

ABSTRACT

GUIDING METHOD AND DEVICE FOR IN-FLIGHT REFUELLING LINE

The invention relates to the in-flight refuelling of aircraft.

To facilitate coupling between a refuelling line carried by an orientable boom at the rear of a tanker aircraft and a coupling receptacle on a receiving aircraft, means of automatic guidance are provided, which comprise:

- a camera (40) borne by the end of the boom and providing an image in the form of an electronic signal,
- shape-recognition means (56, 58, 60) coupled to the camera for recognizing, in the image provided by the camera, characteristic elements associated with the receptacle,

- position-calculation means for determining, by calculation in the image provided by the camera, the difference between the position of the characteristic elements of the image at a given instant and a reference position originating from an image, stored in memory, of the line and of the receptacle when they are coupled,

- means (62) for deducing from the actual size of the receptacle, from the size and from the position of its projection in the image, the depth-wise distance between the end of the line and receptacle,

- and means for controlling the orientation of the boom and deploying the line on the basis of the differences thus determined, so that the line is brought closer to the receptacle by iteration until these differences have been cancelled.

Figure 9