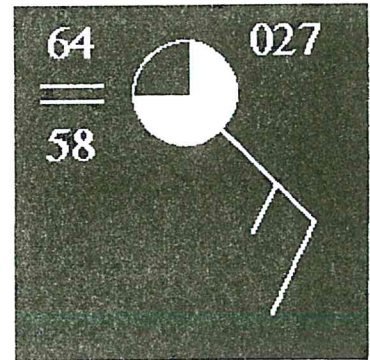## Reading a Weather Map

The symbol to the right is called **a station model**. It gives information on temperature, dew point, pressure, cloud coverage, wind direction & wind speed. This station shows a temperature of 64 $^0$F, and a dew point of 58 $^0$F.

The line portion of the station model is known as a **"Wind Barb"**. The wind barb indicates the wind direction and wind speed.

Wind barbs point in the direction **"from"** which the wind is blowing. In the case of the diagram to the right, the orientation of the wind barb indicates winds from the Southeast.

| | |
|---|---|
| | Calm |
| | 5 Knots |
| | 10 Knots |
| | 15 Knots |
| | 20 Knots |
| | 50 Knots |
| | 65 Knots |

Wind speed is given here in the units of "knots" (knt). A "Knot" is a nautical mile per hour.

**1 Knot = 1.15 Miles Per Hour (MPH)**

**1 Knot = 1.9 Kilometers Per Hour (KM/HR)**

Each short barb represents 5 knots; each long barb 10 knots. A long barb and a short barb = 15 knots, simply by adding the value of each barb together (10 knots + 5 knots = 15 knots). If only a station circle is plotted, the winds are calm. Flags are 50 knots. Therefore, the last wind example in the chart below has a wind speed of 65 knots. (50 knots + 10 knots + 5 knots)
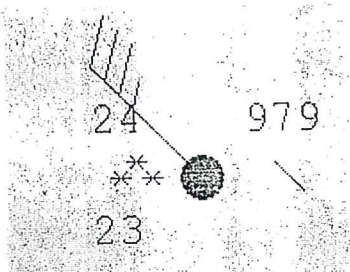
Precipitation Symbols:

| | | | | | |
|---|---|---|---|---|---|
| Fog: | ☰ | Rain: | ● ● | Shower: | ▽ |
| Drizzle: | ⁹ ⁹ | Snow: | ✳ ✳ | Thunderstorm: | �ónio |

The station model above shows a pressure of 102.7 millibars. The barometer reading (modified to sea level) is given in millibars to the nearest tenth. The plotted value contains only the tens, units and tenths of the reading, since surface pressure almost always range between 951.0 mb and 1050.0 mb. This means that pressure reports may omit the first one or two digits. The meteorologist must decide whether the reading is between 951 and 999 mb or between 1000 and 1050 mb. For example, consider the following reports:

| Plotted pressure: | 165 | 810 | 983 | 004 |
|---|---|---|---|---|
| Actual sea-level pressure: | 1016.5 mb | 981.0 mb | 998.3 mb | 1000.4 mb |

Sky coverage (total amount of cloud cover) is reported inside the station circle. An empty circle indicates no cloud, a half-shaded circle means four-eights of the sky is cloud-covered, and fully shaded circle stands for a completely overcast sky. The station model on the previous page shows a sky that is mostly sunny.
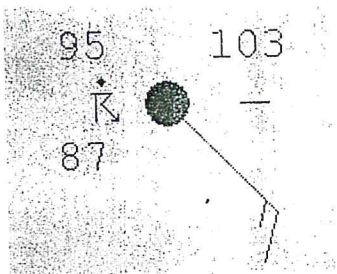
### Fig. 1

Temperature _____     Dew pt. _____

Pressure _____     Sky conditions _____

Precipitation _____

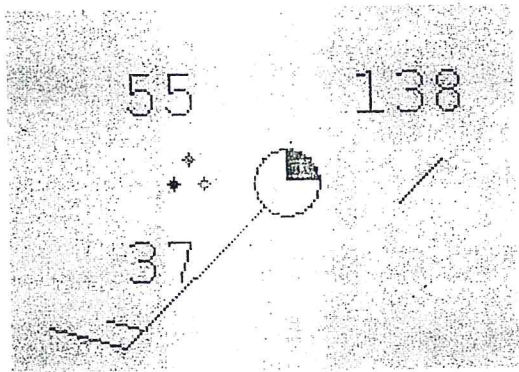Wind speed _____Knots     Wind speed _____ Km/hr

Direction _____

Temperature _____     Dew pt. _____

Pressure _____     Sky conditions _____

Precipitation _____

### Fig 2
Wind speed _____Knots

Wind speed _____ Km/hr     Direction _____

Temperature _____     Dew pt. _____

Pressure _____     Sky conditions _____

Precipitation _____

Wind speed _____Knots     Wind speed
_____ Km/hr

Direction_____

### Fig 3

# Weather Station Model Practice

Write the information for each station model. For the pressure, remember to add the decimal point between the 2$^{nd}$ & 3$^{rd}$ digit, then put a 9 or 10 in front of it. The acceptable range of pressures is 960mb to 1040mb. The first is an example.

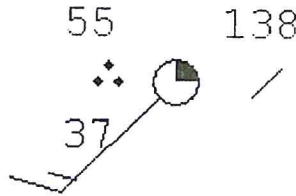<u>Temperature:</u> 55°F
<u>Dew Point:</u> 37°F
<u>Wind Direction:</u> from the SW
<u>Wind Speed:</u> 15mph
<u>Cloud Cover:</u> 25% (or scattered)
<u>Pressure:</u> 1013.8mb
<u>Current Weather:</u> strong rain [*more dots means more rain*]

55    138
37

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<u>Temperature:</u>
<u>Dew Point:</u>
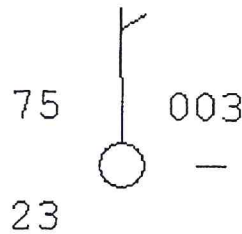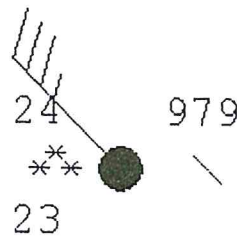<u>Wind Direction:</u>
<u>Wind Speed:</u>
<u>Cloud Cover:</u>
<u>Pressure:</u>
<u>Current Weather:</u>

75    003
23    —

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<u>Temperature:</u>
<u>Dew Point:</u>
<u>Wind Direction:</u>
<u>Wind Speed:</u>
<u>Cloud Cover:</u>
<u>Pressure:</u>
<u>Current Weather:</u>

24    979
23

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<u>Temperature:</u>
<u>Dew Point:</u>
<u>Wind Direction:</u>
<u>Wind Speed:</u>
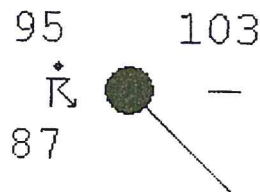<u>Cloud Cover:</u>
<u>Pressure:</u>
<u>Current Weather:</u>

95    103
87    —

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<u>Temperature:</u>
<u>Dew Point:</u>
<u>Wind Direction:</u>
<u>Wind Speed:</u>
<u>Cloud Cover:</u>
<u>Pressure:</u>
<u>Current Weather:</u>

63    078
62