TOP ALTITUDE: FL190

NOTE: Chart not to scale.

TAKOFE MINIMUMS

Rwys 11L/R: Standard with a minimum climb of 529° per NM to 3700.
Rwys 19L/R: Standard.
Rwys 26L/R: Standard with a minimum climb of 270° per NM to 5500.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1L/R: Climb heading 014° to 2682, then left turn direct BESSY, then on track 190° to cross WITLA at or below 10000 and at or above 7900, then on track 191° to JEBBB, then on track 151° to cross BOACH at or above 13000. Thence. . . .

TAKEOFF RUNWAY 8L: Climb heading 079° to 2682, then direct WASTE, then on track 079° to cross BAKRR at or below 7000 and at or above 6000, then on track 148° to cross MINEY at or above 8000, then on track 214° to HITME, then on track 221° to cross BOACH at or above 13000. Thence. . . .

TAKEOFF RUNWAY 8R: Climb heading 079° to 2682, then direct JESJI, then on track 078° to cross BAKRR at or below 7000 and at or above 6000, then on track 148° to cross MINEY at or above 8000, then on track 214° to HITME, then on track 221° to cross BOACH at or above 13000. Thence. . . .

TAKEOFF RUNWAY 19L: Climb heading 194° to 2682, then direct FIXIX, then on track 231° to cross ROPPR at or below 7000 and at or above 4800, then on track 174° to RODDD, then on track 164° to cross BOACH at or above 13000. Thence. . . .

TAKEOFF RUNWAY 19R: Climb heading 194° to 2682, then direct JAKER, then on track 230° to cross ROPPR at or below 7000 and at or above 4800, then on track 174° to RODDD, then on track 164° to cross BOACH at or above 13000. Thence. . . .

TAKEOFF RUNWAY 26L: Climb heading 259° to 2682, then direct PIRMD, then on track 190° to cross ROPPR at or below 7000 and at or above 4800, then on track 174° to RODDD, then on track 164° to cross BOACH at or above 13000. Thence. . . .

TAKEOFF RUNWAY 26R: Climb heading 259° to 2682, then direct RBELL, then on track 190° to cross ROPPR at or below 7000 and at or above 4800, then on track 174° to RODDD, then on track 164° to cross BOACH at or above 13000. Thence. . . .

. . . . on (transition). Maintain FL190. Expect filed altitude 10 minutes after departure.

HECTOR TRANSITION (BOACH8.HEC)
LVELL TRANSITION (BOACH8.LVELL)
RIKII TRANSITION (BOACH8.RIKII)
TWENTYNINE PALMS TRANSITION (BOACH8.TNP)
WHIGG TRANSITION (BOACH8.WHIGG)
NOTE: Chart not to scale.

TOP ALTITUDE: FL190

TAKEOFF MINIMUMS
Rwys 11L/R: Standard with minimum climb of 483’ per NM to 13000.
Rwys 8L/R: Standard with minimum climb of 310’ per NM to 7000.
Rwys 19L/R: Standard with minimum climb of 400’ per NM to 10000.
Rwys 26L/R: Standard with minimum climb of 350’ per NM to 11000.

NOTE: For non-GPS equipped aircraft departing Rwys 8L/R: LSV, LAS, BLD, MMM, PGS, DRK, GCN, GC, TBC, ZUN, UNW and GUP DMEs must be operational for the WINSLOW TRANSITION.

NOTE: For non-GPS equipped aircraft departing Rwys 8L/R: LSV, LAS, BLD, MMM, PGS, DRK, GCN, TBC, ZUN, INW and GUP DMEs must be operational for the WINSLOW TRANSITION.

NOTE: For non-GPS equipped aircraft departing Rwys 11L/R, 19L/R, 26L/R: BLD, MMM, PGS, DRK, GCN, TBC, ZUN, INW and GUP DMEs must be operational for the DRAKE TRANSITION.

NOTE: For non-GPS equipped aircraft departing Rwys 11L/R, 19L/R, 26L/R: BLD, LAS, MMM, PGS, DRK, FLG and INW DMEs must be operational for the WINSLOW TRANSITION.
COWBY EIGHT DEPARTURE (RNAV)  AL-662 (FAA) MC CARRAN INTL (LAS)

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1L/R: Climb heading 014° to intercept course 072° to NAPSE, then on track 066° to cross RIOOS at or above 13000, then on track 132° to COMPS, then on track 089° to COWBY, thence. . . .

TAKEOFF RUNWAY 8L: Climb heading 079° to 2682, then direct WASTE, then on track 079° to cross BAKRR at or below 7000 and at or above 4600, then on track 089° to COMPS, then on track 089° to COWBY, thence. . . .

TAKEOFF RUNWAY 8R: Climb heading 079° to 2682, then direct JESJI, then on track 078° to cross BAKRR at or below 7000 and at or above 4600, then on track 089° to COMPS, then on track 089° to COWBY, thence. . . .

TAKEOFF RUNWAY 19L: Climb heading 194° to 2682, then direct FIIXI, then on track 231° to cross ROPPR at or below 7000 and at or above 5900, then on track 152° to cross CEASR at or above 8000, then on track 095° to cross HITME at or above 11000, then on track 073° to COWBY, thence. . . .

TAKEOFF RUNWAY 19R: Climb heading 194° to 2682, then direct JAKER, then on track 230° to cross ROPPR at or below 7000 and at or above 5900, then on track 152° to cross CEASR at or above 8000, then on track 095° to cross HITME at or above 11000, then on track 073° to COWBY, thence. . . .

TAKEOFF RUNWAY 26L: Climb heading 259° to 2682, then direct PIRMD, then on track 190° to cross ROPPR at or below 7000 and at or above 5900, then on track 152° to cross CEASR at or above 8000, then on track 095° to cross HITME at or above 11000, then on track 073° to COWBY, thence. . . .

TAKEOFF RUNWAY 26R: Climb heading 259° to 2682, then direct RBELL, then on track 190° to cross ROPPR at or below 7000 and at or above 5900, then on track 152° to cross CEASR at or above 8000, then on track 095° to cross HITME at or above 11000, then on track 073° to COWBY, thence. . . .

. . . . on (transition). Maintain FL190. Expect filed altitude 10 minutes after departure.

DRAKE TRANSITION (COWBY8.DRK)
GALLUP TRANSITION (COWBY8.GUP)
WINSELOW TRANSITION (COWBY8.INW)
NOTE: RADAR and DME required.

TAKEOFF MINIMUMS
Rwys 8L/R: Standard.
Rwys 1L/R: Standard with minimum climb of 400’ per NM to 5200.
Rwys 19L/R, 26L/R: Standard with minimum climb of 360’ per NM to 7000.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb heading 014° to 2500, then climbing right turn heading 050°, thence. . . .

TAKEOFF RUNWAYS 8L/R: Climb heading 079°, thence. . . .

TAKEOFF RUNWAYS 19L/R: Climb heading 194° until LAS VORTAC 3 DME, then climbing right turn heading 220°, thence. . . .

TAKEOFF RUNWAYS 26L/R: Climb heading 259° until LAS VORTAC 3 DME, then climbing left turn heading 190°, thence . . . .

. . . . RADAR vectors to transition or assigned route. Maintain 7000, expect clearance to filed altitude two minutes after departure.

LOST COMMUNICATIONS: If no contact with ATC upon reaching 7000, proceed direct BLD VORTAC then climb in BLD VORTAC holding pattern to appropriate MEA for route of flight.

DOVE CREEK TRANSITION (LAS5.DVC): From over TRALR on LAS R-066 to NICLE, then on PGA R-234 to PGA VOR/DME, then on PGA R-053 and DVC R-233 to DVC VORTAC.
NOTE: Chart not to scale.

NOTE: RADAR and DME required.

NOTE: Rwys 1L/R 3229' MSL monument, 3 NM north of DER. Numerous buildings from 0.6 NM northwest to 2.5 NM north of DER, up to 2779' MSL.

MCCARRAN FIVE DEPARTURE

TAKEOFF MINIMUMS
Rwys 1L/R: Standard with minimum climb of 529' per NM to 7000.
Rwys 8L/R: Standard with minimum climb of 440' per NM to 7000.
Rwys 19L/R, 26L/R: Standard with minimum climb of 360' per NM to 7000.

(RARRATIVE ON FOLLOWING PAGE)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb heading 014° to 2600, then climbing left turn heading 315° to 4500, then climbing left turn heading 180°, thence. . . .

TAKEOFF RUNWAYS 8L/R: Climb heading 079°, thence. . . .

TAKEOFF RUNWAYS 19L/R: Climb heading 194° until LAS VORTAC 3 DME, then climbing right turn heading 220°, thence. . . .

TAKEOFF RUNWAYS 26L/R: Climb heading 259° until LAS VORTAC 3 DME, then climbing left turn heading 190°, thence. . . .

. . . . RADAR vectors to transition or assigned route. Maintain 7000, expect clearance to filed altitude two minutes after departure.

LOST COMMUNICATIONS: If no contact with ATC upon reaching 7000, proceed direct BLD VORTAC, then climb in BLD VORTAC holding pattern to the appropriate MEA for route of flight.

BEATTY TRANSITION (MCCRN5.BTY): From over SHEAD on BTY R-129 to BTY VORTAC.

HECTOR TRANSITION (MCCRN5.HEC): From over BOACH on BLD R-213 and HEC R-032 to HEC VORTAC.

TWENTY NINE PALMS TRANSITION (MCCRN5.TNP): From over GFS VORTAC on GFS R-185 and TNP R-028 to TNP VORTAC.
TOP ALTITUDE: FL190

NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV 1.
NOTE: For non-GPS equipped aircraft: LAS DME must be operational.
NOTE: RADAR required.

TAKEOFF MINIMUMS
Rwys 1L/R, 8L/R: NA - air traffic.
Rwys 19L/R: Standard with minimum climb of 295' per NM to 5200.
Rwy 26L/R: Standard with minimum climb of 275' per NM to 5600.

(NARRATIVE ON FOLLOWING PAGE)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 19L: Climb heading 194° to 2682, then direct FIXIX, then on track 231° to cross ROPPR at or below 7000, then on track 152° to cross CEASR at or above 8000, then on track 095° to cross HITME at or above 11000, then on track 074° to WINDS, then on track 112° to cross KADDY at or above FL200, then on track 112° to PRFUM. Thence. . . .

TAKEOFF RUNWAY 19R: Climb heading 194° to 2682, then direct JAKER, then on track 230° to cross ROPPR at or below 7000, then on track 152° to cross CEASR at or above 8000, then on track 095° to cross HITME at or above 11000, then on track 074° to WINDS, then on track 112° to cross KADDY at or above FL200, then on track 112° to PRFUM. Thence. . . .

TAKEOFF RUNWAY 26L: Climb heading 259° to 2682, then direct PIRMD, then on track 190° to cross ROPPR at or below 7000, then on track 152° to cross CEASR at or above 8000, then on track 095° to cross HITME at or above 11000, then on track 074° to WINDS, then on track 112° to cross KADDY at or above FL200, then on track 112° to PRFUM. Thence. . . .

TAKEOFF RUNWAY 26R: Climb heading 259° to 2682, then direct RBELL, then on track 190° to cross ROPPR at or below 7000, then on track 152° to cross CEASR at or above 8000, then on track 095° to cross HITME at or above 11000, then on track 074° to WINDS, then on track 112° to cross KADDY at or above FL200, then on track 112° to PRFUM. Thence. . . .

. . . (transition). Maintain FL190. Expect filed altitude 10 minutes after departure.

DRAKE TRANSITION (PRFUM4.DRK)
SW-4, 28 JAN 2021 to 25 FEB 2021

TOP ALTITUDE: FL190

TAKEOFF MINIMUMS
Rwys 11L/R: 1100-3 with minimum climb of 500' per NM to 6000.
Rwys 8L/R: Standard with minimum climb of 400' per NM to 8000.
Rwys 19L/R: Standard with minimum climb of 483' per NM to 9000.
Rwys 26L/R: Standard with minimum climb of 470' per NM to 9000.

NOTE: DME/DME/IRU or GPS required.
NOTE: RADAR required.
NOTE: For non-GPS equipped aircraft departing Rwys 11L/R, 19L/R, 26L/R, LSV, BLD, BTY and TPH DMEs must be operational.
NOTE: For non-GPS equipped aircraft departing Rwys 8L/R, BLD, BTY and TPH DMEs must be operational.

NOTE: Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb heading 014° to 2682, then left turn direct BESSY, then on track 192° to cross MDDOG at 9000, then on track 260° to cross TARRK at 11000, then on track 260° to cross SHEAD at or above 14000. Thence. . . .

TAKEOFF RUNWAY BL: Climb heading 079° to 2682, then direct WASTE, then on track 079° to cross BAKRR at or above 6000, at or below 7000, then on track 148° to cross MINYEY at or above 8000, then on track 214° to HITME, then on track 265° to cross SHEAD at or above 14000. Thence. . . .

TAKEOFF RUNWAY 8R: Climb heading 079° to 2682, then direct JESJI, then on track 078° to cross BAKRR at or above 6000, at or below 7000, then on track 148° to cross MINYEY at or above 8000, then on track 214° to HITME, then on track 265° to cross SHEAD at or above 14000. Thence. . . .

TAKEOFF RUNWAY 19L: Climb heading 194° to 2682, then direct FIXIX, then on track 231° to cross ROPPR at or above 6500, at or below 7000, then on track 214° to cross MDDOG at 9000, then on track 260° to cross TARRK at 11000, then on track 260° to cross SHEAD at or above 14000. Thence. . . .

TAKEOFF RUNWAY 19R: Climb heading 194° to 2682, then direct JAKER, then on track 230° to cross ROPPR at or above 6500, at or below 7000, then on track 214° to cross MDDOG at 9000, then on track 260° to cross TARRK at 11000, then on track 260° to cross SHEAD at or above 14000. Thence. . . .

TAKEOFF RUNWAY 26L: Climb heading 259° to 2682, then direct PIRMD, then on track 190° to cross ROPPR at or above 6500, at or below 7000, then on track 214° to cross MDDOG at 9000, then on track 260° to cross TARRK at 11000, then on track 260° to cross SHEAD at or above 14000. Thence. . . .

TAKEOFF RUNWAY 26R: Climb heading 259° to 2682, then direct RBELL, then on track 190° to cross ROPPR at or above 6500, at or below 7000, then on track 214° to cross MDDOG at 9000, then on track 260° to cross TARRK at 11000, then on track 260° to cross SHEAD at or above 14000. Thence. . . .

. . . (Transition). Maintain FL190. Expect filed altitude 10 min after departure.

COALDALE TRANSITION (SHEAD1.OAL)
KENNO TRANSITION (SHEAD1.KENNO)
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 26L: Climb heading 259° to 2682, then direct POOLZ, then on track 337° to cross TOMIS at or above 5000, then on track 036° to cross BATIS at or above 6000, then on track 058° to cross MEDOE at or above 7000, then on track 078° to cross STAAV at or above 13000. Thence . . .

TAKEOFF RUNWAY 26R: Climb heading 259° to 2682, then direct LEELN, then on track 336° to cross TOMIS at or above 5000, then on track 036° to cross BATIS at or above 6000, then on track 058° to cross MEDOE at or above 7000, then on track 078° to cross STAAV at or above 13000. Thence . . .

. . . on (transition). Maintain FL190, expect filed altitude 10 minutes after departure.

DOVE CREEK TRANSITION (STAAV8.DVC)
MILFORD TRANSITION (STAAV8.MLF)
VERKN TRANSITION (STAAV8.VERKN)

NOTE: Chart not to scale.
**TAKEOFF MINIMUMS**

Rwys 1L/R: Standard with minimum climb of 321' per NM to 5100.
Rwys 8L/R: Standard with minimum climb of 310' per NM to 7000.
Rwys 19L/R: Standard with minimum climb of 400' per NM to 14000.
Rwys 26L/R: Standard with minimum climb of 350' per NM to 14000.

**NOTE:** DME/DME/IRU or GPS required.

**NOTE:** RNAV 1.

**NOTE:** RADAR required.

**NOTE:** For non-GPS equipped aircraft departing Rwys 1L/R, 26L/R, BLD DME must be operational.

**NOTE:** For non-GPS equipped aircraft departing Rwys 8L/R, LAS DME must be operational.

**NOTE:** Chart not to scale.

**NOTE:** Chart not to scale.
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1L/R: Climb heading 014° to intercept course 072° to NAPSE, then on track 062° to TINNK, then on track 078° to cross RIOOS at or above 13000, then on track 078° to TRALR, thence. . . .

TAKEOFF RUNWAY 8L: Climb heading 079° to 2682, then direct WASTE, then on track 079° to cross BAKRR at or above 4600, at or below 7000, then on track 067° to TRALR, thence. . . .

TAKEOFF RUNWAY 8R: Climb heading 079° to 2682, then direct JESJI, then on track 078° to cross BAKRR at or above 4600, at or below 7000, then on track 067° to TRALR, thence. . . .

TAKEOFF RUNWAY 19L: Climb heading 194° to 2682, then direct FIXIX, then on track 231° to cross ROPPR at or above 5900, at or below 7000, then on track 152° to cross CEASR at or above 8000, then on track 080° to FORGE, then on track 050° to cross WILLW at or above 14000, then on track 053° to TRALR, thence. . . .

TAKEOFF RUNWAY 19R: Climb heading 194° to 2682, then direct JAKER, then on track 230° to cross ROPPR at or above 5900, at or below 7000, then on track 152° to cross CEASR at or above 8000, then on track 080° to FORGE, then on track 050° to cross WILLW at or above 14000, then on track 053° to TRALR, thence. . . .

TAKEOFF RUNWAY 26L: Climb heading 259° to 2682, then direct PIRMD, then on track 190° to cross ROPPR at or above 5900, at or below 7000, then on track 152° to cross CEASR at or above 8000, then on track 080° to FORGE, then on track 050° to cross WILLW at or above 14000, then on track 053° to TRALR, thence. . . .

TAKEOFF RUNWAY 26R: Climb heading 259° to 2682, then direct RBELL, then on track 190° to cross ROPPR at or above 5900, at or below 7000, then on track 152° to cross CEASR at or above 8000, then on track 080° to FORGE, then on track 050° to cross WILLW at or above 14000, then on track 053° to TRALR, thence. . . .

. . . . on (transition). Maintain FL190, expect filed altitude 10 minutes after departure.

DOVE CREEK TRANSITION (TRALR9.DVC)

MILFORD TRANSITION (TRALR9.MLF)

VERKN TRANSITION (TRALR9.VERKN)