

SYLLABUS PRACTICAL TRAINING RADIO TELEPHONY - VFR

Attainment targets of the practical training

The course participant must be able to use radio communication independently during a simulated controlled flight, using the correct phraseology, transmission technique and speech rate. Furthermore, the participant must be able to demonstrate sufficiently that he can understand the different air traffic situations and that he has an adequate knowledge of aviation English.

Doc 4444, Chapter 12, and AIP Netherlands

The participant must know the relevant phraseology included in Doc 4444, Chapter 12, and the relevant radiotelephony instructions included in the AIP Netherlands, as set out in the textbook.

Note 1

The learning targets refer to the Amsterdam FIR, and to the version of the AIP Netherlands in effect, and the version of the ICAO publications Annex 10 volume II, Doc 4444, Doc 7030 and Doc 9432(EUR REGION).

Note 2

In the text below, the terms 'hour', 'hours' and 'hour of tuition' refer to a period of 60 minutes. Whenever the number of hours is mentioned, this always refers to a <u>minimum</u> number.

Number of hours (Indicative)

Number of hours of self-study or tuition/instruction: **30**. Number of hours of practical training: **18** (excluding the practical skills test).



Numbers of hours: self-study: 6 hours tuition/instruction: 2 hours

General Introduction and Procedures for the First Connection etc.

Basic Knowledge:

- general organisation of Dutch air space regarding air space structure and classification, services, altimeter settings;
- purpose of the ATIS system, and knowledge of the way in which confirmation of receipt must be indicated ("Information KILO received");
- what to do if it is impossible to receive ATIS information;
- knowledge of transmission techniques and speech rate;
- which messages must be read back and how to do this, and in which case it is sufficient to use 'wilco', 'roger' or the call sign;
- when, in response to air traffic control, the call sign of the aircraft is placed at the end;
- knowledge of the aviation alphabet as well as the pronunciation of figures and numbers, including the exceptions;
- the pronunciation of frequencies concerning the number of digits after the decimal sign;
- the pronunciation of abbreviations and terms;
- knowledge and understanding of the 'Standard Words and Phrases' published by ICAO in Annex 10, Volume II, Chapter 5;
- the difference regarding the use of the words 'stand-by' and 'monitor'.
- measuring units that are applicable when indicating: distances related to navigation and reporting position; short distances such as runway length; horizontal speed and wind speed; vertical speed; altimeter settings; air temperature and dew point temperature;
- the reference direction that is applicable to indicate wind direction related to take-off and landing;
- pronunciation of time, duration, geographical positions and runway indications, as well as the indication of frequently-occurring aircraft types;
- the composition of the call sign of aircraft, and how and when they can be abbreviated;
- the application of phraseology by an aeronautical ground station to change a call sign, or change it temporarily;
- the composition of the call sign of a ground station, and the suffixes that may apply;
- when the call sign of a ground station can be abbreviated, or can be left out;
- establishing a first connection by using the call sign of the aircraft and the ground station;
- carrying out a radio check, and the meaning of the figures of the readability scale;
- what to do if you are not sure that you are being contacted;
- the phraseology that is applicable if you do know that you are being contacted, but do not know by whom;
- how a frequency change is indicated and must be read back;
- that it is obliged at controlled airfields, to request permission to start the engines and to start taxiing, and how permission must be requested, to whom you must refer, and how this must be confirmed.
- that, when starting from and landing at military airfields in the Netherlands, the number of persons on board must be stated.



PRACTICAL EXERCISES LESSON 1

Hours of practical tuition: 2

Practical exercise regarding a flight leaving a controlled airfield with the intention of flying the circuit.

Radiotelephony must be used as if it was a real flight with regard to:

- spelling exercises with every exception (included in the textbook)
- establishing first contact and carrying out a radio check
- requesting permission to start the engine, and
- changing frequency and permission to start taxiing
- establishing contact with the applicable ground stations
- passing or requesting the applicable ATIS information
- lining up and departing

Example of an assignment:

You are the captain of a Cherokee PH-MIT (C/S configuration), parked at Rotterdam. Establish first contact with Rotterdam Delivery by making a radio check. You are parked at your flight club. Request clearance to start-up and to start taxiing. Make up a random ATIS letter. Check the frequency of Rotterdam Tower in advance, and adjust the settings on your radio.



Number of hours: self-study: 2 hours

tuition/instruction: 2 hours

Procedures for Departing Traffic with the Intention of 'Circuit Flying'

Basic knowledge:

- in which case it is sufficient to use 'wilco', 'roger', or mentioning the call sign in reply to a message;
- the way in which taxiways are indicated, the meaning of a holding point and the way in which a runway holding position is indicated, as well as knowledge of the phraseology for keeping clear of the runway, taxiing back after landing;
- reporting ready for take-off and the difference between the use of the words departure and take-off;
- the different line-up clearances and how they must be read back;
- reading back take-off clearance and altitude clearance;
- what the instructions for aborting take-off and cancelling take-off clearance are, and how they must be read back;
- the names of the legs of an air traffic circuit, the way in which a circuit must be flown and when flying a circuit, which notifications must be made;
- the meaning of the instructions 'extend downwind', 'go around', 'touch and go' and how they must be read back;
- interpreting landing clearance, or clearances for 'touch and go', and how they must be read back, confirming and interpreting information concerning landing;
- interpreting published procedures concerning frequency change, such as automatic frequency change after landing and leaving the runway, and being able to carry out the subsequent instructions;
- when and how leaving the runway must be reported, and which ground station must be notified;
- confirming taxiing instructions and parking instructions;
- reporting that the parking stand has been reached, and termination of the connection.

PRACTICAL EXERCISES LESSON 2

Hours of practical tuition: 2

A flight departing from a controlled airfield in the Netherlands with the intention to fly a circuit:

Radiotelephony must be used as if it was a real flight with regard to:

- establishing first contact and carrying out a radio check
- request for permission to start the engine, change of frequency to the Tower
- request for permission to start taxiing, reporting ready for take-off
- requesting permission to line up the runway, take-off clearance
- reporting downwind and final
- reading back all clearances (including touch and go) and landing sequence number
- leaving the runway, and requesting permission to taxi back to the platform, and
- terminating a connection after reaching the parking stand.



Example of an assignment:

The PH-AIR (Piper Cherokee) is parked in front of the restaurant at Eelde. You want to practise touch and go's during the next 30 minutes. The weather is 'G'. Contact Eelde Delivery on xx MHz by making a radio check. Check the frequency of Eelde Tower in advance.



Number of hours: self-study: 2 hours,

tuition/instruction: 1 hour

Procedures for Departing Traffic Intending to Follow a VFR Route.

Basic knowledge:

- what VFR departure routes are, that they must be followed and how to do this;
- awareness of the fact that departure routes have a published altitude, and where to find this information;
- studying the departure routes of the controlled civil airfields by means of the Visual Approach Charts;
- studying the departure routes of controlled military airfields where previously announced civil air traffic is allowed,
- awareness of the fact that not all military air fields have ATIS;
- how to read back instructions for altitude changes when climbing, and reporting having reached the altitude;
- when and how to report a position;
- how to request for a departure route that does not match the published VFR routes (including reporting the position);
- how to get permission to leave the frequency;
- when and how a change in the flight plan must be reported;
- explaining the concept of Alerting Service.

PRACTICAL EXERCISES LESSON 3

Hours of practical tuition/instruction: 2

Exercise concerning a flight departing from a controlled air field via a VFR departure route.

Radiotelephony must be used as if it was a real flight with regard to:

- establishing first contact and carrying out a radio check
- requesting permission to start the engine, frequency change to the Tower
- reporting change of the flight plan
- requesting permission to start taxiing, reporting ready for take-off
- permission to line up the runway, take-off clearance
- following the VFR departure route
- passing (and reporting having reached) an instructed altitude
- reporting a position
- leaving the frequency

Example of an assignment:

Your aircraft, the PHSBU (Piper Cherokee) is parked in front of the Tower at Beek. You want to fly VFR to Rotterdam. Contact Beek Delivery by making a radio check. Report also that you have 2 persons on board instead of 4. Arrange start-up and taxy clearance. You expect the BRAVO Departure (1300'MSL).



Number of hours: self-study 3, tuition 1

Procedures for Departing Traffic, Use of SSR and Non-standard Clearances for Start-up (if required) through Take-off.

Basic knowledge:

- being able to indicate the differences between Primary and Secondary Surveillance Radar;
- being able to indicate the difference between a Mode A and a Mode A/C or Mode S transponder;
- being able to indicate how identification by means of radar and transponder takes place;
- how to set or activate a transponder during the entire VFR flight, including its use in a TMZ/Caution Area, as well as the application of the SSR codes 7000, 7500, 7600, 7700;
- phraseology related to the use of Secondary Surveillance Radar;
- being able to interpret and read back the concept of Intersection Line-up/ Take-off;
- being able to interpret and read back conditional clearances to enter the runway, and indicate how they are structured;
- being able to interpret and read back heading instructions during take-off, or on the basis of radar identification.

PRACTICAL EXERCISES LESSON 4

Hours of practical tuition: 2

Exercise concerning a flight departing from a controlled airfield via a VFR departure route.

Radiotelephony must be used as if it was a real flight with regard to:

- establishing first contact and carrying out a radio check
- reporting change of the flight plan
- requesting permission to start the engine, frequency change to the Tower
- requesting permission to start taxiing, getting ready for take-off
- permission to line up the runway, take-off clearance
- reacting to conditional clearances, including intersection line-up/take-off clearances
- managing heading instructions during take-off, and shortly afterwards
- following the VFR departure route
- using the transponder, including the applicable phraseology
- reporting passing and having reached an assigned altitude
- reporting a position
- leaving the frequency

Example of an assignment:

Your aircraft, the PHBWK (Cessna 172) is parked in front of the tower at airfield De Kooy at parking stand 2. You want to fly VFR to Schiphol. Contact De Kooy Ground (121.725). State the number of persons on board (POB), as well as the fact that fuel on board (endurance) is 4 hours instead of 3. (Note: De Kooy does not have ATIS)



Number of hours: self-study: 2,

tuition/instruction: 1

Procedures for Incoming Traffic

Basic Knowledge:

- studying the VFR arrival routes of the controlled civil airfields;
- studying the VFR arrival routes of the controlled military airfields where previously announced civil air traffic is allowed;
- awareness of the fact that the VFR arrival routes have a published altitude, and where to find the information;
- how and with whom to establish first contact;
- listing the information that must be stated after having established contact;
- being able to indicate deviation from this when approaching Schiphol, as well as being familiar with the arrival route through the Amsterdam Sector, and how to request this;
- awareness of the fact that when approaching a military airfield, the number of persons on board must be stated;
- how to confirm clearance for the VFR arrival route and the accompanying items;
- when and how to make a position report;
- how to request an arrival route that does not match the published routes (including the position report);
- how to read back instructions concerning altitude changes, either for climb or descent, and how the altitude reached must be reported;
- being familiar with the instruction '360 turn' and 'orbit', and how it must be read back;
- how to join the circuits, and how the instructions related to this read;
- being familiar with the abridged approach procedures, and how to read back instructions related to this;
- when and how leaving the runway must be reported and at which ground station this must be done;
- how to request and confirm taxiing instructions after landing;
- how to report having reached the parking stand, and how to terminate the connection;
- studying the Aeronautical Chart 1: 500.000 ICAO The Netherlands where applicable to incoming flights, including the Visual Approach Charts and taxiing charts.

PRACTICAL EXERCISES LESSON 5

Number of practical tuition: 2

Exercise concerning an incoming flight at a controlled airfield via a VFR arrival route.

Radiotelephony must be used as if it was a real flight with regard to:

- establishing first contact
- requesting clearance for the VFR arrival route
- stating the number of persons on board if it concerns a military airfield
- using of the transponder, including the applicable phraseology
- reporting position and altitude
- carrying out instructions concerning a 'three-sixty' or 'orbit'
- joining the circuit and carrying out instructions while flying the circuit
- reporting leaving the runway and requesting taxing instructions
- terminating the connection after having reached the parking stand



Example of an assignment:

You are flying the PHRYP (Piaggio) VFR from Eelde to Beek. You are flying at 2500 ft and you are approaching Born (BRAVO). Contact Beek Tower. The ATIS is "J". Standard VFR Arrival routes to Beek are flown at 1800" MSL. Note: Beek has shorter circuits.



Number of hours: self-study: 2

tuition/instruction: 1

Procedures for Contacting the Flight Information Centres in the Amsterdam FIR

Basic Knowledge:

- describing the Flight Information Centres (in the Amsterdam FIR), and being familiar with their call signs;
- how to establish a connection, and when contacting Dutch MIL Info, the contact information must include the current position;
- listing the information that must be given after contacting;
- when to mention ETA;
- describing the concept of Regional QNH, and reading it back;
- how to report a position change;
- how traffic information is reported (o'clock procedure), and using the applicable phraseology;
- being familiar with the procedures / phraseology concerning traffic information and avoiding;
- applying the SRZ procedures in the phraseology;
- how to leave the frequency;
- how to request airfield information;
- studying the Aeronautical Chart 1: 500,000 ICAO the Netherlands where applicable to departing and arriving flights.

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PRACTICAL EXERCISES LESSON 6

Number of practical hours: 2

Exercise concerning a flight to/from controlled and uncontrolled airfields, including establishing contact with a Flight Information Centre in the Amsterdam FIR.

Radiotelephony must be used as if it was a real flight with regard to:

- establishing first contact, carrying out a radio check and requesting to start the engine
- requesting to start taxiing, reporting ready for take-off, lining up the runway, take-off
- reacting to conditional clearances, including intersection line-up/take-off clearances
- dealing with heading instructions during and shortly after take-off
- following the VFR departure route
- using the transponder, including the specific phraseology
- reporting passing and reaching an assigned altitude
- reporting position
- leaving the frequency
- contacting the Flight Information Centres, and reporting the data required
- reacting to and reading back Traffic Information and Regional QNH
- leaving the FIC frequency
- contacting Airside Operations with a request for airfield information, and/or
- establishing first contact, and requesting clearance for the VFR arrival route
- using the transponder, including the specific phraseology
- reporting position and altitude
- carrying out a visual holding, a three-sixty or orbit, or an extended orbit or holding procedure.
- joining the circuit and carrying out the instructions in the circuit
- reporting leaving the runway and requesting taxing instructions
- terminating connection after reaching the parking stand

Example of an assignment:

Your aircraft, the PHRBC (Cessna 172) is parked at Hanger 6 at Schiphol East. You want to fly VFR to Rotterdam. Contact Schiphol Delivery on xx MHz by means of a radio check. After having left Schiphol CTR, you call up Amsterdam Information. When approaching Rotterdam CTR, you leave Amsterdam Information and contact Rotterdam Tower. ATIS gives "Information Y".



Number of hours: self-study 2

tuition/instruction: 2

Procedures for Crossing a (Military) CTR Controlled Airspace

Basic Knowledge

- how crossing a (military) CTR must be requested, and which information must be given;
- how to report the route through the CTR;
- how to read back clearance to cross;
- how to report entering and leaving the CTR;
- how to read back altitude changes, and how to report the altitude reached;
- how to carry out other position instructions, including terminology such as: 'abeam', 'overhead', 'one minute before crossing extended centreline';
- how to leave the frequency;
- studying the Aeronautical Chart 1: 500,000 ICAO the Netherlands, and using it where applicable to crossing the CRTs.

PRACTICAL EXERCISES LESSON 7

Number of practical hours: 2

Exercise concerning an entire flight from/to controlled airfields, including establishing contact with a Flight Information Centre in the Amsterdam FIR, and crossing a (military) CTR.

Radiotelephony must be used as if it was a real flight with regard to:

- establishing first contact, carrying out a radio check and requesting to start the engine
- requesting to start taxiing, reporting ready for take-off, lining up the runway, take-off
- reacting to conditional clearances, including intersection line-up/take-off clearances
- dealing with heading instructions during and shortly after take-off
- following the VFR departure route
- using the transponder, including the specific phraseology
- reporting passing and reaching an assigned altitude
- reporting position
- leaving the frequency
- contacting the Flight Information Centres, and reporting the data required
- reacting to, and reading back Traffic Information and Regional QNH
- leaving the FIC frequency
- establishing first contact for crossing a CTR
- reporting the data required to obtain clearance, reading back the clearance
- performing the different position instructions
- leaving the frequency, and/or
- establishing first contact, and requesting clearance for the VFR arrival route
- using the transponder, including the specific phraseology
- reporting position and altitude
- carrying out a visual holding, a three-sixty or orbit
- joining the circuit and carrying out the instructions in the circuit
- reporting leaving the runway and requesting taxiing instructions
- terminating the connection after reaching the parking stand.



Example of an assignment:

Your aircraft, the PHAVA (Cessna 172), is parked at Eelde in front of the tower. You are ready for a VFR flight to Rotterdam. Contact Eelde Delivery. After leaving the Eelde CTR you contact Dutch MIL Info. North-east of the Rotterdam CTR, you contact Rotterdam Tower. ATIS: "Q". If runway 24 is in use, you could get a straight-in either directly from MIKE, or later from OSCAR.



Number of hours: self-study: 2

tuition/instruction: 1

Procedures for Emergency Calls and Distress Calls

Basic Knowledge

- which phraseology must be used in the case of a diversion;
- which data must be added to the request for landing because of the diversion;
- knowledge of the distress and emergency procedures, and how to compile a distress or emergency message;
- how to indicate a situation of distress or emergency, and which frequency to use;
- the phraseology in situations of distress or emergency, and being able to use them.

PRACTICAL EXERCISES LESSON 8

Number of practical hours: 2

Exercise concerning an entire flight to a controlled airfield, from establishing contact with a Flight Information Centre in the Amsterdam FIR, and the diversion to, and approach of a controlled airfield.

Radiotelephony must be used as if it was a real flight with regard to:

- contacting the Flight Information Centres and reporting the data required
- reacting to and reading back the Traffic Information and Regional ONH
- reporting the decision to divert and stating the reason
- leaving the FIC frequency
- connecting with the airfield that is diverted to, if necessary by means of an emergency or distress call signal
- using the transponder, including the specific phraseology and reserved SSR codes
- using radar phraseologies regarding navigation assistance
- reporting position and altitude
- performing a visual holding, a three-sixty or an orbit
- joining the circuit and carrying out the instructions in the circuit
- reporting leaving the runway and requesting taxing instructions
- terminating the connection after reaching the parking stand

Example of an assignment:

Your aircraft, the PHCOM (Diamond DA 40), is parked in front of the tower at Rotterdam. You are ready for a VFR flight to Eelde.. Contact Rotterdam Delivery by means of a radio check. After leaving the Rotterdam CTR, you contact Amsterdam Information. Near Weesp you sign off at FIC, and contact Schiphol Tower. Make an emergency call, and request priority and a direct route to the field because of smoke in the cockpit. You have not been able to listen out ATIS.



Number of hours: self-study: 2

tuition/instruction: 1

Procedure for Obtaining VDF Bearings for Heading and Position

Basic Knowledge

- how to request VDF bearings for heading or position;
- which rate of accuracy there is regarding bearings and positions;
- how information about bearings and position must be read back;
- which Q codes are commonly used, and their meaning.

PRACTICAL EXERCISES LESSON 9

Number of practical lessons: 2

Exercises in which a request must be made for heading information via radio bearings (QDM), or position information obtained via radio bearings (QTF), or an instruction is followed to transmit for the purpose of bearing the aircraft (QDR).

Radiotelephony must be used as if it was a real flight with regard to:

• Requesting heading and position bearing by means of VDF or radar identification.

Example of an assignment:

Your aircraft, the PHJPG (Cessna 310) is parked at airfield Beek in front of the tower for a VFR flight to Schiphol through the Rotterdam CTR. Contact Beek Delivery by means of a radio check. When you make your start-up request, indicate that you cannot receive ATIS, and request this information.

After leaving the Beek CTR, you contact Dutch MIL Info. East of the Rotterdam CTR, you contact Rotterdam Tower. You want to cross the CTR via Ridderkerk 'overhead the field' into the direction of Zoetermeer. After leaving the Rotterdam CTR, you are uncertain about the best route.

You contact Schiphol Tower, request a QDM. Schiphol has 'threshold baseleg approaches' for its 'Oostbaan'. (Don't forget there is an 'automatic frequency change' to Schiphol Ground after landing).

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TRAINING FOR THE PRACTICAL SKILLS TEST

These exercises contain all elements from lesson 1 to 9, and are compliant with the Dutch CAA requirements for the contents of a practical skills test.

PRACTICAL SKILLS TEST

Number of hours: self-study: none

tuition/instruction: none

Basic knowledge:

- all the elements and phraseology from lessons 1 to 9, including the contents and practical knowledge of these chapters:
 - Radio technique,
 - Types of messages and their priority,
 - Altimeter setting procedures,
 - Meteorology,
 - Definitions and abbreviations.

PRACTICAL SKILLS TESTS

These tests contain all the elements from lessons 1 to 9, and is compliant with the Dutch CAA requirements for the contents of a practical skills test, as stated in the Introduction of this syllabus. Below you will find two examples of a practical test.



PRACTICAL TESTS VFR

ROTTERDAM CTR - GILZE-RIJEN - BEEK

PART 1. SPELLING: (words between brackets are not to be spelled out)

Letters	Numbers		N	Numbers	
ALTIMETER	(altitude)	3500 ft	(time)	10.10 UTC	
SQUELCH	(channel)	123.010	(heading)	180	
UNABLE	(speed)	140 kt	(RVR)	400 m	
TRANSPONDER	(QNH)	992 hPa	(QDR)	005	

PH- COM
Piper Archer

PART 2. PRACTICAL ASSIGNMENT:

You are making a VFR flight from Rotterdam to Beek, and will be crossing the Gilze-Rijen CTR in an easterly direction.

- During your flight, you are only expected to establish contact with those ground stations that are mentioned below
- Both you and the Air Traffic Controller assume that a standard VFR flight plan has been filed. A transponder mode A/C is on board.

Rotterdam Delivery	122.180
Rotterdam Tower	118.205
Gilze–Rijen Tower	125.330
Dutch MIL INFO	132.355
Beek Tower	119.480



DEPARTURE ROTTERDAM:

You are parked on the platform in front of the tower, parking stand D3. Contact Rotterdam Delivery by means of a radio check, and request the necessary clearances. Report in good time that the number of persons on the flight plan has changed from 4 to 3.

 The VFR departure routes at Rotterdam are flown at 1000ft (HOTEL and MIKE DEP) or 1500ft MSL (ROMEO DEP), unless otherwise assigned or approved.

EN-ROUTE:

After leaving the Rotterdam CTR contact Gilze-Rijen Tower, and request permission to cross the CTR. After leaving the Gilze-Rijen CTR, contact Dutch MIL INFO.

ARRIVAL BEEK:

After leaving the Dutch MIL INFO frequency establish timely contact with Beek Tower and request to make a touch and go before landing.

o The VFR arrival routes at Beek must be flown at 1800ft MSL, unless otherwise assigned or approved.



VFR BEEK (EHBK) - EELDE (EHGG):

PART 1. SPELLING: (the words between brackets are not to be spelled out)

Letters	Numbers	Numbers
SQUAWK	(runway) 27R	(channel) 132.055
LENTICULARIS	(frequency) 121.975	(distance) 09 NM
BEARING	(cloud height) 1200 ft	(RVR) 550 m
THRESHOLD	(visibility) 500 m	(temperature) - 35° C

PH-Cessna 210

PART 2. EXAMINATION FLIGHT:

You wish to fly VFR from Beek to Eelde. En route you want to cross the Eindhoven CTR in a northerly direction.

- During your flight, you are only expected to establish contact with those ATS units mentioned in the assignment.
- Both you and the Air Traffic Controller assume that a standard VFR flight plan has been filed. A functioning transponder mode A/C/ or Mode-S is on board. Outside CTR's squawk SSR code 7000 in the Amsterdam FIR unless otherwise instructed.

Beek Delivery	121.830
Beek Tower	119.480
Eindhoven Tower	131.005
Dutch MIL INFO	132.355
Eelde Tower	118.705





18

DEPARTURE BEEK

You are parked in front of the control tower. Contact Beek Delivery by means of a radio check and request start-up. Also, report the following flight plan change before taxiing out: your endurance is 3 hours and 15 minutes instead of 4 hrs.

 The VFR-departure routes at Beek are flown at 1300 ft MSL unless otherwise assigned or approved by ATC.

EN-ROUTE

Establish contact with Eindhoven Tower and request crossing clearance from Yankee, via Overhead the airfield to Whiskey through the CTR. After leaving the Eindhoven CTR contact Dutch MIL INFO.

ARRIVAL EELDE

When approaching Eelde CTR establish timely contact with Eelde Tower. The ATIS letter is HOTEL.

The arrival routes at Eelde are flown at 1500ft MSL unless otherwise assigned or approved.

