David Ridley
HM Senior Coroner for Wiltshire and Swindon

	REGULATION 28 REPORT TO PREVENT FUTURE DEATHS **THIS REPORT IS BEING SENT TO:** **Richard Moriarty Esq.** **Chief Executive** **Civil Aviation Authority** **CAA House** **45-59 Kingsway** **LONDON** **WC2B 6TE**
1	**CORONER** I am David Ridley, HM Senior Coroner for Wiltshire and Swindon
2	**CORONER'S LEGAL POWERS** I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and regulations 28 and 29 of the Coroners (Investigations) Regulations 2013. http://www.legislation.gov.uk/ukpga/2009/25/schedule/5/paragraph/7 http://www.legislation.gov.uk/uksi/2013/1629/part/7/made
3	**INVESTIGATION and INQUEST** On the 12 July 2016, I commenced an investigation into the death of Flt. Lt. Alexandre Jay Parr and an Inquest was opened by Assistant Coroner, Ian Singleton on the 21 July 2016. The Inquest, which was held with a Jury, was concluded on the 12 December 2018 and the Jury determined that the medical cause of death was **1a) Multiple traumatic injuries** **b) Crash landing of aircraft.** In box 3 in the Record of Inquest the Jury in relation to the mechanism of death recorded as regard how, when and where Alex came by his death the following: - ***On Friday 8th July 2016 Ft. Lt. Alexandre Jay Parr was taking part in a training flight in a Yak 52 aircraft. During the flight the engine suffered fuel starvation causing loss of engine power. After various attempts to restart the engine a forced landing was deemed necessary. At 10.34 am the aircraft crashed adjacent to a farm strip in Dinton resulting in the death of Alexandre Jay Parr who was pronounced dead at the scene at 11.20 am.*** An additional narrative conclusion expanding of the mechanism of death was recorded by the Jury in Box 4 of the Record of Inquest as follows: - NARRATIVE CONCLUSION ***The Jury believe that the late decision to change the landing site from a wheat field to a farm strip probably contributed to the accident and death of Alexandre Jay Parr.***

4	**CIRCUMSTANCES OF THE DEATH** The circumstances relating to the crash 1 mile north of Dinton close to a Farm strip has already been the subject of a comprehensive investigation undertaken by the Air Accident Investigation Branch which resulted in their bulletin 11/2017 in respect of which I am sure you will already have a copy. In accordance with the decision of the Administrative Court in R (on the application of the Secretary of State) -v- Senior Coroner for Norfolk and the British Airline Pilots Association [2016] EWHC 2279 on the basis that there was no credible evidence or evidence at all that the investigation into this incident was incomplete, flawed or deficient the Jury were directed to record their findings so as not to be inconsistent withthe findings made by the AAIB Investigators.
5	**CORONER'S CONCERNS** During the course of the inquest the Jury and myself heard evidence from the 2 AAIB Investigators, [redacted] (Engineering) and [redacted] (Pilot) in relation to their investigation and findings and additionally in relation to their recommendations. The Court also heard that tests were also undertaken to establish a cycle rate for the use of the fuel primary pump in the case of an emergency. The 3 areas of concern can be summarised as follows: - **a) OVERHAUL OF ENGINE.** This particular aircraft G-YAKB a YAK 52 was manufactured in 1992 and had an initial manufacturer's life span of 20 years. The life span was extended in 2013 for a period of 10 years following an overhaul carried out in accordance with CAA Regulations. The manufacturer's specification was that an overhaul of the engine was required at 750 hours. At the time of the crash even though the aircraft was approximately 24 years old the original piston engine had only logged 516 hours. I understand having heard Mr. Hawkins that currently there is a CAA leaflet number 70/80 that requires a 20-year calendar limit in relation to an engine overhaul irrespective as to whether or not the manufacturer's specified number of hours usage has been reached however leaflet 70/80 only applies to engine with more than 400 horsepower. I understand from the AAIB investigators that your organisation is conducting a review as to whether or not this should be extended to all piston engines. Whilst accepting the evidence of the AAIB that there was not an issue with this particular engine this observation made by the AAIB investigators made sense to me from a safety perspective and I would be grateful if you could please advise me as regards the state of this review and ultimately notify me as to whether leaflet 70/80 is to be extended or how the issue is to be resolved through other means. If there is to be no change then please indicate why and how you reached that decision. **b) SAFETY HARNESS.** This was the subject of a formal safety recommendation made by the AAIB investigators number 2017/021. I was supplied with a copy of the CAA follow-up action on the occurrence report and additionally I have seen a safety notice (SN2O18/005) issued on the 30 July 2018. I would be grateful for confirmation as to whether or not the safety notice is the culmination of the CAA addressing the AAIB safety recommendation or whether or not further action is to be taken and if so what action is to be taken. **c) THE USE OF THE FUEL PRIMER PUMP IN AN EMERGENCY.** Whilst the primer pump may not have originally been specifically designed for use in an emergency I understand from the AAIB investigators that the manufacturer's state in their manual that the pump can be used in an emergency, for example should the fuel pump fail. Regrettably, I also understand that the manufacturer's manual gives no indication as regards the cycle rate for the use of the primer pump in these emergency circumstances. When G-YAKB experienced a loss of engine power and Alex sitting in the front cockpit used the primer pump he was pumping at a rate of 1 cycle every 3 to 4 seconds. This was found to be insufficient to provide sufficient fuel to the engine in order to regain power. When the AAIB investigators attempted to ascertain a sufficient cycle rate they found that a significantly higher rate was required in order to provide sufficient fuel to the engine. That rate was 1.3 cycles per second. I am unclear, aside

	from the findings of the AAIB report, as to how this potentially important piece of information can be communicated to the YAK user population in the United Kingdom. It seems to me that this information is important and may be unknown to many YAK pilots and I am concerned that if the intention is that YAK 52 pilots are required to read this AAIB Report concerning this incident, then this particular piece of information may be missed if a pilot does not research this particular incident. I would respectfully ask you to consider how best to communicate this information to the wider YAK pilot community in the United Kingdom.

6	**ACTION SHOULD BE TAKEN** In my opinion action should be taken to prevent future deaths and I believe you have the power to take such action.
7	**YOUR RESPONSE** You are under a duty to respond to this report within 56 days of the date of this report, namely by 27 February 2019. I, the coroner, may extend the period. Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise you must explain why no action is proposed.
8	**COPIES and PUBLICATION** I have sent a copy of my report to the Chief Coroner and to the following Interested Persons [redacted] of Hogan Lovells representing the family, [redacted] at Finch Consulting for Qinetiq. Governmental Legal Department for the MOD and Mr. Calverley. I have also sent it to [redacted], Senior Investigators at the Air Accident Investigation Branch, Farnborough who may find it useful or of interest. I am also under a duty to send the Chief Coroner a copy of your response. The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest. You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response by the Chief Coroner.
9	Dated 2 January 2019 Signature_______________ David W. G. Ridley HM Senior Coroner for Wiltshire and Swindon