

# Delivery

Stuttgart Delivery is responsible for enroute and startup clearances for all departing IFR aircraft. VFR aircraft have to call Delivery for departure information. **For all departures (IFR and VFR) Stuttgart Delivery is the first station to contact**, except for police helicopters, which may also contact Ground initially.

## Enroute Clearance

Delivery shall ensure that the initial climb is set (always 5000ft) and the correct SID is coded into the flightplan. Additionally, Delivery has to make sure that all SID restrictions are adhered to.

SID	Phraseology
<u>25 ops.:</u>	
ABTAL #B, TEDGO #B, KUNOD #B, KRH #B, VESID #B, TAGIK #B, ETASA #B, STG #B, OKIBA #B, DKB #B, GEBNO #B	climb via SID
SUL #B, ROTWE #B	climb
<u>07 ops.:</u>	
ABTAL #H, DKB #H, GEBNO #H, OKIBA #H, ETASA #H, TAGIK #H, VESID #H, KRH #H,	climb
ROTWE #H, SUL #H, TEDGO #H, KUNOD #H, ROTWE #K, TEDGO #K, SUL #K	climb via SID

## Both Arrivals staffed

If both Arrivals are staffed, Delivery needs to inform all south departures (via **ROTWE, SUL, KUNOD, and ABTAL**) to contact 119.200 immediately when airborne as part of the enroute clearance. For all other departures the ATIS remark remains valid and no additional information is required.

“ **ATC:** DLH123, revised airborne frequency 119.200.

Alternatively, to avoid confusion for the pilots, the departure frequency can be completely removed from the ATIS. In this case, Delivery has to **inform all pilots about their respective departure frequency**.

## Local IFR

Local IFR flights are possible via **TEDGO** and **STG** but need to be coordinated and **require a startup release by Arrival (STG) or Director (DSAT), if online**. When Director is online, local departures need to be advised with the enroute clearance to contact 119.850 immediately after departure.

“ **ATC:** DLH123, revised airborne frequency 119.850.

Departures planning to perform **IFR training at Schwäbisch Hall (EDTY)** also **require a startup release by Arrival (STG)**.

## SID Restrictions

To ensure an efficient operation within the upper and lower airspace several restrictions should be met. To solve an invalid route, the pilot usually has to **file a completely new route** (valid routes for many destinations can be found on [grd.aero-nav.com](http://grd.aero-nav.com)).

Waypoint	Restriction	Remark	Phrasiology
<b>DKB</b>	only via <b>N869</b> or <b>DEST EDDN, EDTY, EDQ*</b>		
<b>ETASA</b>	only <b>DEST EDDF, EDFC, ETOU, EDFE</b>		
<b>GEBNO</b>	only via <b>Z76</b> & max. RFL <b>FL180</b>		
<b>KRH</b> <i>Karlsruhe</i>	max. RFL <b>FL80 (Mo - Fri)</b> & only <b>DEST EDDR, EDRZ, EDSB, ETAR</b>	<b>other DEST</b> via VESID [...]	
<b>OKIBA</b>	min. RFL <b>FL200</b>		
<b>ROTWE</b>	<b>if via NATOR:</b> jet only	<b>reroute props</b> via SUL Y125 NATOR	
<b>STG</b> <i>Stuttgart</i>	only <b>local IFR</b>		

<b>SUL</b> <i>Sulz</i>	<b>Jet:</b> only <b>DEST EDTL, EDNY, LSZH, LSZR</b>	<b>reroute jets</b> via ROTWE Y126 TUBLO N850 NATOR	
<b>TAGIK</b>	only <b>via ABUMO/ASKIK</b> & max. RFL <b>FL240</b>		
<b>TEDGO</b>	only <b>local IFR</b> or <b>DEST ETHL</b>		

## K-SIDs

Departures with designator K require special aircraft navigation capabilities and are **only assigned if specifically requested by the pilot**.

## Opposite Departure

If pilots are not able to fulfill the required climb restrictions for their SID or to save taxi time and shorten the departure (especially during 25 operations for outbounds flying to the east), opposite departures against the operating direction are possible. These departures always have to be **coordinated with Tower and Arrival**, need a **startup and departure release by Arrival** and are **only considered upon explicit pilot request**.

**An outbound requesting an opposite departure should first be cleared for runway 25** and told to also prepare the appropriate 07 departure.

“ **ATC:** Lufthansa 123, cleared to Frankfurt, ETASA4B departure, flight planned route, climb via SID to altitude 5000ft, squawk 1000. **Additionally prepare ETASA2H departure out of runway 07, final runway decision when ready to taxi.** ”

The final decision on which runway the aircraft will depart out of will be made when the aircraft requests taxi (when it is clearer whether an opposite departure will be possible). This will also not require a startup release by Arrival, but the **decision for the 07 departure has to be coordinated with Tower and Arrival**.

For an opposite departure to be possible, there usually has to be a **gap of at least 10 minutes between two arrivals**. If the outbound will shortly request taxi, but you are unsure whether an opposite departure will be possible, **Arrival can be asked for a "latest airborne time"**, the latest possible time for the aircraft to depart against the operating direction. This information can then be **forwarded to the pilot** and if they are able to depart before this time, a clearance for a 07 departure can be issued.

## Datalink Clearance (DCL/PDC)

At Stuttgart Airport we offer Datalink Clearance to the pilots via the **Hoppie System** and the Topsky Plugin. The airport code EDDS should be used.

When using vACDM, the DCL/PDC **message template REQ STARTUP ON FREQ ACCORDING TSAT + TOBT** should be used. The following is an example message using this template.

```
CLD 2042 230615 EDDS PDC 026 DLH8AL CLRD TO EDDF OFF 25 VIA ETASA4B CLIMB 5000
SQUAWK 1000 NEXT FREQ 121.900 ATIS R REPORT TOBT AT VACDM.VATGER.DE AND REQ
STARTUP ACC TSAT ON 121.900
```

# Startup

When startup clearance cannot be given immediately or the pilot is not ready for startup within the next 5 minutes, the pilot needs to stay on Delivery frequency until they receive their startup clearance. **To create an efficient startup flow, the vACDM plugin should be used.** If the vACDM plugin is not used, a startup clearance can be issued roughly every 2-3 minutes.

## Runway Capacity

To ensure smooth operations and an acceptable level of workload for following stations, **Delivery has to make sure the startup rate is regulated to the current airport capacity.** The following table shows the maximum capacity of Stuttgart airport.

Normal operations	
max. movements per hour	48
max. departures per hour	40 <i>(with no arrivals)</i>
max. arrivals per hour	40 <i>(with max. 8 departures)</i>
LVP	
max. movements per hour	14

Maximum capacity **might have to be adjusted downwards** in case of high complexity (e.g. high level of differing aircraft performances for inbound and/or outbound traffic) or a high amount of VFR movements.

During normal operations with roughly the same amount of inbound and outbound traffic, the traffic should be regulated towards **24 departures and 24 arrivals per hour.**

## Outbound Taxi Times

The average time between startup approval and takeoff clearance is **5-10 minutes during 07 operations** and **15-20 minutes during 25 operations**. More accurate times are available through use of the vACDM plugin.

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