The Provision of Transport and Support Aircraft to British Airborne Forces during the Second World War: Too Few Aircraft or Too Many Airborne Troops?

By Dr Sebastian Ritchie

Major John Greenacre's interesting study, *The Provision of Air Transport and Support Aircraft to British Airborne Forces in the Second World War* (Air Power Review Vol. 10, No. 3, Autumn 2007), raises important questions about both the RAF's and the USAAF's relationship with the airborne. Broadly speaking, Greenacre reiterates the long-standing airborne argument that the RAF's support for the airborne forces was half-hearted and inadequate, and that this exerted a direct and detrimental impact upon the outcome of successive operations. Due to 'the RAF's unyielding attitude towards their core doctrine of bomber supremacy' they consistently obstructed the transfer of bombers to the airborne forces for both parachute and glider-tug work. British aircraft production became largely focused on fighters and strategic bombers, the Air Staff preferring to look to America for production of a purpose-built AT platform (the Douglas C-47, or 'Dakota'). The limited allocation of British aircraft was then further restricted by the protracted modifications required for airborne work, while the Americans allegedly assigned 'low priority' to the production of transport aircraft, so that C-47 deliveries to the RAF were long-delayed. Consequently, when the first large-scale airborne operations were launched in North Africa (Operation Torch) in 1942 and then Sicily (Operation Husky) in 1943, the British airborne forces were entirely dependent on the USAAF for AT. The poor quality of US aircrew is said to have been largely responsible for the unsatisfactory outcome of British airborne actions in both Torch and Husky.

According to Greenacre, there was little subsequent change in the RAF's priorities, which although 'perfectly legitimate in the first part of the war' were less so 'as the war progressed and manoeuvre became more imperative than either defence or attrition.'

A deficiency of aircraft directly reduced the size of an airborne force that could be committed to an operation. In the case of Market Garden it necessitated spreading 1 Airborne Division's deployment over three days, which contributed to the failure of the operation.[1]

Greenacre's article is well researched and carefully documented. Nevertheless there is an area where an alternative assessment could be made. In particular the article considers the entire airborne AT issue in the context of supply rather than demand. The result is an article that is arguably unbalanced and therefore a misleading depiction of events.

Logically the supply constraints which Greenacre identifies should have directly influenced both the structure and employment of the British airborne forces. A force tailored to the airlift available would have been small (perhaps two brigades) and lightly equipped; it would not have been suitable for use in a strategic capacity, but could have been tasked very effectively to seize limited and clearly defined tactical objectives a short distance behind enemy lines – objectives which could easily and quickly be reached by a simultaneous ground offensive.

Unfortunately, however, the War Office pursued an entirely different strategy.

They simply embarked on the construction of the largest possible airborne force, paying little heed to airlift considerations. At the end of October 1941 they decided to create 1st Airborne Division. In the spring of 1943 they obtained authority to form a second division – 6th Airborne Division. Other airborne formations such as the Special Air Service Brigade and the Independent Polish Parachute Brigade also appeared. Moreover the extensive use of heavy assault gliders with significant cargo-carrying capacity soon led to the procurement of all manner of air-portable equipment. The British airborne emerged as a far heavier force than the German airborne, and became heavier still as the war progressed.[2] This inevitably increased their airlift requirements still further as a growing proportion of their capacity came to be used for transporting equipment rather than combat troops, as well as expendables such as fuel, ammunition, and spare parts, and support personnel.[3]

A reluctance to co-ordinate the growth of the airborne with the expansion of the air transport fleet would have serious consequences in the US too. Between 1940 and mid-1942 the US airborne forces were steadily enlarged from a single experimental platoon to a four-regiment force, and in August 1942 the decision was taken to form two airborne divisions. Each division would be somewhat larger than a British airborne division and again far more heavily equipped than the German airborne. Against this background airborne lift requirements along with other burgeoning AT demands consistently outstripped C-47 production.[4] This did not reflect the low prioritisation which Greenacre alleges; after all, almost 11,000 C-47s were ultimately produced during the war (nearly 2,000 of which saw service with the RAF). Rather, the initial supply problems resulted in part from delays finalising a design acceptable to the US military, and in part from the time required to place C-47 manufacture on a true mass-production footing.[5]

During 1942 the generation of airborne forces in both the UK and the US created a demand for AT which could not be fulfilled either by converting bombers or by the production of purpose-built troop carriers and glider tugs. But as America at least possessed a prototype troop carrier in 1941, and as her vast industrial resources were relatively untapped at this stage of the war, it is hardly surprising that the USAAF began to form airborne AT units more rapidly than the RAF. In these circumstances (and given the British Army's reluctance to let RAF AT supply considerations shape their plans for generating a multi-division airborne arm) it was inevitable that the British airborne would come to depend on the USAAF to some extent. Such an arrangement represented an entirely rational allocation of Allied resources and was in fact approved at the very highest level – by Churchill and Roosevelt – as early as May 1942.[6]

Greenacre is thus wrong to imply that there was some objection in principle to the employment of American troop carrier wings to carry British airborne troops in Torch and Husky. Equally it is very misleading to suggest that the difficulties encountered during these operations stemmed directly from this dependence on American airlift. Indeed the worst disaster to befall a British airborne unit in North Africa (2 PARA at Depienne) had nothing to do with the airlift, but stemmed simply from the fact that 2 PARA were committed to a fundamentally flawed operation plan by an Army commander who was completely ignorant of airborne warfare.[7]

That many of the US aircrew who participated in Torch and Husky were inadequately trained is well known, but this was another direct result of the Allies' determination to generate very large airborne forces in a very short space of time. In the second half of 1942 C-47 production was only just beginning to accelerate and there had been minimal scope for aircrew training when the decision was taken to send several troop carrier wings to Europe so that American

airborne troops could participate in Torch.[8] Their limitations were well understood at the time and should therefore have been factored into Allied airborne plans, but instead they were completely ignored. This is perfectly illustrated by the first Torch mission, which involved a 1,100-mile direct and unescorted transit by night from Cornwall across neutral Spain to North Africa, and then two potential courses of action, depending on whether or not French forces around Oran (in Algiers) seemed likely to offer resistance. The senior RAF officer on Eisenhower's staff dismissed the plan as 'hair-brained', but he was overruled.[9] Predictably enough the outcome was a complete fiasco. However, in many ways the tasks assigned to the American crews in Husky were even more daunting in that they required long night transits with several turns over water to route around the Allied invasion fleet and, as events turned out, low-altitude formation flying through both Allied and German anti-aircraft barrages. 'In vain did the British Airborne Forces adviser, Group Captain TB Cooper, RAF, protest that a glider assault on a dark night with inexperienced crews was not practicable. The decision stood.'[10]

The RAF's stance on the employment of aircraft – whether bombers, fighters, or transports – was that they should be used to optimum *operational* effect. The Air Staff's early scepticism concerning the airborne forces was primarily based on the fact that they seemed certain to be non-operational for long periods of time, i.e., between the limited number of missions ultimately conducted. The permanent assignment of numerous aircraft *and* their accompanying support infrastructure to airborne AT seemed to represent an unaffordable luxury, particularly in the desperate circumstances of 1941 and 1942 when Bomber Command was still a relatively small and poorly equipped force. Greenacre briefly acknowledges this point, but his contention that the RAF's position imposed permanent and detrimental constraints on operational activity does not stand up to careful examination. To suggest combat aircraft were only suited to a war of 'defence or attrition' ignores the fact that Allied bomber and fighter formations were extensively employed in support of ground forces during the liberation of Western Europe; and nowhere in his article is there any recognition of the fact that by the summer of 1944 both the RAF and the USAAF could field very substantial airborne AT forces. On the night of 5/6 June the US 9th Troop Carrier Command's front-line strength exceeded 900 aircraft, while the RAF's 38 Group and 46 Group had a combined strength exceeding 350 aircraft.

After the Allied breakout from Normandy in August the permanent assignment of these enormous resources to the airborne became increasingly controversial. With the logistical position of the Allied land armies deteriorating daily there was a natural tendency to look on air supply for a solution. Yet the need to keep aircraft and crews at a state of near immediate readiness for successive airborne ventures (sixteen of which were considered between Neptune on 6 June and Market Garden on 17 September) had the effect of grounding a large part of the Allied AT fleet. The RAF's 46 Group, which had between 175 and 185 serviceable C-47s at this time, could only use small numbers of aircraft each day to move cargo between the UK and the French landing fields. The number of USAAF transport aircraft held back for the airborne was far greater.[11] It is hardly surprising that in these circumstances senior American ground commanders such as Bradley began to argue that all troop carrier aircraft should be withdrawn from airborne operations and training and committed entirely to logistical support.

Nothing could vindicate more completely the Air Staff's earlier efforts to limit airborne AT demands. But is Greenacre nevertheless correct to argue that when an operation (Market Garden) was finally launched it failed partly because there were insufficient aircraft to convey 1st Airborne Division to Arnhem in a single lift?

In actual fact there was nothing inherently wrong with the concept of multiple-airlift operations. They were successfully employed in earlier ventures such as Neptune and Dragoon (the Allied landings in southern France), and they were a feature of most Allied airborne plans later in the war, including many that did not come to fruition. The fundamental cause of Market Garden's failure was not the requirement for multiple lifts *per se*, but the belief that a multiple-lift operation could successfully be mounted against a deep and defended objective accessible only by a single narrow road and on the wrong side of a series of major water obstacles. The two British Army officers who shared this disastrously mistaken view were Montgomery, who had little knowledge or understanding of airborne warfare, and the British Airborne Corps commander, Lieutenant General Browning, who had no operational command experience.[12] In any case, to have mounted Market Garden with a single airlift would have required an AT force of well over 3,000 aircraft.[13] The idea that so much AT could have been held in a state of inactivity pending some future airborne operation is of course completely absurd given the Allies' logistical position in August and September 1944.

As for 1st Airborne Division, they were in Market Garden the beneficiaries of a larger airlift than any other British airborne force had so far secured during the Second World War. That they needed a second lift of equivalent size the next day was primarily due to their massive demand for assault glider capacity. In the aftermath of Operation Husky the War Office and the Air Ministry had agreed that airborne division glider requirements should in future not exceed 430 aircraft for operations mounted from the UK.[14] 1st Airborne Division required a total 660 glider sorties on the first two days of Market Garden. In all, on the first day, they were assigned 476 sorties (155 parachute and 321 glider sorties). The second lift allocated a further 422 sorties to 1st Airborne's infiltration and 33 sorties to re-supply. In summary, then, a total of 931 aircraft were assigned to 1st Airborne Division on the first two days of Market Garden. This amounted to 311 more than the 620 allocated to 6th Airborne's two lifts in Neptune.

Why did 1st Airborne require this immense glider lift? Much of it was in fact needed to carry divisional units, vehicles, weapons and equipment, rather than combat troops. Only 5,850 of the 10,241 personnel conveyed by the first and second Arnhem lifts were members of 1st Airborne's two parachute brigades, or of the glider-born Air Landing Brigade. Of the remainder the largest group was the Glider Pilot Regiment, which numbered more than 1,200 personnel.[15] But even after the glider pilots are removed from the total there would still have been 3,129 personnel additional to the three brigades. Otherwise the two lifts brought in 96 artillery pieces and 863 additional items described in the available record as 'other vehicles'.[16] A total of 86 gliders provided the equipment lift for the two parachute brigades; the Light Regiment, Royal Artillery, required 57 gliders, the two anti-tank gun batteries 48 in total, the divisional headquarters 29, the Royal Engineers 26, and the 17-pounder battery 22. The Light Composite Company, Royal Army Service Corps, absorbed 41 glider and parachute sorties, while the divisional Reconnaissance Squadron absorbed 30.[17] On average each glider sortie mounted for 1st Airborne on 17 and 18 September carried just eight personnel, two of whom would have belonged to the Glider Pilot Regiment.[18] Such statistics do not sustain the argument that division suffered from a shortage of AT.

The possibility of extensively revising airlift arrangements to accelerate the deployment of combat troops seems never to have been considered by 1st Airborne. There is no record of contingency schemes for operating on 'light scales', with reduced equipment holdings or a smaller support infrastructure. Only the experience of Market Garden would lead the Allies to conclude that a single lift should be staged

for Operation Varsity (the Rhine crossing) in March 1945. This did not involve a very substantial enlargement of the Allied air transport force, but it did necessitate a marked reduction of airborne requirements (as well as a far less ambitious airborne plan). Demand management was the key. Varsity was restricted to two rather than three divisions, and 6th Airborne Division were forced to base their deployment plans on a total glider lift of some 440 aircraft.[19]

From an army perspective the creation of multi-division airborne forces was a relatively straightforward task in the circumstances of the Second World War. It required little more than the formation of infantry divisions with some specialised training and equipment. The task of generating airlift (including large numbers of trained aircrew and a substantial support organisation) for the airborne forces was infinitely more difficult and time-consuming for both the RAF and the USAAF. It was therefore inevitable that unless the Allied armies agreed to manage their airborne ambitions carefully the demand for airborne AT would outstrip supply. Every attempt to find a supply-based solution to the problem by accelerating the generation of lift capacity merely resulted in the premature commitment of under-trained aircrew to complex and conceptually flawed operations, as it did in North Africa, Sicily, and indeed western (and to some extent eastern) Normandy. Multiple-lift plans could provide a solution in certain operational scenarios, but not in an exceptionally high-risk venture such as Market Garden. The only alternative was to curb airborne lift demands – the course of action ultimately pursued in Varsity. It is time history acknowledged that the Allies would have done better to accept the realities of this situation earlier in the war by imposing far tighter constraints on the expansion of the airborne forces.

Notes

1 Major John Greenacre, ' "There is, I'm afraid, no alternative …" The Provision of Transport and Support Aircraft to British Airborne Forces during the Second World War', *Royal Air Force Air Power Review, Vol. 10, No. 3*, Autumn 2007.
2 Lieutenant Colonel TBH Otway, *Airborne Forces* (War Office official monograph, 1951), pp.21, 37-39, 45-48, 94-95, 147, 229. According to Otway, the glider-borne air landing troops were the most heavily armed infantry in the British Army.
3 Maurice Tugwell, *Airborne to Battle: A History of Airborne Warfare* (William Kimber, London, 1971), pp.233-234.
4 John C Warren, *Airborne Missions in the Mediterranean 1942-1945* (USAF Historical Division Research Studies Institute, Air University, 1955), pp.1-3.
5 Arthur Pearcy Jnr, Dakota: *A History of the Douglas Dakota in RAF and RCAF Service* (Ian Allen, London, 1972), pp.9-10, 16, 20-28.
6 *Air Publication 3231, The Second World War, 1939-1945, Royal Air Force, Airborne Forces* (unpublished Air Ministry monograph, 1951), p.43.
7 Otway, *Airborne Forces*, pp.78-82; William Buckingham, Arnhem 1944 (Tempus, Stroud, 2004), pp.19-20.
8 Warren, *Airborne Missions in the Mediterranean*, p.3.
9 Ibid., pp.5-9.
10 Ibid., p.23.
11 AP 3231, *Airborne Forces*, pp.146-147.
12 Buckingham, *Arnhem*, pp.74-76.
13 Sebastian Cox, 'Air Power in Operation Market Garden', *Air Clues*, (April, May and June, 1985), p.152.
14 Extract from Joint War Office / Air Ministry Report on the Employment of Airborne Forces, Appendix V/18, Appendix D, Notes on the Planning and Preparation of the Allied Expeditionary Air Force for the Invasion of North West France in June 1944, appendices (held at Air Historical Branch).
15 Martin Middlebrook, Arnhem 1944: *The Airborne Battle*, 17-26 September (Penguin, London, 1995),pp.455-460.
16 John C Warren, *Airborne Operations in World War II, European Theatre* (USAF Historical Division, Research Studies Institute, Air University, 1956), p.227.
17 Middlebrook, *Arnhem*, pp.455-460; see also Major General RE Urquhart, *Arnhem* (Pan, London, 1958), p.217.
18 Warren, *Airborne Operations*, p.227. The breakdown for 17 September was 359 glider sorties and 2,908 personnel, or 8.1 personnel per glider; Warren's figure for personnel on 18 September is clearly incorrect but an accurate figure can be established by deducting the 17 September figures and the 18 September parachute lift (7,496) from the total 1st Airborne Division personnel figure of 10,241. On this basis the lift for 18 September involved 329 gliders and 2,745 personnel, or 8.3 personnel per glider.
19 Otway, *Airborne Forces*, pp.304-305, 318; Warren, *Airborne Operations*, pp.157-158. The first Market lift involved 1,544 aircraft while the Varsity lift involved 1,596. Some 74 C-46 transports were used in Varsity, which had twice the capacity of the Dakota; otherwise lift capacity was increased by 'double-towing' American Waco gliders – a technique made possible by forward basing some of the American air transport wings in France.