Kastrup Departure Position

1. General

Copenhagen Departure is an overflow sector during busy events. For much of the departing aircraft's trajectory, you will be a guest in the APP sector's airspace. This means coordination and tactical vectoring is very important.

Though the LAI states APP/DEP airspace is split at FL75, in practise DEP must position aircraft to climb above FL70, and APP needs to descend traffic in order to cross abeam the landing threshold at 5000ft. DEP is responsible for identifying the suitable crossing point - where departures pass above arrivals - and coordinating this with the relevant APP sector.

Consider the following factors:

Arrival Load.

Before taking a departure off the SID, look to see how the arrivals are being vectored and determine where departures will cross the flow.

If departures remain below the inbound flow, leave sufficient space for APP to descend traffic.

Performance.

The SIDs in Copenhagen all require a 6.6% climb gradient to FL70 - that's 400ft per nautical mile, or a climb rate of ~1700ft/min at 250kts.

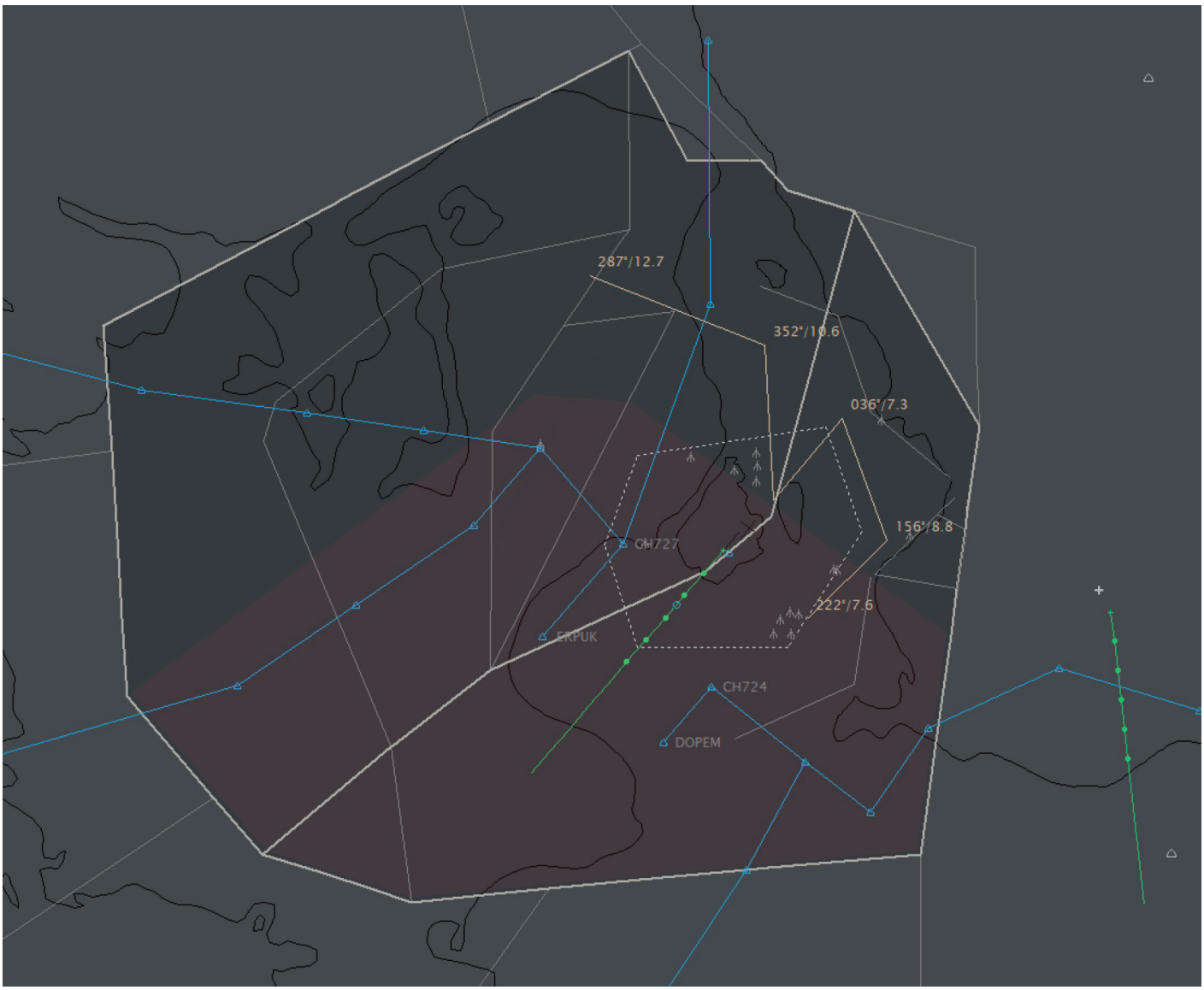
At this angle, a departure will reach FL70 approximately 17nm after take-off. FL100 will be reached 25nm after take-off.

Most **medium jets** can manage ~2500ft/min, which delivers a gradient of roughly 10%, or 600ft/nm. Such departures will reach FL100 approximately 17nm after lift off.

With this considered, determine which strategy you will use for each departure:

- Shortest Route / Stepped Climb: relevant where a level-off is required to remain below arrivals. Use high speed below FL70 to reduce the climb gradient.
- Longer Route / Continuous Climb: relevant where the opportunity exists to pass above arrivals, even if departure routing is slightly longer. Instruct 250kt to maintain the 10% gradient until clear of the conflicting arrival.

2. Procedures - Runway 04



Departures should avoid routing below FL70 in the red shaded area unless coordinated with APP

GM for R DEP (W APP)

- ODDON
- GOLGA / VEDAR

Two climb opportunities exist, the one you use depends on traffic load under radar vectors in the TMA *and* density of ERNOV arrivals.

1. HDG 350 until above ERNOV flow then DCT - separated from all arrivals, requires high climb gradient to FL110
2. SID or HDG 290 after until passing ERNOV flow then DCT - shorter route, lower required gradient but interaction with downwind traffic and W APP vectoring area

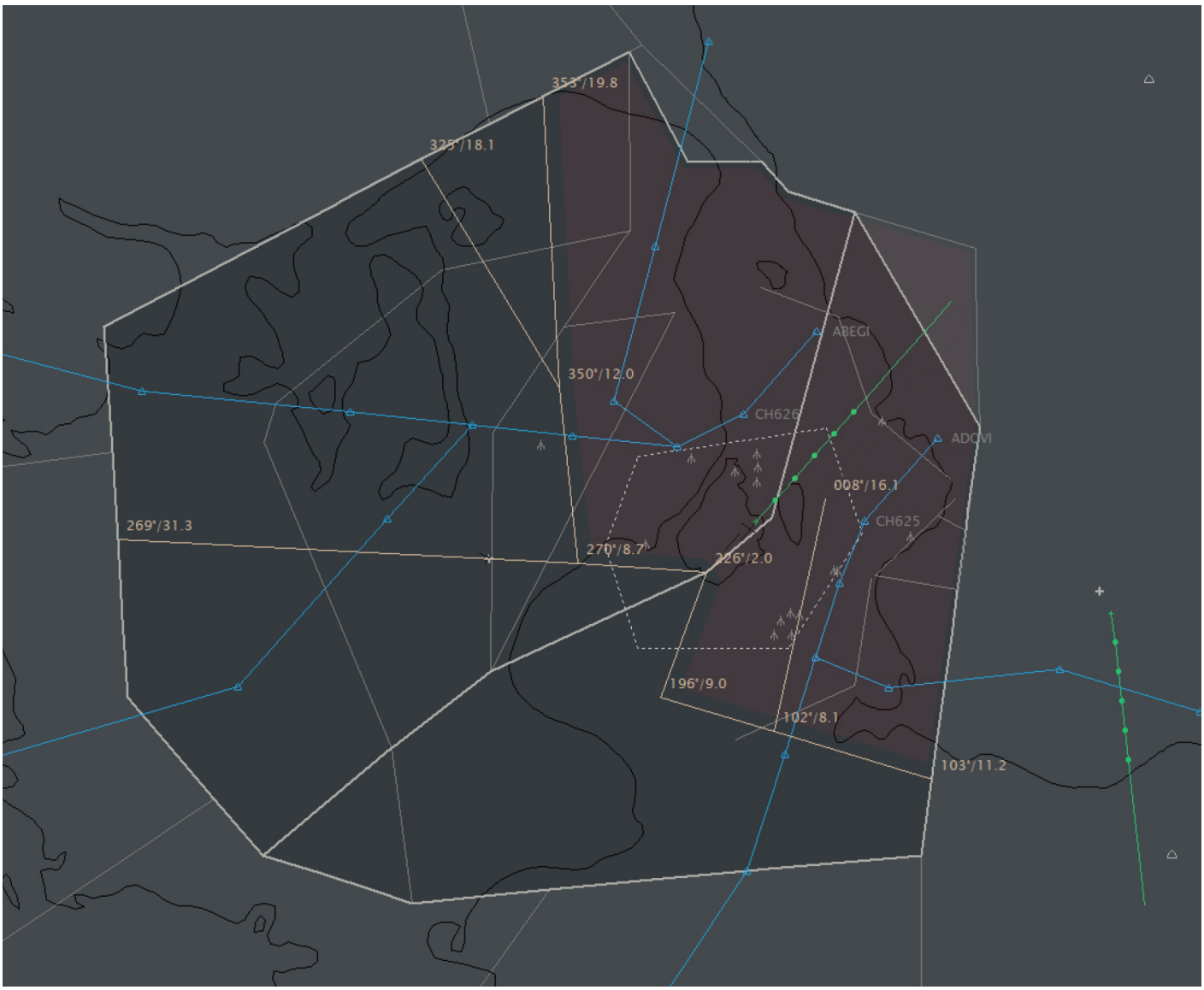
GM for K DEP (O APP)

- KEMAX
- SIMEG / SALLO
- NEXEN / KOPEX / SALLO

All conflicting departures must climb above O APP arrivals before passing abeam CH845.

1. HDG 100-140 until above TIDVU flow then HDG 180-210 until above MONAK flow
   - shorter route but interacts with arrivals, requires at least 2500ft/min to FL100
2. Remain on SID until above FL80 then DCT
   - longer route, standard gradient must be maintained
3. HDG 040-070 until above FL60, then follow option 1.
   - use where the 6.6% gradient cannot be maintained, or when O APP has vectored arrivals north of CH845

3. Procedures - Runway 22



Departures should avoid routing below FL70 in the red shaded area unless coordinated with APP

GM for R DEP (W APP)

- ODDON
- GOLGA / VEDAR

Thread the departures through the arriving traffic - coordinate the crossing point with W APP based on the arrival load

1. HDG 250-270 until above TUDLO / TIDVU flow then DCT
   - separated from all arrivals, requires high climb gradient to FL130
2. SID until after passing TUDLO/TESPI flow then DCT
   - appropriate when TUDLO flow are skipping CH645, so you pass under them
3. HDG 290-310 until passing TESPI arrivals then DCT
   - shorter route, lower required gradient but interaction with downwind traffic and W APP vectoring area

GM for K DEP (O APP)

- KEMAX
- SIMEG / SALLO
- NEXEN / KOPEX / SALLO

All KEMAX departures must climb above O APP arrivals before turning north

- HDG 180-210 or SID to CH818 until:
  - KEMAX: DCT when above FL60. SID is not separated from MONAK flow.
  - SALLO / SIMEG: DCT when above FL100
- SID until passing MONAK flow then DCT - for SALLO/SIMEG **only**

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Created 1 September 2025 21:24:46 by Splendor Bouman (887089)
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