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DEL AND GND OPERATION

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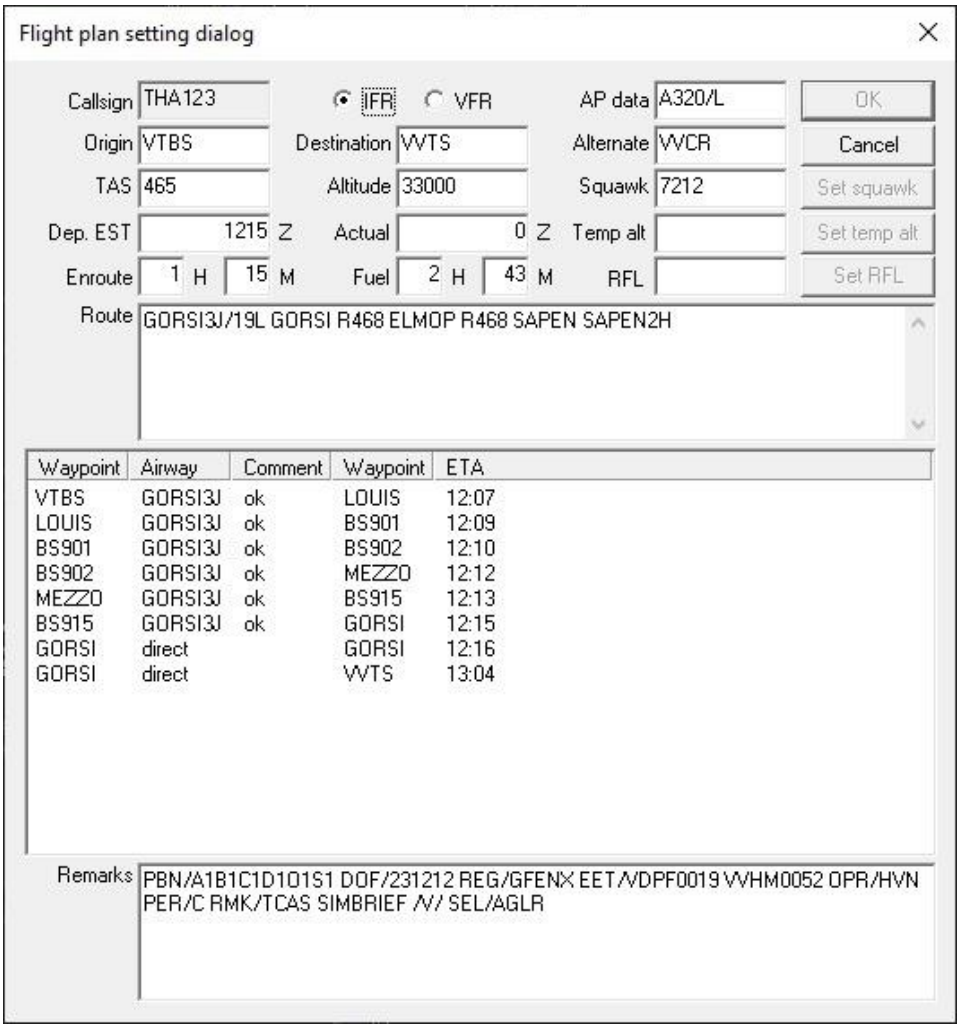
1. Clearance Delivery (DEL)

1.1. The job

Delivery has the function in the ATC to issue the clearances for all IFR flights beginning at the place of their location. For VFR flights the next position, usually GND, is taking care. But if the pilot requests he should get the current wind and the QNH as information anyway.

Issuing a clearance means that the flight plan submitted from the pilot has to be checked for all things related to the flight. Starting with the departure route from the airport to reach the first airway on the right waypoint. Further checking the requested altitude (flight level) is matching for the general direction and possible restrictions on the airway itself.



Sample of a flight plan displayed in EuroScope.

When anything is fine, the clearance can be issued as requested. Otherwise then with some amendments.

1.2. The procedure

To get that all handled a kind of procedure is necessary.

1. The pilot is asking for the clearance.
2. ATC informs the pilot that his request is noted.
3. ATC informs the pilot that the clearance is available.
4. The pilot will repeat that he is ready to copy. This step in necessary to avoid misunderstandings in the content of the clearance.
5. ATC gives the clearance.
6. The pilot is performing a complete readback.
7. If anything is ok, ATC confirms and gives further instructions.

Usually here the procedure is finished when there are no misunderstandings and all content of the clearance is understood and repeated correctly.

1.3. The clearance in detail

Here is the description of all the steps of the procedure in detail and samples for the phraseology that should be used.

Starting with step 1, pilot:
"Request IFR clearance to Ho Chi Minh City, Thai123".

The ATC will answer to this request:
"Thai123, clearance on request, stand by".

This answer gives the controller a bit of time to study the flight plan of Thai123 if not done already and prepare the clearance. If the clearance is ready to transmit ATC calls:
"Thai123, clearance available, report ready to copy".
Or if there are some changes:
"Thai123, clearance available with amendments, report ready to copy".

The ATC needs the confirmation from the pilot that he is ready to copy and will not give the clearance without knowing that he is paying attention.
The clearance must include:

- Destination
- Departure route (SID) and as option the departure run way
- Cleared cruising flight level
- Squawk code

optional:

- Initial climb

To put that all in words it looks like:
clear destination <*destination*> flight plan route with <*SID*> departure, runway <*rw*>, maintain flight level <*xxx*>, squawk <*xxxx*>, ((Option) initial climb <*xxxx*> ft).

The pilot:
"Ready to copy, Thai123"

ATC:
"Thai123, clear destination Ho Chi Minh City flight plan route with GORSI3J departure, runway 19L, expect flight level 330, squawk 7212, initial climb 6000ft".

A short word to the options. The runway is not really necessary as e.g. GORSI3J is only valid for runway 19L at VTBS airport. But it may help the pilot. The initial climb is a fixed value for the airport and published in the charts, for VTBS 6000 ft. But also that may help the pilot.

Now the pilot needs to read back the whole clearance. If he repeats all the points correctly the ATC answers under normal circumstances:
"Thai123, readback correct, for startup and push back contact Suvarnabhumi ground on 121.750".

Under normal circumstances means, the readback is correct and VTBS_GND is online. If GND is not online then the name of the position and the frequency has to be replaced with the name and frequency of the next higher position online. If no further station is online then the ATC answers:
"Thai123, readback correct, monitor advisory 122.800".

In case that the readback contains an error, for example the squawk code is wrong, then the ATC repeats:
"Thai123, squawk code negative, squawk 7212".

In this case the pilot will repeat again the squawk code:
"Squawk 7212, Thai123".

This will be the same for other things like SID or flight level.

2. Ground (GND)

2.1. The job

The ground controller has to control any movement at the airport except on the runways. With other words, he is the police man for many intersections at the same time.

There are mainly three types of movement. This are:

- Push back.
- Taxi from gate / stand to runway holding point.
- Taxi from the runway to a gate / stand.

With gate are all parking positions described which have direct connection to the terminal building. Stands are parking positions in a free area.

The ground controller is responsible that all movements executed under his control are smooth.

2.2. Departing planes

2.2.1. Push back

As planes always go to a gate or stand with the nose ahead, they need to go back a so-called push back. The push back gets the plane ready for taxi on the nearest taxi way. The pilot needs to request the push back and if there is no obstacle the controller gives the clearance. Important in the clearance is the direction for the push back. It is transmitted as “heading <direction>”. Heading means that the plane’s nose shows in the heading direction when the push back is completed.

Usually at the same time the pilot will start the engines, therefore the two requests are always combined.

2.2.2. Taxi

After push back the plane has to taxi to the selected runway for take-off. Also for that the pilot needs a clearance from the controller.

The controller will select a route from the park position of the plane to the holding point of the runway in use. The route then is also part of the taxi clearance. Arrived at the holding point the plane has to be handed over to the tower controller. If no TWR is online then to the next station like APP or CTR or even to advisory.

2.3. Arriving planes

Arriving planes have to contact the ground controller as soon as they are off from the runway. If the TWR is online, the tower controller instructs the pilot to contact ground. The controller then will assign a taxi route to a gate / stand. As soon as the plane has arrived at its target, it is actually not any more part of the ground traffic and can be released.

2.4. In general

As mentioned, the ground controller is responsible for a smooth traffic on his airport. To achieve that, here are some rules. General rules are:

- Inbound traffic before outbound traffic
- IFR before VFR
- Moving traffic before resting traffic
- On intersections straight before turning

Further there are some local rules depending on the country / airport.

At VTBS (Suvarnabhumi) are some areas with parallel taxiways. Here is like on the roads in Thailand for each direction the left side for taxiing to use. More details for the standard taxi routes can be found in some published documents like the CAAT eAIP.

2.5. Ground in detail

2.5.1. Departing planes

For the case that DEL is not online and GND has given the IFR clearance, then the last instruction for the clearance to the pilot is:
"Thai123, readback correct, report ready for push back and startup".

Now the pilot calls:
"Request startup and push back, Thai123".

Assuming the plane parks on gate A4, it is to check, is there currently no other traffic on taxiway T5 and the pilot has set the squawk to the right code. If ok., then the controller will give the clearance:
"Thai123, startup and push back approved, facing South".

As next the pilot is supposed to:
"Request taxi, Thai123".

The controller gives the taxi clearance as:
"Thai123, taxi holding point runway 19 via T5, T4, C4, B2".

Arrived at B2 the pilot reports:
"Hold short at B2, Thai123".

Controller:
"Thai123, for takeoff contact Suvarnabhumi tower on 118.200".

2.5.2. Arriving planes

As soon a plane has cleared the runway the tower controller instructs the pilot to contact Suvarnabhumi ground. The pilot calls like:
"Suvarnabhumi ground good day, runway 19 vacated at B8, Thai321".

The controller advises a gate / stand and when the route is clear, he will instruct:
"Thai321, Suvarnabhumi ground good day, taxi gate B4 via B, C10, C, T6".

If the plane arrives on its target, the task is finished. The plane is not supposed to be a part of the ground traffic any more.

2.5.3. VFR flights

A VFR flight does not need a clearance for the route but the pilot still has to submit a flight plan. For that reason the clearance for a VFR aircraft is a bit different from the IFR clearance.
The pilot usually will call:
"Suvarnabhumi ground good day, this is HSFAT, Cessna 172, request VFR to Hua Hin, request startup information".

Ground will response:
"HSFAT, Suvarnabhumi ground good day, clear VFR to Hua Hin, active runway 19, QNH 1012, squawk 7224, report ready for startup and push back".

The active runway can be given in case that TWR or higher is online. If not, then instead of the active runway the ground controller gives the current wind information.

For startup, push back and taxi VFR flights need the same clearance as IFR flights.

Important is, VFR flights at VTBS should always use the East runway as 19 or 01.

2.5.4. Avoiding problems

Usually, the ground controller has to care for more then one plane at the time. Situations like shown in the next picture are always possible.

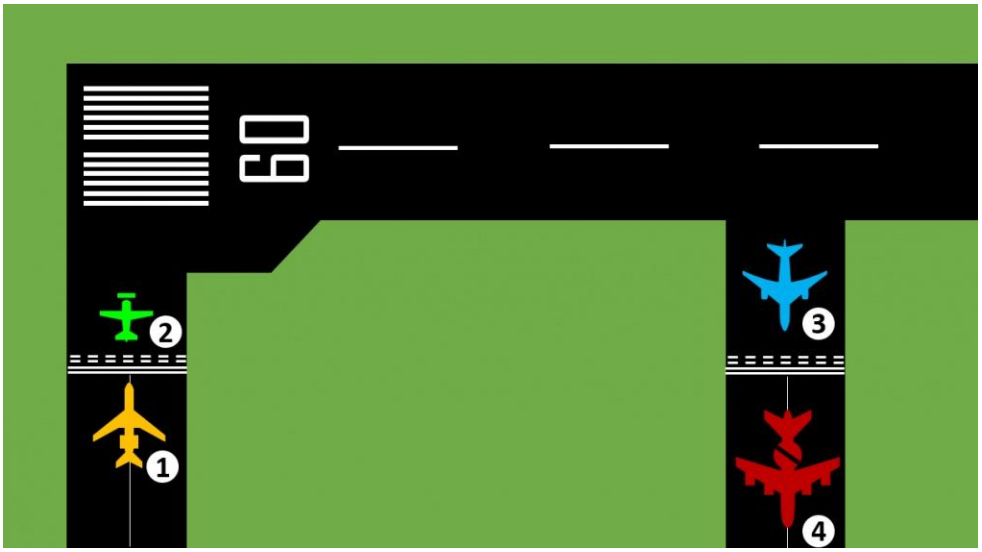
Usual traffic situation.

In a situation like this the controller has at first to remember for the priority. CPA432 is going straight on taxiway G and THA123 on taxiway T8 has to turn left on G. The decision is clear, the instruction must be:
"Thai123, give way to CPA432, Airbus A320, passing from right to left on taxiway Golf".

Hereby the information about the aircraft type is important as for the pilot from THA123 possible not clear is, which plane the call sign CPA432 represents.

There are some other instructions they can be given to the pilots in order to keep the traffic under control.

One is the “Hold short at …” instruction, that forces the pilot to hold at the mentioned point. The “Hold short at …” is in any case to repeat by the pilot. There are some points at the airport where the pilot must hold his plane even without instruction. Anywhere where it has for example the 4 yellow strips on the ground, called Runway-Holding Position Marking, when the plane is arriving from the solid side like in the case taxiing towards the runway.



Holding positions.

Examples of departing and arriving aircraft in relation to the holding position: (1) is at the holding position, (2) has passed the holding position, (3) is about to vacate and (4) has vacated the runway. Aircraft (2) and (3) are considered to be occupying the runway.

Another important instruction is “Hold position”. That should cause the pilot to stop taxiing immediately, never mind the actual position. It should not be used under normal circumstances, just in case to avoid incidents.

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