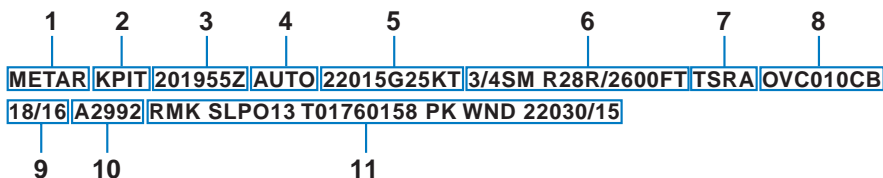


BENDIX/KING®

Understanding Aviation Weather Reports

UNDERSTANDING METARS

Refer to the numbers on the following diagram to find the appropriate descriptions.



1. Type of Report: **METAR** (SPECI will be seen here if this is a Special Weather Report)
2. ICAO Station Identifier: **KPIT**
This is the location for which the METAR pertains.
3. Date and Time of Issue: **201955Z**
The **20**th day of the month at **1955Z**ulu or UTC.
4. **AUTO** indicates the reporting station is an automated station. If the reporting station is a manned station this element will be omitted. Also, if a report from an automated station is modified by a person this element will be omitted. "COR" in this element indicates a corrected report.
5. Wind: **22015G25KT**
220 is the 3 digit true direction to the nearest 10°. Airport advisory service, ATIS and ATC towers report wind direction as magnetic. "VRB" in this place indicates variable winds less than or equal to 6 knots. If wind direction is varying more than 60° with speeds over 6 knots, an entry similar to "180V260" will be displayed in this place. This example actually shows wind direction varying by 80°.
15 is the 2 or 3 digit wind speed (in knots).
25 is the 2 or 3 digit wind gust speed in knots (**KT**) because it follows a **G** (Gust).
6. Visibility: **3/4SM R28R/2600FT**
3/4 indicates 3/4 statute mile (**SM**) visibility.
Runway Visual Range (RVR) for **R28R** (runway 28 right) is 2600 feet (**2600FT**). An "M" in this distance number indicates visibility is less than

the lowest reportable sensor value. A “P” indicates visibility is greater than the highest reportable sensor value.

NOTE: Only reported at those locations with certified RVR reporting capability.

7. Significant Present Weather: **TSRA**

TS is a two letter designation for thunderstorm. Other possible designations could be as follows:

BC	Patches
BL	Blowing
DR	Low Drifting
FZ	Supercooled/Freezing
MI	Shallow
PR	Partial
SH	Showers

The second two letter designator, **RA**, indicates moderate rain. Moderate is indicated by the absence of a “+”, “-” or “VC” preceding the designation. These preceding designations represent the following:

+	Heavy
-	Light
VC	In the vicinity

Other possible designations could be as follows:

BR	Mist
DS	Dust Storm
DU	Widespread Dust
DZ	Drizzle
FC	Funnel Cloud
+FC	Tornado/Water Spout
FG	Fog
FU	Smoke
GR	Hail
GS	Small Hail/Snow Pellets
HZ	Haze
IC	Ice Crystals
PE	Ice Pellets
PO	Dust/Sand Whirls
PY	Spray
SA	Sand
SG	Snow Grains
SN	Snow
SQ	Squall
SS	Sandstorm
UP	Unknown Precipitation (Automated Observations)
VA	Volcanic Ash

8. Sky Condition: **OVC010CB**

OVC indicates the sky is overcast. Cloud cover is based on the sky being divided into eighths or octas. Overcast means the sky is 8 octas covered. The cloud cover designators are as follows:

SKC Sky Clear

CLR Clear below 12,000 ft. (automated observing systems)

FEW 1-2 Octas

SCT 3-4 Octas

BKN 5-7 Octas

OVC 8 octas

“VV” may also be encountered here indicating an indefinite ceiling. For example, VV004 would indicate a vertical visibility of 400 feet.

010 indicates clouds are at 1000 feet.

CB denotes cloud type is cumulonimbus. “TCU” is another possible designator meaning towering cumulus. CI is cirrus.

9. Temperature/Dew Point: **18/16**

18 indicated the temperature is 18° Celsius. An “M” preceding the temperature means the temperature is below 0° Celsius.

16 indicated the dew point is 16° Celsius. An “M” preceding the dew point means the dew point is below 0° Celsius.

10. Altimeter Setting: **A2992**

A indicates the setting is in inches of mercury.

2992 is the altimeter setting. The first two digits are inches and the second two are hundredths.

11. Remarks: **RMK SLP013 T01760158 PK WND 22030/15**

RMK designates the beginning of the remarks. Remarks can contain anything, but often include the following:

SLP indicates sea level pressure in millibars from selected stations.

013 indicates pressure is 1001.3 millibars.

T01760158. Selected stations may also include a 9 place code indicating temperature and dewpoint to the nearest 1/10 degree. **T** denotes temperature. **0** indicates temperature is above 0° Celsius. A “1” in this position indicates a temperature below 0° Celsius. **176** indicates a temperature of 17.6° Celsius. The next **0** indicates the dew point is above 0° Celsius. A “1” in this position indicates a dew point below 0° Celsius. **158** indicates a dewpoint of 15.8° Celsius.

PK WND 22030/15. Selected stations may include peak wind observations which will appear in the remarks element.

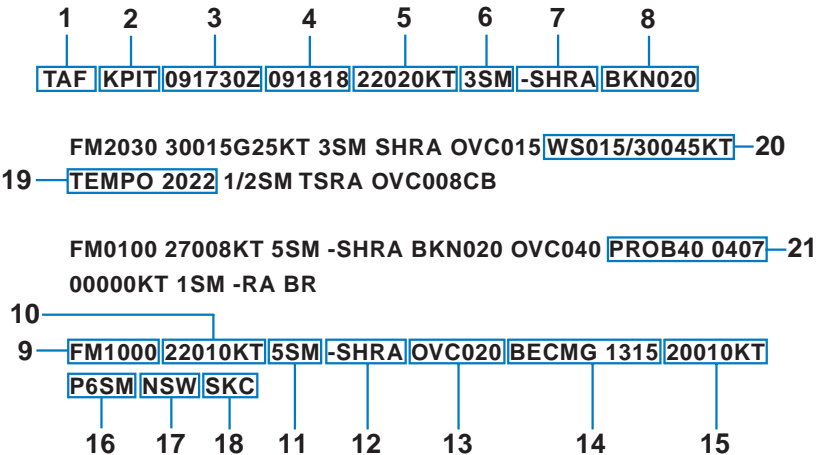
PK WND denotes peak wind.

200 indicates wind direction from 200°.

30/15 indicates a maximum instantaneous wind of 30 knots occurred at 15 minutes past the hour.

UNDERSTANDING TAFS

Refer to the numbers on the following diagram to find the appropriate descriptions.



1. Type of Report: **TAF**

TAF indicates a Terminal Area Forecast. TAF AMD indicates an amended forecast.

2. ICAO Station Identifier: **KPIT**

This is the airport for which the TAF pertains.

3. Date and Time of Issue: **091730Z**

The **9th** day of the month at **1730Z**ulu or UTC.

4. Date and Time Valid: **091818**

The **9th** day of the month, valid for 24 hours from 091800Z to 101800Z. An amended forecast (TAF AMD) will be valid for only the time interval remaining, usually less than 24 hours.

5. Forecast Wind: **22020KT**

See #5 in the [UNDERSTANDING METARS](#) section for details.

6. Forecast Visibility: **3SM**

See #6 in the [UNDERSTANDING METARS](#) section for details, except RVR is not included in a TAF

7. Forecast Weather Phenomenon: **-SHRA**

[See #7 in the UNDERSTANDING METARs](#) section for details.

8. Sky Conditions: **BKN020**

[See #8 in the UNDERSTANDING METARs](#) section for details.

9. Beginning of Changed Forecast Conditions: **FM1000**

FM denotes “from” and **1000** indicates 1000Z. “From” means a significant change in prevailing conditions is expected. The described conditions follow this element and supercede all previous forecast conditions.

10. Forecast Wind: **22010KT**

[See #5 in the UNDERSTANDING METARs](#) section for details.

11. Forecast Visibility: **5SM**

[See #6 in the UNDERSTANDING METARs](#) section for details.

12. Forecast Weather Phenomenon: **-SHRA**

[See #7 in the UNDERSTANDING METARs](#) section for details.

13. Forecast Sky Conditions: **OVC020**

[See #8 in the UNDERSTANDING METARs](#) section for details.

14. Change in Conditions: **BECMG 1315**

BECMG indicates “becoming” over the time interval between 1300Z (**13**) and 1500Z (**15**). “Becoming” describes a gradual change in forecast conditions. The described conditions follow this element and supercede previously reported like elements.

15. Wind Becoming: **20010KT**

[See #5 in the UNDERSTANDING METARs](#) section for details. This element may be omitted if no change is expected.

16. Visibility Becoming: **P6SM**

[See #6 in the UNDERSTANDING METARs](#) section for details. This element may be omitted if no change is expected.

17. Weather Phenomenon Becoming: **NSW**

NSW indicates “No Significant Weather”. [See #7 in the UNDERSTANDING METARs](#) section for details.

18. Sky Conditions Becoming: **SKC**

[See #8 in the UNDERSTANDING METARs](#) section for details. This element may be omitted if no change is expected.

19. Change in Conditions: **TEMPO 2022**

TEMPO indicates “temporary” changes expected as described between 2000Z (**20**) and 2200Z (**22**). “Temporary” indicates a temporary fluctua-

tion in conditions, usually lasting less than one hour. The described conditions follow this element.

20. Low Level Windshear: **WS015/30045KT**

WS indicates “windshear” not associated with convective activity. **015** indicates the windshear is expected at 1500 feet. AGL. Wind is expected from 300° (**300**) at 45 knots (**45KT**).

21. Change in Conditions: **PROB40 0407**

PROB40 indicates a 40% “probability” of described conditions occurring between 0400Z (**04**) and 0700Z (**07**). The described conditions follow this element.

UNDERSTANDING PIREPS

The following is an example of a typical PIREP with an explanation of the elements.

1 2 3

**KCRW/UA/OV KBKW 360015-KCRW/TM 1815/FL120/TP BE99/SK IMC/
WX RA/TA M08/WV 290030/TB LGT-MDT/IC LGT RIME/RM MDT MXD
ICG DURGC KROA NWBND FL080-100 1750Z**

1. Station Identifier: **KCRW**

This is the station identifier of the nearest weather reporting location to the reported conditions.

2. Report Type: **UA**

Reports will be routine (UA) or urgent (UUA).

3. Location: **OV KBKW 360015-KCRW**

OV indicates the report is in relation to a VOR. **KBKW** is the VOR identifier, in this case Beckley VOR. **360015-KCRW** indicates position as related to the VOR. In this case, **15** miles out on the **360** degree radial. **KCRW** indicates this is a leg to the Charleston, West Virginia VOR.

The next series of elements contain data that is read much like that in METARs and TAFs. Each element starts with a 2-letter designator which denotes the type of data with that element. The following defines the element designators:

/TM: Time as Coordinated Universal Time

/FL: Altitude as Flight Level

/TP: Aircraft Type

/SK: Sky Cover (may include cloud height and coverage)

/WX: Weather Phenomenon (can include flight visibility, precipitation and restrictions to visibility).

/TA: Outside air temperature at altitude in degrees Celsius.

/WV: Wind (direction in degrees magnetic north and speed in knots)

/TB: Turbulence (refer to the Airman's Information Manual)

CAT - Clear Air Turbulence

CHOP - Choppy Turbulence

OCNL - Occasional

NEG - No Turbulence

ABV - Above

BLO - Below

LGT - Light - Momentarily causes slight, erratic changes in altitude and/or attitude.

MOD - Moderate - Greater intensity changes in altitude and/or attitude, but aircraft remains in positive control at all times. Usually causes changes in indicated airspeed.

SEV - Severe - Causes large and abrupt changes to aircraft altitude and/or attitude. Large variations in indicated airspeed and momentary loss of control.

EXTRM - Extreme - Aircraft is violently tossed about and is nearly impossible to control. May cause structural damage.

/IC: Icing (refer to the Airman's Information Manual)

CLR - Clear

MX - Mixed (combination of rime and clear icing)

NEG - No Icing

ABV - Above

BLO - Below

Trace - Ice becomes perceptible. Rate of evaporation is almost equal to the rate of accumulation. Deicing/anti-icing equipment is not utilized unless encountered for a period of time greater than 1 hour.

LGT - Light - Rate of accumulation may be a problem if flight is prolonged for longer than 1 hour without deicing/anti-icing equipment. Deicing/anti-icing removes and/or prevents accumulation.

MOD - Moderate - The rate of accumulation is such that even short encounters become potentially hazardous. Use of deicing/anti-icing equipment or diversion is necessary.

SEV - Severe - Flight diversion is necessary. Deicing/anti-icing equipment is not effective.

/RM: Remarks (for reporting elements not included or to clarify previously reported items). Remarks can include anything. The example translates to “moderate (**MDT**) mixed (**MXD**) icing during climb (**DURGC**) from Roanoke, VA (**KROA**) northwestbound (**NWBND**) between Flight Level 080 and 100 (**FL080100**) at **1750Z**”.

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