

ENGINE DIVISION - PRODUCTION REPORT.  
FOR OPERATIONS CONFERENCE - 11TH SEPTEMBER, 1945.

Status of Engine Programme : As at 7th September, 1945.

Quantity Ordered	A/D	Delivered		In Process
		CAC.	Storage DAP	

Previous Contracts:

C.A.C. Production Engines	629	629	-	-	-
P. & W. Conversions	152	152	-	-	-

CA.16 Contracts:

CAC. Production Engines	51	51	-	-	-
AN-1 Conversion Engines	99	63	6	26	4

CA.20 Contract:

AN-1 Conversion Engines	99	-	-	78	21
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1,030	895	6	104	25
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R.1340 Wasp 'H' Overhaul.

Engine Received.....	248
Engines Overhauled and Returned to A/D.....	225
Engines in Process of Overhaul.....	23
Engines await Overhaul.....	Nil

248	248
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R. 1340 AN-1 Overhaul:

Engines received.....	10
Engines Overhauled and returned to R.A.A.F....	9
Engines in Process of Overhaul.....	1
Engines await Overhaul.....	Nil

10	10
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Merlin Engines:

CA-17 Contract A/D Requirements.....	75
Delivered to A/D.....	49

Balance to deliver.....	26
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R.1830 TWIN ROW ENGINE OVERHAULS.

Engines in process of Overhaul.

R.1830 SPARES.

Information was received on Monday the 10th inst. covering amendments which will be made to the R.1830 R.A.A.F. Spares Order, D.A.P. Demand 1908, as a result of the surplus USAAC Stocks held at Amberley being taken into consideration.

In order to assess the loading on individual factory departments, an operational survey will be made at an early date, but on a parts output basis it is estimated that there will be at least 12 months work for the Engine Division in this order.

Request for Purchase Orders are now in course of preparation covering Purchase Parts and the Lidcombe portion of the order.

R.1340 SPARES.

As stated in the last conference report, all R.1340 parts with the exception of those on which the operation in process is being completed, have been withdrawn from production, and a survey of the status of various orders is in course of preparation in order that a statement may be submitted to the R.A.A.F.

AN-1 CONVERSION ENGINES.

Instructions have now been received to stop work on AN-1 Conversion engines. There are 21 Engines at present in Assembly Department, of which 2 are being tested, 2 being rebuilt prior to testing- 8 are awaiting inspection and 9 are awaiting dis-assembly. No work will be done to the latter 9 engines, but the remaining 12 will be completed.

DEPARTMENT 51 - ENGINE ASSEMBLY.

There are at present 24 R.1340 Engines being overhauled in the Assembly Department - 7 were received for the fortnight and 7 were despatched.

AN-1 CONVERSIONS.

21 of these Engines are in Assembly Department - 12 in process of conversion and the remaining 9 on which disassembly has not commenced will be returned to D.A.A.

The re-inhibition of AN-1 Engines in storage is proceeding at the rate of 5 per week. Merlin Engines for installation on Mustang Aircraft are being despatched to schedule. 49 have been delivered to date.

VALVE DEPARTMENT.

A further 235 R.1340 Inlet Valves have reached final inspection whilst another batch of 200 are at final grinding. A set of exhaust Valves have been received at Store. These will be installed in a R.1340 Motor for test purposes.

ENGINE DIVISION-MATERIAL SURVEY.

This survey has been presented and a break-down of surplus stocks is now being prepared showing the origin of such surpluses.

PRODUCTION REPORT.

The following reports show the status of production for the fortnight ended 7th September, 1945.

1. Production Summary.
  2. Planning, Tool Design and Tool Manufacture Report.
  3. Summary of Spares Deliveries.
  4. Summary of Factory Reconditioning.
  5. Summary of Cylinder Deliveries.
  6. Solid Tyre Tailwheel.
  7. R.1830 - C4. Spares.
  8. CA-15 Contract.
  9. Summary of Status of CA.18 Projects.
  10. CA-18 Material Shortages.
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1. PRODUCTION SUMMARY

	Average 1945 to date	Average 1944	% of 1944.
Average Fortnightly Gross Labour Hours	44161	96821	45.61
Average Fortnightly Nett Labour Hours	27796	54277	51.21
Average Fortnightly Gross Parts Completed	25772	38758	66.49
Average Fortnightly Gross Operations Completed	205546	291522	70.50

Department	No. Parts Completed	No. of Ops. Completed.	PROG. AV. No. of Ops. Fortnight 1945.	AV. No. of Ops. fort-night. 1944	% of 1944	Nett Fortnightly 1945	AV. Hours 1944	% of 1944.
42. Crankshafts	75	1731	2000	2695	74.21	1754	2561	68.48
43. Connecting Rods	41	3302	3891	5213	74.64	737	2096	35.16
44. Misc. Steels	16588	107188	139166	187238	74.32	6333	12953	48.88
45. Gear	150	3407	4717	10479	45.01	1836	3921	46.82
46. Cylinders	656	10418	8726	10923	79.88	1588	4682	33.91
47. Crankcases	127	1780	946	1248	75.80	510	1762	28.94
48. Misc. Alloys.	2204	12472	33147	58679	56.48	1816	3590	50.58
49. Cyl. Assy. & O/Haul.	-	9269	12707	7746	164.00	2179	3245	67.15

3 PLANNING, TOOL DESIGN AND TOOL MANUFACTURE REPORT.

Project	Planning		Tool Design		Tool Manufacture		
	Progressive & Completed Totals of Parts Requir'd Tooling	Progressive Compl'd. %	No. of Items Requiring Design	Designs Compl'd & Issued for Manufacture	Completed No. of Items	In Progress No. of Items	%
R.A.F. 1830	29	29	E/D178	178	138	40	23
Spare (1655)							
C.A. 18	53	53	E/D612	612	593	5	1
Landing Gear							
C.A. 18	26	26	E/D417	417	379	15	3
T/Wheel Assy.							
C.A. 18	13	13	E/D44	44	43	17	2
Gun Mount			A/D17	17	17	Nil	Compl
C.A. 18	37	37	E/D181	181	161	22	8
Pedal Assy.			A/D22	22	21	1	5
C.A. 18	7	7	E/D50	50	28	22	44
Truck Assy.			A/D3	3	3	Nil	Compl
C.A. 18	4	4	E/D57	57	57	Nil	100
Lord Bushing Housing			A/D2	2	Nil	2	100
C.A. 18	25	24	E/D82	82	71	7	8
Tube Assy. Cont. Stick			A/D35	35	33	2	6
C.A. 18	10	10	E/D38	38	33	7	5
Tube Assy. Flap Torque			A/D23	23	18	5	22
Hydraulics	133	133	600	600	572	28	5
C.A. 18	5	5	E/D80	80	53	8	10
Landing wheel							
Valves	8	8	E/D174	174	127	47	27

DEPT.	PART NAME	R.A.A.F.	05-57	LIDC.	ANA	RNZAF.	TOTAL DEL'D.	TOTAL OUTS'G.
42.	C/Shaft	9	9				18	35
43.	Art Rod. Assy.		7				7	90
44.	Miscellaneous	18798	9640		48	69	28555	131931
45.	Gears	59	11				70	3999
46.	Cyl. Barrel S/R							
	" " T/R	26	226				252	5537
47.	Miscellaneous							3
48.	Miscellaneous	3450	7325			24	10799	50032
51.	Assembly Dept.							
	Rim and Tyre Assy.	27						
	Master Rod Assy.	3						
	Pipe Assy. Oil Drain	1066						
	Piston Pin Assy	14						
	Wal. Tappet Assy.	199						
	Primer Tube Assy.	56					1365	1804
	Commercial	28824	416	15			29255	279928
	Com.Semi.Fin.	20					20	81945
TOTALS		52551	17634	15	48	93	70341	545304

#### 4. SUMMARY OF FACTORY RECONDITIONING.

Cylinder Assembles :	Wasp 'H' .....	34
	Twin Row, .....	150
Crankshaft Group :	Crankshafts.....	9
	Master Rods.....	10
	Artic Rods.....	72
Gears .....		35
Bearings: (Reprocess).1.....		148
Miscellaneous: Crankcases.....		19
	Oil Feed Bracket.....	10
	Pinion Cage Assy.....	11
	Impellers.....	1
Miscellaneous Parts ex. Engine O/ Haul Projects:		
	Various Items (Painting).....	990
	Various Items (Plating) .....	1590
	Various Items (Sand Blasting).....	1078

#### 5. SUMMARY OF CYLINDER DELIVERIES.

	53C & Emb. Loan Strs. Stock I <sub>n</sub> c. Oversize	W.I.P. Inc. O/ Size.	Forg. & S/F. Stock	Despatches.		Total
				New Spares	O/ Haul Assys.	
Wasp 'H'	2285	635	9140	-	34	34
Twin Wasp	324	964	4706	-	150	150

6. SOLID TYRE TAILWHEEL (Part 900188)

Delivery of Assemblies (900188) is now complete.

Total Rim & Tyre Assembly (900190) required for spares.....	150
Rim & Tyre Assembly despatched to 8/ 9/45.....	135
Work in Progress.....	5
Rims at Quarantine (awaiting Production Permit).....	16
Rims at Dunlops.....	24

7. R.1830 C4. SPARES.

Total parts required - Shop .....	19648
Total parts required - Commercial.....	46674
	<u>66322</u>

Parts completed and awaiting Assembly	2822
Parts despatched to date (M/C Shop Parts)	<u>18267</u>
Parts Despatched to date (Purchase Parts)	<u>46293</u>
Total Despatched	<u>64560</u>

Parts Outstanding to date M/C. Shop Parts	1381
Parts outstanding to date Purchase Parts	<u>381</u>

	<u>1762</u>
	<u>66322</u>
Work in Progress .. .. .	1636

8. CA-15 CONTRACT.

The only outstanding part is 900789 (Coffman Combustion Starter Head) Planning has been completed for this part, but the casting has not yet been received.

MARY OF THE STATUS OF CA. 18 PROJEC

	Assemblies Required	PLANNING		TOOLING		PRODUCTION		PURCHASE PARTS				
		Parts Req'd.	Parts in Comp'l'd. Progress	Req'd. Compl. In Prog- ress	De- sign Req'u. Comp'l in Prog- ress	Units Req'u. Comp'l	Units in Prog- ress	Units Req'd.	Units Rec'd.			
SSY	270	47	Nil	203	187	16	Nil	21730	2500	4163	17872	4290
at	855	18	Nil	66	58	8	Nil	25922	651	8000	Nil.	Nil.
by. brque)	270	13	Nil.	61	50	11	Nil.	3496	-	740	Nil.	-
by. L stick)	270	25	1	117	104	13	Nil	5527	81	450	288	S/F -
SSY.	270	12	-	53	31	22	Nil.	12330	627	2100	1650	-
Gcar	290	54	-	612	500	4	-	42340	20320	6875	37120	11120
el	320	30	-	417	408	9	-	12800	1689	3115	19229	5252
Wheel	650	5	-	80	64	16	-	3250	-	616	11700	-
CS	5801	133	-	600	572	28	Nil	67932	5564	15174	-	16727



CA.18 PROJECTS - SHORTAGES.

The first issues for manufacture of the following parts for the CA.18 Projects are at present held up by non receipt of material being tested at Highett.

Part Number	Part Name	Material.
17-58163-2	Rod. Hyd. Open Strut.	Tubing 1 $\frac{1}{8}$ "OD x $\frac{1}{4}$ "W. CA.101
17-58163-3	Rod. Hyd. Open Strut.	Tubing 1 $\frac{1}{8}$ "OD x $\frac{1}{4}$ "W. CA.101
17-58167	End. Hyd. Wing Flap.	Bar $\frac{3}{8}$ " x 2" Rect. CA.103
17-58707	Rod. Hyd. Fair Door.	Tubing $\frac{7}{8}$ "OD x .188"W. CA.101
17-58715	Cyl. Hyd. Fair Door.	Tubing 1 $\frac{3}{4}$ "OD x .188"W. CA.101
17-58730-2	Pin. Hyd. Fair Door.	Bar $\frac{1}{8}$ " x 2" Rect. CA.133
18-58144-2	Cyl. Hyd. Open Strut	Tubing 2 $\frac{1}{2}$ "OD x .219" W. CA.101
18-58144-3	Cyl. Hyd. Open Strut	Tubing 2 $\frac{1}{2}$ "OD x .219"W. CA.101
17-33430	Cyl. Park Brake	Tubing 1 $\frac{1}{2}$ "OD x .120"W CA.211-3
17-52413	Collar F/R Cockpit Spacer	Tubing 1 $\frac{1}{2}$ "OD x .120"W CA.211-3
17-52415	Tube Rudder Pedal	Tubing 1 $\frac{1}{2}$ "OD x .083"W. CA.211-3
18-33409	Body Brake Mast. Cyl.	Forging 18-33408
17-34005	Cap Tailwheel Locking	Forging 17-34006
17-34146	Tube Tailwheel Torque	Tubing 1 $\frac{1}{8}$ "OD x .188"W. CA.101
17-34107	Spacer Tailwheel Stop	Tubing 2 $\frac{1}{4}$ "OD x .058"W. CA.211-3
18-31897-2	Fitting Cam Lock Truck	Forging 18-31810
17-14296	Screw Gun Mount	Bar $\frac{1}{2}$ " Hex. CA.103
17-52609	Tube Flap Torque	Tubing 2"OD x .219"W. CA.101

Date of receipt of the following forgings for initial batches is uncertain due to the strike at the manufacturers, Messrs. Commercial Steel & Forge Coy., N.S.W.

PART NUMBER	PART NAME	FORGING NO.
17-58716	Head. Hyd. Fair. Door.	Forging 18-58761
18-58061	Head. Hyd. Open Strut	Forging 18-58060

The following delivery dates were required for the undermentioned castings, no deliveries of which have as yet been made. A promise of delivery has been given by the foundry for 21/9/45 in each case.

PART NUMBER	PART NAME	CASTING NO.	SCHEDULED DELIVERY DATE.
17-33411	Arm Park Brake Pedal	17-33411	April 1945.
17-52143	Bracket Cockpit Brg.	17-52143	June 1945.

Receipt of Semi-finished parts 17-52113 Stick Cockpit Control, is still awaited from Aircraft Division Production Department.

Material for parts 17-52130 sleeve Cockpit Bearing and 17-52152 Collar Aileron Support both for the Tube assembly is not yet available. A Permit was obtained to use a substitute specification CA.103 in lieu of CA.133 but this has since been issued by the Aircraft Division for other production parts and is not now available.

The material position is now being investigated with a view to using another substitute as specification CA.133 will not be available for approximately two (2) months.