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RESTRICTED

REPORT OF A
CONFERENCE HELD BY
REICHSMARSCHALL GOERING
ON 22 FEBRUARY 1943

TRANSLATED BY

AIR MINISTRY, A.H.B.6

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Report of a conference held by Reichsmarschall Goering on
Monday 22nd February 1943.

MILCH : Today we have to discuss the proposed aircraft programme. In this connection we have taken the necessary steps to make ourselves familiar with all that the Reichsmarschall has said during recent weeks regarding the programme and aircraft types. At the same time we have endeavoured to meet the wishes expressed to us by the Operational Chiefs and the General Staff.

The programme as such is based on conditions as they were, and to some extent still are. Firstly, as regards personnel, which of course is a matter of grave concern, in as much as the current intake of recruits are not naturally trained up to the same degree of efficiency. Secondly from the material aspect, so far as we can see at the moment. Besides that, we have definite cause for concern especially as regards the steel position, while the anxiety which we recently experienced concerning the aluminium question, has lessened for the moment.

Of all the types of aircraft, the heavy bomber gives us the most anxiety at the moment. The Reichsmarschall is conversant with the question of the He 177 which will come up for discussion later on; and more especially the question of the alterations to the delivery periods.

GOERING : As far as the He 177 question is concerned, I intend in any case to hold a special session with Heinkel, Professor Hertel and these people.

MILCH : Perhaps today we can only briefly consider the outlines of subject, although the concern still remains. Werner is at present in Italy, but I am fully conversant with his views. Herr Reichsmarschall, it would be best if we go straight ahead with business. The fuel position must once again be specially discussed, since there may be other things to be considered with regard to it. I think that when more aircraft are available it should not be necessary to have them in operation all the year round, but only when a major operation is imminent.

GOERING : I agree with that entirely and furthermore I am of the opinion that the building of our aircraft should not depend in any way on the fuel programme. I would rather have a mass of aircraft standing around unable to fly owing to lack of petrol, than not have them at all.

MILCH : A second point is that the methods to economise in petrol have not yet been exploited to the utmost. Already a considerable amount of fuel, over 10,000 tons, has been saved, but even more can be effected with really strict control. I would propose that we go through the various types of aircraft one by one; in that way the problem peculiar to each will automatically arise.

GOERING : I request that the General Staff and the Operational Chiefs should now put any questions that they intend to bring up or any objections that they may wish to raise.

MILCH : As far as the heavy bomber is concerned, the He 177, in contrast to the plan outlined here, has been laid down at 40 aircraft per month for the year 1943. That corresponds to the present total capacity of the Arado and Heinkel-Oranienburg works together. These people do not wish to contemplate a higher output at present in view of the fact that their hands are full with re-building. We will be content if we are able to have everything in order by the autumn. I would propose that the details of this be postponed for the present and discussed at the full conference.

JESCHONNEK : I have a request to make. The position in reference to the aircraft we have for sea reconnaissance is known to be very bad. We should find out whether perhaps aircraft cannot be made available conditionally. The first step generally would be to make a certain number of aircraft available for training purposes, as well as releasing aircraft entirely for the purpose of sea reconnaissance, provided that ground organisations are fully up to

/strength;

strength; that is to say with top priority on the waiting list. Then perhaps it would be possible to obtain aircraft a little sooner to reinforce the anti-submarine warfare. To some extent results are already forthcoming.

MILCH: That must be our aim. We are also interested in bringing the units up to strength as quickly as possible. There are three questions of major importance. Firstly the fire risk with the engines. Secondly, the question of the static forces acting on the wing, which had been wrongly calculated; this has been solved by modifying the main reinforcement. The third is the tendency of the aircraft to stall when it goes into a side slip. This question is still entirely obscure. We do not know to what we can attribute this but our investigation continues.

GOERING: How is it possible, Petersen, that this point has only just arisen?

PETERSEN: Well, since the trials we have had 'epidemics' every three months or so. We have had crashes. There have been sixty to seventy crashes. Then in August the first aircraft had to be dismantled.

(Goering: The He 177 should not crash).

The first fire outbreak occurred in February. Then certain modifications were carried out, and a thousand hours were flown without an aircraft catching fire. Then in Saporotshje another 'epidemic' broke out, which was chiefly caused by the effect of the extreme cold on the soldered joints of the power unit. Three aircraft caught fire in the air.

JESCHONNEK: The reason for this has not yet been discovered.

GOERING: When was the first indication of the fire?

PETERSEN: These three aircraft in the air.

GOERING: That wasn't at all clear at the conference of A.O.C's in C. the other day.

MILCH: Schede's aircraft is supposed to have been shot down. An infantry officer maintains that he spoke to Schede. Petersen heard the same thing. Schede tried to take off in another aircraft. Probably this was shot down when taking off. On the same day two or three Junkers took off under good weather conditions and were shot down over the airfield by enemy fighters. That is probably what happened here, but we are still investigating the matter. That would clarify the position as far as the aircraft are concerned; then technical points would not be involved at all.

JESCHONNEK: The rumour that he had landed in a crater circulated immediately, but no evidence supporting this has yet been found.

MILCH: It was being said, that there was an aircraft in the crater, but Schlosser did not find it. This has only come out now because a man who survived such an experience, has been lying somewhere and only just come forward. We will inquire into the truth of his story.

GOERING: Where were the fires? in which aircraft?

PETERSEN: One of the fires broke out in the aircraft of Hauptmann Monz; he and his crew baled out on the day before Christmas Eve. A second aircraft caught fire in the air just as it became airborne. A third aircraft crashed.

MILCH: Then there have been fires with the Arado while it was being tested. The fire risk has not been sufficiently eradicated by measures taken to date for us to be able to say 'this aircraft can be put into production forthwith'. The technicians are of the opinion that the fire risk can be removed by modification.

((Goering:

(Goering : Even when the aircraft stalls).

The question of stalling is still completely unclarified.

PETERSEN : Especially at the completion of the Arado. The first experimental aircraft were flown in such a manner that nothing untoward occurred. The first case of stalling happened at Marienau.

MILCH : Heinkel has certainly built some too, but this occurrence was to an Arado.

JESCHONNEK : There should be a decision taken about conditional releases.

GOERING : I'd rather not do anything about this until the conference on the He 177. I'd like it to be arranged that everything possible is done at this special session to get this particular aircraft settled, or alternatively we could convert the He 111 or the Ju 188 with special equipment into an aircraft suitable for entirely different operations.

MILCH : Other aircraft are being put on operations from England to Gibraltar, the Ju 290 and similar aircraft. We are hoping that by the turn of the year 1943/44 it will be possible to attain the desired figure I have put before you. And that then we shall have surmounted our difficulties. Right from the beginning there has been the question of four engined aircraft. First of all there is the four engine aircraft used as a high altitude bomber: the He 177, 477. This aircraft can only be used at high altitudes, and is slow because it has too large a wing expanse.

The four engine He 177 is usually known by its test number He 277, but the date of completion is still far off. It is to all intents and purposes an entirely different aircraft. This must be discussed at the full conference.

Production of this small number of He 177's is satisfactory at present and provided that the other matters are settled an even flow should be maintained. Next we have the Ju 288 which has the same power unit. Questions that have so far arisen give no cause for concern lest this aircraft should at this point develop symptoms peculiar to the He 177. The fire risk is not prevalent to the same degree as with the He 188, as the Junkers people are considerably more thorough with the assembly. However here also as far as the power unit is concerned, we must be guided by the whole of our experiences with the He 177, so that here too it should be possible to avoid delay with the prospective delivery schedule.

GOERING : Is the Ju 288 to have the same power unit? Perhaps it depends on the power unit.

PELTZ : In view of the Ju 188 and its possible development, and from the point of view of bomber crews, the Ju 288 does not appear to be justified. Especially in respect of range and performance. The Ju 188 equipped with an engine equal in horsepower to that of the Ju 288 is capable of practically an identical performance. It is similarly armed and armoured. The Ju 288 has not an appreciably greater operational radius.

PASEWALDT : As far as speed is concerned the Ju 188 is the same at sea level as the Ju 288 with a 610 h.p. Jumo 222 engine, while at an altitude of six kilometres the Ju 288 is round about twenty kilometres per hour faster. That in itself is insignificant; what is significant however is the fact that the Ju 288 has a range of some 300 kilometres more at normal cruising speed. The rate of climb of this aircraft is definitely and substantially superior. The chief feature of the Ju 288 is its considerable and increased defensive capacity in comparison with that of the Ju 188. And this is active rather than passive. The armament is very much superior to that of the Ju 188, and the armour and stability of the aircraft will be far greater.

GOERING : If you have to install this power unit, then I fail to see any advantage at all in the Ju 288.

/PASEWALDT :

PASEWALDT : On a Ju 188 with a Jumo 222 engine the exhaust is badly situated at the lowest position on the engine. That is where one must look for the primary causes of fire.

GOERING : But the Jumo 222 is a welded (tandem) engine.

(Pasewaldt : No, it is not).

Can't the idiots move this exhaust manifold so that it is not at the lowest point. Isn't it possible in anyway to raise it?

PASEWALDT : Here the conditions are exactly the same as in a large number of air-cooled engines where they have frequently solved the problem by pulling the exhaust of the lower engine somewhat to one side.

MILCH : It was in this manner we overcame the fire risk with the BMW 801 engine. Similar action should be possible here.

GOERING : We cannot however always be stupid enough to make the same mistakes. What is the matter with them? Year in and year out they come along with the same old rubbish knowing perfectly well the danger that lies in the low-placed exhaust manifold. If they are not clever enough to make constructive modifications, then I have a pretty shrewd idea of what the engine will be like. And now for the Ju 288 question.

MILCH : May I add a last word? In the spring of 1945 larger quantities of the Jumo 222 engine will be available.

GOERING : And when is the Ju 288 going into production?

MILCH : Production begins in August of this year in small quantities, until the middle of 1944 when there should be a slight increase, then they will come off at the rate of 28 aircraft till the end of 1944. We will reach peak production of this aircraft and also the Jumo 222 engine in the middle of 1945.

I have always maintained that I am not convinced about the whole affair, but the armament and armour are the two outstanding points. The speed will be the same, the operational radius approximately the same, in the region of 500 kilometres. I would propose that we do not hold up production of the Ju 288 in any way, but rather immediately equip the Ju 188 with the Jumo 222 engine regardless of whether it at a later date is superseded by the Ju 288, or the standard Ju 188 which in future will be equipped with the Jumo 213 engine.

PELTZ : The armament and armour as far as I know is certainly heavier and more powerful, but the gross weight of the Ju 188 and the Ju 288 is approximately the same. So in my opinion it would constitute a somewhat sturdier aircraft. Whether the cost in relation to the Ju 188 is justified, I would very much like to leave open to question. Especially in view of the projected programme for the Ju 288; i.e. England, France or Russia. On the other hand it should be self-reliant without fighter protection. I believe that by that time, fighters will have so far progressed as to be able to shoot down even a Ju 288. One certainly gains something, but a greater advantage would be achieved if one did not solve the problem in this manner, but with smaller and faster aircraft and larger quantities of them.

GOERING : But if it hasn't a substantially greater operational radius....

DIESING : The Ju 288 is no long range bomber to begin with and the Ju 188 with a powerful engine has an operational radius of under 600 kilometres.

GOERING : Then I would gradually go back to the operational radius of the fighter-bomber.

/PASEWALDT :

PASEWALDT : The Ju 188 with two tons of bombs, has an operational radius of 600 kilometres.

GOERING : That wouldn't take anyone to Glasgow.

PASEWALDT : And the Ju 288 with two tons of bombs has an operational radius of 570 kilometres.

GOERING : There you are, you see, we keep constantly coming back to the operational radius question. I think for this operational radius, you do not need this aircraft at all, there are plenty of others. I haven't the slightest interest in building aircraft that have an operational radius of less than that of aircraft we have already had in operation a couple of years.

If anyone had come along and said to me 'The operational radius is 600 to 700 kilometres with five or six tons of bombs' then that would be talking. But only two tons, why we have already taken that to Glasgow by the He 111.

JESCHONNEK : Originally the idea was that we wanted to have the Bomber B between the Ju 188 and the He 177 and it was planned that it should be capable of an operational radius of 2000 kilometres. But this has simply slipped into oblivion.

GOERING : That is all nonsense. The enemy has aircraft with an operational radius of between 3000 and 4000 kilometers, and here we are slipping back by a tenth. I am not trying to be funny, but I really wonder whether it would not be a good thing for someone here to go out and procure the best of the enemy's four engine aircraft and halfwittedly copy it, then present the copy to our aircraft engineers saying 'You are too dull to find anything better, so copy this junk.'

PELTZ : If one confines oneself to night operations only, it is possible to increase considerably the operational radius of these aircraft, by dispensing with all the armament and equipment with the exception of the rear gunner's turret and the Lichtenstein (type of radar installation) apparatus. That is approximately 3.6 tons. This weight can be replaced in fuel, thus increasing enormously the range and performance of the aircraft. But this would be a one-sided tactical procedure. It must be borne in mind that this aircraft if attacked would not constitute a fully efficient fighting unit. However, it is my opinion that this aircraft can be used in Russia, on flights to England and attacks on shipping in the Atlantic, with the proviso that operations are solely confined to the hours of darkness.

It will have to be ascertained just how great the range would be. I think it will be quite considerable. So far we haven't as yet a night bomber pure and simple, because we are not in favour of this on operational grounds, and because of the switching of formations from east to west and south. Therefore we are always compelled to seek compromise. If we build and equip a bomber for night operations, then in due course we will get ahead of the enemy.

GOERING : I entirely agree with you.

MILCH : The Ju 288 with a one ton bomb load has a maximum range of 3500 kilometres, but the other aircraft with a similar load has a maximum range of 2200 kilometres.

GOERING : Gentlemen! just think of what an expense we would incur with the Ju 288. Then you ask me to agree that this aircraft should fly with a one ton bomb load, something that even a fighter can do today.

MILCH : Last summer I said I wasn't convinced about this aircraft, which can only be used provided it is heavily armed and armoured anyway.

/PELTZ :

PELTZ : When one considers the enemy, the English or rather the Americans, they too have stolidly pursued this course and have said 'Only a few bombs', and have therefore built substantially heavy aircraft with a ludicrous operational radius, an operational radius of up to 700 kilometres.

GOERING : Stop! How far do they fly then, when they get to Berlin?

MILCH : These have been Stirling and Lancaster aircraft, which of course have an exceptional range. But the American aircraft are not like this; they have a maximum operational radius of 600 to 700 kilometres.

GOERING : Don't be funny! Haven't the Americans been to Berlin?

PELTZ : No. The Americans have been members of crews in British aircraft.

GALLAND : The Americans do not fly at night.

GOERING : Why is it that the English have the four engine aircraft?

PELTZ : The English however do not fly these aircraft by day.

(Goering : Oh no! and Lauriot?)

But that is on the frontier.

MILCH : The English do not possess a really effective defence. Their armour is as good as any, but they lack defensive armament. It is the big fat birds that have the tail turret which is very good.

PELTZ : One must recognise that the enemy employs two widely divergent methods of attack. By day close formations of well-armoured heavy bombers over short distances. The other method is the use of Lancaster and Stirling aircraft equipped with special armament and capable of conveying many bombs for an operational radius of long range, such as they fly here at night.

GOERING : They can carry an enormous bomb load.

MILCH : I believe the Lancaster is the best, it can carry four to five tons of bombs to Berlin.

PELTZ : But that is purely for night operations.

MILCH : Certainly the aircraft cannot attain a speed of more than 340 kilometres per hour.

GOERING : Of course there is quite a lot in what Peltz says.

PELTZ : The Ju 288 is our 'flying fortress'. Whether it will justify its existence I do not know. We must find out whether we cannot do the same with other aircraft.

GOERING : (studying the sketches) What you have indicated here is indeed a wonderful thing. It says here : 3 1,000 kg. : 3 500 kg. : 36 50 kg. : 8 250 kg. . If I look on this as a day bomber, then naturally it is just the aircraft to put on operations.

MILCH : It must be discounted as a night bomber, it is much too uneconomical. It can be considered only as a day bomber, and then in formation.

PASEWALDT : We can comfortably include two 2,500 kilo bombs in the maximum load of the Ju 288.

GOERING : So now the Ju 188 is going to have a BMW 801 engine.

/PELTZ

PELTZ : It can have a Jumo 222 engine later on.

GOERING : We'll just stick to the Jumo 213 engine. When can it have the Jumo 213?

MILCH : Definitely in October this year.

GOERING : How will it affect its use?

PELTZ : It will be the same as at present.

PETERSEN : It will have the same performance as the Ju 188e, cost the same and have the same tail turret.

MILCH : The Ju 188 with a Jumo 213 engine has approximately the performance of the Ju 188 with a BMW engine. These two aircraft are very similar and are superior to the normal or standard Ju 188.

GOERING : What I mean is this, what would you be able to do with the Ju 188 as it is at present? With the BMW 801? With the Jumo 213 engine? With the proposed armour, armament and bombs?

PELTZ : To my mind you can attempt anything you wish by day in the east flying in formation. We can do this with any aircraft. As far as the east is concerned we do not need to have any specialised plans. Against England and Africa, I consider we shall have to fly fighter cover similar to that required by the Ju 88.

(Goering : What about at night?)

Unfortunately at night we shall have to compromise, as it will be carrying increased armour and weapons. So we must adopt one method for purely night operations and another for day operations. A few proposals have been made in this direction.

GOERING : This entire issue suffers from a complete absence of planning, which has prevailed in previous years. Also from the smug complacency which surrounded the Director General of Luftwaffe Equipment at that time, and the general reluctance to point out defects at the right time. I have indeed initiated a military inquiry into the matter. I must apportion to myself a little of the blame, inasmuch as my confidence was sadly misplaced. Anyway we must here and now formulate a definite plan for our bombers. Taken in detail we cannot get away from the fact that we have done many things which have caused us a lot of trouble, and taken as a whole it is simply dreadful if I am to be given aircraft which have an operational radius that today we can almost equal with fighters fitted with extra fuel tanks. That is really terrible. I would be very glad if the Chief of the General Staff would take action about it for a change.

JESCHONNEK : Originally the Ju 288 was intended for something quite different.

GOERING : That makes no difference. We must deal with this problem as it stands. The question is what are we going to do about it?

JESCHONNEK : We touched on the matter at the conference of A.O.C's. in C. Therefore we shall not get any further than that we must furnish certain Geschwader with specialised equipment, and so we can use one part for purely night operations and the other for day operations. I think that the way to do this is to settle immediately which Geschwader it is to be, and then have them technically specialised.

For night operations many things can be left out, and there can be reduction in armament and armour, as well as an increase in speed, and they must be equipped with special apparatus for spotting night fighters, and

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thus we will achieve specialised units.

I do not know whether out of all this we can produce units to be used as 'flying fortresses', such as the Ju 288 with an increased operational radius and greater stability for day operations. We may not be able to afford it.

PELTZ : The way I see it is that the Ju 288 formations must have a nucleus of personnel who are experts in the knowledge of day flying. So that will mean that in the West and South we should have besides the purely night equipped formations and the normal night formations, formations equipped for day operations constantly alert in case of imminent danger.

GOERING : We can't afford to do this with the limited number of personnel placed at our disposal by the Directorate of Training.

MILCH : There will be more in the future.

GOERING : Gentlemen, we must arrive at some sort of conclusion today. The whole issue in regard to the programme has always suffered from this 'to and fro' business, and also from the fact that I am always put into the picture too late. We have got to see clearly what we want. For that reason I am taking the matter into my own hands. The question now is quite straight forward; shall the Ju 288 be built or not?

JESCHONNEK : Yet another question: what happens if it isn't built? What advantage would we have in any other sphere?

MILCH : Only the Ju 188; apart from that, nothing.

JESCHONNEK : The question is whether the Ju 188 can be produced quickly and punctually. If with the Jumo 222 engine we cannot have it before 1945, then the Ju 288 would at least bridge the gap.

MILCH : In the first place of course, the Ju 188 with a Jumo 222 engine can be constructed at a considerably lower cost than the present Ju 288, taking less material as well as a reduction in production hours, and furthermore it isn't as complicated. The delay problem would be definitely easier to surmount with the Ju 188 with a Jumo 222 engine than with the Ju 288. Nevertheless I firmly believe that it is imperative we begin to be four engine minded. The Ju 288 aircraft which has now been taken in hand, has been in preparation for many years and was designed for a very definite purpose.

In my opinion what we are really lacking for night operations is a long range bomber such as the English have. That seems to me to be more important than a heavily armoured bomber for day operations. The evolution has been going on for quite a long time; we have now reached a stage where a few of these aircraft should be in production during the course of this year. I would not discontinue this process. I would only question whether production of the Ju 288 ought to make this tremendous increase to 120 aircraft or whether a smaller number should be made for a special purpose such as breaking up an invasion attempt.

In any event I consider we must convert the He 177 into a bomber even if it does take a little longer. This has got to be a very long range bomber which would be able to co-operate with long range reconnaissance aircraft and with submarines. Personally I regard this bomber as a four engine type and preferably with independent engines. First of all I'd have to provide it with Daimler - Benz 603 engines, then later on with Jumo 222's, four engined. We have already broken off development once, the Junkers and Dornier people built a four engine aircraft in 1933/34. This was afterwards abandoned and scrapped. At that time we believed the right idea to be a medium bomber, and that killed the theory of a four engine aircraft. About the same time the English and Americans had also arrived at the four engine stage, and have developed it considerably.

/GOERING

GOERING : In spite of all this we are still debating whether it is right.

MILCH : Quite so. We have now more or less reached a dead end with the twin engine aircraft even when fitted with Jumo 222 engines, particularly as regards reduction of weight. We are not progressing much, we do not know what further problems confront us in our attempts to get greater range and heavier bomb loads. I think we should not abandon the four engine aircraft, the Ju 288 and the He 177, even if they do have the 'tandem' power unit.

GOERING : Isn't the four engine version of the Ju 288 too small?

MILCH : That is only supposed to be a provisional model.

GOERING : We shall have to do something about this ourselves, divine providence won't help us there. It is obvious that four engine aircraft will have excellent prospects on night operations in the future, when the weather is such that enemy night fighters cannot operate adequately.

Given good weather conditions for our own night fighters to operate and further development of our night fighter tactics, the enemy when he attacks Berlin with four engine aircraft, will sustain losses equal to, if not greater than his daylight casualties. We must fully understand that the use of four engine aircraft in English defended areas is only possible under certain weather conditions, if we are not to have disproportionately heavy losses.

So we must have a four engine aircraft and try it out at least once over the sea. What is the use of having the finest remote controlled bombs, and all that nonsense, if we can't get out with them and attack enemy ships where there is no fighter protection. The Russian theatre also presents very definite problems.

I request that the highest degree of priority or whatever you call it, be given to the four engine aircraft. Whether we should build on the foundation of the Focke-Wulf aircraft, or whether the He 177 is the right aircraft for the job, or lastly an enlarged Ju 288, I don't know. How many engines has a Ju 290?

(Someone : Four).

Will that also be a bomber?

MILCH : Only an emergency bomber, like the Fw 200 which was originally built with a range suitable for transport purposes and can be modified for reconnaissance. But as a bomber it lacks the necessary weapons and armour; for this we would have to reconstruct it.

GOERING : For the war against enemy shipping in the Atlantic we need a four engine aircraft.

MILCH : The Ju 290 resembles the English bombers in its general construction, except that it has the rear gunner's turret as its chief armament.

JESCHONNEK : It proves our theory; everything superfluous has been omitted and it has a considerable operational radius.

PELTZ : I would add to that. At the moment we are in a comparatively favourable territorial position to carry out air warfare. If we want to attack the English we do not need a four engine bomber, we can do that with the twin engine type. And there is the chance that we might not have to bear the cost of such four-engine aircraft, nor provide protection for them.

/GOERING :

GOERING : That is why I think that we must make do with the twin engine aircraft at night as well, especially against England and in the Mediterranean theatre. This twin engine aircraft has all these advantages.

FELTZ : We have in that respect greater possibilities than the enemy.

GOERING : I am of the same opinion, but we still need four engine aircraft for other purposes. A decision must be reached. As far as the He 177 is concerned it is perfectly clear and I will repeat : steps must be taken to change over as rapidly as possible to four engine aircraft, and the people concerned must put their heads together. The business of the Fw 200 is also clear. Now there is only the Ju 288 to be dealt with.

JESCHONNEK : As it is rather indefinite when we shall receive the Ju 188 with the Jumo 222 engine, I propose that it be decided thus : let the number be built that we have already provided for and reserve the decision as to whether the production should be increased.

GOERING : When must I decide this?

MILCH : From the Spring to the middle of 1944, that is a year from now. By that time we shall know very much more about the Ju 288.

PASEWALDT : I would like to add something regarding the four engine question. If the four engine He 177 is to be put into production again on the assumption that an He 477 is already being produced as a high altitude four engine aircraft, but must be left out of our calculations here, we would have to base our work on what we already have, in order to gain our objective quickly. As in my opinion four engines are not an advantage as opposed to the 'tandem' power unit - the aircraft loses enormously in manoeuvrability - I would propose that we carry on, on the basis of the Ju 290.

GOERING : It is a crazy business anyway. I have told Udet right from the beginning, that I wanted to have this thing as a four engine aircraft. To begin with he indicated that this was so. It must have been a four engine matter then, and at some time or other this crate must have had four engines.

PASEWALDT : A plan has already been drawn up once.

GOERING : One has been laid before me; I am quite certain of that. Nobody has said anything at all to me about this hocus pocus of two engines welded together (tandem). That was a pleasant surprise. General Udet's plan indicated two engines side by side, but the two engines were entirely independent. I am still interested in the transmission to one airscrew.

PASEWALDT : We have to wait until the end of 1946 for a useful version of the four engine type, the He 277, to come off the production lines. That is simply intolerable.

GOERING : Of course it's intolerable. I'd expect these gentlemen to get a move on. I would throw it back in their faces if they come to me with such a disgraceful business. It is perfectly clear they don't want anything to do with it. I'm not speaking as a technical expert, I haven't studied that aspect and am therefore not in a position to judge whether this welded monster will be possible there or not. The Fuehrer who knows more about the technical details than I do, anyway, never has believed in it, and we will always have the Fuehrer saying : "I have already told you once to get down to it, but you haven't done so."

This aircraft still hasn't materialised. I should have had it a year ago. I must point out that it was promised to me then. But, Pasewaldt, if they came to me and said : '1946', then I would help them. It's a disgrace, they have a plan there, on paper of course, in the drawing office.

/MILCH

MILCH : It's like this; the trial period necessary for such an aircraft must be a year.

GOERING : May I ask a delicate question? Won't you give me something entirely new for 1946? I'm hoping that in 1946 I can expect an aircraft quite different from this junk here.

MILCH : If it is going to take as long as that then it has to be a new aircraft and in working order. If everything proceeds according to plan, it would take about eleven months for such a large aircraft to reach the building stage. Several months are necessary for the preliminaries. And then there is the building of the aircraft itself, that will certainly take a year. Then we will receive the first model, a month later the second, a month after that the third. Then they will have to put through trials, that will tie them up for several more months.

Then Rechlin (aircraft research establishment) has to go to work on them, and they cannot get everything ready under a year with these large aircraft. We will have to see how long it takes with the He 177. And then at a certain stage in the trials it can be said it can go into production. So by the time the aircraft comes off the production line and all the accessories are fitted, that will actually be a minimum of another year. That is the period we have been discussing. In the same period we can, of course, build an entirely new aircraft. It will be to all intents and purposes another aircraft, just as the Me 410 has no connection with the old Me 210; it has become an entirely different aircraft. What Pasewaldt says is quite right, that in any event the Ju 290 is needed in increased numbers.

GOERING : If I have the same horsepower with four engines, would the aircraft be faster or slower?

PASEWALDT : Slower, the resistance would be greater because I shall have to spread the power unit.

PELTZ : If we could manage to close up the power unit, we should be significantly superior to the enemy.

GOERING : That I cannot say. We have already argued about it with the Fuehrer. I said that there is a synchronised transmission gear that connects both shafts evenly to one airscrew. If you weld the engines together, vibrations are passed on to the airscrew, causing friction and so on.

MILCH : That is perfectly correct, that does enter into it, because the two engines are not mounted so rigidly that they cannot move with the vibrations of the aircraft. The difficulty is always greater when one couples two engines together.

(Someone : How about the differential drive?)

The differential drive is in itself an inherently ticklish problem. But as far as I know, we have had very few cases of damage to the transmission.

PETERSEN : The double power unit itself functions adequately, but what has always set us back with the aircraft has been its liability to outbreaks of fire. That has cost us two months.

GOERING : These damned suspended cylinders. What happens if you turn the engine round?

MILCH ; We have tried all that.

GOERING : And the transmission?

PETERSEN : We have had no more cases at all recently of damage to the transmission gear. At one time we had three cases one after the other, where the long shaft had broken. That has now been strengthened.

GOERING : Of course that is always a risk.

VORWALD : The connecting sleeve was broken once, but that has now been rectified completely.

PETERSEN : The question of transmission has been clarified with the Daimler-Benz 601 engine as well.

GOERING : The only point outstanding with this aircraft is the landing. I have never seen anything like it. Sometime ago in Paris we all thought: 'This is going to crash, the whole undercarriage is bound to be torn away.'

PETERSEN : So far we have had two total losses. Each time when taking off with a full load, the aircraft ran off the runway, owing to snow.

GOERING : Well then it's all clear, we are going into the question of the four engine greater operational radius aircraft, working on the basis of the Ju 290.

JESCHONNEK : Reverting to the question put by Pasewaldt; what do we intend to produce in the immediate future? One must add this that for operations against England and in the Mediterranean we can use twin engine aircraft, special units with greater range for Atlantic reconnaissance, and finally the bombers for tasks in the east.

The question is now, what measures can we adopt to get immediate results from the aircraft at our disposal.

GOERING : I will put that question again to a special conference. Please inform the Director General of Luftwaffe Equipment that the gentlemen concerned are going to conduct an examination of the matter, in which an analysis of the entire four engine aircraft position will be made. When they have completed their investigation, a report with cut and dried proposals will be made to me for my decision.

MILCH : The production of the He 177 is to continue at the rate of forty aircraft for as long as necessary and then be increased. For our part we will endeavour to do our utmost in this sphere. Then the Ju 288 is going to continue to be produced in small quantities. Of the medium bombers, immediate production of the Ju 88 will go on as quickly as possible, but it will depend on the number of engines available.

Production of the Ju 188e with the double row BMW 801 power unit; this is to be superseded later on by the Jumo 213 engine, as it is very likely the 801 will be required for the fighter-bombers.

GOERING : As far as both the engines are concerned is that the end of all this double Dutch?

MILCH : The Jumo 222 is an engine which is to be increased to 3,000 horsepower; first of all to 2,500 and then later to 3,000 horsepower. Then there is the BMW 803 engine which is of 4,000 horsepower, it is a quadruple liquid-cooled radial engine. I think that by the time these are ready, we shall have the turbo-jet power unit anyway.

GOERING : What can you get the BMW 801 engine up to?

MILCH : 2,000 horsepower.

(Goering : And the Jumo 213 engine?)

The same. The Daimler-Benz 603 engine at present is 1,800 horsepower but later will be 2,000 horsepower; the 603 and the 213 are almost parallel. The difference between them arises from the fact that the Jumo 213 has a higher rate of revolution, and is therefore

/considerably

considerably smaller than the DB 603 engine. It is capable of the same performance. Daimler - Benz produces fifty such types of engines, but one must also take into consideration the other varieties, which makes it all very confusing.

Then the Ju 188 with a Jumo 222 engine is expected to be ready for production the end of 1944. In this respect there is the question whether, if production of the Ju 288 is discontinued, production of the Ju 188 will have to be increased. We will be able to decide with more clarity in a years time.

GOERING : When is the Jumo 222 engine coming off the stocks?

MILCH : It has already been flown in its original form, but there have been experiments and improvements. The perfected engine will be put into production at the end of 1944, reaching peak production about the middle of 1945. Besides this, the Do 217 aircraft will be in production conditionally with a BMW 801 engine for a short period this year, because we must release this engine as quickly as possible for more profitable purposes. At the same time the twin Daimler - Benz 603 engine which is already in production, will be increased. This aircraft is also principally scheduled for the remote controlled bomber. For long range warfare it is out of the question, but it will be able to operate over the waters around England and also for night fighting.

PELTZ : In its present form the Do 217 is of little use; it will only be suitable when it has a larger wing surface.

PASEWALDT : This aircraft which is detailed here, and is going to be employed as a high altitude aircraft, has a larger wing surface, and a bomb bay for mounting the Fritz X (type of remote controlled bomb).

MILCH : Here it is a question of making the best of what we have. Unfortunately we can't do anything about it. We must carry on with this aircraft. Alternatively we could discontinue production of the Ju 188a at the turn of the year 1943/44, and that would leave us with one type less to produce; but we are allowing Dornier to carry on with it for capacity reasons; on account of the Do 335. That is the first up-to-date aircraft we shall produce. With an engine and airscrew mounted in front of and in the rear of the wing. A tricycle undercarriage, so that the rear airscrew can rotate freely. The two airscrews counter-rotate automatically. Between the two engines, comparatively well protected by additional armour, is accommodation for fuel supply, bombs and aircrew.

This aircraft will definitely have a speed of over 800 kilometres per hour. It can fly comfortably on one engine, and start on one engine, even when fully loaded. It also has a good cruising performance.

GOERING : I have always had the feeling that there is still room for improvement here, with two engines on each wing, one pulling the other pushing, and so on.

MILCH : We are hoping to be able to do something, but it won't be before 1945.

PELTZ : Just one more point. It concerns the Fritz X and the HS 293 (another type of remote controlled bomb). We have yet another operationally employable aircraft at the moment, that is the Dornier 217. That doesn't fulfil our requirements as regards range. There is however, another Do 217, the M 8, and as a temporary measure this aircraft fulfils the essential requirements we insist upon for dropping the bomb. I suggest this in the event of the He 177 receiving a setback.

If the He 177 comes along all right, the question isn't urgent, but if the He 177 fails to materialise, then we haven't an aircraft

/capable

capable of dropping the Fritz X and HS 293 in the near future. Then we should have to approach seriously the idea of preferring in certain circumstances the Do 217, with its greater wing expanse and its larger fuel tanks.

MILCH : We will investigate again, to see to what extent this can be done. I'll clear up the Do 217 (M 8) question with Peltz. Eventually the production rate of medium bombers is going to plunge to 240, then rise to 350, then increase to 370 then slowly decrease to under 300 by the end of 1944, so that finally it will remain at 240.

Obviously the question of the Do 335 has not yet been considered. If this aircraft is as good as we expect it to be, then the production of it will be increased even more. For this is an aircraft which present-day fighters will never be able to tackle.

GOERING : Has anyone anything to add to that?

JESCHONNEK : Yes, as regards numbers. By decreasing the production rate of the He 177, which according to our reckoning is to be decreased first of all, we will not be able to maintain medium bomber formations equipped with this aircraft at the strength of three Geschwader. This applies also to the Me 410 formations. According to our calculations it is possible until the autumn 1943 to equip two Gruppen with Me 410's; then there are still a number of Gruppen remaining which are without aircraft, in which case a number of these Gruppen should be equipped with fighter-bombers, otherwise we shall slip below strength with bomber formations.

MILCH : I don't think that we will receive more than forty He 177's this year. So until the autumn we must bear in mind that we can only allocate these in ones and twos.

JESCHONNEK : Which amounts to the fact that we require additional aircraft for ten Gruppen.

MILCH : He 111's.

JESCHONNEK : Quite. The He 111's are included. We are counting on keeping up to strength all the Gruppen which can be operated as transport or bombers as desired.

MILCH : There is only one more question regarding the Ju 188. Because of the engines we are not able to reach peak production earlier. The Jumo 213 engine has been coming off the lines in small quantities since January and reaches 450 at the end of the year. But with this engine we have to overcome teething troubles, the nature of which are as yet unknown to us.

GOERING : Can't we use it in the Me 410?

MILCH : Herr Reichsmarschall, that has already been done as much as possible. Messerschmitt is experiencing certain temporary delays. But he has indicated very early production of the Me 410.

GOERING : When will the first Ju 188 be available?

MILCH : Now, in March. Two have already been received, three more are going to be delivered this month, then it begins. There will also be the Ju 88 with the BMW 801 power unit, with double row radials.

(Goering : But only a few!)

Yes, only a few. The converted aircraft are not included here. These aircraft will be for reconnaissance and are not indicated on the schedule.

/GOERING

GOERING : Is the BMW 801 engine completed?

MILCH : Yes, we have managed to get it finished. The numbers are not such as to inspire enthusiasm.

GOERING : But surely we have a whole row of factories for them?

MILCH : The Bayrische Motorenwerke is producing it, Vienna is making the DB 603 engine. The BMW 801 is being produced at present at a monthly rate of 600 and should be up to a round thousand at the end of the year.

(Goering : And the fighters?)

Fighters are going to have the DB 603 engine.

(Peltz : The DB 605 engine.)

But all these questions were settled when drawing up the programme with Werner.

VORWALD : The first stage of the He 177 is being investigated. This could come somewhat before the final stage. When the first stage is completed, we could increase production still further. Until then however, the rate of increase has already been laid down.

MILCH : I would be very pleased if it could happen that way. But I'd put half a dozen question marks after it.

VORWALD : At the discussion on Friday we said we wanted to investigate the first stage of the He 177. On Saturday we went back again to Heinkel's in Rostock.

JESCHONNEK : We want to have them as soon as possible for either reconnaissance or instruction.

MILCH : There are also aircraft coming from the repair shops.

JESCHONNEK : As well as that, there will be the large deliveries abroad, promises made by the Fuehrer to the Rumanians, etc.

MILCH : We can only try to boost the Ju 88 or the He 111.

JESCHONNEK : We had asked to have the position investigated regarding increasing production of the He 111.

VORWALD : If we were to continue to manufacture the Jumo 211 engine in this quantity, the Jumo 213 engine wouldn't be able to go into production.

MILCH : We are not making the conversion in the same manner as we did with the DB 601 engine. But the question arises again with the 'Tankmaschine' (Focke-Wulf 154). Therefore, first of all, the Jumo 211 engine question has still to be settled as regards the quantities required in 1944.

JESCHONNEK : We will have to see what the position is as regards the quantity available.

MILCH : We can of course, take the series allocated for the Focke-Wulf 154 aircraft, but that would tend to weaken the position considerably. The engine for this aircraft is already in production. We could instal this engine in the He 111, but then we should be deprived of them for the Fw 154.

(Goering: Isn't that to be a T.E. fighter?)

Night and bad weather fighter. The He 219 has been entirely abandoned in favour of the Ju 188 and I personally consider that there is no justification for building this type at all.

/GOERING :

GOERING : What bee has Kammhuber in his bonnet now?

MILCH : This aircraft has a cockpit which for its purpose is the best of its kind, and we might consider the question whether we cannot incorporate this cockpit in another aircraft. In any case the Ju 188 is a vastly superior aircraft.

GOERING : Kammhuber must agree that he doesn't need this aircraft.

ESCHENAUER : General Kammhuber wants an aircraft that no one else can use.

GOERING : He once told me quite calmly, that as a matter of principle he was only interested in the tasks assigned to him, and only for them did he feel himself responsible. Also, that if it were left to him, only night-fighters would be built and nothing else. He is emphatically egotistical about it. He says to himself if no one else can use this aircraft, then my allocation will be secure. That is a point of view that should not carry any weight with us. If the aircraft is not superior to the Ju 188, then it will not be built.

GOERING : There seem to be too many types always appearing with a new designation. Can't we simplify that?

MILCH : One can't alter that out of hand. In most cases it is a matter of subsidiary numbers, but that too entails further work. These indicate modifications as well as the many different equipments. That alone will have accounted for thirty per cent of our capacity.

We have made a clean sweep and have scrapped certain types, just to ensure that spare parts, which nobody wants, are not manufactured for these obsolete aircraft. During the course of this year, there have been some 300 repaired bombers withdrawn for this reason.

GOERING : The Me 410 will be coming in appreciable quantities next year.

MILCH : It won't be in full production until the middle of next year.

GOERING : What is the programme for the 'Tankmaschine'?

MILCH : This aircraft is of wooden construction, and the furniture factories have just commenced work on them. It will be a night fighter and a bad weather fighter. With the exception of the engine, which in itself is of no further interest to anyone else, this aircraft is not included in our total capacity, and is quite independent of our raw material requirements, i.e. aluminium, etc. It comes as a very pleasant relief.

JESCHONNEK : This aircraft should not be produced at the expense of the He 111. I really must comment, Herr Reichsmarschall, on the position as regards quantity; it would not be right to include the Fw 154.

MILCH : If you tell me that you require a definite number extra per month, then we must somehow endeavour to fulfil your requirements with the He 111 and the Ju 188. The He 111 which is being produced in very substantial quantities, will continue at the rate of 160 aircraft until the beginning of next year, and then of course there will be only one factory engaged on it.

GOERING : Are the factories I ordered and built in full production?

MILCH : Is it possible to increase production in these factories?

MILCH : It is being continually increased by the machines we have removed from France. A protest is coming from France about that, but it will be dealt with through the usual channels, by the Foreign Office. By which time we shall have removed all the machinery.

Spanish investors are supposed to have shares in France, and I would like to make it clear that they will be indemnified. We can establish factories here in Germany with their capital or alternatively they can receive their dividends from us.

Apart from the question of engines, it is no problem to produce an extra fifty He 111's.

JESCHONNEK : Perhaps it can be laid down in detail what is to be produced.

MILCH : Perhaps Peltz can inform us by the next conference what your requirements are? Then efforts must be made to meet them. The next item on the agenda is the night fighter question, but that has already been discussed. The He 219 is coming along in small quantities; unfortunately it's a very complicated and difficult aircraft. But I would let it go on without undue concern.

We must resign ourselves to having as well as the Me 110, the Fw 154 which will only be produced for a short period with the Jumo 211 engine, and then switched over as quickly as possible to the Jumo 213. The question to be decided is not whether to build two types of Fw 154 with different wing surfaces because of the different engines, but whether the aircraft should be built at once for the Jumo 213; in which case when the aircraft is fitted with a Jumo 211 it would not be as efficient as it would be if it were built for the Jumo 211 engine only. The quicker we convert to the Jumo 213 engine the greater our advantage.

JESCHONNEK : I would like to add something about the night fighter. It has been laid down that sufficient aircraft are produced to provide us with 18 complete night fighter Gruppen. But at the moment we can only put into operation Gruppen of between 24 and 28 aircraft. Our ultimate objective is to have 24 Gruppen at full strength by 1st July 1944. There won't be sufficient quantities in 1943 to attain our target.

MILCH : The Ju 188 will definitely be one of our best night fighters for a long time to come. So we come now to the T.E. fighters. First of all the Me 110g is coming off in quantities up to a peak of 150 which will not be reached until the beginning of next year. In addition the Me 210 is being produced in very small quantities.

Owing to the withdrawal of flying personnel, and the future allocations of flying personnel, the Me 410 will be restricted operationally. I have decided today that the Me 210 has immediate priority after the Me 410. The Me 210 doesn't seem to me to be an aircraft which justifies any special expense, so we can concentrate on the Me 410.

This aircraft is due in mid-June to come off the lines at the rate of 50 aircraft. At the end of the year there will be a slight interruption, which however is not important. So that next year it will be in full production. It will bring with it a slight but noticeable relief to the situation as regards long range fast bombers.

Next comes the dive bomber. Here we have the Ju 87 with the Jumo 211 engine.

GOERING : If all goes according to programme, I shall have 860 twin engine bombers by the middle of 1945. This is including the He 111's.

KLEINRATH : This aircraft will be specially employed as a transport aircraft and is therefore not included.

GOERING : It would appear that we are turning the corner as far as aircraft are concerned. Now to the ground attack aircraft and dive bombers.

MILCH : There are 150 aircraft as asked for. That is to carry on until the end of 1945, until the improved Stuka with the Jumo 213 engine is

available. The Russian equivalent type of aircraft is about fifty per cent superior as regards armour. I wish we could copy it.

PELTZ : Can't we do that using the Ju 87 as a foundation?

GOERING : There is no sense in only protecting the pilot and leaving the engine and fuel supply unprotected. He would be just as vulnerable.

MILCH : At the moment the Ju 188 is going into action more effectively without the 7.5 anti-tank gun, Mk. 40. Perhaps Petersen can tell us about it, as we will have to obtain the Fuehrer's sanction for the gun.

PETERSEN : Yesterday two crews fired this gun, both scoring on the run up direct hits on the 4 m. by 4 m. target. At 400 metres, it is reasonably easy to score a direct hit. One of the crews, who have had some battle experience, consider that on operations it would be fairly easy to hit a tank.

MILCH : As far as the Ju 188 is concerned we have let it go into production with a 3.7 on the assumption that we obtain the necessary wolfram. The normal ammunition hasn't sufficient penetration but at the moment we aren't receiving any wolfram. It has been requisitioned for machines, machine tools, and other necessary component parts, since we have to take it into consideration that we may not be receiving any more wolfram for some time to come. Consequently the 3.7 is being discontinued for anti-tank warfare, and the 7.5 which can penetrate any tank substituted immediately. Our official authority for this will follow.

PELTZ : I must once again request that when the decision is taken, it should be clearly laid down in the engine programme that a definite number of Ju 88's are delivered with the BMW 801 engine.

MILCH : They will have to be included in the total number otherwise it will be again at the expense of the fighter aircraft.

GOERING : I think the employment of the Ju 88 for any other purpose will be discontinued. It's purely a specialised aircraft.

MILCH : I can't increase the number of these aircraft. If 24 aircraft are maintained on the Eastern Front, that will have to be sufficient.

PELTZ : I would propose at least one Staffel for each Geschwader.

GOERING : How about firing normal anti-tank ammunition from a 3.7 in an aircraft? This can penetrate the present-day Russian tank.

VORWALD : The normal ammunition won't penetrate the T.34.

GOERING : Then you must seek out the weak spots, the rear portion of the tank.

GALLAND : A pilot has to take the wind into consideration on his run up and cannot always pick out the rear portion. I have a very interesting report about the anti-tank warfare in the east. 91 armoured vehicles were shot up by the Henschel 129 aircraft.

We are now receiving further cannons, of which we are fitting two in the Henschel 129 and three 3 cm. calibre cannons in other aircraft.

MILCH : We are trying to obtain wolfram from Japan. We've no idea how long Portugal will continue to supply us.

/GOERING :

GOERING : Couldn't we increase deliveries by the use of foreign bills of exchange which I could release for the purpose?

MILCH : That would require a previous decision by the Fuehrer.

Now we come to the fighters. At the top is a very thinly drawn line, namely the air-cooled engines earmarked for the Ju 188. Then the others would drop out. There will be a small number monthly, making a total of 536 aircraft, which will not be available to Galland for the period of a year. I'm proposing that a 100 more Me 109's are produced each month to compensate Galland. That will more or less dovetail into this scheme, since a further 105 engines will be available to us, because the DB 601 tandem power unit isn't going into production any too quickly.

PELTZ : I can say 'goodbye' to that lot too.

MILCH : No, it has nothing to do with the Ju 87. We've had idling around among the Ju 188's, the so-called high altitude aircraft with BMW 801 engines, for use as a night fighter, or reconnaissance, or as a bomber. In order to increase the number of fighters it is proposed during this period to furnish 100 aircraft per month with the DB 605 engine in order to use the engine up. Galland must determine afterwards the extent to which part of these are adapted for reconnaissance.

The completion of the Fw 190 depends entirely on the supply of engines. This aircraft is scheduled first of all with double row radial BMW 801 engine, but from the end of next year it is to have a Jumo 213 engine, because we haven't sufficient double row radial BMW 801 engines in proportion to the desired number of Fw 190's.

Of the Me 109's this figure is scheduled for 1945 and goes into production in smaller quantities at the beginning of 1944. We propose to abandon the Me 309. As a result of the experimental and test flights, an extremely unfavourable opinion was formed of this aircraft, although it has a very powerful engine. It is certainly a fraction better as far as speed is concerned, but its rate of climb is vastly inferior to the present-day fighter. It is intended to allow the present Me 109 with certain modifications to go into production as the Me 209 with a DB 603 engine. Perhaps Petersen can inform us on this question and also about the comparison flights in Italy.

PETERSEN : We have conducted several comparison flights, actually first of all in Augsburg, in which it was established that as far as speed is concerned the Me 309 is twenty to thirty kilometres faster than the Me 109, but as regards rate of climb it is roughly ten to fifteen per cent slower. What is considerably superior is the armament and the armour. But taken as a whole the performance is inferior. For this reason one cannot by any stretch of the imagination visualise this aircraft as practicable. There will be a further report about comparison flights with all the Italian types, which have established that the performance of the Italian four engine bomber aircraft is fifty per cent less than that of the German four engine bomber. Against this, the Italian fighter is equal to the German fighter, especially as regards rate of climb. They are also superior in armament. The Fiat 55 aircraft has four cannon and a performance similar to that of the German aircraft, although powered by an engine that is a hundred horsepower less.

PELTZ : Were they series or experimental aircraft?

PETERSEN : There is an experimental series of ten aircraft, but these trials concerned new aircraft that had been 'titivated up'.

GOERING : I'm glad that the Italians at long last have produced a respectable fighter. And I can only say; let them build them to capacity.

MILCH : We also should do something in that sphere. It is indeed a disgrace to our own industry.

/GOERING :

GOERING : The Italians have never built inferior aircraft and have always been competent in the construction of aircraft and engines. I remember the Fiat and Alfa. They have also held the world speed record. The ability of the Italian aircraft industry has always been of the best. They are unable to mass produce however, and there we must help them. We can consider ourselves lucky, if they have produced a good fighter aircraft. It's one in the eye for our own people anyway.

PETERSEN : We must attend to this at once. The airframe of the Fiat G 55 can accommodate the DB 603 engine, while the Me 109 is unable to do so any longer. The G 55 with the DB 603 would be an ideal fighter aircraft.

GALLAND : From our experience the Italians have always forgotten something in their fighter aircraft, either the armour or guns.

GOERING : It's to be hoped however that for the purposes of these comparison flights, they've been informed about this, otherwise it's a waste of time.

PETERSEN : The fighter specialist has flown the aircraft. With the exception of the radio it carried complete equipment, and fuel for one and a half hours, whereas we carried fuel for only one hour. We can't ignore the fact that the Italian aircraft has a performance equal to that of our latest types.

MILCH : Then please obtain three Italian aircraft at once, and fly them here, in Rechlin. I would have the DB 603 installed in these aircraft that we have been discussing this morning. It would mean a considerable advance towards the Me 209. I can't imagine the Fw 190 with the BMW 801 engine as it is today being sufficient for the next two and a half years. Especially as we don't know what the English and the Americans are building.

GOERING : The Americans haven't so far produced a fighter that is anything to write home about.

GALLAND : The Typhoon has now emerged again, after a disappearance of some time.

GOERING : I'm also in favour of the proposal. However I consider it more than likely that the English will effect an improvement with their own types. I would like to ask what is our best means of improving our fighters other than the jet propulsion business?

MILCH : The Me 209 and especially its engine. The industry haven't offered us anything in the aerodynamics field, which would enhance our position.

GALLAND : In the Me 209 we would have an aircraft capable of better take-off and landing, which would reduce the number of crashes.

GOERING : If the Italian aircraft is good, then we won't deny the fact, and we'll mass produce them here. We don't want any false pride.

MILCH : Thereby we could advance a year.

GALLAND : And it would also do our designers good.

GOERING : On top of that perhaps we could include the Italian pilots as well, in our complete programme. Anyway I'm very pleased to hear this about the Italians. But haven't they anything in the way of bombers?

PETERSEN : They're very poor; I've seen them all.

GOERING : Is that the opinion of the Italians themselves?

/PETERSEN :

PETERSEN : I have conferred with General Dinelli on the subject.

GOERING : If a bomber has the same speed as a fighter then it is superior. A bomber that is twenty kilometres per hour slower than a hostile fighter leaves nothing more to be desired. A fighter with the slight advantage of twenty kilometres, can only contact the bomber if it can be waiting in a favourable position above it.

GALLAND : That's the experience we've had with the Mosquito aircraft in the Heligoland Bight.

GOERING : A fighter in this favourable position, overhead and waiting, can swat the Mosquito, but if the fighter isn't already in position then it can't make contact with only the twenty kilometre speed advantage. A bomber that is only twenty kilometres slower than a fighter can attempt the impossible. But if it is on a par with the fighter, then the speed problem is of no further interest to the fighter. The fighter then has only one chance and that if directly overhead of the bomber.

PELTZ : With this Me 410 we've an opportunity which happens only once in a lifetime. Even if we have to sacrifice something else in favour of it, we would definitely have the advantage over the English.

GOERING : Although the question in its entirety is on today's agenda, it isn't yet ready for my decision.

MILCH : At the moment we're up against it, but much can happen yet.

GOERING : I shall have to have a special report on the bombers -- the Me 109 cannot mount a DB 603 in any case. Next we come to the transport aircraft.

MILCH : As regards transport aircraft, the Ju 52 continues to be produced as the basic type, at the average rate of 75 aircraft. During this year it is receiving a higher priority in order to help production, until other transports are available. We're agreed however, that no further improvements can be effected in the Ju 52 as far as range, load, vulnerability, defence and so on are concerned.

It is to be replaced by the Ju 352. With three Bramo air-cooled rigid engines of a thousand horsepower each this aircraft has double the range and at the same time double the load capacity. As regards fuel consumption it is far more economical and is also faster. It has a tricycle retractable undercarriage, since continuity of flight cannot be further guaranteed on failure of an engine. But this will not make it less stable. However, it is to be built of plywood with tubular steel fuselage; owing to the aluminium position we cannot build it otherwise. This aircraft in no way fulfils the requirements that the Fuehrer laid down for transport aircraft, that it should be able to take off and land as well as the Storch, carry a load of three to four tons, and fly as slowly as one wishes. But we're working on that to see whether we cannot find a reasonable design.

The Arado 432 is coming off the production lines in small numbers. This is a cross-country transport, which still retains the small caterpillar track so that it can take off from and land on comparatively small airfields. When the aircraft is empty it can take off very quickly. Of course, this aircraft will always try to take off from a reasonable airfield. It needs a three to four hundred metre take-off run when fully loaded. It is however no cheap aircraft, but a comparatively expensive one, with four Bramo 323 engines. The numbers also wouldn't satisfy the Fuehrer. We're endeavouring to carry out, by one means or another the Fuehrer's wishes, as far as possible. I will make him a report about it, since a solution hasn't yet been found. In 1943 we have put the old Gotha 243 into operation as well. But gliders have no place in this discussion.

/Next

Next comes the Savoia-Marchetti 82 aircraft. It's still doubtful whether we shall receive these from Italy. I have conferred with General Fougier and told him that we will supply the materials for this aircraft, but that they shouldn't delay until the last ounce has been delivered. This is a matter for War Office cooperation rather than the Ministry of Economics. I don't know whether Fougier is strong enough to assert himself successfully against the contractors.

In the meantime the Me 323 with six Gnome-Rhone or Jumo 211 engines is being produced. With the new controls installed this aircraft has come through the trials successfully, and we ought to consider what can be done in this direction. To be sure, it uses up a lot of steel and requires large scaffolding. I can show you, Herr Reichsmarschall, how the programme appears from the steel supply angle.

We want 1.3 million tons quarterly, but we're only receiving 790,000 tons. That is a difficult gap to bridge. The electro-steel question is presenting especially grave difficulties. At the moment all the electro-steel has been requisitioned for tanks, although that is quite unnecessary; for the research people have conceded that Siemens-Martin steel works could adequately provide all that was required for this purpose.

Regarding this I've told Speer, 'No more squabbling between us.' We have jointly issued a letter on this matter, which has been sent to both the Inspectorate of Equipment and the aircraft industry. That had to be done at once, otherwise the gulf between us would have widened. Accordingly I'm able to inform the factories at once, verbally, that anyone who now removes any of the Luftwaffe equipment has to reckon not only with me but also with Speer.

By the withdrawal of labour for military service, which indeed of necessity must come, over fifty per cent of the German workers will be lost to our armament industry. There will remain only the elderly people and others who can no longer be called up.

GOERING : There must be jobs in the finishing processes, for example in the radar programme, which could be undertaken by women in their homes.

MILCH : We can do that just as well in the factories. That's no problem.

GOERING : When for example a woman has continually to apply luminous paint to dials. That could be done just as well as additional home work by women who have children to look after. It can be fixed up by the personnel departments.

MILCH : There aren't so terribly many jobs of this kind.

GOERING : Don't say that. There are odds and ends in several programmes that women at home could do, if only it was suggested to them.

MILCH : With our perfected finishing methods today, what would occupy a thousand women at home, can be done by two workers on a machine.

GOERING : What I mean is this, there's still an enormous labour potentiality in home work. A woman with three children can always find a few hours in which to complete something or other of war importance. That quite naturally will have to be organised. The party leader of a block of flats or street of houses must give out the work and be responsible for its collection. That goes for textile work as well.

MILCH : We do it with skilled workers, who understand their work. May I add a few words about our industrial finishing processes. Today we are somewhere between the Russians and the French. The Russians do everything mechanically, using American machines, and can put the stupidest individual on the most important jobs.

/GOERING :

GOERING : Ah! but they require nine months to switch production.

MILCH : The French make everything by hand, in the same way as we used to do until 1933. Today we are between the two, and we're getting well into the production programme. Whereas before it required a thousand workers to produce a thousand parts, today by adaptation two hundred workers produce ten thousand components of the same thing. We continue to progress in our production methods, and would advance even further if we had the large machine tools. All possible measures have been taken to that end. It will be tackled by Todt in due course, but has now been taken up by Speer, so that as a result we're bound to have these machines in the long run. Werner is the chief agitator.

GOERING : I've been shouting the loudest about it. Take a look at the minutes of the machinery conferences. I've somewhat funk'd the issue, since I realised that Henry Ford required three quarters of a year to switch production, and he spared no effort. It took him nine months to effect the conversion for one type, because one part of this machine had been altered. Other bits and pieces had to be introduced. Then he certainly produced in colossal quantities.

MILCH : He had however a large stock of old vehicles, and incurred no overheads; he furnished two years' requirements in one year.

GOERING : He made a good job of it; his is a business undertaking. One has to be perfectly certain that the particular aircraft is required in colossal numbers and all of the same type. That would apply without a shadow of a doubt to certain of the aircraft engines. We know that we need the DB 603 engine for several years to come... Let's put this engine into mass production.

MILCH : Later, we're having another six types of engines, which are going into production in really large quantities, eventually totalling ten to twelve thousand. The method of mass production would be ideal for these engines; in fact that is the only possible means of producing such a number. We won't have our skilled workers returned to us, neither will we receive any other workers.

GOERING : I shall have to speak to the Fuehrer about that in spite of the arrangement with Milch. The Fuehrer will have to be convinced that this will work out in every possible respect. Speer can also do nothing about it if the Fuehrer presses him for tanks. Therefore the Fuehrer will have to make up his mind whether he'll accord the same priority to aircraft that he has to tanks.

The submarine industry have had all their workers returned. That means however that this number of workers, which must certainly be available for call-up to military service, will have to be found by the other industries. If the Fuehrer grants us the priority, then the aircraft industry will be protected and nothing at all will be taken from us.

JESCHONNEK : The close support formations, fighters and transports also belong to the tank programme; since the tank programme takes for granted that the tanks will have the benefit of the presence of these aircraft.

(Someone : The long range bomber certainly belongs to the submarines).

MILCH : We're doing quite well. However the question of electro-steel is also important, as this is absolutely indispensable for certain parts of the aircraft engine, for example the crank shaft. It's not necessary to use it for the armour plate of tanks; for that purpose Siemens - Martin steel is a hundred per cent sufficient. They're converting far too slowly to using Siemens - Martin steel in tanks.

/The

The rate of completion of transport aircraft is clear: altogether some 340 aircraft will come off every month.

GOERING : Wasn't a reduction made there?

MILCH : Certainly, but that is included. We experienced trouble too in France, where they've taken away people from our industries there.

(Goering : As it should be.)

No Herr Reichsmarschall, may I report on the facts of the case?

(Goering : I've been in these factories myself.)

The workers were taken away from us in France, but they were not put at our disposal in Germany. The first weeding out of some thirty per cent took place some time ago. The French can no more make ends meet without a number of skilled workers than we can.

(Goering : They had a hundred per cent skilled workers.)

Not at all!, we can quote exact figures of how many each factory had. We'd arranged with Sauckel that a certain number of firms would be fully protected until February. Sauckel didn't adhere to that arrangement. What we were told was that anywhere one man was removed, we would receive two as substitutes. But no substitutes were forthcoming. Furthermore there were also unemployed skilled workers in France. Sauckel has also admitted that to me. He agrees entirely that we've been badly cheated.

GOERING : I'm meeting him tomorrow. I myself was in one factory and saw that it was staffed with a hundred per cent skilled workers, to an extent that no German factory is.

MILCH : Sauckel provides the Fuehrer with reports containing the overall total figures only. We're keeping an eye on him at the moment. We haven't got and aren't getting what we must have and which we can't do without. Things aren't going too well at present. Sauckel has arranged with Speer and myself that Heyde goes to Paris on his behalf and arranges on the spot what can be removed. We need twenty thousand workers over there, if we want to adhere to the programme, and we must have them in addition to those we already have. Sauckel has stated his agreement and has promised them to us. If that promise is honoured, then everything will be in order.

GOERING : What's the sense in leaving the workers there?

MILCH : In France there isn't a great deal of good will about, one can hardly expect it of the fellows. We can of course compel them to work by giving them nothing to eat.

GOERING : I can do that to them much better here.

MILCH : But we haven't any of them here. Then we would have to close down the works in France.

GOERING : This has been the mistake; Sauckel should have said "Milch, in these factories there are too many skilled workers; move so many to your factories in Germany, and I'll replace them from the French general labour pool". Otherwise there's no sense in his withdrawing them.

MILCH : For six months now we have directed and controlled, through the Government, the entire French industry. The Junkers firm were already removing their concerns, but now they have assembled a detachment of two hundred men and wish to send them to France, in order to keep production going there. The actual number of aircraft is of no consequence, but production of the Ju 52 is on the increase in France.

/And

And both the Storch and the trainer aircraft are to be built entirely in France.

GOERING : I'll inform Sauckel not to touch our industry at all. But we'll have to do it ourselves.

MILCH : I've explained to Sauckel, that we intend to do everything on the spot, that we wish to retrench, but will smash up nothing that is making headway as regards production. He has conceded that his people didn't deal with the matter correctly.

We have on our programme 1886 aircraft as our delivery target. We were to deliver 1790 aircraft; we wish to deliver a further 130 and I'm still hoping to do so. Of these the German side is committed to deliver 1769 aircraft. By 20th February, we had already delivered 1290 of these. In no previous month have we been in such a favourable position, and on top of that this month has three days less than a normal month.

As far as the fighters are concerned 521 aircraft out of the scheduled total of 677 have already been delivered. So the numbers are ahead of the plan and we're hoping to be able to deliver still more yet. But we require delivery of single parts from the French.

Sauckel now understands that he was wrong and has promised to rectify that. We hope that he will honour that promise, and steps must be taken to see to it that Sauckel does rectify matters by the end of the month. Speer and I are of the opinion that we must incorporate him somehow or other in the Central Planning Office.

We were all unfortunate. We received our first workers in November, before that none at all. Owing to the fact that Sauckel lists the fluctuating numbers of workers, he naturally produces fantastic figures. We're trying with the aid of Himmler and Dr. Ley to reduce this fluctuation. I've proposed that a man who leaves his employment more than three times in the course of a year, is put into a detention camp, and will only be released if he agrees to remain in one job.

Among the civil contractors there are twenty thousand of these swine continually on the move. We've thirty thousand. In the Army programme there are one hundred thousand of these people who do nothing but run away. They push off to the next job, taking wherever possible useful articles in the way of edibles and clothing and then off they go again. These fellows would be delighted if they could go on the dole. The best workers we possess are the concentration camp internees. They're our elite.

Now the troop aircraft. Some of the He 111's are being produced as bombers.

JESCHONNEK : That must go on so that they can always be used as a bomber. Opportunities will always occur for the He 111 to throw a few bombs about.

MILCH : The courier aircraft are less interesting. The Bf 108 is coming later as a trainer, then a few Si 204's. The entire expansion of the Luftwaffe is dependent on the trainer aircraft. There is nothing to be said about the seaplanes. The omission of the carrier has considerably lightened the aircraft. These one or two aircraft have made more work than the whole series.

GOERING : But we had to have more Bv 222's.

MILCH : There's only a very small number of these aircraft available. Eight will be produced during the year. It will be built by Blohm - Voss. A miserable effort. They're also needed for submarine reconnaissance.

/VORWALD :

VORWALD : We can increase production as far as building capacity is concerned, but not the material.

MILCH : We must do something for the submarines. I would build this aircraft to the limit of our capacity. The Bv 138, the flying boat, is also wanted for submarines, and at the moment it is being built for sea reconnaissance and coming out at the rate of eight a month. Production of this aircraft however is to cease next year. Owing to the extremely short supply of engines it will not be possible to carry on with it. The question is whether we can't take this aircraft as first choice for submarine reconnaissance.

JESCHONNEK : So long as they aren't required in Norway, they can be used for that.

MILCH : We're unable to build the Diesel engine any longer.

PASEWALDT : The Bv 222 seems to be somewhat overrated. Luftlotte 3 have made a report which states that from a maximum range point of view this aircraft can't be of any use. Moreover, with the condition of equipment as at present delivered, it isn't altogether a useful proposition for trans-Atlantic or Atlantic reconnaissance. On top of that, it possesses little in the way of speed, a singularly lame and tired duck.

JESCHONNEK : It's certainly not a lucky bird. When such a thing is shot down -- and the probability of that is very high --

PELTZ : We've had the experience in the Mediterranean with the Condor aircraft, that when flying in threes, the defence was such that six Beaufighters were shot down without loss to ourselves. So if one permits the Bv 222 to fly in threes or fours, then by virtue of its own defence it can protect itself against attack.

GOERING : You can also fly it at two metres; then nobody could attack it from below.

MILCH : This aircraft has the great advantage of being able to land on the water and wait for a while, off Greenland for example, then fly off 2 days later because of adverse weather conditions, or because a convoy fails to appear. Therein lies its greatest asset. The C. in C. Submarines endorses that.

There shouldn't be any further deficiency as regards the short 'hop' from England to Gibraltar; that can be covered comfortably by the Ju 88.

JESCHONNEK : Not for reconnaissance, but submarine protection demands considerable forces.

MILCH : The C. in C. Submarines states his main concern is reconnaissance. He would like the other, but it is not a sine qua non. For the former, however, we must have these aircraft with the greater range, because the convoys assemble a thousand kilometres north-west of Ireland and proceed from there. He would like to get out there. For this he requires some 36 aircraft operating daily. Therefore we must have 150 aircraft to achieve this.

PASEWALDT : The Bv 238 can be employed on this; it's a six-engine cruising airliner. The prototype is now ready, but the aircraft can't be built in the quantities which will be required. Moreover, it has to have a complicated and colossal ground organisation, which will have to be laid down anew for these boats.

I'd therefore like to propose that for the heavyweight class we confine ourselves to the Ju 290 and similar types. There's a prototype 264 aircraft being built by Messerschmitt which has excellent

prospects and all the indications of a good performance. The cost is considerably less than that usually necessary for sea aircraft. The Bv 238 would give us the extreme in performance. The Ju 290 hasn't yet appeared on the horizon, and therefore cannot be employed for this purpose. Furthermore, the Bv 222 has been evolved from a commercial aircraft and therefore possesses all the shortcomings of such an aircraft. The gun positions were introduced afterwards, in the same makeshift fashion as with the Fw 200.

Further to the Me 264 it can be said that one can be more or less certain that the first models can be put on operations from the middle of 1944. A noteworthy feature and a definite certainty is its flying range of ten thousand or more kilometres.

MILCH : I wouldn't do that without protected tanks.

PASEWALDT : With a cruising speed of 350 to 400 kilometres such a project could be readily undertaken.

JESCHONNEK : For a long term policy, we're no nearer a flying boat with the maximum possible range. Since we're compelled to discontinue the Bv 138 due to lack of engines, it must be decided whether one in the course of construction or an available boat such as the Do 24 is to be retained. We must retain one of these in spite of all the long range aircraft. Conditions in Norway alone, where sea planes and not land planes are flown, compel us to retain a permanent type of flying boat in all circumstances.

PASEWALDT : At the beginning of 1945 we shall have the 318. This is the aircraft which will eventually supersede the existing types. It's an aircraft that could take over normal routine sea reconnaissance in the Norway theatre, a long distance aircraft in the same sense as the Bv 238.

MILCH : There isn't a great deal to be said on the subject of trainer aircraft. The Arado 96 will be used in very much greater numbers, both by the Chief of Training and the Fighter Schools. 165 aircraft are being produced. I'd increase this even more, but it's a question of engines. They'll not be ready before the latter half of 1944. The aircraft will be in very great demand, but first of all the engine question -- the As 410 engine will be installed -- will cause difficulties. The subject of the As 411 engine has yet to be clarified. This engine is first going into the Ar 396, the superseding model. The other minor details aren't important. Vorwald has something to say about the Fw 189.

VORWALD : We were informed that the Fw 189 is no longer favoured and that preferably the Me 410 should be increased instead.

JESCHONNEK : At the moment, the position is that some of the close reconnaissance is being carried out by single seater aircraft.

(Goering : Fat lot of reconnaissance they can do.)

That is nothing new. It happened in the last war. The question is whether operational tasks can be carried out. I doubt it. The general in charge of reconnaissance takes a different view. I spoke to him yesterday, so that this can be tried out on the front.

The decision whether the Fw 189, or an aircraft enlarged for artillery purposes should be built in the future, can only be taken in a couple of months time when we're a little clearer on the subject.

MILCH : We thought that if we protected the Ju 87 properly it could be employed as a reconnaissance aircraft, along with the single seater.

KUEHL : We'd rather have the Si 204 which has the same engine.

JESCHONNEK : G.O.C. Reconnaissance says, that from now on he'd like to have only single seaters. To what extent the Fw 189 is

discontinued, depends on the other aircraft. Production of this aircraft is due to cease in October 1944.

VORWALD : But we've now heard that it can be discontinued at the end of 1943.

MILCH : Only vague figures have been given for the jet aircraft, so that they won't be forgotten. That applies to the helicopter aircraft too. Now I've made the proposal that we endeavour -- I can't say for certain whether it'll be possible -- to separate in its entirety the question of jet aircraft and power units from the main industry and hand it over to specialist undertakings; if possible to two firms who are working on the subject as competitors. Today all the better firms are working in this direction, but all on the same lines.

(Goering : Agreed.)

Each believes his thing to be the best. I'd like to get all the people who are engaged on it together. In addition the matter is being investigated in regard to bombs.

(Goering : You mean the two firms who make the tailless things?)

Yes. Lippisch has had a heated dispute with Messerschmitt, to whom he is under contract. Now he wishes to leave, and is resigning. It's certainly futile for him to remain there, since they're unable to work harmoniously together.

Horten Brothers are also said to be going into this jet question. The firms would all like to produce something of their own, and we must get them to make a concentrated effort on the task.

JESCHONNEK : One more point. At the moment, without question, we're worst off for aircraft for long range reconnaissance against strongly defended areas: the Mediterranean, Alexandria and the English coast. It's very important that the aircraft which we're able to get, like the Ju 88 with the BMW 801 engine, if possible additionally equipped, are assigned to this task. Today, we're dependant upon each and every aircraft, if we wish to carry out effectively reconnaissance around England and in the Mediterranean.

GOERING : That's perfectly clear to me.

PETERSEN : The Italians have inquired about the DB 603 engine, they want to instal it in one of their aircraft.

GOERING : I fail to see the purpose of that. They should hand the aircraft over to us, and we'll mount it in their aircraft.

MILCH : Surely we can arrange this as a mutual effort. I have to report also, that the Trialen (explosive of the T.N.T. group) filling factory at Uckermuende was destroyed by an explosion at noon on the 20th; 41 killed, 2 badly injured, and 20 slightly hurt. The 250 kg., 500 kg. and 1,000 kg. bombs were filled there. There are only German workers employed there, most of whom have been there many years. So it need not have been sabotage. One never knows with explosives what might happen. If a worker lets a piece of fat fall out of his sandwich, the whole works go up. Trialen is restricted to ships and priority targets of importance naturally. As an alternative filling factory, the Herrnwald Works can be considered.

I've made a short report concerning production. It's my earnest hope that we will manufacture over 650 fighters. We're well up to date with the twin engine fighters.

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