

AIS Tel: +213 (0)23 97 85 47
NOF Tel: +213 (0)21 65 63 63 65
AFTN : DAAAYNYX
<http://www.sia-enna.dz>
algerian.ais@sia-enna.dz

الجمهورية الجزائرية الديمقراطية الشعبية
People's Democratic Republic of Algeria
National Establishment of the Air Navigation
Aeronautical Information Service
Route de Cherarba BP 70D- Dar El Beida Alger- Algérie

AIC
SERIE A

NR 01/25
19 JAN 25

AERONAUTICAL INFORMATION CIRCULAR

SUBJECT: Implementation and use of GNSS separations in Algiers FIR.

This AIC cancels and supersedes AIC A 02/20 of 19 NOV 20.

INTRODUCTION

As part of the effort to enhance the quality of service provided to users of Algerian airspace, the separations outlined below will enable air traffic controllers in the Algiers FIR to space aircraft using GNSS in a manner closely resembling the practices established over decades with conventional navigation aids (VOR and DME). GNSS lateral and longitudinal separations are not, in fact, new separation standards but rather the application of a different technology (GNSS) to implement established separation minima.

The GNSS Separations Adopted in the Algiers FIR

I. Lateral Separations

1. GNSS/GNSS
2. VOR/GNSS

II. Longitudinal Separations Based on DME and/or GNSS Distance

1. Same Flight Level:
 - a. Same Route
 - b. Converging Routes
2. During Climb or Descent:
 - a. Same Route
 - b. Opposite Routes

I. LATERAL SEPARATIONS

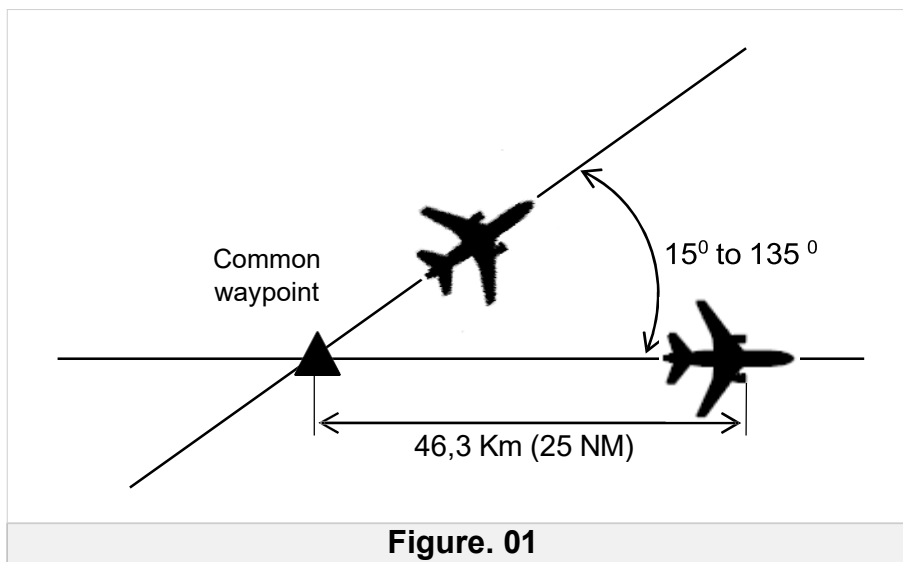
Lateral separation will be applied by requiring aircraft to fly on specified tracks which are separated by a minimum amount appropriate to the navigation aid employed.

Before applying a lateral separation based on GNSS, Direct controller-pilot VHF voice communication shall be maintained while such separation is applied; and the controller will confirm the following:

- a. The aircraft is navigating using GNSS;*
- b. No lateral offset is currently being applied.*

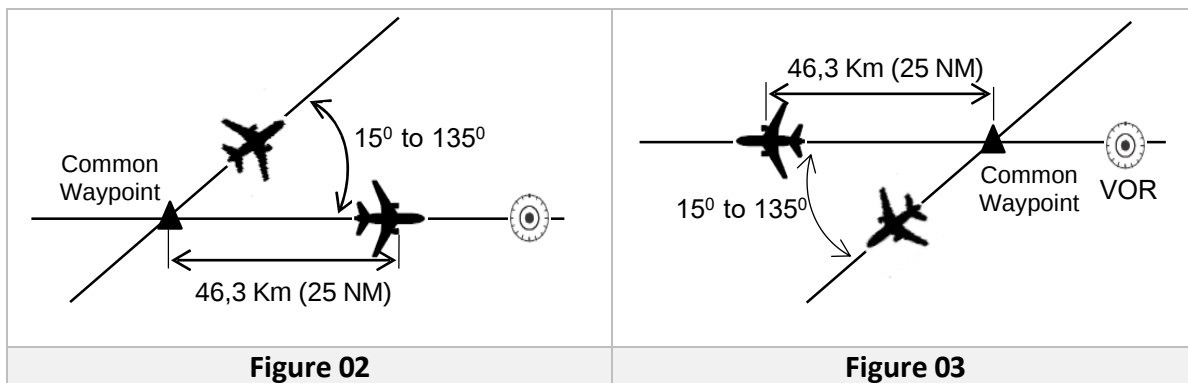
1. **GNSS/GNSS:** each aircraft is confirmed to be established on a track with zero offset between two waypoints and at least one aircraft is at a minimum distance from a common point as specified in Table 01;(Figure 01); or

Note: Both aircraft are stabilized on routes diverging from the common waypoint.



2. **VOR/GNSS:** the aircraft using VOR is established on a radial **to** or **from** the VOR and the other aircraft using GNSS is confirmed to be established on a track with zero offset between two waypoints and at least one aircraft is at a minimum distance from a common point as specified in Table 01;(Figure 02 and Figure 03);

Note: Both aircraft are stabilized on routes diverging from the common waypoint.



<i>Aircraft 1</i>	VOR or GNSS	<i>Aircraft 2</i>	GNSS
FL010 to FL600			
Angular difference between tracks measured at the common Waypoint (degrees)		Distance from a common Waypoint	
15° et 135°		25 NM	
Both aircraft are stabilized on routes diverging from the common waypoint.			
Table. 01			

Standard Phraseology Related to GNSS Lateral Separation

ATC	PILOTE
✓ CONFIRMEZ NAVIGATION GNSS ✓ CONFIRM GNSS NAVIGATION	✓ AFFIRME NAVIGATION GNSS ✓ AFFIRM GNSS NAVIGATION
✓ CONFIRMEZ ÉTABLI SUR LA ROUTE ENTRE (point significatif) ET (point significatif) [AVEC ZÉRO DÉCALAGE] ✓ CONFIRM ESTABLISHED ON THE TRACK BETWEEN (significant point) AND (significant point) [WITH ZERO OFFSET];	✓ ÉTABLI SUR LA ROUTE ENTRE (point significatif) ET (point significatif) [AVEC ZÉRO DÉCALAGE] ; ✓ ESTABLISHED ON THE TRACK BETWEEN(significant point) AND (significant point) [WITH ZERO OFFSET];
✓ INDIQUEZ DISTANCE (GNSS ou DME) INBOUND ou OUTBOUND (point significatif) ou (nom du DME) ; ✓ REPORT (GNSS or DME) DISTANCE INBOUND or OUTBOUND (significant point) or (name of DME station);	✓ (Distance) MILLES (GNSS ou DME) INBOUND (ou OUTBOUND) (nom du DME) (ou point significatif). ✓ (distance) MILES (GNSS or DME) INBOUND or OUTBOUND (name of DME station) (or significant point).
✓ CONFIRMEZ ZÉRO DÉCALAGE; ✓ CONFIRM ZERO OFFSET;	✓ AFFIRME ZÉRO DÉCALAGE; ✓ AFFIRM ZERO OFFSET; ✓ ÉTABLI SUR LA ROUTE; ✓ ESTABLISHED ON THE TRACK;
✓ ANNULEZ ROUTE DÉCALÉE (instructions de rejoindre la route autorisée ou autres renseignements). ✓ CANCEL OFFSET (instructions to rejoin cleared flight route or other information).	

II. LONGITUDINAL SEPARATIONS

Longitudinal separation shall be applied so that the spacing between the estimated positions of the aircraft being separated is never less than a prescribed minimum.

For the purpose of application of longitudinal separation, the terms *same track*, *reciprocal tracks* and *crossing tracks* shall have the following meanings:

a) **Same track** (see Figure 4)

same direction tracks and intersecting tracks or portions thereof, the angular difference of which is less than 45 degrees or more than 315 degrees, and whose protected airspaces overlap.

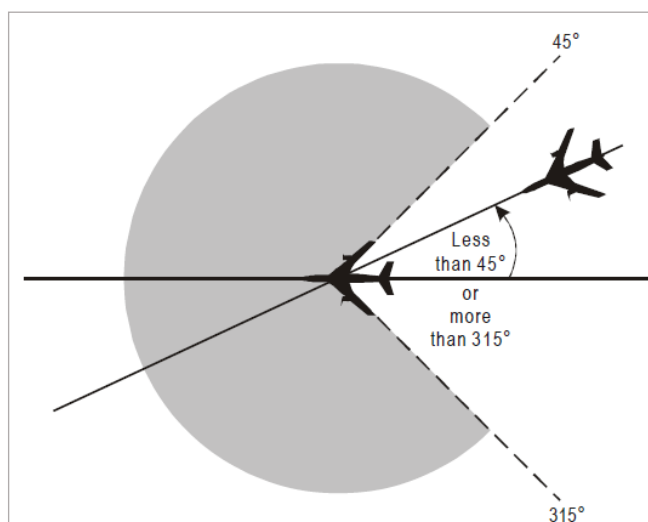


Figure. 04

b) **Reciprocal tracks** (see Figure 05)

opposite tracks and intersecting tracks or portions thereof, the angular difference of which is more than 135 degrees but less than 225 degrees, and whose protected airspaces overlap.

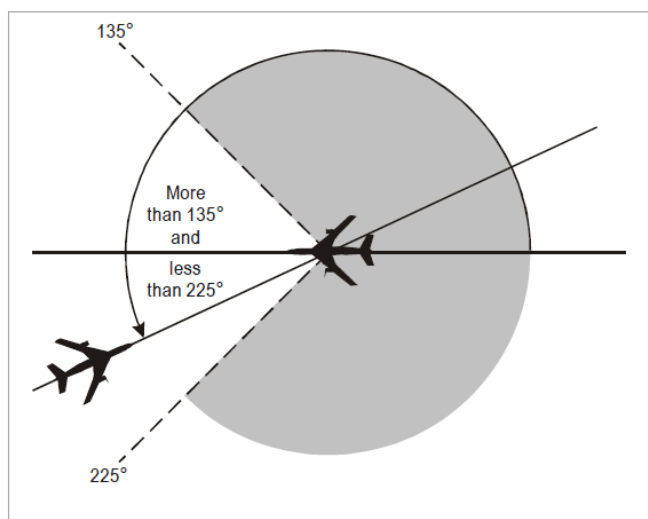


Figure. 05

c) **Crossing tracks** (see Figure 06)

intersecting tracks or portions thereof other than those specified in a) and b) above.

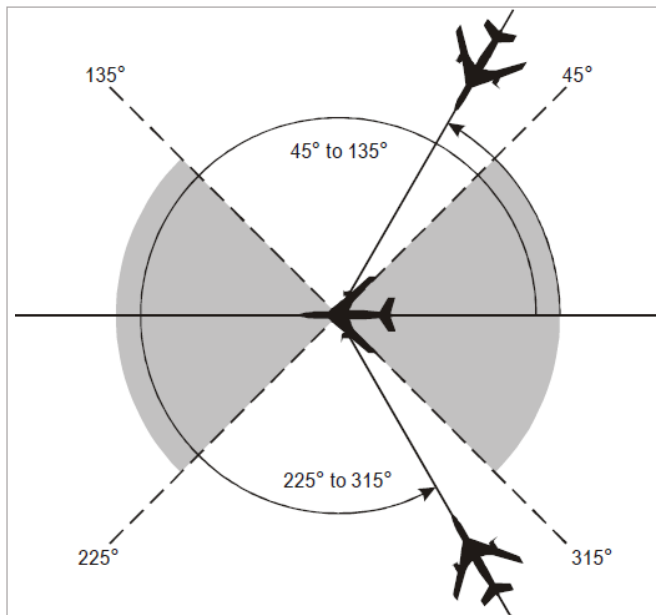


Figure. 06

LONGITUDINAL SEPARATION MINIMA BASED ON DISTANCE USING DISTANCE MEASURING EQUIPMENT (DME) AND/OR GNSS

Separation shall be established by maintaining not less than specified distance(s) between aircraft positions as reported by reference to DME in conjunction with other appropriate navigation aids and/or GNSS.

This type of separation shall be applied between two aircraft using DME, or two aircraft using GNSS, or one aircraft using DME and one aircraft using GNSS. Direct controller-pilot VHF voice communication shall be maintained while such separation is used.

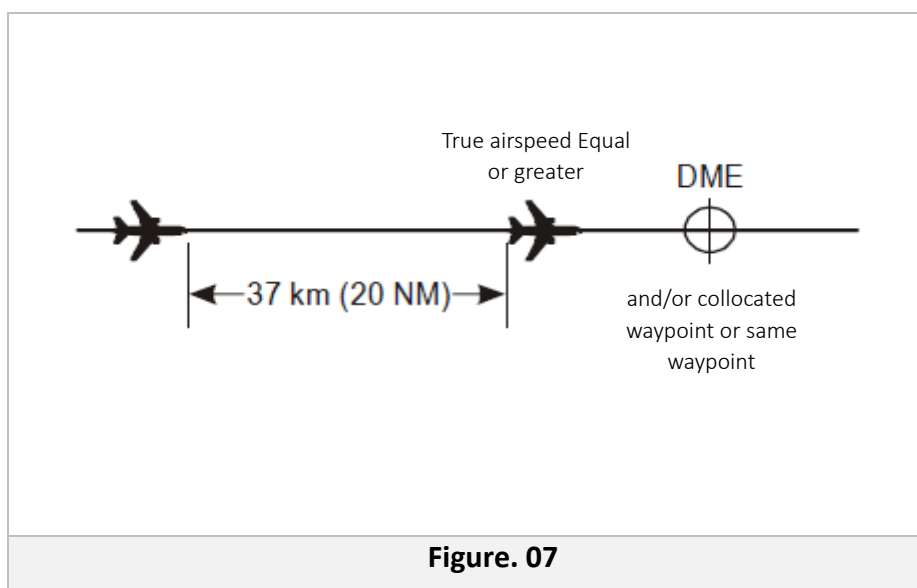
Note When applying these separation minima between any aircraft with area navigation capability, controllers shall specifically request GNSS-derived distance

1. AIRCRAFT AT THE SAME CRUISING LEVEL

a. Aircraft on the same track

37km (20NM), provided (Figure07):

- a) Each aircraft utilizes:
 - i. The same “on-track” DME station when both aircraft are utilizing DME; or
 - ii. An “on-track” DME station and a collocated waypoint when one aircraft is utilizing DME and the other is utilizing GNSS; or
 - iii. The same waypoint when both aircraft are utilizing GNSS; and
- b) Separation is checked by obtaining simultaneous DME and/or GNSS readings from the aircraft at frequent intervals to ensure that the minimum will not be infringed;
- c) **The leading aircraft maintains a true airspeed equal to or greater than that of the succeeding aircraft**



b. Aircraft flying on crossing tracks

37 km (20 NM), provided (Figure 08)

- a) Each aircraft utilizes:
 - i. the same “on-track” DME station when both aircraft are utilizing DME; or
 - ii. an “on-track” DME station and a collocated waypoint when one aircraft is utilizing DME and the other is utilizing GNSS; or
 - iii. the same waypoint when both aircraft are utilizing GNSS; and
- b) That angle formed by these routes is less than 90 degrees; and
- c) Separation is checked by obtaining simultaneous DME and/or GNSS readings from the aircraft at frequent intervals to ensure that the minimum will not be infringed; and
- d) The leading aircraft maintains a true airspeed equal to or greater than that of the succeeding aircraft**

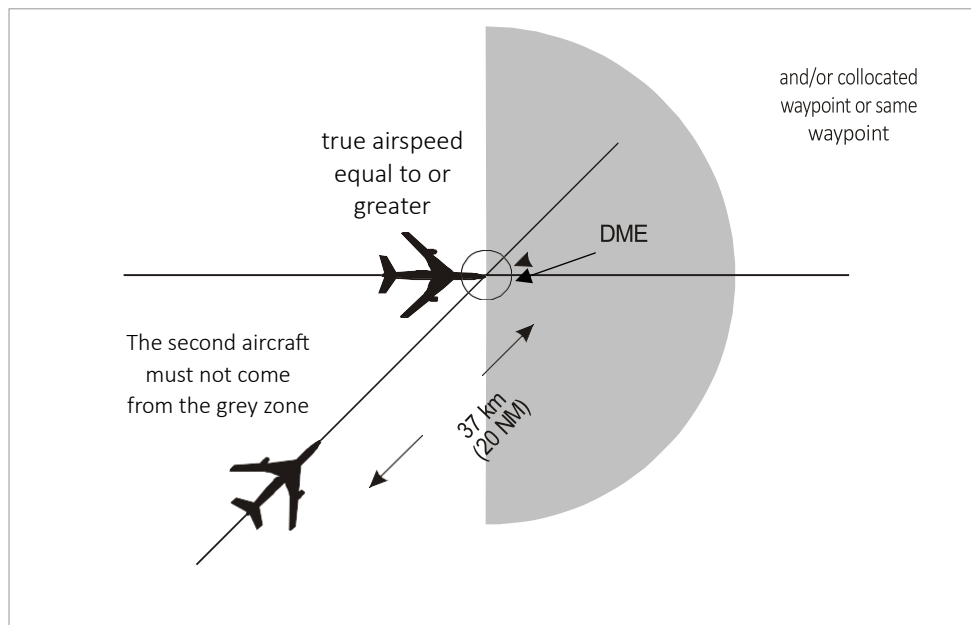


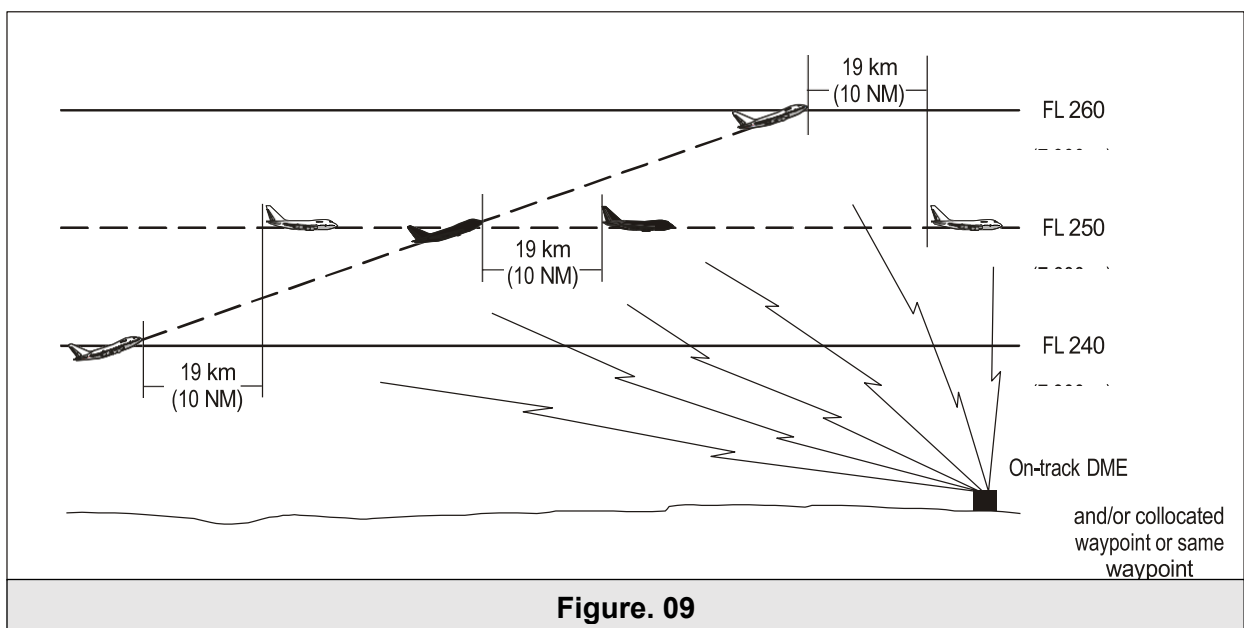
Figure. 08

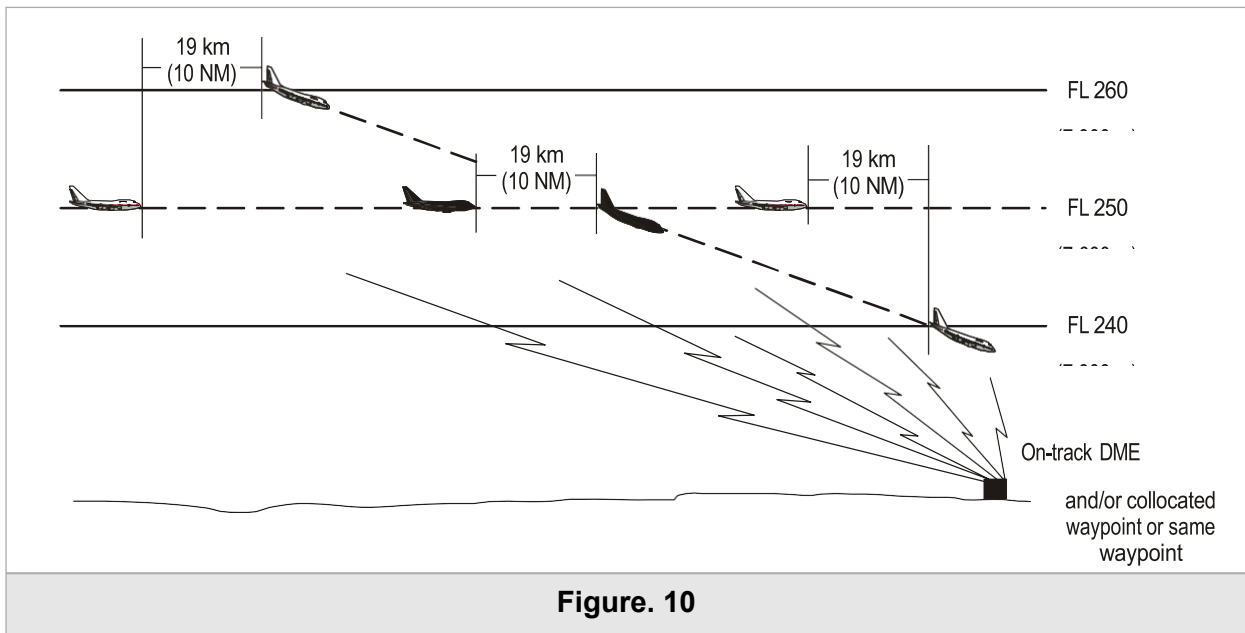
2. AIRCRAFT CLIMBING OR DESCENDING

a. Aircraft on the same track:

10NM while vertical separation does not exist, provided:

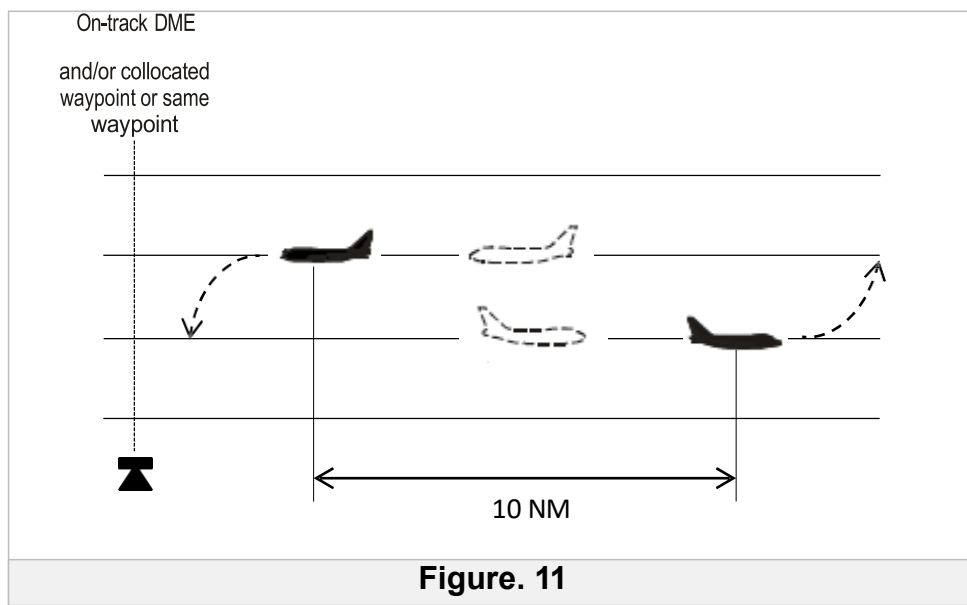
- a) That each aircraft utilizes:
 - i. the same “on-track” DME station when both aircraft are utilizing DME;
or
 - ii. an “on-track” DME station and a collocated waypoint when one aircraft is utilizing DME and the other is utilizing GNSS; or
 - iii. the same waypoint when both aircraft are utilizing GNSS; and
- b) That one of the aircraft maintains a constant level during the period when vertical separation is not ensured; and :
- c) That separation is checked by obtaining simultaneous DME and/or GNSS readings from the aircraft at frequent intervals to ensure that the minimum will not be infringed (Figure 09 et 10).





b. Aircraft on reciprocal tracks

Aircraft utilizing on-track DME and/or collocated waypoint or same waypoint may be cleared to climb or descend through the levels occupied by other aircraft utilizing on-track DME and/or collocated waypoint or same waypoint, provided that it has been positively established that the aircraft have passed each other and are at least 10 NM apart (Figure 11).



Standard Phraseology Related to GNSS longitudinal Separation

ATC	PILOTE
✓ INDIQUEZ DISTANCE (GNSS ou DME) INBOUND ou OUTBOUND (point significatif) ou (nom du DME) ; ✓ REPORT (GNSS or DME) DISTANCE INBOUND or OUTBOUND (significant point) or (name of DME station);	✓ (Distance) MILLES (GNSS ou DME) INBOUND (ou OUTBOUND) (nom du DME) (ou point significatif). ✓ (distance) MILES (GNSS or DME) INBOUND or OUTBOUND (name of DME station) (or significant point).
✓ RAPPELEZ (distance) MILLES (GNSS ou DME) INBOUND (ou OUTBOUND) (nom du DME) (ou point significatif) ; ✓ REPORT (distance) MILES (GNSS or DME) INBOUND or OUTBOUND (name of DME station) (or significant point);	✓ (Distance) MILLES (GNSS ou DME) INBOUND (ou OUTBOUND) (nom du DME) (ou point significatif) ; ✓ (distance) MILES (GNSS or DME) INBOUND or OUTBOUND (name of DME station) (or significant point);

————— **END** —————