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REPORT

ROYAL
AUSTRALIAN
AIR FORCE

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Date Opened 24/7/53
Originator

Unit
No. 82 (BOMBER) WING
P.A.A.F AMBERLEY, Q'LD.

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28/14/AIR
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BOARD OF SURVEY

180/8/991

COPY NO. 5.

REPORT ON MOBILITY OPERATION

"FLYING SAUCER"

By Group Captain D.W. COLQUHOUN
Officer Commanding No.82(B) WING
AMBERLEY
QUEENSLAND

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Cross References to be Made Above

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NOTES PREPARED BY WING WEAPONS OFFICER ON REPORT ON OPERATION
"FLYING SAUCER"

1. The Wing Weapons Officer is investigating with a view to improving the following:-

- (a) Photographic Assessment of Bombing.
- (b) Serviceability of camera recorders.
- (c) Evasive tactics by crews.

2. Severe evasive action by Lincoln aircraft is not successful nor desirable for following reasons:-

- (a) Lincoln although single aircraft in these attacks are simulating bomber formation and evasive action is not practical.
- (b) Bombsight and D.R.C. Gyros topple -
large bombing errors -
faulty operation of Bombsight computer, A.P.I., H2S etc.
- (c) Concentration times cannot be kept.
- (d) Difficulty of turret operation.
- (e) Formation depends on fire power not evasive action.

Other than routing around defended areas no deviation from tactical tracks should be made.

3. Recommendations.

To Target - (a) No evasive action.

From Target - (a) Evasive action - this would only be necessary if single aircraft separated from formation.

4. For Flying High it is strongly recommended that Lincoln aircraft attacking act as though part of formation as would be role of attacking aircraft in daylight. And although evasive action interesting and "good fun" it is not part of role of heavy bomber aircraft on way to target.

5. However, it is necessary to practice evasive action for time when single aircraft becomes separated from formation because of unserviceabilities. For this reason it may be desirable to practice evasive action after attacking target in Operation Flying High.

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COMMONWEALTH OF AUSTRALIA

In reply please quote

No. 28/14/AIR

ROYAL AUSTRALIAN AIR FORCE

No. 82 (B) Wing,
AMBERLEY.

24th July, 1953.

Headquarters,
R. A. A. F.,
AMBERLEY.

REPORT ON OPERATION "FLYING SAUCER"

APPENDICES :-

- "A" - Concentration Times on Target.
- "B" - Photographic Bombing Results.
- "C" - Gunnery Results.

Introduction.

1. In accordance with Headquarters, Eastern Area Operation Order No. 5/53, No. 82 (B) Wing provided a force of six Lincolns to carry out simulated bombing attacks against selected targets in the Sydney Area on the 20th and 21st June, 1953. A total of twenty-four attacks were carried out as detailed in Forms Green issued by Headquarters, Eastern Area, each aircraft completing two individual attacks against targets on both days of the exercise.
2. The purpose of this exercise was to exercise the Air Defence Organisation of Sydney.

Briefing and Debriefing.

3. All aircrew attended a general briefing prior to the start of the operation. In addition a detailed Briefing Form was given to crews for each individual sortie.
4. At the completion of each sortie the crew was debriefed by the Wing Category Leaders and Intelligence Officer, and the Forms Blue dispatched to Headquarters, Eastern Area.

Navigation.

5. Techniques and Aids Used. Navigators were briefed to carry out the exercise using all available aids. The maximum use was to be made of H2S, particularly from Pt. Macquarie - Datum - Target. In the event of an H2S failure over this area, navigators were to revert to D.R. navigation using multi-drift winds. Aircraft were to arrive at Datum within \pm 5 minutes of concentration times, and at the target on concentration time.
6. Concentration Times. The route selected from Pt. Macquarie - Datum - Target, together with the high serviceability of H2S, enabled navigators to plan for a high accuracy of concentration times on target. On details where H2S was unserviceable accurate ground speed checks were obtained by visual bearings on the coast line. However, as shown at Appendix "A", the expected accuracy was not achieved. Examination of the navigation logs, together with the information obtained at de-briefing, revealed that in most cases, the inaccuracies in concentration times can be attributed to prolonged fighter affiliation. During the run in from Datum, Lincolns were intercepted up to 17 minutes prior to E.T.A. target, and fighter affiliation was

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continued until after the bomb release point causing time losses of as much as five minutes. On subsequent attacks navigators attempted to overcome this error by allowing several minutes for fighter affiliation with the result that, when aircraft were not intercepted, the target was reached before the required time. It is evident that had evasive action been limited to corkscrews, the accuracy of concentration times would have, in most attacks, been within ± one minute.

7. Performance of Navigation Instruments. With the exception of one detail on which the A.P.I., W.F.A., and Navigator's D.R.C. Repeater were unserviceable, all navigation instruments performed satisfactorily. However, fighter affiliation exercises caused one D.R.C. Gyro-scope to topple and a desynchronisation of repeaters.

Bombing Technique and Assessment.

8. Simulated bombing was carried out using settings applicable to conditions. To establish a datum point for the assessment of bombing runs, bomb-aimers were briefed to start the camera at the bomb release point and to leave the camera running until the aircraft had passed the target.

9. The resulting photographs were laid in a line overlap with the centre of the first photograph being the air release point. From this point a line was drawn to the centre of the final photograph, thus establishing the track of the aircraft. At a distance along the track equal to forward throw, the bomb was plotted. Photographs showing targets and estimated points of impact are attached at Appendix "B".

10. This method of calculating bomb strike makes the following assumptions :-

- (a) Bomb falls on track.
- (b) Aircraft continues on same track after bomb release as before.
- (c) Aircraft flew at briefed height and photographic scale is correct.
- (d) The camera was started at the moment of bomb release.

11. The resulting errors indicate that many of the above assumptions were incorrect. And as the errors are very nearly all range errors, it would seem that the starting of the camera was the weakness in this method of assessment. An investigation will be made to determine whether a better method of assessing simulated bombing can be used for further exercises of this nature.

Bombing Equipment Unserviceabilities.

12. On the operation the following unserviceabilities occurred :-

- (a) Radar:
 - (i) Lucero 3 occasions.
 - (ii) H2S 2 occasions.
 - (iii) H2S inoperative over 14,000' 2 occasions.
- (b) Bombing & Photographic Equipment:
 - (i) Film brittle and tearing 2 occasions.
 - (ii) Bombsight unserviceabilities 2 occasions.

Gunnery.

13. Tactics. The normal fire and evasive control action by gunnery controllers in each Lincoln was employed. All sorties were by single aircraft.

14. Results. Debriefing of crews revealed the usual excessive claims of successes against fighters. Varying degrees of success were achieved by evasive action; however, the standard of evasive tactics was poor due to inexperience of crews through lack of training. Details of the gunnery operations are shown at Appendix "C".

15. Photographic Results. Although recorders were carried, films were not available for assessment because of unserviceability of recorders and evasive actions.

Communications.

16. All radio equipment was serviceable and communications were maintained throughout the operation.

Lessons of the Operation.

17. Control of fighters by the Sydney Air Defence Training Sector was of a high order and resulted in most attacks being directed from up sun, making it difficult for the bomber crews to sight the attackers. Lincoln aircraft should weave at all times when air attack is suspected in order to permit a close watch to be made for attacks from the sun.

18. Severe evasive action by Lincoln aircraft makes accurate turret training extremely difficult.

19. The maintenance of concentration times is affected if severe evasive action is taken. Corkscrew evasion only, appears to be essential for single aircraft if concentration times are to be kept.

20. The severe shortage of trained gunners on the strength of No. 82 (B) Wing (three only available), limited the value of fire control experience which would normally have been gained in this operation.

21. Photographic assessment of simulated bombing does not accurately indicate the point of contact (see para. 10), though it does provide evidence that navigation and map reading is accurate.

22. Exercises of this nature, involving fighter affiliation and actual targets, provide a note of realism and competition which results in increased enthusiasm and better crew training.

23. Early advice to bomber units of approximately twenty-four hours notice is essential to permit proper briefing and organisation. In the operation briefing and departures went smoothly due to the early arrival of Forms Green and as a result maximum benefit was obtained.

Recommendations.

24. It is recommended that :-

- (a) More frequent exercises of this type should be conducted.
- (b) Lincoln aircraft should weave at all times when operating in areas where attacks may be expected and when conditions of bright sunlight are present.

- (c) In future exercises where two attacks are to be carried out by single aircraft, crews should be briefed to -
- (i) On the ^{first?} final attack carry out severe evasive action to obtain maximum benefit in co-operation between the fire control officer and the pilot.
 - (ii) On the second attack, evasive action by corkscrew tactics should be executed to provide training for the fire control officer and gunners.
- (d) Action be taken to post gunners to No. 82 Wing to bring the strength nearer to establishment.
- (e) In future exercises, it is recommended that one sortie at least should be carried out as a formation attack and thereby provide further training in fire control.
- (f) The practice of supplying bomber units with instructions at least twenty-four hours prior to the time of attack should be maintained.

(D. W. COLQUHOUN)
Group Captain
Officer Commanding
R. A. A. F. AMBERLEY.

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APPENDIX "A" TO
28/14/AIR DATED
24th JULY, 1953.

COPY NO. _____

CONCENTRATION TIMES ON TARGET

Serial No.	A/C. A73- (a)	Captain (b)	Target (c)	Con. Time (d)	+ Late - Early (e)	Remarks (f)
<u>20th JUNE, 1953.</u>						
1	52	Wg. Cdr. COLQUHOUN	Hornsby Rly Sta	0915K	+ 5	
3	"	"	Ingleburn Camp	1000K		
2	49	Flt. Lt. FREWIN	Barrenjoey Lt.	0935K	- 4	
5	"	"	Hawkesbury Rly Edge	1050K	- 2	
7	19	Flt. Lt. GRIGGS	Schofields	1120K	+ 2	
9	"	"	Hornsby Rly Sta	1200K		
7	25	Plt. Off. STAPLETON	Cataract Dam	1120K		
10	"	"	Blacktown Rly Sta	1215K		
11	55	Flt. Lt. BUCHAN	Clyde Eng. Works	1415K	+ 5	
15	"	"	Hornsby Rly Sta	1520K	- 4	
13	21	Flt. Lt. ONIONS	Prospect Res.	1450K	+ 1	
17	"	"	Ingleburn Camp	1600K		
<u>21st JUNE, 1953.</u>						
1	52	Flt. Lt. ROSS	Hornsby Rly Sta	0730K		
3	"	"	Ingleburn Camp	0815K		
2	49	Flt. Lt. SIMONS	Barrenjoey Lt.	0745K	+ 17	} Caused by unserviceability prior to take-off.
5	"	"	Hawkesbury Rly Edge	0900K	+ 11	
7	54	Flt. Lt. GRIGGS	Schofields	0955K		
9	"	"	Hornsby Rly Sta	1015K	+ 1	
7	25	Plt. Off. STAPLETON	Cataract Dam	0955K		
10	"	"	Blacktown Rly Sta	1030K	- 2	
11	47	Flt. Lt. ISAACS	Clyde Eng. Works	1245K	+ 10	
15	"	"	Hornsby Rly Sta	1350K		
13	15	Flt. Lt. WEARNE	Prospect Res.	1320K	- 5	} Timing waved to permit Press to obtain photographs.
17	"	"	Ingleburn Camp	1430K	- 5	

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APPENDIX "B" TO
28/14/AIR DATED
24th JULY, 1953.

COPY NO _____

PHONOGRAPHIC BOMBING RESULTS

Annexure 'A'	-	Serial No.1	20th June, 1953. Hornby Railway Station.
'B'	-	Serial No.5	20th June, 1953. Ingleburn Military Camp.
'C'	-	Serial No.3	20th June, 1953. Barrenjoey Light House.
'D'	-	Serial No.5	20th June, 1953. Hawkesbury River Bridge.
'E'	-	Serial No.7	20th June, 1953. Schodfields Airfield.
'F'	-	Serial No.9	20th June, 1953. Hornby Railway Station.
'G'	-	Serial No.7	20th June, 1953. Cataract Reservoir.
'H'	-	Serial No.15	20th June, 1953. Prospect Reservoir.
'I'	-	Serial No.17	20th June, 1953. Ingleburn Military Camp.
'J'	-	Serial No.1	21st June, 1953. Hornby Railway Station.
'K'	-	Serial No.2	21st June, 1953. Barrenjoey Light House.
'L'	-	Serial No.5	21st June, 1953. Hawkesbury River Bridge.
'M'	-	Serial No.7	21st June, 1953. Schodfields Airfield.
'N'	-	Serial No.9	21st June, 1953. Hornby Railway Station.
'O'	-	Serial No.7	21st June, 1953. Cataract Reservoir.
'P'	-	Serial No.10	21st June, 1953. Blacktown Railway Station.
'Q'	-	Serial No.11	21st June, 1953. Clyde Engineering Works.
'R'	-	Serial No.15	21st June, 1953. Hornby Railway Station.
'S'	-	Serial No.15	21st June, 1953. Prospect Reservoir.
'T'	-	Serial No.17	21st June, 1953. Ingleburn Military Camp.

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APPENDIX "G" TO
28/14/AIR DATED
24th JULY, 1953.

COPY NO. _____

CARRIER RESULTS

Serial No.	N/C (a)	Captain (b)	Sightings & Interceptions (c)	Number & Type of Attacks (d)	Evasion & Results (e)	Turret Serv. (f)	Remarks (g)
<u>20th JUNE, 1953.</u>							
1 & 5	52	W/C. COLQUHOUN	2303Z, 2 Vampires breaking 300 yds. 2315Z, 2 Mustangs 6 o'clock 1/2 up, 1200 yds.	1 stern out of gun 5 high quarters 1 rolling from above 1 long drum out stern attack by section of two.	Assume Lincoln destroyed first attack. Evasion successful remaining attacks. Nil. Fire power of Lincoln sufficient to cope with attack.	Tail - S W/U. - U/S Nose - S	I/C within a/o was very bad due fault within the system.
2 & 5	49	P/L. TRUBTIN	2325Z, 2 Mustangs 4.30 o'clock 1/2 up, 1200 yds. 2353Z, 2 Vampires, 4.30 o'clock 1/2 up, 1200 yds. 0040Z, 2 Mustangs, 5.30 o'clock 1/2 up, 1200 yds. 0040Z, 2 Vampires 6 o'clock breaking	7 high quarters 8 high quarter 3 rolling from above, co-ordinated. 6 high quarters 6 high quarters	Successful Successful Successful Nil evasion only, Lincoln on banking run.	Tail - S W/U. - S Nose - S	I/C interference from mid-upper installation. W/U sight U/S.
7 & 9	19	P/L. GRIGGS	0111Z, 2 Mustangs, 6.30 o'clock 1/2 up, range 600 yds.	5 high quarters 2 rolling from above	Evasive action moderately successful due to inexperience of gunners.	Tail - S W/U. - S Nose - U/S	Nil interception over second target. I/C faulty due to faulty set of crew number.

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Serial No.	A/C (a)	Captain (b)	Sightings & Interceptions (c)	Number & Type of Attacks (d)	Evasion & Results (e)	Turret Serv. (f)	Remarks (g)
7 & 10	25	P/O. STAPLETON	0155Z, 2 Mustangs (attacked) 0157½Z. 0226Z, 1 Mustang	1 flat quarter 5 rolling from above Nil. Mustang called for emergency landing, Mascot Field.	Evasive action successful. Extensive use of cloud cover foiled all attacks.	Tail - S M/U. - S Nose - S	Fighters standing within range before attacks, presenting good targets for gunners.
11 & 15	55	P/L. BUCHAN	0404Z, 2 Mustangs 5 o'clock 2000 yds. 0511Z, 2 Mustangs 8 o'clock 1800 yds.	5 quarter attacks in battle formation. 5 quarter attacks in battle formation.	Successful. Nil. Lincoln was on final bombing run.	Tail - S M/U. - S Nose - S	Two "probable kills" claimed by Lincoln gunner
13 & 17	21	P/L. ONIONS	1438K, 2 Mustangs, attacking range 450 yds. 1549K, 2 Vampires	1 low quarter 4 high quarters 1 high quarter 2 rolling from above in battle formation.	Successful. Successful.	Tail - S M/U. - S Nose - S	Four "probable kills" claimed by gunners.
<u>21st JUNE, 1953.</u>							
1 & 3	52	P/L. ROES	2059Z, 4 Vampires, 5 o'clock 3000 yds. 2118Z, 3 Mustangs, 9 o'clock ½ up, 1000 yds.	1 battle formation 4 co-ordinated quarters 3 quarters	All evasion ineffective, balled too early by inexperienced gunners.	Tail - S M/U. - U/S Nose - S	
2 & 5	49	P/L. SIMONS	2136Z, 2 Vampires, 6 o'clock level, 800 yds. 2155Z, 5 Mustangs, 7.30 o'clock ½ up, 1200 yds.	2 level quarters 6 high quarters 1 low quarters 6 quarters 6 stern chases	Steep turns with use of engines aborted all attacks in both interceptions.	Tail - S M/U. - S Nose - S	

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Serial No.	A/C. (a)	Captain (b)	Sightings & Interceptions (c)	Number & Type of Attacks (d)	Evasion & Results (e)	Turret Serv. (f)	Remarks (g)
7 & 9	54	F/L. GRIGGS	2246Z, 2 Vampires attacking A73-25, 3 miles to south. 2249Z, 1 Vampire, range 3 miles, 3 o'clock 2334Z, 2 Mustangs 9 o'clock level, 2000 yds. 0052Z, 2 Mustangs, 10 o'clock 1/2 up, 3000 yds.	Nil. 2 port quarters 5 quarters 1 rolling from above. 11 quarters 1 abortive.	Successful, Successful.	Tail - S M/U. - U/S Nose - S	
7 & 10	25	P/O. STAPLETON	2256Z, 2 Vampires breaking attack. 2310Z, 5 Mustangs, 6.30 o'clock 1/2 up, 2000 yds. 0017Z, 1 Mustang, 5 o'clock level, 1000 yds.	First attack jumped from sun. 6 quarters 4 shallow quarters 2 battle formation quarters manoeuvre 1 stern chase 1 rolling from above	No evasive action due to dangerous attacks. Successful except one Successful.	Tail - S M/U. - S Nose - S	Front gunner claims 1 Mustang as fighter climbed away in front of the bomber within lethal range of the guns during the second evasion.
11 & 15	47	F/L. ISAACS	0237Z, 2 Mustangs 0330Z, 2 Mustangs	6 high quarters, first attack 0238Z 2 quarters 2 stern chases, first attack 0331Z	Successful. Successful.	Tail - S M/U. - S Nose - S	
13 & 17	15	F/L. WEARNE	Intercepted by 4 Mustangs at sea on both targets.	N/A	Nil evasion as press photographers on board.		Press photographers occupied the turrets and all vantage points in aircraft. No strike report submitted for gunnery.

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