

The Intelligence Picture on the *Luftwaffe*, 1937

On 23 March 1937 the Air Ministry wrote the Treasury asking for more staff. The Air Ministry said that the work had expanded in recent months, and that the Air Council had decided that it was imperative for more staff to be recruited if the work of the AID was to be done properly, and arrears ended.¹ Two more intelligence officers were required, one particularly for Germany. They were needed to write RAF intelligence handbooks, and to ensure that they were kept up to date.

“For sometime past the German and Italian sections have had to supply so much special information that little progress has been made with the compilation of the essential intelligence handbooks”.

The Treasury replied that it recognised the importance of air intelligence, and that the proposals were approved. The Treasury letter then went on to say:

“I find it necessary, however, to say at this point that, the material for defence intelligence being almost limitless, it seems to us the time must come soon, if it has not already come, when the Air Staff will be compelled to take stock of the position as it affects complements. *Experience ought to show that the collection and analysis of information of certain kinds is not worth the labour which it involves and could be properly discarded as non-essential*”.²

In short, there had to be a limit to number of personnel the AID could profitably employ in certain areas of its responsibility. The Treasury, a fortnight later, repeated this belief, and accused the Air Ministry of having no comprehensive plan towards the full appreciation of intelligence because of the “piecemeal expansion” of the AID.³

¹ Abraham (Air Ministry) to Treasury, 23 March 1937, AIR 2/1688

² Reed (Treasury) to Reynolds (Air Ministry), 15 April 1937, *ibid.*, emphasis added.

³ Roe (Treasury) to Reynolds (Air Ministry), 27 April 1937, *ibid.*

The DDI replied to these accusations in a minute sent to the DCAS. He said that although the Treasury was worried about staff expansion, it did not understand the true nature of the AID's work. The expansion in staff had occurred due to the CID's request that two new departments be created - Air Targets and the Air section in the GC&CS. The DDI said that the rise in importance of air intelligence was in direct proportion to the rise in importance of airpower. The number of air intelligence reports had risen four times in the past three years. The DDI inadvertently revealed the critical method when he wrote: "*Each* report must be gone through *carefully* because it is often in the most unexpected place one finds the most valuable information".⁴ The Air Ministry answered these accusations by saying that it was performing its intelligence duties efficiently.

"The requirements of His Majesty's Government as regards intelligence have changed and increased in accordance with developments, and it is to meet these requirements that the successive additions to the DDI have been made during the past two years".⁵

Due to the secrecy of foreign airforces, no public lists existed, and therefore it was necessary to collect a large amount of information, even though much of it was discarded after the first reading.

The next, and last, X document was received in May 1937. It stated that: "The old programme of construction which was to have been completed by the end of 1938 has already been replaced by one of greatly increased magnitude".⁶ X argued that this new programme meant a 140% rise in fighter squadrons, 80% in heavy bombers, and 100% in dive bombers. This, according to X, represented a front-line strength of 5400 planes (on the 15 front-line per squadron calculation).

⁴ DDI (Medhurst) to DCAS (Minute 23A), 1 May 1937, *ibid.*, emphasis added.

⁵ Abraham to Treasury, 16 July 1937, *ibid.*

⁶ X document "Notes on Germany's Air Force Programme", 31 May 1937, AIR 40/2043

The German section of the AID, AI3(b), called X's reports trustworthy, as they had been proved correct. Later, the section was to record that: "there is no doubt that our source is - or was - in a position to know a great deal about the German Air Force".⁷ AI3(b) accepted the new report as genuine, despite still not knowing his identity, though they believed that the expansion was too symmetrical to be true. AI3(b) wanted to send X another detailed questionnaire to gain further insights.⁸ Unfortunately X did not reply, nor did he ever get in contact again.

In 1937 there was only one AID-IIC paper presented to the CID. The monthly output of the German aircraft industry *vis-à-vis* frames and engines was 450 and 890 respectively. Employment levels had reached 67,350. The rise in output from September 1936 was deemed to be considerable, although the paper qualified this by pointing out that it was mostly consisted of trainers. Expansion of plant had continued, but it had slowed somewhat since 1284-B: slow deliveries of building materials and machine tools were held responsible. Expansion of output in an emergency was believed to be difficult.⁹

This was supplemented by a paper, circulated a day earlier, which concerned itself with a forecast of the *Luftwaffe*'s expansion. It stated that by 1 April 1937 Germany possessed 1278 front-line aircraft. This was expected to rise to 1737 front-line planes within six months, although this short-term expansion could not be regarded as final. In favour of this tentative statement, three factors were cited. Firstly, many new aerodromes were being built. Secondly, expansion of the aircraft industry had continued, with many new factories being reported. Lastly, there was an excess of pilots being trained in January 1937 (if the then expansion plans were taken into

⁷ AI3(b) to DDI (Minute 17), 24 February 1938, *ibid.*

⁸ Notes on X Doc., 3 June 1937 *ibid.*

⁹ CID 1339-B "German Aircraft Industry", 7 July 1937, CAB 4/26; CID 297th meeting, 15 July 1937, CAB 2/6

account), and training schools were on the increase.¹⁰ The forecast for 1938-1939 argued that the *Luftwaffe* would probably expand, despite comments from German officers that 1939 would be a year of consolidation, not growth. The Air Ministry estimated that approximately 270 squadrons would exist if the aerodromes then under construction were occupied. Even so, many new aerodromes were reported to be undergoing preparatory work suggesting that more expansion was to follow beyond 1938. If this hypothetical 1939 expansion plan proposed the same rate of expansion as those of 1937 and 1938, Germany would possess 3240 planes (360 squadrons). The AAs in Berlin and Rome had been privy to information that said Germany wanted 3000 front-line planes, and a secret source (X) said Germany was aiming for 360 squadrons by December 1939. As a sweetener to those who would criticise the Air Ministry for not alerting Britain sooner, the report stated:

“Although Germany appears to have the means of forming an airforce consisting of 360 squadrons by the end of 1939, it is unlikely that the whole of this force at that date could be regarded as being fit to undertake a first-class war”.¹¹

In the discussion a week later, Swinton, Secretary of State for Air, said that the papers spoke for themselves.

“The sources [he said further] on which it was based were excellent, and the information it contained could be accepted as an accurate statement, both of the present position and of the future development of aerial rearmament in Germany”.¹²

¹⁰ DP(P)7 “Progress of German Air Rearmament” (by the Defence Plans sub-Committee), 6 July 1937, CAB 16/182

¹¹ Ibid.

¹² DP(P) minutes of 3rd meeting, 13 July 1937, CAB 16/181

Simon was reported as saying that the latter paper made the situation look bad, but Swinton restated that this information had been cross-checked, and therefore deemed reliable.

The Intelligence Picture on the *Luftwaffe*, 1938

In February 1938 the next AID-IIC estimate was submitted to the CID. Monthly output of frames and engines was 500 and 1010 respectively; employment had now reached 89,000. It was reported that there were many factories as of yet checked, so levels could in actual fact be 100,000. Apprentice schemes were believed to be taking the edge of the labour supply problem and helping to boost the numbers employed. It was believed that many factories were being told to concentrate solely on research and development, so as to maximise the output of the others.¹³

Three months later the AID-IIC submitted an *ad hoc* paper.¹⁴ The principal assumption, it claimed, governing the output of the German aircraft industry in 1938 was that it would continue to work the same numbers of hours per day as present. There was little difficulty in obtaining the labour needed, but if Germany tried to go for full output twenty-four hours a day, seven days a week, the shortages of labour would stop her from achieving this. One source was reported as saying that engine output was 1200 in March, as opposed to 1010 in January. Although the paper did not comment on this reported rise in engines, they did so for frames. In January 1938, output was calculated at 500 per month, and the French believed military types accounted for 350 of them. The French estimate was excessive: overall output in the first four months of 1938 had confirmed the estimates of the last AID-IIC paper.¹⁵ Output had increased, though there had been no increase in reported hours, nor had night-shift systems begun. The paper detailed three

¹³ CID 1407-B "German Aircraft Industry", 25 February 1938, CAB 4/27

¹⁴ ICF/148, 21 May 1938, C5003/1425/18, FO 371/21710

¹⁵ *Vide supra*, note 9

reasons why output would continue to increase in 1938 as it had done in 1937.

Firstly, a few certain firms were designing aircraft, thereby saving time in design and output through concentration on a few types. Many firms were known to sub-contract so as to maximise the potential capacity of the main factories. Secondly, seven new factories were to start output in 1938. Lastly, existing factories were expanding their scale of operations through additional plant.

The report concluded that if the rate of output in 1938 equalled that of 1937, then the completed production of all types would rise to about 580 per month. The report further noted that expansion was now beginning to steady after its initial large output. It stated that if Germany responded to any new RAF expansion plan, the result could well be that output of completed types could rise to 610 per month by January 1939, which was not the maximum German potential. A Cresswell memo noted that Germany's potential output of all types after three months under mobilisation conditions could well be 1350.¹⁶

The next AID-IIC paper appeared in August. Monthly output of frames had now risen from 500 to 595, and that of engines was, as the source had hinted in March, 1210 per month. Employment in the aircraft industry was believed to have risen by 50% to 132,750 from 89,000. The rise in output and employment was attributed to the continuing expansion of the old and new factories. It further confirmed the picture of May's *ad hoc* paper by stating that there was to be a reorganisation of the industry through a concentration on a few types and much sub-contracting:

“This arrangement appears to be resulting, as it was presumably intended to do, first in increasing output, and, secondly, in a reduction in the number of types manufactured”.¹⁷

¹⁶ Cresswell Memo., [n.d.], C5874/1425/18, FO 371/21710

¹⁷ CID 1472-B “German Aircraft Industry”, 15 September 1938, CAB 4/28

The CID was later told that output could rise to 1100 of all types three months after the outbreak of war.¹⁸ Cresswell minuted: “Things are even worse than the IIC had themselves thought in the last report”.¹⁹ Warren Fisher, of the Treasury, had criticised the Air Ministry over its estimates alleging that “for some years we have had soothing syrup and incompetence in equal measure”.²⁰ The Air Ministry was defended by Kingsley-Wood, a fortnight after the Munich Settlement.

“That minute would appear to be an indictment of the Air Ministry on the grounds that they have consistently underestimated the German air menace ... it is fair to remember the very great difficulty under which the Air Ministry and *the other bodies concerned* with the collection of data on German rearmament have been placed ... that [air]force had been built up in an atmosphere of *complete secrecy*. In consequence, apart from the limited (and occasionally misleading) exchanges of information which have been made through the AAs or through the Missions which have been exchanged between the two countries, *the bulk of our information, has until quite recently come from Secret Service sources ... At the beginning of the period of German rearmament, our Secret Service information was necessarily scanty*”.

All the FO, SIS, and Air Ministry information presented to the CID has been validated by developments: the Cabinet had not been kept in the dark, as the Treasury suggested.²¹ The Air Staff was still admitting that “the information which we can obtain regarding Germany's actual strength, her capacity and expansion and future intentions *leaves much to be desired*”.²²

Also in that month the Berlin AA wrote that the IIC's figures were a considerable underestimate, though it was accurate some months earlier. He claimed to know of seventy-five factories producing frames and engines. The IIC calculated that the industry employed 132,000 people; the AA said that it

¹⁸ CID 333rd meeting, 6 October 1938, CAB 2/8

¹⁹ Cresswell Minute, [n.d.], C8950/1425/18, FO 371/21710

²⁰ Fisher to Chamberlain, 2 April 1938, PREM 1/252

²¹ Kingsley-Wood to Chamberlain, 10 October 1938, *ibid.*, emphasis added.

²² CP218(38) “Relative Air Strengths and Proposals for the Improvement of this Country's position”, October 1938, AIR 8/250

was not less than 195,000. The IIC claimed frame and engine output per month was 595 and 1210 respectively; the AA said that it was 800 and 1500 respectively. “I fully realise that German policy seems to be to exaggerate the strength and importance of the Air Force and of the aircraft industry which is behind it but the figures I have given above are I believe a very conservative estimate”.²³

The IIC responded by asking whether the AA in Berlin understood how the IIC arrived at its conclusions, i.e. the consideration of the *pros* and *cons* of each source, and cross-checking it.

“The first objective of the periodical ICF/148 summaries [the alternative name for the AID-IIC papers for the CID] of the German aircraft industry is to *estimate* the output. They are not intended to be used as comprehensive directories to the whole industry. So far as possible we aim at including all factories producing complete aircraft, all factories making major components for them, and all major factories making complete aero-engines, but not small firms making minor components or accessories for the larger firms. The inclusion of the latter would not in any case affect the output of the figures”.

New factories were never included unless it was known what their output was. The head of the IIC, Desmond Morton, finished the reply, by saying that even though he did not believe the AA’s figures, it would not be possible to criticise them as he did not know the AA’s method of calculation.²⁴

The Intelligence Picture on the *Luftwaffe*, 1939

In December 1938 Roy Fedden provided an estimate of the *Luftwaffe*’s present state and output. By that month the total strength (front-line, reserves, obsolescents, but not trainers) was 8000. Fedden believed that current monthly output was 600 a month, with a forecasted rise to 800 by June 1939.²⁵ Cresswell minuted that although the figure for the

²³ AA Berlin to FO, 25 October 1938, C13420/1425/18, *ibid.*

²⁴ Morton (IIC) to Speight (FO), C14742/1425/18, *ibid.*, *emphasis added*

²⁵ Fedden’s Estimate of British and German Air Force Establishments, December

total strength of the *Luftwaffe* was correct, the monthly output for December was probably underestimated, and that for June 1939 was difficult to comment upon.²⁶

The IIC again responded. It said that Fedden's estimate alleged German output was on a single, 44 hours per week, shift, but the IIC argued, if the output figures were correct, then it had to be more than a single shift. But the IIC pointed out that if the two or more shift basis was in fact correct, the figures would still be too high because they were claimed to be for solely military types at the expense of trainers. "This is a dangerous method of calculation, since a number of trainers are merely aircraft of military types without the armament or full complement of instruments".²⁷ The IIC estimated, on the basis of the industry on working on two-thirds capacity, that output in December 1938 was 550 types, and in June 1939 would be 650. The total strength of the *Luftwaffe* (front-line and reserves) was 6300.

The AA in Paris reported that the French had information to suggest that German output was 1000 planes in August, but had then fallen to 400 in November and December. It was claimed that this fall was the result of the switch from production to immediate construction.²⁸ The AA in Berlin commented, in an ambassadorial report a fortnight later, that the French report was one of "dangerously misleading half-truths". The large fluctuation of output over such a short period of time was impossible.²⁹ British representatives who had visited German factories in November and December 1938 said that output was definitely more than 400 per month. The AA further noted that before the Anglo-French Air Staff talks of 1938 the French had the tendency to overestimate the *Luftwaffe*, now they were playing down its ability and strength.

1938, C15946/1425/18, *ibid.*

²⁶ Cresswell minute, 30 December 1938, *ibid.*

²⁷ Morton to Cresswell, 10 January 1939, C360/11/18, FO 371/22956

²⁸ AA Paris dispatch, 13 January 1939, C620/11/18, *ibid.*

²⁹ Berlin Ambassador to the FO, 24 January 1939, C1042/11/18, *ibid.*

The AID-IIC paper of March 1939 seems to have acknowledged the French report in its theory that German output declined in the last quarter of 1938.³⁰ The paper stated that the German armaments industry had received orders in May 1938 to expand output and production as much as possible, which was reported to have taken effect just before the Czech Crisis in September. Bomber Command had certainly believed that the industry was “almost on a war footing” in August 1938,³¹ and in that October, the CID had been told that the one shift day had been increased to sixteen hours.³² After the crisis had passed output was believed to have fallen due to the higher than normal rate in the depletion of Germany’s stockpiles, but it rose again after they were built up again. Monthly output of frames and engines was believed to be 850-950 and 1900 respectively, and employment was believed to be 197,050. Several factories were reported to be responsible for this rise, though the working week was now lengthened to 60 hours.³³ The old Austrian and Sudeten Czech factories were reported to be undergoing a process of refitting. It was estimated that Germany could, in an emergency and under mobilisation conditions, produce 1000 planes of all types a month, but they would not surpass 1500 yet.³⁴ Germany’s front-line strength was estimated to be 3750 planes.³⁵

The last AID-IIC paper before the war was presented in July. It estimated that monthly frame and engine output was 1000 and 2200 respectively, with employment rising to 202,700. The paper acknowledged that a margin of error was necessary as difficulty had been experienced in

³⁰ CID 1541-B “German Aircraft Industry”, 15 March 1939, CAB 4/29

³¹ Air Staff (Bomber Command), “Appreciation of the Employment of the British Air Striking Force against the German Air Striking Force and its ancillary industries in the event of a major war between Great Britain and Germany in 1939”, August 1938, AIR 9/99

³² *Vide supra*, note 13

³³ CID 353rd meeting, 20 April 1939, CAB 2/8

³⁴ CID 1541-B, *op.cit.*

³⁵ “Air Ministry Memo on the British and German Air Strengths”, 6 April 1939, C4892/11/18, FO 371/22956

gaining access to factories. There were no new factories reported to have been built. Output, as usual, was due to the expanding production of the established factories, with new ones being completely fitted out. The Austrian and Czech factories were believed not to be ready for output before 1940. Labour supplies were believed not to be enough to work a two shift system, therefore factories were believed to work six or seven days a week. Monthly output per month in an emergency would now not exceed 1500 of all types, though the number of reserves Germany had built up were believed to be enough to tide her over until the labour supply problem was solved.³⁶ It was estimated that her maximum total front-line strength was 4210 planes of all types.³⁷

³⁶ CID 1569-B “German Aircraft Industry”, 24 July 1939, CAB 4/30

³⁷ DP(P)71 “Staff Conversations with Russia”, CAB 16/183B