1st Fighter Wing
Joint Base Langley-Eustis, VA

Midair Collision Avoidance
2014

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MEMORANDUM FOR ALL PILOTS (Military/Civilian)

Subject: Midair Collison Avoidance Program

1. Midair collisions are of vital concern to everyone in the aviation community, including the U.S. Air Force. Simple awareness of the threat and adherence to some basic safety practices can greatly reduce the potential of a midair collision.

2. The attached pamphlet* has been developed in the interest of flying safety. Its primary purpose is to inform all pilots of the midair collision potential existing in the vicinity of Langley Air Force Base. It describes the Langley traffic pattern, the arrival and departure routes, and local transition areas. Norfolk's approach airspace is depicted along with frequencies to use for traffic advisories and traffic awareness. The pamphlet* also provides some valuable tips that every pilot can use in avoiding collisions. The information is provided to help everyone avoid a potential conflict and to fly safe.

3. If you have any questions or suggestions, please contact the 1st Fighter Wing Flight Safety office at (757) 764-5356.

//signed//

Brian E. Hazes., Lt Col, USAF

Chief of Safety, 1st Fighter Wing

WARNING!

Before flying in or through the busy airspace around Langley Air Force Base, please take a moment to look over this pamphlet* carefully. While the “big sky” theory may sound like a good one, be warned - you may be betting your life on the theory that has been proven wrong time and time again. All pilots are vulnerable to the threat of midair collisions no matter how big we **think** the sky is.

No one solution has been proven to work without fail in avoiding another aircraft. Only by educating yourself and your passengers on the information contained in this pamphlet* and on the See and Avoid website http://www.seeandavoid.org can you be assured that you are doing your part to keep other aircraft out of your piece of the sky.

AN INTRODUCTION TO THE AREA

Numerous F-22s and T-38s are assigned to Langley AFB. Routine flight operations also involve NASA (Boeing 757, T-38, and other aircraft) and C-12s. Langley is also a major aerial port for the USAF. C-5, C-17, and civilian airliners often stop to pick up and drop off personnel and cargo.

Numerous controlled and uncontrolled airports are located in the Hampton Roads area, including two international airports and several busy military bases. Norfolk International, 15 miles southeast of Langley, is a highly active Class C airport. VFR sectional charts and enroute charts reveal just how congested the Norfolk area is. Before flying in or though the airspace, careful preflight planning should be done to ensure you are familiar with the locations of the various airports and types of airspace in the Norfolk area.

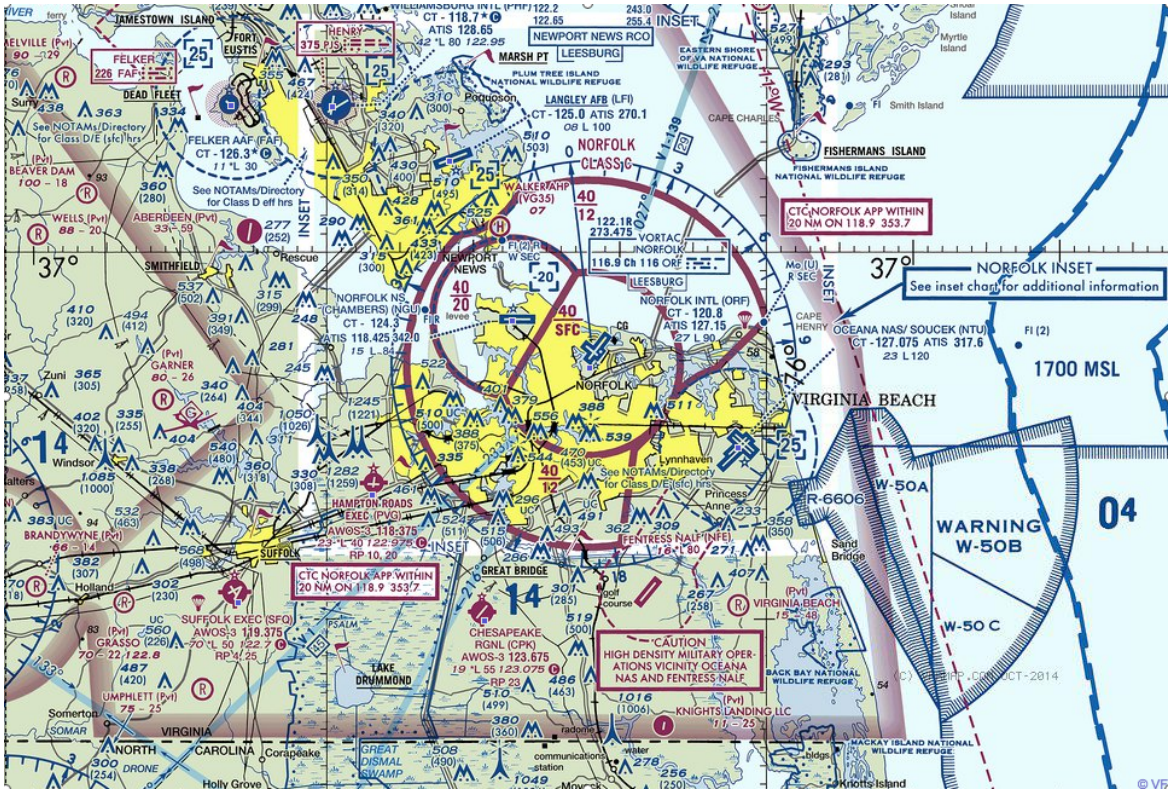
AN INTRODUCTION TO THE AREA cont.

Norfolk Approach Control provides radar service in the Hampton Roads area. On a given weekday, Norfolk controls between 900 and 1000 aircraft operations. That's over 350,000 operations each year, and that figure does not include a significant number of non-participating VFR aircraft. Langley alone handles nearly 50,000 operations a year in its Class D airspace. Clearly, there is a tremendous potential for a midair collision. VFR flight following and communication with Norfolk Approach is one of the best ways to decrease the chance of multiple aircraft attempting to occupy the same airspace at the same time.

The information and tips that follow will help you to avoid any "close encounters of the *midair* kind." While the information is intended to assist you in planning your flights in the busy airspace surrounding Langley, nothing will take the place of thorough preflight planning; use of current charts, publicaitons, and information; simple communication with ATC; and, most importantly, *keeping your eyes outside the cockpit.*

Fig. 1: Langley/Norfok Area

(Do Not Use For Navigation Purposes)



LANGLEY AIR TRAFFIC - IN DEPTH

Langley Departures & Arrivals (See Figure 2, Langley Approach/Departure Procedures)

Departures - Aircraft usually depart Langley via runway headings (either 080^{o} or 260^{o}) and climb to 2000' MSL before tunning on course. F-22s and T-38s departing Langley generally fly at 350 KTS. Departing fighters normally turn to the north to proceed to JASSI (LFI 043/14) while climbing to 4000' MSL. Nearly all of Langley's departures are conducted under an IFR clearance and are handled through Norfolk Approach. Remember, most military aircraft use UHF radios so you will be unable to hear any of their radio transmissions. Although the majority of general aviation aircraft operate VHF, the controller handles both VHF and UHF. Traffic information will be passed to aircraft with different communicaitons capabilities.

NOTE: Langley aircraft normally operate in the warning areas located off of the east coast.

LANGLEY AIR TRAFFIC - IN DEPTH cont.

Langley Departures & Arrivals (See Figure 2, Langley Approach/Departure Procedures)

VMC Arrivals - On arrival, Langley aircraft are sequenced through TURET (LFI 110/28) or HEELS (LFI 073/36) enroute to the VFR traffic pattern. Arrival speeds are flown at 300-350 KTS until entering the traffic pattern at Langley. For RWY 26, BAY is the pattern entry point (LFI 083/006). When RWY 08 is in use, aircraft proceed from TURET or HEELS direct to Langley and cross the field at 5000' MSL enroute to JAMES (LFI 254/006). The aircraft cross BAY or JAMES at 3000' MSL then descend to 1500' MSL to enter the pattern. Langley aircraft remain on an IFR flight plan with Norfolk Approach until entering Langley's VFR pattern. Aircraft may be cleared for a visual approach to the landing runway from various directions within 10 to 15 miles of Langley.

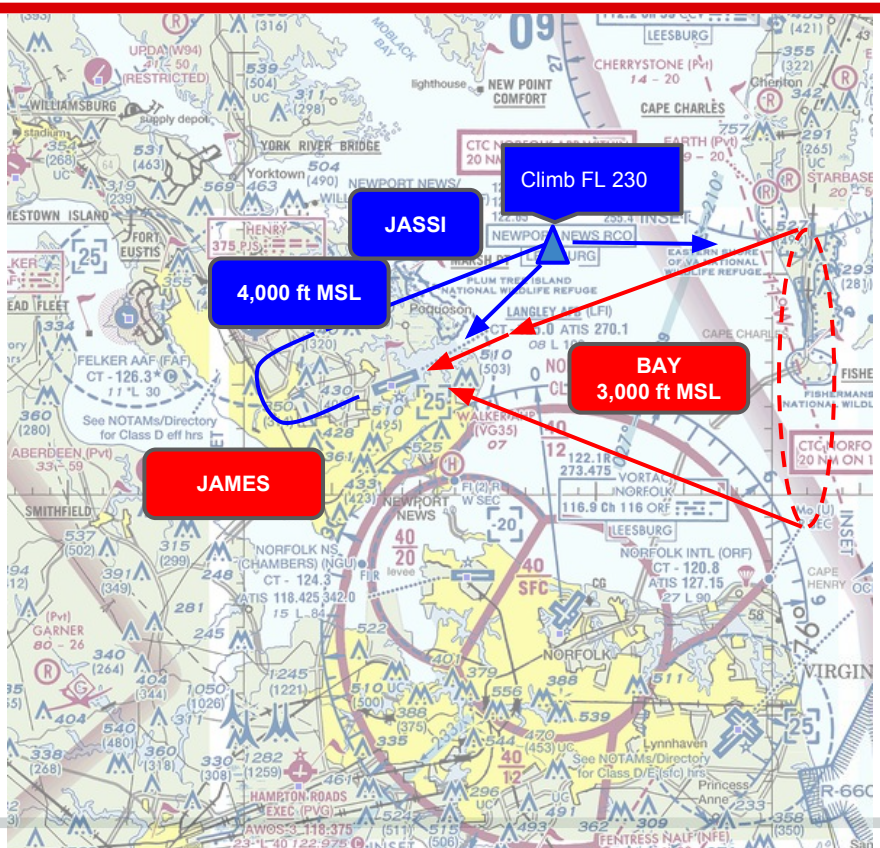
Fig. 2: LAFB Approach/Departure Procedures

(Do Not Use For Navigation Purposes)

Departure

Arrival

Approx. Arrival Corridor



LANGLEY AIR TRAFFIC - IN DEPTH cont.

Langley Departures & Arrivals (See Figure 2, Langley Approach/Departure Procedures)

IMC Arrivals - In weather conditions with less than 3500’ ceilings and/or 3nm visibility, Langley aircraft will receive vectors to the VFR pattern or an instrument approach to the runway in use. Extra caution should be used when flying directly east or west of Langley due to the final/instrument approach paths. Keep in mind that Langley fighters fly instrument patterns at 250 knots and final approach at 150 knots. Instrument approaches may also be flown in VMC for training purposes. Always look for F-22s or other fighters in a single trail formation during instrument approaches. With up to 4 fighters in a single flight there may be as much as 6nm between the lead and trailing aircraft.

LANGLEY AIR TRAFFIC - IN DEPTH cont.

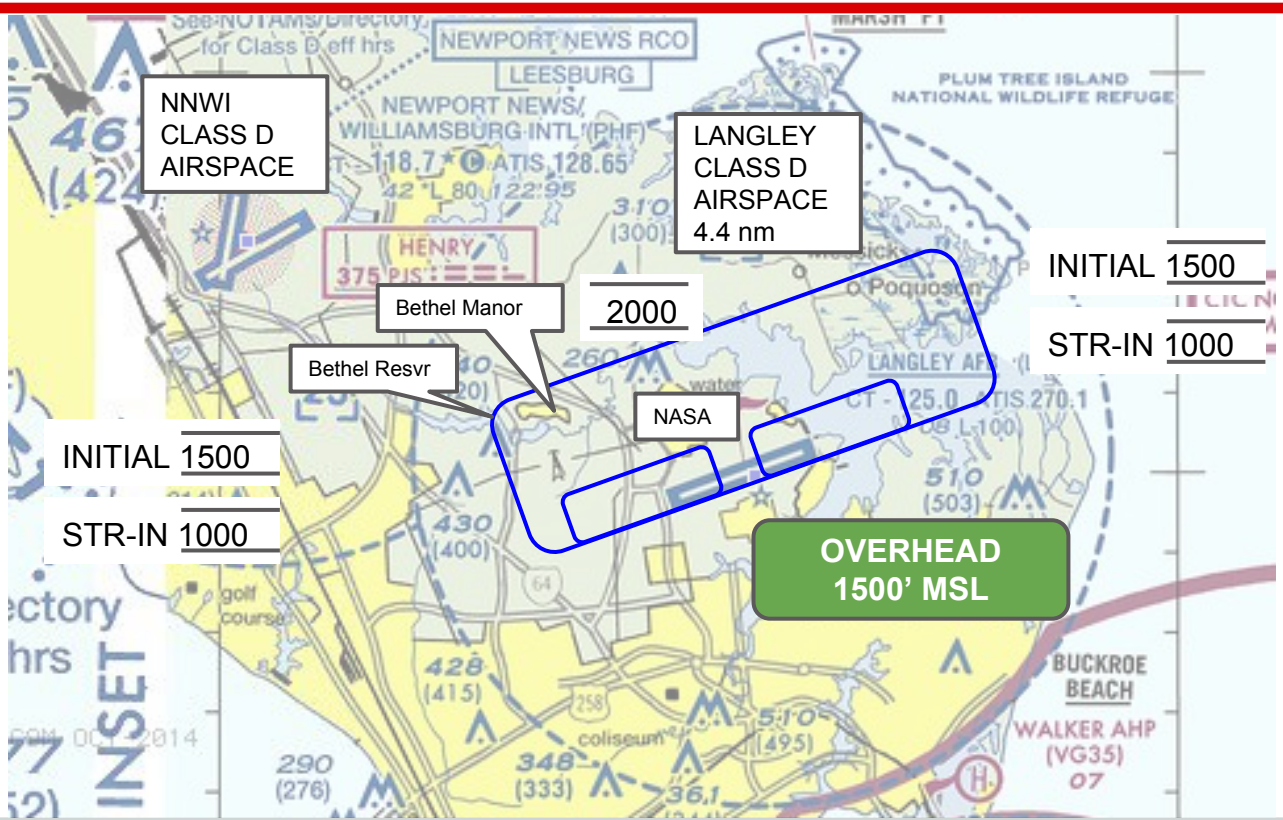
Langley Departures & Arrivals (See Figure 2, Langley Approach/Departure Procedures)

Langley VFR Traffic Pattern - Jet aircraft conducting VFR traffic patterns at Langley will normally fly within 4.4 nm of Langley, at or below 2,000 ft MSL, to the north of the runway. Aircraft will enter the VFR traffic pattern from the VFR entries points BAY & JAMES as previously discussed. Langley Tower controls the VFR pattern. See below graphic* for VFR depiction.

*Next slide

Fig. 3: Langley VFR Traffic Pattern

(Do Not Use For Navigation Purposes)



LANGLEY AIR TRAFFIC - IN DEPTH cont.

Langley Departures & Arrivals (See Figure 2, Langley Approach/Departure Procedures)

Langley Aerobatics Demonstration - Langley is the home of the F-22 Demonstration Team and numerous aerobatic performances take place throughout the year. During demonstration flights, Langley airspace will be closed 15,000 FT and below within a 5 nm radius of the LFI TACAN. Specific times and airspace restrictions are published in the US NOTAMs so it is imperative to refer to the current NOTAMs when traveling near Langley.

LOCAL FREQUENCIES

(This list of frequencies is for your convenience and is not to take the place of current sectional or Airport Facility Directory Information)

Chambers Field (NGU) at Naval Station Norfolk	
-Tower	124.3
-ATIS	118.425
FSS (Leesburg Radio)	122.64 or 122.2
Felker AAF (FAF) Tower at Ft. Eustis	126.3
Langley AFB (LFI) -Tower	125.0
-Tower	125.0
Newport News-Williamsburg (PHF)	
-Tower	118.7
-ATIS	128.65
Norfolk International Airport (ORF) / Approach (Arrival/Departure)	
-North / Northwest	125.7
-Northeast / South / West	118.9
-Tower	120.8
-ATIS	127.15
Oceana NAS (NTU) -Tower	120.875

REPORTING NEAR MIDAIR COLLISIONS (NMAC)

An important part of preventing Midair Collisions is reporting Near Midair Collisions (NMAC). As mentioned before, most collisions occur due to someone being in the “wrong” place. Reporting NMACs will help sort out (and clear up) improper procedures and prevent future occurences.

Immediately following a NMAC, a pilot needs to inform the controlling air traffic agency of the close call. Tapes of the incident need to be preserved and the controlling agency may take the initiative in filing a NMAC report.

In addition to the immediate radio call, pilots have several avenues they should use once they are back on the ground. Civilian pilots should refer to AIM para. 7-6-3 for steps on how to report a NMAC. Military pilots should contact their Flight Safety Office and complete a Hazardous Air Traffic Report (HATR) AF Form 651. Civilian and military pilots alike are also encouraged to report the incident to the NASA Aviation Safety Reporting System (ASRS). For additional information on the ASRS, refer to AIM para. 7-6-1 and http://asrs.arc.nasa.gov

REPORTING NEAR MIDAIR COLLISIONS (NMAC) cont.

CONCLUSION - Before you go, take a quick glance (because that's all the time you may have in the air) at the following pages.* Figure 4 is a depiction of what you might see through your windscreen: an F-22 approaching your aircraft, head-on. The typical speed for an F-22 returning to Langley is over 360 MPH. Add your typical cruising speed to 360 MPH to come up with an approximation of the closure speeds involved with taking on an F-22 (it will also give you an idea of how much time is required to take evasive action).

Fig. 4: Critical Seconds

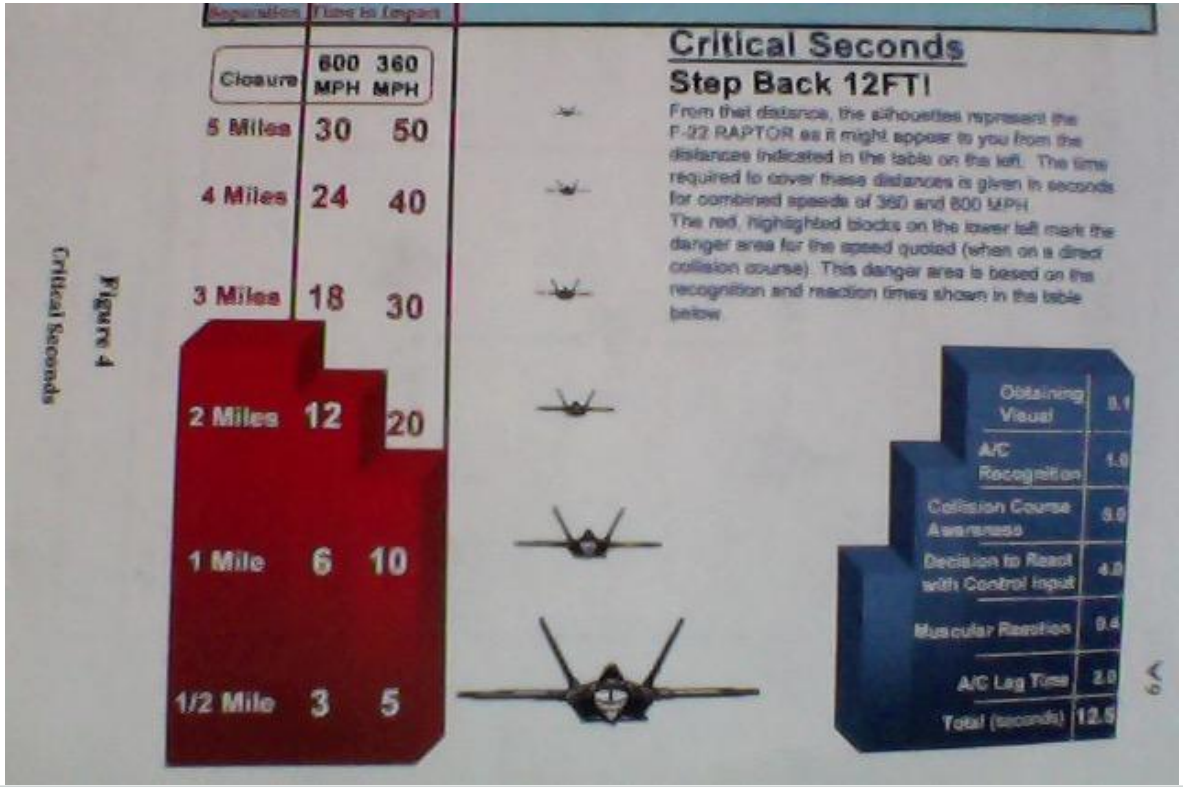
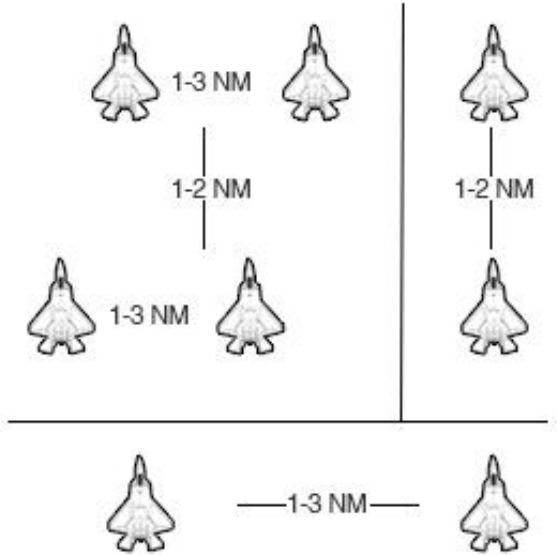


Fig. 5: Common Fighter Formations

Normal Line Abreast:

Caution:

Fighter Formations normally consist of 2 to 4 aircraft. ATC should advise of the number of A/C in any formation. If you see one, another is close by!



Typical Formations

CONTACT INFORMATION

Langley AFB	
1 FW Flight Safety	(757) 764-5356 764-5358 (Fax) 1FW/SEFlightSafety@langley.af.mil
Airfield Management Operations	(757) 764-2504 764-3605 (Fax)
Tower	(757) 764-5326 764-5328 (Fax)
Oceana NAS	
Flight Safety	(757) 433-2692 433-2694 (Fax) Safety@nasoceana.navy.mil
Chambers Field (Naval Station Norfolk)	
Base Operations	(757) 322-3419
Felker AAF (Ft. Eustis)	
Flight Safety	(757) 878-5865
Local FBOs	
Accomack County	(757) 787-4600
Franklin Municipal	(757) 421-9000
Hampton Roads Executive	(757) 562-8764
Middle Peninsula Regional	(804) 785-9725
New Kent County	(804) 932-3984
Newport News-Williamsburg	(757) 877-0221 ext 224
Norfolk International	(757) 857-3303 ext 1638
Suffolk Executive	(757) 514-4411
Williamsburg-Jamestown	(757) 229-9256

INCIDENT REPORT FORM

Please PRINT (scan and email) this form to the Langley Flight Safety Office at 1FW/SEFlightSafety@langley.af.mil

WHEN? (Date/Time) _____

WHERE? (Navaid Fix) _____

WHAT HAPPENED? (Type Aircraft Involved)

_____

_____

HOW? (What were you doing? What did you see?)

_____

_____

Diagram:

Your Contact Info: _____

F-22

Length: 62 ft 1 in (18.90 m)

Wingspan: 44 ft 6 in (13.56 m)

Height: 16 ft 8 in (5.08 m)

T-38

Length: 46 ft, 4.5 in (14.14 m)

Wingspan: 25 ft, 3 in (7.7 m)

Height: 12 ft, 10.5 in (3.92 m)