CHAPTER 8
Airspace Conflicts

I. Introduction

Federal Aviation Regulations establish a safe environment for all aircraft operating within the National Airspace System (NAS). It is imperative that users have an understanding of the regulations applicable to the airspace in which flights are being conducted. These requirements should be understood and adhered to by all pilots. Conflicts often occur in which aircraft are observed operating outside of established regulations. The FAA investigates aircraft incidents, collects and analyzes aircraft incident reports in order to provide a source of accident prevention information as required by Federal Aviation Administration Orders (FAAO 8020.11).

The land management agencies, as users of the NAS, have a responsibility to identify and report incidents to assist in the resolution of airspace conflicts. When a conflict or incident occurs, it may indicate a significant aviation safety hazard. Reports should be clear, concise and factual.

Primary reports of airspace safety incidents are done through the respective agency mishap, incident or Safety Communication (SAFECOM) reporting system. The agency Aviation Safety Manager or Airspace Coordinator may determine whether the incident warrants official submission to the FAA for investigation.

II. Defining or Reporting Situations of Unsafe Aircraft Operations

A. Near Midair Collision (NMAC)

A Near Midair Collision is defined in the Airman's Information Manual (AIM page 7-6-3) as "an incident associated with the operation of an aircraft in which the possibility of collision occurs as a result of proximity of **less than 500 feet to another aircraft**, or a report is received from a pilot or a flight crew member stating that a **collision hazard existed** between two or more aircraft".

FIGURE 8-1 Example of a Near Mid Air

The Air Force refers to their Near Midair incidents as Hazardous Air Traffic Reports (HATRs); the Army uses Operational Hazard Reports (OHRs). The Navy and Marine Corps facilities use the term NMAC.

A NMAC is not the same as a Pilot Deviation. However, some incidents, such as a TFR intrusion, may require that both types of reports be filed.

B. Pilot Deviation Reports

Pilot Deviation Reports are used to document other incidents that are violations of the Federal Aviation Regulations and create an unsafe situation. The following are types of incidents that are treated by the FAA as a Pilot Deviation.

1. Operation of an aircraft in a careless or reckless manner (14CFR 91.13)

2. Airplanes flying below 500' AGL unless in sparsely populated areas or over water (14CFR 91.119)

3. TFR intrusions (14CFR 91.137), which are occurrences of non-participating aircraft entering a TFR without permission (with exceptions for law enforcement flights, airport traffic, IFR traffic and accredited media)

4. Flight operations in restricted/prohibited areas (14CFR 91.133)

5. Non-compliance with standard or acceptable airport operations (14CFR 91.127)

6. Aircraft not operating within the parameters of their special-use airspace, e.g. Military Operating Areas (MOAs), Restricted Areas (RAs) or Military Training Routes (MTRs) (14CFR 91.117, FAAO 7610.4)

7. Although not a report to the FAA, non-compliance with joint-use scheduling as outlined in Memorandums of Understanding (MOUs), Letters of Agreement (LOAs), or Operations Plans should be reported to the appropriate Military Representatives (MILREPs) or other coordinating military representative(s)

III. NMAC Reporting

The primary purpose of the NMAC Reporting Program is to provide information that will enhance the safety and efficiency of the National Airspace System. Data ob-

tained from NMAC reports are used by the FAA to improve the quality of FAA services to users and to develop programs, policies and procedures aimed at the reduction of NMAC occurrences.

All NMAC reports are thoroughly investigated by Flight Standards District Offices (FSDOs) in coordination with Air Traffic Control (ATC) facilities. Data from these investigations are transmitted to FAA Headquarters in Washington, DC, where they are compiled and analyzed, and where safety programs and recommendations are developed.

Notification should be made immediately or as soon as possible after any unsafe incident occurs. Whenever possible, the written report should be received by the responsible FSDO within 15 (calendar) days to ensure all FAA flight records are available. Normally ATC records used to identify aircraft (e.g. flight plans, flight strips, radar and radio tapes) are only kept for 15 days. Late submission of a report may result in limiting the FSDOs ability to complete the investigation.

IV. Aircraft Identification

Usually the first step of reporting an unsafe aircraft situation is to identify the involved aircraft. The FAA and/or DoD, as applicable, need a positive identification of the aircraft involved to perform a complete investigation of an airspace incident. Although the aircraft registration number is the best method of obtaining positive identification, often the aircraft is moving too fast to read the identification numbers. Military aircraft normally have some markings but generally the speeds flown by jets will make these almost impossible to read.

Document as much information as available (e.g. direction of flight, altitude, etc.) and relay as soon as possible to the Agency Dispatcher or Aviation Manager. The more information provided by the observer, the greater the likelihood that identification can be obtained**,** resulting in a successful investigation.

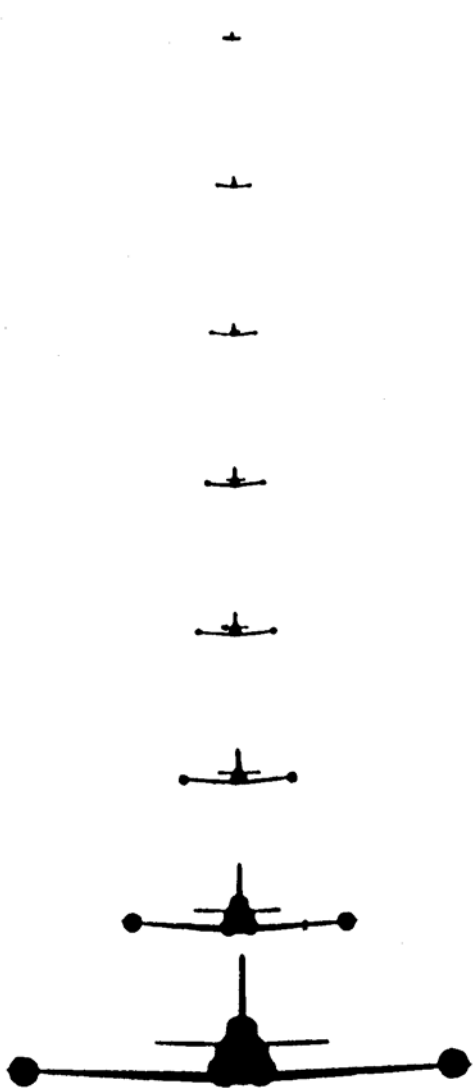
A. Aircraft Incident Observation Checklist

The Aircraft Incident Observation Checklist (Figure 8-3) is provided as an aid to agency personnel in the gathering of incident information.

This Checklist assists personnel in describing an aircraft so that it may be identified. It can be used by an observer to fill in information, or by off-site personnel to ask questions and develop a description.

Incorrect aircraft identification may hamper the FAA or military's ability to determine the actual aircraft involved in the incident. Unless this identifica-

DISTANCE	SECONDS at: 600 MPH	360 MPH
10 miles	60	100
6 miles	36	60
5 miles	30	50
4 miles	24	40
3 miles	18	30
2 miles	12	20
1 mile	6	10
½ mile	3	5



CRITICAL SECONDS

Move back 12 feet from the illustration. From that position the silhouettes represents a T-33 aircraft as it would appear to you from the distances indicated in the on the left. The time required to cover these distances is given in seconds for *combined speeds*.

The blocks on the lower left mark the danger area for the speeds quoted. This danger area is based on the reaction times shown below.

see object	0.1
recognize a/c	1.0
become aware of collision course	5.0
decision to turn left or right	4.0
muscular reaction	0.4
aircraft lag time	2.0
TOTAL	**12.5**

RECOGNITION AND REACTION TIMES
FROM US NAVY AVIATION SAFETY BULLETIN

FIGURE 8-2 Near Midair Collision Analysis

FIGURE 8-3 Near Midair Checklist

AIRCRAFT INCIDENT OBSERVATION CHECKLIST

Location: _____ By: _____ Date: ___/___/___

GENERAL

- ❑ Date and time of the incident _____
- ❑ Type of incident: NMAC, TFR Intrusion or other (include description of events)

  _____

  _____

  _____
- ❑ Weather conditions _____
- ❑ Incident location _____
- ❑ Altitude(s) and direction of flight _____

TYPE AIRCRAFT

- ❑ Jet (number and locationof intakes) _____
- ❑ Prop (number and location of propellers) _____
- ❑ Helicopter (number and location of rotors) _____
- ❑ Other (i.e. balloon, ultralight, hang glider, etc.) _____
- ❑ Unknown

ADDITIONAL DESCRIPTION

- ❑ Readable markings and side numbers _____

  _____
- ❑ Color scheme _____
- ❑ High wing versus low wing (refers to wing placementon main body) _____
- ❑ Landing gear (wheels): retractable or fixed gear (usually gear visible in-flight is fixed)
- ❑ Number of Tails _____
- ❑ Other distinctive configuration _____

  _____

  _____

  _____

OTHER COMMENTS

tion is without doubt, encourage reporting personnel to provide generic descriptions to substitute or supplement the checklist information.

B. Aircraft Profile Identification Guide

Use of an aircraft profile identification guide can assist in swiftly identifying the type of aircraft. Many published guides are available at local bookstores.

C. Radar Identification

Real-time aircraft identification from FAA radar facilities is possible only if the occurrence is reported immediately, and the FAA is tracking the aircraft. The Dispatcher or Aviation Manager should contact the local Air Route Traffic Control Center (ARTCC) or Terminal Radar Approach Control (TRACON) and explain the nature of the incident, along with all available information from the observation report. Request identification of the aircraft involved and include this information in the written report. (NOTE: In some areas ARTCC radar coverage may be limited to higher altitudes and TRACONs should be contacted for information on low altitude traffic).

Even if the conflict is immediately reported, standard conflict reporting processes to the FSDO should be followed. The report should be processed through the FSDO by the agency Aviation Safety Manager or Airspace Coordinator.

V. Agency Reporting and Documentation Requirements

All incidents involving aircraft shall be reported and recorded as a SAFECOM or other appropriate mishap or incident report, in accordance with agency policy and reporting procedures. The Aircraft Conflicts Action Checklist (Figure 8-4) is designed to assist in processing SAFECOMs.

A. Initial Response/Action

The initial report should be recorded by the aircraft passenger, pilot, crew or ground observer on a SAFECOM**,** detailing pertinent information that will support the agency notice to the FAA. SAFECOM submissions may be made through either the USFS (*www.fs.fed.us/r6/fire/av_safety*) or through DOI (*www.oas.gov*). The future combined website (currently under construction) will be *www.safecom.gov*.

1. Upon receipt of an initial airspace conflict report, the Unit Dispatcher or Aviation Officer should immediately contact the FAA ARTCC/ TRACON and request a positive identification of the aircraft involved.

2. When possible, immediate reports should be forwarded to the FAA within 15 minutes of the incident.

3. If the occurrence involves a military aircraft and there is the potential for a recurrence, immediately contact the military airspace scheduling activity responsible for flight in the area of operations. If necessary cease all agency aviation activities until the safety issue is resolved.

4. With aircraft operating at different speeds, it's possible that all pilots involved may not see a close call between two or more aircraft. Feedback to DoD is important to bring this to their attention.

B. Formal Reporting

1. NMAC Reports

An FAA Near Midair Collision (NMAC) report should be submitted for all incidents that meet the definition. The pilot of the aircraft reporting the incident should complete Blocks A-E on the NMAC form.

It is the responsibility of the pilot and/or flight crew to determine whether a Near Midair Collision situation actually occurred and, if so, to initiate an NMAC report. For the initial report, the pilot/crew should notify the nearest Air Traffic facility on the ATC frequency while airborne, or by phone immediately after landing.

2. Pilot Deviation Reports

Any authorized personnel using information from ground and/or airborne observers may make reports of Federal Aviation Regulation deviations and other unsafe operations.

Items to be reported are as follows:

a. Date, time (UTC), location and altitude of the occurrence.

b. Location of the incident in relation to the nearest navigation fix or ATC facility.

c. Identification and type of reporting aircraft, destination, name and home base of pilot.

d. Identification and type of other aircraft. If known, include aircraft departure or arrival point and name and home base of pilot.

e. Type of flight plans and station altimeter setting used.

f. Detailed weather conditions at altitude or flight level.

g. Approximate courses of aircraft involved; indicate if either aircraft were climbing or descending.

The following three items are also reported for NMAC:

a. Reported separation in distance at first sighting, proximity at closest point horizontally and vertically, and length of time in sight prior to evasive action.

b. Degree of evasive action taken, if any (by either aircraft, if possible).

c. Injuries, if any.

An agency SAFECOM Report, with NMAC documentation, should be sent to identified agency submission points. Concurrently with standard agency incident/hazard reporting procedures, the State, Area or Regional Aviation Manager should process instances of airspace conflicts through the local FAA FSDO, with a courtesy copy to the FAA Regional Headquarters Quality Assurance Office.

If an NTAP (defined by ARTCC as a ”radar documentation of flight”) is required, the Aviation Safety Manager will need to submit a Freedom of Information Act (FOIA) request to the FAA Regional Headquarters Quality Assurance Office. The request must be made as soon as possible after the incident as the NTAP information is perishable.

The Aviation Safety Manager should submit the communication as a formal report, requesting that the FAA conduct an investigation. At the time of the report, make it known that follow-up and feedback is desired on the progress and eventual outcome of the FAA’s investigation.

C. FAA Investigation

1. The FAA office responsible for the investigation and reporting of NMACs and Pilot Deviations will be the FSDO in whose area the incident occurred.

2. FAAO 8020.11 defines FAA investigation responsibilities. The FSDO investigator will categorize NMAC cases as one of the following:

   a. Critical - a situation in which collision avoidance was due to chance rather than a pilot's actions. Less than 100 feet of aircraft separation is considered critical.

   b. Potential - a situation that would probably have resulted in a collision if no action had been taken by either pilot. Less than 500 feet of aircraft separation is usually required in this case.

   c. No Hazard - a situation in which direction and altitude have made a Midair collision improbable, regardless of evasive actions (FAAO 8020.11).

3. The FAA, in response to it's investigation, may choose to interview the pilot, crew members, on scene personnel, dispatcher, etc. Documentation of the incident is essential to the investigation.

D. Follow Through

The need for follow through on all airspace issues is critical to both investigation and resolution of past occurrences and the prevention and avoidance of future situations.

1. If military aircraft were involved, contact the military airspace scheduling activity and inform them of actions taken with the ARTCC and FSDO. Contact should also be made with the appropriate MILREP at FAA Regional Office Headquarters.

2. If warranted, contact the National Aviation Safety Manager and Airspace Coordinators and provide a copy of the SAFECOM.

3. It is important that these issues be resolved in the interest of preventing future occurrences. For that reason the Aviation Manager should periodically check with the FSDO to determine the status (i.e., continuation, closure) of the investigation.

FIGURE 8-4 Airspace Conflict Checklist

AIRSPACE CONFLICTS ACTION CHECKLIST
(ALWAYS FOLLOW AGENCY PROCEDURES)

SUGGESTED STEPS TO BE TAKEN IF:

THERE IS AN INTRUSION WITHIN A TFR

- ❑ Have contact provide as much information as possible (Use Aircraft Observation Report) for more information.
- ❑ Contact local ARTCC and report intrusion to Area Manager immediately. Fax Aircraft Observation Report or Intrusion Report to FAA.
- ❑ If DoD aircraft are involved, contact the following:
  If a MTR is located within the TFR: Contact the Scheduling Activity listed in the AP1/B (or use CAHIS/IAMS for phone number)
  If a MOU/SUA is located within the TFR: Contact the Scheduling Authority (Consult Sectional for identification of Scheduling Authority–many times it is the local ARTCC)
  If you do not have access to an AP1/B, CAHIS/IAMs/CAN or a Sectional, contact your local ARTCC for assistance in identifying the scheduling office.
- ❑ Explain the situation to both the FAA and, if necessary, DoD. Provide NOTAM information for TFR. Ask if any further flights are scheduled within the area. Discuss safety issues and renew efforts to deconflict airspace. Document all conversations.
- ❑ If safety is compromised, shut down operations until airspace is safe to work within. Do NOT use intimidation or risky flying to try to encourage aircraft to leave the area. Pull out of the area if safety is compromised.
- ❑ Obtain documentation and file SAFECOMs.

THERE IS A NEAR MID AIR COLLISION (NMAC) INVOLVING:
NOTE: FOR ALL NMACs REFER PILOT TO FAA IF THEY WISH TO FILE A NMAC REPORT.

AGENCY AIRCRAFT AND AGENCY AIRCRAFT

- ❑ Shut down operations if safety is compromised.
- ❑ Obtain documentation and file SAFECOM. Provide additional witness reports, radio logs, etc., if needed.
- ❑ Discuss airspace procedures, TFRs, etc., during pilots' briefings (and debriefings). Be sure that TFR information is shared with local agencies and other cooperating agencies involved in incident.

AGENCY AIRCRAFT AND DOD AIRCRAFT

- ❑ Obtain as much information as possible.
- ❑ Contact Local ARTCC and report incident to Area Manager. Fax documentation to FAA. Discuss contacting schedulers for MTRs, SUAs and MOAs.
- ❑ Contact Scheduling Activities (MTRs/SRs) and Scheduling Authorities (SUAs/MOAs) and provide information about intrusion. Inquire about scheduling activity. Discuss deconfliction request and TFR. Consider also contacting Air Force regarding local LATNs.
- ❑ File SAFECOM through agency procedures.
- ❑ Notify MILRep at FAA Regional Headquarters. MILReps will investigate all DoD related TFR intrusions or Near Mid Air Collisions. Provide complete documentation.
- ❑ Courtesy copy to FAA FSDO. FSDO will refer investigation to DoD.

AGENCY AIRCRAFT AND GENERAL AVIATION AIRCRAFT

- ❑ Obtain as much information as possible.
- ❑ Contact ARTCC (Area Manager) with information. Ask if the FAA can identify the aircraft on their radar scopes.
- ❑ File SAFECOM through agency procedures.
- ❑ Provide information to FAA FSDA. FSDO will assign investigator to follow through.
- ❑ Check local airports to see if aircraft can be identified. Do not "educate" the pilot--the FAA will handle that.

AGENCY AIRCRAFT AND BIRDS OR WILDLIFE

- ❑ File SAFECOM
- ❑ See Chapter 4--and file Bird report with FAA.

VI. NASA Voluntary Aviation Safety Reporting

The FAA has established a voluntary Aviation Safety Reporting Program designed to stimulate the free and unrestricted flow of information concerning deficiencies and discrepancies in the aviation system. This program utilizes the National Aeronautics and Space Administration (NASA) to act as an independent third party to receive and analyze reports submitted under the program. This program is described in Advisory Circular AC 00-46, Aviation Safety Reporting Program. This is a positive program intended to ensure the safest possible system by identifying and correcting unsafe conditions before they lead to accidents. The primary objective of the program is to obtain information to evaluate and enhance the safety and efficiency of the present system.

This cooperative safety reporting program invites pilots, controllers, flight attendants, maintenance personnel, other users of the airspace system, or any other person, to file written reports of actual or potential discrepancies and deficiencies involving the safety of aviation operations.

The operations covered by the program include departure, en route, approach, and landing operations and procedures, Air Traffic Control procedures and equipment, crew and Air Traffic Control communications, aircraft cabin operations, aircraft movement on the airport, Near Midair Collisions, aircraft maintenance and record keeping, and airport conditions or services.

The report should give the date, time, location, persons and aircraft involved (if applicable), nature of the event, and all pertinent details.

To ensure receipt of this information, the program provides for the waiver of certain disciplinary actions against persons, including pilots and air traffic controllers, who file timely written reports concerning potentially unsafe incidents. To be considered timely, reports must be delivered or postmarked within 10 days of the incident unless that period is extended for good cause. Reports should be submitted on NASA ARC Forms 277B, which are available free of charge, postage prepaid, at FAA Flight Standards District Offices and Flight Service Stations, and from NASA, ASRS, PO Box 189, Moffet Field, CA 94035. Further information is available at *http://asrs.arc.nasa.gov*.

VII. NASA and FAA Forms

The following pages consist of these NASA and FAA forms:

A. Form NASA ARC 277B (January 1994)
B. FAA Form 8020-17 - Preliminary Pilot Deviation Report
C. FAA Form 8020-21 - Preliminary Near Midair Collision Report
D. FAA Form 8020-15 - Investigation of Near Midair Collision Incident

FIGURE 8-5 Form NASA ARC 277B (January 1994), Page 1

DO NOT REPORT AIRCRAFT ACCIDENTS AND CRIMINAL ACTIVITIES ON THIS FORM.
ACCIDENTS AND CRIMINAL ACTIVITIES ARE NOT INCLUDED IN THE ASRS PROGRAM AND SHOULD NOT BE SUBMITTED TO NASA.
ALL IDENTITIES CONTAINED IN THIS REPORT WILL BE REMOVED TO ASSURE COMPLETE REPORTER ANONYMITY.

(SPACE BELOW RESERVED FOR ASRS DATE/TIME STAMP)

IDENTIFICATION STRIP: Please fill in all blanks to ensure return of strip.
NO RECORD WILL BE KEPT OF YOUR IDENTITY. This section will be returned to you.

TELEPHONE NUMBERS where we may reach you for further details of this occurrence:

HOME Area _____ No. _____ Hours _____

WORK Area _____ No. _____ Hours _____

NAME _____

ADDRESS/PO BOX _____

_____

CITY _____ STATE _____ ZIP _____

TYPE OF EVENT/SITUATION _____

_____

DATE OF OCCURRENCE _____

LOCAL TIME (24 hr. clock) _____

PLEASE FILL IN APPROPRIATE SPACES AND CHECK ALL ITEMS WHICH APPLY TO THIS EVENT OR SITUATION.

REPORTER

- ☐ Captain
- ☐ First Officer
  - ☐ pilot flying
  - ☐ pilot not flying
- ☐ Other Crewmember
- ☐ _____

FLYING TIME

total _____ hrs.

last 90 days _____ hrs.

time in type _____ hrs.

CERTIFICATES/RATINGS

- ☐ student
- ☐ commercial
- ☐ instrument
- ☐ multiengine
- ☐ _____
- ☐ private
- ☐ ATP
- ☐ CFI
- ☐ F/E

ATC EXPERIENCE

- ☐ FPL ☐ Developmental
- radar _____ yrs.
- non-radar _____ yrs.
- supervisory _____ yrs.
- military _____ yrs.

AIRSPACE

- ☐ Class A (PCA)
- ☐ Class B (TCA)
- ☐ Class C (ARSA)
- ☐ Class D (Control Zone/ATA)
- ☐ Class E (General Controlled)
- ☐ Class G (Uncontrolled)
- ☐ Special Use Airspace
- ☐ airway/route _____
- ☐ unknown/other _____
- _____
- _____
- _____

WEATHER

- ☐ VMC ☐ ice
- ☐ IMC ☐ snow
- ☐ mixed ☐ turbulence
- ☐ marginal ☐ tstorm
- ☐ rain ☐ windshear
- ☐ fog ☐ _____

LIGHT/VISIBILITY

- ☐ daylight ☐ night
- ☐ dawn ☐ dusk
- ceiling _____ feet
- visibility _____ miles
- RVR _____ feet

ATC/ADVISORY SERV.

- ☐ local ☐ center
- ☐ ground ☐ FSS
- ☐ apch ☐ UNICOM
- ☐ dep ☐ CTAF
- Name of ATC Facility: _____

	AIRCRAFT 1	AIRCRAFT 2
Type of Aircraft (Make/Model)	(Your Aircraft) _____ ☐ EFIS ☐ FMS/FMC	(Other Aircraft) _____ ☐ EFIS ☐ FMS/FMC
Operator	☐ air carrier ☐ military ☐ corporate ☐ commuter ☐ private ☐ other _____	☐ air carrier ☐ military ☐ corporate ☐ commuter ☐ private ☐ other _____
Mission	☐ passenger ☐ training ☐ business ☐ cargo ☐ pleasure ☐ unk/other_____	☐ passenger ☐ training ☐ business ☐ cargo ☐ pleasure ☐ unk/other_____
Flight plan	☐ VFR ☐ SVFR ☐ none ☐ IFR ☐ DVFR ☐ unknown	☐ VFR ☐ SVFR ☐ none ☐ IFR ☐ DVFR ☐ unknown
Flight phases at time of occurrence	☐ taxi ☐ cruise ☐ landing ☐ takeoff ☐ descent ☐ missed apch/GAR ☐ climb ☐ approach ☐ other _____	☐ taxi ☐ cruise ☐ landing ☐ takeoff ☐ descent ☐ missed apch/GAR ☐ climb ☐ approach ☐ other _____
Control status	☐ visual apch ☐ on vector ☐ on SID/STAR ☐ controlled ☐ none ☐ unknown ☐ no radio ☐ radar advisories	☐ visual apch ☐ on vector ☐ on SID/STAR ☐ controlled ☐ none ☐ unknown ☐ no radio ☐ radar advisories

If more than two aircraft were involved, please describe the additional aircraft in the "Describe Event/Situation" section.

LOCATION

Altitude _____ ☐ MSL ☐ AGL

Distance and radial from airport, NAVAID, or other fix _____

_____

Nearest City/State _____

CONFLICTS

Estimated miss distance in feet: horiz _____ vert _____

Was evasive action taken? ☐ Yes ☐ No

Was TCAS a factor? ☐ TA ☐ RA ☐ No

Did GPWS activate? ☐ Yes ☐ No

NASA ARC 277B (January 1994) GENERAL FORM Page 1 of 2

FIGURE 8-6 Form NASA ARC 277B (January 1994), Page 2

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NASA has established an Aviation Safety Reporting System (ASRS) to identify issues in the aviation system which need to be addressed. The program of which this system is a part is described in detail in FAA Advisory Circular 00-46D. Your assistance in informing us about such issues is essential to the success of the program. Please fill out this form as completely as possible, enclose in an sealed envelope, affix proper postage, and and send it directly to us.

The information you provide on the identity strip will be used only if NASA determines that it is necessary to contact you for further information. THIS IDENTITY STRIP WILL BE RETURNED DIRECTLY TO YOU. The return of the identity strip assures your anonymity.

AVIATION SAFETY REPORTING SYSTEM

Section 91.25 of the Federal Aviation Regulations (14 CFR 91.25) prohibits reports filed with NASA from being used for FAA enforcement purposes. This report will not be made available to the FAA for civil penalty or certificate actions for violations of the Federal Air Regulations. Your identity strip, stamped by NASA, is proof that you have submitted a report to the Aviation Safety Reporting System. We can only return the strip to you, however, if you have provided a mailing address. Equally important, we can often obtain additional useful information if our safety analysts can talk with you directly by telephone. For this reason, we have requested telephone numbers where we may reach you.

Thank you for your contribution to aviation safety.

NOTE: AIRCRAFT ACCIDENTS SHOULD NOT BE REPORTED ON THIS FORM. SUCH EVENTS SHOULD BE FILED WITH THE NATIONAL TRANSPORTATION SAFETY BOARD AS REQUIRED BY NTSB Regulation 830.5 (49CFR830.5).

Please fold both pages (and additional pages if required), enclose in a sealed, stamped envelope, and mail to:

NASA AVIATION SAFETY REPORTING SYSTEM
POST OFFICE BOX 189
MOFFETT FIELD, CALIFORNIA 94035-0189

DESCRIBE EVENT/SITUATION

Keeping in mind the topics shown below, discuss those which you feel are relevant and anything else you think is important. Include what you believe really caused the problem, and what can be done to prevent a recurrence, or correct the situation. (USE ADDITIONAL PAPER IF NEEDED)

CHAIN OF EVENTS
- How the problem arose
- How it was discovered
- Contributing factors
- Corrective actions

Page 2 of 2

HUMAN PERFORMANCE CONSIDERATIONS
- Perceptions, judgments, decisions
- Actions or inactions
- Factors affecting the quality of human performance

FIGURE 8-7 FAA Form 8020-17 - Page 1

PRELIMINARY PILOT DEVIATION REPORT

Incident Report Number: P

Complete and distribute according to instructions on page 3. Complete items I to 9 and 27 to 33 for all deviations; if surface deviation, also complete items 10 to 14; if air deviation, also complete items 15 to 26. Complete the form by hand or typewriter.

1. Date, Time, and Location of Deviation
   - A. Date (Coordinated Universal Time-UTC) M M D D Y Y
   - B. UTC Time
   - C. Local Time
   - D. Nearest City or Town and State

2. Pilot Information (*complete or mark box*) ☐ All Information Unknown
   - A. Name and Address
     - Name (first, middle, last)
     - Address
     - City / State or Country / Zip
   - B. Daytime Telephone Number
   - C. Pilot Certificate No. (or enter "MILITARY")

3. Deviation First Detected by (*mark one*):
   - A. ☐ Error Detection Program (EDP)
   - B. ☐ Radar Observation (excludes EDP)
   - C. ☐ Visual Observation (tower)
   - D. ☐ AFSS or FSS
   - E. ☐ Public, Including Pilots
   - F. ☐ Other, Specify

4. Aircraft Information (*complete or mark box*): ☐ All Information Unknown
   - A. Registration (N) No.
   - B. Flight No. or Call Sign (if applicable)
   - C. Make
   - D. Model

5. Type of Operation at Time of Deviation (*mark one*):
   - A. ☐ U.S. Air Carrier (14 CFR 121 or 125)
   - B. ☐ Foreign Air Carrier (I 4 CFR 129)
   - C. ☐ Commuter (I 4 CFR 13 5)
   - D. ☐ Air Taxi (14 CFR 135)
   - E. ☐ General Aviation (I 4 CFR 9 1)
   - F. ☐ Public (*governmental*)
   - G. ☐ U.S. Military, (*Specify Service*)
   - H. ☐ Unknown
   - I. ☐ Other, *Specify*

6. Type of Flight Rules at Time of Deviation (*mark one*):
   - A. ☐ Instrument Flight Rules (IFR)
   - B. ☐ Visual Flight Rules (VFR)
   - C. ☐ Special VFR
   - D. ☐ Defense VFR
   - E. ☐ Unknown

7. Phase(s) of Flight When Deviation Occurred (*mark appropriate boxes*):
   - A. ☐ Taxi
   - B. ☐ Takeoff
   - C. ☐ Climb
   - D. ☐ Level Flight or Cruise
   - E. ☐ Turning or Maneuvering
   - F. ☐ Descent
   - G. ☐ Approach
   - H. ☐ Landing
   - I. ☐ Unknown
   - J. ☐ Other, *Specify*:

8. Number of Aircraft Involved (*provide data on any aircraft not listed in item 4*):
   - A. ☐ One
   - B. ☐ Two
   - C. ☐ Three
   - D. ☐ Four or More
   - E. ☐ Unknown

	Aircraft N No.	Flight No. or Call Sign (*if applicable*)	Make	Model
F.				
G.				
H.				
I.				

9. Type of Deviation(s) (*mark appropriate boxes*):
   - A. ☐ Surface (*complete* items 10 to 14 and 27 to 33)
   - B. ☐ Air (*complete Items 15 to 33*)

10. Type of Control at Surface Deviation Location (*mark one*):
   - A. ☐ Operating Control Tower
   - B. ☐ Nonoperating Control Tower
   - C. ☐ None, Nontowered Public Airport
   - D. ☐ None, Private Airport
   - E. ☐ Unknown

11. Airport ID at Surface Deviation Location:

12. Surface Deviation Type(s) (*mark appropriate boxes*):
   - A. ☐ Takeoff Without Clearance
   - B. ☐ Takeoff on Wrong Runway or Taxiway
   - C. ☐ Landed Without Clearance
   - D. ☐ Landed or Takeoff Below Weather Minimums
   - E. ☐ Landed on Wrong Runway, Taxiway, or Airport
   - F. ☐ Entered Runway or Taxiway Without Clearance
   - G. ☐ Careless or Reckless Aircraft Operation
   - H. ☐ Did Not Close Flight Plan
   - I. ☐ Other, *Specify*

13. Loss of Separation With (*mark appropriate boxes*):
   - A. ☐ Ground Vehicle
   - B. ☐ Personne
   - C. ☐ Another Aircraft, on Ground
   - D. ☐ Another Aircraft, in Air
   - E. ☐ Obstruction
   - F. ☐ Not Applicable
   - G. ☐ Unknown

14. Closest Proximity Was (*mark one*):
   - A. ☐ Under 100 Feet
   - B. ☐ 100-499 Feet
   - C. ☐ 500-1,000 Feet
   - D. ☐ Over 1,000 Feet
   - E. ☐ Not Applicable
   - F. ☐ Unknown

If Surface Deviation Only Skip to Item 27

15. Location in Traffic Pattern During Deviation (*mark one*):
   - A. ☐ Upwind
   - B. ☐ Crosswind
   - C. ☐ Entry or Downwind Leg
   - D. ☐ Base Leg
   - E. ☐ Final Approach
   - F. ☐ Departure Leg or Exit
   - G. ☐ Not in Traffic Pattern
   - H. ☐ Unknown
   - I. ☐ Other, *Specify*

FAA Form 8020-17 (05-03) Supersedes Previous Edition — Page 1 — NSN:0052-00-899-0002

FIGURE 8-8 FAA Form 8020-17 - Page 2

16. Aircraft Altitude When Deviation Detected:
A. ___,___ Feet msl
B. ☐ Unknown

17. Transponder (*mark one*):
A. ☐ Operating, With Altitude Reporting
B. ☐ Operating, without Altitude Reporting
C. ☐ Not Functioning (*broken or off*)
D. ☐ No Transponder
E. ☐ Unknown

18. Was the Aircraft Equipped with TCAS?:
A. (1) ☐ Yes (2) ☐ No (3) ☐ Unknown
B. If Yes, Was TCAS Operating During Deviation?
(1) ☐ Yes (2) ☐ No (3) ☐ Unknown
C. If Yes, Was TCAS Involved in Deviation?
(1) ☐ Yes (2) ☐ No (3) ☐ Unknown
D. If Yes, Describe Involvement: _____

19. Fix or Facility Nearest Deviation (*complete one*):
A. ___ VOR, TACAN, or NDB ID
B. ___ Airport ID
C. ___ Airway Intersection ID
D. ☐ Oceanic Airspace or Area Navigation (GPS, Loran, etc.)

20. Deviation Location in Respect to Item 19 (*complete A&B or C&D*):
A. ___ Miles (nautical)
B. ___ Degrees (magnetic)
For Oceanic Airspace and Area Navigation Only:
C. ___ ' ___ ' Latitude
D. ___ ' ___ ' Longitude

21. Operational Control Area of Aircraft (*mark a maximum of three*):
A. ☐ Class A Airspace
B. ☐ Class B Airspace
C. ☐ Class C Airspace
D. ☐ Class D Airspace
E. ☐ Class E Airspace
F. ☐ Class G Airspace
G. ☐ Special Use Airspace, *Specify* _____
H. ☐ Within Terminal Radar Service Area
I. ☐ Towered Airport
J. ☐ Non towered Airport
K. ☐ Unknown
L. ☐ Other, *Specify* _____

22. Location ID of Facility(ies) Providing Air Traffic Service During Deviation (*complete appropriate boxes*)
A. ___ ARTCC
B. ___ TRACON
C. ___ RAPCON, RATCT, or ARAC
D. ___ ATCT
E. ___ AFSS or FSS
F. ☐ None
G. ☐ Unknown
H. ☐ Other, Specify _____

23. Preliminary Information Indicates the Air Deviation Type Was (*mark appropriate boxes*):
A. ☐ ATC Altitude Clearance Deviation
B. ☐ ATC Course Clearance Deviation
C. ☐ Airspeed Clearance Violation
D. ☐ Airspace Clearance Violation
E. ☐ Flying VFR when IFR Required
F. ☐ Pilot Unqualified for Aircraft or Conditions
G. ☐ Required Aircraft Equipment Not Operating
H. ☐ Careless or Reckless Aircraft Operation
I. ☐ Unauthorized Low level Flying
J. ☐ Missed Compulsory Reporting Point
K. ☐ Noncompliance with Other Regulations (specify FAR numbers (2)):
(1) ___.___ (__) (2) ___.___ (__)

24. Preliminary Information Indicates the Airspace Violation Was of (*mark one*):
A. ☐ Class A Airspace
B. ☐ Class B Airspace
C. ☐ Class C Airspace
D. ☐ Class D Airspace
E. ☐ Class E Airspace
F. ☐ Special Use Airspace, *Specify* _____
G. ☐ None
H. ☐ Unknown
I. ☐ Other, *Specify* _____

25. If ATC Altitude or Course Clearance Deviation, Maximum Deviation Was:
☐ No Clearance Deviation
A. ___,___ Feet, Vertical or ☐ Unknown
B. ___,___ Feet, Horizontal
or ___,___ Miles (nautical), Horizontal or ☐ Unknown

26. If There Was Loss of Separation, Closest Proximity Was:
☐ No Loss of Separation
A. ___,___ Feet, Vertical or ☐ Unknown
B. ___,___ Feet, Horizontal
or ___,___ Miles (nautical), Horizontal or ☐ Unknown
C. ___ Minutes Longitudinal or ☐ Unknown

27. Other Reports Files or To Be Filed (mark appropriate boxes and complete):
A. ☐ Incident Report (FAA Form 8020-1 1), *Specify No(s).* _____
B. ☐ Preliminary Near Midair Collision Report (FAA Form 8020-2 1), *Specify No(s).* _____
C. ☐ Preliminary Operational Error/Deviation Report (FAA Form 7210-2), *Specify No(s).* _____
D. ☐ Other (including TCAS), *Specify* _____
E. ☐ None

28. Brief Description of Deviation and Comments:

FAA Form 8020-17 (05-03) Supersedes Previous Edition Page 2 NSN:0052-00-899-0002

FIGURE 8-9 FAA Form 8020-17 - Page 3

PRELIMINARY
PILOT DEVIATION REPORT

Incident Report Number: P

28. Brief Description of Deviation and Comments (*continued*):

29. Attachments (*specify, e.g., pilot statement or flight progress strip, or mark box*): ☐ No Attachments

30. Reporting Office:
A. [A] FAA Region
B. Location ID
C. Telephone No.

31. Name of Individual Completing Form:
Type or Print

32. Facility Manager Approving Form:
A. Signature
B. Name
Type or Print
C. Date M M D D Y Y

33. Report Distributed to:
A. [A] FAA Region Flight Standards ID
B. Others, *Specify*

INSTRUCTIONS

I. General

The incident report number and Items 1, 4, 6, 16, and 28 of FAA Form 8020- 17 must be completed and the information transmitted or arrangements made to transmit it in numerical order within 3 hours of the detection of a pilot deviation by: (1) telephone, facsimile, or in accordance with a regional agreement to the FSDO with jurisdiction over the area in which the pilot deviation occurred; and (2) by National Airspace Data Interchange Network (NADIN) message using immediate (DD) precedence to FAA headquarters and others. If the pilot deviation is significant, the above information should be communicated immediately by telephone to FAA headquarters. The remainder of the form must be completed and mailed by first class mail within 10 calendar days of the pilot deviation. The definition of a pilot deviation and instructions on distribution of FAA Form 8020-17 are in FAA Order 8020.11, "Aircraft Accident and Incident Notification, Investigation, and Reporting."

If a pilot deviation resulted in a near midair collision, FAA Form 8020-17 and FAA Form 8020-21, "Preliminary Near Midair Collision Report," both must be completed and distributed. Assign the two reports different incident report numbers.

Complete Items I to 9 and 27 to 33 for all deviations; if surface deviation, also complete Items I 0 to 14; if air deviation, also complete Items 15 to 26. If the categories given are inadequate, complete "Other, Specify." Provide comments in Item 28, not the margins. Sign and date the form (Item 32) before distribution.

II. Incident Report Number

Each facility completing FAA Form 8020-17 is responsible for assigning a unique 12-character number to each reported pilot deviation. The first character is P, for Pilot Deviation. The second and third characters are the abbreviation of the FAA region in which the deviation occurred:

AL - Alaskan
CE - Central
EA - Eastern
GL - Great Lakes
WP- Westem-Pacific
NE - New England
NM - Northwest Mountain
SO - Southern
SW - Southwest

The fourth character identifies the type of facility completing the form:

C - ARTCC
F - AFSS or FSS
Z - FSDO or Other
R - TRACON
T - ATCT

For combined TRACON and ATCT operations, use the character for the TRACON or ATCT reporting the pilot deviation.

The fifth through seventh characters are the facility location identifier (see FAA Order 7350.6), e.g., **ZNY**; or FSDO ID, e.g., **025**. The eighth and ninth characters are the calendar year in which the incident occurred, e.g., **03** for 2003.

The last three characters are the sequential incident report number for the year, by reporting facility and type of incident (e.g., pilot deviations would be numbered **001 to 999** in 2003 at a given facility).

III. Abbreviations

The following abbreviations are used:

AFSS	- Automated Flight Service Station
ARAC	- Army Radar Approach Control
ARTCC	- Air Route Traffic Control Center
ATCT	- Airport Traffic Control Tower
CFR	- Code of Federal Regulations
FSDO	- Flight Standards District Office
FS	- Flight Service Station
GPS	- Global Positioning System
HATR	- Hazardous Air Traffic Report
MSL	- Mean Sea Level
NDB	- Nondirectional Beacon
RAPCON	- Radar Approach Control
RATCF	- Radar Air Traffic Control Facility
TACAN	- Tactical Air Navigation
WAS	- Traffic Alert and Collision Avoidance System
TRACON	- Terminal Radar Approach Control
VOR	- Very High Frequency Omni directional Range Station

FAA Form 8020-17 (05-03) Supersedes Previous Edition Page 3 NSN:0052-00-899-0002

FIGURE 8-10 FAA Form 8020-21 - Page 1

PRELIMINARY
NEAR MIDAIR COLLISION REPORT

Incident Report Number: N

Complete and distribute according to instructions on page 3. Complete all items. "Rptg" refers to the aircraft that reports the near midair collision (NMAC) first; "Other" refers to the other aircraft. Complete the form by hand or typewriter.

1. Date, Time, and Location of NMAC:
Date (Coordinated Universal Time-UTC)
A. ☐☐☐☐☐☐☐☐ (M M D D Y Y Y Y)
UTC Time B. ☐☐☐☐ Local Time C. ☐☐☐☐
D. Nearest City or Town and State

2. Fix or Facility Nearest NMAC *(complete one)*:
A. ☐☐☐ VOR, TACAN, or NDB ID
B. ☐☐☐☐ Airport ID
C. ☐☐☐☐☐ Airway Intersection ID
D. ☐ Oceanic Airspace or Area Navigation (GPS, Loran, etc.)

3. NMAC Location in Respect to Item 2 *(complete A&B or C&D)*
A. ☐☐☐ Miles (nautical)
B. ☐☐☐ Degrees (magnetic)
For Oceanic Airspace or Area Navigation
C. ☐☐° ☐☐′ Latitude
D. ☐☐☐° ☐☐′ Longitude

4. Reporting Aircraft ("Rptg") Information:
A. Pilot Name and Address
Name (first, middle, last)
Address
City State or Country ZIP
B. Pilot Home Base
C. Pilot Daytime Telephone No. ☐☐☐ - ☐☐☐ - ☐☐☐☐
D. Pilot Certificate No. (or enter "MILITARY")
E. Aircraft Registration (N) No. ☐☐☐☐☐
F. Flight No. or Call Sign (if applicable)
G. Aircraft Make
H. Aircraft Model

5. Other Aircraft ("Other") Information *(complete or mark Box)*: ☐ All Inormation Unknown
A. Pilot Name and Address
Name (first, middle, last)
Address
City State or Country ZIP
B. Pilot Home Base
C. Pilot Daytime Telephone No. ☐☐☐ - ☐☐☐ - ☐☐☐☐
D. Pilot Certificate No. (or enter "MILITARY")
E. Aircraft Registration (N) No. ☐☐☐☐☐
F. Flight No. or Call Sign (if applicable)
G. Aircraft Make
H. Aircraft Model
I. Did Pilot Report NMAC?
(1) ☐ Yes (2) ☐ No (3) ☐ Unknown

6. Type of Operation during NMAC *(mark one per aircraft)*:

	Rptg	Other	
A.	☐	☐	U.S. Air Carrier (14 CFR 121 or 125)
B.	☐	☐	Foreign Air Carrier (14 CFR 129)
C.	☐	☐	Commuter (14 CFR 135)
D.	☐	☐	Air Taxi (14 CFR 135)
E.	☐	☐	General Aviation (14 CFR 91)
F.	☐	☐	Public (governmental)
G.	☐	☐	U.S. Military, Specify Service
H.	☐	☐	Unknown
I.	☐	☐	Other, Specify

7. Type of Flight Rules During NMAC *(mark one per aircraft)*:

	Rptg	Other	
A.	☐	☐	Instrument Flight Rules (IFR)
B.	☐	☐	Visual Flight Rules (VFR)
C.	☐	☐	Special VFR
D.	☐	☐	Defense VFR
E.	☐	☐	Unknown

8. Phases of Flight During NMAC *(mark appropriate boxes)*:

	Rptg	Other	
A.	☐	☐	Takeoff
B.	☐	☐	Climb
C.	☐	☐	Level Flight or Cruise
D.	☐	☐	Turning or
E.	☐	☐	Descent
F.	☐	☐	Approach
G.	☐	☐	Landing
H.	☐	☐	Unknown
I.	☐	☐	Other, Specify

9. Location in Traffic Pattern During NMAC *(mark one per aircraft)*:

	Rptg	Other	
A.	☐	☐	Upwind Leg
B.	☐	☐	Crosswind Leg
C.	☐	☐	Downwind Leg
D.	☐	☐	Base Leg
E.	☐	☐	Final Approach
F.	☐	☐	Departure Leg or Exit
G.	☐	☐	Not in Traffic Pattern
H.	☐	☐	Unknown
I.	☐	☐	Other, Specify

10. Aircraft Altitude During NMAC:
A. Rptg ☐☐☐, ☐☐☐ Feet msl or ☐ Unknown
B. Other ☐☐☐, ☐☐☐ Feet msl or ☐ Unknown

11. Approximate Aircraft Heading Before NMAC:
A. Rptg ☐☐☐ Degrees (magnetic) or ☐ Unknown
B. Other ☐☐☐ Degrees (magnetic) or ☐ Unknown

12. Transponder *(mark one per aircraft)*:

	Rptg	Other	
A.	☐	☐	Operating, With Altitude Reporting
B.	☐	☐	Operating, Without Reporting
C.	☐	☐	Not Functioning (broken or off)
D.	☐	☐	No Transponder
E.	☐	☐	Unknown

FAA Form 8020-21 (3-02) Supersedes Previous Edition — Page 1 — NSN: 0052-00-906-500

FIGURE 8-11 FAA Form 8020-21 - Page 2

13. TCAS Status:

	Rptg Ye	Rptg No	Rptg Unk	Other Ye	Other No	Other Unk
A. Was the aircraft Equipped with TCAS?	☐	☐	☐	☐	☐	☐
B. If Yes, Was TCAS Operating during NMAC?	☐	☐	☐	☐	☐	☐
C. If Yes, Was TCS Involved in NMAC?	☐	☐	☐	☐	☐	☐

D. If Yes, Describe Involvement _____

14. Evasive Action(s) Taken *(mark appropriate boxes)*:

	Rptg	Other			Rptg	Other	
A.	☐	☐	Right Turn	G.	☐	☐	Accelerate
B.	☐	☐	Left Turn	H.	☐	☐	None
C.	☐	☐	Climb	I.	☐	☐	Unknown
D.	☐	☐	Descend	J.	☐	☐	Other, Specify
E.	☐	☐	Level Off				
F.	☐	☐	Decelerate				

15. Time Aircraft in Sight Before Closest Separation:

A. Rptg ____ Seconds or ☐ Unknown

B. Other ____ Seconds or ☐ Unknown

16. Closest Proximity:

A. ____, ____ Feet, Vertical
or ☐ Unknown

B. ____, ____ Feet, Horizontal
or
____ . ____ Miles (nautical), Horizontal
or ☐ Unknown

C. ____ Minutes, Longitudinal
or ☐ Unknown

17. Operational Control Area of Reporting Aircraft During NMAC *(mark a maximum of three)*:

- A. ☐ Class A Airspace
- B. ☐ Class B Airspace
- C. ☐ Class C Airspace
- D. ☐ Class D Airspace
- E. ☐ Class E Airspace
- F. ☐ Class G Airspace
- G. ☐ Special Use Airspace, Specify _____
- H. ☐ Within Terminal Radar Service Area
- I. ☐ Towered Airport
- J. ☐ Nontowered Airport
- K. ☐ Unknown
- L. ☐ Other, Specify _____

18. Location ID of Facility(ies) Providing Air Traffic Service During NMAC *(complete appropriate boxes)*:

	Rptg	Other	
A.	____	____	ARTCC
B.	____	____	TRACON
C.	____	____	RAPCON, RATCF, or ARAC
D.	____	____	ATCT
E.	____	____	AFSS or FSS
F.	☐	☐	None
G.	☐	☐	Unknown
H.	☐	☐	Other, Specify

19. Immediately Before NMAC, Air Traffic Control *(mark appropriate boxes)*:

	Rptg	Other	
A.	☐	☐	Experienced Radar Outage or Other Problems
B.	☐	☐	Experienced Communication Outage or Other Problems
C.	☐	☐	Observed Traffic in Vicinity of Aircraft
D.	☐	☐	Issued a Traffic Advisory
E.	☐	☐	Issued a Safety Alert
F.	☐	☐	Not in Contact with Aircraft
G.	☐	☐	Unknown
H.	☐	☐	None of the Above

20. Other Report(s) Filed or To Be Filed by Air Traffic *(mark appropriate boxes and complete; list HATR's, etc., under Item 22)*:

- A. ☐ Incident Report (FAA Form 8020-11), Specify No(s). _____
- B. ☐ Preliminary Pilot Deviation Report (FAA Form 8020-17), Specify No(s). _____
- C. ☐ Preliminary Operational Error/Deviation Report (FAA Form 7210-2.1), Specify No(s). _____
- D. ☐ Other (including TCAS), Specify _____
- E. ☐ None

21. Brief Description of NMAC and Comments *(comments optional)*:

FAA Form 8020-21 (3-02) Supersedes Previous Edition Page 2 NSN: 0052-00-906-500

FIGURE 8-12 FAA Form 8020-21 - Page 3

PRELIMINARY
NEAR MIDAIR COLLISION REPORT
(Continued)

Incident Report Number: N

22. Attachments *(specify, e.g., pilot statement or flight progress strip, or mark box)*: ☐ No Attachments

23. Reporting Facility:
A. [A] FAA Region
B. [ ] Location ID
C. [ ] - [ ] - [ ] Telephone No.

24. Name of Individual Completing Form:
Type or Print

25. Facility Manger Approving Form:
A. Signature
B. Name (Type or Print)
C. Date [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
M M D D Y Y Y Y

26. Report Distributed to:
A. FAA Region [A] Flight Standards ID [ ]
B. Others, Specify

INSTRUCTIONS

I. General

The incident report number and Items 1, 2, 3, 4E and/or F, 4G, 5E and/or F, 5G, 7, 10, and 21 of FAA Form 8020-21 must be completed and the information transmitted or arrangements made to transmit it in numerical order within 12 hours of the NMAC notification by: (1) telephone, facsimile, or in accordance with a regional agreement to the FSDO with jurisdiction over the area in which the pilot deviation occurred, and (2) by National Airspace Data Interchange Network (NADIN) message using immediate (DD) precedence to FAA Headquarters and others. If the NMAC is significant, the above information should be communicated immediately by telephone to FAA Headquarters. The remainder of the form must be completed and mailed by first class mail within 10 calendar days of the notification of a NMAC. The definition of a NMAC and instructions on distribution of FAA 8020-21 are in FAA Order 8020.11, "Aircraft Accident and Incident Notification, Investigation, and Reporting."

If both aircraft involved in the NMAC report the event, designate the first reporting aircraft as "Rptg" and the second as "Other." If more than two aircraft are involved (except for formations when one form should be completed for the entire formation), complete an additional form(s) and assign the form(s) the same incident report number as the primary form. Report the number of forms and which form is primary in Item 21.

Complete all items. If the categories given are inadequate, complete "Other, Specify." If data for both the reporting and other aircraft appear under "Other, Specify," provide the reporting aircraft data first, followed by the other aircraft data. Provide comments in Item 21, not in the margins. Sign and date the form (Item 25) before distribution.

II. Incident Report Number

Each facility completing FAA Form 8020-21 is responsible for assigning a unique 12-character number to each reported NMAC. The first character is **N,** for NMAC. The second and third characters are the abbreviation of the FAA region in which the incident occurred.

AL - Alaskan
CE - Central
EA - Eastern
GL - Great Lakes
NE - New England
NM - Northwest Mountain
SO - Southern
SW - Southwest
WP - Western-Pacific

The fourth character identifies the type of facility completing the form:

C - ARTCC
F - AFSS or FSS
R - TRACON
T - ATCT
Z - FSDO or Other

For combined TRACON and ATCT operations, use the character for the TRACON or ATCT notified of the NMAC.

The fifth through seventh characters are the facility location identifier (see FAA Order 7350.6), e.g., **ZNY**, or FSDO ID, e.g., **025**. The eighth and ninth characters are the calendar year in which the incident occurred, e.g., **95** for 1995.

The last three characters are the sequential incident report number for the year, by reporting facility and type of incident (e.g., NMAC's would be numbered 001 to 999 in 1995 at a given facility).

III. Abbreviations

The following abbreviations are used:

AFSS	-	Automated Flight Service Station
ARAC	-	Army Radar Approach Control
ARTCC	-	Air Route Traffic Control Center
ATCT	-	Air Traffic Control Tower
CFR	-	Code of Federal Regulations
FSDO	-	Flight Standards District Office
FSS	-	Flight Service Station
GPS	-	Global Positioning System
HATR	-	Hazardous Air Traffic Report
msl	-	Mean Sea Level
NDB	-	Nondirectional Beacon
RAPCON	-	Radar Approach Control
RATCF	-	Radar Air Traffic control Facility
TACAN	-	Tactical Air Navigation
TCAS	-	Traffic Alert and Collision Avoidance System
TRACON	-	Terminal Radar Approach Control
VOR	-	Very High Frequency Omnidirectional Range Station

FAA Form 8020-21 (3-02) Supersedes Previous Edition — Page 3 — NSN: 0052-00-906-500

FIGURE 8-13 FAA Form 8020-15 - Page 1

INVESTIGATION OF NEAR MIDAIR COLLISION REPORT

Incident Report Number: N

Complete and distribute within 90 days of a reported near midair collision (NMAC) according to instructions on page 3. Complete all items. "Rptg" refers to the aircraft that reports the NMAC first; "Other" refers to the other aircraft. Use the same incident report number as on the corresponding FAA Form 8020-21, "Preliminary Near Midair Collision Report." Any corrections to FAA Form 8020-21 should be reported in Item 22 of this form. Complete the form by hand or typewriter.

1. Date,Time, and Location of NMAC:
   A. Date (Coordinated Universal Time - UTC) M M D D Y Y Y Y
   B. UTC Time
   C. Local Time
   D. Nearest City or Town and State

2. Reporting Aircraft ("Rptg") Information:
   A. Pilot Name (First, middle, last)
   B. Pilot Total Flight Time ____ hrs.
   C. Pilot Time in Make and Model ____ hrs.
   D. Operator Name and Address
   Full Name
   Address
   City State or Country ZIP

3. Other Aircraft ("Other") Information *(complete or mark box)*:
   ☐ All information unknown
   A. Pilot Name (First, middle, last)
   B. Pilot Total Flight Time ____ hrs.
   C. Pilot Time in Make and ____ hrs.
   D. Operator Name and
   Full Name
   Address
   City State ZIP

4. Aircraft Information:
   A. Registration (N) No.
   Rptg
   Other
   B. Flight No. or Call Sign (if applicable)
   Rptg
   Other
   C. Make
   Rptg
   Other
   D. Model
   Rptg
   Other

   E. Aircraft Type *(mark one per aircraft)*:

	Rptg	Other	
(1)	☐	☐	Single Engine Land
(2)	☐	☐	Multiengine Land
(3)	☐	☐	Single Engine Sea
(4)	☐	☐	Multiengine Sea
(5)	☐	☐	Rotorcraft
(6)	☐	☐	Other, Specify

5. Pilots' Certificates *(mark appropriate box)*:

	Rptg	Other	
A.	☐	☐	Student
B.	☐	☐	Recreational
C.	☐	☐	Private
D.	☐	☐	Commercial
E.	☐	☐	Airline Transport
F.	☐	☐	Flight Instructor
G.	☐	☐	Military
H.	☐	☐	Foreign Pilot
I.	☐	☐	None
J.	☐	☐	Unknown
K.	☐	☐	Other, Specify

6. Pilots' Ratings *(mark appropriate boxes)*:

	Rptg	Other	
A.	☐	☐	Single Engine Land
B.	☐	☐	Multiengine Land
C.	☐	☐	Single Engine Sea
D.	☐	☐	Multiengine Sea
E.	☐	☐	Rotorcraft
F.	☐	☐	Glider
G.	☐	☐	Lighter-than-air
H.	☐	☐	None
I.	☐	☐	Unknown
J.	☐	☐	Other, Specify

7. Pilots' Instrument Ratings *(mark one per aircraft)*:

	Rptg	Other	
A.	☐	☐	Current
B.	☐	☐	Not Current
C.	☐	☐	None
D.	☐	☐	Unknown

8. Flight Condition(s) During NMAC *(mark appropriate boxes)*:

A.	☐ Dawn	G.	☐ Precipitation
B.	☐ Bright Day	H.	☐ Thunderstorm
C.	☐ Glaring Sun	I.	☐ Turbulence
D.	☐ Dusk	J.	☐ Haze
E.	☐ Bright Night	K.	☐ Fog
F.	☐ Black Night	L.	☐ Icing
		M.	☐ Unknown

N. ☐ Other, Specify

9. Weather During NMAC *(mark one)*:
   A. ☐ Visual Meteorological Conditions
   B. ☐ Marginal VMC
   C. ☐ Instrument Meteorological Conditions
   D. ☐ Unknown
   E. ☐ Other, Specify

10. Sky Cover at Flight Altitude During NMAC *(mark one)*:
   A. ☐ Clear
   B. ☐ Scattered
   C. ☐ Broken
   D. ☐ Overcast
   E. ☐ Unknown

11. Visibility at Flight Altitude During NMAC in ☐ Nautical or ☐ Statute Miles *(mark one)*:
   A. ☐ Less than 1 Mile
   B. ☐ 1 to 3 Miles
   C. ☐ More than 3, but less than 5 Miles
   D. ☐ 5 or More Miles
   E. ☐ Unknown

FAA Form 8020-15 (3-02) Supersedes Previous Edition — Page 1 — NSN: 0052-00-906-400

FIGURE 8-14 FAA Form 8020-15 - Page 2

12. Indicated Airspeed Immediately Before NMAC:

Unknown

A. Rptg ____ knots ☐

B. Other ____ knots ☐

13. Aircraft Orientation at Closest Proximity *(mark appropriate boxes to indicate position of apposing aircraft as viewed by pilots)*:

	Rptg Pilot	Other Pilot			Rptg Pilot	Other Pilot	
A.	☐	☐	Above	F.	☐	☐	Behind
B.	☐	☐	Below	G.	☐	☐	Head On
C.	☐	☐	Right	H.	☐	☐	Overtaking, Straight Behind
D.	☐	☐	Left	I.	☐	☐	Overtaking, Convergence Angle
E.	☐	☐	In Front	J.	☐	☐	Unknown

14. Was There an Air Traffic Control (ATC) Operational Error or Deviation? *(mark one)*:

A. ☐ Yes, Specify Report No(s). _____

B. ☐ No

C. ☐ Unknown

15. Weather Contributed to NMAC (*check appropriate boxes*):

	Rptg	Other	
A.	☐	☐	Pilot Received Inaccurate Weather Data
B.	☐	☐	Avoidance of Weather
C.	☐	☐	Flying Visual Flight Rules (VFR) in Instrument Conditions
D.	☐	☐	Unknown
E.	☐	☐	Other, Specify _____
F.	☐	☐	None of the Above, Weather Not a Factor

16. Aircraft Equipment Malfunction(s) Contributed to NMAC *(mark appropriate boxes)*:

	Rptg	Other	
A.	☐	☐	Communication
B.	☐	☐	Transponder
C.	☐	☐	Navigation, Excluding Autopilot
D.	☐	☐	Autopilot
E.	☐	☐	Altimeter
F.	☐	☐	Unknown
G.	☐	☐	Other, Specify _____
H.	☐	☐	None of the Above, Equipment Malfunction Not a Factor

17. Investigation Indicates the Pilot Lacked or Had Inadequate Knowledge or Experience With *(mark appropriate boxes)* :

	Rptg	Other	
A.	☐	☐	Aircraft
B.	☐	☐	Avionics
C.	☐	☐	ATC Procedures
D.	☐	☐	ATC Terminology or Phraseology
E.	☐	☐	English Language
F.	☐	☐	Preflight Planning
G.	☐	☐	Crew Coordination
H.	☐	☐	Weather
I.	☐	☐	Airport
J.	☐	☐	Current Charts and Approach Plates
K.	☐	☐	Unknown
L.	☐	☐	Other, Specify _____
M.	☐	☐	None of the Above

18. Investigation Indicates the Pilot Was *(mark appropriate boxes)*:

	Rptg	Other	
A.	☐	☐	Overworked
B.	☐	☐	Distracted Specify _____
C.	☐	☐	Fatigued
D.	☐	☐	Actively Scanning
E.	☐	☐	Not Actively Scanning
F.	☐	☐	Unable to Locate Traffic, Even With Traffic Advisory
G.	☐	☐	Disoriented or Lost
H.	☐	☐	Sick, Specify _____
I.	☐	☐	Not Following ATC Instructions, Specify _____
J.	☐	☐	Operating in Class A, B, C, or D Airspace Without Required Communication or Authorization
K.	☐	☐	Operating with Transponder Off
L.	☐	☐	Responding to TCAS Resolution Advisory
M.	☐	☐	Unknown
N.	☐	☐	Other, Specify _____
O.	☐	☐	None of the Above

19. Air Traffic Control *(mark appropriate boxes)* :

	Rptg	Other	
A.	☐	☐	Did Not Alert Pilot to Other Aircraft in Timely Manner
B.	☐	☐	Did Not Observe Aircraft
C.	☐	☐	Did Not Coordinate Properly Between Controllers
D.	☐	☐	Unknown
E.	☐	☐	Other, Specify _____
F.	☐	☐	None of the Above

20. Was There a Pilot Deviation? *(mark one per aircraft)*:

	Rptg	Other	
A.	☐	☐	Yes, Specify Report No.(s).

P ____

P ____

B. ☐ ☐ No

C. ☐ ☐ Other, Specify _____

21. Pilot Statements (*check one per aircraft*) :

	Rptg	Other	
A.	☐	☐	Received
B.	☐	☐	Requested, But Declined
C.	☐	☐	Requested, Not Received
D.	☐	☐	Not Requested
E.		☐	Aircraft Unknown

22. Corrections and Additions to FAA Form 8020-21 *(specify item number and new information or mark box)*: ☐ FAA Form 8020-21 is complete and accurate.

FAA Form 8020-15 (3-02) Supersedes Previous Edition Page 2 NSN: 0052-00-906-400

FIGURE 8-15 FAA Form 8020-15 - Page 3

INVESTIGATION OF NEAR MIDAIR COLLISION REPORT (Continued)

Incident Report Number: N

23. Description of NMAC and Comments with Recommendations, if any:

24. Incident Evaluation *(mark A, B, or C; see FAA Order 8020.11A, Paragraph 272 for criteria)*:

A. ☐ Critical
B. ☐ Potential
C. ☐ No Hazard

☐ Mark box and explain in item 23 if different or additional criteria used.

25. Attachment(s):

A. ☐ Original FAA Form 8020-21
B. ☐ Others, Specify _____

26. Investigating Facility:

A. [A] FAA Region
B. [ ] ID (e.g., 25)
C. [ ] - [ ] - [ ] Telephone No.

27. Inspector Completing Form:

A. Signature _____
B. Name _____ Type or Print
C. Date [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] M M D D Y Y Y Y

28. Report Distributed to:

A.
B. Others _____

INSTRUCTIONS

The FAA Form 8020-15 must be completed within 90 days of the notification of a NMAC on FAA Form 8020-21, "Preliminary Near Midair Collision Report." The FAA Form 8020-15 must be assigned the same incident report number as the corresponding FAA Form 8020-21. Instructions on distribution of FAA Form 8020-15 are in FAA Order 8020.11, "Aircraft Accident and Incident Notification, Investigation, and Reporting."

If both aircraft involved in the NMAC report the event, designate the first reporting aircraft as "Rptg" and the second as "Other." If more than two aircraft are involved (except for formations, when one form should be completed for the entire formation), complete an additional form(s) and assign the form(s) the same incident report number used on the FAA Form 8020-21. Report the number of forms and which form is the primary form in Item 23.

The inspector completing the FAA Form 8020-15 is responsible for ensuring that all information reported on FAA Form 8020-21 is complete and accurate. If any information on FAA Form 8020-21 is found to be incomplete or inaccurate, the inspector must provide additions or corrections to that information in Item 22.

Complete all items. If the categories given are inadequate, complete "Other, Specify." If data for both the reporting and other aircraft appear under "Other, Specify," provide the reporting aircraft data first, followed by the other aircraft data. Provide comments in Item 23, not the margins. Sign and date the form (Item 27) before distribution.

FAA Form 8020-15 (3-02) Supersedes Previous Edition — Page 3 — NSN: 0052-00-906-400