

**CHANGE**

**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

**JO 7110.10Z  
CHG 2**

Air Traffic Organization Policy

**Effective Date:**  
September 13, 2018

**SUBJ:** Flight Services

---

- 1. Purpose of This Change.** This change transmits revised pages to Federal Aviation Administration Order JO 7110.10Z, Flight Services, and the Briefing Guide.
- 2. Audience.** This change applies to select offices in Washington headquarters, service area offices, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, and to all air traffic field facilities, international aviation field offices, and the interested aviation public.
- 3. Where Can I Find This Change?** This change is available on the FAA Web site at [http://faa.gov/air\\_traffic/publications](http://faa.gov/air_traffic/publications) and [http://employees.faa.gov/tools\\_resources/orders\\_notices/](http://employees.faa.gov/tools_resources/orders_notices/).
- 4. Explanation of Policy Change.** See the Explanation of Changes attachment which has editorial corrections and changes submitted through normal procedures. The Briefing Guide lists only new or modified material, along with background.
- 5. Distribution.** This change is distributed to select offices in Washington headquarters, service area offices, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, and to all air traffic field facilities, international aviation field offices, and the interested aviation public.
- 6. Disposition of Transmittal.** Retain this transmittal until superseded by a new basic order.
- 7. Page Control Chart.** See the page control chart attachment.

Original Signed By: *Michael C. Artist*

Michael C. Artist  
Vice President, System Operation Services  
Air Traffic Organization

Date: August 8, 2018

---

Distribution: Electronic

Initiated By: AJR-0  
Vice President, System Operations Services



## Flight Services Explanation of Changes Change 2

**Direct questions through appropriate facility/service center office staff  
to the Office of Primary Interest (OPI)**

**a. 1-1-6. SUBMISSION CUTOFF AND  
EFFECTIVE DATES**

**1-1-8. RECOMMENDATIONS FOR  
PROCEDURAL CHANGES**

This change adds language to clarify the submission guidelines for changes to this Order. It changes “Cutoff date for Submission” to “Cutoff date for Completion” to clarify that even after changes are submitted to the correspondence mailbox, several months of coordination are often still required before they are completed and submitted internally for publication. It also adds a Note referencing FAA Order JO 7000.5, Procedures for Submitting Changes to Air Traffic Control Publications.

**b. 3-1-4. WEATHER DISPLAY PRODUCTS  
4-1-1. INFLIGHT SERVICES**

This change includes weather display information that should have been relocated when En Route Advisory Service was terminated in FAA Order JO 7110.10Y, Change 1. This change cancels and incorporates N JO 7110.751.

**c. 3-1-8. LOGGING PILOT BRIEFINGS**

**4-2-3. IFR/VFR/DVFR FLIGHT PLAN  
RECORDING**

**6-1-6. IFR/VFR/DVFR FLIGHT PLAN  
RECORDING**

This change supports the standardized use of FAA Form 7233-4, International Flight Plan.

**d. 9-2-14. PIREP FORMAT**

**12-1-8. WEATHER PHRASEOLOGY**

This change adds clarity to the meteorological phenomena that is reported by the weather observer distinguishing between small hail and snow pellets.

**e. Entire Publication**

Additional editorial/format changes were made where necessary. Revision bars were not used because of the insignificant nature of these changes.



### PAGE CONTROL CHART

REMOVE PAGES	DATED	INSERT PAGES	DATED
Table of Contents i through ix . . . . .	3/29/18	Table of Contents i through ix . . . . .	9/13/18
1-1-1 and 1-1-2 . . . . .	10/12/17	1-1-1 and 1-1-2 . . . . .	9/13/18
3-1-1 through 3-1-3 . . . . .	10/12/17	3-1-1 through 3-1-3 . . . . .	9/13/18
4-1-1 and 4-1-2 . . . . .	10/12/17	4-1-1 and 4-1-2 . . . . .	9/13/18
4-2-1 . . . . .	10/12/17	4-2-1 . . . . .	10/12/17
4-2-2 . . . . .	10/12/17	4-2-2 . . . . .	9/13/18
6-1-3 . . . . .	10/12/17	6-1-3 . . . . .	9/13/18
9-2-5 through 9-2-8 . . . . .	10/12/17	9-2-5 through 9-2-8 . . . . .	9/13/18
12-1-3 . . . . .	10/12/17	12-1-3 . . . . .	10/12/17
12-1-4 . . . . .	10/12/17	12-1-4 . . . . .	9/13/18
PCG-1 . . . . .	3/29/18	PCG-1 . . . . .	9/13/18
PCG C-5 through C-9 . . . . .	3/29/18	PCG C-5 through C-9 . . . . .	9/13/18
PCG E-1 . . . . .	3/29/18	PCG E-1 . . . . .	3/29/18
PCG E-2 . . . . .	3/29/18	PCG E-2 . . . . .	9/13/18
PCG M-5 . . . . .	3/29/18	PCG M-5 . . . . .	3/29/18
PCG M-6 . . . . .	3/29/18	PCG M-6 . . . . .	9/13/18
PCG N-1 . . . . .	3/29/18	PCG N-1 . . . . .	3/29/18
PCG N-2 through N-4 . . . . .	3/29/18	PCG N-2 through N-4 . . . . .	9/13/18
PCG Q-1 . . . . .	3/29/18	PCG Q-1 . . . . .	9/13/18
I-1 through I-6 . . . . .	3/29/18	I-1 through I-6 . . . . .	9/13/18



# Table of Contents

## Chapter 1. General

### Section 1. Introduction

<b>Paragraph</b>	<b>Page</b>
1-1-1. PURPOSE OF THIS ORDER .....	1-1-1
1-1-2. AUDIENCE .....	1-1-1
1-1-3. WHERE TO FIND THIS ORDER .....	1-1-1
1-1-4. WHAT THIS ORDER CANCELS .....	1-1-1
1-1-5. EXPLANATION OF CHANGES .....	1-1-1
1-1-6. EFFECTIVE DATES AND SUBMISSIONS FOR CHANGES .....	1-1-1
1-1-7. DELIVERY DATES .....	1-1-1
1-1-8. RECOMMENDATIONS FOR PROCEDURAL CHANGES .....	1-1-1
1-1-9. SUBSCRIPTION INFORMATION .....	1-1-2
1-1-10. DISTRIBUTION .....	1-1-2

### Section 2. Terms of Reference

1-2-1. WORD MEANINGS .....	1-2-1
1-2-2. NOTES .....	1-2-1
1-2-3. EXAMPLES .....	1-2-1
1-2-4. PHRASEOLOGY .....	1-2-1
1-2-5. ABBREVIATIONS .....	1-2-1
1-2-6. JO 7110.10 CHANGES .....	1-2-1
1-2-7. SYSTEM INSTRUCTIONS .....	1-2-2

### Section 3. Responsibility

1-3-1. PROCEDURAL APPLICATIONS .....	1-3-1
1-3-2. DUTY PRIORITY .....	1-3-1
1-3-3. DUTY FAMILIARIZATION AND TRANSFER OF POSITION RESPONSIBILITY .....	1-3-1

## Chapter 2. Broadcast Procedures

### Section 1. General

2-1-1. TYPES OF BROADCASTS .....	2-1-1
2-1-2. SPEECH RATE AND PHRASEOLOGY .....	2-1-1
2-1-3. REDUCING RECORDED WEATHER INFORMATION SERVICES .....	2-1-1
2-1-4. CURRENT DATA .....	2-1-1
2-1-5. AUTOMATED BROADCAST .....	2-1-1

### Section 2. Transcribed Weather Broadcasts (TWEB) (Alaska Only)

2-2-1. GENERAL .....	2-2-1
2-2-2. CONTENT .....	2-2-1
2-2-3. TESTING TWEB EQUIPMENT .....	2-2-2
2-2-4. SERVICE MAY BE SUSPENDED .....	2-2-2
2-2-5. MONITORING .....	2-2-2

### Section 3. Telephone Information Briefing Service (TIBS)

2-3-1. GENERAL .....	2-3-1
----------------------	-------

<b>Paragraph</b>	<b>Page</b>
2-3-2. AREA/ROUTE BRIEFING PROCEDURES .....	2-3-1
2-3-3. MONITORING .....	2-3-2

**Section 4. Hazardous Inflight Weather Advisory Service (HIWAS)**

2-4-1. GENERAL .....	2-4-1
2-4-2. PRIORITY .....	2-4-1
2-4-3. CONTENT .....	2-4-1
2-4-4. BROADCAST PROCEDURES .....	2-4-1
2-4-5. SUSPENSION .....	2-4-2

**Section 5. Automatic Flight Information Service (AFIS) (Alaska Only)**

2-5-1. AUTOMATIC FLIGHT INFORMATION SERVICE (AFIS) .....	2-5-1
--	-------

**Chapter 3. Pilot Briefing**

**Section 1. General**

3-1-1. DEFINITION .....	3-1-1
3-1-2. PRE-DUTY REQUIREMENTS .....	3-1-1
3-1-3. PREFLIGHT BRIEFING DISPLAY .....	3-1-1
3-1-4. WEATHER DISPLAY PRODUCTS .....	3-1-1
3-1-5. FORECASTS, WARNINGS, AND ADVISORIES .....	3-1-2
3-1-6. UNAVAILABILITY OF DATA .....	3-1-3
3-1-7. TYPE OF BRIEFING TO BE CONDUCTED .....	3-1-3
3-1-8. LOGGING PILOT BRIEFINGS .....	3-1-3

**Section 2. Preflight Pilot Briefing**

3-2-1. CONDUCT OF STANDARD BRIEFING .....	3-2-1
3-2-2. CONDUCT OF ABBREVIATED BRIEFING .....	3-2-2
3-2-3. CONDUCT OF OUTLOOK BRIEFING .....	3-2-3

**Chapter 4. Inflight Services**

**Section 1. General**

4-1-1. INFLIGHT SERVICES .....	4-1-1
4-1-2. OPERATIONAL PRIORITY .....	4-1-1
4-1-3. INFLIGHT WEATHER BRIEFING .....	4-1-1
4-1-4. INFLIGHT EQUIPMENT MALFUNCTIONS .....	4-1-1
4-1-5. AIRCRAFT REPORTED MALFUNCTIONS .....	4-1-1
4-1-6. NAVAID FLIGHT CHECK .....	4-1-2

**Section 2. Data Recording**

4-2-1. TYPES OF DATA RECORDED .....	4-2-1
4-2-2. METHODS OF RECORDING DATA .....	4-2-1
4-2-3. IFR/VFR/DVFR FLIGHT PLAN RECORDING .....	4-2-2
4-2-4. FLIGHT PROGRESS STRIPS (FAA FORMS 7230-21 AND 7233-5) .....	4-2-2
4-2-5. FLIGHT PROGRESS STRIPS AND ENTRY DATA .....	4-2-2
4-2-6. AIRCRAFT CONTACTS .....	4-2-6



**Section 3. Radio Communications**

<b>Paragraph</b>	<b>Page</b>
4-3-1. FREQUENCY USE .....	4-3-1
4-3-2. AUTHORIZED TRANSMISSIONS .....	4-3-1
4-3-3. RADIO MESSAGE FORMAT .....	4-3-1
4-3-4. ABBREVIATED TRANSMISSION .....	4-3-2
4-3-5. ROUTINE RADIO CONTACTS .....	4-3-2
4-3-6. RADIO COMMUNICATIONS TRANSFER .....	4-3-4
4-3-7. ATC CLEARANCES, ADVISORIES, OR REQUESTS .....	4-3-4
4-3-8. DEPARTURE REPORTS .....	4-3-4
4-3-9. IFR FLIGHT PROGRESS REPORTS .....	4-3-5
4-3-10. ARRIVAL/MISSED APPROACH REPORTS .....	4-3-5
4-3-11. NONDELIVERY OF MESSAGES .....	4-3-5
4-3-12. BROADCAST (BLIND TRANSMISSION) OF MESSAGES .....	4-3-5
4-3-13. PENETRATION OF CLASS A AIRSPACE OR PROHIBITED/RESTRICTED AREA .....	4-3-5

**Section 4. Airport Advisory Services (Alaska Only)**

4-4-1. TYPES OF AIRPORT ADVISORY SERVICES .....	4-4-1
4-4-2. GENERAL .....	4-4-1
4-4-3. AIRPORT ADVISORY/RAIS ELEMENTS AND PHRASEOLOGY .....	4-4-2
4-4-4. CHARTS .....	4-4-4
4-4-5. AUTHORIZED FREQUENCIES .....	4-4-4
4-4-6. TRAFFIC CONTROL .....	4-4-5
4-4-7. AIRCRAFT EQUIPMENT CHECKS .....	4-4-5

**Section 5. Special VFR Operation**

4-5-1. AUTHORIZATION .....	4-5-1
4-5-2. REQUESTS FOR SPECIAL VFR CLEARANCE .....	4-5-1
4-5-3. VISIBILITY BELOW 1 MILE .....	4-5-2
4-5-4. PREDESIGNED SPECIAL VFR CLEARANCES .....	4-5-3

**Chapter 5. Emergency Services**

**Section 1. General**

5-1-1. EMERGENCY DETERMINATION .....	5-1-1
5-1-2. RESPONSIBILITY .....	5-1-1
5-1-3. OBTAINING INFORMATION .....	5-1-1
5-1-4. COORDINATION .....	5-1-1
5-1-5. PROVIDING ASSISTANCE .....	5-1-1
5-1-6. RECORDING INFORMATION .....	5-1-2
5-1-7. SAFE ALTITUDES FOR ORIENTATIONS .....	5-1-2

**Section 2. Operations**

5-2-1. INFORMATION REQUIREMENTS .....	5-2-1
5-2-2. FREQUENCY CHANGES .....	5-2-1
5-2-3. AIRCRAFT ORIENTATION .....	5-2-1
5-2-4. ALTITUDE CHANGE FOR IMPROVED RECEPTION .....	5-2-1
5-2-5. ALERTING CONTROL FACILITY .....	5-2-1

<b>Paragraph</b>	<b>Page</b>
5-2-6. VFR AIRCRAFT IN WEATHER DIFFICULTY .....	5-2-1
5-2-7. AIRCRAFT POSITION PLOTS .....	5-2-2
5-2-8. EMERGENCY LOCATOR TRANSMITTER (ELT) SIGNALS .....	5-2-2
5-2-9. EXPLOSIVE CARGO .....	5-2-2
5-2-10. EXPLOSIVE DETECTION DOG HANDLER TEAMS .....	5-2-2
5-2-11. INFLIGHT EQUIPMENT MALFUNCTIONS .....	5-2-3
5-2-12. MINIMUM FUEL .....	5-2-3
5-2-13. AIRCRAFT BOMB THREATS .....	5-2-3
5-2-14. EMERGENCY SECURITY CONTROL OF AIR TRAFFIC (ESCAT) .....	5-2-4

**Section 3. ADF/VOR Orientation**

5-3-1. ACTIONS REQUIRED .....	5-3-1
5-3-2. GENERAL .....	5-3-1
5-3-3. VOR ORIENTATION/VOR CROSS-FIX .....	5-3-2
5-3-4. GUIDANCE TO AIRPORT .....	5-3-4

**Section 4. Global Positioning System (GPS)**

5-4-1. ACTIONS REQUIRED .....	5-4-1
5-4-2. GPS ORIENTATION .....	5-4-1
5-4-3. GUIDANCE TO AIRPORT .....	5-4-1

**Chapter 6. Flight Data**

**Section 1. General**

6-1-1. COMMUNICATIONS SERVICE .....	6-1-1
6-1-2. FLIGHT PLANS .....	6-1-1
6-1-3. FLIGHT PLAN DATA .....	6-1-2
6-1-4. TYPES OF DATA RECORDED .....	6-1-2
6-1-5. METHODS OF RECORDING DATA .....	6-1-2
6-1-6. IFR/VFR/DVFR FLIGHT PLAN RECORDING .....	6-1-3
6-1-7. PART-TIME FSS CLOSURE ACTION .....	6-1-3
6-1-8. TELEPHONE REQUESTS FOR ATC CLEARANCES .....	6-1-3

**Section 2. Flight Plan Proposals**

6-2-1. FLIGHT PLAN RECORDING .....	6-2-1
6-2-2. OUTBOUNDS DEPARTING FROM OUTSIDE FLIGHT PLAN AREA .....	6-2-3
6-2-3. FLIGHT PLANS WITH AREA NAVIGATION (RNAV) ROUTES IN DOMESTIC U.S. AIRSPACE .....	6-2-4

**Section 3. IFR Flight Plan Handling**

6-3-1. IFR FLIGHT PLANS .....	6-3-1
6-3-2. NOTIFYING ARTCC .....	6-3-1
6-3-3. IFR FLIGHT PLAN CONTROL MESSAGES .....	6-3-1
6-3-4. IFR FLIGHT PLAN CONTROL MESSAGE FORMAT .....	6-3-2
6-3-5. ADDITIONAL MESSAGES .....	6-3-6
6-3-6. COORDINATE RNAV ROUTES .....	6-3-8

**Section 4. Flight Plan Handling**

6-4-1. FLIGHT PLAN ACTIVATION .....	6-4-1
-------------------------------------	-------

<b>Paragraph</b>	<b>Page</b>
6-4-2. DEPARTURE REPORT MESSAGE .....	6-4-1
6-4-3. ACKNOWLEDGING NUMBERED MESSAGES .....	6-4-1
6-4-4. FLIGHT NOTIFICATION MESSAGE .....	6-4-1
6-4-5. SUSPENDING FLIGHT NOTIFICATION MESSAGES .....	6-4-2
6-4-6. ACKNOWLEDGING FLIGHT NOTIFICATION MESSAGES .....	6-4-3
6-4-7. ACTION BY ADDRESSEES .....	6-4-3
6-4-8. MAJOR FLIGHT PLAN CHANGES FROM EN ROUTE AIRCRAFT .....	6-4-3
6-4-9. CHANGE IN ETA .....	6-4-4
6-4-10. FLIGHT PLAN CLOSURE .....	6-4-4
6-4-11. MILITARY FLIGHTS TO/FROM U.S. ....	6-4-5

**Section 5. Military Operations**

6-5-1. SPECIAL MILITARY FLIGHTS .....	6-5-1
6-5-2. MILITARY FOREIGN FLIGHTS .....	6-5-1
6-5-3. USAF/USN UNDERGRADUATE PILOTS .....	6-5-1
6-5-4. MESSAGE HANDLING .....	6-5-1

**Section 6. IFR/DVFR ADIZ Flight Plans**

6-6-1. AIRCRAFT MOVEMENT INFORMATION SERVICES (AMIS) WITHIN AN ADIZ-IFR .....	6-6-1
6-6-2. AMIS WITHIN AN ADIZ-DVFR .....	6-6-1
6-6-3. FORWARDING DVFR INFORMATION .....	6-6-1
6-6-4. STOPOVER DVFR FLIGHT PLANS .....	6-6-1

**Section 7. Law Enforcement Messages**

6-7-1. LAW ENFORCEMENT ALERT MESSAGES (LEAM) .....	6-7-1
6-7-2. INITIATING LEAMS .....	6-7-1

**Section 8. Non-Emergency Parachute Jumping**

6-8-1. COORDINATION .....	6-8-1
6-8-2. PRE-JUMP RADIO COMMUNICATIONS .....	6-8-1

**Section 9. SECURITY NOTICE (SECNOT)**

6-9-1. SECURITY NOTICE (SECNOT) .....	6-9-1
6-9-2. ACTION UPON RECEIVING A SECNOT .....	6-9-1
6-9-3. CANCELING A SECNOT .....	6-9-1

**Chapter 7. International Operations**

**Section 1. Messages and Formats**

7-1-1. GENERAL .....	7-1-1
7-1-2. AIR TRAFFIC SERVICE (ATS) MESSAGES .....	7-1-1
7-1-3. CATEGORIES OF MESSAGES .....	7-1-1
7-1-4. SERVICE MESSAGES .....	7-1-2
7-1-5. TRANSMISSION VIA NADIN .....	7-1-2
7-1-6. TRANSMISSION OF ATS MESSAGES .....	7-1-3
7-1-7. ORIGINATING MESSAGES .....	7-1-4
7-1-8. ADDRESSING MESSAGES .....	7-1-4

<b>Paragraph</b>	<b>Page</b>
7-1-9. FLIGHT PLAN FORMS AND INSTRUCTIONS .....	7-1-4
7-1-10. ICAO ATS MESSAGE FORMAT .....	7-1-5
7-1-11. FLIGHT PLAN CHANGES AND CANCELLATIONS .....	7-1-5
7-1-12. AIR MOBILE SERVICE (AMS) .....	7-1-5
7-1-13. AIREPS (POSITION REPORTS) .....	7-1-6
7-1-14. AIREP SPECIALS (ARS) .....	7-1-8
7-1-15. ARTCC RELAY OF VFR MESSAGES .....	7-1-9

### **Section 2. Customs Notification and ADIZ Requirements**

7-2-1. FLIGHT PLAN/CUSTOMS REQUIREMENTS .....	7-2-1
7-2-2. INBOUND AIRCRAFT: CUSTOMS REQUIREMENTS .....	7-2-1
7-2-3. INBOUND AIRCRAFT: ADIZ REQUIREMENTS .....	7-2-2

### **Section 3. Alerting Service**

7-3-1. GENERAL .....	7-3-1
7-3-2. ALERTING PHASES .....	7-3-1
7-3-3. ALERTING MESSAGE CONTENTS .....	7-3-1

### **Section 4. Canadian Movement and Control Messages (Transborder Flights Only)**

7-4-1. GENERAL .....	7-4-1
7-4-2. INBOUNDS FROM CANADA .....	7-4-1
7-4-3. OUTBOUNDS TO CANADA .....	7-4-1
7-4-4. OUTBOUNDS TO CANADA DEPARTING FROM OUTSIDE FLIGHT PLAN AREA .....	7-4-2
7-4-5. IFR FLIGHT PLANS DEPARTING CANADIAN AIRPORTS .....	7-4-3
7-4-6. SEARCH AND RESCUE MESSAGES .....	7-4-3

### **Section 5. Mexican Movement and Control Messages (Transborder Flights Only)**

7-5-1. GENERAL .....	7-5-1
7-5-2. INBOUNDS FROM MEXICO .....	7-5-1
7-5-3. OUTBOUNDS TO MEXICO .....	7-5-1

## **Chapter 8. Search and Rescue (SAR) Procedures**

### **Section 1. General**

8-1-1. RESPONSIBILITY FOR SAR ACTION .....	8-1-1
8-1-2. OVERDUE AIRCRAFT ON FLIGHT PLAN .....	8-1-1
8-1-3. OVERDUE AIRCRAFT NOT ON FLIGHT PLAN .....	8-1-1

### **Section 2. Overdue Aircraft Action**

8-2-1. COMMUNICATIONS SEARCH .....	8-2-1
8-2-2. QALQ .....	8-2-1
8-2-3. ACTION BY DEPARTURE STATION ON RECEIPT OF QALQ .....	8-2-1
8-2-4. CANCELLATION OF THE QALQ .....	8-2-2

### **Section 3. Information Requests (INREQs)**

8-3-1. INREQ .....	8-3-1
--------------------	-------

<b>Paragraph</b>	<b>Page</b>
8-3-2. ACTION UPON RECEIPT OF INREQ .....	8-3-1
8-3-3. CANCELLATION OF INREQ .....	8-3-1

**Section 4. Alert Notices (ALNOTs)**

8-4-1. ALNOT .....	8-4-1
8-4-2. ACTION UPON RECEIPT OF ALNOT .....	8-4-1
8-4-3. REPORTING ALNOT STATUS TO RCC .....	8-4-1
8-4-4. CANCELLATION OF ALNOT .....	8-4-2

**Section 5. Other SAR Actions**

8-5-1. CANADIAN TRANSBORDER .....	8-5-1
-----------------------------------	-------

**Chapter 9. FAA Weather Services**

**Section 1. General**

9-1-1. INTRODUCTION .....	9-1-1
9-1-2. SCHEDULED TRANSMISSION TIMES .....	9-1-1
9-1-3. DISTRIBUTION .....	9-1-1

**Section 2. Pilot Weather Report (UA/UUA)**

9-2-1. GENERAL .....	9-2-1
9-2-2. PREPARATION FOR TRANSMISSION .....	9-2-1
9-2-3. RESPONSIBILITY .....	9-2-1
9-2-4. PIREP DISPLAY .....	9-2-1
9-2-5. SOLICITING PIREPS .....	9-2-1
9-2-6. DATA TO BE INCLUDED IN PIREPS .....	9-2-1
9-2-7. REPORTING TURBULENCE IN PIREPS .....	9-2-2
9-2-8. REPORTING ICING CONDITIONS IN PIREPS .....	9-2-2
9-2-9. MEANS USED TO SOLICIT PIREPS .....	9-2-2
9-2-10. PIREP CLASSIFICATION .....	9-2-3
9-2-11. PIREP HANDLING .....	9-2-3
9-2-12. OFFSHORE COASTAL ROUTES .....	9-2-3
9-2-13. PIREP PREPARATION .....	9-2-3
9-2-14. PIREP FORMAT .....	9-2-4
9-2-15. PIREP ENCODING .....	9-2-8

**Section 3. Wind and Temperature Aloft Forecast (FB)**

9-3-1. GENERAL .....	9-3-1
9-3-2. LEVELS FORECAST .....	9-3-1
9-3-3. DISTRIBUTION .....	9-3-1

**Section 4. Terminal Aerodrome Forecast (TAF)**

9-4-1. GENERAL .....	9-4-1
9-4-2. TERMINAL AERODROME FORECAST SCHEDULES .....	9-4-1

**Section 5. Aviation Surface Forecast/Aviation Cloud Forecast/Area Forecast (FA)**

9-5-1. GENERAL .....	9-5-1
----------------------	-------

<b>Paragraph</b>	<b>Page</b>
9-5-2. AVIATION SURFACE FORECAST/ AVIATION CLOUD FORECAST/ AREA FORECAST (FA) SCHEDULE .....	9-5-1
9-5-3. AVIATION SURFACE FORECAST AND AVIATION CLOUD FORECAST ISSUANCE TIMES .....	9-5-2

**Section 6. Severe Weather Forecasts**

9-6-1. GENERAL .....	9-6-1
9-6-2. DISTRIBUTION .....	9-6-1
9-6-3. CONVECTIVE OUTLOOK NARRATIVE (AC) .....	9-6-1

**Section 7. Flight Advisories  
(SIGMET/WS-Airmet/WA-Convective SIGMET/WST)**

9-7-1. GENERAL .....	9-7-1
9-7-2. DISTRIBUTION .....	9-7-1

**Section 8. Center Weather Advisory (CWA)**

9-8-1. GENERAL .....	9-8-1
9-8-2. CRITERIA .....	9-8-1
9-8-3. DISTRIBUTION .....	9-8-1

**Chapter 10. Airport Lighting and Visibility Aids  
(Alaska Only)**

**Section 1. General**

10-1-1. AIRPORT LIGHTING .....	10-1-1
10-1-2. OBSTRUCTION LIGHTS .....	10-1-1
10-1-3. ROTATING BEACON .....	10-1-1
10-1-4. APPROACH LIGHTS .....	10-1-1
10-1-5. APPROACH LIGHTING SYSTEM INTENSITY SETTINGS (ALS) .....	10-1-1
10-1-6. SEQUENCED FLASHING LIGHTS (SFL) .....	10-1-1
10-1-7. RUNWAY EDGE LIGHTS .....	10-1-2
10-1-8. CHANGING LIGHTED RUNWAYS .....	10-1-2
10-1-9. MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS (MALSR)/OMNIDIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS) .....	10-1-2
10-1-10. HIGH INTENSITY RUNWAY LIGHTS (HIRL) ASSOCIATED WITH MALSR ..	10-1-2
10-1-11. MEDIUM INTENSITY RUNWAY LIGHTS (MIRL) .....	10-1-3
10-1-12. HIGH INTENSITY RUNWAY, RUNWAY CENTERLINE (RCLS), AND TOUCHDOWN ZONE LIGHTS (TDZL) .....	10-1-3
10-1-13. HIRL CHANGES AFFECTING RVR .....	10-1-3
10-1-14. HIGH SPEED TURNOFF LIGHTS .....	10-1-3
10-1-15. RUNWAY END IDENTIFIER LIGHTS (REIL) .....	10-1-3
10-1-16. TAXIWAY LIGHTS .....	10-1-3
10-1-17. VISUAL APPROACH SLOPE INDICATORS (VASIS) .....	10-1-4
10-1-18. VISIBILITY AIDS - GENERAL .....	10-1-4
10-1-19. RVR/RVV .....	10-1-4
10-1-20. OPERATION OF LANDING DIRECTION INDICATOR .....	10-1-5

**Chapter 11. Interphone Communications**

**Section 1. General**

11-1-1. PURPOSE .....	11-1-1
-----------------------	--------

<b>Paragraph</b>	<b>Page</b>
11-1-2. INTERPHONE TRANSMISSION PRIORITIES .....	11-1-1
11-1-3. PRIORITY INTERRUPTION .....	11-1-1
11-1-4. MESSAGE INITIATION .....	11-1-1
11-1-5. MESSAGE TERMINATION .....	11-1-1

## **Chapter 12. Phraseology**

### **Section 1. General**

12-1-1. PURPOSE .....	12-1-1
12-1-2. PHRASEOLOGY .....	12-1-1
12-1-3. WORDS AND PHRASES .....	12-1-1
12-1-4. ANNOUNCING MISSING ITEMS .....	12-1-1
12-1-5. ICAO PHONETICS .....	12-1-1
12-1-6. RELAY OF ATC COMMUNICATIONS .....	12-1-2
12-1-7. EXPEDITIOUS COMPLIANCE .....	12-1-2
12-1-8. WEATHER PHRASEOLOGY .....	12-1-2
12-1-9. WEATHER REMARKS .....	12-1-6
12-1-10. WEATHER ADVISORIES .....	12-1-8
12-1-11. RADAR .....	12-1-9
12-1-12. WINDS AND TEMPERATURES ALOFT FORECAST (FB) .....	12-1-9
12-1-13. NUMBER USAGE .....	12-1-9
12-1-14. FACILITY IDENTIFICATION .....	12-1-11
12-1-15. AIRCRAFT IDENTIFICATION .....	12-1-12
12-1-16. DESCRIPTION OF AIRCRAFT TYPES .....	12-1-15
12-1-17. AIRCRAFT EQUIPMENT CODES .....	12-1-15
12-1-18. AIRWAYS AND ROUTES .....	12-1-15
12-1-19. NAVAID TERMS .....	12-1-16
12-1-20. NAVAID FIXES .....	12-1-16
12-1-21. RUNWAY CONDITIONS .....	12-1-16

## **Chapter 13. Data Communication Systems**

### **Section 1. General**

13-1-1. TYPES OF DATA ACCEPTABLE ON FAA DATA COMMUNICATIONS SYSTEMS .....	13-1-1
13-1-2. PRIORITY MESSAGES .....	13-1-1
13-1-3. GROUP CODES .....	13-1-1
13-1-4. MESSAGE FORMATS .....	13-1-2
13-1-5. WMSCR NEGATIVE RESPONSE MESSAGES .....	13-1-3
13-1-6. Q SIGNALS .....	13-1-3

## **Appendices**

APPENDIX A. ICAO FLIGHT PLANS .....	APPENDIX A-1
APPENDIX B. FSS FORMS .....	APPENDIX B-1
INDEX .....	I-1
PILOT/CONTROLLER GLOSSARY .....	PCG-1





# Chapter 1. General

## Section 1. Introduction

### 1-1-1. PURPOSE OF THIS ORDER

This order prescribes procedures and phraseology for use by air traffic personnel providing flight services. Flight service specialists are required to be familiar with the provisions of this order that pertain to their operational responsibilities and to exercise their best judgment if they encounter situations that are not covered.

### 1-1-2. AUDIENCE

This order applies to all ATO personnel and anyone using ATO directives.

### 1-1-3. WHERE TO FIND THIS ORDER

This order is available on the FAA Web site at [http://faa.gov/air\\_traffic/publications](http://faa.gov/air_traffic/publications) & [http://employees.faa.gov/tools\\_resources/orders\\_notices/](http://employees.faa.gov/tools_resources/orders_notices/)

### 1-1-4. WHAT THIS ORDER CANCELS

FAA Order JO 7110.10Y, Flight Services, dated December 10, 2015, and all changes to it are canceled.

### 1-1-5. EXPLANATION OF CHANGES

The significant changes to this order are identified in the Explanation of Changes page(s). It is advisable to retain the page(s) throughout the duration of the basic order. If further information is desired, direct questions through the appropriate facility/service area office staff to Flight Services Safety and Operations Policy Group.

### 1-1-6. EFFECTIVE DATES AND SUBMISSIONS FOR CHANGES

a. This order and its changes are scheduled to be published to coincide with AIRAC dates, according to the table below.

b. The “Cutoff Date for Completion” in the table below refers to the deadline for a proposed change to be fully coordinated and signed. Change initiators

must submit their proposed changes well in advance of this cutoff date to meet the publication effective date. The process to review and coordinate changes often takes several months after the change is initially submitted.

Publication Schedule		
Basic or Change	Cutoff Date for Completion	Effective Date of Publication
JO 7110.10Z	4/27/17	10/12/17
Change 1	10/12/17	3/29/18
Change 2	3/29/18	9/13/18
Change 3	9/13/18	2/28/19
JO 7110.10AA	2/28/19	8/15/19

### 1-1-7. DELIVERY DATES

This order will be available on the FAA’s website 30 days prior to its effective date.

All organizations are responsible for viewing, downloading, and subscribing to receive electronic mail notifications when changes occur to this order. Subscriptions can be made at: [https://www.faa.gov/air\\_traffic/publications/](https://www.faa.gov/air_traffic/publications/).

### 1-1-8. RECOMMENDATIONS FOR PROCEDURAL CHANGES

The responsibility associated with processing and coordinating revisions to this order is delegated to the Director, Air Traffic Procedures, AJV-8.

a. Personnel should submit recommended changes in procedures to facility management.

b. Recommendations from other sources should be submitted through appropriate FAA, military, or industry/user channels.

c. Proposed changes must be submitted electronically to the Air Traffic Procedures Correspondence Mailbox at 9-AJV-8-HQ-Correspondence@faa.gov. The submission should include a description of the

recommended change and the proposed language to be used in the order.

**NOTE–**

*For details on the submission process as well as additional AJV–8 processing responsibilities, please see FAA Order JO 7000.5, Procedures for Submitting Changes to Air Traffic Control Publications.*

**d.** Procedural changes will not be made to this order until the operational system software has been adapted to accomplish the revised procedures.

**1–1–9. SUBSCRIPTION INFORMATION**

This publication may be purchased from the U.S. Government Printing Office. Address subscription inquiries to:

Superintendent of Documents  
U.S. Government Publishing Office  
P.O. Box 979050  
St. Louis, MO 63197–9000  
Online: <http://bookstore.gpo.gov>

FAA air traffic publications are also available on the FAA’s web site at:  
[http://www.faa.gov/air\\_traffic/publications/](http://www.faa.gov/air_traffic/publications/)

**1–1–10. DISTRIBUTION**

This order is available online and will be distributed electronically to all offices that subscribe to receive email notification/access to it through the FAA’s website:  
[http://www.faa.gov/air\\_traffic/publications/](http://www.faa.gov/air_traffic/publications/)

# Chapter 3. Pilot Briefing

## Section 1. General

### 3-1-1. DEFINITION

Pilot briefings are the translation of weather observations and forecasts, including surface, upper air, radar, satellite, and PIREPs into a form directly usable by the pilot or flight supervisory personnel to formulate plans and make decisions for the safe and efficient operation of aircraft. These briefings must also include information on NOTAM, flow control, and other items as requested.

### 3-1-2. PRE-DUTY REQUIREMENTS

Before assuming pilot briefing duties, familiarize yourself sufficiently with aeronautical and meteorological conditions to effectively provide briefing service. This includes:

- a. General locations of weather-causing systems and general weather conditions.
- b. Detailed information of current and forecast weather conditions for the geographical area(s) of responsibility.
- c. Aeronautical information; for example, NOT-AM, special use airspace (SUA), temporary flight restrictions (TFR), ATC delays, etc.

*REFERENCE—  
Pertinent facility directives*

### 3-1-3. PREFLIGHT BRIEFING DISPLAY

Provide a preflight briefing display for specialist/pilot use. The contents and method of display must be based on individual facility requirements; for example, available equipment and space. Additional displays, as required, must be provided to ensure availability of information at all positions. At the discretion of facility management, provide a separate display for pilot use. All material in such displays must be current.

### 3-1-4. WEATHER DISPLAY PRODUCTS

- a. The weather graphic display should include, but not necessarily be limited to, the following analysis, prognosis, and data products:

1. Weather Depiction.
2. Surface Analysis.
3. Forecast Winds Aloft.
4. Freezing Level Graphic.
5. G-AIRMET Graphic.
6. 12- and 24-hour Low Level Significant Weather Prognosis.
7. 12-, 24-, 36-, and 48-hour Surface Prognosis.
8. High Level Significant Weather Prognosis.
9. Current Icing Product (CIP).
10. Forecast Icing Product (FIP).
11. Graphical Turbulence Guidance (GTG).
12. National Weather Radar Summary. (CONUS Only).
13. National/Regional Radar Mosaics.
14. Radar Echo Tops.
15. Radar VAD Wind Profiles.
16. Visible/IR Satellite Imagery.
17. Constant Pressure Charts.
18. 500 MB Heights and Vorticity Analysis.
19. 500 MB Heights and Vorticity Prognosis.
20. 6-, 12-, 24-, 36-, and 48-hour 500 MB Heights and Vorticity Prognosis.
21. Convective Outlook.
22. Maximum Temperature 24- and 36-Hour Forecast (CONUS Only).
23. Minimum Temperature 24- and 36-Hour Forecast (CONUS Only).
- b. Map features. (See FIG 3-1-1.)
- c. Precipitation and obstruction to vision. (See FIG 3-1-2.)

FIG 3-1-1  
Map Features Chart

TYPE	SYMBOL	COLOR
Cold front		Blue
Warm front		Red
Occluded front		Purple
Stationary front		Red and blue
Instability line		Purple
Convergence line		Green
Trough		Brown
Ridge		Yellow
Low pressure center		Red
High pressure center		Blue
Jet streams		Black
Isotherms		Red
Isotherms		Yellow
Freezing level aloft 80--80		Red
IFR conditions		Red
MVFR conditions		Blue
Line of echoes		Red
Overcast Clouds (36-48 hour Prog only)		Orange
Area of echoes		Green
Severe Weather area		Red
Turbulence areas		Red
Precipitation areas		Green
Iceing symbols		Red
Turbulence symbols		Red

FIG 3-1-2  
Precipitation and Obstruction To Vision Chart

Type	Symbol	Color
Freezing precipitation		red
Snow		green
Rain		green
Drizzle		green
Thunderstorm		red
Fog		yellow
Haze		yellow
Smoke		black
Dust		brown

d. Interpret and summarize weather radar displays as appropriate.

1. Use all available radar data and PIREPs to determine intensity, tops, area of coverage, movement, etc.

REFERENCE—  
*Pilot Controller Glossary (P/CG) Term, Precipitation Radar Weather Descriptions*

2. Identify data obtained from sources other than radar display by source and time of observation.

3. Define area of coverage in relation to VORs, airways for the route structure being flown, airports or geographic points to assist the pilot in relating coverage to route of flight or destination.

EXAMPLE—  
"A broken line of light to heavy echoes covers an area along and three zero miles east of a line from the Crazy Woman V-O-R to the Riverton V-O-R. Average tops between two-six thousand and three-four thousand. This line is increasing in intensity. Movement has been from northwest to southeast at three zero knots. The line includes an extreme echo one five miles in diameter on Victor Two Ninety-eight forty-eight miles southeast of the Worland V-O-R, tops four three thousand. There are no known echoes within three-zero nautical miles of Victor Eight-five or Victor Two Ninety-eight south at this time."

**3-1-5. FORECASTS, WARNINGS, AND ADVISORIES**

a. Use only weather forecasts, warnings, and advisories issued by a National Weather Service

(NWS) office, including Center Weather Service Units (CWSUs), the U.S. military, foreign governments, or graphics systems owned/leased by the FAA or provided through a FAA–contracted service provider.

**b.** Use the OUTLOOK section of WSTs to provide information on where convective activity is expected. Use the Convective Outlooks (ACUS01 KWNS) to extract pertinent forecast information regarding the convective activity.

**c.** When an NWS forecast requires an amendment or correction, request assistance from the appropriate NWS office.

### 3–1–6. UNAVAILABILITY OF DATA

Use all available means to obtain the data required to brief pilots. If a complete briefing cannot be provided due to circuit problems or missing data, inform the pilot of this fact. Brief to the extent possible. Advise the pilot of the time you expect the data to be available.

### 3–1–7. TYPE OF BRIEFING TO BE CONDUCTED

Provide the pilot with the type of briefing requested (standard, abbreviated, or outlook). When it is not clear initially which type briefing is desired, provide the first one or two items requested, and then ascertain if the pilot would like a standard briefing. If a standard briefing is requested, conduct the briefing in accordance with Paragraph 3–2–1. If the pilot does not desire a standard briefing, provide either an abbreviated briefing in accordance with Paragraph 3–2–2 or an outlook briefing in accordance with Paragraph 3–2–3.

### 3–1–8. LOGGING PILOT BRIEFINGS

**a.** Pilot briefings must be logged and retained in accordance with FAA Order 1350.14, Records Management. Briefings must be logged in operation-

al systems when possible but may be logged manually if needed for operational efficiency.

**b.** Operational systems must, as a minimum, automatically record the facility/sector, date, position, time, and specialist identification for each logged briefing. In addition, enter the following information:

**1.** Departure and destination.

**2.** Aircraft identification. (The pilot’s name may be substituted for the aircraft identification, if unknown.)

**3.** Remarks, as applicable, to indicate OTLK (outlook briefing), AB (abbreviated briefing), and/or VNR.

**c.** To manually log pilot briefings, use one of the following FAA forms:

**1.** FAA Form 7233–2, Pilot Briefing Log. Use a separate form each day. Two or more forms may be used simultaneously at different operating positions. Complete boxes 1 through 3 on each form. Enter appropriate data in columns 4, 5, 6, 7, 8 (if pertinent), and 9. If the pilot’s name is known, it may be substituted for the aircraft identification. As applicable, enter OTLK (outlook briefing), AB (abbreviated briefing), and/or VNR in column 8.

**2.** FAA Forms 7233–5, Inflight Contact Record, or 7230–21, Flight Progress Strip. Enter PB in block 14 if a briefing is provided. As applicable, also enter AB, OTLK, and/or VNR in the same block.

**NOTE–**

*See Appendix B for FAA forms.*

**d.** Where audio recorders are used, facility management may limit entries on pilot briefing records to those required for facility use.

**e.** Where fast-file recorders are used and the pilot states the source of a briefing on the recorder, it must be entered in the remarks field of the flight plan.

**EXAMPLE–**

*PB/DCA*

*PB/DUATS*



# Chapter 4. Inflight Services

## Section 1. General

### 4-1-1. INFLIGHT SERVICES

**a.** Inflight services are those provided to or affecting aircraft inflight or otherwise operating on the airport surface. This includes services to airborne aircraft, such as delivery of ATC clearances, advisories or requests, issuance of military flight advisory messages, NOTAM, SAR communications searches, flight plan handling, transcribed or live broadcast, weather observations, PIREPs, and pilot briefings.

**b.** Upon request, provide en route aircraft with timely and pertinent weather data tailored to a specific altitude and route using the most current available sources of aviation meteorological information. Tailor en route flight advisories to the phase of flight that begins after climb out and ends with descent to land. Current weather and terminal forecast at the airport of first intended landing and/or the alternate airport must be provided on request. When conditions dictate, provide information on weather for alternate routes and/or altitudes to assist the pilot in the avoidance of hazardous flight conditions.

**NOTE-**

*Provide inflight services in accordance with the procedures in this chapter to aircraft on a “first come, first served” basis, as circumstances permit.*

**c.** Prior to assuming inflight duties, the specialist must review, as a minimum, the graphic information listed in subparagraph 3-1-4a (if available). After assuming duties, the specialist must continue to review graphic and written data as needed during the watch to update and maintain a thorough knowledge of weather synoptic and forecast information affecting aviation operations.

### 4-1-2. OPERATIONAL PRIORITY

**a.** Emergency situations are those where life or property are in immediate danger. Aircraft in distress have priority over all other aircraft.

**b.** Provide priority to civilian air ambulance flights (call sign “MEDEVAC”). Use of the

MEDEVAC call sign indicates that operational priority is requested. When verbally requested, provide priority to AIR EVAC, HOSP, and scheduled air carrier/air taxi flights. Assist the pilots of MEDEVAC, AIR EVAC, and HOSP aircraft to avoid areas of significant weather and turbulent conditions. When requested by a pilot, provide notifications to expedite ground handling of patients, vital organs, or urgently needed medical materials.

**c.** Provide maximum assistance to search and rescue (SAR) aircraft performing a SAR mission.

**d.** Provide special handling as required to expedite Flight Check and automated flight inspection “Flight Check (number) Recorded” aircraft.

### 4-1-3. INFLIGHT WEATHER BRIEFING

Upon request, provide inflight weather briefings, in accordance with the procedure outlined in Chapter 3, Section 2.

### 4-1-4. INFLIGHT EQUIPMENT MALFUNCTIONS

**a.** Inflight equipment malfunctions include partial or complete failure of equipment which may affect either safety and/or the ability of the flight to proceed.

**b.** When a pilot reports a flight equipment malfunction, determine the nature and extent of any assistance desired.

**c.** Provide maximum assistance possible consistent with equipment and any special handling requested.

**d.** Relay to other specialists or facilities who will handle the aircraft all information concerning the equipment malfunction on the aircraft and any special handling requested or being provided.

### 4-1-5. AIRCRAFT REPORTED MALFUNCTIONS

**a.** Aircraft-reported NAVAID malfunctions are subject to varying circumstances. When an aircraft reports a ground-based NAVAID malfunction, take the following action:

1. Request a report from a second aircraft.

2. If the second aircraft reports normal operations, if able, inform the first aircraft. Record the incident on FAA Form 7230-4, Daily Record of Facility Operation.

3. If the second aircraft confirms the malfunction:

(a) Notify the appropriate IFR control facility or sector.

(b) Notify Technical Operations personnel.

(c) Take NOTAM action when requested by Technical Operations personnel.

(d) Record the incident on FAA Form 7230-4.

4. In the absence of a second aircraft report:

(a) Notify Technical Operations and advise what time the initial aircraft reported the failure and when a second aircraft report might be obtained.

(b) Record the incident on FAA Form 7230-4.

b. When an aircraft reports a global positioning system (GPS)/global navigation satellite system (GNSS) anomaly:

1. Request the following information:

(a) Aircraft call sign and type of aircraft.

(b) Date and time of the occurrence.

(c) Location of anomaly.

(d) Altitude.

2. Record the incident on FAA Form 7230-4.

3. Forward this information to the traffic management unit (TMU) and Technical Operations personnel.

c. When an aircraft reports a Wide Area Augmentation System (WAAS) anomaly, request the following information and/or take the following actions:

1. Determine if the pilot has lost all WAAS service.

**EXAMPLE–**

“Are you receiving any WAAS service?”

2. If the pilot reports receipt of any WAAS service, acknowledge the report, and continue normal operations.

3. If the pilot reports loss of all WAAS service, report as a GPS anomaly using procedures in Paragraph 4–1–5b.

d. When a pilot reports an ADS-B services malfunction (i.e., ADS-B, TIS-B, FIS-B, or ADS-R):

1. Request the following information:

(a) Aircraft call sign and type of aircraft.

(b) Date and time of observation.

(c) Location and altitude of anomaly.

(d) Condition observed (or anomaly).

(e) Type and software version of avionics system.

2. Forward this information to an Operations Control Center (OCC) or Service Operations Center (SOC) as appropriate.

3. Record the incident on FAA Form 7230-4.

**4–1–6. NAVAID FLIGHT CHECK**

Provide maximum assistance to aircraft engaged in flight inspection of NAVAIDs. Unless otherwise agreed to, maintain direct contact with the pilot and provide information regarding known traffic in the area and request the pilot’s intentions.

**NOTE–**

1. *Many flight inspections are accomplished using automatic recording equipment. An uninterrupted flight is necessary for successful completion of the mission. The workload for the limited number of aircraft engaged in these activities requires strict adherence to a schedule.*

2. *Flight inspection operations which require special participation of ground personnel, specific communications, or radar operation capabilities are considered to require special handling. These flights are coordinated with appropriate facilities before departure.*



## Section 2. Data Recording

### 4-2-1. TYPES OF DATA RECORDED

- a. Operational system entries for:
  1. Flight plans and related messages.
  2. Logging pilot briefings and aircraft contacts.
  3. Weather/Flight data messages.
- b. Manual strip marking.

### 4-2-2. METHODS OF RECORDING DATA

- a. Except as provided in 4-2-2b, all entries must be made directly into the operational system.
- b. Locally-approved procedures may be used to manually record data during heavy traffic periods or system outages. Aircraft contact information should be logged in the operational system as soon as practical.
- c. Use control/clearance symbols, abbreviations, location identifiers, and contractions for recording position reports, traffic clearances, and other data. When recording data either electronically or manually, you may use:
  1. Plain language to supplement data when it will aid in understanding the recorded information.
  2. Locally-approved contractions and identifiers for frequently used terms and local fixes not listed in either FAA Order JO 7340.2, Contractions, or FAA Order JO 7350.9, Location Identifiers. Use only within your facility, not on data or interphone circuits. All locally-approved contractions and identifiers must be placed in facility files for record and reference purposes.
- d. When recording data manually, use the standard hand-printed characters shown in FIG 4-2-1 to prevent misinterpretation.

*FIG 4-2-1*  
Hand-Printed Characters Chart

Typed	Hand Printed
A	A
B	B
C	C
D	D
E	E
F	F
G	G
H	H
I	I
J	J
K	K
L	L
M	M
N	N
O	O
P	P
Q	Q
R	R
S	<u>S</u>
T	T
U	U
V	V
W	W
X	X
Y	Y
Z	<u>Z</u>
1	I
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
0	Ø

**NOTE-**

A slant line crossing through the numeral zero and an underline of the letter “S” on handwritten portions of flight progress strips are required only when there is reason to believe the lack of these markings could lead to a misunderstanding. A slant line through the numeral zero is required on all weather data.

1. To correct or update data, draw a horizontal line through it and write the correct information adjacent to it.
2. Do not erase any item.

**4-2-3. IFR/VFR/DVFR FLIGHT PLAN RECORDING**

a. Use the operational system to record and file flight plans, flight plan modifications, cancellations, activations, and closures for appropriate distribution and processing. Detailed instructions are contained in the operational system manuals.

**NOTE-**

FSS operational systems contain an electronic equivalent of authorized FAA Flight Plan Forms.

b. When closing an active VFR flight plan, obtain departure point and destination, if not already known.

**NOTE-**

A cancelled VFR flight plan is one that is removed from a proposed list and has not been activated. A closed VFR flight plan is one that has been activated and is then removed from an inbound list.

c. Flight plan information may initially be recorded on FAA Form 7233-1 or other paper prior to entry into the operational system.

**4-2-4. FLIGHT PROGRESS STRIPS (FAA FORMS 7230-21 AND 7233-5)**

a. When officially used to record inflight data, use flight progress strips to record:

1. Aircraft contacts.
2. ATC clearances.
3. Pilot briefings on airborne aircraft.
4. Other operationally significant items.

b. Use a flight progress strip for each aircraft and record all contacts with that aircraft on the same strip. If supplemental strips are needed for additional writing space, keep the original and supplemental strips together.

**NOTE-**

Multiple flights by the same aircraft may be recorded on a single strip when situational awareness and strip bay efficiency are improved.

**4-2-5. FLIGHT PROGRESS STRIPS AND ENTRY DATA**

- a. Flight progress strip. (See FIG 4-2-2.)
- b. Flight progress strip entry. (See FIG 4-2-3 and FIG 4-2-4.)

FIG 4-2-2  
Flight Progress Strip

	<b>1</b>	<b>2</b>	<b>3</b>	<b>10</b>	<b>12</b>	<b>13</b>	<b>14</b>
<b>4</b>	<b>5</b>						
<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>				

**NOTE-**

*A slant line crossing through the numeral zero and an underline of the letter "S" on handwritten portions of flight progress strips are required only when there is reason to believe the lack of these markings could lead to a misunderstanding. A slant line through the numeral zero is required on all weather data.*

**e.** To correct or update data, draw a horizontal line through it and write the correct information adjacent to it.

**f.** Do not erase any item.

### **6-1-6. IFR/VFR/DVFR FLIGHT PLAN RECORDING**

**a.** Use the operational system to record and file flight plans, flight plan modifications, cancellations, activations, and closures for appropriate distribution and processing. Detailed instructions are contained in the operational system manuals.

**NOTE-**

*FSS operational systems contain an electronic equivalent of authorized FAA Flight Plan Forms.*

**b.** When closing an active VFR flight plan, obtain departure point and destination, if not already known.

**NOTE-**

*A cancelled VFR flight plan is one that is removed from a proposed list and has not been activated. A closed VFR flight plan is one that has been activated and is now removed from an inbound list.*

**c.** Flight plan information may initially be recorded on FAA Form 7233-1 or other paper prior to entry into the operational system

### **6-1-7. PART-TIME FSS CLOSURE ACTION**

Part-time facilities must forward the following information to the designated guard FSS.

**a.** Inbound flights - all information.

**b.** Outbound flights - VFR and IFR flight plan data when proposed departure time and/or ETA is within the period from 1 hour prior to closing until 1 hour after opening.

**c.** All other pertinent information; for example, NOTAMs and pending outages.

### **6-1-8. TELEPHONE REQUESTS FOR ATC CLEARANCES**

When a telephone request for an ATC clearance is received, positively verify the departure location by airport name or location identifier, and the city name and state.

**NOTE-**

**1.** *With telephone calls being received from larger geographic areas, verification of the departure location may prevent a critical safety situation involving similar or identical airport or city names possibly located in different states.*

**2.** *City refers to a city, town, village or publicly recognized place.*

**3.** *Refer to FAA Order JO 7110.10, Paragraph 4-3-7, ATC Clearances, Advisories, or Requests, for guidance on relaying ATC clearances.*



**g. /WX.** Flight visibility and flight weather. Report weather conditions encountered by the pilot as follows:

**1.** Flight visibility, if reported, will be the first entry in the /WX field. Enter as FV followed by a two-digit visibility value rounded down, if necessary, to the nearest whole statute mile and append “SM” (FV03SM). If visibility is reported as unrestricted, enter FV99SM.

**2.** Enter flight weather types using one or more of the standard surface weather reporting symbols contained in TBL 9–2–1.

*TBL 9–2–1*  
**Weather Type and Symbols**

<i>Type</i>	<i>METAR Code</i>
Drifting / Blowing Snow . . . . .	DRSN/BLSN
Drifting Dust . . . . .	DRDU
Drifting Sand . . . . .	DRSA
Drizzle/Freezing Drizzle . . . . .	DZ/FZDZ
Dust / Blowing Dust . . . . .	DU/BLDU
Duststorm . . . . .	DS
Fog (vis < 5/8SM) . . . . .	FG
Freezing Fog . . . . .	FZFG
Freezing Rain . . . . .	FZRA
Funnel Cloud . . . . .	FC
Hail . . . . .	GR
Hail Shower . . . . .	SHGR
Haze . . . . .	HZ
Ice Crystals . . . . .	IC
Ice Pellets/ Showers . . . . .	PL/SHPL
Mist (vis 5/8SM or more) . . . . .	BR
Patchy Fog . . . . .	BCFG
Patchy Fog on part of Arpt . . . . .	PRFG
Rain / Showers . . . . .	RA/SHRA
Sand / Blowing Sand . . . . .	SA/BSA
Sandstorms . . . . .	SS
Shallow Fog . . . . .	MIFG
Snow Pellet Showers . . . . .	SHGS
Snow Pellets . . . . .	GS
Smoke . . . . .	FU
Snow Grains . . . . .	SG
Snow / Showers . . . . .	SN/SHSN
Spray . . . . .	PY
Squalls . . . . .	SQ
Thunderstorm . . . . .	TS
Tornado/Waterspout . . . . .	+FC
Unknown Precipitation . . . . .	UP
Volcanic Ash (incl. eruption, H <sub>2</sub> S or SO <sub>2</sub> ) . . . . .	VA
Well developed Dust/Sand Whirls . . . . .	PO

**3.** Intensity of precipitation (- for light, no qualifier for moderate, and + for heavy) must be indicated with precipitation types, except ice crystals and hail, including those associated with a thunderstorm and those of a showery nature.

**4.** Intensity of obscurations must be ascribed as moderate or + heavy for dust and sand storms only. No intensity for blowing dust, blowing sand, or blowing snow.

**EXAMPLE-**

*/WX FV01SM +DS000-TOP083/ SKC /RM DURC*

**5.** When more than one form of precipitation is combined in the report, the dominant type must be reported first.

**EXAMPLE-**

*/WX FV00SM +TSRAGR*

**6.** When FC is entered in /WX, FUNNEL CLOUD is spelled out on /RM. When +FC is entered in /WX, TORNADO or WATERSPOUT is spelled out in the /RM TEI.

**EXAMPLE-**

*/WX FC /RM FUNNEL CLOUD*

*/WX +FC /RM TORNADO or WATERSPOUT*

**7.** State the size of the hail in remarks in ¼” increments or any hail less than ¼” is stated as “GR less than ¼”.

**8.** The proximity qualifier VC (Vicinity) is only used with TS, FG, FC, +FC, SH, PO, BLDU, BLSA, and BLSN.

**EXAMPLE-**

*/WX FV02SM BLDU000-TOP083 VC W*

**9.** When more than one type of weather is reported enter in the following order: 1) TORNADO, WATERSPOUT, OR FUNNEL CLOUD; 2) Thunderstorm with or without associated precipitation; 3) Weather phenomena in order of decreasing predominance. No more than three groups in a single PIREP.

**10.** Weather layers must be entered with the base and/or top of the layer when reported. Use the same format as in the /SK TEI.

**EXAMPLE-**

*/WX FU002-TOP030*

**h.** /TA. Air Temperature. Report outside air temperature using two digits in degrees Celsius. Prefix negative temperatures with a M; for example, /TA 08 or /TA M08.

**i.** /WV. Wind direction and speed. If reported, wind direction from which the wind is blowing must be coded using three figures. Directions less than 100 degrees must be preceded by a “0”. For example, a wind direction of 90 degrees is coded as 090. The wind speed must be entered as a two or three digit group immediately following the wind direction. The

speed must be coded in whole knots using the hundreds digit (if not zero) and the tens and units digits. The wind group always ends with “KT” to indicate that winds are reported in knots. Speeds of less than 10 knots must be coded using a leading zero. For example, a wind speed of 8 knots must be coded 08KT and a wind speed of 112 knots must be coded 112kt.

**EXAMPLE-**

*/WV 28080KT*

*/WV 28008KT*

*/WV 280105KT*

**j.** /TB. Turbulence. Report intensity, type, and altitude as follows:

**1.** Intensity. Enter duration if reported by the pilot (INTMT, OCNL, CONS) and intensity using contractions LGT, MOD, SEV, or EXTRM. Separate a range or variation of intensity with a hyphen; for example, MOD-SEV. If turbulence was not encountered, enter NEG.

**2.** Type. Enter CAT or CHOP if reported by the pilot.

**3.** Altitude. Report altitude only if it differs from value reported in /FL. When a layer of turbulence is reported, separate height values with a hyphen. If lower or upper limits are not defined, use BLO or ABV.

**EXAMPLE-**

*/TB LGT 040*

*/TB MOD-SEV BLO 080*

*/TB MOD-SEV CAT 350*

*/TB NEG 120-180*

*/TB MOD CHOP 220/NEG 230-280*

*/TB MOD CAT ABV 290*

**k.** IC. Icing. Report intensity, type and altitude of icing as follows:

**1.** Intensity. Enter intensity first using contractions TRACE, LGT, MOD, or SEV. Separate reports of a range or variation of intensity with a hyphen. If icing was not encountered, enter NEG.

**2.** Type. Enter the reported icing type as RIME, CLR, or MX.

**3.** Altitude. Enter the reported icing/altitude only if different from the value reported in the /FL TEI. Use a hyphen to separate reported layers of icing. Use ABV or BLO when a layer is not defined.

**EXAMPLE-**

*/IC LGT-MOD MX 085  
/IC LGT RIME  
/IC MOD RIME BLO 095  
/IC SEV CLR 035-062*

4. When icing is reported always report temperature in the /TA TEI.

**I.** /RM. Remarks. Use this TEI to report a phenomenon which is considered important but does not fit in any of the other TEIs. This includes, but is not limited to, low level wind shear (LLWS) reports, thunderstorm lines, coverage and movement, size of hail (1/4" increments), lightning, clouds observed but not encountered, geographical or local description of where the phenomenon occurred, International Standard Atmospheric (ISA) reports and contrails. Report hazardous weather first. Describe LLWS to the extent possible.

1. Wind Shear. +/- 10 Kts or more fluctuations in airspeed, within 2,000 Ft of the surface, requires an UUA report. When Low Level Wind Shear is entered in a pilot report enter LLWS as the first remark in the /RM TEI. LLWS may be reported as -, +, or +/- depending on how it effects the aircraft. If the location is different than the /OV or /FL fields, include the location in the remarks.

**EXAMPLE-**

*/RM LLWS +/-15 KT SFC-008 DURC RY22 JFK*

2. FUNNEL, CLOUD, TORNADO, and WATERSPOUT are entered with the direction of movement if reported.

**EXAMPLE-**

*/RM TORNADO E MOV E*

3. Thunderstorm. Enter coverage (ISOL, FEW, SCT, NMRS) and description (LN,BKN LN,SLD LN) if reported. Follow with "TS," the location and movement, and the type of lightning if reported.

**EXAMPLE-**

*/RM NMRS TS S MOV E GR1/2*

4. Lightning. Enter frequency (OCNL, FRQ, CONS), followed by type (LTGIC, LTGCC, LTGCG, LTGCA, or combinations), if reported.

**EXAMPLE-**

*/RM OCNL LTGICCG*

5. Electric Discharge. Enter DISCHARGE followed by the altitude.

**EXAMPLE-**

*/RM DISCHARGE 120*

6. Clouds. Use remarks when clouds can be seen but were not encountered and reported in /SK.

**EXAMPLE-**

*/RM CB E MOV N  
/RM OVC BLO*

7. Plain Language. If specific phraseology is not adequate, use plain language to describe the phenomena or local geographic locations. Include remarks that do not fit in other TEIs like DURC, DURD, RCA, TOP, TOC, or CONTRAILS.

**EXAMPLE-**

*/RM BUMPY VERY ROUGH RIDE  
/RM CONTRAILS  
/UA/OV BIS270030/TM 1445/FL060/TP CVLT/TB  
LGT /RM Donner Summit Pass*

8. Volcanic Activity. Volcanic eruption, ash clouds, and/or sulfur gases are Urgent PIREPs. Reports of volcanic activity must include as much information as possible; for example, the name of the mountain, ash clouds observed and their movement, the height of the top and bottom of the ash clouds, etc.

(a) If a pilot detected the smell of sulfur gases (H<sub>2</sub>S or SO<sub>2</sub>) in the cabin and reported volcanic ash clouds, include "VA" in Weather and "H<sub>2</sub>S," "SO<sub>2</sub>," or "SULFUR SMELL" in Remarks.

**NOTE-**

*The smell of sulfur gases in the cockpit may indicate volcanic activity that has not yet been detected or reported and/or possible entry into an ash-bearing cloud. H<sub>2</sub>S, also known as sewer gas, has the odor of rotten eggs. SO<sub>2</sub> is identifiable as the sharp, acrid odor of a freshly struck*

**EXAMPLE-**

*UUA /OV PANC240075 /TM 2010 /FL370/TP DC10 /WX  
VA /RM VOLCANIC ERUPTION 2008Z MT AU-  
GUSTINE ASH 40S MOV SSE SO2*

(b) If a pilot only detected the smell of sulfur gases (H<sub>2</sub>S or SO<sub>2</sub>) in the cabin and confirmed there were no volcanic ash clouds, classify the PIREP as Routine and include "VA" in Weather and "H<sub>2</sub>S NO ASH," "SO<sub>2</sub> NO ASH," or "SULFUR SMELL NO ASH" in Remarks.

**EXAMPLE-**

*UA /OV PANC240075 /TM 2010 /FL370/TP DC10 /WX  
VA /RM SULFUR SMELL NO ASH*

(c) If a volcanic activity report is received from other than a pilot, enter Aircraft "UNKN,"

Flight Level “UNKN,” and in Remarks “UNOFFICIAL.”

9. The “SKYSPOTTER” program is a result of a recommendation from the Safer Skies FAA/INDUSTRY Joint Safety Analysis and Implementation Teams. The term “SKYSPOTTER” indicates that a pilot has received specialized training in observing and reporting inflight weather phenomenon, pilot weather reports, or PIREPs. When a PIREP from a pilot identifying themselves as a “SKYSPOTTER” aircraft is received, the additional comment “/AWC” must be added at the end of the remarks section of the PIREP.

**EXAMPLE-**  
*PIREP Text/RM Text/AWC*

10. If ISA is reported.

**EXAMPLE-**  
*/RM ISA -10C*

### **9-2-15. PIREP ENCODING**

PIREPs must be coded to ensure the PIREP is stored and subsequently distributed with the surface observation location nearest the condition being reported. If more than one METAR location is appropriate, select the location that provides the greatest distribution and/or prominence, such as a major hub airport.



**TBL 12-1-2  
Wind Direction and Speed**

<i>Wind</i>	<i>Phraseology</i>
0000KT	WIND CALM.
26012KT	WIND TWO SIX ZERO AT ONE TWO.
29012KT 260V320	WIND TWO NINER ZERO AT ONE TWO WIND VARIABLE BETWEEN TWO SIX ZERO AND THREE TWO ZERO.
30008KT	WIND THREE ZERO ZERO AT EIGHT.
36012G20KT	WIND THREE SIX ZERO AT ONE TWO GUSTS TWO ZERO.
VRB04KT	WIND VARIABLE AT FOUR.

**f. Visibility.**

State the word “visibility” followed by the visibility values in miles and/or fractions of miles, except announce values indicated by the figure 0 as “zero.” Announce the separate digits of whole numbers as applicable. (See TBL 12-1-3.)

**TBL 12-1-3  
Visibility**

<i>Contraction</i>	<i>Phraseology</i>
0SM	Visibility zero.
<sup>1</sup> / <sub>16</sub> SM	Visibility one sixteenth.
<sup>1</sup> / <sub>8</sub> SM	Visibility one eighth.
M <sup>1</sup> / <sub>4</sub> SM	Visibility less than one quarter.
<sup>3</sup> / <sub>4</sub> SM	Visibility three quarters.
1 <sup>1</sup> / <sub>2</sub> SM	Visibility one and one-half.
8SM	Visibility eight.
25SM	Visibility two five.

**NOTE-**

When visibility is less than 3 miles and variable, this information is reported in the remarks.

**g. RVR/RVV.**

**1.** Provide RVR/RVV information by stating the runway, the abbreviation RVR/RVV, and the indicated value. The abbreviations “R-V-R” or “R-V-V” may be spoken in lieu of “visual range” or “visibility value.” When the indicated values are separated by a V, preface the values with the words “variable,” followed by the first value, the word “to,” then the second value. (See TBL 12-1-4.)

**TBL 12-1-4  
RVR/RVV**

<i>RVR/RVV</i>	<i>Phraseology</i>
R36VV11/2	“Runway three six, R-V-V one and one-half.”
R05LVV1V2	“Runway five left, R-V-V variable between one and two.”
R18/2000V3000FT	“Runway one eight, R-V-R variable between two thousand to three thousand. Or Runway one eight visual range variable between two thousand and three thousand.”
R26R/2400FT	“Runway two six right visual range two thousand four hundred.”

**2.** When there is a requirement to issue an RVR or RVV value and a visibility condition greater or less than the reportable values of the equipment is indicated, state the condition as “MORE THAN” or “LESS THAN” the appropriate minimum or maximum readable value. (See TBL 12-1-5.)

**TBL 12-1-5  
RVR/RVV**

<i>RVR/RVV</i>	<i>Phraseology</i>
R16/M0600FT	“Runway one six runway visual range less than six hundred. Or Runway one six R-V-R less than six hundred.”
R36L/M0600V2500FT	“Runway three six left, R-V-R variable between less than six hundred and two thousand five hundred. Or Runway three six left visual range variable between less than six hundred and two thousand five hundred.”
R36/P6000FT	“Runway three six R-V-R more than six thousand. Or Runway three six visual range more than six thousand.”

**h. Weather Elements.** TBL 12-1-6 depicts sample phraseology for weather element contractions. Intensity refers to precipitation, not descriptors. Proximity is spoken after the phenomenon to which it refers. Descriptors are spoken ahead of weather phenomenon with the exception of “showers” which is spoken after the precipitation.

TBL 12-1-7 contains a complete list of weather elements and appropriate phraseology.

*TBL 12-1-6*

**Examples of Combining Intensity, Descriptors and Weather Phenomenon.**

<i>Contractions</i>	<i>Phraseology</i>
BLSN	BLOWING SNOW
-FZRAPL	LIGHT FREEZING RAIN, ICE PELLETS
FZRA	FREEZING RAIN
FZDZ	FREEZING DRIZZLE
MIFG	SHALLOW FOG
-SHRA	LIGHT RAIN SHOWERS
SHRA	RAIN SHOWERS
SHSN	SNOW SHOWERS
TSRA	THUNDERSTORM, RAIN
+TSRA	THUNDERSTORM, HEAVY RAIN (SHOWERS) <sup>1</sup>
+TSRAGR	THUNDERSTORM, HEAVY RAIN, HAIL
VCSH	SHOWERS IN THE VICINITY

<sup>1</sup>Since thunderstorms imply showery precipitation, “showers” may be used to describe precipitation that accompany thunderstorms.

*TBL 12-1-7*

**Weather Elements**

<b>INTENSITY or PROXIMITY</b>		<b>DESCRIPTOR</b>		<b>PRECIPITATION</b>		<b>OBSCURATION</b>		<b>OTHER</b>	
<b>1</b>		<b>2</b>		<b>3</b>		<b>4</b>		<b>5</b>	
-	Light	<b>MI</b>	Shallow	<b>DZ</b>	Drizzle	<b>BR</b>	Mist	<b>PO</b>	Well-Developed Dust/Sand Whirls
		<b>BC</b>	Patchy	<b>RA</b>	Rain	<b>FG</b>	Fog	<b>SQ</b>	Squalls
	Moderate (No Qualifier)	<b>DR</b>	Low Drifting	<b>SN</b>	Snow	<b>FU</b>	Smoke	<b>FC</b> <b>+FC</b>	Funnel Cloud, Tornado or Waterspout
		<b>BL</b>	Blowing	<b>SG</b>	Snow Grains	<b>DU</b>	Dust	<b>SS</b>	Sandstorm
+	Heavy	<b>SH</b>	Showers	<b>IC</b>	Ice Crystals	<b>SA</b>	Sand	<b>DS</b>	Duststorm
		<b>TS</b>	Thunderstorm	<b>PL</b>	Ice Pellets	<b>HZ</b>	Haze		
<b>VC</b>	In the Vicinity	<b>FZ</b>	Freezing	<b>GR</b>	Hail	<b>PY</b>	Spray		
		<b>PR</b>	Partial	<b>GS</b>	Snow Pellets	<b>VA</b>	Volcanic Ash		
				<b>UP</b>	*Unknown Precipitation				

**\* Automated stations only.**

i. Ceiling and Sky Coverage.

1. State sky coverage in the same order as reported on the weather observation. Announce ceiling as follows: (See TBL 12-1-8.)

# PILOT/CONTROLLER GLOSSARY

---

## PURPOSE

a. This Glossary was compiled to promote a common understanding of the terms used in the Air Traffic Control system. It includes those terms which are intended for pilot/controller communications. Those terms most frequently used in pilot/controller communications are printed in *bold italics*. The definitions are primarily defined in an operational sense applicable to both users and operators of the National Airspace System. Use of the Glossary will preclude any misunderstandings concerning the system's design, function, and purpose.

b. Because of the international nature of flying, terms used in the Lexicon, published by the International Civil Aviation Organization (ICAO), are included when they differ from FAA definitions. These terms are followed by "[ICAO]." For the reader's convenience, there are also cross references to related terms in other parts of the Glossary and to other documents, such as the Code of Federal Regulations (CFR) and the Aeronautical Information Manual (AIM).

c. This Glossary will be revised, as necessary, to maintain a common understanding of the system.

## EXPLANATION OF CHANGES

d. Terms Added:

ESTABLISHED ON RNP(EoR) CONCEPT  
QFE

e. Terms Deleted

COMPOSITE ROUTE SYSTEM  
COMPOSITE SEPARATION  
NONCOMPOSITE SEPARATION

f. Terms Modified:

MOUNTAIN WAVE

g. Editorial/format changes were made where necessary. Revision bars were not used due to the insignificant nature of the changes.



**COMMON POINT**– A significant point over which two or more aircraft will report passing or have reported passing before proceeding on the same or diverging tracks. To establish/maintain longitudinal separation, a controller may determine a common point not originally in the aircraft’s flight plan and then clear the aircraft to fly over the point.

(See **SIGNIFICANT POINT**.)

**COMMON PORTION**–

(See **COMMON ROUTE**.)

**COMMON ROUTE**– That segment of a North American Route between the inland navigation facility and the coastal fix.

## OR

**COMMON ROUTE**– Typically the portion of a RNAV STAR between the en route transition end point and the runway transition start point; however, the common route may only consist of a single point that joins the en route and runway transitions.

**COMMON TRAFFIC ADVISORY FREQUENCY (CTAF)**– A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a UNICOM, Multicom, FSS, or tower frequency and is identified in appropriate aeronautical publications.

(See **DESIGNATED COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) AREA**.)

(Refer to AC 90-42, Traffic Advisory Practices at Airports Without Operating Control Towers.)

**COMPASS LOCATOR**– A low power, low or medium frequency (L/MF) radio beacon installed at the site of the outer or middle marker of an instrument landing system (ILS). It can be used for navigation at distances of approximately 15 miles or as authorized in the approach procedure.

**a. Outer Compass Locator (LOM)**– A compass locator installed at the site of the outer marker of an instrument landing system.

(See **OUTER MARKER**.)

**b. Middle Compass Locator (LMM)**– A compass locator installed at the site of the middle marker of an instrument landing system.

(See **MIDDLE MARKER**.)

(See ICAO term **LOCATOR**.)

**COMPASS ROSE**– A circle, graduated in degrees, printed on some charts or marked on the ground at an

airport. It is used as a reference to either true or magnetic direction.

**COMPLY WITH RESTRICTIONS**– An ATC instruction that requires an aircraft being vectored back onto an arrival or departure procedure to comply with all altitude and/or speed restrictions depicted on the procedure. This term may be used in lieu of repeating each remaining restriction that appears on the procedure.

**COMPOSITE FLIGHT PLAN**– A flight plan which specifies VFR operation for one portion of flight and IFR for another portion. It is used primarily in military operations.

(Refer to **AIM**.)

**COMPULSORY REPORTING POINTS**– Reporting points which must be reported to ATC. They are designated on aeronautical charts by solid triangles or filed in a flight plan as fixes selected to define direct routes. These points are geographical locations which are defined by navigation aids/fixes. Pilots should discontinue position reporting over compulsory reporting points when informed by ATC that their aircraft is in “radar contact.”

**CONDITIONS NOT MONITORED**– When an airport operator cannot monitor the condition of the movement area or airfield surface area, this information is issued as a NOTAM. Usually necessitated due to staffing, operating hours or other mitigating factors associated with airport operations.

**CONFIDENCE MANEUVER**– A confidence maneuver consists of one or more turns, a climb or descent, or other maneuver to determine if the pilot in command (PIC) is able to receive and comply with ATC instructions.

**CONFLICT ALERT**– A function of certain air traffic control automated systems designed to alert radar controllers to existing or pending situations between tracked targets (known IFR or VFR aircraft) that require his/her immediate attention/action.

(See **MODE C INTRUDER ALERT**.)

**CONFLICT RESOLUTION**– The resolution of potential conflicts between aircraft that are radar identified and in communication with ATC by ensuring that radar targets do not touch. Pertinent traffic advisories shall be issued when this procedure is applied.

Note: This procedure shall not be provided utilizing mosaic radar systems.

**CONFORMANCE**– The condition established when an aircraft’s actual position is within the conformance region constructed around that aircraft at its position, according to the trajectory associated with the aircraft’s Current Plan.

**CONFORMANCE REGION**– A volume, bounded laterally, vertically, and longitudinally, within which an aircraft must be at a given time in order to be in conformance with the Current Plan Trajectory for that aircraft. At a given time, the conformance region is determined by the simultaneous application of the lateral, vertical, and longitudinal conformance bounds for the aircraft at the position defined by time and aircraft’s trajectory.

**CONSOLAN**– A low frequency, long-distance NAVAID used principally for transoceanic navigations.

**CONTACT**–

**a.** Establish communication with (followed by the name of the facility and, if appropriate, the frequency to be used).

**b.** A flight condition wherein the pilot ascertains the attitude of his/her aircraft and navigates by visual reference to the surface.

(See CONTACT APPROACH.)

(See RADAR CONTACT.)

**CONTACT APPROACH**– An approach wherein an aircraft on an IFR flight plan, having an air traffic control authorization, operating clear of clouds with at least 1 mile flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface. This approach will only be authorized when requested by the pilot and the reported ground visibility at the destination airport is at least 1 statute mile.

(Refer to AIM.)

**CONTAMINATED RUNWAY**– A runway is considered contaminated whenever standing water, ice, snow, slush, frost in any form, heavy rubber, or other substances are present. A runway is contaminated with respect to rubber deposits or other friction-degrading substances when the average friction value for any 500-foot segment of the runway within the ALD fails below the recommended minimum friction level and the average friction value

in the adjacent 500-foot segments falls below the maintenance planning friction level.

**CONTERMINOUS U.S.**– The 48 adjoining States and the District of Columbia.

**CONTINENTAL UNITED STATES**– The 49 States located on the continent of North America and the District of Columbia.

**CONTINUE**– When used as a control instruction should be followed by another word or words clarifying what is expected of the pilot. Example: “continue taxi,” “continue descent,” “continue inbound,” etc.

**CONTROL AREA [ICAO]**– A controlled airspace extending upwards from a specified limit above the earth.

**CONTROL SECTOR**– An airspace area of defined horizontal and vertical dimensions for which a controller or group of controllers has air traffic control responsibility, normally within an air route traffic control center or an approach control facility. Sectors are established based on predominant traffic flows, altitude strata, and controller workload. Pilot communications during operations within a sector are normally maintained on discrete frequencies assigned to the sector.

(See DISCRETE FREQUENCY.)

**CONTROL SLASH**– A radar beacon slash representing the actual position of the associated aircraft. Normally, the control slash is the one closest to the interrogating radar beacon site. When ARTCC radar is operating in narrowband (digitized) mode, the control slash is converted to a target symbol.

**CONTROLLED AIRSPACE**– An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

**a.** Controlled airspace is a generic term that covers Class A, Class B, Class C, Class D, and Class E airspace.

**b.** Controlled airspace is also that airspace within which all aircraft operators are subject to certain pilot qualifications, operating rules, and equipment requirements in 14 CFR Part 91 (for specific operating requirements, please refer to 14 CFR Part 91). For IFR operations in any class of controlled airspace, a pilot must file an IFR flight plan and receive an appropriate ATC clearance. Each Class B, Class C, and Class D airspace area designated for an

airport contains at least one primary airport around which the airspace is designated (for specific designations and descriptions of the airspace classes, please refer to 14 CFR Part 71).

c. Controlled airspace in the United States is designated as follows:

**1. CLASS A**– Generally, that airspace from 18,000 feet MSL up to and including FL 600, including the airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska. Unless otherwise authorized, all persons must operate their aircraft under IFR.

**2. CLASS B**– Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation’s busiest airports in terms of airport operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspace areas resemble upside-down wedding cakes), and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is “clear of clouds.”

**3. CLASS C**– Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area with a 5 nautical mile (NM) radius, a circle with a 10NM radius that extends no lower than 1,200 feet up to 4,000 feet above the airport elevation, and an outer area that is not charted. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while within the airspace. VFR aircraft are only separated from IFR aircraft within the airspace.

(See OUTER AREA.)

**4. CLASS D**– Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration

of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.

**5. CLASS E**– Generally, if the airspace is not Class A, Class B, Class C, or Class D, and it is controlled airspace, it is Class E airspace. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Also in this class are Federal airways, airspace beginning at either 700 or 1,200 feet AGL used to transition to/from the terminal or en route environment, en route domestic, and offshore airspace areas designated below 18,000 feet MSL. Unless designated at a lower altitude, Class E airspace begins at 14,500 MSL over the United States, including that airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska, up to, but not including 18,000 feet MSL, and the airspace above FL 600.

**CONTROLLED AIRSPACE [ICAO]**– An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

Note: Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D, and E.

**CONTROLLED TIME OF ARRIVAL**– Arrival time assigned during a Traffic Management Program. This time may be modified due to adjustments or user options.

**CONTROLLER**–

(See AIR TRAFFIC CONTROL SPECIALIST.)

**CONTROLLER [ICAO]**– A person authorized to provide air traffic control services.

**CONTROLLER PILOT DATA LINK COMMUNICATIONS (CPDLC)**– A two-way digital communications system that conveys textual air traffic control messages between controllers and

pilots using ground or satellite-based radio relay stations.

**CONVECTIVE SIGMET**– A weather advisory concerning convective weather significant to the safety of all aircraft. Convective SIGMETs are issued for tornadoes, lines of thunderstorms, embedded thunderstorms of any intensity level, areas of thunderstorms greater than or equal to VIP level 4 with an area coverage of  $\frac{4}{10}$  (40%) or more, and hail  $\frac{3}{4}$  inch or greater.

(See AIRMET.)

(See AWW.)

(See CWA.)

(See SIGMET.)

(Refer to AIM.)

**CONVECTIVE SIGNIFICANT METEOROLOGICAL INFORMATION**–

(See CONVECTIVE SIGMET.)

**COORDINATES**– The intersection of lines of reference, usually expressed in degrees/minutes/seconds of latitude and longitude, used to determine position or location.

**COORDINATION FIX**– The fix in relation to which facilities will handoff, transfer control of an aircraft, or coordinate flight progress data. For terminal facilities, it may also serve as a clearance for arriving aircraft.

**COPTER**–

(See HELICOPTER.)

**CORRECTION**– An error has been made in the transmission and the correct version follows.

**COUPLED APPROACH**– An instrument approach performed by the aircraft autopilot, and/or visually depicted on the flight director, which is receiving position information and/or steering commands from onboard navigational equipment. In general, coupled non-precision approaches must be flown manually (autopilot disengaged) at altitudes lower than 50 feet AGL below the minimum descent altitude, and coupled precision approaches must be flown manually (autopilot disengaged) below 50 feet AGL unless authorized to conduct autoland operations. Coupled instrument approaches are commonly flown to the allowable IFR weather minima established by the operator or PIC, or flown VFR for training and safety.

**COURSE**–

**a.** The intended direction of flight in the horizontal plane measured in degrees from north.

**b.** The ILS localizer signal pattern usually specified as the front course or the back course.

(See BEARING.)

(See INSTRUMENT LANDING SYSTEM.)

(See RADIAL.)

**CPDLC**–

(See CONTROLLER PILOT DATA LINK COMMUNICATIONS.)

**CPL [ICAO]**–

(See ICAO term CURRENT FLIGHT PLAN.)

**CRITICAL ENGINE**– The engine which, upon failure, would most adversely affect the performance or handling qualities of an aircraft.

**CROSS (FIX) AT (ALTITUDE)**– Used by ATC when a specific altitude restriction at a specified fix is required.

**CROSS (FIX) AT OR ABOVE (ALTITUDE)**– Used by ATC when an altitude restriction at a specified fix is required. It does not prohibit the aircraft from crossing the fix at a higher altitude than specified; however, the higher altitude may not be one that will violate a succeeding altitude restriction or altitude assignment.

(See ALTITUDE RESTRICTION.)

(Refer to AIM.)

**CROSS (FIX) AT OR BELOW (ALTITUDE)**– Used by ATC when a maximum crossing altitude at a specific fix is required. It does not prohibit the aircraft from crossing the fix at a lower altitude; however, it must be at or above the minimum IFR altitude.

(See ALTITUDE RESTRICTION.)

(See MINIMUM IFR ALTITUDES.)

(Refer to 14 CFR Part 91.)

**CROSSWIND**–

**a.** When used concerning the traffic pattern, the word means “crosswind leg.”

(See TRAFFIC PATTERN.)

**b.** When used concerning wind conditions, the word means a wind not parallel to the runway or the path of an aircraft.

(See CROSSWIND COMPONENT.)

**CROSSWIND COMPONENT**– The wind component measured in knots at 90 degrees to the longitudinal axis of the runway.



**CRUISE**– Used in an ATC clearance to authorize a pilot to conduct flight at any altitude from the minimum IFR altitude up to and including the altitude specified in the clearance. The pilot may level off at any intermediate altitude within this block of airspace. Climb/descent within the block is to be made at the discretion of the pilot. However, once the pilot starts descent and verbally reports leaving an altitude in the block, he/she may not return to that altitude without additional ATC clearance. Further, it is approval for the pilot to proceed to and make an approach at destination airport and can be used in conjunction with:

**a.** An airport clearance limit at locations with a standard/special instrument approach procedure. The CFRs require that if an instrument letdown to an airport is necessary, the pilot shall make the letdown in accordance with a standard/special instrument approach procedure for that airport, or

**b.** An airport clearance limit at locations that are within/below/outside controlled airspace and without a standard/special instrument approach procedure. Such a clearance is NOT AUTHORIZATION for the pilot to descend under IFR conditions below the applicable minimum IFR altitude nor does it imply that ATC is exercising control over aircraft in Class G airspace; however, it provides a means for the aircraft to proceed to destination airport, descend, and land in accordance with applicable CFRs governing VFR flight operations. Also, this provides search and rescue protection until such time as the IFR flight plan is closed.

(See INSTRUMENT APPROACH PROCEDURE.)

**CRUISE CLIMB**– A climb technique employed by aircraft, usually at a constant power setting, resulting in an increase of altitude as the aircraft weight decreases.

**CRUISING ALTITUDE**– An altitude or flight level maintained during en route level flight. This is a constant altitude and should not be confused with a cruise clearance.

(See ALTITUDE.)

(See ICAO term CRUISING LEVEL.)

**CRUISING LEVEL**–

(See CRUISING ALTITUDE.)

**CRUISING LEVEL [ICAO]**– A level maintained during a significant portion of a flight.

**CT MESSAGE**– An EDCT time generated by the ATCSCC to regulate traffic at arrival airports. Normally, a CT message is automatically transferred from the traffic management system computer to the NAS en route computer and appears as an EDCT. In the event of a communication failure between the traffic management system computer and the NAS, the CT message can be manually entered by the TMC at the en route facility.

**CTA**–

(See CONTROLLED TIME OF ARRIVAL.)

(See ICAO term CONTROL AREA.)

**CTAF**–

(See COMMON TRAFFIC ADVISORY FREQUENCY.)

**CTAS**–

(See CENTER TRACON AUTOMATION SYSTEM.)

**CTOP**–

(See COLLABORATIVE TRAJECTORY OPTIONS PROGRAM)

**CTRD**–

(See CERTIFIED TOWER RADAR DISPLAY.)

**CURRENT FLIGHT PLAN [ICAO]**– The flight plan, including changes, if any, brought about by subsequent clearances.

**CURRENT PLAN**– The ATC clearance the aircraft has received and is expected to fly.

**CVFP APPROACH**–

(See CHARTED VISUAL FLIGHT PROCEDURE APPROACH.)

**CWA**–

(See CENTER WEATHER ADVISORY and WEATHER ADVISORY.)



# E

## EAS–

(See EN ROUTE AUTOMATION SYSTEM.)

## EDCT–

(See EXPECT DEPARTURE CLEARANCE TIME.)

## EDST–

(See EN ROUTE DECISION SUPPORT TOOL)

## EFC–

(See EXPECT FURTHER CLEARANCE (TIME).)

## ELT–

(See EMERGENCY LOCATOR TRANSMITTER.)

**EMERGENCY**– A distress or an urgency condition.

**EMERGENCY LOCATOR TRANSMITTER (ELT)**– A radio transmitter attached to the aircraft structure which operates from its own power source on 121.5 MHz and 243.0 MHz. It aids in locating downed aircraft by radiating a downward sweeping audio tone, 2-4 times per second. It is designed to function without human action after an accident.

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

## E-MSAW–

(See EN ROUTE MINIMUM SAFE ALTITUDE WARNING.)

## ENHANCED FLIGHT VISION SYSTEM (EFVS)–

An EFVS is an installed aircraft system which uses an electronic means to provide a display of the forward external scene topography (the natural or man-made features of a place or region especially in a way to show their relative positions and elevation) through the use of imaging sensors, including but not limited to forward-looking infrared, millimeter wave radiometry, millimeter wave radar, or low-light level image intensification. An EFVS includes the display element, sensors, computers and power supplies, indications, and controls. An operator's authorization to conduct an EFVS operation may have provisions which allow pilots to conduct IAPs when the reported weather is below minimums prescribed on the IAP to be flown.

**EN ROUTE AIR TRAFFIC CONTROL SERVICES**– Air traffic control service provided aircraft on IFR flight plans, generally by centers, when these

aircraft are operating between departure and destination terminal areas. When equipment, capabilities, and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft.

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

(Refer to AIM.)

**EN ROUTE AUTOMATION SYSTEM (EAS)**– The complex integrated environment consisting of situation display systems, surveillance systems and flight data processing, remote devices, decision support tools, and the related communications equipment that form the heart of the automated IFR air traffic control system. It interfaces with automated terminal systems and is used in the control of en route IFR aircraft.

(Refer to AIM.)

## EN ROUTE CHARTS–

(See AERONAUTICAL CHART.)

## EN ROUTE DECISION SUPPORT TOOL (EDST)–

An automated tool provided at each Radar Associate position in selected En Route facilities. This tool utilizes flight and radar data to determine present and future trajectories for all active and proposal aircraft and provides enhanced automated flight data management.

**EN ROUTE DESCENT**– Descent from the en route cruising altitude which takes place along the route of flight.

## EN ROUTE HIGH ALTITUDE CHARTS–

(See AERONAUTICAL CHART.)

## EN ROUTE LOW ALTITUDE CHARTS–

(See AERONAUTICAL CHART.)

## EN ROUTE MINIMUM SAFE ALTITUDE WARN-

**ING (E-MSAW)**– A function of the EAS that aids the controller by providing an alert when a tracked aircraft is below or predicted by the computer to go below a predetermined minimum IFR altitude (MIA).

**EN ROUTE SPACING PROGRAM (ESP)**– A program designed to assist the exit sector in achieving the required in-trail spacing.

**EN ROUTE TRANSITION–**

**a.** Conventional STARs/SIDs. The portion of a SID/STAR that connects to one or more en route airway/jet route.

**b.** RNAV STARs/SIDs. The portion of a STAR preceding the common route or point, or for a SID the portion following, that is coded for a specific en route fix, airway or jet route.

**ESP–**

(See EN ROUTE SPACING PROGRAM.)

**EST–**

(See ESTIMATED.)

**ESTABLISHED–** To be stable or fixed at an altitude or on a course, route, route segment, heading, instrument approach or departure procedure, etc.

**ESTABLISHED ON RNP (EoR) CONCEPT–** A system of authorized instrument approaches, ATC procedures, surveillance, and communication requirements that allow aircraft operations to be safely conducted with approved reduced separation criteria once aircraft are established on a PBN segment of a published instrument flight procedure.

**ESTIMATED (EST)–**When used in NOTAMs “EST” is a contraction that is used by the issuing authority only when the condition is expected to return to service prior to the expiration time. Using “EST” lets the user know that this NOTAM has the possibility of returning to service earlier than the expiration time. Any NOTAM which includes an “EST” will be auto-expired at the designated expiration time.

**ESTIMATED ELAPSED TIME [ICAO]–** The estimated time required to proceed from one significant point to another.

(See ICAO Term TOTAL ESTIMATED ELAPSED TIME.)

**ESTIMATED OFF-BLOCK TIME [ICAO]–** The estimated time at which the aircraft will commence movement associated with departure.

**ESTIMATED POSITION ERROR (EPE)–**

(See Required Navigation Performance)

**ESTIMATED TIME OF ARRIVAL–** The time the flight is estimated to arrive at the gate (scheduled operators) or the actual runway on times for nonscheduled operators.

**ESTIMATED TIME EN ROUTE–** The estimated flying time from departure point to destination (lift-off to touchdown).

**ETA–**

(See ESTIMATED TIME OF ARRIVAL.)

**ETE–**

(See ESTIMATED TIME EN ROUTE.)

**EXECUTE MISSED APPROACH–** Instructions issued to a pilot making an instrument approach which means continue inbound to the missed approach point and execute the missed approach procedure as described on the Instrument Approach Procedure Chart or as previously assigned by ATC. The pilot may climb immediately to the altitude specified in the missed approach procedure upon making a missed approach. No turns should be initiated prior to reaching the missed approach point. When conducting an ASR or PAR approach, execute the assigned missed approach procedure immediately upon receiving instructions to “execute missed approach.”

(Refer to AIM.)

**EXPECT (ALTITUDE) AT (TIME) or (FIX)–** Used under certain conditions to provide a pilot with an altitude to be used in the event of two-way communications failure. It also provides altitude information to assist the pilot in planning.

(Refer to AIM.)

**EXPECT DEPARTURE CLEARANCE TIME (EDCT)–** The runway release time assigned to an aircraft in a traffic management program and shown on the flight progress strip as an EDCT.

(See GROUND DELAY PROGRAM.)

**EXPECT FURTHER CLEARANCE (TIME)–** The time a pilot can expect to receive clearance beyond a clearance limit.

**EXPECT FURTHER CLEARANCE VIA (AIRWAYS, ROUTES OR FIXES)–** Used to inform a pilot of the routing he/she can expect if any part of the route beyond a short range clearance limit differs from that filed.

**EXPEDITE–** Used by ATC when prompt compliance is required to avoid the development of an imminent situation. Expedite climb/descent normally indicates to a pilot that the approximate best rate of climb/descent should be used without requiring an exceptional change in aircraft handling characteristics.

landing. The route of flight and altitude are shown on instrument approach procedure charts. A pilot executing a missed approach prior to the Missed Approach Point (MAP) must continue along the final approach to the MAP.

**b.** A term used by the pilot to inform ATC that he/she is executing the missed approach.

**c.** At locations where ATC radar service is provided, the pilot should conform to radar vectors when provided by ATC in lieu of the published missed approach procedure.

(See MISSED APPROACH POINT.)

(Refer to AIM.)

**MISSED APPROACH POINT (MAP)**– A point prescribed in each instrument approach procedure at which a missed approach procedure shall be executed if the required visual reference does not exist.

(See MISSED APPROACH.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

**MISSED APPROACH PROCEDURE [ICAO]**– The procedure to be followed if the approach cannot be continued.

**MISSED APPROACH SEGMENT**–

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

**MLDI**–

(See METER LIST DISPLAY INTERVAL.)

**MM**–

(See MIDDLE MARKER.)

**MOA**–

(See MILITARY OPERATIONS AREA.)

**MOCA**–

(See MINIMUM OBSTRUCTION CLEARANCE ALTITUDE.)

**MODE**– The letter or number assigned to a specific pulse spacing of radio signals transmitted or received by ground interrogator or airborne transponder components of the Air Traffic Control Radar Beacon System (ATCRBS). Mode A (military Mode 3) and

Mode C (altitude reporting) are used in air traffic control.

(See INTERROGATOR.)

(See RADAR.)

(See TRANSPONDER.)

(See ICAO term MODE.)

(Refer to AIM.)

**MODE (SSR MODE) [ICAO]**– The letter or number assigned to a specific pulse spacing of the interrogation signals transmitted by an interrogator. There are 4 modes, A, B, C and D specified in Annex 10, corresponding to four different interrogation pulse spacings.

**MODE C INTRUDER ALERT**– A function of certain air traffic control automated systems designed to alert radar controllers to existing or pending situations between a tracked target (known IFR or VFR aircraft) and an untracked target (unknown IFR or VFR aircraft) that requires immediate attention/action.

(See CONFLICT ALERT.)

**MODEL AIRCRAFT**– An unmanned aircraft that is: (1) capable of sustained flight in the atmosphere; (2) flown within visual line of sight of the person operating the aircraft; and (3) flown for hobby or recreational purposes.

**MONITOR**– (When used with communication transfer) listen on a specific frequency and stand by for instructions. Under normal circumstances do not establish communications.

**MONITOR ALERT (MA)**– A function of the TFMS that provides traffic management personnel with a tool for predicting potential capacity problems in individual operational sectors. The MA is an indication that traffic management personnel need to analyze a particular sector for actual activity and to determine the required action(s), if any, needed to control the demand.

**MONITOR ALERT PARAMETER (MAP)**– The number designated for use in monitor alert processing by the TFMS. The MAP is designated for each operational sector for increments of 15 minutes.

**MOSAIC/MULTI-SENSOR MODE**– Accepts positional data from multiple radar or ADS-B sites. Targets are displayed from a single source within a radar sort box according to the hierarchy of the sources assigned.

**MOUNTAIN WAVE**– Mountain waves occur when air is being blown over a mountain range or even the

ridge of a sharp bluff area. As the air hits the upwind side of the range, it starts to climb, thus creating what is generally a smooth updraft which turns into a turbulent downdraft as the air passes the crest of the ridge. Mountain waves can cause significant fluctuations in airspeed and altitude with or without associated turbulence.

(Refer to AIM.)

**MOVEMENT AREA**– The runways, taxiways, and other areas of an airport/heliport which are utilized for taxiing/hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.

(See ICAO term MOVEMENT AREA.)

**MOVEMENT AREA [ICAO]**– That part of an aerodrome to be used for the takeoff, landing and taxiing of aircraft, consisting of the maneuvering area and the apron(s).

**MOVING TARGET INDICATOR**– An electronic device which will permit radar scope presentation only from targets which are in motion. A partial remedy for ground clutter.

**MRA**–

(See MINIMUM RECEPTION ALTITUDE.)

**MSA**–

(See MINIMUM SAFE ALTITUDE.)

**MSAW**–

(See MINIMUM SAFE ALTITUDE WARNING.)

**MTI**–

(See MOVING TARGET INDICATOR.)

**MTR**–

(See MILITARY TRAINING ROUTES.)

**MULTICOM**– A mobile service not open to public correspondence used to provide communications essential to conduct the activities being performed by or directed from private aircraft.

**MULTIPLE RUNWAYS**– The utilization of a dedicated arrival runway(s) for departures and a dedicated departure runway(s) for arrivals when feasible to reduce delays and enhance capacity.

**MVA**–

(See MINIMUM VECTORING ALTITUDE.)

# N

## NAS–

(See NATIONAL AIRSPACE SYSTEM.)

## NAT HLA–

(See NORTH ATLANTIC HIGH LEVEL AIRSPACE.)

**NATIONAL AIRSPACE SYSTEM–** The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military.

**NATIONAL BEACON CODE ALLOCATION PLAN AIRSPACE (NBCAP)–** Airspace over United States territory located within the North American continent between Canada and Mexico, including adjacent territorial waters outward to about boundaries of oceanic control areas (CTA)/Flight Information Regions (FIR).

(See FLIGHT INFORMATION REGION.)

**NATIONAL FLIGHT DATA CENTER (NFDC)–** A facility in Washington D.C., established by FAA to operate a central aeronautical information service for the collection, validation, and dissemination of aeronautical data in support of the activities of government, industry, and the aviation community. The information is published in the National Flight Data Digest.

(See NATIONAL FLIGHT DATA DIGEST.)

**NATIONAL FLIGHT DATA DIGEST (NFDD)–** A daily (except weekends and Federal holidays) publication of flight information appropriate to aeronautical charts, aeronautical publications, Notices to Airmen, or other media serving the purpose of providing operational flight data essential to safe and efficient aircraft operations.

**NATIONAL SEARCH AND RESCUE PLAN–** An interagency agreement which provides for the effective utilization of all available facilities in all types of search and rescue missions.

## NAVAID–

(See NAVIGATIONAL AID.)

**NAVAID CLASSES–** VOR, VORTAC, and TACAN aids are classed according to their operational use. The three classes of NAVAIDs are:

- a. T– Terminal.
- b. L– Low altitude.
- c. H– High altitude.

**Note:** The normal service range for T, L, and H class aids is found in the AIM. Certain operational requirements make it necessary to use some of these aids at greater service ranges than specified. Extended range is made possible through flight inspection determinations. Some aids also have lesser service range due to location, terrain, frequency protection, etc. Restrictions to service range are listed in Chart Supplement U.S.

**NAVIGABLE AIRSPACE–** Airspace at and above the minimum flight altitudes prescribed in the CFRs including airspace needed for safe takeoff and landing.

(Refer to 14 CFR Part 91.)

**NAVIGATION REFERENCE SYSTEM (NRS)–** The NRS is a system of waypoints developed for use within the United States for flight planning and navigation without reference to ground based navigational aids. The NRS waypoints are located in a grid pattern along defined latitude and longitude lines. The initial use of the NRS will be in the high altitude environment in conjunction with the High Altitude Redesign initiative. The NRS waypoints are intended for use by aircraft capable of point-to-point navigation.

**NAVIGATION SPECIFICATION [ICAO]–** A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:

a. **RNP specification.** A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP; e.g., RNP 4, RNP APCH.

b. **RNAV specification.** A navigation specification based on area navigation that does not include the requirement for performance monitoring and alert-

ing, designated by the prefix RNAV; e.g., RNAV 5, RNAV 1.

Note: The Performance-based Navigation Manual (Doc 9613), Volume II contains detailed guidance on navigation specifications.

**NAVIGATIONAL AID**– Any visual or electronic device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight.

(See AIR NAVIGATION FACILITY.)

**NBCAP AIRSPACE**–

(See NATIONAL BEACON CODE ALLOCATION PLAN AIRSPACE.)

**NDB**–

(See NONDIRECTIONAL BEACON.)

**NEGATIVE**– “No,” or “permission not granted,” or “that is not correct.”

**NEGATIVE CONTACT**– Used by pilots to inform ATC that:

a. Previously issued traffic is not in sight. It may be followed by the pilot’s request for the controller to provide assistance in avoiding the traffic.

b. They were unable to contact ATC on a particular frequency.

**NFDC**–

(See NATIONAL FLIGHT DATA CENTER.)

**NFDD**–

(See NATIONAL FLIGHT DATA DIGEST.)

**NIGHT**– The time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the Air Almanac, converted to local time.

(See ICAO term NIGHT.)

**NIGHT [ICAO]**– The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise as may be specified by the appropriate authority.

Note: Civil twilight ends in the evening when the center of the sun’s disk is 6 degrees below the horizon and begins in the morning when the center of the sun’s disk is 6 degrees below the horizon.

**NO GYRO APPROACH**– A radar approach/vector provided in case of a malfunctioning gyro-compass or directional gyro. Instead of providing the pilot

with headings to be flown, the controller observes the radar track and issues control instructions “turn right/left” or “stop turn” as appropriate.

(Refer to AIM.)

**NO GYRO VECTOR**–

(See NO GYRO APPROACH.)

**NO TRANSGRESSION ZONE (NTZ)**– The NTZ is a 2,000 foot wide zone, located equidistant between parallel runway or SOIA final approach courses, in which flight is normally not allowed.

**NONAPPROACH CONTROL TOWER**– Authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit the Class D airspace. The primary function of a nonapproach control tower is the sequencing of aircraft in the traffic pattern and on the landing area. Nonapproach control towers also separate aircraft operating under instrument flight rules clearances from approach controls and centers. They provide ground control services to aircraft, vehicles, personnel, and equipment on the airport movement area.

**NONCOMMON ROUTE/PORTION**– That segment of a North American Route between the inland navigation facility and a designated North American terminal.

**NONDIRECTIONAL BEACON**– An L/MF or UHF radio beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine his/her bearing to or from the radio beacon and “home” on or track to or from the station. When the radio beacon is installed in conjunction with the Instrument Landing System marker, it is normally called a Compass Locator.

(See AUTOMATIC DIRECTION FINDER.)

(See COMPASS LOCATOR.)

**NONMOVEMENT AREAS**– Taxiways and apron (ramp) areas not under the control of air traffic.

**NONPRECISION APPROACH**–

(See NONPRECISION APPROACH PROCEDURE.)

**NONPRECISION APPROACH PROCEDURE**– A standard instrument approach procedure in which no electronic glideslope is provided; e.g., VOR, TACAN, NDB, LOC, ASR, LDA, or SDF approaches.

**NONRADAR**– Precedes other terms and generally means without the use of radar, such as:



**a. Nonradar Approach.** Used to describe instrument approaches for which course guidance on final approach is not provided by ground-based precision or surveillance radar. Radar vectors to the final approach course may or may not be provided by ATC. Examples of nonradar approaches are VOR, NDB, TACAN, ILS, RNAV, and GLS approaches.

(See FINAL APPROACH COURSE.)

(See FINAL APPROACH-IFR.)

(See INSTRUMENT APPROACH PROCEDURE.)

(See RADAR APPROACH.)

**b. Nonradar Approach Control.** An ATC facility providing approach control service without the use of radar.

(See APPROACH CONTROL FACILITY.)

(See APPROACH CONTROL SERVICE.)

**c. Nonradar Arrival.** An aircraft arriving at an airport without radar service or at an airport served by a radar facility and radar contact has not been established or has been terminated due to a lack of radar service to the airport.

(See RADAR ARRIVAL.)

(See RADAR SERVICE.)

**d. Nonradar Route.** A flight path or route over which the pilot is performing his/her own navigation. The pilot may be receiving radar separation, radar monitoring, or other ATC services while on a nonradar route.

(See RADAR ROUTE.)

**e. Nonradar Separation.** The spacing of aircraft in accordance with established minima without the use of radar; e.g., vertical, lateral, or longitudinal separation.

(See RADAR SEPARATION.)

**NON-RESTRICTIVE ROUTING (NRR)**– Portions of a proposed route of flight where a user can flight plan the most advantageous flight path with no requirement to make reference to ground-based NAVAIDs.

**NOPAC**–

(See NORTH PACIFIC.)

**NORDO** (No Radio)– Aircraft that cannot or do not communicate by radio when radio communication is required are referred to as “NORDO.”

(See LOST COMMUNICATIONS.)

**NORMAL OPERATING ZONE (NOZ)**– The NOZ is the operating zone within which aircraft flight remains during normal independent simultaneous parallel ILS approaches.

**NORTH AMERICAN ROUTE**– A numerically coded route preplanned over existing airway and route systems to and from specific coastal fixes serving the North Atlantic. North American Routes consist of the following:

**a. Common Route/Portion.** That segment of a North American Route between the inland navigation facility and the coastal fix.

**b. Noncommon Route/Portion.** That segment of a North American Route between the inland navigation facility and a designated North American terminal.

**c. Inland Navigation Facility.** A navigation aid on a North American Route at which the common route and/or the noncommon route begins or ends.

**d. Coastal Fix.** A navigation aid or intersection where an aircraft transitions between the domestic route structure and the oceanic route structure.

**NORTH AMERICAN ROUTE PROGRAM (NRP)**– The NRP is a set of rules and procedures which are designed to increase the flexibility of user flight planning within published guidelines.

**NORTH ATLANTIC HIGH LEVEL AIRSPACE (NAT HLA)**– That volume of airspace (as defined in ICAO Document 7030) between FL 285 and FL 420 within the Oceanic Control Areas of Bodo Oceanic, Gander Oceanic, New York Oceanic East, Reykjavik, Santa Maria, and Shanwick, excluding the Shannon and Brest Ocean Transition Areas. ICAO Doc 007 *North Atlantic Operations and Airspace Manual* provides detailed information on related aircraft and operational requirements.

**NORTH MARK**– A beacon data block sent by the host computer to be displayed by the ARTS on a 360 degree bearing at a locally selected radar azimuth and distance. The North Mark is used to ensure correct range/azimuth orientation during periods of CENRAP.

**NORTH PACIFIC**– An organized route system between the Alaskan west coast and Japan.

**NOT STANDARD**– Varying from what is expected or published. For use in NOTAMs only.

**NOT STD-**

(See NOT STANDARD.)

NOTAM–

(See NOTICE TO AIRMEN.)

NOTAM [ICAO]– A notice containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

**a. I Distribution–** Distribution by means of telecommunication.

**b. II Distribution–** Distribution by means other than telecommunications.

NOTICE TO AIRMEN (NOTAM)– A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations.

NOTAM(D)– A NOTAM given (in addition to local dissemination) distant dissemination beyond the area of responsibility of the Flight Service Station. These NOTAMs will be stored and available until canceled.

**c. FDC NOTAM–** A NOTAM regulatory in nature, transmitted by USNOF and given system wide dissemination.

(See ICAO term NOTAM.)

NOTICES TO AIRMEN PUBLICATION– A publication issued every 28 days, designed primarily for the pilot, which contains current NOTAM information considered essential to the safety of flight as well as supplemental data to other aeronautical publications. The contraction NTAP is used in NOTAM text.

(See NOTICE TO AIRMEN.)

NRR–

(See NON–RESTRICTIVE ROUTING.)

NRS–

(See NAVIGATION REFERENCE SYSTEM.)

NTAP–

(See NOTICES TO AIRMEN PUBLICATION.)

***NUMEROUS TARGETS VICINITY (LOCATION)***– A traffic advisory issued by ATC to advise pilots that targets on the radar scope are too numerous to issue individually.

(See TRAFFIC ADVISORIES.)

# Q

**Q ROUTE**– ‘Q’ is the designator assigned to published RNAV routes used by the United States.

**QFE**– The atmospheric pressure at aerodrome elevation (or at runway threshold).

**QNE**– The barometric pressure used for the standard altimeter setting (29.92 inches Hg.).

**QNH**– The barometric pressure as reported by a particular station.

**QUADRANT**– A quarter part of a circle, centered on a NAVAID, oriented clockwise from magnetic north

as follows: NE quadrant 000-089, SE quadrant 090-179, SW quadrant 180-269, NW quadrant 270-359.

**QUEUING**–

(See STAGING/QUEUING.)

**QUICK LOOK**– A feature of the EAS and ARTS which provides the controller the capability to display full data blocks of tracked aircraft from other control positions.



## Index

[References are to page numbers]

### A

ACKNOWLEDGING FLIGHT NOTIFICATION MESSAGES, 6-4-3  
 ACKNOWLEDGING NUMBERED MESSAGES , 6-4-1  
 ACTION BY ADDRESSEES, 6-4-3  
 ACTION BY DEPARTURE STATION ON RECEIPT OF QALQ, 8-2-1  
 ACTION UPON RECEIPT OF ALNOT , 8-4-1  
 ACTION UPON RECEIPT OF INREQ, 8-3-1  
 ACTION UPON RECEIVING A SECNOT, 6-9-1  
 ACTIONS REQUIRED, 5-4-1  
 ADDITIONAL MESSAGES, 6-3-6  
 ADDRESSING MESSAGES, 7-1-4  
 AFIS, 2-5-1  
 AIR MOBILE SERVICE (AMS) , 7-1-5  
 AIR TRAFFIC SERVICE (ATS) MESSAGES , 7-1-1  
 AIRCRAFT BOMB THREATS, 5-2-3  
 AIRCRAFT EQUIPMENT CHECKS, 4-4-5  
 AIRCRAFT EQUIPMENT CODES , 12-1-15  
 AIRCRAFT IDENTIFICATION, 12-1-12  
 AIRCRAFT MOVEMENT INFORMATION SERVICES (AMIS) WITHIN AN ADIZ-IFR, 6-6-1  
 AIRCRAFT ORIENTATION, 5-2-1  
 AIRCRAFT POSITION PLOTS , 5-2-2  
 AIRCRAFT-REPORTED MALFUNCTIONS, 4-1-1  
 AIREP SPECIALS, 7-1-8  
 AIREPs (POSITION REPORTS), 7-1-6  
 Airport Advisory/RAIS ELEMENTS AND PHRASEOLOGY, 4-4-2  
 Airport Lighting, 10-1-1, 11-1-1  
 AIRWAYS AND ROUTES, 12-1-15  
 ALERTING CONTROL FACILITY, 5-2-1  
 ALERTING MESSAGE CONTENTS , 7-3-1

ALERTING PHASES, 7-3-1  
 ALNOT, 8-4-1  
 ALTITUDE CHANGE FOR IMPROVED RECEPTION , 5-2-1  
 AMIS WITHIN AN ADIZ-DVFR , 6-6-1  
 ANNOUNCING MISSING ITEMS, 12-1-1  
 APPROACH LIGHTING SYSTEM INTENSITY SETTINGS (ALS), 10-1-1  
 APPROACH LIGHTS, 10-1-1  
 AREA FORECAST (FA) SCHEDULE, 9-5-1  
 AREA/ROUTE BRIEFING PROCEDURES, 2-3-1  
 ARS, 7-1-8  
 ARTCC RELAY OF VFR MESSAGES , 7-1-9  
 AUTHORIZATION, 4-5-1  
 AUTHORIZED FREQUENCIES, 4-4-4  
 AUTOMATED BROADCAST, 2-1-1  
 AUTOMATIC FLIGHT INFORMATION SERVICE, 2-5-1  
 Automatic Flight Information Service (AFIS) (Alaska Only), HIWAS, 2-5-1  
 AVIATION SURFACE FORECAST AND AVIATION CLOUD FORECAST ISSUANCE TIMES, 9-5-2  
 Aviation Surface Forecast/Aviation Cloud Forecast/Area Forecast (FA), FTs, 9-5-1

### B

BROADCAST PROCEDURES, 2-4-1  
 HIWAS, 2-4-1, 2-4-2  
 Speech Rate, 2-1-1  
 TIBS for AFSS, 2-3-1  
 TWEB, 2-2-1, 2-2-2  
 Types, 2-1-1

### C

CANADIAN TRANSBORDER, 8-5-1

**[References are to page numbers]**

CANCELING A SECNOT, 6-9-1  
 CANCELLATION OF ALNOT, 8-4-2  
 CANCELLATION OF INREQ, 8-3-1  
 CANCELLATION OF THE QALQ, 8-2-2  
 CATEGORIES OF MESSAGES , 7-1-1  
 CHANGE IN ETA, 6-4-4  
 Changes, Recommendation for Procedural, 1-1-1,  
 1-1-2  
 CHANGING LIGHTED RUNWAYS, 10-1-2  
 CHARTS, 4-4-4  
 COMMUNICATIONS SEARCH, 8-2-1  
 COMMUNICATIONS SERVICE , 6-1-1  
 CONDUCT OF ABBREVIATED BRIEFING,  
 3-2-2  
 CONDUCT OF OUTLOOK BRIEFING, 3-2-3  
 CONDUCT OF STANDARD BRIEFING, 3-2-1  
 CONVECTIVE OUTLOOK NARRATIVE (AC) ,  
 9-6-1  
 COORDINATE RNAV ROUTES, 6-3-8  
 CURRENT DATA, 2-1-1

**D**

Data Communication System, 13-1-1  
 DATA TO BE INCLUDED IN PIREPs, 9-2-1  
 DEPARTURE REPORT MESSAGE , 6-4-1  
 DESCRIPTION OF AIRCRAFT TYPES ,  
 12-1-15  
 Duty  
 Familiarization and Transfer of Position Respon-  
 sibility, 1-3-1  
 Priority, 1-3-1

**E**

Effective Date of this Order, 1-1-1  
 EMERGENCY DETERMINATION, 5-1-1  
 EMERGENCY LOCATOR TRANSMITTER  
 (ELT) SIGNALS , 5-2-2

EMERGENCY SECURITY CONTROL OF AIR  
 TRAFFIC (ESCAT), 5-2-4

Emergency Services  
 ADF/VOR, 5-4-1  
 DF, 5-3-1  
 General, 5-1-1

EXPEDITIOUS COMPLIANCE, 12-1-2

EXPLOSIVE CARGO, 5-2-2

EXPLOSIVE DETECTION DOG HANDLER  
 TEAMS, 5-2-2

**F**

FACILITY IDENTIFICATION, 12-1-11

Flight Data

Flight Plan Handling, 6-4-1  
 Flight Plan Proposals, 6-2-1, 6-2-3  
 Flight Plans with Area Navigation (RNAV)  
 Routes in Domestic U.S. Airspace, 6-2-4  
 General, 6-1-1  
 IFR Flight Plan Handling, 6-3-1, 6-3-8  
 IFR/DVFR ADIZ Flight Plans, 6-6-1  
 Law Enforcement Messages, 6-7-1  
 Military Operations, 6-5-1  
 Nonemergency Parachute Jumping, 6-8-1

FLIGHT NOTIFICATION MESSAGE, 6-4-1

FLIGHT PLAN ACTIVATION, 6-4-1

FLIGHT PLAN CHANGES AND  
 CANCELLATIONS , 7-1-5

FLIGHT PLAN CLOSURE, 6-4-4

FLIGHT PLAN DATA, 6-1-2

FLIGHT PLAN FORMS AND INSTRUCTIONS ,  
 7-1-4

FLIGHT PLAN RECORDING, 6-2-1

FLIGHT PLAN/CUSTOMS REQUIREMENTS,  
 7-2-1

FLIGHT PLANS, 6-1-1

FLIGHT PLANS WITH AREA NAVIGATION  
 (RNAV) ROUTES IN DOMESTIC U.S.  
 AIRSPACE, 6-2-4

FLIGHT PROGRESS STRIPS (FAA FORMS  
 7230-21 AND 7233-5), 4-2-2

FLIGHT PROGRESS STRIPS AND ENTRY  
 DATA , 4-2-2

**[References are to page numbers]**

FORECASTS, WARNINGS, AND ADVISORIES,  
3-1-2

FORWARDING DVFR INFORMATION, 6-6-1

FREQUENCY CHANGES, 5-2-1

**G**

GPS ORIENTATION, 5-4-1

GROUP CODES, 13-1-1

GUIDANCE TO AIRPORT, 5-3-4, 5-4-1

**H**

HIGH INTENSITY RUNWAY LIGHTS (HIRL)  
ASSOCIATED WITH MALSR, 10-1-2

HIGH INTENSITY RUNWAY, RUNWAY  
CENTERLINE (RCLS), AND TOUCHDOWN  
ZONE LIGHTS (TDZL), 10-1-3

HIGH SPEED TURNOFF LIGHTS , 10-1-3

HIRL CHANGES AFFECTING RVR , 10-1-3

**I**

ICAO ATS MESSAGE FORMAT, 7-1-5

ICAO PHONETICS, 12-1-1

IFR FLIGHT PLAN CONTROL MESSAGE  
FORMAT, 6-3-2

IFR FLIGHT PLAN CONTROL MESSAGES,  
6-3-1

IFR FLIGHT PLANS, 6-3-1

IFR FLIGHT PLANS DEPARTING CANADIAN  
AIRPORTS , 7-4-3

IFR/VFR/DVFR FLIGHT PLAN RECORDING,  
6-1-3

IFR/VFR/DVFR FLIGHT PLAN RECORDING ,  
4-2-2

INBOUND AIRCRAFT: ADIZ  
REQUIREMENTS, 7-2-2

INBOUND AIRCRAFT: CUSTOMS  
REQUIREMENTS , 7-2-1

INBOUNDS FROM CANADA, 7-4-1

INBOUNDS FROM MEXICO, 7-5-1

INFLIGHT EQUIPMENT MALFUNCTIONS,  
5-2-3

INFLIGHT EQUIPMENT MALFUNCTIONS ,  
4-1-1

Inflight Services, 4-1-1

Data Recording, 4-2-1

LAA, 4-4-1

Radio Communications, 4-3-1

Special VFR, 4-5-1

INFLIGHT WEATHER BRIEFING, 4-1-1

INFORMATION REQUIREMENTS, 5-2-1

INITIATING LEAMs , 6-7-1

INREQ, 8-3-1

International Operations, 7-1-1

Alerting Service, 7-3-1

Customs Notification and ADIZ, 7-2-1

Messages and Formats, 7-1-1

Movement and Control

Canadian, 7-4-1

Mexican, 7-5-1

INTERPHONE TRANSMISSION PRIORITIES ,  
11-1-1

**L**

LAW ENFORCEMENT ALERT MESSAGES  
(LEAM), 6-7-1

LEAM, 6-7-1

LEVELS FORECAST, 9-3-1

LOGGING PILOT BRIEFINGS , 3-1-3

**M**

MAJOR FLIGHT PLAN CHANGES FROM EN  
ROUTE AIRCRAFT , 6-4-3

MEANS USED TO SOLICIT PIREPs, 9-2-2

MEDIUM INTENSITY RUNWAY LIGHTS  
(MIRL), 10-1-3

**[References are to page numbers]**

MEDIUMINTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS (MALSR)/OMNIDIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS), 10-1-2

MESSAGE FORMATS, 13-1-2

MESSAGE HANDLING, 6-5-1

MESSAGE INITIATION , 11-1-1

MESSAGE TERMINATION, 11-1-1

METHODS OF RECORDING DATA, 4-2-1

METHODS OF RECORDING DATA , 6-1-2

MILITARY FLIGHTS TO/FROM U.S., 6-4-5

MILITARY FOREIGN FLIGHTS, 6-5-1

MINIMUM FUEL, 5-2-3

MONITORING, 2-3-2

**N**

NAVAID FIXES, 12-1-16

NAVAID FLIGHT CHECK, 4-1-2

NAVAID TERMS, 12-1-16

NOTIFYING ARTCC, 6-3-1

NUMBER USAGE, 12-1-9

**O**

OBSTRUCTION LIGHTS , 10-1-1

OFFSHORE COASTAL ROUTES, 9-2-3

OPERATION OF LANDING DIRECTION INDICATOR, 10-1-5

OPERATIONAL PRIORITY , 4-1-1

ORIGINATING MESSAGES, 7-1-4

OUTBOUNDS DEPARTING FROM OUTSIDE FLIGHT PLAN AREA, 6-2-3

OUTBOUNDS TO CANADA, 7-4-1

OUTBOUNDS TO CANADA DEPARTING FROM OUTSIDE FLIGHT PLAN AREA , 7-4-2

OUTBOUNDS TO MEXICO , 7-5-1

OVERDUE AIRCRAFT NOT ON FLIGHT PLAN, 8-1-1

OVERDUE AIRCRAFT ON FLIGHT PLAN, 8-1-1

**P**

PART-TIME FSS CLOSURE ACTION, 6-1-3

Phraseology, 12-1-1, 12-1-9, 12-1-11, 12-1-12  
Weather, 12-1-2

Pilot Briefing, 3-1-1

Preflight, 3-2-1, 3-2-2, 3-2-3

PIREP CLASSIFICATION, 9-2-3

PIREP DISPLAY, 9-2-1

PIREP ENCODING, 9-2-8

PIREP FORMAT , 9-2-4

PIREP HANDLING, 9-2-3

PIREP PREPARATION, 9-2-3

PRE-DUTY REQUIREMENTS, 3-1-1

PRE-JUMP RADIO COMMUNICATIONS , 6-8-1

PREDESIGNED SPECIAL VFR CLEARANCES, 4-5-3

PREFLIGHT BRIEFING DISPLAY, 3-1-1

PRIORITY INTERRUPTION, 11-1-1

PRIORITY MESSAGES, 13-1-1

PROCEDURAL APPLICATIONS, 1-3-1

**Q**

Q SIGNALS, 13-1-3

QALQ, 8-2-1

**R**

RADAR, 12-1-9

REDUCING RECORDED WEATHER INFORMATION SERVICES, 2-1-1

RELAY OF ATC COMMUNICATIONS, 12-1-2

REPORTING ALNOT STATUS TO RCC , 8-4-1

REPORTING ICING CONDITIONS IN PIREPs, 9-2-2



**[References are to page numbers]**

REPORTING TURBULENCE IN PIREPs , 9-2-2  
 REQUESTS FOR SPECIAL VFR CLEARANCE,  
 4-5-1  
 RESPONSIBILITY FOR SAR ACTION, 8-1-1  
 ROTATING BEACON, 10-1-1  
 RUNWAY CONDITIONS, 12-1-16  
 RUNWAY EDGE LIGHTS, 10-1-2  
 RUNWAY END IDENTIFIER LIGHTS (REIL),  
 10-1-3  
 RVR/RVV, 10-1-4

**S**

SCHEDULED TRANSMISSION TIMES , 9-1-1

## Search and Rescue

ALNOTs, 8-4-1  
 General, 8-1-1  
 INREQs, 8-3-1  
 Other SARs, 8-5-1  
 Overdue Aircraft, 8-2-1

SEARCH AND RESCUE MESSAGES , 7-4-3

SECNOT, 6-9-1

SECURITY NOTICE, 6-9-1

SEQUENCED FLASHING LIGHTS (SFL),  
 10-1-1

SERVICE MESSAGES, 7-1-2

SOLICITING PIREPs, 9-2-1

SPECIAL MILITARY FLIGHTS, 6-5-1

STOPOVER DVFR FLIGHT PLANS, 6-6-1

SUSPENDING FLIGHT NOTIFICATION  
 MESSAGES, 6-4-2

**T**

TAXIWAY LIGHTS, 10-1-3

TELEPHONE REQUESTS FOR ATC  
 CLEARANCES , 6-1-3

TERMINAL AERODROME FORECAST  
 SCHEDULES, 9-4-1

Terms of Reference, 1-2-1, 6-9-1

Abbreviations, 1-2-1

TRAFFIC CONTROL, 4-4-5

TRANSMISSION OF ATS MESSAGES , 7-1-3

TRANSMISSION VIA NADIN, 7-1-2

TYPE OF BRIEFING TO BE CONDUCTED,  
 3-1-3

TYPES OF AIRPORT ADVISORY SERVICES,  
 4-4-1

TYPES OF BROADCASTS, 2-1-1

TYPES OF DATA ACCEPTABLE ON FAA  
 DATA COMMUNICATIONS SYSTEMS ,  
 13-1-1

TYPES OF DATA RECORDED, 4-2-1

TYPES OF DATA RECORDED , 6-1-2

**U**

UNAVAILABILITY OF DATA, 3-1-3

USAF/USN UNDERGRADUATE PILOTS ,  
 6-5-1

**V**

VFR AIRCRAFT IN WEATHER DIFFICULTY,  
 5-2-1

VISIBILITY AIDS - GENERAL, 10-1-4

VISIBILITY BELOW 1 MILE, 4-5-2

VISUAL APPROACH SLOPE INDICATORS  
 (VASIs), 10-1-4

VOR ORIENTATION/VOR CROSS-FIX, 5-3-2

**W**

WEATHER ADVISORIES, 12-1-8

WEATHER DISPLAY PRODUCTS, 3-1-1

WEATHER REMARKS, 12-1-6

## Weather Service, FAAs

FAs, 9-6-1

FDs, 9-4-1

Flight Advisories: WS, WA, WST, 9-8-1

SD/ROB, 9-3-1

Severe Weather Forecasts, 9-7-1

**[References are to page numbers]**

UA/UUA, 9-1-1	FORECAST (FB), 12-1-9
Weather Services, FAA, UA/UUA, 9-2-1	WMSCR NEGATIVE RESPONSE MESSAGES , 13-1-3
WINDS AND TEMPERATURES ALOFT	WORDS AND PHRASES, 12-1-1

# BRIEFING GUIDE



**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

---

**Initiated By: AJR-0  
Vice President, System Operations Services**

## Table of Contents

<b>Paragraph Number</b>	<b>Title</b>	<b>Page</b>
1-1-6	SUBMISSION CUTOFF AND EFFECTIVE DATES .....	BG-3
1-1-8	RECOMMENDATIONS FOR PROCEDURAL CHANGES .....	BG-3
3-1-4	WEATHER DISPLAY PRODUCTS .....	BG-4
3-1-8	LOGGING PILOT BRIEFINGS .....	BG-5
4-1-1	INFLIGHT SERVICES .....	BG-4
4-2-3	IFR/VFR/DVFR FLIGHT PLAN RECORDING .....	BG-5
6-1-6	IFR/VFR/DVFR FLIGHT PLAN RECORDING .....	BG-5
9-2-14	PIREP FORMAT .....	BG-6
12-1-8	WEATHER PHRASEOLOGY .....	BG-6

**1. PARAGRAPH NUMBER AND TITLE:**

1-1-6. SUBMISSION CUTOFF AND EFFECTIVE DATES

1-1-8. RECOMMENDATIONS FOR PROCEDURAL CHANGES

**2. BACKGROUND:** FAA change-submitting organizations are unclear over the precise meaning of the “Cutoff Date for Submission” when it comes to submitting changes to cyclical orders and other publications. Many organizations assumed that changes could be submitted to the correspondence mailbox on, or close to, the Cutoff Date for Submission and be incorporated into the next publication effective date. In reality, submitted changes require additional time for coordination prior to the cutoff date.

**3. CHANGE:**

**OLD**

**1-1-6. SUBMISSION CUTOFF AND EFFECTIVE DATES**

This order and its changes are scheduled to be published to coincide with AIRAC dates. The effective dates will be:

Add

**NEW**

**1-1-6. EFFECTIVE DATES AND SUBMISSIONS FOR CHANGES**

**a.** This order and its changes are scheduled to be published to coincide with AIRAC dates, **according to the table below.**

**b.** **The “Cutoff Date for Completion” in the table below refers to the deadline for a proposed change to be fully coordinated and signed. Change initiators must submit their proposed changes well in advance of this cutoff date to meet the publication effective date. The process to review and coordinate changes often takes several months after the change is initially submitted.**

**OLD**

<b>Publication Schedule</b>		
<b>Basic or Change</b>	<b>Cutoff Date for Submission</b>	<b>Effective Date of Publication</b>
JO 7110.10Z	4/27/17	10/12/17
Change 1	10/12/17	3/29/18
Change 2	3/29/18	9/13/18
Change 3	9/13/18	2/28/19
JO 7110.10AA	2/28/19	8/15/19

**NEW**

<b>Publication Schedule</b>		
<b>Basic or Change</b>	<b>Cutoff Date for Completion</b>	<b>Effective Date of Publication</b>
JO 7110.10Z	4/27/17	10/12/17
Change 1	10/12/17	3/29/18
Change 2	3/29/18	9/13/18
Change 3	9/13/18	2/28/19
JO 7110.10AA	2/28/19	8/15/19

**OLD**  
**1-1-8. RECOMMENDATIONS FOR PROCEDURAL CHANGES**

**Title through b**

c. Proposed changes must be submitted electronically to the Air Traffic Procedures Mailbox at 9-JAV-8-HQCorrespondence@faa.gov. The submission should include a description of the recommended change and the proposed language to be used in the order.

Add

**NEW**  
**1-1-8. RECOMMENDATIONS FOR PROCEDURAL CHANGES**

No Change

No Change

**NOTE-**  
**For details on the submission process as well as additional AIV-8 processing responsibilities, please see FAA Order JO 7000.5, Procedures for Submitting Changes to Air Traffic Control Publications.**

**1. PARAGRAPH NUMBER AND TITLE:**

3-1-4. WEATHER DISPLAY PRODUCTS

4-1-1. INFLIGHT SERVICES

**2. BACKGROUND:** En Route Flight Advisory Service (EFAS) responsibilities were migrated into Inflight. EFAS weather display information required for flight watch should have been migrated to Chapter 3, Pilot Briefing, but was inadvertently omitted in FAA Order JO 7110.10Y, Change 1. In addition, Current Icing Product (CIP), Forecast Icing Product (FIP), and Graphical Turbulence Guidance (GTC) were optional weather display products in FAA Order JO 7110.10Y, Change 2; in Change 3 they became mandatory.

**3. CHANGE:**

**OLD**  
**3-1-4. WEATHER DISPLAY PRODUCTS**

**Title through a8**

- 9.** \*Current Icing Product (CIP).
- 10.** \*Forecast Icing Product (FIP).
- 11.** \*\_Graphical Turbulence Guidance (GTG).

Add

- 12.** National/Regional Radar Mosaics.
- 13.** Radar Echo Tops.
- 14.** Radar VAD Wind Profiles.
- 15.** Visible/IR Satellite Imagery.
- 16.** Constant Pressure Charts.

Add

Add

**NEW**  
**3-1-4. WEATHER DISPLAY PRODUCTS**

No Change

- 9.** Current Icing Product (CIP).
- 10.** Forecast Icing Product (FIP).
- 11.** Graphical Turbulence Guidance (GTG).
- 12.** **National Weather Radar Summary (CONUS Only).**

- 13.** National/Regional Radar Mosaics.
- 14.** Radar Echo Tops.
- 15.** Radar VAD Wind Profiles.
- 16.** Visible/IR Satellite Imagery.
- 17.** Constant Pressure Charts.

**18.** **500 MB Heights and Vorticity Analysis.**

**19.** **500 MB Heights and Vorticity Prognosis.**

- Add **20. 6-, 12-, 24-, 36-, and 48-hour 500 MB Heights and Vorticity Prognosis.**
- Add **21. Convective Outlook.**
- Add **22. Maximum Temperature 24- and 36-Hour Forecast (CONUS Only).**
- Add **23. Minimum Temperature 24- and 36-Hour Forecast (CONUS Only).**

**NOTE-**

*\*Denotes weather products that are supplementary. They may only be used to enhance situational awareness. When discrepancies are noted, the specialist must base their decision on the primary weather product.*

Delete

**OLD**

**NEW**

**4-1-1. INFLIGHT SERVICES**

**4-1-1. INFLIGHT SERVICES**

**Title through b NOTE**

No Change

Add

**c. Prior to assuming inflight duties, the specialist must review, as a minimum, the graphic information listed in subparagraph 3-1-4a (if available). After assuming duties, the specialist must continue to review graphic and written data as needed during the watch to update and maintain a thorough knowledge of weather synoptic and forecast information affecting aviation operations.**

**1. PARAGRAPH NUMBER AND TITLE:**

- 3-1-8. LOGGING PILOT BRIEFINGS
- 4-2-3. IFR/VFR/DVFR FLIGHT PLAN RECORDING
- 6-1-6. IFR/VFR/DVFR FLIGHT PLAN RECORDING

**2. BACKGROUND:** The design of Federal Aviation Administration (FAA) Form 7233-1, Flight Plan, is not compatible with non-United States (U.S.) flight data processing systems and requires manual intervention that is both costly and time consuming. Additionally, FAA Form 7233-1 cannot provide the flight plan detail necessary to gain benefits for system users that are being introduced through the FAA's NextGen. In 2012, the U.S. increased the use of FAA Form 7233-4, International Flight Plan, which is compatible with domestic and international automation systems and is used for approximately 48 percent of all flight plans today. To streamline, standardize, and reduce the cost of flight plan processing within the U. S. and with international air navigation service providers, civilian pilots will be required to file both IFR and VFR flight plans using FAA Form 7233-4, or its electronic equivalent, once the use of FAA Form 7233-1 ends. Additionally, NextGen deployment is fast approaching, and with it comes a number of enhancements which will benefit the aviation community. In order to take advantage of these benefits, it has become necessary to add a level of detail to flight plans that current domestic flight plans lack. The use of the International Flight Plan Form will be mandatory for civilian flight plans only.

**3. CHANGE:**

**OLD**

**NEW**

**3-1-8. LOGGING PILOT BRIEFINGS**

**3-1-8. LOGGING PILOT BRIEFINGS**

**Title through c1**

2. FAA Form 7233-1, Flight Plan Form. Check the “pilot briefing” block, fill in specialist’s initials, and note the time started. As applicable, also enter AB, OTLK, and/or check the VNR block.

No Change

Delete

**c3**

Renumber as **c2**.

**OLD**

**4-2-3. IFR/VFR/DVFR FLIGHT PLAN RECORDING**

a. Use the operational system to record and file flight plans, flight plan modifications, cancellations, activations, and closures for appropriate distribution and processing. Detailed instructions are contained in the operational system manuals.

*NOTE-*  
FSS operational systems contain an electronic equivalent of FAA Form 7233-1, Flight Plan.

**NEW**

**4-2-3. IFR/VFR/DVFR FLIGHT PLAN RECORDING**

No Change

*NOTE-*  
FSS operational systems contain an electronic equivalent of authorized FAA Flight Plan Forms.

**OLD**

**6-1-6. IFR/VFR/DVFR FLIGHT PLAN RECORDING**

a. Use the operational system to record and file flight plans, flight plan modifications, cancellations, activations, and closures for appropriate distribution and processing. Detailed instructions are contained in the operational system manuals.

*NOTE-*  
FSS operational systems contain an electronic equivalent of FAA Form 7233-1, Flight Plan.

**NEW**

**6-1-6. IFR/VFR/DVFR FLIGHT PLAN RECORDING**

No Change

*NOTE-*  
FSS operational systems contain an electronic equivalent of authorized FAA Flight Plan Forms.

**1. PARAGRAPH NUMBER AND TITLE:**

- 9-2-14. PIREP FORMAT
- 12-1-8. WEATHER PHRASEOLOGY

**2. BACKGROUND:** The FAA provides annual guidance to operators regarding de-icing and anti-icing operations. This guidance includes Allowance Times and Hold-Over Times (HOT) for different types of de-icing and anti-icing fluids based on several factors, including the presence and type of frozen precipitation. Operators with FAA-approved de-icing/anti-icing programs require frozen precipitation observations and forecasts to support winter weather operations. Airlines for America (A4A), an industry group that advocates for U.S.-certified air carriers, requested that FAA examine the continued use of the meteorological identifier “GS” to report both small hail and snow pellets. Recently, there has been a change in the FAA Hold-Over Times Guidelines for anti/de-icing of small hail and ice pellets. Users are now required to note that small hail and ice pellets are equivalent and cannot assume that GS is only snow pellets i.e., operators must assume, when they see



GS, that it contains small hail. Thus, when “GS” is reported or forecast, operators must use the more conservative Allowance Times for ice pellets and small hail. This can have a significant impact on operations. Changing the definition of “GS” so that GS refers only to snow pellets will lead to more efficient and cost effective winter operations for airlines when snow pellets are observed and not small hail.

### 3. CHANGE:

<b>OLD</b>	<b>NEW</b>
<b>9-2-14. PIREP FORMAT</b>	<b>9-2-14. PIREP FORMAT</b>
<b>Title through g1</b>	No Change
2. Enter flight weather types using one or more of the standard surface weather reporting symbols contained in TBL 9-2-1.	No Change

**OLD***TBL 9-2-1*

## Weather Type and Symbols

<i>Type</i>	<i>METAR Code</i>
Drifting / Blowing Snow .....	DRSN/BLSN
Drifting Dust .....	DRDU
Drifting Sand .....	DRSA
Drizzle/Freezing Drizzle .....	DZ/FZDZ
Dust / Blowing Dust .....	DU/BLDU
Duststorm .....	DS
Fog (vis < 5/8SM) .....	FG
Freezing Fog .....	FZFG
Freezing Rain .....	FZRA
Funnel Cloud .....	FC
Hail (aprx 1/4" dia or more) .....	GR
Hail Shower .....	SHGR
Haze .....	HZ
Ice Crystals .....	IC
Ice Pellets/ Showers .....	PL/SHPL
Mist (vis 5/8SM or more) .....	BR
Patchy Fog .....	BCFG
Patchy Fog on part of Arpt	PRFG
Rain / Showers .....	RA/SHRA
Sand / Blowing Sand .....	SA/BSA
Sandstorms .....	SS
Shallow Fog .....	MIFG
<u>Sml Hail</u> /Snow Pellet Showers ....	SHGS
<u>Sml Hail</u> /Snow Pellets .....	GS
Smoke .....	FU
Snow Grains .....	SG
Snow / Showers .....	SN/SHSN
Spray .....	PY
Squalls .....	SQ
Thunderstorm .....	TS
Tornado/Waterspout .....	+FC
Unknown Precipitation .....	UP
Volcanic Ash (incl. eruption, H <sub>2</sub> S or SO <sub>2</sub> ) .....	VA
Well developed Dust/Sand Whirls ..	PO

NEW

TBL 9-2-1

Weather Type and Symbols

<i>Type</i>	<i>METAR Code</i>
Drifting / Blowing Snow .....	DRSN/BLSN
Drifting Dust .....	DRDU
Drifting Sand .....	DRSA
Drizzle/Freezing Drizzle .....	DZ/FZDZ
Dust / Blowing Dust .....	DU/BLDU
Duststorm .....	DS
Fog (vis < 5/8SM) .....	FG
Freezing Fog .....	FZFG
Freezing Rain .....	FZRA
Funnel Cloud .....	FC
Hail .....	GR
Hail Shower .....	SHGR
Haze .....	HZ
Ice Crystals .....	IC
Ice Pellets/ Showers .....	PL/SHPL
Mist (vis 5/8SM or more) .....	BR
Patchy Fog .....	BCFG
Patchy Fog on part of Arpt	PRFG
Rain / Showers .....	RA/SHRA
Sand / Blowing Sand .....	SA/BSA
Sandstorms .....	SS
Shallow Fog .....	MIFG
Snow Pellet Showers .....	SHGS
Snow Pellets .....	GS
Smoke .....	FU
Snow Grains .....	SG
Snow / Showers .....	SN/SHSN
Spray .....	PY
Squalls .....	SQ
Thunderstorm .....	TS
Tornado/Waterspout .....	+FC
Unknown Precipitation .....	UP
Volcanic Ash (incl. eruption, H <sub>2</sub> S or SO <sub>2</sub> ) .....	VA
Well developed Dust/Sand Whirls ..	PO

G3 through g6 *EXAMPLE*

No Change

7. When the size of hail is stated, enter in 1/4” increments in remarks /RM TEL.

7. **State** the size of **the** hail **in remarks** in 1/4” increments **or any hail less than 1/4” is stated as “GR less than 1/4”.**

**OLD**  
**12-1-8. WEATHER PHRASEOLOGY**  
 Title through **h** *TBL 12-1-6*

**NEW**  
**12-1-8. WEATHER PHRASEOLOGY**  
 No Change

**OLD**  
*TBL 12-1-7*  
 Weather Elements

INTENSITY or PROXIMITY 1		DESCRIPTOR 2		PRECIPITATION 3		OBSCURATION 4		OTHER 5	
-	Light	<b>MI</b>	Shallow	<b>DZ</b>	Drizzle	<b>BR</b>	Mist	<b>PO</b>	Well-Developed Dust/Sand Whirls
		<b>BC</b>	Patchy	<b>RA</b>	Rain	<b>FG</b>	Fog	<b>SQ</b>	Squalls
	Moderate (No Qualifier)	<b>DR</b>	Low Drifting	<b>SN</b>	Snow	<b>FU</b>	Smoke	<b>FC</b> <b>+FC</b>	Funnel Cloud, Tornado or Waterspout
		<b>BL</b>	Blowing	<b>SG</b>	Snow Grains	<b>DU</b>	Dust	<b>SS</b>	Sandstorm
+	Heavy	<b>SH</b>	Showers	<b>IC</b>	Ice Crystals	<b>SA</b>	Sand	<b>DS</b>	Duststorm
		<b>TS</b>	Thunderstorm	<b>PL</b>	Ice Pellets	<b>HZ</b>	Haze		
<b>VC</b>	In the Vicinity	<b>FZ</b>	Freezing	<b>GR</b>	Hail	<b>PY</b>	Spray		
		<b>PR</b>	Partial	<b>GS</b>	<u>Small Hail or Snow Pellets (&lt;1/4")</u>	<b>VA</b>	Volcanic Ash		
				<b>UP</b>	*Unknown Precipitation				
* Automated stations only.									

**NEW***TBL 12-1-7*  
Weather Elements

<b>INTENSITY or PROXIMITY 1</b>		<b>DESCRIPTOR  2</b>		<b>PRECIPITATION  3</b>		<b>OBSCURATION  4</b>		<b>OTHER  5</b>	
-	Light	<b>MI</b>	Shallow	<b>DZ</b>	Drizzle	<b>BR</b>	Mist	<b>PO</b>	Well- Developed Dust/Sand Whirls
		<b>BC</b>	Patchy	<b>RA</b>	Rain	<b>FG</b>	Fog	<b>SQ</b>	Squalls
	Moderate (No Qualifier)	<b>DR</b>	Low Drifting	<b>SN</b>	Snow	<b>FU</b>	Smoke	<b>FC</b> <b>+FC</b>	Funnel Cloud, Tornado or Waterspout
		<b>BL</b>	Blowing	<b>SG</b>	Snow Grains	<b>DU</b>	Dust	<b>SS</b>	Sandstorm
+	Heavy	<b>SH</b>	Showers	<b>IC</b>	Ice Crystals	<b>SA</b>	Sand	<b>DS</b>	Duststorm
		<b>TS</b>	Thunderstorm	<b>PL</b>	Ice Pellets	<b>HZ</b>	Haze		
<b>VC</b>	In the Vicinity	<b>FZ</b>	Freezing	<b>GR</b>	Hail	<b>PY</b>	Spray		
		<b>PR</b>	Partial	<b>GS</b>	Snow Pellets	<b>VA</b>	Volcanic Ash		
				<b>UP</b>	*Unknown Precipitation				
<b>* Automated stations only.</b>									

