

Section 4

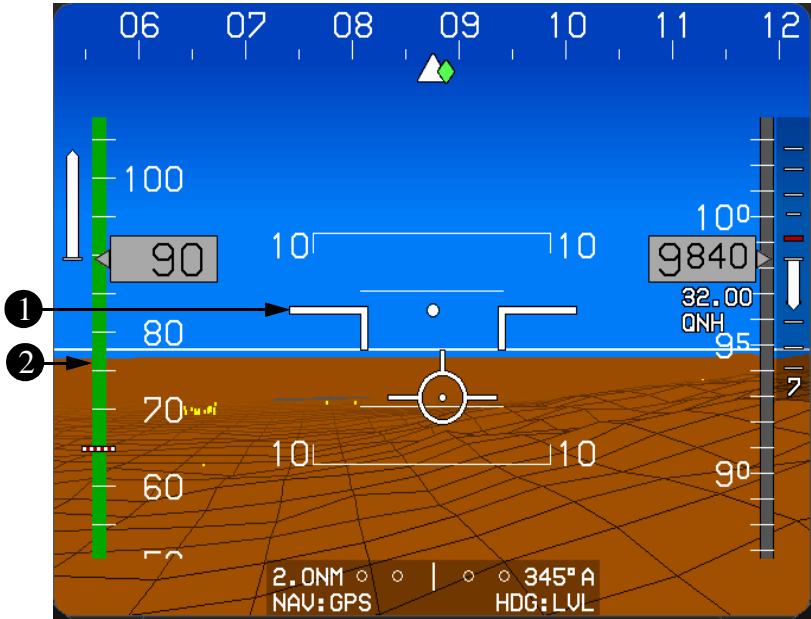
Rotorcraft Display Symbology

The following pages detail the symbology specific to rotorcraft installations. Each screen is mapped with identifiers for each element and the element descriptions follow immediately thereafter.

Rotorcraft PFD

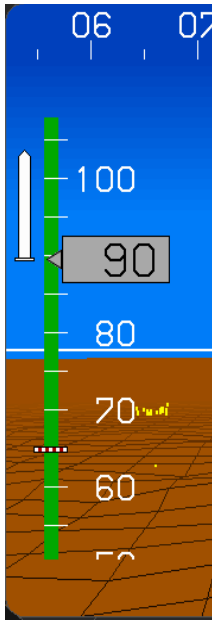
In systems installed in rotorcraft, the pitch scale is caged in the center of the screen. The flight path marker continues to move and indicate direction of travel. A full-time expanded waterline aids in situational awareness. Because the flight path marker is used in conjunction with a 3-dimensional background, the flight path marker utility normally associated with a HUD is achieved.

PFD In Flight



1. Expanded Waterline
2. Airspeed Scale

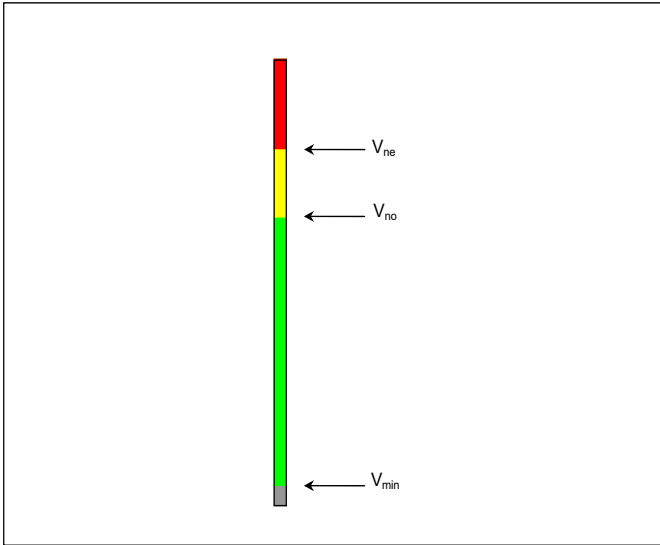
Airspeed Scale



The Part 27 and 29 rotorcraft airspeed scale has graduations every 5 measurement units with labels every 10 measurement units and has markings as follows:

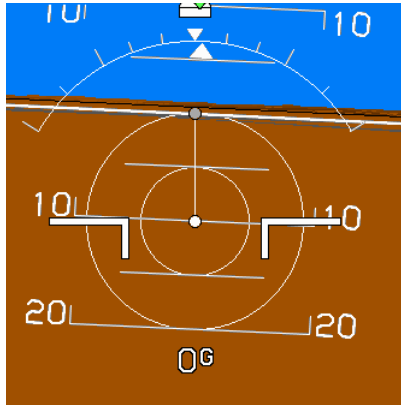
1. A gray background.
2. A green safe operating range area from V_{\min} to V_{no} . V_{\min} refers to the minimum speed for effective airspeed.
3. A yellow caution range area from V_{no} to V_{ne} (power-on)
4. A red high-speed awareness area from V_{ne} (power-on) to the top of the scale

This is depicted below:



The airspeed scale for rotorcraft has markings to indicate V_{NE} power off, commonly referred to as a “Barber Pole”, and also for translational lift reference if enabled. The V_{NE} marking will be a red cross-hatched line on the airspeed indicator. This will normally indicate the power off recommended autorotation airspeed. If enabled, the translational lift marking will be a white triangle on the airspeed indicator.

Hover Vector and Rings

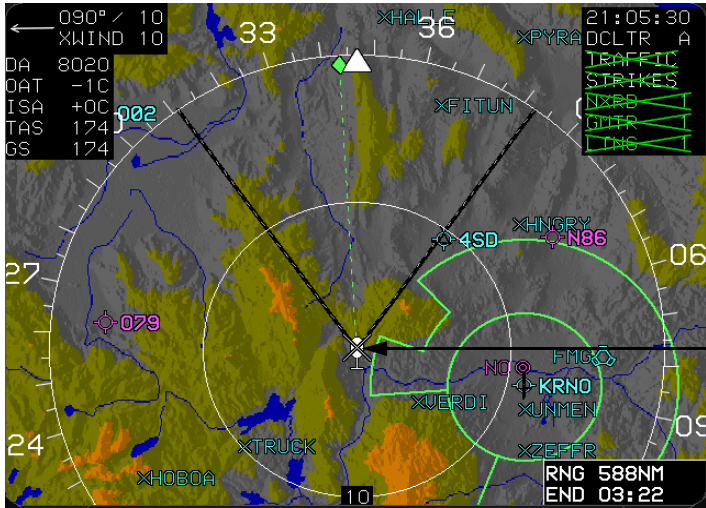


The hover vector appears when groundspeed drops below 30 knots. Velocity and direction of travel are then determined by the vector symbol. Deviation of the dot in a straight up direction (12 o'clock position) indicates forward flight while straight down (6 o'clock position) indicates rearward flight. Deviation of the dot laterally indicates lateral drift. The movement of the dot is constrained to less than 5 knots per second to prevent jumpiness. The inner ring indicates 10 knots and the outer ring indicates 20 knots.

Rotorcraft MFD

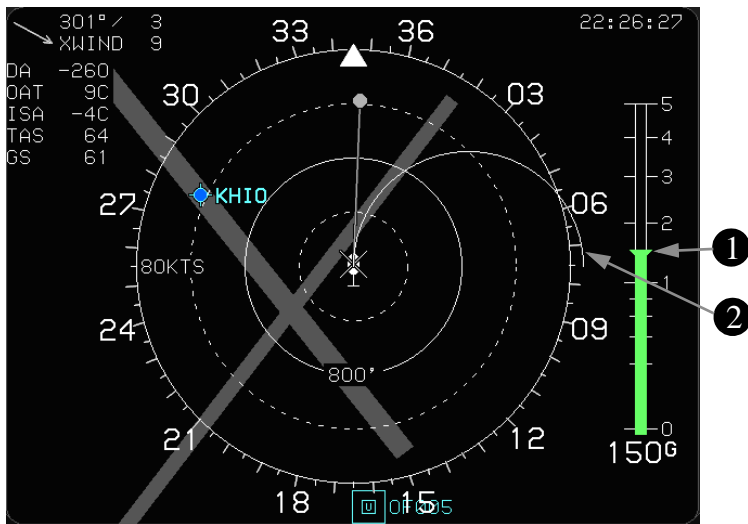
On MFD systems installed in rotorcraft, the MFD Map page shows the ownship symbol as a helicopter. A Hover Page is also available which displays the hover vector, projected path, and AGL Indication.

Rotorcraft MFD Map Page



1. Rotorcraft Ownship

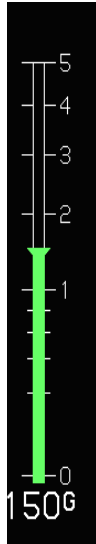
Rotorcraft MFD Hover Page



1. AGL Indicator
2. Projected Path

The solid ring indicates the distance from the ownship symbol. The possible distance ranges are 200', 400', 800', 0.25NM, 0.5NM, 1NM, and 2.5NM. The range may be changed using the lower right scroll knob. The dashed ring indicates speed range which changes automatically based upon current groundspeed. Possible speed ranges are 20KTS, 40KTS, and 80KTS.

AGL Indicator



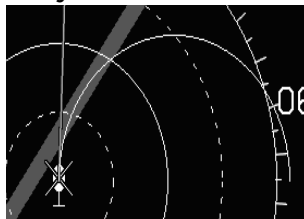
An AGL Indicator is displayed on the right side of the hover page. The top of the scale indicates 500 feet AGL. The scale is logarithmic to show finer resolutions at lower altitudes. A digital readout of the AGL value is displayed below the scale. The AGL altitude is driven by one of the following:

“R” = Radar Altitude

“G” = GPS/WAAS Geodetic Height less ground elevation

“B” = Barometric Altitude less ground elevation

Projected Path



A projected path symbol is displayed on the hover page to aid in visualizing the radius of turns. See page 3-116.

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