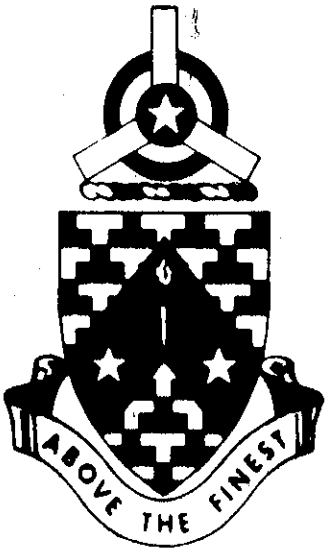
49

PROGRAMED TEXT

TELETYPE SEQUENCE REPORTS

AM-33



MAY 1969

UNITED STATES ARMY
PRIMARY HELICOPTER SCHOOL
FORT WOLTERS, TEXAS

TELETYPE SEQUENCE REPORTS

BNA 2 Ⓓ M3 ⊕ 11/2 R-F 193/39/39/ØØØ3/ØØ7/ RB15 PRESFR
200' SCATTERED, MEASURED 300' OVERCAST, 1 1/2 MILES VISIBILITY, LIGHT RAIN/FOG, PRESSURE 1019.3 MILLIBARS, TEMPERATURE/DEW POINT 39°F, WIND FROM 90° AT 3 KNOTS, ALTIMETER 30.07, RAIN BEGAN AT 15 MIN PAST THE HOUR, PRESSURE FALLING RAPIDLY.

FSM M4V ⊕ 5 F 185/34/33/Ø7Ø6/ØØ6/ CIG 3V5 LE4Ø
MEASURED 400' (VARIABLE) OVERCAST, 5 MILES VISIBILITY, FOG, PRESSURE 1018.6 MILLIBARS, TEMPERATURE 34° DEW POINT 33° , WIND FROM 70° AT 6 KNOTS, ALTIMETER 30.06, CEILING VARIABLE 300' TO 500', DRIZZLE ENDED AT 40 MIN PAST THE HOUR.

SDF S 17 - ⊕ 5 R--H 2Ø3/31/28/36Ø5/Ø11/RB35
SPECIAL REPORT 1700' THIN OVERCAST, 5 MILES VISIBILITY, VERY LIGHT RAIN/HAZE, PRESSURE 1020.3 MILLIBARS, TEMPERATURE 31° DEW POINT 28°, WIND FROM THE NORTH AT 5 KNOTS, ALTIMETER 30.11, RAIN BEGAN AT 35 MIN PAST THE HOUR.

CBI S M2 ⊕ 11/2 E-S-F 184/27/27/18Ø2/ØØ3/
SPECIAL REPORT MEASURED 200' OVERCAST, 1 1/2 MILES VISIBILITY, LIGHT SLEET AND SNOW/FOG, PRESSURE 1018.4 MILLIBARS, TEMPERATURE/DEW POINT 27°, WIND FROM THE SOUTH AT 2 KNOTS, ALTIMETER 30.03.

BUM M13 ⊕ 3/4 ZL-F 173/3Ø/3Ø/16Ø4/ØØ4/ SE45

LMT 2Ø Ⓓ E35 Ⓓ 1ØØ ⊕ 15+ 291/20/14/ØØØØ/Ø24/ BRKS OVHD

STL M13 ⊕ 11/2 S-K 2Ø4/26/22/11Ø5/Ø1Ø/

CBI 7 Ⓓ M23 ⊕ 3 S-F 195/27/25/16Ø6/ØØ6/ PIREPS OVR CBI ⊕ 11Ø

BUM M11 ⊕ 3 S--ZR 19Ø/29/26/14Ø3/ØØ9/ EEØ5 SB15

JLN 5-Ⓓ M22 ⊕ 3 F 186/33/31/ØØØØ/ØØ4

IND 2Ø Ⓓ M35 ⊕ 1Ø 228/26/22/Ø9Ø6/Ø16/ INTMT S-

CVG M8 ⊕ 4 S--H 234/29/25/32Ø4/Ø17/ SBØ5 PIREPS OVR CIN ØØ25 LGT RIME ICG 5Ø

FSD /-Ⓓ 15+ 17Ø/3 /-3/ØØØØ/993/

GRI O 15+ 152/16/13/2ØØ9/991

MLS E3Ø Ⓓ / ⊕ 4S- 25Ø/-2/-1Ø/Ø2Ø8

(4 military) N.H.
(2 civilian)

AM-33

TELETYPE SEQUENCE REPORT

STATION I.D. | SPECIAL REPORT | SKY CONDITION | VISIBILITY | WEATHER | PRESSURE IN MILLIBARS | TEMPERATURE (F) | DEW POINT (F) | WIND | ALTIMETER SETTING | HEIGHT OF BASES/TOPS

MKC S 15-◑ E 30 ⊕ 1 1/2 F 521 / 68 / 60 / 2018 G 30 / 996 / ⊕55

DECODED REPORT: Kansas City - Special report 1500 feet thin broken clouds, estimated 3000 feet overcast, visibility 1 1/2 miles, fog, sea level pressure 1052.1 millibars, temperature 68°F, wind from 200 degrees 18 knots gusts to 30, altimeter setting 29.96, tops of overcast 5500' MSL.

SKY AND CEILING-The heights (in hundreds of feet) of cloud layers are above the surface.

○ Clear

◑ Scattered 10 to 50% sky cover

◕ Broken 60 to 90% sky cover

⊕ Overcast more than 90% sky cover

X Obscuration sky hidden 100% by surface-based obscuration

A ceiling classification symbol indicating how ceiling was determined always precedes the lowest layer of clouds which constitute a ceiling.

M - Measured
E - Estimated
B - Balloon
R - Radar/Radiosonde
A - Aircraft
W - Indefinite
D - Estimated (used with cirriform layers only)
U - Unknown height of broken or overcast cirrus cloud layer
/ - Unknown height of thin broken or overcast cirrus cloud layer

IMPORTANT - Partial obscuration (-X), and thin broken (-◑) or overcast (-⊕) do not constitute a ceiling.

V - Variable ceiling (See remarks)

VISIBILITY - In statute miles and fractions.
V - Variable (See remarks)

ALTIMETER SETTING - The first figure of the actual altimeter setting is omitted.

TEMPERATURE/DEW POINT - Are indicated in Fahrenheit. A minus sign (-) preceding the figures indicates below zero.

SEA LEVEL PRESSURE IN MILLIBARS - The first digit (9 or 10) and decimal are omitted. If the first digit is 6 or higher assume 9 - if the first digit is 5 or lower assume 10.

HEIGHT OF BASES & TOPS - Reported from aircraft are above sea level (MSL). E.G.⊕ 34/60◑ 68 layer of broken clouds (not visible from the ground) with bases 6000' and tops 6800 MSL.

PROGRAMED TEXT

PROGRAM TEXT

FILE NO: AM 33

PROGRAM TITLE Teletype Sequence Reports

POI SCOPE: A complete explanation of the symbols and abbreviations used in teletype sequence reports.

INSTRUCTOR REFERENCES:

TM 1-300

PREPARED BY:

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DATE: February 1968

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DATE: October 1968

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DATE: November 1968

TABLE OF CONTENTS

PROGRAMED TEXT **PROGRAM TITLE:**
FILE NO: AM-33 Teletype Sequence Reports

PREFACE

This programed text was designed to assist you in learning to read the teletype sequence reports which describe the weather conditions at a particular place and at a particular time. The symbols and abbreviations used in the teletype sequence reports are common throughout the teletype reporting network. A thorough understanding of these symbols and abbreviations will aid you in reading teletype reports and forecasts, and assist you in intelligent flight planning.

NOTE: In order to gain maximum benefit from the program, you should make your own response before referring to the answer.

Start with frame 1 and work each frame in succession. Each frame will usually ask you a question. The correct answer is printed on the top of the next frame. If you were incorrect, turn back and restudy the information before continuing on to the next frame. When you have finished the text, complete the self evaluation exercise. Now begin by studying the performance objectives on page iv.

PERFORMANCE OBJECTIVES

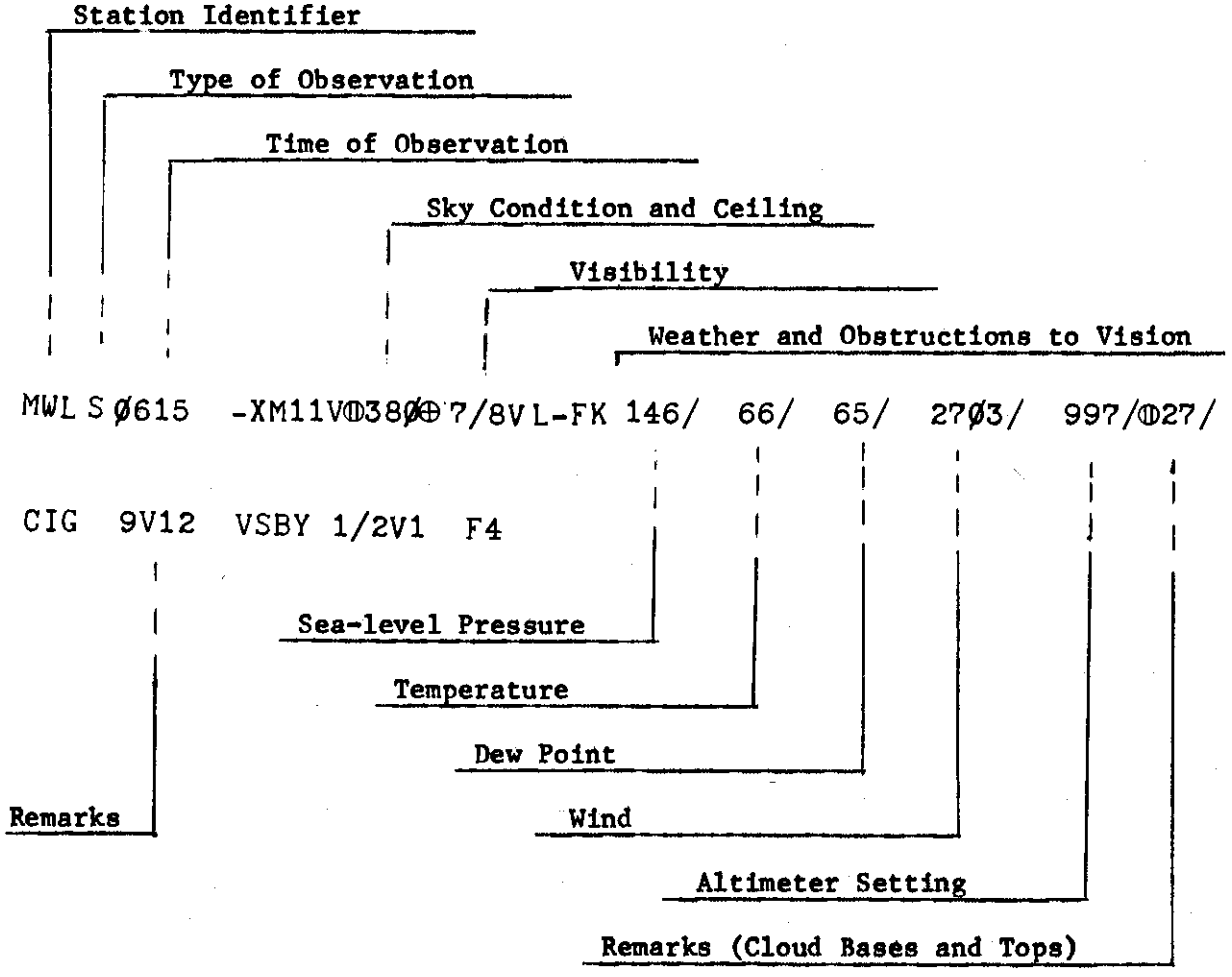
Given teletype sequence reports you will be able to:

1. Interpret the weather information shown.

2. Determine whether the reported weather at specified stations will permit the successful completion of a helicopter flight.

Teletype Sequence Reports are transmitted each hour on a schedule. The following is an example of one observation appearing on a teletype report. We will refer to the example throughout the text.

NOTE: All the "ZEROS" in the sequence report are slashed (Ø) so that they will not be confused with the letter "O" or a symbol.



NOTE: For clearer illustration, the spacing of this sample report is wider than normal.

TURN TO PAGE 3 AND CONTINUE

K	Smoke	BS	Blowing Snow	BN	Blowing Sand
BD	Blowing Dust	GF	Ground Fog	H	Haze
IF	Ice Fog	D	Dust	F	Fog

FRAME 11

In the example below:

7/8VL-FK

The symbols for each of the following conditions are:

7/8V indicates visibility is 7/8 S.M.

L- indicates light drizzle.

FK indicates fog + smoke

How do we know that the minus sign (-) modifies the "L" and not the "FK"?

visibility indicators are not modified

TURN TO PAGE 4 FOR FRAME 12

GENERAL INFORMATION

TELETYPE SEQUENCE REPORTS

Aviation weather reports are obtained in your local weather office through the teletype circuits, the United States Weather Bureau and Federal Aviation Agency-Service "A" (USWB/FAA Service "A") and the Continental United States Meteorological Teletype (COMET) systems. The Comet system is strictly a military system and the USWB/FAA Service "A" system is used jointly by the Navy and civilian concerns.

Aviation weather reports which are obtained through the USWB/FAA circuits -Service "A" will have headings such as the example below:

028 SA28011700

028 -- Area circuit number: 028
SA -- Content designator: Hourly teletype sequence reports (SA-Service A)
28 -- Area circuit number repeated: 28
01 -- 1st day of the month
1700-- Transmission time: 1700 ZULU time

Aviation weather reports which are obtained through the COMET circuits will have headings such as the example below:

SAUS 5 KWRF 261900Z

SA -- Content designator for hourly teletype sequence reports
US -- Area designator for the Continental United States (military only)
5 -- Teletype circuit area designator
KWRF -- Identifies weather relay facility: Tinker AFB, Oklahoma
26 -- 26th day of the month
1900Z -- Transmission time: 1900 ZULU

TURN TO PAGE 5 FOR FRAME 1

Visibility 7/8 statute mile, variable; light drizzle; fog and smoke.

7/8V - visibility 7/8 statute mile, variable

L- - Light Drizzle

FK - Fog and Smoke

Only precipitation may be modified as light, heavy, or very light. Obstructions to vision will not be modified.

FRAME 12

The sea-level pressure is given in the aviation weather report as three digits (700 or 500) and is read in millibars to the nearest tenth. To determine the proper reading, we must go through two steps. First, place a decimal point between the last two digits (70.0 or 50.0). Next, place either a 9 or a 10 before the first digit so the pressure will read between 970.0 and 1050.0 millibars.

NOTE: If the reported pressure begins with a digit from 0 thru 5 the figure is preceded by a 10. When the digit is 6 thru 9 the figure is preceded by a 9. 1013.2 mb is standard sea level pressure.

For example, sea level-pressure in the observation reported as 146 would be read as 1014.6 millibars by going through the following steps.

Step 1 - Place a decimal point between the last two digits (14.6).
Step 2 - Place a 10 before the first digit so the pressure will read ~~between 970 and 1060 millibars~~ (1014.6). since the # is between 1 and 5 as the note above indicates

The following are circled examples of station observations with the sea-level pressure included in the observation.

MWL S 0615 -XM11V038007/8VL-FK (146)/66/65/2703/997/027/CIG 9V12 VSBY 1/2V1 F4
1014.6 mbs.

BPR W1X5/16F (908)/35/35/3611/926
990.8 mbs.

PNX O12 (111)/94/75/1723G30/985/FEW CI
1011.1 mbs.

Decode the following sea-level pressures?

304 1030.4 mbs 111 1011.1 mbs 889 988.9 mbs

998 999.8 mbs 000 1000.0 mbs 132 1013.2 mbs

FRAME 1

Teletype sequence reports begin with a three (3) letter station identifier.

MWL - Mineral Wells, Texas
ABI - Abilene, Texas
DAL - Dallas, Texas

When teletype sequence reports are sent hourly as scheduled, no "type of observation" or "time of observation" is given. A special (s) observation may be transmitted (1) on-schedule and will not list a "time of observation" (2) off-schedule and will show a "time of observation".

Code	Meaning
S	Special
DLAD	Delayed
PDW	Priority delayed weather
COR	Corrected

Delayed (DLAD), priority delayed weather (PDW) and corrected (COR) sequences are always transmitted off schedule and will always have a "time of observation" entry.

1. DAL S Ø615 indicates that the special sequence is (off - on) schedule.

2. PHL PDW means that the Philadelphia issued a priority delayed weather sequence in lieu of its regularly scheduled sequence. (True - False)

304	1030.4 millibars	111	1011.1 millibars	889	988.9 millibars
998	999.8 millibars	000	1000.0 millibars	132	1013.2 millibars

---

FRAME 13

The surface temperature and dew point are reported in degrees Fahrenheit. If the sea-level pressure is not included, the temperature and dew point will follow the visibility and obstruction to vision. The temperature and dew point spread is of interest to the aviator as an indication of the possibility of fog. If temperature/dew point spread is 4° or less, fog is likely to occur.

1014.6 mbs

MWL S 0615 -XM11V⊖38⊖7/8VL-FK 146/66/65/2703/997/⊖27/CIG 9V12

1°

VSBY 1/2V1 F4

The temperature and dew point in the above example is:

1. Temperature 66 °, dewpoint. 65 °
2. The temperature and dew point spread in the above example is 1 °.
3. Circle the temperature and dew point in the example below.

GRK A27⊖2⊖⊖10 85/79/1609/999/MAG 15

1019.6 mbs

ABI M45⊖10 176/72/60/2706/005

1. Dallas has issued a special teletype sequence off-schedule. (Indicated by the Ø615 "time of observation.")

2. False (Priority delayed weather (PDW) teletype sequence reports are always transmitted off-schedule and must have a "time of observation.")

FRAME 2

Sky condition and ceiling information is the first item given. It follows the station identifier (report and time of observation if type of sequence is off schedule.)

Cloud heights are encoded by omitting two (2) zeros i.e., the correct height is obtained by multiplying the value given by 100. This measurement is to the base of the cloud layer above the surface except when the base is 20,000 Ft. MSL or above.

Example

3 = 300

35 = 3,500

180 = 18,000

Sky condition symbols

○	clear (sky cover less than .1)
◑	scattered (sky cover .1 thru .5)
◍	broken (sky cover .6 thru .9)
⊕	overcast (sky cover greater than .9)
X	obscuration (sky hidden by surface - based layer, e.g. fog, haze, smoke)

The sky condition and ceiling symbols may be modified with a minus (-) sign to indicate thin, or in the case of an obscuration, partial.

-◑	thin scattered
-◍	thin broken
-⊕	thin overcast
-X	partial obscuration

1. 15-◑ 2Ø ◍55Ø ⊕ =
   15 00 feet thin scattered
   20 00 feet ceiling
   55,000 feet overcast

2. -X25Ø ⊕
   Partial obscuration
   250 00 feet overcast

1. The temperature and dew point in the example are 66 degrees Fahrenheit and 65 degrees Fahrenheit respectively.

2. The temperature and dew point spread is 1 degree Fahrenheit.

3.

GRK A27Ø2ØØØ1Ø 85/79/16Ø9/999/MAG 15

ABI M45Ø1Ø 176/72/60/27Ø6/ØØ5

FRAME 14

The wind is reported as four digits following the temperature and dew point. The first two digits indicate the true direction to the nearest ten degrees. The second two digits indicate the velocity in knots. Calm winds are given as ØØØØ. If gusts are present, the velocity is followed by "G" and two digits to indicate the speed of the gusts. If squalls are present, the velocity is followed by "Q" and two digits to indicate the speed of the squalls.

2Ø15 would de decoded as wind from 2ØØ degrees - at 15 knots.

3414G25 would be decoded as wind from 34Ø degrees - at 14 knots with gusts of 25 knots.

1. Decode the following winds:

a. Ø11Ø 10° 10 knots c. 1414 140° 14 knots

b. 1825G35 180° 25 knots gusts 35 kn d. 2218Q3Ø 220° 18 knots squalls, 30 kn.

2. Circle the wind in the following examples.

FMH O12 55/5Ø/ØØØØ/Ø13

SLC -XE6ØØ6S- 193/26/24/3205/ØØØ/S2

1. 1500 feet thin scattered
   2Ø00 feet broken
   55,000 feet overcast

2. partial obscuration
   25Ø00 feet overcast

FRAME 3

Ceiling. The height ascribed to the lowest layer of clouds of obscuring phenomena reported as broken, overcast, or obscured and not classified as thin or partial.

Rule 1: Ceiling is the lowest condition reported as ⊗ ⊕ or X that is not prefixed by a minus (-). A thin layer or a partial obscuration is never a ceiling, (-⊗ -⊕ -X)

Rule 2: The method by which the ceiling was determined must precede the height of the symbol (⊗ ⊕ X) which appears as the ceiling layer.

Ceiling Classifiers

A aircraft (pilot report)

B balloon (with known rate of ascent)

E estimated (not used for cirriform layers, i.e. cloud bases above 20,000 feet)

M measured (normally with a ceilometer)

W indifinite (used with obscured conditions)

R radar or radiosonde

D estimated (used with persistent cirriform layers, i.e. clouds with bases over 20,000 feet, only)

U unknown (used with cirriform layers)

Remember: For your flying, the ceiling is the height above ground you may go up to before having to fly on instruments.

1. Decode the following:

   a. Ø11Ø wind from Ø1Ø degrees at 1Ø knots

   b. 1825G35 wind from 18Ø degrees at 25 knots with gusts to 35 knots

   c. 1414 wind from 14Ø degrees at 14 knots

   d. 221803Ø wind from 22Ø degrees at 18 knots with squalls to 3Ø knots

2. Circle the wind in the following examples.

   FMH O12 55/5Ø/(ØØØØ)/Ø13

   SLC -XE6ØⒽ6S- 193/26/24/(32Ø5)/ØØØ/S2

FRAME 15

The last information item in the body of the report is the altimeter setting, given in inches of mercury (Hg), and reported as three digits. To decode the altimeter setting, place a decimal point between the first two digits. Next, place either a 2 or a 3 before the reported setting, so that altimeter setting falls between 28 and 32 inches of mercury.

For example, an altimeter setting reported as 992 would be decoded as 29.92 inches of mercury (Hg). An altimeter setting reported as Ø12 would be decoded as 3Ø.12 inches Hg.

1. Decode the following altimeter settings.

   a. 899 28.99 in Hg c. Ø34 30.34 in Hg e. 915 29.15 in Hg

   b. 112 31.12 in Hg d. ØØØ 30.00 in Hg f. 999 29.99 in Hg

2. Circle the altimeter setting in the examples below:

   ABI M45Ⓗ1Ø 176/72/6Ø/27Ø6/(ØØ5)

   DAL 2ØⒽ/Ⓗ15+ 237/85/74/Ø912/(Ø23)/TCU NW

FRAME 3 Continued

Rule 3: When high clouds (cirriform - above 20,000 feet) do not constitute a ceiling, the sky condition symbol is preceded by a slash.

/-Ⓓ A25ØⒹ means a high thin broken condition, a pilot reports a broken condition at 25,000 feet.

a) 2ØⒹ M5Ø Ⓓ
b) 3ØⒹ 45 ⒹR52 ⊕
c) -XA8⊕
d) W5X

Remembering Rule 1, identify the ceiling in the above examples.

a. 2000ft. scattered measured 5000ft ceiling

b. 3000ft scattered, 4500 scattered; radar's ceiling 5200

c. broken obscuration, pm aircraft says ceiling at 800ft over

d. indefinate 500 ft obscure ceiling

Note:

Ⓓ OK to fly up thru

Ⓓ A ceiling, only penetrate on instruments

⊕ A ceiling, only penetrate on instruments

1. Decode the following:

   a. 899 28.99" mercury c. Ø34 3Ø.34" mercury e. 915 29.15" mercury

   b. 112 31.12" mercury d. ØØØ 3Ø.ØØ" mercury f. 999 29.99" mercury

2. Circle the altimeter setting in the examples below:

ABI M45⊕1Ø 176/72/6Ø/27Ø6/ØØ5

DAL 2ØⒹ/Ⓓ15+ 237/85/74/Ø912/Ø23/TCU NW

FRAME 16

MWL S Ø615 -XM11VⒹ38Ø⊕7/8VL-FK 146/66/65/27Ø3/997/Ⓓ27/CIG 9V12 VSBY 1/2V1 F4

alt.

1. The altimeter setting in the above example is: 29.97 .

2. The altimeter setting is given in (degrees/inches) of (Farhenheit/mercury).

a. Measured 5,000 feet broken
b. Radar 5,200 feet overcast
c. Aircraft 800 feet overcast
d. Indefinite ceiling 500 feet, sky obscured

FRAME 4

"V" in the aviation weather report means "variable." The variable item will be further explained in the remarks section of the report. In the following example, the 11V indicates that the ceiling (CIG) at 1,1ØØ feet is variable. The variable ceiling is explained in the remarks section by CIG 9V12, which indicates that the ceiling (CIG) is variable from 9ØØ feet to 1,2ØØ feet. The 7/8V indicates that the visibility (VSBY) is 7/8 miles and variable. The variable visibility (VSBY) is explained in the remarks section by VSBY 1/2V1, which indicates that the visibility is variable from 1/2 to 1 statute mile.

In the example below, underline the items labled variable and circle the explanations in the remarks section.

MWL S Ø615 -XM11VØ38ØØ7/8VL-FK 146/66/65/27Ø3/997/Ø27/CIG 9V12 VSBY 1/2V1 F4

MWL S Ø615 -XM11VØ38ØØ7/8VL-FK 146/66/65/2703/997//Ø27/CIG 9V12
VSBY 1/2V1 F4

1. The altimeter setting in the above example is 29.97.

2. Altimeter settings are given in inches of mercury.

FRAME 17

MWL S Ø615 -XM11VØ38ØØ7/8VL-FK 146/66/65/2703/997/Ø27/CIG 9V12
VSBY 1/2V1 F4

1. The wind (direction and velocity) in the above example is: 270° 3 knots
2. How will gusts be indicated in the aviation weather reports? G and 2 digits
3. How will squalls be indicated in the aviation weather reports? Q and 2 digits
4. The altimeter setting in the above example is: 29.97 inches
5. The temperature/dew point spread is 66° 65° 1°
6. The identifier is MWL, and the observation was made at 06:15 (time)

MWL S Ø615 -XM11VØ38ØØ7/8VL-FK 146/66/65/27Ø3/997/Ø27/CIG 9V12 SBY 1/2V1 F4

FRAME 5

Circle the method used to determine the ceiling in each of the following cases.

a. FTW M6Ø1ØØ2RW-F 982/37/36/121Ø/945

b. LSF 35Ø12 41/36/34Ø5/Ø16

c. BGS 55ØA18ØØ15 99/69/18Ø7/987/MAG 17 VSBY SE 3K

d. HLR O12 111/94/75/1723G3Ø/985/FEW CI

e. GRK 25Ø35Ø1ØØØR25ØØ1ØTRWAP 125/82/79/13Ø4/99Ø/CB ALL QUADS

f. FSI E3ØØ1Ø 9Ø/57/27Ø7/Ø13

g. DAL S B6Ø1R-F Ø78/67/66/ØØØØ/976

h. GSW W4X3/4F Ø78/72/71/36Ø7/976

i. LBB 1Ø29ØØ1Ø 244/8Ø/75/141Ø/Ø24

j. REE 4ØØ1ØØ1Ø 164/76/58/19Ø6/ØØ3/CB S-W MOVG E OCNL LTGIC S-W

k. DYS 4ØØ/-Ø13 78/64/18Ø7/Ø1Ø/WR21

1. In the example, the wind is from 270 degrees at 3 knots.

2. Gusts will be indicated by "G".

3. Squalls will be indicated by "Q".

4. The altimeter setting is 29.97.

5. The temperature/dew point spread is 1 ° Fahrenheit .

6. The identifier is MWL , and the observation was made at Ø615Z

FRAME 18

When a station has received a pilot report of cloud layers, the information will be presented in the aviation weather report in the remarks section. If the reported base is visibile from the station, the pilot report of the base will be converted to an above-ground-level reading and will be included in the sky condition section of the report. If the layer is not visible from the station, as in a layer above an overcast, the height will be appended to the report with mean sea level as reference. Cloud top information will be given in this section and will always be in reference to mean sea level. In this section, the height of the base precedes the sky symbol, and the height of the top follows the symbol.

For example, 3Ø⊕75 means the base of the overcast is at 3000' m. s. l.

and the top is at 7500' m. s. l.

◐45 means the tops of the broken layer is at 4500' m. s. l.

The meaning of each of the following cloud bases and tops sections is:

1. 15⊕45 _____ 2. ◐21Ø _____

a. FTW M5Ø1ØØ2RW-F 982/37/36/121Ø/945

b. LSF 35Ø12 41/36/34Ø5/Ø16
(LSF reporting scattered clouds which do not constitute a ceiling.)

c. BGS 55ØA18ØØ15 99/69/18Ø7/987/MAG 17 VSBY SE 3K

d. HLR O12 111/94/75/1723G3Ø/985/FEW CI
(HLR reporting clear skies with no ceiling designator.)

e. GRK 25Ø35Ø1ØØØR25ØØ1ØTRWAP 125/82/79/13Ø4/99Ø/CB ALL QUADS

f. FSI E5ØØ1Ø 9Ø/57/27Ø7/Ø13

g. DAL S B6Ø1R-F Ø78/67/66/ØØØØ/976

h. GSW W4X3/4F Ø78/72/71/36Ø7/976

i. LBB D29ØØ1Ø 244/8Ø/75/141Ø/Ø24

j. REE 4ØØ1Ø1Ø 164/76/58/19Ø6/ØØ3/CB S-W MOVG E OCNL LTGIC S-W

k. DYS 4ØØ/-Ø13 78/64/18Ø7/Ø1Ø/WR21
(DYS - high thin broken is not a ceiling)

FRAME 6

Decode the sky condition and ceiling section of the observation.

-XM11VØ38ØØ

Write the symbols for each of the following conditions.

1. **Partial obscuration** -X
2. **Measured ceiling 1,100 feet above the surface, variable, broken** M11 VØ11
3. **Overcast 38,000 feet above the surface** Ø38Ø
4. **What does the "V" indicate the above example?** variable broken ceiling
5. **Does the overcast layer at 38,000 feet constitute the ceiling?**
   Yes ____ **No** ✓ **Why?** its at 38,000 ft

1. 15⊕45 bases of overcast layer at 1500 feet mean sea level, tops at 4500 feet mean sea level.

2. ⊙21Ø tops of broken layer at 21,000 feet mean sea level.

Partial obscuration, measured ceiling 1,100 feet above the surface, variable, broken; overcast 38,000 feet above the surface.

1. Partial obscuration -X

2. Measured ceiling 1,100 feet above the surface, variable, broken M11VØ

3. Overcast 38,000 feet above the surface 38ØØ

4. The "V" indicates the ceiling at 1,100 feet is variable. The variable item will be explained in the remarks section.

5. No, the overcast layer at 38,000 feet does not constitute the ceiling.

From the definition, we know that the ceiling is the lowest layer of clouds that is reported as "broken" or "overcast"; or an obscuring phenomenon ("obscuration"), and not modified as "thin" or "partial". The ceiling in this example is 1,100 feet.

FRAME 7

The sky condition and ceiling section is followed by the visibility section. Visibility is reported in statute miles (SM) and fractions of miles. Reportable values are: 0-3 SM in fractions the lowest being 1/16; 3-15 to the nearest SM; more than 15 every 5 SM.

If the visibility is 6 statute miles or less, the weather and obstructions to vision must be reported to indicate the reason for reduced visibility. The weather and obstruction to vision section follows the reported visibility and may include more than one symbol.

MWL S Ø615 -XM11VØ38ØØ 7/8VL-FK

1. Circle the visibility in the above example.

2. Is the visibility 7/8 statute mile or 7/8 nautical mile? SM

3. The "V" following the visibility indicates Variable and will be omitted

4. Will visibility greater than 8 statute miles be omitted in the aviation weather report? Yes ____ No ✓

FRAME 19

REMARKS

The remarks section of the report is transmitted last and gives the aviator more detailed information for flight planning.

In the example below, the remarks are underlined.

MWL S Ø615 -XM11VⒹ38ØⒺ7/8VL-FK 146/66/65/27Ø3/997/Ⓓ27/CIG 9V12 VSBY 1/2V1 F4

Ⓓ27 - the top of the broken layer is 2700 MSL

VSBY 1/2V1 - the visibility is variable between 1/2 and 1 statute mile

F4 - Fog is obscuring 4/10 of the sky

CIG 9V12 - the ceiling is variable between 900 feet and 1200 feet.

Selected remarks in common usage are listed on page 22. Read them carefully, you will see them often.

1. MWL S Ø615 -XM11VØ38ØØ7/8VL-FK

2. The visibility is 7/8 statute mile.

3. "V" following the visibility means that the visibility is variable.

The variable item will be explained in the remarks section.

4. No. Visibility will always be reported in the aviation weather report.

FRAME 8

Symbols for weather conditions that are observed at the reporting station are shown below:

Thunderstorm T	Rain R	Rain Showers RW
Drizzle L	Freezing Rain ZR	Sleet E
Sleet Showers EW	Freezing Drizzle ZL	Snow S
Snow Showers SW	Snow Pellets SP	Snow Grains SG
Ice Crystals IC	Hail A	Small Hail AP

Precipitation-type weather symbols may be modified as light (-), heavy (+), or very light (--). No modifying signs indicate moderate intensity. The symbols IC, A, and AP will not be modified. (Example R-- very light rain, T+ heavy thunderstorms) T is never modified as light.

Circle the precipitation symbol in the following example. What does the L- indicate? light drizzle.

MWL S Ø615 -XM11VØ38ØØ7/8VL-FK 146/66/65/27Ø3/997/Ø27/CIG 9V12 VSBY 1/2V1 F4

1. T OVR STN MOVG E (THUNDERSTORM OVER STATION MOVING EAST)
2. RB18 (RAIN BEGAN AT 18 MINUTES PAST THE HOUR PRIOR TO THE TIME INDICATED IN THE CIRCUIT HEADING)
3. CB ALQDS (CUMULONIMBUS ALL QUADRANTS)
4. FROPA (FRONTAL PASSAGE)
5. CIG RGD (CEILING RAGGED)
6. WR (WET RUNWAY, FOLLOWED BY DECELEROMETER VALUE)
7. BINOVC (BREAK IN THE OVERCAST)
8. PRESFR (PRESSURE FALLING RAPIDLY)
9. SHLW GF ALQDS (SHALLOW GROUND FOG ALL QUADRANTS)
10. MTN TOPS OBSCE (MOUNTAIN TOPS OBSCURED)
11. WND LGT VRBL (WIND LIGHT AND VARIABLE)
12. F3 (FOG OBSCURING 3/10 OF THE SKY)
13. DRFTG S NW (DRIFTING SNOW TO THE NORTHWEST)
14. 55 65 (PILOT REPORTS BASE OF OVERCAST AT 5,500 FEET WITH TOP OF OVERCAST AT 6,500 FEET)
15. T OVHD (THUNDER OVERHEAD)
16. TCU NE-SE- RWU S (TOWERING CUMULUS NORTHEAST, SOUTHEAST, AND SOUTH: RAINSHOWERS OF UNKNOWN INTENSITY SOUTH OF THE STATION)
17. DSNT LTNG NE-SE (DISTANT LIGHTNING NORTHEAST THROUGH SOUTHEAST)
18. OCNL L-- (OCCASIONAL VERY LIGHT DRIZZLE)
19. F INCR (FOG INCREASING)
20. ⊕ V Ⓓ(OVERCAST VARIABLE TO BROKEN)
21. VSBY S-W 3/4 (VISIBILITY SOUTH THROUGH WEST THREE-FOURTHS OF A MILE)
22. R32VV3/8 (RUNWAY VISIBILITY ON RUNWAY 32 IS THREE-EIGHTS OF A MILE)
23. LTGIC (LIGHTNING IN CLOUD)
24. LTGICCG (LIGHTNING IN CLOUD AND CLOUD TO GROUND)
25. DRK W (DARK TO THE WEST - DENSE CLOUDS)

Decipher the following remarks:

1. PRESRR pressure rising rapidly
2. THN SPOTS IN OVC thin spots in overcast
3. ZRE56 freezing rain ended 56 minutes past the hour
4. IR ice on runway
5. CIG 3V5 ceiling ragged

In the example below, L- indicates Light Drizzle.

MWL S Ø615 -XM11VⒹ38ØⒹ7/8VL-FK 146/66/65/27Ø3/997/Ⓓ27/CIG 9V12

VSBY 1/2V1 F4

FRAME 9

Decode the following symbols.

R	rain	ZR	freezing rain	AP	small hail
RW	rain showers	ZL	freezing drizzle	A	hail
T	thunder	E	sleet	S	snow
L	drizzle	EW	sleet showers	IC	ice crystals
R--	very light rain	S--	very light snow	SG-	light snow grain
L-	light drizzle	SW+	very heavy snow	RW+	heavy rain shower
T+	heavy thunderstorm	EW+	very heavy sleet shower	ZR+	heavy freezing ra

1. PRESRR (PRESSURE RISING RAPIDLY)
2. THN SPOTS IN OVC (THIN SPOTS IN OVERCAST)
3. ZRE56 (FREEZING RAIN ENDED 56 MINUTES PAST THE PREVIOUS HOUR)
4. IR (ICE ON RUNWAY, FOLLOWED BY DECELEROMETER VALUE)
5. CIG 3V5 (CEILING 300 FEET VARIABLE TO 500 FEET)

FRAME 20

Write, in spaces provided, the weather at each station listed below.

BGS S M18⦶/⦶8TRW- 194/84/77/1711G25/ØØ8/TE12 T MOVD NE RE12 TB55
ABI 8ØⵀØ/⦶8 2Ø5/8Ø/57/25Ø7/Ø11
FSI PDW Ø3ØØ 15⦶D29Ø⦶1Ø 244/8Ø/75/141Ø/Ø24
DAL COR Ø3ØØ 2Ø⦶/⦶15+ ~~237/85/74/Ø912/Ø23~~/TCU NW

1. BGS special. measured 1800 ft. broken high broken 8 mile visibility thunderstorm + light rainstorms 1019.4 mb temp 84 dewpt 77° wind 170° 11 knots gusts to 25 knots 30.08 in Hg. thunder end 10 min past hr storm moved NE

2. ABI 8000 ft ~~scattered~~ high scattered ~~overcast~~ 8 statute miles 1020.5 mbs 80° (dpt. 57°) wind 250° 7 knots 30.11 in Hg.

3. FSI pilot delayed weather report 03:00 time) 1500 scattered extended 29000 overcast. 10 mile visibility 1024.4 mbs 80° 75° dew pt. 140° 10 kts wind 30.24 in Hg

4. DAL corrected report 0300 2000 scattered

N. W

R	Rain	ZR	Freezing Rain	AP	Small Hail
RW	Rain Showers	ZL	Freezing Drizzle	A	Hail
T	Thunderstorms	E	Sleet	S	Snow
L	Drizzle	EW	Sleet Showers	IC	Ice Crystals
R--	Very Light Rain	S--	Very Light Snow	SG-	Light Snow Grains
L-	Light Drizzle	SW+	Heavy Snow Showers	RW+	Heavy Rain Showers
T+	Heavy Thunderstorms	EW+	Heavy Sleet Showers	ZR+	Heavy Freezing Rain

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FRAME 10

Symbols for obstruction to vision are as follows:

F	Fog	GF	Ground Fog	BS	Blowing Snow
BN	Blowing Sand	BD	Blowing Dust	IF	Ice Fog
H	Haze	K	Smoke	D	Dust

Unlike precipitation symbols, obstruction-to-vision symbols will not be modified as light, moderate or heavy.

The obstruction to vision in each of the following cases is:

K	smoke	BS	blowing snow	BN	Blowing sand
BD	blowing dust	GF	Ground fog	H	haze
IF	ice fog	D	dust	F	fog

STOP - RETURN TO PAGE 2 AND THEN CONTINUE

1. BGS; special report (time of observation is omitted) ceiling is measured 1800 feet broken; high broken; 8 statute miles visibility; thunder and light rain showers; sea level pressure is 1019.4 millibars; temperature is 84° Fahrenheit; dew point is 77 degrees F; wind is from 170 degrees at 11 knots gusting to 25 knots; altimeter setting is 30.08 inches of mercury; Remarks - thunderstorm ended at 12 minutes past the hour thunderstorm moved to the northeast, rain ended at 12 minutes past the hour, thunderstorm began again at 55 minutes past the hour.

2. ABI; 8000 feet scattered; high scattered; 8 miles visibility; sea level pressure - 1020.5 mbs; temperature 80° F; dew point 57°F; wind at 250° at 7 KTs; altimeter setting 30.11 in Hg.

3. FSI; priority delayed weather reported at 0300 ZULU; 1500 feet scattered; estimated 29,000 feet broken (D is used for high cloud estimates); visibility - 10 miles; pressure 1024.4mbs; temperature - 80°F; dew point 75°F; winds 140° at 10 KTs; altimeter 30.24" hg.

4. DAL; corrected report transmitted at 0300 ZULU; 2000 scattered; high scattered clouds; visibility more than 15 miles; 1023.7mbs; temp 85°F; dew point 74°F; winds 90° at 12 KTs; altimeter 30.23; towering cumulus clouds northwest of the station.

CONTINUE TO THE SELF EVALUATION EXERCISE

SELF EVALUATION EXERCISE

Refer to the following teletype sequence report for questions 1 thru 7.

PKB 1ØØE4ØØ8 132/69/68/182ØG26/992/ØVØ RE45

1. The report for Parkensburg (PKB) is a ___d___ type of report.

   a. Special
   b. Delayed
   c. Priority Delayed Weather
   d. Scheduled Report.

2. The ceiling in the Parkersburg (PKB) report indicates:

   a. Scattered cloud layer at 100 feet.
   b. Broken cloud layer at 1000 feet.
   c. Overcast cloud layer at 4000 feet.
   d. Overcast cloud layer at 1000 feet.

3. The temperature/dew point spread for Parkersburg (PKB) is:

   a. 6° Fahrenheit
   b. 6° Centigrade
   c. 1° Fahrenheit
   d. 1° Centigrade

4. The wind direction and speed at Parkersburg (PKB) is:

   a. 182° at 26 knots.
   b. 182° winds clam with gusts to 26 knots.
   c. 018° at 20 knots.
   d. 180° at 20 knots with gusts to 26 knots.

5. The term RE45, at the end of the report, means:

   a. Repeat report from 45 past the hour.
   b. Rain ended 45 past the last hour.
   c. Radar estimates (of ceiling) 45 past the hour.
   d. Rain Elevation 4500 feet.

6. The visibility given in the body of the Parkersburg (PKB) report is:

a. 8 nautical miles
b. 40 statute miles
c. .8 of one statute mile
d. 8 statute miles

7. In the remarks section of the Parkersburg (PKB) report, the sky condition is reported as:

a. clear, variable to scattered
b. scattered, variable to broken
c. broken, variable to overcast
d. overcast, variable to complete obscuration

Refer to the following teletype sequence reports for questions 8 thru 13.

```
DAL M49⊕8 176/66/6Ø/27Ø6/ØØ5
LBB E1ØØ⊕8 145/72/65/17Ø6/996
SPS O6H 68/67/ØØØØ/ØØ5
TUL A25Ø⊕15 176/7Ø/69/Ø91Ø/ØØ5/BINOVC
TIK 34-⊕E15Ø⊕15 72/69/Ø5Ø8/ØØ6/MAG Ø4
FSI O4Ø 126/8Ø/58/13Ø7/99Ø/FEW CU PRESRR
```

8. The ceiling at Dallas (DAL) is:

a. 490 feet
b. 4908 feet
c. 49,000 feet
d. 4900 feet

9. The station reporting calm winds is:

a. FSI
b. SPS
c. TIK
d. LBB

10. The altimeter setting in inches of mercury at Lubbock (LBB) is:

a. 29.66 in Hg
b. 29.96 in Hg
c. 1014.5 in Hg
d. 914.5 in Hg

11. The ceiling in the Tulsa (TUL) report was determined by:

a. radar
b. balloon
c. BINOVC
d. aircraft

12. The sea level pressure in the Ft Sill (FSI) sequence is:

a. 126 mbs
b. not listed
c. 1012.6 mbs
d. 912.6 mbs

13. The report for Tinker AFB (TIK) shows a visibility of:

a. 15 statute miles
b. no visibility reported
c. 72 statute miles
d. 15 nautical miles

Refer to the following teletype sequence report for questions 14 thru 20 .

```
FWH A27Ø2ØØØ1Ø 85/79/16Ø9/999/MAG 15
PKB 1ØØE4Ø+8 132/69/68/18ØG26/992/ØVØ RE45
REE Ø1GF 196/62/6Ø/27Ø6/Ø11/VSBY SW 1/2
DYS Ø12 937/68/54/1812/964/VSBY E 11/2K
BIL M12ØØ6Ø 963/81/35/3635G50/942/WSHFT 17Ø5M FROPA 17Ø5M
HLR E12Ø9Ø+7 Ø44/79/56/1815G25/966/RE3Ø
```

14. The temperature at Carswell AFB (FWH) is:

    a. 85°C
    b. 79°C
    c. 85°F
    d. 79°F

15. The time of observation of the Dyess AFB (DYS) sequence is:

    a. Ø937 Zulu
    b. 1012 Zulu
    c. on schedule-not listed
    d. off schedule-not listed

16. Fog could occur at Parkersburg (PKB) because:

    a. the rain ended and the ground is wet
    b. the gusty winds cause condensation to "Boil"
    c. the dew point is within 1° of the temperature
    d. southerly winds induce fog

17. The altimeter setting at Billings (BIL) is:

    a. 29.63 in Hg
    b. 29.42 in Hg
    c. 29.63 mbs
    d. 29.42 mbs

18. The sky is clear at Reese AFB (REE) but the visibility is restricted by:

    a. ground fog
    b. grass fire
    c. gusting fog
    d. grass fire in the Sw quadrant only

19. A helicopter flight in the Fort Hood (HLR) area:

    a. would be in the rain
    b. would be flying over fog
    c. would be in gusty wind conditions
    d. would require an instrument rated copilot

20. On a helicopter flight from Carswell AFB (FWH) to Dyess AFB, Abilene (DYS) you would expect the ceiling to:

    a. remain the same
    b. lower
    c. improve

Key to SELF EVALUATION EXERCISE

1. d
2. c
3. c
4. d
5. b
6. d
7. b
8. d
9. b
10. b
11. d
12. c
13. a
14. c
15. c
16. c
17. b
18. a
19. c
20. c

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