

**NATO FLIGHT TRAINING EUROPE
CAMPUS ACCREDITATION REPORT**



**ROYAL AIR FORCE CRANWELL, ROYAL AIR FORCE
BARKSTON HEATH & 3 FLYING TRAINING SCHOOL**

GREAT BRITAIN

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NFTE(2024) - Campus_Accreditation_Report – RAF_Cranwell_3FTS - GBR

17 Oct 2024

Reference: NFTE(2024)_Campus_Accreditation_Assessment_Process

INTRODUCTION

1. **NFTE Accreditation Team.** An accreditation team representing NATO Flight Training Europe (NFTE) visited RAF Stations Cranwell and Barkston Heath, and Number 3 Flight Training School (3 FTS) on 25/26 Sep 2024. The visit was conducted iaw Ref A and the accreditation team members were:

Mr Jason Hawker, NFTE Principal Officer, NSPA
Wing Commander John Le Cornu, OC Exam Wing, Central Flying School, RAF
Major Patrick Musters, Instructor and Test Pilot, RNLAF

2. **Aims.** As stated at Ref, the aim of NFTE Campus Accreditation is to satisfy the NFTE Steering Board that a training campus and training provider meet satisfactory standards in terms of safety, quality of training and duty of care.

3. **Assessment.** Assessment of overall performance and within each area considered is graded as UNSATISFACTORY or SATISFACTORY.

EXECUTIVE SUMMARY & RECOMMENDATION.

4. **Executive Summary.** RAF Cranwell and RAF Barkston Heath¹ are campuses delivering Fixed Wing training to aircrew and aircrew instructors for UK Defence and international military aircrew. The training school at RAF Cranwell is 3 Flying Training School (3 FTS) and the Training Service Partner (TSP) is Ascent Flight Training. NFTE assessment was undertaken of the Phase 1, Phase 2 and Phase 3 pilot training delivered at 3 FTS.

5. The aircraft operated at 3 FTS are the Grob 120 TP Prefect and the Embraer Phenom 100. These are military aircraft that are regulated by both the UK Civil Aviation Authority (CAA) and the UK Military Aviation Authority (MAA). A satisfactory level of regulatory assurance and accreditation activity was evidenced in both the safe to operate and the operated safely categories.

6. The flying instructors at 3 FTS are a mix of military and civilian personnel, with an approximate split of 60/40. The civilian instructors have a blend of military and civilian aviation backgrounds; those flying instructors with no military background deliver training during Phases 1 and 2 and are fully accredited by Royal Air Force Central Flying School (CFS) examiners. The TSP evidenced a robust training Quality Management System (QMS) that is accredited by ISO 9001². A satisfactory level of training assurance and quality of flying training was clearly demonstrated.

¹ RAF Barkston Heath is a satellite airfield located approximately 5 miles from RAF Cranwell. As the regulations, assurance, safety and duty of care elements are covered by the Commandant of 3 FTS, the observations in this report cover both sites, although for ease of reading, only RAF Cranwell will be referenced in the body of the report.

² ISO 9001 is the international standard that defines the requirements for a Quality Management System (QMS).

7. RAF Cranwell and 3 FTS provided access to all elements of the training system and welfare facilities as requested by the NFTE Accreditation Team. RAF Cranwell and 3 FTS clearly demonstrated a cohesive unit that is capable of integrating and supporting the welfare requirements of international students to a satisfactory standard.

8. **Recommendation. It is recommended that RAF Cranwell, RAF Barkston Heath, and 3 Flying Training School is accredited as a NATO Flying Training Europe campus.**

ORGANISATION & SUPERVISION (SATISFACTORY)

9. **Flying Training Location.** Phase 1 and 2 flying training conducted by 3 FTS is operated from RAF Cranwell (<https://maps.app.goo.gl/JJkL97h614VP5t1U8>) and RAF Barkston Heath (<https://maps.app.goo.gl/bV5tY4scDJT9D2qo9>). Phase 3 Multi-Engine training is solely conducted from RAF Cranwell.

10. **Organisation (Military).** RAF Cranwell is the home of 3 Flying Training School (3 FTS) comprising 57 Squadron delivering Phase 1 and 2 flying training, and 45 Squadron delivering Phase 3 Multi-Engine flying training. The Commandant of 3 FTS is an RAF OF5 who is the aviation Delivery Duty Holder (DDH) with responsibility for the quality of training and legally accountable that the aircraft are safe to operate and are operated safely, and responsibility for the quality of output standard, duty of care and military ethos. Under the command of the Commandant are Squadron Commanders of OF4 rank. The Station Commander at RAF Cranwell is currently an RAF OF5 but will change to OF4 at the next rotation; they are responsible for base support functions and aerodrome operations. The Head of Flying Training for the Royal Air Force is an OF6, and the Operational Duty Holder (ODH) for all training undertaken in the UK is the Air Officer Commanding 22 Group at OF7.

11. **Organisation (Civilian).** The Training Service Partner (TSP) at RAF Cranwell is Ascent Flight Training³. The General Manager at RAF Cranwell is an experienced former Royal Air Force Fast Jet pilot who is responsible for the line management of all civilian staff and delivery of the flying task. The Managing Director of Ascent Flight Training also has previous experience as a military Fast Jet pilot.

12. **Flying Supervision.** 3 FTS evidenced a robust system of flying supervision, comprising of a Duty Senior Supervisor (responsible for the safe execution of the 3 FTS daily task), a Duty Operation Supervisor (responsible for the safe execution of the Squadron flying task) and a Duty Pilot in the Air Traffic Control Tower. A Training Management Information System (TMIS) provides data on all aircrew qualifications, currencies, and training requirements.

TRAINING SYSTEM (SATISFACTORY)

13. **Aircraft.** 3 FTS operates the Grob 120 TP Prefect for Phase 1 and 2 training, and the Embraer EMB-500 Phenom 100 for Multi-Engine phase 3 training, which are called Prefect T1 and Phenom T1 respectively in RAF service. The 3 FTS fleet is military registered and owned by the UK Ministry of Defence, operated with civil oversight through the UK Civil Aviation Authority (CAA).

³ Ascent Flight Training was appointed in 2008 to design and deliver a modern and efficient flying training system by the UK MOD. Created as a joint venture between Lockheed Martin UK and Babcock International; and is responsible within the UK Military Flight Training System (UKMFTS) for the training design and training delivery.

13.1 **Prefect T1.** The TP provides 3 FTS with a fleet of 23 Prefect T1 aircraft. The Prefect T1 is a two-seated training and aerobatic low-wing aircraft with a carbon composite airframe, a fully retractable undercarriage and digital avionics. It is used to deliver Phase 1 training to all RAF pilots and Phase 2 training to pilots selected for Fast Jet or Multi Engine training. The airframe can sustain G forces from -4G through to 6G.

13.2 **Phenom T1.** The TP provides 3 FTS with a fleet of 5 Phenom T1 aircraft. It has digital avionics and a full glass cockpit and is used to deliver Phase 3 Multi-Engine Pilot training (and elements of rear crew training although not in scope of this report). It has a flight deck for 2 and capacity for 5 in the rear cabin.



Image 1: Grob 120 TP (Prefect T1)



Image 2: Embraer 100 (Phenom T1)

14. **Infrastructure.** The TSP provides 3 FTS with modern facilities for the delivery of all training in the Sykes Building at RAF Cranwell (and Esmonde building at RAF Barkston Heath). These are shared facilities between the military and civilian staff and the students. The Sykes building is also where all ground school and Ground Based Training is delivered, as well as housing the Squadron offices⁴ and crewrooms.



Image 3: The Sykes Building

⁴ 57 Squadron delivers Phase 1 & 2 training on Prefect; 45 Squadron delivers Phase 3 Multi-Engine training and Rear Crew Training.

15. **Instructors.** The instructors at 3 FTS are both military and civilian, the split being approximately 60/40⁵. Civilian flying instructors with no previous military experience undergo the same instructional course as ex-military instructors, undergoing assessment and instructor accreditation by the Royal Air Force Central Flying School (CFS)⁶. Assurance of instructor standards was evidenced to the accreditation team with reference to the CFS assessment of the flying units at 3 FTS⁷; the standard of aircrew instruction in all relevant roles was assessed as GOOD.⁸

16. **Military Aviation Ground School (MAGS).** The ground school phase lasts 5 weeks and is delivered to all military aircrew. On completion of the ground school phase, students undertake 1 week of Advanced Personal Leadership Development Training (APDLT).⁹ All ground school classrooms and briefing rooms are equipped with interactive smart board TV screens and a white board. During the ground school phase, all students undergo an Aircrew Conditioning Programme with the Gymnasium staff in preparation for the flying phase of training.

17. **Ground Based Training Equipment (GBTE).** A comprehensive suite of GBTE is available for the training of pilots during all phases of training.

17.1 **Prefect T1 Flight Training Device (FTD).** Five Prefect T1 FTDs are available for training and are used to teach cockpit checks and flight procedures.



Images 4 & 5: Prefect T1 Flight Training Device

17.2 **Phenom T1 Part Task Trainer (PTT).** Four PTTs which are used as a procedural systems trainer for the early stages of the course and Garmin avionics consolidation throughout the course.

17.3 **Phenom T1 Flight Training Device (FTD).** One Phenom T1 FTD is available for training and is used for the training of aircraft checks, crew resource management, procedures and aircraft handling.

⁵ Most of the Ascent civilian instructors who deliver Prefect instruction have no previous mil background; however all Ascent civilian instructors who deliver Phenom instruction are ex-military.

⁶ On behalf of Defence, CFS develops, delivers and promotes the highest standards of flying and flying instruction, in the synthetic and live environments.

⁷ As the accreditation team had access to the Central Flying School reports on instructor assessment, no observation was made of a sortie brief/debrief during the visit.

⁸ CFS assessment grades are Unsatisfactory, Marginal, Satisfactory, Good or Excellent.

⁹ APDLT aims to develop military leadership and teamwork skills in preparation for the flying phase of training.

- 17.4 **Phenom T1 Full Flight Simulator (FFS).** One Phenom T1 FFS is available for training and is used for teaching all aspect of the syllabus. An instructor console to the rear of the cockpit enable instructors to teach and run the training event.



Image 6: Phenom T1 FFS



Image 7: Phenom FFS Instructor Console



Image 8: Phenom FFS Hall

18. **Courseware.** Students are provided with a personal laptop for the duration of the training course. All courseware (ground school and flying) is loaded onto the laptop to deliver computer based training. On request, the laptops can be taken overseas.

19. **Changes to Training System Design in Next 3 Years.** Nil anticipated.

20. **English Language Standards.** All staff meet the 3, 3, 3, 3¹⁰ language levels in accordance with NATO Standardisation Agreement 6001 (Language Proficiency Levels). All students attending training at 3 FTS are expected to be proficient in English language to level 3, 3, 2, 2.

¹⁰ The categories are: listening, speaking, reading and writing.

21. **Syllabus.** The syllabus was considered by the NFTE accreditation team to meet the minimum training requirements¹¹ for Phase 1 and 2 training on the Prefect T1 and Multi-Engine Phase 3 training on the Phenom T1. It should be noted that the training syllabus at 3 FTS is not CAA accredited, as such, no civilian licenses are issued upon course completion. A breakdown of the hours (live/synthetic) for the main courses offered is illustrated below.

Event	Duration (weeks)	Live Flying Hours	Live / Synthetic Split
Groundschool	5	-	100% Synth
Phase 1 (EFT) Pilot Training (All streams)	15	27	55% Live / 45% Synth
Phase 2 (BFT) Fast Jet Pilot Training	7	31	77% Live / 23% Synth
Phase 2 (BFT) Multi Engine Training	6	14	50% Live / 50% Synth
Phase 3 (AFT) Multi Engine Training	35	53	36% Live / 64% Synth

22. **International Training.** 3 FTS is well practiced in the training of overseas students and instructor pilots. There are currently instructor pilots undergoing training from Kenya and Oman, and students from Australia, Oman, Saudi Arabia and Jordan have recently graduated from the school. It was evidenced that RAF Cranwell is well practiced in the hosting of international staff and students and that the training and support offered to international students does not differ in any area from that offered to UK students.

23. **Flying Clothing.** Flying clothing and Aircrew Assembly Equipment (AEA) are provided by the TSP. On arrival in the UK, students are sized by the RAF Centre of Medicine and suitably sized flying clothing is provided to the students, which is worn during all phases of flying training.

24. **Course Completion Certification.** A report is raised on each student at the completion of ground school and each phase of training. A course completion certificate would be issued if required.

SAFETY MANAGEMENT (SATISFACTORY)

25. **Engineering Practices.** The Prefect T1 and Phenom T1 aircraft are managed and maintained by Affinity Flight Training Services¹², which operates UK Military Aviation Authority (MAA) and UK CAA approved Part Continuing Airworthiness Management Organisation (CAMO) and Part 145 organisations. The Commandant of 3 FTS as DDH oversees the Affinity Flight Training Services CAMO through the Military CAMO (an RAF Engineer Officer of OF4 rank who reports directly to the DDH). First, second and third party assurance of all engineering practices was clearly evidenced.

26. **Air System Safety Case (ASSC).** Both the Grob 120 TP and the Embraer 100 have an ASSC that is reviewed annually by the Operational Duty Holder at 2* level.

¹¹ An NFTE minimum baseline training requirement document is pending action, and will be used for future NFTE accreditation activity. Until this document is agreed, subject matter expertise has been exercised by the NFTE Accreditation Team.

¹² Affinity Flight Training Services are a sub-contractor of the Training provider (Ascent).

27. **Air Safety.** 3 FTS has an Air Safety Team (AST) who provide the DDH with the collated evidence that the aircraft are safe to operate and being operated safely. The AST demonstrated robust mechanisms and practices to manage risk management, error management and occurrence management. Additionally, air safety training is conducted during Station air safety days, Squadron flight safety briefs and Human Factors and Crew Resource Management training sessions.

QUALITY ASSURANCE (SATISFACTORY)

28. **Quality Assurance.** The TP is ISO 9001 accredited and has a robust Quality Management System, which is fully compliant with the UK Defence Systems Approach to Training (DSAT).

29. **Continual Improvement.** There is a robust and active mechanism to allow continual improvement, consistent with ISO 9001 accreditation.

30. **Other Assurance Reports.** First, second and third party assurance in all areas was clearly evidenced to the NFTE accreditation team during the visit.

DOMESTIC & WELFARE (SATISFACTORY)

31. **Accommodation.** Students are accommodated on base in single living accommodation comprising a bed and desk. Shower and bathroom facilities are either shared or en-suite. Within the accommodation block there are also shared clothes washing/drying facilities. Personal cooking is prohibited within the accommodation block due to fire regulations. WiFi is provided in all accommodation blocks. Subject to agreement and on request from the Sending Nation, there may be dependent accommodation available on base¹³.



Images 9 & 10: Single Accommodation (Shared shower facilities)

¹³ Dependent accommodation was not assessed as part of the NFTE accreditation visit.



Images 11 & 12: Single Accommodation (En-Suite shower facilities)

32. **Food.** Three meals a day are provided in the Officers Mess; additionally high energy and flight rations¹⁴ are provided within the Squadron facilities. Students are provided a reference number, which allows them to pay for their food on a monthly basis rather than a pay as you dine basis.

33. **Medical Provision.** Primary health and dental care is provided on base¹⁵, as well as providing emergency support for on base incidents. The medical staff have aviation qualifications, which allow them to provide annual aircrew medical examinations.



Image 13: RAF Cranwell Medical and Dental Facility

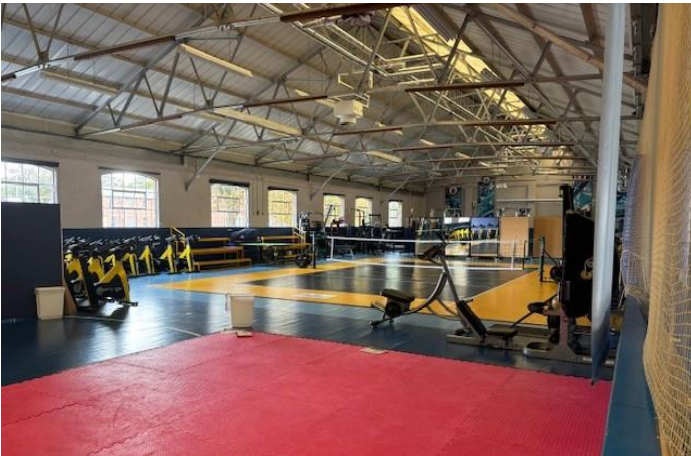
34. **Student Safeguarding.** 3 FTS is covered by a Supervisory Care Directive (SCD) detailing the safeguarding of students undertaking training. A recent OFSTED (Office for Standards in Education, Children's Services and Skills)¹⁶ inspection of the SCD assessed it as outstanding. All instructors have undertaken Advanced Care of Trainee training.

¹⁴ Flight rations are available if a student is unable to use the on base dining facilities due to scheduling of training.

¹⁵ Primary health and Dental care is provided to international students, but only primary health care is provided to any dependents by the facilities at RAF Cranwell.

¹⁶ OFSTED is a UK Government assessment body who inspect and reports on anywhere that provides education for young people in England.

35. **Student Supervision.** Students at 3 FTS have a Squadron Commander (OF4), a military Flight Commander and a dedicated course commander.¹⁷
36. **Access to Own Nation Support.** Subject to prior agreement and arrangement, 3 FTS would be amenable to support by the sending nation in the form of a Senior National Representative.
37. **Provision for Foreign Students.** 3 FTS and RAF Cranwell are fully inclusive of international students, there being no delineation between them and UK students in any area of 3 FTS or RAF Cranwell.
38. **Recreational Facilities.** There is a very well equipped and modern gymnasium facility on base that is available to all students (and dependents) 24 hours a day and it offers continuation of the Aircrew Conditioning Programme (ACP) throughout the period of the flying courses. It features a large sports hall, weights room, spinning facility, squash courts and cardio/multi gym equipment. There are also many sports pitches such as rugby, cricket and football, a swimming pool, bowling alley and cinema.



Images 14 and 15: RAF Cranwell Gym Facilities

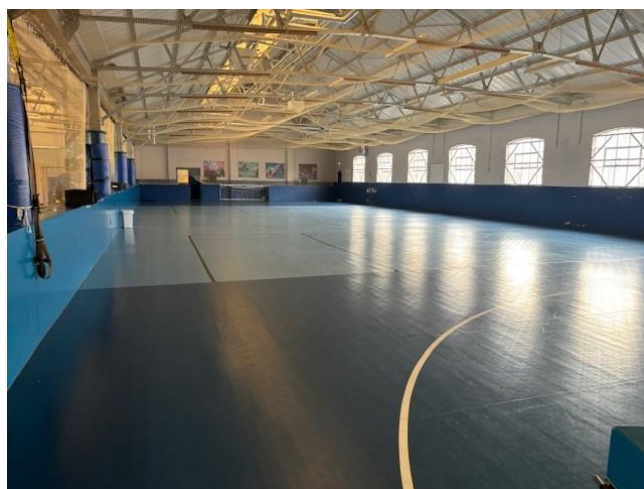


Image 16: RAF Cranwell Sports Hall

¹⁷ The course commander may be either civilian or military, but will be a serving instructor pilot at 3 FTS.

MILITARY STANDARDS & ETHOS (SATISFACTORY)

39. **Military Standards.** 3 FTS and the TP have an organizational structure and scheduled syllabus activities that foster a military mentality during aircrew training. Each flying unit is commanded by a military officer (OF4) and each course has a military course commander (OF2/3). The Central Flying School reports evidenced an assessment of GOOD regarding military standards, ethos and morale.

OBSERVATIONS AND RECOMMENDATIONS

40. RAF Cranwell, 3 FTS and the Training Provider are assessed as being SATISFACTORY in all areas required for NFTE accreditation.

**Jason Hawker, NSPA
NFTE Principal Officer**

Signature

Date

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**Wg Cdr Le Cournu
OC Exam Wing, CFS**

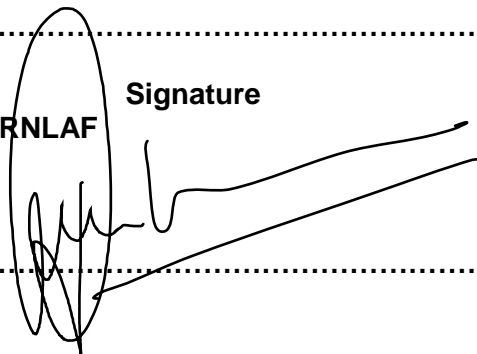
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**Major Patrick Musters
Instructor and Test Pilot, RNLAf**

Signature

Date



17-10-2024

ACCEPTANCE OF REPORT AND NFTE STEERING BOARD DECISION

The recommendations of this report are accepted in full. On behalf of the NATO Flight Training Europe Steering Board, NATO Flight Training Europe campus accreditation is granted to RAF Cranwell, RAF Barkston Heath and 3 Flying Training School.

**Gp Capt Ryan Morris, RAF
NFTE Steering Board Chair**

Signature

Date



14 Nov 24