WORKING COPY OF DOWNLOADED
FLIGHT DATA RECORDER/[illegible]

(IN CLASSIFIED CONTROL
SYSTEM AT CALE)

THIS ENVELOPE IS RECEIVED
BY THE RMB WITHOUT
ANY CONTENT.

(EMPTY ENVELOPE)
9/8/2010

ENCLOSURE (2)

WORKING COPY OF DOWNLOADED
FLIGHT DATA RECORDER/03[redacted]98

(IN CLASSIFIED CONTROL
SYSTEM AT CALE)

NO CONTENT

—

EMPTY ENVELOPE

ENCLOSURE (2)

001290

WORKING COPY OF DOWNLOADED
FLIGHT DATA RECORDER/03JUN98

(IN CLASSIFIED CONTROL
SYSTEM AT CALE)

001291

ENCLOSURE (2)

WORKING COPY OF CONTROL TOWER TAPE / 03JUN78

ENCLOSURE (3)

001292

WORKING COPY OF RADAR CONTROL TAPE/03JUN98

15APR98-ØØ23-ØØ36-7HMS

ENCLOSURE (4)

TITLE: I/MARFORLANT NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: Receipt and Dubbing of Radar Control, Control Tower Tapes and Flight Data Recorder.

At approximately 1015 on 02JUN98, Italian authorities, to include Col. NCIS (b)(6), (b)(7)(C) and Carabinieri Capt. NCIS (b)(6), (b)(7)(C) temporarily transferred custody of the Control Tower tape and Radar Control tape which contained all recorded data pertaining to the EA-6B mishap flight. Also turned over was the Flight data recorder, which initially had been seized by the Italian authorities. Accepting custody was Special Agent NCIS (b)(6), (b)(7)(C) Intelligence Operations Specialist NCIS (b)(6), (b)(7)(C) and reporting agent. An Italian "verbale" (statement) was signed acknowledging receipt of the Italian Evidence with the condition that it be returned to Italian custody upon completion of duplication. Enclosure (1) pertains.

At 1100 on 03JUN98, two copies of the flight Data Recorder were downloaded to 8mm tape by NCIS (b)(6), (b)(7)(C), Cpl. USMC NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) VMAQ-4 TERPES System Administrator in the presence of reporting agent. One copy was logged into the NCIS evidence system while the remaining copy was retained as a working copy and is appended as enclosure (2). NCIS (b)(6), (b)(7)(C) confirmed that the recorder functioned during the EASY-01 flight on 03FEB98 and contained flight data.

At approximately 1400 on 03JUN98, all recognizable recorded communications between the Aviano AB Control Tower and Radar Control pertaining to the EA-6B mishap flight and actions were listened to and duplicated on audio cassette tapes. Assisting in this process was Italian Air Force Capt. NCIS (b)(6), (b)(7)(C) who is the Deputy Chief of Air Traffic Control Operations. Assisting in the technical recording was NCIS (b)(6), (b)(7)(C), TSGT USAF who is assigned to Ground Radio Maintenance at Aviano AFB. The recording were made utilizing and "INTER-M PC9335 Public Address Logic Double Deck Recorder. One copy of the Control Tower recording and one of the Radar Control tape were logged into the NCIS evidence system and an additional copies were retained as a working copies, which are appended as enclosures (3) and (4).

Recorded data pertaining to take-off of the EA-6B mishap flight was found on Channel 3 (Ground 1); Channel 1 (Local 1) on the control tower tape and on Channel 4 (ASR2) on the Radar Control tape. Recorded data pertaining to re-entry and landing of the mishap EA-6B was found on Channel 1 of the control tower tape and channel 4 on the Radar Control tape. There were no communications discovered on Channel 3 as the aircrew immediately egressed the aircraft.

EXHIBIT (196)

A telephone conversation located on Channel 6 of the Control Tower tape between the Supervisor of Flight (SOF) Maj NCIS (b)(6), (b)(7)(C) and Capt. NCIS (b)(6), (b)(7)(C) was also recorded. This conversation took place at 1429Z hours and Capt NCIS (b)(6), (b)(7)(C) describes that he thought he hit a Tower Cable that went to a gondola NCIS (b)(6), (b)(7)(C) reported seeing a gondola and then some wires which he attempted to maneuver through.

At 1700 on 04JUN98, reporting agent returned the two tapes and the flight data recorder to Italian custody, which was documented with another "verbale" statement. Enclosure (4) pertains.

ENCLOSURES

(1) Italian Custody statement/03JUN98
(2) Working Copy of Downloaded Flight Data Recorder/03JUN98
(3) Working Copy of Control Tower Tape/03JUN98
(4) Working Copy of Radar Control Tape/03JUN98
(5) Italian Custody statement/04JUN98

Reporting Agent: NCIS (b)(6), (b)(7)(C)
Office: NCISFO Naples, Italy

~~FOR OFFICIAL USE ONLY~~

DEPARTMENT OF THE ARMY
US ARMY CRIMINAL INVESTIGATION LABORATORY
4553 N 2ND
FOREST PARK GA 30297-5122

REPLY TO
ATTENTION OF

CILA-EP (195-2c) 23 July 1998

MEMORANDUM FOR SPECIAL AGENT IN CHARGE, NAVAL CRIMINAL INVESTIGATIVE SERVICE FIELD OFFICE, BUILDING H-32, JULIAN C. SMITH BOULEVARD, CAMP LEJEUNE, NC 28542

SUBJECT: Submitter Case Number: 15APR98-0023-0036-7HMS
USACIL Referral Number: 98-CID131-1579
Suspect: NONE

1. Enclosed is the Laboratory Exhibit Listing and Final Division Report for the following division: Trace Evidence. Division.

2. Two original reports have been produced. One report is enclosed, as stated, and the other is kept in the official files of this laboratory and maintained IAW AR 25-400-2 and CIDR 195-1.

3. IAW AR 195-2, requests and fund cites for court appearances of Laboratory Examiners will be made at least 10 working days prior to the date of court proceedings.

4. POC is the Laboratory Operations Assistant, DSN 797-7082/7110, CM (404) 362-7082/7110, FAX (404) 362-7112/DSN 797-7112.

Encl

NCIS (b)(6), (b)(7)(C)

AN ASCLD/LAB ACCREDITED LABORATORY (SINCE 1985)

EXHIBIT (218)

UNITED STATES ARMY
CRIMINAL INVESTIGATION LABORATORY
4553 N 2ND
FOREST PARK GA 30297-5122

22 July 1998

TRACE EVIDENCE DIVISION REPORT

SUBJECT: Submitter Case Number: 15APR98-0023-0036-7HMS
USACIL Referral Number: 98-CID131-1579
Suspect: NONE

Exhibits:

1 - Fibers from wing of aircraft (Item A, Log 238-98).
2 - Fibers and metal filament (Item A, Log 239-98).
3 - Strands of wire from aircraft wing (Item H, Log 366-98).
  3(1) - Seven pieces of wire.
  3(2) - Five pieces of wire.
4 - Sections of steel cable (Items A-B, Log 410-98).
  4(1) - Load bearing cable.
  4(2) - Drive cable.

Findings:

1. The steel cables were examined and the following construction was observed:

The load bearing cable [Exhibit 4(1)] is approximately 60 mm (approximately 2.5 inches) in total diameter. It is a combined pattern construction with a strand core and 1 by 6 single layer strand wrapped exterior. The wires of the strand core are approximately 2.3 mm in diameter. A few wires approximately 1 mm in diameter are present in the core. The wires of the 1 by 6 single layer strands on the exterior of the cable are approximately 2.7 mm in diameter.

The drive cable [Exhibit 4(2)] is approximately 25 mm (approximately 1 inch) in total diameter. It is a 6 seale strand wire rope with a black polypropylene split film

TRACE EVIDENCE DIVISION REPORT CONTINUED

SUBJECT: Submitter Case Number: 15APR98-0023-0036-7HMS
USACIL Referral Number: 98-CID131-1579

fiber core. The center wire of the seale strand is approximately 1.9 mm in diameter. The smaller wires surrounding the center are approximately 0.9 mm in diameter and the outer wires are approximately 1.6 mm in diameter.

In addition, it was noted that both of the cables are heavily coated with black grease. Numerous particles of single-layer red, yellow, orange and white paint and/or plastic along with multi-layer white and silver paint and multi-layer orange and silver or grey metallic paint were observed embedded in the grease.

2. Exhibit 1 was examined and was found to be black polypropylene split film consistent in appearance with the black polypropylene split film core of the drive cable [Exhibit 4(2)]. This split film could have originated from that cable.

3. Exhibit 2 was examined and was found to be black polypropylene split film consistent in appearance with the black polypropylene split film core of the drive cable [Exhibit 4(2)]. This split film could have originated from that cable. In addition, a wire which varies from approximately 1.5 mm to 1.6 mm in its diameter is present. This wire appears relatively clean and does not have a heavy grease residue on the surface. Due to the diameter variation and the absence of surface debris, the wire could not be associated with the submitted cables. It should be noted that completely eliminating the cable as the source of this wire requires a comparison with the cable from the impact area.

4. Exhibit 3(1) consisted of seven pieces of wire. Two pieces of wire were approximately 2.7 mm in diameter and five pieces were approximately 2.3 mm in diameter. Exhibit 3(2) consisted of five pieces of wire. One piece of wire was approximately 2.7 mm in diameter and four pieces were approximately 2.3 mm in diameter. All of these wires were coated with a heavy black

TRACE EVIDENCE DIVISION REPORT CONTINUED

SUBJECT: Submitter Case Number: 15APR98-0023-0036-7HMS
USACIL Referral Number: 98-CID131-1579

grease. These wire are consistent in diameter and appearance with the wires of the load bearing cable [Exhibit 4(1)].

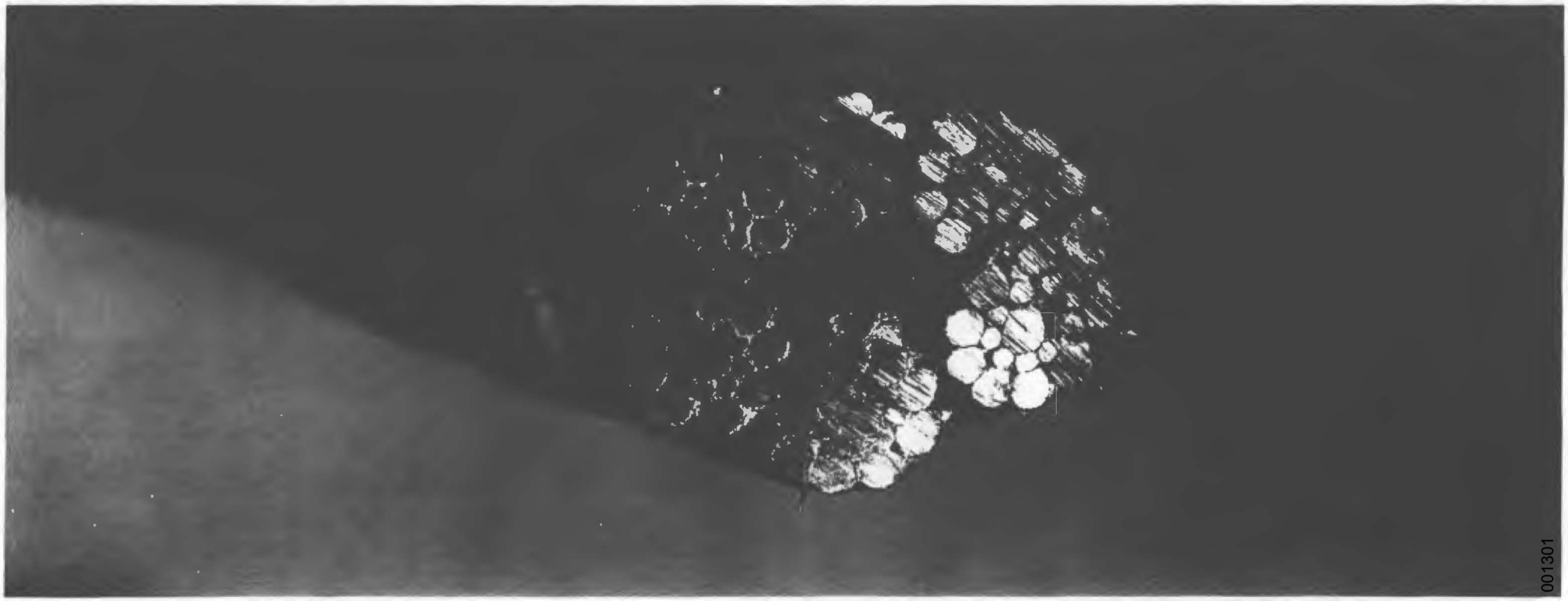
5. It should be noted that single-layer particles of white, yellow, orange and red paint and/or plastic and multi-layer particles of white over yellow paint and/or plastic were observed embedded in the grease on the wires in Exhibit 3. However, no comparison of these particles with the particles observed embedded in the grease on the cables [Exhibits 4(1 and 2)] was performed per conversation with Investigator NCIS (b)(6), (b)(7)(C) on 17 July 1998. In the event additional evidence of an association between the wire pieces and the cables is needed, please resubmit Exhibits 3 and 4 for further examinations.

NCIS (b)(6), (b)(7)(C)

98-1579 Ex. 4(2)

001300

98-1579 Ex. 4(2)

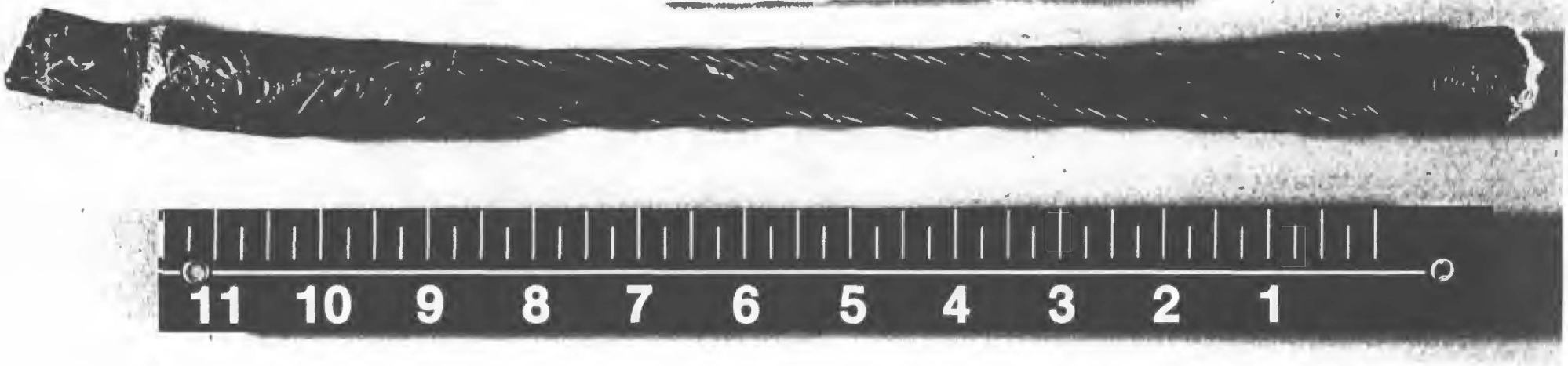


001301

98-1579 Ex. 4(2)

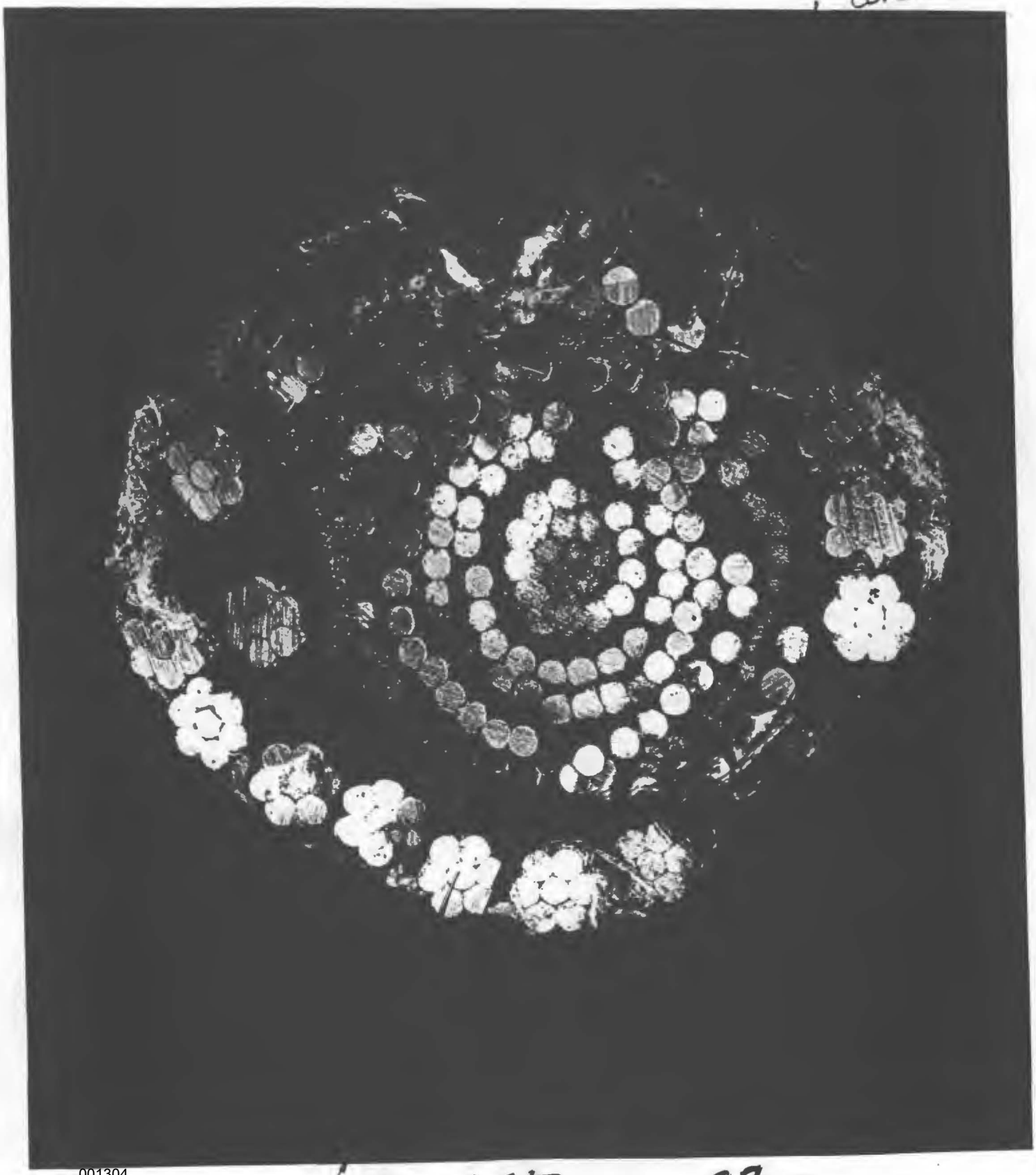
001302

98-1579 Ex. 4(2)



98-1579 Ex. 4(1)

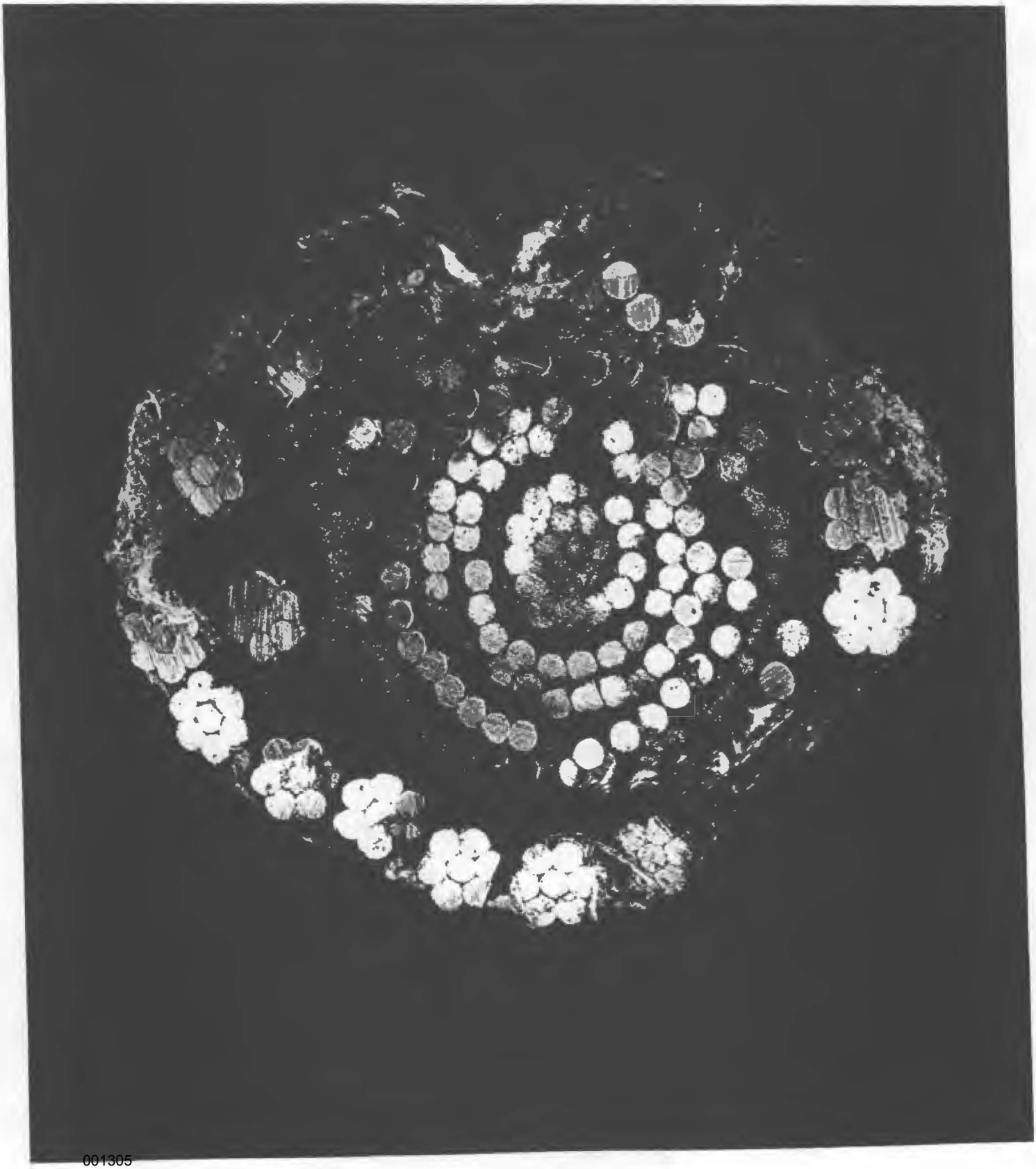
Strand Core 1.3mm



001304

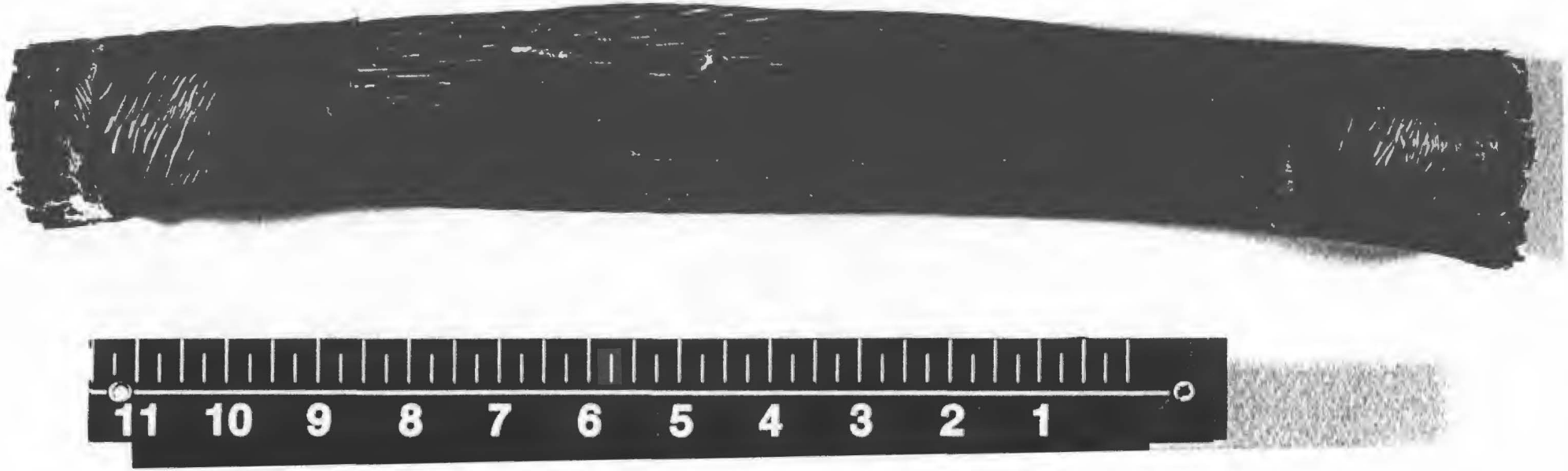
1x6 Strand Exterior wrap 2.07mm

98-1579 Ex. 4(1)



98-1579 Ex. 4(1)

98-1579 Ex. 4(1)



U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: ACQUISITION OF EVIDENCE

On 29Jul98, Reporting Agent (RA) along with Trial Counsel Major NCIS (b)(6), (b)(7)(C) contacted MSGT NCIS (b)(6), (b)(7)(C) (NFI) of the Base Visual Information Office at Aviano Air Force Base (AFB), Italy. Personnel from MSGT NCIS (b)(6), (b)(7)(C) office had been involved in videotaping the dismantling and component removal from the EA-6B mishap aircraft. Various personnel who were specialists in different sections of the aircraft from Naval Air Station (NAS) Jacksonville, FL were the personnel involved in the component removal.

Items removed from the aircraft included: an IMU-ASN-130A Gyro; a CDI Control Display Indicator; an Air Navigational Computer; an Air Data Computer CPU-140/A; and an AYK-14 computer. These items were all seized by NCIS and the seizure is documented in another NCIS document.

MSGT NCIS (b)(6), (b)(7)(C) provided RA with the original P6-120HM bq Hi 8 videocassette which contained the video of the component removal from the aircraft as well as a VHS copy of the original tape. The original was entered onto an NCIS evidence custody document and will remain in RA's custody, or in temporary storage at NCISFO Europe, Naples, Italy until it is hand carried to Camp Lejeune, NC where it will be given an NCISFO Carolinas Evidence Custody System Log number.

It should be noted the component removal and videotaping of same took place on 23Jul98 in hanger T29 at Aviano AFB; however, the original videotape was incorrectly labeled with the date 02Jul98 by the person who conducted the videotaping.

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCISFO Carolinas, Camp Lejeune, NC**
DATE TYPED: **03AUG98**

WARNING

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EXHIBIT (29)

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: **15APR98-0023-0036-7HMS**

INVESTIGATIVE ACTION: **SEIZURE OF EVIDENCE**

On 31Jul98, reporting agent seized the below listed items from NCIS (b)(6), (b)(7)(C) Aircraft Electrical Worker, NADEP, Jacksonville, FL. NCIS (b)(6), (b)(7)(C) removed the items from the USMC EA6B Prowler #163045 at the request of reporting agent. The aircraft was located inside the Hardened Aircraft Shelter #T29 aboard Aviano Air Force Base, Aviano, Italy. Reporting agent and participating agent NCIS (b)(6), (b)(7)(C) were present when NCIS (b)(6), (b)(7)(C) removed the items from the aircraft. After removing the items, NCIS (b)(6), (b)(7)(C) provided them to reporting agent. No additional items were removed from the plane at that time.

TIME DESCRIPTION OF EVIDENCE

0925...One device described by NCIS (b)(6), (b)(7)(C) as a Lateral Accelerometer bearing the MS #25447-6, Ser #12459, PT.NO. 24108 and MFR #06811.

0940...One device described by NCIS (b)(6), (b)(7)(C) as an Accelerometer Indicator (G-Force Meter) bearing MS #25448, Ser #13099, N00383-87-C-4256, PT.NO. 24110 and MFR #06811.

NCIS (b)(6), (b)(7)(C) indicated the above parts were removed from the aircraft as a match set. Additionally, there were four sets of numbers displayed on the G-Force Meter in four different windows. The four windows were numbered 1 through 4. The chart below indicates which numbers were showing in the four windows at the time the item was removed from the aircraft.

(1)	(2)
5295	3042
(3)	(4)
2644	2604

BIOGRAPHICAL DATA
NCIS (b)(6), (b)(7)(C) /Civilian (WG-8)
SSN:
DOB:
POB:
EMP:
WKPHN

NCIS (b)(6), (b)(7)(C)

PARTICIPATING AGENT
NCIS (b)(6), (b)(7)(C) SA, NCISFO Carolinas, Camp Lejeune, NC

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EXHIBIT (220)

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: NCISFO CAROLINAS

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: **15APR98-0023-0036-7HMS**

INVESTIGATIVE ACTION: **INTERVIEW OF CAPT** NCIS (b)(6), (b)(7)(C)

On 18Aug98, CAPT NCIS (b)(6), (b)(7)(C) USMC, NCIS (b)(6), (b)(7)(C), was interviewed at NCISFO Carolinas regarding the USMC EA6B Prowler mishap which occurred on 03Feb98, near Cavalese, Italy. NCIS (b)(6), (b)(7)(C) was a member of the USMC aircrew involved in that mishap. NCIS (b)(6), (b)(7)(C) was previously granted Testimonial Immunity on 11Aug98, by LTGEN NCIS (b)(6), (b)(7)(C) USMC, Commander, Marine Corps Forces Atlantic (MARFORLANT), Norfolk, VA, enclosure (1) pertains. During this interview, NCIS (b)(6), (b)(7)(C) was accompanied by his assigned military defense counsel, CAPT NCIS (b)(6), (b)(7)(C) USMC and his retained civilian defense counsel, NCIS (b)(6), (b)(7)(C). The entire interview of NCIS (b)(6), (b)(7)(C) was recorded and transcribed by SGT NCIS (b)(6), (b)(7)(C) SR, USMC, a court reporter assigned to LSSS, 2DFSSG, Camp Lejeune, NC (CLNC). Reporting agent and participating agent NCIS (b)(6), (b)(7)(C) covered various topics relative to the mishap during the interview with NCIS (b)(6), (b)(7)(C) The complete transcribed interview is appended to this report as enclosure (2).

ENCLOSURES
(1) Grant of Testimonial Immunity for NCIS (b)(6), (b)(7)(C) 11Aug98...(Copy)
(2) Verbatim transcript (126 pages)/NCIS interview of NCIS (b)(6), (b)(7)(C) 18Aug98...(Copy)

PARTICIPATING AGENT
NCIS (b)(6), (b)(7)(C) SA, NCISFO Carolinas

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCISFO CAROLINAS**

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Page 1312 redacted for the following reason:
- - - - - - - - - - - - - - - - - - - -
Enclosure (1) to Exhibit (221): Referred to the United States Marine Corps

V E R B A T I M

NCIS INTERVIEW

ICO NCIS (b)(6), (b)(7)(C) USMC

DTD 18 AUGUST 1998

NCIS, Camp Lejeune, NC

Members Present:

Special Agent NCIS (b)(6), (b)(7)(C)
Special Agent NCIS (b)(6), (b)(7)(C)
Captain NCIS (b)(6), (b)(7)(C)
Captain NCIS (b)(6), (b)(7)(C)
Sergeant NCIS (b)(6), (b)(7)(C)

ENCLOSURE (2)

AGT NCIS (b)(6), (b)(7)(C) Today's date is 18 August 98. The time is 0905. We are conducting an interview with Captain NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) Present in the room are Special Agent NCIS (b)(6), (b)(7)(C) Special Agent NCIS (b)(6), (b)(7)(C) civilian defense counsel NCIS (b)(6), (b)(7)(C) and Marine defense counsel Captain NCIS (b)(6), (b)(7)(C) In addition to that Sergeant NCIS (b)(6), (b)(7)(C) court reporter, is also present.

As we go through this interview, Special Agents NCIS (b)(6), (b)(7)(C) will ask Captain NCIS (b)(6), (b)(7)(C) various questions; and Captain NCIS (b)(6), (b)(7)(C) will also provide information in a running dialogue in response to those questions. We will take breaks approximately every 50 minutes during this interview. At which time, the recording will be stopped and started again when the interview commences.

Captain NCIS (b)(6), (b)(7)(C) will you give your full name including you middle name at this time.

CAPT NCIS (b)(6), (b)(7)(C) It's Captain NCIS (b)(6), (b)(7)(C) - and I don't have a middle name just a NCIS (b)(6), (b)(7)(C)

AGT NCIS (b)(6), (b)(7)(C) And your date of birth?

CAPT NCIS (b)(6), (b)(7)(C)

AGT NCIS (b)(6), (b)(7)(C) Place of birth?

CAPT NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C)

AGT NCIS (b)(6), (b)(7)(C) Your social security number?

CAPT NCIS (b)(6), (b)(7)(C)

AGT NCIS (b)(6), (b)(7)(C) What's your current duty station?

CAPT NCIS (b)(6), (b)(7)(C) Cherry Point, North Carolina. I am working for the G-1 at 2d Marine Aircraft Wing.

AGT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) during this interview we would like to swear you to the information that you are going to provide. Do you swear that the information you will provide during this interview will be the truth, the whole truth, and nothing but the truth so

help you god?

CAPT NCIS (b)(6), (b)(7)(C) I do.

AGT NCIS (b)(6), (b)(7)(C) When were you commissioned?

CAPT NCIS (b)(6), (b)(7)(C) I was commissioned April of 93.

AGT NCIS (b)(6), (b)(7)(C) And by what method?

CAPT NCIS (b)(6), (b)(7)(C) I was a PLC candidate, Platoon Leaders Course. I went to the Combined Course; and after completion of that in my final year in college, I was commissioned as Second Lieutenant.

AGT NCIS (b)(6), (b)(7)(C) When did you attend flight school?

CAPT NCIS (b)(6), (b)(7)(C) I think I got down there in June of 94.

AGT NCIS (b)(6), (b)(7)(C) And do you know the proximate date you graduated flight school?

CAPT NCIS (b)(6), (b)(7)(C) I think my wings were actually pinned on 25 September of 95.

AGT NCIS (b)(6), (b)(7)(C) And your first unit you were assigned to after completing flight school?

CAPT NCIS (b)(6), (b)(7)(C) After completing flight school, I went out to VAQ-129 in Whidbey Island, Washington, to be trained as an Electronnic Counter Measures Officer.

AGT NCIS (b)(6), (b)(7)(C) And after VAQ-129, what was your next duty assignment?

CAPT NCIS (b)(6), (b)(7)(C) Next duty assignment was MAG-14 in Cherry Point; and prior to my arrival there, I had been told that I would join VMAQ-4 in Aviano upon my arrival to Cherry Point.

AGT NCIS (b)(6), (b)(7)(C) Did you, in fact, join VMAQ-4 in Aviano?

CAPT NCIS (b)(6), (b)(7)(C) Yes, I did.

AGT NCIS (b)(6), (b)(7)(C) And what date approximately did you join Q-4?

CAPT NCIS (b)(6), (b)(7)(C) I think that was 12 October of -- I think it's 96, 97, somewhere in there. I don't remember the exact year. Let's see we are on 97. I think it was 96.

AGENT NCIS (b)(6), (b)(7)(C) Your qualifications in the Prowler aircraft are?

CAPT NCIS (b)(6), (b)(7)(C) My qualifications are I am an Electronic Counter Measures Officer.

AGENT NCIS (b)(6), (b)(7)(C) You were deployed with the advance for Q-4 in February of 98, February of this year?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGENT NCIS (b)(6), (b)(7)(C) How were you chosen for that?

CAPT NCIS (b)(6), (b)(7)(C) There is really no choice process. I was a maintenance officer; and my boss sent me over there. I was one of the more senior ECMOs in my squadron. I had been deployed to Aviano so I knew the Bosnian theater. Because I was one of the more senior ECMOs, they sent me over there also to develop -- or not develop, but make sure that the facilities for maintenance of our aircraft were acceptable.

AGENT NCIS (b)(6), (b)(7)(C) Were there any other purposes for you being on that advance party?

CAPT NCIS (b)(6), (b)(7)(C) I don't have any safety training in the squadron meaning formal safety training, aviation safety officer nothing like that; but they were not sending a safety rep. So the safety officer of VMAQ-4 asked me to do the safety turnover as well. And all that consisted of was basically they just wanted VMAQ-2's pre-mishap plan. Because it's got a bunch of phone numbers of points of contact on base in Aviano. So that was their big concern for me to get a copy of that.

AGENT NCIS (b)(6), (b)(7)(C) Were you able to, in fact, get a copy of that? Had you had the time to complete that?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) When did arrive in Italy?

CAPT NCIS (b)(6), (b)(7)(C) I arrived the Friday prior to the mishap. I don't know what the exact day that is.

AGT NCIS (b)(6), (b)(7)(C) This next section is going to go into preflight questions or questions about the preflight process and planning; and this is a portion where we will let you go ahead and go into a dialogue as to how you were chosen to fly on that mission, who approved your name being added to that aircrew on 3 February, when did you know you were going to be on that flight, what did you do to prepare for that flight, and questions about basically how you got on to that aircraft, and what process you followed. And we may stop you to clarify things as you are going; but if you could, give us a dialog at this point.

CAPT NCIS (b)(6), (b)(7)(C) Like I said I arrived that Friday. We landed in Venice via commercial air. We were bussed to Aviano. Upon my arrival two Aviano Air Base, I got my billeting. I think I was in Mike One billeting; and from that point on, we just basically have 48 hours that we have to be on deck prior to flying. Because of the six hour time difference, you are grounded for 48 hours.

Basically, my first responsibility as an aircrew member is to get myself ready to fly in the Bosnian theater. That was our number one reason for being there. At that point, I started reading the publications that I knew I was required to read which were the SPINS which is called Special Instructions, the CSAR which is Combined Search and Rescue and the ROE, Rules of Engagement. These were the three things that I was required to read prior to flying into Bosnia. No air crew is allowed to fly into Bosnia until you have read those, and those are classified documents.

AGT NCIS (b)(6), (b)(7)(C) Where does that requirement come from to read those?

CAPT NCIS (b)(6), (b)(7)(C) That's probably somewhere way up the chain of command, and it tells you in the beginning of those

documents that as an aircrew member you will not fly in a hostile theater and not know the information in there. It's beneficial to you as well in case you get shot down. I knew that was what I was required to read, but I was also told by the Operations Officer, Major Shawhan that I was required to read those three publications and to do my monthly emergency procedure quiz. And so I was required to do basically four things prior to flying.

They gave me a tentative date of when I would fly which was Wednesday. I was scheduled what we call on a weekly. I was scheduled via the weekly to fly into Bosnia on Wednesday as ECMO-1. So again, I knew I was going to be a front seat guy so I started getting locked on to that stuff as quick as possible. Major Shawhan had a yellow legal sheet of paper that had Q-4 members' names written on it, the aircrew; and it was stuck to the bulletin board in the ready room. And he told us as we accomplished the four things that we were told to do to sign off on each one of those. Which as I accomplished each one, I signed off on them. Basically, Saturday and Sunday just reading when I wanted to when I went down to the ready room just kind of pacing myself on it. It's a lot of information to digest, and it all starts running together so pacing myself on that and trying to get over the jet lag aspect.

Then basically on that Monday, I started doing my jobs, turning over the -- basically talking to the maintenance guys, finding out, hey, what's good, what's bad, what do we need to fix, what do we need to change, what can help Q-4. As a maintenance officer one of my biggest responsibilities as FOD officer, Foreign Object Damage -- Aviano is known for FOD because we taxi across a road that cars drive on; and I'm responsible for all the engines in those jets. So when we start losing engines, I'm the one that they come talking to for FOD purposes. So that was NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) number one focus was what's the FOD look like; and I spent time walking the taxi ways, the roads, and stuff like that to see what kind of FOD was out there.

Another thing that I was tasked with doing -- and I forgot to mention this -- was we call it geedunk officer, basically the little mess that is in the ready room. I wasn't the one who was going to run it; but the person who was going to run it, Lieutenant Buchannon at that time, asked me if I would do the turnover. And basically, what that consisted of was paying VMAQ-2 for all their candy bars and stuff like that and establishing a checking account. So obviously, that was the last thing I was concerned with. I talked to the safety guys and started trying to find out telling them, hey, this is what I need; but because I'm not a safety guy, whatever you think I need float it my way.

AGT NCIS (b)(6), (b)(7)(C) During that portion when you were talking to the safety guys, did they give you the DG Binder, the black Deliberate Guard Binder?

CAPT NCIS (b)(6), (b)(7)(C) No. I never knew about the DG Binder until after the mishap. Never heard of it, never saw it, anything like that. So Monday I basically spent most of my time trying to read, get up to speed, and get my turnover, what I thought was important for my turnover. Sometime late that evening -- and I'm not exactly sure what time it was. I know it was probably in the timeframe of 7, 8 p.m., something like that. Major Shawhan came through the ready room when I was sitting in there reading and said you are flying tomorrow in the backseat of the flight that's going out.

So basically at that time, I knew it was not a Bosnian hop so it wasn't a great concern to me. I didn't see the schedule at that time so I didn't know who the crew was or anything like that. The schedule hadn't been printed. I continued doing my reading, getting myself up to speed. Then the next morning probably mid-morning or so somewhere in there, I grabbed that schedule, took a look at it just to see who the crew was on the flight. I did know that the flight was supposed to brief at 1230. I grabbed the schedule just to see who the crew was that I would be flying with.

Once I saw the crew: Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) and I think newly promoted Captain NCIS (b)(6), (b)(7)(C) at that time -- he was either still a Lieutenant or just got Captain -- I knew who my crew was. I knew what time I needed to be there for the brief. I didn't have any responsibilities as a planner or anything like that. I did not see any of those guys until about noon, something like that. I went into the ready room where I saw Captain NCIS (b)(6), (b)(7)(C) was sitting in there, and he was basically reviewing his brief for the flight. At that point, I asked him is there anything I can do to help out; and he said, no, we got it. It's all taken care of. So at that time, I sat down in the ready room, continued getting myself ready for my flight the following day.

AGT NCIS (b)(6), (b)(7)(C) What type of flight did Captain NCIS (b)(6), (b)(7)(C) describe or inform you that you would be flying?

CAPT NCIS (b)(6), (b)(7)(C) He didn't have to. He didn't tell me anything really about the flight. The schedule dictates what kind of flight it is. So when I saw the schedule that morning, I looked at basically to find out what we were doing because there is a lot of different things you could do over there for training missions. You could go out and do a radar navigation flight down to southern Italy. You could do a low-level. You could go out over the Adriatic and do a basic air maneuver hop. So I was concerned with what are we doing and who am I flying with.

AGT NCIS (b)(6), (b)(7)(C) Do you remember what the code was on the schedule for the flight that you were scheduled to fly with those guys?

CAPT NCIS (b)(6), (b)(7)(C) At that time, no. I didn't look at the TNR codes because as a back seater you get the same TNR code basically every time. You get an ES, electronic surveillance TNR code. I didn't really look at the TNR codes. What I looked at was we were flying a low-level, it was the AV-047, and who the crew was.

AGT NCIS (b)(6), (b)(7)(C) Were you familiar with the AV-047?

CAPT NCIS (b)(6), (b)(7)(C) I had flown the AV-047 one time to my memory, maybe twice. I don't remember exactly, but I know I flew the low-level on my prior deployment. And again on that one, I was a backseater, brand new Lieutenant in the squadron; and I just was riding back there to pull circuit breakers.

AGENT NCIS (b)(6), (b)(7)(C) Do you remember who you flew that training mission with on your first deployment on AV-047?

CAPT NCIS (b)(6), (b)(7)(C) I want to say the pilot was Captain NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) and the ECMO-1 was at that time I think it was Captain NCIS (b)(6), (b)(7)(C) He has since been promoted to Major, Major NCIS (b)(6), (b)(7)(C) . I know for sure that ECMO-1 was NCIS (b)(6), (b)(7)(C) and I think the pilot was NCIS (b)(6), (b)(7)(C) But you fly so many flights.

AGENT NCIS (b)(6), (b)(7)(C) How many hours do you have in the aircraft, in the Prowler?

CAPT NCIS (b)(6), (b)(7)(C) I think I have around 400, somewhere in that ballpark.

AGENT NCIS (b)(6), (b)(7)(C) Is that divided evenly between being in the front seat and the backseat or would you say --

CAPT NCIS (b)(6), (b)(7)(C) Thirds.

AGENT NCIS (b)(6), (b)(7)(C) -- you spent more time in the back or the front?

CAPT NCIS (b)(6), (b)(7)(C) It depends upon your training. Like a prime example, I went through the RAG, the Replacement Air Group, in Whidbey Island. They pumped me through there real fast. So I didn't get a lot of time in the backseat because of -- and I'm talking flights that weren't syllabus flights. I probably spent a lot more time in the front seat; and then when you show up to a squadron -- and I'm not saying that this exactly happened to me -- but when you show up to a squadron, you usually fly in the front seat more as a young guy than you do -- the more senior you get, the more you start going in the back. So usually as an ECMO probably a good rule of thumb is there is three seats for ECMOs. So a third of your time is going to be spent in the front.

AGT NCIS (b)(6), (b)(7)(C) When Major Shawhan informed you that you would be on the flight the following day, had you approached him and asked him to put you on the list or did he just approach you?

CAPT NCIS (b)(6), (b)(7)(C) Yes. He walked in; and he said, you are going to fly tomorrow in the backseat of that airplane. And what he was trying to do is when you fly in Italy over there you have Italian air traffic controllers. They have to speak English which really isn't that good plus you have got static on radios. So it's tough to understand them. I almost later on went to Major Shawhan and said, sir, I don't have time to fly. I have got three jobs to turn over, safety, maintenance, and all that geedunk stuff; and then, I'm flying in theater on Wednesday. I don't really have time to do it. The only thing that kept me from doing that was the fact that I said I haven't flown in a week or so being nice kind of back in the saddle. And I will be able to listen to the controllers because I'm going to be talking on the radios going into Bosnia on Wednesday. So that was the only reason why I accepted the flight.

AGT NCIS (b)(6), (b)(7)(C) Did you have any contact with Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) that night before?

CAPT NCIS (b)(6), (b)(7)(C) No. I did not -- I didn't even -- I knew who Captain NCIS (b)(6), (b)(7)(C) was because he had been in Q-4 a long time ago before I got there. So I knew him by face, and we had some mutual friends. So I had seen him at some functions and been introduced to him. That was about all. Captain NCIS (b)(6), (b)(7)(C) I knew him basically by name until I showed up in Aviano; and somebody said, that's NCIS (b)(6), (b)(7)(C) that's so and so, that's so and so. Then I put a name to a face, but I never talked to him. NCIS (b)(6), (b)(7)(C) he was behind me in the training program so I had heard his name; but I wouldn't have been able to pick him out of a crowd. And so I didn't know who he was either. Never flown with any of those guys or anything.

AGT NCIS (b)(6), (b)(7)(C) That was the next question. All right. When you made contact with Captain NCIS (b)(6), (b)(7)(C) the day of the flight

that first time in the ready room, was anything discussed about the route itself about this AV-047?

CAPT NCIS (b)(6), (b)(7)(C) Not on the initial contact with him in the ready room, no.

AGT NCIS (b)(6), (b)(7)(C) Did you have contact with anyone or discussions with anybody about the route itself, this low-level route AV-047, prior to the actual preflight brief?

CAPT NCIS (b)(6), (b)(7)(C) No. The only exposure I had the AV-047 talking about it or flying it was on my prior deployment; and this time from the time I arrived in Aviano to the brief, never discussed the low-level route or anything.

AGT NCIS (b)(6), (b)(7)(C) Okay. When talking to Captain NCIS (b)(6), (b)(7)(C) at that time before the actual brief, was anything mentioned about cameras or video cameras?

CAPT NCIS (b)(6), (b)(7)(C) Not right then, no. Not around noon when I went into the ready room and he was sitting there preparing, nothing was said about cameras at that time.

AGT NCIS (b)(6), (b)(7)(C) The flight brief itself, who was present for that?

CAPT NCIS (b)(6), (b)(7)(C) The four of us that were in the aircraft: Myself, Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) and then, I know Captain Reese was sitting at the ODO desk. There could have been some other people milling around in the ready room, but I didn't pay attention to who they were.

AGT NCIS (b)(6), (b)(7)(C) Did that take place in the ready room?

CAPT NCIS (b)(6), (b)(7)(C) Yes.

AGT NCIS (b)(6), (b)(7)(C) The entire brief?

CAPT NCIS (b)(6), (b)(7)(C) Yes.

AGT NCIS (b)(6), (b)(7)(C) What time did that occur?

CAPT NCIS (b)(6), (b)(7)(C) I think we actually got it kicked off about 1230, 1235, just basically right on time. We were basically acquainting ourselves. I was meeting these other guys that I had never met and talking to them a little bit.

AGT NCIS (b)(6), (b)(7)(C) How long was the brief?

CAPT NCIS (b)(6), (b)(7)(C) I don't know exactly how long it lasted. I didn't look at my watch when it was complete, but they usually scheduled two hours for a brief. And we usually don't use that. You can usually get a good thorough brief done in an hour depending on what your mission is. In this flight, there was no backseat mission which eats up a lot of time.

AGT NCIS (b)(6), (b)(7)(C) Who gave the brief?

CAPT NCIS (b)(6), (b)(7)(C) The admin portion was given by Captain NCIS (b)(6), (b)(7)(C) and then, once we got into actual briefing of the low-level route, Captain NCIS (b)(6), (b)(7)(C) took over.

AGT NCIS (b)(6), (b)(7)(C) Can you describe for us the admin portion of the brief that Captain NCIS (b)(6), (b)(7)(C) gave?

CAPT NCIS (b)(6), (b)(7)(C) I couldn't by memory sit here and do it. Every squadron has a briefing guide; and it's basically a publication that you can put in front of you. And each squadron can tailor it to whatever they see fit, the way they want to do business. So he had the briefing guide. I don't know if it was a MAWTS-1 briefing guide or if it was the squadron's briefing guide, but he had a briefing guide in front of him. And that's what he briefed the admin portion of the route off of. Basically, all it is is an outline like the very first thing is like a time hack; then, it goes into who is the crew, so forth and so on.

AGT NCIS (b)(6), (b)(7)(C) How about Captain NCIS (b)(6), (b)(7)(C) brief on the route itself?

CAPT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) the way we usually do stuff -- and I'll say this: When I say the way we usually do stuff, I'm talking about my squadron, VMAQ-4, because this is the first time I had ever

flown with VMAQ-2. We usually brief the admin portion and all of that; and then once we get to the low-level portion of the brief, we will take the chart and put it on the table. And the four of us, or however many members are in the crew, get around that chart, and we go through it.

And basically, what you are doing is like if you were planning a drive to Connecticut you would say I'm going up this road, that road, so forth and so on. And that's what we do on the low-level chart. As Captain NCIS (b)(6), (b)(7)(C) was saying, okay, I studied the chart last night. I did my chart study, and this is the route that we were going to take. And he actually shows you the valleys and everything on each leg that he wants to work through. He was very confident in what he had decided, and it was solid head work of why we were choosing the valleys we were choosing. One of the big things that we hit on a chart when we are doing a low-level is vertical obstructions. Vertical obstructions are huge to us.

So if I'm ever in a brief and a guy doesn't talk about hazards of flight, I'm not going to fly with him because he's obviously not focusing on what he needs to. So as we went around the chart, there aren't a lot of vertical obstructions on this chart. There are a couple towers that guys have seen flying that weren't necessarily chummed or something like that that we would pencil in. If you see something, as professionals we would come home and say, hey, I was flying down this valley. I saw a tower over here, just a heads up for all your other buddies because you know they are going to be doing it too. So he briefed all the way around the chart covering the restrictions, the climb to 4,000 feet that we he had there, and vertical obstructions, and actually showing us what valleys he wanted to navigate the aircraft through.

AGT NCIS (b)(6), (b)(7)(C) When he was going over the valleys that you would be navigating the aircraft through, did he brief the valley where the mishap occurred?

CAPT NCIS (b)(6), (b)(7)(C) He briefed using that valley because there is a valley to the south of that valley that we were in. There is actually a chummed penciled in tower in the valley south of that. That's why he chose the northern valley because why fly through a valley that's got a tower. Because now you have got to look for that tower, finding that tower is your number one responsibility when you are coming up on a tower or something like that, get eyes on it, make sure your pilot sees it. Now, you can press on with what you are doing. That's your number one thing. So he chose that valley because there were no vertical obstructions in the valley.

AGENT NCIS (b)(6), (b)(7)(C) That was my next question. Were there any vertical obstructions noted in the valley where the mishap occurred that he briefed?

CAPT NCIS (b)(6), (b)(7)(C) Not on that chart that we flew in the airplane, none.

AGENT NCIS (b)(6), (b)(7)(C) Was time on target briefed as a responsibility or as a part of your flight that --

CAPT NCIS (b)(6), (b)(7)(C) It was briefed of why Captain NCIS (b)(6), (b)(7)(C) was the senior aircrew in the airplane. He chose not to use time on target, and his head work was sound in my opinion of why he chose not to do it because nobody had flown low-level basically in that airplane for quite some time. Nobody in the front seat, I should say.

AGENT NCIS (b)(6), (b)(7)(C) Given a situation, a low-level training flight like this was, where time on target wasn't an issue, is this considered a back-in-the-saddle-type low-level, a familiarization-type low-level?

CAPT NCIS (b)(6), (b)(7)(C) You know again it goes back to what did those guys -- I didn't know anything about how much they -- for all I knew they had flown the low-level the day prior. So I wasn't looking at it as they were doing that because they were kind of back in the saddle. Captain NCIS (b)(6), (b)(7)(C) just said I want to concentrate on the navigation of the airplane not timing. When you have timing in the ball game, it takes up a lot of

time of ECMO-1 because he's having to do mental gymnastics up there talking about making timing work out. Our pilots usually -- he's concentrating on flying, looking outside to make sure he doesn't hit anything; and the more ECMO-1 can help him look outside, the safer a flight is going to be. When you have timing involved, you're taking away some of that.

AGENT NCIS (b)(6), (b)(7)(C) During the brief were reference materials used, such as a chart?

CAPT NCIS (b)(6), (b)(7)(C) Yes, a chart was used.

AGENT NCIS (b)(6), (b)(7)(C) A chart showing the route itself?

CAPT NCIS (b)(6), (b)(7)(C) Yes.

AGENT NCIS (b)(6), (b)(7)(C) Was the read binder or the Deliberate Guard Binder a part of the brief or used during the brief?

CAPT NCIS (b)(6), (b)(7)(C) No, it was not.

AGENT NCIS (b)(6), (b)(7)(C) How about the FCIF 97-16 --

CAPT NCIS (b)(6), (b)(7)(C) No, it was not.

AGENT NCIS (b)(6), (b)(7)(C) -- the Italian SOP, indicating any restrictions on altitude?

CAPT NCIS (b)(6), (b)(7)(C) The only publication -- or I won't even say a publication. It was a sheet of paper that -- when they started discussing airspeeds and altitudes, this sheet of paper -- and I'd have to show it to you so you would know exactly what I was talking about; but when they started talking about just what you said restrictions this is what they handed me and said this is where we got those numbers from. On that sheet of paper, it specifically stated that you could fly the low-level from anywhere from 500 to 2,000 feet which automatically keyed me in doesn't matter because we have to fly a thousand feet. Prowlers fly a thousand feet. The airspeed restriction was .9 Mach which again keyed me off and said no big deal because I'm not going to let my pilot exceed .86 to the best of my ability because that's the NATOPS limit.

AGENT NCIS (b)(6), (b)(7)(C) This sheet of paper, was that an official sheet of paper or was it a handwritten document?

CAPT NCIS (b)(6), (b)(7)(C) It wasn't handwritten. It was typed. Official, I don't -- I'm not going to say it was official.

AGENT NCIS (b)(6), (b)(7)(C) Do you know if it was a squadron document?

CAPT NCIS (b)(6), (b)(7)(C) I don't know who produced the document. No, I don't.

AGENT NCIS (b)(6), (b)(7)(C) Can you describe the document to us? Color? Size?

CAPT NCIS (b)(6), (b)(7)(C) It's black and white. It's a regular what eight by eleven sheet of paper. Originally when I first saw it, I thought it actually had the lat/long of turn points; but I don't think it actually has the lat/long on there. On the top, it's got some kind of grid talking about the turn points and not just the AV-047. The way they built these low-levels in Aviano is the Air Force picked a bunch of points out in space, and you can connect them however you want to. You could go out there and instead of flying the route we did, those guys will change on an odd day and fly it backwards and not tell anybody. So it had all the points that I've ever seen out there as turn points. It had all those points listed and some kind of grid but it wasn't really lat/long. On the bottom was five or six bullets or statements that had different restrictions on them.

AGENT NCIS (b)(6), (b)(7)(C) Who produced that document during the brief?

CAPT NCIS (b)(6), (b)(7)(C) Produced it?

AGENT NCIS (b)(6), (b)(7)(C) Who had it?

CAPT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) handed it to me; but it was on the desk as part of the planning documents. Usually, when you come to a brief, you bring a DD 175 which is your flight plan. If you are doing a low-level, you bring that chart. If I'm flying from here to California, I'm going to bring my high-level altitude

charts. It was just basically some of the planning documents that were used to plan, and he said this is where those numbers are coming from and handed me the sheet of paper.

AGT NCIS (b)(6), (b)(7)(C) Were route cards or knee board cards, TEAMS cards, were any of those present at the brief?

CAPT NCIS (b)(6), (b)(7)(C) I think there was TEAMS cards, but there wasn't a whole lot of focus put on them because in the Prowler community we use those things for fuel planning purposes. And any time I pick up a TEAMS card, the first thing I do is say, okay, this is our route, how much gas am I going to land back at this base with; and if I have the appropriate amount of gas whatever the SOP stating at the time I got to have 6,000 pounds of gas on deck, then that's my biggest concern looking in it. Because I was ECMO-3, the lat/long of the turn points on the TEAMS card didn't really concern me because I'm not plugging it in to my INS; but that's another key point coming off of there, lat/long and fuel consumption figures.

AGT NCIS (b)(6), (b)(7)(C) Coming off the TEAMS card?

CAPT NCIS (b)(6), (b)(7)(C) Coming off the TEAMS card.

AGT NCIS (b)(6), (b)(7)(C) Was the flight planned as a degraded navigational system?

CAPT NCIS (b)(6), (b)(7)(C) No. And that was another point that Captain NCIS (b)(6), (b)(7)(C) -- the TNR code, Training and Readiness code -- we have a manual that specifies what a TNR code is. Like for example, say a 215 is a degraded navigation hop; and you look up the 215 and it tells you the criteria you have to complete to get that TNR code. And I don't remember exactly because it's been seven months since I have looked at a TNR manual. Whatever the TNR code was that day said -- now this is what the schedule said, for us to fly timing and to degrade the navigational system, the INS. Captain NCIS (b)(6), (b)(7)(C) said, we are not going to fly it for timing; and I'm not going to degrade the navigational system because I want to focus on my visual navigation. And I will use INS to back me up.

AGENT NCIS (b)(6), (b)(7)(C) So he, in effect, did not go by the TNR code for that?

CAPT NCIS (b)(6), (b)(7)(C) As an aircrew, you are allowed at any time to downgrade from a TNR code to a lower TNR code. You can't upgrade to a higher one. Like he couldn't say, all right, I'm going to do all of that and add something else to what he has to do. He can also degrade which he did. My whole thing in this brief was since I don't know these guys I'm trying to build my confidence on; or I'm listening to the way they conduct themselves to become more confident in their abilities. And by him downgrading, that made me more confident because this guy is basically standing up and saying not that he couldn't handle it but I want to do something a little bit easier than what this thing is saying for his own reasons. Maybe he wasn't feeling up really good that day, who knows.

AGENT NCIS (b)(6), (b)(7)(C) Knee boards, do you use a knee board?

CAPT NCIS (b)(6), (b)(7)(C) Yes, I do.

AGENT NCIS (b)(6), (b)(7)(C) As a backseat ECMO?

CAPT NCIS (b)(6), (b)(7)(C) Yes, I do. On this specific flight, we take -- backseat ECMOs, all ECMOs really carry what we call a NAV bag, navigational bag; and what we do is we put all our navigational pubs in there, our inflight supplements, our approach plates, our pocket checklist, stuff like that we put in this bag. Pretty much every ECMO has one. I have a NAV bag; but I did not bring mine on this particular flight. I had my knee board, and I had it strapped on my knee.

AGENT NCIS (b)(6), (b)(7)(C) How about Captain NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) brought a NAV bag with him.

AGENT NCIS (b)(6), (b)(7)(C) Did he have a knee board strapped on to your knowledge?

CAPT NCIS (b)(6), (b)(7)(C) Yes, he did.

AGT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) I don't know. I can't see him up there.

AGT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) Again, I can't see him. Usually a pilot or an ECMO, they are going to have a knee board.

AGT NCIS (b)(6), (b)(7)(C) How was the communications set up that were briefed by Captain NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) Communications?

AGT NCIS (b)(6), (b)(7)(C) Between the four aircrew in the plane?

CAPT NCIS (b)(6), (b)(7)(C) In the aircraft, communications is always -- I don't remember specifically what he stated. It was pretty much standard operating procedure which is all four of us are going to be talking at all times. On takeoffs and landings the pilot is going to be in what we call hot mike; and some pilots -- and it's up to them if they choose to fly a low-level on -- or I say -- on hot mike a lot of the equipment -- and I'm sure you guys see this -- doesn't allow you to necessarily maybe fly a hot mike, like a pilot may have to say hey, how does this hot mike sound. It may not be working. It may be real scratchy because it's picking up any background noises, the roars of the engines or whatever. So he may not necessarily use the hot mike if he doesn't feel it's beneficial to the flight.

AGT NCIS (b)(6), (b)(7)(C) So the plan for communications or at least the briefed communications was SOP which is all four of you have communication with each other --

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) -- during the flight?

CAPT NCIS (b)(6), (b)(7)(C) This is SOP. Everybody knows this; but like if I need to say something to NCIS (b)(6), (b)(7)(C) dealing with the backseat of the aircraft, the pilot and ECMO-1 may be flying an approach and be real busy. They don't need

somebody yapping, and them hearing that. They may be trying to listen to a controller so I may deselect my pilot and my ECMO-1 and say NCIS (b)(6), (b)(7)(C) how are the pods or whatever; and then, I can always hear what they are saying. But they can't hear what I am saying.

AGT NCIS (b)(6), (b)(7)(C) Was there any briefed deselection?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) To your knowledge were you ever deselected by the pilot or ECMO-1?

CAPT NCIS (b)(6), (b)(7)(C) Not to my knowledge, and the only way to know that is to see their switch positions which I can't see from the backseat.

AGT NCIS (b)(6), (b)(7)(C) Throughout the flight, were there communications between all four of you guys --

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) - to your knowledge?

CAPT NCIS (b)(6), (b)(7)(C) There was, and that's part of our checklist to take off. Each individual has to respond to certain things during the checklist. Like a prime example is arming your ejection seat. The pilot will say I'm armed hot top bottom attach six, and ECMO-1 will say it. ECMO-2 will say it. ECMO-3 will say it. If you don't hear that out of everybody, then everything stops; and you find out what the problem is.

AGT NCIS (b)(6), (b)(7)(C) Is there one person identified during the brief as the COM guy --

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) -- for the flight?

CAPT NCIS (b)(6), (b)(7)(C) No. Are you talking about outside of the airplane?

AGT NCIS (b)(6), (b)(7)(C) Yes.

CAPT NCIS (b)(6), (b)(7)(C) Sure.

AGT NCIS (b)(6), (b)(7)(C) Who was that?

CAPT NCIS (b)(6), (b)(7)(C) That's Captain NCIS (b)(6), (b)(7)(C) At any time the pilot wants to, he can get on the radios and say anything he desires to. He's responsible for the airplane. It's briefed that ECMO-1 will handle the radios. But a prime example is if you get in some kind of extremis situation maybe the two front seaters can't handle the radios because they are trying to deal with an emergency; then, if somebody in the back can help them out and take away that one added thing that he's trying to do, then we will do it. And that's all crew coordination. A lot of that is kind of done on the fly.

AGT NCIS (b)(6), (b)(7)(C) The time is now 0953. We will go ahead and take a break at this point and resume again at approximately 1000.

The time is 1016 on 18 August 98. The interview with Captain NCIS (b)(6), (b)(7)(C) will resume at this time.

We were discussing the preflight brief on 3 February 98. Captain NCIS (b)(6), (b)(7)(C) we ended in discussing the communications and the radio procedures. My next question would be: What was the briefed RADALT setting?

CAPT NCIS (b)(6), (b)(7)(C) The briefed radar altimeter setting was 800 feet. When I heard him brief 800 feet, my thought process was why 800 feet; and then, I thought about it. And without asking him, I deduced my own thought of why he should set it at 800 feet; and the reason why is because you are flying in a three-dimensional-mountainous terrain. When you are, that radar altimeter is basically, if it is functioning properly, is sensitive to a foot.

When you are flying in a three-dimensional-mountainous terrain like Aviano is -- not Aviano, but the Alps that we were flying in, your radar altimeter is -- any time the ground level is changing, that's basically changing the altitude of the airplane, the AGL, Above

Ground Level. So by setting that radar altimeter at 800 feet, it's not going to go off as much which is good in an airplane because you become tone deaf to a radar altimeter very quickly if it's constantly beeping in your ear.

AGT NCIS (b)(6), (b)(7)(C) Did you ask Captain NCIS (b)(6), (b)(7)(C) anything about any questions about the radar altimeter setting --

CAPT NCIS (b)(6), (b)(7)(C) No, I did not.

AGT NCIS (b)(6), (b)(7)(C) -- during that brief? Was there any mention during the brief by Captain NCIS (b)(6), (b)(7)(C) any of the four of you who were in that aircrew that the radar altimeter would be turned off at any point during the flight or set at a different altitude during the flight?

CAPT NCIS (b)(6), (b)(7)(C) No. The only brief that the radar altimeter would be changed was for approaches and descents just like it is SOP.

AGT NCIS (b)(6), (b)(7)(C) Okay. Did anyone question Captain NCIS (b)(6), (b)(7)(C) outwardly about the RADALT setting during the brief?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) The speed, you mentioned earlier that the speed was briefed at .9 Mach?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) What is that in nautical miles, plain language?

CAPT NCIS (b)(6), (b)(7)(C) There is a lot of things it depends upon, altitude, mean sea level altitude. You know at thirty thousand feet .9 is a lot faster than it is at a thousand feet so --

AGT NCIS (b)(6), (b)(7)(C) At a thousand feet, what are we looking at roughly?

CAPT NCIS (b)(6), (b)(7)(C) Couldn't tell you. All I know is NATOPS limit states that the aircraft cannot exceed .86 or 550 knots. That's all I care about. I don't care what .86 equates to as long as he doesn't exceed 550 knots, and the way the airspeed indicator works is you have a

point Mach -- a Mach, indicated Mach number inside your airspeed indicator and that actually shifts with pressure and everything else. So what it's doing is that arrow will point to a number, your indicated airspeed; and then, inside that is a Mach number. So as long as he doesn't exceed 550 -- and I think NATOPS actually states below 25 hundred feet you can't go faster than 550 knots, and that's not a limitation on the aircraft itself. That's a limitation on what's hanging on the airplane.

AGT NCIS (b)(6), (b)(7)(C) The .9 Mach was briefed? Or was .86 Mach briefed?

CAPT NCIS (b)(6), (b)(7)(C) .86 Mach is always briefed. You can never exceed .86 because that is your NATOPS limit. Basically, when he handed me that sheet of paper and it said .9 Mach, what he was doing is saying that is the airspeed limitation of the low-level route?

AGT NCIS (b)(6), (b)(7)(C) Did he at any time brief a speed that the flight would be flown at, a specific airspeed?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Was there any trim setting discussed during the brief?

CAPT NCIS (b)(6), (b)(7)(C) The pilot never briefs how he trims the airplane.

AGT NCIS (b)(6), (b)(7)(C) Okay.

AGT NCIS (b)(6), (b)(7)(C) How about altitude? I know you said the 500 to 2,000. Did Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) ever specifically say that in this part of the route we have to be higher or --

CAPT NCIS (b)(6), (b)(7)(C) There was only one restriction. We briefed a thousand feet. The route will be flown at a thousand feet, and there was one restriction which is on the -- basically when the routes in the southern part that you have to fly -- I think it's 4,000 feet was what we had to climb up to and that was for -- it was a restriction on the route. I don't specifically remember why. All we knew was you had to be at 4,000

feet for a certain portion of the low-level.

AGT NCIS (b)(6), (b)(7)(C) When you are talking about a thousand feet, 4,000 feet, you are talking about AGL?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) Do you remember if you guys did do that? Did you climb to that 4,000?

CAPT NCIS (b)(6), (b)(7)(C) Yes, we did. And that was verbalized inside the airplane that we were climbing for the restriction; and then it was verbalized once we began our descent.

AGT NCIS (b)(6), (b)(7)(C) What leg was that on?

CAPT NCIS (b)(6), (b)(7)(C) I'd have to look at the chart to be able to tell you.

AGT NCIS (b)(6), (b)(7)(C) During the preflight brief, were cameras, either video or still cameras, discussed?

CAPT NCIS (b)(6), (b)(7)(C) The camera was discussed. I remember sitting down at the table and the video camera case was what I could see was sitting on the table, and I don't remember exactly who said it. But they discussed that a video camera would be coming along on the flight, and Captain NCIS (b)(6), (b)(7)(C) said that he wanted video of the mountains basically going in and coming out of the low-level. He wanted video of the mountains because they are beautiful, and he wanted that personal videotape to show family, friends, stuff like that which is common.

AGT NCIS (b)(6), (b)(7)(C) Was that stated during the brief?

CAPT NCIS (b)(6), (b)(7)(C) I don't know if that was right before the brief or right after it. It was discussed when everybody was present.

AGT NCIS (b)(6), (b)(7)(C) All four of the aircrew?

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) Was Captain NCIS (b)(6), (b)(7)(C) present?

CAPT NCIS (b)(6), (b)(7)(C) I don't specifically remember him sitting there, but he probably was because he is the ODO. He never leaves unless somebody sits in his chair. So I can't say for sure he was sitting there.

AGT NCIS (b)(6), (b)(7)(C) During the brief itself, does the ODO -- and in this case Captain Reese -- take part or at least listen to the brief. Is he required to do that?

CAPT NCIS (b)(6), (b)(7)(C) No, he is not. The ODO, his requirement is to basically help out if we need something. He doesn't take part in it; and really, he doesn't interject unless he's asked something. And he doesn't even have to be listening to it.

AGT NCIS (b)(6), (b)(7)(C) The camera case that you saw, where was it when you saw it?

CAPT NCIS (b)(6), (b)(7)(C) It was sitting on the table that we sat at briefing.

AGT NCIS (b)(6), (b)(7)(C) Is that inside the Q-2 ready room?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) Do you remember the case that you saw? Do you remember what color it was?

CAPT NCIS (b)(6), (b)(7)(C) I think it was a black, and I don't know if it was leather or pleather (ph) or what it was. But it looked like a black case.

AGT NCIS (b)(6), (b)(7)(C) Did you see the camera at any time?

CAPT NCIS (b)(6), (b)(7)(C) I never saw the camera.

AGT NCIS (b)(6), (b)(7)(C) Did you see any other item, any package or bags with that camera?

CAPT NCIS (b)(6), (b)(7)(C) There was like a PX bag one of those kind of like blue cellophane -- or whatever you call it -- bags was sitting there with the camera and was kind of tied off.

AGT NCIS (b)(6), (b)(7)(C) Do you know what was in that?

CAPT NCIS (b)(6), (b)(7)(C) I know that there were tapes in that bag. I don't know exact number anything like that.

AGT NCIS (b)(6), (b)(7)(C) And when you say "tapes," what type of tapes are you talking about?

CAPT NCIS (b)(6), (b)(7)(C) I couldn't tell you what kind. From what I could see, it looked like they were the little -- and I don't know jack about cameras -- so the little tapes whatever those are, eight millimeter or whatever.

AGT NCIS (b)(6), (b)(7)(C) Do you know if they were loose in that bag or if they were still wrapped?

CAPT NCIS (b)(6), (b)(7)(C) I don't know. I couldn't see the tapes so.

AGT NCIS (b)(6), (b)(7)(C) Whose camera was it? Whose video camera was it?

CAPT NCIS (b)(6), (b)(7)(C) Nobody stated at the time before that it was anybody's camera. After the accident, I found out it was Captain NCIS (b)(6), (b)(7)(C) camera.

AGT NCIS (b)(6), (b)(7)(C) And you indicated earlier that Captain NCIS (b)(6), (b)(7)(C) noted at some point when you were all four together at the ready room that he was going to be using that camera --

CAPT NCIS (b)(6), (b)(7)(C) Yes.

AGT NCIS (b)(6), (b)(7)(C) -- to take pictures or take video of the mountain tops?

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) You said that it was not really that unusual for somebody to want to get pictures of the Alps like that. Had you been on other flights where other pilots have done that?

CAPT NCIS (b)(6), (b)(7)(C) Not pilots.

AGT NCIS (b)(6), (b)(7)(C) ECMOs rather?

CAPT NCIS (b)(6), (b)(7)(C) Yes, I have been on flights. VMAQ-4 made a videotape cruise book; and so yes I have been in the airplane when a videotape was being made. And I have seen numerous videotapes. We use them for training videotapes of guys going to the tanker. It's a good way to train your new pilots that have never hit a tanker before, and it's different for each type of tanker that you actually have to work off of. Like we call a 135, we call it the wrecking ball; and it's tough on young pilots. So they get to see it kind of videotape and see the way the joints knuckle up and flop around, and I have seen numerous videotapes -- I won't say numerous. I have seen videotapes of guys in the low-level environment where they were videotaping low-level portions of the route. What it was for, was it originally made for training, I don't know what it was made for; and I don't know who did them.

AGT NCIS (b)(6), (b)(7)(C) On the subject of low-level videotapes, we're all aware of the Q-3 tape, Colonel NCIS (b)(6), (b)(7)(C) that became public shortly after the mishap involving you guys.

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) Had you ever seen that tape prior to the mishap on 3 February?

CAPT NCIS (b)(6), (b)(7)(C) No. The first time I had ever saw that tape was on Hard Copy.

AGT NCIS (b)(6), (b)(7)(C) Had you heard about it at any time?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Do you know if any of the crew members: Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) had either seen that tape or heard about it --

CAPT NCIS (b)(6), (b)(7)(C) No, I can't --

AGT NCIS (b)(6), (b)(7)(C) -- prior to the flight?

CAPT NCIS (b)(6), (b)(7)(C) I can't speak for them. They had never talked to me about it. If, in fact, they had seen it, they never told me.

AGT NCIS (b)(6), (b)(7)(C) Was Captain NCIS (b)(6), (b)(7)(C) aware that that Captain NCIS (b)(6), (b)(7)(C) was going to take video?

CAPT NCIS (b)(6), (b)(7)(C) Yes.

AGT NCIS (b)(6), (b)(7)(C) Was Captain NCIS (b)(6), (b)(7)(C) aware of it as well?

CAPT NCIS (b)(6), (b)(7)(C) He was sitting at the table so I guess he would be.

AGT NCIS (b)(6), (b)(7)(C) There was another camera found in the plane after it landed.

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) A 35 millimeter still camera.

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) Whose camera was that?

CAPT NCIS (b)(6), (b)(7)(C) That was Captain NCIS (b)(6), (b)(7)(C) camera.

AGT NCIS (b)(6), (b)(7)(C) Did he express during the brief any interest in taking photographs during the flight?

CAPT NCIS (b)(6), (b)(7)(C) He didn't say anything in the brief about it.

AGT NCIS (b)(6), (b)(7)(C) How about in the aircraft itself once you guys were --

CAPT NCIS (b)(6), (b)(7)(C) He didn't say anything. I saw him take out his camera -- which in the brief, one of items you brief is cameras; and the purpose of that is all ECMOs carry cameras especially when you are in a hostile area for intelligence purposes. So most everybody had one in their NAV bag. Captain NCIS (b)(6), (b)(7)(C) never said anything about his camera in the bag or said he was going to take pictures or anything like that. During the flight on the low-level, I happened to look out his side of the airplane one time and saw him holding his

camera up looking out his window and --

AGT NCIS (b)(6), (b)(7)(C) Did it appear that he was taking a photograph?

CAPT NCIS (b)(6), (b)(7)(C) Sure. I assumed he took a photograph, but I don't know that he did.

AGT NCIS (b)(6), (b)(7)(C) What was the attitude of the aircraft when he took that picture?

CAPT NCIS (b)(6), (b)(7)(C) We were straight and level.

AGT NCIS (b)(6), (b)(7)(C) Was there any time that he had the camera when the attitude of the aircraft was not straight and level?

CAPT NCIS (b)(6), (b)(7)(C) The only time I saw him with the camera out doing that was when we were straight and level and that was one time. That was the last I saw of the camera.

AGT NCIS (b)(6), (b)(7)(C) After you guys landed after the mishap, did he indicate at any time up until now that he took any other pictures or how many pictures he took during that flight?

CAPT NCIS (b)(6), (b)(7)(C) He did not state how many pictures. All I remember -- and I don't remember when; but I remember in conversation that he took pictures during the low-level. Picture, pictures, I don't know. Plural, singular, I don't know. He just said he did take pictures during the low-level.

AGT NCIS (b)(6), (b)(7)(C) The altitudes we have already discussed. Captain NCIS (b)(6), (b)(7)(C), you believe was the one who had that document that indicated the altitude that the flight would be flown from anywhere from 500 to 2,000 feet.

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) When he briefed the altitudes during the flight, did he brief that you guys would be going below a thousand feet at any time?

CAPT NCIS (b)(6), (b)(7)(C) No. Not at any time did he brief breaking the thousand foot minimum on the low-level.

AGT NCIS (b)(6), (b)(7)(C) Valleys, and in particular the valley where this mishap occurred, you noted earlier that Captain NCIS (b)(6), (b)(7)(C) briefed flying down that valley as opposed to the one to the south because of the vertical obstruction?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) Did he make any mention during the brief of ski resorts, ski slopes, any outdoor recreational activity that may be approached or viewed throughout that valley or any other valley on this flight?

CAPT NCIS (b)(6), (b)(7)(C) He made a general statement about we all know there is ski areas out there so heads up on the ski areas and let's avoid the ski areas. That was all that was said which was kind of what I remember being briefed the first time on my first deployment that I flew down there is, hey, guys this is the Alps. There are skiers out there, and I know that myself personally a concern of mine is a lot of these straight up, sheer rock faces are covered in snow. The Prowler is a loud airplane, avalanches.

AGT NCIS (b)(6), (b)(7)(C) Create an avalanche.

CAPT NCIS (b)(6), (b)(7)(C) So everybody was -- I won't say everybody. You would have to be an idiot if you couldn't deduce that on your own; but Captain NCIS (b)(6), (b)(7)(C) spoke of there are ski areas out there, see and avoid.

AGT NCIS (b)(6), (b)(7)(C) When Captain NCIS (b)(6), (b)(7)(C) made that comment or those comments about the ski areas, was there any related comments by Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) or yourself about the ski areas?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Were any maneuvers briefed during the preflight brief? And when I say "maneuvers," in layman's terms you are going to be flying basically straight and level until you need to make a turn or avoid something.

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) What types of maneuvers were briefed, if any, during the preflight brief?

CAPT NCIS (b)(6), (b)(7)(C) There weren't any maneuvers briefed. Everybody knew there would be ridgeline crossings which was briefed. Hey, we are going to be crossing over some ridgelines, stuff like that. There was no brief of how we were going to do it. There is a lot of different philosophies and tactics of how to cross a ridgeline. No specific way was briefed of how we could cross them.

AGT NCIS (b)(6), (b)(7)(C) Were any maneuvers that would put the aircraft in any position other than wings level to the ground briefed?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Okay. How about landmarks and sites on the route? Were any landmarks briefed or any significant sites?

CAPT NCIS (b)(6), (b)(7)(C) The only one that comes to mind is the final point, the target point, Mount Marmalada (ph), or something like that because it's a tall mountain. So that's where most of the focus goes to any way is the target. As you are briefing and going around the route, they are specifically pointing stuff out. Hey, there is whatever town. Here's a big city that needs to go down our left side that kind of stuff. I don't remember.

The one thing that I do remember really being focused on was Lake Garda, the big lake in the southern portion. That Captain NCIS (b)(6), (b)(7)(C) said, hey, regardless of the height of the cliffs on both sides, it's basically straight up cliffs. Regardless of the height of those, we will fly above the cliffs because there is a bunch of people that do the para sailing where they can actually gain the altitude off of that stuff; and they hang glide and parachute and everything else off of there.

So that was not marked on the chart or anything like that, and that was good head work on his point to say, hey, we are going to make sure we don't wax somebody flying through this mountain or through this ridge by the lake. But other than that, I don't specifically remember any landmark or anything like that.

AGT NCIS (b)(6), (b)(7)(C) How about any of the cities that were along the route. Trento being the biggest that I can think of right off the chart, was there any mention to avoid those?

CAPT NCIS (b)(6), (b)(7)(C) Sure. And we all know what OPNAV 3710 says of basically avoiding population centers, and so all that stuff is always briefed on a low-level that you will avoid it. Specific, you know, naming cities and pointing at them, not necessarily. And that's the whole purpose of using those valleys is kind of try to steer yourself away from that stuff. We know like anybody else if something comes off of an airplane at 500 knots you don't want to be over Raliegh because you have got a chance of hurting somebody.

AGT NCIS (b)(6), (b)(7)(C) Was it briefed to avoid the populated areas?

CAPT NCIS (b)(6), (b)(7)(C) Sure.

AGT NCIS (b)(6), (b)(7)(C) Back on the maneuvers, no specific maneuvers were briefed; but was this a typical flight or was it aggressively flown, any of the wings up, roll overs, or anything like that?

CAPT NCIS (b)(6), (b)(7)(C) I wouldn't say aggressively flown. The way I would categorize the way this flight was flown was very tactically sound in my opinion. Now, I haven't been to MAWTS-1 where they teach this is the no kidding Bible of the EA-6B, the tactic for doing it. In my opinion, he flew the route the way I would have flown the route all for except for one point where I would have been more aggressive. I distinctly remember sitting in the back of the airplane going, wow, I would have really got after it.

AGT NCIS (b)(6), (b)(7)(C) Which point was that?

CAPT NCIS (b)(6), (b)(7)(C) That was the point of crossing over the ridgeline prior to the impact of the cables. This is the way I view tactics is in an EA-6B we are trying to hide from radar. That is our job. The lower -- I won't say the lower; but if we have high terrain on either side, what I want to do is keep a piece of that terrain between me and the radar trying to find me. And anybody who flies an airplane that's military is going to do the same thing. So when you are having to cross a ridgeline, you are probably getting yourself up to a point of being seen by radar.

So as we were crossing that ridgeline, Captain NCIS (b)(6), (b)(7)(C) actually maneuvered the aircraft just past 90 degrees angle of bank, and that was just to get lift off of the airplane so he could come back down the side of it. Myself, personally, had I been flying that airplane, I probably would have rolled it inverted because of the steepness of the ridgeline to get back below my radar horizon.

AGT NCIS (b)(6), (b)(7)(C) The general mood during the preflight brief, how would you characterize that, the mood of Captain NCIS (b)(6), (b)(7)(C) yourself, and Captain NCIS (b)(6), (b)(7)(C) How would you characterize the attitude, your attitudes or your moods at that point?

CAPT NCIS (b)(6), (b)(7)(C) Obviously, the only one that I can say what the mood or anything was -- myself, personally was -- I was somewhat leery because I'm flying with a crew that I don't know. I have never flown with them. I don't know if they are good, they are bad; and I'm going out to fly a three-dimensional-mountainous low-level when I am used to flying low-levels in Cherry Point, North Carolina, where everything is flat. It's a very dynamic environment. So my mood was -- I was a lot more keyed up, more on edge I guess you could call it.

AGT NCIS (b)(6), (b)(7)(C) Did they appear to be taking this flight as a routine flight or as a sight-seeing flight?

CAPT NCIS (b)(6), (b)(7)(C) The only thing I can say is they didn't seem nonchalant about it. That would have scared me if they were ho, ho, hum, nonchalant; but they didn't lead me to believe that we are going to go out there

and try to rip the wings off of this airplane either. I mean it was the normal, professional this is the mission we got to do. We are going to brief it, and we are going to go do it.

AGENT NCIS (b)(6), (b)(7)(C) The brief ends, how long do you have between the brief concluding and getting to the aircraft?

CAPT NCIS (b)(6), (b)(7)(C) I don't know exactly how much time. There was some time there. I think I stood around in the ready room and just kind of talked to some people that were in and out of there; and then when we brief, we basically set times. This is our brief time, 1230. This is our walk time. This is our taxi. This is our take off.

AGENT NCIS (b)(6), (b)(7)(C) And those are all set times that you try to adhere to?

CAPT NCIS (b)(6), (b)(7)(C) You try to. You don't always get to because things change. Maintenance may call and say, hey, the airplane's tires are real low, you guys delay 20 minutes; but you try to adhere to it, the time line.

AGENT NCIS (b)(6), (b)(7)(C) So did you walk basically on time?

CAPT NCIS (b)(6), (b)(7)(C) We did everything pretty much on time, if not early; and why, because a lot of times things pop up. So we were ahead of schedule probably by 10, 15, 20 minutes, something like that.

AGENT NCIS (b)(6), (b)(7)(C) When you were in the ready room after the brief prior to walking or getting your ride to the aircraft, you said you had talked to some people. They were folks coming in and out of the ready room?

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGENT NCIS (b)(6), (b)(7)(C) Did any of those folks discuss this low-level route?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGENT NCIS (b)(6), (b)(7)(C) Did they discuss your flight at all that you can recall?

CAPT NCIS (b)(6), (b)(7)(C) Not that I recall.

AGT NCIS (b)(6), (b)(7)(C) Did Captain NCIS (b)(6), (b)(7)(C) talk to Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) at all during this time?

CAPT NCIS (b)(6), (b)(7)(C) I don't remember seeing him talk to them. He could have. He may not have.

AGT NCIS (b)(6), (b)(7)(C) When we interviewed Captain NCIS (b)(6), (b)(7)(C) he recalled talking I believe to Captain NCIS (b)(6), (b)(7)(C) and possibly even Captain NCIS (b)(6), (b)(7)(C) but he remembered telling them that he had flown this route before and that there was one section of the route that was like in his words "flying down a hallway." Do you remember that discussion at all?

CAPT NCIS (b)(6), (b)(7)(C) No. I wasn't a part of it, nor did I overhear it.

AGT NCIS (b)(6), (b)(7)(C) Okay. How did you guys get to the aircraft from the ready room?

CAPT NCIS (b)(6), (b)(7)(C) We have a thing everybody calls the bread truck. That's an aircrew van. Once you put on your flight equipment, you get in the van; and they drive you over to the airplanes because they are on the other side of the runway.

AGT NCIS (b)(6), (b)(7)(C) And you guys, all four of you, drove together?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) In that van?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) At what point did Captain NCIS (b)(6), (b)(7)(C) realize he had left his tapes back in the ready room?

CAPT NCIS (b)(6), (b)(7)(C) I don't know exactly what point. When we got dropped off there, we -- they had moved the airplane out of the lollipops is what we call them. They had moved it out of there beyond the road that crosses the taxi way and had parked the airplane in what we call the arming area. So that's where we were dropped off

vice in the lollipops where we normally are. The four of us got out of the van and started walking to the airplane. The maintenance crew was out there. They had the ADB, Aircraft Discrepancy Book, out there.

Because they weren't my airplanes, it wasn't my squadron, I elected to go ahead and start preflighting the airplane vice reading the ADB. The other three went to read the ADB. I started preflighting the pods of the aircraft; and then, climbed up on top and started preflighting the top of the airplane which is ECMOs two and three's responsibilities. Those guys were down there reading the ADB, and I think sometime in that timeframe was when Captain NCIS (b)(6), (b)(7)(C) said he had forgotten his tapes.

AGENT NCIS (b)(6), (b)(7)(C) After the other three had read the Aircraft Discrepancy Book, did any of the them note any discrepancies that had been listed from the previous flight that day?

CAPT NCIS (b)(6), (b)(7)(C) The only person that I talked to about the ADB was I said NCIS (b)(6), (b)(7)(C) what's the backseat system look like; and I think he said that was one of their stronger jets meaning I'm talking about the backseat system meaning the pods are good, they usually get good power. And that's what he and I were discussing.

AGENT NCIS (b)(6), (b)(7)(C) Do you know if Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) had come across any discrepancies from the previous flight that day?

CAPT NCIS (b)(6), (b)(7)(C) I'm sure they probably did if they, in fact, read the ADB. I wasn't down there so I don't know. I don't know what they did.

AGENT NCIS (b)(6), (b)(7)(C) Were there any problems prior to taking off that you know of with that aircraft?

CAPT NCIS (b)(6), (b)(7)(C) Not prior to taking off. I don't know of any. All the systems and all the checklists were worked out.

AGENT NCIS (b)(6), (b)(7)(C) You say it was at some point during that timeframe that Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) and Captain

NCIS (b)(6), (b)(7)(C) were reviewing the ADB that Captain NCIS (b)(6), (b)(7)(C) had realized that he had forgotten the bag with his videotapes, eight millimeter videotapes, back at the ready room. Do you remember what occurred after he realized he had forgotten them?

CAPT NCIS (b)(6), (b)(7)(C) I don't know what any of the discussion was or anything like that. All I know is once I completed preflighting the top of airplane I was sitting on the fuselage with my feet on the wing; and I don't recall who said it to me. Somebody said we're waiting. We forgot the tapes; and we're going to call over there and have them brought over here. So they were telling me that so I wouldn't get in the airplane, get all strapped in and end up sitting there sweating, waiting. But I don't recall who told me that. It could have even been a maintenance guy. I don't know.

AGT NCIS (b)(6), (b)(7)(C) Do you remember if the tapes were delivered to the aircraft?

CAPT NCIS (b)(6), (b)(7)(C) They were. I remember Captain NCIS (b)(6), (b)(7)(C) reaching out of -- or not reaching out; but he got the bag is what I saw. I didn't see any types or anything like that. I saw the bag, or a blue bag. Captain NCIS (b)(6), (b)(7)(C) was leaning off the ladder of the airplane. He got the bag, stepped on to the boarding platform for ECMO-1, and handed it in there.

AGT NCIS (b)(6), (b)(7)(C) So you actually saw the tapes delivered to or a bag delivered to Captain NCIS (b)(6), (b)(7)(C) saw him hand that to Captain NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) So Captain NCIS (b)(6), (b)(7)(C) was already in his seat in the aircraft?

CAPT NCIS (b)(6), (b)(7)(C) I'm assuming he was. Again, I couldn't see him. He wasn't standing up high enough to where I could see him out of the top of canopy. If, in fact, he wasn't already in the airplane.

AGT NCIS (b)(6), (b)(7)(C) How long of a delay was there in waiting for those tapes to arrive from the ready room?

CAPT NCIS (b)(6), (b)(7)(C) It's an estimate, 10, 15 minutes.

AGT NCIS (b)(6), (b)(7)(C) Did anyone else approach the plane besides the person who delivered that bag to Captain NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) There is people approaching. Ground crew are always approaching because you are going through your checklist. So I would have to say yes other people approached the airplane.

AGT NCIS (b)(6), (b)(7)(C) Did anyone else deliver anything that you know of to the crew, any members of the crew?

CAPT NCIS (b)(6), (b)(7)(C) No. Not that I know of.

AGT NCIS (b)(6), (b)(7)(C) Did Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) make any mention of the delay. Did they look back and say, hey, backseat ECMOs, we are standing by for a couple minutes until these tapes get here?

CAPT NCIS (b)(6), (b)(7)(C) Yeah, whoever told me that in the beginning basically said, hey, we are waiting; and we had time. We were in no hurry. Because the low-level was like 15, 20 miles was the entry point, we were going to end up sitting in the airplane to try to work -- you have an entry point on a low-level; and in the United States, we have to hit that entry point within a timeframe. Or you are not supposed to fly the low-level. So we always practiced hitting that point. I don't know if Italy has a rule like that or not; but we would stick to our rules. So we were going to end up sitting there with the jet turning, waiting any way.

AGT NCIS (b)(6), (b)(7)(C) The flight takes off, and you hit your entry point. And you are on the first leg. Can you describe from take off and hitting that first leg what occurred during the flight?

Now, I'm not looking for every single detail; but what I am looking for in terms of that question are landmarks you might have hit, the timing issues that may or may not have been a factor or focus on that take off and first leg, calibrating the mark one

eyeball, and any comments or discussion about the turn points, and any of the systems on the plane that may or may not have been discussed.

CAPT NCIS (b)(6), (b)(7)(C) Can we back up just one. I think maybe we can hit an important point or two about the video camera prior to getting on the low legs so we may want to discuss then just a few quick points.

AGT NCIS (b)(6), (b)(7)(C) Okay. With the video camera, was it discussed when it would be used during the flight?

CAPT NCIS (b)(6), (b)(7)(C) It wasn't discussed during the flight. It was discussed basically in the brief that he said what we are going to do or what I want to do is video as much as I can going in and coming out of the low-level. That was what was discussed in the brief. That wasn't discussed in the airplane of, hey, I'm going to videotape now or anything like that.

AGT NCIS (b)(6), (b)(7)(C) You or Captain NCIS (b)(6), (b)(7)(C) in the backseat, did you have any indication or any knowledge of when that camera was turned on?

CAPT NCIS (b)(6), (b)(7)(C) After take off and we started climbing out, we have a checklist we have to go through, climb-out checks. Both myself and Captain NCIS (b)(6), (b)(7)(C) have responsibilities in the backseat. The front seaters have their own set of responsibilities NCIS (b)(6), (b)(7)(C) and I basically turned up the pods, got power to those checking them out per the NATOPS checklist; and the guys in the front seat were doing their responsibilities.

We reported the pods were good in the airplane, and I think we were going up to 15 thousand feet, I think is what the flight plan said. It was somewhere in the teens that we would climb out to. We climbed up to that altitude and started for the first turn point. At that time, I heard Captain NCIS (b)(6), (b)(7)(C) say I can see through the camera. You know, I'm seeing images; but it's not -- I don't see anything that's telling me it's recording.

Like I said before, I don't know jack about the cameras. The only thing I do know I bought my parents one for Christmas. Their's has a mechanical lock that slides down, and Captain NCIS (b)(6), (b)(7)(C) that time said you got the thing locked. You got to push this thing down right here. So what I was visualizing was like my parents' camera the little thumb lock. I've never seen this camera so I don't know, but that's what I was visualizing.

And then, Captain NCIS (b)(6), (b)(7)(C) said to Captain NCIS (b)(6), (b)(7)(C) never mind there is the first turn point, put it away, something to that effect. That's not a quote. But when he saw the entry point to the low-level which is a pond, he said we don't have time, put it away. There is the entry point to the low-level; and then, we entered the low-level.

AGT NCIS (b)(6), (b)(7)(C) Once you entered the low-level on that first leg, was there anymore mention of the camera being turned on again, the video camera being turned on again?

CAPT NCIS (b)(6), (b)(7)(C) For the entire rest of the flight, I heard nothing about the camera, nor nothing to lead me to believe they were videotaping in the front seat for the entire rest of the flight.

AGT NCIS (b)(6), (b)(7)(C) While we are on the subject of that video camera, once the plane landed was there any mention of the video camera?

CAPT NCIS (b)(6), (b)(7)(C) Not once the plane landed. And again, I mean once that sucker touched down and I could get out, I was gone. So there was no mention about the video camera or anything like that. If there was, I wasn't in the airplane to hear it because I was already out running down the wing.

AGT NCIS (b)(6), (b)(7)(C) What happened to the tape that was in the video camera?

CAPT NCIS (b)(6), (b)(7)(C) The tape afterwards -- at the time of the landing and all of that, I didn't know anything about it. And the timeframe I don't know for sure, a week, two weeks, I don't know. I couldn't tell you the

timeframe; but after the mishap and after everything had gone on, Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) were together one day. And this was over by our billeting. They approached me and said we took the tape out of the camera, and they said -- my response was what's on it. And they said I don't know. We haven't looked at it; and then, they asked me -- they said, what do you think we should do with it. And I said I'd get rid of it; and then, the conversation basically broke off at that point.

And then, I don't know -- maybe, again the timeframe I don't know. A couple of days, something like that, they came to me later -- or I say they -- I don't recall exactly who it was; but I think it was Captain NCIS (b)(6), (b)(7)(C) said we destroyed the tape. Didn't tell me how. Didn't tell me anything else, just said the tape was gone.

AGT NCIS (b)(6), (b)(7)(C) Did they indicate whether they had looked at the tape, viewed it?

CAPT NCIS (b)(6), (b)(7)(C) Didn't indicate it.

AGT NCIS (b)(6), (b)(7)(C) Do you know if Captain NCIS (b)(6), (b)(7)(C) knew anything about the existence of the tape and then the subsequent destruction of the tape?

CAPT NCIS (b)(6), (b)(7)(C) I know Captain NCIS (b)(6), (b)(7)(C) was not standing there when those guys spoke to me about the tape. So that's all I know as far as him knowing or not knowing. I don't know if they approached him later by themselves or anything like that. I don't know.

AGT NCIS (b)(6), (b)(7)(C) Did you ever discuss that with Captain NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) No, I never did.

AGT NCIS (b)(6), (b)(7)(C) Have you ever discussed it with Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) since that second discussion where they told you they destroyed it?

CAPT NCIS (b)(6), (b)(7)(C) The only thing that I told Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) was -- and because we worked in the same building -- was that if I was ever asked in this

situation right here that I would tell them what I knew because that is my obligation as a Marine Corps officer to tell the truth; and I would tell. And they said that they would expect me to tell the truth.

AGT NCIS (b)(6), (b)(7)(C) All right. Did this first discussion where Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) first approached you -- you indicated it was a about a week or at some point afterwards roughly in a week --

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) -- timeframe, and you were near billeting when they approached you?

CAPT NCIS (b)(6), (b)(7)(C) Correct. There is not a whole lot of difference. The squadron spaces -- I don't know if you guys had been over there and seen it. You know were the ready room was?

AGT NCIS (b)(6), (b)(7)(C) Yes.

CAPT NCIS (b)(6), (b)(7)(C) Our billeting was basically in the -- I guess it would be in the northeast corner, the officers' building. There is like six hooches through there. I'd either come back from chow or was at my hooch or something, but I ran into those guys on that sidewalk in front of it in front of those hooches.

AGT NCIS (b)(6), (b)(7)(C) Do you remember what time of day?

CAPT NCIS (b)(6), (b)(7)(C) I remember it was daytime.

AGT NCIS (b)(6), (b)(7)(C) Morning?

CAPT NCIS (b)(6), (b)(7)(C) I remember it was daytime. That's all I remember.

AGT NCIS (b)(6), (b)(7)(C) Do you remember if anyone else saw this discussion or was present for this discussion?

CAPT NCIS (b)(6), (b)(7)(C) Nobody was present. If you guys had been over there, those tins are like paper. I don't know if somebody could have overheard it. Nobody was in sight so I don't know if anybody else knew.

AGT NCIS (b)(6), (b)(7)(C) Again during that first meeting with them, they told you they had the tape and asked you what you thought they should do with it?

CAPT NCIS (b)(6), (b)(7)(C) Right. They asked me -- they said what do you think we should do with it; and I said I would get rid of it.

AGT NCIS (b)(6), (b)(7)(C) What did they say at that point?

CAPT NCIS (b)(6), (b)(7)(C) They didn't say anything.

AGT NCIS (b)(6), (b)(7)(C) What was their response?

CAPT NCIS (b)(6), (b)(7)(C) They didn't say anything. It was just kind of I'm in a dilemma what do I do.

AGT NCIS (b)(6), (b)(7)(C) Did they show you the tape?

CAPT NCIS (b)(6), (b)(7)(C) No. I never saw the tape.

AGT NCIS (b)(6), (b)(7)(C) Did they ever indicate at what point during the flight that it was switched out or anything?

CAPT NCIS (b)(6), (b)(7)(C) Yes. They did tell me that the tape was switched after landing. And I know that because of the distress we were in that aircraft, they wouldn't have time. Everybody had their hands full. They wouldn't have time to switch it flying.

AGT NCIS (b)(6), (b)(7)(C) Now, isn't it true that once you all landed, all four of you basically bolted?

CAPT NCIS (b)(6), (b)(7)(C) What happened was we were coming in for the approach. Our responsibility in the backseat is to back up the pilot on airspeed. As we came in on the approach, that was mine and NCIS (b)(6), (b)(7)(C) main focus was the airspeed of the airplane. As damaged as it was if you got slow, it would depart and crash and that low you are going to die. You are not going to make it out of the airplane fast enough. So as soon as the airplane touched down, I waited until I felt the tail hook catch the wire.

As soon as I felt the tail hook catch the wire -- a procedure we have upon touchdown once the pilot has good brakes and can steer the airplane which is usually around 90 knots or so the pilot or somebody in the crew will say "seats." When they say seats, that is an indication for everybody in the airplane to safe your seats. You have a safe switch on top and on the bottom handle. So as soon as I felt that wire catch and we were pulling the wire out-- basically it's got you jammed in the dash board -- I stepped on my ICS mike; and I said, seats. Because in a time of distress, that's one of the things people forget. Well, when people are egressing an airplane, if they hook one of those handles and pull it, they just killed people. So I stepped on my ICS button and said seats as we were still pulling the cable out. As soon as I said seats, I safed mine as quickly as I could and started unstrapping.

And once the airplane had basically come to a stop, may have been slightly rolling, I was already overriding our canopy. We have an override where I can drive it up, make it go up faster. I was overriding the canopy. I pinned the canopy; and I jumped out, ran down the back of the wing, jumped on to the ground. And I knew that I beat everybody out of the airplane; and so my first thought was I'm going to run around, drop the boarding ladder for the pilot because he's on my side. And it's a long drop down if you don't have a ladder, probably -- I don't know 10, 11 feet. So I ran around there, dropped the boarding ladder; and I kind of looked underneath the airplane to see if the other guys were getting out on the other side. And I didn't see anybody over there, and you could see the ladder if it was hanging down. I didn't see the ladder. So I ran around that side and dropped the ladder.

Well, right before I ran to the other side, I saw Captain NCIS (b)(6), (b)(7)(C) was standing just a little bit behind me and to the right. So I ran around and dropped the ladder on the other side, and Captain NCIS (b)(6), (b)(7)(C) kind of came around there hobbling with me. And when I saw him limping, I knew he was hurt. So I grabbed him up around the arm, through his arm over my shoulders, and

kind of started jogging quickly as I could move him off the nose of the aircraft which is usually what we brief, everybody meet off the nose of the aircraft. We'll count heads, make sure everybody is here. When we got out there, I turned around to see what was going on; and I noticed Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) hadn't got out of the airplane at this time.

AGT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) Yeah, what did I say NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) had not gotten out of the airplane yet. Captain NCIS (b)(6), (b)(7)(C) and myself were standing 50 to 75 yards in front of the airplane. So they hadn't got out of the airplane yet, and I thought to myself, wow, I wonder what is going on because I wanted out of the airplane; and but then my thought processes are maybe he can't.

In all honesty, I'm trying to get out of there so fast and everything. I am not even positive the engines were shut down. So my thought processes maybe he can't get an engine secured, maybe he doesn't want to secure one because it's going to spit fuel out on the deck which could cause a fire or something. So at that point I didn't -- I was like I'm sure there is a reason. Probably timeframe, I don't even want to estimate or guess because of the time compression of stuff like that, but they got out. And they came to the front of airplane with the rest of us; and then, the crash fire rescue guys made us get out of the way out to the grass.

AGT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) got back into the cockpit at some point after he had landed and after the crash fire rescue personnel had arrived?

CAPT NCIS (b)(6), (b)(7)(C) I didn't see him do it.

AGT NCIS (b)(6), (b)(7)(C) That was my question.

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Was going to be my question, did you know -- did you see him get back in the cockpit?

CAPT NCIS (b)(6), (b)(7)(C) As far as I know, no. The four of us, nobody ever went back to that airplane. You got maintenance guys and stuff, but those guys didn't even come to us. There was one maintenance guy, and he wasn't part of my squadron so I don't know who he is but came to us and he was more of a senior enlisted guy just kind of, wow, you guys all right. But the four of us didn't go back to that airplane. The crash fire rescue guys wouldn't let you near it.

AGT NCIS (b)(6), (b)(7)(C) Getting back to your conversations with Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) a week or so after the incident about the tape that first discussion they had with you was they had the tape, what should they do with it, and you told them that you would destroy it or get rid of it.

CAPT NCIS (b)(6), (b)(7)(C) That's what I told them.

AGT NCIS (b)(6), (b)(7)(C) A few days later, they approach you again or you meet them again. Where did that take place?

CAPT NCIS (b)(6), (b)(7)(C) Basically the same place, somewhere on the sidewalk in front of that building; and it was just kind of in passing. That's why I don't really remember exactly who told me, but it's kind of in passing, hey, it's gone. We destroyed it, and didn't tell me how.

AGT NCIS (b)(6), (b)(7)(C) Were the two of them together, Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) that time?

CAPT NCIS (b)(6), (b)(7)(C) I don't want to say right there because I don't know. I honestly don't know if they were together or if it was one. I just remember in passing it's gone. It's destroyed, and no conversation of how it was done or anything like that.

AGT NCIS (b)(6), (b)(7)(C) In subsequent conversations over the last several months back here in North Carolina, were there ever any comments from Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) to the effect of I'm glad we got rid of that or any discussions about that videotape?

CAPT NCIS (b)(6), (b)(7)(C) There was. Myself and Captain NCIS (b)(6), (b)(7)(C) had a discussion about that, and this was on the tail end of basically what I told him. I said you guys just need to be prepared because if it comes to it I'm going to tell the truth; and again, he said that's what I want you to do. And we talked about that if we could change anything that went on, it would be the fact that that tape was ever taken out of the camera because he told me -- he didn't say he viewed it or anything like that; but he led me to believe that there was nothing on the tape and that was just dumb.

That was spur of the moment kind of crap, I'm scared, what do I do; and we knew from basically day one or day two after the mishap that things were going to start elevating at that time. Once they realized that, they were like that was -- and this is what Captain NCIS (b)(6), (b)(7)(C) was basically communicating to me -- that was stupid to take the tape out of the airplane, never should have done it, should have left it right there.

AGT NCIS (b)(6), (b)(7)(C) And when did this conversation occur?

CAPT NCIS (b)(6), (b)(7)(C) This conversation occurred -- timeframe I couldn't tell you. It was when we were back here.

AGT NCIS (b)(6), (b)(7)(C) Where were you when you had that conversation?

CAPT NCIS (b)(6), (b)(7)(C) We were in the Wing building when he had that discussion, 2d MAW.

AGT NCIS (b)(6), (b)(7)(C) 2d MAW at Cherry Point?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) Do you remember which area of the building?

CAPT NCIS (b)(6), (b)(7)(C) We were in the G-7, upstairs. It's on the second deck.

AGT NCIS (b)(6), (b)(7)(C) Were the two of you alone together?

CAPT NCIS (b)(6), (b)(7)(C) Yes. And I know Captain NCIS (b)(6), (b)(7)(C) happened to walk to us when we were discussing that, and we purposely

shut up and didn't say anything about it. In case Captain NCIS (b)(6), (b)(7)(C) didn't know anything about it, then he wouldn't be pulled into it and involved as well.

AGT NCIS (b)(6), (b)(7)(C) can you think of anything else about that videotape at this point?

AGT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Getting back to the flight itself, you are on the first leg. You hit your landmark, the pond, that tells you you're now in the low-level?

CAPT NCIS (b)(6), (b)(7)(C) Right. The entry point.

AGT NCIS (b)(6), (b)(7)(C) Was there a call or a notification from the pilot to calibrate your mark one eyeball?

CAPT NCIS (b)(6), (b)(7)(C) No. Captain NCIS (b)(6), (b)(7)(C) saw the entry point to the low-level. He made a left-hand turn to start his descent into the low-level, and I remember him discussing something along the lines of he wasn't going to get right down to a thousand feet to start with. He was going to get his comfort level up before he basically got down to a thousand feet and start flying the low-level. And that's good head work, a little bit of comfort time something like that for him.

AGT NCIS (b)(6), (b)(7)(C) Do you remember the speed going into that first leg and during the first leg?

CAPT NCIS (b)(6), (b)(7)(C) I don't remember the speed. All I know throughout the low-level was that no time when I was looking at the airspeed indicator did he ever exceed 550 knots or .86 indicated when I was looking at it.

AGT NCIS (b)(6), (b)(7)(C) On that first leg, again, were you traveling at 550 knots at or around 550 knots that you can recall?

CAPT NCIS (b)(6), (b)(7)(C) I don't recall. I didn't look at it, specifically looking at the airspeed. Like I said I don't look at the airspeed indicator and go we are doing 520 right now because especially in a three-dimensional environment your airspeed is going

to vary climbing to cross ridges descending after ridges and so forth.

AGT NCIS (b)(6), (b)(7)(C) Were the turn points loaded into the navigational computer?

CAPT NCIS (b)(6), (b)(7)(C) Yes, they were.

AGT NCIS (b)(6), (b)(7)(C) Is that something that you and Captain NCIS (b)(6), (b)(7)(C) in the backseat have any monitoring ability over?

CAPT NCIS (b)(6), (b)(7)(C) Yes. We have monitoring ability. We can't alter them. We can look at them. If, in fact, you bring those up as an ECMO, they don't just appear. You have to actually go into the software and bring it up.

AGT NCIS (b)(6), (b)(7)(C) Is there gyro display in the backseat as well?

CAPT NCIS (b)(6), (b)(7)(C) Yes. That's the display I'm talking about, but in the gyro display, you have to actually go in there and bring up NAV turn points.

AGT NCIS (b)(6), (b)(7)(C) Is that something that you routinely do?

CAPT NCIS (b)(6), (b)(7)(C) Yeah, if you are flying on a low-level, it's good head work for the back seaters to pull those up and have them there. Now, it doesn't show you a whole lot. It's a 174k Army computer mod one piece of FOD, so it doesn't really -- all it does is give you a little circle for the turn point and basically a straight line between those circles. You have an airplane depiction on the DDI that is -- we call it the sperm cell.

It's a little circle with a stick sticking off of it. Wherever the little stick is pointing is where the airplane is flying. So all you do really in the backseat is you will kind of come in and look at that every now and then; and as long as that little sperm cell looks ballpark somewhat close to that line, then, your NAV looks good. The only time a backseat ECMO is ever going to pipe up is if he sees that sperm cell way over here when he knows it should be closer to that line; then, I might come up and say, hey, either

we're lost or your INS is running away.

AGT NCIS (b)(6), (b)(7)(C) In layman's terms, you have your points that you want to hit. You have got a line connecting them. You have your five miles on either side of that line. Is that something that is depicted?

CAPT NCIS (b)(6), (b)(7)(C) No, it's not. It's not depicted. The only way that you can figure out how far that sperm cell is from that line is you have to go into the software and you actually have to manipulate the software to give you what we call a bearing and range indicator. So you can go in there and basically say from my airplane how far is it to that line. It may come up and tell you five or six miles. Whatever the distance is it will tell you.

AGT NCIS (b)(6), (b)(7)(C) Do you recall at any time on that first leg being outside the range?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) The range or the corridor?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) That ten mile corridor?

CAPT NCIS (b)(6), (b)(7)(C) No, I don't.

AGT NCIS (b)(6), (b)(7)(C) Do you recall any time during that first leg flying --

MR. NCIS (b)(6), (b)(7)(C) Excuse me just a minute. The centerline of that corridor to the outer limits was, as I understood it, not ten miles but rather five nautical miles --

AGT NCIS (b)(6), (b)(7)(C) On either side.

MR. NCIS (b)(6), (b)(7)(C) -- which would make it 12 miles wide. I don't if know if it's significant or not.

AGT NCIS (b)(6), (b)(7)(C) As I'm talking and I'm discussing the miles off that centerline, I am talking about nautical miles; and knowing that there is going to be some deviation at

sometime out of that range for legitimate reasons or there are legitimate reasons that would take you out of that, we understand that. What I am getting at is was there any intentional deviation that you know of on that first leg?

CAPT NCIS (b)(6), (b)(7)(C) No time during the flight was there any intentional deviation from the route structure.

AGT NCIS (b)(6), (b)(7)(C) How about on that first leg? Was there any time on that first leg where you thought sitting in the backseat of that plane that you were at an excessive or unsafe speed?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Or at an altitude lower than the briefed thousand feet AGL?

CAPT NCIS (b)(6), (b)(7)(C) The only time that I know we were below a thousand feet was when I heard radar altimeter go off. So if I hear the radar altimeter -- I should say I don't know. I can only assume because I don't know what the radar altimeter is set at. All I can do is say he briefed 800 feet. It's supposed to be set at 800 feet. If I hear the radar altimeter, that means we were below a thousand feet; and I'm expecting my pilot -- I'm expecting to feel the airplane start climbing as soon as I here that RADALT.

AGT NCIS (b)(6), (b)(7)(C) Did you hear that RADALT on that first leg at all?

CAPT NCIS (b)(6), (b)(7)(C) I heard the RADALT, and I also heard a discussion in the front seat -- not of which I took part in; but I heard a discussion about the radar altimeter sticking. And Captain NCIS (b)(6), (b)(7)(C) was climbing up to see -- what he should do if he sees a RADALT stick -- he started climbing. He said the radar altimeter reengaged so he was going to work back down. He worked back down, and I assumed the radar altimeter was working again; and I do recall him saying it's tracking and we are continuing with the low-level.

AGT NCIS (b)(6), (b)(7)(C) Okay. Is it a NATOPS SOP to knock off a low-level if that RADALT isn't working properly?

CAPT NCIS (b)(6), (b)(7)(C) Yeah. If you know for sure it is malfunctioning at that time, then you are not allowed to fly a low-level with a nonworking radar altimeter. Just because it stuck one time and he climbs up and says, okay, RADALT is stuck. I'm doing the appropriate action. I'm climbing out of the low-level environment getting some ground underneath me so I can sort out what is going on; and in his climb out once he passes whatever the RADALT was at -- once he passes that point, it starts tracking again. It's moving again. He says, okay, it's moving again. It's not frozen. Okay.

So his next -- and I'm not saying Captain NCIS (b)(6), (b)(7)(C) I'm saying a pilot's corrective measures is to start another, basically start descending again and using good head work. Obviously, he is not going to do it if he is low; but he starts another descent. The RADALT starts tracking again. He's got a fully operational piece of gear. Just cause it burped one time, doesn't mean it doesn't work. Our engines bang and chug all the time. If we took it home every time, it wouldn't be any good.

AGT NCIS (b)(6), (b)(7)(C) Did he say what altitude it stuck at?

CAPT NCIS (b)(6), (b)(7)(C) I don't specifically recall an exact altitude that he said, and I was hearing what they were saying. But I wasn't really focusing on it. This jet has what we call MDL, Marine Data Link. I have never flown with nor operated Marine Data Link. Q-2 was as far as I know the first squadron operating MDL in the Bosnian theater. Because that's interesting to me as a professional and I will be using it, I was interested in what was going on with the MDL; but again, I'm hearing what's going on and that's those guys' job in the front seat to make a decision based on equipment that they have. I can't see it. I don't know what it's doing, what it's not doing.

AGT NCIS (b)(6), (b)(7)(C) At this time it's 1125, and we are going to break for lunch. And we will resume again in approximately 30 to 45 minutes.

The time is 1223 on 18 August 98. The interview of Captain NCIS (b)(6), (b)(7)(C) will resume at this time. All parties present during the morning sessions are again present at this time.

We'll continue discussing the mishap flight; and in particular, we'll start with leg two of that flight. Captain NCIS (b)(6), (b)(7)(C) do you recall any of the landmarks that were on leg two of the flight?

CAPT NCIS (b)(6), (b)(7)(C) Nothing really that comes to mind, and all I'm saying is just as far as seeing them. I remember during the brief discussing that the Turn Point Uniform was between the big snow-capped peaks. They are bigger mountains than the rest out there. So we were looking to go between those basically.

AGT NCIS (b)(6), (b)(7)(C) During leg two was there any consideration or emphasis on timing to complete that leg or to get to the next turn point?

CAPT NCIS (b)(6), (b)(7)(C) None.

AGT NCIS (b)(6), (b)(7)(C) During that leg, leg two, was there any calibration of the mark one eyeball that you recall?

CAPT NCIS (b)(6), (b)(7)(C) You know when you keep going to calibration, are you talking about as far as altitude?

AGT NCIS (b)(6), (b)(7)(C) Altitude, AGL?

CAPT NCIS (b)(6), (b)(7)(C) Maybe a pilot does it individually, tries to calibrate his eye. We don't do any eye calibration drills for altitudes. Especially in an environment such as this, you are not -- not to my experience level am I going to be able to calibrate my eye. Flying in Cherry Point when I know Raliegh is two hundred maybe three hundred feet ground elevation, you can somewhat maybe get an eye calibration, but no way out here.

AGT NCIS (b)(6), (b)(7)(C) During leg two, were there any points on that part of the flight where you were concerned or had any questions about the speed of the aircraft?

CAPT NCIS (b)(6), (b)(7)(C) At no time during this flight at any time did I feel speed was unsafe.

AGT NCIS (b)(6), (b)(7)(C) How about excessive?

CAPT NCIS (b)(6), (b)(7)(C) No. Excessive airspeed to me is basically defined as exceeding NATOPS limits. If I don't exceed NATOPS limits the speed is not excessive to me.

AGT NCIS (b)(6), (b)(7)(C) Was there any point on this leg of the flight where the plane was -- the aircraft was in a maneuver or put into any type of position that you believe was unsafe?

CAPT NCIS (b)(6), (b)(7)(C) No. During a low-level, you hear a running commentary from the guys in the front seat, not from the guys. It's usually ECMO-1 unless you have got a real junior guy that doesn't give a running commentary of what's coming in front of him you don't -- you'll hear ECMO-1 describing what he sees out the front of the airplane, i.e. there is a ridgeline coming up. You are probably going to hear a RADALT go off. It's because we are going to be crossing a ridgeline. He'll say here comes the ridgeline, beep, beep, beep. Okay, we're over the ridgeline. You will hear the RADALT go away.

AGT NCIS (b)(6), (b)(7)(C) Do you recall hearing a RADALT tone crossing ridgelines on the legs of this flight?

CAPT NCIS (b)(6), (b)(7)(C) I do recall hearing the radar altimeter. And sure when you cross a ridgeline, it's not tactically sound to -- you couldn't fly this whole low-level maintaining a thousand feet perfectly because everybody in the airplane would throw up constantly.

AGT NCIS (b)(6), (b)(7)(C) We understand that. Were there any times on this leg of the flight that you heard the RADALT tone where you weren't crossing the ridgeline that you recall?

CAPT NCIS (b)(6), (b)(7)(C) No specific instance. But I will say when I did hear the radar altimeter go off what I expect is to feel the aircraft maneuver up; and any time I heard a radar altimeter go off, I felt the pilot maneuvering the aircraft up to correct any type of deviation.

AGT NCIS (b)(6), (b)(7)(C) On this leg of the flight, was there any time where you thought you were below the one thousand foot AGL altitude?

CAPT NCIS (b)(6), (b)(7)(C) Not by visually looking outside. Like we discussed earlier, if, in fact, I hear the radar altimeter go off, then all I can do is assume -- if, in fact, the radar altimeter is set at what it's supposed to be -- all I can do is assume that you have gone below what the radar altimeter was set at.

AGT NCIS (b)(6), (b)(7)(C) Just prior to us beginning this session of the interview, you indicated that you wanted to add something to our discussion about the video camera. Go ahead and add that at this time.

CAPT NCIS (b)(6), (b)(7)(C) The thing I thought about was we were discussing how you asked the question did the other guys indicate to me that they had viewed the videotape or anything like that. I said, no. They told me they had not viewed the videotape. I went on to talk about in the G-7 Captain NCIS (b)(6), (b)(7)(C) and myself discussing about basically he never should have taken the tape any way; and Captain NCIS (b)(6), (b)(7)(C) indicated that one of the reasons that he never should have taken the tape any way was because there was nothing on the tape other than if, in fact, he did get a little bit of recording in the first instance I was talking about where we were going to the entry point of the low-level. So he was leading me to believe that at no time past that was the video camera used throughout the low-level.

So therefore I was led to believe that there was nothing on the tape any way. And I don't find that basically -- possibly based on my experience that somebody would be able to give the running commentary that Captain NCIS (b)(6), (b)(7)(C) gave throughout the low-level and be looking through the eyepiece of the camera and to be able to see. Because basically you have given yourself tunnel vision by looking through that camera. As well as he was giving a running commentary of what was coming in front of the airplane, I would find it hard to believe that he was looking through the camera; and there is a guy could always just hold the

camera out and just basically be getting whatever the camera is.

Well, because of the terrain and the way the aircraft is having to maneuver through the valleys, the G forces exerted on that camera would become almost humanly impossible to hold that camera. If you pull three Gs and you have got a six pound camera in your hand, you just increased the weight tremendously.

AGT NCIS (b)(6), (b)(7)(C) One question I have is: Do you know if Captain NCIS (b)(6), (b)(7)(C) and/or Captain NCIS (b)(6), (b)(7)(C) intended to or, in fact, mounted the camera inside the cockpit?

CAPT NCIS (b)(6), (b)(7)(C) It was never discussed, and there was never a discussion that there was going to be any type of mounting. And it was never discussed that the low-level was going to be videotaped.

AGT NCIS (b)(6), (b)(7)(C) Was there any discussion or do you have any knowledge of the hand-held camera being hooked into or wired into the audio?

CAPT NCIS (b)(6), (b)(7)(C) There was never any discussion about that as well, nor did I see any equipment to where they could do it.

AGT NCIS (b)(6), (b)(7)(C) Leg four of the flight, again, do you recognize any of the landmarks on leg four? Right now you are looking at the chart.

CAPT NCIS (b)(6), (b)(7)(C) As we were coming on the final portion of leg three there, it was starting to get hazy towards Point India. You could see basically a haze. I could see it from the side of the airplane looking out that it was starting to get a little bit hazy; and there was conversation about if this haze gets thick we are going to have to pop off of the low-level. I distinctly remember looking for that Turn Point India which is a bridge over that river.

Everybody was outside trying to look for that bridge; and I remember crossing a river and saying to Captain NCIS (b)(6), (b)(7)(C) that I thought I saw the bridge, go down the left side of the airplane. When I saw it, I told him.

We immediately made our turn at that point to enter leg four. I'm not positive that was the bridge we were looking for, but it was the river.

AGT NCIS (b)(6), (b)(7)(C) On leg four, are there any outstanding landmarks or remarkable landmarks that you recall?

CAPT NCIS (b)(6), (b)(7)(C) The only thing that I recall is -- I mean I could see the end of Lake Garda looking out of the airplane as we got closer to the lake; and it came into my view from the left side of the airplane. I did see the lake, and I saw the high terrain on the edge of the lake. And Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) talked about climbing just like we did in the brief about getting above those cliffs and keeping good heads out for any kind of para sailer or hang glider.

AGT NCIS (b)(6), (b)(7)(C) On leg four was there any time during that portion of the flight that you dropped below or the aircraft was below the thousand feet minimum that you recall not counting crossing over ridgelines?

CAPT NCIS (b)(6), (b)(7)(C) No. Leg four was pretty much a lot of flat terrain out there.

AGT NCIS (b)(6), (b)(7)(C) Was this the leg of the flight where Captain NCIS (b)(6), (b)(7)(C) you saw Captain NCIS (b)(6), (b)(7)(C) holding the camera to the window?

CAPT NCIS (b)(6), (b)(7)(C) No. That was on one of the earlier legs, and I don't know which one. But it was on one of the earlier legs. It was not leg four.

AGT NCIS (b)(6), (b)(7)(C) Was there any point during this portion of the flight where the pilot maneuvered the plane in any aggressive attitudes?

CAPT NCIS (b)(6), (b)(7)(C) No. Leg four like I said is all pretty much flat terrain. So the pilot really didn't even have a reason to maneuver much at all.

AGT NCIS (b)(6), (b)(7)(C) Was there any concentration on timing at all on this leg?

CAPT NCIS (b)(6), (b)(7)(C) No, there was not.

AGT NCIS (b)(6), (b)(7)(C) You get to leg five. Do you remember any remarkable landmarks on leg five?

CAPT NCIS (b)(6), (b)(7)(C) I just remember looking out the window at the lake because it's pretty spectacular how steep the ridges are on each side of the lake.

AGT NCIS (b)(6), (b)(7)(C) And leg five is basically flying over the lake or near the lake where you can see?

CAPT NCIS (b)(6), (b)(7)(C) Right. At no time did we fly over the lake. To the best of my recollection -- and again, I wasn't navigating the airplane, couldn't see out the front; but I would say they probably pretty much stayed along the black line on that leg because I could see the lake out the left side of my window.

AGT NCIS (b)(6), (b)(7)(C) Leg six, do you recognize any landmarks on leg six?

CAPT NCIS (b)(6), (b)(7)(C) The only thing that I distinctly remember on leg six was after crossing the ridgeline going into the mishap valley. I remember seeing the river and the road that runs just on the north side of the river paralleling the river. I remember seeing that. I distinctly was looking kind of down and to the rear of the airplane as best I could watching the river and the road down there.

AGT NCIS (b)(6), (b)(7)(C) When you went around Trento, the city of Trento, was that route that you took briefed around the city of Trento?

CAPT NCIS (b)(6), (b)(7)(C) I'm not positive around the city of Trento. Like I said before, the valley that we were trying to get into to avoid the vertical obstruction to the south, I know that -- I heard Captain NCIS (b)(6), (b)(7)(C) -- they were trying to actually find the entrance to that valley by doing basically terrain association by looking at the fingers outside the airplane and him and Captain NCIS (b)(6), (b)(7)(C) discussing, okay, there is the valley we are looking for.

AGT NCIS (b)(6), (b)(7)(C) Okay. So after passing Trento or while passing Trento, they actually determined which valley they wanted to go into; and once they found it, they flew into it?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) Were they lost at any point?

CAPT NCIS (b)(6), (b)(7)(C) No. At no time were they lost. They knew exactly where they were the whole time. And this is after the mishap that basically they said -- I'm not saying that I agree with it; but they say we spilled outside of the route structure. At no time -- I know Captain NCIS (b)(6), (b)(7)(C) knew that we were getting to the left outer boundary; and that's why he made the call to go cross compartment to make sure we stayed within the route structure.

AGT NCIS (b)(6), (b)(7)(C) When you use the term "cross compartment," what does that mean in layman's terms?

CAPT NCIS (b)(6), (b)(7)(C) In layman's terms, that's really a term that the first time that I really recall hearing any discussion about that was Q-2 using that as a term when they fly.

AGT NCIS (b)(6), (b)(7)(C) And what does it mean?

CAPT NCIS (b)(6), (b)(7)(C) Cross compartment means going from one valley basically over a ridge or some vertical terrain into another valley, another compartment if you will.

AGT NCIS (b)(6), (b)(7)(C) And the first time you heard that was when you were around the personnel from Q-2?

CAPT NCIS (b)(6), (b)(7)(C) Right. Captain NCIS (b)(6), (b)(7)(C) talked about that term in the brief; and obviously, or I guess Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) understood that term to however Q-2 operated under that. And I broke the code on what he was talking about by saying I'm going to this valley from this valley into this valley as being cross compartment.

AGT NCIS (b)(6), (b)(7)(C) So as he is going around Trento or you are passing Trento, he and Captain NCIS (b)(6), (b)(7)(C) were looking for the valley they wanted to fly into. They determined which valley they wanted to fly into, and they actually flew into it. And they weren't lost according to what you understand from that flight?

CAPT NCIS (b)(6), (b)(7)(C) Right. There was no time during this entire flight that hearing what was coming out of the front seat, the running commentary, anything like that that those guys doubted for any minute that they weren't navigating properly that they were lost, if you will.

AGT NCIS (b)(6), (b)(7)(C) You crossed the ridgeline, and there is a approximately 33 seconds before impacting the cable. You cross over a ridgeline, and there is about a 2,000 foot descent roughly. According to the instruments and the readings from those instruments that we have now, there is a rate of 12 thousand feet --

AGT NCIS (b)(6), (b)(7)(C) Per minute.

AGT NCIS (b)(6), (b)(7)(C) -- per minute rate of descent. That's a pretty rough jolt?

CAPT NCIS (b)(6), (b)(7)(C) And this is my personal view from my ability. If you peg 12 thousand foot per minute descent, you are not going to pull out at the bottom, not in an EA-6B Prowler. That's my personal view.

AGT NCIS (b)(6), (b)(7)(C) Do you recall a rapid descent coming over that ridgeline?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) How would you describe that ridgeline crossing?

CAPT NCIS (b)(6), (b)(7)(C) This specific ridgeline crossing we are talking about is the ridgeline just prior to the impact of the cable. Again, this is where I go back and say that I thought Captain NCIS (b)(6), (b)(7)(C) wasn't as aggressive crossing that ridgeline as I would have been or what I expected. I thought he was very reserved crossing that ridgeline, and he went just beyond probably 90 degrees angle of bank. I would say maybe a 100

degrees, maybe a little more, a little less.

When he crossed that ridgeline, since I'm an ECMO-3 that puts me on the high side of the airplane; and I distinctly remember looking out of the top of the canopy not directly over my head but more so over Captain NCIS (b)(6), (b)(7)(C) looking at the ground as we made the maneuver coming over. I don't know what the nose attitude of the aircraft was at that point. Once we rolled out and I felt like we were wings level, it seemed like a matter of seconds from the time of crossing that ridgeline to hitting that cable. It didn't seem like 33 seconds, 30 seconds. You know if I had to give an estimate, my personal estimate was it was crossing the ridgeline and maybe ten seconds after that feeling the aircraft maneuver downward as if trying to avoid something and then feeling the impact of the cable.

AGT NCIS (b)(6), (b)(7)(C) We'll get to that specific downward maneuver that you felt. Again, judging from the instrumentation that's been examined and analyzed and the data that's been taken from those --

CAPT NCIS (b)(6), (b)(7)(C) You are talking about the INS data?

AGT NCIS (b)(6), (b)(7)(C) Yes. What we are being told is about 33 seconds of wings level, basically wings level heading down that valley with the possibility of some deviation from being wings level. On your side of the aircraft, the left side of the aircraft, do you recall passing any, seeing any chapels or churches off to your left at a soccer field that's being built?

CAPT NCIS (b)(6), (b)(7)(C) I remember as we were coming down that valley kind of out of almost out of peripheral vision -- like I said I was looking aft and down of the airplane. I remember some cultural development basically which now I probably maybe deduced to be the town of Cavalese maybe some kind of buildings and stuff off in the distance. I didn't see a soccer field, and I don't specifically remember a church steeple or anything like that.

AGT NCIS (b)(6), (b)(7)(C) You just indicated with your hand at about eye level or was it about eye level? Was it higher than eye level, or was it lower than eye level?

CAPT NCIS (b)(6), (b)(7)(C) It was lower than eye level, definitely lower than eye level. No time in that valley did I feel like we were low.

AGT NCIS (b)(6), (b)(7)(C) And earlier you indicated as you were flying down that valley, the river and the road or highway that went alongside and paralleled that river were to your left?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) To the left of the aircraft --

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) -- as it was heading down the valley?

CAPT NCIS (b)(6), (b)(7)(C) Not a long ways but -- and I don't know the distance -- but that was why I was kind of having to look down was to be able to see the river and the road.

AGT NCIS (b)(6), (b)(7)(C) As you are flying down the valley, is there any indication that there is any malfunctions or problems with the aircraft at that point?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Did you hear the RADALT tone at any time going through that valley?

CAPT NCIS (b)(6), (b)(7)(C) I don't remember a radar tone any time prior or any time after. And this is just the only place that I can remember a specific event to the time of the mishap. From the ridgeline to the mishap site, I don't remember a RADALT tone going off.

AGT NCIS (b)(6), (b)(7)(C) Did you hear the tone at that ridgeline crossing?

CAPT NCIS (b)(6), (b)(7)(C) No, I did not. And the reason why is the radar altimeter is out of limits by the maneuver that the

pilot made. He is beyond 45 degrees angle of bank so the radar altimeter is not going to pick it up.

AGT NCIS (b)(6), (b)(7)(C) How is your speed going down that valley? How would you characterize that speed?

CAPT NCIS (b)(6), (b)(7)(C) Again, the same thing there, I didn't look at the airspeed indicator after we came over the ridgeline. The best thing that I can do in the backseat is to try to see the ground which is what I was doing as we maneuvered over the ridgeline. The aircraft obviously is going to be slower because it had to climb to get over the ridgeline; and the Prowler is not capable of sustaining its airspeed maneuvering in the vertical.

Once I picked up the ground looking kind of over Captain NCIS (b)(6), (b)(7)(C) head out of the top of the canopy -- once I saw the ground and knew that the ground wasn't rushing up to get us, then at that point as soon as the pilot started rolling back out wings level the first thing I did was go outside looking outside of the cockpit to try to basically clear my side of the airplane, make sure no airplanes or anything like that is coming.

AGT NCIS (b)(6), (b)(7)(C) As you are flying down the valley and you are looking outside the plane, did it appear that the ground was coming up to meet you?

CAPT NCIS (b)(6), (b)(7)(C) No, I did not.

AGT NCIS (b)(6), (b)(7)(C) I mean if there was a change in elevation it wasn't anything rapid?

CAPT NCIS (b)(6), (b)(7)(C) It wasn't a rapid sink rate or anything like that; and again, as a backseater in mountainous terrain, it's hard to judge that because I don't have a straight and level horizon to judge off of. So if, in fact, there is a mountain peak out there it can give me the optical illusion that I'm flying 40 degrees nose down when, in fact, I'm not. I'm straight and level.

AGT NCIS (b)(6), (b)(7)(C) Were your eyes outside of the aircraft? Were you looking outside of the aircraft for a good portion or for the entire portion going down that valley before impact?

CAPT NCIS (b)(6), (b)(7)(C) When we crossed over that ridgeline as soon as the aircraft rolled back to the left to come to a wings level attitude as soon as I could see out the left side of the airplane and not just see sky because of the attitude, I got outside; and I was looking outside.

AGT NCIS (b)(6), (b)(7)(C) Was there anything said by any of the four of you inside the aircraft after crossing the ridgeline but before impact?

CAPT NCIS (b)(6), (b)(7)(C) I don't remember.

AGT NCIS (b)(6), (b)(7)(C) Was there any communication, any comments, any discussion?

CAPT NCIS (b)(6), (b)(7)(C) The only discussion that I remember on that leg was Captain NCIS (b)(6), (b)(7)(C) stating that he could see Mount Marmalada, or whatever it is, the Turn Point Charlie, the target point; and the reason why is that peak is higher than the rest of the mountains out there. Captain NCIS (b)(6), (b)(7)(C) indicated that he could see the final target.

AGT NCIS (b)(6), (b)(7)(C) Do you recall what the attitude of that plane was going down that valley?

CAPT NCIS (b)(6), (b)(7)(C) Again, this is by sight looking outside. The best I could deduce was we were wings level.

AGT NCIS (b)(6), (b)(7)(C) Was there any time that the attitude of the plane changed from wings level?

CAPT NCIS (b)(6), (b)(7)(C) Not that I remember.

AGT NCIS (b)(6), (b)(7)(C) Were there any problems experienced with the plane that you know of just prior to impact?

CAPT NCIS (b)(6), (b)(7)(C) No. From the backseat, there was nothing that I could tell was wrong with the airplane nor did I

hear any communication out of the front seat that there was anything wrong with the airplane.

AGENT NCIS (b)(6), (b)(7)(C) Upon impacting the plane, what did you feel?

CAPT NCIS (b)(6), (b)(7)(C) I felt a slight thud, and I didn't -- I didn't really -- I say I feel it. I didn't really feel. I heard the thud. I did not feel the aircraft yaw. I didn't feel the aircraft be tugged in any.

AGENT NCIS (b)(6), (b)(7)(C) When you say "yaw," could you explain that?

CAPT NCIS (b)(6), (b)(7)(C) Yaw is you have basically three different axes. You have pitch, roll, and yaw. Yaw means basically that the -- say in this case since the cable impacted the right side of the airplane, I did not feel the nose of the aircraft pull to the right.

AGENT NCIS (b)(6), (b)(7)(C) Okay. You indicated in your statement to the JAG man board that you felt the plane maneuver downward.

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGENT NCIS (b)(6), (b)(7)(C) "I felt Captain NCIS (b)(6), (b)(7)(C) maneuver the aircraft downward as if trying to avoid an obstacle."

CAPT NCIS (b)(6), (b)(7)(C) Exactly.

AGENT NCIS (b)(6), (b)(7)(C) Can you describe that downward movement?

CAPT NCIS (b)(6), (b)(7)(C) Like I told you looking out and aft and down of the airplane, when we're going through that valley, I felt the aircraft maneuver downward meaning the pilot obviously had to put some kind of control input in to make the airplane almost feel like it kind of jumped down; and when I felt that maneuver downward, the first thing I wanted to do was I snatched my head in and was trying to get my eyes on the attitude gyro from the backseat which is between myself and Captain NCIS (b)(6), (b)(7)(C)

So I was snatching my head in to see that to see if all of a sudden this airplane -- and I don't know what the nose attitude of the airplane was; but I was trying to find that out by looking at the gyro.

Because if we're at a thousand feet and he puts in 30 degrees nose down, we are going to hit the ground. In the Prowler, we have what we call dive recovery rules; and it's ten percent of your altitude. At no time if we are flying at a thousand feet, at no time -- it's not really ten percent; but that's what we call it. At no time should you ever see nose down attitude greater than ten degrees because physics won't allow you to pull out. So I snatched my head in to look at the attitude gyro; but before I got to the gyro, I felt the -- or heard the thud. And it wasn't a loud thud. What it sounded like to me was a bird hitting the canopy or a part of the airplane.

AGT NCIS (b)(6), (b)(7)(C) Have you ever experienced a bird strike?

CAPT NCIS (b)(6), (b)(7)(C) I have been in an airplane where birds have hit the aircraft.

AGT NCIS (b)(6), (b)(7)(C) So you know and you are familiar with what that sounds and feels like?

CAPT NCIS (b)(6), (b)(7)(C) Right. I think I have been in an airplane where in two different instances we hit a bird.

AGT NCIS (b)(6), (b)(7)(C) When you felt that downward maneuver, was it a maneuver of the magnitude that sent you up toward the canopy?

CAPT NCIS (b)(6), (b)(7)(C) It did not. Because I'm flying a low-level, you really tighten your seat straps to really make you sit down in the seat. If your waist straps are loose and the pilot basically makes a maneuver to give any negative Gs or even zero Gs, you'll leave your seat which is dangerous for us because you may not come down in your seat. You may be off to the side or something, or if you had to eject. So I would snug down really tight in my seat so I didn't feel myself a lot of force throwing me up. It was more of a real quick instantaneous downward maneuver and then right back, felt like wings level.

AGT NCIS (b)(6), (b)(7)(C) Have you ever experienced a negative two Gs in the Prowler?

CAPT NCIS (b)(6), (b)(7)(C) I don't know if I've ever experienced negative two Gs. I don't doubt that I probably have. That's a NATOPS limit.

AGT NCIS (b)(6), (b)(7)(C) Would this contact or this downward maneuver you've described just before hearing the thud would that have been something that approached a negative two G maneuver?

CAPT NCIS (b)(6), (b)(7)(C) You have different types of Gs. You have instantaneous Gs and you have sustained Gs. Could it have spiked with what the investigation report says, negative 2.3 Gs instantaneous, sure. It probably could have. We didn't sustain any negative G flight for any period of time for me to feel it.

AGT NCIS (b)(6), (b)(7)(C) Okay.

CAPT NCIS (b)(6), (b)(7)(C) But instantaneous I know working into the positive G side -- I mean I've had pilots snap on Gs real fast and actually watch the G meter spike and come right back down before my body could feel the actual blood pulling out or something like that.

AGT NCIS (b)(6), (b)(7)(C) And you say after feeling that downward maneuver and after hearing that thud you felt the plane at wings level again?

CAPT NCIS (b)(6), (b)(7)(C) Obviously, off of what I know now from the investigation and seeing the damage to the airplane after the mishap, I know that the aircraft had to be in a right wing up, left wing down attitude in order to hit the cables the way it did. Did I notice that? No, I didn't, not in the airplane at the time that we hit the cable. If I had to say what attitude I thought the airplane was in right at hitting the cables, I would have to say I felt wings level.

AGT NCIS (b)(6), (b)(7)(C) After crossing the ridgeline and flying down the valley before impact, your eyes are out of the cockpit. You are looking at the ground. Did you suspect, or did you notice that you were below a thousand feet?

CAPT NCIS (b)(6), (b)(7)(C) No. I didn't suspect it. And I surely didn't notice it.

AGT NCIS (b)(6), (b)(7)(C) Was there any time from take off to the point where that impact occurred during this flight that you had a reason to call a "knock it off" or "comfort zone"? In any situation on this flight from the time of takeoff to the time of impact, was there any occasion that you even thought of calling knock it off or comfort zone?

CAPT NCIS (b)(6), (b)(7)(C) The only time that I was going to call a knock it off in the airplane was after I heard the thud on the airplane. Had Captain NCIS (b)(6), (b)(7)(C) not started saying climb, climb, climb, I would have said knock it off, climb. We are trained from day one regardless -- I mean unless you watch a beetle hit the windshield and you know it was a beetle, a big beetle instead of a bird -- any time you impact something flying, you don't know what damage it could have done. At those speeds, a bird could rip a slat off the airplane. So had Captain NCIS (b)(6), (b)(7)(C) not beat me to it saying climb, climb, climb, I would have said knock it off.

AGT NCIS (b)(6), (b)(7)(C) What was the first thing that was said after the impact?

CAPT NCIS (b)(6), (b)(7)(C) That was the first thing that was said. I felt the impact, and I kind of just went into an ejection posture which is the first thing a backseater wants to do because we don't know -- at any time if the pilot or ECMO-1 pulls his ejection handle, we are all leaving the airplane. So the last thing I want to do is like start trying to look around and lean. If I'm out of my seat out of the ejection position, somebody pulls the handle, I'm going to die. So the first thing I did was go into an ejection, a good ejection position and just kind of listen to what was going on; and the first thing that I heard was climb, climb, climb. And it was said numerous times. I don't know how many.

AGT NCIS (b)(6), (b)(7)(C) Prior to impacting the cable, did you see a cable? Did you see a cable car, or did you see any other obstructions?

CAPT NCIS (b)(6), (b)(7)(C) No. I did not see a cable, a cable car. I didn't see any obstruction to flight whatsoever. Looking out the left side of the airplane, I know that based off of what I perceive of where the river and the road was I know that the one cable house had to be to the left side of the airplane. I didn't see that. I didn't see anything along those lines.

AGT NCIS (b)(6), (b)(7)(C) Once in that valley after crossing the ridgeline and before impact, were there any comments by anyone in the aircraft about the ski slope?

CAPT NCIS (b)(6), (b)(7)(C) None.

AGT NCIS (b)(6), (b)(7)(C) Not any skiers, ski slopes?

CAPT NCIS (b)(6), (b)(7)(C) No. And off of seeing the layout of the gondola system after the mishap that gondola system is seven kilometers long. The actual ski area would have been well to the right, probably three miles from the point of impact.

AGT NCIS (b)(6), (b)(7)(C) So once impact is made, first thing you hear is NCIS (b)(6), (b)(7)(C) telling the pilot to climb. What next? What happens next, and what do you hear next?

CAPT NCIS (b)(6), (b)(7)(C) What happens next is Captain NCIS (b)(6), (b)(7)(C) did an outstanding job of maneuvering the aircraft to start a climb. What we call basically a zoom climb. What that's doing is bleeding airspeed off of the airplane and gaining altitude so you can start evaluating your emergency situation; and if you have to eject, then you have more elevation to try to get a parachute. So Captain NCIS (b)(6), (b)(7)(C) did exactly what he is trained to do, apply smooth back stick to start basically a gentle climb out; and he started his climb out, got up to -- and I didn't even look at the altitude.

I know we were well above the mountains at that time and got some altitude on the airplane, got it slowed down; and at that time in the climb, Captain NCIS (b)(6), (b)(7)(C) turned to me and grabbed me on my flight gear and was shaking me and basically pulling me to him and shaking me. And he was motioning to his side of the airplane, and I could see in his face through his visor that his

eyes were huge that something bad had happened. He was shaking me. I broke his hands off of me and started trying to see what was wrong on that side. The way that Prowler is laid out I can't really see his wing by just leaning forward and trying to look out there. That's what I was trying to do.

When I realized that couldn't really see anything, I started coming back into my seat. At certain angles, the other ECMOs, his DDI almost turns into a mirror. It gets a glare to it, and it basically turns into a mirror. At that time, I saw the damage to the right wing of the aircraft; and as soon as I saw the damage to the aircraft, first thing I did was go into ejection position and grab my ejection handle at that time.

AGT NCIS (b)(6), (b)(7)(C) Was there communication back and forth starting at this point?

CAPT NCIS (b)(6), (b)(7)(C) No. And when I went into the ejection position and grabbed my handle -- and I know it's probably time compression -- but it almost seemed like 30 minutes that there was nothing said that everybody was just kind of in shock just kind of sitting there; and I stayed in my ejection position for a little while. And again, I can't tell you exactly what the time is; but I stayed there for a second. And then basically, the training kicked in; and I said to the crew -- I said, okay, boys, let's start doing some emergency procedures.

And as soon as I said that, it was like everybody jumped right in there and just started banging out -- first thing Captain NCIS (b)(6), (b)(7)(C) said was, okay, what kind of damage do we have? What kind of damage? And me and Captain NCIS (b)(6), (b)(7)(C) both kind of started stepping on each other on the ICS both trying to tell him about the right wing. I kind of shut up since it was his side of the airplane, and he could see the damage better. He started telling Captain NCIS (b)(6), (b)(7)(C) that we had severe damage to the right wing.

Captain NCIS (b)(6), (b)(7)(C) then said what other damage, what else, what else. And I looked in, basically, my rear-view

mirror on the top of the canopy bow; and I could see the top of the football had been cut off. And I could actually see pieces of fiber glass coming off of it or pieces of the airframe. And I told Captain NCIS (b)(6), (b)(7)(C) that time you have vertical stabilizer damage as well. So Captain NCIS (b)(6), (b)(7)(C) immediately started going to the damage aircraft checklist. He started flipping to that; and sometime in there -- and I don't know when -- but he obviously switched the IFF to emergency because as soon as NCIS (b)(6), (b)(7)(C) who is the controller out in that area picked up that emergency squawk of 77 hundred they immediately said aircraft with an emergency and started asking questions.

I looked at Captain NCIS (b)(6), (b)(7)(C) because in the backseat of the Prowler we do what we call cross cockpit. So usually ECMO-1 will be using the pocket checklist. The pilot is obviously flying the airplane dealing with altitude and airspeed. And this is in VMAQ-4. Usually ECMO-2 backs up the pilot. ECMO-3 backs up the ECMO-1. At this time, I noticed that Captain NCIS (b)(6), (b)(7)(C) already had his pocket checklist out. So I motioned to him pointing my two fingers at my eyes like I'm looking at and pointed at the instruments so he knew I'm watching airspeed and altitude, you got the checklist.

So we started working on emergency procedures at that time going through the checklist. Captain NCIS (b)(6), (b)(7)(C) was leading it, calling out the steps. The pilot was executing the steps as he's supposed to via the pocket checklist; and we continued pressing on in that way. NCIS (b)(6), (b)(7)(C) started talking to us; and Captain NCIS (b)(6), (b)(7)(C) got on the radio and he said, NCIS (b)(6), (b)(7)(C) this is EZ01. We need a snap to Aviano. A snap means we need a steering and a distance to Aviano. So as soon as he said that, NCIS (b)(6), (b)(7)(C) came right up and called out the bearing and the distance; and I recall it being somewhere around 50, 55. It was like in the 50s that PADOVA told us we were from Aviano.

AGT NCIS (b)(6), (b)(7)(C) 50 nautical miles?

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) How long did it take you from the time of impact to the actual landing, roughly?

CAPT NCIS (b)(6), (b)(7)(C) I couldn't tell you because of the time compression and all that kind of stuff. It seemed like that first portion -- up to where we started executing our emergency procedures, it seemed like a long time; but then once we started our emergency procedures, it seemed like we were overhead Aviano Air Base immediately.

AGT NCIS (b)(6), (b)(7)(C) Was NCIS (b)(6), (b)(7)(C) the only one talking on the radio to NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) At that time, Captain NCIS (b)(6), (b)(7)(C) was the only one who spoke to NCIS (b)(6), (b)(7)(C)

AGT NCIS (b)(6), (b)(7)(C) Who else spoke on the radio?

CAPT NCIS (b)(6), (b)(7)(C) After?

AGT NCIS (b)(6), (b)(7)(C) And to whom did they speak?

CAPT NCIS (b)(6), (b)(7)(C) switched us up to Aviano approach. Once we switched up to Aviano approach and was there around the airfield, then Captain NCIS (b)(6), (b)(7)(C) still trying to do emergency procedures for via the checklist; and they keep calling and asking questions: How many souls on board, how much gas you got, all this kind of stuff. And Captain NCIS (b)(6), (b)(7)(C) said one of you guys take the radios in the back. So I grabbed the pocket checklist out of NCIS (b)(6), (b)(7)(C) hands because I felt that was the more important thing was the pocket checklist; and because I was the most experienced out of us two, I felt that was my responsibility. I took the pocket checklist and gave him a symbol like talk to them. So he started talking to them on the radio.

AGT NCIS (b)(6), (b)(7)(C) He spoke with Aviano NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) I think it was Aviano approach he was talking to. It was either approach or tower, one or the other. So he starts talking to them and I pretty much at that time put on my selective hearing and didn't listen to what was coming out of the controllers on

the ground because I wanted to make sure they were doing the items in the checklist so we didn't crash.

AGT NCIS (b)(6), (b)(7)(C) Was there any direct contact from either Captain NCIS (b)(6), (b)(7)(C) to the ready room or to anyone at Q-2, maintenance?

CAPT NCIS (b)(6), (b)(7)(C) I think that the ready room called or maybe -- somehow the ready room I think got involved; and they basically told them we got a damaged airplane, shut up, let us take care of business. And I remember like the ready room coming back and saying basically that they had sent an LSO which is a Landing Signals Officer -- had launched him to head out to the runway to aid in the landing. But that's all I remember about that; and I know Captain NCIS (b)(6), (b)(7)(C) was trying to talk to the controller who was completely -- in my opinion was causing us more problems than anything else. She did not do a good job at all. So he was pretty much talking with her trying to deal with -- he was trying to get the arresting gear rigged for the approach end of the runway. She kept coming back saying something about understand you want a low approach or something like that, and he continued trying to fight for the arresting gear.

AGT NCIS (b)(6), (b)(7)(C) He actually flew over the airfield one time and then came back around and landed?

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) Why was that done?

CAPT NCIS (b)(6), (b)(7)(C) Because we weren't done with our emergency procedures, and we were trying to shoot an approach. I can't remember the runways there. I want to say it's two-three, and five are the run ways. Because we were coming in basically from the northwest to the south part of the runway, we wanted to land on runway two-three. Our whole mind set was get the emergency procedure knocked out, get the airplane on the ground.

We were losing gas in a hurry and didn't know what else we were losing; and again, she kept saying something about -- she didn't know what we wanted. So

Captain NCIS (b)(6), (b)(7)(C) came around basically the southern part of the airfield and flew -- we were still at a descent altitude probably five, six, seven thousand feet somewhere in there. And the reason for that was in case we had to get out of the airplane and we were continuing to try to finish the checklist. Captain NCIS (b)(6), (b)(7)(C) then proceeded paralleling the runway on the southern side of it paralleling the runway up to the other end; and again, we are still arguing with this girl about trying to find out what runways have arresting gear.

Finally, Captain NCIS (b)(6), (b)(7)(C) got on the radio and said that's it. What runway has arresting gear on it; and then, he asked for a hook check. I think prior to the hook check he said, all right, guys we got to get the landing gear down and get this thing on the ground. We are getting low on gas. So he went ahead lowered the landing gear. When he did, we lost our hydraulics at that time because the hydraulic lines had been severed through the wings and the pod. So he lowers the landing gear, and we fly back around now the northeastern part of the runway and start coming back down the other side of the runway. And he was going to try to make an approach into runway two-three; and then, discussion came up in the airplane about the hook. Was the hook down? We didn't know if the hook was down. So Captain NCIS (b)(6), (b)(7)(C) called for a hook check which means the controller is supposed to pick up her little binoculars and look up there and say, yeah, your hook is down. She had no clue what we were asking for. So he kept saying, no, is the hook down.

Finally, somebody -- and I don't know if it was our maintenance Marines or if it was ready room just popped in on the radio and said, hooks down. So we again made another turn down by runway two-three. He was going to try to shoot an approach into two-three and was basically too high to make the approach. So he said we were going to go back up. And I think it was runway five. We are going to go back up; and then, he could see the arresting gear on runway five. And he said the gear is rigged on five. We are going to come back around, and we are going to take a trap there.

AGENT NCIS (b)(6), (b)(7)(C) And that's what you did. On that trip back outside the emergency procedures you were following, was there any discussion about what had just occurred impacting that cable?

CAPT NCIS (b)(6), (b)(7)(C) There was a little bit. And again, I don't remember exactly what was said. I do remember -- and I think it was Captain NCIS (b)(6), (b)(7)(C) -- saying I think we hit a cable or something like that; and I hope nobody's hurt on the ground. And then that was all I really remember discussed about the cable prior to us landing. And once we were out of the airplane, then there was some discussion about what they saw out of the front.

AGENT NCIS (b)(6), (b)(7)(C) Did any one of the four of you discuss with the others, let's not say anything, let's get our information straight, let's get our heads together on this? Was there any comments or discussions along those lines?

CAPT NCIS (b)(6), (b)(7)(C) Once we were on the ground and away from the airplane when the crash fire rescue had moved us out in the grass, I then said to those guys, what the hell happened. I said, let's talk about it and figure out what went on; and it was more along the lines of clue us in on what happened too because we got to know what the hell happened in this airplane.

AGENT NCIS (b)(6), (b)(7)(C) It's 1320. Let's take a ten minute break. At 1330, we will start again; and we will start from what happened once you guys were on the ground. And we will move on from there.

The time is 1344 on 18 August 98. The interview of Captain NCIS (b)(6), (b)(7)(C) will resume with all parties who were present during the earlier sessions in the room.

Captain NCIS (b)(6), (b)(7)(C) once the plane landed and you and Captain NCIS (b)(6), (b)(7)(C) egressed, you indicated earlier that you were about 75 meters, 75 yards from the nose of the plane roughly before Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) exited the plane.

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) You also indicated that crash fire rescue personnel were starting to show up. Immediately following when you got off the plane and before you went back to the ready room, was there any time that you and the other three crew members got together and discussed this incident?

CAPT NCIS (b)(6), (b)(7)(C) No. You said from the time we egressed the airplane to the time we got back to the ready room. No. Other than what I told you before when I said to them what the hell happened. Let's get our stories straight meaning tell me, tell NCIS (b)(6), (b)(7)(C) what went on up there because we didn't see it.

AGT NCIS (b)(6), (b)(7)(C) Did either Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) mention seeing a cable?

CAPT NCIS (b)(6), (b)(7)(C) I don't think right then at that time. I think they kind of blew me off I think. There wasn't really much discussion at all right then about what went on, and I think in the van one of the maintenance Marines took us in the van and was trying to get us back around. But they had blocked off the roads; and when they were trying to get us around -- and I think this is when I heard one of them say -- I think it was Captain NCIS (b)(6), (b)(7)(C) that he thought he saw something yellowish, reddish, orangish, something like that to the right of the airplane; and that's what made him bring his eyes right in front of him. And then, he saw the cable; and he said that he thought the cable was going to come right through the cockpit.

AGT NCIS (b)(6), (b)(7)(C) And that was in the van on the way back to the ready room from --

CAPT NCIS (b)(6), (b)(7)(C) It was either on the ride in the van or like -- after we were all standing there, we all got into the van and sat in the van for a little while. So it was somewhere through there that that was --

AGT NCIS (b)(6), (b)(7)(C) When you were on the ground after all four of you were out of the plane and before you got into that van to drive back to the ready room, did any of the

command members from Q-2 show up at the aircraft and discuss the incident with you all?

CAPT NCIS (b)(6), (b)(7)(C) No. I found this out afterwards was they drove and were basically on the other side of the runway from the airplane, but they never made it out to us before they saw us being brought back around.

AGT NCIS (b)(6), (b)(7)(C) Once you are in the van and you drive from the runway to the ready room or to the area tin city where those tin buildings were -- once you get there, where are you dropped off?

CAPT NCIS (b)(6), (b)(7)(C) We are dropped off right there at the ready room. So we walk up there with all our flight gear on and immediately Lieutenant Colonel NCIS (b)(6), (b)(7)(C) basically grabbed NCIS (b)(6), (b)(7)(C) and they go into some tins. And later on, I was told that he took them to his office and started inquiring of went on.

AGT NCIS (b)(6), (b)(7)(C) How did you find that out?

CAPT NCIS (b)(6), (b)(7)(C) Sometime later it was discussed that that's how NCIS (b)(6), (b)(7)(C) knew about it; and supposedly NCIS (b)(6), (b)(7)(C) asked them didn't you guys know about the 2,000 foot restriction. Was what NCIS (b)(6), (b)(7)(C) supposedly told NCIS (b)(6), (b)(7)(C) and them.

AGT NCIS (b)(6), (b)(7)(C) Now, where did you hear that? You say supposedly told them did Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) tell you that he asked them did you know of --

CAPT NCIS (b)(6), (b)(7)(C) One or the other told me that.

AGT NCIS (b)(6), (b)(7)(C) Either Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) told you that Colonel NCIS (b)(6), (b)(7)(C) was asking about the 2,000 foot restriction?

CAPT NCIS (b)(6), (b)(7)(C) Right. Because they didn't ask NCIS (b)(6), (b)(7)(C) or I anything. As soon as we walked up there, I'm helping NCIS (b)(6), (b)(7)(C) and NCIS (b)(6), (b)(7)(C) meets us right there, grabs those two. And he takes off NCIS (b)(6), (b)(7)(C) and I went into the ready room, still had all our gear on; and I said, hey, somebody get the NCIS (b)(6), (b)(7)(C) on the horn because NCIS (b)(6), (b)(7)(C) hurt. So then we waited around there for a little bit of time and a couple people came and just said what

went on; and we didn't respond to them at that time. And then, NCIS (b)(6), (b)(7)(C) and I walked down to flight equipment and got out of our gear.

AGT NCIS (b)(6), (b)(7)(C) That was going to be my next question. When you are done in the flight equipment room, did Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) come in?

CAPT NCIS (b)(6), (b)(7)(C) No, they did not. It was us two. We were the only two in there, me and NCIS (b)(6), (b)(7)(C) There was a flight equipment guy in there. I think he was my flight equipment guy. Sergeant NCIS (b)(6), (b)(7)(C) was in there.

AGT NCIS (b)(6), (b)(7)(C) And there was a Corporal Cotrill in there as well from Q-2.

CAPT NCIS (b)(6), (b)(7)(C) I don't know.

AGT NCIS (b)(6), (b)(7)(C) A phone call comes in from the tower, the Safety of Flight Officer?

CAPT NCIS (b)(6), (b)(7)(C) Yeah, SOF.

AGT NCIS (b)(6), (b)(7)(C) SOF, Major NCIS (b)(6), (b)(7)(C) was his name at the time that day. He calls the flight equipment room and a Corporal NCIS (b)(6), (b)(7)(C) picks up the phone. The SOF is just looking to get a hold of someone at Q-2, and he starts dialing these numbers. No one is picking up the phone. NCIS (b)(6), (b)(7)(C) picks it up, identifies himself flight equipment Corporal NCIS (b)(6), (b)(7)(C) speaking. SOF is just trying to find someone to talk to because he's got paperwork to fill out; and when he's explaining that to Cotrill, Cotrill says, hey, here's the pilot right here, hands the phone. Were you there when that happened?

CAPT NCIS (b)(6), (b)(7)(C) I thought that phone call came into the ready room. I didn't know that's where -- I heard that phone call in the Article 32. I thought it took place in the ready room because I thought it was pretty stupid of whoever answered the phone and all the officers that were in the ready room allowed the phone to be handed to Captain NCIS (b)(6), (b)(7)(C) I didn't know that.

AGT NCIS (b)(6), (b)(7)(C) That's why it's a situation where this kid doesn't know what the SOF's requirements are, and he says well talk right to the pilot. And we've got the tape and the transcript where Captain NCIS (b)(6), (b)(7)(C) identifies himself and then says, I'm flying down. I see a cable car. Then I see a cable. What I'm getting at is did you hear that conversation?

CAPT NCIS (b)(6), (b)(7)(C) No. I was with NCIS (b)(6), (b)(7)(C) the whole time because I was carrying him around. NCIS (b)(6), (b)(7)(C) and I were not in flight equipment when that telephone call came in there because I didn't even know anything about the phone call until all this stuff came out.

AGT NCIS (b)(6), (b)(7)(C) Are you absolutely sure you weren't in there, or do you just not recall that phone call coming in at that time? Because at some point during the phone call, Captain NCIS (b)(6), (b)(7)(C) turns to someone in the room and says, is NCIS (b)(6), (b)(7)(C) still here. I believe he's asking for NCIS (b)(6), (b)(7)(C) He says where were we when we hit that type of thing, and there is a response back to him. And I wouldn't think he is asking the two flight equipment guys that.

CAPT NCIS (b)(6), (b)(7)(C) Not that I recall did he ask me that. I don't recall those two guys being in flight equipment at all with myself and NCIS (b)(6), (b)(7)(C) Because once we got undressed, we went back to the ready room; and I assumed that phone call took place when NCIS (b)(6), (b)(7)(C) and I were in flight equipment. And I assumed they came into the ready room after NCIS (b)(6), (b)(7)(C) got through talking to them.

AGT NCIS (b)(6), (b)(7)(C) Did Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) discuss with you and NCIS (b)(6), (b)(7)(C) what they told Colonel NCIS (b)(6), (b)(7)(C) when he first pulled them into his office?

CAPT NCIS (b)(6), (b)(7)(C) They told us kind of in passing what was discussed in there, and the big thing that I gleamed out of it was that NCIS (b)(6), (b)(7)(C) said did you know about the 2,000 foot restriction or didn't you know about it or something like that. And NCIS (b)(6), (b)(7)(C) actually got somewhat aggravated with NCIS (b)(6), (b)(7)(C) and said, no. Because evidently -- and I never personally saw it at this time; but supposedly, Major NCIS (b)(6), (b)(7)(C) was running around with that FCIF in his hand and running around with the

DG binder and all that kind of stuff. Because I remember a big uproar about the DG binder when NCIS (b)(6), (b)(7)(C) and I got back in the ready room; and we were just kind of standing off just watching all the hubbub go.

AGT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) finally make it to the ready room after they get out of flight equipment?

CAPT NCIS (b)(6), (b)(7)(C) Yeah. The only thing I know is they went with NCIS (b)(6), (b)(7)(C) as soon as we got there. Now, from there, I don't know when they went to flight equipment, when they really got back into the ready room because my buddies, my Q-4 guys, are coming over there talking to me. There is so much going on. So many people in the ready room trying to get pinnacle reports out and everything else that I didn't really pay attention. The next time I remember us four being together was when they threw us all in a van and took us over to start our flight physicals.

AGT NCIS (b)(6), (b)(7)(C) In the ready room, did you hear any one of the four crew members discussing the incident, the mishap itself, with anyone else in the ready room?

CAPT NCIS (b)(6), (b)(7)(C) I can't say I specifically remember, but I know they had to because they have got to tell the ODO what went on because he has to file his report. He has to put out this pinnacle report that says possible civilians hurt on the ground. You have got classified equipment, top secret equipment that's been sheared off the airplane that's scattered through Italy. So I know that they were asking questions like what was damaged, what's missing; and at that point, that's what I thought all the uproar was about was that half a pod had been sheered off and here's top secret equipment that nobody else in the world has, a piece of national asset laying out for civilians to --

AGT NCIS (b)(6), (b)(7)(C) Was there any indication at that time while you were in the ready room that a gondola had been hit?

CAPT NCIS (b)(6), (b)(7)(C) I don't think it --

AGT NCIS (b)(6), (b)(7)(C) Or a gondola cable had been hit?

CAPT NCIS (b)(6), (b)(7)(C) I don't think really at that point -- I think we had pretty much deduced that a cable had been hit; but myself personally I hadn't put two and two together that people were dead and there was gondola hanging on the end of that.

AGT NCIS (b)(6), (b)(7)(C) Did anyone draw out on a grease board or a black board or paper display? Did anyone draw out about where it happened and what they saw?

CAPT NCIS (b)(6), (b)(7)(C) I know that they were trying to show them on the chart where it occurred. Captain NCIS (b)(6), (b)(7)(C) was trying to show them on the chart where it occurred, but I don't recall anybody drawing anything on a grease board. Or it didn't happen when I was in there. I didn't see it happen.

AGT NCIS (b)(6), (b)(7)(C) Roughly off the top of your head, how many people were involved in the discussions in the ready room before you went over to medical?

CAPT NCIS (b)(6), (b)(7)(C) 20, estimate. There was a lot of people in the ready room, and reason why is you got one guy, the ODO, he starts delegating people that are standing around to do different things.

AGT NCIS (b)(6), (b)(7)(C) You get in the van and you go over to medical. Who all is in that van?

CAPT NCIS (b)(6), (b)(7)(C) I think there was just six of us: Doc Curran, the flight surgeon and his HM. I don't remember his name. I think the corpsman was driving. Doc Curran was in the right front seat and us four were in the van.

AGT NCIS (b)(6), (b)(7)(C) Was Doc Curran discussing the incident with you guys?

CAPT NCIS (b)(6), (b)(7)(C) No. He didn't discuss the accident, but I remember Captain NCIS (b)(6), (b)(7)(C) -- whenever he really said anything his concern was I hope nobody's hurt on the ground. I hope nobody's hurt on the ground.

AGT NCIS (b)(6), (b)(7)(C) Did he indicate why he had that concern?

CAPT NCIS (b)(6), (b)(7)(C) He didn't really come out and say because I think I saw a gondola and we hit a cable, but he knew that we had hit some kind of cable system. And again, I kind of was deducing it as pieces coming off the airplane scattering. I didn't know if there was houses underneath us or what.

AGT NCIS (b)(6), (b)(7)(C) You get to the medical facility, the hospital. Were you guys together the entire time there?

CAPT NCIS (b)(6), (b)(7)(C) No. They took us all in to the lab together, and we were all in there standing with Doc Curran. And they did the typical 500 labels that you got to fill out for all your blood vials. That's an exaggeration. It wasn't that many. It was like 15 or 20 that we had to fill out ourselves. So at that point we were kind of all together but at different desks filling out our labels. And I think I was the first guy done so they gave me my urine bottle and told me to go with the airman to go do my urine sample. And they sent somebody in to get his blood drawn at that time. So they started shelling us all off in different directions as we finished getting our labels ready; and then after I gave my urine samples, I came back, gave my urine to them. And then they sent me into the lab to get my blood drawn, and nobody was in the lab with me except for the person drawing the blood.

AGT NCIS (b)(6), (b)(7)(C) Was there any point before you left the medical facility that you all had gotten back together in one room?

CAPT NCIS (b)(6), (b)(7)(C) Yes. I think I was the first one done with all the lab stuff; and there was like a little waiting room out there. And Doc Curran said once you are done go sit out there in that waiting room. So I was the first guy done. I went out there, and I was sitting there. And they had the TV on and I picked up a magazine, was looking at the magazine and kind of watching TV a little bit; and there was some civilians, not civilians but maybe dependents in there too. And I don't know who got done second, but somebody, one of the other crew came in and was

sitting in there as well. And then people started running those dependents out of there, closed all the doors to the place, and shut the TV off. So eventually all four of us were sitting in there, but somebody was with us.

AGT NCIS (b)(6), (b)(7)(C) Did you discuss the incident together?

CAPT NCIS (b)(6), (b)(7)(C) No. Again, nothing was discussed about what went on; but Captain NCIS (b)(6), (b)(7)(C) was still indicating I hope nobody is hurt.

AGT NCIS (b)(6), (b)(7)(C) Did any one of the four of you or even Lieutenant Curran discuss getting information straight among you before you went back over to the ready room?

CAPT NCIS (b)(6), (b)(7)(C) No. And I think I read in one of the statements like one of those airmen or something said that we were all standing in there together talking. That's not correct.

AGT NCIS (b)(6), (b)(7)(C) You are in the waiting room. Does Colonel NCIS (b)(6), (b)(7)(C) show up there; and then, you all go back over to --

CAPT NCIS (b)(6), (b)(7)(C) Colonel NCIS (b)(6), (b)(7)(C) shows up and by now they have brought the head shrinker over there. So she is sitting in there. NCIS (b)(6), (b)(7)(C) gets in there, and I think they had brought a chaplain as well. I'm not positive about the chaplain, but I know they had the psychologist and NCIS (b)(6), (b)(7)(C) was in there. And NCIS (b)(6), (b)(7)(C) you could tell on the look on his face; and that's when I started putting two and two together. They took everybody out of here. They shut the TV off. They have got psychologists; and if the priest wasn't there by then, he was inbound. And NCIS (b)(6), (b)(7)(C) is here. So that's when I put two and two together and said somebody got hurt.

AGT NCIS (b)(6), (b)(7)(C) You all go back over to the ready room. Do you go over together?

CAPT NCIS (b)(6), (b)(7)(C) Yes. They transport us all in the van together.

AGENT NCIS (b)(6), (b)(7)(C) Is there any discussion about the incident or about the information your are going to divulge?

CAPT NCIS (b)(6), (b)(7)(C) No. At that time, NCIS (b)(6), (b)(7)(C) after they got the people there they wanted and everything, that's when NCIS (b)(6), (b)(7)(C) told us about -- they originally told us 14 people died; and once they told us that, we all kind of went our own ways, and prayed, or did whatever we chose to do. I know Captain NCIS (b)(6), (b)(7)(C) left, and they were basically trying to keep somebody with us like a psychologist went with somebody. NCIS (b)(6), (b)(7)(C) went with somebody. I didn't leave that room. I just kind of sat there and put my head in my hands, but some of the guys went to different places to kind of be alone.

AGENT NCIS (b)(6), (b)(7)(C) You get back to the ready room. What occurs there?

CAPT NCIS (b)(6), (b)(7)(C) We get back to the ready room, and I don't remember specifically who it was. Somebody gives me a yellow pad of paper and says write down everything you can remember about the accident from brief to basically landing. So I wrote out everything I could remember on a yellow sheet of paper; and then, Major Shawhan came up to me and said make sure you put down if you think it was professional and how the brief was. I think what we were originally told was write down what went on through the entire flight. So I didn't write anything, I don't think, about the brief at first; and that's when Shawhan later came in when I was kind of done. He goes make sure you write down everything about the brief, whether you thought it was professional, all that kind of stuff. When I finished that, I gave that to somebody; and I don't know who. I don't remember who it was.

AGENT NCIS (b)(6), (b)(7)(C) Do you remember if it was one of the safety folks, either Captain McDaniel or Major Carmanian?

CAPT NCIS (b)(6), (b)(7)(C) It was either one of the safety bubbas. It wasn't Major Carmanian. I'm thinking it was either Captain McDaniel or Captain Reese that I gave it to. I don't remember.

AGENT NCIS (b)(6), (b)(7)(C) Now, when they gave you that sheet of paper and told you to write everything down, did they give you any

verbal instructions as to what that paper was or what you were doing, or what, if any, confidentiality status there was with that?

CAPT NCIS (b)(6), (b)(7)(C) They didn't tell me about any confidentiality or anything like that. They just told me to give a written statement of what occurred to the best of my knowledge.

AGT NCIS (b)(6), (b)(7)(C) Were you interviewed later in any more depth as part of the safety mishap investigation?

CAPT NCIS (b)(6), (b)(7)(C) Right. Basically after I got through writing that thing out, I started heading back to my hooch; and some of my guys, buddies from Q-4 and stuff, went with me because that was everybody's big thing was everybody stick with these guys so they don't whack themselves or something. And so a couple of guys walked with me back over to my hooch, and I just went in my hooch. At this time we're all pretty exhausted, or at least I was.

And so I went back to my hooch and just laid in my hooch, and they came in and said get ready. You are going over to the wing safety building for the safety investigation. And so I said, okay. I sat there for a while and nobody came and got us or anything. And then I think it was Captain McDaniel came in and said we are going to take you guys individually. I said okay, and he gave us kind of a timeframe of when we would be going. I ended up going at like 11:30 or midnight or somewhere around there. We went over there and they actually took two at a whack. They took NCIS (b)(6), (b)(7)(C) first over there.

AGT NCIS (b)(6), (b)(7)(C) Were they in the same room?

CAPT NCIS (b)(6), (b)(7)(C) Over there?

AGT NCIS (b)(6), (b)(7)(C) Yeah.

CAPT NCIS (b)(6), (b)(7)(C) I don't know.

AGT NCIS (b)(6), (b)(7)(C) When you were interviewed, were you in the same room within another person being interviewed?

CAPT NCIS (b)(6), (b)(7)(C) No. NCIS (b)(6), (b)(7)(C) and I made the trip over there in the same car. Captain McDaniel got us in a car, took us both over there. Once we got there, Major Carmanian was there. Captain McDaniel and Major Carmanian took NCIS (b)(6), (b)(7)(C) first and went in and interviewed him, and I stayed out in the reception area. Then they came out and got me, and I went in.

AGT NCIS (b)(6), (b)(7)(C) Without going into detail as to what you said, did you give a statement?

CAPT NCIS (b)(6), (b)(7)(C) Yes.

AGT NCIS (b)(6), (b)(7)(C) Was it a written or a signed statement?

CAPT NCIS (b)(6), (b)(7)(C) It was oral.

AGT NCIS (b)(6), (b)(7)(C) Oral?

CAPT NCIS (b)(6), (b)(7)(C) Oral statement. Supposedly they had our written statements at that time.

AGT NCIS (b)(6), (b)(7)(C) Did you get a copy of any of the statements you made to them?

CAPT NCIS (b)(6), (b)(7)(C) I made a copy. Somebody in the ready room said to me make a copy of that and keep it for your own records.

AGT NCIS (b)(6), (b)(7)(C) Did you do that?

CAPT NCIS (b)(6), (b)(7)(C) I did do that of my written statement.

AGT NCIS (b)(6), (b)(7)(C) Do you still have that copy?

CAPT NCIS (b)(6), (b)(7)(C) Yes, I do.

AGT NCIS (b)(6), (b)(7)(C) Could we take a look at that?

CAPT NCIS (b)(6), (b)(7)(C) I don't see why not.

AGT NCIS (b)(6), (b)(7)(C) Do you have any objection?

CAPT NCIS (b)(6), (b)(7)(C) No. You have heard everything that I have told them.

AGT NCIS (b)(6), (b)(7)(C) Is that something that we could get a copy of?

CAPT NCIS (b)(6), (b)(7)(C) I believe we know where it is. I think it's in that binder that we first came up with.

MR. NCIS (b)(6), (b)(7)(C) I'd like to look it, but I don't think there is going to be an objection.

CAPT NCIS (b)(6), (b)(7)(C) Well, is that thing signed?

CAPT NCIS (b)(6), (b)(7)(C) I can't remember.

CAPT NCIS (b)(6), (b)(7)(C) I don't know if they made us sign it or not, but it's a written statement. It's not really that much in detail. It's like one yellow sheet of paper, but the statement that we gave to Major Carmanian was all oral. He had a little hand-held recorder there, and it was all oral.

AGT NCIS (b)(6), (b)(7)(C) I am going to go into some other areas at this point and some other topics. They may seem a little bit out of order. We may have already touched on them at different times throughout the day. I'll start asking the questions now.

You had indicated at one point that someone lied at the Article 32 hearing. Who was it that lied?

CAPT NCIS (b)(6), (b)(7)(C) I can't specifically say that one individual lied. There is a lot of things in my own personal view that I think are some people kind of maybe covering their six. Like Major Carmanian has heard all the story. Here's a guy that went to NJP off of his own dereliction of duty, and he got to sit down and here absolutely everything us four had to say. I'm not saying he lied on the stand. I specifically stated that there were lies going on like in the investigation report that was briefed out. There were things in that investigation report that were briefed out over the radio that are completely contradictory.

AGT NCIS (b)(6), (b)(7)(C) For example?

CAPT NCIS (b)(6), (b)(7)(C) For example, the marking of the gondola on the chart, Major General DeLong stated in his press conference of briefing out the investigation that the gondola was clearly marked on the chart. In his investigation report that he put out states in there that it was clearly not marked. So that was one instance of I know, and press people even asked him now wait a minute you said that the gondola was marked to clarify. And he came back and said, yes, it was marked.

AGT NCIS (b)(6), (b)(7)(C) Are there any other examples of officers or other witnesses lying that you can think of?

CAPT NCIS (b)(6), (b)(7)(C) In all honesty, I probably need some time to collect my thoughts on what went on in the 32s and stuff, and I'm sure I will be able to.

AGT NCIS (b)(6), (b)(7)(C) That's something we'll probably address with you once you have thought about that more.

MR. NCIS (b)(6), (b)(7)(C) Let's stop just a minute. Have you got any areas in mind? I do, but the areas I'm thinking about are of no importance to anyone except me. But do you have any areas that you are particularly interested in?

AGT NCIS (b)(6), (b)(7)(C) In terms of someone lying?

MR. NCIS (b)(6), (b)(7)(C) Yeah. Let's put it this way somebody who either was badly mistaken or absolutely prevaricated?

AGT NCIS (b)(6), (b)(7)(C) No. I do not have any specific questions about specific instances where we either suspect or don't suspect that someone lied. The basis for that question I asked him was a comment that he had made to the trial team, I think that senior officers lied. I believe that is along the lines of the comment that you made. I just want to know who these officers were and what those lies were. They may have some bearing on our investigation, and we may have interviewed them. We may not have. We may be going on information that you think is a lie.

CAPT NCIS (b)(6), (b)(7)(C) I know that there was -- and again, I'll have to sit down and basically think about it. If you guys have a point that you could just say what about so and so in this instance, maybe that may que something; but right now that thing is so broad. I need to be able to sit down, basically read back through the 32 and say this is bogus, this is bogus.

AGT NCIS (b)(6), (b)(7)(C) That's what we are interested in if there are specific examples that you can think of that we can focus on and you truly believe that the information is false and was given falsely by the witness or by the official who gave it. Then yet, we are certainly interested in those areas.

MR. NCIS (b)(6), (b)(7)(C) Well, that's a fertile field just in a minimum, just in how they handled minimum altitudes. You could work for years just on that one subject in this one incident.

AGT NCIS (b)(6), (b)(7)(C) We are interested in what Captain NCIS (b)(6), (b)(7)(C) believes was a lie or is a lie.

CAPT NCIS (b)(6), (b)(7)(C) A lot of the stuff too, you know -- I may not be able to specifically say this is a lie; but I can tell you guys of stuff that was related through our military defense from Naples like Lieutenant Rutkowski. Numerous times they would come back and tell us this is what the investigation board is saying is going to happen to you; and then when we brought that up later down the road, people said that's bull. We never said that. Well, somebody is feeding somebody, you know.

AGT NCIS (b)(6), (b)(7)(C) Do you know of any complaints about the RADALT prior to Captain NCIS (b)(6), (b)(7)(C) bringing it up almost a week after the incident?

CAPT NCIS (b)(6), (b)(7)(C) No. I didn't know of any gripes on that airplane because I didn't read the ADB. I know now that Captain NCIS (b)(6), (b)(7)(C) had problems with the high altitude over Bosnia the morning prior to us flying that aircraft; and I found that out later, and then the discrepancy that Captain NCIS (b)(6), (b)(7)(C) wrote up. He just never was given the opportunity to do a normal -- when

we take an airplane flying and you come home, the first thing you do is go into maintenance and you debrief.

To this day I have never debriefed maintenance on the backseat of that airplane. So finally -- and I don't know who brought it to the attention of the investigation board; but somebody said, hey, these guys have never had the opportunity to debrief this aircraft. And then, that's where the discrepancy briefs came from.

AGENT NCIS (b)(6), (b)(7)(C) The RRS tape, the mission recorder tape, who signed that out and brought that? And I believe that comes in a package of three or four. It comes in a little satchel-type thing?

CAPT NCIS (b)(6), (b)(7)(C) I don't know how Q-2 did it. In Q-4 you can check out however many you want. On this low-level, I would have only brought one because the only reason that Captain NCIS (b)(6), (b)(7)(C) brought that was because of MDL. We usually don't record. The only time you record a flight is over Bosnia because our intel guys are going to use that to locate SA-6s and stuff like that on the ground.

AGENT NCIS (b)(6), (b)(7)(C) So is Captain NCIS (b)(6), (b)(7)(C) the person who checked that out and brought it aboard?

CAPT NCIS (b)(6), (b)(7)(C) Right. I assume he is the one who checked it out. I didn't personally see him check it out from the TURPEZ (ph) guys or anything like that. I didn't check it out.

AGENT NCIS (b)(6), (b)(7)(C) Was there anything said about that mission tape, the mission recorder tape prior to landing or immediately following the landing?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGENT NCIS (b)(6), (b)(7)(C) Was there any discussion among you all about that?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Did you ever hear anything about the tape not working?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Initially, that there was no data on there?

CAPT NCIS (b)(6), (b)(7)(C) Myself and Captain NCIS (b)(6), (b)(7)(C) knew the tape was working because of the indications we get in the back of the airplane; and then, the only reason why that was on was again to operate MDL. And I completely forgot that we even had a tape in there.

AGT NCIS (b)(6), (b)(7)(C) Do you know what the RADALT was set at at the time of impact?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Did Captain NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) make any statements to you on that --

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) -- after the landing or after impact?

CAPT NCIS (b)(6), (b)(7)(C) No, not of what it was set on. All I know is what we briefed that the RADALT would be set on.

AGT NCIS (b)(6), (b)(7)(C) Do you know if the RADALT was changed, the setting was changed at all during the flight?

CAPT NCIS (b)(6), (b)(7)(C) I don't know that. It was never verbalized in the airplane if it was changed.

AGT NCIS (b)(6), (b)(7)(C) Was COM working between all four of you guys throughout the entire flight to the best of your knowledge?

CAPT NCIS (b)(6), (b)(7)(C) It was working from the time we went through our checklist; and then, it was working obviously after the impact because we were talking to each other.

AGT NCIS (b)(6), (b)(7)(C) Were there any problems with oxygen flow that you know of?

CAPT NCIS (b)(6), (b)(7)(C) Not that I know of. I do know that there was a discrepancy written on that afterwards, but my oxygen flow was fine. But my oxygen can be great and somebody else's couldn't.

AGENT NCIS (b)(6), (b)(7)(C) Did you hear any complaints of low flow throughout the flight from any of the other three crew members?

CAPT NCIS (b)(6), (b)(7)(C) I don't remember.

AGENT NCIS (b)(6), (b)(7)(C) This theory of the optical illusion that Colonel NCIS (b)(6), (b)(7)(C) testified about, narrow valley, wide valley, ground coming up, when did you first here of that?

CAPT NCIS (b)(6), (b)(7)(C) First time we heard about that there is a member of the investigation board -- his name is Captain NCIS (b)(6), (b)(7)(C). He told us he knows guys -- we are all Captains. I know he knew me, and I know he knew Captain NCIS (b)(6), (b)(7)(C) He told either us or our prosecutor. Somehow we found out, the mishap crew found out that there was this power scene or whatever they call it that. There was a simulator done on our mishap, and so we immediately requested to see it. And one of the reasons was because if we could fly that route again, it may jog our memories on some of the stuff that was going on there.

So our lawyers immediately asked if we could view that, and we were originally told, yes, we could, that Captain Keuhn would bring it to the ready room; and he would show us one afternoon at like four or five in the afternoon. So we were all prepared to do that, and the investigation board came back and said, no, we are not going to let you watch it. And then, they said we have another tape that will let you see; and this was later on. And we thought well they are going to let us see the power scene tape now; and it wasn't. What it was was a videotape of the 20 people being pulled out of the gondola.

AGENT NCIS (b)(6), (b)(7)(C) With the power scene system that simulated-type system, were you ever afforded opportunity?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Do you know of any of the other four crew members if they or their defense lawyers were given an opportunity to actually go over there and sit out on that machine and fly that route?

CAPT NCIS (b)(6), (b)(7)(C) No, they weren't.

AGT NCIS (b)(6), (b)(7)(C) Particularly, Captain NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) No. They were not. To my knowledge, nobody was allowed to view the tape nor fly the simulator.

AGT NCIS (b)(6), (b)(7)(C) So this optical illusion theory that came out of this power scene --

CAPT NCIS (b)(6), (b)(7)(C) All I know about that is what Colonel NCIS (b)(6), (b)(7)(C) testified to that it created an optical illusion for him, and he had 25 years of experience. I think he said he flew it four times and hit the cable every time. So that's all that I knew about it, and as far as I know, that's all that the other members of the mishap crew knew was up to that point.

AGT NCIS (b)(6), (b)(7)(C) Had you heard of that theory prior to Colonel NCIS (b)(6), (b)(7)(C) testimony at the 32?

CAPT NCIS (b)(6), (b)(7)(C) We go through flight physiology. It's a qualification we have to do for NATOPS. It's part of our NATOPS jacket, and I don't know if it's like four years, every four years we have to do it or what. As you are going through your whole aviation career you always have to go to physiology, and physiology talks about night vision. It talks about optical illusions. It talks about the physiological effects of your body flying and stuff like that. So it's been covered in physiology classes that when you are flying in an airplane you can create an optical illusion by many different ways. Had they ever specifically stated narrow valley to wide open space I don't remember specifics.

AGT NCIS (b)(6), (b)(7)(C) As it relates to the mishap, this mishap, when did you first hear that there was a possible optical

illusion? Was that when Colonel NCIS (b)(6), (b)(7)(C) testified?

CAPT NCIS (b)(6), (b)(7)(C) Yeah, I think that's where it first came up with something about the optical illusion.

AGT NCIS (b)(6), (b)(7)(C) Had Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) mentioned anything about an optical illusion causing them problems on this flight prior to --

CAPT NCIS (b)(6), (b)(7)(C) I don't remember them ever --

AGT NCIS (b)(6), (b)(7)(C) -- the Colonel's testimony?

CAPT NCIS (b)(6), (b)(7)(C) I don't ever remember them saying anything to me like Captain NCIS (b)(6), (b)(7)(C) going, oh, my god it was an optical illusion or anything like that. I mean if it's an optical illusion you don't identify it. That's why it's an illusion. The only thing that I do know is that -- and I figured out what the rise in elevation was on that leg. What got the airplane below a thousand feet, you know; and we kind of -- or I kind of sat down and went over the chart on my own and said it looks like the ground is coming up three hundred feet ballpark in there every five or six miles. So I could see -- and again I'm not a pilot but that's how guys -- the last Prowler crash in the desert, that's how the guy died because in the desert it's very hard to pick up. So the ground was coming up and he basically flew into the ground.

AGT NCIS (b)(6), (b)(7)(C) The fact or the assertion that you guys were authorized to fly a low-level below a thousand feet AGL, where does that come from?

CAPT NCIS (b)(6), (b)(7)(C) We are not authorized ever. As long as I have been in the fleet, myself personally I've not been allowed to fly a low-level less than a thousand feet. When I was in the RAG out a Whidbey Island, we flew our low-levels at 500 feet.

AGT NCIS (b)(6), (b)(7)(C) This form or document that Captain NCIS (b)(6), (b)(7)(C) gave you during the briefing that had the parameters of the flight, 500 feet AGL to 2,000 feet AGL --

CAPT NCIS (b)(6), (b)(7)(C) Right. All that's doing is basically defining the route structure. Because we are not the only airplane that uses that HUD equipment aircraft such as an F-16, an F-18, those guys are allowed to fly 500 feet. They are allowed to fly at 250. That's why. Just because we have to fly it at thousand -- when they tell you from 500 feet to a thousand that means aircraft are allowed to operate inside that range. Now, if you have something else that's more a stringent against you, like we do, a thousand, that just chopped our block to a thousand to 2,000.

AGT NCIS (b)(6), (b)(7)(C) The cables themselves, had you ever heard that there were cables out in and among those mountains? Not just in this valley itself but on your previous deployment there and on this deployment, had you ever heard that there are cables in those mountains and the ski resorts?

CAPT NCIS (b)(6), (b)(7)(C) The only cables that I knew of was not cables spanning valleys, but ski lift cables; and I'm talking about the chair lift. And the only reason I knew that was because I have skied in those mountains, and I have rode those cables. Those things are 50 feet. You are not going to hit it in an airplane.

AGT NCIS (b)(6), (b)(7)(C) Had you ever skied anywhere near the mountain range where this mishap occurred?

CAPT NCIS (b)(6), (b)(7)(C) Cavalese, no. I mean I think I skied two different ski slopes in Italy, but I never rode that gondola system nor did I see it or know about it.

AGT NCIS (b)(6), (b)(7)(C) Captain NCIS (b)(6), (b)(7)(C) had he been skiing the weekend prior to this mishap?

CAPT NCIS (b)(6), (b)(7)(C) I don't know. Some guys went skiing, but I don't know who went with them because I remember wanting to go. But because I got there on Friday, I couldn't rent my ski gear because we got there after hours.

AGT NCIS (b)(6), (b)(7)(C) The last point, Mount Marmalada, do you know if those guys that went skiing that weekend before went skiing at Mount Marmalada?

CAPT NCIS (b)(6), (b)(7)(C) I don't know where they went, nor did I never heard them discuss what ski slope they went to.

AGT NCIS (b)(6), (b)(7)(C) Do you know if Captain NCIS (b)(6), (b)(7)(C) was among those folks who went skiing that weekend before?

CAPT NCIS (b)(6), (b)(7)(C) I don't know who the group was.

AGT NCIS (b)(6), (b)(7)(C) Have you ever heard Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) or Captain NCIS (b)(6), (b)(7)(C) talk about skiing anywhere near the area where the mishap occurred?

CAPT NCIS (b)(6), (b)(7)(C) No. I have never heard them talk about that. I know Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) had skied during their deployment there, but I don't know where or anything like that.

AGT NCIS (b)(6), (b)(7)(C) Do you know of anyone who got back into the aircraft once it had landed after the mishap?

CAPT NCIS (b)(6), (b)(7)(C) I don't know anybody specific, but I know maintenance personnel had to close canopies. Somebody took the tape out. I don't know who it was, and he was just doing his job because that's top secret.

AGT NCIS (b)(6), (b)(7)(C) The RRS did?

CAPT NCIS (b)(6), (b)(7)(C) Right. That's top secret material. That's not allowed to stay in the aircraft.

AGT NCIS (b)(6), (b)(7)(C) The FCIF 97-16, that outlines the Italian SOP saying 2,000 foot AGL restriction over those mountains, when did you become aware of that?

CAPT NCIS (b)(6), (b)(7)(C) I became aware of it after the mishap, and I don't even completely remember how I became aware of it. Somebody was talking about it. The first time I had read it was when our military lawyers got a copy of it and basically showed it to us?

AGT NCIS (b)(6), (b)(7)(C) Do you know if there was a copy of it in the chart file?

CAPT NCIS (b)(6), (b)(7)(C) I don't know. I never went in that chart file.

AGT NCIS (b)(6), (b)(7)(C) How about in the read binder?

CAPT NCIS (b)(6), (b)(7)(C) I never went in the read binder. I never knew it existed. If, in fact, it existed in that squadron, that should have been a read and initial; and that would have saved people right there.

AGT NCIS (b)(6), (b)(7)(C) General Vanderlinden, what was his role in Aviano? When did you first come in contact with him?

CAPT NCIS (b)(6), (b)(7)(C) General NCIS (b)(6), (b)(7)(C) I knew from the first time over there. He was something EUR. He was in Naples, and he was like the European commander. I can't remember his title, but he was the European commander. And he came up I think twice on my first deployment, came up with Q-4, came up to visit us just like he did any Marine unit that rotated through Italy. He came and saw us twice, and I actually flew with him in an airplane one time.

AGT NCIS (b)(6), (b)(7)(C) After the mishap, when did he arrive up there and Aviano?

CAPT NCIS (b)(6), (b)(7)(C) He was pretty johnny-on-the-spot. I think he was around the second day. He was around the second day because I saw his aid.

AGT NCIS (b)(6), (b)(7)(C) What was his role? Or what contact did you have with him?

CAPT NCIS (b)(6), (b)(7)(C) I personally had no contact with General Vanderlinden at all. His aid was a guy I went through TBS with, Captain Chris Kirby. Kirby and I went to TBS together and my first deployment, Kirby came up with General Vanderlinden; and so he and I had some time to hang out and talk a little bit. And then when the General went flying with us, Captain Kirby flew in a separate airplane but on the same flight in the aircraft; and so he and I talked a lot of aviation since he was interested in it. He's an artillery guy. He was interested in maybe a fleet accession or a LAT move to aviation.

I saw Kirby there the next day. Because Kirby was there, I knew General Vanderlinden was there; and Kirby gave me -- we were over at the hospital in civilian attire on the second day finishing up our flight physicals doing all the vision stuff and everything like that; and there was a page when we were in dental. The head shrinker got a page; and she came back and said, okay, guys, they want you back on base. So they rushed us out, threw us in the van, drove us back over to base. When we got there, they told us to go put our flight suits on. They were taking us out to the Italian magistrate, and we were going to sit down and tell him all our stories.

So when we got over there, put our flight suits on, reported back up to the ready room, they said, okay, we are taking you over to the 31st Fighter Wing Headquarters; and Kirby was standing outside. He was on a cellular phone. General Vanderlinden wasn't around right then, and Kirby said, I'm going over there too. And I said, well, can I ride with you. So I got in the General's car; and Kirby and I drove over to the 31st Fighter Wing. The rest of the guys rode together. That's the only contact that I had with anything dealing with Vanderlinden. I never personally saw him.

AGT NCIS (b)(6), (b)(7)(C) Do you know if General Vanderlinden did anything for the other crew members?

CAPT NCIS (b)(6), (b)(7)(C) I don't know that he did. I know for all four of us he was the guy responsible for getting military lawyers, military counsel up there to us.

AGT NCIS (b)(6), (b)(7)(C) The JAG man board members. Did you talk to any of them off the record?

CAPT NCIS (b)(6), (b)(7)(C) None off the record. It was kind of an awkward situation because we knew the guys that were investigating us meaning Captain Keuhn, Major Mizenheimer. Those were the two I knew, and we never spoke to them. There was kind of almost a feeling of against one another. So nobody really discussed any of the accident or anything like that. They, of course, came up to us and just shook our hands and

said, hey, guys, sorry this happened, that kind of thing.

AGT NCIS (b)(6), (b)(7)(C) In the valley just prior to the mishap, were there any weather conditions that were adverse to a safe flight?

CAPT NCIS (b)(6), (b)(7)(C) Not to a safe flight. I remember in one of the turns in the valley I kind of looked out of the top of the canopy as we were in a turn in one of valleys; and I could see down the valley we had come down. Once you were looking long distance, you could see somewhat of a haze; but it wasn't like a thick haze that you shouldn't be operating in or anything like that. So there was haze building but nothing that would be detrimental to flight.

AGT NCIS (b)(6), (b)(7)(C) Besides Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) getting together with you on two occasions to discuss the tape, the videotape, were there any meetings between you and any of the other three crew members to discuss your stories, where you stood, what was going on as far as what you were telling and releasing or withholding?

CAPT NCIS (b)(6), (b)(7)(C) We'd talk a good bit because we all work in the same building. We didn't discuss hiding any information or anything along those lines. We discuss what has transpired like when the investigation board offered us immunity in Aviano. We told the other guys they offered us immunity, things like that. More so than anything, we discussed things for purposes of us four having been basically involved in this thing together, nothing of trying to hide or tell nontruths or anything like that. So we talk on a daily basis pretty much.

AGT NCIS (b)(6), (b)(7)(C) Who monitored the INS system? Whose primary job was it on that flight to monitor the INS and the gyro display?

CAPT NCIS (b)(6), (b)(7)(C) Nobody's to monitor the gyro display. The responsibility of the INS is ECMO-1.

AGT NCIS (b)(6), (b)(7)(C) Were there any problems noted during the flight? At any time, did you hear him make comments that, hey, this thing is way off or this is pretty tight INS today? Any comments along those lines?

CAPT NCIS (b)(6), (b)(7)(C) We usually wait for a Q value of .5 which is as tight as your system will ever get. We took off with what I believe was a .7. We did not wait for a .5, and the reason why was because it was a visual navigation route. In all honesty, you don't need an INS to do a visual route. During the route on leg 3, Captain NCIS (b)(6), (b)(7)(C) used the radar to pick up one of the lakes. I don't know if it was the southern tip of Lake Garda or if it was this little lake here to the west of Lake Garda; but he used radar to basically give himself a warm and fuzzy of where he was. And I remember hearing him say over the INS that he was in the radar, and the only reason why he could use the radar was because we climbed for that restriction to 4,000 feet. Otherwise, the radar never would have seen over the mountains.

AGT NCIS (b)(6), (b)(7)(C) Do you have any items such as notes, statements, copies of statements -- other than the statement that we talked about earlier or that written document you gave to the safety guys -- do you have any notes, documents, computer disks, anything that has your information or information from the other three crew members about the mishap?

CAPT NCIS (b)(6), (b)(7)(C) Nothing from the other three members. I have my own stuff. From day one after this accident occurred, at that point I started doing my own research and started developing my own evidence file, if you would, so I could supply my lawyers with evidence because things were getting moved around, shuffled around, altered, changed, everything else; and I wasn't just going to sit back and rely on somebody else to do research for me.

AGT NCIS (b)(6), (b)(7)(C) Would you have any problem with us looking at that folder?

CAPT NCIS (b)(6), (b)(7)(C) No, I don't have any problem with that.

AGT NCIS (b)(6), (b)(7)(C) Did you keep any kind of a diary or a journal?

CAPT NCIS (b)(6), (b)(7)(C) I did. I have a diary.

AGT NCIS (b)(6), (b)(7)(C) Can we look at that?

CAPT NCIS (b)(6), (b)(7)(C) Yeah.

AGT NCIS (b)(6), (b)(7)(C) How about e-mails? Did you e-mail back and forth to any of the other crew members about the incident?

CAPT NCIS (b)(6), (b)(7)(C) Not like discussing the accident because we obviously know that any of that stuff can be checked. I have already been beat up twice in the Wing for e-mails that are coming from superior officers that I've got to see and people gotten in the system, traced the e-mail back to me, and reprimanded me for it. So yes, if information came to me that was beneficial to other people's cases involved in it, then I would forward the e-mail to them or make a copy of it and give it to them.

AGT NCIS (b)(6), (b)(7)(C) Do you have any problems with us taking a look through your e-mail account?

CAPT NCIS (b)(6), (b)(7)(C) Not at all.

AGT NCIS (b)(6), (b)(7)(C) Can you think of anything else, Ken, at this point?

AGT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Do either of you gentlemen have anything at this point that you would like to add or interject?

MR. NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) The time is 1444. This portion of the interview will conclude at this time.

The time is 1515 on 18 August 98. The interview of Captain NCIS (b)(6), (b)(7)(C) will resume at this time with the same parties present as were here during the previous sessions today.

Captain NCIS (b)(6), (b)(7)(C) did you have the AV-047 charts in the aircraft? Did you personally have them?

CAPT NCIS (b)(6), (b)(7)(C) No, I did not have a chart in the aircraft. There was one chart in the backseat which Captain NCIS (b)(6), (b)(7)(C) had in his possession, but I did not have my own personal chart.

AGT NCIS (b)(6), (b)(7)(C) Do you know if Captain NCIS (b)(6), (b)(7)(C) had his chart with him in the aircraft?

CAPT NCIS (b)(6), (b)(7)(C) Yes. Well, he briefed off of -- this is a zeroxed copy of the chart that he briefed off of. So I can only assume that was the chart he used in the airplane.

AGT NCIS (b)(6), (b)(7)(C) TEAMS cards, did everyone in the aircraft have a TEAMS card with them?

CAPT NCIS (b)(6), (b)(7)(C) I did not. I don't know who had TEAMS cards. Like I told you earlier, I saw a TEAMS card; and really all I cared about was the fuel consumption numbers off of that. I know that one of the big hangups is basically the altitudes on that TEAMS card. And I can tell you guys that that's so far off base. You can manipulate any of those numbers to say whatever you want them to say.

So I could take that TEAMS card and I could change all those numbers to a hundred feet. I could change them to 15 thousand feet, and all that does is change fuel consumption. The reason why since the accident -- and I've seen the TEAMS card that the prosecution had that said 2,000 feet on it. The reason that I was told by the guys who created those TEAMS cards why they picked 2,000 feet is that was the average altitude they figured they would maintain flying this route was 2,000 feet. So they used that number for fuel consumption purposes. Anything from 5,000 feet down is considered sea level which is the max fuel burn you can get in the Prowler.

AGT NCIS (b)(6), (b)(7)(C) Who told you they created those TEAMS cards?

CAPT NCIS (b)(6), (b)(7)(C) Lieutenant Colonel NCIS (b)(6), (b)(7)(C). If you look on that TEAMS card, it says NCIS (b)(6), (b)(7)(C) something under the call sign.

AGT NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C)

CAPT NCIS (b)(6), (b)(7)(C) Whatever it is NCIS (b)(6), (b)(7)(C) VMAQ-3. VMAQ-3 were the guys that produced those TEAMS cards. Lieutenant Colonel NCIS (b)(6), (b)(7)(C) told me the reason why 2,000 feet was put on that was the reason I just told you. They figured that would be the average altitude. Those TEAMS cards were made prior to -- and this is my understanding -- prior to the 2,000 foot restriction in the Alto Derridge (ph) region.

AGT NCIS (b)(6), (b)(7)(C) When did you talk to Colonel NCIS (b)(6), (b)(7)(C) about the TEAMS cards?

CAPT NCIS (b)(6), (b)(7)(C) I talked to him upon my arrival back to Aviano sometime. My return from Aviano after the mishap, he and I were discussing the TEAMS card one day; and he told me that they were the ones that created those TEAMS cards.

AGT NCIS (b)(6), (b)(7)(C) Was anyone else present with you two when you talked to him about these TEAMS cards?

CAPT NCIS (b)(6), (b)(7)(C) There was probably people in the office, but they weren't involved in the conversation. So they may have overheard it. They may not have.

AGT NCIS (b)(6), (b)(7)(C) Had he mentioned flying that route, that specific route AV-047 in the past?

CAPT NCIS (b)(6), (b)(7)(C) He didn't specifically tell me I flew that route or anything; but under my understanding after -- I worked in the office. He was in the G-1 when I arrived back from Italy. He was undergoing his own ordeal with the tape thing and all of that. So he and I would discuss the cases, both cases, kind of not -- like I wasn't telling him facts or anything. We were just talking about how stuff was produced and things along that lines, and that's when we got into the TEAMS card. And I noticed under the call sign that it said NCIS (b)(6), (b)(7)(C) and I know if that was Q-2 that produced it

they would have put NCIS (b)(6), (b)(7)(C) on there.

AGT NCIS (b)(6), (b)(7)(C) The knee boards, and I know we discussed with you that you said you strapped yours on. What did you have on your knee board?

CAPT NCIS (b)(6), (b)(7)(C) I had a yellow pad of paper, one of whatever they are. Like I don't know, six by four or whatever the average knee board size. It looked like a little legal pad of paper.

AGT NCIS (b)(6), (b)(7)(C) Was there any information written on that?

CAPT NCIS (b)(6), (b)(7)(C) No.

AGT NCIS (b)(6), (b)(7)(C) Was there any other paperwork attached to your knee board?

CAPT NCIS (b)(6), (b)(7)(C) None. The only reason why I even took that was to write down radio frequencies. Backseaters usually backup the front seaters. In every flight whenever we hear radio frequency change, we will write it down on our knee board; or if they change our clearance or something like that, we will write it down or personal notes of something that we want to debrief after the flight's over. I did not write anything on my knee board the entire flight.

AGT NCIS (b)(6), (b)(7)(C) You said earlier that you don't remember if Captain NCIS (b)(6), (b)(7)(C) strapped his knee board on or not?

CAPT NCIS (b)(6), (b)(7)(C) I don't specifically remember seeing it on his knee that I recall. I'm guessing he had it, but I don't specifically -- and because Captain NCIS (b)(6), (b)(7)(C) was a brand new aviator, he's going to have his on there to do just what I was talking about.

AGT NCIS (b)(6), (b)(7)(C) Do you know if Captain NCIS (b)(6), (b)(7)(C) had his knee board?

CAPT NCIS (b)(6), (b)(7)(C) I don't know. Your knee board is even inside your NAV bag when you go to the airplane. So his was probably in his NAV bag. I did not specifically see it. Once you get in the airplane, that's when you open your NAV bag.

AGT NCIS (b)(6), (b)(7)(C) How did you know that the video camera belongs to NCIS (b)(6), (b)(7)(C) How did you determine that?

CAPT NCIS (b)(6), (b)(7)(C) After the mishap, Captain NCIS (b)(6), (b)(7)(C) wanted his video camera back. It's what, a thousand dollars or better. So he had made mention that he wanted his video camera back. They could have whatever was in it. He just wanted the camera itself.

AGT NCIS (b)(6), (b)(7)(C) Prior to the mishap, had you heard of any other aircrews flying near or under gondola cables or cable wires in that area?

CAPT NCIS (b)(6), (b)(7)(C) I didn't; and if I heard about it, I would turn them in. Because as an ECMO, in an EA-6B Prowler, actually in any aircraft, you might find two guys that you can talk into doing something crazy; but you are never going to get a consensus out of four guys to do something out of hand. And because backseat ECMOs -- I mean somebody may be able to take an airplane and fly underneath something like that and the two backseaters maybe wouldn't even know about it; therefore, I would report them if I heard about that because they are jeopardizing lives of people.

AGT NCIS (b)(6), (b)(7)(C) Was the aircraft's mission recorder properly installed and tested prior to the flight?

CAPT NCIS (b)(6), (b)(7)(C) Yes, it was.

AGT NCIS (b)(6), (b)(7)(C) Did you ever intend to activate the mission recorder during the flight?

CAPT NCIS (b)(6), (b)(7)(C) I personally didn't. Captain NCIS (b)(6), (b)(7)(C) did activate the recorder; otherwise, that information never would have gotten on there. He personally activated the recorder and turned it on because he was operating with MDL.

AGT NCIS (b)(6), (b)(7)(C) Did you attempt to activate it? You didn't, but Captain NCIS (b)(6), (b)(7)(C) did?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) Were there any indications that the mission recorder was not functioning properly during the flight?

CAPT NCIS (b)(6), (b)(7)(C) No. It was functioning properly.

AGT NCIS (b)(6), (b)(7)(C) Were descent checks completed prior to beginning the route?

CAPT NCIS (b)(6), (b)(7)(C) I don't specifically remember one way or another. For the entry into a low-level, you do not do the entire descent checklist. A lot of it pertains to landing. Usually you do the top four items which I can't remember exactly what they are, but you usually do the top four items. And he could have easily done it. The two front seaters could have easily done it. They can almost do it without even verbalizing because both of those guys can see what's going on up there.

AGT NCIS (b)(6), (b)(7)(C) Did you experience any visual illusions during this flight?

CAPT NCIS (b)(6), (b)(7)(C) I personally, none that I know of.

AGT NCIS (b)(6), (b)(7)(C) Were you aware of the mishap ski area or the gondola itself being within the route structure?

CAPT NCIS (b)(6), (b)(7)(C) No. If we would have known about that gondola system spanning that valley, that valley never would have been flown through.

AGT NCIS (b)(6), (b)(7)(C) Points F and C, Frank and Charlie, can you identify them on this chart. Do you remember where they were on that chart?

CAPT NCIS (b)(6), (b)(7)(C) Well, there they are right there. It's documented on the chart. The last two turn points, the last turn point and the target point are Frank and Charlie.

AGT NCIS (b)(6), (b)(7)(C) Point Charlie would be Mount Marmalada?

CAPT NCIS (b)(6), (b)(7)(C) Correct.

AGT NCIS (b)(6), (b)(7)(C) What was your airspeed during that portion of the route?

CAPT NCIS (b)(6), (b)(7)(C) I don't know exact airspeed. Again when I did look at the airspeed indicator, I didn't look at it. There is a little pipper that you can set which all of us do. We use it for landings, and we use it for airspeed limitations. Because this flight was .9 Mach, the airspeed indicator would be set at .86; and then, as long as I never saw the needle come pass that marker, then the airspeed didn't matter to me.

AGT NCIS (b)(6), (b)(7)(C) You indicated earlier that you had roughly over 400 hours in the Prowler?

CAPT NCIS (b)(6), (b)(7)(C) Yes.

AGT NCIS (b)(6), (b)(7)(C) Can you tell the difference on low-level flight between 380 or 400 knots and 550 knots?

CAPT NCIS (b)(6), (b)(7)(C) I would say no, I can't. The best thing I can equate that to is ten miles an hour in your car. It's about the same equivalent there. Unless you look at your speedometer, you may not be able to look outside -- a prime example is I own a Tahoe. That thing loves to go fast; and if I don't watch my speed in that thing because I sit high, I feel like I'm going a lot slower than I actually am. So to answer your question I don't think -- if I went up there and practiced that said, okay, I'm going to try to tell the difference in airspeed; then, maybe I could build some kind of ability to do that. But I've never tried to. In this low-level in mountainous terrain, airspeed is life. Airspeed is life in aviation in the tactical regime.

AGT NCIS (b)(6), (b)(7)(C) Two-part question: What is the best turning speed and what is the standard briefed speed on a low-level flight?

CAPT NCIS (b)(6), (b)(7)(C) There is no standard briefed airspeed. What there is -- like this chart right here, I don't know for sure that this chart is because I didn't make it. When I make a chart, my own chart, I prepare that flight for seven miles a minute. And that's 420 knots. I prepare the chart, and the only reason why we do that is because it makes math easy, just like

Harrier flies 510, an F-18 flies 540. Why, because they are all easily divisible by six. Because when you are doing timing and things like that in the airplane, you have to be able to do your math quick. So it's all easily divisible by an hour, 60 minutes. Then you can quickly do your math to try to correct your times.

AGT NCIS (b)(6), (b)(7)(C) If timing wasn't an issue on this flight, then why the high speed? Why the .86 or .9 Mach, 550 knots?

CAPT NCIS (b)(6), (b)(7)(C) Because you are allowed to fly it. You are not exceeding the airspeed restriction on that route. Because he's flying through mountainous terrain -- you asked me about cornering speed in an EA-6B is what you are talking about. What is the best turning speed? It's altitude dependent.

AGT NCIS (b)(6), (b)(7)(C) At a thousand feet in mountainous terrain, what's the best cornering speed?

CAPT NCIS (b)(6), (b)(7)(C) I would have to look at a NATOPS and try to figure it out from a chart; but when you are flying a low-level in mountainous terrain, you don't care about turning ability. Why, because if you get yourself boxed into a canyon, you can try to turn inside it all day. Great, you may be able to sit there and fly in circles; but if you don't have enough airspeed on that airplane to climb out of that canyon, that's a good way to die. So the faster you are flying if, in fact, that pilot ends up getting himself boxed into a canyon -- say he made the wrong turn. He thought he was flying down a valley that he wanted to fly down and there is a straight up granite wall at the other end and he's flying just say cornering speed is 400 knots, he may not make it over that ridge.

AGT NCIS (b)(6), (b)(7)(C) When we interviewed the ECMOs and the pilots in Q-2, nearly all of them to a man said they plan their low-level routes -- and several of them had flown this particular route -- and had planned them anywhere from 380 to 420.

AGT NCIS (b)(6), (b)(7)(C) 360 to 480.

AGT NCIS (b)(6), (b)(7)(C) 480. Okay. 360 to 480, and those were the speed parameters within which they flew their flight?

CAPT NCIS (b)(6), (b)(7)(C) Right. And think about what those airspeeds are. 360 is divisible by six. 480 is divisible by six so --

AGT NCIS (b)(6), (b)(7)(C) Given the other people who have flown that route and the speeds within which they flew it, if timing wasn't a factor why was there such a fast flight through that valley?

CAPT NCIS (b)(6), (b)(7)(C) Well, like I told you too and let me throw this out while I'm on it too. Everybody keeps talking about this INS says we were doing 550. You guys go out and fly in an EA-6B with three pods and two drops on and I'll bet all of you your salary this year that you won't achieve 550 knots in a straight and level. The airplane is not capable of doing it. It's not capable of doing it. You may get 520, maybe 530 if you have got two hot engines in a jet that are good powerful engines. It's just like cars. Some cars are better than others, and Colonel Monarch testified to this on the stand in the Article 32 that if that boy was flying at 550 knots then Colonel Monarch wants that jet because that's a good jet.

AGT NCIS (b)(6), (b)(7)(C) All indications and all information from Q-2 are that that jet was the best jet --

CAPT NCIS (b)(6), (b)(7)(C) I concur.

AGT NCIS (b)(6), (b)(7)(C) -- in the fleet that they had over there.

CAPT NCIS (b)(6), (b)(7)(C) I concur.

AGT NCIS (b)(6), (b)(7)(C) Whether it actually hit 550 or we can go by the instruments and the information that comes off of them --

CAPT NCIS (b)(6), (b)(7)(C) And I can't specifically tell you that it didn't achieve 550; but from my experience of the jets I have flown in, you won't achieve it with that combat load. If you clean that jet up, take everything off the wings, you can break the sound barrier coming

downhill in it. So it's parasitic drag is what determines what kind of speed you can get. To go back to your question, why would the pilot fly. Just say it's 500 knots. Why would he fly at 500 knots?

In my professional opinion is just what I said. I would rather a pilot fly fast than slow in this environment, and our tactics dictate speed is life. The slower you are flying the easier it is to be shot down. The faster you are flying -- and Captain NCIS (b)(6), (b)(7)(C) just from my limited experience flying with him and the way he conducted himself on this route, he was flying this route tactically sound. He was employing his weapons system the way he would employ it in combat vice breaking his restriction altitude. As long as he didn't break airspeed restrictions, then he's allowed to fly it at whatever speed he chooses.

AGNT NCIS (b)(6), (b)(7)(C) Did you ever hear Captain NCIS (b)(6), (b)(7)(C) verbalize that he was changing the radar altimeter setting during this flight?

CAPT NCIS (b)(6), (b)(7)(C) No, I did not.

AGNT NCIS (b)(6), (b)(7)(C) Did you ever realize you were in the vicinity of the town of Cavalese?

CAPT NCIS (b)(6), (b)(7)(C) Like I told you before, I saw some cultural development out the left side of the airplane in that mishap valley; but did I know that was Cavalese? No, I did not.

AGNT NCIS (b)(6), (b)(7)(C) How far away was that populated area or cultural development would you estimate?

CAPT NCIS (b)(6), (b)(7)(C) If I had to estimate I would probably call it -- you got slant range, distance. I would probably say three, four, maybe five miles, somewhere in that ballpark. We were high enough to where I could see the cultural development ending on the far side of it. Meaning I could basically see pretty much the town. So it wasn't a huge town; and after looking at the chart, the town Cavalese is a circle town. So you don't have to avoid it unless it is a no-kidding population center like Trento or Bolzano; and I did

know that as we traveled down that leg that at that point there wasn't any cultural development that we had to avoid.

AGT NCIS (b)(6), (b)(7)(C) Upon descending into the low-level route, did you descend immediately to your prebriefed altitude or did you stair-step down?

CAPT NCIS (b)(6), (b)(7)(C) We didn't stair-step, but Captain NCIS (b)(6), (b)(7)(C) basically made the comment that he wasn't going right down to a thousand feet. He was going to give himself a little bit of comfort time to get adjusted.

AGT NCIS (b)(6), (b)(7)(C) Did you ever feel that you might have deviated laterally or vertically from the route structure?

CAPT NCIS (b)(6), (b)(7)(C) I never thought we deviated laterally. The only time that I know of that we deviated vertically was for terrain clearance or for this restriction that we were required to comply with.

AGT NCIS (b)(6), (b)(7)(C) Which restriction?

CAPT NCIS (b)(6), (b)(7)(C) The 4,000 foot restriction.

AGT NCIS (b)(6), (b)(7)(C) Over Trento?

CAPT NCIS (b)(6), (b)(7)(C) Right.

AGT NCIS (b)(6), (b)(7)(C) Or around Trento?

CAPT NCIS (b)(6), (b)(7)(C) No. On the third leg basically down around Lake Garda which is where we -- when you complied with the 4,000 foot restriction because you went above 2,000 feet, you had to contact PADOVA which was the controlling agency and tell them who you were, where you were, and what altitude you were at.

AGT NCIS (b)(6), (b)(7)(C) During the flight, were there any system indicators that you were not confident in or that you had any concern that there was a system malfunction?

CAPT NCIS (b)(6), (b)(7)(C) The only thing that I was aware of was like I said Captain NCIS (b)(6), (b)(7)(C) made a comment about the radar altimeter sticking and then reengaging and because he

was confident with that piece of equipment that he operates; then, as ECMO-3 in the back of the airplane I pretty much have to take his word for it since I can't operate it or check it out. Other than that, everything seemed to work properly.

AGT NCIS (b)(6), (b)(7)(C) Have you ever intentionally flown below the regulated altitude minimums for any low-level routes or other flight mission?

CAPT NCIS (b)(6), (b)(7)(C) I have ever intentionally done it? No, I have not.

AGT NCIS (b)(6), (b)(7)(C) Do you know if the other three members of the aircrew if they have ever intentionally flown below regulated altitude minimums?

CAPT NCIS (b)(6), (b)(7)(C) I have never heard them tell me about anything like that, nor have I heard rumors of those guys being a hot dog or flying low or anything like that.

AGT NCIS (b)(6), (b)(7)(C) What was the approach toward flying this route? Was it administrative or tactical?

CAPT NCIS (b)(6), (b)(7)(C) Every time we go out, the whole purpose of flying a low-level is for tactical training. Everything we do in the fleet is tactical training. We have combat checklists that we go through and stuff like that; and because we don't fly in combat every day, we have to try to make it as real as possible. If you employ combat checklists every time you go flying -- this is how Q-4 does business now -- every time we go flying, we employ a combat checklist so it becomes habit. So if we do go to combat, it's not like, oh, okay, now, I got an extra thing to do. We are used to doing it.

AGT NCIS (b)(6), (b)(7)(C) At any time during the flight, did you hear the pilot indicate the status of the radar altimeter functionality?

CAPT NCIS (b)(6), (b)(7)(C) The only time I heard him discuss was what I told you before about it sticking.

AGT NCIS (b)(6), (b)(7)(C) In your own words, what are the procedures to be followed if you notice that the aircraft's radar altimeter is not functioning properly?

CAPT NCIS (b)(6), (b)(7)(C) If it's a malfunction?

AGT NCIS (b)(6), (b)(7)(C) And answer this as it relates to low-level training flights.

CAPT NCIS (b)(6), (b)(7)(C) Ask me the question one more time?

AGT NCIS (b)(6), (b)(7)(C) In your own words, what are the procedures to be followed if you notice that the aircraft's radar altimeter is not functioning properly?

CAPT NCIS (b)(6), (b)(7)(C) If it's not functioning properly, then you should climb up, check out that piece of gear. If it is not working or it continues malfunctioning, at that point you should not continue a low-level. You are required to have an operating radar altimeter to fly a low-level. If it's malfunctioning -- and a malfunctioning could be due to something wrong with the system. It could be due to you messing it up, you know, not properly bidding the equipment. If, in fact, you can check out that piece of equipment and get it operating, then you're to press on and continue your mission.

The only time that I think anybody would override that may fly a low-level without a radar altimeter would be in a combat situation. There are many systems on the airplane and a prime example are our pods. Our pods are our weapons system. That's what we jam with. And every time we go flying at least one of them doesn't work. So the backseaters spend the majority of their time trying to get one to emit electrons. A lot of times it won't work half way through the flight; and all of a sudden, it will start working. Or it will work perfectly three-quarters of the flight, and it will stop working.

AGT NCIS (b)(6), (b)(7)(C) Just prior to the mishap, what was the RADALT bug set at?

CAPT NCIS (b)(6), (b)(7)(C) I wasn't up there. I don't know. All can do is assume because the pilot briefed 800 feet that that's where it was set. I did not see it. I can't see it; and at that time, it was not verbalized to me.

AGT NCIS (b)(6), (b)(7)(C) At what altitude AGL were you flying when you entered the mountain part of your route?

CAPT NCIS (b)(6), (b)(7)(C) A thousand feet. I mean all the low-levels except for that first portion where I said Captain NCIS (b)(6), (b)(7)(C) said that he would give himself a little bit of comfort time; but again, the only instrument in that airplane that dictates above ground level, AGL, is the radar altimeter that's in the front seat with the pilot. So I can't tell you for sure what altitude AGL the airplane was flying at.

AGT NCIS (b)(6), (b)(7)(C) You indicated earlier that at one point during the flight you noticed haze behind you where you had just been. Near the valley where the mishap occurred or in the valley where the mishap occurred, did you notice any haze, clouds, or shadows that would have been hazardous?

CAPT NCIS (b)(6), (b)(7)(C) I didn't look out there. I don't remember exactly where. It just happened that we were in a left-hand turn that I could look out behind me and see the valley that we had flown down and saw haze. I don't know exactly where that was on the route, but I did not see any haze, clouds, anything like that on the mishap leg.

AGT NCIS (b)(6), (b)(7)(C) Given everything you know at this point or up to this point, when were the cables or the gondola car first spotted and by whom?

CAPT NCIS (b)(6), (b)(7)(C) Based off of everything I know up to right now, the gondola was spotted just prior to impact. Like I said before, Captain NCIS (b)(6), (b)(7)(C) said he saw something yellowish, reddish, orangish, something like that, kind of fixing to flash by him to the right of the airplane which drew his eyes directly in front of him where he saw the cable and tried to avoid it.

AGT NCIS (b)(6), (b)(7)(C) After the impact, what did Captain NCIS (b)(6), (b)(7)(C) do with the RADALT bug?

CAPT NCIS (b)(6), (b)(7)(C) It wasn't verbalized so I don't know.

AGT NCIS (b)(6), (b)(7)(C) Were descent checks completed on the way in?

CAPT NCIS (b)(6), (b)(7)(C) On the way into the low-level?

AGT NCIS (b)(6), (b)(7)(C) Yes.

CAPT NCIS (b)(6), (b)(7)(C) Again, I did not --

AGT NCIS (b)(6), (b)(7)(C) On the way in from the mishap?

CAPT NCIS (b)(6), (b)(7)(C) I didn't hear them done. We barely got through the damage checklist; and then, when we lost hydraulics and knew the fuel state was low, at that point as long as you got three wheels that's all you care about.

AGT NCIS (b)(6), (b)(7)(C) Do you know if the no flap, no slat checklist was completed?

CAPT NCIS (b)(6), (b)(7)(C) It was started. The no flap, no slat checklist was started; but I know that as we rolled in on final we have to do -- we compute an airspeed, an approach airspeed in the EA-6B based off of the weight of the airplane. A 33 thousand pound jet, that's dry, nothing in it, nothing hanging on the wings. That is just a stock Prowler out of the factory. At 33 thousand pounds the approach speed is 114 knots. For every thousand pounds over that, you add 5 knots. So we compute based off how much fuel we have, what kind of stores are hanging on the airplane, we compute an approach speed.

The approach speeds change for different emergency situations. A single engine, no flap, no slat, so on and so forth. As we were coming in on final, Captain NCIS (b)(6), (b)(7)(C) computed the approach speed; and he called the approach speed out to be in the 120 something which is a common approach speed. Captain NCIS (b)(6), (b)(7)(C) and myself immediately said no, no, no, no. We are no flap, no slat; and we don't have speed brakes on this

airplane. That's at least 174 knots; and then, I piped up and said, I don't care what the approach speed says. This airplane is torn up bad. You fly this approach no slower than 200 knots.

Captain NCIS (b)(6), (b)(7)(C) said, roger that. He flew the approach 200 or above; but we also had to keep in mind that the arresting gear are only rated for so many knots. And I think this arresting gear is rated for 180 knots. So he flew the approach 200 or better; and I distinctly remember touching down at somewhere in the ball bark of 160 to 165 knots. And we engaged the arresting gear at 155 because I didn't care about anything but airspeed on that final. Because if he got slow, that airplane departs; and we go in the ground.

AGT NCIS (b)(6), (b)(7)(C) At what altitude was the landing gear lowered? Do you recall?

CAPT NCIS (b)(6), (b)(7)(C) I don't know precisely what altitude. Because once he noticed the fuel state was low, he basically just went ahead and dirtied up the airplane. I know it was below 8,000 feet because we are not supposed to lower the landing gear above 8,000 feet because your nose gear will jam.

AGT NCIS (b)(6), (b)(7)(C) Was there any difficulty in the emergency arrested landing?

CAPT NCIS (b)(6), (b)(7)(C) What do you mean by "difficulty?"

AGT NCIS (b)(6), (b)(7)(C) Did you experience any problems taking that wire?

CAPT NCIS (b)(6), (b)(7)(C) We didn't experience any problems.

AGT NCIS (b)(6), (b)(7)(C) You have already discussed the problems with the tower and the communication problems, and we don't need to go through all that again.

CAPT NCIS (b)(6), (b)(7)(C) No, there wasn't any difficulties. I distinctly told myself because we were going to be low coming in on the approach that if Captain NCIS (b)(6), (b)(7)(C) even made a correction for lineup on the runway that I was going to eject because I would not know if he was

making a correction for lineup or if the airplane was actually rolling off and departing. So I was in the ejection position with my hand on the handle; and I was sitting back watching the airspeed out of the corner of my eye. And if he would have rocked one wing either way, I was going to pull the handle. Captain NCIS (b)(6), (b)(7)(C) flew the straightest most perfect approach, or I wouldn't have been in the airplane.

AGENT NCIS (b)(6), (b)(7)(C) Once on the ground after you landed, what, if any, checklists were followed before departing the aircraft?

CAPT NCIS (b)(6), (b)(7)(C) The only one is what I told you. I called seats, and I don't know if the other guys safed them. I never heard anybody else reply. I said, seats. I'm safe top bottom, and I unstrapped and was ready to get out of the airplane. I didn't wait on anybody else to give me an indication that their seats were safe or anything like that.

AGENT NCIS (b)(6), (b)(7)(C) And I asked you earlier and you had no recollection. Again, I'll ask you again. Did any member of the crew return to the aircraft after once leaving it?

CAPT NCIS (b)(6), (b)(7)(C) I never saw them go back to the airplane, if anybody did.

AGENT NCIS (b)(6), (b)(7)(C) Were any other items, personal or professional belonging to any of the aircrew subsequently removed from the aircraft of behest of any of the crew?

CAPT NCIS (b)(6), (b)(7)(C) The only thing that I know besides what we discussed that left the airplane was my knee board. And that was because it was strapped on my leg, and I wasn't going to take the time to take it off. I egressed the airplane. When I got Captain NCIS (b)(6), (b)(7)(C) and myself a safe distance from the aircraft, then I noticed my knee board around my ankle because it slid down. I unclipped the knee board, stuck it in my helmet; and it went back with me.

AGENT NCIS (b)(6), (b)(7)(C) Is there anything else that you would like to add that we haven't covered today?

CAPT NCIS (b)(6), (b)(7)(C) Nothing I can think of.

CAPT NCIS (b)(6), (b)(7)(C) Just to clarify one issue, Captain NCIS (b)(6), (b)(7)(C) after you and NCIS (b)(6), (b)(7)(C) got the approximate 75 meters some distance from the aircraft, do you have any way to estimate how many seconds or minutes went by before you think that Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) got out of the plane?

CAPT NCIS (b)(6), (b)(7)(C) I wouldn't even want to try to estimate because like I said of the time compression and everything else like that. All I know is by the time I got out of the airplane, lowered the two boarding ladders, and helped Captain NCIS (b)(6), (b)(7)(C) off the nose of the airplane whatever 50, 75 yards, whatever it was, and turned around, the other two guys had not left the airplane at that time.

AGT NCIS (b)(6), (b)(7)(C) Could you see inside the cockpit at all?

CAPT NCIS (b)(6), (b)(7)(C) No. It sits so high, and we are off the nose. I could see that there were two heads in there, but I can't see what's going on.

AGT NCIS (b)(6), (b)(7)(C) When Captain NCIS (b)(6), (b)(7)(C) and Captain NCIS (b)(6), (b)(7)(C) got out of the plane, were they carrying anything?

CAPT NCIS (b)(6), (b)(7)(C) Nothing that I -- I don't know even know if -- they probably still had their helmets on; and I don't know if they brought their oxygen masks with them or not. I didn't see them carrying anything that would have made me question, you know, why you got that; and they didn't have NAV bags or camera bags or anything like that.

AGT NCIS (b)(6), (b)(7)(C) Okay. Can you think of anything, Ken?

AGT NCIS (b)(6), (b)(7)(C) Just a couple. Prior to the mishap, did you ever feel unsafe or unsure of the way the aircraft was being operated?

CAPT NCIS (b)(6), (b)(7)(C) I did not feel unsafe or unsure due to anything that anybody, a crew member, was doing. Because I haven't flown in mountainous terrain in a year, just the whole visual picture you get of actual mountains

going by and stuff like that -- until you do it two or three times, you always have somewhat of an uneasy feeling just because you know that the ground what's below you isn't the only thing that can kill you. Somebody could fly into the side of a mountain.

So there is always a feel of uneasiness until you get yourself back in that regime and get more comfortable at it; but as far as anybody making me feel unsafe the way the pilot was operating the airplane, the way any crew member was conducting himself in that airplane, I never felt my life was in jeopardy. I never felt unsafe, nor did I feel that anything that was done, the airspeeds or the altitudes were unsafe at any time. If they were, I would have said something. It's my responsibility as an ECMO to say something.

AGT NCIS (b)(6), (b)(7)(C) Well, part of the reason we asked that was because of some of the witness statements from the Italian witnesses.

CAPT NCIS (b)(6), (b)(7)(C) I'll just kind of touch on that. I understand that those people are trying to dictate what they see, but think about when -- I know you guys see it a lot. Guys are running CAS missions out here flying low. You are not used to seeing a tactical jet airplane flying low and fast. It looks aggressive to you; and if an airplane is maneuvering as big as an EA-6B, if you park a Harrier or a Hornet beside that thing, it makes it look like a match box car. Because that airplane is so much bigger, it's louder, and it takes more to maneuver it, it's going to look aggressive to me if I'm standing on the ground and that big thing comes roaring by. I'm going to go, wow.

You can go to an air show, watch an F-18 go by and people won't even close their ears. An EA-6B goes by the same altitude, same airspeed; and everybody in the crowd is plugging their ears. It's louder. It seems more aggressive, and that's the way I feel those people are -- on the ground somebody may be on the side of a mountain and that thing is coming around there. They actually may be able to see in the cockpit.

In Whidbey Island, Washington, you fly in the mountains. I have been in low-levels where we were well within our route structure, well within altitude and fly by those lookout places on the mountains and actually have looked up and watched people go by. And they are looking down into the cockpit of the airplane. So it's perception of people on the ground that number one what are those Italian people use to? They are use to F-18s, Harriers, Tornadoes, smaller aircraft flying through their valleys up there; and all of a sudden you put the big war pig flying through there, it's twice the size. It looks like it's lower, and it looks like it's a hell of a lot more aggressive. And I would probably feel the same way they did looking at it going, wow.

AGT NCIS (b)(6), (b)(7)(C) On this flight, in particular on leg number two and leg number six, were there areas where the plane was not flying at a wings level attitude?

CAPT NCIS (b)(6), (b)(7)(C) Sure.

AGT NCIS (b)(6), (b)(7)(C) And I want to exclude crossing over ridgelines because we understand that to tactically cross ridgelines properly there are going to be different maneuvers a plane makes; but in the valleys, were there times that this plane was say left wing up, right wing down, or vice versa at that low altitude at a thousand feet or even lower?

CAPT NCIS (b)(6), (b)(7)(C) Sure. When you are flying on that route structure, like we said a tactical aviator, unlike Lieutenant Colonel NCIS (b)(6), (b)(7)(C) is not going to fly that black line. That's not the purpose of that black line. That's why you have a route structure or route width. You are supposed to maneuver the aircraft. One of the things -- and this doesn't really apply in this case; but if you are working timing and you are fast coming to your next turn point, the proper procedure is not to pull the gas back. The proper procedure is to start zigzagging. Because why? Now, you are travelling over more ground which is slowing your downrange travel.

AGT NCIS (b)(6), (b)(7)(C) Was that taking place on this flight?

CAPT NCIS (b)(6), (b)(7)(C) He was maneuvering the aircraft. He wasn't trying to be slower for any certain reason; but some of the valleys aren't perfectly straight. Some of them have turns. So at the speeds we are flying, even 420 knots, he can put that thing on a knife edge and start pulling Gs to make that turn. So sure he's going to be maneuvering the whole time. The best thing you can possibly do tactically to keep somebody from seeing you on the ground is to try to remain in a wings level situation. Because now I'm looking at a side view of that airplane vice when it turns up like this; but the terrain dictates you turning. You can't fly straight if you can't fly straight.

AGT NCIS (b)(6), (b)(7)(C) Is there any possibility that those guys or Captain NCIS (b)(6), (b)(7)(C) just turned that RADALT down?

CAPT NCIS (b)(6), (b)(7)(C) It's like I told everybody. I'm not in that front seat. I don't know what he has done with that. I have heard stories not only in the Prowler community but throughout aviation of people changing RADALT settings and not informing the crew. Is that proper to do? No. Do I think Captain NCIS (b)(6), (b)(7)(C) would do that? No, I do not. In my own personal opinion, I don't think he would jeopardize our lives. Our pilots in the Prowler are -- a single seat guy is more prone to do something crazy because if he dies he killed himself. That's it.

If you crash an EA-6B Prowler, you didn't just kill yourself and affect your family. You just killed three more guys and affected three more families. Our pilots on the whole are guys who are very, very cognizant of the great responsibility that they have. An NFO that's riding with a guy is basically I have walked up to him and said here's my life, please take care of me. Like I say as a whole most guys take that as a very, very important responsibility in their aviation.

If they are by themselves which they never are in the Prowler, you may have a guy that's more prone to take a bigger chance; but personally, I don't think Captain NCIS (b)(6), (b)(7)(C) would have changed that RADALT to try to fly

lower and especially knowing that -- the one thing that man probably wanted more than anything in this world was a transition which he had. As soon as he came home, he was going to fly an F-18 which he has always wanted to do, very happy about that. He reprimanded an NFO a couple days prior to that -- and this is all hearsay that I've been told. He reprimanded an NFO, Captain NCIS (b)(6), (b)(7)(C) for getting him lost in Bosnia because that could have taken away his -- if he'd flown over any of the bordering countries out there and had an international flight violation, they'd take away his transition in a heartbeat.

So I have a hard time believing that that man would go out there and purposely break rules. Because you never know who is on the ground with a video camera or a camera. All they got to do is get a picture of that airplane, identify the side number; and if they can prove he broke the rules, his wings are gone. His transition is gone, everything; and the fact that he had not flown a low-level in seven months, that guy is not going to go out there and try to fly at two, three, four, five hundred feet because he knows his skills aren't honed to the point they should be. When we used to fly the Prowler in the MAC environment, Minimum Altitude Capable, guys fly that jet at 80 feet off the ground.

Would a pilot just go out and do that today? No. Because he hasn't been training to do that. It's all a building block process. So I personally don't think Captain NCIS (b)(6), (b)(7)(C) would do that to his crew. Obviously, he is not my brother. I don't know him like the back of my hand, but the professionalism that I saw out of him in the brief and the way I have seen him conduct himself since this mishap has even brought forth a lot more professionalism out of him. Many a guys wouldn't be able to deal with what he is having to deal with today. Twenty people are dead, and that man knows that. And that hurts him. It hurts him bad. People don't want to believe that, but I guarantee you if he could do it today he would die to bring back one of them. It tears that man apart. It tears him apart.

AGT NCIS (b)(6), (b)(7)(C) Okay. Can you think of anything else?

AGT NCIS (b)(6), (b)(7)(C) What could have been done different in the brief to prevent this?

CAPT NCIS (b)(6), (b)(7)(C) When I think back on this, there is two things that could have made a difference in this mishap; and they are simple fixes. That 2,000 foot restriction being known. And this is all pure theory. Say that he knew there was a 2,000 foot restriction and for whatever reason regardless of what it is, he got preoccupied or whatever the case is he drops 700 feet, that airplane still would have been at 1,300 feet; and he would haven't hit that cable. We are all human. We all make mistakes. Some are bigger than others. Some you live from. Some you don't.

The other aspect is had that cable been marked on this chart I guarantee you people would have gone out of their way to make sure that thing was flown well above, well above because that's just not something that -- in the aviation world we never even dream in the United States of a cable being spanned four miles across a valley. That's incomprehensible to me. It's phenomenal to me that they don't have a strobe light on that gondola. They don't have some of those big cable balls like we see here in the United States marking those things.

MR. NCIS (b)(6), (b)(7)(C) Or power lines, 80 feet off the deck.

CAPT NCIS (b)(6), (b)(7)(C) There is an Italian Colonel, and he won't let himself be part of this. But there is an Italian Colonel that told the Italian lawyer that they gave us over there, Mallatia, and the Italian Colonel told him he knew about that cable system. And they refer to it as the killer because those guys have flown through those cables and luckily didn't hit it. And what did they do? They came home and they told their counterparts there is a gondola system right here, don't hit it. That word just didn't spread to everybody else.

Another simple fix would be if the Americans had been supplied with Italian charts. I don't know if you

guys have seen that Italian chart over there. It's marked on there. All the ski diving and hang gliding and everything is all marked along this lake. All the noise sensitive areas where we are not supposed to be flying a thousand feet through because they are noise sensitive areas. There is tons of them throughout these Italian charts which I saw after the mishap. Captain NCIS (b)(6), (b)(7)(C) Italian pilot, showed us his Italian chart, myself and Captain NCIS (b)(6), (b)(7)(C) After the mishap, we went over and talked to him and said, hey, let's see what do you guys fly off of. He showed it to us; and to look at that thing, made me sick to my stomach.

MR. NCIS (b)(6), (b)(7)(C) Tell him the rest of it about how NCIS (b)(6), (b)(7)(C) had to get it because the Italian Air Force wouldn't give him one.

CAPT NCIS (b)(6), (b)(7)(C) We asked Captain NCIS (b)(6), (b)(7)(C) can we have one of these. He said this is the only one I have. We said where did you get that. He said, I bought it. I personally bought that chart in Rome. We said they don't supply these to you. He said, our military supplies these charts; but I can't get any. And we asked him how many of those charts do you think are on this base; and he said, if there is greater than five I'll be surprised.

AGT NCIS (b)(6), (b)(7)(C) Getting back to this mission, the training mission, it's a mission that was briefed as in layman's terms we are going to use or navigational systems and we are going to use our eyes. We want to train by using our eyes and get use to that on this low-level route. Down in a valley, we have got a cable car system that starts on one cliff on one side of the valley, comes down, hangs stretches across almost four miles across a valley at varying heights across that valley, then stretches up another three or four kilometers up the side of a mountain. If the guys in the front seat are looking for obstructions -- even though they are not on the chart you are still -- I would assume they are still looking outside the cockpit as they are going down that valley saying, okay, we are going to keep our heads up especially since we are real low, and they are obviously low at the point of impact.

Shouldn't they have seen that coming up?

CAPT NCIS (b)(6), (b)(7)(C) That cable car?

AGT NCIS (b)(6), (b)(7)(C) Well, you have got a whole system. We are flying down a valley. Right? Shouldn't that be something that they should have picked up if their eyes are out of the cockpit like they should be?

CAPT NCIS (b)(6), (b)(7)(C) No way in hell. Go talk to Captain Keuhn who was one of the investigators. They hovered a Huey a hundred feet from that cable. In hover at a hundred feet from that cable, they couldn't see it. Captain Keuhn told me that, personally. When you got a cable is like we are talking about earlier, you have got your power lines out here and stuff. If that's highlighted up -- and this is another thing that NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) thought about -- had we have been flying at 500 feet maybe that cable would have been highlighted on some blue sky in the background vice blending in to the terrain on the backside.

Basically, the terrain analysis of this is there is a ridgeline behind that cable system. So now you have got a cable blending in to trees and ground and everything else, and you are traveling at, just call it seven miles a minute. Call it nine miles, whatever you want to call it. You are covering some ground in a hurry. A two inch in diameter cable -- we hit airplanes all the time and never see them, you know. It amazes me that Captain NCIS (b)(6), (b)(7)(C) saw that cable at all; and had that gondola probably not been to the right where he said he thought he saw something orange or whatever flash by that drew his eyes back to the middle, I bet he would never ever -- if that gondola would have been further up the mountain basically where you couldn't see it, I bet he would have flown through the top cable system and never even seen the cable and been like holy smokes.

Had that thing probably not been eye level with him he wouldn't have seen it any way. And I think it's because of it's blending into the terrain in the background. The Italian people in the papers and stuff over there -- and we already had our discussion

about the media -- but the Italian people said, oh, the military flies underneath these cables all the time. They come through here. It's like a game to them. They come fly underneath these cables. I don't doubt it for one minute. You know why? Because they didn't know the damn thing was there. That's scary. I flew this route right here in an Air Force F-16. I flew that route and I wake up in the middle of the night sometimes and wonder if I flew underneath that cable system.

AGT NCIS (b)(6), (b)(7)(C) When did you fly that in an F-16?

CAPT NCIS (b)(6), (b)(7)(C) In my first deployment, and those guys are authorized to go a hell of a lot lower than we are. Chances are if, in fact, we flew down that valley -- I don't know if we did or not, but if, in fact, we flew through that valley chances are we flew underneath those cables and never knew it. And I'll bet if the truth be known about pilots out there maybe you got one rogue that is got a death wish that wants to fly underneath that and knew about it, but not knowing about it and going out there with that purposely in your mind, I can't even grasp that concept. I cannot even fathom that. That would be like me and you jumping in your car tonight and running the interstate with our lights off on a zero illume night. Just, hey, I know this road let's go. I'm not going to ride with you.

AGT NCIS (b)(6), (b)(7)(C) Anything else we need to cover?

AGT NCIS (b)(6), (b)(7)(C) I think it's already been covered; but prior to the mishap, you don't recall anything unusual leading right up to the mishap? As far as your remember, it was wings level flight right into the cable?

CAPT NCIS (b)(6), (b)(7)(C) Right. That's how I remember it; and the only thing that I'll even say again is the fact that the TEAMS data says 33 seconds. Like I said, it seemed almost instantaneous once we came over the ridgeline rolled wings level. It was almost like wings level. I'm looking outside to maneuver down. Bam, I feel the impact. It seemed a lot faster than 30 seconds.

AGT NCIS (b)(6), (b)(7)(C) Nothing verbalized by the front seaters prior to impact, just afterwards climb, climb, climb?

CAPT NCIS (b)(6), (b)(7)(C) Right. You are absolutely right. They are outside looking. I told Mike and Paul a little while ago that the first thing that shot through my mind when I saw the damage to the wing, not when I had heard the thud of the impact but when I saw the damage to the wing of the airplane, first thing that shot through my mind was we hit a helicopter. Because that's the Alps. It's a big ski area. There are helicopters that take people from the bases of the mountains and fly them to peaks so they can ski down.

On the deployment prior to this -- I wasn't on the flight; but one of guys came back from Q-4 and said, he was flying through one of the valleys. And he saw a shadow streaking across the ground, and his first move was to try to go away from that shadow. And what it was was a helicopter going through there, and he didn't see the helicopter. He saw the shadow, and his maneuver actually took him to the helicopter because of the way the sun angle was and everything. So I was always cognizant about helicopters. I wasn't really worried about hitting another airplane. I was worried about helicopters; and when I saw the gash in the wing, my first thought was Captain NCIS (b)(6), (b)(7)(C) tried to maneuver and the rotors hit the wing and put the gash in it like that because I never dreamed that you could fly through a cable like that.

AGT NCIS (b)(6), (b)(7)(C) You gentlemen have anything you want to add?

MR. NCIS (b)(6), (b)(7)(C) Not a thing.

AGT NCIS (b)(6), (b)(7)(C) It is 1617 on 18 August 98, and this interview will conclude for the day.

1997/98

PREISLISTE - LIFTKARTEN
LISTINO PREZZI - IMPIANTI DI RISALITA

	Erwachsene *Adulti*	Senioren ab 60 J. *Seniores oltre 60 anni*	Kinder bis 14 J. *Bambini fino a 14 anni*
Kabinenbahn Bergf. *Salita cabinovia*	6.000	5.500	4.000
Kabinenbahn Talfahrt *Discesa cabinovia*	5.000	4.500	3.500
Kabinenb. hin und retour *Andata e ritorno Cabinovia*	10.000	9.000	7.000
Angerlift / *Skilift Anger*	1.500	1.500	1.000
Tageskarte ab 8:30 *Giornaliero dalle 8:30*	30.000	26.000	20.000
Tageskarte ab 11:00 *Giornaliero dalle 11:00*	25.000	22.000	17.000
Halbtageskarte ab 13:00 *Pomeridiano dalle 13:00*	20.000	18.000	14.000
Halbtageskarte ab 14:30 *Pomeridiano dalle 14:30*	15.000	14.000	11.000
Vormittagskarte v. 8:30-13:00 *1/2 giornata dalle 8:30-13:00*	22.000	20.000	15.000
Saisonskarte/Stagionale	320.000	270.000	210.000
Saisonskarte Studenten *Stagionale studenti*	260.000	/	/

1997/98

PREISLISTE - DAUERKARTEN
LISTINO PREZZI - BIGLIETTI SETTIMANALI

	Erwachs. *Adulti*	Kinder bis 14 J. *Bamb. fino a 14 anni*	Erwachs. *Adulti*	Kinder bis 14 J. *Bamb. fino a 14 anni*
2 Tage/*giorni*	58.000	38.000	57.000	37.000
3 Tage/*giorni*	85.000	56.000	80.000	53.000
4 Tage/*giorni*	109.000	73.000	102.000	68.000
5 Tage/*giorni*	132.000	89.000	121.000	81.000
6 Tage/*giorni*	153.000	105.000	138.000	93.000
7 Tage/*giorni*	173.000	119.000	154.000	104.000
8 Tage/*giorni*	192.000	132.000	169.000	114.000
9 Tage/*giorni*	211.000	143.000	183.000	124.000
10 Tage/*giorni*	228.000	154.000	197.000	134.000
11 Tage/*giorni*	245.000	164.000	210.000	143.000
12 Tage/*giorni*	261.000	174.000	222.000	151.000
13 Tage/*giorni*	277.000	183.000	234.000	159.000
14 Tage/*giorni*	292.000	192.000	246.000	166.000
15 Tage/*giorni*	306.000	200.000	258.000	173.000

Hauptsaison/*Alta Stagione*: 20.12.97 - 6.1.98, 14.2.98 - 1.3.98
Zwischens./*Bassa Stag.*: bis/*fino a* 20.12.97, 7.1. - 14.2.08, 1.3 - 17.4.98

PREISLISTE
LISTINO PREZZI

1 Privatstunde *1 ora di lezione* **Ski + Snowboard**	pro Person *per una persona*	50.000
	jede weitere Person *per ogni persona aggiunta*	10.000
6 Tage Skikurs in der Gruppe *Corso di 6 giorni in gruppo*	2 St. pro Tag (Erwachsene) *2 ore al giorno (adulti)*	140.000
	2 St. pro Tag (Kinder) *2 ore al giorno (bambini)*	120.000
	Schülergruppen *gruppi scolastici*	auf Anfrage *a richiesta*
6 TageSnowboardkurs *Corso di 6 giorni*		150.000
Skikindergarten 6 Tage (bis zu 5h) *6 giorni (fino a 5 ore)*		230.000

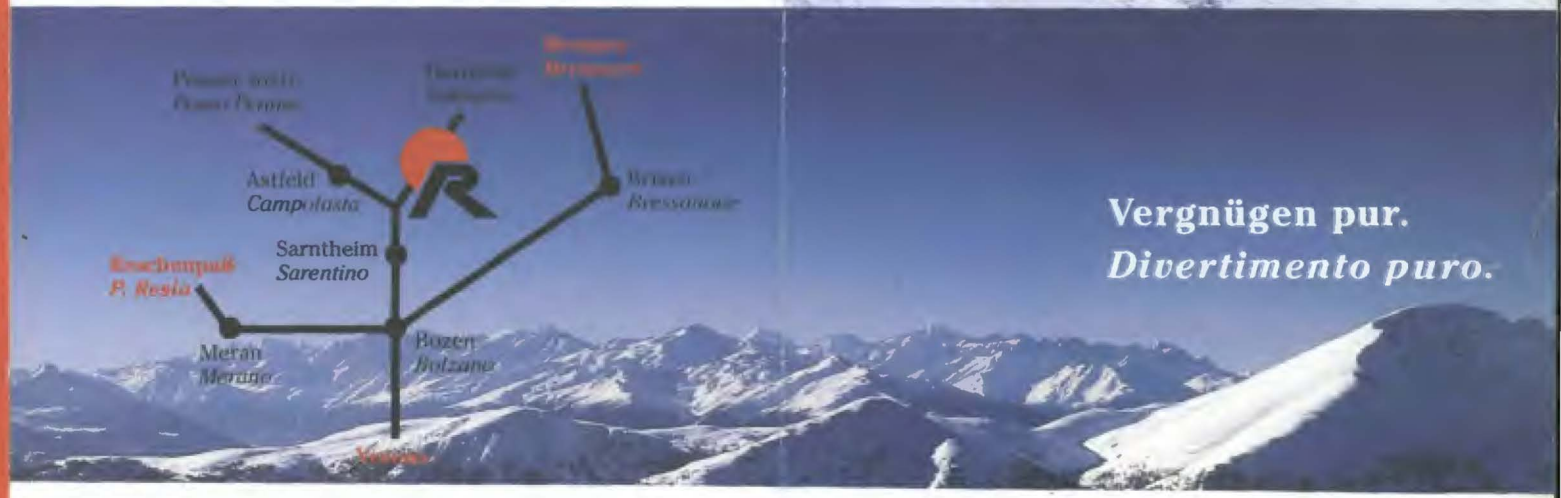
Tel. + Fax 0471/62 53 53

001440

Nur eine halbe Stunde mit dem Auto von Bozen entfernt, liegt Reinswald am Ende des idyllischen Sarntales. Ob mit Ski, Snowboard, Rodel oder zu Fuß, Reinswald bietet ein Wintererlebnis für die gesamte Familie. Durch moderne Beschneiungsanlagen werden allen Ski- und Snowboard-Begeisterten beste Pisten geboten. 3 Liftanlagen und eine ganz neue 6-er Gondel bringen Sie in wenigen Minuten auf über 2.000 Höhe. Keine Wartezeiten und keine Kälte zum Genießen des einzigartigen Panoramas. Hüttenerlebnis und Gastfreundschaft sorgen für beste Erholung.

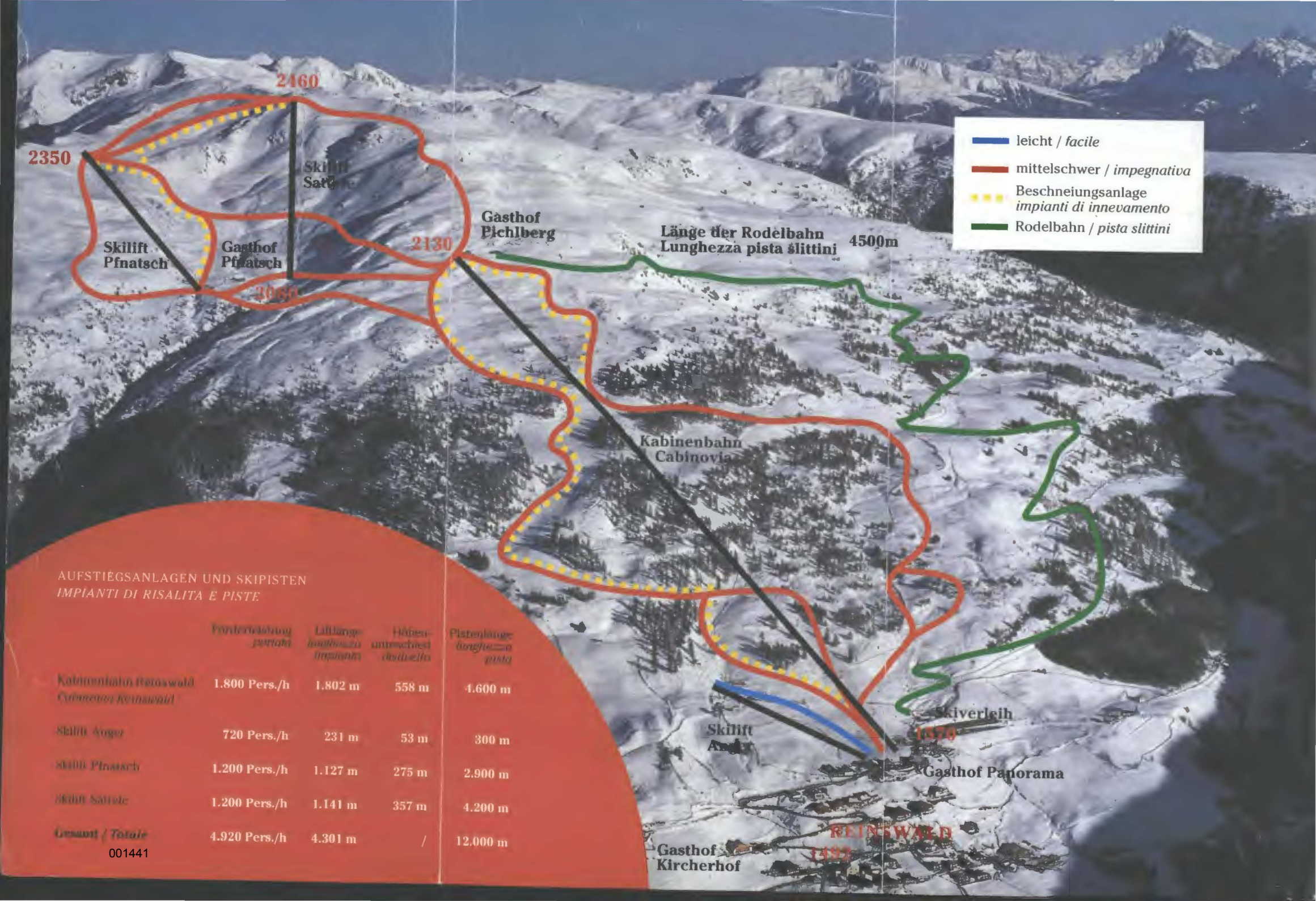
Reinswald si trova al termine della bellissima Val Sarentino, a mezz'ora di automobile da Bolzano. A Reinswald trascorrerete una vacanza completa, ideale per tutta la famiglia, praticando le attività che preferite: dallo sci allo snowboard, dallo slittino alle escursioni. Gli impianti di risalita e la nuova cabinovia da sei posti, vi trasporteranno in pochi minuti ad oltre 2.000m. Senza attese e senza il fastidio del freddo, potrete godervi un panorama unico. Gli impianti di innevamento e le piste preparate a regola d'arte, vi entusiasmeranno. Lo splendido paesaggio, l'aria salubre e la generosa ospitalità della Val Sarentino, vi attendono per rinfrancarvi al meglio.

Skigebiet Reinswald
Auskünfte im Tourismusbüro: Tel.+Fax: 0471-623091
Reinswalder Lift: Tel.: 0471-625132
Per informazioni: Ass. Turistica Tel.+Fax: 0471-623091



Raiffeisen. Die Bank. La banca.

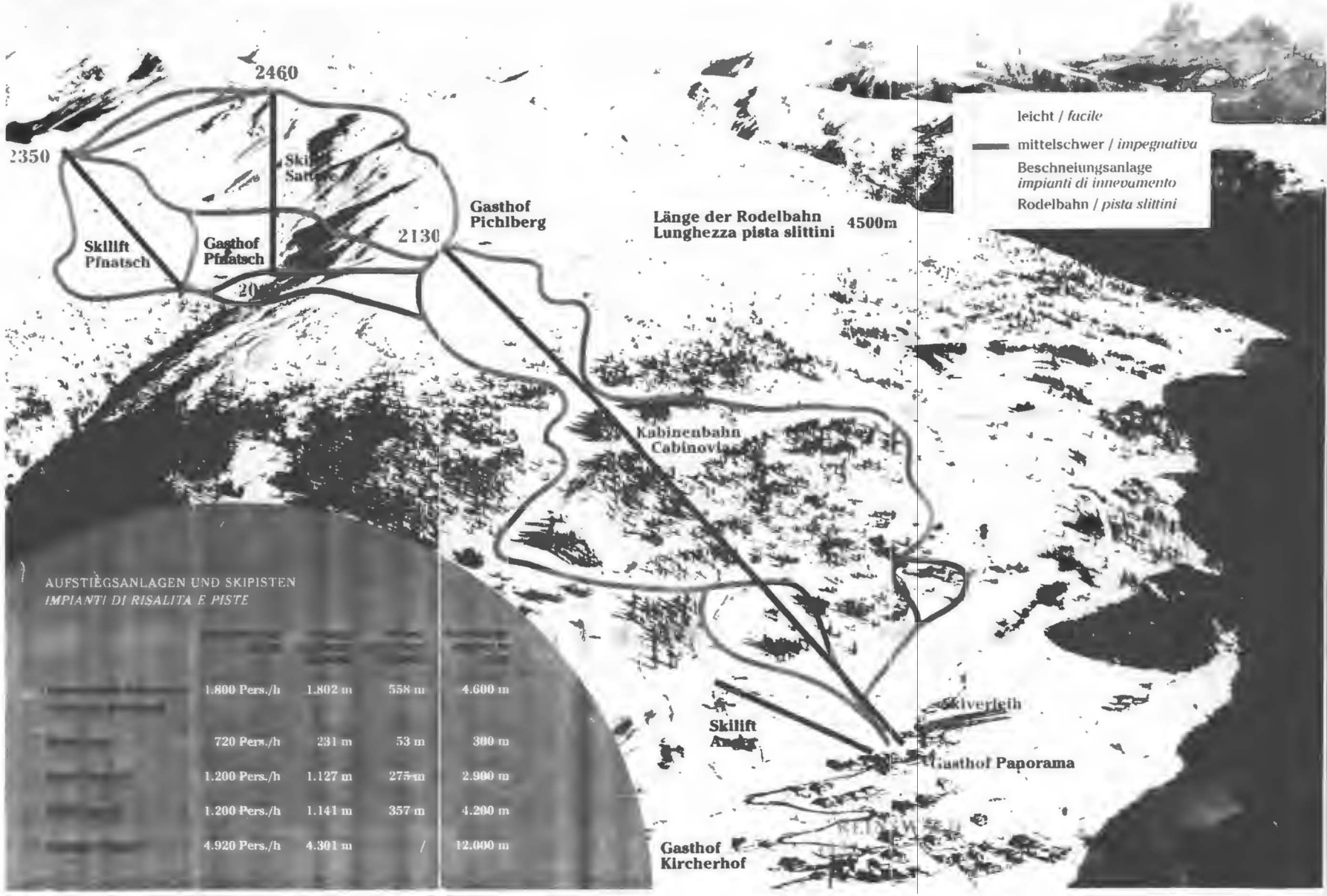
SKIGEBIET / CENTRO SCIISTICO 1570-2460m



AUFSTIEGSANLAGEN UND SKIPISTEN
IMPIANTI DI RISALITA E PISTE

	Förderleistung *portata*	Liftlänge *lunghezza impianto*	Höhenunterschied *dislivello*	Pistenlänge *lunghezza pista*
Kabinenbahn Reinswald *Cabinovia Reinswald*	1.800 Pers./h	1.802 m	558 m	4.600 m
Skilift Anger	720 Pers./h	231 m	53 m	300 m
Skilift Pfnatsch	1.200 Pers./h	1.127 m	275 m	2.900 m
Skilift Sattele	1.200 Pers./h	1.141 m	357 m	4.200 m
Gesamt / *Totale*	4.920 Pers./h	4.301 m	/	12.000 m

001441



AUFSTIEGSANLAGEN UND SKIPISTEN
IMPIANTI DI RISALITA E PISTE

1.800 Pers./h	1.802 m	558 m	4.600 m
720 Pers./h	231 m	53 m	300 m
1.200 Pers./h	1.127 m	275 m	2.900 m
1.200 Pers./h	1.141 m	357 m	4.200 m
4.920 Pers./h	4.301 m	/	12.000 m

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TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

ENCLOSURE 17

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ENCLOSURE 18

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ENCLOSURE 19

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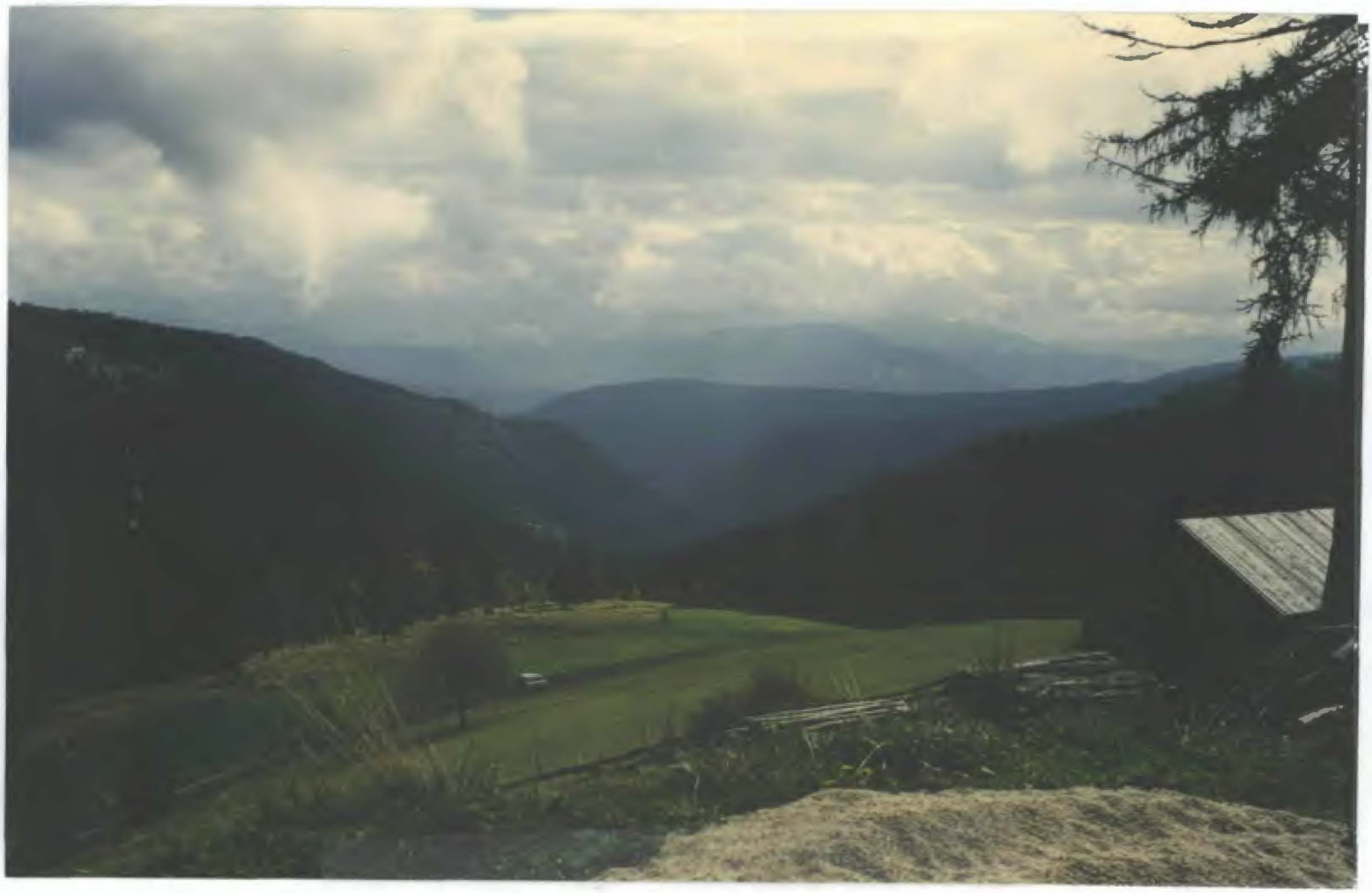
ENCLOSURE 21



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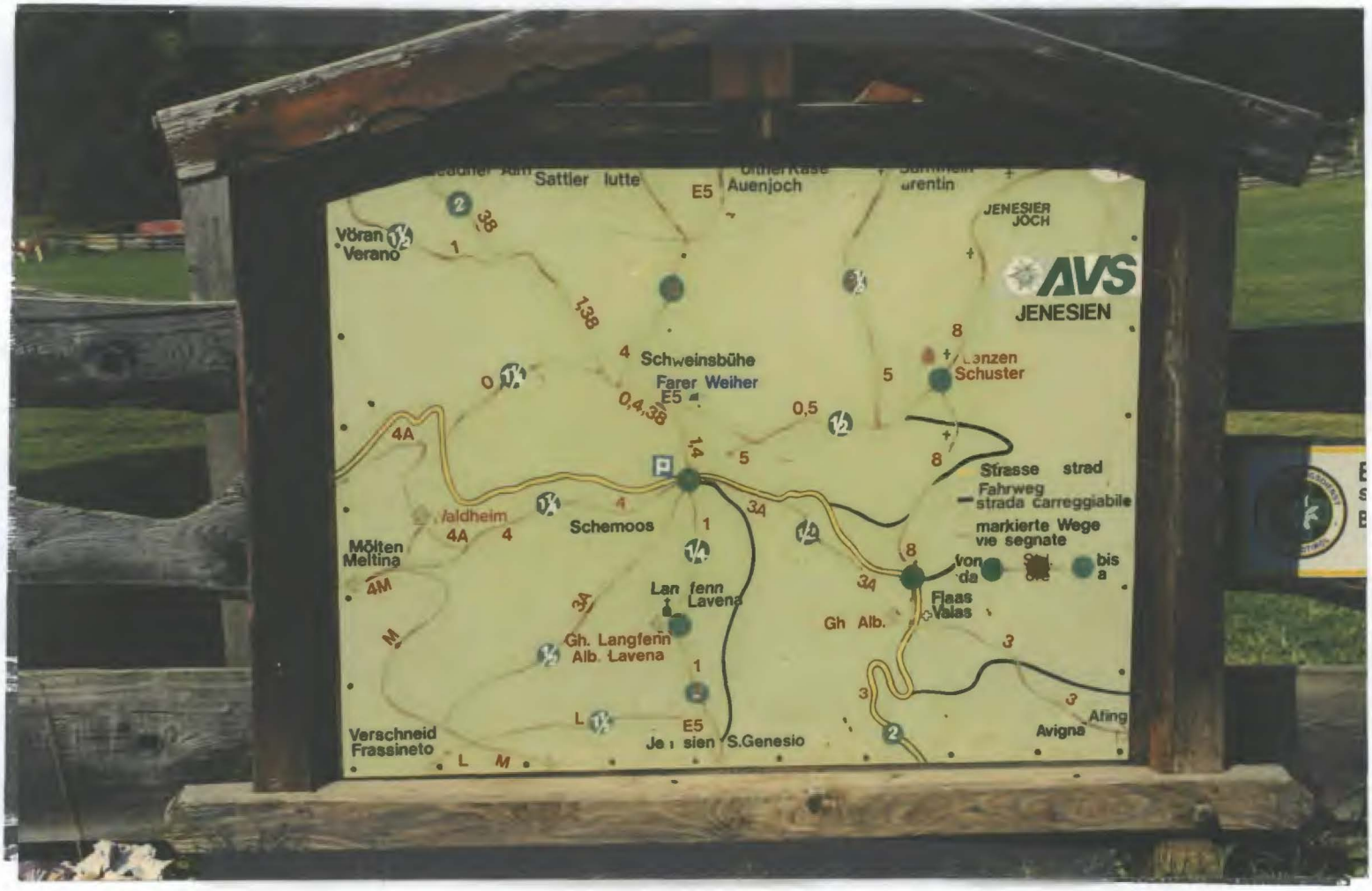
ENCLOSURE 22



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ENCLOSURE 24

MISSING
Encl. 23
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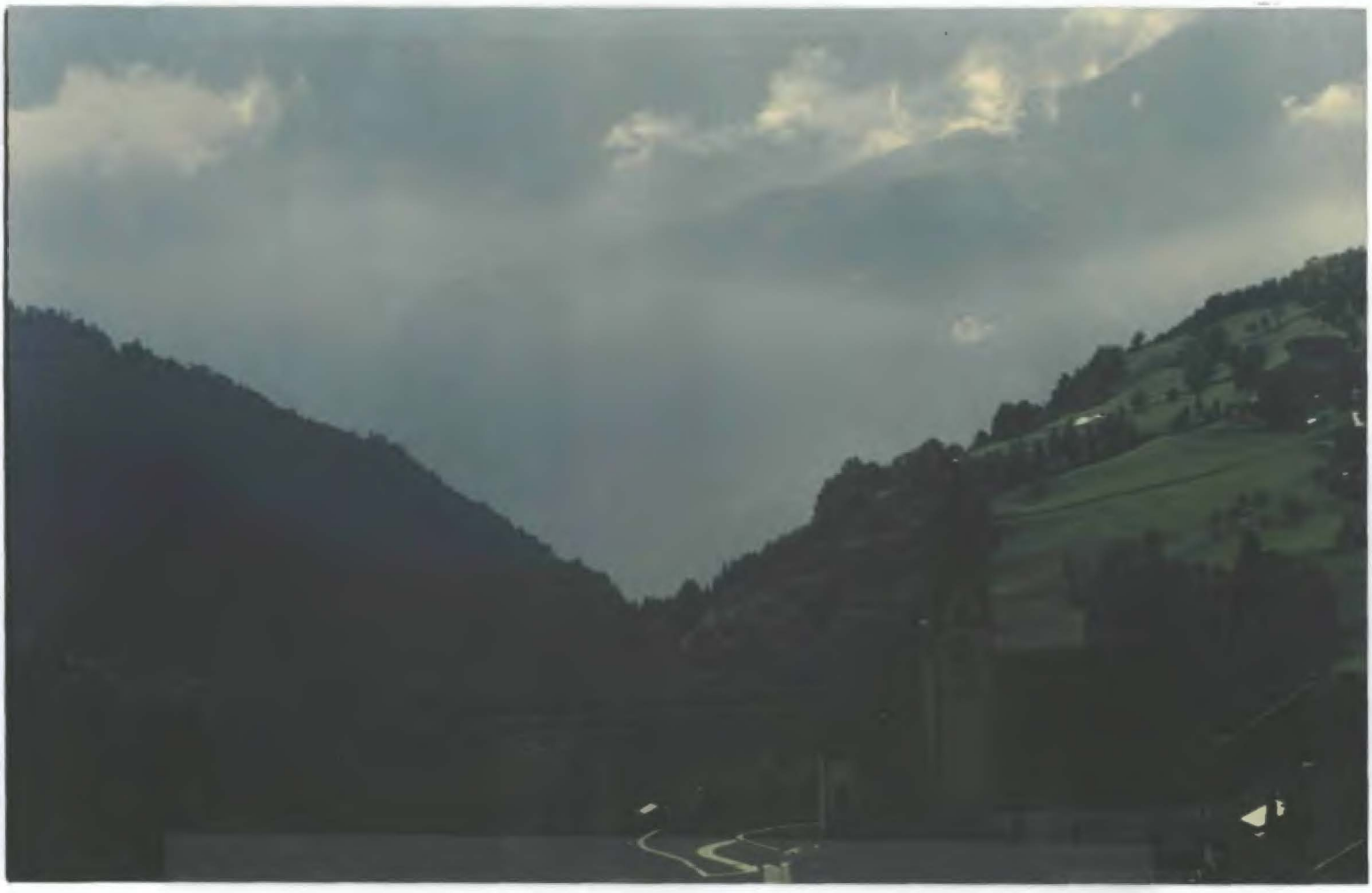
ENCLOSURE 25



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ENCLOSURE 30

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

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End. 32 was forwarded to MTC CALE

ENCLOSURE 31

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NOR VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**

CCN: **15APR98-0023-0036-7HMS**

INVESTIGATIVE ACTION: **INQUIRIES AT NASA LEWIS RESEARCH CENTER**

On 18Aug98, Reporting Agent met with Mr. NCIS (b)(6), (b)(7)(C) Imaging Technology Specialist, National Aeronautics and Space Administration (NASA), Lewis Research Center, Cleveland, Ohio 44135. Mr. NCIS (b)(6), (b)(7)(C) was provided with a blurry photograph and a #28 negative and was asked to examine them both, clarify them if he could and to reproduce a clearer image photograph from the #28 negative. NCIS (b)(6), (b)(7)(C) performed the following procedure:

NCIS (b)(6), (b)(7)(C) scanned the film frame #28 on a Kodak Professional Imaging Workstation (PIM) to make a Photo CD from which the enhancements were made. NCIS (b)(6), (b)(7)(C) used a few techniques to sharpen the image, the best being the one yielding the five mosaic prints. Using an Adobe Photoshop, NCIS (b)(6), (b)(7)(C) realized that the film grain structure was limiting the ability to sharpen the image. NCIS (b)(6), (b)(7)(C) used "Gaussian Blur" to reduce the films grain effect and then used "Unsharp Mask" to sharpen the blurry shapes, once the grain was reduced. The settings on the Unsharp Mask were: amount 500, radius 39.0, threshold 1. NCIS (b)(6), (b)(7)(C) varied the settings and watched the image change. NCIS (b)(6), (b)(7)(C) picked the best settings and was able to identify a truck near the center of the picture.

NCIS (b)(6), (b)(7)(C) provided Reporting Agent the Photo CD, all prints including the five mosaics and a CD-Rom with his working files of the original scan. The prints, Photo CD and CD-Rom were seized as evidence under NCISRU Cleveland, Ohio log #CL005-98 and secured in the NCISRU Cleveland, Ohio evidence facility. On 19Aug98, the evidence was forwarded to NCISFO Camp Lejeune, North Carolina via Federal Express Mail #412530583424.

NCIS (b)(6), (b)(7)(C) advised that the file titled "BLURSHAR.TIF" is the 72 MB file. When printed, it only shows about 2k X 3k of the pixels (72 MB file is about 3k X 4k in size). The mosaic prints were made because the prints only show about 2k X 3k pixel resolutions, so in order to show all the pixels, NCIS (b)(6), (b)(7)(C) made four prints with an extra one made of the center.

BIOGRAPHICAL DATA

EMPLOYMENT: NASA LEWIS RESEARCH CENTER, CLEVELAND, OH

SSAN
DOB:
POB:
RESID
TELEPHONE: (440) 282-6007

NCIS (b)(6), (b)(7)(C)

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCISRU CLEVELAND, OH**

EXHIBIT (222)

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: **15APR98-0023-0036-7HMS**

INVESTIGATIVE ACTION: **VMAQ-2 E-MAIL BACK-UP SERVER TAPES**

Between 09-14Sep98, SGT NCIS (b)(6), (b)(7)(C) USMC, assisted reporting agent and participating agent NCIS (b)(6), (b)(7)(C) with back-up server tapes containing e-mails from VMAQ-2. As background, on 06May98, five (5) 4mm back-up server tapes were seized from VMAQ-2 by participating agent NCIS (b)(6), (b)(7)(C) and they were entered into the NCISFO Carolinas evidence custody system under log number 298-98. On 03-04Jun98, contact was made with SGT NCIS (b)(6), (b)(7)(C) and MSGT NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) USMC, at building HP-312, MCB, Camp Lejeune, NC (CLNC). SGT NCIS (b)(6), (b)(7)(C) and MSGT NCIS (b)(6), (b)(7)(C) are assigned to COMMCO, H&SBN, 2DFSSG, CLNC. During the meetings on 03-04Jun98, it was determined that SGT NCIS (b)(6), (b)(7)(C) had the capabilities to download the back-up server tapes to a hard drive, sort them for the names of the four USMC aircrew who were involved in the Aviano EA6B Prowler mishap on 03Feb98, and then copy their respective individual e-mails onto a compact disc.

AGENT'S NOTE: Due to other operational commitments, this process was not accomplished until Sep98.

Between 09-14Sep98, SGT NCIS (b)(6), (b)(7)(C) copied the five back-up server tapes to a hard drive system he put together for this procedure. During this process, participating agents NCIS (b)(6), (b)(7)(C) were present with SGT NCIS (b)(6), (b)(7)(C) however, the contents of the e-mails were not examined. SGT NCIS (b)(6), (b)(7)(C) determined tapes (1) and (2) were back-ups for server "DFV2DMAWISMO1", and the pertinent e-mails were located within a group identified as "VMAQ2@2DMAW CHERRY PT". SGT NCIS (b)(6), (b)(7)(C) noted tapes (3), (4) and (5) were back-ups for server "CPY2DMAWVMAQ2" and the pertinent e-mails were located within a group identified as "VMAQ2@2DMAW CHERRY PT".

SGT NCIS (b)(6), (b)(7)(C) searched the five tapes to locate the e-mail accounts for CAPT NCIS (b)(6), (b)(7)(C), CAPT NCIS (b)(6), (b)(7)(C), CAPT NCIS (b)(6), (b)(7)(C) and CAPT NCIS (b)(6), (b)(7)(C) According to SGT NCIS (b)(6), (b)(7)(C) there were no e-mail accounts for CAPT NCIS (b)(6), (b)(7)(C) on any of the five back-up server tapes he examined. In addition, SGT NCIS (b)(6), (b)(7)(C) advised only tapes (1), (2) and (5) contained e-mail accounts for CAPT NCIS (b)(6), (b)(7)(C) CAPT NCIS (b)(6), (b)(7)(C) and/or CAPT NCIS (b)(6), (b)(7)(C) SGT NCIS (b)(6), (b)(7)(C) subsequently copied all of the e-mails he located in NCIS (b)(6), (b)(7)(C) and NCIS (b)(6), (b)(7)(C) accounts to a compact disc, which he provided to reporting agent on 14Sep98. The following outline indicates the total number of e-mails for each of the aforementioned crew members which SGT NCIS (b)(6), (b)(7)(C) copied to CD from the back-up server tapes.

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NAME	Tape #	Number of E-mails
NCIS (b)(6), (b)(7)(C)	Tape 1	91
	Tape 1	11
	Tape 1	78
	Tape 2	93
	Tape 2	11
	Tape 2	83
	Tape 5	12
	Tape 5	67
	Tape 5	56
		502

Reporting agent and participating agent NCIS (b)(6), (b)(7)(C) delivered the CD containing the copied e-mails to NCISHQ on 16Sep98, for detailed review and evaluation.

BIOGRAPHICAL DATA

NCIS (b)(6), (b)(7)(C) /Sgt USMC
SSN:
DOB:
POB:
UNIT
WKPH
NCIS (b)(6), (b)(7)(C)

NCIS (b)(6), (b)(7)(C) /MSgt USMC
SSN:
DOB:
POB:
UNIT
WKPH
NCIS (b)(6), (b)(7)(C)

PARTICIPATING AGENT

NCIS (b)(6), (b)(7)(C) SA, NCISFO Carolinas
NCISRA Cherry Point, NC

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: NCISFO CAROLINAS

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STATEMENT

PLACE: Collierville, TN
DATE: 05 Oct 98

NCIS (b)(6), (b)(7)(C) make the following free and voluntary statement to NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) whom I know to be a Special Agents of the United States Naval Criminal Investigative Service. I make this statement of my own free will and without any threats made to me or promises extended. I fully understand that this statement is given concerning my knowledge of memorandum that I prepared while on active duty in the United States Marine Corps. NCIS (b)(6), (b)(7)(C)

NCIS (b)(6), (b)(7)(C) For the purpose of identification NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) pounds. My social security number is NCIS (b)(6), (b)(7)(C) and I was born on NCIS (b)(6), (b)(7)(C) I currently am retired and reside in NCIS (b)(6), (b)(7)(C) and am employed by Federal Express NCIS (b)(6), (b)(7)(C)

NCIS (b)(6), (b)(7)(C) The following statement is true and accurate to the best of my knowledge. My name is NCIS (b)(6), (b)(7)(C) I re tired from the United States Marine Corps as a Lieutenant Colonel on 1 June 1998. For approximately one year prior to my retirement I served as the Second Marine Aircraft Wing Safety Officer at Marine Corps Air Station Cherry Point, North Carolina. During February 1998, a Second Marine Aircraft Wing. (2d MAW) EA-6B Prowler deployed in Aviano, Italy struck and severed a ski tram cable sending a gondola and all its occupants tragically to the earth below. Immediately subsequent to receiving the news, Major General NCIS (b)(6), (b)(7)(C) Commanding General of 2d MAW, directed Brigadier General NCIS (b)(6), (b)(7)(C) to look into the operations and procedures of EA-6B squadrons previously deployed to Aviano, particularly with regard to Low Level operations. He was also scrutinizing the relevant directives and documentation associated with those operations. General NCIS (b)(6), (b)(7)(C) tasked me to look into Low Level operations training conducted by the EA-6B squadron deployed immediately prior to the squadron that had the incident. Once accomplished, General NCIS (b)(6), (b)(7)(C) requested that I put my findings onto paper and submit it to General NCIS (b)(6), (b)(7)(C) for his review. I did so that same day, which must have been around the middle of February 1998. NCIS (b)(6), (b)(7)(C)

NCIS (b)(6), (b)(7)(C) During June of 1998 a Mr. NCIS (b)(6), (b)(7)(C) contacted me and asked several questions about this report and about the date that it was written. He additionally requested that I make a statement regarding the contents of this report. I informed him at the time that I recalled writing a report immediately after the incident but did not recall writing a report in September, but that I may have done so without remembering. He read me excerpts from my report as well as excerpts from a report allegedly written by Colonel NCIS (b)(6), (b)(7)(C) 2d MAW Chief of Staff at the time of the Aviano EA-6B incident. I then wrote and submitted a statement to Mr. NCIS (b)(6), (b)(7)(C) regarding the contents of those two reports. NCIS (b)(6), (b)(7)(C)

NCIS (b)(6), (b)(7)(C) Apparently that report recently was referenced with regard to the incident in Aviano, and was deemed particularly relevant because I heard that it had a date of September 16, 1997 on the cover page. There are only two explanations that I can think of that would have resulted in my report having that date. The first, and least likely explanation is that someone intentionally replaced my original cover page with a new one with the date altered. The more likely scenario has to do with the way that I wrote my report. Because the format for all correspondence in the Marine Corps is standard and deviations from that standard are readily noted by those individuals with a keen administrative eye, I found it more efficient and effective to use previously written documents that strictly complied with that format, and to merely modify or replace the appropriate segments of that document to generate the report desired. Unfortunately, that practice lends itself to leaving segments from the previous document that may not accurately reflect the information appropriate for the new report. This is particularly true of the section that has the office code, typist, and originator's initials, but occasionally has included the date of the document. I did not have a large staff in my office and none of my staff were administrative types by MOS and, although I usually had them review my reports for format, grammar and spelling, errors of this type did occasionally make it through all our scrutiny. So while the date on the report reflects a day in September 1997, I am confident that the report was actually written in February 1998 and that the errant date is a function of my having used a previous report with that date as a template. I apologize for any tumult that resulted from my clerical error, but it was done without intent. NCIS (b)(6), (b)(7)(C)

NCIS (b)(6), (b)(7)(C)

1 of 2

EXHIBIT (224)

NCIS (b)(6), (b)(7)(C) This statement, consisting of this page and one other was typed by me in the presence of Special Agent NCIS (b)(6), (b)(7)(C) I have been given the opportunity to make any changes or corrections I desire to make and have placed my initials over the changes or corrections. This statement is true and correc NCIS (b)(6), (b)(7)(C)

NCIS (b)(6), (b)(7)(C)

5 Oct 98 — Date

1125 — Time

Sworn to and subscribed before me this 5th day of O NCIS (b)(6), (b)(7)(C)

Special Agents, U.S. Naval Criminal Investigative Service
Auth: SECNAVINST 5520.38 of 04JAN93

NCIS (b)(6), (b)(7)(C)

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: Results of Inquiries/CONFUSION SNOWBOARDS

Data base and on-line internet inquiries were conducted to provide investigative assistance to the judicial process resulting from the 03Feb98 aircraft mishap, in which a United Stated Marine Corps (USMC) EA6B Prowler aircraft cut a gondola cable near Cavalese, Italy, which resulted in the death of twenty civilians.

On about 05Oct98, CDB Infotek inquiries were conducted on the business/corporation known as "Confusion Snowboards". CDB had two listings for Confusion Snowboards, both located in Southern California. The first listing is Confusion Snowboards, located in Laguna Hills, CA, Orange County business file number F636161, dated on 06Feb95. The second listed Confusion Snowboards is located in Laguna Niguel, CA, file number of NCIS (b)(6), (b)(7)(C) dated on 15Sep95. Both businesses listed a NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) and a NCIS (b)(6), (b)(7)(C) as owners and/or partners of the business. Both businesses had the same permit number, NCIS (b)(6), (b)(7)(C) dated on Apr94, which showed an "inactive" status. Inquiries with LEXIS/NEXIS also listed two Confusion Snowboards. However, the first listing for Confusion Snowboards revealed a San Clemente, CA, address and a telephone number of (714) 363-7932. The second listing indicated the same Confusion Snowboards located in Laguna Hills, CA. The Confusion Snowboards located in San Clemente was listed as a "Sporting Goods, Retail" business, and both indicated that NCIS (b)(6), (b)(7)(C) were owners, Enclosure (1) pertains.

Internet searches under the business name Confusion Snowboards and its owners did not identify a web page/home page for Confusion Snowboards. Neither personal or business email addresses were discovered for NCIS (b)(6), (b)(7)(C)

An inquiry conducted on CDB for Capt NCIS (b)(6), (b)(7)(C), USMC, NCIS (b)(6), (b)(7)(C) revealed a current address of 118 Dunes Ct, Atlantic Beach NC 28512. In addition, CDB listed several pervious addresses for NCIS (b)(6), (b)(7)(C) including a Laguna Niguel, CA address, circa 1996. Neither Confusion Snowboards nor Cold Fusion Sports, Inc, were listed under corporate records matching his name. However, a Certificate of Dissolution was filed on 08Jul88, under the name NCIS (b)(6), (b)(7)(C) Enclosure (2) pertains. No further information was provided, and no further inquires were conducted on NCIS (b)(6), (b)(7)(C)

An inquiry conducted on CDB for NCIS (b)(6), (b)(7)(C) residing at NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) reveal his social security number, NCIS (b)(6), (b)(7)(C), and a post office box address in Colorado, NCIS (b)(6), (b)(7)(C) Various other biographical information was provided. Confusion Snowboards nor Cold Fusion Sports, Inc, were listed under corporate records matching his name, Enclosure (3)

EXHIBIT (225)

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pertains. No further inquires were conducted on NCIS (b)(6), (b)(7)(C)

ENCLOSURES
(1) CDB Infotek and LEXIS/NEXIS Print Out/Confusion Snowboards/ circa 05Oct98
(2) CDB Infotek Print Out, NCIS (b)(6), (b)(7)(C) circa 05Oct98
(3) CDB Infotek Print Out, NCIS (b)(6), (b)(7)(C) 13Oct98

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: NCISHQ 0023CI, Washington, DC
DATE TYPED: 14Oct98

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Pages 1478 through 1509 redacted for the following reasons:
- -
Enclosures (1 - 3) to Exhibit (225): NCIS (b)(6), (b)(7)(C), Witheld

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: Review of VMAQ-2 Personnel E-Mails

Between 05Oct98 and 08Oct98, Reporting Agent reviewed approximately 500 VMAQ-2 e-mail messages of CAPT NCIS (b)(6), (b)(7)(C) USMC, CAPT NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) USMC, and CAPT NCIS (b)(6), (b)(7)(C) USMC. The messages were seized on 06May98, from five 4MM server back-up tapes, obtained from the server utilized for e-mail accounts of personnel assigned to VMAQ-2, Marine Corps Air Station (MCAS) Cherry Point, NC. The tapes were placed on a chain of custody and entered into the NCIS Consolidated Evidence Facility, located at Camp Lejeune, NC, under log #298-98. The tapes were later copied onto a CD at the Information Systems Management Office (ISMO), Camp Lejeune, NC, for reviewed. Pertinent e-mail messages were copied and provided to MAJ NCIS (b)(6), (b)(7)(C) USMC, Trial Counsel, Camp Lejeune, NC, on about 08Oct98.

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: NCISHQ 0023CI, Washington, DC
DATE TYPED: 27Oct98

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EXHIBIT (226)

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: RESULTS OF ROUTE SURVEY

On 10OCT98, Reporting Agent and Participating Agents conducted a route survey of the northern portion of leg 2 of flight route AV047. The survey was conducted to identify landmarks and the general terrain features for the northern portion of leg 2. The survey team attempted to survey as many areas as possible that could be accessed by vehicle. The survey started at the town of Reinswald and culminated at the town of Meltina.

TOWNS SURVEYED

A) **REINSWALD**
Reinswald is a ski resort area with small hotels and villa type homes. A brochure and map were obtained and are appended as enclosures (1) and (2). Photographic coverage was provided for the area and the photos are appended as the following enclosures:

(3) Picture of Reinswald sign
(4) Housing for ski lift
(5) Left part of sign
(6) Close up of map
(7) Right side of sign
(8) Close up of map
(9) East view of ski lift
(10) East view towards top of ski lift
(11) West view from ski lift area to valley
(12) West view from ski lift area to valley

B) **ASTFELD**
Astfeld is a small village with chalet type homes and small hotels.

C) **VILLA NORDHEIM**
Villa Nordheim is a small village with chalet type homes and small hotels.

D) **SARENTINO**
Sarentino is a small village with chalet type homes and small Hotels, farms, pastures and a small castle. The town center consists of more townhouse chalet type of houses. Sarentino is located in a valley area. Photographic coverage of the area was provided and the photos are appended as the following enclosures:

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ENCLOSURE (27)

EXHIBIT (227)

(13) East view of town
(14) North view of town
(15) West view of town
(16) South View of town
(17) Northwest view of town
(18) Southeast view of town
(19) Southwest view of town

E) **KAMPIDELL**
No signs for Kampidell could be found. A conglomeration of a few homes and buildings and utilizing the map gave an approximation for the town. Photographic coverage of the area was provided and the photos are appended as the following enclosures:

(20) View of sign towards valley
(21) South view towards valley

F) **AREA HALF WAY BETWEEN MELTINA AND KAMPIDELL**
No town signs for this area existed. A photo was taken of an area map posted on a billboard type sign along the roadway. The photo is appended as enclosure (22).

G) **MELTINA**
Meltina is a ski resort town with small hotels and chalet type homes, and operates a cable car system. A brochure for Meltina was obtained and is appended as enclosure (23). Photographic coverage of the area was provided and the photos are appended as the following enclosures:

(24) South view of Meltina
(25) Telephoto south view of Meltina
(26) Southeast view of Meltina
(27) View of cable car
(28) View down cables
(29) View of map
(30) View down left cable
(31) View down right cable

All photographs were taken with an Olympus SuperZoom 3000 35mm camera utilizing 400 asa film. A copy of the map utilized as a guide for accessing these areas is appended as enclosure (32 .

Enclosures
1. Reinswald brochure
2. Reinswald map and brochure
3 - 12. Photos for Reinswald
13 - 19. Photos for Sarentino
20 - 21. Photos for Kampidell

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22. Photo taken in area between Kampidell and Meltina
23. Meltina brochure
24 - 31. Photos for Meltina
32. Copy of map utilized for route survey

Participating Agents
NCIS (b)(6), (b)(7)(C) l Agent, NCISFO Naples, Italy
IOS, NCISRA Sigonella, Italy

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: NCISRA NAPLES, ITALY

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: RESULTS OF ROUTE SURVEY

On 10OCT98, Reporting Agent and Participating Agents conducted a route survey of the northern portion of leg 2 of flight route AV047. The survey was conducted to identify landmarks and the general terrain features for the northern portion of leg 2. The survey team attempted to survey as many areas as possible that could be accessed by vehicle. The survey started at the town of Reinswald and culminated at the town of Meltina.

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EXHIBIT 277

(13) East view of town
(14) North view of town
(15) West view of town
(16) South View of town
(17) Northwest view of town
(18) Southeast view of town
(19) Southwest view of town

E) KAMPIDELL

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2. Reinswald map and brochure
3 - 12. Photos for Reinswald
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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

22. Photo taken in area between Kampidell and Meltina
23. Meltina brochure
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32. Copy of map utilized for route survey

Participating Agents
NCIS (b)(6), (b)(7)(C) l Agent, NCISFO Naples, Italy
IOS, NCISRA Sigonella, Italy

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: NCISRA NAPLES, ITALY

AGENT'S NOTE: Original enclosures 1, 2, 23, 32, were forwarded directly to the Marine Trial Counsel, Camp LeJeune, NC, for trial purposes. Due to the exigent nature of the material, the enclosures were forwarded prior to being photocopied.

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: Results of Inquiries/COLD FUSION SPORTS, INC

Data base and on-line internet inquiries were conducted to provide investigative assistance to the judicial process resulting from the 03Feb98 aircraft mishap, in which a United Stated Marine Corps (USMC) EA6B Prowler aircraft cut a gondola cable near Cavalese, Italy, which resulted in the death of twenty civilians.

On about 13Oct98, a search was conducted on the internet for a company/business by the name of "Cold Fusion". An inquiry on web address: "**www.thesnowboardshop.com**" revealed a web page/home page and snowboard catalog ordering company by the name of "Cold Fusion Sports, Inc", located at 398 11th Street, San Francisco, CA 94103. Their business telephone number is: (415) 437-9680 and FAX telephone number is: (415) 437-9749. Their home page listed several different menu options: "Shop On-line", "Boardfinder", "First Hit", "Information Center", "San Francisco Store", "Bulletin Board", "Contact Us" and "Shot of the Week". Several of the menu items were printed out on 13Oct98 and 14Oct98, and have been attached as Enclosure (1). The "Shot of the Week" photograph is selected from subscribers who send in photographs and biographical data to: "**service@snowboardshop.com**". According to their home page, the photograph is changed every Friday.

No employee names or owner information was provided on the Cold Fusion Sports, Inc. home page.

On 13Oct98, LEXIS/NEXIS and CDB Infotek inquiries were conducted on Cold Fusion Sports, Inc. According to CDB, Cold Fusion Sports, Inc was incorporated in California on 09Jul97 and the corporation number is: 2015686. The mailing address for Cold Fusion Sports, Inc. is: 398 11th Street, #304, San Francisco, CA 94103, and the president of the business is: NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) Enclosure (2) pertains. According to LEXIS, other California Businesses owned by a NCIS (b)(6), (b)(7)(C) are Rocker Incorporated, located in San Francisco, CA and Rocket Trading Co, located in Burlingame, CA, Enclosure (3) pertain.

ENCLOSURES
(1) Print Outs of Cold Fusion Sports Inc's Home Page/Numerous/ 13-14Oct98
(2) CDB Infotek Print Out/Cold Fusion/13Oct98
(3) LEXIS/NEXIS Print Out NCIS (b)(6), (b)(7)(C) 13Oct98

REPORTED BY: NCIS (b)(6), (b)(7)(C)

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EXHIBIT (22B)

~~EXHIBIT (2)~~

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

OFFICE: NCISHQ 0023CI, Washington, DC
DATE TYPED: 14Oct98

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coldfusion

coldfusion sports incorporated

- shop online
- boardfinder
- first hit
- information center
- san francisco store
- bulletin board
- contact us
- shot of the week

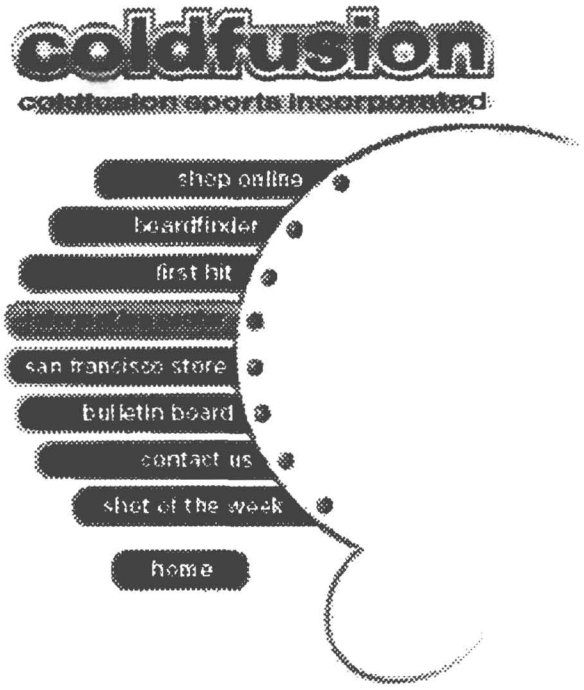
transmitting daily from
www.snowboardshop.com

spotlight

- Check out Cold Fusion's board swap and super sale Saturday October 24.
- Submit your photos via. E-mail or US Post to be seen on the "shot of the week."
- Check out the "boardfinder" to locate the board that's right for you.
- Click on "bulletin board" to post and be heard.
- Featured Item - slightly used 1997-98 Switch Autolock 550, $89 while supplies last.
- Switch boot and binding combo paks starting at $198. Limited quantities available.

Order Only Hotline 800-984-2653

Enclosure (11)



information center

Company Information

How to Order
- Ordering Online is Easy
- Secure Online Ordering
- Payment Options
- Local? Order online now and pick up later
- Privacy
- Shipping
- Sales Tax
- Order Status

Policies
- Returns Policy
- Damaged Shipments
- Warranty Policy
- Limitation of Liability

Contact Information
- Physical Address
- E-mail Address
- Telephone Contact
- San Francisco Retail Store

Product Information
- Boardfinder
- Can't find what you're looking for?

Shot of the Week

Credits

Company Information

Cold Fusion Sports is based in San Francisco, California. Our mission is simple, to offer riders throughout the world unheard of deals on the finest snowboard equipment available. We have designed our online store to make your ordering experience incredibly easy, entertaining and completely secure. Our online snowboard shop offers premium equipment, the finest service and implements the most advanced and secure Internet technology available today.

Over 10 years of experience in the snowboard business provides us with the expertise needed to outfit you with the equipment that is right for you at the most affordable prices. All the information you need to shop at Cold Fusion is located below and placing an order is merely a click away.

Kick back and enjoy, Cold Fusion Sports is here to make your online shopping experience pleasurable and affordable.

See you on the mountain!

Top of Page

How to Order

Ordering Online is Easy

Drop into the shop by clicking the "shop online" button on the homepage. Once inside the store, click the "Order" button if you see an item that you want to purchase or are considering to purchase. This button will put the items into your "Shopping Cart," located at the left side of the screen. Items you select to put in the "Shopping Cart" can be deleted at anytime if decide not to purchase them. When you are finished shopping, click on the "Check Out" button

and simply follow the instructions. You will receive an approval message with confirmation of your order and an order number (please print for your records). If you should have additional questions, please send your email to orderinfo@snowboardshop.com or call us at 415-437-9680.

Secure Online Ordering

You can rest easy when doing business with Cold Fusion Sports. In-transit Web data is secured using 128-bit Secure Socket Layer (SSL) 3.0 encryption. Encryption of all credit card information is provided by CyberCash ®, using 1024-bit RSA encryption algorithms. The SSL protocol is enabled using Digital Certificate authentication supplied by Verisign®, thus ensuring that you are placing your Cold Fusion Sports order with a registered, certified business. What you see is a "secure" icon that appears on the bottom of your browser. What it means is that your Cold Fusion Sports order is processed securely using Cold Fusion's Pandesic ® e-business solution.

Payment Options

We have four payment options available to make ordering easy and we accept Visa, MasterCard, American Express and Discover cards. When using your credit card, keep in mind that your billing information must be the same as the credit card holder otherwise the transaction will not be approved by CyberCash.

1. Enter your order through our SECURE online snowboard shop, it's quick, easy and 100% secure. Your order will be processed immediately and shipped within 24 hours.

2. Complete your order, instead of clicking the "place order" button, print the page and fax the order to our San Francisco shop at 415-437-9749 with your credit card number and expiration date.

3. Phone your order into us at 415-437-9680 and we will be happy to help you.

4. Complete your order, instead of clicking on the "place order" button, print the page and mail it to our shop at 398 11th Street, San Francisco, CA 94103 with your certified check, money order or credit card number and expiration date.

Local? Order online now and pick up later

The process is simple, when you are asked to specify your shipping method, select "hold for pick up." We will charge your credit card, pull your order and have the merchandise packaged and ready for you to pick up at our San Francisco retail store. If you have to wait in a line, it should be a lift line not a check-out line.

Cold Fusion is merely blocks from the bay bridge entrance, so make us your final stop before embarking on the Friday night mass exodus to Lake Tahoe.

* Please specify under "instructions" what day you plan on picking up your order.

Privacy

Cold Fusion does not take your security and privacy concerns lightly. We offer the latest online credit card encryption processes available and keep your personal information confidential.

Shipping

Cold Fusion Sports automated ordering system adds your shipping charges to your order before checkout. You have the choice of several shipping options including UPS Ground Track, UPS 2 Day and UPS Overnight. Orders placed before noon (PST) will be shipped the same day, order after noon will be shipped the following day. Cold Fusion Sports standard shipping is UPS Ground Track. Please allow 3-6 business days for delivery.

International shipping is available. Please email us and we will provide you with shipping rates to your area. Duties and taxes are not included and are the buyers responsibility.

Once your order has shipped Cold Fusion will email you the tracking number. You can simply link to UPS or Fed Ex and track your order to your door.

Sales Tax

If you live outside of California you save on tax, however we must collect 8.5% tax on all orders shipping within the State of California.

Order Status

Once your order ships you will receive an automatic email with the shipping details and order tracking number. Orders can be tracked through the UPS Web site at www.ups.com. For other order status questions contact customer service at service@snowboardshop.com.

Top of Page

Policies

Return Policy

Our return policy is simple. Within 30 days of the receipt of your order, you may return any product purchased from Cold Fusion in its original condition.

On the reverse side of the packing list, indicate the item(s) that you are returning. Please note the reason for the return. Indicate if you prefer a charge credit (to the card originally used), a refund check, or an exchange. If you're exchanging, let us know what you'd like by completing the information on the reverse side of the packing list. Provide us with the name and address where we should send the check or exchange. If the address is different from the original order, please note the new address in the comments box on the reverse side of the packing list.

Pack and seal your return securely (in the original package if possible) and include the return form. We've provided a return label for your convenience on the packing list. Packages must be returned prepaid; we cannot accept C.O.D. deliveries. For your protection, please use UPS or Insured Parcel Post for shipment.

All credits will be placed on the credit card used for the original purchase. Please allow 1-2 billing cycles for the credit to appear on your statement.

For additional information email us at service@snowboardshop.com.

Damaged Shipments

Please check the package for damage before signing for merchandise. Cold Fusion Sports makes every effort to ensure the safe delivery of your merchandise, however, please follow the important steps if your package appears to be damaged. Contact the shipping company and request a Damage Inspection Report. Also request the shipping company return the merchandise to the Cold Fusion Sports address listed on the packing slip. Email our customer service department for further information at service@snowboardshop.com.

Warranty Policy

The following warranties are made in lieu of all other warranties, express or implied, including but not limited to, the implied warranty of merchantability, the implied warranty of fitness for a particular purpose, any warranty arising out of a course of dealing, and, any implied warranty arising out of a course of dealing, and any implied warranty arising out of a custom or usage trade.

Cold Fusion warranties its products to be free from defects in material and workmanship for a period of one year from the date purchased. If products are proved to be defective during such period, purchaser's exclusive remedy and Cold Fusion's sole obligation shall be to repair or furnish replacement parts or products or refund purchaser's original purchase price, all at Cold Fusion's sole discretion. Cold Fusion shall not be responsible nor liable for parts or products damaged by abuse, accident, neglect or improper assembly. This warranty only applies to original purchaser and may not be transferred. Products used in commercial enterprises and non-profit organizations are specifically excluded from this warranty.

Limitation of Liabilities

Cold Fusion shall not be liable to any purchaser, or other person, for any injury, loss or damage, whether direct, indirect, incidental, special or consequential, regardless of the legal theory asserted, including negligence, and or strict liability. Some states may not allow the exclusion or limitation of incidental or consequential damages in which case such limitations shall not apply.

The foregoing warranty, limited remedy and limitations of liabilities may not be changed except by a written agreement signed by an authorized officer of Cold Fusion Sports, Incorporated.

Top of Page

Contact Information

Physical Address:
Cold Fusion Sports, Inc.
www.snowboardshop.com
398 11th Street
San Francisco CA 94103
Phone: 415-437-9680
Fax: 415-437-9749

E-mail addresses:

If you have questions or comments, please direct your e-mails to:

Order Help-Questions about ordering process:	orderinfo@snowboardshop.com
Sales Help-Questions on Equipment and technical questions:	sales@snowboardshop.com
Customer Service Help-Questions your order and returns:	service@snowboardshop.com
Marketing Information-Question or Information relating to Marketing and Advertising:	marketing@snowboardshop.com

Telephone Contact

Need to speak with someone? Our professional sales and customer service staff can be reached at 415-437-9680 from 9am-7pm (PST) Monday through Friday, and Saturdays from 9am-3pm. After hours, leave a voice mail message or send an e-mail and someone will contact you promptly. Watch for extended Holiday hours.

SF Retail Store

In the Bay Area? Check out our San Francisco store located on the corner of 11th and Harrison, (398 11th Street) (map). We're in South of Market and on the same block as DNA Lounge, ZA Pizza, Wahaka, Slims, Club Eleven, Transmission Theatre and Paradise Lounge.

Grab a slice of pizza and the beverage of your choice from ZA and drop by the shop. Uncharacteristic of San Francisco, there is actually plenty of parking, just bring your quarters. We offer the same low prices at the shop as we do online and our sales pros will get you into the equipment that is right for you.

The retail store opens September 1st and hours are Thursday and Friday 3pm-9pm, and Saturday 11am-9pm. If this doesn't fit into your schedule please call us for an appointment. Watch for extended Holiday hours.

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Product Information

Our professional sales staff is available to answer any Cold Fusion Sports product questions you may have. Email

them 24/7, and they will answer your questions generally within 12 hour or less.

Cold Fusion Board Finder

The Cold Fusion Board Finder will help you find the board of your dreams.

Your board selection is based on your weight, height, foot size and the type of riding you do. Weight is the primary factor, heavier riders need longer boards. Taller riders should choose boards at the upper end of the length recommended. Another factor is foot size. The ideal foot position is centered with the heel and toes as flush to the edges as possible. The bigger the feet the wider the board. Stance angles can be adjusted to accommodate toe or heel drag. The size and location of the mountain also play a key factor in board selection. Bigger mountains with deeper snow require longer boards. Smaller mountains and packed snow conditions require smaller boards. Riding style will also determine the type of board you will select. Specific boards have been designed for freestyle, freeriding, extreme and carving. Some riders have two or more boards to handle a variety of conditions or riding styles.

Freestyle boards have symmetrical characteristics, centered stance, short tip and tail and deeper sidecut that allow for a quick turning board that spins easily and can be ridden switch (fakie). Freestyle boards are ideal for snow parks, pipes and small mountain riding.

Freeride boards have a directional shape, an off center stance, a longer nose and tail that allows for faster riding and greater stability riding or landing in powder. Freeride boards are ideal for all mountain riding.

Extreme boards expand on the design of the freeride board. The nose is longer and stance is further back of center. Extreme boards are best suited for deep powder, fast fall lines and big drops.

Carving boards are torsionally stiff and directional, ideal for fast riding and quick stable turns. Carving boards are narrower than freeride boards and perform best in packed conditions with hardboots and a plate binding system.

Can't find what you're looking for?

Cold Fusion sells additional product which is not featured on our Web site and is intended for in store sales only. Certain brands such as Burton, Oakley, Dragon, Quiksilver, Roxy and Zoo York fall into this category. Please stop by our shop if you are interested in these products.

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Shot of the Week

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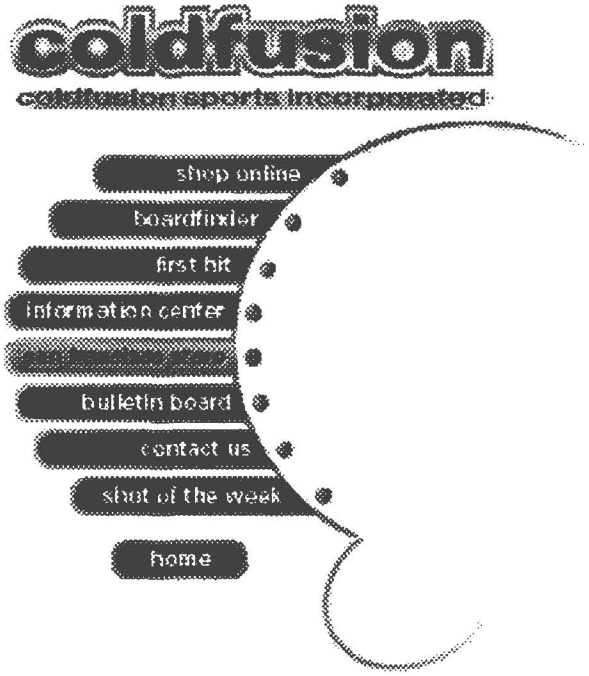

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- board needed!!!!!!!! - **chris robertson** *10:36:34 AM PDT October 12th, 1998* (0)
- selling jacket and matching pants - **Ryan Miller** *9:18:41 AM PDT October 12th, 1998* (0)
- Friends - **Erik** *3:13:58 PM PDT October 11th, 1998* (0)
- LOOK HERE IF YOUR TRYIN TO SELL SOMTHING - **sonny** *4:00:24 PM PDT October 10th, 1998* (0)
- step-ins - **Kamika-z** *12:15:13 AM PDT October 10th, 1998* (0)
- I need a board, boots, and bindings - **Heidi** *3:33:39 PM PDT October 9th, 1998* (1)
  - Re: I need a board, boots, and bindings - **Heidi** *3:34:43 PM PDT October 9th, 1998* (0)
- sellin board...CHEAP!!! - **GEORGI** *5:39:49 AM PDT October 9th, 1998* (1)
  - Re: sellin board...CHEAP!!! - **chris robertson** *10:31:58 AM PDT October 12th, 1998* (0)
- Board Bibs - **Candice** *6:50:27 PM PDT October 8th, 1998* (0)
- Boards and stuff - **Michael Reilly** *8:43:05 AM PDT October 8th, 1998* (2)
  - Re: Boards and stuff - **Mark** *10:21:39 PM PDT October 11th, 1998* (1)
    - Re: Re: Boards and stuff - **Michael Reilly** *7:51:13 AM PDT October 12th, 1998* (0)
- Buying - **Ivica Dragan** *12:22:00 PM PDT October 7th, 1998* (0)
- Buying snowboard equipment - **Forgo Nenad** *12:17:17 PM PDT October 7th, 1998* (0)
- Burton e Deck for Sale - **Stan** *11:50:35 AM PDT October 7th, 1998* (1)
  - Re: Burton e Deck for Sale - **ERNEST** *4:46:30 PM PDT October 12th, 1998* (0)
- Opinion on Bindings - **Mike** *5:36:52 AM PDT October 7th, 1998* (0)
- Burton - **Paul** *8:42:43 PM PDT October 6th, 1998* (0)
- you need a boued!!!! - **efefy dog** *5:32:10 PM PDT October 4th, 1998* (0)
- board for sale - **Samantha** *2:55:35 PM PDT October 4th, 1998* (0)
- Anybody seen raceboards on the web ??:)) - **Lodewijk** *5:55:02 AM PDT October 4th, 1998* (0)
- Burton Twin - **Andrea** *10:35:13 AM PDT October 3rd, 1998* (0)
- I need a boad - **John** *9:36:53 AM PDT October 3rd, 1998* (0)
- boots - **Jeremy** *9:20:13 PM PDT October 2nd, 1998* (0)
- Buying a snowboard - **Kyle Hobbs** *7:32:14 PM PDT September 30th, 1998* (1)
  - Re: Buying a snowboard - **paul** *10:04:09 PM PDT October 7th, 1998* (0)
- Rad - **Tom** *6:24:44 PM PDT September 29th, 1998* (0)
- board for sale - **mark** *5:06:22 PM PDT September 28th, 1998* (3)
  - Re: board for sale - **ERNEST** *9:40:48 AM PDT October 8th, 1998* (1)
    - Re: Re: board for sale - **ERNEST** *4:51:12 PM PDT October 12th, 1998* (0)
  - Re: board for sale - **nathan** *2:54:29 PM PDT September 30th, 1998* (0)

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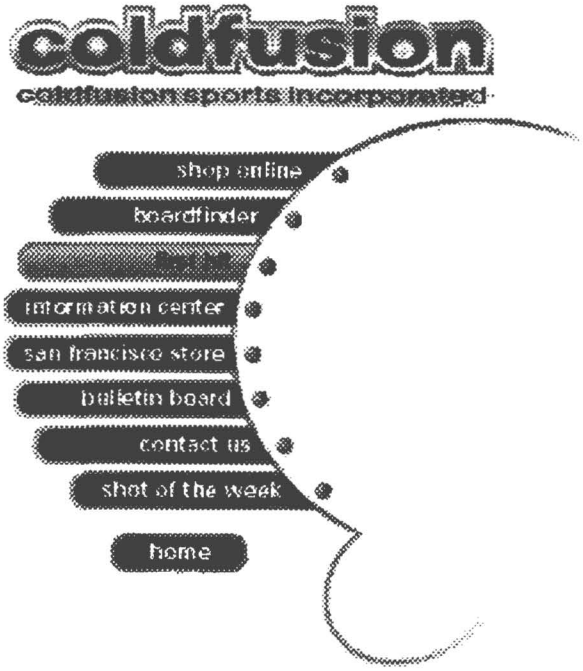

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Pages 1532 through 1537 redacted for the following reasons:
- -
Enclosures (1 - 3) to Exhibit (228): NCIS (b)(6), (b)(7)(C), Withheld

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: RESULTS OF INQUIRIES/PARAGON CAPITAL GROUP

Data base inquiries were conducted to provide investigative assistance to the judicial process resulting from the 03Feb98 aircraft mishap, in which a United Stated Marine Corps (USMC) EA6B Prowler aircraft cut a gondola cable near Cavalese, Italy, which resulted in the death of twenty civilians.

On about 14Oct98, an inquiry was made on LEXIS/NEXIS under the company name "Paragon Capital Group/Corporation" to determine their relationship, if any, with "Confusion Snowboards" and/or "Cold Fusion Sports, Inc". LEXIS listed three different corporations: "Paragon Capital Group, Incorporated, in Gainesville, FL, "The Paragon Capital Group, Inc", in Bloomfield Hills, MI, and "Paragon Capital Group" in Birmingham, MI. None of the records available listed Confusion Snowboards, Cold Fusion, nor any of their owners/members, Enclosure (1) pertains.

LEXIS/NEXIS is for lead purposes only and should be confirmed through independent investigative efforts.

ENCLOSURE
(1) LEXIS/NEXIS Print Out/Paragon Capital Group/14Oct98

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: NCISHQ 0023CI, Washington, DC
DATE TYPED: 14Oct98

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EXHIBIT (229)
~~EXHIBIT (B)~~

Pages 1539 through 1544 redacted for the following reasons:
- -
Enclosure (1) to Exhibit (229): NCIS (b)(6), (b)(7)(C), Withheld

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: **15APR98-0023-0036-7HMS**

INVESTIGATIVE ACTION: **TESTING OF AN/APX-72 TRANSPONDER SYSTEM**

On 15Oct98, Reporting Agent (RA) participated in testing of the AN/APX-72 Transponder System which was installed in the mishap EA6B aircraft. This testing took place at NADEP facilities located aboard Naval Air Station (NAS) Jacksonville, FL. The testing was arranged through and hosted by Mr. NCIS (b)(6), (b)(7)(C) of NADEP. Persons present to participate in the tests or observe included the following personnel:

Mr [redacted] engineer) DID AIMS, Warner-Robins AFB, GA
Mr [redacted] neer) CECOM, Ft Monmouth, NJ
Mr [redacted] E (technician) Tobyhanna Army Depot, PA
Mr [redacted] (technician) Tobyhanna Army Depot, PA
Mr [redacted] ician) Tobyhanna Army Depot
Mr [redacted] chnician) NADEP, Jacksonville, FL
Mr [redacted] (technician) NADEP, Jacksonville, FL
Mr [redacted] echnician) NADEP, Jacksonville, FL
Mr [redacted] iation safety consultant) Chesterfield, MO
Mr [redacted] on consultant) Hulmeville, PA

NCIS (b)(6), (b)(7)(C)

Enclosures (1) and (2) are reports prepared by Mr NCIS (b)(6), (b)(7)(C) and Mr NCIS (b)(6), (b)(7)(C) the engineers present that detail the specific testing performed and the results.

ENCLOSURES:
(1). Test Report prepared by Mr NCIS (b)(6), (b)(7)(C) 26Oct98
(2). Test Report prepared by Mr NCIS (b)(6), (b)(7)(C) Oct98

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCISFO Carolinas, Camp Lejeune, NC**
DATE TYPED: **15NOV98**

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Test Report

For

EA6B #163045 AN/APX-72 Transponder System

Prepared For:
United States Marine Corps
Judge Advocate General

26 October 1998

Prepared By:
NCIS (b)(6), (b)(7)(C)
Engineer
United States Army
Communications-Electronics Command
(CECOM)
Fort Monmouth, New Jersey

ENCLOSURE(1)

1.0 Introduction

USMC (JAG) requested that CECOM, as the AN/APX-72 System Manager provide technical support (System Testing) to determine the operational status of the AN/APX-72 Transponder on the EA-6B platform at NADEP, Jacksonville, FL.

2.0 Objective

CECOM determined that to properly test the AN/APX-72 System the following testing was required, and the subject matter experts were contacted to accomplish the testing.

Testing (Operational AN/APX-72 System)

A. RADIATED (all platform components/assemblies undisturbed)

The AIMS PO accomplished complete system test of the AN/APX-72 (Platform) prior to removing system components from the platform. AN/APX-72 system test accomplished by the AIMS PO (John Seereiter), NADEP (Jan Neuendorf), Tobyhanna Army Depot (Bob Wolak and Bob Simmonette), and CECOM (Ed Seamans). Attachment I contains overview, test equipment used, and synopsis of testing accomplished, and Appendix 1 contains test procedure and results for radiated testing.

B. BENCH

Tobyhanna Army Depot (TYAD) personnel accomplished complete automatic and manual test of the RT-859A/APX72 receiver-transmitter, prior to removing other components/assemblies from the platform. RT-859A/APX72 receiver-transmitter test (AN/UPM-155 with CD-32/UPM-155 connected for automatic testing) accomplished by TYAD technical personnel (Ron Klecker, Bob Simmonette, and Bob Wolak), AIMS PO (John Seereiter), and CECOM (Ed Seamans). Attachment II contains TYAD trip report and failures noted/explained. Appendix 1a contains printout of automatic test sequence, acceptable parameters, and test results. Appendix 1b contains test results from manual testing in accordance with test procedures in TM 11-5895-490-34-1.

4.0 Test Overview

A. CECOM conducted an Operational Test on the AN/APX-72 transponder system EA-6B #163045 on Oct 15,1998. The objective was to verify the AN/APX-72 IFF system performance on this specific aircraft. Operational testing consists of a brief physical inspection, self test, radiated test, and direct RT hook-up test, and bench test. Equipment* used: (supplied by NADEP)

AN/APM 424 Transponder Test Set
AN/APM 378 Transponder Test Set
TTU 205 Pitot Static Test Set

(supplied by TYAD)

AN/UPM-155 Radar Test Set
CD-32/UPM-155 Analog Controller Multiplexer (ACM)
AN/APM-239A Transponder Test Set
AN/APM-305A Radar Test Set
Oscilloscope, Counter, and Multimeter

*Calibration stickers were valid and current.

Equipment Tested: Aircraft Type & Number: EA-6B Prowler # 163045

AN/APX-72 System comprised of:
C-6280A(P) Control Panel
TS-1843B/APX In Line Transponder Test Set
KIT-1C (computer)
RT-859A/APX72 Transponder
Lobbing Switch (antenna switch, lower, upper, or diversity)
Upper Antenna
Lower Antenna
Cabling & Connectors

B. The visible portions of the equipment, mounts, and wiring were inspected without disturbing the equipment. The purpose of the inspection was to look for obvious signs of problems such as; missing equipment, broken controls, broken wires etc. The physical inspection indicated that:

a) the Air Data Computer (The ADC supplies the altitude information pulses to the transponder for Mode 3/C transmissions), and other boxes had been removed from the aircraft.
b) RF cable connectors were not safety wired.
c) Upper and Lower antennas were painted.
d) Scaffoldings and other various tables and equipment had been placed around the aircraft that could reflect RF energy.

C. Radiated testing, using the AN/APM-424 Transponder Test Set indicated a failure (verified using a similar test set, AN/APM 378) in the AN/APX-72 System. The test set indicated a RF receive-transmit failure, the failure was noted (see attachment I for detailed results/analysis) and testing continued. As a result of the radiated testing and subsequent further data analysis it was determined that the cause of the failure was limited to the RT-859A/APX72, TS-1843B/APX, antennas, antenna switch, or the interconnecting RF cable assemblies.

D. The RT-859/APX72 transponder was removed from the platform, and tested using the AN/UPM-155 and ACM. Three failures were noted:

1) Low Sensitivity
2) Audio Output
3) Automatic Overload Control

The RT-859A/APX72 failures noted during automatic testing were not related to the RF receive-transmit failure detected during the previous Radiated (using AN/APM-424) tests. Results of the subsequent manual testing (using the AN/APM-239A, AN/APM-305A) verified that the three faults noted during automatic were valid.

E. After bench tests were completed on the RT-859/APX72, the TS-1843B (in-line transponder test set) was replaced in the aircraft with a known operational set, and the RT-859A/APX72 was reinstalled, then both the self-test and radiated test were repeated; The AN/APX-72 System passed all tests. The original TS-1843B was reinstalled and a self-test, and radiated test were initiated; The AN/APX-72 failed self-test, but passed the Radiated tests.

5. Conclusion

The IFF transponder system on this aircraft was not operational due to insufficient power/sensitivity (indicated by flight-line test sets) and failed Self-Test. Results of the direct connect test indicated that the RT-859A/APX72 was not the source of the problem. The AN/APM-424 direct connect results were considered skewed because the standard AN/APM-424 cables could not be used, therefore the AN/APM-378 was substituted to allow testing to continue. The Bench test of the RT-859A/APX72 supported the above results and confirmed that the failures encountered in the Radiated test were not related to the RT-859A/APX72. The Bench test revealed sufficient power and sensitivity where being produced in accordance with the RT-859A/APX72 system requirements.

It is CECOM's position that the failure of the AN/APX-72 System, noted during the Radiated testing was most likely caused** by a faulty TS-1843B. The combined results reveal that there was a problem between the RF input/output antenna port of the transponder RT and the output of the aircraft antenna. The original TS-1843B failed Self-Test in both tests, while the replacement TS-1843B passed Self-Test completely. Therefore, the TS-1843B is to be considered as the source of the whole problem (causing an intermittent power and sensitivity problem). The TS-1843B monitors RF transmissions and provides the results of Self-Test to the pilot via indicator light. The test set should be transparent to the operation of the system (the IFF system can operate without it), but would be a source of path loss when it fails.

**The fact that the system passed the two subsequent radiated operational checks indicates there may have been a problem with the cable connections or the cables; since they where disturbed during removal and installation of the RT-859A/APX72 and the TS-1843B. This is a suspect area and a weak link in most RF systems. Connectors can degrade as a result of oxidation, corrosion and cavitation resulting in a path loss over time. The RT-859A/APX72 contained a Sacramento, CA Depot label, which gives an indication that the RT-859A/APX72 may not have been repaired (repair limited to the AVIM level) by the depot over the last 5 or more years, and could have been installed on this platform undisturbed for quite some time.

6. RECOMMENDATIONS

Depot/AVIM (NADEP has capabilities) testing should be performed on the TS-1843B to determine compliance to the operational requirements. If testing of the TS-1843B fails to confirm the failure mechanism (alignment/adjustment, loose connections, or faulty component), further tests of the RF cables within the aircraft should be accomplished.

Operational IFF Test Report

For

EA-6B #163045 AN/APX-72 Transponder System

Prepared For:
Army CECOM
AMSEL-LC-IEW-C-CW

27 October 1998

Prepared By:
NCIS (b)(6), (b)(7)(C)
Engineer
DoD AIMS Program Office
Contract Support

ENCLOSURE(2)

Aircraft Procedures & Data: The procedures used and actual data collected are contained in appendix A

The Operational Testing consisted of a brief physical inspection, self test, radiated test, and direct IFF antenna port hook-up test. Operational problems were indicated during radiated testing. Following the complete operational test, the transponder was removed from the aircraft and lab tested as planned. These tests are defined in the Lab Test Report. Because of failures observed in the initial radiated testing, a decision was made to conduct some additional radiated tests after lab test results were analyzed.

After lab tests were completed on the AN/APX-72 transponder receiver transmitter (RT), the TS-1843B (an in-line transponder test set) was replaced in the aircraft, the RT was reinstalled, and a self test and brief radiated test were performed. Then the original TS-1843B was reinstalled and another self and radiated test were performed.

3.1 Physical Inspection

The tests were conducted on Oct 15, in Hanger 140, Jacksonville NAS, FL The wings, Air Data Computer(ADC), and other boxes had been removed from the aircraft. The ADC supplies the altitude information pulses to the transponder for Mode C transmissions. Scaffoldings and other various tables and equipment had been placed around the aircraft that could reflect RF energy. The visible portions of the equipment, mounts, and wiring were inspected without disturbing the equipment. The purpose of the inspection was only to look for obvious signs of problems such as; missing equipment, broken controls, broken wires etc. Those physical areas inspected are checked on the data sheet in appendix A. The TTU 205 Pitot Static Test Set was connected to the aircraft and pressure checked. The ADC was installed during the connection of the TTU 205 Test Set and while Self Test was being performed.

3.2 Self Test

The Self Test is conducted at the control panel for all modes of operation except for Mode 4 which does not have a self initiated built in test (BIT). At first the Self Test indication was interpreted to be a "GO" in all Modes except Mode C. When the selected mode switches where held in the Test position the "Test Light" did not light, but when released the "Test Light" would light for 1-2 seconds. This occurred for all modes except Mode C in which no light indication was given. Mode C was annotated as a failure.

After the Radiated Tests were completed and the bench test had been conducted on the RT-859A the TS-1843B was swapped out with a NADEP TS-1843B in good working order.
The Self test was initiated by Mr. Neuendorf who reported a GO in all modes for the Self Test. When the mode switches were held in the test position the Test Light would light and extinguish when released.

The original TS-1843B was then reinstalled and another Self Test was conducted. This time Mr. Neuendorf was present and explained that the test was indicating a NO-GO for all modes. The only difference with the first test is that when the Mode C switch was placed in test, it too lit after the switch was released.

The error in recording a "GO" for the first Self Test was noted and recorded on the test procedure and data sheet. Later the AIMS office researched the issue and verified that a GO is indicated by the test light being lit when the mode switches are held in the test position and the light extinguishes when the switch is released as Mr. Neuendorf had described.

3.3 Radiated Test

Failure was noted immediately after the start of the test. The antenna switch was placed in the FWD(lower) position enabling the lower antenna. From 18' away the AN/APM-424 Flight-Line Test Set was not receiving any discernible signal from the lower antenna. Several positions were tried while varying the distance. Additionally, the antenna switch was placed AFT(upper) position and test set was pointed at the upper antenna. No signals could be received unless the AN/APM-424 Test Set was within 1-3 feet of the lower or upper antenna. To confirm the failure the system was also tested with the AN/APM-378 Transponder Flight-line Test Set (predecessor to the AN/APM-424) and obtained the same results. The AN/APX-72 transponder system failed due to insufficient Power/Sensitivity. Throughout the test the power indication on the AN/APM-424 Test Set at 1-3 feet from antenna was either 1 or 0. Power/Sensitivity indication of "0" is acceptable at about 250' from the aircraft and a "1" about 120' from the aircraft. Within 3 feet the power indication should be a 7.

The testing continued at close range to the lower antenna with the antenna selection switch in the forward position. All modes, codes, Emergency, IDENT, and Mode C values were tested as described in the test procedure and passed at this close range.

The Radiated Confirmation Check was conducted. The system was interrogated at different angles to the antenna and again except for Power/Sensitivity, passed the other parameters. At some positions with the antenna switch in the lobing position we were able to obtain some replies 10-12' from the antennas, however, the Power/Sensitivity continued to fail with a reading of 0-1.

After the transponder (RT-859A) was removed from aircraft, bench tested, and reinstalled with a different TS-1843B, a brief radiated test was conducted. The signals received by the AN/APM-424 Test Set through the lower antenna were good in all respects including power and sensitivity. A Radiated Check around the antennas was conducted with passing results. The power and sensitivity indicator was reading a "7" as far as 12-18' which is the highest Power and sensitivity indication. At some angles problems with

obtaining the codes were observed due to reflections. The test set gives indication with an error code "A" when signals are garbling at the test set due to reflections. The system in this test was considered operational.

The original TS-1843B was reinstalled and a Radiated Check was conducted. This time the system with its original equipment passed the test. The results were the same as those obtained in the previous test. However the system could not be considered operational since failures continued in Self Test.

3.4 Direct Connect

The direct connect test was conducted directly after the first radiated test and prior to removal of any component of the AN/APX-72 System. The cable supplied with the AN/APM-424 test set could not be connected directly to the RT. NADEP supplied a cable adapter to connect the AN/APM-424 Test Set to the RT. The AN/APM-424 gave an indication of insufficient replies for all modes. Since it was likely that the adapter and excessive cable contaminated the test, the AN/APM-378 Test Set was directly connected to the RT. The RT passed on the AN/APM-378 Test Set.

3.5 Conclusion

The IFF transponder system on this aircraft was not considered operational as originally tested due to insufficient power/sensitivity (indicated by flight-line test sets) and failed Self Test. The direct connect results indicated that the RT was not the source of the problem. Although the AN/APM-424 direct connect test indicated a failure, the AN/APM-378 Test Set indicated an accept. The AN/APM-424 direct connect results were considered skewed because the standard AN/APM-424 cables could not be used. The lab test of the RT-859A also supported the above results and confirmed that the failures encountered in the operational tests were not due to the RT. The lab test revealed sufficient power and sensitivity where being produced by the RT. It is AIMS PO position that the operational failures were most likely caused by faulty antenna RF cable connection somewhere between antenna port of the transponder RT and the aircraft antenna or an intermittent/faulty TS-1843B.

3.6 Other Comments

The combined results reveal that there was a problem between the RF input/output antenna port of the transponder RT and the output of the aircraft antenna. Further, the original TS-1843B provided a failed Self Test in both tests in which it was used, while the replacement TS-1843B passed Self Test. Therefore, indicating a problem in the original TS-1843B. The TS-1843B could be the source of the whole problem causing an intermittent power and sensitivity problem. Its removal and installation may have caused

an intermittent throughput of the box. The TS-1843B provides the Self Test and monitors transmissions of the transponder. The test set should be transparent to the operation of the system (the IFF system can operate without it), but can be a source of path loss when it fails.

Additionally, the fact that the system passed the two subsequent radiated operational checks indicates there may have been a problem with the cable connections or the cables; since they where disturbed during removal and installation of the RT-859A and the TS-1843B. This is a highly suspect area and a weak link in most RF systems. Connectors can undergo oxidation, corrosion and cavitation causing a path loss over time. The RT had a Sacramento, CA Depot label which gives an indication that the RT-859A may not have been repaired over the last 6 or more years and could have been installed on this platform undisturbed for quite some time.

3.7 RECOMMENDATIONS

Lab testing should be performed on the TS-1843B to determine if there are deficiencies and if any identified deficiencies could have caused the operational failures identified with the flight-line testers. If investigation of the TS-1843B fails to confirm the problem, further checkout of the RF cables in the aircraft may be warranted.

Report incomplete without Appendix 1

Appendix 1

TRANSPONDER OPERATIONAL TEST

These checks include inspecting the installation of the equipment and performing an operational testing of the EA-6B #163045 AN/APX-72 transponder system using the AN/APM-424 test set. The transponder system tested consisted of an RT-859A/APX, Serial # DCN 11296; a C-6280A(P)/APX, Serial # 10149; a TS-1843B Serial # _____; a lobing switch, Antennas, cables, and KIT-1C crypto computer.

PHYSICAL INSPECTION

CONTROL PANELS:

√1. Check to see that the Control Panels mount securely in the cockpit.

(Not Checked)2. Wire bundle has sufficient length to permit removal without stressing cable.

√3. Face plate and light indicators not broken or cracked.

(Not Checked)4. No bare or broken wires in bundle.

√ 5. Knobs and dials are free from backlash, binding, and scraping.

MOUNTING BASE:

√ 1. Inspect seating and attachment to aircraft frame.

√ 2. Check for loose or missing hardware.

√ 3. RT hold down nut and bolt assemblies not stripped or damaged.

RT-859A/APX-72:

√ 1. Receiver-Transmitter fits in mount securely.

√ 2. Antenna cables have required length to reach RT without stress. Connectors properly installed on coax cables.

√ 3. Hold down brackets not broken or missing on RT.

ANTENNAS:

√ 1. Check for dents or chips.

√ 2. Mounting to aircraft is tight.

(Not Checked) 3. Sufficient length of coax cable

ELECTRICAL WIRING HARNESS:

√ 1. Check for broken wires, and loose connectors.

√ 2. Harness is securely clamped to aircraft frame as required.

√ 3. Check for binding and scraping.

1.0 ACCEPTANCE TEST PROCEDURES USING AN/APM-424

1.1 ELECTRICAL POWER

√ a. Insure aircraft is safe to apply electrical power.

√ b. Apply electrical power to aircraft.

√ c. Engage the required circuit breakers.

NOTE

The following checkout must be followed as written.

1.2. TRANSPONDER CONTROL PANEL

√ a. Place master switch to STBY

NOTE

Allow two minutes warm-up period before selecting normal mode.

b. On Control Panel place switches in the following positions:

SWITCH	POSITION

M-1	OUT √
M-2	OUT √
M-3/A	OUT √
M-C	OUT √
M-4	OUT √
IDENT/MIC	CENTER √
RAD TEST	OUT √
AUDIO-LIGHT	OUT √
A+B HOLD ZERO	A √

c. On Code Select Panel select the following codes:

MODE 1	73 √
MODE 3/A	5555 √

d. On Receiver-Transmitter, RT-859A, select the following code:

MODE 2	5555 √

e. Turn on cockpit lights and verify control box and frequency control plastic panels (edge lit) are illuminated. The Mode 4 Caution Light may also be lit. *(No Caution Light Noted)*

1.3. PERFORM TRANSPONDER SELF-TEST

√ a. On Control Panel, place master switch to normal.

√ b. On Control Panel, hold M-1 switch to test position. The TEST Light comes on. Place M-1 switch in the ON position.

√ c. On Control Panel, hold M-2 switch to test position. The TEST Light comes on. Place M-2 switch in the OUT position.

√ d. On Control Panel, hold M-3/A switch to test position. The TEST Light comes on. Place M-3/A switch to the ON position.

(Failed) e. On Control Panel, hold M-C switch to test position. The TEST Light comes on. Place the M-C and M-3/A switch to the OUT position. *(Did not receive light when placed in the test position and released, ADC was not installed at the time)*

√ f. In cockpit place the Upper/AUTO/Lower antenna switch in the lower position (if this switch is not available the antenna is lobing and the accept light on the test set may be green or yellow for the following tests)

(Later determined failed entire self test, test light lit only after switch release in all modes)

1.4. PERFORM OPERATING TEST

√ a. Grasp test set handle firmly. Aim test set at the lower antenna, while looking through the viewfinder eyepiece, press and release test set test seq button until a 1 appears in the mode display.

RESULTS: (1) A "1" is displayed by mode indicator. Pass (424 Power Step 1 Displayed at 2')

(2) Green accept lamp is ON. Pass

(3) A "73" is displayed by code indicator. Pass

NOTE

The codes that are selected at the control panel or on RT-859A must be the same as viewed through the test set.

√ b. Repeat step a after each of the following codes are selected at the control panel: 00, 11, 22, 33, 43, 53, and 63. Pass

√ c. On Control Panel, place M-1 switch to the OUT position and reset code to 73.

√ d. On Control Panel, place M-2 switch to the ON position.

√ e. Press and release test set test seq button until a 2 appears in the mode display.

RESULTS: (1) A "2" is displayed by mode indicator. Pass

(2) Green accept lamp is ON. Pass

(3) Code "5555" is displayed by code indicator. Pass

f. Repeat step e after each of the following codes are set on the receiver-transmitter, RT-859A: 0000, 1111, 2222, 3333, 4444, 6666, and 7777. Pass

√ g. On Control Panel, place M-2 switch in the OUT position and reset code to 5555.

√ h. On Control Panel, place M-3/A switch to ON position.

√ i. Press and release test set test seq button until a 3 appears in the mode display.

RESULTS: (1) A "3" is displayed by mode indicator. Pass

(2) Green accept lamp is ON. Pass

(3) Code "5555" is displayed by code indicator. Pass

j. Repeat step i after each of the following codes are selected on the Control Panel: 0000, 1111, 2222, 3333, 4444, 6666, and 7777. Pass

√ k. On Control Panel, place M-3/A to the OUT position and reset code to 5555.

√ l. On Control Panel, place M-4 to on position

√ m. Press and release test set test Seq button until a 4 appears in the mode display.

RESULTS: (1) A "4" is displayed by mode indicator. Pass

(2) Green accept lamp is ON. Pass

(3) Code "A" is displayed by code indicator. Pass

n. From the Control place the A/B/Hold/Zero switch in the B position, repeat m. On Control return A/B/Hold/Zero switch to A, Pass

1.5. PERFORM IDENTIFICATION OF POSITION (I/P): The identification of position signal is initiated by the operator for transmissions for 15 to 30 seconds and is used to distinguish between transponders displaying identical coding. The I/P signal is used in modes 1, 2, and 3/A.

√ a. On Control Panel, place M-1 switch to the ON position.

NOTE:
This test must be completed within ten seconds from the time the MIC-IDENT switch is pushed. If a "P" does not appear in the lower right corner of the test set, repeat test.

√ b. On the Control Panel, push and release the MIC-IDENT switch to the IDENT position.

√ c. Press and release test seq push button until a "1" is displayed in the mode indicator.

RESULTS: (1) A "1" is displayed by mode indicator. Pass

(2) Green accept light is ON. Pass

(3) 73 is displayed on code indicator. (This is the last code set in Mode 1 position.) Pass___

(4) A "P" is displayed in the lower right corner of the test set. Pass___

√ d. On Control Panel, place M-1 switch to OUT position.

√ e. On Control Panel, place M-2 switch to ON position.

√ f. On the Control Panel, push and release the MIC-IDENT switch to the IDENT position.

√ g. Press and release the test seq push button until a "2" is shown in the mode indicator.

RESULT: (1) A "2" is displayed by the mode indicator. Pass___

(2) Green accept light is ON. Pass___

(3) Code 5555 is displayed on code indicator. This is the last code set in Mode 2 position.) Pass___

(4) A "P" is displayed in the lower right hand corner of the test set. Pass___

√ h. On Control Panel, place M-2 switch to the OUT position.

√ i. On Control Panel, place M-3/A switch to the ON position.

√ j. On the Control Panel, push and release the MIC-IDENT switch to the IDENT position.

√ k. Press and release the test seq push button until a "3" is shown in the mode indicator.

RESULTS: (1) A "3" is displayed by the mode indicator. Pass___

(2) Green accept light is ON. Pass___

(3) Code 5555 is displayed on code indicator. (This is the last code set in Mode 3/A.) Pass___

(4) A "P" is displayed in the lower right hand corner of the test set. Pass___

√ l. On Control Panel, place M-3/A switch to the OUT position.

1.6. EMERGENCY TEST: CHECK LOCAL PROCEDURE TO VERIFY RADIATING EMERGENCY IS PERMITTED. The emergency signal is initiated by the operator. When initiated, Modes 1, 2, and 3/A are enabled even if the mode select switches are set to the OUT position. In modes 1 and 2, the reply code in use is transmitted once for each interrogation received, followed by three sets of framing pulses without code information between them. In Mode 3/A, the reply code in use is disregarded and the distress code 7700 is substituted.

√ a. On Control Panel, place master switch to the EMER.

√ b. Press and release test seq push button until 1 is shown in the mode select indicator.

RESULTS: (1) A "1" is shown in the mode indicator. Pass

(2) Green accept light is ON. Pass

(3) Code 73 is displayed in the code indicator. (This is the code that was last set in the Control Panel.) Pass

(4) An "E" will be displayed in the lower right hand corner of the test set indicating emergency. Pass

√ c. Press and release test seq push button until "2" is shown in the de select indicator.

RESULTS: (1) A "2" is shown in the mode indicator. Pass

(2) Green accept light is ON. Pass

(3) Code 5555 is displayed in the code indicator. (This is the code that was last set in the receiver-transmitter RT-859A.) Pass

(4) An "E" will be displayed in the lower right hand corner of the test set indicating emergency. Pass

√ d. Press and release test seq push button until a "3" is shown in the mode select indicator.

RESULTS: (1) A "3" is shown in the mode indicator. Pass

(2) Green accept light is ON. Pass

(3) Code 7700 is displayed in the code indicator. Pass

(4) An "E" will be displayed in the lower right hand corner of the test set indicating emergency. Pass

√ e. Place Master switch to the normal position.

1.7. PERFORM MODE C TEST: When the transponder is connected to an altitude encoder, each Mode C interrogation decoded shall have a pulse train to be generated which contains altitude information. The information is contained within a maximum of eleven pulses inside two framing pulses. The framing pulses will be generated whether the encoding altimeter is present or not.

√ a. On Control Panel, place M-C and M-3/A switch to the ON position.

NOTE

Obtain the elevation above sea level from the local control tower prior to performing the following steps. Round off the elevation to the nearest 100 feet. Example: 440 feet would be 400 feet. 570 feet would be 600 feet.

√ b. Press and release test seq push button until a "C" is displayed in the mode position.

RESULTS: (1) A "C" is displayed in mode position. Pass

(2) Green accept light is ON. Pass

(3) 55 is displayed in the first two digits of the code display. (This is the first two digits that were set in Mode 3/A.) Pass

(4) The local elevation that was given is displayed in code positions 3 and 4. (Example: If elevation is 425 feet, the test set will display 0.4 in position 3 and 4. If elevation is 1100 feet, position 3 and 4 will be 1.1.) (PA = -210 Mode C = -200) Pass

c. Connect an altitude test set to aircraft. Select altitudes of 1000 feet (304 meters), 3000 feet (912 meters), and 2000 feet (608 meters). Select various altitudes and record on attachment 1. Repeat step b after each altitude is selected. Pass

√ d. On Control Panel, place master switch in STBY position.

√ e. Remove altitude test set from aircraft.

1.8. RADIATING CONFIRMATION CHECK

√ a. On Control Panel, place master switch to NORM position.

√ b. On Control Panel, place M-1, M-2, M-3/A, M-C, and M-4 to the ON position. Place antenna switch to Top position (if this switch is not available the antenna is lobing and the accept light on the test set may be green or yellow)

√ c. Stand approximately 64 feet (19.5 meters) from transponder antenna. Failed
(see note 1 at end of radiated test procedures)

d. While looking through the viewfinder eyepiece, aim test set at top antenna and press and release test seq button until a "1" appears in the mode display. Pass (tested 2' - 10')

RESULTS: (1) A "1" is displayed by mode indicator. Pass

(2) Green accept light is ON. Pass

(3) 73 is displayed by code indicator. Pass

(4) A "2" is displayed in the lower left corner of test set indicating distance from antenna. Failed (S.B. 64", tested @10')

√ e. Press and release test seq button until a "2" appears in the mode display.

RESULTS: (1) A "2" is displayed in mode indicator. Pass

(2) Green accept light is ON. Pass

(3) 5555 is displayed by code indicator. Pass

(4) A "2" is displayed in the lower left corner of test set. Pass

√ f. Press and release test seq button until a "3" appears in the mode display.

RESULTS: (1) A "3" is displayed in mode indicator. Pass

(2) Green accept light is ON. Pass

(3) 5555 is displayed by code indicator. Pass

(4) A "2" is displayed in the lower left corner of test set. Pass

√ g. Press and release test set test Seq button until a 4 appears in the mode display.

RESULTS: (1) A "4" is displayed by mode indicator. Pass

(2) Green accept lamp is ON. Pass___

(3) Code "A" is displayed by code indicator. Pass___

√ h. Place cockpit antenna switch to the auto position. Repeat steps d, e, f, and g while aiming test set at top and then bottom antenna. The Test set will display a green or yellow "accept light" for the lobing antenna. Disregard this step if there is no antenna Top/Auto/Bottom switch

NOTE:
The number in the lower left corner of the test set will change between 0 through 7 depending on the distance from antennas.

NOTE:
Due to the location of the bottom antenna, it may not be possible to complete the same checks as the upper antenna. These checks can only be made when no obstruction is between the lower antenna and the test set.

(Checked at various angles, but had to get as close as 2'-4' at times to get a reading. No readings further than 10'-12')
(Power/Sensitivity step 1 or 0 even at very close range)

√ h. Repeat steps d, e, f, and g at different angles and distances from antennas a minimum every 45 degrees around the aircraft. Mark each position on Figure 1 where each test was completed.

(Note 1: For all radiated tests, first checked at 18'. No readings could be made unless test set were very close to the antenna. Low power indications noted throughout all of the radiated tests for all modes on both upper and lower antennas)

(Note 2: All failures other than Power/Sensitivity are noted in the margins)

PROCEDURES FOR CONNECTING THE AN/APM-424 FOR NON-RADIATING TESTING

1.9. During this checkout procedures, the test set is connected directly to the transponder under test. This is accomplished by using umbilical RF cable stored in transit case. An antiradiating hood must be installed over the test set antenna to prevent unwanted interference.

a. Remove antiradiating hood from transit case lid.

b. Install antiradiating hood on test set antenna.

c. Secure antiradiating hood flap over antenna using Velcro straps.

d. Remove umbilical RF cable from transit case and connect one end to test set umbilical cable connector J1.

e. Disconnect top antenna connector from the transponder receiver-transmitter.

f. Connect remaining end of umbilical RF cable to transponder receiver-transmitter top antenna.

g. Insure that one of the cables remain connected to aircraft antenna system.

(APM-424 failed direct connect, an adapter cable had to be used because the factory cable could not be directly connected to the Rt. The APM-378 test Set was direct connected and the RT passed with the APM-378)

2.0. SHUT DOWN PROCEDURE

a. On Control Panel, place M-1, M-2, M-3/A, and M-C switches to the OUT position.

b. On Control Panel, place master switch to OFF position.

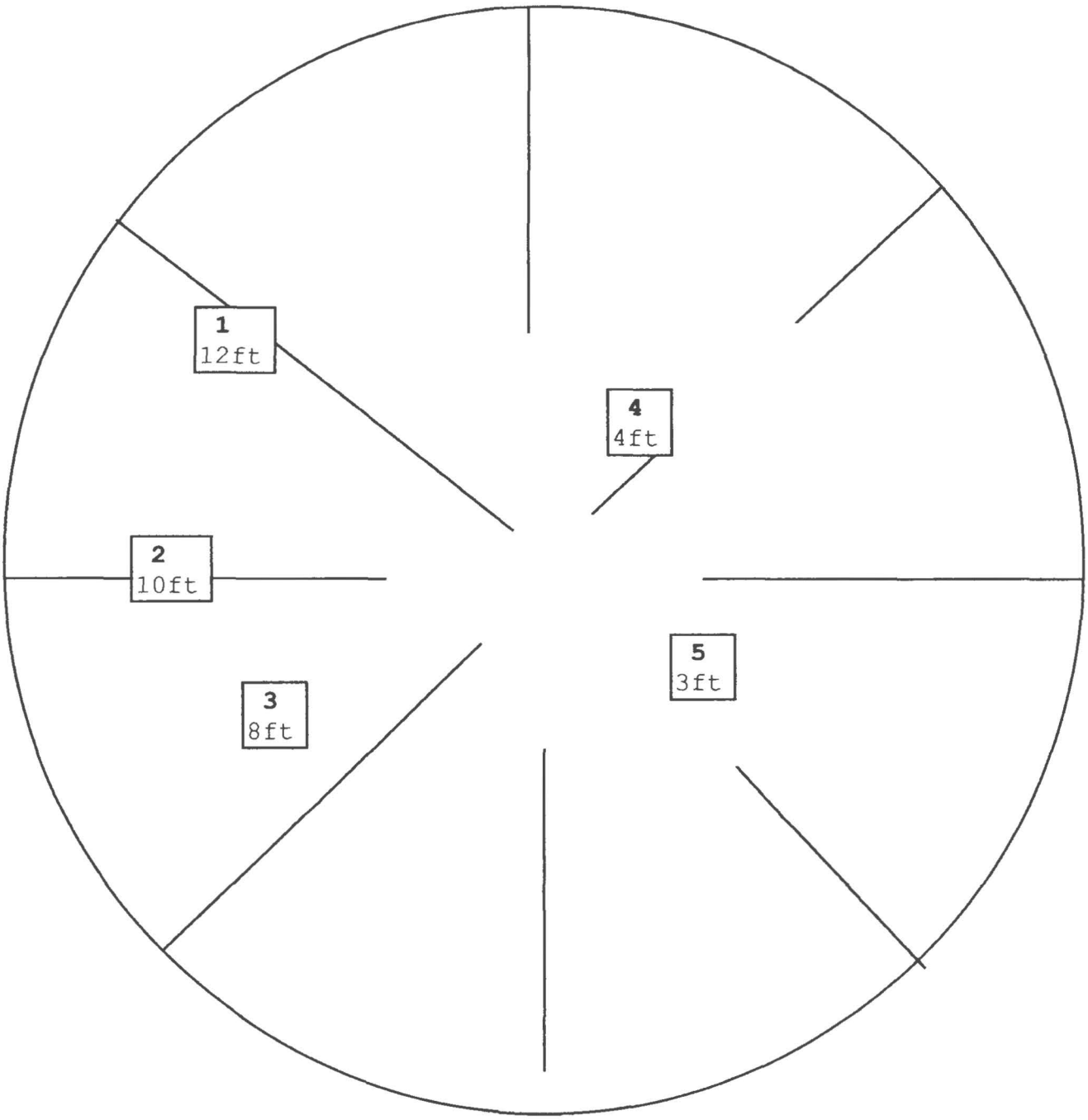
c. Disengage transponder circuit breakers.

d. Remove power from aircraft.

e. Secure all panels for flight.

1. Pass *(Lower antenna main test)*
2. Pass *(Top Antenna)*
3. Pass *(Top Antenna)*
4. Pass *(Top Antenna)*
5. Pass *(Top Antenna)*

(All Power/Sensitivity step readings step reading 0 or 1)



(Altimeter readings are from the Pitot Static Test Set)

ALTIMETER	MODE C	ALTIMETER	MODE C
200'	200'		
1000'	1000'		
2000'	2000'		
3000'	3000'		
PA-210'	-200'		

attachment 1

APPENDIX 1A

TEST DATA SHEET

NSN: 5895-00-068-1555 5998-00-140-7843 5998-00-140-7844 5895-00-140-7845 5998-00-145-3218 5895-00-149-1319 5895-00-160-2198 5898-00-481-5003 5999-00-847-8940 5895-01-040-1531 5998-01-043-6602 5895-01-043-9874 5998-01-044-7011 5998-01-044-9970 5895-01-203-3465	**WORK ORDER #:** EA6Bb 163045
NOMENCLATURE: RT-859A/APX-72 Receiver-Transmitter, Radio	**SERIAL #:** DCN 11296 **COST CENTER:** **ENGINEER:**
TECHNICAL REFERENCE	
DMWR:	**MIL SPEC:**
TECHNICAL MANUAL: 11-5895-490-34-1	**OTHER:**

TEST PERFORMED	RESULT OF TEST
Chapter 3, Maintenance Instructions, p. 3-4.	
para. 3-2 Receiver Sensitivity Bandwidth Frequency Performance Test.	
h. Normal sensitivity: -77dB +/- 3dB	
Mode 1, 2, 3/A, C.	77.5 PASS
i. No more than 1 dB difference between modes.	X PASS
j. Low sensitivity: -65dB +/- 2dB.	
Mode 1, 2, 3/A, C.	71.0 FAIL
No more than 2 dB difference between modes.	X PASS
u. Receiver bandwidth 7 MHx minimum.	10.0 MHz
v. Receiver center frequency.	1029.0 MHz
para. 3.3 Transmitter Power Output and Frequency Test.	27.3 meas. + .9 cable
g. Normal power output: 27dBW +/- 3dBW.	28.2 dBW
Droop between F1 & F2 is less tyhan 1 dB.	<1 dB
h. Transmitter power frequency: 1090 +/- 3MHz.	1089.0 MHz
para. 3-4 Transponder Reply Code Charactersitics Performance Test.	
f. Pulse rise time: 0.05 to 0.15 useconds.	0.134 useconds
Pulse fall time: 0.05 to 0.20 useconds.	0.080 useconds
Receiver pulse width: 0.45 +/- 0.10 useconds.	0.418 useconds
Frame spacing: 20.3 +/- 0.05 useconds.	20.30 useconds
Ident spacing: 24.65 +/- 0.5 useconds.	24.65 useconds
Ident pulse time: 15 to 30 seconds.	24 seconds

DATE: 15 Oct 98	**TECHNICIAN:** Ron Kleckler	
TECHNICIAN: Bob Simmonette	**ACCEPTED:**	**REJECTED:**

APPENDIX 1A (CONT'D)

DATE:	TEST DATA CONTINUATION SHEET	SHEET 2 of 2
NOMEN: RT-859A/APX-72		SERIAL #: DCN 11296

TEST PERFORMED	RESULT OF TEST
para. 3-5 Transponder Decoding Characteristics Performance Test.	
f. Reply pulse IAW Table 3-4 & Fig. 3-3.	X PASS
g. Reply pulse appears only on 0.80.	X PASS
h. Reply pulses appear on -.2, 0, +2.	X PASS
i. Reply pulses appear (Mode 4) on -.2, 0, +2.	X PASS
k. Full Mode 3/A reply should be present.	X PASS
para. 3-6 Transponder Automatic Overload Cutoff (AOC) Performance Test.	
g. Mode 1: 1200 +/- 100 PRF.	<1100 >1000 PRF X FAIL
h. Mode 2: 1200 +/- 100 PRF.	<1100 >1000 PRF X FAIL
Mode 3/A: 1200 +/- 100 PRF.	<1100 >1000 PRF X FAIL
Mode C: 1200 +/- 100 PRF.	<1100 >1000 PRF X FAIL
para. 3-7 Transponder ISLS Performance Test.	
g. Reply pulses disappear.	X PASS
h. Mode 1 reply pulses appear only on -.60.	X PASS
i. Modes 2, 3/A, & C reply pulses only on -.60 and +.60.	X PASS
j. No more than 5 replies.	X PASS
k. Replies are enabled.	X PASS
l. Replies are enabled thru entire range.	X PASS
para. 3-8 Transponder Disparity Performance Test.	
f. Observe 3 pulse reply.	X PASS
g. Transponder Set Control Reply indicator is lit.	X PASS
h. Delay should be 2 to 5 seconds.	2.5 seconds
j. Indicator lights and reply pulses disappear.	X PASS
k. Delay should be 2 to 5 seconds.	2.5 seconds
l. Reply pulses disappear and indicator extinguishes.	X PASS
m. MODE 4 caution indicator illuminates.	X PASS
n. MODE 4 caution indicator extinguishes.	X PASS
o. MODE 4 caution indicator lights and Transponder set control reply indicator extinguishes.	X PASS
q. Measurement meter indicates the threshold of the reply indicator in PRF.	38 PASS
r. Pulse width .4 to .6 useconds. .	.616 useconds X FAIL
Amplitude 1.5 to 5.0 volts.	3.6 volts
s. Audio pulse not less than 500 useconds.	780 useconds
t. Reply measurement meter 1500 to 2500 PRF.	1896 PRF
para. 3-9 Transponder Receiver Dead Time Performance Test.	
e. 2 sets of Mode 3/A reply pulses are displayed.	X PASS
g. Pulse spacing 75 to 100 useconds.	91 useconds
para. 3-10 Transponder Suppression Pulse Performance Test.	
f. Suppression pulse minimum 18V as F1 reaches 10% of amplitude.	23 volts
<5 volts after F2 decays to 10% level.	0 volts
g. Suppression switch on, pulses disappear.	X PASS

APPENDIX 1B

AN/APX-72 AUTO TEST

SERIAL NO.: DCN 111296

VER 2.10 (7-21-97)

CONFIGURATION AS TESTED:
KIT SIMULATOR SELECTED
NO 115 VAC 400 HZ POWER

STEP	TEST TITLE	LOW LIMIT	HIGH LIMIT	MEASURED	FAILED
1	28 VDC MEASUREMENT	25.0	31.0	27.0 VDC	
2	SW 28 VDC MEASUREMENT	25.0	31.0	27.7 VDC	
3	SW 115V MEASUREMENT TEST BYPASSED				
4	RF 0 POWER MEASUREMENT		0.0	0 DBM	
5	M1 RF POWER MEASUREMENT	>53.0		56.0 DBM	
6	M1 7300 REPLY DECODING F1-A1 SPACING F1-F2 SPACING	7300 2.85 20.20	7300 2.95 20.40	7300 2.895 USEC 20.275 USEC	
7	M1 0000 REPLY DECODING	0000	0000	0000	
8	M1 I/P REPLY DECODING F1 TO F2 SPACING F1 TO F3 SPACING F1 TO F4 SPACING	 20.10 24.45 44.65	 20.50 24.85 45.25	 20.290 USEC 24.630 USEC 44.945 USEC	
9	CENTER FREQUENCY	1088.0	1092.0	1089.716 MHZ	
10	M1 EMERGENCY REPLY DECODE REPLY CODE F2 TO F4 SPACING	 0000 24.45	 0000 24.85	 0000 24.670 USEC	
11	M3/A RF POWER MEASUREMENT	53.0	63.0	57.6 DBM	
12	M3/A EMERG. REPLY DECODE REPLY CODE F1 TO F3 SPACING F2 TO F4 SPACING	 7700 24.55 24.45	 7700 24.75 24.85	 7700 24.635 USEC 24.670 USEC	
13	M3/A 0000 REPLY DECODING	0000	0000	0000	
14	M3/A 7777 REPLY DECODING F1-C1 SPACING F1-F2 SPACING	7777 1.40 20.20	7777 1.50 20.40	7777 1.415 USEC 20.260 USEC	
15	M3/A I/P REPLY DECODING REPLY CODE F1 TO F3 PULSE SPACING	 24.45	 24.85	 7777 24.610 USEC	
16	RF POWER MEASUREMENT	53.0	63.0	57.7 DBM	
17	SUPPRESSION ON RF POWER		0.0	0 DBM	
18	M3/A F1-F2 SPACING	20.2	20.4	20.280 USEC	
19	M3/A F1 PULSE WIDTH	0.35	0.55	0.425 USEC	
20	SUPPRESSION GATE AMPL	15.0	70.0	23.0 V	
21	M3/A STANDBY RF POWER		0.0	0 DBM	
22	M4 STANDBY RF POWER		0.0	0 DBM	
23	M4 TRIGGER AMPLITUDE	1.5	25.0	4.7 V	
24	BYPASSED				
25	M4 CHALLENGE VIDEO PULSE WIDTH	1.5 0.4	5.0 0.7	3.4 V 0.665 USEC	
26	M4 REPLY LIGHT 27.4 V (300 PRF) 27.4 V (100 PRF) 0.0 V (20 PRF)	 24.0 24.0	 29.0 29.0 1.0		
27	M4 AUDIO OUTPUT LEVEL	0.6		0.6 V	XXXX

AN/APX-72 AUTO TEST (CONT'D)

SERIAL NO.: DCN 111296

VER 2.10 (7-21-97)

CONFIGURATION AS TESTED:
KIT SIMULATOR SELECTED
NO 115 VAC 400 HZ POWER

STEP	TEST TITLE	LOW LIMIT	HIGH LIMIT	MEASURED	FAILED
28	M4 ISLS-ON				
	POWER		40.0	0 DBM	
	SPACING	3.8	4.2	4.005 USEC	
29	M4 ISLS-OFF				
	POWER	53.0	63.0	57.3 DBM	
	SPACING	>4.2		6.010 USEC	
30	M4 CAUTION LIGHT	25.0	31.0	28.2 V	
31	M4 DISPARITY A ON		1.0	0.0 V	
32	M4 DISPARITY A OFF	24.0	29.0	28.2 V	
33	M4 DISPARITY B ON		1.0	0.0 V	
34	CODE ZEROIZE & ALARM	25.0	31.0	30.6 V	
35	M2 RFEPLY DECODING/POWER				
	0000 CODING	0000		0000	
	F1-F2 SPACING	20.20	20.40	20.285 USEC	
	7777 CODING	7777		7777	
	F1-C1 SPACING	1.40	1.50	1.415 USEC	
	POWER	53.0	63.0	57.5 DBM	
36	MC RF POWER MEASUREMENT	53.0	63.0	57.4 DBM	
37	MC 7776 REPLY DECODING	7776	7776	7776	
	F1-C1 SPACING	1.40	1.50	1.410 USEC	
	F1-F2 SPACING	20.20	20.40	20.255 USEC	
38	MC 0000 REPLY DECODING	0000	0000	0000	
39	X PULSE OPERATION	10.05	10.25	10.135 USEC	
40	AUX TRIGGER OPERATION	53.0	63.0	57.3 DBM	
41	RECEIVER BANDPASS	7.0	10.0		
	F (LO): 1025				
	F (HI): 1035				
	BP: 10				
42	LOW SENSITIVITY	-62	-68	-71 DBM	XXXX
43	POWER DROOP TEST		+/- 1		
	F1: 57.3 DBM				
	F2: 57.4 DBM				
	DIFF: -0.1 DB				
44	M2 I/P REPLY DECODING				
	REPLY CODE			0000	
	F1 TO IP PULSE SPACING	24.45	24.85	24.630 USEC	
	AFTER IP TIMEOUT			2955.980 USEC	
45	M3/A DECODE TOLERANCE				
	P1-P3 SPACING				
	8.2 US: 57.4 DBM				
	8.8 US: 0 DBM				
	7.8 US: 57.4 DBM				
	7.2 US: 0 DBM				
46	M4 DECODE TOLERANCE				
	S1 POSITION				
	+0.1 US: 3.292 V				
	+0.7 US: 0.000 V				
	-0.1 US: 3.290 V				

AN/APX-72 AUTO TEST (CONT'D)

SERIAL NO.: DCN 111296

VER 2.10 (7-21-97)

CONFIGURATION AS TESTED:
KIT SIMULATOR SELECTED
NO 115 VAC 400 HZ POWER

STEP	TEST TITLE	LOW LIMIT	HIGH LIMIT	MEASURED	FAILED
47	M4 MTL/DYNAMIC RANGE	-73	-79	-78 DBM	
48	MODE 1 MTL	-73	-79	-78 DBM	
49	MODE 2 MTL	-73	-79	-78 DBM	
50	MODE 3/A MTL	-73	-79	-78 DBM	
51	MODE C MTL	-73	-79	-78 DBM	
52	MTL MODE COMPARISON M1: 0 DB M2: 0 DB M3/A: 0 DB MC: 0 DB		+/- 1		
53	AOC CHECK MANUAL CHECK ONLY				
54	MANUAL TEST SETUP MANUAL CHECK ONLY				

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: **15APR98--002-3003-6HMS**

INVESTIGATIVE ACTION: **ACQUISITION OF EVIDENCE**

On 20Oct98, at the request of Trial Counsel (MAJ NCIS (b)(6), (b)(7)(C)), samples of the two severed gondola cables were retrieved from the gondola wreckage currently being stored at Marine Corps Air Station (MCAS) New River, Jacksonville, NC. The Crash, Fire, and Rescue section at the MCAS assisted Reporting Agent (RA) in obtaining the samples by cutting off sections with their equipment. The samples included the load-bearing cable which is approximately 29" in length and 2.5" in diameter along with the drive cable which is approximately 33" in length and 1" in diameter. These items were placed in the NCISFO Carolinas evidence custody system under log number 672-98. MAJ NCIS (b)(6), (b)(7)(C) requested that these samples be provided to LTCOL NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) or MAJ NCIS (b)(6), (b)(7)(C) at NAVAIR, at Naval Air Station (NAS) Patuxent River, MD for review and evaluation. On 21Oct98, the cable samples were shipped to NCISRA Patuxent River via Federal Express overnight delivery. The cables were ultimately provided to LTCOL NCIS (b)(6), (b)(7)(C) at NAVAIR by Participating Agent NCIS (b)(6), (b)(7)(C)

Participating Agent
NCIS (b)(6), (b)(7)(C) SA, NCISRA Patuxent River, MD

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCISFO Carolinas, Camp Lejeune, NC**
DATE TYPED: **23OCT98**

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EXHIBIT (231)

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: Results of Contact with DSS

On about 22Oct98, contact was made with the Department of Defense, Defense Security Service (DSS), in Washington, D.C., formally the Defense Investigative Service (DIS), wherein several dossiers pertaining to CAPT NCIS (b)(6), (b)(7)(C) USMC, NCIS (b)(6), (b)(7)(C) CAPT NCIS (b)(6), (b)(7)(C) USMC, NCIS (b)(6), (b)(7)(C) and CAPT NCIS (b)(6), (b)(7)(C) USMC, NCIS (b)(6), (b)(7)(C) were obtained. According to DSS, there was no dossier for CAPT NCIS (b)(6), (b)(7)(C) USMC, NCIS (b)(6), (b)(7)(C)

According to the dossier on NCIS (b)(6), (b)(7)(C) dated 21Mar95, a local agency check revealed a 06Aug93 arrest by the Pensacola Police Department (PPD), Pensacola, FL. NCIS (b)(6), (b)(7)(C) was charged with battery on a police officer, resisting a police officer, disorderly conduct and destruction of city property. On 19Aug93, at the request of the PPD, no prosecution was filed. No unfavorable information was noted on NCIS (b)(6), (b)(7)(C) Report of Credit. According to NCIS (b)(6), (b)(7)(C) dossier, the only foreign travel listed was Baja California, Mexico, on several occasions, and a Carnival Cruise to various Caribbean Islands and the Grand Cayman Islands. NCIS (b)(6), (b)(7)(C) listed a NCIS (b)(6), (b)(7)(C) of Laguna Niguel, CA as a personal reference on his dossier, Enclosure (1) pertains.

NCIS (b)(6), (b)(7)(C) dossiers, dated 24Jun89, 23Dec93 and 06Jun94, showed extensive foreign travel to Austria, England, Germany, Belgian, Luxor and the Netherlands between Aug86 and Dec88. A Report of Credit NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) Local agency checks revealed no derogatory information, Enclosure (2) pertains.

According to the dossier, dated 24Mar98, NCIS (b)(6), (b)(7)(C) stated while he was deployed in Italy, "he was in the airplane involved in the accident when the line for the ski lift gondola was severed." NCIS (b)(6), (b)(7)(C) advised that charges would be pending. Local agency checks revealed no derogatory information. During a DSS interview, when asked if he had a history of using alcohol to excess, NCIS (b)(6), (b)(7)(C) responded "Yes, but never had alcohol related incident or had any disciplinary action taken against him". A Report of Credit NCIS (b)(6), (b)(7)(C) indicated that while deployed in Italy, he had traveled to Germany and Slovenia, during 1997. No other foreign travel was indicated, except a pleasure trip to Mexico during Mar91, Enclosure (3) pertains.

ENCLOSURES
(1) DIS Investigation NCIS (b)(6), (b)(7)(C) 21Mar95
(2) DIS Investigation NCIS (b)(6), (b)(7)(C) 24Jun89/23Dec93/21Mar95
(3) DIS Investigation NCIS (b)(6), (b)(7)(C) 24Mar98

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EXHIBIT (232)

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: NCISHQ 0023CI, Washington, DC
DATE TYPED: 13Nov98

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Pages 1576 through 1675 redacted for the following reasons:
- -
Enclosures (1 -3) to Exhibit (232): NCIS (b)(6), (b)(7)(C), Withheld

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFOLRANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: RESULTS OF GPS

On 27OCT98 Reporting Agent took the Global Positioning System (GPS) points for the following locations utilizing a Magellan 4000 XL system loaded with the WGS84 Datum.

(1) Ski slope identified by witnesses NCIS (b)(6), (b)(7)(C) and NCIS (b)(6), (b)(7)(C)

46*44.55N
011*46.38E
3400-3600 Ft (elevation)
11:08:47 (time)

(2) Church at the town of Luson, Italy

46*44.82N
011*45.68E
3400-3600 Ft
11:46:10

(3) Residence of NCIS (b)(6), (b)(7)(C)

46* 44.73N
011*45.58E
3480 Ft (approx.)
12:23:04

(4) Residence of NCIS (b)(6), (b)(7)(C)

46*45.57N
011*43.31E
3400-3450 Ft
15:05:18

(5) Bridge next to residence of NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C)

46*45.22N
011*43.93E
2450-2650 Ft
15:28:39

~~ENCLOSURE (1)~~

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(6) Residence of NCIS (b)(6), (b)(7)(C)

46*45.02N
011*44.67E
2700-3000 Ft
16:01:05

(7) Residence of NCIS (b)(6), (b)(7)(C)

46*45.33N
011*44.13E
3100-3200 Ft
16:29:45

(8) Residence of NCIS (b)(6), (b)(7)(C)

46*45.40N
011*43.23E
2800-2950 Ft
16:54:07

Reporting Agent: NCIS (b)(6), (b)(7)(C)
Office: NCISFO Naples, Italy

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFOLRANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: RESULTS OF GPS

On 28OCT98 Reporting Agent took the Global Positioning System (GPS) points for the following location utilizing a Magellan 4000 XL system loaded with the WGS84 Datum.

(1) Location identified by NCIS (b)(6), (b)(7)(C) body shop owner, from where he saw a plane in the driver side mirror of his truck.

46*16.29N
011*25.39E
2400-2450 Ft (elevation)
12:03:03 (time)

Reporting Agent: NCIS (b)(6), (b)(7)(C)
Office: NCISFO Naples, Italy

ENCLOSURE (31)

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: **Interview of** NCIS (b)(6), (b)(7)(C) **Italian witness to Marine EA6B flight over Luson, Italy.**

On 27 October 1998, reporting and participating agents interviewed Mrs. NCIS (b)(6), (b)(7)(C) a witness to Marine EA-6B Prowler flight over the Italian town of Luson, Italy. NCIS (b)(6), (b)(7)(C) who is a farmer in the town of Luson, Italy, claimed she was working in a barn on a woodpile on 03Feb98, when she heard a very loud roar similar to that of an aircraft, but much louder than anything she had ever heard before. NCIS (b)(6), (b)(7)(C) did not see any aircraft and only knows it was the Marine EA6-B prowler flight because she saw the news on the evening report. NCIS (b)(6), (b)(7)(C) finally stated that she had heard planes fly low level over the valley on 2/3 past occasions.

Date and Place of Birth NCIS (b)(6), (b)(7)(C)

Address:

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **09NOV98**

EXHIBIT (26) 23+

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: **Interview of** NCIS (b)(6), (b)(7)(C) **Italian witness to Marine EA-6B flight over Luson, Italy.**

On 27 October 1998, reporting and participating agents interviewed Mrs. NCIS (b)(6), (b)(7)(C) a witness to Marine EA-6B Prowler flight over the Italian town of Luson, Italy. NCIS (b)(6), (b)(7)(C) had taken her son for a ski lesson on the ski slopes of Luson, Italy on 03Feb98. NCIS (b)(6), (b)(7)(C) stated that the lesson started at 1400 and at 1430 circa while halfway up the slope with other women, she heard a noise from a plane which she defined "so close she had never heard a noise like that before." NCIS (b)(6), (b)(7)(C) stated in fact, that the plane was flying so low she thought it was going to touch the ground. NCIS (b)(6), (b)(7)(C) continued to state that the plane continued its flight over the town and down into the valley. NCIS (b)(6), (b)(7)(C) described the plane as dark green/olive green and added that she didn't distinguish any particular markings. NCIS (b)(6), (b)(7)(C) stated that she suffered no physical reaction to the plane's over flight and finally that she had never seen a plane fly that low before in her life. Mrs. NCIS (b)(6), (b)(7)(C) ended by stating that she would travel to the United States to testify on the remarks reported above.

Date and Place of Birth:
Address: NCIS (b)(6), (b)(7)(C)

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **10NOV98**

EXHIBIT 275

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: **Interview of** NCIS (b)(6), (b)(7)(C) **Italian witness to Marine EA6B flight over Luson, Italy.**

On 27 October 1998, reporting and participating agents interviewed Mr. NCIS (b)(6), (b)(7)(C) a witness to Marine EA-6B Prowler flight over the Italian town of Luson, Italy. NCIS (b)(6), (b)(7)(C) a farmer in Luson, Italy, was working in a field outside of his home on 03Feb98. NCIS (b)(6), (b)(7)(C) recalls seeing a military plane flying lower than the tree line which borders on his farm. NCIS (b)(6), (b)(7)(C) doesn't recall the exact time but did remember that it was sometime in the afternoon. NCIS (b)(6), (b)(7)(C) recalled having seen the evening news on television and remembered having seen the aircraft the same day. NCIS (b)(6), (b)(7)(C) couldn't describe the color or the type of aircraft that he had seen, he only remembered that it was flying so fast that it could have only been a military plane. From his position in the field, NCIS (b)(6), (b)(7)(C) looked downward into the valley to see the plane. NCIS (b)(6), (b)(7)(C) also remembered that the plane was banking left and right as it flew past him in the valley. NCIS (b)(6), (b)(7)(C) finally stated that he was not interested in traveling to the U.S. to testify on the matter reported above.

Date and Place of Birth: NCIS (b)(6), (b)(7)(C)
Address:
NCIS (b)(6), (b)(7)(C)

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **05NOV98**

EXHIBIT (~~18~~) 234

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: **Interview of Italian witness to Marine EA-6B flight over Luson, Italy.**

On 27 October 1998, reporting and participating agents interviewed Mr. NCIS (b)(6), (b)(7)(C) a resident of the town of Luson, Italy. NCIS (b)(6), (b)(7)(C) stated that on 03Feb98, he was seated on a sofa in his living room when he heard a tremendous noise coming from outside causing him to look out the window. NCIS (b)(6), (b)(7)(C) stated that at that time, approximately 1430/1500, he saw a plane flying so low he thought it was going to hit the house on the nearby hill. NCIS (b)(6), (b)(7)(C) stated that when he looked outside his window the plane was flying level. NCIS (b)(6), (b)(7)(C) stated that he did not remember the color of the plane, but he did see the exhausts from the jets as it flew away. NCIS (b)(6), (b)(7)(C) added that although he did not see any flames exiting the exhausts, as he looked out the window at the plane, it appeared to him to be flying at eye level. NCIS (b)(6), (b)(7)(C) specified that he is 1 meter 93 centimeters tall. NCIS (b)(6), (b)(7)(C) pointed out that he first caught sight of the plane in the window facing south in the living room, but got a better sight of the plane from the west window. (directions were indicated by NCIS personnel on scene). NCIS (b)(6), (b)(7)(C) later saw the news reports that evening on television and realized it was the same plane he had seen from his house. NCIS (b)(6), (b)(7)(C) finally stated that he would prefer not to travel to the United States to testify on the matters reported above.

Date and Place of Birth: NCIS (b)(6), (b)(7)(C)
Address:

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **10NOV98**

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EXHIBIT 237

U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: **Interview of** NCIS (b)(6), (b)(7)(C) **Italian witness to Marine EA6B flight over Luson, Italy.**

On 27 October 1998, reporting and participating agents interviewed Mr. NCIS (b)(6), (b)(7)(C), a witness to Marine EA-6B Prowler flight over the Italian town of Luson, Italy. NCIS (b)(6), (b)(7)(C) who is a farmer in the town of Luson, Italy, stated that on 03Feb98, while working on his farm and precisely while busy shearing sheep hair, at about 0230 PM, he heard a load roar which he claimed "almost caused him a heart attack." After the roar, NCIS (b)(6), (b)(7)(C) saw a plane flying so low that he thought it was going to crash into the mountains. NCIS (b)(6), (b)(7)(C) stated that at that time the plane was flying at eye level and from the direction of the town, it curved left and flew out into the valley. NCIS (b)(6), (b)(7)(C) stated he was 100% sure it was a military plane and that it was gray in color. He added that he later saw the plane on the evening news report. NCIS (b)(6), (b)(7)(C) stated that he had never seen any plane flying that low, nor heard a plane that loud before. NCIS (b)(6), (b)(7)(C) described the plane's sound as a low, suction sound. Finally, NCIS (b)(6), (b)(7)(C) stated that he was not willing to travel to the United States to testify on the above sighting.

Date and Place of Birth:
Address: NCIS (b)(6), (b)(7)(C)

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **09NOV98**

EXHIBIT 25278

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: **Interview of** NCIS (b)(6), (b)(7)(C) **Italian witness to Marine EA6B flight over Luson, Italy.**

On 27 October 1998, reporting and participating agents interviewed Mr. NCIS (b)(6), (b)(7)(C) a witness to Marine EA-6B Prowler flight over the Italian town of Luson, Italy. NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) is a wood carver who was working in his shop in Luson, Italy on the afternoon of 03Feb98 at 1500/1530 circa. NCIS (b)(6), (b)(7)(C) stated that he was working on a lathe in his wood shop and had on his ear protection at that time. Suddenly, NCIS (b)(6), (b)(7)(C) stated he heard a very loud noise which startled him. NCIS (b)(6), (b)(7)(C) took off his hearing protection and went outside, but at that time he saw nothing of the source of the noise. NCIS (b)(6), (b)(7)(C) stated that he later heard that evening on the late edition news of the incident over Cavalese and consequently attributed the noise he had heard to the aircraft flying over the town of Luson, Italy. NCIS (b)(6), (b)(7)(C) stated that he had heard other military aircraft fly over the valley before, but never had he heard aircraft noise as loud as on that particular day. NCIS (b)(6), (b)(7)(C) had no other information of pertinence to the present investigation.

Date and Place of Birth
Address: NCIS (b)(6), (b)(7)(C)

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **05NOV98**

EXHIBIT (25) 239

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: **Interview of** NCIS (b)(6), (b)(7)(C) **Italian witness to Marine EA6B flight over Luson, Italy.**

On 27 October 1998, reporting and participating agents interviewed Mrs. NCIS (b)(6), (b)(7)(C) a witness to Marine EA-6B Prowler flight over the Italian town of Luson, Italy. NCIS (b)(6), (b)(7)(C) stated that on 03Feb98, she had taken her daughter to a ski lesson on the slopes which overlook the town of Luson, Italy. NCIS (b)(6), (b)(7)(C) stated that the lessons always start at 1400 and therefore, she claimed that around 1430/40, she was frightened by a very loud noise, which she defined louder than a clap of thunder. When NCIS (b)(6), (b)(7)(C) looked up, she saw that a plane had flown over the slope and was already at the end of the valley. NCIS (b)(6), (b)(7)(C) had never seen a plane fly that low before. NCIS (b)(6), (b)(7)(C) stated that her only reaction to the flight was that of fright. NCIS (b)(6), (b)(7)(C) claimed to have been half way up the slope when the plane flew over. She described the route of the plane as having flown up over the tip of the mountain, and continuing down into the valley following the river. NCIS (b)(6), (b)(7)(C) stated that she would be willing to travel to the United States to testify provided that she be allowed to testify in German.

Date and Place of Birth: NCIS (b)(6), (b)(7)(C)
Address:

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **09NOV98**

EXHIBIT 240

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: **Interview of** NCIS (b)(6), (b)(7)(C) **Italian witness to Marine EA6B flight over Luson, Italy.**

On 27 October 1998, reporting and participating agents interviewed Mr. NCIS (b)(6), (b)(7)(C) a witness to Marine EA-6B Prowler flight over the Italian town of Luson, Italy. NCIS (b)(6), (b)(7)(C) who owns a small construction company in Luson, Italy, was sitting in his office at 1400 circa on 03Feb98, when he stated he heard a tremendous roar outside his window. He quickly looked out the window and saw a low flying plane plane directed towards a house on hill overlooking the valley. NCIS (b)(6), (b)(7)(C) thought that there was immediate danger of the plane hitting the house, but then he saw the plane veer off to the left and leave the valley. NCIS (b)(6), (b)(7)(C) described the plane as dark in color and definitely a military plane. He also stated that he only saw the tail end of the plane. NCIS (b)(6), (b)(7)(C) stated that he would be willing to travel to the U.S. to testify about what he had seen on 03Feb98.

Date and Place of Birth:
Address: NCIS (b)(6), (b)(7)(C)

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **05NOV98**

EXHIBIT (22) 241

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: **Interview of** NCIS (b)(6), (b)(7)(C) **Italian witness to Marine EA6B flight over Luson, Italy.**

On 27 October 1998, reporting and participating agents interviewed Mrs. NCIS (b)(6), (b)(7)(C) a witness to Marine EA-6B Prowler flight over the Italian town of Luson, Italy. NCIS (b)(6), (b)(7)(C) stated that on 03Feb98, she had taken her child to ski lessons on one of the slopes overlooking the town of Luson, Italy. NCIS (b)(6), (b)(7)(C) remembered the lessons starting at 1400 and therefore she claimed that about 1430 she heard what she described as a loud clap of thunder. NCIS (b)(6), (b)(7)(C) stated that she was frightened by the noise as a plane flew over her head. She had never seen a plane fly that low before. NCIS (b)(6), (b)(7)(C) stated that she was half way up the slope when the plane flew over. NCIS (b)(6), (b)(7)(C) stated that she would not be willing to travel to the United States to give testimony if called upon.

Date and Place of Birth:
Address: NCIS (b)(6), (b)(7)(C)

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **09NOV98**

EXHIBIT (24/2

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: **I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS**
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On 27 October 1998, reporting and participating agents interviewed Mrs. NCIS (b)(6), (b)(7)(C) a witness to Marine EA-6B Prowler flight over the Italian town of Luson, Italy. NCIS (b)(6), (b)(7)(C) stated she was taking her child to snowboard lessons on 03Feb98. NCIS (b)(6), (b)(7)(C) stated that while the child was taking her lessons NCIS (b)(6), (b)(7)(C) walked half way up the slope to enjoy the sights. NCIS (b)(6), (b)(7)(C) stated she first heard the sound of a plane, then saw the plane. NCIS (b)(6), (b)(7)(C) described it as a military plane, dark green in color. claimed she saw it fly over a peak, dive down the slope and continue into the valley. NCIS (b)(6), (b)(7)(C) claimed it flew so close and the noise it made was so loud, that she instinctively ducked and thought that the plane was going to hit her. NCIS (b)(6), (b)(7)(C) stated she had never seen a plane fly that low before. NCIS (b)(6), (b)(7)(C) finally stated that she would travel to the United States for the purposes of testimony in court only if she were allowed to testify in German.

Date and Place of Birth:
Address: NCIS (b)(6), (b)(7)(C)

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: **NCIS SIGONELLA ITALY**
DATE TYPED: **09NOV98**

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TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: Attempt to locate NCIS (b)(6), (b)(7)(C)

On 13Nov98, Reporting Agent (RA) attempted to locate NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) at his residence reported as NCIS (b)(6), (b)(7)(C) NCIS (b)(6), (b)(7)(C) There was no answer at that residence when RA knocked on the door. The residence is on the second floor of a privately-owned multiple family condominium building located inside a neighborhood complex of similar condominium buildings. No other information was obtained.

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: NCISRA EL TORO, CA
DATE TYPED: 16Nov98

DOC: GAB.IA

~~EXHIBIT (1)~~

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT, NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: Attempt to locate Confusion Snowboards

On 13Nov98, Reporting Agent (RA) attempted to locate the business known as Confusion Snowboards at its last known address of [redacted] NCIS (b)(6), (b)(7)(C) The address [redacted] NCIS (b)(6), (b)(7)(C) falls within a shopping center named "The Center, Rancho Niguel". There was no business named Confusion Snowboards located within "The Center". No other information was obtained.

REPORTED BY: [redacted] NCIS (b)(6), (b)(7)(C)
OFFICE: NCISRA EL TORO, CA
DATE TYPED: 16Nov98

DOC: Snow.IA

[redacted]

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U.S. NAVAL CRIMINAL INVESTIGATIVE SERVICE

TITLE: I/MARFORLANT NORFOLK, VA/ASSISTANCE TO THE AVIANO MISHAP JUDICIAL PROCESS
CCN: 15APR98-0023-0036-7HMS

INVESTIGATIVE ACTION: ACQUISITION OF TRAINING INFORMATION

On 13NOV98, LTCOL NCIS (b)(6), (b)(7)(C) USMC, Executive Officer, VAQ-129, NAS Whidbey Island, provided excerpt copies of "Low Altitude" training, syllabus, and missions. According to NCIS (b)(6), (b)(7)(C) these are the current and updated versions, as the versions used during the exact training periods of 7/92 and 1/95, were not available. In the training material, pilot info is identified as "PF" and navigator info is identified as "NF". NCIS (b)(6), (b)(7)(C) believed the only thing different in the updated versions was identifying specific maneuvers as "3G".

ENCLOSURES
(1) COPY LOW ALTITUDE TRAINING RULES
(2) COPY VAQ129INST 3120.1K CH1 EXCERPT
(3) COPY LOW ALTITUDE AWARENESS STUDENT GUIDE
(4) COPY LOW ALTITUDE AWARENESS INSTRUCTOR GUIDE
(5) COPY LOW LEVEL FORMATIONS/MANEUVERING INSTRUCTOR GUIDE
(6) COPY PILOT MISSION GUIDES/PF-10/13/15/16/22
(7) COPY NAVIGATOR MISSION GUIDES/NF-8/9

REPORTED BY: NCIS (b)(6), (b)(7)(C)
OFFICE: WHIDBEY ISLAND

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LOW ALTITUDE TRAINING RULES

- All pilots must have flown within the past fifteen days to operate in the low level environment.
- If greater than thirty days have elapsed since the last low level sortie for pilots, minimum altitude shall be the top of the route structure for the first leg and no lower than 500 feet AGL or comfort level altitude whichever is higher for the remainder of the MTR.
- Absolute weather minimums are 3000 feet /5 nm with a well defined horizon. Weather shall be continuously assessed during the low level phase of the sortie.
- Descent through an overcast layer in an attempt to achieve VMC while not under positive IFR control is prohibited.
- Absolute minimum altitude for any MTR is 500 feet AGL.
- Low level sorties shall not be flown at less than cornering airspeed (360-420 KIAS).
- An operational radar altimeter is required for all low level sorties. The radar altimeter bug shall be set no lower than 10% below the minimum prebriefed altitude (i.e. 450 feet).
- Low level sorties shall include a thorough brief of the MTR including route restrictions and obstacles or other potential hazards to flight.
- Low level section/division maneuvers shall be thoroughly briefed in accordance with applicable SOP's and instructional guidelines.
- Emergency/divert airfields along the MTR shall be thoroughly briefed.
- A "G"-awareness maneuver shall be performed prior to commencing the low level sortie. The maneuver shall not exceed 3 G's.
- Oxygen masks shall be securely fastened with visors down during the entire MTR.
- During a section low level sortie, the wingman is always responsible for deconfliction and collision avoidance. The wingman shall always deconflict high unless a trend or safety of flight precludes this. An applicable radio call shall be made to announce intentions.
- The wingman shall never fly at less than the flight lead's AGL altitude.
- Maximum angle of bank for ridgeline crossings with the aircraft's nose below the horizon is 90 degrees for FRP's.
- Mission cross-check time shall not exceed three seconds at 500 feet AGL for straight and level flight. There is no mission cross-check time in a turn.
- Any aircrew in a low level sortie may call "knock it off". Upon the "knock it off" call, all aircraft shall climb to 1500 feet AGL, the top of the route structure, or a prebriefed AGL altitude. Aircrew shall call "knock it off" for any of the following:

  - weather deteriorates below required minimums of 3000 feet/5 nm
  - any aircraft descends below the minimum prebriefed AGL altitude
  - any aircraft descends in a turn that was intended to be a level turn
  - any aircraft goes NORDO
  - any aircrew loses situational awareness
  - any unsafe condition occurs

22 OCT 1997

rear cockpit integrity, canopy pins, OBS and light switches; airborne - attention to aviating during emergencies, circuit breaker/equipment malfunctions, lookout doctrine and instrument scan while IMC; shutdown/hotseat - brief ground crew to open rear canopy, install rear cockpit canopy pins.

21. Landing. During the landing phase, the pilot shall verbally confirm that gear and flaps are selected to down position. The pilot and ECMO 1 shall visually confirm that the slats are in transition and, prior to 200 KIAS, the stab has shifted. ECMO 2 and 3 shall visually confirm flaps/slats are in transition and notify the pilot of any flap/slat malfunctions. FRPs should fly as many touch and go landings as possible on return to NUW, fuel, divert weather and aircraft availability permitting to gain proficiency for follow on carrier qualifications.

22. Low Level Operations

a. FRP and FRECMO low level flights are restricted to NO LOWER THAN 500 feet AGL.

b. FRP maneuvering limits are as follows:

Airspeed	350 to 450 KIAS
Angle of bank	90 degrees maximum
G limits	0 to +4

c. VAQ-129 staff and typewing pilots when flying with staff or typewing ECMOs as ECMO 1 are limited to no lower than 200 feet AGL or minimum route altitude, whichever is higher. Low level flights over other than apporved low level routes and designated low level areas (e.g., the Fallon EW range) are restricted to no lower than 500 feet AGL. Pilots who have not flown a low level route within the past 30 days are restricted to 500 feet AGL along the entire route of flight. Formation low level flights are restricted to altitudes required by the least current pilot in the flight.

23. Instrument approaches. As per COMNAVAIRPAC guidance, EA-6B aircraft will not fly an instrument procedure in IMC conditions unless the procedure is published in DOD Flight Information Publications (FLIP), or the procedure has been specifically validated by CINCPACFLT. Prior to deployment or detachment to other than U.S. airports, squadrons shall review theater instrument approach procedures, required instrumentation for specific approaches, theater weather conditions and local area procedures.

24. Landing Fuel. Consideration shall be given to weather conditions and bingo requirements when calculating landing fuel. Ashore, all full stop landings shall be planned to occur with at least the minimum fuel required to the closet suitable divert, but in no case lower than 3000 pounds remaining.

25. ILS APPROACHES

a. Civilian CAT I ILS instrument approaches are authorized under VMC/IMC with the following limitations:

(1) VOR approaches are prohibited.

(2) VOR shall not be used for approach navigation on ILS approaches. TACAN or RADAR Vectors must be utilized to intercept the localizer on the ILS approach.

(3) Criteria for civilian ILS Category I approaches are;

(a) 200 feet AGL decision height.

(b) Runway visual range greater than or equal to 1,800 feet.

b. VOR is authorized for airways navigation only when the station is forward of the wingline. The location of the VOR/ILS antenna limits reception and results in erroneous VOR Azimuth information for stations aft of the wingline.

LOW ALTITUDE AWARENESS

Revision
September 30, 1996

Enclosure (3)

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INTRODUCTION

This publication, and the accompanying lecture, will acquaint you with some of the basic principles of low level flight. Specifically low altitude task management, visual perceptions, low level aerodynamics, and ridge crossing.

PREREQUISITE

Lesson 7.2/8.2, Low Level Navigation.

OBJECTIVES

On completion of this lesson you should be able to:

1. Describe the hierarchy of low level tasks.
2. Define the low level aerodynamics terms Flight Path Angle (FPA), velocity vector, time to impact, zero "G" bunt, overbank, and nose slice.
3. Describe the effects of visual perceptions speed rush, optical flow, masking/shear, and size discrepancies.
4. Describe ridge crossing techniques.
5. Describe Aircrew Coordination Training related to this lesson.

REFERENCES

EA-6B Tactical Manual (U), NWP 55-4-EA-6B, (SNF/WNINTEL).

NATOPS Flight Manual EA-6B Aircraft.

VAQ-129 Standard Operating Procedures, INST 3120.1 series.

VAQ-129 Low Level and Radar Navigation Flight Planning Manual, Lesson 7.2/8.2 Student Guide.

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SECTION 1

LOW ALTITUDE AWARENESS

Low altitude awareness is the combined knowledge of:

- o Task management
- o Visual perceptions
- o Aerodynamics

that allows you to anticipate the path of your aircraft and accomplish your mission safely in the low altitude environment.

We define LOW LEVEL as any altitude at which avoiding the terrain is a major concern of the aircrew. The specific altitude will vary depending on factors such as:

1. Type of terrain (mountains, desert, water).
2. Mission or task loading.
3. Weather conditions.
4. Aircrew low level experience and proficiency.

This lesson will familiarize you with these factors so that you may logically decide what the appropriate altitude is and anticipate altitude changes on low level missions.

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SECTION 2

LOW ALTITUDE TASK MANAGEMENT

Low altitude task management is a way of defining what you MUST do, what you SHOULD do, and what you MAY do in the low altitude environment.

We can define AGL altitudes in terms of task requirements:

Minimum Altitude.	The altitude at which Terrain Clearance Tasks (TCT) require ALL of the aircrew's attention. This is the altitude at which "keeping your butt out of the dirt" is your ONLY concern.
Critical Tasking Altitude.	The altitude at which the aircrew can accomplish Terrain Clearance Tasks and the other Critical Tasks (CT) necessary to accomplish the mission. At this altitude you can perform the navigation, communication, and other tasks necessary to the operational mission.
Noncritical Task Altitude.	The altitude below which the aircrew can accomplish TCT, CT and still have time for additional Noncritical Tasks (NCT) not essential to mission accomplishment. Altitudes above the Noncritical Task altitude, where terrain clearance is not the primary concern of the aircrew, are not in the low altitude environment.

Figure 2-1 illustrates this concept.

SPECIFIC AIRCREW COORDINATION TRAINING TASKS

Upon completion, crewmembers will DESCRIBE the following aircrew coordination behaviors:

Mission Commander, and crewmembers, determine physical obstacles and environmental limitations and other barriers to mission performance. (DM)

Mission Commander, and Pilot/ECMO 1, discuss limitations (VMC, illumination) which may affect crew performance. (MA)

Mission Commander/Pilot discuss factors which induce spatial disorientation (darkness, weather, task loading, performance). (MA)

All crewmembers maintain diligent lookout doctrine during low level formation flight. (SA)

Pilot verbally notify crewmembers of any changes in the radar altimeter alert setting. (CM)

ECMOs 1, 2, and 3 challenge Pilot on deviations from adherence to terrain clearance doctrine. (AS)

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ECMO 1 report to Pilot anticipated terrain features during low level flight. (CM)

TERRAIN CLEARANCE TASKS AND MINIMUM ALTITUDE

Terrain Clearance Tasks (TCT):

a. Aircraft Control. Maintaining the aircraft within its operating envelope (i.e. AOA, airspeed, and "G").

b. Vector Control. Controlling the velocity vector of the aircraft relative to the terrain.

c. AGL Control. Assessing and controlling the aircraft altitude relative to the terrain.

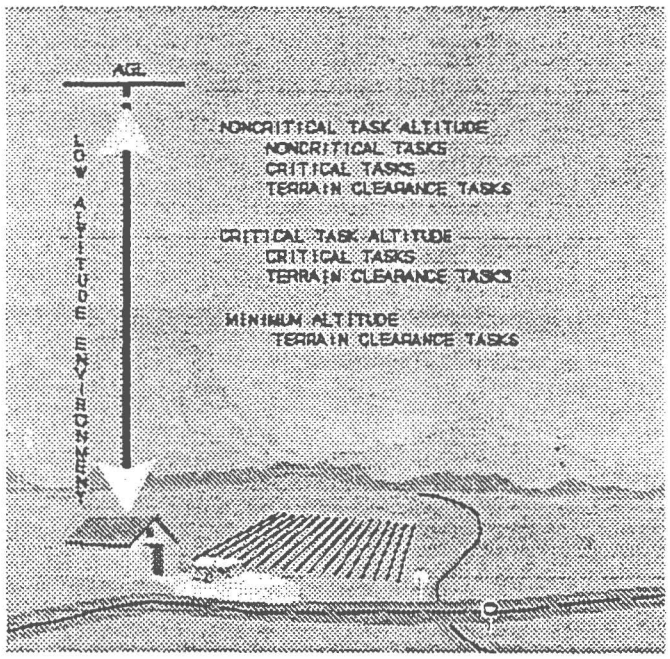

Figure 2-1. Altitudes and Task Requirements.

d. Time Control. The process of knowing when and how long to spend on specific tasks to the exclusion of other tasks. Time control is the least measurable TCT, the hardest to learn or train, the most difficult to control, and carries the greatest potential for causing ground impact.

Minimum Altitude. That altitude at which the aircrew can JUST manage all of these Terrain Clearance Tasks with no time for consideration of mission or other tasks; i.e., **flying below Minimum Altitude for the terrain and conditions is risking imminent uncontrolled collision with the ground.**

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MISSION TASKS

Mission tasks are all aircrew tasks other than terrain clearance required for operational mission success. Mission tasks are further divided into Critical and Noncritical tasks based on the relation of their timeliness to mission success:

Critical Tasks. Tasks that demand IMMEDIATE attention and successful accomplishment for mission success.

Noncritical Tasks. Tasks that can be accomplished in a flexible time window and do NOT IMMEDIATELY affect mission success.

Mission tasks can be grouped as follows:

Situational Awareness. The task management thought process that prioritizes and sequences mission and terrain clearance tasks. Also includes the ability to envision the current status of friendly and enemy forces (relative position, weapons status, etc.).

Navigation and Systems Tasks. Includes visual navigation, radar/INS/electronic navigation, OBS/weapons system setup, and other tasks necessary to be at "the right place at the right time with the right switches in the right position."

Threat. Includes using RHAW and EA systems, terrain masking, and reacting to enemy weapons systems.

Command, Control, Communication. Includes routine tasks necessary to, and coordinate the mission: flying formation, communication, warnings, and clearances.

Specific mission tasks will always be "floating" from Noncritical to Critical and back as the mission progresses.

TASK MANAGEMENT

1. Terrain clearance tasks ALWAYS have top priority (the ground always has a P_k of 1).

2. Critical mission tasks must always be accomplished before noncritical mission tasks.

3. The ability of an aircrew to "stay ahead of the aircraft," i.e., to accomplish tasks before they become critical, is a factor of both experience and preflight planning.

4. Task saturation or misplaced priority occurs when the existing task loading requires more capability than the aircrew has available at that moment or altitude. This finite capacity to accomplish tasks is illustrated as follows:

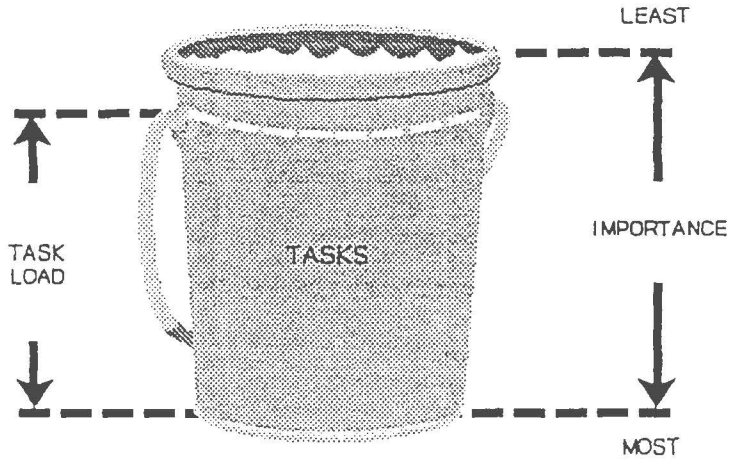

Figure 2-2. Finite Capacity.

a. The "bucket" illustrates the Total Capacity of the aircrew to accomplish terrain clearance and mission tasks.

(1) The level of tasks in the bucket represents the total instantaneous task loading.

(2) The most important tasks are in the bottom of the bucket with the least important at the top.

b. At Minimum Altitude the bucket is filled with Terrain Clearance Tasks. There is no capacity left for mission tasks.

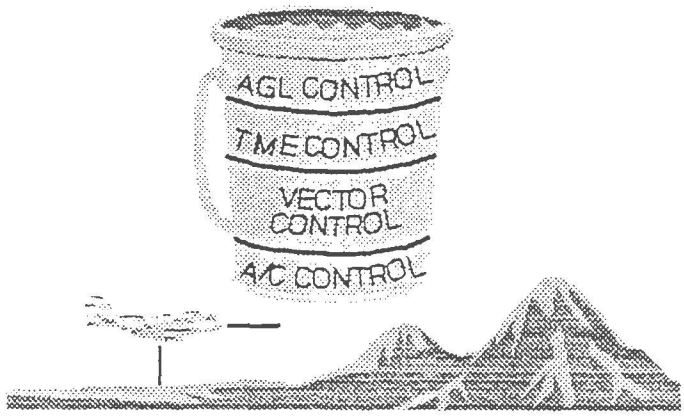

Figure 2-3. Minimum Altitude Bucket.

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c. At less than Minimum Altitude, some Terrain Clearance Tasks will overflow and NOT be accomplished. At this point the aircrew is in imminent danger of collision with the ground.

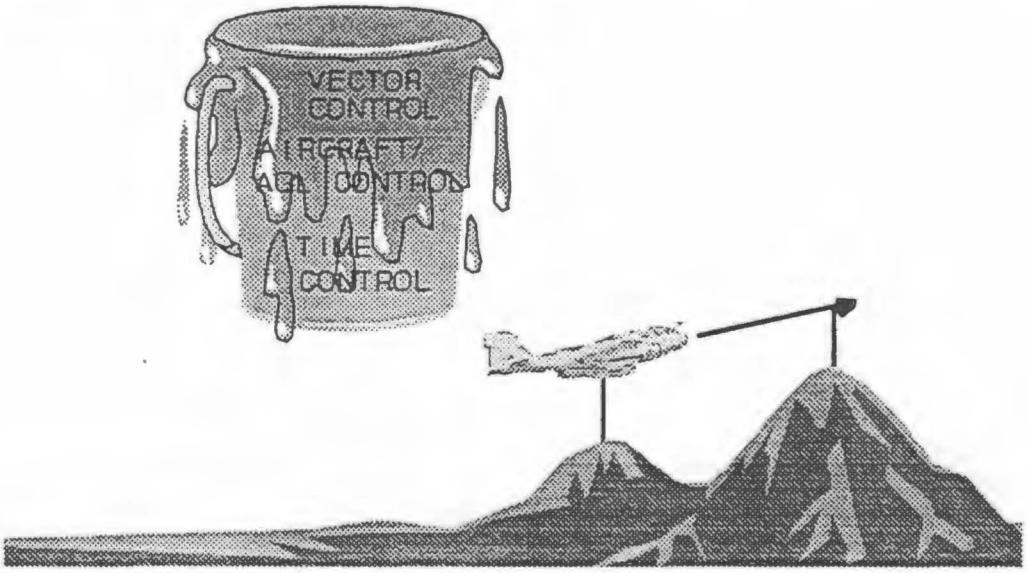

Figure 2-4. Less Than Minimum Altitude.

Note that Minimum Altitude will vary with terrain, weather, and visibility, as well as experience and planning.

d. By the same logic, Critical Task Altitude can be illustrated as the altitude where the aircrew has the capacity to handle terrain clearance tasks, critical mission tasks, and nothing else.

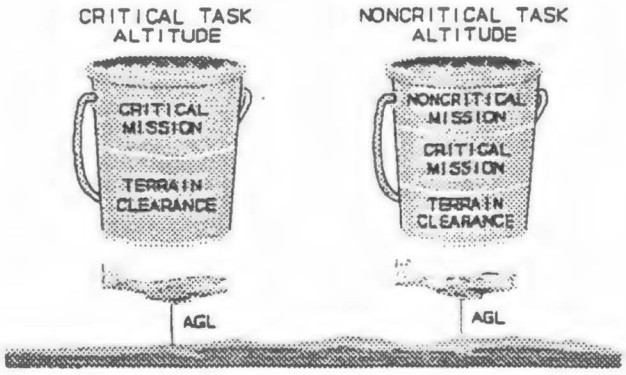

Figure 2-5. Task Management.

At a higher altitude yet, the crew's time requirement to accomplish terrain clearance and critical mission tasks decreases to the point that they have excess capacity to perform noncritical mission tasks.

e. The transition from a Noncritical Task Altitude to a Critical, Minimum, or LOWER altitude can happen RAPIDLY.

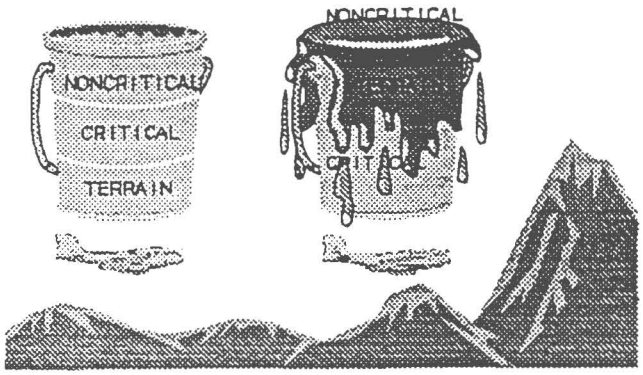

Figure 2-6. Task Overload.

When this TASK OVERLOAD occurs, or when the aircrew attempts a task beyond their finite capacity at that time, the priority system is lost, and tasks tend to be done on an attention basis instead of by their criticality.

In this case, the ONLY immediate solution is to CLIMB. The aircrew must climb to an altitude above the Critical Task altitude and reassess the terrain and mission priorities prior to proceeding at low level.

SECTION 3

LOW LEVEL AERODYNAMICS

VELOCITY VECTOR

1. The velocity vector represents the direction of aircraft travel with respect to the ground, NOT NECESSARILY where the nose is pointed.

2. In high angle of attack/high "G" maneuvers, the nose can be well above the velocity vector.

3. In HUD-equipped aircraft the velocity vector is indicated by the flight path symbol. In the EA-6B, aircrew must be aware of differences in the nose position and flight path vector.

FLIGHT PATH ANGLE (FPA)

1. Flight path angle is the angle in degrees of climb (+) or dive (-) that the aircraft velocity vector makes relative to the ground plane.

2. Flight path angle is used with altitude and airspeed to compute the time it will take to hit the ground in a steady state condition.

TIME TO IMPACT (TTI)

1. Time to impact is the time it will take to hit the ground at a constant FPA and airspeed. TTI can be computed using the following formula.

$$TTI = \frac{AGL}{(TAS \times 1.69) \text{ Sin } FPA}$$

2. The following example illustrates two important aspects of TTI:

Time to Impact (TTI) for -2° FPA

	240 KIAS	480 KIAS
250 AGL	17.6 sec.	8.8 sec.
500 AGL	35.2 sec.	17.6 sec.

a. **If you double your altitude, you double your TTI.**

b. **If you double your airspeed, you halve your TTI.**

3. The implications are simple:

a. In order to gain time to accomplish mission tasks or to eliminate task overload, you must either climb, slow down, or both.

b. The minimum altitude at which you can accomplish a task depends on the time the task requires and the TTI at that altitude.

4. The following tables are "gouge" for EA-6B mission task loading:

TTI for 360 KIAS:				
	-1° FPA	-2° FPA	-3° FPA	-4° FPA
250 AGL	24 sec.	12 sec.	8 sec.	6 sec.
500 AGL	48 sec.	24 sec.	16 sec.	12 sec.

TTI for 420 KIAS:				
	-1° FPA	-2° FPA	-3° FPA	-4° FPA
250 AGL	20 sec.	10 sec.	7 sec.	5 sec.
500 AGL	40 sec.	20 sec.	14 sec.	10 sec.

NOTE

The MINIMUM ALTITUDE for VAQ-129 low level flights is 500 feet AGL.

ZERO "G" BUNT

1. The information above is for 1g level flight.

2. Unloading to zero "G" to accelerate or to lose altitude by "bunting" over a ridgeline can cause a dramatic decrease in TTI.

3. At zero "G" the aircraft is basically a "rock" with a forward velocity and falls vertically following the basic physics formula:

$$D\ (AGL) = 1/2at^2$$

where D = Distance
a = acceleration
t = time

There are two very important considerations from this:

a. AIRSPEED (forward velocity) DOES NOT affect TTI. You are on a ballistic trajectory as long as you maintain zero "G."

b. You are ACCELERATING TOWARD THE GROUND. The altitude lost each second is the square of the time. In the third second you lose NINE TIMES as much altitude as in the first second.

4. The following zero "G" TTIs are good for ANY AIRSPEED. -2° FPA/360 KIAS TTI is shown for comparison.

	0g bunt ANY KIAS	1g/-2°FPA 360 KIAS
250 AGL	3.9 sec.	12 sec.
500 AGL	5.6 sec.	24 sec.

As you can see, maintaining zero "G" for any period of time can put you in the dirt QUICKLY. When using zero "G" to accelerate or bunt over a ridge, altitude is essential and terrain clearance must be the aircrew's primary task.

TURNING

1. Although turning only accounts for 5% of low altitude exposure, it accounts for 52% of the low level fatalities.

2. There are two crucial factors in turning flight at low altitude:

   a. "G" required for level flight.

   b. Overbank.

3. Level flight "G" required.

   a. The "G" required to maintain level flight increases as angle-of-bank increases. If you do not apply sufficient "G", you lose altitude at an accelerated rate, like in a bunt.

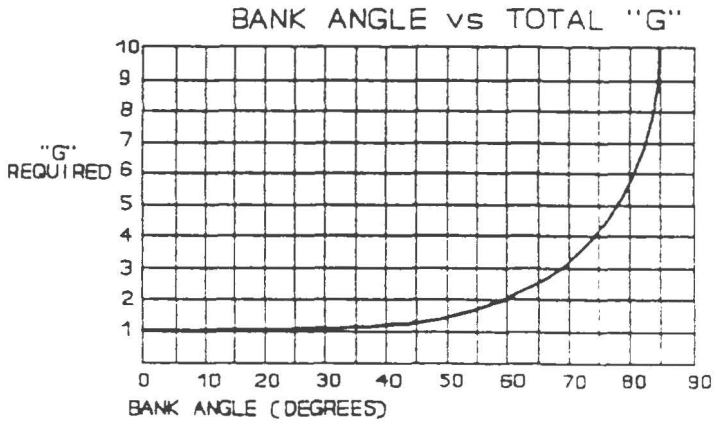

Figure 3-1. "G" Required for Level Flight.

b. This table gives the TTI for 40° and 60° degree banks and insufficient "G". Wings level with -2° FPA is shown for comparison.

	45° AOB/1g (1.4g reqd)	60° AOB/1.5g (2g reqd)	0°AOB/1g -2°FPA
250 AGL	7.3 sec.	7.8 sec.	12 sec.
500 AGL	10.3 sec.	11.1 sec.	24 sec.

As you can see, not pulling enough "G" in a turn can cause a RAPID, ACCELERATING loss of altitude. This condition can occur when looking away or attempting a mission task during a turn.

4. Overbank.

a. Overbank is any bank angle in excess of that required to make a level turn for the "G" loading. The result is the same as insufficient "G," an ACCELERATING loss of altitude.

b. Overbank is usually caused by looking away from the velocity vector during the turn. As indicated in the video, humans are not likely to sense a small roll rate.

c. As shown, overbank of as little as 10° can generate VERY SHORT TTIs. The "G" indicated would hold a level turn at the intended AOB.

	60-70°AOB 2g	71-81°AOB 3g	75-85°AOB 4g
250 AGL	7.0 sec.	5.4 sec.	4.8 sec.
500 AGL	9.9 sec.	6.1 sec.	5.8 sec.

5. The accelerated altitude loss caused by insufficient "G" and overbanking is so drastic that it must be stopped prior to 50% of the time to impact value.

6. The VISUAL CUE to accelerated altitude loss in a turn is NOSE SLICE TO THE INSIDE OF THE TURN.

   a. Figure 3-2 shows a level turn attitude. The velocity vector and FPA are above the horizon.

Figure 3-2. Nose Slice - Straight and Level.

   b. If insufficient "G" is applied or an overbank exists, THE NOSE WILL MOVE DOWN AND INTO THE DIRECTION OF THE TURN. The velocity vector and FPA are now below the horizon.

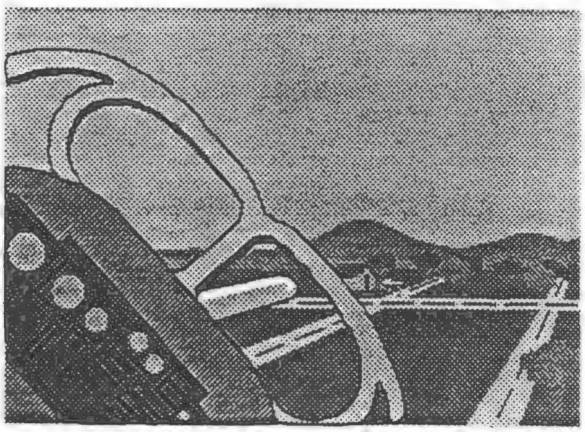

Figure 3-3. Nose Slice - Starting.

c. If not stopped, the nose slice will accelerate down and into the turn. As illustrated in Figure 3-4, the velocity vector and FPA are well below the horizon, and the aircraft is rapidly accelerating toward the ground.

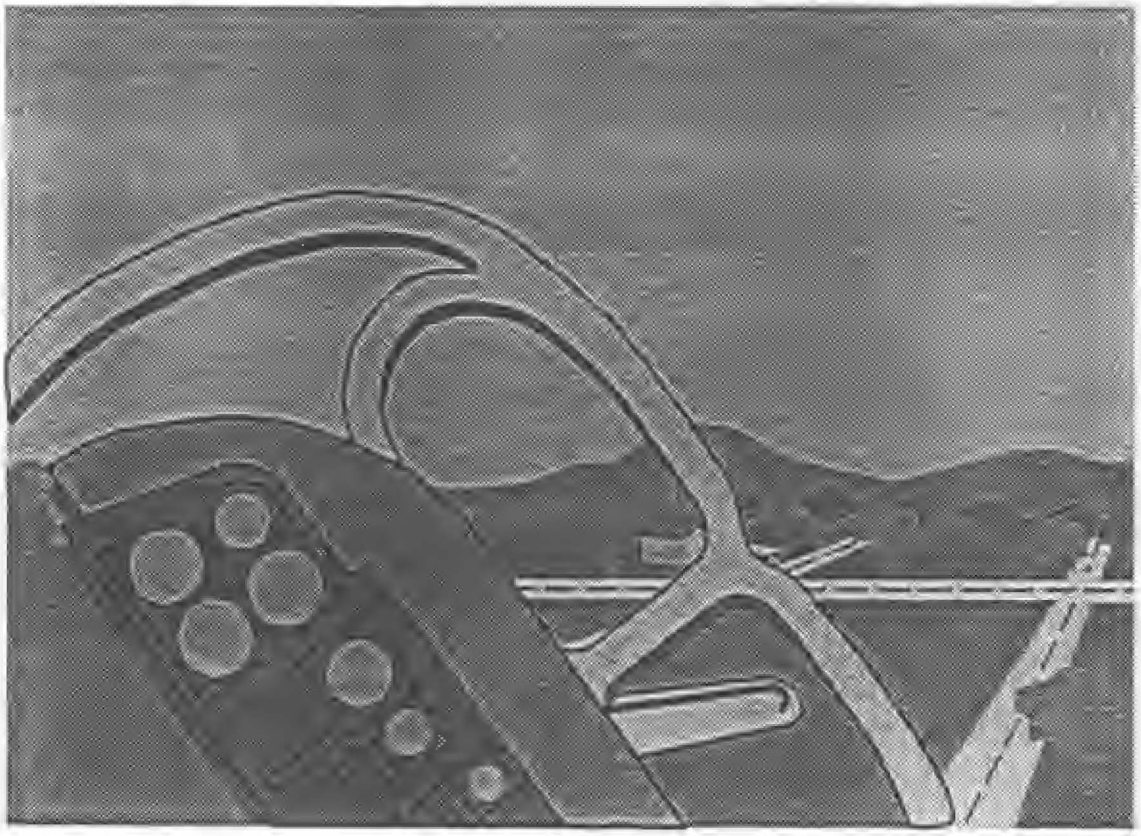

Figure 3-4. Nose Slice - Accelerating.

The only solution at this point is to LEVEL THE WINGS AND PULL UP.

7. The rapidity with which you lose altitude in a turn gave rise to this famous saying:

"Turning and looking away is a DEATH ACT!"

SECTION 4

VISUAL PERCEPTIONS

In addition to the visual perception information shown in the video "Visual Illusions," two additional low altitude perceptions are:

1. Optical flow.

2. Shear.

OPTICAL FLOW

1. Optical flow is the rate and direction of movement of all visible objects produced as a result of the aircraft's velocity vector.

2. Optical flow is the fundamental low altitude visual phenomenon:

   a. Shows where velocity vector is pointed.

   b. Detects potential collisions.

3. Three primary uses of optical flow in low altitude flight:

   a. Interpret direction of flight and altitude when straight and level.

   b. Determine ground track in turns.

   c. Detect and avoid potential collisions with vertical and low contrast objects.

4. Straight and level.

a. In straight and level flight everything flows back in a symmetrical pattern with those objects directly under the velocity vector dropping under the aircraft. Objects to the side move under and away from your flight path.

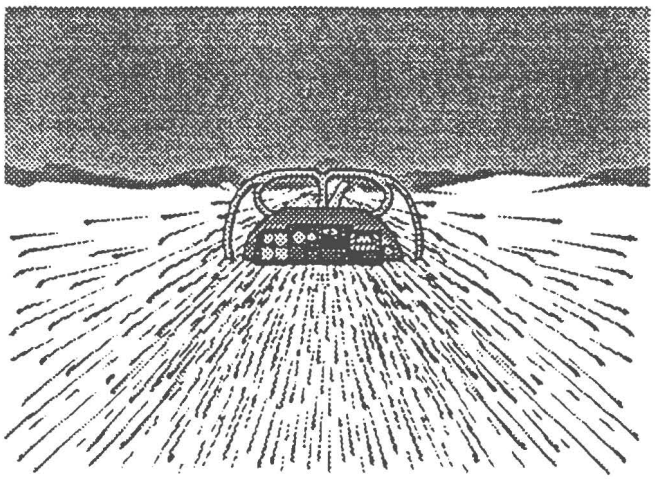

Figure 4-1. Straight and Level.

b. Objects directly ON the velocity vector DO NOT MOVE in any direction. If you wait until you get to them you will HIT them.

c. You will miss objects that are flowing down or outward.

d. Optical flow in straight and level flight is very sensitive to altitude for a given speed.

(1) Cut altitude in half and flow doubles. This is the SPEED RUSH.

(2) Speed rush is a good scare and will provide a vivid warning, PROVIDED YOU ARE LOOKING OUT FRONT!

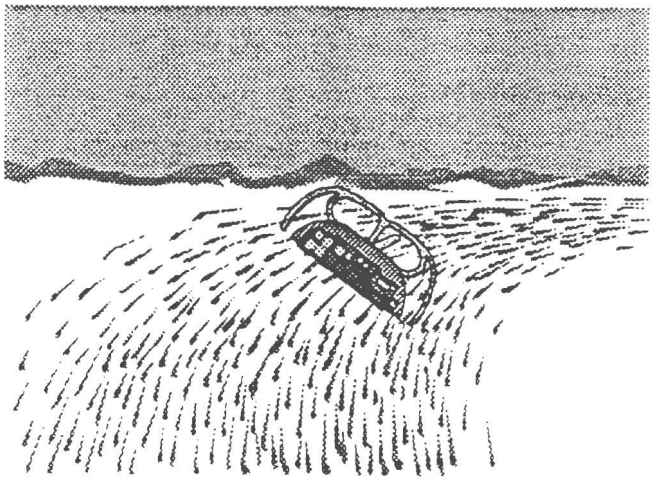

Figure 4-2. Turning.

5. Turning.

a. In a turn, objects:

(1) Well to the outside of the turn will flow parallel to the horizon to the outside of the turn.

(2) Just to the outside of the turn will flow laterally to the outside and drop in elevation to pass under the outside wing.

(3) On your ground track will flow laterally into the windscreen and drop to pass directly under the aircraft.

(4) Inside the turn will flow rapidly down and back to pass under the inside wing.

b. With these relationships you can predict whether an object will pass inside, outside, or be on your turn radius.

c. In vertically developed terrain, you can use optical flow to determine which objects you will turn in front of, behind, or you must climb over.

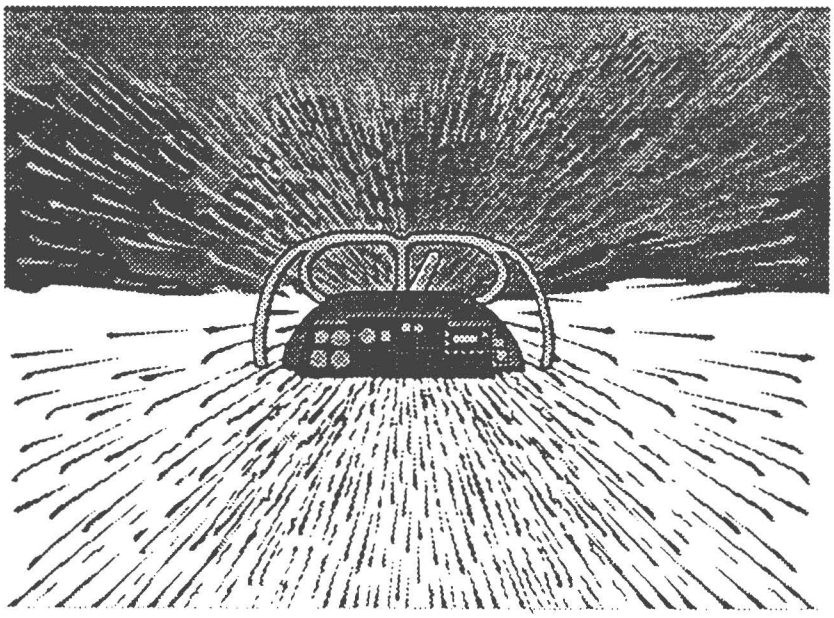

Figure 4-3. Vertical Terrain.

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6. Vertical objects.

   a. When flying toward a vertical object, the optical flow radiates outward from your velocity vector or the POINT OF IMPACT.

   b. Very simply, IF THE OBJECT IS GROWING IN YOUR WINDSCREEN YOU WILL HIT IT ON THAT FLIGHT PATH.

SHEAR

1. Shear is a special case in which optical flow is used to avoid collision with low-contrast vertical objects such as small hills in the shadow of a larger hill.

2. In Figure 4-4 part of the near hill appears to be moving UP the far hill as you get closer.

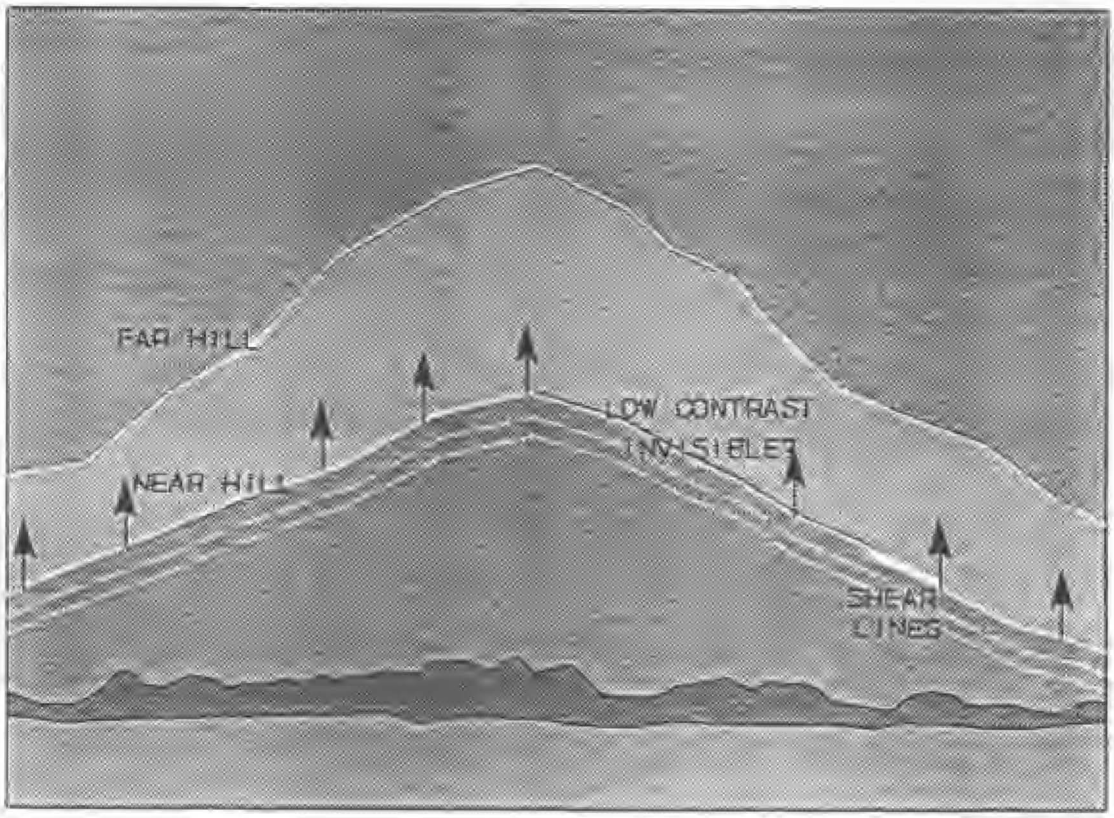

Figure 4-4. Shear - Front View.

3. A side view shows that this is an optical flow phenomenon called Shear. Your velocity vector will impact with the smaller hill if you do not start a climb well before you would to clear the larger hill.

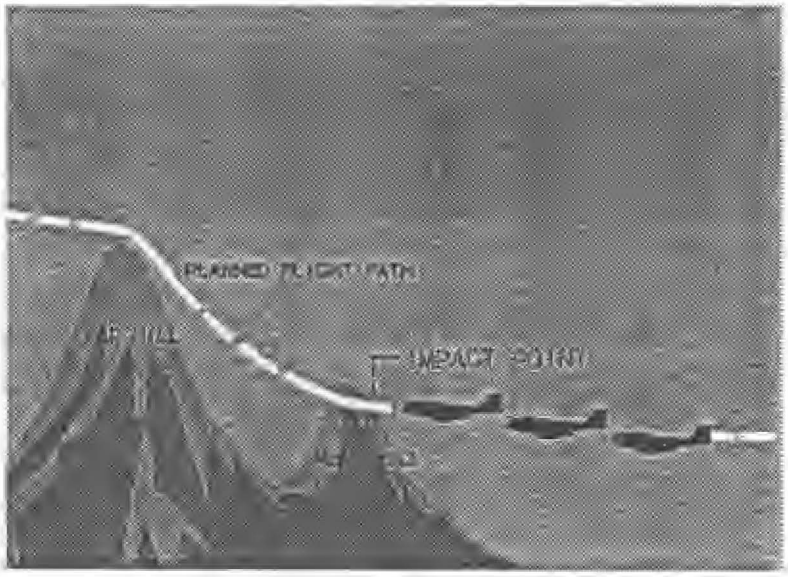

Figure 4-5. Shear - Side View.

4. Approaching any hill or ridgeline in shadows, be alert for shear. IF ANY PORTION OF THE HILL APPEARS TO BE RISING IT IS IN FRONT OF THE LARGER HILL AND BELOW YOUR VELOCITY VECTOR. YOU MUST CLIMB NOW TO AVOID HITTING THE NEAR HILL.

5. If part of the hill appears to be dropping away or shrinking, it is a small hill in the shadow that you will clear on your current flight path.

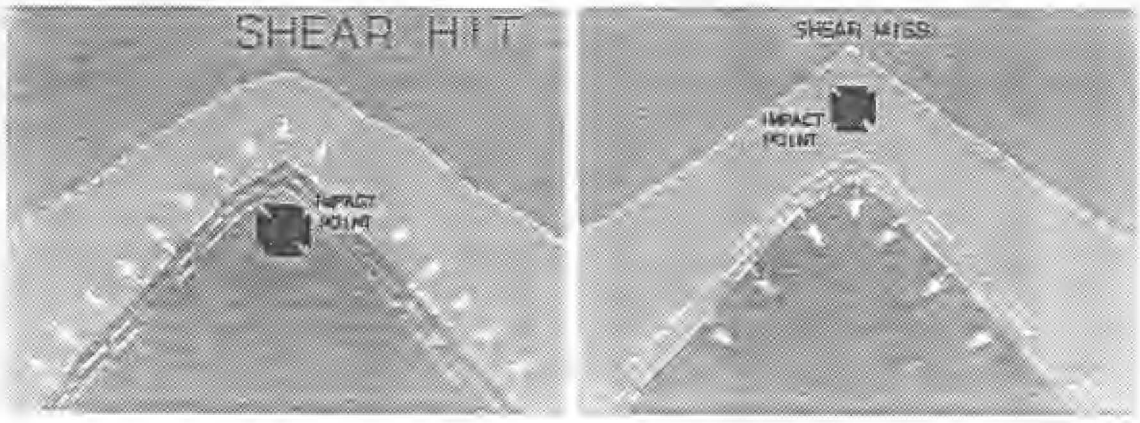

Figure 4-6. Shear.

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SECTION 5

LOW ALTITUDE MANEUVERING

RIDGE CROSSING TECHNIQUES

1. The objective of any ridge crossing technique is to spend as little time as possible above the ridge where you are detectable either visually or by radar.

2. There are two basic ridge crossing techniques: rolling and bunting. Both techniques use the aerodynamic principles covered earlier to lose altitude rapidly.

3. The first consideration in ridge crossing is the approach to the ridge.

   a. Plan your route to cross at passes or saddles. Just because the black line goes over a peak doesn't mean you have to.

NOTE

For local VR and IR routes you must stay within the boundaries of the routes.

Main highways and power lines also run through the passes.

   b. You do not need to approach the ridge parallel to the upslope at high power and airspeed (Path A). The high energy required to maintain the rate of climb will tend to "balloon" you well above the ridge and radar horizon.

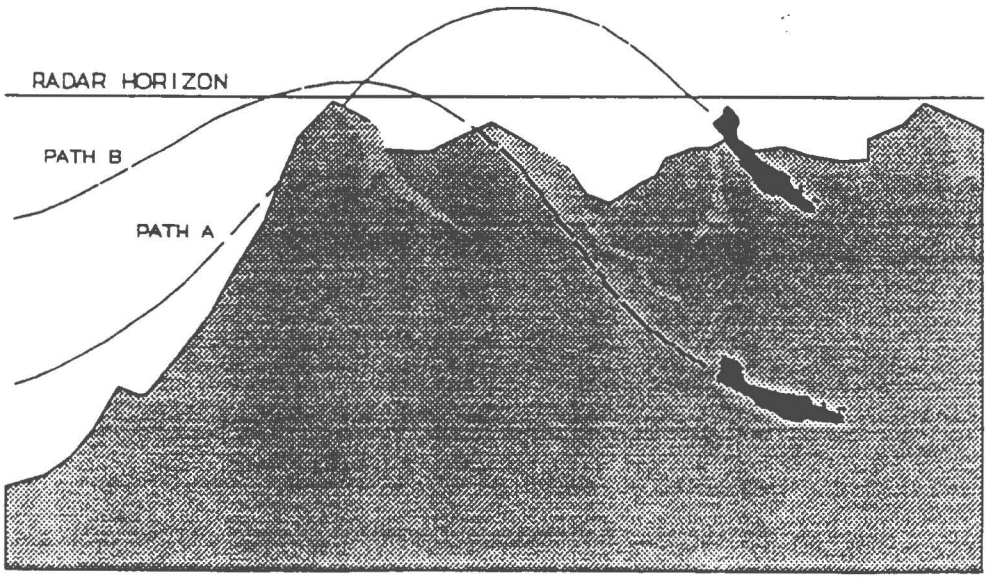

Figure 5-1. Ridge Crossing Paths.

c. A lower energy approach from below the radar horizon (Path B) will allow you to spend less time above the radar horizon.

4. The recommended ridge crossing technique is a combination of bunting and rolling.

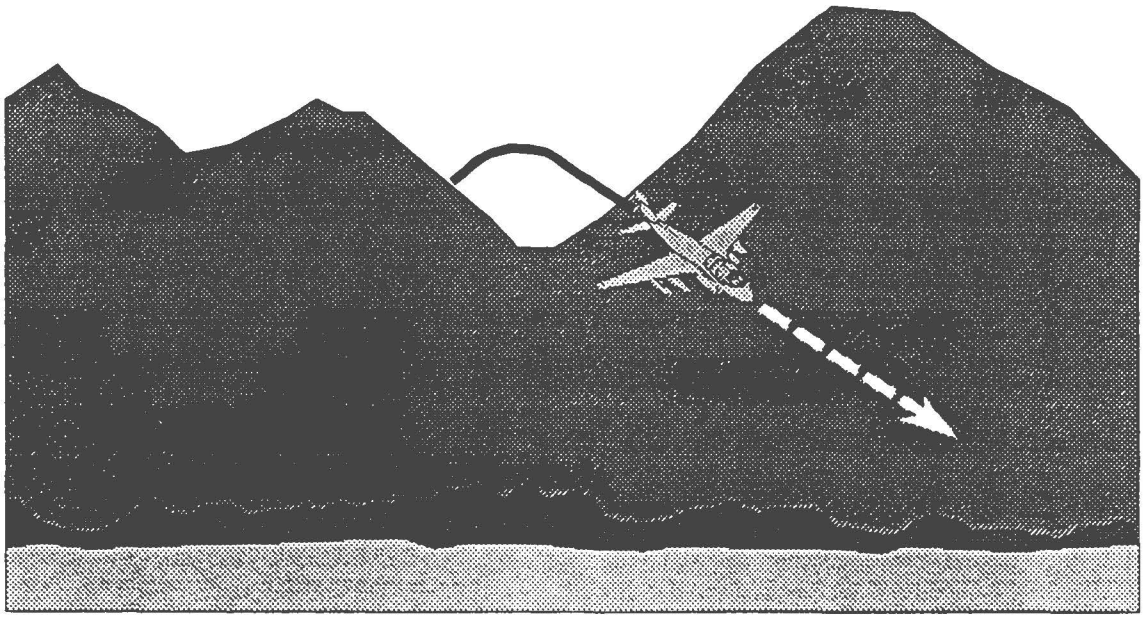

Figure 5-2. Ridge Crossing.

a. As you top the ridge a 45° to 60° bank will allow you to clear your flight path down the back of the ridge.

b. As you roll, unload to 0-½ "G" to start the descent. This combination of bunt and overbank will start a descent and gain energy rapidly. If necessary, reverse the roll to continue to clear your flight path.

SECTION 6

SUMMARY

1. This lesson has shown you some "tools of the trade" of tactical low level flying. You must plan, study, and practice low level aviating until you are proficient.

2. The following are some final thoughts which will help you survive in the low level environment.

   a. Watch out for task overload.

   b. When in doubt, CLIMB TO COPE.

   c. Keep it safe. The Pk for flying the lowest is 1.00.

   d. Turning and looking away is the death act.

   e. NEVER, NEVER, NEVER DESCEND IN TURNS.

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Revision
08/16/96

LESSON OUTLINE

I. INTRODUCTION

SLIDE 1: [VAQ-129 logo]

SLIDE 2: [Low altitude awareness]

A. This lecture will acquaint students with some of the basic principles of low level flight. Specifically:

1. Low altitude task management.

2. Visual perceptions.

3. Low level aerodynamics.

SLIDE 3: [Instructor]

B. Introduce yourself. Discuss your background and experience. You may wish to relate a personal experience in low level/radar navigation ("sea story").

SLIDE 4: [Objectives]

C. Objectives. On completion of this lesson the student should be able to:

1. Describe the hierarchy of low level tasks.

2. Define the following low level aerodynamics terms:

a. Flight Path Angle (FPA).

b. Velocity vector.

c. Time To Impact (TTI).

d. Zero "G" bunt.

e. Overbank.

f. Nose slice.

3. Describe the effects of the following visual perceptions:

a. Speed rush.

b. Optical flow.

c. Masking/shear.

d. Size discrepancies.

4. Describe ridge crossing techniques.

SLIDE 5: [References]

D. References.

1. EA-6B Tactical Manual.

2. NATOPS Flight Manual EA-6B Aircraft.

3. VAQ-129 Standard Operating Procedures VAQ-129.

4. VAQ-129 Low Level and Radar Navigation Flight Planning Manual.

SLIDE 6: [Low altitude awareness]

II. LOW ALTITUDE AWARENESS

A. Low altitude awareness is the combined knowledge of task management, visual perceptions, and aerodynamics that allows aircrew to anticipate the path of the aircraft and accomplish the mission safely in the low altitude environment.

SLIDE 7: [Low level]

B. LOW LEVEL is defined as any altitude at which avoiding the terrain is a major concern of the aircrew. The specific altitude will vary depending on factors such as:

1. Type of terrain (mountains, desert, water).

2. Mission or task loading (section or division, opposed or non-opposed, etc).

3. Weather conditions and sun angle (haze, thunderstorms, sun in the face).

4. Aircrew proficiency and route familiarity.

SLIDE 8: [Low altitude task management]

III. LOW ALTITUDE TASK MANAGEMENT

A. Put simply, low altitude task management is a way of defining what we can do and when we can do it in the low altitude environment.

SLIDE 9: [Terrain clearance tasks]

B. What are terrain clearance tasks (TCTs)?

SLIDE 10: [Altitude, vector, AGL, and time control]

1. ~~Altitude~~ Aircraft? control. Flying the aircraft within its operating envelope (i.e., AOA, airspeed, and "G").

2. Vector control. Controlling the velocity vector of the aircraft relative to the terrain.

3. AGL control. Assessing and controlling the aircraft altitude relative to the terrain.

4. Time control. Knowing which tasks are critical, which tasks are noncritical, and how long you will spend on each specific task relative to your environment. This is the hardest task to learn, the most difficult to control, and has the greatest potential for causing ground impact.

SLIDE 11: [Mission tasks]

C. Mission tasks. Mission tasks are tasks the aircrew must accomplish in order to successfully complete the mission. Mission tasks are either critical or noncritical.

1. Critical tasks. Tasks that demand IMMEDIATE attention and successful accomplishment for mission success.

2. Noncritical tasks. Tasks that can be accomplished in a flexible time window and do NOT IMMEDIATELY affect mission success.

SLIDE 12: [Mission task groups]

3. We group mission tasks as follows:

a. Situational awareness. Being conscious and understanding of what is happening inside and outside the aircraft. Staying oriented as to the current status of both friendly and enemy forces (relative position, weapons status, etc.).

b. Navigation and systems. Visual navigation, radar, INS, and HARM/OBS system setup and timing in order to be at "the right place at the right time with the right switches in the right position."

c. Threat. Use of the weapons system and terrain masking to hide from or outsmart enemy weapons systems.

d. C^3. Routine coordination between aircraft in your elemen and those of the strike group to successfully accomplish mission objectives.

SLIDE 13: [Floating mission tasks]

4. Specific mission tasks will always be "floating" from noncritical to critical and back as the mission and environment change.

SLIDE 14: [Task management and the Finite Capacity Bucket]

D. The bucket illustrates the total capacity of the aircrew to accomplish terrain clearance and mission tasks. Terrain clearance and critical mission tasks are always at the bottom.

SLIDE 15: [Less than minimum altitude]

1. When flying below minimum altitude, your bucket is overflowing just trying to clear the terrain. You are in imminent danger of ground impact. Minimum altitude will vary with terrain features, weather, visibility, and flight crew experience, but is always a threat to survival.

SLIDE 16: [Minimum altitude]

2. When flying at minimum altitude, your bucket is full with terrain clearance tasks. There is no room left for other tasks. If you try to accomplish other tasks you are risking a collision with Terra Firma.

SLIDE 17: [Critical tasking altitude]

3. Critical tasking altitude is the altitude at which the aircrew has the capacity to handle both terrain clearance and critical mission tasks, but nothing else.

SLIDE 18: [Climb to Cope]

4. Task Overload. Transition from noncritical tasking altitude to critical tasking altitude can occur rapidly. You have to quickly recognize that you are overloading yourself (your bucket is full) and climb to cope with the situation.

SLIDE 19: [Video introduction]

E. Video. "Low Level Flying - No Margin for Error". The videotape discusses:

1. Visual perceptions.
2. Velocity vector control.
3. Bank angle and roll sense.
4. Time sense.
5. The dive recovery figures in the tape for the A-7 are virtually identical to the EA-6B.

F. Show the tape (19:00 minutes).

SLIDE 20: [Low level aerodynamics]

IV. LOW LEVEL AERODYNAMICS

SLIDE 21: [Velocity vector]

A. Velocity vector.

1. The velocity vector is important in that it represents the direction the aircraft is travelling, NOT where the nose is pointed.

2. In high AOA/high "G" maneuvers, the nose can be well above the velocity vector.

SLIDE 22: [Flight path angle]

B. Flight Path Angle (FPA).

1. FPA is the angle in degrees of climb (+) or dive (-) that the aircraft velocity vector makes relative to the ground plane.

2. FPA is used with altitude and airspeed to compute the time it will take to hit the ground in a steady state condition.

SLIDE 23: [Time to impact]

C. Time To Impact (TTI).

1. TTI is the time it will take to hit the ground at a constant FPA and airspeed. We can compute TTI by the following formula.

$$TTI = \frac{AGL}{(TAS \times 1.69) \sin FPA}$$

2. The following example indicates two important aspects of TTI:

SLIDE 24: [TTI for -2° FPA]

Time to Impact (TTI) for -2° FPA		
	240 KIAS	480 KIAS
250 AGL	17.6 sec.	8.8 sec.
500 AGL	35.2 sec.	17.6 sec.

SLIDE 25: [If you double ...]

a. **If you double your altitude, you double your TTI.**

b. **If you double your airspeed, you halve your TTI.**

3. The implications are simple:

a. In order to gain time to accomplish mission tasks or to eliminate task overload, you must either climb, slow down, or both.