

# Briefing Memo

## The Reality of Combined Air Operations in the Gulf War

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### Introduction

The Gulf War began with the Gulf Crisis on August 2, 1990, when Iraq invaded Kuwait and declared its annexation.

Coalition forces centered around the U.S. forces initiated Operation Desert Storm in January 1991 to liberate Kuwait, beginning with air strikes. The Iraqi military's air force, not to mention its command and control organization and army, suffered serious damage from the aerial bombings, which lasted approximately one month. After this, a land war was carried out to liberate Kuwait and to destroy the Iraqi military, and this led to a ceasefire after only 100 hours.

The Gulf War is associated with attacks, especially by stealth aircraft, cruise missiles, and precision-guided munitions; at the time the predominance of air power in military operations was considered unshakeable. On the other hand, the Gulf War was the largest multinational conflict since the Second World War. It was also characterized by the large-scale participation of armed forces from both Christian and Muslim countries.

When looking at air operations in the Gulf War, there is a tendency to see the overwhelmingly successful examples from the perspective of the U.S. forces. There are also many people who try to understand the implications of the circumstances of the U.S. forces. However, there was in fact a huge disparity between the military capabilities of the U.S. and those of other countries, making it difficult to apply these implications. This paper will focus on the circumstances of the air operations of the non-U.S. coalition forces, and address the reality of their combined air force operations.

### 1 Command and control

The various armed forces that participated in the coalition forces all ultimately fell under the authority of their respective countries in the chain of command. However, forces from Western countries were placed under U.S. operational control (OPCON) (France fell under Tactical Control (TACON)), while forces from Arab countries were placed under Saudi Arabian operational control.

In other words, there was no single commander for the coalition forces, and in terms of an operational control system there were two coalition forces (Western and Arab) existing in parallel. Formally, operations in the Gulf War could be seen as combined operations between the forces of the Western countries, led by the United States, and the forces of the Arab countries, led by Saudi Arabia. Despite this, in actuality the U.S. forces took the initiative in putting military operations into practice, and U.S. Central Command (CENTCOM), which operated in the Middle

East, took control of coalition forces operations as a whole.

Although there was a desire to avoid putting Muslims under the operational control of Christians, the Arab countries lacked the ability to create appropriate operation plans, let alone independent and effective strategies. As a result, it would not have been an exaggeration to say that in reality CENTCOM controlled almost all the operations of the coalition forces. Notably, the coalition air forces were completely controlled by U.S. Air Forces Central Command (CENTAF) when it came to air operations; in the case of the Arab countries, missions were given to the Arab air forces under procedures that coordinated with Saudi Arabia, meaning that in practice they fell under CENTAF control.

## **2 The non-U.S. coalition air forces**

Operation Desert Shield, which aimed to defend Saudi Arabia, was put into action immediately following the outbreak of the Gulf Crisis, and aircraft were dispatched by the coalition forces one after another to the Gulf region. Immediately before Operation Desert Storm, which took place after this, there were over 2,600 aircraft deployed to the Gulf region by the coalition air forces, and around 76% of these were supplied by the U.S. forces. The fighter and attack aircraft that were at the heart of air operations numbered 1,323; 71% of these were from the U.S. forces, and other countries supplied the following: Saudi Arabia: 276, the UK: 57, France: 44, Kuwait: 40, Canada: 26, Bahrain: 24, Qatar: 20, UAE: 20, Italy: 8.

The U.S. forces stood out when it came to both quality and quantity of fighters and attack aircraft, especially as the U.S. Air Force (USAF) alone possessed revolutionary stealth aircraft. Meanwhile, countries other than the U.S. sent high-performance aircraft; for example, Saudi Arabia deployed F-15Cs and Tornado attack aircraft, the UK sent Tornado attack aircraft, France provided Mirage F-1s and Mirage 2000s, Canada deployed F-18Cs, and Bahrain deployed F-16s.

Notably, the F-15s from the Royal Saudi Air Force (RSAF) were thought to offer superior performance when compared to the Iraqi military's latest planes, the MiG-29 and the Mirage F-1. They also possessed five E-3A AWACS. However, when compared to the forces of Western countries, the RSAF, like the forces of other Middle Eastern countries, was less sophisticated, and faced issues such as a lack of ground attack ability despite possessing F-15s. Their maintenance capabilities were also low, and their elite force of F-15 squadrons had an extremely high rate of attrition when compared to that of U.S. squadrons.

## **3 Carrying out combined training**

Among the Western countries, the British Royal Air Force (RAF) deployed its first group of aircraft to the Gulf region as early as August 11, and combined training with the USAF began on September 22. The RAF had maintained a close relationship with the USAF and the RSAF for many years, and had frequently carried out combined training with the USAF. Furthermore, Saudi Arabia had purchased Tornados, and these were logistically convenient when the RAF deployed its Tornados.

After the outbreak of the Gulf Crisis, the Saudi Arabia air force felt compelled to defend its country, and carried out combined training exercises with the U.S. Air Force on September 12, earlier than other countries, Meanwhile,

the French Air Force (FAF), which was late in deploying, began combined training with other countries on October 25. However, the FAF faced issues of more training and interoperability when implementing combined training with the U.S. and UK forces. In fact, it did not have as much experience in combined operations with the USAF as the RAF. Many FAF pilots had previously participated in Exercise Red Flag, held in the United States and attended by multiple countries, but had only been given logistical missions such as strategic transportation support. The FAF was late beginning combined training exercises after being deployed to the Gulf, and its combined training was infrequent when compared to that of the RAF.

Initially there was frequent cooperative practice training between the USAF and a second air force in the Gulf region, and this gradually developed into training between three or more countries' forces. Moreover, training in which air forces participated in attack packages of two or more countries increased from the middle of October. For example, aircraft from the RSAF, the Royal Canadian Air Force, the RAF, and the FAF, as well as the U.S. forces, participated in attack package training on November 21. On the other hand, many day and night air defense strategy training exercises took place among combined training exercises between the RSAF and the U.S. forces. It is thought that this was related to the contemporary situation, in which Saudi Arabia was directly facing the Iraqi threat.

#### **4 Operations of the non-U.S. coalition air forces**

##### **(1) ATO operational control**

USAF Lieutenant General Horner (Charles A. Horner), CENTAF Commander and Joint Forces Air Component Commander (JFACC), entrusted the creation of implementation plans for air operations, excluding helicopters and air defense for the fleet, to Brigadier General Glosson (Buster C. Glosson) of CENTAF in a place nicknamed the "Black Hole" within the RSAF headquarters building in Riyadh.

As a result, a master attack plan (MAP) was created, and air tasking orders (ATO) were formed based on this; the ATO were circulated and many air operations were carried out thanks to the implementation of tasks based on these ATO. Within the USAF, ATO data was relayed via CAFMS (Computer Assisted Force Management System), but although it was part of the same U.S. forces the Navy did not have this Air Force system, and so floppy disks containing the ATO data were distributed directly via aircraft. It is presumed that in the case that the USAF was stationed at an air base the data was communicated directly to the non-U.S. coalition air forces, or was circulated if this was not the case.

##### **(2) Loss of non-U.S. coalition forces aircraft**

A total of 11 aircraft from the non-U.S. coalition forces were lost in combat during Operation Desert Storm. The breakdown was nine Tornados (attack aircraft) (seven from the UK, one each from Saudi Arabia and Italy), one F-5 (Saudi Arabia), and one A-4 (Kuwait). On the other hand, the U.S. military lost 27 aircraft (Air Force: 14, Navy: 6, Marine Corps: 7). However, while there were 37,567 sorties involving U.S. Air Force aircraft in combat (whereas there were 13,032 involving the U.S. Navy and 9,558 involving the Marines), there were only 4,833 sorties involving aircraft from the non-U.S. coalition forces in combat. Looking at this, the loss ratio of non-U.S. coalition forces aircraft was fairly high. The losses of the RAF's Tornados were especially striking.

### (3) Characteristics of combined operations

Looking at the major air operations by category, when it came to attack operations, 85% of offensive counter air (OCA) were led by U.S. forces, 8% by the RAF, and 2.5% by the RSAF. U.S. forces were responsible for 88% of air interdiction (AI), while the RSAF was responsible for 4.3% and the RAF for just 3.2%. Meanwhile, 67% of defensive counter air (DCA), which mainly consist of air defense, were carried out by U.S. forces, and 18% were carried out by the RSAF.

The operations characteristically aimed for Iraqi command centers or main air bases; when it came to air strike operations that were high risk due to the enemy having powerful aerial defenses, there were many cases of attacks either by large attack units or by solo stealth aircraft, and almost all of these were carried out by U.S. forces aircraft. The air strike at dawn on January 17 at the start of the war had the most impact; a few RAF aircraft participated in OCA attacks on airfields, but the OCA were almost entirely carried out by the U.S. forces. Even the airfield attacks by RAF aircraft were not a top priority among the targets of the USAF.

Part of the RSAF participated in OCA from the start of the war, but close to half of these were escorts. They were not equipped with weapons that could clinch the destruction of an airfield like the RAF when they participated in attacks targeting the ground, and so it is thought that their targets were not as high ranking as those of the RAF. The RSAF was particularly powerful among the Arab countries and often engaged in defensive air operations such as DCA, but as there were no active counterattacks from the Iraqi air force there were barely any opportunities for engagement. One example of the few engagements was the downing of an Iraqi Mirage F-1 on January 24 by a formation of four RSAF F-15s under the control of AWACS. At the time, the Iraqi side had not fully grasped the situation in airspace, whereas the Saudi Arabian side had a full understanding, and held a completely one-sided advantage. However, it is said that even in these conditions the RSAF F-15 pilots who were controlled by AWACS initially panicked.

The non-U.S. air forces did participate to a certain extent in AI in a numerical sense, but even here it was the activities of the RAF and the FAF, which made use of precision-guided munitions, that stood out. This contrasted completely with the implementation of close air support (CAS). According to U.S. statistics only their own air force participated in CAS. It is assumed that other countries' air forces did not have the ability to implement effective CAS, and that the intent was to assign this to U.S. military aircraft to avoid friendly fire.

While such air operations took the form of combined operations, U.S. forces carried out the attack operations that lay at their core more or less alone. On the other hand, when it came to logistical missions of air transportation, excluding DCA, other countries made comparatively larger contributions, with Saudi Arabia handling 8.2% of all air transportation, the UK 6.3%, and France 3.9%.

## **5 Evaluation of combined operations and the various factors that affected them**

It is very difficult to evaluate the combined air operations between the U.S. forces and other forces. This is due to the fact that there was a great disparity between the air warfare capabilities of the U.S. forces and the non-U.S. coalition air forces, and the fact that the air operations actually carried out by the coalition forces were completely one-sided battles and thus it is difficult to judge whether they were effective as combined operations.

When carrying out operations, it seems that there was no great contribution from any country but the United States in terms of contributing to military efficiency in air operations, excluding the provision of diverse infrastructure for operational bases.

(1) Differences in proficient and equipment

One essential element for the smooth execution of combined operations was the general proficiency and equipment of the air forces of the participating countries. On the other hand, advanced equipment such as stealth aircraft, cruise missiles, precision-guided munitions, AWACS, and electronic warfare aircraft were vital to the attacks on Iraqi centers during the air operations at the start of the war. Most of these belonged to the U.S. forces, and there was very little scope for any other forces to participate in the key attack phases.

In addition, although a portion of the aircraft of Arab countries were high-performance, their proficiency and on-board weaponry were utterly inefficient when compared to those of the West. The U.S. forces acknowledged the efficiency of the RAF in air operations, but even so its numbers were small, and initially it could not use precision-guided munitions—the RAF was only able to function effectively in air strikes with the U.S. forces during attacks on airfields with cluster bombs. As a result, the difference in proficiency and equipment between the U.S. and other countries was evident, and in consideration of this CENTAF planned operations and allocated missions so as not to expose these issues.

(2) Time for preparation and the usefulness of ordinary combined training

Combined training between forces from several countries, including the United States, was held from the early stages. Operation Desert Shield lasted for over 4 months; the preparation time for this long operation was useful in solving a variety of issues that were discovered based on the assumption that there would be combined operations. For example, when U.S. forces aircraft and RAF Tornado attack aircraft launched an attack inside Iraq as a package, air refueling was absolutely necessary. The RAF Tornado units, which had been expected to fight in Europe, did not need air refueling, and did not have this skill. However, thanks to the long preparation period, the RAF Tornados carried out training for air refueling, and it was possible to launch a package attack with U.S. forces aircraft. Furthermore, this preparation period was used advantageously to improve necessary equipment and procure new equipment for aircraft after they were deployed to the Gulf, as well as to carry out combined operations.

Generally, the RAF had many opportunities to carry out combined training with U.S. forces; it was able to carry out combined training on-site relatively early on, and thus was also able to implement operations involving attack packages with the U.S. forces in a comparatively smooth manner. The fact that Air Vice-Marshal Wratten (William John Wratten), Commander of the RAF in the Middle East, was able to maintain a good relationship with the JFACC Lieutenant General Horner was also a plus in coordinating operations.

(3) Issues relating to ATO distribution

As has been previously stated, the ATO created were relayed in real-time by CAFMS. This system was installed in USAF deployment bases and could also cope with changes to ATO in real time, but the U.S. Navy and non-U.S. coalition air forces were challenges. Thus, in the case of sudden changes to ATO, these orders were allocated to USAF and Marine Corps aviation units deployed from land bases, which could respond rapidly. The non-U.S. coalition forces barely participated in attack missions which might be subject to rapid changes due to changing

circumstances, and so as a result this was not exposed as a major flaw as a means of distributing ATO between participating countries from the perspective of combined operations.

The RAF was able to cooperate with the U.S. forces comparatively well, and participated with U.S. forces in attack operations; an RAF wing commander was stationed on the same floor as the abovementioned “Black Hole” as a liaison officer, and through this even more plans for smooth cooperation with the U.S. forces could be made.

#### (4) The contribution of non-U.S. Air Forces to the Gulf War

At the time of the Gulf War, retired USAF Lieutenant General Deptula (David A. Deptula; Lieutenant Colonel at the time of the Gulf War) was practically the manager of planning air force operations for the coalition forces in Saudi Arabia. In an interview, he spoke about the contribution of the RAF from a purely military perspective in relation to carrying out air operations with the coalition forces, but stated that other than this its contribution was symbolic. However, from the start the Iraqi air force had no intention of actively counterattacking the RAF attacks on airfields that were praised by the U.S. forces considering this, targets other than air fields offered more effective results.

During the Second World War, the U.S. and British air forces carried out during strategic bombing against Germany on a similar scale to combined operations. On the other hand, during the Gulf War, by and large the U.S. forces' air warfare capabilities alone saw success with the majority of air operation goals. However, in the theater of war of the Gulf region, only U.S. forces were stationed and carried out operations alone; this caused frictions in the Gulf countries where there are many Muslims. As a result, even if they did not become major military powers in practice, there was sufficient meaning in carrying out operations with the coalition air forces, including those of the Arab countries.

### **Conclusion**

As the air operations during the Gulf War were carried out in an extremely successful way, it seems that there were no issues with combined operations.

Almost all of the very important air operations carried out deep in Iraqi territory were led by U.S. forces, with only a small percentage involving the RAF. Other air forces barely participated in risky, high-priority attack operations. Furthermore, the non-U.S. coalition forces were involved in many DCA operations, and others, but there was little opportunity for battle, and there were no situations that could be evaluated tactically. Friendly fire, a concern in combined operations, did not occur once in air-to-air combat—this was the natural outcome from the operational situation. In fact, there should have been inherent problems carrying out combined operations, but in a one-sided battle they did not become an issue.

Soon, 30 years will have passed since the start of the Gulf War, but information concerning its operations is not being disclosed, and the real picture of the war has not been clarified all that much since the 1990s. Thus, it seems that a final evaluation of the combined operations will become clearer in the future through information disclosure and the development of research.

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