

STEP 1: TIME HACK

STEP 2: MISSION OBJECTIVES

Primary, Secondary and Training.

STEP 3: WEATHER & ENVIRONMENT

Metar / TAF (departure/enroute/arrival)
Airport wind analysis (departure/arrival)
NOTAMS
Airspace/ATC/Terrain issues

STEP 4: SEQUENCE & STANDARDS

Flight Call Sign
Position ID: Lead, #2, #3, #4
Other A/C (photoship, etc.)
Dissimilar aircraft issues/concerns
Preflight needs, fuel, air? (est. step time)
Start, Takeoff & Control Times (if applic.)
Frequencies (Tactical, Gnd, Twr, etc.)
Mission Sequence Overview:
- Start/Taxi/Takeoff
- Working Area Sequence
- Recovery / Landing
- Debrief—Location
Hard Deck / Altitude Block
Fuel checks, Bingo, Joker
Parachutes/Flight Suits/FAST Cards

STEP 5: CONTINGENCIES

Alternate/Secondary mission
Alternate Lead
Drop Outs/Min Required
Go-No-Go Weather Criteria
Abnormal Procedures:
- Takeoff & Departure:
— Abort. Radio Calls & Proced.
— Problem immediately after t/o
- In Flight:
— Collision
— BDA
— Bailout / Crash landing SAR
— Chase / NORDO
- Approach & Landing
Emergency/Divert Fields
HEFOE Signals (only if NORDO)
Lost sight & break-out procedures
Use of KIO vs. Terminate Calls

STEP 6: EXECUTION

COVER DETAILS AS REQUIRED:
Takeoff, Rejoin, Climb, Enroute.
Maneuvers (in sequence of events)
Lead change procedures
Formation recovery and landings

STEP 7: WRAP UP

SPECIAL EMPHASIS ITEMS:
Radio Discipline, FOD, Flight Control
Checks, Maneuver Limitations, Rolling
G/Over G Awareness.
Questions?

INDIVIDUAL CREW BRIEF:

Transfer of aircraft control
Intercom failure
Emergency checklist procedures
Egress on ground
Bailout procedures

MASS FORMATION BRIEF :

Mass formation call sign and individual
flight call sign assignments
Mass flight lead & individual flight leads
Communication plan
Smoke aircraft placement & procedures
Parking & Taxi plan
Runway line-up
Takeoff (last ship airborne call)
Assembly plan
Formation maneuvers in sequence
Pattern (box, dogbone, etc.)
Stack, Symmetry, Offset, Interval
Airshow box, crowd line/CAT show line
Recovery
Emergencies
Practice walkthrough on ramp
Questions?

CHAPTER 3

START, TAXI, TAKEOFF

ENGINE START

Engine starts can be initiated in one of three ways:

- Visual signals
- Radio call
- Timed start

Visual signals are best used when all aircraft are parked within sight of each other. When ready to start, the wingmen will pass the “thumbs up” signal up the line to #1. When #1 gets the “thumbs up” from #2, he will then give the signal for engine start (index finger pointed skyward, with rotating motion). In an airshow environment, where the aircraft are visible to the spectators, Lead may brief to start on an exaggerated “head nod.” When Lead’s chin hits his chest, press the start button. Complete normal start and after-start procedures.

A radio call start can be used at any time but is usually used when the pilots’ aircraft are parked out of sight of one another. To begin the start sequence, the flight lead will check the flight in on the briefed frequency (“*Bigdog 1, check*”). All wingmen will respond, in order, with their call sign. If any wingman is not ready to start, he will state the reason and how much additional time is required to get ready. (i.e., “*Bigdog 2 needs two minutes*”). This is known as an “alibi.” The flight lead will determine a course of action and then, when ready, command the start “*Bigdog 1, start engines.*” Wingmen will again acknowledge with their call sign, then start engines and accomplish all before taxi checks. After allowing enough time for the start and in preparation to taxi, the flight lead will again call for a check in. Wingmen will again respond in order with their call sign and alibi, if required. Once the flight is ready to taxi, the flight lead will send the flight to the appropriate frequency, check in, call for taxi, and proceed to the runway.

Timed starts can be used at any time but are usually used when pilots’ aircraft are parked out of sight of one another and obstacles or congestion hamper the use of radio calls. At the briefed start time, all flight members will start engines and accomplish all before taxi checks. At the briefed taxi time, all flight members should be standing by on the briefed frequency and/or proceed with the briefed taxi plan.

TAXI

Using standard or briefed spacing, the wingmen will depart the chocks and taxi in order of flight position. Normally two to four ship-lengths is adequate spacing. If Lead offsets from the center of the taxiway, the wingman

will offset in an alternating pattern. To maintain forward visibility, tail draggers can s-turn on alternate sides of the taxiway, width permitting, but may have to use full width on narrower taxiways.

Run up is performed, as briefed, in one of two ways:

- Simultaneously
- Individually

Simultaneous run ups are commanded by Lead using the same visual signal used to command engine start. This is done after wingmen signal “ready” by passing a “thumbs up” signal up the line, starting with the highest numbered wingman. Individual run ups are accomplished without a flight lead signal as soon as each wingman lines up in the run up area.

Using either method, wingmen will signal “ready for take off” by passing the “thumbs up” signal up the line.

TAKEOFF

Takeoff can be performed in a 2-ship element or single-ship, interval takeoffs. Formation takeoffs are the most efficient, but may not be possible depending on runway length or width, crosswinds, gusty winds, obstacles, dissimilar aircraft, or other limiting factors.

INTERVAL TAKEOFF

For single-ship, interval takeoffs, Lead may decide to assemble the formation on the runway prior to brake release. Or, Lead may allow aircraft to roll onto the runway individually and initiate the takeoff without first assembling the elements in position. In either case, the wingman will begin takeoff roll when Lead’s aircraft is airborne or the minimum takeoff interval has been achieved, however briefed. The wingman will then proceed with a normal, full-power takeoff. See Chapter 7, *Operating Limitations*, for more information on interval takeoffs.

For narrow runways or when there are strong or gusty crosswinds, pilots who have assumed a staggered lineup on the runway, will steer to the center of the runway for the takeoff roll.

ELEMENT TAKEOFF

For an element takeoff, Lead will taxi into position, normally lining up on the downwind side of the runway. This allows the wind to blow Lead’s wake away from the wing pilot. If the wind is light, five knots or less, Lead may position himself down sun, or on the convenient side to effect the rejoin after takeoff. The wingman will line up on the opposite side of the runway in the acute position, slightly ahead of the normal fingertip bearing line.