132nd VIRTUAL WING
765TH VIRTUAL STRIKE FIGHTER SQUADRON

132-TRP-765-COM-01

COMMUNICATIONS AND AIRSPACE OPERATIONS

FLIGHT TRAINING INSTRUCTION

2018

Introduction

Correct use of radio communications and adherence to established procedures is paramount in order to ensure yourself, and everyone else, is getting the most out of every event within our DCS community. We have a high emphasis on immersion, and we strive to operate as close to a real-life fighter squadron as possible - as do the rest of the 132nd Virtual Wing. This steepens the initial learning curve, but increases the payoff considerably and leaves the TR with a sense of accomplishment as well as skills transferable to the real world.

The purpose of this document is to provide the trainee (here after called TR) with a reference document during his or hers training with the 765th with regards to correct communications- and operation procedures during take-off, navigation and recovery. In addition, this document covers the correct procedure for planning NAVEX-type flights within the 132nd vWing.

Self-study is key in order to be prepared and to get the most out of each training event. And in addition to this document, each TR is required to familiarize himself with the following documents - of which this document is based upon:

- **132-765-SOP Standard Operational Procedures for the 765th**
- **132-TTP-5 ATC and Airbase operations (required reading for all TRs)**
- **132-TTP-10 AWACS Procedures (optional)**

Desired Learning Objectives

 Completion of the following objectives, as well as a proficiency in the TRPs leading up to the COM-01 lesson should leave the TR with all he needs to know in order to plan and execute a normal flight (NAVEX or transit). Not only giving the TR a solid base from which to work on additional flying and combat skills - but to be an asset to his flight lead already.

On completion, the TR should be able to prepare the basics for his flight:

- Be able to use the ATO to find correct frequencies for his flight

- Using the information available on the event pages, find information about his flight prior to launch

- Upon completion of the flight, write good AARs and Debriefs following the guidelines within this document

The TR should have a clear overview of phase of a flight:

- Know how to establish correct communication with FL or ATC

- Know the agencies one can expect to interact with during a flight

- Know how to ask for the required clearances from the various agencies during a flight

- Know how to correctly approach the airfield, and how to perform a straight-in landing

In addition, the TR should have acquired the following abilities:

- Be able to use guard frequency to communicate with others

- Be able to taxi on the airfield using ground- and VAD charts

- Be able to set altimeter for airfield QNH and understand why we use QNH

- Be able to set altimeter for Standard Pressure Settings (SPS, 1013 mBar) above 8000ft, and return to QNH when descending below FL090

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Chapter 1

Mission Planning

Even when flying as a wingman, each pilot should do his best to prepare for the flight. In a training scenario it is important to train as many aspects of flying as possible, and during a combat mission the wingman might find himself in a position where he has to act as lead. It is therefore important to understand and practice acquiring the relevant information to your flight. It is equally important to perform a debrief and submit your after-action report after the flight is completed.

1.1 Frequencies

For the purpose of communication, the 132nd utilizes a frequency table containing all frequencies currently employable by the wing. The left column has a codeword (color), and the top rows has a number. Together they form a codeword for each frequency. The reason for this is to avoid transmitting operational frequencies on open, unencrypted radio. Figure 1.1 shows the current table as of January 2018.

The Mirage 2000C is equipped with two programmable radios. By default, these are programmed to the frequencies shown in figure 1.1 unless otherwise stated. The exception might be some combat missions and campaigns, and if we are flying on other servers.

1.2 Air Tasking Order

The 132nd vWing Air Tasking Order (ATO) tasking is based on how actual NATO forces distribute their air taskings and gives a summary of active flights in the upcoming 24h time-period. Reading the ATO is a process called *task fragging* - hence you will hear the term *as fragged* beeing used during briefs and flights when referring to something being in accordance with the ATO.

The ATO has a format suitable for easy transmission over battlefield networks, and as such might seem difficult to decipher at first. However, as a wingman your main con-

	1	2	3	4	5	6	7	8	9	10	11
Blue	123.000	238.250	237.000	128.000	31.25	118.500	117.500	226.250	117.000	30.75	125.000
Green	30.00	45.00	120.000	229.000	230.250	248.750	231.500	32.25	137.750	123.750	32.50
Red	140.250	31.00	35.25	127.100	245.000	30.50	231.250	118.000	134.100	243.500	119.250
Yellow	227.500	128.100	237.750	34.00	121.250	230.000	121.100	225.000	31.75	133.000	121.750
Orange	122.000	242.250	243.250	129.000	117.750	225.250	246.250	32.75	119.500	228.000	229.750
Purple	248.500	127.000	134.250	130.250	38.25	131.000	236.000	237.500	133.750	138.100	127.750
White	126.250	137.250	238.500	126.000	237.250	117.250	121.000	118.750	120.500	119.000	235.000
Gray	35.00	248.000	128.750	122.100	228.750	235.250	135.250	242.750	118.250	122.250	30.25
Pink	233.000	130.100	124.000	128.250	125.750	34.50	234.750	34.75	234.500	244.750	238.000
Brown	248.250	138.750	136.000	33.50	132.250	232	233.250	231.750	120.750	228.500	137.000
Violet	240.000	135.100	134.750	232.500	232.750	32.00	130.750	129.250	132.000	228.250	136.100
Amber	124.750	238.750	227.000	235.750	244.500	226.000	36.50	123.250	126.750	131.100	124.100
	1	2	3	4	5	6	7	8	9	10	11
Aqua	33.75	129.750	226.750	131.250	231.000	247.750	133.100	233.750	236.250	139.750	36.75
Cherry	121.500	31.50	242.000	35.75	243.000	138.000	132.100	243.750	239.250	131.750	244.250
Gold	247.000	134.000	240.500	129.100	36.25	229.250	235.500	241.500	127.250	35.50	245.500
Coral	124.250	33.25	138.250	240.250	135.750	241.750	33.00	139.100	239.000	229.500	225.500
Indigo	137.100	119.750	233.500	239.750	245.750	136.250	139.000	246.500	140.750	225.750	230.500
Lemon	34.25	133.50	132.750	123.100	36.00	241.250	236.500	37.50	234.250	135.000	37.75
Lime	247.250	126.100	246.000	244.000	230.750	37.00	232.250	245.250	38.75	130.000	247.500
Maroon	139.250	38.00	239.500	122.750	39.25	39.50	240.750	241.000	37.25	226.500	140.000
Ochre	227.750	236.750	227.250	242.500	120.250	39.00	38.50	136.750	234.000	125.250	39.75
Olive	140.100	246.750	141.000	141.750	141.100	150.000		152.000	141.250	151.000	21.00
Black	35.650	25.375	48.550		36.300	37.800	38.200	39.800	40.400	41.000	36.333

Figure 1.1: List of 132nd Operational Frequencies as of January, 2018

cerns should be where you are departing from - and recovering to, as well as your main- and backup internal frequencies. Another important bit of information listed in the ATO is your flights call-sign. The following is an example of an ATO:

VTASK/132vW/3893/102000ZFEB2015//
TASKUNIT/765th/ICAO:UGTB//
AMSNDAT/TR3893/TR/-/-/54/-/-/DEPLOC:UGTB/ARRLOC:UGTB//
MSNACFT/2/M2000C/FREEDOM31-32/FLIGHT LEAD DISCRETION/
-/YELLOW9/ORANGE5//

From the above the following information can be gathered;

- The tasking is for the 132nd vWing, with task number 3893 - and a briefing time of 2000Z

- The tasked unit is the 765th, located at UGTB (Tbilisi-Lochini Airport)

- Primary mission is mission TR3893, with no secondary mission at this time. Flight is departing from UGTB, and will recover at UGTB as well.

UHF RADIO							
P	Function	Freq	Name	P	Function	Freq	Name
1	AWACS A	237.000	BLUE 3	11	TANKER SHELL	241.250	LEMON 6
2	AWACS B	226.250	BLUE 8	12	GUARD	243.000	
3	Dusheti Range	247.500	LIME 11	13	MIRAGE Internal 1	238.250	BLUE 2
4	Marnueli Range	248.500	PURPLE 1	14	MIRAGE Internal 2	229.000	GREEN 4
5	Tianeti Range	225.750	INDIGO 10	15	MIRAGE Internal 3	231.500	GREEN 7
6	Tetra Range	243.500	RED 10	16	MIRAGE Internal 4	227.500	YELLOW 1
7	AWACS A-A	239.500	MAROON 3	17	MIRAGE Internal 5	237.750	YELLOW 3
8	TANKER ARCO	227.100		18	MIRAGE Internal 6	230.000	YELLOW 6
9	Air Request Net	245.250	LIME 8	19	MIRAGE Internal 7	233.000	PINK 1
10	Inflight Report Net	236.500	LEMON 7	20	MIRAGE Internal 8	234.750	PINK 7

V/UHF RADIO							
P	Function	Freq	Name	P	Function	Freq	Name
1	LOCHINI GND	138.100		11	AWACS Backup	127.750	PURPLE 11
2	LOCHINI TWR	138.200		12	TANKER ARCO	227.100	
3	TBLISI TMA	127.200		13	Air Request Net	245.250	LIME 8
4	AWACS A	237.000	BLUE 3	14	Inflight Report Net	236.500	LEMON 7
5	AWACS B	226.250	BLUE 8	15	TANKER SHELL	241.250	LEMON 6
6	Dusheti Range	247.500	LIME 11	16	Mirage Internal 9	134.250	PURPLE 3
7	Marnueli Range	248.500	PURPLE 1	17	Mirage Internal 10	130.250	PURPLE 4
8	Tianeti Range	225.750	INDIGO 10	18	SOGANLUG GND	139.100	
9	Tetra Range	243.500	RED 10	19	SOGANLUG TWR	139.200	
10	AWACS A-A	239.500	MAROON 3	20	GUARD	243.000	

Figure 1.2: Radio presets for the Mirage 2000C as of January, 2018

- This will be a flight of two Mirage 2000C, call-signs FREEDOM3-1 and FREEDOM3-2, carrying a load-out per flight leads discretion. This means the load-out will be briefed at a later time

- The flights primary frequency will be YELLOW9, with ORANGE5 as backup (See figure 1.1 for actual frequencies)

1.3 Flight's Comms Chatter

After beeing assigned to an event and flight, the TR should make his way to that flights' *Flight Comms Chatter*. This houses the flight-plan information, intentions and any communication necessary in order to perform the assigned task. Most of the information here will be familiar, having looked at the ATO prior, but what is new is the *ENR Intentions*. This is in essence a short-hand flight plan filled in by flight-lead where he makes his

intentions for this flight known; How he intends to solve the mission. This is important information for both wingmen and air traffic controllers (ATC/AWACS). Wingmen will need to know what to expect in order to perform better. And air traffic agencies need to know what to expect from this flight in order to provide better services and coordination.

A very straight-forward example could be the following:

DEP WEST
AAR (SHELL)
RTB via STRAIGHT-IN APP

Written out, this means *Flight will depart towards the west, perform air-to-air refueling operations at a tanker with call-sign SHELL - before returning to the air base via a straight-in approach.* The above text is written in short-hand, while still managing to get across the intentions of the flight lead. This is particularly useful for the traffic agencies, as they need to process all intentions from all flights each event. Another example could be:

DEP via MUK
AAR AT ARCO
BARCAP NORTH:
- POSIT: BE 075°/80NM/FL280
- CAP: 100°/55NM/TACFORM/0.8M
RTB via OHB

The above should be mostly familiar from the previous example. However, this is a more advanced case - not likely to be seen during TR / IQT training. [1] This time, the flight is departing via *MUK* - short-hand for MUKHRANI NDB, and will be refueling with tanker, call-sign *ARCO*. The flight will then set up a BARCAP, in this example briefed as *BARCAP NORTH* in the mission documents. Flight lead is then defining the entry-point for this BARCAP, with *POSIT* being brevity for the position of a landmark or a common reference point. In this case *BE* - short-hand for Bullseye. The entry-point is then 75°for 80NM from Bulls-eye, and the flight should arrive there at FL280. The following line describes the first leg of the BARCAP from the entry-point; Heading 100°for 55NM, in tactical formation at Mach 0.8

1.4   After Action Report

A proper AAR is very important for both our tactical flying and sharing lessons learned and every participant in an event is expected to submit one. A good AAR and debrief is vital for getting the most out of every event - no matter the out come. In fact, real-life

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[1]For more information on the terms and brevity used in this example, please refer to your IP or the documents referenced at the beginning of this document

132vW VTASK FLTPLN

Flight plan mandatory for all missions with a departure, area of operations or recovery within 132vWing 176th vACS controlled space. Fields **ETA** and **ENR Intentions** are mandatory. ETA may be given approximately, e.g. "+2hrs". **Flight plan is to be submitted for approval a minimum of 2 hours prior to tasking takeoff time.**

Flight Date	151800ZOCT2017	Tasking	TR2321
R/T Callsign	METAL	Aircraft Type	4 × M-2000C
Departure	UGTB (-)	ETD	-
Recovery	UGTB (-)	ETA	
ENR Intentions	ETD 1820Z, DEPT. VIA MUKHRANI AAR (ARCO) EST. CAP AS BRIEFED - NO LATER THAN 1900Z / 1600G RTB OH BREAK - WHEN PACK.A IS INBOUND UGTB		

Submit flight plan

Figure 1.3: Example flight plan from the event-page

fighter pilots sites the debrief and AAR as the main reason they are able to learn and quickly adapt. Writing the AAR forces the pilot to consciously reflect on certain aspects of the flight that are otherwise easily overlooked. This is especially true if the flight did not go as expected.

1.5 TEST

This is some preview test text. It is very nice indeed!

Chapter 2

Approach Procedures

Approach Procedures are in place to ensure a safe recovery of all aircraft to their intended destination. In the 132nd we currently utilizes two types of approaches; the Straight-In Approach, and the Overhead Break.

2.1   The Overhead Break

In order to expedite a speedy recovery of combat aircraft during operations, the Overhead Break (OHB) was introduced during the Second World War. This type of approach allows aircraft to keep a relatively high air speed, and to bleed of energy quickly while setting up for final, thus limiting the time it takes from crossing the threshold until safely on the ground. This is the standard approach used by the 765th.

BREAK
- 3G TURN TO REDUCE SPEED
- 1500ft

DOWNWIND
- 200-230 KIAS
- CONFIGURE FOR LANDING
- 1500ft

TOUCHDOWN
- MAX 15° AOA
- AIR-BRAKE TO
- < 100 KIAS

INITIAL
- 350 KIAS / 1500ft

45°

FINAL
- 3° GLIDE SLOPE
- 14° AOA
- MIN. 160 KIAS

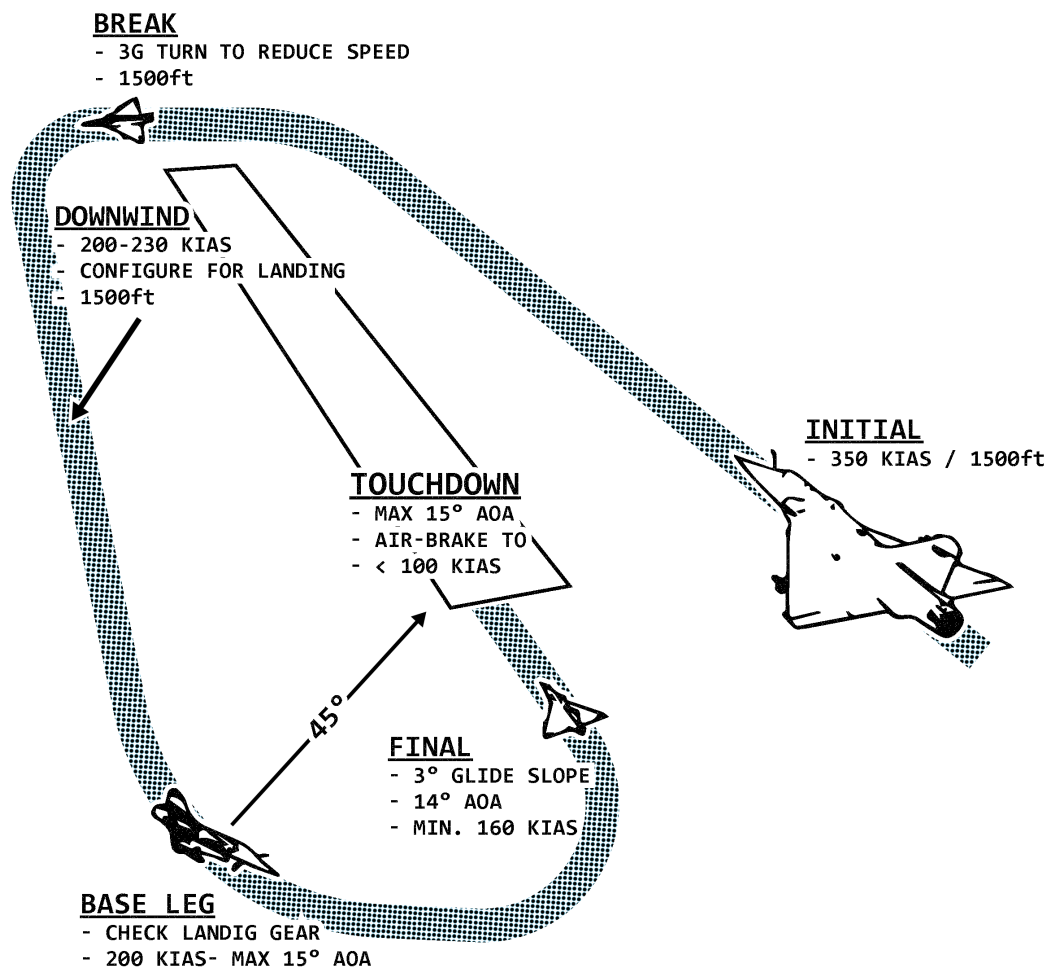**BASE LEG**
- CHECK LANDIG GEAR
- 200 KIAS- MAX 15° AOA

Figure 2.1: Illustration of the Overhead Break as performed by the 765th