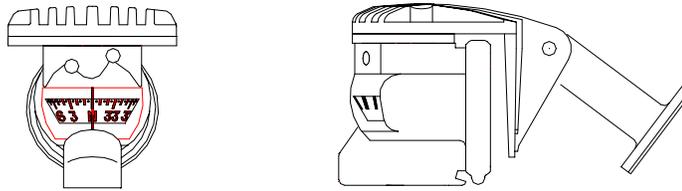


THE 'NAVIGATOR' AIRCRAFT COMPASS

From SIRS Navigation Ltd – England.



Installation Instructions

The NAVIGATOR is a precision compass suitable for installation into Light Aircraft. To obtain the optimum performance you should ensure that you carry out the following instructions carefully. We advise you to read through these instructions and notes before attempting to mount the unit in your aircraft.

THE COMPASS

The NAVIGATOR is provided with a compensating system, which will enable you to minimise, the magnetic disturbances created by the mechanical and electrical characteristics of your aircraft.

The Compass Card is graduated in 5-degree increments with cardinal points at N, S, E & W. Because of the limited space available, the markings between the cardinal points should be multiplied by a factor of 10. i.e. 3 = 30 degrees, 24 = 240 degrees etc.

POSITION

The optimum mounting positions for the NAVIGATOR is to secure it to the inside of the canopy, on top of the coaming or slung beneath the roof panelling or a spar. (Fig.1).

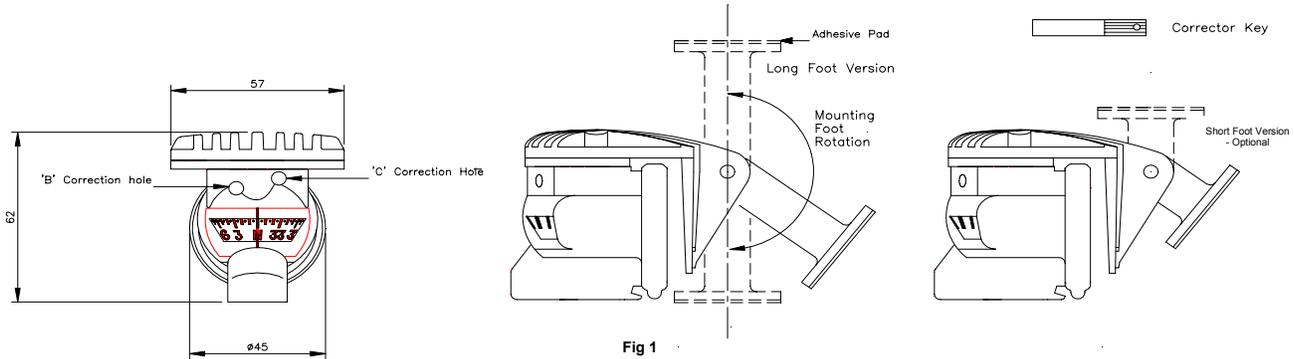


Fig 1

Before finalising the mounting point, it is a good idea to temporarily mount the compass in its intended position and "Swing" the aircraft to see if the initial deviations are less than 30 degrees. If the deviation for each cardinal point is less than 30 degrees then proceed with the mounting procedure described below. If the errors are greater than 30 degrees, then try mounting the compass in a more suitable position. If this does not resolve the problem, local de-gaussing may be required to reduce the disturbing magnetic influence.

MOUNTING

- 1) To mount the unit follow steps 2 to 9
- 2) Ensure that the mounting surface temperature is not less than 10 degrees C. Ensure that the mounting area you have chosen is clean. **(Do not use the sachet provided, this will be required later.)**
- 3) Close doors, windows, switch on the engine and accessories which are commonly used such as radio, heater fan etc.
- 4) Offer the unit up to the position chosen and note the reading, adjust the position of the unit so that the error shown is at a minimum, (this error must not exceed 30 degrees), note this position.
- 5) Using the cleaning cloth, contained in the sachet provided, clean the area of the aircraft you have selected to mount the compass. **(DO NOT TOUCH THIS AREA AFTER CLEANING.)**
- 6) Carefully remove the plastic film from the base of the mounting bracket; **(DO NOT TOUCH THE ADHESIVE PAD)**. Position the compass and bracket on to the mounting surface, making sure that it is square and true to the aircraft. Press very lightly to the mounting surface and check that the location is satisfactory, when you are sure that the location is correct press hard and maintain this pressure for approximately 30 seconds.
- 7) Screw Holes are provided \varnothing 3.1mm for additional securing if required.
- 8) It is advisable not to stress the mounting for 24 hours. This will allow the adhesive bond to fully cure.

ADJUSTING YOUR COMPASS

Before your compass can be adjusted the aircraft must be capable of being aligned to both the East /West axis and North/South axis. The use of another compass outside the aircraft, to determine the cardinal points is advised.

These following notes should be used for initial installation guidance only, the corrections should be checked by a qualified Compass Adjuster before flying.

CORRECTION EAST/WEST ('B' Coefficient)

- 1) Align your aircraft facing East, insert the Corrector Key provided, into the Left hand hole at the front of the compass, rotate the key in either direction so that the East point is directly under the Index line.
- 2) Align your vehicle/aircraft facing west and check that the West Point is under the Index line. Any error may be corrected by readjusting to remove **HALF** the error shown.

CORRECTION NORTH/SOUTH ('C' Coefficient)

- 1) Align your vehicle/aircraft facing North, insert the Corrector Key into the Right hand hole at the front of the compass, rotate the key in either direction so that the North point is directly under the Index line.
- 2) Align your vehicle/aircraft facing South and check that the South point is under the Index Line. Any error may be corrected by readjusting to remove **HALF** the error shown.

The above procedures can be repeated until the errors are minimised.

If these adjustments result in consistent errors on each of the Cardinal points the compass may not be aligned correctly on the Fore and Aft directions of the aircraft, to correct this misalignment proceed as follows: -



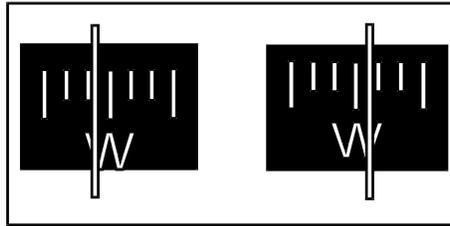


Fig 2

Fig 3

CORRECTION FOR MIS-ALIGNMENT ('a' Coefficient)

Only follow this procedure if the results obtained so far do not reach or requirements.

- 1) Align the aircraft facing North; record the compass error in Box A.
- 2) Align the aircraft facing South; record the compass error in Box B.
- 3) Align the aircraft facing East; record the compass error in Box C.
- 4) Align the aircraft facing West; record the compass error in Box D.

Note:

Errors to the Left of the true heading should be prefixed with a plus sign (+). [Fig 2]
Errors to the right of the true reading should be prefixed with a minus sign (-). [Fig 3]

- 5) Add the readings in Boxes A to D, enter the result in Box E. Divide the figure in Box E by 4, record the result in Box F, this figure is the error due to mis-alignment and may be corrected as follows.

Note the current magnetic heading, carefully loosen the two cross headed screws which secure the compass to the bracket, rotate the compass body in the opposite direction to the error shown in Box F. i.e. If the error in Box F is +5 degrees, rotate the compass body by -5 degrees and vice versa. Carefully tighten the two cross-headed screws without moving the compass body

CORRECTION TABLE

In this example the compass body would need to be rotated by +5 degree

If having carried out these procedures the results are not satisfactory a new location must be found before this can be done the NAVIGATOR must be returned to it's ZERO status by carrying out the following procedure.

BOX	Sample Error	BOX	ACTUAL ERROR
A (NORTH)	+15	A	
B (SOUTH)	+5	B	
C (EAST)	-10	C	
D (WEST)	+10	D	
E (TOTAL)	+20	E	
F (E° / 4)	+5	F	

- 1) Remove the NAVIGATOR from the bracket by removing the two cross-headed screws, this will reveal the top plate with its four spindles with white lines across.
Using the key provided rotate the spindles until all the white lines are parallel across the top plate, this is the ZERO CORRECTION status
- 3) Choose another location for the NAVIGATOR and repeat the installation procedure.

Correction Card Fitting

The correction card, supplied with the compass is designed to be either:

fitted to the underside of the compass

or

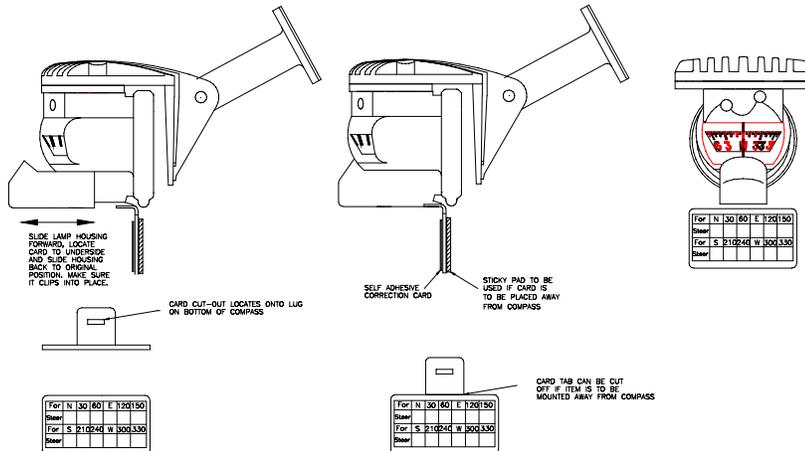
stuck to the Aircraft panel local to the unit.

Depending upon the fitting location, either withdraw the lower housing as shown and clip the card into place.

Or

Cut off the tab and stick the card to a convenient panel, local to the compass.

Spare Compass cards are available as a spare item.



Technical Help can be provided by SIRS Navigation Ltd.

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Sales in the USA are handled by SIRS Product Services. Tel: 310-325-3422 Fax: 949-951-0778 email: sirs@primenet.com

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Spares:
To convert the compass to the short foot version please order part: NV2-SF1 Price: £5.00 or US\$9.00 + p&p
The compass units can be illuminated with 6, 12, or 28V DC supply. A full range of spares and technical assistance is available upon request.
Please contact us for an up to date leaflet.

