ECLIPSE FLIGHT NOV-14 GISBORNE TO TOTALITY

2012 November 14 Wed.
total solar eclipse
observation by air

totality 5m04s approx. with solar altitude 63.4°
and sun direction perpendicular to left side of aircraft
21:46:30 UT mid-intercept across International Date Line
in King Air 350 at 35,000 feet at 290 knots airspeed
based on likely favorable wind from 315° at 50 knots
departing from Gisborne returning to Gisborne

during 12-minute **A**-**B** shadow view run moon's shadow will come over the horizon from behind and to the right of the aircraft, easy to see from the huge windows of the King Air 350 and should be a spectacular view from the 35,000-feet altitude

aircraft is the very late-model 350i, with roomy comfortable 9-passenger cabin and less than two years old so its windows are excellent

if wind is less favorable or more favorable, duration of totality will be ~4m30s–5m20s

Map | Satellite | Hybrid

A begin shadow view run
21:28:30 UT
aircraft at 35.08s 173.80w

B begin totality run
21:40:30 UT
35.98s 172.95w

C totality begins
21:43:58 UT
36.23s 172.70w

D mid-totality
21:46:30 UT
36.42s 172.51w

E totality ends
21:49:02 UT
36.61s 172.33w

F end totality run
21:52:30 UT
36.86s 172.08w
then turn for Gisborne

21:20 UT
3m27.3s
of surface
centerline
totality
51.3° solar
elevation

A
21:30 UT
3m38.9s
56.5°

21:40 UT
3m48.2s
61.0°

B

C

D

E
21:50 UT
3m55.2s
64.5°

F

22:00 UT
3m59.8s
66.9°

depart Gisborne
38.66s 177.98e
19:40:00 UT (08:40am local)

return Gisborne
23:10:00 UT (12:10pm local)

flight = 3h30m

solar elevation of 63+ degrees during totality will still be easy to view out left side of the aircraft because King Air's windows slope upwards 28 degrees permitting observation all the way to the zenith..."90 degrees up"!

this will be first "time-travel eclipse" :) in history because during 12-minute **B**-**F** run at **D** mid-totality aircraft will cross International Date Line from November 14 to November 13

(**D** mid-totality on this chart is slightly displaced from centerline because of 35,000-feet altitude)

Whangarei
Auckland
Pukekohe
Tauranga
Hamilton
Rotorua
Taupo
Gisborne
New Plymouth
North Island
Napier
Hastings
Wanganui
Palmerston North
Masterton

100 mi
200 km

Eclipse predictions by Fred Espenak, NASA's GSFC
Aircraft intercept projections ©2012 by Glenn Schneider
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November 14 | International Date Line | November 13

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