

**ARGENTINE AIR SUPERIORITY OPERATIONS DURING THE FALKLANDS WAR**

The Failures of the *Fuerza Aérea Argentina*

***SUPÉRIORITÉ AÉRIENNE ARGENTINE OPÉRATIONS PENDANT LA GUERRE DES  
MALOUINES***

*Les échecs de la Fuerza Aérea Argentina*

A Thesis Submitted to the History Department  
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## Abstract

On 7 April 1982, the *Fuerza Aérea Argentina* (FAA) received orders to prepare itself to defend the air above the Falkland Islands from an impending British operation. To achieve this mission, the FAA deployed the entirety of its fighter-interceptor force under the command of the *Fuerza Aérea Sur* (FAS) to conduct air superiority operations above the Falklands. British intelligence had warned the Sea Harrier pilots of the Royal Navy's Fleet Air Arm (FAA) that the Argentine fighters would pose a significant threat to Operation Corporate, the UK operation to re-capture the Falklands. To the surprise of the British, the first engagement between Argentine and British aircraft on 1 May 1982 proved a decisive victory for the British.

Using recently released Argentine documents, pilot interviews and written testimonies, this study explores why the FAS failed to establish air superiority. These sources shed light on the deficiencies of the FAA both before and during the conflict. The study examines some of the most controversial decisions made by Argentine planners and commanders: first, the decision not to expand Port Stanley airport for fighter-interceptor operations; second, a failure to adapt air superiority doctrine to allow pilots to effectively face the British Harriers; and lastly, the surprising decision to operate Argentine aircraft at the extreme limits of their combat radius. Ultimately, this study argues that not extending the runway at Port Stanley for fighter-interceptor operations most impacted the effectiveness of Argentine air superiority operations.

## Résumé

Le 7 avril 1982, la *Fuerza Aérea Argentina (FAA)* a reçu l'ordre de se préparer à défendre l'air au-dessus des îles Falkland contre une opération britannique imminente. Pour accomplir cette mission, la *FAA* a déployé l'intégralité de sa force de chasseurs-intercepteurs sous le commandement de la *Fuerza Aérea Sur (FAS)* pour mener des opérations de supériorité aérienne au-dessus des Malouines. Les services de renseignement britanniques avaient averti les pilotes du Sea Harrier de la Fleet Air Arm (FAA) de la Royal Navy que les chasseurs argentins constitueraient une menace importante pour l'opération Corporate, l'opération britannique visant à reprendre les Malouines. À la surprise des Britanniques, le premier engagement entre des avions argentins et britanniques le 1er mai 1982 s'est avéré une victoire décisive pour les Britanniques.

À l'aide de documents argentins récemment publiés, d'entretiens avec des pilotes et de témoignages écrits, cette étude explore les raisons pour lesquelles le FAS n'a pas réussi à établir la supériorité aérienne. Ces sources ont mis en lumière les carences des FAA avant et pendant le conflit. Premièrement, la décision de ne pas agrandir l'aéroport de Port Stanley pour les opérations de chasseurs-intercepteurs; deuxièmement, un échec à adapter la doctrine de supériorité aérienne pour permettre aux pilotes d'affronter efficacement les Harriers Britanniques; et enfin, la décision surprenante d'opérer des avions argentins aux limites extrêmes de leur rayon de combat. En fin de compte, cette étude soutient que le fait de ne pas étendre la piste de Port Stanley pour les opérations de chasseurs-intercepteurs à le plus eu d'impact sur l'efficacité des opérations de supériorité aérienne argentines.

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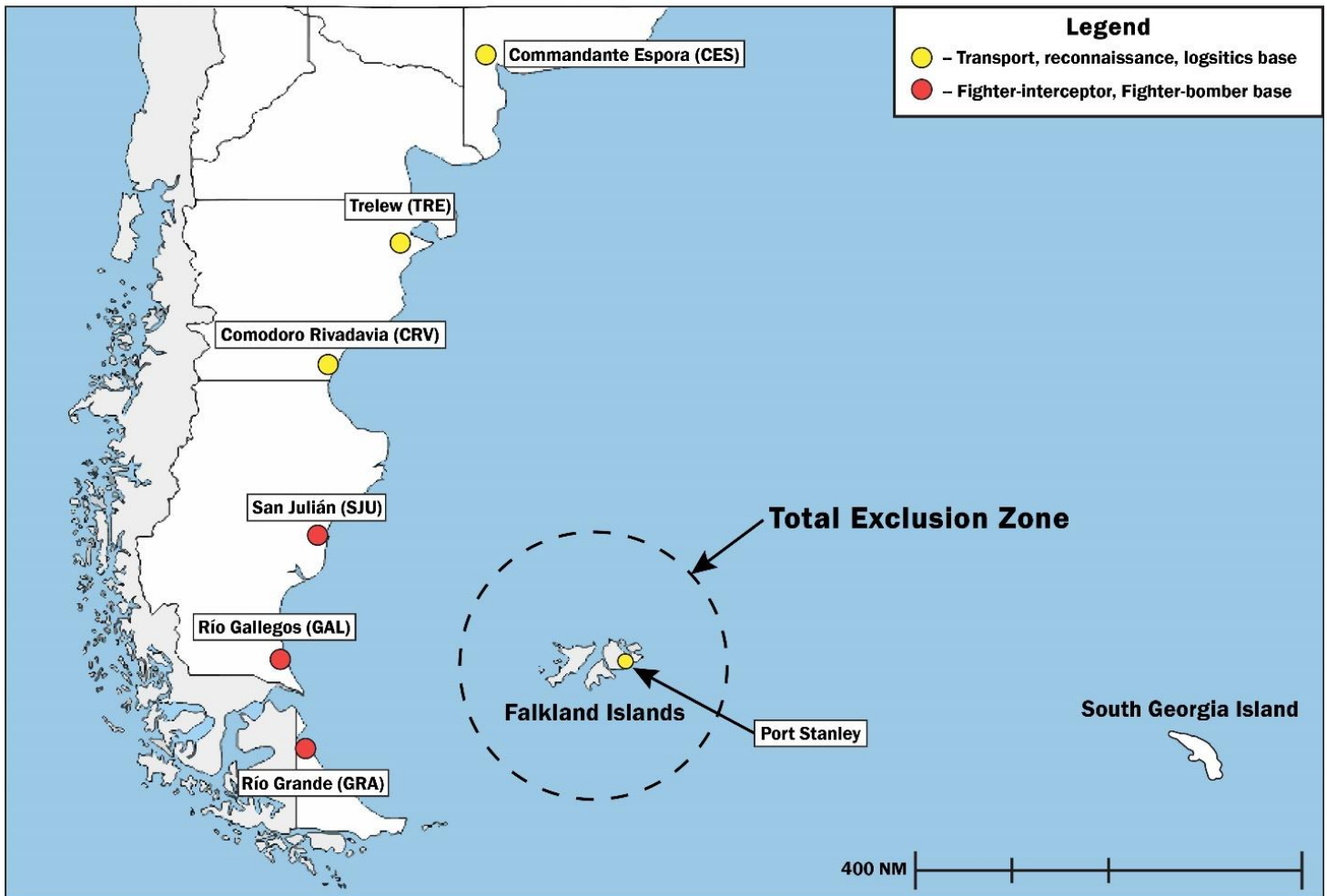
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## List of Abbreviations

*CAE* – *Commando Aéreo Estratégico* (Strategic Air Command)  
CAP – Combat Air Patrol  
*CAD* – *Commando Aéreo de Defensa* (Air Defence Command)  
CIC – Combat Information Centre  
CONOPS – Concept of Operations  
C2 – Command & Control  
*FAA* – *Fuerza Aérea Argentina* (Argentine Air Force)  
FAA – Royal Navy Fleet Air Arm  
*FAS* – *Fuerza Aérea Sur* (Southern Air Force)  
M-III – Argentine Mirage IIIEA  
M-V – Argentine Mirage V ‘Dagger’  
NATO – North Atlantic Treaty Organization  
RN – Royal Navy  
RTB – Return to Base  
TEZ – Total Exclusion Zone

Figure I. The South Atlantic Theatre, 1982<sup>1</sup>



<sup>1</sup> This figure was created by the author using information found in Santiago Rivas, *Wings of the Malvinas: The Argentine Air War over the Falklands* (Manchester: Hikoki Publications, 2013).



## Chapter 1: Introduction

The Falklands War was Argentina's single most important conflict in its history. The conflict is significant both for its geopolitical implications and as a study of modern air power. While the historiography of the war is extensive, most works have been written solely from the point of view of the British. Only a handful of historians have analyzed the Argentine air services and their battle for air superiority. This study intends to expand upon the Falklands War historiography by using newly available Argentine primary sources. Using these sources, this study will explore the utilization of *Fuerza Aérea Sur's* (FAS) fighter-interceptor aircraft in the air war over the Falklands.<sup>2</sup>

Previous studies of the air war have focused too heavily on equipment comparisons. Many articles and books have been published since the war which argue that the superior British air-to-air missiles were the primary reason for Argentina's defeat.<sup>3</sup> The air war was far more complex than a simple comparison of missile technologies. Argentine declassified documents, pilot diaries, and personnel interviews shed light on the several institutional issues impacting the readiness of the *Fuerza Aérea Argentina* (FAA) both prior and during the conflict. Problems of doctrinal deficiencies, personnel training and experience, as well as poor command decisions all contributed to the inability of the FAS to achieve air superiority.

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<sup>2</sup> The FAS was the operational level command established by the Argentine Strategic Air Command (CAE: *Commando Aéreo Estratégico*). This command was responsible for all land-based and naval aircraft operating in the Falklands theatre. Please reference the organizational Annex found in *Fuerza Aérea Argentina, Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty,"* 1982, File CM V/04/83, *Fuerza Aérea Archives*, accessed Jan 1 2022 [www.casarosada.gov.ar/component/content/article/108-gobierno-informa/25773-informe-rattenbach](http://www.casarosada.gov.ar/component/content/article/108-gobierno-informa/25773-informe-rattenbach), 12.

<sup>3</sup> Steve R. Smith, "The Falklands Conflict: Blueprint for Limited, High-Tech War," January 1986, <https://doi.org/10.21236/ada178024>, 22.

The factors argued in this study are a variety of institutional and political issues that culminated in a disastrous application of air power. The *FAS*, the operational command responsible for all aircraft operating in the South Atlantic theatre of operations, was particularly unprepared to conduct what it called “air saturation operations.”<sup>4</sup> These operations called for the *FAA*’s fighter-interceptor squadrons to fight for air superiority over the Falkland Islands. Argentine operational documents and pilot memoirs examined in this study will demonstrate that the *FAS*’s plan was an impossibility. The following Chapters will explore the shortcomings of Argentine aircrew, as well as strategic and operational decisions.

The aim of this study is to answer the following question: Why did the *FAS* fail to establish air superiority during the Falklands War of 1982? Argentina’s fighter-interceptor force was large and modern, yet it completely failed in its mission of preventing British aircraft to operate over the Falklands. It is this author’s argument that the inexperience, lack of training, and inadequate doctrine of the *FAA* together with the decision to not operate fighter-interceptors from Port Stanley resulted in the defeat of the *FAS*.

### **Understanding Air Power Concepts**

Before examining these two factors, is imperative that the reader understands why air superiority was so crucial for the Argentine war effort. Air superiority is the degree of air control that a force has over an area of operations.<sup>5</sup> In modern combat operations, air superiority is seen as a pre-requisite for a successful campaign. This fact was well known to both the British and the Argentines. For the Argentines, air superiority was necessary for three reasons: first, to prevent

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<sup>4</sup> Fuerza Aérea Argentina, Fuerza Aérea Sur, “Schematic Plan of Operations from Comd FAS,” 1982, File CM V/13/83, Fuerza Aérea Archives. Accessed Jan 1 2022 [www.casarosada.gov.ar/component/content/article/108-gobierno-informa/25773-informe-rattenbach](http://www.casarosada.gov.ar/component/content/article/108-gobierno-informa/25773-informe-rattenbach), 6.

<sup>5</sup> Phillip S Meilinger, “10 Propositions Regarding Air Power,” *Air Force History and Museums Program*, 1995, 6.

British aircraft from conducting ground-attack operations on the Argentine forces; second, to allow Argentine ground-attack aircraft to attack an impending British amphibious landing; and lastly, to protect Argentine aircraft attacking British warships. When the *FAS* lost air superiority over the Islands, they lost the ability to ensure these three elements of the campaign.

Argentine commanders believed that air superiority could be maintained through a combination of offensive and defensive counterair operations (OCA and DCA respectively).<sup>6</sup> Fighter-interceptor squadrons were tasked to provide OCA through fighter escort and fighter sweeps.<sup>7</sup> To be successful, these OCA operations needed to deny the airspace above the Falkland Islands to the British Harriers. It was the failure to successfully conduct these OCA operations that led to the failure to establish air superiority. DCA operations were conducted by the air defence units stationed around the Falklands.<sup>8</sup> These actions fall outside of the scope of the study, yet it is important to note that they provided a negligible impact on control of the air over the Falklands.<sup>9</sup>

The concepts of OCA and DCA were not formally engrained in Argentine doctrine. John Shields discusses this issue in his book *Air Power in the Falklands Conflict*.<sup>10</sup> Shields claims that the *FAA*, like many other air forces at the time, did not have formalized doctrines for air superiority operations. As a result, commanders had to develop their concept of operations (CONOPS) without any institutional guidance. These ad hoc doctrinal developments resulted in a wide array of operational vocabulary within Argentine plans.

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<sup>6</sup> Rivas, *Wings of the Malvinas*, 42.

<sup>7</sup> Fuerza Aérea Sur, "Schematic Plan of Operations from Comd FAS," 6.

<sup>8</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina, 1. Vol. 1, Centre of Historical Studies, 1998*, 34.

<sup>9</sup> Miguel Angel Silva, "Evaluation of the Operations of the Air Defence and Combat Information Centre in the Falklands," 2008, accessed Jan 1, 2022 [www.radarmalvinas.com.ar](http://www.radarmalvinas.com.ar), 5.

<sup>10</sup> John Shields, *Air Power in the Falklands Conflict: An Operational Level Insight into Air Warfare in the South Atlantic* (Yorkshire: Air World, 2021).

Argentine documents reveal a wide variety of lexicon to describe air superiority concepts. The Argentine planners used terms such as “active air defence”, “air interception” and “air cover” (terms translated by author).<sup>11</sup> As the conflict progressed, Argentine planners changed their terms to include “air saturation” operations.<sup>12</sup> To simplify these various missions, all air power roles that had the intent to conduct OCA will be referred to as air superiority operations. To support the air superiority operations, the *FAS* had to provide its aircrew with effective Command and Control (C2).

In air power, C2 refers to all activities responsible for providing aircraft with the situational awareness needed to achieve their missions. For air superiority operations, C2 is responsible for directing aircraft to their targets. The *FAS* used a modern mobile radar at Port Stanley to provide information and direction for its aircraft. In addition to this radar, the *FAS* had a well defined C2 network headquartered from San Julian air base. Both units will be mentioned throughout this study, thus, it is important to understand their role within Argentine operations.

The air power concepts discussed in this section are crucial for understanding how the *FAS* organized its operations. Future chapters will discuss how a range of factors impacted the *FAS*'s ability to effectively conduct air superiority operations. The success of OCA is dependant upon a variety of factors which extend far beyond equipment comparisons. Unfortunately, much of the historiography of the air war has taken this simplistic approach to analyzing the Argentine operations.

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<sup>11</sup> “Comando Aéreo Estratégico, “Plan of Operations Nro 2/82 "Maintaining Sovereignty,"” 5.

<sup>12</sup> Fuerza Aérea Sur, “Schematic Plan of Operations from Comd FAS,” 5.

## Literature Review

The historiography of the Falklands War has grown extensively over the forty years since the end of the conflict. Most of the literature has focused on the British forces. This has created a British-centric understanding of the war, often oversimplifying the Argentine war effort. Unfortunately, the reluctance of the Argentine government to release documents from the conflict has made it difficult to diversify the historiography. In 2006, historian René De La Pedraja stated in his Falklands War chapter in *Why Air Forces Fail*: “because of the huge obstacles blocking research, the field cannot be recommended to scholars.”<sup>13</sup>

Thankfully, the last decade has seen a shift in the Argentines’ attitude towards the conflict. This has led to the release of hundreds of *FAA* documents to the public. One database, *Radar Malvinas*, has made these documents available virtually.<sup>14</sup> *Radar Malvinas* and other similar databases have removed the obstacles impeding research into the Argentine side of the war. Thus, it is now possible to conduct a more exhaustive study of the *FAA* and the air war. This section will present these new Argentine sources while also commenting on the utility of the most popular literature. Readers should note that for convenience English language translations of source titles are used in footnotes, but Spanish language titles are included in the bibliography.

The newly available Argentine sources include strategic and operational plans, after-action reports, and memoranda between *FAA* and *FAS* commanders. Additionally, the last two years has seen the publication of interviews of Argentine pilots. All these new primary sources have allowed for a comprehensive analysis of the failures of Argentine air superiority

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<sup>13</sup> Robin Higham and René De La Pedraja, “The Argentine Air Force versus Britain in the Falkland Islands, 1982,” in *Why Air Forces Fail: The Anatomy of Defeat* (Lexington: University Press of Kentucky, 2016), pp. 231-263, 260.

<sup>14</sup> “Radar Malvinas,” accessed December 7, 2021, <http://www.radarmalvinas.com.ar/>.

operations.<sup>15</sup> The most valuable of the new sources are the pilot interviews published on the Internet.

These interviews provide new insight into the readiness and operations of *FAA* squadrons during the conflict. Also, written testimonies from Argentine pilots have exposed the inexperience of the *FAA* aircrew and commanders. Many English-speaking historians rely on out-dated and often inaccurate interpretations of Argentine sources to make their deductions about the conflict. These new interviews and testimonies will help to correct common misconceptions of the current historiography.

Most of the written pilot accounts are found within the memoir collection titled *Halcones de Malvinas* (Hawks of the Falklands).<sup>16</sup> This book has compiled over thirty-five pilot accounts of the air war.<sup>17</sup> Of these pilots, this study will focus on the fighter-interceptor pilots who were tasked with air superiority missions over the Falkland Islands.<sup>18</sup> These testimonies support the argument that the training and experience of the *FAA* was woefully insufficient for air superiority operations against a competent adversary. The substantial number of interviews released within the last two years as well as the written testimonies in *Halcones de Malvinas* have greatly improved the Argentine record.

In previous studies, scholars have used various post-war Argentine reports to develop their arguments. Many of these original studies on the Argentine side of the war used the 1983 report published by the Argentine military junta titled *The Commission of Analysis and*

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<sup>15</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>16</sup> Pablo Marcos Carballo, *Hawks of the Falklands: The Experience of Those That Fought with God in Their Soul and an Eagle in their Heart* (Buenos Aires: Ediciones Argentinidad, 2016).

<sup>17</sup> See Chapters 1, 3, 5, 8, 12, & 13 of Carballo, *Hawks of the Falklands*.

<sup>18</sup> Carballo, *Hawks of the Falklands*.

*Evaluation of the Responsibilities during the South Atlantic Conflict*.<sup>19</sup> This report was released by the so-called Rattenbach Commission that had been tasked with finding the commanders responsible for the Argentine defeat.<sup>20</sup> The annexes of this report include a variety of testimonies from operational commanders, strategic planners, and the Argentine chiefs-of-staff. The report continues to hold significant value for understanding the decisions made by Argentine commanders. Thus, this study will use the report when discussing the strategic and operational decisions made by the *FAA* and *FAS*.

The report critiques the decisions made by the *FAA* and *FAS* commanders. The chapters “The Actions of the Operational Commanders” as well as “The Actions of the Chiefs-of-Staff” give a detailed explanation of the decisions made by these commanders.<sup>21</sup> The report attributes the failure to win the air war to inadequate equipment, yet later publications are more critical of all aspects of the Argentine war effort. Thus, the Rattenbach Commission’s report alone is insufficient to understand the failures of Argentine air power.

One of the later publications critiquing Argentine air power was published in 1998 and was titled *Historia de la Fuerza Aérea Argentina*. The preparation of this study began at the same time as the Rattenbach Commission’s report in 1983. *Historia de la Fuerza Aérea Argentina* was compiled by the First Writing Commission, which was created to write an official history of the *FAA* in the Falklands.<sup>22</sup> The final edition, released in 1998, gives valuable information on aircraft movements, basing, and a detailed account of individual sorties during

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<sup>19</sup> Evaluation Committee of the South Atlantic Conflict, Junta Militar, “Analysis and Evaluation Committee of the Responsibilities of the South Atlantic Conflict,” 1982, File 15159-90648, Military Justice Archive.

<sup>20</sup> Comisión Evaluación, “Comisión de Análisis y Evaluación de las Responsabilidades del Conflicto del Atlántico Sur,” 12.

<sup>21</sup> Comisión Evaluación, “Comisión de Análisis y Evaluación de las Responsabilidades del Conflicto del Atlántico Sur,” 222.

<sup>22</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 9.

the war. The source is strongly biased in favour of the *FAA*, but it is nonetheless valuable for its presentation of primary source material. *Historia de la Fuerza Aérea Argentina* is critical for understanding Argentina's operations.

In addition to these official government reports, Santiago Rivas' *Wings of the Falklands* has been used to understand the equipment and capabilities of the *FAA*.<sup>23</sup> As an Argentine, Rivas was able to gain access to many primary source documents and was able to create a detailed timeline of events of all Argentine squadrons and commands during the war. Thus, his book provides an excellent overview of aircraft deployments, losses, sorties, and other key information crucial for confirming pilot testimonies. With his book, this study was able to create an accurate image of how the *FAA* deployed its aircraft to establish air superiority over the Falklands.

Argentine strategic and operational plans are the most reliable information available on the intent and concept of operations of the Argentine air services. Recently digitalized documents including strategic-level directives from the *FAA*'s strategic planning headquarters, the *Commando Aéreo Estratégico (CAE)*, and operational plans from the *FAS* planners demonstrate the unpreparedness of Argentine commanders.<sup>24</sup> The plans outline the extent to which the Argentine air services failed to understand their capabilities prior to the arrival of the British task force. Squadrons were assigned to unprepared bases, missions were tasked to aircraft without the adequate armaments and performance, and unclear mission orders were issued in the hope of lower commands adapting. These Argentine plans represent some of the most critical evidence pointing towards the lack of preparation of the *FAA* and *FAS*.

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<sup>23</sup> Santiago Rivas, *Wings of the Malvinas: The Argentine Air War over the Falklands* (Manchester: Hikoki Publications, 2013).

<sup>24</sup> Fuerza Aérea Sur, "Schematic Plan of Operations from Comd FAS," & Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty.""



To provide context to Argentine decisions and actions, this paper will also utilize a variety of British sources. In doing so, the intent is to analyze how the British used their Harriers and how they impacted the Argentine plans. Additionally, it is important to explore the capabilities of the British task force to gauge the Argentine chances of success.<sup>25</sup> The use of the Harriers has been researched extensively by many historians. This study will use these works as well as several memoirs from British commanders.

One of the most valuable sources for understanding British air power over the Falklands is Gp Capt John Shield's new book *Air Power in the Falklands Conflict*.<sup>26</sup> Based on his PhD research on air power in the Falklands, Shield's book uses current air power concepts in his analysis. In doing so his study outlines the various limitations of the air power doctrine of the 1970s.<sup>27</sup> Shield's ideas will be used extensively in Chapter 2 of this study where Argentine air superiority doctrine will be analyzed. Overall, Shield's book is a new addition to the Falklands historiography that takes on a more contemporary look at air power. He often quotes various memoirs that have also been used throughout this study. Of these memoirs, Commander Sharkey Ward's account of the war is the most useful for understanding the British flying operations.

Ward's memoirs of the war, *Sea Harrier over the Falklands*, is an excellent source that details the actions of 801 Squadron aboard HMS *Hermes*.<sup>28</sup> His memoirs detail various encounters with Argentine aircraft. Given the recent interviews and testimonies from Argentine

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<sup>25</sup> Secretary of State for Defence, Defence Review, "The Statement on the Defence Estimates 1966," 1966, cc949-79, Parliament, accessed Oct 3, 2021 <https://api.parliament.uk/historic-hansard/lords/1966/mar/08/the-defence-estimates> and Memorandum by the Secretary of State for Defence, "Statement on the Defence Estimates 1975," 1975, cab-129-181-c-21, National Archives, accessed Oct 3, 2021 <http://filestore.nationalarchives.gov.uk/pdfs/small/cab-129-181-c-21.pdf> are both important sources for gauging the strength of the RN in 1982.

<sup>26</sup> Shields, *Air Power in the Falklands Conflict*.

<sup>27</sup> Shields, *Air Power in the Falklands Conflict*, 10.

<sup>28</sup> Ward, *Sea Harrier over the Falklands* (London: Cassell, 2005).

pilots, Ward's memoirs provide an interesting contrast to the other side of the air combat engagements.<sup>29</sup> Additionally, this memoir gives insight into British air superiority operations.

The last important source describing British operations is the RAF Air Historical Branch's *Narrative of RAF Operations during the Falklands Conflict 1982*. This source provides added context to British doctrine and operations during the war.<sup>30</sup> Specifically, the sections on the RAF Harrier GR Mk3 activities in the theatre outline how the British were operating their aircraft. The section on the C2 of British fighters is also valuable for comparison with the Argentine's own command apparatus.

These are the most important and relevant British sources that will be used throughout this study. The use of these journal articles, testimonials from British pilots, and other archival documents will create a picture of what British air superiority operations looked like over the Falklands. This will help to provide a baseline against which Argentine operations can be compared. Using this framework, it is possible to better understand the fight between Argentine and British air power.

### **Hierarchy of Failures**

Both the *FAA* and its operational command, the *FAS*, suffered from an extensive list of failures at the strategic, operational, and tactical level. Therefore, this study will use a framework to organize these failures into a hierarchy. This framework is found in the first chapter of Allan R. Millet and Williamson Murray's *Military Effectiveness*.<sup>31</sup> In this chapter, Millet and Murray

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<sup>29</sup> Ward, *Sea Harrier over the Falklands*, 182.

<sup>30</sup> Air Historical Branch (RAF), "Narrative of RAF Operations During the Falklands Conflict, 1982," 1988, Accessed October 20, 2021. <https://www.raf.mod.uk/our-organisation/units/air-historical-branch/regional-studies-post-coldwar-narratives/raf-operations-during-the-falklands-conflict-1982/>.

<sup>31</sup> Allan Reed Millett, Williamson Murray, and Kenneth H Watman, "The Effectiveness of Military Organizations," in *Military Effectiveness* (Boston: Allen & Unwin, 1988), pp. 1-31, 3.

examine the relationship between military effectiveness and victory. Millet and Murray argue that military effectiveness is not the sole criterion for victory. Training, experience, doctrine, equipment, and leadership decisions are all components that define a military's effectiveness. However, these alone are not enough to guarantee victory.<sup>32</sup> It is a military's actions on the battlefield that determine victory. Regardless, the components of effectiveness play a significant role in ensuring that a military's actions will have the best chances for success. For this reason, a military's effectiveness can strongly influence its chances of victory.

In the military effectiveness framework, components are organized into political, strategic, operational, and tactical levels. A failure at a higher organizational level, such as strategic, would have a more profound impact on military effectiveness in comparison to failures impacting the tactical level.<sup>33</sup> Decisions that impacted the *FAA* and *FAS* at the strategic and operational level had the most detrimental effects on military effectiveness, and thus, the *FAS*'s chances of success.

Using this thinking, the single most influential decision made by the *FAA* was to not base its fighter-interceptors from Port Stanley. This decision was strategic, and it had a trickle-down effect on the effectiveness of the entirety of the *FAS*'s air superiority capabilities. It limited the operational effectiveness of the *FAS* while also severely limiting the tactical options available to Argentine pilots. For this reason, this study argues that not extending the runway at Port Stanley for fighter-interceptor operations had the largest impact on the effectiveness of Argentine air superiority operations.

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<sup>32</sup> Millet, Murray, and Watman, "The Effectiveness of Military Organizations," 2.

<sup>33</sup> Millet, Murray, and Watman, "The Effectiveness of Military Organizations," 3.

Doctrine and experience are the second components impacting the effectiveness of Argentine air superiority operations. These two components had significant effects at the operational level. A lack of formalized doctrine meant that *FAS* commanders based their operational plans on ad hoc doctrines. Furthermore, a lack of experience in air superiority operations resulted in Argentine commanders not being able to adapt their air superiority doctrine and plans in a way that would give the *FAS* the best chances of success.

The last two components: training and equipment, impacted air superiority operations at the tactical level. They had the least effect on the overall effectiveness of air superiority operations. A lack of air-to-air combat training and associated expertise meant that Argentine pilots were unable to use innovation to overcome the problems at the strategic and operational levels. They did not have the training necessary to overcome such significant organizational failures. Additionally, the Argentine equipment was not capable enough to achieve what *FAS* commanders were requesting.

This study will analyze all these components individually. Following an overview of the air war, Chapter 2 will look at the smaller tactical and operational level failures. Then, Chapter 3 will expand upon the more significant strategic failure to not expand Port Stanley airport for air superiority operations. The intent of this hierarchy is to classify each failure from most to least impactful on military effectiveness, thus identifying the components that most influenced the *FAS*'s chances at victory.

## Chapter 2: The Air War

Before breaking down the decisions of the *FAA* and *FAS*, it is important to give the reader an overview of the air war over the Falklands. Also, it is imperative that the reader has a general understanding of the Falkland Islands dispute. The air war, or as it is known to the Argentines, *Bautismo de Fuego* (Baptism of Fire), took place between 1 May and 14 June 1982. The *FAA*'s involvement in the Falkland Islands dates back, however, as far as 1971. The context provided in this Chapter will aid the reader in better conceptualizing the analysis found in the following Chapters.

The history of the *FAA* has been largely forgotten about in the current historiography. Interestingly, the *FAA* had been flying out of Port Stanley airport as early as 15 February 1971. While it only operated a handful of transport aircraft, its presence at Port Stanley was important for the national goal of reincorporating the Falklands.<sup>34</sup> Argentina had spent considerable resources expanding Port Stanley airport as part of the "Agreement of Understanding," a document signed between the Argentine and British governments expressing the gradual incorporation of the Falkland Islands into Argentina.<sup>35</sup> Important to note for this study is that the Agreement allowed the *FAA* to begin transporting civilians and cargo from mainland Argentina to Port Stanley.

For nearly a decade before the Falklands War, the *FAA* had high-ranking liaison officers, a runway construction unit, and various other supporting elements stationed at Port Stanley.<sup>36</sup> The decisions analyzed in this study are made with this information in mind. The *FAA* had nine

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<sup>34</sup> "The United Kingdom Defence Programme: The Way Forward," The United Kingdom Defence Programme: The Way Forward § (1981), pp. 3-14, <https://www.margarethatcher.org/document/121307>.

<sup>35</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 120.

<sup>36</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 121.

years of experience to prepare itself for operating aircraft from Port Stanley. The decision not to do so in 1982 was shocking even to the British task force commander who said in his memoirs: “the Argentine’s consistently found a way to give us every advantage.”<sup>37</sup>

This information is important when analyzing the decisions made by the *FAA* during the air war. More specifically, it is critical when trying to understand the *FAA*’s decision not to operate fighter-interceptors from Port Stanley. Chapter 4 will analyze that decision in detail, but it will benefit the reader to keep this information in mind when trying to comprehend why Argentine pilots were ordered to fly from air bases more than 425 nautical miles away from the Falklands. It is also valuable to lay out the timeline of the air war. Table I identifies several key events that will help the reader gain a better understanding of how the air war unfolded over the two months.<sup>38</sup>

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<sup>37</sup> John Forster Woodward and Patrick Robinson, *One Hundred Days: The Memoirs of the Falkland's Battle Group Commander* (London: Harper Press, 2012), 146.

<sup>38</sup> This timeline was compiled using the events overview found in Gordon Smith, *Battle Atlas of the Falklands War 1982: By Land, Sea and Air*, 1999.

Table I. Timeline of the Air War

<b>Friday, 19 March</b>	Argentine scrap metal workers land on South Georgia Island and raise the Argentine flag
<b>Thursday, 25 March</b>	Argentine marines land on South Georgia
<b>Friday, 2 April</b>	Argentine invasion of the Falklands begins, UK task force begins to assemble
<b>Monday, 5 April</b>	UK task force sails from Britain
<b>Sunday, 18 April</b>	UK task force leaves its staging area at Ascension Island
<b>Friday, 23 April</b>	British commando's land on South Georgia
<b>Monday, 26 April</b>	Argentine forces on South Georgia surrender
<b>Friday, 30 April</b>	UK begins enforcing the Total Exclusion Zone (TEZ); task force arrives in TEZ
<b>Saturday, 1 May</b>	RAF Vulcan bomber attacks (codenamed Black Buck) begin against Port Stanley airport; Sea Harriers also conduct attacks on the airport; Commencement of air superiority operations by FAS
<b>Tuesday, 4 May</b>	Black Buck 2 raid against Stanley airport; Argentine ground-attack sorties continue against the UK task force
<b>Wednesday, 5 May</b>	RAF Harrier reinforcements begin transit to the task force onboard the <i>Atlantic Conveyor</i>
<b>Friday, 21 May</b>	British landings begin; FAA begins its 'Baptism of Fire' to destroy the British landing ships
<b>Saturday, 22 May</b>	Landings are completed, Harrier base established on the Falklands beside the landing area at San Carlos
<b>Tuesday, 1 June</b>	Black Buck 5 raid strikes radar position in Port Stanley; British forces begin march towards Port Stanley
<b>Thursday, 3 June</b>	Black Buck 6 raid conducted against runway at Stanley
<b>Saturday, 12 June</b>	Black Buck 7 Raid conducted against radar installation at Port Stanley
<b>Monday, 14 June</b>	By early morning all land assaults successful, Argentine forces surrender.

## Organization of the *Fuerza Aérea Argentina*

The last piece of contextual information concerns the organization of the *FAA* and *FAS*. The deployment of *FAA* elements to the airbases closest to the Falklands sparked a rapid development of tactical, operational, and strategic level commands. This re-organization makes it confusing to separate the peace-time *FAA* from its war-time organization. Therefore, before outlining the events of the air war, it is crucial to understand how the *FAA* structured itself for war. The most important part of this war time restructuring was that the *FAS* was a detached command that served as the *FAA*'s operational command for the conflict.

At the outbreak of war, the *FAA* transferred a majority of its six air brigades to the *FAS*. The *FAS* headquarters was subordinate to the *CAE*, which itself reported directly to the military junta. Argentine plans state that this was to ensure that strategic level decisions were being made for the *FAS* at the *CAE*'s level.<sup>39</sup> In reality, this structure was to ensure that the Commander-in-Chief of the *FAA* and member of the junta Basilio Lami Dozo had complete control of air power over the Falklands. The following figure outlines a detailed organizational structure of how the air brigades of the *FAA* were distributed within the war-time *FAS* structure.<sup>40</sup> The relationship within this operational command is important for understanding how key decisions were made.

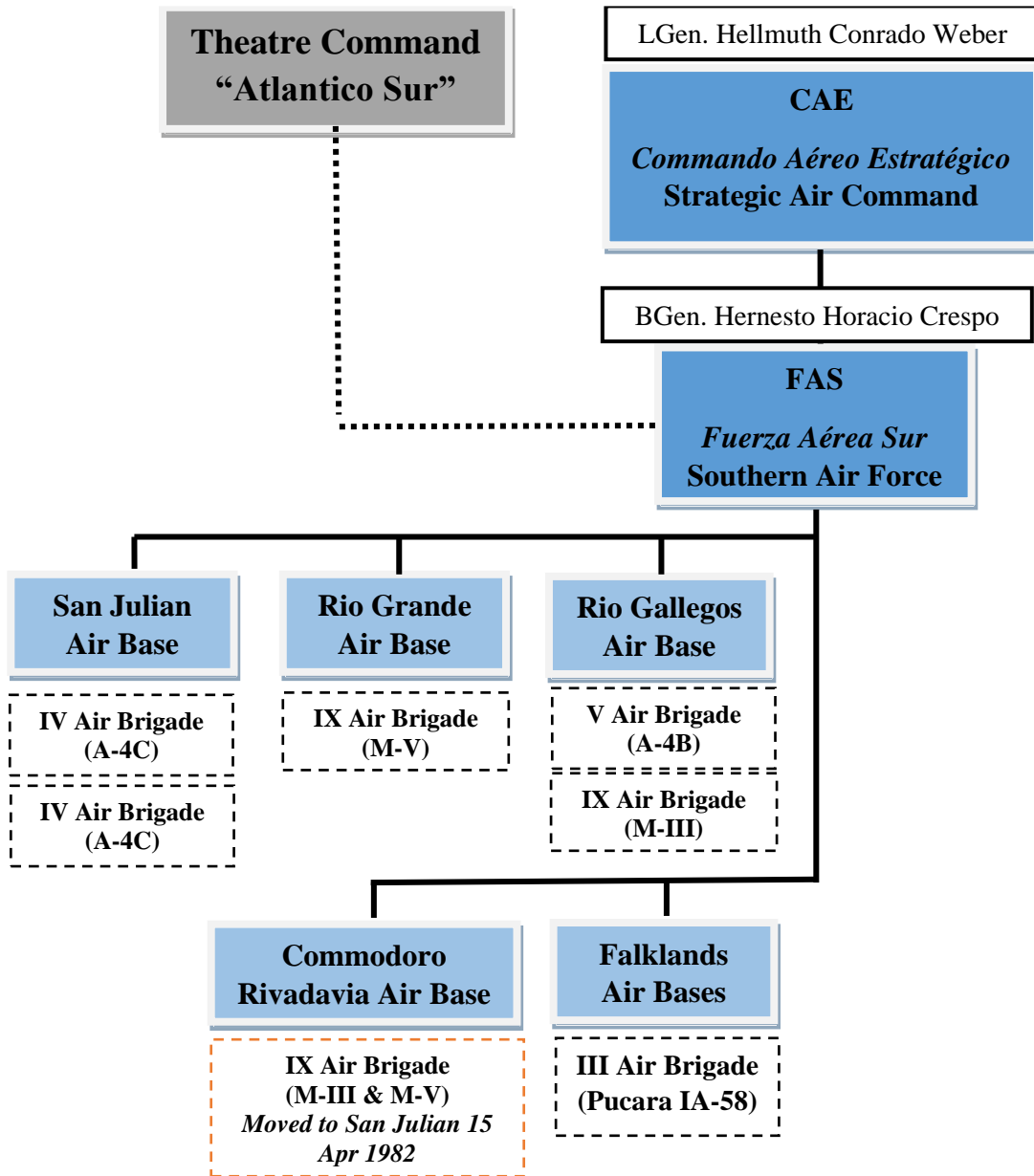
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<sup>39</sup> Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty,"" 3.

<sup>40</sup> This organizational chart was made using the information found in within both Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty"" and Fuerza Aérea Sur, "Schematic Plan of Operations from Comd FAS."



Figure II. Organizational Chart of the FAS, 1982



Understanding how the *FAS* was organized will give context to the analysis of Chapters 3 and 4. The various air bases, units, and commands make it easy to become confused when understanding how the *CAE*'s strategic decisions impacted the operations of the *FAS*. These matters will be referred to extensively in the analysis of Argentine command decisions during the

war. Meanwhile, conceptualizing how these organizations were structured will give a clearer understanding how the air war unfolded.

### **Deploying *Fuerza Aérea Sur***

On the day of the Argentine invasion of the Falklands, 7 April 1982, most of the *FAA* was ordered to begin its deployment to air bases in southern Argentina.<sup>41</sup> The deployment was organized by the *CAE* at the behest of Dozo.<sup>42</sup> The junta's decision to keep the invasion secret meant that the entirety of *FAA* commanders were caught by surprise on 7 April. Two days after the invasion, the *FAA* created the *FAS* and began the movement of its assets to the theatre.

The *FAS* was responsible for eight air bases, most of which were forward operating locations not ready for such an influx of aircraft and personnel. Figure III shows these eight bases and how the *FAA* moved its aircraft from their peacetime bases.<sup>43</sup> Many were severely overcrowded civilian airports and were generally unprepared for such a large deployment.<sup>44</sup> While the *FAS* made it work, it was yet another problem that had to be solved in addition to the many serious deficiencies that had to be addressed prior to combat.

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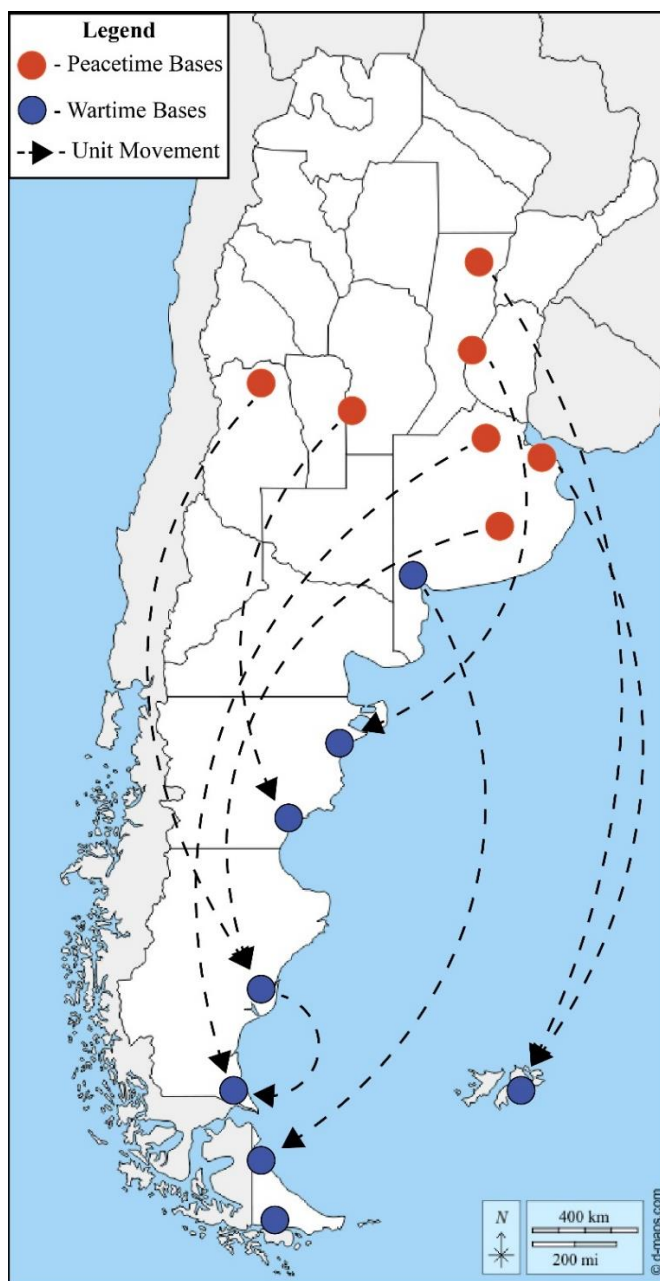
<sup>41</sup> The order to deploy south is found in Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty.""

<sup>42</sup> Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty,"" 6.

<sup>43</sup> Figure III was created using deployment information from Fuerza Aérea Sur, "Schematic Plan of Operations from Comd FAS" as well as the maps found in John Shields, *Air Power in the Falklands Conflict*, 88.

<sup>44</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 182.

*Figure III. Unit Movements of the FAS*



Most of the *FAA*'s aircraft were sent south to join the *FAS* command. This included two squadrons of Mirage IIIs and two squadrons of Mirage V 'Daggers.'<sup>45</sup> More squadrons were ordered to join these units in the weeks following the initial deployment. Eventually nearly all of

<sup>45</sup> Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty,"" 5.

the *FAA*'s airworthy aircraft were sent to the theatre. Table II shows the units, aircraft types, and total numbers sent south on 7 April and 16 April 1982.<sup>46</sup>

*Table II. FAA Fighter-Interceptor Aircraft Deployments for the Falklands War*

<i>Base Aérea Militar</i> Military Air Base	Unit	Aircraft Numbers	
		7 Apr 1982	16 Apr 1982
Comodoro Rivadavia (CRV)	<b>FAS Headquarters</b>	---	---
	<b>IX Air Brigade</b>	---	---
	M-III	4	0
	M-V	4	0
San Julián (SJU)	<b>IX Air Brigade</b>	---	---
	M-III	0	0
	M-V	0	6
Río Gallegos (GAL)	<b>IX Air Brigade</b>	---	---
	M-III	6	10
	M-V	0	6
Río Grande (GRA)	<b>IX Air Brigade</b>	---	---
	M-V	8	8
	<b>Totals</b>	---	---
	M-III	10	10
	M-V	12	20

Overall, the deployment south demonstrated various strategic and operational problems that severely hindered the *FAA*'s effectiveness. For the *FAA*, the Falklands War came as a shocking surprise. The junta had blindsided the *FAA*'s commanders, leaving them struggling to prepare their squadrons for combat in just three weeks. The aim of this Chapter, however, is to highlight how the *FAA*'s attempt to establish air superiority crumbled by the end of the first day of combat.

<sup>46</sup> This table was created using aircraft movement orders from "Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty "" and Fuerza Aérea Sur, "Schematic Plan of Operations from Comd FAS." More aircraft were deployed following 16 April 1982, but these numbers are difficult to verify.

## The First Day – 1 May 1982

What did the Argentine military need to do to improve their chances of winning the war? This question has been studied in depth, but the answers are often overcomplicated. The answer is simple: they needed to prevent a British amphibious landing on or before 21 May 1982. Why this date is so important was explained by the British task force commander, Admiral Woodward, in his memoirs of the war.<sup>47</sup> Woodward said that the British operation was on a tight timeline; if the landings could not be completed by 21 May, the ships would begin suffering debilitating mechanical breakdowns as a result of the rapid deployment and harsh weather.<sup>48</sup> Thus, the *FAA* had to delay the British from landing before this date. Air superiority over the Falklands was one of the most effective ways of preventing a timely landing by the British.

The first day of the air war was a decisive victory for the British air services. The British plan for gaining air superiority on 1 May was to deploy *CAP* to protect the ground attacks against Port Stanley airport.<sup>49</sup> In turn, the Argentine air superiority plan was to intercept the attacking Harriers.<sup>50</sup> Three engagements between British Sea Harriers and Argentine Mirages occurred, two of them resulting in Argentine losses. By the end of 1 May, these engagements made the *FAS* leadership give up on their plan of establishing air superiority. BGen. Crespo, commander of the *FAS*, determined that his aircraft did not have enough fuel to establish effective air coverage over the Falklands. Crespo commented that the fighter-interceptors could not provide any meaningful air coverage because of their fuel situation.<sup>51</sup>

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<sup>47</sup> Woodward and Robinson, *One Hundred Days*, 203.

<sup>48</sup> Woodward and Robinson, *One Hundred Days*, 204.

<sup>49</sup> Ward, *Sea Harrier over the Falklands*, 89.

<sup>50</sup> Carballo, *Hawks of the Falklands*, 48.

<sup>51</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 124.

Combat radius, the maximum range an aircraft can fly to before needing to return-to-base (RTB), is a critical factor of air power. While an aircraft can be pushed to the limits of its range, it is usually done at the cost of maneuverability, weapons, altitude, speed, and most importantly: time-on-station (TOS). In the case of the Argentine fighter-interceptors, their TOS was limited to less than fifteen minutes under ideal conditions. The Argentines had pushed their combat radius to such an extent that all four of these components were severely affected. The Mirages needed three external fuel tanks which had drastic impacts on their performance and the ability to carry weapons. Thus, the range of the aircraft had become the primary problem impacting how the Argentine pilots could use their aircraft.

The Argentine's limited TOS dictated the first three engagements against British aircraft. Following the initial bombing of Port Stanley on 1 May by the RAF, the *FAS* leadership debated whether to use their aircraft to stop the attacks.<sup>52</sup> At 0640 h on 1 May 1982, the *FAS* command at San Julian ordered a series of two-ship sorties of Mirages be flown to disrupt British Harrier ground-attack missions against Port Stanley.<sup>53</sup> Each sortie of two Mirages was to arrive over the Falklands at 22,000 feet and wait for the direction of the Combat Information Centre (CIC) at Port Stanley for vectoring to British aircraft. Rather than attempting a large formation of all six aircraft, a well-practiced tactic for confronting enemy aircraft, Crespo hoped that sending the aircraft in small formations throughout the entire day could create the appearance of continuous coverage.<sup>54</sup>

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<sup>52</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 124.

<sup>53</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 125.

<sup>54</sup> Comision Evaluacion, "Comisión de Análisis y Evaluación de las Responsabilidades del Conflicto del Atlántico Sur," 425.

The first engagement was between TABLÓN flight and two Sea Harriers from 801 Squadron.<sup>55</sup> The two Mirage IIIs of TABLÓN had departed their airbase at Río Gallegos with the aim of establishing local air superiority over the Port Stanley.<sup>56</sup> The pilots had been ordered not to descend below their high-altitude orbit over the Falklands. Their orders quickly changed when the CIC at Port Stanley told the Mirages that two Sea Harriers were patrolling below them at a much lower altitude.<sup>57</sup> The two Mirage pilots, Captain Gustavo García Cuerva and Lieutenant Carlos Persona, saw an opportunity and dove down at high speed to intercept the British jets.

The Sea Harriers were ready to take on the low-altitude fight.<sup>58</sup> Both British pilots were willing to force a head-on engagement with the Mirage IIIs in hope of using their much better infrared missiles. The Argentines, knowing the superiority of the British missiles and the short TOS of their aircraft, decided to immediately disengage when they failed to get a missile lock during their dive down to the Harriers.<sup>59</sup> After their failed attack, the Argentines RTB. Because of the fuel problem, dive attacks were the only way the Argentine pilots could hope to fight for longer than a few seconds. With no alternative attack profile for the rest of 1 May, Argentine interceptors continued to arrive over the Falklands at high-altitude and, after some waiting, would dive down to intercept the lower patrolling Sea Harriers.

Perhaps more disastrous was the decision to send the fighter-interceptors every hour in flights of two. For the British, it appeared as if the Argentines were looking to give them every advantage. Because of the forty-minute flight time between their airfields and the Falklands,

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<sup>55</sup> Each Argentine flight was given a name. This was so that squadron planners could determine aircraft positioning, timing, and missions more easily. Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 190.

<sup>56</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 142.

<sup>57</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 143.

<sup>58</sup> Ward, *Sea Harrier over the Falklands*, 153.

<sup>59</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 147.

these aircraft had to be launched every hour to establish continuous coverage during the day. Table III shows all air superiority sorties flown on 1 May.<sup>60</sup> It is important to note the arrival time over Port Stanley as well as the sudden change of arrival times after the interception of CICLON flight by 4 Harriers.

*Table III. 1 May 1982 – Argentine Air Superiority Flights*

Callsign	Base	Aircraft Type	Sortie Size	Arrival at Port Stanley	Result*
* Flights that entered an engagement are highlighted in yellow					
TORO	GRA	Dagger	2	0825 h	Attempted interception on 2 Sea Harriers, RTB
TABLÓN	GAL	Mirage III	2	0940 h	RTB after being chased by 2 Sea Harriers
LIMON	GRA	Dagger	2	1045 h	RTB, no contact
FOCO	GAL	Mirage III	2	1100 h	RTB, no contact
CICLON	GRA	Dagger	2	1315 h	Intercepted by 4 Sea Harriers, RTB
DARDO	GAL	Mirage III	2	1625 h	RTB, no contact
BUITRE	GAL	Mirage III	2	1630 h	1 Mirage III shot down by Sea Harriers, 1 Mirage III shot down by friendly AA fire.
RUBIO	GRA	Dagger	2	1635 h	Both shot down by Sea Harriers
FORTÍN	SJU	Dagger	2	1640 h	Attempted interception of 2 Sea Harries, RTB
FIERRO	SJU	Dagger	1	1640 h	Shot down by Sea Harrier

<sup>60</sup> Compiled using the “mission summary” sections found within each chapter of Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*.



After CICLON flight was intercepted by the four Sea Harriers, Crespo ordered that as many sorties as possible be flown simultaneously for arrival over Port Stanley at around 1630 h.<sup>61</sup> This was a tactical improvement as it allowed ground-attack sorties to be flown under the cover of nine fighter-interceptors, but a lack of coordination prevented the Argentine fighter pilots from exploiting their numerical advantage. Due to a case of inexperience, the CIC at Port Stanley still insisted on each flight to be vectored in individually to intercept British aircraft.<sup>62</sup> At no time did the CIC direct two flights to converge on British aircraft. This resulted in engagements where the Argentines could not leverage their numbers against the smaller British flights.

One of the four 1630 h flights, the two-ship BUITRE flight, engaged two Sea Harriers piloted by Steve Thomas and Paul Barton.<sup>63</sup> This engagement was the first dogfight of the conflict and it ended completely in favour of the British. With the terrain against the back of the Sea Harriers, the Argentines had absolutely no chance of achieving a missile lock in their dive.<sup>64</sup> The limited tracking capabilities of the Argentine missiles meant that they could not differentiate the heat signatures of the British Harriers and the background infrared.

The Argentine pilots had throttled down during their dive to prevent a head-on shot by the British. However, the poor formation of the Mirages meant that one of the Sea Harriers was able to manoeuvre behind the lead Argentine after the adversaries came together during the Argentines' dive. This was an easy kill for the Harrier, which had no problems locking onto the

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<sup>61</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 160.

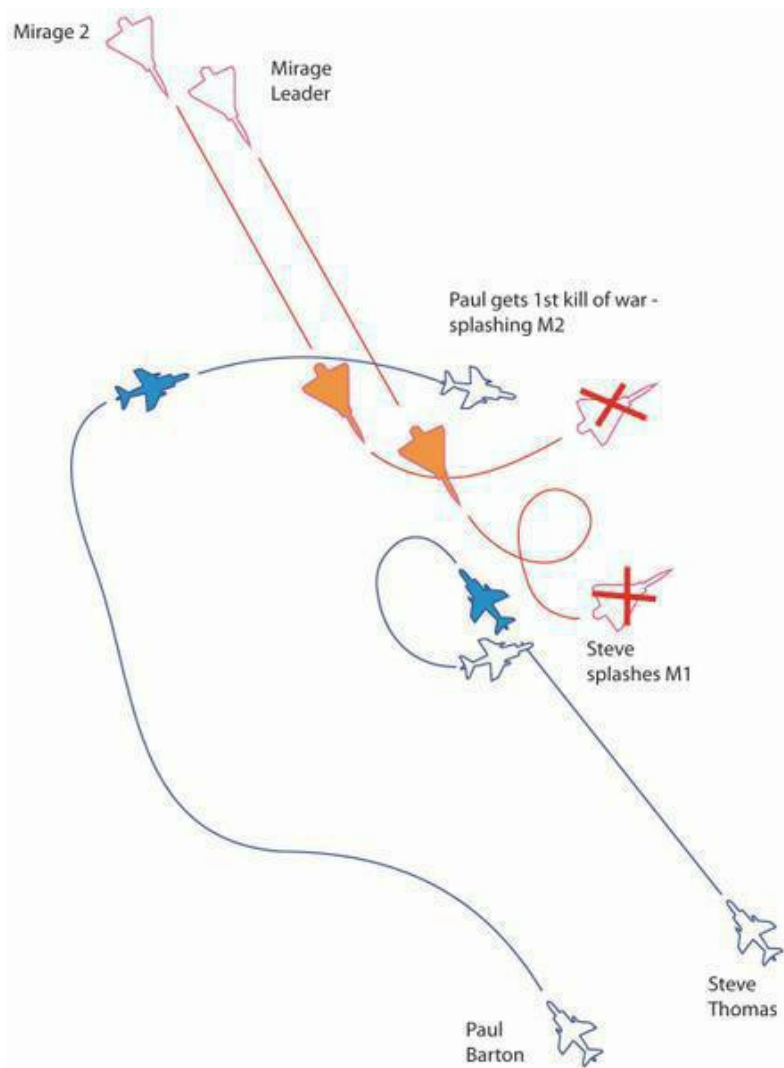
<sup>62</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>63</sup> Ward, *Sea Harrier over the Falklands*, 220 and Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 178.

<sup>64</sup> Ward, *Sea Harrier over the Falklands*, 214.

retreating Mirage. The second Mirage entered what was later described as an “over-used defensive downward spiral,” hoping to escape the engagement through the cloud layer.<sup>65</sup> The maneuver made it easy for Thomas to get behind this second Mirage and score a missile hit, critically damaging the aircraft as it made its escape. Just a few minutes later, as that same Mirage attempted a landing at Port Stanley, it was shot down by an Argentine anti-aircraft emplacement in a friendly fire incident.

*Figure IV. First Dogfight of the War<sup>66</sup>*



<sup>65</sup> Ward, *Sea Harrier over the Falklands*, 218.

<sup>66</sup> This diagram is borrowed from Ward, *Sea Harrier over the Falklands*, 218.

The Argentine's tactics failed completely on the afternoon of 1 May. The Argentine RUBIO flight, consisting of two Daggers from Río Gallegos air base succumbed to the same fate as BUITRE flight. The two Daggers entered a dive to intercept the two patrolling Sea Harriers. Once again, the terrain made it impossible for them to fire their infrared missiles.<sup>67</sup> The better British missiles achieved locks on the Daggers and were thus able to score two more kills on the first day of combat. The Argentine tactics were not working, but the lack of range meant that there was really nothing else that they could do.

Fuel had become the determining factor in all the air superiority sorties of 1 May. The Argentine pilots had to stay at extremely high altitudes to minimize fuel consumption. The Mirages had been designed for high-altitude interception, something the Argentines hoped they could exploit. Unfortunately for the Argentines, the British fighters stayed at low altitudes waiting for the Argentine fighter-interceptors to take the bait. This forced the Mirages into a dive to intercept the Harriers, thus increasing their fuel burn as the engines were less efficient at these low altitudes. Their fuel burn increased so drastically that they only had two to three turns before exhausting their fuel reserves.<sup>68</sup> Obviously, this was a massive disadvantage, and it is shocking that the *FAS* continued to insist on these tactics.

The engagements of the first day had shown the key problems with the *FAS*'s use of their fighter-interceptors. First, the decision to operate these aircraft from the mainland had eliminated the Mirages' main advantages: their speed and maneuverability. In secret testing conducted by the British immediately prior to the Falklands War, British pilots found themselves "taking

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<sup>67</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 189.

<sup>68</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

considerable losses” in a dogfight between the Sea Harrier and Mirage III.<sup>69</sup> Thankfully for the British, these tests did not consider the disastrous way in which the *FAS* planned to use their aircraft.

The second and most studied Argentine problem was the superiority of the British AIM-9L air-to-air missile. This missile gave the British the perfect advantage against the Argentine tactic of diving head-on. Unfortunately for the Argentines, the only tactic available to them was the one that gave the biggest advantage to the British missiles. The combination of a lack of range and weapon inferiority had overwhelmed the *FAS*. The first day of combat had demonstrated to the *FAS* leadership that achieving air superiority was going to be nearly impossible.

#### **Development of Argentine Tactics – 2 May to 20 May 1982**

The lessons of 1 May forced the *FAS* to completely rethink how they would use their aircraft. In fact, the *FAS* only launched 52 total sorties between 2 May to 20 May 1982.<sup>70</sup> This is shocking considering that 1 May alone saw 56 total sorties, 28 being for air superiority.<sup>71</sup> Of the sorties conducted between 2 May to 20 May 1982, only 6 were air superiority sorties. The difference in sortie numbers shows the drastic change in the strategy of the *FAS* in what is often considered the “middle period” of the air war. The *FAS* wanted to wait until the British landings had begun before launching a massed attack against these landings.

The lack of Argentine air superiority sorties during this period is easy to explain. BGen. Crespo had seen the decisive defeats of his Mirages and he was not ready to commit any more

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<sup>69</sup> Ward, *Sea Harrier over the Falklands*, 230.

<sup>70</sup> “Sorties and Results of the Combat Aircraft from the Continent,” 2010, accessed Jan 1 2022 <http://www.radarmalvinas.com.ar/>.

<sup>71</sup> “Sorties and Results of the Combat Aircraft from the Continent.”

until the British amphibious landings took place.<sup>72</sup> This decision is hard to critique as Crespo had undoubtedly realized the precarious position he was in. His Mirages did not have the capacity to achieve air superiority when operated with such restrictive range problems.

While the *FAS* largely gave up its attempts for air superiority during this middle period, it had not given up entirely. In fact, there were six relatively useless sorties that took place between 2 May to 20 May. All of these were carried out by Daggers equipped with Shafrir air-to-air missiles.<sup>73</sup> These aircraft stayed well above any possible British CAP. It is unclear why these sorties were carried out. The most likely explanation is that they were assigned to provide escort to other aircraft conducting attacks on British ships around the Falkland Islands. However, their high-altitude and positioning far away from the action makes it more likely that these were meant to scare the Harriers from attempting intercepts on the wave-skimming attack aircraft.

In summary, the period of 2 to 20 May saw the *FAS* concede air superiority over the Falklands. As mentioned, it is difficult to argue against this decision. The *FAS* had already, for all intents, lost its chances of achieving air superiority the moment it chose to operate the Mirages from the mainland. The events of 1 May forced the *FAS* to save its strength for a last stand effort when the British would be at their most vulnerable. If the *FAS* attacked en-masse against the British landings, there was a small chance of inflicting a devastating blow to the landing force.

### **The Baptism of Fire – 21 May to 14 Jun 1982**

On 21 May 1982, the British commenced the landings on the northern coast of the Falklands at San Carlos. In response, BGen. Crespo ordered the *FAS* to prepare for a decisive

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<sup>72</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 194.

<sup>73</sup> Rivas, *Wings of the Malvinas*, 79.

operation to contest the landings. The day saw the largest number of Argentine combat sorties throughout the war: 63.<sup>74</sup> The Argentines attempted to maintain this operational tempo until 1 June 1982, but their dwindling numbers meant that 21 May had been their last chance at achieving victory.

The most glaring difference in how the *FAS* intended to use its fighter-interceptors for this final effort was the decision to only use the Mirage IIIs in the air superiority role. Table IV shows the sorties flown by the Mirages on 21 May.<sup>75</sup>

*Table IV. Mirage III Flights on 21 May 1982*<sup>76</sup>

Callsign	Base	Aircraft Type	Sortie Size	Arrival at San Carlos Sound	Result
ÁGUILA	GAL	Mirage III	2	1040 h	Conducted air cover over San Carlos at 40,000 feet
CÓNDOR	GRA	Mirage III	2	1045 h	RTB after failure to establish communication with CIC
CICLÓN	GAL	Mirage III	2	1520 h	Conducted air cover near San Carlos

The air superiority sorties on 21 May saw a return to the Argentine doctrine on 1 May. The Mirages stayed at high altitude, this time avoiding a low altitude confrontation with the Harriers. This had dubious effect, especially since Argentine attack pilots were being hunted by Sea Harriers following their attack runs against the British landing areas.<sup>77</sup> Argentine estimates state

<sup>74</sup> “Sorties and Results of the Combat Aircraft from the Continent.”

<sup>75</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 190.

<sup>76</sup> Table created from mission information found in Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*.

<sup>77</sup> Ward, *Sea Harrier over the Falklands*, 234.

nine losses against the British Sea Harriers conducting CAP around the landing zones.<sup>78</sup>

Evidently, the Argentine air superiority tactics of 21 May did not work.

The most surprising difference in the CONOPS between 1 and 21 May was the decision to use the entire Dagger fleet strictly in a ground-attack role.<sup>79</sup> This was one of the *FAS*'s tactical innovations that they hoped could turn the tide of the war. The *FAS* planners theorized that the high speeds of the Dagger would allow it to quickly fly in, attack, and exit the combat area before being intercepted or shot down by the British air defence frigates.<sup>80</sup> Unfortunately this new tactic led to the destruction of a massive portion of the Dagger fleet.

On 21 May the Daggars conducted 23 sorties, with only 21 reaching the landings at San Carlos Sound.<sup>81</sup> Of the 21 that made their attack runs, 5 aircraft were lost, and only one attack run damaged a British warship.<sup>82</sup> This was a shocking number to the *FAS*. Nearly a quarter of the Dagger fleet was destroyed in a single day. In comparison, the A-4 fighter-bomber fleet conducted 17 attacks, while only losing 2 aircraft.<sup>83</sup> The Dagger was never intended for the role forced upon it on 21 May. Instead of using the Daggars in conjunction with the Mirage IIIs, the *FAS* had conceded local air superiority over the landings in hope of achieving a lucky hit on one of the British landing ships with their 'ground-attack' Daggars. It was truly a last-resort tactic, and it was an operation that BGen. Crespo must have realized could not be sustained even after a few of days of losses.

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<sup>78</sup> "Sorties and Results of the Combat Aircraft from the Continent."

<sup>79</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 201.

<sup>80</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 204.

<sup>81</sup> Rivas, *Wings of the Malvinas*, 89.

<sup>82</sup> Santiago Rivas, *Skyhawks over the South Atlantic: Argentine Skyhawks in the Malvinas/Falklands War* (Solihull: Helion & Company, 2019), 23.

<sup>83</sup> Rosana Guber, "The A-4 in the Falklands War: ¿ Intra or Inter-Specific Competition?" *Defensa Nacional* 4, no. 6 (2020): pp. 185-212, 190.

Between 21 May and 14 June, the Argentines used similar tactics. The Daggers continued to be used in a ground-attack role while the Mirage IIIs provided pointless high-altitude patrols over the Falklands. Four more Daggers were lost to Sea Harriers, and another to a British surface-to-air missile.<sup>84</sup> Argentine documents do not discuss the actions of the Mirage IIIs after 21 May. Similarly, interviews of the Mirage III pilots seemingly avoid discussing their actions during this period. It is likely that the losses sustained during 1 May had shattered the Mirage pilots' fighting spirit.

The final month of the conflict, June, saw the complete break down of the *FAS*. Immense losses of the Argentine fighter-interceptor fleet, a total of 11 Daggers, led to an emergency purchase of Peruvian Mirage IIIs to sustain operations.<sup>85</sup> Following the results of 21 May, the air war had turned decisively in favor of the British. However, many argue that the air war was won after the engagements on 1 May. This study takes a different stance; the air war was lost the moment the *FAA* issued its orders on 7 April 1982. A complex combination of poor strategic and operational decisions, as well as a general unpreparedness amongst aircrew meant that the air war was lost before it started. Ultimately, the air war over the Falklands was complicated. The following two Chapters will analyse these factors with the intent of developing an understanding of how a seemingly modern and capable air force was defeated so decisively.

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<sup>84</sup> "Sorties and Results of the Combat Aircraft from the Continent."

<sup>85</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 220.



## Chapter 3: Doctrine, Training, Experience, and Equipment of the FAA

Quantifying the capabilities of the *FAA* is an important part of understanding the decisions of Argentine commanders. This chapter will explore the quality of *FAA* doctrine, equipment, experience, and training. Argentine documents and the testimonies of aircrew have exposed a range of deficiencies within each of these areas. These shortcomings directly contributed to the failure of Argentine air superiority operations over the Falklands.

The shortcomings in doctrine, equipment, training, and experience become apparent when comparing them to the British equivalents. While it is not the intent of this study to create a technical analysis of equipment, mission characteristics, or training schemes, it is still important to analyze these factors to better understand how the *FAA* failed to achieve their strategic end of achieving air superiority. The most glaring problem affecting the Argentine's ability to use their air power was a lack of formalized air superiority doctrine.

### **Argentine Air Power Doctrine**

The lack of a well defined and understood air power doctrine severely limited the means of the *FAA*'s strategy. Argentine commanders failed to create a formalized framework on which to create their air superiority operations. While many other air forces also lacked a well-established doctrine during this period, the unique political situation in Argentina meant that the *FAA* was exceptionally far behind in modern air doctrine. In contrast, the British had been experimenting with modern air doctrine as early as 1974.<sup>86</sup>

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<sup>86</sup> Steve R. Smith, "The Falklands Conflict: Blueprint for Limited, High-Tech War," January 1986, <https://doi.org/10.21236/ada178024>, 6.

Regardless of these experiments, the British air services, particularly the RN's FAA and Royal Air Force (RAF), were described by John Shields as lacking formal doctrine in 1982.<sup>87</sup> Evidently, formally adopted doctrine was still in its infancy in the decades prior to the conflict. The advantage the British possessed was their ability to work alongside NATO allies to experiment with modern air power. As a result, British commanders had more experience conceptualizing operations within NATO exercises.<sup>88</sup> The Argentines did not have such opportunities and were thus unable to experiment with their doctrine to the same extent as the British.

Another major reason limiting doctrinal developments stemmed from the political friction within the junta. The *FAA* had been forced to re-think its primary role twice in a span of forty years. First from a conventional force to a counterinsurgency (COIN) force, then back to a conventional force prior to the Beagle Conflict of 1978. From 1945 until the coup d'état of 1976, the *FAA* was responsible for the protection of Argentine airspace.<sup>89</sup> The *FAA* procured aircraft and trained its aircrew to counter its regional rival: Chile. In 1976, the junta's oppression of the civilian population mandated a shift of the Argentine military towards a COIN role.

The *FAA*'s shift towards COIN operations was an unanticipated role change that severely degraded its air superiority capabilities. With the new 1976 junta, funding for new aircraft had to be justified in terms of their usefulness against 'communist sympathisers' operating within Argentina's major population centres.<sup>90</sup> This funding eventually led to the Pucara program; the small, low-altitude COIN aircraft was a strange addition to the *FAA* fleet. The Pucara program

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<sup>87</sup> Shields, *Air Power in the Falklands Conflict*, 31.

<sup>88</sup> Smith, "The Falklands Conflict: Blueprint for Limited, High-Tech War," 8.

<sup>89</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 225.

<sup>90</sup> Paul H. Lewis, *Guerrillas and Generals: The "Dirty War" in Argentina* (Westport, CT: Praeger, 2011), 43.

also brought about a slow drain of commanders and aircrew experienced in air superiority operations.

The drain continued until the late 1970s when the junta re-established its rivalry with Chile. This rivalry focused primarily on the territorial conflicts around the Beagle Straits at the southern tip of the continent. The so-called Beagle Conflict had almost reached the brink of war in 1978. Because of the remote nature of the area, the *FAA* was called upon to assert Argentine sovereignty through air power. The Beagle Conflict started a procurement program that saw the purchase of new fighter-interceptors for the *FAA*. These new aircraft were deployed to the disputed areas to dissuade a Chilean incursion.

The Beagle Conflict had created another shift in the *FAA*'s primary role: high-altitude interception of Chilean aircraft was now essential. This role was quickly adopted by the *FAA*, which was accompanied by an injection of funding from the junta. The most important question that researchers should ask is if the *FAA*'s role in the Beagle conflict had reversed the effects of its shift to a COIN role only a few years prior. This is difficult to discern, especially due to the secrecy of the junta's early years in power. Pilot interviews offer the best look into what operations the *FAA*'s pilots took part in during the conflict.

Two Argentine pilots, Gustavo Piuma and Norberto Dimeglio, confirmed that the Mirage III squadrons deployed to the disputed regions had conducted successful air intercepts of Chilean aircraft.<sup>91</sup> Both also speak about the experience that the deployments gave the Argentine pilots and commanders.<sup>92</sup> This is further confirmed when reading the first operational orders issued by

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<sup>91</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>92</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

the *FAS* on 16 April 1982. These orders appear to follow the same CONOPS that were used during the Beagle Conflict.<sup>93</sup> Evidently, the CONOPS used at the beginning of the Argentine invasion of the Falklands was almost identical to the one used during the Beagle Conflict.

Recycling these CONOPS posed a serious problem for Argentine aircrew. When the *FAA* deployed south for the Falklands War, it was facing an entirely different enemy. The British Harriers flew low and were protected by missile-carrying warships. Not only were the enemies different, but the maritime environment drastically changed the way in which aircraft could operate. The failure to adapt the Argentine doctrine was not one of incompetency, but instead of a fundamental misunderstanding of the role Argentine air power would play in a conflict.

The junta's earlier decision to relegate the *FAA* to a COIN role was the main factor influencing a lack of formalized air superiority doctrine. *FAA* commanders' limited experience in conceptualizing a doctrine focused primarily on low-altitude operations with aircraft of trivial performance and not the emerging fighter-interceptor force deployed during the Beagle Conflict. By the time the *FAA* began operating these fighter-interceptors in an air superiority role, they had already begun to lose their ability to conduct conventional air power roles.<sup>94</sup> These issues were exacerbated by the later decision not to alert the *FAA* to the invasion plans in 1982. *FAA* commanders were still preparing for a possible resurgence of the Beagle dispute and were never given an opportunity to develop an appropriate doctrine prior to the invasion of the Falklands.

Therefore, it is not unreasonable that the *FAA* operated during the first days of the conflict using the same doctrine that was developed to confront the Chilean threat. The lack of a doctrine for the low-level air superiority operations was not a result of incompetency, but instead

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<sup>93</sup> Fuerza Aérea Sur, "Schematic Plan of Operations from Comd FAS," 9.

<sup>94</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 180.

a result of a long list of changes in strategic thinking and associated role miscalculations dating back to the coup d'état in 1976. It was these decisions that left the *FAA* struggling to re-imagine its air superiority role during the air war in 1982. Norberto Dimeglio, a fighter-interceptor pilot stationed in the airbase at Comodoro Rivadavia, said in his 2021 interview:

One aspect I did not like of Comodoro Rivadavia was being so close to the headquarters of *Fuerza Aérea Sur*. Those guys would walk down to our squadron and ask us to try out some new idea. It is almost like my [Dagger] squadron was being used to test new things to improve how we operated.<sup>95</sup>

Norberto's comments demonstrate how the operational level commanders within *FAS* headquarters were constantly re-thinking their CONOPS. Early Argentine casualties as well as a complete failure to establish any sort of air superiority demonstrates that the air superiority doctrine used against Chile did not work against the British Harriers over the Falklands. BGen. Crespo tried valiantly to adapt Argentine doctrine for this new set of operational requirements. Ultimately, the Argentine air doctrine that emerged after 1978 proved to be disastrous in the Falklands War. The added problems of equipment limitations and aircrew experience further damaged any chances of a successful air superiority operation over the Falklands.

### **Equipment**

The state of the *FAA*'s equipment is one of continuous debate by scholars. Many Argentine studies are overzealous in their analysis of Argentine fighter aircraft capabilities.<sup>96</sup> By comparison, many British scholars often overestimate the superiority of the Harriers.<sup>97</sup> As a result, the English language historiography regularly identifies the superior capabilities of the

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<sup>95</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>96</sup> Rivas, *Skyhawks over the South Atlantic*, 56.

<sup>97</sup> Woodward and Robinson, *One Hundred Days*, 156.

Harriers as the primary factor in determining the outcome of the air war. While some of the Argentine equipment was undoubtedly inferior in comparison to what the British had, particularly Argentine air-to-air missiles, this alone is not enough to explain the extent of the Argentine defeat.<sup>98</sup>

The British had dispatched two different Harrier variants to the South Atlantic. The variant that was largely responsible for air superiority was the RN's Sea Harrier. The aircraft were deployed for CAP, a role which aimed to maintain air superiority around the key carrier assets of the British task force. The other variant was the RAF's Harrier GR3. This variant was used as the primary ground-attack aircraft during the campaign. Throughout the conflict, a total of 28 Sea Harriers and 14 Harrier GR3s were deployed in the theatre.<sup>99</sup>

This section will analyze the *FAA's* capabilities by providing a concise comparison between the equipment of the opponents. It will demonstrate that the Argentine aircraft had been designed to perform high altitude interceptions over land, and were thus ill-suited for the low-altitude, long range operations required by the *FAS CONOPS*. In contrast to the Argentine equipment, the British Harriers were designed primarily for short-range CAP patrols.<sup>100</sup> This difference proved decisive when Argentine aircraft were forced to stray well outside their combat radius to engage the British Harriers.

The Sea Harriers benefited from one significant advantage over the Argentine fighter-interceptors: the AIM-9L infrared air-to-air missile. The AIM-9Ls were delivered by the United States to the British task force during their stop-over in Ascension Island sometime after 1 Apr

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<sup>98</sup> Rowland White, *Harrier 809: Britain's Legendary Jump Jet and the Untold Story of the Falklands War* (S.l.: Corgi, 2021), 43.

<sup>99</sup> David Brown, *The Royal Navy and the Falklands War* (London: Arrow, 1989), 120.

<sup>100</sup> Pablo Calcaterra and Gareth (illustrator) Hector, *Sea Harrier FRS 1 vs Mirage III/Dagger - South Atlantic 1982* (Bloomsbury Publishing Plc, 2017), 23.

1982. This missile was an ‘all aspect’ weapon able to be fired against a head-on target, something that proved decisive against the Argentine tactics.<sup>101</sup> Additionally, the AIM-9L could lock on to an aircraft at greater ranges than Argentine missiles and it could maintain its lock under harsher environmental conditions.<sup>102</sup>

This missile gave the British an undisputed weapon advantage. However, too many studies on the air war stop their analysis after describing this circumstance. While the superiority of the AIM-9L is undeniable, it only helped to increase an overwhelming British advantage. The tactics and doctrine employed by the inexperienced Argentine pilots meant that the AIM-9L was only another nail in the coffin. The engagements analyzed in Chapter 2 were overwhelmingly won by the British because of the inability for the Argentines to enter a favourable fight using the crude dogfight tactics they employed. These engagements would have likely gone to the British even without the AIM-9L.

The *FAA* operated two fighter-interceptor types: the Mirage V ‘Dagger’ (M-V) and the Mirage III (M-III). Initially, several other aircraft were assigned to the air superiority role in early Argentine operational plans.<sup>103</sup> This included the ill-suited A-4B/C Skyhawk fighter-bomber, an aircraft that was quickly removed from the proposed interceptor role and instead assigned its designed ground-attack role. This section will only focus on the Daggers and the Mirage III, the two types that conducted air superiority operations.

The Dagger was the *FAA*’s most numerous fighter-interceptor. These aircraft were designed for clear-weather, high-altitude interception. Also, both the Dagger and the Mirage III

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<sup>101</sup> Calcaterra and Hector, *Sea Harrier FRS 1 vs Mirage III/Dagger*, 25.

<sup>102</sup> Ward, *Sea Harrier over the Falklands*, 190.

<sup>103</sup> Rivas, *Wings of the Malvinas*, 80.

had no air-to-air refuelling capabilities, making them unable to extend their maximum combat radius. The Daggers had been procured from the Israeli Aircraft Industries between 1978 and 1980 and were the Israeli version of the popular French Mirage III. The most significant difference between these two aircraft was the lack of an intercept radar on the Daggers. The FAA operated a total of thirty-nine Daggers organized into two *Brigadas Aereas* (Air Brigades).<sup>104</sup> Argentine pilots often described the Dagger as the best aircraft available to the FAA.<sup>105</sup>

The Dagger had several performance advantages over the Sea Harrier. The first was maximum speed: the Dagger had almost twice the Sea Harrier's maximum speed (reference table V for the Dagger's specifications).<sup>106</sup> Speed is crucial in both interceptions and in a dogfight. Possessing the speed advantage allows a pilot to choose when and where to engage the enemy. It also gives more opportunities for a pilot to disengage from an unfavourable fight. Unfortunately for Argentina, the way in which these aircraft were used negated this speed advantage. The range issues described in Chapter 2 meant that the Daggers could not reach maximum speed due to their fuel constraints as well as the three external fuel tanks needed to reach the Falklands. As Sharkey Ward mentions in his memoirs, operating at the edges of their combat range had reduced the performance envelope of the Dagger to a point comparable to the British Harriers.<sup>107</sup>

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<sup>104</sup> This table was created using data from Rivas, *Wings of the Malvinas*, 92.

<sup>105</sup> Carballo, *Hawks of the Falklands*, 46.

<sup>106</sup> Rivas, *Wings of the Malvinas*, 58.

<sup>107</sup> Ward, *Sea Harrier over the Falklands*, 254.



*Table V. The Dagger versus the Sea Harrier*

	<b>Argentine Dagger</b>	<b>British Sea Harrier</b>
<b>Maximum Speed</b>	1,400 knots	621 knots
<b>Maximum speed with External tanks</b>	~756 knots	~ 593 knots
<b>Combat Radius</b>	637 nautical miles	404 nautical miles
<b>Armament during Air Superiority Operations</b>	2 x Rafael Shafrir	2 x AIM-9L
<b>Radar</b>	No Radar	Blue Fox Radar (Basic intercept radar)

As mentioned previously, the Dagger’s armaments were outmatched by the British weapons. The Dagger’s primary air-to-air missile was the Israeli Rafael Shafrir 2. This missile was comparable in performance to the American-made AIM-9B, which itself was a more limited version of the AIM-9L as it could only lock onto targets from behind unlike the 9L’s ‘all aspect’ capability.<sup>108</sup> Dagger pilots were fully aware of their missile’s deficiencies, even before the start of the conflict.<sup>109</sup> Pilot accounts of the first sorties conducted on 1 May 1982 noted that the pilots quickly confirmed their knowledge that their missiles were outclassed by the AIM-9L.<sup>110</sup>

Their missile’s inferiority was exacerbated by the Argentine pilot’s lack of air combat training and the range issues. Pilots were forced into unfavourable engagements with inferior weapons hoping to score a lucky shot on the Sea Harriers. These tactics proved completely unsustainable and foolish in the long run. Not only were Argentine missiles technologically

<sup>108</sup> Rivas, *Wings of the Malvinas*, 58.

<sup>109</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>110</sup> Rowland White, *Harrier 809: Britain's Legendary Jump Jet and the Untold Story of the Falklands War* (Corgi, 2021), 12.

inferior, but the flyers also had to contend with various environmental factors.<sup>111</sup> The inferior tracking of the Shafrir missiles meant that they had almost no chance of hitting a Sea Harrier under these conditions.

Overall the Dagger was a capable interceptor when used for its intended role. Strangely, the *FAS* chose to use these aircraft in a way which drastically reduced their capabilities against the Harriers. Published memoirs by British commanders Sharkey Ward and Sandy Woodward both place too much emphasis on AIM-9L's strength against the Dagger.<sup>112</sup> The real turning point was the decision to use the Daggers at the edges of their range instead of employing them in a way to use their speed and altitude advantages to engage the Harriers. The other Argentine aircraft type, the Mirage III, faced identical problems against the Harriers.

The Mirage IIIEA was Argentina's primary fighter-interceptor. The French-built aircraft had arrived in Argentina at the beginning of the country's military build-up in the late 1970s.<sup>113</sup> Twelve Mirage IIIs were delivered to the *FAA*; this was less than one third of the Dagger fleet's total strength. The Mirage III had nearly identical performance to the Daggers, however, both cruise and combat speeds were slightly higher. As previously mentioned, the most significant difference between the Mirage IIIs and the Daggers was the former's intercept radar. This allowed them to operate medium-range radar guided air-to-air missiles as well as having the capability to identify air targets without the support of the tactical radar at Port Stanley. Given these equipment advantages, the Mirage III was a more capable fighter-interceptor than the Dagger.

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<sup>111</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

<sup>112</sup> Ward, *Sea Harrier over the Falklands*, 253.

<sup>113</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 204.

The Mirage III suffered from the same weapon disadvantages that impacted the Daggers. The most significant difference between the two types was the III's use of French Matra air-to-air missiles. They could carry two Matra R.550 Magics, the French equivalent to the American AIM series of heat-seeking missiles. Sources indicate that the R.550 was a nearly identical missile to the Israeli Shafrir 2.<sup>114</sup> Thus, both the Mirage III's and the Daggers had comparable weapon capabilities. This meant that they shared the same disadvantages against the Harrier's AIM-9L.

The aircraft could also carry the semi-active Matra R.530; however, there is no indication that the Argentines ever operated this missile during the conflict.<sup>115</sup> The British were particularly worried about this weapon. Its 'look-down, shoot-down' capability meant that it could be fired from far away against unsuspecting British Harriers. In the three engagements on 1 May 1982, the British pilots incorrectly believed that the Argentine's tactics revolved around the use of the R.530. Thankfully for the British, the Argentines' need for three external fuel tanks had eliminated the possibility of carrying the R.530 over the Falklands. Only by using this missile could the Mirage III's have competed against the AIM-9L.

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<sup>114</sup> Pablo Calcaterra and Gareth (illustrator) Hector, *Sea Harrier FRS 1 vs Mirage III*, 14.

<sup>115</sup> Guber, "The A-4 in the Falklands War," 194.

*Table VI. The Argentine Mirage versus the British Sea Harrier*

	<b>Argentine Mirage IIIA</b>	<b>British Sea Harrier</b>
<b>Maximum Speed</b>	1,267 knots	621 knots
<b>Combat Speed with External tanks</b>	~755 knots	~ 593 knots
<b>Combat Range</b>	647 nautical miles	404 nautical miles
<b>Armament during Air Superiority Operations</b>	2 x Matra R.550 Magic	2 x AIM-9L
<b>Radar</b>	Thomson-CSF Cyrano Radar (Basic intercept radar)	Blue Fox Radar (Basic intercept radar)

Ultimately, both types of fighter-interceptors were used outside of their designed operating parameters. The aircraft began to show their weaknesses when placed into low-altitude dogfights at the limits of their combat radius.<sup>116</sup> Both the Mirage IIIs and the Daggers had to be operated with three full external fuel tanks simply to be able to reach the Falklands.<sup>117</sup> Not only was this dangerous due to the speed limits on the fuel tanks, but it also reduced the aircrafts' performance to a point comparable to that of the Harriers. Figure V shows the incredible distances these aircraft were being flown from the mainland to the Falklands.<sup>118</sup> With no air-to-air refuelling capabilities, these fighter-interceptors were being asked to fly a mission profile that they were never intended to undertake.

<sup>116</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

<sup>117</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>118</sup> This figure was created using information from Smith, *Battle Atlas of the Falklands War 1982*.

Figure V. Ranges from FAA Air Bases to the Falkland Islands



Overall the Argentine aircraft had the performance and the numbers to confront the British Harriers with a reasonable chance of success if operated within their intended parameters.<sup>119</sup> The common argument that the Sea Harriers and their AIM-9L missiles were completely superior to Argentine interceptors is incorrect. What made the British aircraft superior were the failures of the *FAS* commanders to use their aircraft in a way that best utilized their strengths.

Argentine fighter-interceptors were faster and more maneuverable than the British Harriers. It was the problem of fuel that made the Mirages and Daggers unable to leverage their advantages against the Harriers. This significant speed advantage would have made the Argentine aircraft impossible to catch, both by the Harriers and their missiles. Overall the Argentine fighter force should not be immediately discarded as a technologically inferior opponent. Fortunately for the British, the Argentine command lacked the foresight to deploy their aircraft in a way that could exploit performance advantages. This error can be attributed to the inexperience of Argentine commanders in operating these aircraft in an air superiority role.

### **Experience**

The lack of combat experience was a crucial shortcoming that severely limited the capabilities of the *FAS* throughout the conflict. The Falklands War was the first time most Argentine pilots had combat experience in the thirty years since the creation of the *FAA*. This meant that the *FAA* did not have the institutional experience of how to operate during wartime. Argentine commanders had little practical experience in using air power.<sup>120</sup> Argentine scholars have argued that several factors involving the socio-economic backgrounds of *FAA* aircrew may

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<sup>119</sup> Carballo, *Hawks of the Falklands*, 171.

<sup>120</sup> Comisión Evaluación, “Comisión de Análisis y Evaluación de las Responsabilidades del Conflicto del Atlántico Sur,” 321.

have impacted their competence, but due to the speculation of these claims, they fall outside of the scope of this study. Ultimately, experience is a key component of a service's combat ability, this section will analyze the state of Argentine experience prior to the Falklands War.

The *FAA*'s only real-world experience came during the Beagle Conflict between 1978 to 1982. The Beagle conflict was the result of Argentina's land claim in the southern Patagonia region. There are very few English studies on this relatively unknown conflict. All that is known from Argentine sources is that the *FAA* was deployed to the area to deter a Chilean military incursion into the disputed region. During this deployment, Argentine pilots claim to have intercepted several Chilean aircraft.<sup>121</sup> This information goes against the 'no combat experience' arguments of most researchers. However, the experience gained during the Beagle Conflict was limited to a handful of Mirage III pilots.

In an online interview, Capitan Norberto Dimeglio – a Dagger pilot – commented on Argentine experience prior to the Falklands. He claimed that Mirage III pilots who deployed south for the Beagle Conflict had intercepted Chilean aircraft on several occasions.<sup>122</sup> It is difficult to confirm these interceptions, but in another interview, Mayor Piuma also claimed that he had heard about Mirage III pilots conducting high-altitude intercepts.<sup>123</sup> If these are true, it would mean that Mirage III pilots had some relevant and recent experience conducting intercept missions.

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<sup>121</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>122</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>123</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

Dimeglio also stated in his interview that he was jealous because during the Beagle campaign his Dagger squadron had done nothing more than navigation training flights in the south. Even though the newly purchased Daggers had been sent south for the Beagle Conflict, they were not tasked with the same intercept missions as the Mirage IIIs. Thus, they lacked the same experience as the Mirage III squadrons. Presumably, his Dagger squadron conducted nothing more than long-range navigation exercises and some basic air gunnery drills during this deployment.<sup>124</sup> There was no mention of any air combat training in Dimeglio's, Piuma's or any other interviews with Dagger pilots. Thus, it seems that only the Mirage III pilots had any meaningful experience, and even that was very limited.

Something that both the Mirage III and Dagger pilots lacked was experience operating over the water. This was a result of the Argentine junta of 1981, which was led by president and commander of the navy Carlos Alberto Lacosta. His short rule before the rise of general Leopoldo Galtieri had significant implications for the *FAA*. Lacosta worried that the *FAA* would overshadow his navy if it was allowed to use its growing aircraft numbers for maritime operations. As a result, he forbade the service from operating over water.<sup>125</sup> This decision would prove disastrous for the *FAA*. This combination of decisions, building the *FAA* to counter the Chilean air force and its restriction from maritime operations, meant that commanders never prepared for a possible invasion of the Falklands and the associated over ocean flight implications.

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<sup>124</sup> Carballo, *Hawks of the Falklands*, 184.

<sup>125</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 97.



Another reason for the lack of maritime operations was argued in Dr. James S. Corum's journal article "Argentine Airpower in the Falklands War."<sup>126</sup> He claims that the Argentine navy was solely responsible for forbidding the *FAA* from conducting operations over the water.<sup>127</sup> There is some merit to this view since the new commander of the navy, Admiral Anaya, was also opposed to *FAA* involvement in anything other than land based operations.<sup>128</sup> Whether it was *FAA* caution or navy jealousies, there is no doubt in the fact that Argentine pilots were prohibited from flying over the water. This proved to be problematic during the war as most of the interceptor pilots' first flights over water were on or about 16 April 1982.

The last important factor was the limited experience of the Argentine commanders. Based on the extensive training regimes and the many exchange tours with the United States, Israel, France, and even Britain, it appears that the *FAA*'s officers were at the very least well educated. *History of the Argentine Air Force* comments on this by stating that many of the *FAA*'s officers had experience flying similar equipment abroad.<sup>129</sup> For example, its author claims that there was at least one senior Argentine pilot flying Daggers in Israel to learn from experienced IAF pilots who had served in the Six Day War.<sup>130</sup> It seems that at least some of the *FAA* senior command were highly professional and had extensive knowledge of air power concepts. This is likely why the *FAS* was able to quickly adapt to their early mistakes. Still, Argentine commanders lacked the experience in the type of operations needed to achieve air superiority over the Falklands.

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<sup>126</sup> James S. Corum, "Argentine Airpower in the Falklands War: An Operational View," *Air & Space Power Journal*, 2002, pp. 59-77, 65.

<sup>127</sup> Corum, "Argentine Airpower in the Falklands War," 67.

<sup>128</sup> Rivas, *Wings of the Malvinas*, 142.

<sup>129</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 320.

<sup>130</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 324.

Overall, Argentina's fighter-interceptor pilots and their commanders were woefully inexperienced. Most of the interceptor squadrons lacked any real combat experience with only some Mirage III pilots having seen action during the Beagle Conflict. Senior officers made up for their lack of combat experience with foreign military education. However, this education alone could not have been enough to match the experience of the RN's FAA. The FAA was an inexperienced force, but a modern training system helped to create competent aircrew that were able to quickly learn from mistakes. The training apparatus of the FAA helped to prepare Argentine aircrews in a way that alleviated some of the problems associated with this lack of experience.

### **Pilot Training**

Argentine pilot training is a subject which is often ignored when studying the Falklands air war. While there is much primary source material surrounding the actions of the FAA during the conflict, little is known about how the Argentine pilots were trained. Recent interviews with Mirage and Dagger pilots have given some insight into the quality of Argentine training in the decades leading up to the Falklands War. In general, the pilot training of the FAA followed a comprehensive training scheme that could be compared to many air forces of the period.

A new pilot's training began at the FAA's *Escuela de Aviacion Militar* (Military Aviation School) in Cordoba province.<sup>131</sup> The school was modelled around the American West Point Academy and aimed at creating professional air force officers while also preparing new cadets for more advanced flight training. These cadets spent four years at the school learning about the profession of arms while simultaneously conducting basic flight training.<sup>132</sup> At the end of the

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<sup>131</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 325.

<sup>132</sup> Official Document of the Argentine Army, "Falklands Conflict: Volume I Development of the Events," 1983, accessed Jan 1, 2022 [www.radarmalvinas.com.ar](http://www.radarmalvinas.com.ar).

four years, recruits had a general understanding of air force operations, basic flight training, and even a basic understanding of English. All the *FAA* senior staff in 1982 were graduates of this school.

After their stay at the Military Aviation School, new pilots were fed directly into an advanced training squadron. The number of flying hours and the specific training conducted at these units is unknown, but courses lasted several months on average.<sup>133</sup> Starting in the late 1970s, all fighter pilots were assigned to an A-4 fighter-bomber squadron following their advanced training. The intent was to use the relatively easy to fly jet to identify the most gifted fighter pilots for more advanced aircraft. These hand-picked pilots were then transferred to the Mirage III and later the Dagger squadrons.<sup>134</sup> This placed the interceptor pilots a step above the rest both in skill and flying experience.

Dagger pilots required at least two hundred hours in the A-4s prior to being selected for an interceptor squadron.<sup>135</sup> Several pilots in *Halcones over Malvinas* commented on new “rookie” interceptor pilots who had arrived at the Dagger squadrons after being picked to fly the advanced jets.<sup>136</sup> Their descriptions of the training schemes at these interceptor squadrons point towards a relatively ad-hoc training philosophy without a formalized structure. Pilots picked to fly the Dagger would arrive and then learn the aircraft on the job. Without a formalized training scheme, the interceptor pilots were left to find their own ways of maintaining operational

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<sup>133</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 324.

<sup>134</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>135</sup> Castor R. Fox, “I Was a Naval Pilot,” 2011, *Radolfo Castro Fox* (blog), accessed April 23, 2020 <http://castrofox.blogspot.com/2011/04/yo-fui-piloto-aviador-naval.html>.

<sup>136</sup> Carballo, *Hawks of the Falklands*, 63.

readiness.<sup>137</sup> Thus, while the training may have created professional officers with good flying skills, it did not prepare these fighter pilots with further air combat training.

The extent of training activities in the weeks before 1 May 1982 also reinforce the lack of relevant air combat preparation. Three different Dagger pilots described their pre-war training as no more than a few reconnaissance flights over the Falklands.<sup>138</sup> These flights were intended to train aircrew about the difficulties of maritime navigation. Aside from these flights, the *FAS* did not have enough time to conduct any additional training flights.<sup>139</sup> This was a result of the strategic decision not to alert the *FAA* to the proposed invasion plans.<sup>140</sup> The only combat training that took place in the weeks leading up to 1 May 1982 was bombing practice, something that only further suggests that the Argentine command was not planning on using the fighter-interceptors for their intended roles.

Argentine pilot training had mixed results. The focus on military colleges and a well-funded training system meant that new pilots were competent flyers. However, the lack of advanced combat training hindered the capabilities of Argentine aircrew when facing the enemy. Some historians have suggested that the *FAA*'s pilots were simply not as professional as those of the Royal Navy pilots.<sup>141</sup> Based on the sources examined in this study, Argentine pilot training was modern and effective for the period. It is the extent of air-to-air combat training that casts doubt on the ability of interceptor pilots to perform their air superiority mission. Because of a

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<sup>137</sup> Carballo, *Hawks of the Falklands*, 72.

<sup>138</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

<sup>139</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

<sup>140</sup> Miguel Angel Silva, "Evaluation of the Operations of the Air Defence and Combat Information Centre in the Falklands," 2008, accessed Jan 1, 2022 [www.radarmalvinas.com.ar](http://www.radarmalvinas.com.ar).

<sup>141</sup> Informe Oficial del Ejército Argentino, "Orden de Operaciones Nro 01/82 (Defensa) del Cdo FFFT TOA," file TO-12, National Archives of the Argentine Army, accessed Jan 1, 2022 [www.radarmalvinas.com.ar](http://www.radarmalvinas.com.ar).

lack of meaningful preparations prior to 1 May 1982, it is likely that Argentine interceptor pilots only had a rudimentary understanding of air combat.

In summary, the *FAA* faced a series of problems in its training, experience, doctrine, and equipment. The lack of doctrine and the overall lack of experience were the second most important components reducing the effectiveness of the *FAA* and *FAS*. These two factors severely limited the operational capabilities of the *FAS*. Not only did the Argentine commanders lack an appropriate doctrine for the Falklands War, but they also lacked the experience needed to quickly adapt their operations.

The lack of air-to-air combat training as well as the limitations of the Argentine equipment had significant impacts on the *FAS*'s effectiveness, but only at the tactical level. This Chapter has analyzed the two of the three components that contributed to the Argentine's inability to establish air superiority. The shortcomings at the tactical and operational level were significant, but the strategic decisions made by the *FAA* and the *CAE* overshadowed their impact. The following Chapter will argue how the strategic decision not to forward base fighters at Port Stanley was the single most important decision resulting in the *FAS*'s defeat.

## Chapter 4: Strategic Decisions and Operational Planning

The most surprising aspect of the Argentine's air war was the *FAS*'s disastrous decision to base its aircraft on the mainland. This Chapter will examine how poor strategic decisions and misdirected operational planning further unbalanced the odds against the Argentines. This study has repeatedly stated that there was no single reason that caused the defeat of the *FAS*. The same is true for the strategic decisions and planning errors made prior to and during the Falklands War. These errors only exacerbated the problems impacting the capabilities of the *FAA* and later the *FAS* operational command.

Incorrect strategic decisions have the power to destroy a war effort.<sup>142</sup> In the case of the Falklands War, the *CAE* had made the disastrous decision not to expand Port Stanley airport for fast jet use. Meanwhile, the *FAS* made critical errors in their development of an operational plan. Both areas will provide the missing piece that explains how a modern air force completely failed to achieve its primary objective: air superiority.

### **Lengthening the Runway at Port Stanley**

Lengthening the runway at Port Stanley was not a radical idea. The Agreement of Understanding discussed in Chapter 2 had laid the groundwork for such an expansion starting in 1971. In fact, the *FAA* had begun to gradually lengthen the runway since their first flight to the Falklands in 1971. Indeed, the early diplomatic strategy to regain the Falklands was spearheaded by the strategic airlift division of the *FAA*. These early efforts involved regular passenger and cargo transport from mainland Argentina to Port Stanley.

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<sup>142</sup> Meilinger, "10 Propositions Regarding Air Power," 89.

The first lengthening of the runway was completed in time for the inaugural transport flight on 15 February 1971, over a decade before the Argentine invasion. *FAA* engineers were deployed and temporarily posted to the Port Stanley airport for the purpose of expanding its infrastructure.<sup>143</sup> These engineers worked to lengthen the runway, as well as expand the fuel depot and airport buildings to accommodate larger *FAA* transports. The runway, built to accommodate the *FAA*'s *F-27* jet transport, was approximately 2,400 ft long. The length required to operate the *F-27* was only about a hundred feet less than the required take-off distance for a combat-loaded *Mirage III* or *Dagger*.<sup>144</sup> If the runway was so close to being capable of accommodating these aircraft, then why did the *CAE* not make extending the runway a priority?

There are three prevailing theories which attempt to explain this decision. The first theory is that the president Leopoldo Galtieri, then chief of the army and leader of the military junta, had prevented the airlift of critical runway construction equipment.<sup>145</sup> Galtieri had ordered the *FAA* to oversee the transportation of a ten-thousand strong army garrison to the Falklands. As a result, the airlift capabilities of the *FAA* were filled by the deployment of these troops.

Officer Cadet Colin Clansey's article "Factors Influencing the Defeat of Argentine Air Power in the Falkland's War" argues that Galtieri's orders were the sole reason as to why the *FAA* could not expand the airport.<sup>146</sup> This theory does not seem plausible with the information available today given that even with its airlift commitments, the *FAA* had managed to deploy a

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<sup>143</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 156.

<sup>144</sup> Pablo Calcaterra and Gareth (illustrator) Hector, *Sea Harrier FRS 1 vs Mirage III/Dagger*, 14.

<sup>145</sup> Comision Evaluacion, "Comisión de Análisis y Evaluación de las Responsabilidades del Conflicto del Atlántico Sur," 240.

<sup>146</sup> Colin Clansey, "Factors Influencing the Defeat of Argentine Air Power in the Falklands War," *The Royal Canadian Air Force Journal* 1, no. 4 (2012): pp. 8-22, 10.

runway construction group to Port Stanley. This small force was the *Grupo 1 de Construcciones*, which was to serve under the command of the Argentine army at Port Stanley.<sup>147</sup>

Commanding the unit was Mayor Raul Oscar Maiorano. Following the conflict, he submitted three situation reports that were eventually combined into an AAR. His reports covered three periods: 5 Apr 1982 to 30 Apr 1982 (pre-hostilities), 1 May 1982 to 14 Jun 1982 (hostilities), and 15 Jun 1982 to 14 Jul 1982 (consolidation). The reports describe his unit's operations at Port Stanley airport. In his pre-hostility's situation report, he outlined the tasks completed by the runway construction group. Of the completed tasks, only one included any lengthening of the runway.<sup>148</sup> This was the addition of a 262 ft extension at the end of runway 08.<sup>149</sup> Since this addition was completed after the *FAA*'s F-27 had overrun the runway, it is likely that the resources brought along by this unit had been expended in fixing the damaged section.

The other sixteen tasks completed by the runway construction group were all related to the expansion of army facilities at Port Stanley.<sup>150</sup> It is surprising that the *FAA*'s runway builders were being used primarily as army construction engineers. Mayor Maiorano was especially surprised by this decision. He wrote in his pre-hostility's situation report that more focus should be placed on the expansion of airfield facilities rather than supporting the garrison.<sup>151</sup> These suggestions were repeated in his pre-hostilities report. Evidently, the chief of runway construction believed that his orders did not reflect the actual needs of the *FAA* in the Falklands.

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<sup>147</sup> Raul Oscar Maiorano, "Report from the Commander of the Runway Construction Squadron of the Air Component Falklands After His Return to the Continent," 1982, accessed Jan 1 2022 [www.radarmalvinas.com.ar](http://www.radarmalvinas.com.ar), 4.

<sup>148</sup> Maiorano, "Report from the Commander of the Runway Construction Squadron," 4.

<sup>149</sup> Maiorano, "Report from the Commander of the Runway Construction Squadron," 5.

<sup>150</sup> Maiorano, "Report from the Commander of the Runway Construction Squadron," 7.

<sup>151</sup> Maiorano, "Report from the Commander of the Runway Construction Squadron," 7.



Based on these reports, the equipment and personnel were delivered to Port Stanley, but they were not used to extend the runway for the purpose of fighter operations.

The pre-hostilities report also disproves the second theory as to why the *FAA* never expanded the runway: they did not have the capability to do so. This theory is easily disproven as the *Grupo 1 de Construcciones* had already expanded Port Stanley’s runway as early as 1971. When they deployed to the Falklands in 1982, this same group brought along the runway building equipment they had previously used to build the runway in 1971.

*Table VII. Runway Making Equipment Sent to Port Stanley 6 April 1982<sup>152</sup>*

Item	Quantity
Caterpillar D-7 Dozer	1
Astarsa 120 Motorized Leveler	1
Caterpillar 955-12 Front Loader	1
Mercedes-Benz 1114 Earth-moving trucks	2
Unimog flat-bed truck	1
24 x 144-inch Aluminium runway tiles	200

With two-hundred aluminum runway tiles, the runway construction group was able to extend the runway by 262 ft. Since the damaged section is reported to have only required about 150 ft of tiles, the extension of 262 ft is odd since the F-27 was the *FAA*’s only transport aircraft requiring 2,400 ft of runway.<sup>153</sup> Therefore, it is unclear why the runway construction group had been given this specific number of aluminium tiles had the *FAA* not planned to accommodate fighter aircraft at Port Stanley.

<sup>152</sup> Maiorano, “Report from the Commander of the Runway Construction Squadron,” 7.

<sup>153</sup> Maiorano, “Report from the Commander of the Runway Construction Squadron,” 7.

Moreover, the presence of these tiles as early as 5 April disproves the theory that the Argentines did not have the resources to expand the runway. Given the equipment and the previous experience of *Grupo 1 de Construcciones*, it is difficult to believe that they did not have everything required to extend the runway.

The last and most likely theory that explains the absence of fighters is that the *FAA* was afraid to deploy its new fighter-interceptors to Port Stanley. There is little evidence directly supporting this theory, but several pieces of information do make this a plausible conclusion. First, the interviews and written accounts by Argentine pilots describe the *FAA*'s fear of letting the new Mirage III and Dagger aircraft operate over the water.<sup>154</sup> A second reason was the pilot's insistence on remaining close to their families. While this may seem incredible from a Western perspective, Argentine culture often places family before country. Several pilots, including Norberto, stated that "headquarters had to accept any leave request brought forth by the pilots, if they did not, then the morale of that unit would drop incredibly."<sup>155</sup>

Thus the most likely reason as to why the fighter-interceptors were not deployed to Port Stanley was the lack of commitment by the junta. The army and navy had already decided not to deploy their most experienced troops to the Falklands.<sup>156</sup> Therefore, it is not surprising that *FAA* Commander, General Dozo, followed suit and decided to keep his new fleet of advanced fighter-interceptors on the mainland. Had the rest of his junta peers shown a stronger commitment to the war, it is possible that Dozo would have pursued a more all-in strategy.

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<sup>154</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

<sup>155</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>156</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 324.

The decision not to deploy the fighter-interceptors, or any high-performance aircraft, to the Port Stanley airport was the single worst decision made by *FAA* commanders. The post-action reports analyzed in this section show that the *FAA* had the capability and expertise to expand the airfield weeks prior to the first engagement on 1 May 1982. The decision to not expand the runway forced commanders to use the fighter-interceptors at extreme ranges, thus limiting aircraft and pilot combat options. Because they were forced to operate at the limit of their range meant that pilots were flying and fighting well outside the aircrafts' best capabilities.<sup>157</sup> Marshal of the RAF Sir Michael Beetham discusses this in his closing remarks of *Royal Air Force Historical Society Journal 30*:

The Falklands are about 400 miles from the mainland, which was fortunate for us, because this was at the extreme of the Argentinean Air Force's operating range. If it had been 300 miles I don't think that we could have pulled it off.<sup>158</sup>

#### ***Comando Estratégico Aéreo – Strategic Planning***

The decision not to deploy the fighter-interceptor force to Port Stanley airport was only one of a series of strategic failures. The *CAE* demonstrated a surprising misunderstanding of how fighter-interceptor aircraft should be used in combat. This resulted in several problems, especially regarding how to employ these aircraft during the Falklands War. Had it not been for the quick thinking of operational level commanders, the decisions made by the *CAE* could have caused a much more rapid defeat of the *FAS*.

The first negative impact on *CAE* strategic planning was the political influence of the military junta. As has been mentioned throughout this study, the junta was keen limiting the information provided to the *FAA*.<sup>159</sup> As a result, the *FAA* was forced to adopt a wartime posture in

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<sup>157</sup> Peter Suire, "The Harrier Goes to War: The No 1 (Fighter) Squadron Operation Corporate Diary," 2004, accessed Oct 3, 2021 <http://www.radarmalvinas.com.ar/relatos/diario%20squire%20traba.pdf>, 121.

<sup>158</sup> Air Historical Branch, "Narrative of RAF Operations," 121.

<sup>159</sup> Fuerza Aérea Sur, "Schematic Plan of Operations from Comd FAS," 6.

just under a month. In the Rattenbach Report, the junta justifies this decision by stating a “need for the element of surprise.”<sup>160</sup> The junta had lost their strategic surprise when they ordered the assault on the South Georgia Islands on 29 March 1982, three days prior to the official invasion of the Falklands. This action lost the element of surprise and had allowed the British to prepare for further hostilities.

The decision to keep the invasion of the Falklands a secret is even more shocking when looking into the state of the *FAA* on 2 April 1982. When news of the invasion reached the *FAA*, all of IX Air Brigade was still drunk from a late-night birthday party.<sup>161</sup> The commanding officer of the brigade was surprised to learn about the invasion through the television rather than his own command.<sup>162</sup> As a result, a third of the *FAA*'s Dagger fleet had to delay their deployment to the theatre of operations because they were too intoxicated to fly. Similar situations were experienced throughout the *FAA*.<sup>163</sup> Aircrews had to be recalled from leave by commanding officers who still had no clear direction about what their role would be in this surprise invasion of the Falklands.

Following the invasion, the *CAE* was rushed to produce a plan of operations to “maintain the sovereignty of the Falkland Islands.”<sup>164</sup> This set of orders was distributed to the newly

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<sup>160</sup> Comision Evaluacion, “Comisión de Análisis y Evaluación de las Responsabilidades del Conflicto del Atlántico Sur,” 222.

<sup>161</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>162</sup> YouTube (HUELLAS DE MALVINAS - Sandro Rojas Filartiga, April 28, 2021), [https://www.youtube.com/watch?v=nTfiAcxrSm8&ab\\_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga](https://www.youtube.com/watch?v=nTfiAcxrSm8&ab_channel=HUELLASDEMALVINAS-SandroRojasFil%C3%A1rtiga)

<sup>163</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

<sup>164</sup> Comando Aéreo Estratégico, “Plan of Operations Nro 2/82 "Maintaining Sovereignty,"” 5.

established *FAS* operational command on 7 April 1982. The first line of the orders states the following:

Assure the occupation of the Islas Malvinas in the moment and circumstances most favorable from the military junta and maintain simultaneously a posture in case of SITUATION CHILE.<sup>165</sup>

This excerpt shows that *CAE* was still worried about a possible Chilean threat. However, their commitment of the entire the *FAA*'s entire fighter-interceptor force makes it clear that holding the Falkland Islands was the main effort of the junta.<sup>166</sup>

Moreover, the *FAA* did not create any contingencies in case of a Chilean invasion.<sup>167</sup> All available fighter-interceptors were deployed to three southern airfields. Therefore, a two front war was not deemed an immediate concern by Argentine planners. The Chilean threat was considered by *FAA* commanders, but it was not something they thought they would need to deploy aircraft to deter.<sup>168</sup> The entirety of Argentina's air power was sent south as outlined in the 7 April 1982 operational plan dubbed "Maintaining Sovereignty."<sup>169</sup> The commitment of aircraft by the *CAE* in its planning suggest that they were preparing for a total force defence of the Falklands. Yet their strategic decisions in the early days of the conflict make it seem like they were not willing to fully commit to that defence.

If the failed attempt at surprise did not put the *FAA* on the back foot, then the deployment to the southern airfields certainly did. The *CAE* orders of 7 April 1982 called for a rapid deployment to southern airfields. Many of these air bases were not prepared for the sudden influx of aircraft over the following 48 hours. The entirety of the *FAA* moved swiftly to take up the

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<sup>165</sup> Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty,"" 5.

<sup>166</sup> Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty,"" 5.

<sup>167</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 318.

<sup>168</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 318.

<sup>169</sup> Comando Aéreo Estratégico, "Plan of Operations Nro 2/82 "Maintaining Sovereignty,"" 3.

limited parking spots at these small bases, most of which were auxiliary bases with no full-time garrisons.<sup>170</sup> These bases had several problems. First, most of them did not have enough space to accommodate all the aircraft and their hundreds of support personnel.<sup>171</sup> Second, the runways of many of these bases did not leave enough margin for the safe operation of fully loaded fighter-interceptors.

The decision not to expand runways and air bases is a constant theme of Argentine strategic planning. The decision not to deploy fighter-interceptors to the Falklands meant that the *CAE* had ordered the *FAA* to move the Mirages to the mainland bases. Since these aircraft did not have air-to-air refueling capability, the distance from their airbase to the Falklands was a limiting factor regarding their TOS. To the surprise of many, the *CAE* ordered the bulk of the fighter-interceptor force to Comodoro Rivadavia, a base outside of the Mirage's combat radius.

The decision to deploy to Comodoro Rivadavia was most likely the result of the decision by the *CAE* not to order the expansion of the closest and most developed air base: Rio Grande, an air base with hangars and well-established military infrastructure.<sup>172</sup> It is unclear why this air base was not expanded since even a small increase in facilities would have allowed the fighter-interceptors to concentrate at Rio Grande and save around 200 nautical miles on their round trip. As a result of not expanding Rio Grande, the Mirages were dispersed elsewhere.

Overcrowding became a severe problem, particularly at San Julian and Rio Gallegos. Pilots described how their squadrons had to sleep in crowded school gyms several kilometres from the airfields due to a lack of base infrastructure.<sup>173</sup> Aircraft were forced to park close to

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<sup>170</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 129.

<sup>171</sup> Carballo, *Hawks of the Falklands*, 63.

<sup>172</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 129.

<sup>173</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

each other, limiting the speed and effectiveness of replenishment operations. And yet, Argentina had the construction and logistical capabilities to undertake an expansion of these fields.<sup>174</sup> Without alleviating these overcrowding problems, the *FAS* was forced to compromise the squadron's efficiency.<sup>175</sup> Overall, decisions not to expand the air bases presented serious problems during the air war.

The decisions made by *CAE* are attributed to the lack of experience by staff officers. The previous deployments south gave the *CAE* some knowledge on how to deploy their aircraft; however, the sheer size of the April deployment likely overwhelmed Argentine planners. The strategic problems caused by the Argentine junta and *CAE* had trickle-down effects on the operational planning of the *FAS*. The problems with the airfields assigned to the fighter-interceptors limited the ability of the *FAS* to assign the aircraft to roles that would take advantage of their intended design. As shown in this section, the air war appeared to be lost well before the first missiles were fired on 1 May 1982. These decisions had incredibly debilitating effects on the effectiveness of Argentine air power.

### ***Fuerza Aérea Sur* – Operational Planning**

*Fuerza Aérea Sur* released its operational plans for the proposed defence of the Falkland Islands on 16 April 1982, just over a week after the *CAE*'s initial orders for the deployment south. Examining these orders reinforces our understanding of the miscalculations made by Argentine commanders. These orders show how the *FAS* intended to use fighter-interceptors both for escort, intercept, and ground-attack missions. This extremely broad range of missions made it difficult in the limited time available for pilots to sharpen their skills for any one role. In

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<sup>174</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 140.

<sup>175</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 140.

sum, the *FAS* plan of operations released on 16 April further compromised any hope for the fighter-interceptor units to be successfully used in their intended air superiority roles.

These plans had been developed by BGen. Crespo and his command team at *FAS* headquarters. In keeping with the norms of Argentine planning in 1982, Crespo's orders only contained a situation statement, a mission statement, and taskings for each unit. His mission statement was the following:

Mission: Neutralize the possible acclimatization of the British task force [not let the British settle into the area], conduct air and land operations until the end of hostilities, maintain control of the Falkland Islands and the other Islands of the South Atlantic and utilize all available force.<sup>176</sup>

This mission statement leaves a lot unanswered. Was the *FAS* directly responsible for destroying the British task force or was it responsible for preventing the British landings?

Because of the decision to base all *FAS* fighters on the continent, it was nearly impossible for Argentine aircraft to directly attack the British task force's centre of gravity: the carriers from which all British Harriers operated. If Crespo's intent was to use the *FAS* to destroy the British ability to conduct their expeditionary operations, his mission statement did not reflect it. In the case of the fighter-interceptors, this mission statement was entirely useless. None of the Mirage IIIs or Daggers could reach the task force, let alone try to destroy an aircraft carrier. When looking at the specific "mission situations," which were more specific descriptions of what each squadron would be responsible for, the role of the fighter-interceptors became even blurrier.

Mission situation no. 4 stated that "M-V [Daggers] from GRA alongside A-4Bs with ordinance will attack the radar picket line of the British task force."<sup>177</sup> Given the location of the British task force in relation to the mainland air bases, the Daggers did not have the range to

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<sup>176</sup> Fuerza Aérea Sur, "Schematic Plan of Operations from Comd FAS," 6.

<sup>177</sup> Fuerza Aérea Sur, "Schematic Plan of Operations from Comd FAS," 4.



reach the British ships. Interestingly, this mission situation statement did not identify any aircraft to escort the Daggers and A-4Bs into the target area. When these orders were distributed, squadron commanders must have quickly realized the danger of sending these aircraft unescorted as, ultimately, all raids during the first day of the war saw half of the Daggers providing escort against British Harriers.<sup>178</sup>

Mission situation no. 8 is a second statement that relates to the fighter-interceptor force. It stated: “maintain the maximum number of interceptors, compatible with the situation, on alert on land.”<sup>179</sup> Further down the orders, another paragraph identified the aircraft that should be considered for this role to be all Mirage IIIs, some A-4Cs and Daggers.<sup>180</sup> The A-4Cs were ground-attack aircraft and were never used in this role, and the Daggers never maintained an alert posture at any time during the conflict; only the Mirage IIIs filled the ‘on alert on land’ mission. Given the extreme distances – some forty minutes of flying to the target – why would the *FAS* leadership believe that alert fighters would be able to adequately provide air superiority over the islands?

As discussed earlier, it is most likely that the *FAS* leadership were copying their previous experience from interceptor operations in the Beagle Conflict. Given the relative success of the Mirage IIIs in those interceptions, Argentine commanders may have believed that a similar CONOPS could be used to deal with the Harriers. This was a major mistake. Not only were the Harriers a much more capable aircraft than the Chilean fighters, but the British fighters were also stationed only minutes away from the area of operations. A Harrier could launch, attack a Dagger on its attack run, and return to the carrier well before an alert Mirage III could scramble

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<sup>178</sup> Fuerza Aérea Argentina, *History of the Fuerza Aérea Argentina*, 154.

<sup>179</sup> Fuerza Aérea Sur, “Schematic Plan of Operations from Comd FAS,” 4.

<sup>180</sup> Fuerza Aérea Sur, “Schematic Plan of Operations from Comd FAS,” 4.

to reach the Falklands. Had the Mirage IIIs been stationed at Port Stanley, there is an argument to be made that this basing decision could have proven useful.

The *FAS* operational orders only outlined the role of the fighter-interceptors within these two mission situations. The extent of the *FAS*'s direction during the war is unclear. In practice, most squadrons had to adapt their operations according to what they envisioned as the most effective way of achieving victory.<sup>181</sup> Some sources allude to squadron commanders having almost complete autonomy on what operations they conducted, while others point towards a more coordinated system that had squadrons working together within each airbase.<sup>182</sup> Either way, the fighter-interceptor units had to quickly adapt their tactics and operating procedures to have a better chance at defeating the Harriers.

In many cases, the *FAS*'s operational orders completely mis-tasked these aircraft. In the case of the Daggers, staff intended that they be used as ground-attack aircraft against the British. This decision was dubious since these aircraft were never designed to be used in this role. While they did have the capability, they were certainly never intended to be any air force's primary attack aircraft. This role should have been left entirely to the A-4 fighter-bomber squadrons which were a much more capable at this work.

A similar situation surrounded the Mirage IIIs. These aircraft were relegated to an alert status, keeping them waiting on the runway hundreds of kilometers away from the Falklands while unprotected sorties of fighter-bombers and bomb-carrying Daggers were attempting to strike at the British task force. The IIIs should have been actively employed in establishing time

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<sup>181</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

<sup>182</sup> YouTube, July 2021, [https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i\\_wXcnZPse5E29H15bul1\\_7Jp&index=2&ab\\_channel=FernandoCalles](https://www.youtube.com/watch?v=Zdg3tn-oCDo&list=PLusy4kW8i_wXcnZPse5E29H15bul1_7Jp&index=2&ab_channel=FernandoCalles).

sensitive DCA posture over the Falklands. Their intercept radars gave them a better chance of finding Harriers, thus, they would have had better success than the radar-less Daggers.

Ultimately, the Mirage III squadrons never played the role that they should have in the conflict.

Ultimately, range had become the most important factor limiting the effectiveness of the Argentine aircraft. Simply put, the continental bases were too far from the Falklands. Even flying the shortest routes, Argentine pilots had to carry three external fuel tanks. This limited their maximum speed, their weapon choices, and their maneuverability. These factors should have been assessed by the *CAE* in their planning. By ordering the *FAS* to operate from the continent, they had lost any manoeuvrability and speed advantages the Mirages might have had against the Sea Harrier.

In light of the information presented in this Chapter, it is evident that the strategic decision not to forward base fighters had the most profound impact on the *FAS*'s chances at establishing air superiority. In the hierarchy of factors, this decision was the most significant. This single strategic decision had trickle-down effects that severely impacted the *FAS* at the operational level, and Argentine fighter pilots at the tactical level.

## Chapter 5: Conclusion

The Argentine's fight for air superiority over the Falklands was riddled with questionable decisions. This study has taken advantage of new sources to explore these decisions and analyse how they contributed to the defeat of the *FAS* and the failure of the Argentine quest to take the Falklands. These sources have demonstrated the extent to which the *FAS* hindered their own chances at winning the air war. The intent of this study has been to expand the Falklands War historiography by giving a better insight into the Argentine fight for air superiority.

This topic brings to light the difficulties of using air power, especially by an emerging regional power with no combat experience. The decisions made by the *FAA* and the *FAS* show how easily it is to mismanage an air force. Understanding the issues of forward-basing, adequate training of aircrew for combat, and technical limitations of equipment are critical for securing success in an air campaign. Many of the Argentine blunders were easy to make, and thus may be used as a learning opportunity for the effective employment of air power. What has been discussed in this study will give the reader a different perspective on why the *FAA* was defeated so decisively.

### **Summary of Failures**

Several key issues have been discussed in this study. Starting at the tactical level, the issue of fuel has been presented as a determining factor for the fighter-interceptors' lacklustre combat effectiveness. Operationally, Crespo's decisions severely hindered any chances for the Argentine flyers to exploit their numerical advantages. Strategically, the *CAE*'s decision not to expand Port Stanley airport for fighter-interceptor operations was the most shocking of all. Surrounding these issues was the inexperience of Argentine aviators – the flyers, commanders

and senior staff planners, the technical limitations of their aircraft, and a lack of air combat training. Combined, all these shortcomings created a no-win situation for Argentina's fighter-interceptors.

Experience severely impacted the Argentines performance at the operational level. *FAS* commanders did not have the necessary experience to adapt their air superiority doctrine in a way that could overcome the shortcomings inherent in basing the fighter-interceptors on continental bases. Furthermore, the lack of combat experience meant that operational commanders were unable to foresee the impact that range and lack of training would have on the effectiveness of the *FAS*'s fighter-interceptors.

Also impacting the effectiveness of the *FAS*'s fighter pilots was a lack of adequate combat training. The pilots of Argentina's fighter-interceptor force were woefully unprepared for air superiority operations. In an even more basic sense, Argentine pilots did not have the combat training or experience needed to compete against British pilots. The tactics employed during air-to-air engagements showed that the Argentines only had a basic understanding of air combat. While some squadrons may have had some training from the Beagle Conflict, this was not transferable to the tactics needed for the Falklands War.

Lastly, the *FAA*'s equipment did not help the Argentine chances of establishing air superiority. The inadequacy of Argentine aircraft types and weapons was an important theme throughout the conflict. The Mirages were not intended to be flown over such long distances. They were also never intended to be flown using the tactics employed by the Argentines on 1 May 1982. These deficiencies were a result of the strategic decisions made prior to combat. Operationally, the Mirages were based too far from the Falklands to be used effectively. Combined with a lack of experience, this decisively turned the advantage to the British.

These factors are the critical for understanding why Argentina failed to establish air superiority. Experience was an issue at all levels of the *FAA*. It impacted the decisions of senior leadership and the tactics of the pilots. Also, the *FAA*'s equipment decisions of the previous decade only worsened the situation for the Argentines. Overshadowing these components was the decision to not base the fighter-interceptors at Port Stanley. This strategic decision had profound effects at the operational and tactical levels that combined with the other shortcomings, resulted in the defeat of the *FAS*.

### **Future Research**

The recent appearance of new primary source material has opened the doors for more extensive research on the Falklands War. Future research should take advantage of the vast repository of sources found at the *Dirección de Estudios Históricos de la Fuerza Aérea* (*FAA* historical unit). Hundreds of documents have been catalogued and are ready to be studied, giving Spanish-speaking scholars a perfect opportunity to expand the Falklands War historiography through more detailed studies into the *FAA* and *FAS*.

A valuable addition to the historiography would be a study of the other operations of the *FAS*. This could include ground-attack operations, maritime attack, strategic bombing, and reconnaissance. With the abundance of source material, it is now possible to investigate these areas in much more detail. Since 1982, the British side of the conflict has been studied in exhaustive detail. Now is the perfect time to study the failures of the Argentines and to understand how Latin America's most modern and capable air force so easily failed to achieve its objectives.

The second topic which could provide valuable insight into the Argentine war effort is an exhaustive study of Argentine leadership. This thesis has argued that command decisions were

some of the most influential factors leading to the defeat of the *FAS*. An in-depth analysis of the inner workings of Argentine military leadership could provide great value in further exploring the issue of management of the conflict. The interesting dynamic of a military junta can give a unique insight into how a modern dictatorship can influence war. Overall, this area would be an interesting area for future study.

The Falklands War was a short yet complex conflict. For the Argentines, the conflict demonstrated how unprepared they were for war. Further research into some of the areas discussed in this section could improve the collective understanding of the conflict. Not only would further study improve the historiography, but it could also shed light on interesting new areas of Latin American history. Access to these new materials will make it feasible for scholars to gain a much greater understanding of the *FAA* and *FAS*.

### **Concluding Thoughts**

Attempting to understand the loss is frustrating. On paper, the *FAA* was a modernized Latin American air force operating advanced western fighter-interceptors. Not only were the aircraft capable, but the western-trained Argentine pilots appeared to be a competent foe.<sup>183</sup> This sentiment changed drastically after the first engagements on 1 May 1982. Argentine aircraft were misemployed, and their pilots were unprepared for modern air combat. This was not simply because of an overestimate of Argentine capabilities. Instead, it was the *FAA* and *FAS* leadership that had reduced the *FAS*'s chances of success to near-zero through shocking strategic and operational decisions.

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<sup>183</sup> "The Falklands Campaign: the Lessons," 437 *The Falklands Campaign: the Lessons* § (1983), <https://api.parliament.uk/historic-hansard/sittings/1983/jan/17#lords>.

The air war was decided by more than just equipment. Yes, the AIM-9L was superior to the Argentine's Matras and Shafir missiles. But pre-conflict trials between Harriers and Mirages had shown that the Mirages were an extremely deadly opponent in a dogfight.<sup>184</sup> This study argues that the missile only played a small role in the supremacy of the Harriers. In fact, it was the Argentines who had given the advantage to the British well before the conflict started. Incorrectly deploying aircraft, inadequately preparing pilots, and holding back from committing fully to the war effort were key factors that led the *FAA* to defeat.

The decision to operate the fighter-interceptors from mainland bases was the single largest mistake the *FAA* made. By operating the aircraft to operate at such long range, the *FAS* added an unnecessary limitation on their attempts at air superiority: a maximum fifteen-minute time-on-station. This severely limited their flyers' tactical decisions. Ultimately, the range/fuel problem proved to be a determining factor in nearly all engagements. Had the Argentines been able to use the Mirages to their full potential, it is likely that the air war could have looked more like the pre-conflict trials.

Another important aspect of the air war was Argentine experience. This study has demonstrated an overwhelming lack of combat experience amongst Argentine fighter-interceptor pilots, commanders, and senior leadership. This contributed to an air force that was unable to develop a viable strategy. Additionally, it meant that pilots were unable to compensate for poor decision making at a tactical and operational levels. The lack of relevant experience was one of the key factors that prevented the Argentines from achieving air superiority.

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<sup>184</sup> Ward, *Sea Harrier over the Falklands*, 253.



It is the opinion of the author that these problems could not have been resolved prior to the Falklands War. There would have had to be a drastic increase of aircrew and unit level training as well as expeditionary air training to begin to raise the *FAA*'s competencies. It is doubtful that such training ever could have taken place. Even with the modern training apparatus of the *FAA*, the experience needed to foresee the strategic and operational problems of the Falklands air war would be difficult to attain

There were too many problems with the *FAA*. Issues at all levels; tactical, operational, and strategic, were too drastic to overcome. These problems go far above the simplistic assessment that the British won through technical advantage. The aim of this study has been to comprehensively explore the most influential factors which degraded the Argentine chances of victory. Arguably, the *FAS* would have still failed to establish air superiority even had the British not fielded the AIM-9L. Only a complete blunder by British forces could have turned the tide for the Argentines. The shocking decisions by the Argentines make it hard to find a way in which they could have achieved air superiority.

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