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Report A-006/2017

Accident involving a Diamond DA-40 aircraft, registration EC-LRF, operated by One Air Aviación, at the La Axarquía aerodrome (LEAX), in Vélez-Málaga (Málaga, Spain) on 8 May 2017



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SUBSECRETARÍA

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DE ACCIDENTES E INCIDENTES
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Foreword

This report is a technical document that reflects the point of view of the Civil Aviation Accident and Incident Investigation Commission (CIAIAC) regarding the circumstances of the accident object of the investigation, and its probable causes and consequences.

In accordance with the provisions in Article 5.4.1 of Annex 13 of the International Civil Aviation Convention; and with articles 5.5 of Regulation (UE) n° 996/2010, of the European Parliament and the Council, of 20 October 2010; Article 15 of Law 21/2003 on Air Safety and articles 1., 4. and 21.2 of Regulation 389/1998, this investigation is exclusively of a technical nature, and its objective is the prevention of future civil aviation accidents and incidents by issuing, if necessary, safety recommendations to prevent from their reoccurrence. The investigation is not pointed to establish blame or liability whatsoever, and it's not prejudging the possible decision taken by the judicial authorities. Therefore, and according to above norms and regulations, the investigation was carried out using procedures not necessarily subject to the guarantees and rights usually used for the evidences in a judicial process.

Consequently, any use of this report for purposes other than that of preventing future accidents may lead to erroneous conclusions or interpretations.

This report was originally issued in Spanish. This English translation is provided for information purposes only.

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Abbreviations

00:00	Hours and minutes (period of time)
00.00:00	Hours, minutes and seconds (chronological time)
00°	Geometric degrees / Magnetic heading
00°00'00"	Degrees, minutes and seconds (geographic coordinates)
00 °C	Degrees centigrade
AFM	Aircraft flight manual
AESA	National Aviation Safety Agency
APP	Approach control station
ATO	Approved training organization
ATPL(H)	Airline Transport Pilot License (Helicopter)
CAMO	Continuing Airworthiness Management Organization
CPL(A)	Commercial pilot license (airplane)
CAVOK	Weather conditions in which the following simultaneously apply: visibility in excess of 10 km, no clouds below the reference altitude, no cumulonimbus clouds and no significant weather phenomena.
CB	Competency-based training
CFI	Chief Flight Instructor
CR	Class rating
CRI	Class rating instructor
dd/mm/aaaa	Day, month and year (date)
DL	Distance learning
FE	Flight Examiner
FI	Flight instructor
ft	Feet
h, hr	Hour(s)
HP	Horsepower
hPa	Hectopascals
IFR	Instrumental flight rules
IR	Instrument rating
IRI	Instrument rating instructor
Kg	Kilograms
Kt	Knots
km	Kilometer(s)
LAPL(A)	Light aircraft pilot license (airplane)
LDA	Landing Distance Available
LEAM	Almería airport ICAO code (Spain)
LEAX	La Axarquía – Leoni Benabú aerodrome ICAO code (Spain)
LECS	Seville area control center ICAO code (Spain)
LELC	Murcia – San Javier airport ICAO code (Spain)
LEMG	Málaga – Costa del Sol airport ICAO code (Spain)
LM	Landing mass
LT	Local time
m	Meters
MCC	Multi-crew cooperation
MEP	Multi-engine piston
MHz	Megahertz
N/A	Not affected
PPL(A)	Private pilot license (airplane)
PTM	Punto Torre del Mar, reporting point for the La Axarquía aerodrome
QNH	Altimeter sub-scale setting to obtain elevation when on the ground
RPA.	Remotely-piloted aircraft
Rpm	Revolutions per minute
S	Sierra reporting point
SEP	Single-engine piston
SW	Sierra Whisky reporting point
TOM	Takeoff mass
TWR	Control tower
UTC	Coordinated universal time
VFR	Visual flight rules
VFRN	Nighttime visual rating

Sinopsis

Operator:	Grupo One Air Aviación, S.L.
Aircraft:	Diamond DA-40, registration EC-LRF.
Date and time of accident:	8 May 2017 at 15:32 ⁽¹⁾
Site of accident:	La Axarquía aerodrome (LEAX), Vélez-Málaga Ç (Málaga – Spain).
Persons aboard/injuries:	2 crew and 1 passenger. None injured.
Type of flight:	General aviation – Instruction – Training flight
Flight rules:	Visual (VFR)
Phase of flight:	Landing
Date of approval:	20th March 2018

Summary of the accident

The aircraft, a Diamond DA-40, registration EC-LRF, took off from the Murcia-San Javier airport (LELC), in San Javier (Murcia, Spain) at 13:25, en route to the La Axarquía aerodrome (LEAX), in Vélez-Málaga (Málaga, Spain) with three occupants aboard: a pilot with a private pilot license (PPL(A)), an instructor acting as the safety pilot and a passenger who was a student at the flight school that owned the aircraft. The callsign for the flight was OAR202.

After making two approaches to runway 12 at the La Axarquía aerodrome, which ended with two go-around maneuvers, the aircraft made a third approach to this runway, landed and overran the runway, coming to a stop at the aerodrome perimeter fence at 15:32.

None of the three occupants was injured and they exited the aircraft under their own power. The aircraft sustained significant damage.

The investigation has determined that the accident was caused by making a long landing at an excessive speed after an approach in which the aircraft reached the final segment of the aerodrome's traffic pattern unstabilized.

The following factors contributed to the accident:

- The crew did not follow the procedures specified by the operator when preparing and during the flight..
- The pilot in command did not submit to the instructor's supervision.
- The instructor did not act as required for a safety pilot.

⁽¹⁾ All times in this report are local (LT). To obtain UTC, subtract two hours from local time.

1. FACTUAL INFORMATION

1.1. History of the flight

On 8 May 2017, a Diamond DA-40 aircraft, registration EC-LRF, took off from the Murcia-San Javier airport (LELC), in San Javier (Murcia, Spain) at 13:25, en route to the La Axarquía aerodrome (LEAX), in Vélez-Málaga (Málaga, Spain) with three occupants aboard: a pilot with a private pilot license (PPL(A)), an instructor acting as the safety pilot and a passenger who was a student at the flight school that owned the aircraft. The callsign for the flight was OAR202.

After making two approaches to runway 12 at the La Axarquía aerodrome, which ended with two go-around maneuvers, the aircraft made a third approach to this runway, landed and overran the runway, coming to a stop at the aerodrome perimeter fence at 15:32.

None of the three occupants was injured and they exited the aircraft under their own power. The aircraft sustained significant damage.

1.2. Injuries to persons

Injuries	Crew	Passengers	Total in the aircraft	Others
Fatal				
Serious				
Minor				N/A
None	2	1	3	N/A
TOTAL	2	1	3	

1.3. Damage to aircraft

As a result of the impact with the aerodrome perimeter fence, the aircraft sustained damage to its propeller, engine covers and the leading edge of the wing. The front landing gear broke off and the right main landing gear leg was bent backward.

1.4. Other damage

There was damage along 25 meters of the fence that the aircraft impacted.

1.5. Personnel information

1.5.1. Pilot in Command

Age:	21
Nationality:	Spanish
License:	Private pilot license (PPL(A))
Issue date:	16/09/2014
Flight aptitude license:	Issued by Spain's National Aviation Safety Agency (AESA) on 06/02/2017.
Ratings:	SEP (land) (single-engine piston land), valid until 28/02/2019.
Medical certificate:	Class 1 and 2, valid until 25/05/2017.
Total flight hours:	105:15
Hours on the type (DA-40):	3:45

1.5.2. Instructor

Age:	27
Nationality:	Spanish
License:	Commercial pilot license (airplane) (CPL(A))
Issue date:	18/05/2012
Flight aptitude license:	Issued by Spain's National Aviation Safety Agency (AESA) on 01/08/2016.
Medical certificate:	Class 1, valid until 25/10/2017 Class 2, valid until 25/10/2021
Ratings:	MEP (land), (multi-engine piston land), valid until 31/05/2017. SEP (land) (single-engine piston land), valid until 31/07/2018.

	IR(A) (instrument rating (airplane)), valid until 31/05/2017.
	FI(A) – PPL, CPL, SEP, NIGHT (flight instructor (airplane), private pilot, commercial pilot, single-engine piston land and night VFR), valid until 31/01/2018.
Total flight hours:	816:11
Hours as instructor:	506:33, all on the type (DA-20 and DA-40).

1.5.3. *Passenger*

The passenger, a 33-year old French national, has an airline transport pilot license for helicopters (ATPL(H)) and about 2800 total flight hours on this aircraft type.

He was a student at the flight school that owned the aircraft, where he had trained to obtain his commercial pilot license (CPL(A)). The day before the accident, he had passed the test to obtain the associated license, with a MEP (multi-engine piston land) rating, and in the flight before the accident (Málaga – Murcia-San Javier) he had completed the flight hours needed to pass the course.

1.6. Aircraft information

1.6.1. *Airframe*

Manufacturer:	DIAMOND AIRCRAFT INDUSTRIES GMBH
Model:	DIAMOND DA-40
Serial number:	40458
Year of manufacture:	2004
Registration:	EC-LRF
Operator:	Grupo One Air Aviación, S.L.

1.6.2. *Certificate of airworthiness*

Issued by Spain's National Aviation Safety Agency (AESA).

Number:	7306
Category:	Normal Category Airplane
Date of issue:	28 April 2015

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The aircraft's continuing airworthiness was managed by the Centro Aéreo Iber, S.L., a continuing airworthiness management organization (CAMO) with approval certificate ES.MG.130.

Airworthiness review certificate:

Reference:	ES.ARC-LRF-003
Date of issue:	08/11/2016
Date of expiration:	10/11/2017

1.6.3. *Maintenance record*

Total flight hours:	2619:30
Last overhaul:	27/02/2015
Hours on last overhaul:	1621:45
Last 1000- and 2000-hr checks, and major structural inspection:	20/05/2016
Hours on last 1000- and 2000-hr checks, and major structural inspection:	1999:50
Last 50-, 100- and 200-hr checks:	04/05/2017
Hours on last 50-, 100- and 200-hr checks:	2599:35
Hours since 50-hr check:	19:55
Hours remaining:	30:05

1.6.4. *Engine*

Manufacturer:	LYCOMING
Model:	IO-360-M1A
Serial number:	L-31727-51A
Maximum power:	180 HP at 2700 RPM
Last overhaul:	27/02/2015
Hours on last overhaul:	1621:45
Hours since overhaul:	997:45
Hours remaining:	1002:15

1.6.5. Propeller

Manufacturer:	HARTZELL
Model:	HC-C2YR-1BF/F7495S
Serial number:	NS2286B
Last overhaul:	27/02/2015
Hours on last overhaul:	1621:45
Hours since overhaul:	997:45
Hours remaining:	1402:15

1.7. Meteorological information

The weather conditions along the route taken by the aircraft were not limiting to visual flight.

At the La Axarquía aerodrome, at the time of the accident CAVOK ⁽²⁾ conditions were in effect, with wind from 120° at 6 kt, a temperature of 24° C and a QNH of 1017 hPa.

1.8. Aids to navigation

Not applicable. The aircraft was flying under visual flight rules (VFR).

1.9. Communications

Over the route taken by the aircraft, the crew communicated with the following control stations:

The aircraft first contacted the Almería Airport Control Tower at 14:06:35, and remained in contact with it for approximately 35 minutes. Initially, the aircraft reported its intention to fly along the coastline to Málaga, and it was given successive clearances to fly direct to reporting points S (Sierra) and SW (Sierra Whisky), and when the pilot reported being over point SW, the tower replied: *“OAR202, roger, no traffic reported at three thousand five hundred feet in the vicinity of La Axarquía, I see traffic right now at six thousand feet that would be fifty miles ahead of you, no more traffic in the area that I can see right now. For more information, call Seville on thirty-two six, good day”*. At 14:41:59, the aircraft acknowledged this communication and signed off.

⁽²⁾ Weather conditions in which the following simultaneously apply: visibility in excess of 10 km, no clouds below the reference altitude, no cumulonimbus clouds and no significant weather phenomena.

A few minutes later, at 14:46:03, the initial communication between the aircraft and sector CEN of the Seville Area Control Center took place, with which it remained in contact for approximately 25 minutes. Initially, the aircraft reported that it had a visual flight plan to La Axarquía, and sector CEN replied: *“Roger, no traffic reported, I have you on the screen”*, which the aircraft acknowledged. Later, the aircraft reported that it was descending toward PTM (Punto Torre del Mar, a reporting point for the La Axarquía aerodrome). It was instructed to contact Málaga Airport Approach Control on 118.450 MHz. At 15:11:02, the aircraft acknowledged this instruction and signed off.

The first communication between the aircraft and Málaga Airport Approach Control took place immediately afterward. Initially, the aircraft reported that it was approaching point PTM and requested clearance to descend to 1000 ft. It was informed that QNH was 1017 hPA with no reported traffic. At 15:18:18 the aircraft reported having La Axarquía in sight, and it was instructed to leave the Málaga frequency and contact La Axarquía on 123.500 MHz. This instruction was acknowledged and the aircraft signed off at 15:18:23.

There is no record of the aircraft contacting the La Axarquía aerodrome or other aircraft.

1.10. Aerodrome information

The restricted-use aerodrome of La Axarquía – Leoni Benabú (LEAX), owned by the Real Aeroclub de Málaga, is located 4.5 km southeast of the city of Vélez-Málaga (Málaga, Spain). Its reference point is at an elevation of 37 m (121 ft), and it has one asphalt runway in a 12/30 orientation that is 959 m long by 12 m wide. Runway 12 has a displaced threshold, and as a result the landing distance available (LDA) is 637 meters. The aerodrome’s traffic pattern is located southwest of the runway.

Appendix A to this report provides the information on the aerodrome that is published by the Real Aeroclub de Málaga.

1.11. Flight recorders

The aircraft did not have flight recorders, which are not required for this aircraft type.



Figure 1. Final position of the aircraft.

1.12. Wreckage and impact information

After two go-arounds, the aircraft made a third approach to runway 12 at the aerodrome. According to the information provided by the aircraft's three occupants and by an eyewitness on the ground, the aircraft's altitude and speed when it flew over the runway threshold were higher than specified, and the aircraft landed halfway down the runway. The aircraft traveled the remaining runway distance along the centerline until, once past the end of the runway, it veered to the right, impacted the aerodrome's perimeter fence and stopped.

There was no wreckage dispersion. As a result of the impact with the fence, the forward landing gear broke off the aircraft and the right main landing gear leg was bent backward. There was also damage along 25 meters of the fence.

1.13. Medical and pathological information

The aircraft's three occupants were uninjured.

1.14. Fire

There was no fire.

1.15. Survival aspects

The aircraft's occupants were uninjured and exited it on their own means.

1.16. Tests and research

1.16.1. *Statements from the aircraft's occupants*

1.16.1.1. Statement from the Pilot in Command

On the date of the accident, he had his private pilot license (PPL(A)) and the theoretical training associated with the airline transport pilot license (ATPL(L)). His training as a private airplane pilot had started in 2014 at Aerodynamics Málaga, S.L. ⁽³⁾

He had purchased a time-building hours package to gain experience as a pilot in command and was flying with a safety pilot. The accident flight was his second on a DA-40. The first flight had been with a different safety pilot.

The flight, from the Murcia-San Javier airport (LELC) to the La Axarquía aerodrome (LEAX) had callsign OAR202. Upon reaching the aerodrome, they flew the right downwind leg to runway 12. They made an initial approach, in which he was too high, and he executed a go-around. On the second approach, the instructor touched the controls during the flare, the nose wheel touched down on the runway and he went around again.

On the third approach he was high also. After going over the runway threshold, he flared, which lasted until the runway midpoint, and he braked upon touching down. The safety pilot called out "go around" and applied power while he was stepping on the brakes. The aircraft continued traveling on the runway and overran it, colliding with the aerodrome fence before falling down the embankment and coming to a stop.

The safety pilot at no point said "I have control". While he was braking, the safety pilot asked him to go around, but he continued to brake because he thought he was still the pilot flying.

He recalled that during the before-takeoff briefing ⁽⁴⁾, they had not discussed what each crewmember would do in the event of an emergency.

It was his first flight to the La Axarquía aerodrome, which has a short runway, and also his first flight with this safety pilot. The first flight he had done on this aircraft had been with another safety pilot, and on that occasion they decided before taking off that the safety pilot would fly the aircraft in the event of an emergency.

⁽³⁾ Approved training organization with certificate number E-ATO-226, issued by National Aviation Safety Agency (AESA).

⁽⁴⁾ *Briefing* refers to the meeting held by the aircraft crew, at which information or instructions are given concerning the immediate actions to take in the different flight phases.

1.16.1.2. Statement from the Instructor

On the date of the accident, he had a commercial pilot license (CPL(A)) and the theoretical training associated with the airline transport pilot license (ATPL(A)). He had completed his private pilot and commercial pilot training at Adventia⁽⁵⁾ and had taken the instrument flight rules (IFR) and multi-crew cooperation (MCC) courses at Aero Link Air Services, S.L.⁽⁶⁾

He had taken the private airplane and hydroplane pilot course in Canada, had worked as an instructor in the Czech Republic and had been working for the One Air Group since December 2016.

On that day's first flight with the aircraft, they left from the Málaga airport (LEMG) en route to the Murcia-San Javier airport (LELC) to complete the flight hours for the student's commercial pilot license (CPL(A)) course. That was a visual flight along the coastline to Murcia, in which he acted as the instructor.

At the Murcia-San Javier airport they rested and ate, and then they left for the aerodrome of La Axarquía (LEAX) to refuel the aircraft and return to the Málaga airport. On that flight he was acting as the safety pilot, since the other pilot had a private pilot license (PPL(A)). By rule, no pilot who purchases hours at that school flies alone.

They entered the downwind leg for the runway in use (right downwind for runway 12) at the La Axarquía aerodrome. On the first approach, the airplane was going too fast in the base leg, which left it too high and with too much speed on the final leg. The pilot in command tried to correct it, but he did not have enough time and he instructed him to go around, which the pilot in command did. They again entered the downwind leg of the traffic pattern at the aerodrome.

While in the pattern the second time, he instructed the pilot in command on how to make an approach to short runways. On this occasion, he was also too high and too fast in the final leg, and even though the wheels touched the runway, he again instructed the pilot in command to go around, which he did. They entered the downwind leg of the traffic pattern at the aerodrome for a third time.

During the downwind leg, he suggested to the pilot in command that he extend it so as to have more time to establish on final at the altitude and speed needed to make a stabilized approach. When turning to base, the airplane was more stable, but again the aircraft was a little high and fast in the final leg. He flared over the runway 12

⁽⁵⁾ European Aviation College S.A. Approved training organization with certificate number E-ATO-230, issued by the National Aviation Safety Agency (AESA).

⁽⁶⁾ Approved training organization with certificate number E-ATO-086, issued by the National Aviation Safety Agency (AESA).

threshold and the aircraft floated, “eating up” much of the runway. By the time they touched down, there was not sufficient runway left to stop the airplane, so he again asked the pilot in command to go around, advancing all the levers. The passenger also yelled at him to “go around” at the same time. The pilot in command continued braking and the safety pilot, seeing there was not enough space to stop within the runway, retarded all the levers and braked with his right foot in an effort to exit the runway via the exit at the end of the runway and thus avoid impacting the aerodrome’s perimeter fence. The airplane struck the fence and stopped a few meters away from the riverbed.

After the impact, he asked the pilot in command to open the cabin and exit the aircraft, but he did not react (*he froze after landing*), and it was he who finally opened the cabin and exited the airplane first. Once outside, he asked the other two occupants to evacuate the airplane. The pilot in command exited first, followed by the student, who was seated in the rear seat, and who had secured the aircraft before exiting. The instructor reported the event and asked for help. He then returned to the aircraft to make sure it was secure. The firefighters and police arrived a short time later.

As concerns their actions in the event of an emergency, in the before-takeoff briefing the pilot in command had told him: *In the event of an emergency, I fly and handle the communications and you assist me.*

1.16.1.3. Statement from the passenger

He had flown under instruction from the Málaga airport (LEMG) to the Murcia-San Javier airport (LELC) to complete the flight hours for the commercial pilot license (CPL(A)) course. It was a navigation flight along the coast, during which there were no problems with either the aircraft or the instructor.

On the return flight, to the La Axarquía aerodrome (LEAX), he fell asleep, waking up once they were in the aerodrome’s traffic pattern.

On this runway, you have to pay attention when landing since the threshold is displaced and the runway is fairly short.

On the first approach the aircraft was too high and fast. They did not touch down, performing a go-around maneuver.

On the second approach they were again too fast and high, so they executed another go-around.

On the third approach they were fast and high. Although he was looking outside, he glanced at the anemometer during the flare and saw their speed was 87 kt. The aircraft touched down halfway down the runway, so the instructor asked for a go-around. He was seated at the back and did not see if the pilot in command or the instructor was actuating the pedals.

Toward the end of the runway he saw that the anemometer read 70 kt. At that point he also asked the pilot flying to go around.

They were veering to the right and impacted the fence very fast. The crash was hard and the instructor immediately instructed them to evacuate the aircraft and opened the cabin. He asked them both if they were alright. At that point he heard the electric fuel pump, so he proceeded to secure the aircraft before exiting it.

The aircraft came to a stop against the fence at 15:32.

1.16.2. *Statement from an eyewitness*

He was near the runway 12 threshold. At approximately 15:30, he saw how the airplane tried to land. It was the second attempt, according to what he was told by another airplane that was ready to take off, but it went around because it had landed too long. The airplane went around and entered the traffic pattern again.

Once on final, from his position he again saw it was too high. This time it managed to land, but a long distance down the runway. The smoke from the tires indicated they were braking hard and trying to exit to the right. The last thing he was able to make out from his position was the airplane seeming to impact the fence at the end. He immediately called 091, the aeroclub manager and the airplane that was preparing to take off, whose pilot had not noticed the event.

1.16.3. *Marks on the ground*

Brake marks parallel to the centerline were found on the runway from the main landing gear wheels. The first tracks in the direction of travel seemed to correspond to the left leg, and they started 66 meters before the end of the runway (runway 30 threshold). The tracks from the right leg appeared further on, 9 meters before the threshold. Beyond the end of the runway, the tracks veered to the right of the centerline and finished at the aerodrome's perimeter fence.

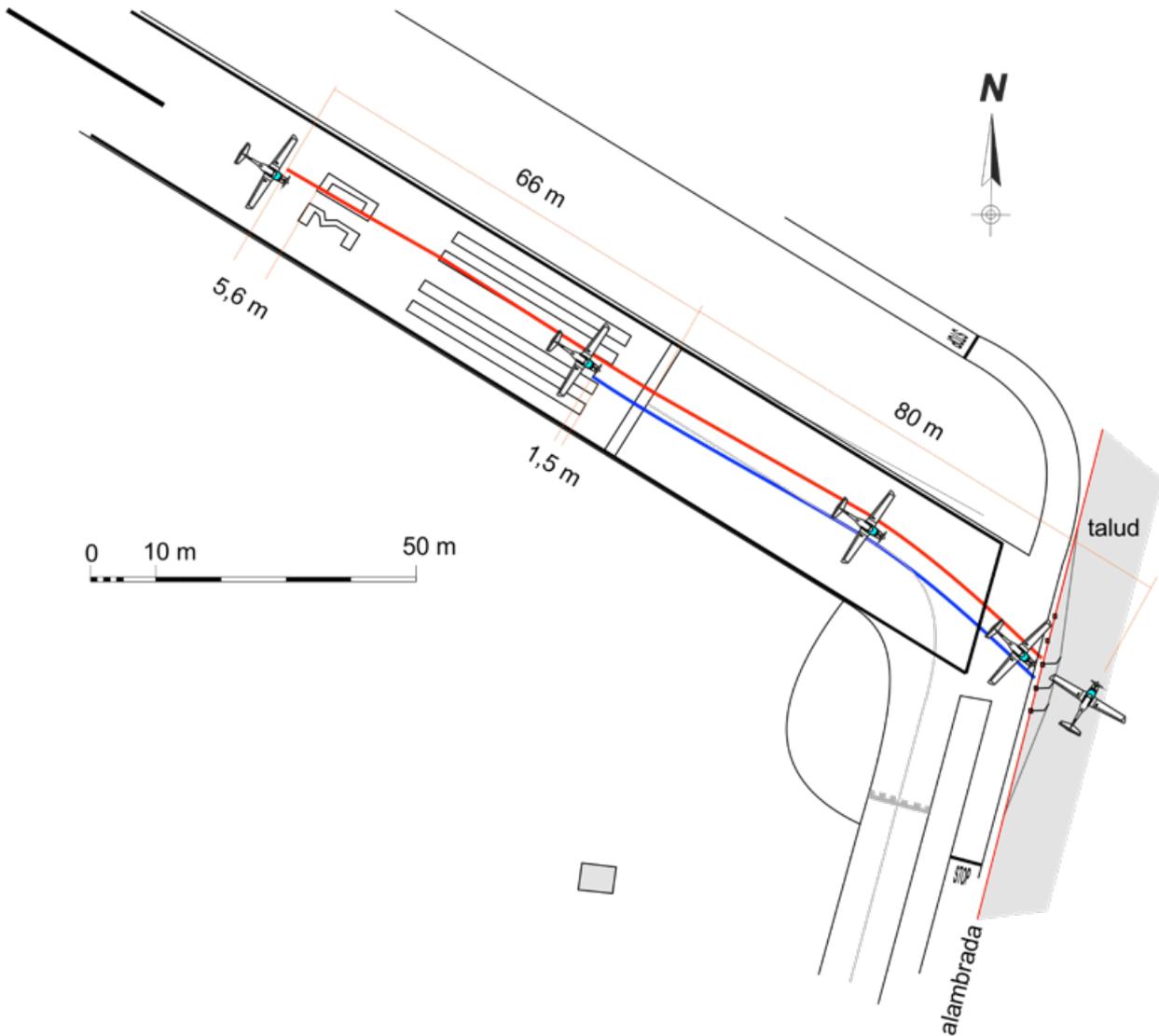


Figure 2. Diagram of tracks on the ground.

1.16.4. Radar track

The information obtained from the Air Traffic Control Services included data and graphs on the aircraft's flight path, as recorded at the radar stations along the route. Due to the orography of the terrain, this information was lost when the aircraft was south of the aerodrome at an approximate altitude of 1300 ft, meaning the data did not contain the aircraft's final flight path.

1.17. Organizational and management information

The Grupo One Air Aviación, S.L., operator of the aircraft, is based at the Málaga-Costa del Sol airport (LEMG), and has facilities at this airport and at the restricted-use aerodrome of La Axarquía – Leoni Benabú (LEAX).

It operates a fleet of Diamond DA-20, DA-40 and DA-42 airplanes manufactured by Diamond Aircraft Industries GmbH, and it has an Approved Training Organization certificate, number E-ATO-190, issued by the National Aviation Safety Agency (AESA) on 1 August 2013.

On the date of the accident, it was approved for the training courses listed below:

1. Private pilot license (PPL (A)) and Distance learning (DL).
2. Single-engine piston land class-rating (CR(A) SEPL) course and renewal.
3. Multi-engine piston land class-rating (CR(A) MEPL) course and renewal.
4. Commercial Pilot License (CPL (A)) modular course.
5. Single-engine piston land instrument rating (IR (A) SEPL) course and renewal.
6. Multi-engine piston land instrument rating (IR (A) MEPL) course and renewal.
7. Nighttime visual course (VFRN (A)).
8. Flight instructor (FI (A)) course and renewal.
9. Class-rating instructor multi-engine piston land (CRI (A) MEPL) course and renewal.
10. Instrument rating instructor (IRI (A)) course and renewal.
11. Light aircraft pilot license (LAPL (A)) course and Distance learning (DL).
12. Airline transport pilot license (ATPL (A)) modular course.
13. Competency-based instrument rating (CB IR (A)) course.

The operator also provides training to obtain a remotely piloted aircraft (RPA) certificate.

1.18. Additional information

1.18.1 *Type of flight*

As part of its training courses, the operator offers time-building hours, both individually and as part of a package of flight hours for pilots who need flight hours of experience as the pilot in command, or who simply want to fly for pleasure.

According to the information provided by the operator, although these flight hours are intended for pilots who have licenses that allow them to fly solo as a pilot-in-command and it is normal for them to fly solo, when it comes to pilots who have not flown for a long time or it is their first time (or first hours) flying that type of aircraft, or if they request it, an instructor from the training center is included as a safety pilot, to ensure that they are correctly familiar with the type of aircraft; once this point is guaranteed, they fly solo for the rest of the contracted hours.

1.18.2 *Safety Pilot.*

According to information provided by the operator, the safety pilot has to:

- Check the documentation for both the pilot and the aircraft.
- Supervise the pre-flight checks.
- Make it clear that in the event of an emergency, the more experienced pilot has to fly the airplane.
- Answer any questions that come up.
- Make sure the pilots operate the airplane properly.
- If a real problem arises, fly the airplane.

The school has an emergency briefing for each airplane that the student has to know from memory and repeat to the instructor before takeoff. The instructor has to verify that the student has memorized it correctly. In the case of pilots flying with a safety pilot, the safety pilot takes on the role of instructor.

This briefing concludes with the following point:

“Real emergency: The instructor will take control, the student will handle communications and read the relevant emergency checklists.”

Appendix B to this report includes the Normal Takeoff and Emergency briefings for DA40 EC-LRF.

1.18.3 *Measures taken by the operator*

After the event, the pilot in command of the aircraft received theory instruction on procedures and repeated the aircraft course (which he had already taken once). After this, he flew two dual-control flights with the Chief Flight Instructor (CFI) at the ATO. Once the CFI verified that the pilot's knowledge of the theoretical concepts was sound, the pilot made a third flight with a highly experienced pilot at the organization, who is also an AESA-designated flight examiner (FE). With the approval of the instructors, he was scheduled for flights as pilot in command, most of them with a safety pilot aboard to continue reinforcing the procedures.

He then took two courses, the Nighttime visual (VFRN (A)) course and the Multi-engine piston land class-rating (CR(A) MEPL) course, taking the associated exam. During this period, he made several solo flights as pilot in command.

1.18.4 *Weights and speeds in normal operation*

According to the information contained in the operational flight plan for the accident flight, the aircraft took off from the Murcia-San Javier airport (LELC) with a takeoff mass (TOM) of 1144 kg. Its estimated landing mass (LM) at the La Axarquía aerodrome (LEAX) was 1088.9 kg.

The Aircraft Flight Manual (AFM) provides the following indicated airspeed values for the normal operation of the airplane for this landing mass:

- Approach speed for normal landing with the flaps in the landing position: 67 kt.
- Minimum speed during landing and takeoff, with the flaps in takeoff position: 63 kt, interpolating between the values given in the tables.

1.19. **Useful or effective investigation techniques**

Not used.

2. ANALYSIS

2.1. Operation of the flight

The aircraft was on flight from the Murcia-San Javier airport (LELC) to the La Axarquía aerodrome (LEAX) with three occupants aboard: a pilot under supervision with a private pilot license (PPL(A)), an instructor acting as the safety pilot and a passenger who was a student at the center that owned the aircraft.

They had previously flown from the Málaga airport (LEMG) to the Murcia-San Javier airport (LELC), during which the passenger had completed the flight hours for the commercial pilot license (CPL(A)) course. On that flight, the pilot in command had flown as a passenger.

The flight was uneventful and they entered the right downwind leg of the traffic pattern at the aerodrome for the approach to runway 12 at the La Axarquía aerodrome (LEAX). On its initial approach, the aircraft reached the final leg with excessive altitude and speed and executed a go-around. It again entered the pattern in the downwind leg and made a second approach, which resulted in the aircraft reaching the final leg with excessive altitude and speed. It touched down and then went around.

It entered the downwind leg and made a third approach. Once more its altitude and speed upon reaching the final leg were too high. The pilot flared above the threshold and touched down halfway down the runway. This time the aircraft remained on the ground. The pilot braked hard and attempted to take an exit to the right located at the end of the runway, but was unable to. The aircraft impacted the aerodrome's perimeter fence.

According to the passenger's statement, the aircraft's indicated airspeed during the flare was 87 kt, in excess of the 67 kt specified in the aircraft's flight manual for an approach and a normal landing with the flaps in the landing position. The impossibility to take the exit at the end of the runway and the impact with the fence are deemed to have been a direct result of the aircraft's excessive speed during the flare, and of touching down halfway down the runway.

Also, again according to the passenger's statement, the aircraft's speed near the end of the runway was 70 kt, in excess of the 63 kt specified in the aircraft's flight manual for the minimum speed during landing and takeoff with the flaps in the takeoff position. This would have allowed the aircraft to execute a go-around without any problems if the pilot had performed this maneuver shortly after touching down on the runway.

2.2. Actions of the crew

As indicated in 1.18.2, the operator has criteria in place for the safety pilot's actions and the role he must play, corresponding to that of an instructor in training flights. Specifically, there must be an emergency briefing before takeoff that the student must know and be able to recite from memory to the instructor, who must verify that student has correctly memorized it. The last point of this briefing states that in the event of an actual emergency, the instructor must take over the controls and the student (the pilot in command in this case) must handle communications and read the relevant emergency checklists.

According to the statement from the pilot in command, during the pre-takeoff briefing they did not assign responsibilities to each crewmember in the event of an emergency. Likewise, according to the instructor's statement concerning their actions in the event of an emergency, in this briefing the pilot in command told him: *In the event of an emergency, I fly and handle the communications and you assist me.*

Both statements indicate that the emergency briefing did not adhere to the operator's requirements. It was not complete, meaning the instructor was unable to verify that the pilot in command had memorized it correctly. Its content was also not as specified, at least in terms of the actions to take in the event of an actual emergency, with the safety pilot (the instructor and with more experience) allowing the pilot in command (under supervision) to maintain control of the airplane and handle communications.

As concerns the pilot in command, he made three approaches in which the airplane reached the final leg unstabilized. In none of them did he make the decision to go around. In the first two he did so when told by the instructor, and on the third, he remained on the ground despite the instruction given by the safety pilot, and the passenger's urging to go around.

On the final approach, the pilot in command is deemed to have made the decision to stay on the ground at all costs, regardless of any instructions he may been given. To put it another way, he was focused on landing and his mental block after the impact was a result of not having satisfied his expectations.

The above paragraphs indicate that the pilot in command thought himself qualified to fly the airplane without the need for supervision and had not accepted the flight instructor's role. Also, the instructor did not properly convey to him the role played by each aboard the aircraft and was unable to impose his authority as specified in the operator's procedures.

2.3. Measures taken by the operator

As concerns the operator, it has suitable procedures and sufficient resources to apply them. In addition, as a result of this accident, it implemented adequate and effective measures involving the pilot in command.

Because of this, this Commission does not deem it necessary to issue safety recommendations associated with this event.

3. CONCLUSIONS

3.1. Findings

- a) The crew of the aircraft were properly qualified, experienced, physically fit and had valid licenses.
- b) The crew of the aircraft consisted of a pilot in command under supervision and a flight instructor acting as the safety pilot.
- c) The aircraft had been maintained as per the established maintenance program and had a valid Certificate of Airworthiness and Registration Certificate.
- d) The ground-air communications worked correctly at all times.
- e) Runway 12 at the La Axarquía aerodrome has a landing distance available (LDA) of 637 m, and as such is considered a short runway for general aviation aircraft.
- f) After an uneventful flight, the aircraft made three approaches in which it reached the final leg of the aerodrome's traffic pattern unstabilized. The pilot in command did not make the decision to go around in any of the three approaches.
- g) In the first two approaches, the pilot in command went around when instructed by the safety pilot.
- h) In the third approach, the aircraft remained on the ground despite the safety pilot's instructions and actions, and the passenger urging the pilot in command to go around.
- i) The aircraft overran the runway and came to a stop against the perimeter fence at the aerodrome.
- j) During the preparation and operation of the flight, the crew did not adhere to the operator's procedures.
- k) The pilot in command thought himself qualified to fly the airplane without the need for supervision and had not accepted the flight instructor's role.
- l) The instructor did not properly convey to the pilot in command their respective roles aboard the aircraft and was unable to impose his authority.
- m) As a result of this accident, the operator implemented proper and effective measures involving the pilot in command.

3.2. Causes

The accident was caused by making a long landing at an excessive speed after an approach in which the aircraft reached the final segment of the aerodrome's traffic pattern unstabilized.

The following factors contributed to the accident:

- The crew did not follow the procedures specified by the operator when preparing and during the flight.
- The pilot in command did not submit to the instructor's supervision.
- The instructor did not act as required for a safety pilot.

4. SAFETY RECOMMENDATIONS

Since the operator is deemed to have suitable procedures and sufficient resources to implement them, and since it took proper and effective preventive measures in the wake of this accident, this Commission does not deem it necessary to issue any safety recommendations as a consequence of its investigation into this accident.

APPENDICES

APPENDIX A

**Information on the La Axarquía aerodrome
published by the Real Aeroclub de Málaga**



REAL AERoclUB DE MÁLAGA
ESPAÑA

AD-LEAX 1
18-OCT-16

1. INDICADOR DE LUGAR – NOMBRE DEL AERÓDROMO
AERODROME LOCATION INDICATOR – NAME

LEAX – LA AXARQUÍA
LEONI BENABU

2. DATOS GEOGRÁFICOS Y DE ADMÓN. DEL AERÓDROMO

AERODROME GEOGRAPHICAL DATA AND ADMINISTRATION

ARP: 36485,56N 0040809,53W. Ver LEAX ADC.
Distancia y dirección a la ciudad: 4,5 km SE.
Elevación: 37 m / 121 ft.
Temperatura de referencia: 31°C (Málaga).
Declinación magnética: 1° 33' W.
Cambio anual: 7,2' E.
Administración AD: Real Aeroclub de Málaga.
Dirección: Aeródromo de la Axarquía – Leoni Benabu.
Bda. El Trapiche. Buzón Nº 20. CP 29719. Vélez Málaga – Málaga.
TEL: 952 507 377 **FAX:** 952 507 234
E-mail: admon@aeroclubmalaga.com/
escuela@aeroclubmalaga.com
Tránsito autorizado: VFR, no autorizadas operaciones de Carga Aérea ni Aerotaxi.
Oficina de notificación de los servicios de tránsito aéreo (ARO) asignada: Málaga LEMG
Observaciones: Ninguna.

ARP: : 36485,56N 0040809,53W. See LEAX ADC
Distance and direction to the city: 4,5 km SE.
Elevation: 37 m / 121 ft.
Reference temperature: 31° C (Málaga).
Magnetic variation: 1° 33' W.
Annual Change: 7,2' E.
AD administration: Real Aeroclub de Málaga.
Address: Aeródromo de la Axarquía – Leoni Benabu.
Bda. El Trapiche. Buzón Nº 20. CP 29719. Vélez Málaga – Málaga.
TEL: 952 507 377 **FAX:** 952 507 234
E-mail: admon@aeroclubmalaga.com
escuela@aeroclubmalaga.com
Approved traffic: VFR, unauthorized Cargo or Airtaxi operations.
Assigned air traffic services reporting office (ARO): Málaga LEMG
Remarks: Ninguna.

3. HORARIO DE OPERACIÓN

HOURS OF OPERATION

Aeródromo: V:0700-SS I:0800-SS. 1 Enero y 25 Diciembre cerrado.
Aduanas e Inmigración: No disponibles servicios de Aduanas. No permitidos vuelos a área no Schengen.
Servicios médicos y de sanidad: No.
AIS/ARO: Málaga H24.
Información MET: Málaga H24.
ATS: No.
Abastecimiento de combustible: HR AD. No disponible de lunes a jueves de 1200 a 1400.
Asistencia en tierra: No.
Seguridad: No.
Deshielo: No.
Observaciones: Aeródromo de uso restringido. Todas las aeronaves no basadas en el aeródromo deberán de solicitar autorización de aterrizaje en el aeródromo al propietario, Real Aeroclub de Málaga, a través del teléfono 952507377, Fax 952507234 o por correo electrónico a: admon@aeroclubmalaga.com escuela@aeroclubmalaga.com
Una vez en tierra rueda por pista a plataforma norte y preguntar por el encargado del aeródromo para rellenar formulario de entrada quien le facilitará ficha de entrada de aeronaves visitantes.

Aerodrome: S:0700-SS W:0800-SS. 1st January and 25th December closed.
Customs and Immigrations: Customs services not available. Not allowed flights to non-Schengen area.
Health and Sanitation: No.
AIS/ARO: Málaga H24.
MET briefing: Málaga H24.
ATS: No.
Fuelling: HR AD. Not available Monday to Thursday from 1200 to 1400
Handling: No.
Security: No.
De-icing: No.
Remarks: Remarks: restricted use aerodrome. All aircraft not based at the aerodrome must request authorization landing at the aerodrome owner, Real Aeroclub de Malaga, via phone 952507377, fax 952507234 or email to: admon@aeroclubmalaga.com escuela@aeroclubmalaga.com
Once on the ground taxi to north platform and ask for the manager of the aerodrome to fill entry form who provide input tab you visiting aircraft.

4. SERVICIOS E INSTALACIONES DE ASISTENCIA EN TIERRA

HANDLING SERVICES AND FACILITIES

Instalaciones para el manejo de carga: No.
Tipos de combustible: 100LL y JET A-1
Tipos de lubricante: Aeroshell W100 Plus.
Capacidad de reabastecimiento: 100LL: 30000L Jet A-1: 15000L
Instalaciones para el deshielo: No.
Espacio disponible en hangar: Llamar para disponibilidad.
Instalaciones para reparaciones: Taller JAR 145 M.A.N.S.L.
Observaciones: Ninguna.

Cargo facilities: No.
Fuel types: 100LL and JET A-1
Oil types: Aeroshell W100 Plus.
Refuelling capacity: 100LL: 30000L JET A-1: 15000L
De-icing facilities: No.
Hangar space: Call for availability.
Repair facilities: Workshop JAR 145 M.A.N.S.L.
Remarks: None.

5. INSTALACIONES PARA LOS PASAJEROS

PASSENGER FACILITIES

Hoteles: No.
Restaurantes: Sí.
Transporte: Taxi bajo previa petición de llamada.
Instalaciones médicas: Primeros auxilios.
Banco / Oficina Postal: No.
Información turística: No.
Observaciones: Ninguna.

Hotels: No.
Restaurant: Yes.
Transportation: Request taxi previously by call.
Medical facilities: First aid.
Bank / Post Office: No.
Tourist information: No.
Remarks: None.

6. SERVICIO DE SALVAMENTO Y EXTINCIÓN DE INCENDIOS

RESCUE AND FIRE FIGHTING SERVICE

Categoría de incendios: No disponible.
Equipo de salvamento: No.
Retirada de aeronaves inutilizadas: No.
Observaciones: Ninguna.

Fire category: Not available.
Rescue equipment: No.
Removal of disable aircraft: No.
Remarks: None.

AD-LEAX2
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7. DISPONIBILIDAD ESTACIONAL/REMOCIÓN DE OBSTÁCULOS **SEASONAL AVAILABILITY/OBSTACLE CLEARING**
Equipo: No.
Prioridad: No.
Observaciones: Ninguna.

Equipment: No.
Priority: No.
Remarks: None.

8. DETALLE DEL ÁREA DE MOVIMIENTO **MOVEMENT AREA DETAILS**
Plataforma: **Superficie:** Asfalto.
Resistencia: No disponible.
Calles de rodadura: **Anchura:** 5 m.
Superficie: Asfalto.
Resistencia: No disponible.

Apron: **Surface:** Asphalt.
Strenght: Not available.
Taxiways: **Width:** 5 m.
Surface: Asphalt.
Strenght: Not available.

Posiciones de comprobación: No.
Observaciones: Ninguna.

Check location: No.
Remarks: None.

9. SISTEMAS Y SEÑALES DE GUÍA DE RODAJE **TAXIING GUIDANCE SYSTEM AND MARKINGS**
Sistema de guía de rodaje: No.
Señalización de RWY: Designadores, umbral, eje, faja lateral y zona de contacto.
Señalización de TWY: Borde y eje.
Observaciones: Ninguna.

Taxiing guidance system: No.
RWY marking: Designators, threshold, centre line, side stripe and touch-down zone.
TWY marking: Edge and centre line.
Remarks: None.

10. OBSTÁCULOS DE AERÓDROMO **AERODROME OBSTACLES**
En áreas de aproximación y despegue
In approach and take-off areas
En el área de circuito y en el AD
In circling area and at AD

RWY	Obstáculo	Coordenadas	Obstáculo	Coordenadas
Área	Obstacle	Coordinates	Obstacle	Coordinates
12 APCH	Torre eléctrica / Electric Tower	364813N 0040833W		
12 APCH	Torre eléctrica / Electric Tower	364815N 0040842W		

Observaciones: Ninguna.

Remarks: None.

11. SERVICIO METEOROLÓGICO PRESTADO **METEOROLOGICAL SERVICE PROVIDED**
Ver AIP-España AD-2 LEMG. "11 SERVICIOS METEOROLOGICOS PRESTADOS"
Observaciones: Ningunas.

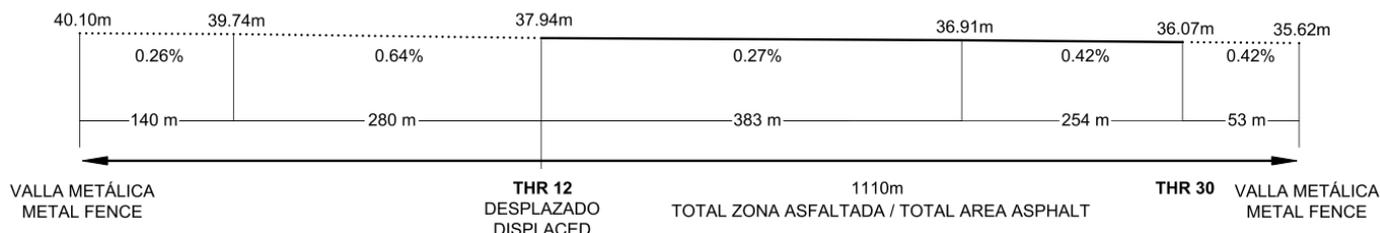
See Ver AIP-España AD-2 LEMG. "11 METEOROLOGICAL SERVICE PROVIDED"
Remarks: None.

12. CARACTERÍSTICAS FÍSICAS DE LA PISTA **RUNWAY PHISICAL CHARACTERISTICS**

RWY	Orientación Direction	DIM (m)	THR PSN	THR ELEV TDZ ELEV	SWY (m)	CWY (m)	Franja (m) Strip (m)	OFZ	RESA (m)	RWY/SWY SFC PCN
12	122.18° GEO 123° MAG	959 x 20	364816N 0040824W	THR: 35m / 115 ft TDZ : No	No	No	-	No	No	ASFALTO ASPHALT
30	302.18° GEO 303° MAG	959 x 20	364795N 0040787W	THR: 40m / 131 ft TDZ : No	No	No	-	No	No	ASFALTO ASPHALT

Observaciones: Ninguna.

Remarks: None.

Perfil:
Profile:

13. DISTANCIAS DECLARADAS **DECLARED DISTANCES**

RWY	TORA (m)	TODA (m)	ASDA (m)	LDA(m)
12	959	959	959	637
30	637	637	959	959


14. ILUMINACIÓN DE APROXIMACIÓN Y DE PISTA APPROACH AND RUNWAY LIGHTING

No. No.

15. OTRA ILUMINACIÓN, FUENTE SECUNDARIA DE ENERGÍA OTHER LIGHTING, SECONDARY POWER SUPPLY

No. No.

16. ZONA DE ATERRIZAJE PARA HELICÓPTEROS HELICOPTER LANDING AREA

Sí. No señalizado, Solicitar estacionamiento. Yes. Nonsignaled, Request parking.

17. ESPACIO AÉREO ATS ATS AIRSPACE

Denominación y límites laterales Designation and lateral limits	Límites verticales Vertical limits	Clase de espacio aéreo Airspace Class	Unidad responsable Idioma Unit Language	Altitud de transición Transition altitude
--	---------------------------------------	--	--	--

SEVILLA TMA AREA 3C

370056N 0040349W, 364546N 0035723W, 364348N 0041109W, 365504N 0041626W 370056N 0040349W	3500 ft SFC	G	Axarquía AD Español / Spanish	1850m / 6000 ft
---	----------------	---	----------------------------------	-----------------

Observaciones: Ninguna

Remarks: None

18. INSTALACIONES DE COMUNICACIÓN ATS ATS COMMUNICATION FACILITIES

Servicio Service	Distintivo de llamada Call sign	FREQ (MHz)	HR	Observaciones Remarks
---------------------	------------------------------------	---------------	----	--------------------------

No	Aeródromo Axarquía	123.500	HR AD	Solo comunicaciones aire / aire. Only air / air communications.
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19. RADIOAYUDAS PARA LA NAVEGACIÓN Y EL ATERRIZAJE RADIO NAVIGATION & LANDING FACILITIES

Ver AIP-España AD-2 LEMG. "19 RADIOAYUDAS PARA NAVEGACION Y ATERRIZAJE"
Para navegación DVOR MGA 112,00 Mhz.
Para aterrizaje no disponible.
Observaciones: Ninguna.

See AIP-España AD-2 LEMG. "19 RADIO NAVIGATION & LANDING FACILITIES."
For navigation DVOR MGA 112,00 Mhz.
For landing no available.
Remarks: None.

20. REGLAMENTACIÓN LOCAL LOCAL REGULATIONS

AD cerrado para aeronaves sin radiocomunicaciones en ambos sentidos. Las aeronaves que utilicen este AD están obligadas a disponer y mantener escucha de la frecuencia 123.500 MHz A/A. Dentro de SEVILLA TMA AREA 3A, 3B y 3C es obligado el uso de transponder en clave A7000 o C7000.

AD closed to aircraft without two-ways radio communications. Availability and monitoring of 123.500 MHz A/A frequency is mandatory to aircraft using this AD. Into SEVILLA TMA AREA 3A, 3B and 3C it's mandatory use of transponder code A7000 or C7000.

21. PROCEDIMIENTOS DE ATENUACIÓN DE RUIDOS NOISE ABATEMENT PROCEDURES

No. No.

22. PROCEDIMIENTOS DE APROXIMACION Y SALIDA ATS COMMUNICATION FACILITIES
1. PROCEDIMIENTOS.

 Ver ficha AD 2-LEAX publicada en www.aeroclubmalaga.com
1. CONTROL PROCEDURES

 See AD 2-LEAX published in www.aeroclubmalaga.com
1.1 PROCEDIMIENTO DE SALIDA Y APROXIMACION DE LEAX

Cuando una aeronave salga de la Axarquía, se tenga previsto entrar en espacio aéreo clase D y requiera plan de vuelo lo enviará a la ARO del Aeropuerto de Málaga a través del ordenador del club vía fax al número:

Fax. 952 048 971.

Para cerrar plan de vuelo llamar a la ARO de Málaga al número

Telf. 952 08 88 86.

Desde la oficina de ARO de Málaga, se suministran servicios de información de vuelo y alerta al activar el plan de vuelo. Planes de vuelo de llegada desde aeródromo origen.

Al despegar, las aeronaves procedentes de la LEAX contactarán sobre los puntos locales PV o PTM antes de entrar en el espacio aéreo clase D con Málaga APP en 118,450 Mhz. (LEMG DEP) Inicialmente responderán A7000 o modo C si dispone de el.

1.1 DEPARTURE PROCEDURE FROM LEAX

When an aircraft leaves the Axarquía, which are not intended to enter Class D airspace and flight plan required send it to the ARO Malaga Airport via computer club via fax to:

Fax. 952,048,971.

To close the flight plan to call the number ARO Malaga:

Tel. 952 86 Aug. 88.

From the office of Málaga ARO, flight information services and alert to activate the flight plan is provided. Arrival flight plans from airfield origin.

At takeoff, the aircraft from LEAX, will contact on local points PV or PTM before entering is airspace class D with Malaga Approach frequency 118,450 MHz (LEMG DEP) and initially respond A7000, and C mode if they had it.

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ESPAÑA



1.2 TRAFICO LOCAL EN LA AXARQUÍA

Cuando el tráfico se vaya a mantener en circuito sobre La Axarquía o dentro de SEVILLA TMA AREA 3C, es decir, a altitudes inferiores a 3500 ft será responsabilidad de los propios pilotos proveer su propia separación respecto de otras aeronaves operando en dicho circuito.

1.3 OPERACIONES DENTRO DEL CTR DE MÁLAGA (LEMG)

En caso de solicitud de maniobras de prácticas entre los puntos visuales PW-y PE, éstas estarán sujetas a autorización de control por Málaga Aproximación.

Ver. AD 2-LEMG VAC del AIP España.

1.4 ENTRADAS Y SALIDAS A o DESDE SEVILLA TMA AREA 6 de Granada.

Vuelos de Axarquía a SEVILLA TMA AREA 6 de Granada

El tráfico saliendo de La Axarquía con destino a Granada, procederá después del despegue al punto local PV y desde allí procederá al punto S de Granada, contactar con Granada APP en frecuencia 118,850 MHz. (Ver AD-2 LEGR VAC).

Vuelos de SEVILLA TMA AREA 6 de Granada a la Axarquía

Desde el punto S de Granada CTR – procederán al punto local de la Axarquía PV y esperarán información por parte de otros tráficos para arribada a La Axarquía. (Ver AD 2-LEAX publicada en www.aeroclubmalaga.com)

2. SEPARACIÓN

2.1 VERTICAL

No se aplica.

2.2 LONGITUDINAL

No se aplica.

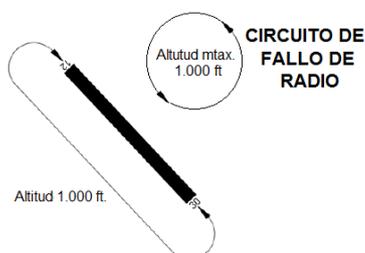
2.3 PUNTOS DE TRANSFERENCIA DE CONTROL

No se aplica.

3. FALLO DE COMUNICACIONES

Si una aeronave se encuentra con fallo de comunicaciones, esta extremará las precauciones de separación de tráficos, situándose al norte del aeródromo sin cruzar la pista ni sus prolongaciones a menos de 4 NM y una vez determinada la pista en uso procederá a integrarse en circuito para aterrizar. Altitud máxima 1.000 ft. Podría intentar comunicar por teléfono en el Nº 952507377.

CIRCUITO DE TRANSITO DE AD.



1.2 LOCAL TRAFFIC AT LA AXARQUÍA

When traffic is to keep in Axarquía circuit traffic Pattern or into the TMA SEVILLA AREA 3C, at altitudes below 3500 ft will be the responsibility of the pilots provide their own separation from other aircraft operating in the circuit.

1.3 OPERATION WITHIN MÁLAGA CTR (LEMG)

Should training maneuvers be requested between PW and P-E visual reporting points, they will be subjected to Malaga Approach clearance.

See AD 2-LEMG VAC on AIP Spain.

1.4 ARRIVAL and DEPARTING to or from SEVILLA TMA AREA 6 of Granada.

Flight from Axarquía to SEVILLA TMA AREA 6 Granada.

The traffic departing from La Axarquía destination to Granada, will be proceed to PV and then to proceed to point S of Granada, Will be contact with Granada APP on frequency 118,850 Mhz. (See AD-2 LEGR VAC).

Flights from SEVILLA TMA AREA 6 of Granada to Axarquía

From the point S of Granada CTR - proceed to the local point of the Axarquía PV and await information from other traffic to arribada La Axarquía. (See AD 2-LEAX published in www.aeroclubmalaga.com)

2. SEPARATION

2.1 VERTICAL

Not applicable.

2.2 LONGITUDINAL

Not applicable.

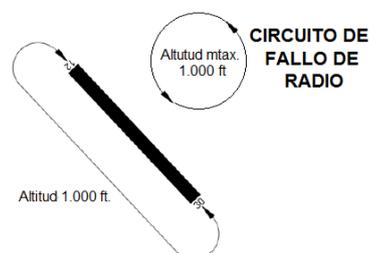
2.3 TRANSFER OF CONTROL POINTS

Not applicable

3. COMMUNICATION FAILURES

If an aircraft encounters communications failure, this take extreme cautions separation of traffic, being located north of the airfield without crossing centre line runway and QMS's its extensions within 4 NM out and once determined the runway in use shall be integrated into the circuit pattern to land . Maximun altitude 1,000 ft.You could try to communicate by phone at number 952507377

AD TRAFFIC PATTERN.



**INFORMACIÓN SUPLEMENTARIA****ADDITIONAL INFORMATION**

Toda aeronave visitante Una vez en tierra rueda por pista a plataforma norte y preguntar por el encargado del aeródromo para rellenar el formulario de entrada quien le facilitará la ficha de entrada de aeronaves visitantes.

Está prohibido sobrevolar la plataforma y zona de hangares.

Esta prohibido el vuelo acrobático por debajo de 2000 ft AGL

Consultar NOTAM en Información Previa al Vuelo de zona restringida temporal activada para ejercicios de paracaidismo y vuelo acrobático.

Once on the ground taxi on runway to the north apron and ask for the manager of the aerodrome to fill entry form who provide input tab you visiting aircraft.

It's forbidden overfly the apron and hangars area.

Aerobatic flights are prohibited below 2000 ft AGL

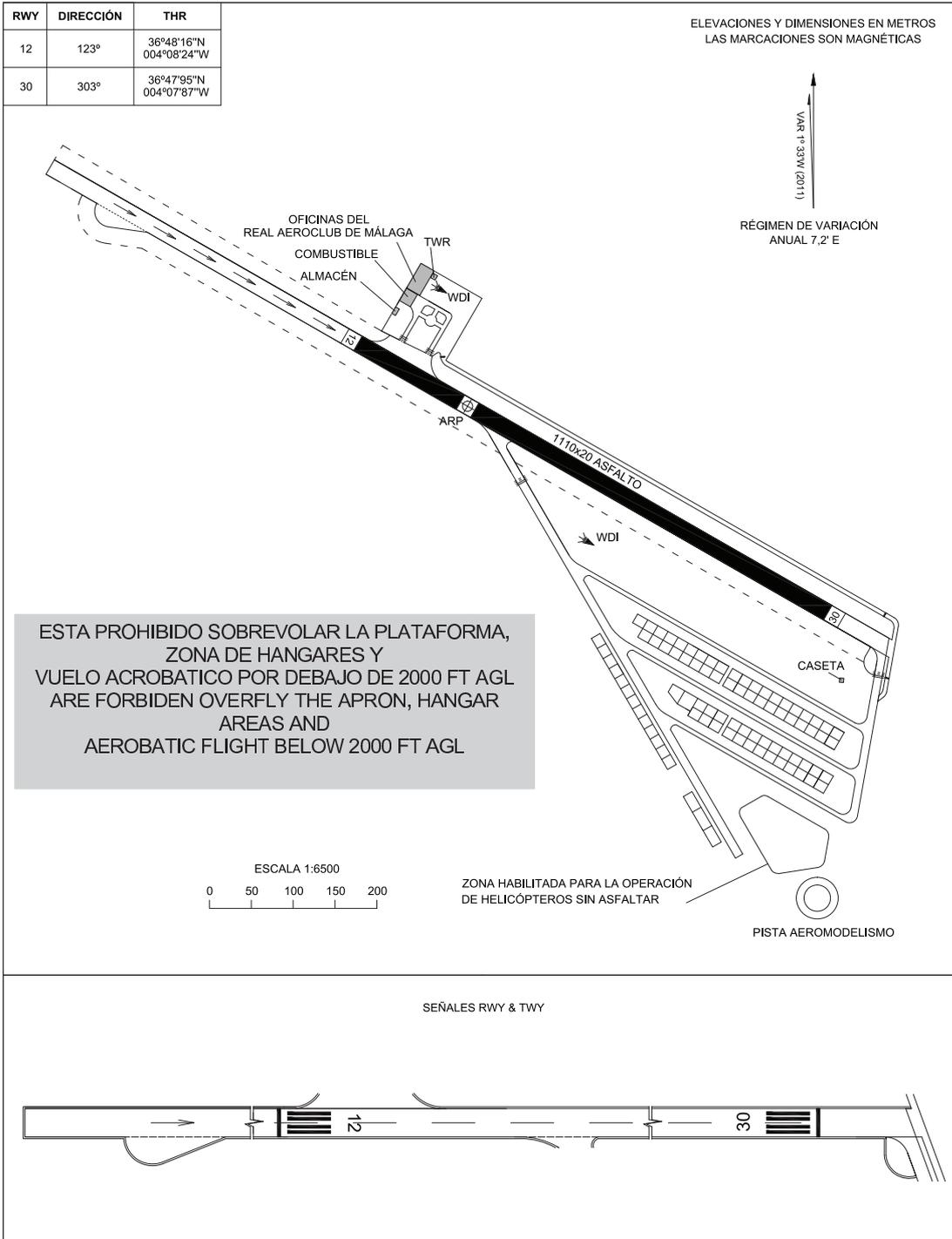
Check NOTAM in pre-flight information temporary restricted area activated for parachute jumping exercises and aerobatic flying.



REAL AERoclUB DE MÁLAGA
ESPAÑA

AD-LEAX ADC
18-OCT-16

PLANO DE AERÓDROMO 36° 48' 5,56" N 004° 08' 9,53" W ELEV 37 m FREQ A/A 123.500 **LA AXARQUÍA**
LEAX



CAMBIOS: Coordenadas ARP y cuadro de comentarios

REAL AERoclUB DE MÁLAGA - ESPAÑA

AMDT 002/16

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THIS IS NOT AN AIP PUBLICATION. THIS INFORMATION IS PROVIDED BY REAL AERoclUB DE MÁLAGA



CARTA DE APROXIMACION
VISUAL/VAC

ELEV
120

AD SIN ATS
FREQ A/A 123,500

AXARQUIA / Leoni Benabú
LEAX

Carta gentileza de:



AERODROMO DE USO RESTRINGIDO SIN SERVICIO DE CONTROL. SOLO VFR.

Prohibido volar sin radio. La frecuencia solo está disponible para comunicaciones aire-aire en idioma castellano. Mientras se encuentre en el SEVILLA TMA AREA 3A, 3B o en la 3C deberá activar el Transponder en clave A7000 o C7000. La manga de viento indicará pista en servicio. Las aeronaves en circuito de tráfico tendrán prioridad. Se deberá de notificar la entrada en el circuito de tránsito de aeródromo, viento en cola, base y final. Para salidas se deberá de notificar punto de salida requerido. Esta prohibido el vuelo acrobático por debajo de 2000 ft AGL

LLEGADAS:

Las aeronaves con destino al aeródromo de la Axarquía comunicaran su posición en los puntos PTM (Torre del Mar, elevación nivel del mar), PV (Embalse de la Viñuela, elevación 1000 Ft) manteniendo máximo 3000 ft AMSL mientras en zona SEVILLA TMA AREA 3C para integrarse en circuito.

Pista en servicio 12:

Desde PV notificar posición, las aeronaves procederán siguiendo un rumbo magnético 160° sobrevolando el campo a 1500 FT AMSL para ver la manga e integrarse en circuito viento en cola derecha pista 12 descendiendo a 1000 AMSL.

Desde PTM notificar posición, las aeronaves procederán siguiendo un rumbo magnético 340° para integrarse en circuito en tramo de viento en cola derecha pista 12 a 1000 Ft AMSL (Dejando el río Vélez a la derecha)

AERODROME RESTRICTED USE WITHOUT CONTROL SERVICE. ONLY VFR.

Forbidden to fly without radius. The frequency is only available for air-air communications in Spanish language. While in the TMA SEVILLA AREA 3A, 3B or into 3C must activate the transponder code A7000 and C7000. Windscock indicate active runway. The aircraft on circuit pattern have priority. He must report the entry into the aerodrome circuit pattern, downwind, base and final. For departure must report the reporting point to be use. Aerobatic flights are prohibited below 2000 ft AGL

ARRIVALS:

Aircraft in bound to Axarquía airfield shall report in reporting points PTM (Torre del Mar, elevation at sea level), PV (Embalse de la Viñuela, elevation 1000 ft), maintaining maximum 3000 Ft AMSL while on SEVILLA TMA AREA 3C to joining circuit pattern.

Runway 12 on service:

From PV report position, the aircraft shall proceed following a magnetic heading 160° flying over the field at 1500 FT AMSL for see the windscock and joining on circuit pattern right downwind 12 descending at 1000 AMSL.

From PTM report position, the aircraft shall proceed following a magnetic heading 340° to joining on circuit pattern right downwind 12 at 1000 Ft AMSL (Leaving the river Vélez on right side)

**Pista en servicio 30:**

Desde PV notificar posición, las aeronaves procederán siguiendo un rumbo magnético 160° sobrevolando el campo a 1500 FT AMSL para ver la manga e integrarse en circuito viento en cola izquierda pista 30 descendiendo a 1000 AMSL.

Desde PTM notificar posición, las aeronaves procederán siguiendo un rumbo magnético 340° para integrarse en circuito en tramo de base izquierda pista 30 a 1000 Ft AMSL (Dejando el río Vélez a la izquierda)

SALIDAS:

Las aeronaves que procedan a abandonar el aeródromo de la Axarquía, comunicarán su posición en plataforma o zona de hangares de aeródromo, notificando intenciones de rodaje y salida.

Pista en servicio 12:

Hacia PV, las aeronaves harán viraje derecha incorporándose al circuito derecha 12 ascendiendo a 1500 ft para cruzar la pista en ascenso con rumbo magnético 340° en curso a PV. Mientras en la zona SEVILLA TMA ÁREA 3C se podrá ascender máximo recomendado 3000 Ft altitud. Antes de entrar en SEVILLA TMA ÁREA 3A o SEVILLA TMA ÁREA 3B contactará con Málaga APP 118,450 Mhz.

Hacia PTM las aeronaves procederán con un rumbo magnético 160° (Dejando el río Vélez a la derecha) hasta alcanzar 1000 AMSL. Mientras en la zona SEVILLA TMA ÁREA 3C se podrá ascender máximo 1000 Ft altitud. Antes de entrar en SEVILLA TMA ÁREA 3A o SEVILLA TMA ÁREA 3B contactará con Málaga APP 118,45 Mhz.

Pista en servicio 30:

Hacia PV las aeronaves harán viraje izquierda incorporándose al circuito izquierda pista 30 en ascenso a 1500 ft para cruzar la pista en ascenso con rumbo magnético 340° en curso a PV. Mientras en la zona SEVILLA TMA ÁREA 3C se podrá ascender máximo recomendado 3000 Ft altitud. Antes de entrar en SEVILLA TMA ÁREA 3A o SEVILLA TMA ÁREA 3B contactará con Málaga APP 118,450 Mhz.

Hacia PTM las aeronaves se incorporaran a viento en cola izquierda pista 30 procediendo después con rumbo magnético 160° (dejando el río Vélez a la izquierda) hasta alcanzar 1000 AGL. Mientras en la zona SEVILLA TMA ÁREA 3C se podrá ascender máximo 1000 Ft altitud. Antes de entrar en SEVILLA TMA ÁREA 3A o SEVILLA TMA ÁREA 3B contactará con Málaga APP 118,45 Mhz.

SOBREVUELOS:

Las aeronaves en sobrevuelo del aeródromo de la Axarquía comunicarán en la frecuencia A/A 123,500 Mhz. sus intenciones de sobrevuelo y altitudes que será utilizada.

FALLO DE COMUNICACIONES:

Si una aeronave se encuentra con fallo de comunicaciones, esta extremará las precauciones de separación de tráficos, situándose al norte del aeródromo sin cruzar la pista ni sus prolongaciones a menos de 4 NM y una vez determinada la pista en uso procederá a integrarse en circuito para aterrizar. Altitud máxima 1.000 ft.

Podría intentar comunicarse por teléfono en el N° 952507377.

Runway 30 on service:

From PV report position, the aircraft shall proceed following a magnetic heading 160° flying over the field at 1500 FT AMSL for see the windsock and joining on circuit pattern left downwind 30 descending at 1000 AMSL.

From PTM report position, the aircraft shall proceed following a magnetic heading 340° to joining into circuit pattern left base 30 at 1000 Ft AMSL (Leaving the river Vélez on left side)

DEPARTURES:

Aircraft proceeding to leave the Axarquía airfield, shall report its position in platform or airfield hangars area, reporting taxi intentions and reporting piont to be use.

Runway 12 on service:

To PV, the aircraft shall turn right joining the right circuit 12 climbing to 1500 ft to cross the runway whit magnetic heaging 340° on course to PV. While in the area AREA SEVILLA TMA 3C may amount recommended maximum altitude 3,000 Ft. Before entering in SEVILLA SEVILLA TMA 3A o TMA AREA AREA 3B contacted Málaga APP 118.450 Mhz.

To PTM aircraft shall proceed with a magnetic heading 160 °(Leaving the Vélez river on right side) climbing to 1000 AMSL. While in the SEVILLA TMA AREA 3C may be climbing to 1000 ft altitude. Before entering SEVILLA SEVILLA TMA AREA 3A or TMA AREA AREA 3B shall contact Málaga APP 118.45 Mhz.

Runway in 30:

To PV, the aircraft shall turn left joining the left circuit 30 climbing to 1500 ft to cross the runway whit magnetic heaging 340° on course to PV. While in the area AREA SEVILLA TMA 3C may amount recommended maximum altitude 3000 Ft. Before entering in SEVILLA TMA 3A o TMA AREA AREA 3B contacted Málaga APP 118.450 Mhz.

To PTM, the aircraft shall turn left joining the left downwin 12 aircraft shall proceed with a magnetic heading 160 °(Leaving the Vélez river on left side) until 1000 ft. While in the SEVILLA TMA AREA 3C may be climbing to 1000 ft altitude. Before entering SEVILLA SEVILLA TMA AREA 3A or TMA AREA AREA 3B shall contact Málaga APP 118.45 Mhz.

OVERFLIGHT:

Aircraft overflying the Axarquía aerodrom shall communicate in frequency A / A 123,500 Mhz. their intentions and overflight altitudes to be used.

COMMUNICATIONS FAILURE:

If an aircraft encounters communications failure, this take extreme cautions separation of traffic, being located north of the airfield without crossing centre line runway and QMS's its extensions within 4 NM out and once determined the runway in use shall be integrated into the circuit pattern to land . Maximun altitude 1.000 ft.

You could try to communicate by phone at number 952507377.



OSERVACIONES:

Leer cuidadosamente la carta de aproximación de Málaga AD 2-LEMG VAC 1.1 y ENR 6.12 TMA Sevilla del España AIP.

Ver fichas AD-LEAX y AD-LEAX ADC publicadas en www.aeroclubmalaga.com

No se cruzará el eje de pista ni sus prolongaciones sin previa comunicación en frecuencia A/A 123,500 Mhz.

A título informativo:

Elevaciones:

PV (Embalse de la Viñuela) 787 Ft.

PTM (Torre del Mar) Nivel del mar.

Coordenadas:

PV 365405N 0041050W

PTM 364408,59N 0040623,80W

REMARKS:

Carefully read the approach chart Malaga AD 2-LEMG VAC 1.1 and ENR 6.12 TMA Sevilla of AIP Spain.

See file AD-LEAX y AD-LEAX ADC published in www.aeroclubmalaga.com

Will not cross the runway center line or its QMS's without prior report on frequency A / A 123,500 Mhz.

For information:

Elevations:

PV (Viñuela Reservoir) 787 Ft.

PTM (Torre del Mar) sea level.

coordinates:

PN1 365405N 0041050W

PTM 364408,59N 0040623,80W

NOTA: Estos puntos no están publicados en el España AIP.

NOTE: These points are not published in the AIP Spain.

NOTA INFORMATIVA:

Todas las aeronaves no basadas en el aeródromo deberán de solicitar autorización de aterrizaje en el aeródromo al propietario, Real Aeroclub de Málaga, a través del teléfono 952507377, Fax 952507234 o por correo electrónico a:

admon@aeroclubmalaga.com

escuela@aeroclubmalaga.com

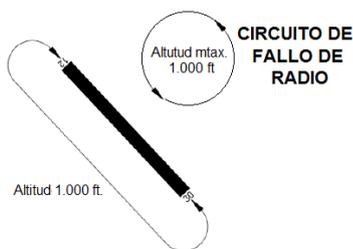
Una vez en tierra ruede por pista a plataforma norte y preguntar por el encargado del aeródromo para rellenar formulario de entrada quien le facilitará ficha de entrada de aeronaves visitantes.

No autorizados vuelos de Aerotaxi ni Carga Aérea.

No disponibles servicios de Aduanas. No permitidos vuelos a área no Schengen.

Se dispone de combustible AvGAs 100LL, JET A-1 y Aceite Aero Shell W100 plus.

Circuito de tráfico:



INFORMATIVE NOTE:

All aircraft not based at the aerodrome must request landing authorization at the aerodrome owner, Real Aeroclub de Malaga, via phone 952507377, fax 952507234 or email to:

admon@aeroclubmalaga.com

escuela@aeroclubmalaga.com

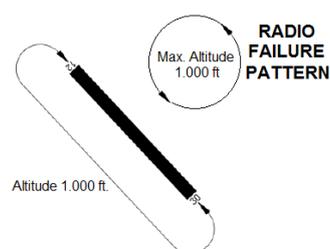
Once on the ground taxi on runway to the north apron and ask for the manager of the aerodrome to fill entry form who provide input tab you visiting aircraft.

Unauthorized flights of Air Taxi or Air Cargo.

Customs services not available. Not allowed flights to not Schengen area.

It's available fuel Avgas 100LL, JET A-1 and Aero Shell Oil W100 plus.

Circuit pattern:



Espacio aéreo:

El aeródromo se encuentra en espacio aéreo SEVILLA TMA ÁREA 3C. Clase G desde la superficie hasta 3.500 ft AMSL.

Air space:

Aerodrome is in SEVILLA TMA airspace AREA 3C. Class G from the surface to 3,500 ft AMSL.

PRECAUCIÓN:

Consultar posible NOTAM activado por vuelo acrobático y lanzamiento de paracaidistas.

CAUTION:

Consult activated NOTAM for possible aerobatics and parachuting jumping.

APPENDIX B

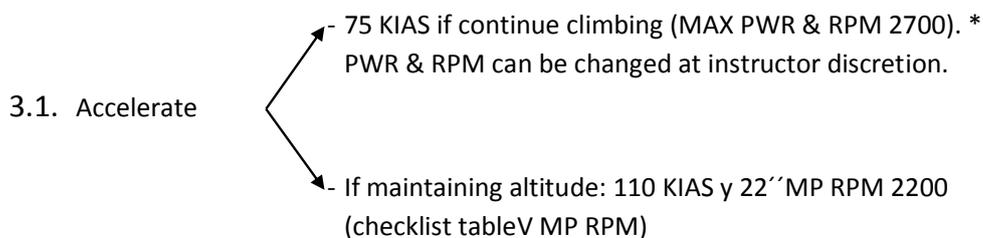
Normal takeoff and emergency briefing of DA40 EC-LRF

BRIEFING DE DESPEGUE NORMAL DA40 EC-LRF

0. Before T/O Checklist completed.

1. Aligned on the runway XX:
 - 1.1. Check the HSI indication with the runway heading and the compass
 - 1.2. Apply brakes and check propeller pitch and mixture fully forward, then set the throttle lever to half.
 - 1.3. Check engine instruments: in Green*.
 - 1.4. Release brakes and apply "Take-off Power", full throttle; Tachometer indication: not less 2,600 RPMs*.
 - 1.5. Positive indication of the ASI, call "Airspeed is alive"*.
 - 1.6. At 30 KIAS check again "Engine instruments: in green"*.
 - 1.7. At 50 KIAS "Rotate" and accelerate to 65 KIAS for the climb.
 2. Once safety altitude (500 ft AGL) is reached, accelerate to 75 KIAS; Flaps up, landing light Off, fuel pump off and continue with the climb to 1,000 ft AGL.

3. Reaching "Circuit Altitude" or "1.000 ft" AGL:



- 3.2. "After T/O Checklist"/ CLIMB TO CRUISE

Nota: Any condition (*) not satisfied, outside limitations or the captain/instructor calling "Stop, Stop", the take off will be aborted and we will proceed accordingly to the

Emergency Briefing.



BRIEFING DE EMERGENCIA DA40 EC-LRF

1. **ENGINE FAILURE BEFORE Vr.**
 - a. Close throttle.
 - b. Apply brakes and maintain runway heading.
 - c. Flaps up.
 - d. Vacate the runway via first taxiway.
 - e. Report to the tower.
 - f. Secure the aircraft.

2. **ENGINE FAILURE AFTER Vr, BELOW SAFETY ALTITUDE (500ft AGL) and WITH SUFFICIENT RUNWAY.**
 - a. Close throttle.
 - b. Pitch down to accelerate $V \geq 70$ KIAS.
 - c. Land back on the runway.
 - Full Flaps if: Altitude and Runway sufficient.
 - Full Flaps speed to maintain 60/65 KIAS.
 - d. Report to the tower.
 - e. Secure the aircraft if time permits: first "Fly the aircraft".

3. **ENGINE FAILURE AFTER Vr BELOW SAFETY ALTITUDE and WITH INSUFFICIENT RUNWAY.**
 - a. Maintain Vmaximum glide speed, 70 KIAS.
 - b. Pick a field within +/- 45 degrees of the longitudinal axis (assess altitude).
 - c. Declare emergency (MAY DAY, MAY DAY, MAY DAY).
 - d. Secure the aircraft (first Fly the aircraft).
 - e. Full Flaps and 60/65 KIAS when landing assured.

4. **ENGINE FAILURE ABOVE SAFETY ALTITUDE and WITH INSUFFICIENT RUNWAY.**
 - a. MAINTAIN Vmaximum glide speed, 70 KIAS.
 - b. FLAPS up
 - c. Perform a 180° with 30° angle of bank (45° máximo) to the side of headwind or BRIEFING.
 - d. Report to the tower.
 - e. Secure the aircraft.
 - f. Land on the reciprocal runway (beware of tailwind).

HOW TO SECURE THE AIRCRAFT (Fuel Selector OFF & Electricity)

- Mixture and Fuel selector: OFF.
- Throttle and Prop pitch: close.
- Magnetos: OFF.
- After reporting Emergency, MASTER (ALT & BATT): OFF.
- * In case of landing out of runway or in mountainous terrain:
Open the doors to prevent remain trapped in the cockpit due to the posible deformation of the aircraft frame after the crash.

Real Emergency: The instructor will fly the aircraft; the student will do ATC communications and will read the Emergency checklist.