

Vertiport????????????????????

Vertiport???????????????????? ICAO Heliport Manual???? ICAO???? FAA
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ICAO Doc 9261???????????????????? MH5013
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MH5013 OLS???????????????????? EASA OFV???????????????????? OFV eVTOL???????????????????? OLS
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VTOL???????????????????? EASA???????????????????? Chapter D???????????????????? Subpart 1???????????????????? OLS???????????????????? Annex 14 Volume II
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eVTOL???????????????????? OLS????????????????
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OFV EASA
ICAO EASA OFV
OFV ICAO/Heliport Manual/MH5013 OLS
EASA CAAC heliport FATO TLOF
Safety Area OLS OFV ICAO
h0 OFV eVTOL
FAA D/RD
Part 77 DCA /

1 Vertiport ICAO FATO TLOF
Safety Area ICAO Annex 14 Volume II FATO
TLOF Safety Area
FATO ICAO/MH5013
Safety Area
FATO /
Safety Area OLS FAA Part 77 primary surface=FATO FATO
ICAO

2 ICAO Annex 14 Volume II FATO

3 ICAO Annex 14 Volume II TLOF FATO
TLOF
Safety Area ICAO/MH5013 OLS TLOF
FATO Safety Area FATO
Safety Area OLS Doc 9261 1D
0.83D sub-1D ICAO Doc 9261 Heliport Manual Annex 14
1D FATO 0.83D TLOF 1D
0.83D /

4 ICAO Doc 9261 1D sub-1D FATO/TLOF eVTOL eVTOL
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Heliport Manual
ICAO Annex 14 Volume II
critical design helicopter
ICAO Doc 9261 Heliport Manual “Design
helicopter”
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Doc 9261
design helicopter FATO D D
D design helicopter heliport manual

Safety Area eVTOL D FATO TLOF h0
ICAO/MH5013 FAA vertiport
FATO TLOF Safety Area FATO
TLOF / Safety Area FATO
Safety Area
FAA "primary surface = FATO" approach/departure
surface FATO " FAA Part 77 EB105A FAA
ICAO FAA FATO MH5013
OLS OLS OLS Obstacle
Limitation Surfaces, OLS FATO Safety Area
/ ICAO/MH5013 OLS
/ FATO
PinS FATO

5 OLS OLS Safety Area
FATO / Safety Area
" " " " ICAO
MH5013 OLS

6 MH5013 /
7 MH5013 / ICAO/MH5013
FAA Part 77 OLS ICAO Annex 14
Volume II Safety Area
/ FATO
ICAO FATO
FATO FATO MH5013-2023
PinS FATO
FATO ICAO/MH5013
OLS
eVTOL Safety Area OFV
" OFV " MH5013
OLS OFV eVTOL
FAA FAA EB105A 14 CFR Part 77 heliport imaginary surfaces
primary surface approach/departure surface transitional surfaces VFR vertiport
2:1 primary surface approach surface
Part 77 ICAO/MH5013
vertiport

OLS OFV
45°
ICAO Annex 14 Volume II
FATO 45° 10m protected side slope
MH5013-2023 4.4.1 FATO 45°
10m heliport 45°
eVTOL $h_0 \leq D$ h_0 h_0 2D
 $2(D+h_0)$ $h_0 > D$ 45° D 4D D 45°
4D OFV h_0 EASA
4D D

16 FATO OFV "OFV" eVTOL
h0 eVTOL
h0 OLS
h0 D
OFV
/

14 FAA EB105A Figure 2-5 VFR Vertiport / FAA VFR
FAA EB105A/Part 77 primary surface FATO approach/departure surface FATO
4000 ft 1219 m 500 ft 152 m 8:1 transitional surface primary
surface approach surface 2:1 250 ft 76 m FAA
ICAO/MH5013

15 FAA EB105A Figure 2-6 / FAA $S+R \geq 1886$ ft 575 m
 $R \geq 886$ ft 270 m 4000 ft 1219 m ICAO/MH5013
" " FAA eVTOL
D/RD DCA FAA eVTOL D/RD
DCA / EB105A D RD /
TLOF 1RD FATO 2RD Safety Area 2.5D

16 FAA EB105A D RD DCA Downwash/Outwash Caution Area
eVTOL / 34.5 mph 55.5 kph
DCA FAA Part 77 eVTOL DCA
FAA ICAO/EASA/CASA/

17 FAA ICAO/EASA/CASA FAA ICAO/EASA/CASA/
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OLS
vertiport

OFV OLS eVTOL h0

Safety Area OLS eVTOL

OFV D h0 OFV

MH5013/Heliport Manual eVTOL

OFV OLS h0

AFM h0

h0 h0 OFV OLS

h0 " " h0 eVTOL

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eVTOL OLS OFV h0 D

Safety Area OLS eVTOL

h0 h0 OFV h0 D

heliport 45° 45° 4D 4D

h0 D h0 D

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OLS

h0 OFV OLS
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MH5013/ICAO OLS
MH5013/ICAO OLS h0+OFV OLS OFV
helicopter manual eVTOL h0
h0 " OLS
eVTOL "
OLS OLS
h0
D
h0
FAA RD DCA FAA EB105A
RD DCA /
Safety Area OFV
FATO/TLOF/Safety Area OLS OFV
h0 ≤ D h0 > D FAA 8:1/2:1 DCA Safety Area/OFV
Vertiport ICAO
FATO TLOF Safety Area OLS FATO TLOF /
Safety Area OLS
OFV
eVTOL /
EASA OFV
/ CASA
FPA/VPS/OFV h0+OFV "
OFV OLS"
FAA EB105A EASA/CASA/
FAA OFV Part 77 imaginary surfaces
D/RD DCA eVTOL / ICAO/Heliport
Manual/MH5013 OLS h0 OFV
FAA D/RD Part 77 DCA /
FAA ICAO
FAA eVTOL OFV
D h0
ICAO Annex 14 Volume II — Heliports ICAO Doc 9261 Heliport Manual, Fifth Edition, 2021 FAA Engineering Brief No.105A, Vertiport Design, 2024 FAA AC 150/5390-2D, Heliport Design EASA PTS-VPT-DSN, Prototype Technical Specifications for Vertiport Design CASA AC139.V-01, Guidance on Vertiport Design, 2023 T/CCAATB 0062-2024
MH5013-2023

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☐ Admin ☐☐ 2026-05-30 22:30:38 CST

☐ Admin ☐☐ 2026-05-30 22:30:39 CST