MAT 2002 QUESITO C

DATI

INTERCETTATO (S)

RISPETTO AD A (42° 56'N 8° 26'W)

UTC $10^h 00^m$ QDR 110° DIST 60 NM

UTC $10^h 7^m 45^s$ QDR 150° DIST 50 NM

VAR 3°W

INTERCETTORE (T)

UTC $10^h 05^m$ A (42° 56'N 8° 26'W) elev 500 MSL

SALITA: TC 270 FL 120

GS_{SALITA} 160 kts V_S = 1450 ft/m

$T_0 = T_{TOC}$ CAS_{INT} = 340 kts

QNH = 1000,3 hPa SAT = ISA - 6° C

TROVARE TC_{INT} = ?

COORDINATE I_{INT} = ?

ETI = ?

① TROVO TRUE TRACK e GROUND SPEED S GRAFICAMENTE

QTE UTC $10^h 00^m$ = QDR ± VAR = 110 - 3 = 107°

QTE UTC $10^h 7^m 45^s$ = QDR ± VAR = 150 - 3 = 147°

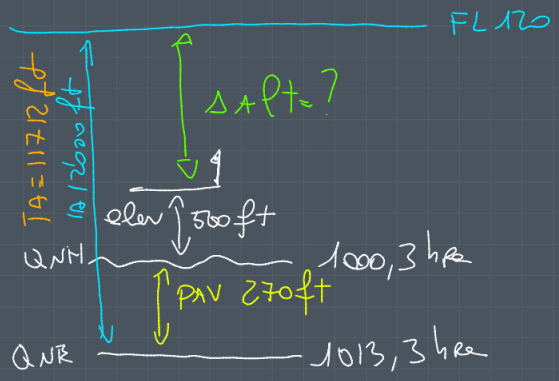
Disegno Allegato (1)

Si calcola una TT = 231° e una D percorsa di = 39 NM

$GS_S = \frac{39}{0^h 7^m 45^s} = 302$ kts

② CALCOLO L'ORARIO DI RAGGIUNGIMENTO del TOC

- ALTIMETRIA



CALCOLO LA PAV = (QNE - QNH) · 27 =

(1013 - 1000) · 27 = 351

CALCOLO LA TA:

$\Delta ct = 4 \cdot \left(\frac{PA}{1000}\right) \cdot \Delta T_{ISA/SAT}$

$= 4 \cdot 12 \cdot (-6) = -288$

TA = 12000 - 288 = 11712 ft

-3-

$\Delta ALT = 11712 - 351 - 500 = 10861\ ft$

$F_{TA/TOC} = \frac{\Delta Alt}{VS} = \frac{10861\ ft}{1450\ ft/mm} = 7^m 30^s$

$D_{A/TOC} = GS_S \cdot F_{TA/TOC} = 160 \cdot 0^h 7^m 30^s = 20\ NM$

$T_O = T_{TOC} = 10^h 10^m + 7^m 30^s = 10^h 17^m 30^s$

-4-

(3) CALCOLO LA POSIZIONE DI S al $\overline{T_o}$ ($\overline{T_{TOC}}$)

$\overline{TJ} = 231°$

$\Delta\overline{T} = \overline{T_{TOC}} - \overline{T_{RIL}} = 10^h 17^m 30^s - 10^h 7^m 45^s = 9^m 45^s$

$D_{RIL/TO} = GS_S \cdot \Delta T = 300 \cdot 0^h 9^m 45^s = 48{,}75\,NM$

(4) CALCOLO I DATI DI INTERCETTO

Regolo → TAS $_{INT}$ = 400 kts

$ISA_{12000} = 15 - \left(\frac{12000}{1000} \cdot 2\right) = -9$

SAT = ISA − 6° = −9° − 6° = −15°C

M = 0.635

DA GRAFICO

$GS_{Int} = 436$ kts

$TC_{Int} = 210°$

$D_{S/I} = \frac{109\,NM}{300\,kts} = 21^m 48^s$

$\overline{ETI} = 10^h 39^m 18^s$

⑤ CALCOLO COORDINATE DI POI (POINT OF INTERCEPTION)

$\overline{TB}_{A/POI}$ (GRAFICO) $= 216°$

$D_{A/POI}$ = (GRAFICO) $= 170 NM$

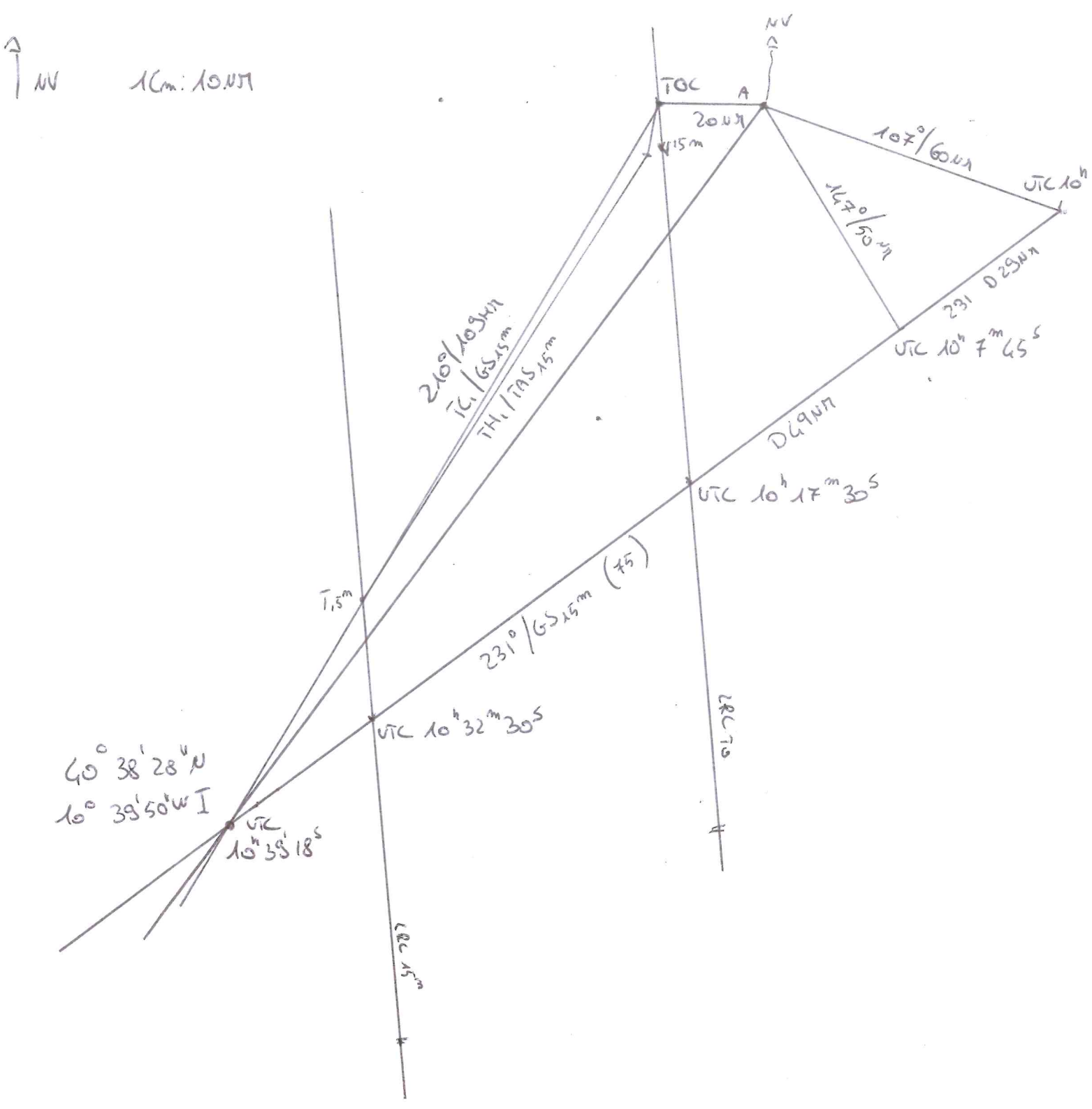
$\Delta\varphi' = DIST \cdot \cos\overline{TC} = -137'31'' = -2°17'31''$

$\varphi_{POI} = \varphi_A \pm \Delta\varphi = 42°36' = \underline{40°38'28''N}$

$\varphi_m = 41°42'14''N$

$\Delta\lambda' = \frac{D \cdot \sin\overline{TC}}{\cos\varphi_m} = -133'54'' = -2°13'50''$

$\lambda_{POI} = 8°26'W + 2°13'50'' = \underline{10°39'55''W}$


NV
1Cm : 10 NM
NV
TOC
A
20 NM
107°/60 NM
UTC 10h
147°/50 NM
231 D 29 NM
UTC 10h 7m 45s
210°/109 NM
TC 1 / GS 15m
TH 1 / TAS 15m
D 69 NM
UTC 10h 17m 30s
T 15m
231° / GS 15m (75)
UTC 10h 32m 30s
40° 38' 28" N
10° 39' 50" W I
UTC 10h 39' 18s
LRC 15m
LRC 15m