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TECHNICAL NOTES

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

No. 303

CONDENSED DATA ON THE AIRCRAFT ENGINES OF THE WORLD

Compiled by C. S. Fliedner
Bureau of Aeronautics, U.S.N.

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CONDENSED DATA ON THE AIRCRAFT ENGINES OF THE WORLD.

Compiled by C. S. Fliedner.

This compilation of the outstanding characteristics of the available aircraft engines of the world was prepared as a compact ready reference for desk use. It does not pretend to be anything but a skeleton outline of the characteristics of engines reported in the technical press as being in either the experimental, development, or production stage.

At present progress is quite rapid and by the time this compilation is disseminated new models may have superseded those listed, or changes may have been made which will entirely change the characteristics given. In cases where an engine has several ratings, the lowest acceptable rating has been listed.

New engines are being given acceptance tests every week by the Department of Commerce. A current list of engines approved for aircraft may be procured directly from the Aeronautics Branch, Department of Commerce, Washington, D. C.

AMERICAN ENGINES

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks
Aero. Development		S2C	4.125x5.250	120	1800	7	A	Radial	5.20	38.5	344	
Aero. Products	Scorpion		4.625x5.00	100	1800	4	"	Line			500	
Aeromarine		Radial	3.875x4.750	125	1800	9	"	Radial	5.0	38.0	365	
"		AD-9	2.750x3.375	40	2000	9	"	"	5.6	24.75	165	
"		S	4.625x7.000	100	1800	4	"	Line	5.6		350	
A j a x Allison	(Murray) X4520	**	4.375x5.375	80	1250	6	"	Radial	5.3	36.0	190	
"	Mod. Lib.	**V-1650	5.75 x7.25	1200	1800	24	"	X	5.1	?	2890	Supercharged
"			5.00 x7.00	420	1700	12	W	45V	5.42		905	436 HP. at 1800
"		**V-1410	4.625x7.00	410	1800	12	A	45V	5.37		1010	
"		**GV-1410	4.625x7.00	410	1800	12	"	45V	5.37		1145	
"	Diesel			900	1200	6						
Alliance	Hess	Warrior	4.250x4.500			7	A	Radial	5.2	37.0		
Anzani	Brownback	5A	4.921x5.91	150	1500	5	"	"	5.0		330	Foreign, as- sembled in U.S.A.
Atlas	(Murray)		4.875x5.375	120	1250	8	"	"	5.20	36.0	260	Two-cycle.
Axelson	A7R	R-610	4.500x5.5	115	1800	7	"	"	5.00	45.5	750	Formerly Floco app'd
Bailey Beacon		C-7-R	4.375x5.50	140	1850	7	"	"		36.0	325	
Blue Streak		A3	3.50 x3.75	70	1800	3	A	Radial	5.2	30.0	160	
Bliss	Jupiter	VIA	5.75 x7.50	425	1700	9	"	"	6.3	54.0	720	Not certi- fied. Commerce.
"	"	VIAM	5.75 x7.50	440	1700	9	"	"	5.3	54.0	720	
"	"	VIAL	5.75 x7.50	420	1700	9	"	"	5.1	54.0	720	
"	Titan	Series II	5.75 x6.50	220	1700	5	"	"	5.3		500	
"	"	" III	5.75 x6.50	200	1700	5	"	"	5.1		500	
Brewer	Pitcairn	Model F	4.25 x5.00	160	1800	9	"	"	5.0	39.0	455	
Brownback	Anzani		3.453x4.134	25	1800	3	"	"	5.10		110	Foreign, as- sembled in U.S.A.

**Army engine

N.A.C.A. Technical Note No. 303

American Engines (Cont.)

Maker	Name	Type desig.	Bore and stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks
Brownback	Anzani		3.543x4.724	45	1800	3	A	Radial	5.10		115	Foreign, as- sembled in U. S. A.
"	"	3B	4.134x4.724	35	1600	3	"	"	5.10		132	
"	"		3.543x4.134	35	1600	6	"	"	5.10		165	
"	"		3.453x4.724	50	1600	6	"	"	5.10		170	
"	"	6B	4.134x4.921	90	1600	6	"	"	5.10	35.9	215	
"	"		4.134x5.512	130	1600	10	"	"	5.50		320	
Cameron	Four	60	4.125x4.750	60	1800	4	"	Line	5.4		180	26" long.
"	Radial	100	4.125x4.5	100	1800	7	"	Radial	6.0	33.0	280	
Chevron			4.375x5.000	100		5	"	"			376	Motorcycle en- gine modified.
Cleveland	Four		2,500x3.062	25	1700	4	"	Line			61	
Comet	(Aircraft Co.)		4.500x5.500	130	1825	7	"	Radial		46.5	375	
Continental		A70	4.625x4.625	150	1850	7	"	"	5.1	41.75	390	
Curtiss	D-12-D	***	4.50 x6.00	435	2300	12	W	60V	5.3		680	Approved.
"	D-12-E	**	4.50 x6.00	435	2300	12	"	"	5.3		686	Approved. #4 gun synchro- nizer.
"	Conqueror	**V-1570	5.125x6.25	600	2400	12	"	"	5.8		760	Approved.
"	"	**GV-1570	5.125x6.25	600	2450	12	"	"	5.8		870	"
"	Chieftan	***H-1640	5.625x5.50	600	2200	12	A	Radial	5.4	45.00		"
"	Challenger	***R-600	5.125x4.875	170	1700	6	"	"	5.33	41.75	420	2-throw shaft. 180 - 1800. (Belleville, N.J.)
Cirrus	(American)		4.331x5.118	90	1900	4	"	Line	5.00		285	Approved.
Dayton	Bear		4.500x7.000	76	1425	4	"	"	5.30		375	
Detroit	Aircat	(See Le Blond)										
Fairchild	Caminez	447C	5.625x4.50	120	1000	4	A	X	5.0	37	340	145 - 1100 - approved.
Floco	(See Axel- son)											
Fisher & Jacobs		LA-1	4.500x4.750	130	1600	7	A	Radial	5.2	42	395	Ready for com- merce tests.

** Army engine.

*** Army and Navy engine.

American Engines (Cont.)

Maker	Name	Type desig.	Bore and stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks
Brownback	Anzani		3.543x4.724	45	1800	3	A	Radial	5.10		115	Foreign, as- sembled in U. S. A.
"	"	3B	4.134x4.724	35	1600	3	"	"	5.10		132	
"	"		3.543x4.134	35	1600	6	"	"	5.10		165	
"	"		3.453x4.724	50	1600	6	"	"	5.10		170	
"	"	6B	4.134x4.921	90	1600	6	"	"	5.10	35.9	215	
"	"		4.134x5.512	130	1600	10	"	"	5.50		320	
Cameron	Four	60	4.125x4.750	60	1800	4	"	Line	5.4		180	26" long.
"	Radial	100	4.125x4.5	100	1800	7	"	Radial	6.0	33.0	280	
Chevron			4.375x5.000	100		5		"			376	Motorcycle en- gine modified.
Cleveland	Four		2.500x3.062	25	1700	4	"	Line			61	
Comet	(Aircraft Co.)		4.500x5.500	130	1825	7	"	Radial		46.5	375	
Continental		A70	4.625x4.625	150	1850	7	"	"	5.1	41.75	390	
Curtiss	D-12-D	***	4.50 x6.00	435	2300	12	W	60V	5.3		680	Approved.
"	D-12-E	**	4.50 x6.00	435	2300	12	"	"	5.3		686	Approved. M4 gun synchro- nizer.
"	Conqueror	**V-1570	5.125x6.25	600	2400	12	"	"	5.8		760	Approved.
"	"	**GV-1570	5.125x6.25	600	2450	12	"	"	5.8		870	"
"	Chieftan	***H-1640	5.625x5.50	600	2200	12	A	Radial	5.4	45.00		"
"	Challenger	***R-600	5.125x4.875	170	1700	6	"	"	5.33	41.75	420	2-throw shaft. 180 - 1800. (Belleville, N.J.)
Cirrus	(American)		4.331x5.118	90	1900	4	"	Line	5.00		285	Approved.
Dayton	Bear		4.500x7.000	76	1425	4	"	"	5.30		375	
Detroit	Aircat	(See Le Blond)										
Fairchild	Caminez	447C	5.625x4.50	120	1000	4	A	X	5.0	37	340	145 - 1100 - approved.
Floco	(See Axel- son)											
Fisher & Jacobs		LA-1	4.500x4.750	130	1600	7	A	Radial	5.2	42	395	Ready for com- merce tests.

** Army engine.

*** Army and Navy engine.

AMERICAN ENGINES (Cont.)

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks
Grant			4.500x6.000	250	2200	8	A	Opposed	5.5?		500	Experimental
"	Geared		4.500x6.000	280	2500	8	"	"	5.5?		550	flat 4's opposed.
Gotham				120							120	
Hallett		H526	4.375x5.00	130	1800	7	"	Radial	5.20	46	425	
Hall-Scott		Six	5.00 x7.00	300	1800	6	W	Line	6.25		700	
Harris		B1	4.000x5.00	90	1400	8	"	90°V				Approved.
Henderson	De Luxe			23	300	4	A	"			117	Motorcycle origin.
Hudson	Hawk	6-100	3.875x5.00	100	1800	6	"	Radial			325	In development.
Inblum		G	5.000x5.000	300	1200	6	"	"	6.5	38	361	
Irwin	Meteor	79	2.875x2.750	20	1700	4	A	Line	5.0	23	60	Two-cycle.
Kinner		K5B	4.250x5.250	90	1810	5	"	Radial	5.1		251	Approved.
Kinney	Noble	5RA	4.500x5.00	75	1800	5	"	"	5.2		216	
Kimball	Beetle	K	4.500x5.500	135	1850	7	"	"	5.0	45	378	
LeBlond		40	4.125x3.75	40	1900	3	"	"	5.6	32.75	178	
"		60	4.125x3.75	65	1950	5	"	"	5.6	32.75	223	Approved.
"		90	4.125x3.75	90	1975	7	"	"	5.6	32.75	280	"
Liberty	12	**Direct	5.00 x7.00	420	1700	12	W	60°V	5.42		845	436 - 1800. App'd.
"	12	**Invert- ed	5.00 x7.00	420	1700	12	"	"	5.42		872	436 - 1800. "
"	Allison	**Geared	5.00 x7.00	420	1700	12	"	"	5.42		974	Spur gear.
"	"	**Geared	5.00 x7.00	420	1700	12	"	"	5.42		950	Epicyclic gear.
Lycoming		Direct	4.500x4.500	185	1950	9	A	Radial		43.25	470	Experimental.
Marchetti			4.000x4.250	160	1400	8	"	"			350	"
Menasco	Salmson	B2	4.921x6.693	260	1500	9	"	"	5.20	49-1/8	542	Converted Salmson.
Miller			4.375x5.250	250		8	W	Line	6.0		450	Experimental.
Morehouse		M-42	3.000x3.00	12	2000	2	A	Opposed	5.1		514	Ready for com- merce test.
"		WM-80	3.75 x3.625	28	2500	2	"	"	5.2		90	Ready for com- merce test.
Nordwick			5.750x4.50	200	1500	4					560	Cam engine. Ex- perimental.

**Army engine.

N.A.C.A. Technical Note No. 303

AMERICAN ENGINES (Cont.)

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks
Michigan Screw Co.		Rover	3.875x5.000	60	1800	4	A	Line	5.1		210	Inverted.
Packard Motor Car Co.		***3A-1500	5.375x5.500	500	2000	12	W	60°V	6.0		807	Direct and in- verted.
Packard M.C.Co.		***3A-1500G	5.375x5.500	600	2500	12	"	"	6.0		915	
"	"	***3A-2500	6.375x6.50	770	2000	12	"	"	5.7		1255	
"	"	***3A-2500G	6.375x6.50	770	2000	12	"	"	5.7		1435	
"	"	**4A-2500G	6.375x6.50	880	2700	12	"	"	5.1		1640	Also super- charged.
"	"	*1A-2775	5.375x5.00	1350	2700	24	"	X	8.8		1480?	
"	"	*1A-2775	5.375x5.00	1250	2700	24	"	"	7.5		1450	May be super- charged.
Pratt & Whitney	Commer- cial B		5.75 x5.75	400	1900	9	A	Radial	5.25	50.62	570	Approved.
Pratt&W.	Wasp	***R1340B	5.75 x5.75	425	2100	9	"	"	5.25	50.62	672	"
"	Hornet	***R1690	6.125x6.375	500	1900	9	"	"	5.00	54.5	770	Less hub. Ap- proved.
"	"	*R1690G	6.125x6.375	500	1900	9	"	"	5.00	54.5	830	Less hub. Ap- proved.
Quick	Quick Radial		4.13 x4.72	125	1450	9	"	"	5.00	36.0	325	
Roberts Rocky Mt. S.P.	Pegasus	R-756	4.625x5.000	200	1800	6	W	Line				Two-cycle.
Ryan- Siemens		Model 5	3.937x4.724	70	1750	5	"	"	5.6	40.5	258	
Ryan- Siemens		Model 7	3.937x4.724	96	1750	7	"	"	5.6	40.5	326	Foreign, assem- bled in U.S.A.
Ryan- Siemens		Model 9	3.937x4.724	125	1750	9	"	"	5.6	40.5	382	
Spartan (See Walter)												
Szakley	Sky Roamer	3	4.125x4.750	40	1800	3	"	"	4.8		140	

*Navy engine. **Army engine. ***Army and Navy engine.

N.A.C.A. Technical Note No. 303

AMERICAN ENGINES (Cont.)

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cooling	Cyl. arranged	Comp. ratio	Over-all dia.	Wt. lb.	Remarks
Szekley	Sky Roamer	5	4.125x4.75	65	1800	5	A	Radial	4.8		226	
"	Sky Roamer	7	4.125x4.75	110	1800	7	"	"	4.8			
Tips & Smith	Super Rhone	ZR1	4.125x5.500	120	1450	9	"	"	5.1	37.25	325	
Tips & Smith	Super Rhone	ZR2	4.125x5.50	125	1450	9	"	"	5.2	37.25	340	135 - 1650.
Velie		19	4.50 x4.50	160	1800	9	"	"	5.2	43	477	
"		M5	4.125x3.750	55	1850	5	"	"		32	210	Approved.
Walter		5	4.13 x4.72	70	1600	5	"	"	4.4	37	225	These engines are foreign built.
"		7	4.13 x4.72	95	1600	7	"	"	4.4	37	280	
"		9	4.13 x4.72	135	1750	9	"	"	4.4	39	352	
Warner	Scarab		4.250x4.250	110	1850	7	"	"	5.2	35.5	270	Approved. 1929 series 36.25 O.D.
Wright	Whirlwind	***R-790A	4.500x5.500	225	1800	9	"	"	5.4	45	530	Approved.
"	"	***R-790B	4.500x5.500	225	1800	9	"	"	5.2	45	535	Has general drive. E4 synchron.
"	J6	***R975G	5.000x5.500	300	2000	9	"	"	5.4	45	535	Approved.
"	J6	***R540	5.00 x5.500	150	1800	5	"	"	5.4	45	380	
"	J6	***R-760	5.00 x5.500	225	2000	7	"	"	5.4	45	440	
"	J6	***R-975	5.00 x5.500	300	2000	9	"	"	5.4	45	505	Approved.
"	Cyclone	***R1750	6.00 x6.875	525	1900	9	"	"	5.1	54	785	Less hub.
"	"	***R1750G	6.00 x6.875	500	1900	9	"	"	5.1	54	850	
"	"	**V-1460	4.875x6.500	525	2300	12	"	60°V	5.3		925	Experimental.
"	Gypsy		4.500x5.062	90	1900	4	"	Line	5.0		285	

No information on the following:

Allen 8 - Alco Oil Tool Co. - Compton, Calif.

Baumann

A. Chrevolet - Indianapolis.

Dalton - ?

Goff - converted Curtiss OXX'

MacClatchie Mfg. Co. - Compton, Calif.

Western Enterprise Engine Co. - Los Angeles, Calif.

**Army engine.

***Army and Navy engine.

ENGLISH ENGINES

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cooling	Cyl. arranged	Comp. ratio	Over-all dia.	Wt. lb.	Remarks
A.B.C.	Scorpion	Mark II	4.016x3.600	34	2300	2	A	Opposed	6.0	26.00	111	39 - 2600.
"	Hornet		4.016x4.80	75	1875	4	"	"	6.0	39.00	225	82 - 2075.
A.D.C.	Airdisco											
"	Gd		4.134x5.118	128	1800	8	"	90° Vee	4.60		445	
"	Cirrus	Mark I	4.134x5.118	60	1800	4	"	In line	4.6		285	
"	"	Mark II	4.331x5.118	75	1800	4	"	" "	4.9		280	
"	"		4.331x5.118	85	1900	4	"	" "	5.4		290	
"	Gypsy		4.500x5.062	90	1900	4	"	" "	5.0		285	
"	Nimbus		5.984x7.480	305	1450	6	W	" "	5.40		675	
Armstrong	Genet		4.000x4.000	80	2200	5	A	Radial	5.2	33.25	200	87 - 2400
"	Mongoose	II	5.000x5.500	135	1700	5	"	"	5.0	45.5	340	153 - 1870
"	Lynx	IV	5.000x5.000	215	1920	7	"	"	5.0	45.5	495	225 - 1900
"	Jaguar	IV	5.000x5.500	385	1700	14	"	"	5.0	45.5	780	425 - 1900
"	Jaguar	IVs	5.000x5.500	385	1700	14	"	"	5.0	45.5	810	425 - 1900
"	Leopard		6.00 x7.50	700	1500	14	"	"	5.0	57	1415	supercharged. 755 - 1650 (Wt. complete)
Beardmore	Simoon	Mark I	8.625x8.562	1100	1250	8	W	In line			2770	Inverted.
"	Cyclone		8.625x12.00	925	1350	6	"	" "	5.25		2150	
"	Typhoon	Mark II	8.625x12.00	925	1350	6	"	" "	5.25		2150	Inverted.
"	Tornado	Diesel	8.625x12.00	1200	1350	8	"	" "			2350	
Blackburn	Thrush		3.189x3.819	30	2500	3	A	Radial	6.0			
Bristol	Cherub	III	3.543x3.800	33	2900	2	"	Opposed	5.5		95	
"	Lucifer	IVa	5.750x6.25	120	1700	3	"	Radial	5.3	48	330	
"	Jupiter	VIa	5.750x7.500	415	1700	9	"	"	6.3	53	720	(Wt. bare) 455 at 5000 ft.
"	"	VIam	5.750x7.500	440	1700	9	"	"	5.3	53	720	
"	"	VIal	5.750x7.500	420	1700	9	"	"	5.0	53	720	
"	"	VII Schd	5.750x7.500	425	1755	9	"	"	5.3	53	770	440 - 1950 at 15000 ft.
"	"	VIII gd.	5.750x7.500	455	2000	9	"	"	5.8	53	880	480 - 2200 at 4000 ft.

N.A.C.A. Technical Note No. 303

ENGLISH ENGINES (Cont.)

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks	
Bristol	Jupiter	IX gd	5.750x7.500	485	2000	9	A	Radial	5.3	53	880	Racing super- charger.	
"	"	XI gd.	5.750x7.500	460	2000	9	"	"	5.0	53	880		
"	Titan	Series III	5.750x6.50	220	1700	5	"	"	5.3		500		
"	"	Series II	5.750x6.50	200	1700	5	"	"	5.0		500		
"	Mercury	Series I	5.750x6.50	800	2500	9	"	"	8.5		680		
"	Orion						"	"					
DeHavilland	Ghost	Series I	4.500x5.062	200			"	60° Vee					New 1929.
Napier	Lion	VII a	5.500x5.125	875	3300	12	W	W	10.0		850		Racing.
"	"	VII B gd.	5.500x5.125	875	3300	12	"	"	10.0		930		"
"	"	VIII	5.500x5.125	525	2350	12	"	"	6.25		920		
"	"	XI gd.	5.500x5.125	530	2350	12	"	"	6.0		995		
"	Cub			1000									
Pobjoy		P	2.835x3.425	60	3000	7	A	Radial		25	115	.57 lb./B.HP./ HP. geared.	
Rolls-Royce	Condor	III gd.	5.500x7.500	665	1900	12	W	60° V	5.3		1350		
"	"	III Direct	5.500x7.500	665	1900	12	"	"	5.3		1213		
"	"	Eagle	4.500x6.500	360	1800	12	"	"	5.22		965		
"	"	FX	5.000x5.500	460	2100	12	"	"	6.0		760		
"	"	FXIA	5.000x5.500	490	2250	12	"	"	6.0		865	.632 to 1 gear ratio.	
"	"	FXIB	5.000x5.500	480	2250	12	"	"	7.0		865	.632 to 1 gear ratio.	
"	"	FXIIA	5.000x5.500	490	2250	12	"	"	6.0		865	.552 to 1 gear ratio.	
"	"	FXIIB	5.000x5.500	480	2250	12	"	"	7.0		865	.552 to 1 gear ratio.	
"	"	Falcon	III	4.000x5.750	270	1800	12	"	"		705		
"	"		FXIVA	5.000x5.500	490	2250	12	"	"	6.0	865	Minor changes to FXIIA.	

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FRENCH ENGINES

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cooling	Cyl. arranged	Comp. ratio	Over-all dia.	Wt. lb.	Remarks
Anzani		3A	4.134x4.724	35	1700	3	A	Radial	4.6	33.1	132	
"		6A	3.543x4.724	50	1500	6	"	"	4.6		165	
"		6A	4.134x4.920	75	1500	6	"	"	4.6	35.8	218	
"		10A	4.134x5.708	120	1600	10	"	"	5.3	42.3	308	
Caffort	Geared		5.709x5.906	500	2000	12	W	Opposed	5.3	35.5	1210	
Farman	"	18WD gd.	5.118x7.087	700	1850	18	"	W60	5.50		1600	820 - 1920
"	"	18WD gd.	4.331x4.921	600	2800	18	"	W60	5.50		873	730 - 3400 inverted.
"	"	12WE gd.	5.118x6.299	500	2150	12	"	60°V	5.50		1120	
"	Radial	9EA	4.528x4.724	250	2600	9	A	Radial	5.8		484	
Gnome	Jupiter	(See Bristol Jupiter)										
Hispano		8Ab	4.724x5.118	180	1800	8	W	90°V	5.3		420	236 - 2000
"		8Aa	4.724x5.118	155	1500	8	"	"	4.70		420	200 - 2000
"		8Fg	5.512x5.906	287	1700	8	"	"	5.3		605	298 - 1950
"		8Fb	5.512x5.906	300	1800	8	"	"	4.70		605	343 - 2100
"		8Fe	5.512x5.906	300	1870	8	"	"	5.3		605	352 - 2100
"		6Pa	4.331x5.512	100	1800	6	"	Line	5.5		331	150 - 2100
"		6Mb	5.118x6.693	250	2000	6	"	"	6.0		551	300 - 2100
"	Gear	6Mbr g	5.118x6.693	250	2000	6	"	"	6.0		650	290 - 2100
"		12Mb	5.118x6.693	500	2000	12	"	60°V	6.0		882	580 - 2100
"	Geared	12Mbr	5.118x6.693	500	2000	12	"	"	6.0		980	570 - 2100
"		12Nb	5.906x6.693	650	2000	12	"	"	6.0		1003	760 - 2100
"	Geared	12Nbr	5.906x6.693	650	2000	12	"	"	6.0		1102	740 - 2100
"		12Ja	4.724x5.906	350	1800	12	"	"	5.3		760	390 - 2100
"		12Jb	4.724x5.906	400	2000	12	"	"	6.0		760	464 - 2100
"		12Ga	5.512x5.906	500	1800	12	"	60°W	5.3		860	536 - 2100
"		12Gb	5.512x5.906	500	2000	12	"	"	6.0		860	610 - 2100
"		12Ha	5.512x5.906	500	1800	12	"	60°V	5.3		900	547 - 2000
"		12Hb	5.512x5.906	500	2000	12	"	"	6.0		900	615 - 2100
"		12Lb	5.512x6.693	650	2000	12	"	"	6.0		926	662 - 2100
"		12Kb	5.512x6.693	622	2000	12	"	"	6.0		904	
"	Geared	12Hbr	5.512x5.906	500	2000	12	"	"	6.0		1012	590 - 2100
"	"	12Kbr	5.512x6.693	570	2100	12	"	"			981	

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FRENCH ENGINES (Cont.)

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks
Lorraine	Dietrich	15-2	4.72x6.90	270	1650	8	W	90°V	5.2		638	
"	"	5Ab	4.921x5.315	100	1350	5	A	Radial	5.0	44.6	330	106 - 1350
"	"	7Ma	5.315x5.906	230	1800	7	"	"	5.0	48.8	605	270 -
"	"	14Ac	5.315x5.906	470	1800	14	"	"	5.0	48.8	970	550 -
"	"	12Db	4.724x6.614	400	1700	12	W	60°V	5.5		902	420 -
"	"	12Eb	4.724x7.087	450	1850	12	"	"	6.0		858	478 - 1880
"	"	12Eb gd.	4.724x7.087	450	1900	12	"	"	6.0		935	490 -
"	"	12Ee	4.724x7.087	480	2000	12	"	"	6.5		846	510 -
"	"	18Ka	4.724x7.087	650	1850	18	"	40°W	6.0		1220	690 - 1850
"	"	18 Kd. gd.	4.724x7.087	650	2000	18	"	"	6.0		1365	740 - 2000
Panhard		VK12L	5.315x6.693	500	1550	12	"	60°V	6.0		1188	
"	Levasseur	VK122	5.512x6.693	450	1500	12	"	"	5.4		1102	525 - 1800 Knight Belgian
Renard		5	4.724x5.512	100	1580	5	A	Radial		42.5	275	
Renault		12Ja	4.921x6.614	450	1800	12	W	60°V	5.6		770	
"	Gearcd	12Jb	4.921x6.614	500	2020	12	"	"	5.6		890	
"		12Kg	5.276x7.087	550	1800	12	"	"	5.6		1010	
"	Gearcd	12Kh	5.276x7.087	570	1900	12	"	"	5.6		1155	
"		12Mc	6.299x7.087	700	1700	12	"	"	5.3		1300	
"	Gearcd	12Md	6.299x7.087	740	1800	12	"	"	5.3		1450	
"	Radial		4.921x5.906	250	2400	9	A	Radial				
"	Gearcd	Four		80	2400	4	"	Line			242	
Salmson		6AD	2.756x3.386	25	1900	6	"	Radial	5.6	12.6	132	
"		9AD	2.756x3.386	40	2000	9	"	"	5.6	24.8	165	
"		5AC	3.937x5.118	60	1800	5	"	"	5.0/ 5.4	37.0	242	
"		7AC	3.937x5.118	95	1800	7	"	"	5.0/ 5.4	37.0	286	
"		9AC	3.937x5.118	120	1800	9	"	"	5.0/ 5.4	37.5	374	
"		9AB	4.921x6.693	230	1700	9	"	"	5.0/ 5.4	46.5	582	
"		18AB	4.921x6.693	500	1700	18	"	"	5.0/ 5.4	47.3	1012	

FRENCH ENGINES (Cont.)

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks
Salmson		9CM	4.921x6.693	260	1650	9	W	Radial	5.4	47.3	550	
"		18CM	4.921x6.693	500	1650	18	"	"	5.4	47.3	1012	
"		3AD	2.756x3.386	12	1800	3	A	"	5.6	12.6	746	
S.F.F.A.		3	4.13 x4.92	40	1450	3	"	"	5.4			
"		5	4.13 x4.92	90	1450	7	"	"	5.4		298	
A. Michel		AM16I	2.17 x2.76	40	3600	6	W	Line			243	
"		AM16II	2.36 x2.76	50	3600	6	"	"			260	
"		AM16III	2.56 x2.76	55	3600	6	"	"			287	85 at 5000
"		AM14	4.528x5.906	90		6	A	"	4.5		304	
"		AM7	5.00 x7.000	200	1700	6	W	"			528	
Talbot	Matabele		4.803x6.299	420	2000	12	"	60°V	4.8		960	Geared.
"		720D	5.512x5.118	730	2100	18	"	W	5.5		1665	

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GERMAN ENGINES

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cooling	Cyl. arranged	Comp. ratio	Over-all dia.	Wt. lb.	Remarks
Argus	Inverted geared (See Mercedes - Benz)	As VI	6.299x7.087	700	1500	12	W	60°V	5.7		1168	Supercharged 1000 HP. 1700
"		As VIa	6.299x7.087	700	1500	12	"	"	5.7		1168	
Benz		IIIa	5.906x7.087	185	1410	6	W	Line			627	260 at 1580
BMW		IV	6.299x7.480	250	1460	6	"	"			671	310 " 1580
"		Va 7.3	6.299x7.480	320	1555	6	"	"	7.3		698	385 " 1650
"		Va 6.0	6.299x7.480	320	1565	6	"	"	6.0		698	370 " 1650
"		Va 5.5	6.299x7.480	320	1600	6	"	"	5.5		698	350 " 1650
"		V 7.3	6.496x7.480	320	1520	6	"	"	7.3		730	410 " 1650
"		V 6.0	6.496x7.480	320	1535	6	"	"	6.0		730	400 " 1650
"		V 5.5	6.496x7.480	320	1570	6	"	"	5.5		730	370 " 1650
"		VI 7.3	6.299x7.480	500	1400	12	"	"	60°V	7.3	1122	680 " 1550
"		VI 7.3Z	6.299x7.480	500	1443	12	"	"	"	7.3	1122	750 " 1650
"		VI 6.0	6.299x7.480	500	1420	12	"	"	6.0		1122	630 " 1530
"		VI 6.Z	6.299x7.480	500	1460	12	"	"	6.0		1122	660 " 1600
"		VI 5.5	6.299x7.480	500	1459	12	"	"	5.5		1122	600 " 1550
"		VI 5.5Z	6.299x7.480	500	1467	12	"	"	5.5		1122	650 " 1600
"		Geared	VI 7.3U	6.299x7.480	500	925	12	"	"	7.3	1199	680 " 1024
"		"	VI 7.3UZ	6.299x7.480	500	924	12	"	"	7.3	1199	750 " 1054
"		"	VI 6.0U	6.299x7.480	500	922	12	"	"	6.0	1199	630 " 994
"		"	VI 6.0ZU	6.299x7.480	500	935	12	"	"	6.0	1199	660 " 1024
"		"	VI 5.5U	6.299x7.480	500	937	12	"	"	5.5	1199	600 " 994
"		"	VI 5.5ZU	6.299x7.480	500	945	12	"	"	5.5	1199	640 " 1024
"		VIIa 7.3	6.299x7.480	600	1520	12	"	"	7.3	1155	770 - 1650	
"		VIIa 6.0	6.299x7.480	600	1565	12	"	"	6.0	1155	700 - 1650	
"		VIIa 5.5	6.299x7.480	600	1590	12	"	"	5.5	1155	670 - 1650	
"	Geared	VIIa 7.3U	6.299x7.480	600	950	12	"	"	7.3	1232	755 - 1024	
"	"	VIIa 6.0U	6.299x7.480	600	980	12	"	"	6.0	1232	685 - 1024	
"	"	VIIa 5.5U	6.299x7.480	600	995	12	"	"	5.5	1232	655 - 1024	
"	Six	VIII 7.3U	6.299x7.480	400	1095	6	"	Line	7.3		804	530 - 1200 Farman gear
"	"	VIII 6.0U	6.299x7.480	400	1115	6	"	"	6.0		804	500 - 1200 Farman gear

GERMAN ENGINES (Cont.)

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks
BMW	Six	VIII 5.5U	6.299x7.480	400	1137	6	W	Line	5.5		804	470 - 1200
"	Twelve	VII 5.5UK	6.299x7.480	600		12	"	60°V	5.5			Farman gear. Rateau super- charger.
"	Hornet	Direct	6.125x6.375	525	1900	9	A	Radial	5.0	54.75	770	
"	"	Geared	6.125x6.375	525	1900	9	"	"	5.0	54.75	770	
Hitler	Rotary			50		4					110	Barrel type.
Junkers		L2	5.906x7.087	230		6	W	Line	5.0		628	265 - 1450.
"		L5	6.299x7.480	280	1325	6	"	"	5.5		695	310 at 1450.
"		L7	4.134x4.724	90		6	"	"	6.0		286	110 - 2200.
"		L55S	6.299x7.087	500	1380	12	"	60°V	5.0		1268	550 - 1640.
"		L55S	6.299x7.087	545	1380	12	"	"	5.5		1268	600 - 1640.
"	Super- charged	L55S	6.299x7.087	570	1380	12	"	"	7.0		1422	625 - 1640
"		L8	6.299x7.480	350	1800	6	"	Line	5.5		880	525 at 16000 ft. geared.
"		L88	6.299x7.480	650	1800	12	"	60°V	5.5		1496	850 - 2100 geared.
"	Air-cooled					6	A	Line	5.0			Forced air circulation.
"	Diesel	F03		700		5	W	"	13.67		1760	Opposed pistons.
Maybach		VL II	5.512x7.087	550	1600	12	"	60°V	6.1		2315	
Mercedes	- Benz	Benz	5.709x8.10	500	1400	12	"	"	6.25		1558	546 - 1500
"	"	F2 Direct	6.495x8.268	800	1500	12	"	"	6.0		1654	(1000-1700 supercharged)
"	"	F2 Geared	6.495x8.268	800	1500	12	"	"			1808	Wts. complete less hub.
"	"	F7502	2.953x3.937	20	3000	2	A	Opposed			106	
"	"	D11A	4.921x5.906	135	1450	6	W	Line			441	
"	"	F1	3.07 x4.09	30/34	2800	3	A	Radial			126	3 to 1 reduc- tion gear.
Siemens	Halske	Sh 11	3.937x4.724	84	1500	7	"	"	5.6	40.5	326	
"	"	Sh 12	3.937x4.724	108	1500	9	"	"	5.6	40.5	381	
"	"	Sh 13	4.134x4.724	68	1500	5	"	"	5.3	39.6	246	82 - 1750.

GERMAN ENGINES (Cont.)

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cooling	Cyl. arranged	Comp. ratio	Over-all dia.	Wt. lb.	Remarks
Siemens	Halske	Sh 14	4.134x4.724	95	1500	7	A	Radial	5.3	39.6	308	115 - 1750.
"	"	Sh 20	6.063x7.402	560/ 600	1800	9	"	"	5.3/ 6.3		905	New - 1930 production.
"	"	Sh 21	6.063x7.402	420/ 450	1800	7	"	"	5.3/ 6.3		795	New - 1930 production.
"	Jupiter		5.75 x7.500			9	"	"	5.3	55.7	812	Bristol license.
"	"		5.75 x7.500			9	"	"	6.3	55.7	812	" "
"	"		5.75 x7.500			9	"	"	5.3	55.7	933	" "
"	"		5.75 x7.500			9	"	"	6.3	55.7	933	" "
Ursinus		U2	3.347x3.779	20	2400	2	"	Opposed			63	

ITALIAN ENGINES AND OTHERS

Maker	Name	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cooling	Cyl. arranged	Comp. ratio	Over-all dia.	Wt. lb.	Remarks
Alfa - Romeo - Jupiter engines licensees for Italy.												
Colombo		S.53	4.500x5.50	85	1700	4	A	Line	5.0		264	
F.I.M.A.		100		100	1800	6	"	Radial				
Aviathrust		RI	5.000x7.000	400	1750	12	W	60°V	5.4		887	Russian (Liberty)
"		U2-MII	4.9 x5.5	100	1600	5	A	Radial	5.1		344	"
Breitfield	Danek	Bd	6.299x7.480	500	1400	12	W	60°V			1212	
"	Perun	Mark I	5.906x7.087	180	1400	6	"	Line			628	
"	"	Mark II	6.299x7.480	240	1400	6	"	"			695	.42 lb./B.HP./hr.
F. i a t		A24	5.512x6.890	950	1700	12	"	60°V	5.25		1848	
"		A20	4.528x5.906	415	2200	12	"	"	5.7		722	455 - 2400.
"		A22	5.315x6.299	550	2000	12	"	"	5.5		953	590 - 2100.
"		A25	6.693x7.874	900	2000	12	"	"	5.0		1767	980 - 2000.
"		A.SII	5.512x6.693	810	2300	12	"	"	6.0		908	882 - 2500.
"		A.SIII	5.709x6.890	1050	2500	12	"	"	6.5		904	
"		A50	3.937x4.724	85	1600	7	A	Radial	5.0	35.4	275	
"		A20AQ	4.528x5.906	430	2060	12	W	60°V	8.0		748	540 - 2400.

ITALIAN ENGINES AND OTHERS (Cont.)

Maker	Type desig.	Bore and Stroke	HP.	R.P.M.	Cyl.	Cool- ing	Cyl. arranged	Comp. ratio	Over- all dia.	Wt. lb.	Remarks
Alfa - Romeo - Jupiter engines licensees for Italy.											
Fiat	A20 S	4.528x5.906	510	2400	12	W	60°V	6.0		748	600 - 2100.
"	Geared A22R	5.315x6.299	580	2100	12	"	"	5.5		1115	
"	A22S	5.315x6.299	670	2200	12	"	"	6.0		977	740 - 2200.
"	A22AQ	5.315x6.299	570	1900	12	"	"	7.5		977	700 - 2300.
"	Geared A22RAQ	5.315x6.299	580	2100	12	"	"	7.5		1115	
Isotta	Caccia V.A.C.	4.921x5.512	430	2200	12	A	"	5.7		695	500 - 2600.
"	Asso. 80T	3.937x5.512	80	1400	6	"	Line	5.0		242	
"	Asso. 200	5.512x6.299	275	1850	6	W	"	5.5		571	290 - 2000
"	Asso. 500	5.512x5.906	513	1850	12	"	60°V	5.3		924	543 - 2000.
"	Asso. 750	5.512x6.693	750	1700	18	"	60°W	5.65		1408	
"	Asso. 1000	5.906x7.087	900	1600	18	"	"	5.0		1770	1000 - 1650.
"	RI	5.512x5.906	560	2050	12	"	60°V	5.5		2067	
Saada Cappa	18	4.724x5.315	400	2300	12	"	Vee	6.00		838	Geared 1.4 to 1.
Skoda	LW	5.512x6.299	400	1800	12	"	60°W	5.5		890	500 at 2000.
"	LW	5.512x6.299	450	2000	12	"	"	6.2		890	570 " 2000.
"	S14	4.724x4.921	220	1600	10	A	Radial	5.1	42.5	474	Attraction design.
"	S.20	4.724x4.921	300	1600	14	"	"	5.1	42.9	639	" "
Walter.	60	4.134x4.724	60	1450	5	"	"	4.5	37.0	225	70 - 1700.
"	85	4.134x4.724	85	1450	7	"	"	4.5	37.0	282	90 - 1460.
"	120	4.134x4.724	120	1550	9	"	"	4.5	37.0	326	124 - 1650.
"	III	5.906x7.087	185	1360	6	W	Line	6.3		631	
"	Castor	5.315x6.693	240	1750	7	A	Radial	6.0		547	260 - 1750
"	IV	6.299x7.480	240	1400	6	W	Line	7.2		682	
Wintherthur		4.921x6.693	420	1700	12	"	V	5.4		794	460 - 1900.
Q.V.	(cen- timeters)	1.35 x 1.80	160	1400	6	"	Line			595	

References:

Luftfahrt Oct. 20, 1928.
 Flug-Woche Heft 10 - 1928.
 L'Aerophile, Jan. 15, 1929.