

DOCUMENTS 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 air-planes. 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 aero-motor with radators. 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. UNTERTURKHEIM, F.K.F.S.  
KIRCHHEIM AND FROM DR. WIDMAIER.

<u>CIOS NO.</u>	<u>REPT NO.</u>	<u>TITLE</u>	<u>AUTHORS(S)</u>	<u>DATE</u>
		<u>German Aviation Research</u> by the Research Institute for Automotive Transport and Vehicle Engines at the Technical College, Stuttgart.		
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, Hampp & 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 Nallinger, 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	Hampp 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

SB1	-	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>CIOS NO</u>	<u>REPT NO.</u>	<u>TITLE</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	Fezer and Schmitz	11. 4.44
SB7		Power Increase of Combustion Engines by Swept Volume Sub-Division	v.Dorrer	4. 9.44

F.K.F. Technical School, Stuttgart

SC1	274	The 2-stroke - Ball Valve Engine with Uni-Flow Scavenging, Power and Characteristics	Kuhm	6. 9.38
SC2	382	Position of the Performance of the Rieseler-method.	Rieseler and	18.12.40
SC3	383	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

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SC12	444	Pressure and Temperature measurement in the lubrication system and in the Main Bearings of a DB 605 Engine.	Hampp	22. 6. 45
SC13		Improvement of the Lubricating behaviour of Oil by Chemical additives.	Glocker	20. 1. 45
<u>F.K.F. Technical School, Stuttgart</u>				
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, Dollhopf and Stephan	15. 8. 39
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<u>CLOS NO</u>	<u>REPT. NO</u>	<u>TITLE</u>	<u>AUTHOR(S)</u>	<u>DATE</u>
SE7		<u>Public Material Testing Installation.</u> Bear behaviour of Cromed 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.	Wellinger 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.	Wellinger 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 Mertz	1941
SF9	93	Usability of Ignition Accelerators for Diesel Fuels.	Heinze Marder & Veidt.	1941

<u>CIOS NO</u>	<u>REPT 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.  Department for Industrial Construction, BERLIN.	Schikorr Alex	
		<u>Four Year's Plan Institute for Road Transport at the Technical College, Berlin.</u>		
SF12		Interim Report on the Testing of a Fibrous material Oil Cleaner.  <u>German Automotive Research</u> By F.K.F. of the Technical College, Stuttgart.	Schwarz	Mar '44
SG1	174	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	<u>Interim Report. Mixture formation and Burning. The position of the research on the sphere of Diesel Engine type working methods.</u>	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 H1		Instructions for use of the D.V.L. Exhaust Gas tester for combustion engines	Eroicher	Aug. '42
SH2		Investigation of the running properties of Radial Loaded Segment Bearings with lead bronze and light metal surfaces.	Siedenburg	4.11.42.

<u>CIOS NO</u>	<u>REPT. 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. 54.	Publication of the German Academie 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 GML in the DB601F 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, GL3V. Outline of Constructional directions for Aero Engines (BVM) Test directions for Aero Engine Fuels for use in Diesel engines.</u>		May. 39.



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SK4		Institute for Chemical Technology of the Technical College Test Laboratory for Mineral Oils Research Report. Experiences with the Electro-Acoustic knock investigation of Aero Engines.	Funck	May.43
SK5	22	High Command of the German Air Force. Results of Evaluation of Booty. The Bearings of the British Aero Engine Bristol "Hercules XI"	Perret and Endres.	30.8.44
SK6		Preparation of improved Lubricating oils from indigenous crude oils	Ubbelohde	1.3.37
SK7		Naval Physical Chemical Test Laboratory. 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		18.3.41
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
<del>SK16</del>		<del>Confirmation of receipt for special prints (file)</del>		
<hr/> <p>I.G.FARBEN A.G. TECHN. PRUFSTAND OP.200.</p> <hr/>				
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 (VV82)	Singer	21.11.40

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SL4	462	Half-yearly comparative tests on knock engines (VV92)	Singer	29.5.41
SL5	476	Comparative tests on the I.G. Test Diesel.	Kohler	25.8.41
SL6	480	Half-yearly comparative tests on knock engines (VV95)	Singer	1.11.41
SL7	530	Half-yearly comparative test on knock engines. 10th Test Series October 1942	Singer	25.11.42
SL8		The Meeting of the Working Group for knock measurement on 25th and 26th November 1941 at Oppau.		
SL9		The Fifth Meeting of the Working Group for knock measurement on 16th and 17th February 1943 at Oppau.		
SL10	420	Comparison tests on knock testing engines (V.V.75)		27.4.40
SL11	458	Effect of intake temperature and compression ratio on the shape of the knock-limit curves in the supercharge test.		22.5.41
SL12	470	Fuel rating in small single cylinder motor (Oppau process)		7.8.41
SL13	478	Apparatus for testing the lubricating power of oils by determining the wear and tear.		10.10.41
<hr/> Officer in Charge of the Luftwaffe <u>The Chief of the Technical Equipment</u>				
SM1		The starting of Aero Engines in Winter (Apparatus - handbook)		14.10.44
SM2		Technical Knowledge, Test and Consulting Departments, Technical College, Stuttgart.		Feb. '39
SM3		On the Scope of ZWB		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.	St aiger	4.12.40
SN3-8		File of Electric Indicator Drawings		