A 3-way positive response is required once fuel dumping has ceased.

**4.3 CROSS-COUNTRY FLIGHTS.** Upon return, all fuel chits will be placed in the Cross-Country packet next to the fuel cards, and turned into Material Control.

**4.3.1 SECURITY.** Reference (a) outlines the security requirements for aircraft away from their home station. The Mission Commander shall ensure that adequate security exists at the RON site.

**4.3.2 EKMS HANDLING.** In addition to the procedures outline in reference (a), the Mission Commander shall ensure that all EKMS equipment is zeroized and no EKMS loading devices will be taken on Cross-Country flights without prior coordination with the EKMS officer.

**4.3.3 USE OF ELECTRONIC DEVICES IN THE AIRCRAFT.** Crew/passengers shall not operate electronic equipment/battery powered devices such as radios, tape players, razors, calculators, etc., without approval of the PIC while the aircraft is in flight. Cellular telephones shall not be operated in naval aircraft while airborne and will be placed in the OFF position while aboard.

**4.3.4 SAFE ON DECK REPORT.** Immediately upon arrival at the RON site or any intermediate sites, the senior aircrew shall ensure a report of the aircraft's arrival time, aircraft status and intentions to the CDO via telephone.



MEMORANDUM

From: \_\_\_\_\_  
To: Commanding Officer, VAW-120  
Via: (1) Pilot/NFO NATOPS Officer, VAW-120  
(2) Safety Officer, VAW-120  
(3) Operations Officer, VAW-120  
(4) Executive Officer, VAW-120

Subj: CHANGE RECOMMENDATION FOR VAW-120 STANDARD OPERATING PROCEDURES (SOP)

1. SOP title

\_\_\_\_\_

2. Purpose of change

\_\_\_\_\_  
\_\_\_\_\_

3. Recommended change

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ (attach additional sheets if required)

4. Recommend Approval/Disapproval: \_\_\_\_\_  
NATOPS Officer Comments:

Recommend Approval/Disapproval: \_\_\_\_\_  
Safety Officer Comments:

Recommend Approval/Disapproval: \_\_\_\_\_  
Operations Officer Comments:

Recommend Approval/Disapproval: \_\_\_\_\_  
Executive Officer Comments:

Approved/Disapproved: \_\_\_\_\_ Commanding Officer  
Date:

Copy to:  
Originator

## VAW-120 E-2C/D FLIGHT BRIEF

ADMINISTRATION

- Mission Security
  - Classification of Mission
  - Security Clearances of Crew
  - Security Level of Briefing Space
- Mission Overview
  - Primary/Secondary
  - Crew Assignments
  - Timeline
- Aircraft
  - Call Sign
  - Side Number/Series
  - Front-End System Requirements
  - Known Discrepancies
- Weather/DD-175-1
- Sea State/Sea Surface Temperature
- NOTAMS

PILOT MISSION BRIEF

- Takeoff Numbers:  
C<sub>FL</sub>, V<sub>1</sub>, V<sub>2</sub>, V<sub>R</sub>, V<sub>GO</sub>, HP, TMT, L<sub>D</sub>, Beta
- Order of Events
  - Training Sequence
  - Post-Training
  - Final Recovery
- Communication Plan/Radio Line-up
  - Pre-Takeoff
  - Mission
  - Approach and Landing
- Navigation Plan
  - DD-175
  - FLIP Publications
  - Course Rules
  - Navigation Setup
  - Enroute Diverts
- Vapor Cycle Control
- Fuel Planning

CONTINGENCIES/SPECIAL CONSIDERATIONS

- Hot pump/Crew Switch
- Airborne Crew Switches
- Back-up Aircraft
- Airborne System Degrades
- Cross Country Pack
- Paperwork/Jacket Review
- Crypto
- Other

MISSION SPECIFIC BRIEF (As Req'd)

- CQ/FCLP/FCF/Form

EMERGENCIES & CREW COORDINATION

- Crew Conduct (Emerg/Troubleshooting)
- Night/IMC Back-up
- Change of Controls
- Lookout Doctrine/Ownship Lookout
- Aborted Takeoff
- Vertigo
- Spatial Disorientation
- Engine Malf/Prop Malf/Fire
- Internal Fire/Smoke and Fumes
- Control Malfunctions
- Out of Control Flight
- No Beta on Landing
- Radio/ICS Failure
- Ditching
- Bailout
- External SAR
  - Crew Duties
  - Stationing
  - Available Recovery Assets
  - Available Diverts
  - Comm Lineup

NFO MISSION BRIEF

- Mission/Training Objective(s)
- Crew-Mission Responsibilities
- Back-End System Requirements
- AIC/Mission Specifics
  - Area/Bullseye
  - Assets
  - AIC/NCI Examples
  - AIC Contingency/No-Go
- RADAR Setup
  - Software Settings
  - Video Contracts
  - Operating Status/Channels/EMCON
- IFF/EIFF Setup
- COMM Setup
  - Responsibilities
  - Frequency Lineup
  - Radio Fallout Plan
  - Havequick/Crypto

VAW-120 E-2C/D FLIGHT BRIEF

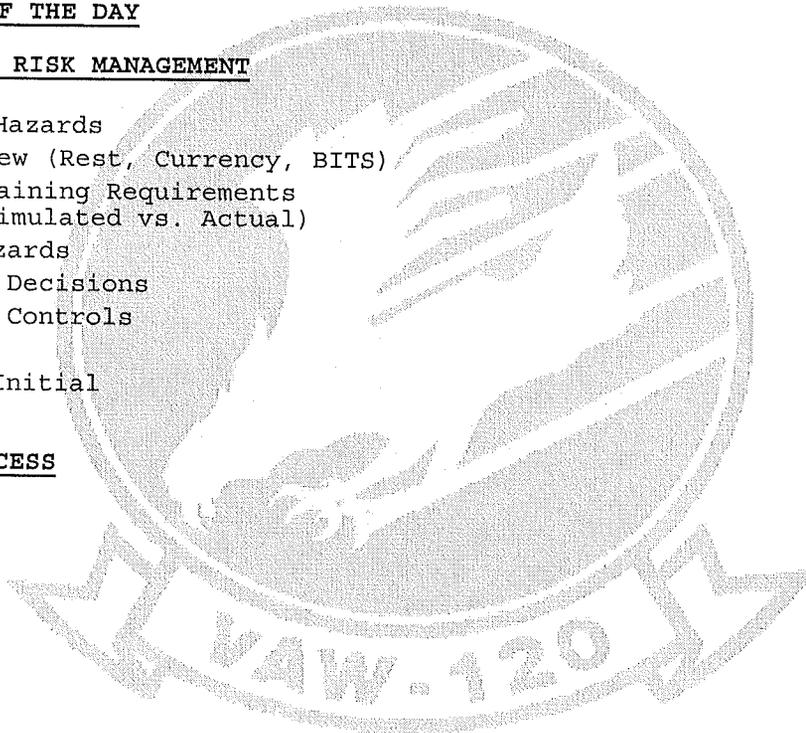
- PDS/ESM
  - EOI's/I-Loads/SIF's
- LINK/CEC Setup and Management
  - Primary/Secondary Datalink
  - Setup
    - O/S JU/PU
    - J Load/Crypto Day
    - J Time/DLRP
    - Data/VX Frequencies
  - Management
    - Reporting Responsibility
    - Symbol Management
  - CEC Setup

QUESTIONS OF THE DAY

OPERATIONAL RISK MANAGEMENT

- Identify Hazards
  - Crew (Rest, Currency, BITS)
  - Training Requirements (Simulated vs. Actual)
- Assess Hazards
- Make Risk Decisions
- Implement Controls
- Supervise
- Read and Initial

KEYS TO SUCCESS



## VAW-120 C-2A FLIGHT BRIEF

ADMINISTRATION

- General Overview
  - Primary/Secondary Mission
  - Crew Assignment
  - Crew Currency (Rest, BITS)
  - Timeline
- Aircraft
  - Call Sign
  - Side Number
  - Configuration
  - Discrepancies
- Weight and Balance
  - Pax/Mail/Cargo
  - Gross Weight/CG
  - Fuel Planning
- Weather/DD-175-1
- Sea State/Sea Surface Temperature
- NOTAMS

PILOT MISSION BRIEF

- Takeoff Numbers  
C<sub>PL</sub>, V<sub>RO</sub>, V<sub>R</sub>, V<sub>GO</sub>, V<sub>2</sub>
- Order of Events
  - Training Sequence
  - Post Flight Req's
- Radios/ICS
- Navigation Plan
  - DD-175
  - FLIP Pubs
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  - Hot Areas, Warning Areas, MOA's
  - CDU/GPS Setup
  - Alternates
- Fuel Planning

CONTINGENCIES/SPECIAL CONSIDERATIONS

- Hot Pump/Crew Switch
- Airborne Seat Swaps
- Back-up Aircraft
- Airborne System Degraded
- Cross Country Pack
- Paperwork/Jacket Review

MISSION SPECIFIC BRIEF (As Req'd)

- CQ/FCLP/LOG/FCF/Form/Paradrop

CROSS COUNTRY SPECIFIC (As Req'd)

- Locks/Intake Covers
- Admin Planning (PPR, CBQ, Orders...)
- Field Support (GSE, Fuel)
- FOD Prevention
- Force Protection

EMERGENCIES & CREW COORDINATION

- Crew Conduct (Emerg/Troubleshooting)
- Night/IMC Back-up
- Change of Controls
- Lookout Doctrine (TCAS/TAWS)
- Aborted Takeoff
- Vertigo/Spatial Disorientation
- Engine Malfunction/Prop Malfunction/Fire
- Internal Fire/Smoke and Fumes
- Control Malfunctions
- Out of Control Flight
- No Beta Landing
- Radio/ICS Failure
- Ditching
- Emergency Egress
- External SAR/Emergencies

PASSENGER BRIEF (As Req'd)

- FOD Prevention
- Flight Gear, Preflight Duties
- Ditch & Bailout Drill
- ICS/Radio Familiarization
- Checklists, Start Procedures, Duties
- Deferred Emergency Procedures
- Photography/Video Recording
- Special Mission Considerations

QUESTIONS OF THE DAYOPERATIONAL RISK MANAGEMENT

- Identify Hazards
  - Crew (Rest, Currency, BITS)
  - Training Requirements (Simulated vs. Actual)
- Assess Hazards
- Make Risk Decisions
- Implement Controls
- Supervise
- Read and Initial

KEYS TO SUCCESS

**FCF BRIEF**

**ADMINISTRATION**

- Mission Overview
  - Profile
  - Reason for FCF
- Crew Assignments
- Aircraft
  - Call Sign
  - Side Number/Series
  - Equipment Requirements
  - Known Discrepancies
- Timeline
  - QA/Maint. Brief
  - Walk
  - Launch
  - Recovery
  - Debrief
- Weather/DD-175-1
  - Local Area
  - Enroute
  - Destination
  - Alternate
  - Sea State/Sea Surface Temperature
- NOTAMS
  - Local
  - Destination
  - Alternate

- Approach and Landing
- Controlling Agencies
- Emergency
- Navigation Plan
  - DD-175
  - FLIP Publications
  - Flight Route
  - Navigation Setup
  - Diverts
  - Arr Gear, LSO Considerations
- Vapor Cycle Control
- Fuel Planning

**C-2 SPECIFICS**

- Parachutes
- Minimum Crew Requirements
- Aircrew Duties

**CV SPECIFICS**

- Highpower/Run-up
- Airspace and Restrictions
- Recovery
- CV Communication Plan
- CV Specific Emergencies
- Diverts

**EMERGENCIES & CREW COORDINATION**

- Crew Conduct (Emerg/Troubleshooting)
- Inadvertent IMC
- Change of Controls
- Aborted Takeoff
- Vertigo/Spatial Disorientation
- Engine Malf/Prop Malf/Fire
- Internal Fire/Smoke and Fumes
- Control Malfunctions
- Out of Control Flight
- No Beta on Landing
- Radio/ICS Failure
- Ditching
- Bailout

**FCF SPECIFIC BRIEF**

- Takeoff Numbers  
C<sub>FL</sub>, V<sub>1</sub>, V<sub>2</sub>, V<sub>R</sub>, V<sub>GO</sub>, HP, TMT/TIT, L<sub>D</sub>, Beta
- Unique Start Operations
  - Electrical Checks
  - Static Autofeather
  - IBIT/High Power
- Sequence of Events
  - Previously completed checks
  - On Deck
  - Airborne
  - Post Landing
  - Maint. Debrief
- Altitude Requirements
- Shutdown(s)/Airstart(s)
- Communication Plan/Radio Line-up
  - Pre-Takeoff
  - Mission

**QUESTIONS OF THE DAY**

**OPERATIONAL RISK MANAGEMENT**

- Identify Hazards
  - Crew (Rest, Currency, BITS)

- Assess Hazards
- Make Risk Decisions
- Implement Controls
- Supervise
- Read and Initial

KEYS TO SUCCESS



**FCLP/CQ FLIGHT BRIEF****ADMINISTRATION**

- Mission Overview
  - Crew Assignments
  - Timeline
- Aircraft
  - Call Sign
  - Side Number/Series
  - Equipment Requirements
  - Discrepancies
- C-2A Weight and Balance
- Weather/DD-175-1
- NOTAMS
- Navigation Plan
  - DD-175
  - Sea State/Sea Surface Temperature
  - Alternates/Diverts
  - Overhead Message

**FCLP SPECIFIC BRIEF**

- Takeoff Numbers  
C<sub>F</sub>L, V<sub>1</sub>, V<sub>2</sub>, V<sub>R</sub>, V<sub>GO</sub>, HP, TMT/TIT, L<sub>D</sub>, Beta
- Order of Events
  - Pattern Entry/Course Rules
  - Crew Switches (On deck/Airborne)
  - Final Recovery
- Communication Plan/Radio Line-up
  - Pre-Takeoff
  - FCLP Pattern
  - Paddles Frequency
- Vapor Cycle Control
- Fuel Planning
- Lighting, Field/Aircraft
- Arresting Gear Location
- Gross Weight Limits
- Waveoff/Lineup Response
- Radio Discipline/Procedures
  - Abeam, Ball, No LSO Response
- Lost Comms (Pattern/Aircraft)
- AACS/ACLS/CCA Procedures
- MOVLAS Procedures/Considerations
- Emergencies (Simulated vs. Actual)
- Formation Procedures
- Pattern Lookout
- Hot Pump/Crew Switch

**CV SPECIFIC BRIEF**

- Order of Events/Airplan Review
  - Day vs. Night
  - Departure
  - Recovery
  - Crew Swaps (On deck/Airborne)
- IP/RP T&G/Trap Requirements
- Field Takeoff Numbers Review (A/R)
- Communication Plan/Radio Line-up
  - Manual vs. Presets
  - Check-in Procedures
  - Rep/Tac Freq & Coordination
- Launch Procedures
  - Taxi Director/Shooter
  - Launch Weight
  - CQ Specific Departure
- Recovery
  - Case I/II/III/CQ Specifics
  - CV Approach and Frequencies
  - Waveoff/Bolter Pattern
  - Max Trap/Hold Down/Fuel Dumping
  - LSO Calls/MOVLAS Response
- Co-pilot Duties and Back-up
- Vapor Cycle Control

**CONTINGENCIES/SPECIAL CONSIDERATIONS**

- Back-up Aircraft
- Cross Country Pack/ADB/Bingo Bag
- Paperwork/Jacket Review
- CV Refueling

**EMERGENCIES & CREW COORDINATION**

- Crew Conduct (Emerg/Troubleshooting)
- Night/IMC Back-up
- Change of controls
- Lost Brakes
- Aborted takeoff/Cold-Soft Cat
- Vertigo/Spatial disorientation
- Engine Malf/Prop Malf/Fire
- Internal/System Fire
- Propeller malfunctions
- No Beta on Landing
- Control malfunctions
- Radio/ICS Failure
- Bingo/Divert
- Ditching
- Bailout
- External SAR

**FCLP/CQ FLIGHT BRIEF**

**QUESTIONS OF THE DAY**

**OPERATIONAL RISK MANAGEMENT**

- Identify Hazards
  - Crew (Rest, Currency, BITS)
  - Training Requirements
- Assess Hazards
- Make Risk Decisions
- Implement Controls
- Supervise
- Read and Initial

**KEYS TO SUCCESS**



**FORMATION BRIEF****ADMINISTRATION**

- Mission Overview
  - Primary/Secondary
  - Crew Assignments
  - Timeline
- Formation Aircraft
  - Call Signs
  - Side Numbers
  - Equipment Requirements
  - Discrepancies
- Weather/DD-175-1
- Sea State/Sea Surface Temperature
- NOTAMS

**FORMATION SPECIFIC BRIEF**

- Takeoff Numbers  
 $C_{FL}, V_1, V_2, V_R, V_{GO}, HP, TMT/TIT, L_D, \text{Beta}$
- Launch Sequence
  - Man-up
  - Start
  - Taxi
  - Takeoff
  - Initial Rendezvous
  - Climb-out
- Maneuvers
  - Parade Turns
  - Reversals
  - Crossunders
  - Break up/Rendezvous
  - Lead Changes
- Recovery
  - Descent
  - VFR Overhead
  - Section Approach
  - Landings
- Communication Plan/Radio Line-up
  - Pre-Takeoff
  - Mission/Tac Frequency
  - Approach and Landing
  - Controlling Agencies
- Navigation Plan/DD-175
  - DD-175
  - FLIP Publications
  - Course Rules
  - Navigation Setup
  - Enroute Diverts

- Vapor Cycle Control
- Fuel Planning

**CONTINGENCIES/SPECIAL CONSIDERATIONS**

- Hot Pump/Crew Switch
- Airborne Crew Switches
- Back-up Aircraft
- On-Deck Wingman Delay or A/C Switch
- Airborne System Degrades
- Cross Country Pack
- Paperwork/Jacket Review
- Other

**FORM SPECIFIC EMERGENCIES/COORDINATION**

- Aborts/Arresting Gear
- Radio Failure
- Inadvertent IFR
- Lost Sight
- System Failures
- Control Malfunctions
- Collisions
- Low Fuel/Bingo
- SAR
- Change of Controls

**EMERGENCIES & CREW COORDINATION**

- Crew Conduct (Emerg/Troubleshooting)
- Night/IMC Back-up
- Change of controls
- Aborted takeoff
- Vertigo/Spatial disorientation
- Engine Malf/Prop Malf/fire
- Internal Fire/Smoke and Fumes
- Control Malfunctions
- No Beta Landing
- Radio/ICS Failure
- Ditching
- Bailout
- External SAR

**QUESTIONS OF THE DAY****OPERATIONAL RISK MANAGEMENT**

- Identify Hazards
  - Crew (Rest, Currency, BITS)
  - Training Requirements (Simulated vs. Actual)

**FORMATION BRIEF**

- Assess Hazards
- Make Risk Decisions
- Implement Controls
- Supervise
- Read and Initial

**KEYS TO SUCCESS**



**FORMATION BRIEF ALPHA****JOIN UP:**

1. Verbal permission required
2. Join on TAC Frequency
  - a. Primary 349.75
  - b. Secondary 328.3
3. Confirm brief "ALPHA" in effect

**RENDEZVOUS**

1. Lead Maintain 200 KIAS below 10,000 ft, 180 KIAS above 10,000 ft and in climbs
2. Radar off (E-2), TARA is not deployed (E-2D)/Lead may keep IFF on
3. Lead upper red anti-collision light only
4. Underrun: Transmit "Under-running"
5. Maintain vertical separation until cleared back in by Lead
6. Check-in with fuel state and maintain parade until cleared by lead

**LEAD CHANGE**

1. Conducted from starboard parade only
2. Lead visually confirm Wing in position to accept Lead
3. Lead Change passed verbally; Lead never taken unless first offered

**INITIAL/BREAK**

1. Wing in Parade by initial for 250 KIAS break
2. SPIN: Leads call to Remain a Flight or Send Wing only into the Break
3. Lead call Wing's interval if separating Flight

**LIMITATIONS**

1. NO IMC Formation
2. NO Night Formation
3. NO Idle Descent: Lead 1000 IHP Minimum (C-2 and E-2)
4. NO Max Power Climbs: Lead 900 TIT (C-2) or 750 TMT (E-2) Maximum

**LOST COMMUNICATIONS**

1. NORDO Aircraft becomes Wing
2. Lead handles all communications
3. Lead Touch and Go indicates Wing cleared to Land
4. Lead Wave-off indicates Foul Deck
5. Expect cut lights at CVN or ALDIS Lamp ashore

**MID-AIR COLLISION**

1. Become two separate flights and execute controllability checks
2. DO NOT REJOIN

**LOST SIGHT**

1. Wing Transmit "Lost Sight"; Lead Transmit altitude
2. Wing takes vertical/lateral separation as per NATOPS procedures. If able, rejoin with Lead's permission.

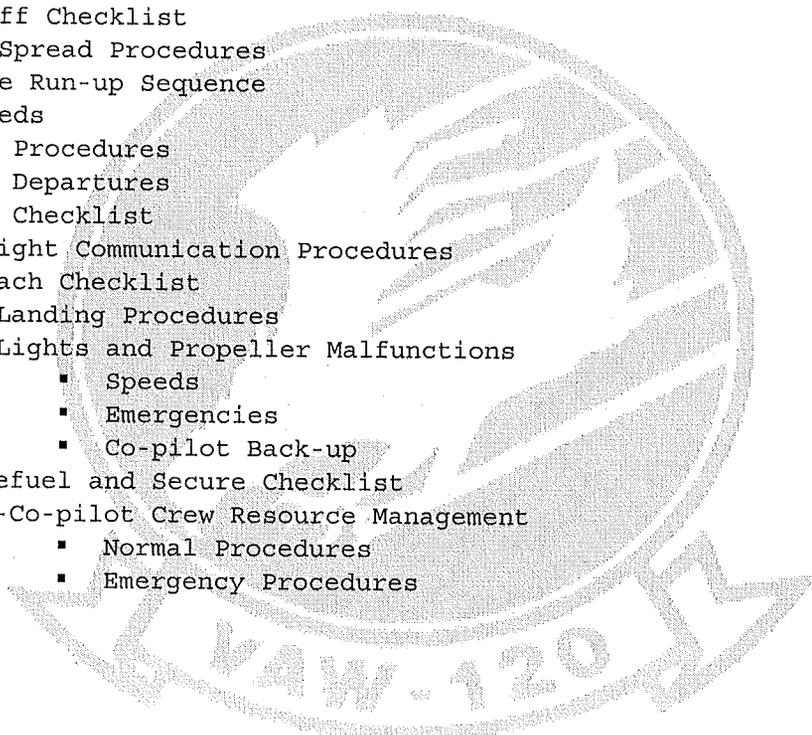
**DISABLED AIRCRAFT**

1. Emergency aircraft given Lead
2. Wing handles communication

VAW-120 NFO RIGHT-SEAT BRIEFING GUIDE FOR E-2C/D OR C-2A

THE FOLLOWING ITEMS ARE TO BE DISCUSSED AND/OR DEMONSTRATED PRIOR TO TAKEOFF

- Cockpit Layout
- Ditching Hatch Operation
- Flight Instruments and Engine Gauges
- Co-pilot Side Panel Layout
- Basic Aircraft Limitations
- Prestart Checklist
- Engine Start Sequence
- Pre-Taxi Checklist
- Taxi Procedures and Back-up
- Pre-Takeoff Checklist
- Takeoff Checklist
- Wing Spread Procedures
- Engine Run-up Sequence
- V-Speeds
- Abort Procedures
- Field Departures
- Climb Checklist
- In-flight Communication Procedures
- Approach Checklist
- Post-Landing Procedures
- Beta Lights and Propeller Malfunctions
  - Speeds
  - Emergencies
  - Co-pilot Back-up
- Hot Refuel and Secure Checklist
- Pilot-Co-pilot Crew Resource Management
  - Normal Procedures
  - Emergency Procedures



## VAW-120 DEBRIEFING GUIDE

ADMINISTRATIVE

- Post Flight Administration
  - NAVFLIR
  - Crypto
  - Maintenance Debrief/MAF's
  - SHARP
  - ASAP
  - Individual Debrief Sheets
  - Mission Bag/Publications
- Safety of Flight
  - NATOPS Procedures
  - CRM Utilization
  - Learning Points
- Non-Safety of Flight Events
  - NATOPS Procedures
  - CRM Utilization
    - Decision Making
    - Mission Analysis
    - Adaptability/  
Flexibility
    - Communication
    - Leadership
    - Assertiveness
    - Situational Awareness
  - Learning Points
- Big Picture Mission Reconstruction
  - Primary
  - Secondary
- Crew Performance
  - Pre-Mission
  - Mission
  - Post-Mission
- Mission Objective
  - Success or Failure
- Lessons Learned
  - Passdown Log
- Information Not Briefed
- Cockpit/Workstation Setup
  - Switchology
  - Organization
  - System Setup and Evaluation
- Specific Event Review/Mission Analysis
- Overall Performance
  - Standardization
- Training Objectives

INDIVIDUAL DEBRIEF

- Pre-flight Planning
  - Effectiveness
  - Contribution to Mission
- Briefing
  - Preparation/Setup
  - Appearance
  - Delivery

**CROSS COUNTRY FLIGHT REQUEST / AUTHORIZATION**

COMNAVAIRFOR FORM 3710/2 (12/03)

NOTE: Specify Local or ZULU Times

COMMAND		PILOT		RANK		SSN	
PILOT'S PHONE NUMBER		TYPE A/C	ULTIMATE DESTINATION			FORCE PROTECTION CONDITION	
PURPOSE OF FLIGHT						PROPOSED ETD (DTG)	
						PROPOSED ETR (DTG)	
<b>PROPOSED ITINERARY</b>							
ETA (DTG)	PLACE	ETD (DTG)	RON		RUNWAY LENGTH	ELEV.	APPROACH FACILITIES
			YES	NO			
			<input type="checkbox"/>				
<b>PILOT INFORMATION</b>							
NATOPS QUAL EXPIRATION		INSTRUMENT RATING EXPIRATION		TOTAL FLIGHT HOURS		TOTAL LAST 3 MO.S.	
TYPE A/C TOTAL HOURS		INSTRUMENT TIME LAST 3 MOS.		NIGHT TIME LAST 3 MOS.		SIMULATOR TIME LAST 3 MOS.	
ADDRESS AT ULTIMATE DESTINATION				TELEPHONE NUMBER			
				CELL PHONE NUMBER			
<b>FLIGHT INFORMATION</b>							
T/R CODES		FLIGHT TIME EXPECTED		NIGHT TIME EXPECTED		INSTRUMENT TIME EXPECTED	
VISUAL NAVIGATION TIME EXPECTED			AIR MILES TO DEST.		AMOUNT OF FUEL REQUESTED		TYPE OF FUEL
<b>FLIGHT COMPOSITION / PASSENGER MANIFEST WHEN UTILIZED</b>							
NAME				RANK/RATE		SSN	CREW POSITION
<b>PILOT CERTIFICATION</b>							
I am familiar with and thoroughly understand the contents of OPNAVINST 3710.7, COMNAVAIRFORINST 3710.4, and COMNAVAIRFORINST 3300.53 and instructions promulgated by my Commanding Officer pertaining to extended flight in naval aircraft. I have thoroughly reviewed and understand IFR procedures and will conduct this flight under IFR flight rules.							
SIGNATURE OF PILOT						DATE	

**CROSS COUNTRY FLIGHT REQUEST / AUTHORIZATION**

<b>OPERATIONS OFFICER</b>				
<input type="checkbox"/> RECOMMENDED	<input type="checkbox"/> NOT RECOMMENDED	WING APPROVAL REQUIRED?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
COMMENTS (IF ANY)				
SIGNATURE			DATE	
<b>MAINTENANCE OFFICER</b>				
<input type="checkbox"/> RECOMMENDED	<input type="checkbox"/> NOT RECOMMENDED			
COMMENTS (IF ANY)				
SIGNATURE			DATE	
<b>EXECUTIVE OFFICER</b>				
<input type="checkbox"/> RECOMMENDED	<input type="checkbox"/> NOT RECOMMENDED			
COMMENTS (IF ANY)				
SIGNATURE			DATE	
<b>COMMANDING OFFICER</b>				
<input type="checkbox"/> RECOMMENDED	<input type="checkbox"/> NOT RECOMMENDED (if wing approval required)			
<input type="checkbox"/> APPROVED	<input type="checkbox"/> DISAPPROVED (if wing approval not required)			
COMMENTS (IF ANY)				
SIGNATURE			DATE	
<b>COMMANDER AIRBORNE COMMAND CONTROL &amp; LOGISTICS WING (if required)</b>				
<input type="checkbox"/> APPROVED	<input type="checkbox"/> DISAPPROVED			
COMMENTS (IF ANY)				
SIGNATURE			DATE	