

# No 11 Group Instructions to Controllers and Analysis

Introduction by Sebastian Cox

Instead of producing a straightforward narrative of the Battle of Britain this article will consider the fighting by analysing a number of the formal Instructions Air Vice-Marshal Keith Park, AOC of No 11 Group Fighter Command, issued to his Group and Sector fighter controllers as the battle unfolded. These Instructions illustrate very clearly the changing tactical issues taxing the AOC and his controllers and his response to them. They also illustrate, from a Commander's perspective, some of the internal issues with which he had to contend, notably the famous issue of reinforcement from the neighbouring No 12 Group north of London and the problem of tactical integration and innovation when Groups have differing perspectives and operating procedures.

The British officially recognised the start of the Battle of Britain as being the 10th July [see Dowding Despatch reproduced elsewhere in this journal – paras 11-13] when large scale air battles began over the Channel. The Germans identify this first phase as a separate battle, which they called the *Kanalkampf*, or Channel Battle, which was fought out over the following month as the Luftwaffe mounted attacks on coastal convoys and ports. The Germans considered that they only opened their main attack, the Battle of Britain itself, with their assault on airfields and radar stations in mid-August, which began with some preliminary sparring over the Thames Estuary and some small scale attacks on airfields and radars, building up to a full scale effort codenamed *Adler Tag* [Eagle Day] which was originally scheduled for 13th August. On that day the morning's *Adler Tag* operation proved to be something of a fiasco, with the German C2 system losing control of the operation at an early stage and sowing confusion and disarray among its own ranks. A late attempt at a weather cancellation was only received by some of the units already airborne, with the result that many units, notably among the fighter escorts, aborted the operation, whilst others, mostly in the bomber formations, did not. The morning's operation thus went off at half-cock. In the afternoon a better co-ordinated operation saw large formations attacking airfields and ports. Ineptly handled though it was, the initial *Adlerangriff* [Eagleattack] marked the start of a period of intense fighting during which the Luftwaffe pounded RAF airfields and radars, and Fighter Command reacted equally ferociously in their defence.

It was this intense fighting which caused Keith Park to issue his Instruction Number 4 to his controllers on 19th August. It sets out some of the key factors underlying Park's conduct of the Battle and also foreshadows some of the issues, which were to arise as the fighting intensified. Park cautions against engaging enemy formations over the Channel (unless protecting shipping) or overzealous pursuit of German aircraft towards France – by instigating combat only near the coast or over the UK any pilots who baled out stood a good chance of surviving and returning to combat, whereas a descent into the Channel at a time when there was no SAR service made survival problematic. A keystone of both Park's and Sir Hugh Dowding's, approach was conservation of their assets, both human and material. Due to faulty intelligence they believed the Luftwaffe to be much stronger than it was and that they potentially faced a long battle of attrition with a numerically stronger enemy, hence their strategy of conservation. Park's airfields, and indeed his C3I system, were, however vulnerable,

with only the Group and Command operations centres in hardened facilities. Both his aircraft and his Sector Operations Centres were based at airfields within easy reach of the enemy and they lacked any form of hardening. Once the Germans began to attack these facilities their defence now assumed the priority as this Instruction shows, and the protection of northern 11 Group airfields by the neighbouring 12 Group squadrons enters the picture. As is well known to students of the Battle this requirement was to become inextricably linked to the increasingly contentious issue of the Big Wing.

There is a tendency to assume that the Chain Home radars and the associated Integrated Air Defence System provided a fully comprehensive air picture – they did not. Radar was in its infancy and the radar operators were looking at a small cathode ray tube about the size of a modern I-Pad screen and trying to interpret spikes along the horizontal axis of the CRT in order to determine the range and strength of an enemy raid. The radars only looked out to sea, once the enemy crossed the coast they could only be tracked by the Royal Observer Corps using the Mark One eyeball, binoculars and, when aircraft were above cloud, tracking by sound. The RAF's fighter squadrons were all relatively inexperienced at working with the system against multiple threats inland and, with the formation leader's mind understandably focussed on the imminent prospect of combat, initially they gave little thought to contributing to the recognised air picture themselves. In the fighting on 24th August the percentage of squadrons making interceptions before the *Luftwaffe* formations dropped their bombs was disappointingly low. This is clearly shown by Park's injunction in Instruction No 6 on 26th August for formation leaders to give an accurate enemy report to the sector controller on first making visual contact. He thus made clear that the responsibility of the fighter leader to communicate his situation and that of the enemy did not end when his sector controller put him in contact with the target raid. What he could actually see as he went into combat was a vital supplementary intelligence source to enhance the accuracy of the air picture.

The very next day Park issued Instruction No 7. Here we see exposed for the first time the cracks at the seams of the Fighter Command IADS: the lesson being that, no matter how good your system and organisation may be, it is dependent on people who both understand that it functions in a certain manner and accept that they should work within it despite its limitations. Personalities inevitably intrude into every system, and can undermine the most careful planning. Park makes very plain (perhaps surprisingly so for a document aimed at his subordinates) his aggravation with the neighbouring 12 Group's apparent inability or unwillingness to mount CAPs over his more northerly airfields. He refers to two recent occasions where 12 Group squadrons requested to patrol over 11 Group airfields had not done so and the stations were then heavily bombed. Park was in all probability referring to the bombing of North Weald on 24th August and Debden on the 26th August. In Instruction No 10 of 5th September we see the theme repeated, with 11 Group controllers told to keep patrols above the clutch of 11 Group airfields north of the Thames estuary until the 12 Group squadrons actually arrived before the 11 Group squadron could be moved forward to "the

main battle". No such injunction was made regarding the airfields to the south-west and west of London where assistance was to come in from 10 Group to the West. The issue was in part that 12 Group squadrons, notably those led by Douglas Bader from Duxford, the principal reinforcing sector for 11 Group, resented what they saw as 11 Group hogging the battle whilst they were merely expected to act as aerial sentries for empty airfields. The ever-aggressive Bader was not interested and tended to ignore this tasking to go looking for Germans. As we shall see, this caused problems not just when airfields were hit, but within the IADS system itself.

Instruction No 10 also highlighted the crucial need to defend the aircraft factories in the south and south-east. The Hawker factories at Kingston-upon-Thames and Brooklands were building Hurricanes and the factories in Southampton "of vital importance" included the main Supermarine Spitfire factory in the city at Woolston. The latter was in fact hit during a Luftwaffe raid on 26 September and almost entirely destroyed, but arrangements had fortunately already been made for production to be dispersed and the large Shadow Factory at Castle Bromwich was also coming on stream ready to produce Spitfires. Park refers to an attack on the Brooklands works in the next Instruction.

Park issued Instruction No 12 on the very day the Germans famously switched the focus of their attacks to London. It neatly illustrates an insoluble dilemma for the defending squadrons. If they were to meet the *Luftwaffe* escort fighters on anything near equal terms they needed to avoid, so far as possible, conceding the enemy the height advantage, but as Park's Instruction shows the understandable tendency for everyone in the chain of command to add height to the original order often meant that the bombers got through at lower altitudes. It is difficult to say whether this Instruction had any noticeable effect on the actions of the Squadron Commanders. Probably not, since the Germans made the tactical problems of the defenders immeasurably easier by focussing on London and simultaneously, at Goering's behest, tying the fighter escorts more closely to the bombers. As many of these instructions show, Park did his best to solve the conundrum by sending the Spitfire squadrons to tackle the high-level fighter escorts and the slower and less manoeuvrable Hurricanes after the lower bomber formations. However, in practice the enemy and the vagaries of three-dimensional warfare meant that the situation in the air did not always neatly conform to the pattern.

Instruction No 16 of 11th September reflected the change in German targeting to London and the increased size of the attacking formations as they concentrated on this single target. Although this change simplified the tactical conundrum facing the 11 Group Controllers, Park's Instruction shows that he was aware that the mass formations posed a different tactical problem, that of meeting not just superior numbers, which had often been the case thus far, but overwhelming mass. This instruction again neatly encapsulates the difficulty Park faced. He was aware that this change required some attempt to concentrate his own forces in response, but the reality was that the time factor worked against him. A radar on the coast of Kent gave about twenty minutes warning of a raid building up over the Pas de Calais.

It took about four minutes for the system to process this information and pass it through to appear as a plot on the operations room tables. As the later Instruction No 28 indicates it took a Spitfire squadron in a battle climb some thirteen minutes to reach 20,000 feet and a Hurricane squadron three minutes longer. If he was to get his squadrons up to height and into position in time the Controller had little margin for error. Hence Park's compromise of despatching squadrons in pairs which, whilst still incurring a time penalty of 10-12 per cent [*vide* Instruction No 28] did provide more strength against the large formations.

The next Instruction reproduced here, No 18, shows that a commander's issuing of an instruction is one thing, but its implementation by the chain of command below him is quite another. Instruction No 18 was issued the day after the series of mass attacks on London on 15th September, which is generally reckoned to have been Fighter Command's most successful day and which we now celebrate as Battle of Britain day. To Park, however, there were still tactical deficiencies which needed correcting, not least in the implementation of Instruction No 16. This follow-up Instruction shows that Park had appreciated that, with the Germans apparently no longer interested in targeting his airfields, he was no longer compelled to defend so far forward. This in itself affected the crucial time factor and allowed the additional flexibility to operate squadrons in pairs, but farther back. Not all his controllers had apparently appreciated this, hence his anxiety to ensure that in the new tactical situation squadrons were not exposed too far forward where they were more likely to be "bounced" by the enemy with a height advantage. In the context of the subsequent controversy which has raged ever since regarding No 12 Group's use of Big Wings [i.e. up to five fighter squadrons acting in concert] it is interesting to note that in this Instruction [para 5 iii] Park is quite prepared to countenance operating a Wing of three squadrons if possible but again there was a time penalty of 15-18 per cent [*vide* Instruction No 28]. We may note here that Park had used wings of squadrons in the Dunkirk fighting in May and June 1940. He clearly recognised the tactical advantage of injecting some mass into the battle if possible. The Tangmere and Northolt sectors were, in the specific context of the September battles over London, the most rearward sectors of 11 Group, effectively constituting Park's immediate reserve. Lastly, paragraph 4 of this document reinforces the point referred to above regarding Instruction No 6 that the recognised air picture presented by the IADS was far from perfect.

The time penalties of attempting to use Wings even of three squadrons clearly loomed large in Park's mind, however, and on 26th September in Instruction No 20 he reverts to a preference for pairs of squadrons over Wings of three. By October the Germans had switched to operating the great bulk of their bomber forces by night, opening the so-called *Blitz* which, unlike the day battle, was to continue unabated until May 1941. By day the Germans now adopted the tactic of sending fighter sweeps both large and small, with fighters intermingled with fighter-bombers. Although the weight and accuracy of the bombs dropped in these raids was insufficient to cause any significant wide scale damage to important targets they were immensely difficult to defend against. There were several reasons for this. They operated at greater heights than the bombers, they were faster, and, of course,

more difficult to shoot down. They also inevitably pitted Hurricanes against the superior performance of the Messerschmitt 109. The greatest weakness of the Chain Home radar was its height finding ability, which required manipulation of the aerial arrays and was rudimentary at best, and this was a grave disadvantage when trying to counter combined fighter and fighter-bomber sweeps.

All of these factors are present in the final series of Instructions reproduced here. The short warning provided by the radar [referred to as RDF – radio direction finding – the acronym for radar during the Battle] meant that Park was forced to form a special flight of Spitfires, No 421 Flight [first referred to in Instruction No 24], at Gravesend equipped with Spitfire Mark IIs, which had a higher ceiling than the Mark I, and VHF, as opposed to the standard HF, radios. At the first sign of enemy activity in the Pas de Calais aircraft from the Flight were sent up to reconnoitre and shadow enemy formations passing information on their height and composition direct to the 11 Group Controller at Uxbridge via the VHF link [Instruction No 30 para 3(1)]. The first of these sorties were flown on 9 October. It was a dangerous activity – in the first ten days of operations aircraft of the Flight, despite instructions to avoid combat, were attacked seven times, and four of the Flight's pilots were shot down. Thereafter the Flight sent aircraft off in pairs to provide some mutual protection. Park also had a Spitfire squadron on patrol near Maidstone flying at 15,000 feet, a height which enabled them to conserve their limited oxygen supply for the combat to come, before being ordered to 30,000 feet when it looked as if a raid was about to cross the English coast. If the threat developed sufficiently for other squadrons to be ordered into the air the single Spitfire squadron was there ready to protect them against being bounced by the incoming sweep as they climbed for height [Instruction No 26]. Even these innovations did not prove sufficient, however, and Park is progressively forced to put squadrons in the air on standing patrols at specific times, at first a single squadron [Instruction No 30 para 2(2)] and then a pair of squadrons [Instruction No 34]. Standing patrols were the antithesis of the system, the whole focus and intention of which was to provide the capability to keep aircraft on the ground until a threat had been identified and then "launch on warning". Standing patrols were fatiguing for pilots, seriously affected aircraft serviceability and were wasteful of precious fuel. In addition, if the enemy did not mount an attack while the patrol was in the air, they achieved little positive result.

The last Instruction reproduced here, Instruction No 35, is principally of interest for what it tells us about the difficulty of co-ordinating and integrating the operations of No 12 Group's Duxford Big Wing under Bader with those of 11 Group. The reference to certain aircraft from the Wing being fitted with radio crystals is particularly of note. One of the issues with the early operations of the Wing, as we have seen, was Bader's tendency to operate as he saw fit and not as the 11 Group Controller had requested. Fighter Command aircraft had their position fixed by an automatic system called Pipsqueak which transmitted for a fifteen second period every minute on set frequencies enabling Direction Finding ground stations to fix the squadron's position. Because the frequencies were set using crystals in the radio sets before the aircraft left the ground, when No 12 Group operated in 11 Group's area the

latter's D/F system could not necessarily track the 12 Group squadrons. With Bader operating independently on his own initiative in a large formation of single-engined aircraft, at a height where the aircraft type was difficult to discern, in an area where he was not expected to be, unsurprisingly his formation was on occasions mis-reported by the Observer Corps as being German, causing not a little consternation in 11 Group's operations rooms. Hence the later instruction to fit a crystal, which could be interpreted by the 11 Group Sector Controller at Hornchurch and the information passed to the Observer Corps. In addition the instruction for a formal system of notification between the two Group controllers was intended to ameliorate the time issue inherent in scrambling and assembling the Big Wing.

In practice this Instruction shut the stable door after the horse had bolted. The Big Wing, if properly controlled, certainly had merit as a mass tactical reinforcement for 11 Group, particularly against the large German formations attacking London in mid-September. By October, however, with the Germans resorting to hit and run fighter sweeps it had few, if any, tactical advantages. In the latter part of October the Duxford Big Wing was ordered into 11 Group's area of operations on ten occasions, and on only one of these did it make contact with the enemy, shooting down a single Messerschmitt 109 [see Dowding Despatch para 204]. The issue of the Big Wing became mired in controversy at the time and that has continued ever since. This was unfortunate and largely stemmed from Bader's surprising failure to understand that "freelance" activity in another Group's area of operations was counterproductive, rather than the actual tactical merit of the innovative formation itself. Discussion of the latter was obscured by the issue of its control in the air, which stemmed from the former, and which in turn was bedevilled by personality clashes. All concerned were genuinely intent on inflicting maximum harm on the enemy, but under the intense pressure of an existential fight for the nation it is perhaps unsurprising that tempers became frayed.

What can be said, and can be seen from these Instructions, is that Park's own tactical responses to the changing circumstances of the Battle were invariably correct and that had a less tactically astute officer been in Command of 11 Group the result of the Battle might well have been different.

## No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 4

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 19 August 1940

The German Air Force has begun a new phase in air attacks, which have been switched from coastal shipping and ports on to inland objectives. The bombing attacks have for several days been concentrated against aerodromes, and especially fighter aerodromes, on the coast and inland. The following instructions are issued to meet the changed conditions:

- a) Despatch fighters to engage large enemy formations over land or within gliding distance of the coast. During the next two or three weeks, we cannot afford to lose pilots through forced landings in the sea;
- b) Avoid sending fighters out over the sea to chase reconnaissance aircraft or small formations of enemy fighters;
- c) Despatch a pair of fighters to intercept single reconnaissance aircraft that come inland. If clouds are favourable, put a patrol of one or two fighters over an aerodrome which enemy aircraft are approaching in clouds;
- d) Against mass attacks coming inland, despatch a minimum number of squadrons to engage enemy fighters. Our main object is to engage enemy bombers, particularly those approaching under the lowest cloud layer;
- e) If all our Squadrons around London are off the ground engaging enemy mass attacks, ask No 12 Group or Command controller to provide Squadrons to patrol aerodromes DEBDEN, NORTH WEALD, HORNCHURCH;
- f) If heavy attacks have crossed the coast and are proceeding towards aerodromes, put a Squadron, or even the Sector Training Flight, to patrol under clouds over each Sector aerodrome;
- g) No 303 (Polish) Squadron can provide two sections for patrol of inland aerodromes, especially while the older Squadrons are on the ground refuelling, when enemy formations are flying over land;
- h) No 1 (Canadian) Squadron can be used in the same manner by day as other Fighter Squadrons.

*Note:* Protection of all convoys and shipping in the Thames Estuary are excluded from this Instruction (paragraph (a))

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 6

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers

Date: 26 August 1940

*Group Controllers, Instruction No 6*

The following signal, addressed today to all Sectors, is repeated for the information of each Control:

'Our fighter squadrons are frequently engaging greatly superior numbers because other squadrons despatched to engage fail to intercept owing to accidents of cloud and inaccuracies of sound plotting by ground observers. To enable Group and Sector Controllers to put all squadrons in contact with the enemy formation leaders are to report approximate strength of enemy bombers and fighters, their height, course and approximate position immediately on sighting the enemy. A specimen R/T message would be, "Tally Ho! Thirty bombers forty fighters Angels twenty proceeding North Guildford". These reports should enable us to engage the enemy on more equal terms and are to take effect from dawn 27 August. Acknowledge.'

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 7

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers

Date: 27 August 1940

*Group Controllers, Instruction No 7*

*REINFORCEMENT from 10 and 12 GROUPS*

1. Thanks to the friendly co-operation afforded by 10 Group, they are always prepared to detail two to four Squadrons to engage from the West mass attacks (100 or more) approaching the Portsmouth area.
2. The AOC 10 Group has agreed that once his Squadrons have been detailed to intercept a group of raids coming into Tangmere Sector, his Controllers will not withdraw them or divert them to some other task without firstly consulting us.

3. Because of the above, Controllers are clearly to understand that once they have detailed Tangmere Squadrons to intercept raids entering Middle Wallop Sector, they must not withdraw them without first informing 10 Group of the intention; to do otherwise might embarrass Middle Wallop Sector.
4. Up to date 12 Group, on the other hand, have not shown the same desire to co-operate by despatching their Squadrons to the places requested. The result of this attitude has been that on two occasions recently when 12 Group offered assistance and were requested by us to patrol our aerodromes, their Squadrons did not in fact patrol over our aerodromes. On both these occasions our aerodromes were heavily bombed, because our own patrols were not strong enough to turn all the enemy back before they reached their objective.
5. As acceptance of direct offers of assistance from 12 Group have not resulted in their Squadrons being placed where we had requested, controllers are from now onwards immediately to put their requests to Controller, Fighter Command, stating clearly when and where reinforcing Squadrons from the North are required to patrol, eg two Squadrons required to patrol North Weald-Hornchurch, 10,000 feet, immediately, to protect aerodromes in absence of our own Squadrons on forward patrol. These requests will only be submitted to Command when mass attacks are approaching in such strength (160 or more) that it appears that our own Squadrons are unlikely to prevent their reaching inland objectives.
6. Such requests via Command will be a little slower in obtaining assistance but they should ensure that the reinforcing Squadrons from the North are in fact placed where they can be of greatest assistance. Because of the delay in the arrival of these Squadrons, their obvious task is to patrol aerodromes or other inland objectives to engage enemy formations that break through our fighter patrols, that normally engage well forward of our Sector aerodromes.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## **No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 10**

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 5 September 1940

*Instruction to Controllers No 10*

The Commander-in-Chief has directed that the following aircraft factories shall be given the maximum fighter cover, (not necessarily close patrols), during the next week:

Hawkers, Kingston-on-Thames

Langley

Brooklands

Southampton aircraft factories

2. As the enemy bombing attacks on our fighter aerodromes during the past three weeks have not outwardly reduced the fighter defence, he is now directing some of his main attacks against aircraft factories, especially in the West and South-West of London. The only direct protection that we can at present afford is to obtain from 10 Group two Squadrons to patrol the lines, (a) Brooklands-Croydon, and (b) Brooklands-Windsor, whenever there is a heavy attack South of the Thames river. The task of these Squadrons is to intercept bomber formations that may elude 11 Group fighters that are despatched to engage the enemy well forward of the factories and Sector aerodromes.

3. The Southampton factories are of vital importance to the RAF, and 10 Group have agreed to reinforce the Tangmere Sector by up to three or four Squadrons whenever a mass attack approaches the Southampton-Portsmouth area from the South.

*Hawkinge and Manston or Rochford Squadrons*

4. Whenever time permits, these two Squadrons are to rendezvous over Canterbury, and then be detailed to engage the enemy.

*The Main Attack*

5. The enemy's main attack must be met in maximum strength between the coast and our line of Sector aerodromes. Whenever time permits, Squadrons are to be put into the battle in pairs. Some Spitfire Squadrons are to be detailed to engage the enemy fighter screen at 20,000 or more feet. The Hurricanes, because of their inferior performance, should normally be put in against the enemy bombers, which are rarely above 16,000 feet by day.

*Aerodrome Protection*

6. North of the Thames, 12 Group Squadrons are to be requested, via Command, to cover North Weald, Stapleford, Hornchurch, also Debden. Pending arrival of 12 Group Squadrons, the Group Controller should cover our Sector aerodromes by one or two Squadrons. These must, however, be sent forward into the main battle immediately 12 Group Squadrons arrive.

7. The aerodromes West and South-West of London can be covered by 10 Group Squadrons. Biggin Hill, Kenley and Croydon aerodromes can be covered by a maximum of two Squadrons; normally one flight should be adequate for each aerodrome, because the enemy should already have been engaged before he reaches the line of these Stations.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 12

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers, and all Sector Commanders

Date: 7 September 1940

### *Group Controllers, Instruction No 12*

#### *Interception of Enemy BOMBER Formations:*

1. From reports by RAF personnel at aerodromes, also from AA gun Stations, and lastly from our own fighter formations, it is evident that during the past week some enemy bomber formations have proceeded uninterrupted to their inland objectives. This has happened on numerous occasions when we have had from twelve to twenty Squadrons despatched to intercept and to cover aerodromes. The reason is mainly that our fighters are patrolling so high that they are normally becoming heavily engaged with the enemy fighter screen, flying above 20,000 feet.
2. On one occasion yesterday, only seven out of eighteen squadrons despatched, engaged the enemy. On another occasion on the same day, seven out of seventeen squadrons engaged the enemy.
3. It is obvious that some of our Controllers are ordering Squadrons intended to engage bombers to patrol too high. When Group orders a Squadron to 16,000 feet, Sector Controller in his superior knowledge, adds on one or two thousand, and the Squadron adds on another two thousand in the vain hope that they will not have any fighters above them. The net result has been that daily some of the enemy bomber formations slip in under 15,000 feet, frequently without any fighter escort, and bomb their objectives, doing serious damage as at Brooklands. In fact, the majority of the enemy bomber formations have only been intercepted after they have dropped their bombs and are on the way out.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 16

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 11 September 1940

### *Engagement of Mass Attacks*

The enemy has recently dropped his plan of making two or three separate attacks by two or three hundred aircraft in one day. Recent attacks in the 11 Group area have been made by three or four hundred aircraft in two or three waves following in quick succession, the whole engagement covering about 45 to 60 minutes.

The object of the following instruction is to ensure that we meet the enemy in maximum strength, employing our fighter Squadrons in pairs of the same type where possible.

**READINESS SQUADRONS:** Despatch in pairs to engage first wave of enemy. Spitfires against fighter screen, and Hurricanes against bombers and close escort.

AVAILABLE 15 SQUADRONS: a) Bring to Readiness in pairs;  
b) Despatch in pairs to engage second wave.

AVAILABLE 20 SQUADRONS: a) Bring to Readiness;  
b) Despatch singly to protect aircraft factories or sector aerodromes, or to reinforce Squadrons already in the air.

If there is a third wave and it is necessary to despatch these Squadrons, they should be sent in pairs as follows:

DEBDEN and NORTH WEALD Squadrons together;  
HORNCHURCH and BIGGIN HILL Squadrons together;  
KENLEY and NORTHOLT Squadrons together.

**TANGMERE SQUADRONS:** When not required to protect the Portsmouth-Southampton area in conjunction with No 10 Group Squadrons, the Tangmere Squadrons should be employed within the Kenley or back Tangmere Sector to engage enemy formations that approach London from the South, or endeavour to pass round the South of London to attack aircraft factories at Kingston, Brooklands and Langley.

Whenever time permits, the Readiness Squadron and the Available 15 Squadron should be despatched to work as a pair after having rendezvoused at base.

**RENDEZVOUS OF SQUADRONS:** The Group Controller must name the base over which pairs of Squadrons are to rendezvous, as they normally occupy separate aerodromes within a Sector. Sector Controllers should inform Group Controllers immediately a pair of Squadrons have rendezvoused over any given point. Group Controller should then detail those Squadrons to a raid and leave the rest to Sector.

*SELECTION OF SQUADRON TO LEAD A PAIR OF SQUADRONS:* The detailing of the directing Squadron should be done by Sector Controller, who should know which Squadron is best suited to lead. Section Controllers must also repeat to the Squadron being led all orders issued to the directing Squadron in case those units become separated by clouds. Sector Commanders must impress on Squadron Commanders the importance of leading squadrons in a pair joining up and maintaining contact with the Squadron being led.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## **No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 18**

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 11 September 1940

### *Engagement of Mass Attacks*

During the air fighting of the last week, I have noticed the following deficiencies in our control by Group and Sectors:

- A) Individual Squadrons failing to rendezvous as detailed;
- B) Individual Squadrons being detailed to big raids;
- C) Pairs of Squadrons being placed on patrol too far forward, too low, resulting in their being attacked by German high fighter screen;
- D) Individual Squadrons being given a rendezvous so far forward as to become engaged before meeting their paired Squadron;
- E) Very high raids of between 100 and 150 fighters being allowed to draw up nearly all the Group prematurely – the bomb raids then approaching about 45 minutes later when a number of our Squadrons are on the ground refuelling;
- F) A persistent tendency of Group Controllers to delay in detailing pairs of Squadrons that have reached their height and rendezvous on to individual raids or on to a suitable patrol line across the line of approach;
- G) Failing to check Sectors when they report in error less pilots and aircraft effective than are reported on the evening state of Squadrons.

*FRESH INSTRUCTIONS*

*Very High Enemy Fighters:*

2. The Spitfire Squadrons of Hornchurch and Biggin Hill are, in clear weather, to be detailed in pairs to attack the high fighter screen which is normally between 25,000 and 30,000 feet.

*Rendezvous:*

3. When the sky is almost completely overcast, Squadrons should rendezvous over an aerodrome below cloud base, otherwise they should rendezvous high over an aerodrome or point well in advance of the enemy's raids, in order not to be dived on while still climbing.

*Patrol Lines:*

4. Whenever it is not possible to get fairly reliable information about the strength, height and composition of strong incoming raids, fighter Squadrons must be detailed to short patrol lines, if necessary two Squadrons very high and two Squadrons between 15,000 and 20,000 ft.

*Diversions by Enemy Fighters:*

5. If it appears that the first wave of raids are high flying fighters, act as follows:
- (i) Detail not less than several pairs of Spitfires to fighter screen;
  - (ii) Get ample Hurricane Squadrons rendezvoused in pairs in the region of Sector aerodromes;
  - (iii) Get Northolt and Tangmere Squadrons to Readiness in despatch as wings of three Squadrons to intercept the enemy's second or third wave, which normally contains bombers.

*State of Preparedness:*

6. During the coming months there will be a few days in which cloud conditions are suitable for the enemy to assemble mass attacks covered by high fighter screen. Whenever these conditions obtain, we must maintain a higher State of Preparedness, and fresh instructions to this end have been issued.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 20

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 28 September 1940

### *Engagement of Daylight Raids*

1. Attention is called to Instruction to Controllers No 18 which deals with enemy heavy attacks covered by high flying fighter screen.
2. Enemy attacks during the past three days along the South coast have shown that he is reverting to bomb raids covered by close escort. Owing to difficult cloud conditions that will probably obtain on most days, future bombing attacks in the 11 Group area will probably be made without the cover of a very high fighter screen.

### *Wing Formations:*

3. To counter enemy mass attacks, it had been hoped to develop patrols by wings of three fighter Squadrons. Experience has shown, however, that even with quite a small amount of cloud, Squadrons take a long time to form up, and also have great difficulty in maintaining contact on patrol. Moreover, the time taken to get three Squadrons to a point seems to be double the time required for a pair of Squadrons. With the RDF giving us shorter warning than during mid-Summer, we cannot afford to waste from five to fifteen minutes while Squadrons are assembling and sorting themselves out in wings of three. Therefore unless the sky is clear of cloud layers and the Group Controller gets ample warning of a heavy scale attack forming up over the French coast, he will despatch pairs of fighter Squadrons as described in Instruction to Controllers No 16 during the Winter months. This does not mean that wings of three Squadrons will not be required on occasion in the Winter, and frequently in the coming Spring, when it is hoped we shall be permitted to take a more offensive role and attack the enemy before he reaches the Kentish coast.

### *State of Preparedness:*

4. Controllers should note that the NORMAL STATE fits in more readily with the employment of pairs of Squadrons than of wings of three. Nevertheless, when the Group is at ADVANCED STATE, it does not follow that Controllers are to detail wings of three unless they get ample warning from the RDF, and weather is clear of clouds.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 24

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 4 October 1940

### *Height of Fighter Patrols*

With the prevailing cloudy skies and inaccurate heights given by the RDF, the Group Controller's most difficult problem is to know the height of incoming enemy raids. Occasionally reconnaissance Spitfires from Hornchurch or Biggin Hill are able to sight and report the height and other particulars of enemy formations. Moreover, the special fighter reconnaissance flight is now being formed at Gravesend (attached to No 66 Squadron) for the purpose of getting information about approaching enemy raids.

2. Because of the above-mentioned lack of height reports and the delay in receipt of RDF and Observer Corps reports at Group, plus longer times recently taken by Squadrons to take off, pairs and Wings of Squadrons are meeting enemy formations above, before they get to the height ordered by Group.

3. 'Tip-and-run' raids across Kent by Me110s carrying bombs, or small formations of long-range bombers escorted by fighters, give such short notice that the Group Controller is sometimes compelled to detail even single fighter Squadrons that happen to be in the air to intercept the enemy bombers before they attack aircraft factories, Sector aerodromes, or other vital points such as the Docks, Woolwich, etc. Normally, however, Group Controller has sufficient time to detail from one to three pairs (two to six Squadrons) to intercept raids heading for bombing targets in the vicinity of London.

4. Whenever time permits, I wish Group Controllers to get the Readiness Squadrons in company over Sector aerodromes, Spitfires 25,000 feet, Hurricanes 20,000 feet, and wait till they report they are in position before sending them to patrol lines or to intercept raids having a good track in fairly clear weather.

5. This does not mean that the Controller is to allow raids reported as bombers to approach our Sector aerodromes or other bombing targets unengaged because pairs or Wings of Squadrons have not reported that they have reached the height ordered in the vicinity of Sector aerodrome or other rendezvous.

6. I am sending a copy of this Instruction to all Sector Commanders and Controllers, also Squadron Commanders, in order that they may understand why their Squadrons have sometimes to be sent off to intercept approaching bombers before they have reached the height originally ordered or perhaps have joined up with the other Squadron or a pair or Squadrons of a Wing. Our constant aim is to detail one or more pairs of Squadrons against incoming bomb raids, but the warning received at Group is sometimes not sufficient and

our first and primary task is to intercept and break up the bombers before they can deliver a bombing attack against aircraft factories, Sector aerodromes, Docks, etc.

7. Circumstances beyond the control of Group or Sector Controllers sometimes demand that Squadrons engage enemy bomber formations before they have gained height advantage and got comfortably set with the other Squadrons detailed by Group.

8. I wish the Squadron Commanders and Sector Controllers to know that everything humanly possible is being done by Group to increase the warning received of incoming enemy raids. Meanwhile, Squadrons can help by shortening the time of take-off, assembly and rendezvous with other Squadrons to which they are detailed as pairs or Wings.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## **No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 26**

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 8 October 1940

### *Height of Fighter Patrols*

The following instruction is issued in amplification of para 3 of Instructions to Controllers No 25.

2. When a Spitfire Squadron is ordered to Readiness Patrol on the Maidstone Line, its function is to cover the area Biggin Hill-Maidstone-Gravesend, while the other Squadrons are gaining their height, and protect them from the enemy high Fighter Screen. The form of attack, which should be adopted on the high enemy fighters is to dive repeatedly on them and climb up again each time to regain height.

3. The Squadron is not to be ordered to intercept a Raid during the early stages of the engagement, but the Sector Controller must keep the Squadron Commander informed as to the height and direction of approaching raids.

4. The object of ordering the Squadron to patrol at 15,000 feet while waiting on the Patrol Line for Raids to come inland is to conserve oxygen, and to keep the pilots at a comfortable height. Pilots must watch this point most carefully, so that they have ample in hand when they are subsequently ordered to 30,000 feet which is to be done immediately enemy raids appear to be about to cross our coast.

5. When other Squadrons have gained their height and the course of the engagement is clear, the Group Controllers will take a suitable opportunity to put this Spitfire Squadron on to enemy raids where its height can be used to advantage.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## **No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 28**

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 14 October 1940

### *Rate of Climb of Fighter Formations*

Owing to the very short warning given nowadays by the RDF Stations, enemy fighter formations (some carrying bombs), can be over London within twenty minutes of the first RDF plot, and have on occasion dropped bombs on South-East London seventeen minutes after the first RDF plots.

2. Under these circumstances, the only Squadrons that can intercept the enemy fighters before they reach London or Sector aerodromes are the Squadrons in the air on Readiness patrol, or remaining in the air after an attack, plus one or two Squadrons at Stand-By at Sectors on the East and South-East of London.

3. In these circumstances, it is vitally important for Group Controllers, also Sector Controllers, to keep clearly in mind the time taken for Squadrons and other formations to climb from ground level to operating height. The following times are those for a good average Squadron of the types stated:

- |                        |   |
|------------------------|---|
| (A) Spitfire (Mark I)  | 13 minutes to 20,000 feet<br>18 minutes to 25,000 feet<br>27 minutes to 30,000 feet |
| (B) Hurricane (Mark I) | 16 minutes to 20,000 feet<br>21 minutes to 25,000 feet                              |

*Pairs:* The rate of climb for a pair of Squadrons in company will be 10% and 12% greater than the time given above.

*Wings:* The rate of climb of Wings of three Squadrons is between 15% and 18% greater than the times given above.

*Rendezvous*

4. In view of the above, Controllers will see the importance of ordering pairs of Wings to rendezvous over a point at operating height in order that they can climb quickly, singly, and not hold one another back by trying to climb in an unwieldy mass. Bitter experience has proved time and again that it is better to intercept the enemy with one Squadron above him than by a whole Wing crawling up below, probably after the enemy has dropped his bombs.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

**No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 30**

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 17 October 1940

*Engagement of High Fighter Raids*

The general plan is to get one or two Spitfire Squadrons to engage enemy fighters from above about mid-Kent, in order to cover other Spitfire and Hurricane Squadrons whilst climbing to operating height at back patrol lines East and South of London.

*Preparation:*

2. Whenever the cloud conditions are favourable for high raid by fighters the following preparations will be made:

(1) *Reconnaissance Aircraft:* One or two reconnaissance aircraft to be kept on patrol near the Kentish coast, height depending on cloud layers.

(2) *Readiness Patrol:* A patrol by one or two Squadrons to be maintained on Maidstone Patrol Line at 15,000 feet, between 0800 hours and 1800 hours.

(3) *Stand-By Squadron:* One Squadron at Sector providing patrol at (2) to be at Stand-By during the peak periods – breakfast, noon and early tea-time.

(4) *London & Debden Squadrons:* State of Readiness of Hurricane Squadrons to be advanced state whenever cloud conditions are suitable for very high fighter raids.

*Attack:*

3. Immediately enemy formations are plotted over the French coast or Dover Straits, the following action will be initiated:

- (1) *Reconnaissance Aircraft*: Despatched to the area enemy raids are plotted, to locate, shadow and report.
- (2) *Readiness Patrol*: Ordered to climb to 30,000 on the Maidstone patrol line to cover other Squadrons whilst climbing over base patrol lines.
- (3) *Stand-By Squadrons*: Despatched to operating height over base, and then to join the Readiness Squadrons at 30,000 feet.
- (4) *Readiness Squadrons*: Despatched to rendezvous over base at 20,000 to 27,000 feet, and when assembled, detailed to raids or forward patrol lines.
- (5) *Squadrons at Available, Spitfires*: To be brought to Readiness, and if necessary despatched to assemble in pairs on back patrol lines at 25,000 to 30,000 feet, and then detailed to raids.
- (6) *Squadrons at Available, Hurricanes*: Brought to Readiness, and if there is a second or third wave, assembled in pairs over back patrol lines so as to protect Sector aerodromes and London area whilst climbing.
- (7) *Hurricane Squadrons from Tangmere and Debden*: Despatch in Wings or pairs at 20,000 to 27,000 feet, according to time and weather conditions, for one of the following purposes:
  - (a) To reinforce London Sectors if there is a second or third wave of enemy raids.
  - (b) To protect Sector aerodromes and London area whilst the earlier Squadrons are refuelling.
- (8) *Close Defence of Important Bombing Objectives*: If enemy raids are approaching aircraft factories, London area, Sector aerodromes, etc, single Hurricane Squadrons that have not been included in pairs or Wings should be detailed to protective patrols between 15,000 and 18,000 feet, depending on clouds.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## **No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 31**

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers

Date: 17 October 1940

*Engagement of Mass Bomber Attacks on the London Area*

*General Plan:*

To engage enemy high FIGHTER SCREEN with Spitfire Squadrons from Hornchurch and Biggin Hill half-way between London and the coast, and so enable Hurricane Squadrons from North Weald, Kenley and Northolt to attack bomber formations plus close escort before they reach the line of fighter aerodromes East and South of London. The remaining Squadrons around London that cannot be got up in time to intercept the first wave, to provide a rear screen by climbing over the line of aerodromes East and South of London.

2. The Squadrons from Debden and Tangmere (if disengaged), to be despatched and employed in Wings or pairs, so as to form a screen East and South-East of London to intercept third or fourth wave coming inland, also the retreating earlier waves.

*Spitfire Squadrons:*

3. Assembled at height in pairs on back patrol lines, then detailed to engage high fighter screen at 30,000 feet.

*Role:* To protect pairs or Wings of Hurricane Squadrons whilst climbing up, also while attacking bombers plus escort. If the high fighter screen withdraws to the coast, a proportion of the Spitfires may be detailed to attack the escorts to incoming bomb raids.

*Hurricane Squadrons:*

4. Squadrons at Readiness to be despatched in pairs to back patrol lines covering line of aerodromes. Immediately pairs have reached operating height, detail to bomb raids or to forward patrol lines under Spitfires. Squadrons at Available to be brought to Readiness and assembled in pairs at operating height on back patrol lines covering Sector aerodromes, and detailed to second wave of bomb raids.

5. Whilst gaining height the latter Squadrons may have to be detailed to split raids by bombers that attempt to attack vital points on the flank of the mass of bombers plus escort.

*Hurricane Squadrons from Flank Sectors (Debden, Tangmere, and possibly Northolt):*

6. Despatch in pairs or Wings, according to the clouds, to patrol mid-Kent patrol lines at 20,000 to 25,000 feet, to engage

- (i) Third or fourth wave attacks of bombers plus escort;
- (ii) Retreating bomb raids of first and second wave;
- (iii) To protect fighter aerodromes whilst the earlier Hurricane and Spitfire Squadrons are refuelling.

*Reinforcement from Other Groups:*

7. Immediately the enemy numbers appear to be more than 150, request two or three Squadrons to cover the Northern approaches to London, or the South-Western Group of vital points near London, as directed in Controllers Instruction No 7 dated August 27th 1940.

(Sgd) K R Park  
Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 34

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 24 October 1940

### *Readiness Patrols Against High Flying Fighter Raids*

Experience gained during these attacks confirms that the only sure method of countering a series of raids by bomb carrying *fighters* is to keep a pair of Hurricane or a pair of Spitfire Squadrons, from the same Station if possible, continuously on patrol in clear weather and to relieve them in ample time, keeping them at 15,000/18,000 feet until raids appear imminent, when they should be ordered to full operational height. Though less economical in flying hours this method is far more effective and economical in lives than our long established method of intercepting from ground level, which was most successful against bomber formations. Those Squadrons should be on a common R/T Frequency whenever possible.

2. During the present short days and when weather conditions are suitable for heavy high flying fighter raids, Controllers should maintain standing patrols as indicated.
3. Such standing patrols should only be maintained during the full light period of the day, ie at present between 0800 and 1700 hours, and when the base of clouds is above 2,000 feet. Group and Sector Controllers must be on the alert to withdraw Standing Patrols before new cloud or thick ground mist closes down on the parent and adjacent aerodromes. These patrols must be relieved while they retain adequate petrol to allow for delays in finding a clear-weather fighter aerodrome.
4. Squadrons proceeding to Readiness Patrol are normally to gain height over base before going forward to relieve the Squadrons on patrol.

(Sgd) G Harcourt-Smith, G/C  
for Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

## No 11 GROUP INSTRUCTIONS TO CONTROLLERS No 35

From: Air Officer Commanding, No 11 Group, Royal Air Force

To: Group Controllers and Sector Commanders, for Sector Controllers

Date: 26 October 1940

### *Group Reinforcement by No 12 Group Wing from Duxford*

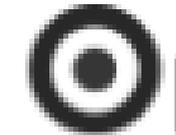
The following arrangements have been made for the operation of the No 12 Group Wing from Duxford in No 11 Group area.

- (i) The No 12 Group Controller will advise the AOC, or the Deputy Controller of the hours between which the Duxford Wing will be at "Readiness". This information will if possible, be given by 09.00 hours daily, in order to fit the Duxford Wing into the programme for the day.
- (ii) As soon as the Group Controller gets a clear indication of raids building up over the French Coast, he is to request No 12 Group Controller to despatch the Duxford Wing to patrol East of London on an approximate line North and South through Hornchurch. The arrival of the Wing on the Patrol Line will be communicated to No 11 Group Controller who will indicate to the No 12 Group Controller the best position in the Estuary or Northern Kent to which the Wing should be directed to effect an interception.
- (iii) The No 12 Group Controller will inform No 11 Group immediately the Duxford Wing has left ground.
- (iv) No 11 Group Controller is then to inform Sector Controller, Hornchurch, who is to fix the position of the Duxford Wing. This will be possible as two aircraft of the VHF Squadron in the Duxford Wing are fitted with the Hornchurch fixer crystals (one working, one in reserve).
- (v) On arrival on the Patrol Line, Hornchurch will give Zero to the Duxford Wing on its operational frequency. Hornchurch will hold a crystal of the leading Squadron's frequency in the Duxford Wing and set up a channel on their frequency. With R/T facilities as indicated, Hornchurch Controller will be able to fix the Duxford Wing and inform the Observer Corps via the Group Observer Corps Liaison Officer, flank Sectors and Group Operations, of the positions of the Duxford Wing, at frequent intervals.

(Sgd) G Harcourt-Smith, G/C  
for Air Vice-Marshal  
Commanding No 11 Group  
Royal Air Force

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