

INCIDENTS ON AUTOMOTIVE RESEARCH & ENGINEERING

GROUP I

Several Ungsteins not included in the regular Ungstein Series.

<u>Report No.</u>		
L. 4	11C15	High strength aircraft steels. 15. 5. 40.
L. 5	111B17	Instructions for the testing of component parts and equipment of power plant housings of airplanes. 13. 5. 40.
L. 7	11C21	Synthetic materials and their use in aircraft construction. 31. 1. 41.
L. 8	111A21	Piston rings. Oct. 1939.
L. 9	111A22	The basic form and working principles of injection pumps and jets for diesel and Otto aero-engines. 16. 2. 40.
L.10	111A24	Aero-dynamic jet cooling of liquid-cooled aeromotor with radiators. 1. 4. 40.
L.11	111A26	The design of combustion chambers in Aero-Engines. 12. 4. 40.
L.12	111A27	Supplement to the construction of exhaust manifold and exhaust pipes on aero-engines. 31.10. 40.
L.14	111A29	Aero-carburetor.
L.15	111A30	The principles of design and construction of in line aero engines. 15. 5. 40.
L.17	111A32	Fuel supply pumps. 15. 5. 40.
U. 6		Research work on Pistons by Dr. Ing Erich Koch VDI Stuttgart. 1942.
U.22		German research installation for aviation. Description and installation of an automatic coolant temperature control shutter for aero-engines.

DOCUMENTS ON AUTOMOTIVE RESEARCH AND ENGINEERING.

GROUP 2

DOCUMENTS COLLECTED FROM F.K.F.S. INSTITUTION (F. K. F. S.)
KIRCHHEIM UND FROM STUTTGART.

<u>CICS NO.</u>	<u>REP. NO.</u>	<u>TITLE</u>	<u>UTRGAS(C)</u>	<u>DATE</u>
		<u>German Aviation Research by the Research Institute for Automotive Transport and Vehicle Engines at the Technical College, Stuttgart.</u>		
SA1	1697	The Effect of Peroxides in the engine and their determination	Widmaier	16.12.42
SA2	1742	The Effect of aldehydes in the Engine and their quantitative determination	Widmaier	5. 2.43
SA3	1905	Evaluation of Fuels for their tendency to form Vapour Bubbles (Vapour lock)	Widmaier	10. 2.44
SA4	1815	F.K.F.S. Method of estimating the Bromine Content of Aviation Fuels	Widmaier	19. 6.43
SA5	5011	Load and Lubrication Ratios of Modern German and Foreign 12-Cylinder in-line Aero-Engines.	Riekert, Hampo & Dorflinger	10. 1.44
SA6	5013	Principle tests on the Sliding Bearing Test Rig of an Aero Engine Main Big End Bearing (Interim Report)	Kamm et al Hallinger, et al.	10. 3.44 10. 3.44
SA7	5018	Testing of Lubricant Additives in a single-cylinder Engine	Riekert Rossenbeck & Handschuh	24. 5.44
SA8	5019	Measuring the Temperature Distribution of a Main Big End Bearing on the Sliding-Bearing Principle-Test Rig	Hampo et al	19. 5.44
SA9	5025	Tests on the running-in behaviour of Piston Rings with protective coatings in Pearlite Cast (Iron) Cylinders	Rossenbeck	20. 6.44

ZWB-REPORTS

by F.K.F. Technical School, Stuttgart

SBI		Flying Mechanics of Jet Motors II Interim Report. Method of Working of a Jet Motor consisting of a Compressor and a Turbine	Weinig	15. 5.43
SB2		Widening (the scope) of the F.J.F.S. Quick Method of estimating the TEL content of Fuels.	Widmaier	15. 8.43
SB3		Test on the running behaviour of Electro Plated Silver-Bearings in an Engine	Rossenbeck and Stark	16. 8.43

<u>CIOC</u> <u>NO</u>	<u>FLYT</u> <u>NO.</u>	<u>TITL</u>	<u>AUTHOR(S)</u>	<u>DATE</u>
SB4		Controlling an Aero Engine Blower by A Tap	Weinig	15.10.43
SB5		Axial Flow Compressor	Eckert and Weinig	3. 4.44
SB6		The Economic Limit of High Load of the 2-stroke Engine without utilizing Exhaust Gas	Feyer and Schmitz	11. 4.44
SB7		Power Increase of Combustion Engines by Swept Volume Sub-Division	v.Dorner	4. 9.44
<u>F.K.F. Technical School, Stuttgart</u>				
SC1	274	The 2-stroke - ball Valve Engine with Uni-Flow Scavenging, Power and Characteristics	Kuhn	6. 9.38
SC2	382	Position of the Performance of the Rieseler-method.	Rieseler and	18.12.40
SC3	363	Tests on a 1.09 L - high load single Cylinder Engine (1st report)	Berndorfer and Gussmann	14.12.40.
SC4	392	Investigation of the Performance of self ignition operation in a mixture Compression Engine	Ernst and Weinig	29. 5.41
SC5	395	Calculation of a Seven-Stage Axial Compressor	Eckert and Weinig	3. 4.41.
SC6	405	Rapid Starting Tests on a Piston with various protective coatings on the Running Surfaces	Rossenbeck and Platz	12.11.41.
SC7	412	Testing protective coatings on Piston running surface in the quick starting test	Rossenbeck and Platz.	3. 3.42
SC8	423	Engine investigation on the thermal relation of Aero Engine Piston Crowns with various running surface protective coatings.	Rossenbeck and Speer	18. 5.42
SC9	424	Tests on a 1.09L - high load single- cylinder Engine (2nd report)	Berndorfer and Gussman	10. 6.42
SC10	427	Clarification of the Rieseler working method in a single-cylinder test engine	Kamm	14. 7.42
SC11	429	Quick starting tests with a BMW 132 Piston with various running face protective coatings.	Rossenbeck and Speer.	28. 8.42

<u>CIOC NO.</u>	<u>Rept NO.</u>	<u>TITLE</u>	<u>AUTHOR(S)</u>	<u>DATE</u>
SC12	444	Pressure and Temperature measurement in the lubrication system and in the Main bearings of a DB 605 engine.	Haapp	22. 6. 45
EC13		Improvement of the Lubricating behaviour of Oil by Chemical additives.	Glocker	20. 1. 45

F.K.F. Technical School, Stuttgart

SD1		Operating Instructions for the Fuel Test Engine	Gross	
SD2		Apparatus for measuring Ignition Delay	Staiger	30. 3.43
SD3		Institute Progress Report	(various)	20. 6.40
SD4		10th Annual Report		1939/40
SD5		11th Annual Report		1940/41

Diploma Theses.

SE1		The starting behaviour of Fuels with the use of various Chemical Ignition Accelerators is to be investigated and evaluated on the FKFS Test Engine	Demmer	
SE2		The influence of the operating conditions on the knock intensity of Fuels is to be investigated by use of various measuring apparatus.	Kessler	1943?
SE3		The ignition behaviour of Hydrocarbon Air mixtures in the Diesel Engine and the influence of Ethyl Nitrate	Schutze	
SE4		Investigation on the influence of the Chemical pre-reaction on the starting behaviour in Diesel Operation	Gerschler	20 10.43
SE5		Investigation of the Precipitated Deposits in the Lubricating oil formed by running-in an Engine		

Engineering Laboratory for Heat Engines and Compressors.

SE6		Investigation of Cylindrical Sliding Bearings for High Rotational Speeds	Wewerka, Dollhoff and Stephan	15. 8. 39
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<u>C106</u> <u>NO</u>	<u>REPT.</u> <u>NO</u>	<u>TITLE</u>	<u>AUTHOR(S)</u>	<u>DATE</u>
SE7		<u>Public Material Testing Installation.</u> Wear behaviour of Crossed running surfaces (on Al base) by running against Aluminium Alloy with Oil Lubrication containing added wear material.	Brockstedt and Siebel	10. 6. 41
SE8		The influence of the grain size of the Quartz Dust as wearing material in engine oil on the wear behaviour of different pairs of bearing material.	Hollinger and Brockstedt	7. 6. 44
SE9		The influence of the surface pressure and the sliding velocity, as well as the hardness of bearing material, on the wear behaviour with Quartz Dust as wearing material in Engine Oil.	Hollinger and Brockstedt	20. 2. 45

German Automotive Research.

By the Laboratory for Lubrication Research of the Technical College, Dresden.

SF1	71	Interim report on comparative test on Bearing Shell materials.	Doring	May 1939
SF2	76	Interim report on the running test of a Truck Engine with Synthetic Resin Bonded Crankshaft	Doring	
SF3	83	Interim Report on new Methods of Evaluating the lubricating ability of Oils and Fats	Pietsch	Apr 1940
SF4	104/1941	Interim report. Methods of determining the Technical Lubricating ability of Lubricants.	Heidebrook	Oct. 1941
SF5		Hydrogen as Motor Fuel.	Oehmichen	1942.

By the Institute for Brown Coal - and Mineral Oil Research of the Technical College, BERLIN

SF6	109	Interim report on the production of lubricating Oils from Brown Coal Tar.	Marder and Feichtinger	1942
SF7	120	-ditto-	Heinze	1944
SF8	92		Marder and Hertz	1941
SF9	93	Usability of Ignition Accelerators for Diesel Fuels.	Heinze Marder Veidt.	1941

<u>CIGS</u> <u>NO</u>	<u>REF</u> <u>NO</u>	<u>TITLE</u>	<u>AUTHOR(S)</u>	<u>DATE</u>
		<u>Research and Official Test Installation for Road Transport</u>		
SF10	85	Interim Report on Investigations on Dust Filters for Combustion Engines	Schmidt	June '40
SF11	78	<u>Public Material Testing Station</u> Interim Report. Testing the effect of fuel additives and their Combustion products on the Metals used in engine construction. <u>Department for Industrial Construction, BERLIN.</u> <u>Four Year's Plan Institute for Road Transport at the Technical College, Berlin.</u>	Schikorr Alex	
SF12		Interim Report on the Testing of a Fibrous material Oil Cleaner. <u>German Automotive Research</u> <u>By F.K.F. of the Technical College, Stuttgart.</u>	Schwarz	Mar '44
SG1	74	Interim Report. Test on the Engine behaviour of Synthetic Otto Fuels.	Auber and Widmaier	12.6.39.
SG2	99	Interim Report. Tests on a Carburettor Engine with Self-Ignition. By Working Group for questions of Engine Combustion for the Trade Ministry.		
SG3	91	Interim Report. Mixture formation and Burning. The position of the research on the sphere of Diesel Engine type working methods.	Various	1.10.40
SG4	111	Interim Report. 2nd Meeting of the working group for questions of engine combustion.	Various	1942
SG5	118	Interim Report. 3rd Meeting of the working group for questions of engine combustion.	Various	1943
SG6		Research Plan 1939/40.		
<u>D.V.L. BERLIN</u>				
S HL		Instructions for use of the D.V.L. Exhaust Gas tester for combustion engines	Broicher	Aug. '42
SH2		Investigation of the running properties of Radial Loaded Segment Bearings with lead bronze and light metal surfaces.	Siegenturg	4.11.42.

<u>CICS</u> <u>NO</u>	<u>REPT.</u> <u>NO.</u>	<u>TITLE</u>	<u>AUTHOR(S)</u>	<u>DATE</u>
SH3		1941 Year Book of German Aviation Research.		
SH4		1942 Year Book of German Aviation Research.		
SH5	Vol.51.	Publication of the German Academic of Aviation Research.		
SH6	1639	Behavior of rubber at low temperatures.	Küch and Telschow	5. 4. 41.
		<u>Miscellaneous Reports by Stuttgart Personnel.</u>		
SJ1	53	Deposits in cleaners of the circulatory process (F.K.F.Stuttgart)	Widmaier	5. 6. 42
SJ2		Ring Movement and Ring Breaking (from 1940 Year Book of the German Aviation Research.	Kuhm	
SJ3		The Construction of Observation Windows in Engines (FKF Stuttgart)	Graff	
SJ4		Tests with GMI in the DE60LF Engine. (F.K.F. Stuttgart)	Held	22. 5. 41
SJ5		Investigation on the boiling and aging behaviour of lubricating oils. (From 1941 Year Book of German Aviation Research.	Widmaier & Nenninger	
SJ6		Artificial and Engine Aging of Lubricating Oils. (From 1940 Year Book of the German Aviation Research)	Widmaier	
SJ7		(Draft) Report of the activities of the F.K.F.Stuttgart	Kamm	
SJ8		Test apparatus for Diesel Fuels (FKF Stuttgart)		
SJ9		Draft of paper on additives for lubricating oils.		
		<u>Miscellaneous Reports.</u>		
SK1		Technical Reports Z.W.B(Collection of papers)		1. 9. 42
SK2		Influence of Residual Gas Scavenging and mixture stratification on the power and consumption of a 4-stroke-Otto-Engine.	Siegel	24.10.42
SK3		<u>German Air Ministry, General Director of Aircraft, GLSV. Outline of Constructional directions for Aero Engines (BVM) Test directions for Aero Engine Fuels for use in Diesel engines.</u>		May. 39.

<u>Code No.</u>	<u>Ref No.</u>	<u>Title</u>	<u>Author(s)</u>	<u>Date</u>
SK4		Institute for Chemical Technolo- of the Technical College Test Laboratory for Mineral Oils Research Report. Experiences with the Electro-Acoustic Knock Investigation of Aero Engines.	Punck	May. 45
SK5	22	High Command of the German Air Force. Results of Evaluation of Booby. The Bearings of the British Aero Engine Eristol. "Hercules XI"	Perret and Andres.	30.9.44
SK6		Preparation of improved Lubricating oils from indigenous crude oils	Ubbelohde	1.3.37
SK7		<u>Nevel Physical-Chemical Test</u> <u>Laboratory.</u> On the influence of Air Pressure on Fuel investigation in the Ignition Value Tester.		
SK8		The Principles of temperature measurement and their shortcomings.		
SK9		Improving the cold startability and winter capabilities of Road Transport		31.7.42
SK10		Cold starting tests with Road Transport Diesel Engines.		20.2.40
SK11		On the relation between lubrication and Wear with Lubricated Sliding Friction	Heidebrock	May 1944.
SK12		Spherical Piston KVP 0501 0505		
SK13		List of Reports of the Army Test Establishment Peenemunde.		16.3.41
SK14		Wear Measurement in the BMW Oil Test Engine (Intava)	Wenzel	27.10.44
SK15		Aviation Research Vol. 20. No. 6. Strength properties of high strength light arc-welded joints of steel.	Cornelius and Belienrath	30.6.45
<u>I.G.FARBEN A.G.</u> <u>TECHN. PRUFSTAND OP. 200.</u>				
SL1	426	Ignition Delay Measurement with the F.K.F.S. - Ignition Delay Measuring Apparatus.	Schuch(?)	30.7.40
SL2	440	The Reference Fuel Z as secondary reference Fuel for knock value estimation.	Singer	22.11.40
SL3	439	Comparative Tests on Knock engines (VW82)	Singer	21.11.40

<u>CICG</u> <u>NO.</u>	<u>LIST</u> <u>NO.</u>	<u>TITLE</u>	<u>DATE</u>	<u>BY</u>
SL4	465	Half-yearly comparative tests on knock engine (V.V.75)		
SL5	476	Comparative tests on the 1.0 Test Diesel.	10.11.41	Slager
SL6	480	Half-yearly comparative tests on knock engine (V.V.75)	11.11.41	Slager
SL7	530	Half-yearly comparative test on knock engine. 10th Test Series October 1941	1.11.41	Slager
SL8		The Meeting of the working group for knock measurement on 15th and 16th November 1941 at Oppau.	15.11.41	Slager
SL9		The Fifth Meeting of the working group for knock measurement on 16th and 17th February 1943 at Oppau.		
"B" SL10	420	Comparison tests on knock testing engines (V.V.75)		
SL11	458	Effect of intake temperature and compression ratio on the shape of the knock-limit curves in the supercharge test.	27.7.40	
SL12	470	Fuel rating in small single cylinder motor (Oppau process)	22.5.41	
SL13	478	Apparatus for testing the lubricating power of oils by determining the wear and tear.	7.8.41	
		<u>Officer in Charge of the Luftwaffe</u> <u>The Chief of the Technical Equipment</u>	10.10.43	
SM1		The starting of Aero engines in winter (Apparatus - handbook)	14.10.44	
SM2		Technical Knowledge Test and Consulting Departments, Technical College, Stuttgart.	Feb. 1939	
SM3		On the Scope of Z.N.B.	1941	
SM4		Construction Group of the 'A' Engines (FKFS 540) (Photographs)	1942	
SM5		Miscellaneous manuscripts.	15.4.44	
SM6		Typed Sheet	25.5.45	
SN1		Power Measuring Apparatus		
SN2		Immediate Indicator Electric Speed Swinging Recorder on the basis of a Contra-inductive Measuring method.	4.12.40	St alger
SN3-8		File of Electric Indicator Drawings		