

REZNIKOV, R. A., Cand. Tech. Sci. (diss) "Solution of Some Problems of Theory of Thin-section and Flexible Core Systems with Use of Fast Electronic Computers," Moscow, 1961, 11 pp. (Moscow Railroad Engr. Inst.)(120 copies )(KL Supp 12-61, 272).

REZNIKOV, R.A., kand. tekhn. nauk

[Instructions on the preparation of initial data for calculating statically indeterminate systems under the SM-4 program] Ukazaniia po podgotovke iskhodnykh dannyykh dlia rascheta staticheski neopredelimykh sistem po programme SM-4. Moskva, (Serii 11-15) (MIRA 18:8)

1. Moscow. Gosudarstvennyy institut tipovogo i eksperimental'nogo proyektirovaniya i tekhnicheskikh issledovaniy.

REZNIKOV, Roman Abramovich

[Methods for solving problems in structural mechanics  
using electronic digital computers] Metody resheniia za-  
dach stroitel'noi mekhaniki na elektronnykh tsifrovyykh  
maschinakh. Moskva, Stroizdat, 1964. 334 p.  
(MIRA 17:9)

REZNIKOV, R.A. (Moskva)

Applying V.Z. Vlassov's variational method to the calculation of  
thin-walled systems (monocoques) made of trapezoid plates. Inzh.  
sbor. 31:108-118 '61. (MIRA 14:6)

(Elastic plates and shells)

REZNIKOV, R.A.

Standardization in the enterprises of the Leningrad Economic  
Council. Standartizatsiia 26 no.4:37-40 Ap '62. (MIRA 15:3)  
(Leningrad Province--Standardization)

s/112/60/000/05/08/023

Translation from: Referativnyy zhurnal. Elektrotehnika. 1960, No. 5, p. 307,  
# 4.4194

AUTHOR: Reznikov, R. A.

TITLE: The Calculation of Redundant Systems <sup>SR</sup> With the Aid of High-Speed  
Electronic Computers.

PERIODICAL: V sb.: Materialy po stal'n. konstruktsiyam. 3. Moscow, 1958,  
pp. 227-237

TEXT: The author describes a program of calculating a wide class of  
constructions with up to 20 unknown quantities by the method of forces. The  
program was compiled in such a way that it can be processed by the M-2 computer.  
The program consists of 526 instructions and 91 constants. Up to 600 numbers are  
put in as initial data. The computer solves such a problem within a period of 10  
min to 2 hours. Various algorithms of the solution of the problem are analyzed  
from the view point of their realization by the computer. The author points out  
the possibility of extending the field of application of automatic calculation  
methods for constructions by increasing the capacity of the memory unit of the  
computer. There are 3 figures, and 3 references.

E. A. G.

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REZNIKOV, R.A. (Moskva)

Solving problems in structural mechanics using electronic  
calculating machines. Stroi. mekh. i rasch. soor. 1 no.4:  
22-28 '59. (MIRA 12:10)  
(Electronic calculating machines)  
(Structures, Theory of--Problems, exercises, etc.)

28 2000

S/044/60/000/004/006/006  
C111/C333

AUTHOR: Reznikov, R. A.

TITLE: On the solution of the problems of structural statics with electronic computers

PERIODICAL: Referativnyy zhurnal, Matematika, no. 4, 1960, 163, abstract 4617. (Stroit. mekhan. i raschet sooryzh., 1959, Nr. 4, 22-28)

TEXT: The author describes a universal program for the calculation of bar systems on the electronic computer M - 2. The universality of the program consists in the absence of restrictions for 1.) the structure of the construction and kind of the stress and 2.) the number of knots, unknowns etc. It is mentioned that with the aid of this program a number of practical problems has been calculated on the M-2, especially, the main estacade of the ГЭС (GES) (State Electric-Power Station) at Bratsk was thus calculated.

[Abstracter's note: Complete translation.]

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BAKIROV, Raif Osmanovich, kand. tekhn. nauk; REZNIKOV, R.A.,  
kand. tekhn. nauk, nauchn. red.; GORYACHEVA, T.V., ~~rec.~~

[Use of modern computers in the calculation of statically undefinable systems; principal steps in solving problems using computers and the standard programs for solving ribbon systems of linear algebraic equations using the "Ural-2" digital computer] Primenenie sovremennykh vychislitel'nykh mashin pri raschete staticheski neopredelennykh sistem; osnovnye etapy resheniia zadach na mashine i standartnye programmy resheniia lentochnykh sistem lineinykh algebraicheskikh uravnenii na ETsVM "Ural-2". Moskva, Stroiizdat, 1965. 70 p. (MIRA 18:4)

REZNIKOV, Ravim Abramovich, inzh.; RYSKO, S.Ya., red.

[Work practice of the enterprises of the Leningrad  
Economic Council in standardization] Opyt raboty pred-  
priiatii Leningradskogo sovmarkhoza po standartizatsii  
i normalizatsii. Moskva, Izd-vo Standartov, 1965. 382 p.  
(MIRA 18:5)

REZNIKOV, R.A.

Technical conference on quality, reliability and durability  
in Leningrad Economic Region. Standartizatsia 28 no.6:  
58.60 Je '64. (MIRA 17:9)

REZNIKOV, R.A. (Moskva)

Calculating pyramidal shells on an electronic calculating machine.  
Stroi. mekh. i rasch. soor. 3 no.5:4-9 '61. (MIRA 14:10)  
(Elastic plates and shells) (Electronic calculating machines)

REZNIKOV, S.; PONOMAREV, P., ratsionalizator, slesar'; SARANCHUK, Z., inzh.  
SHAYKIN, I., slesar'; DONSKOV, N., ratsionalizator, elektrik.

We need legal consultations. Izobr. i rats. no.5:28-29 My '59.  
(MIRA 12:8)

1.Sekretar' soveta Vsesoyuznogo obshchestya izobretateley i  
ratsionalizatorov zavoda "Sudoverf'," Stalingradskoy oblasti  
(for Reznikov) 2.Margarinovyy zavod, Stalingradskaya oblast'  
(for Ponomarev). 3.Byuro sodeystviya ratsionalizatsii i  
izobretatel'stvu Alyuminiyevogo zavoda, Stalingradskoy oblasti  
(for Saranchuk). 4.Motornyy tsekh Stalingradskogo traktornogo  
zavoda (for Donskov).

(Legal aid)

DYMAN, Zinoviy L'vovich; RUSSETSKIY, A.A., inzh., retsenzent; YAKOVLEV,  
D.V., inzh., red.; MEDVEDEVA, M.A., tekhn. red.

[Individual contactors on d.c. powered electric locomotives]  
Individual'nye kontaktory elektrovozov postoiannogo toka. Mo-  
skva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshche-  
niia, 1961. 35 p. (MIRA 14:8)

(Electric locomotives)

REZNIKOV, S.

Instructors in an automobile and motorcycle club. Za rul. 17  
no.6:1 Je '59. (MIRA 12:10)

1.Nachal'nik Upravleniya voyenno-tekhnicheskoy podgotovki i sporta  
TSentral'nogo komiteta Dobrovol'nogo obshchestva sodeystviya armii,  
aviatsii i flotu SSSR.  
(Automobile drivers)

REZNIKOV, S.A.

Chromatographic values of two-component solutions as dependent on  
the properties of components. Zhur.fiz.khim. 39 no.7:1577-1581  
Jl '65. (MIRA 18:8)

1. Opytno-konstruktorskoye byuro avtomatiki, Angarskiy filial.



REZNIKOV, S M

REZNIKOV, S. M., and G. R. GRAIFER.

Zdorov's parashiutista. Moskva, 1937. 74 p., illus.  
Title tr.: Health of the parachutist.

NCF

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.

REZNIKOV, S. M., Cand. Med. Sci.

Dissertation: "Basic Principles of the Organization and Supervision of Evacuation Hospitals in the Rear Regions of the Country during the Last War as Exemplified by the Experience of the People's Commissariate of Health, RSFSR." Central Inst for Advanced Training of Physicians. 8 Apr 47.

SO: Vechernyaya Moskva, April 1947 (Project #17836)

REZNIKOV, S.M., dotsent (Moskva)

Work of a medical school. Sov. zdrav. 19 no.7:35-39 '60.

(MIRA 13:8)

1. Direktor Meditsinskogo uchilishcha AMN SSSR.  
(MEDICINE---STUDY AND TEACHING)

REZNIKOV, S.M., dotsent

Nurses' training at the Medical School of the Academy of Medical  
Sciences of the U.S.S.R. Med. sestra 20 no. 2:14-19 F '61.  
(MIRA 14:4)

1. Direktor meditsinskogo uchilishcha AMN SSSR, Moskva.  
(NURSES AND NURSING--STUDY AND TEACHING)

REZNIKOV, S.M.; GEMBITSKAYA, Ye.V.

Organization of preclinical surgical practice; experience gained  
at the Medical School of the Academy of Medical Sciences of the  
U.S.S.R. Med.sestra 20 no.12:46-50 D '61. (MIRA 15:3)  
(SURGERY—STUDY AND TEACHING)

VOLKOVA, Galina Yemel'yanovna; REZNIKOV, Semen Moiseyevich;  
BARAKOVSKIY, V.V., red.; ROMANOVA, Z.A., tekhn. red.

[Work organization in schools for subprofessional medical  
personnel] Organizatsiia raboty v srednikh meditsinskikh  
uchebnykh zavedeniakh. Moskva, Medgiz, 1963. 222 p.  
(MIRA 16:9)

(MEDICINE--STUDY AND TEACHING)

KOVANOV, V.V., prof., red.; REZNIKOV, S.M., red.

[Calendar of the subprofessional medical worker for 1964]  
Kalendar' srednogo meditsinskogo rabotnika na 1964 g. Pod  
red. V.V.Kovanova. Moskva, Medgiz, 1963. 535 p.  
(MIRA 17:4)

1. Chlen-korrespondent AMN SSSR (for Kovanov).

Резюме, г.д. (Сток, ул. Б. Кинел'бинского, д.172, кв.10)

Working capacity of patients following radical surgery on gastric cancer. Vop onk. 10 no.2:12-16 '64. (MIRA 18:3)

1. Iz Onkovo oblastnogo onkologicheskogo dispansera (glavnyy vrach - S.G.Reznikov, nauchnyy rukovoditel' raboty - prof. V.N. Demin).



ROVANO, V.V., prof., red.; ~~LEVIN, I.I., red.~~

1. almanah for the subprofessional staff members for  
1965; kalendar meditsinskogo rabotnika na 1965  
g.g. Moskva, Meditsina, 1964. 478 p. (MIRA 17:11)

2. ~~... ..~~ (for ROVANO).

1. ZICBINSKIY, M.; REZNIKOV, S. Z
2. USSR (600)
4. Pipe
7. Experience in economizing fundamental and supplementary materials.  
Za ekon. mat. No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BEZNIKOV, S., inzhener.

Working longwalls through from upraises. Mast.ugl.no.12:4-6 D '56.  
(Coal mines and winding) (MLRA 10:2)

REZNIKOV, S. I. inzh.

Activity of the shipbuilding plant primary organization of the  
Scientific and Technical Division in the second quarter of 1957.  
Sudostroenie 23 no.9:65 S '57. (MIRA 10:12)  
(Shipbuilding)

~~REZNIKOV, S.Z.~~

Reducing the cost of welded structures. Sudostroenie 23 no.6:31-32  
Je '57. (Shipfitting) (Welding--Cost) (MLRA 10:7)

REZNIKOV, S.Z., inzh.

Selection of welded angle joints for hulls of inland water  
ships. Sudostroenie 24 no.7:64-65 J1 '58. (MIRA 11:9)  
(Ships--Welding)

REZNIKOV, S.Z.

Pledges of Cherepovets metallurgical workers. NTO no.1:52 Ja '59.  
(MIRA 12:2)

1. Direktor Cherepovetskogo metallurgicheskogo zavoda.  
(Cherepovets--Metallurgical plants)

REZNIKOV, T.E., inzh.

Experience in the use of KUP-2A machines in the Zaplyusskoye  
Peat Enterprise. Torf.prom. 39 no.4:9-12 '62. (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyany  
promyshlennosti.

(Peat machinery)  
(Pskov Province--Peat bogs)



REZNIKOV, T.E.

19934 REZNIKOV, T.E.

Puti sluchsheniya isool'zovaniya eksavatorov NA torfopredpriyatiyah.

Torf. prom-st', 1949, #6, s. 26-27

So: Letopis Zhurnal Statey, Vol. 27, Moskva, 1949

REZNIKOV, T. E.

32517. Reznikov, T. E. Torfyanyye ekskavatory TE-2 i E-351 na ryt'ye kartovykh kanav. (S primech. red.) Torf. prom-st', 1949, N<sub>o</sub>. 10, s. 5-7.

SO: LETopis' Zhurnal'nykh Statey, Vol. 44

REZNIKOV, T. E., inzh.

Multibucket removable attachment for the TE-2 excavator for cleaning  
main and collector drains. Torf. prom. 35 no.3:32-33 '58. (MIRA 11:5)

I. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlen-  
nosti.

(Peat machinery)

REZNIKOV, T.E., inzhener

Measures for increasing the productivity of the TE-2 excavator  
and the quality of its work. Torf.prom. 32 no.3:10-11 '55.

(MLRA 8:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy  
promyshlennosti.

(Excavating machinery)

REZNIKOV, V.

Registration and sale of motor vehicles. Za bezop.dvizh. 5  
no.2:6-7 F '63. (MIRA 16:2)

1. Zamestitel' nachal'nika Gosudarstvennoy avtomobil'noy  
inspektсии Glavnogo upravleniya militsii MOOP RSFSR.  
(Motor vehicles--Registration)

REZNIKOV, V.

New trends in driver training. Za bezop. dvizh. 5 no.3:6-7  
Mr '63. (MIRA 16:4)

1. Zamestitel' nachal'nika Gosudarstvennoy avtomobil'noy  
inspektsii, Glavnoye upravleniye militsii Ministerstva okhrany  
obshchestvennogo poryadka RSFSR.  
(Automobile drivers--Education and training)

REZNIKOV, V.; POGOREL'SKAYA, V.; NIKIFOROVA, L.

Readers' conference at the Voronezh Tire Plant. Kauch.i rez.  
22 no.2:51-52 F '63. (MIRA 16:2)  
(Rubber industry--Periodicals)

REZNIKOV, V.

Before the inspection. Za rul. 21 no.3:28 Mr '63.  
(MIRA 16:4)

1. Zamestitel' nachal'nika Gosudarstvennoy avtomobil'noy  
inspektsii RSFSR.

(Motor vehicles--Inspection)



REZNIKOV, V.

Trucks with extensible trailers. Za bezop.dvish. 3 no.8:16 Ag '60.

1. Sotrudnik Gosavtoinspeksii Upravleniya' militsii Ministerstva  
vnutrennikh del RSFSR.

(Accidents--Prevention) (Truck trailers)

REZNIKOV, V., inzh.

Real load on the supporting and rolling underframe of a gantry crane  
and need for accuracy in the level of crane tracks. Rech.transp. 20  
no.4:20-23 Ap '61. (MIRA 14:5)  
(Cranes, derricks, etc.)

REZNIKOV, V., inzh.

New techniques in checking brakes. Za rul. 18 no.6:10 Je  
'60. (MIRA 13:8)

(Automobiles--Brakes)

REZNIKOV, V., inzh.

Increasing the reliability of brakes. Za rul. 18 no.8:20-21  
Ag '60. (MIRA 13:9)  
(Automobiles--Brakes)

REZNIKOV, V.

Before starting a trip. Za bezop.dvizh. no.1:10-11 Ja '60.  
(MIRA 13:5)

1. Sotrudnik Gosudarstvennoy avtomobil'noy inspeksii Glavnogo  
upravleniya militsii Ministerstva vnutrennikh del,SSSR.  
(Traffic safety)

REZNIKOV, V., inzh.

~~How to prevent accidents caused by defects in shaft drives. Avt.transp.~~  
37 no.1:45-46 Ja '59. (MIRA 12:2)  
(Traffic accidents)  
(Automobiles--Maintenance and repair)

REZNIKOV, V.

Motorized bicycles. Za bezop.dvizh. no.3:3 of cover Mr '60.

(MIRA 13:12)

(Traffic regulations) (Bicycles and tricycles)

REZNIKOV, V., inzh.

You should not drive with faulty lighting equipment. Za rul. 18  
no.10:22-23 0 '60. (MIRA 14:1)

(Automobiles--Lighting)



REZNIKOV, V.

Best protection against accidents is the good condition of motor  
vehicles. Za bezop.dvizh. no.4:8-9 Ap '60. (MIRA 13:12)  
(Traffic accidents) (Automobiles--Inspection)

REZNIKOV, V., inzh.

How did it happen that a defective motortruck was included in the  
operating group? Avt. transp. 38 no. 5:34-35 My '60.

(MIRA 14:2)

(Motor vehicles--Inspection)

REZNIKOV, V., inzh.

New requirements of external lighting equipment of automobiles.  
Za rul. 16 no.10:16-17 0 '58. (MIRA 12:1)  
(Automobiles--Lighting)

REZNIKOV, V., inzh.

Perfect conditions of automobiles ensure operations without accidents.  
Avt. transp. 36 no.9:36-37 S '58. (MIRA 11:10)  
(Automobiles--Maintenance and repair)

REZNIKOV, V. B.

Cand Tech Sci - (diss) "More precise calculations and measures involved in decreasing bearing pressure of harbor gantry cranes." Leningrad, 1961. 18 pp; (Leningrad Inst of Water Transport); 300 copies; price not given; (KL, 10-61 sup, 217)

REZNIKOV, V.B.

Natural vibrations of a multiple mass system with variable partial  
coefficients of energy absorption of resilient members. Trudy  
TSNIIMF 7 no. 32:98-106 '61. (MIRA 14:5)  
(Elastic solids)

REZNIKOV, V.D.

Method for determining the concentration of additives of diesel  
oils (discussion). Khim.i tekhn.topl.i masel 7 no.9:61-63 S '62.  
(MIRA 15:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke  
nefti i gazov i polucheniya iskusstvennogo zhidkogo topliva.  
(Diesel fuels)

ZASLAVSKIY, Yu.S.; SHOR, G.I.; MONASTYRSKIY, V.N.; REZNIKOV, V.D.

Effects of the inhibition of a functional action in the mixing  
of lubricant additive components. Khim.i tekhn.topl.i masel  
5 no.9:51-57 S '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke  
nefti i polucheniyu iskusstvennogo zhidkogo topliva.  
(Lubrication and lubricants--Additives)



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Z/011/61/013/010/004/011

E194/E584

15 6200

11.9/100

AUTHORS: Reznikov, V.D. and Belyanchikov, G.P.

TITLE: Filtration capacity as an indicator of the properties of motor oils

PERIODICAL: Chemie a chemická technologie; Přehled technické a hospodářské literatury, v. 18, no. 10, 1961, 467, abstract Ch61-6463 (Khimiya i tekhnologiya topliv i masel, no. 10, 1960, 41 - 44)

TEXT: One of the characteristics used to assess the performance of lubricating oils in engine tests is the weight of deposit retained on the oil filter. In the case of straight mineral oil, high filter deposits indicate poor thermal stability of the oil. Additive-type oils usually give smaller amounts of deposits on filters and the scatter of results is very great; therefore the amount of deposit formed on the filters is not a reliable index of the quality of additive-type oils. However, if the criteria are correctly chosen the amount and nature of deposits formed upon the filter can serve to characterize the oil. For given test conditions, the deposit properties are

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E194/E584

Filtration capacity ...

fairly stable. Thus, in testing an engine type  $\Delta$ -35 (D-35), deposits contain 66 - 80% oil and resin, the remainder being benzene insolubles. The main factor governing the amount of deposits retained on the filters is the dispersion of the deposits. Accordingly, oils with detergent or dispersive additives are best characterized not by the absolute amount of filter deposit but by the proportion of the total contamination in the oil that is retained on the filter. Kadmer and Mauser (Ref. 2) have defined the degree of filterability in this way and Soviet work has shown that this factor is related to the anti-deposit-forming tendencies of the oil in an engine under laboratory conditions. It is considered that high-ash, heavy-duty oils should give filterability factors not greater than 50%; oils of high quality can give up to 50% but samples giving values greater than 70% give unsatisfactory engine performance. This applies to filters type  $\Delta$ QO (ASFO) and other values will doubtless be valid for different filters. The results apply to an engine type D-35, using fuel with 1% sulphur content. The degree of filterability is of less significance as a characteristic of anti-deposit-forming tendencies. The complete absence of

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29237

Z/O11/61/018/010/004/011  
E194/E384

Filtration capacity . . . .

deposits on a type ASFO filter indicates a very high degree of dispersion and stability but there may be a risk of wear if there is no deposit. If the filter does not retain anything, the effect is the same as if the engine had no filter and particles capable of causing wear can accumulate in the oil. Accordingly, the degree of filterability that corresponds to the best conditions, both from the standpoint of deposit-formation and wear, is 20 - 35%. Minimum engine wear resulting from iron in the oil and on the filter was observed when the filter retained 40 - 60% of the contaminants that enter or form in the oil. 5 figures, 4 references.

[Abstracter's note: the brief Czech abstract abstract has been substituted by an abstract of the original article.]

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ACCESSION NR: AP4036981

S/0065/64/000/005/0057/0061

AUTHORS: Puchkov, N. G.; Reznikov, V. D.

TITLE: The concentration of additives in diesel oils

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 5, 1964, 57-61

TOPIC TAGS: diesel engine, lubrication, diesel oil, diesel fuel, corrosion wear additive, VNII NP-360 additive, sulfur containing fuel, deposit formation, additive concentration, oil change period

ABSTRACT: The use of additives appears to be the most effective and economically expedient means of preventing corrosive wear and contamination of engines in high speed diesels using sulfur-containing diesel fuels; thus, an examination was made into the selection of the proper concentration of lubrication oil additives for such fuels. Tests were made with up to 15% VNII NP-360 additive in OS-11 oil. The results indicated that the harmful action of fuels containing 0.2—1.5% S can be suppressed by using a sufficient concentration of the additive. The additive used depends primarily on the amount of sulfur in the fuel, and the amount of additive required to suppress

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ACCESSION NR: AP4036981

engine wear is higher than the amount required to suppress the effect of sulfur on the formation of deposits in the engine. A formula which incorporates factors to describe the amount of sulfur and of additive was developed to determine the time for oil change in engines. The use of a high concentration of additives would be wasteful if low-sulfur fuels were used, and oils with low additive concentrations would require too frequent changes if high-sulfur fuels were used. For lubricating high-speed compressionless diesel engines operated on fuels containing 0.2—1.0% sulfur, the authors recommend the use of two groups of oils (differing by a factor of 2—3 with respect to additive concentration). Orig. art. has: 2 formulas and 5 figures.

ASSOCIATION: VNII NP

SUBMITTED: 00

ATD PRESS: 3078

ENCL: 00

SUB CODE: FP

NR REF SOV: 009

OTHER: 005

Card 2/2

REZNIKOV, V.D., kand. tekhn. nauk

Special features of the filtration of oils with admixtures in  
diesel engines. Energomashinostroenie 10 no.12:47-48 D '64.  
(MIRA 18:2)

L 60416-65 EWT(d)/EWT(m)/EWP(w)/EPF(c)/EWP(c)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/  
EWP(b)/EWP(1) Pf-4/Pr-4 JD/DJ/GS

ACCESSION NR: AT5015084 UR/0000/65/000/000/0005/0008

AUTHOR: Reznikov, V. D.

37  
34  
B+1

TITLE: Experimental use of the cut-out lune method during rapid stand tests of lubricants

SOURCE: Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut mashinovedeniya.  
Opredeleniye iznosa detaley mashin za korotkiye periody raboty (Determination of wear in  
machine parts for short periods of operation). Moscow, Izd-vo Mashinostroyeniye, 1965,  
5-8

TOPIC TAGS: wear test method, engine cylinder wear, Diesel engine wear, engine wear  
irregularity, cut out lune method, lubricant testing, oil additive

ABSTRACT: The experimental use of cut-out lunes for the determination of wear in engine  
cylinders during stand tests of lubricating oils at the Vsesoyuznyy nauchno-issledovatel'skiy  
institut neftyanoy promyshlennosti (All-Union Scientific Research Institute of the Petroleum  
Industry) showed certain definite peculiarities. The most reliable data about the wear-pre-  
venting properties of oils were obtained during consecutive tests of various samples on the  
same engine. The method is very fast and one can further improve the accuracy by running  
in the engine before and after cutting out the lunes. Some representative data are given,

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ACCESSION NR: AT5015084

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showing that wear during running-in can be prevented by a relatively short period of cold running. The article concludes with some observations on the preferred orientation of wear diagrams in vortical Diesel cylinders as related to the temperature field of the cylinder. Phosphorus-containing oil additives were found to reduce the above-mentioned irregularities in the wear somewhat. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut neftyanoy promyshlennosti  
(All-Union Scientific Research Institute of the Petroleum Industry)

SUBMITTED: 05Nov64

ENCL: 00

SUB CODE: FP, PR

NO REF SOV: 000

OTHER: 000

Card

2/28/64



PUCHKOV, N.G.; REZNIKOV, V.D.

Concentration of additives in diesel oils. Khim. i tekh. topl .  
i masel 9 no.5:57-61 5 My'62 (MIRA 17:7)

. Vsesoyuznyy nauchno-issledovatel'skiy institut po perera-  
botke nef'ti i gaza i polucheniyu iskusstvennogo zhidkogo top-  
liva.

REZNIKOV, V.D.; BOROVAIA, M.S.

Effect of the blowback of gases through piston rings into the  
crankcase of a motor on the aging of oil. Khim. i tekhn. topl.  
i masel. 6 no.10:48-51 0 '61. (MIRA 14:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po 'pererabotke  
nefti i gaza i polucheniya iskusstvennogo zhidkogo topliva.  
(Gas and oil engines)  
(Lubrication and lubricants)

I-8

REZNIKOV, V.D.  
USSR/Chemical Technology - Chemical Products and Their  
Application. Treatment of Natural Gases and Petroleum.  
Motor and Jet Fuels. Lubricants.

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2613

Author : Reznikov, V.D.

Inst : All-Union Scientific Research Institute of Petroleum and  
Gas Processing and Production of Synthetic Liquid Fuels.

Title : Methods and Scope of Engine Tests of Lubricating Oils.

Orig Pub : Tr. Vses. n.-i. in-ta po pererabotke nefti i gaza i polu-  
cheniyu iskusstv. zhidk. topliva, 1957, No 6, 33-45

Abstract : From an examination of the indices of a series of prolon-  
ged bench tests of oils (with and without additives) in  
various automobile and tractor engines (GAZ-51, YaAZ-204,  
D-54), relating to wear, power rating and economy of ope-  
ration of the engine, deposit formations and changes in

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Calculating the necessary...  
lation.]

S/081/62/000/005/093/112  
B160/B138

Card 2/2

29445

S/081/61/000/017/145/166

B117/B138

11.9000

AUTHORS: Puchkov, N. G., Borovaya, M. S., Reznikov, V. D.

TITLE: Change in chemical composition and operating properties of oils during service in the engine

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1961, 472, abstract 17M219 (Tr. 3-y Vses. konferentsii po treniyu i iznosu v mashinakh. M., AN SSSR, v. 3, 1960, 373 - 381)

TEXT: The authors tested heavy diesel lubricating oils from Baku and from Eastern sulfurous petroleums with and without addition of 3% Циатим-339 (Tsiatim-339) on engines of the types ГАЗ-51 (GAZ-51) and Д-35 (D-35). The chromatographically determined, chemical group composition is given for oils in the initial state and after 50, 100, and 200 hr service in the engine. The monocyclic hydrocarbon concentration was found to decrease, and that of the polycyclic hydrocarbons and tarry matter increased. When the D-35 engine was run on a sulfur-base diesel fuel (1 - 2% S) the oil aged much faster and insoluble substances formed to a considerably higher extent than during operation with a fuel containing 0.2% S. [Abstracter's note: Complete translation.]

Card 1/1

REZNIKOV, V. D., Cand. Tech. Sci. (diss) "Investigation of Effect of Complex Additives on Operating Properties of Lubricants for High-speed Motor-tractor Diesels," Moscow, 1961, 24 pp. (Moscow Instit. Petroleum Chem. and Gas Industry) 160 copies (KL Supp 12-61, 272).

Z/011/61/018/012/002/007  
E073/E535

11.9700

AUTHORS: Reznikov, V.D., Zaslavskiy, Yu.S. and Shor, G.I.

TITLE: New method of determining the content of active neutralising additives in motor oils

PERIODICAL: Chemie a chemická technologie; Přehled technické a hospodářské literatury, v.18, no.12, 1961, 560, abstract Ch61-7745 (Khimiya i tekhnologiya topliv i masel, no.5, 1961, 63-66)

TEXT: The proposed method is based on the existence of a linear relation between the content of these additives in the oil and the degree of neutralisation of the corrosive impurities. The engine defects caused by these abrasive products are enumerated. 5 figures, 6 references.

[Abstractor's note: Complete translation.]

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GAVRYUKHIN, V.M.; REZNIKOV, V.D., inzh.

Using the method of cutting out holes for determining the  
mechanical wear of cylinders used in operational testing of  
fuels and oils. Vest.mash. 37 no.12:63-65 D '57. (MIRA 10:12)  
(Mechanical wear) (Fuel--Testing)  
(Lubrication and lubricants--Testing)



REZNIKOV, V.D.

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S/065/60/000/009/001/003

E194/E184

15.6600

AUTHORS: Zaslavskiy, Yu.S., Shor, G.I., Monastyrskiy, V.N., and Reznikov, V.D.

TITLE: The Effects of Suppression of Functional Activity when the Components of Oil Additives are Mixed

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, No 9, pp 51-57

TEXT: Engine oil additives<sup>||</sup> often contain components with different functions such as neutralising, wetting, "anti-corrosion," etc. Tests have shown that a combination of a neutralising component with a protective one gives less engine wear than does the neutralising component alone with the same total metal content in the oil. However, in many cases mixing of additives has resulted in loss of some of their effectiveness. For example, on mixing additives VNII-NP-350 (barium alkylphenolate), TsiATIM-339 (barium disulphide alkylphenolate) and VNII-NP-360 (barium alkylphenolate mixed with zinc dialkyldithiophosphate) suppression of functional activity is observed as will be seen from the test results plotted in Fig 1. This shows results of determinations of the duration of neutralisation of corrosive wear of radioactive sliding parts in a

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The Effects of Suppression of Functional Activity when the Components of Oil Additives are Mixed

laboratory rig in corrosive acid vapours as function of the barium concentration in oil grade AS-9.5 NKZ. The duration of neutralisation is a linear function of the metal content. Ash determinations on the used oil showed that the tests depleted all the barium in each of the three additives but, with equal initial barium contents in the oil, additive VNII-NP-350 gave much longer neutralisation time than additive TsIATIM-339 and VNII NP-360. This is presumably because the barium in the last two additives was expended not only in neutralising the corrosive acid but also in reacting with other components of the additives, probably those containing sulphur. To verify this, tests were made with specially synthesized additives containing various amounts and kinds of sulphur compounds, as shown in Fig 1. These additives were blended with oil grade AS-9.5 NKZ to constant barium content: the test results are given in Table 1 and Figs 2 and 3, which show the duration of effective neutralisation and the angle of slope of the wear curve of radioactive components after neutralisation, as functions of the sulphur content in the oil for various additives. It will be seen that the neutralising action of barium alkylphenolate varies

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The Effects of Suppression of Functional Activity when the Components of Oil Additives are Mixed

inversely as the sulphur content of the additive. The different effects of the various sulphur compounds used in the tests are described. It is considered that in some cases the sulphur compounds can easily be split off when the additive is attacked by acid and that the free sulphur evolved interacts with the barium ions to form barium sulphide, so reducing the barium available for neutralisation of acids. The formation of barium sulphide is confirmed by the high rate of wear after effective neutralisation. However, when sulphurised oil is used it may form a protective film after the barium additive is used up, so reducing wear. Interaction between additive components alters the electrical conductivity of oil containing these components as compared with that of the same oil containing each component separately. Fig 4 shows a graph of the electrical conductivity of oil grade AS-9.5 NKZ containing 5% barium alkylphenolate as function of the sulphur content of the blend when sulphurised oil is added to it. The direct current conductivity was measured at a temperature of 100 °C with a microammeter. It will be seen that adding sulphur reduces the conductivity and the curve

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The Effects of Suppression of Functional Activity when the Components of Oil Additives are Mixed

corresponds closely to that of reduction in duration of neutralising effect. Interaction of components with suppression of neutralising effect was also observed on mixing barium alkylphenolate and basic calcium sulphate with dialkyldithiophosphate, and here too correspondence was observed between the decrease in electrical conductivity and that of duration of neutralising effect. The results of duration of neutralising effect tests given in Table 1 were compared with hundred hour engine tests using a type D-35 engine; see Table 2. The engine test conditions are stated; the fuel contained 1% sulphur. It will be seen that the minimum wear obtained with barium alkylphenolate additive results from the more effective neutralisation. The high barium and low iron content of the deposits is evidence of greater use of barium for neutralisation. Tests with other additives revealed similar correlation between engine tests and those of duration of neutralising effect. Similar correlation was observed in tests on used oil. Fig 5 shows graphs of the change in neutralising effectiveness of oil DS-11 plus additives as function of the operating time of the oil in a diesel Card 4/5

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The Effects of Suppression of Functional Activity when the Components of Oil Additives are Mixed

engine type D-38. It will be seen that the difference in neutralising effectiveness of different oils initially containing equal quantities of barium is mainly due to the dialkyldithio-phosphate components which remain in the oil throughout the engine tests. The results of engine tests given in Table 3 show that increased wear of piston rings associated with suppression of the neutralising effect of barium alkylphenolate by dialkyldithio-phosphate components is accompanied by appreciable reduction in deposits, particularly on pistons. Apparently it is often necessary to use mixtures of additive components which give satisfactory wetting action with some impairment of neutralisation and so of anti-wear properties. However, it would be better to select the additive components in such a way that such interaction is absent. There are 5 figures, 3 tables and 7 references: 4 Soviet and 3 English.

ASSOCIATION: VNII NP

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REZNIKOV, V. D.

PHASE I BOOK EXPLOITATION 917

Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniya iskusstvennogo zhidkogo topliva

Issledovaniye i primeneniye nefteproduktov (Study and Use of Petroleum Products) Moscow, Gostoptekhizdat, 1957. 213 p. (Series: Its: Trudy vyp. 6) 1,000 copies printed.

Eds.: Puchkov, N.G., Zaslavskiy, Yu. S.; Executive Ed.: Kleymenova, K.F., Engineer; Tech. Ed.: Mukhina, E.L.

PURPOSE: This book is intended for engineering and scientific personnel concerned with the production, study and use of petroleum products.

COVERAGE: This collection of articles gives the results of the scientific research work of the Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniya iskusstvennogo zhidkogo topliva (All-Union Scientific Research Institute for the Processing of Petroleum and Gas for the Production of Synthetic Liquid Fuel) on the operational properties  
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## Study and Use of Petroleum Products 917

of fuels and lubricating oils and describes methods for investigating, by the use of radioactive isotopes, the chemical composition and physicochemical properties of petroleum products and the wear-resistant properties of oils.

## TABLE OF CONTENTS:

## I. TESTING FUELS AND LUBRICATING OILS

Puchkov, N.G.; Serov, A.V.; Belyanchikov, G.P.; Reznikov, V.D.;  
and Puchkov, S.I. Motor Properties of Diesel Oils from  
Sulfurous Petroleum 3

Diesel oil from eastern Devonian petroleum deposits with high sulfur content (up to 1 percent or more) was evaluated on the basis of the following criteria: 1) motor properties, 2) power and economy factors (in motor D-35); 3) wear of motor parts (the main criterion), and 4) functional stability. Laboratory investigations and extended tests of this oil, with additives "aznii-4" and "tsiatim-339", showed that it guarantees normal length of service for tractor and automobile diesels (D-35 and YaAZ-204 respectively), and is equal in quality to

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oil from Baku deposits. There are 8 tables and 1 Soviet reference.

Puchkov, N.G., and Belyanchikov, G.P. Fuel for High-speed Diesels

13

The present article gives comparative test data on standard fuel (according to GOST 4749-49 DL), fuel from the heavier fractions of petroleum, and compound fuel (a mixture of gas oil fuel and fuel from heavier fractions in a ratio of 30:70), on the basis of their performance in a two-cycle YaAZ-204 engine. It is concluded that fuel from the heavier fraction of petroleum may be utilized with a slight increase in viscosity (12 cst or  $\eta_{20} \cong 2$ ) and the absence of heavy tarry residues (95 percent vaporizes at 400°). Fuels from catalytic cracking with a cetane number of 40, in the pure state and mixed with fuels of direct distillation may be widely used in modern tractor engines. There are 4 tables, 6 figures and 6 Soviet references.

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Puchkov, N.G. and Rubinshteyn, S.F. Investigation of the Starting Qualities of Oils in Motor ZIL-120

24

This article gives the comparative results of the role of the viscosity of oils at low temperatures in starting motors ZIL-120 and GAZ-51. The installation of a more powerful starter may increase the limit viscosity which fixes the flowability and starting temperature limits of the oil within the intervals 100 to 300 poises and 20-25 to 100 poises, respectively. Experimental data indicate that for these two large motors the minimum viscosity values for oil are 250 and 100 poises for flowability and starting respectively. There are 8 figures, 2 tables and 4 Soviet references.

Reznikov, V.D. On Methods and Extent of Motor Tests of Lubricating Oils

33

The author states that present methods of testing lubricating oils are neither satisfactorily accurate nor comprehensive in providing data which will aid in choosing the proper oil for a given motor. Proposals for improving these conditions are given. There are 7 tables and 6 references, of which 5 are Soviet and 1 English.

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Serov, A.V. The Basis for Methods of Short-term Tests for Evaluating the Wear-resistant Properties of Diesel Oils 46

In this article the author cites methods of evaluating wear-resistant properties of diesel oils on the basis of several considerations which are discussed at length. It is stated that determination of motor wear according to the amount of iron dissolved in the lubricating oil is quite possible. It is concluded that the basic factors determining the rate of motor wear are the rotational speed of the crankshaft, motor load, and temperature, although the influence of the latter is apparently less noticeable in diesels than in carburetor motors. There are 7 figures, 4 tables and 7 Soviet references.

## II. INVESTIGATION OF PETROLEUM PRODUCTS

Zaslavskiy, Yu. S.; Shor, G.I.; Kirillov, I.G.; Lebedeva, F.B.; Yevstigneyev, Ye. V.; and Zlobin, O.A. The Application of

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Radioactive Indicators (Tagged Atoms) in the Investigation of  
Wear-resistant Properties of Lubricating Oils 58

The purpose of this investigation was to establish a rapid method of evaluating wear-resistant properties of lubricating oils by the use of radioactive isotopes. A motor part was exposed to an isotope, e.g., Co. <sup>60</sup>, and wear was measured by measuring the radiation intensity of the lubricating oil with a counter tube. A structural scheme is given for an automatic apparatus which will continuously record the radioactivity of circulating oil (thereby making "visible" the wear on components as it fluctuates with changing test conditions). There are 17 figures, 6 tables and 32 references, of which 11 are Soviet and 21 English.

Zaslavskiy, Yu. S.; Kreyn, S.E.; Shneyerova, R.N.; and Shor, G.I.. Radiochemical Investigation of the Action of Oil Additives 85

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917

This investigation concerned the capacity of additives to demonstrate an inhibiting action on oil during the operative process (i.e., to ensure an antioxidizing effect), or the capacity to prevent the catalytic influence of surface metal on the oxidation of oil. It was found that the protective coating, once having formed, later begins to decompose and erode, and is eventually washed off the metal surface completely; retardation of corrosion, therefore, is most effective during the formation of the protective coating. Engineers A.I. Kuznetsova, I.A. Morozova; Technicians M.B. Koziyenko, N.M. Avdeyeva,; and laboratory assistants P.I. Shishova and N.V. Dmitriyeva participated in the work. There are 16 figures, 1 table, and 14 references, of which 12 are Soviet and 2 English.

Zaslavskiy, Yu. S.; Shneyerova, R.N.; Shor, G.I.; and Kuznetsova, A.I. Radiochemical Investigation of the Stability of Solutions of Additives in Oils

107

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This investigation was made because of the need for additives that will not precipitate from oil under the influence of various factors. It was found that, by using tagged atoms in a method based on centrifuging, stability could be determined by measuring the radioactivity of the oil layers after centrifuging. Professor S.E. Kreyn acted as consultant in the work. There are 3 figures, 4 tables and 3 Soviet references.

Tilicheyev, M.D. Cryoscopic Methods of Analyzing the Hydrocarbon Content of Petroleum Products. I. Cryoscopic Methods of Analysis Without a Solvent 117

The author bases the method mentioned in the title on a principle of chemical thermodynamics which states that the temperature of crystallization of any solvent is lowered 1° by the same amount of any substance on condition that it is soluble in the liquid phase and insoluble in the solid phase of the solvent and forms an ideal solution with it.

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On the basis of this law, and by accurate determination of crystallization temperature, the author determines, and gives methods and equations for determining, a) the purity of individual admixtures (hydrocarbons), b) the quantity of individual admixtures, and c) the concentration of sulfuric acid. S.A. Yuganova participated in b), and V.P. Peshkov, Doctor of Physical and Mathematical Sciences, acted as consultant.

Tilicheyev, M.D.; Okishevich, N.A.; Borovaya, M.S.; and Goysa, Ye. I. Cryoscopic Methods of Analyzing the Hydrocarbon Content of Petroleum Products II. Cryoscopic Methods of Analysis Using Solvents 130

This article reviews the above-mentioned method in which the authors determine the amount of admixture by taking a solvent with a sufficiently high value and adding 1 percent mol of a substance. By observing the change in crystallization temperature of cyclohexane, it was possible to determine

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the amount of admixture with a degree of error of plus or minus 1 percent. This method and the chromatographic method were used to determine the amount of aromatic hydrocarbons in gasoline (with a degree of error of plus or minus .6 percent), the amount of nonsulfonated admixtures in different fractions of aromatic hydrocarbons, and the quantitative determination of aromatic hydrocarbons in petroleum oils in a solution of cyclohexane. V.S. Buk participated in the quantitative analysis of aromatic hydrocarbons in petroleum oil. There are 3 figures, 21 tables and 12 references, of which 9 are Soviet and 3 English.

Tilicheyev, M.D.; Goysa, Ye.I.; Tsyganova, Ye V. A Gravimetric Method for the Quantitative Determination of Aromatic Hydrocarbons in Light-colored Petroleum Products 148

This paper gives the results of tests of aviation gasolines, "Galosha" gasoline, and white spirit (a turpentine substitute) for the presence of aromatic hydro-carbons. Two variants of

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the method were used, which include (Variant I) treatment with sulfuric acid and rinsing with water and (Variant II) titration with a 0.1 n solution of KOH. The accuracy of this method was determined with synthetic mixtures of alkanes and cyclanes (naphthenes) of gasoline B-70 and 2,2,4 - trimethyl pentane (iso-octane). Variant I with a degree of error of plus or minus .5 percent, is recommended, whereas Variant II had a degree of error of plus or minus .8 percent. There are 7 tables and 1 Soviet reference.

Tilicheyev, M.D. Basing the Boiling Point of Petroleum Products on Atmospheric Pressure

156

Boiling points are "brought to normal" according to the pressure of saturated vapors of individual hydrocarbons, on the basis of n-alkanes. The author states that this method and others lead to serious errors, and gives methods for

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computing these boiling points when transferring from one pressure to another by using the coefficients of Antoine's equation ( $t_p = \frac{B}{A - t_p} - C$ ) and a graphic method based on the molecular weights of the compounds. There are 3 figures, 4 tables and 11 references, of which 6 are Soviet and 5 English.

Ptashinskiy, I.A. and Guseva, R.I. Electrometric Method of Evaluating the Corrosive Aggressiveness of Lubricating Oils 174

This article gives a resume of research on the electrochemical nature of the corrossions of metals in different solutions. The electrochemical nature of the corrosion process was proven for solutions of acids and for oil SU, and a satisfactory method for measuring the electric potential of a metallic electrode in lubricating oil was worked out. There are 3 tables and 7 Soviet references.

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Ptashinskiy, I.A. and Frolova, M.K. Polarographic Method of  
Determining Tetraethyl Lead in Gasolines

181

The authors offer a simpler and more reliable method of determining the concentration of tetraethyl lead in aviation and automobile gasolines. The quantity is computed according to the formula  $TL (Pb(C_2H_5)_4) = \frac{323.22 C \cdot 75}{10e}$ , where TL is the

quantity of tetraethyl lead per g/kg. of gasoline; C the concentration of lead chloride, determined according to a calibrated graph based on the polarographing of the tested solution; and e the density of gasoline at 20° C. The quantity of ethyl liquid product P-9 per ml. in 1 kg. of gasoline is:  $X = 1.213 TL$ . It is stated that this method requires 1/3 to 1/4th as much time as standard methods. There is 1 figure, 1 table and 3 references, of which 2 are Soviet.

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Osher, R.N.; Zaytseva, L.D. Determination of the Saponification Number of Petroleum Products and the Content of Free Fats in Consistent Lubricants

185

This article first reviews in detail various methods for making the determination mentioned in the title. However, a unified method based on ordinary titration procedures is offered as being quicker and more accurate and has been accepted as standard method GOST 6764-53. There are 3 tables.

Bagryantseva, P.P.; Badayeva, M.K.; and Kaygorodtseva, R.A. The Protection of Hydraulic Gas Containers from Corrosion

189

A review is given of efforts that have been made to produce a suitable liquid to inhibit the corrosion of hydraulic valves of gas containers. Investigation showed that carbon black increased the viscosity of the oil base, while sudan apparently had no influence. Synthetic rubbers and polyisobutylenes were used successfully as components of the protective liquid. The simultaneous introduction of a passivator and a protective liquid into the water which

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flows through the shutoff valve of the gas container increases the effectiveness of corrosion protection. The acidity of this liquid does not have a negative effect on its protective properties. There are 7 tables and 1 figure.

Kaulina, M.M. and Luneva, V.C. Evaluation of the Viscosity Properties of Consistent Lubricants at Low Temperatures by Using Rotary and Capillary Viscometers

199

The above-mentioned methods are described in detail. 1) The rotary viscometer [Ref. 2] is based on measuring the resistance of lubricants on a revolving roller. 2) The capillary viscometer [Ref. 1, 4, 7] is based on measuring the resistance of oils passing through a capillary tube. The rotary viscometer has no temperature limitations, it is stated, and the viscosity of lubricant greases can be determined at  $-30^{\circ}$  C. The rotary method was worked out by

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V.P. Pavlov and the capillary method by the Institut nefti AN SSR (Petroleum Institute, Academy of Sciences, USSR).

There are 2 tables, 2 figures and 7 Soviet references.

Bagryantseva, P.P. and Badayeva, M.K. The Influence of the Volatility and Viscosity of Mineral Oils on the Operational Properties of Cold-resistant Consistent Lubricants

206

Commercial lubricants were investigated to compare their physicochemical and volume properties, and to test their work capacity in roller bearings on stands and under operational conditions as well. It was concluded that viscosity properties and work capacity of lubricants are dependent upon the hydrocarbon content and upon the volatility and viscosity, respectively, of their component mineral oils. Also, volatility showed great influence on viscosity properties, which were dependent in a linear relationship. Experiments were carried out at an experimental station of the ENII PP. There are 9 figures and 4 tables.

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Luneva, V.S., and Kovalev, V.A. Quick Method for Determining  
the Protective Capacity of Consistent Lubricants 219

This article outlines methods for and gives results of evaluating the protective effectiveness of lubricants against corrosion in both liquid and gaseous media. Petrolatum, gun lubricant and commercial vaseline were the more resistant to gaseous corrosion, while corrosion was best controlled in liquid media according to GOST 5757-51, which is based on measuring the width of the protective coating of oil deposited on metal surfaces at various temperatures, and several other factors. There are 4 figures, 7 tables and 14 Soviet references.

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REZNIKOV, V.D.

Methods and scope of testing lubricating oils in motors. Trudy  
VNII NP no.6:33-45 '57. (MIRA 10:10)  
(Lubrication and lubricants)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

A B C D E F G H I J K L M N P Q R S T U V W X Y Z AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ BA BB BC BD BE BF BG BH BI BJ BK BL BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ CA CB CC CD CE CF CG CH CI CJ CK CL CM CN CO CP CQ CR CS CT CU CV CW CX CY CZ DA DB DC DD DE DF DG DH DI DJ DK DL DM DN DO DP DQ DR DS DT DU DV DW DX DY DZ EA EB EC ED EE EF EG EH EI EJ EK EL EM EN EO EP EQ ER ES ET EU EV EW EX EY EZ FA FB FC FD FE FF FG FH FI FJ FK FL FM FN FO FP FQ FR FS FT FU FV FW FX FY FZ GA GB GC GD GE GF GG GH GI GJ GK GL GM GN GO GP GQ GR GS GT GU GV GW GX GY GZ HA HB HC HD HE HF HG HH HI HJ HK HL HM HN HO HP HQ HR HS HT HU HV HW HX HY HZ IA IB IC ID IE IF IG IH II IJ IK IL IM IN IO IP IQ IR IS IT IU IV IW IX IY IZ JA JB JC JD JE JF JG JH JI JJ JK JL JM JN JO JP JQ JR JS JT JU JV JW JX JY JZ KA KB KC KD KE KF KG KH KI KJ KL KM KN KO KP KQ KR KS KT KU KV KW KX KY KZ LA LB LC LD LE LF LG LH LI LJ LK LL LM LN LO LP LQ LR LS LT LU LV LW LX LY LZ MA MB MC MD ME MF MG MH MI MJ MK ML MN MO MP MQ MR MS MT MU MV MW MX MY MZ NA NB NC ND NE NF NG NH NI NJ NK NL NO NP NQ NR NS NT NU NV NW NX NY NZ OA OB OC OD OE OF OG OH OI OJ OK OL OM ON OO OP OQ OR OS OT OU OV OW OX OY OZ PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO PP PQ PR PS PT PU PV PW PX PY PZ QA QB QC QD QE QF QG QH QI QJ QK QL QM QN QO QQ QR QS QT QU QV QW QX QY QZ RA RB RC RD RE RF RG RH RI RJ RK RL RM RN RO RP RQ RR RS RT RU RV RW RX RY RZ SA SB SC SD SE SF SG SH SI SJ SK SL SM SN SO SP SQ SR SS ST SU SV SW SX SY SZ TA TB TC TD TE TF TG TH TI TJ TK TL TM TN TO TP TQ TR TS TT TU TV TW TX TY TZ UA UB UC UD UE UF UG UH UI UJ UK UL UM UN UO UP UQ UR US UT UU UV UW UX UY UZ VA VB VC VD VE VF VG VH VI VJ VK VL VM VN VO VP VQ VR VS VT VU VV VW VX VY VZ WA WB WC WD WE WF WG WH WI WJ WK WL WM WN WO WP WQ WR WS WT WU WV WW WX WY WZ XA XB XC XD XE XF XG XH XI XJ XK XL XM XN XO XP XQ XR XS XT XU XV XW XX XY XZ YA YB YC YD YE YF YG YH YI YJ YK YL YM YN YO YP YQ YR YS YT YU YV YW YX YZ ZA ZB ZC ZD ZE ZF ZG ZH ZI ZJ ZK ZL ZM ZN ZO ZP ZQ ZR ZS ZT ZU ZV ZW ZX ZY ZZ

1ST AND 2ND CROSS PROCESSES AND PROPERTIES INDEX 1ST AND 2ND CROSS

CA 16

Apparatus for continuous mashing. V. G. Reznikov, U.S.S.R. 67,139, Sept. 30, 1946. The app. comprises a dampening vat, a mashing tun, and a mixer. The heating is effected by high-frequency currents. M. Hosh...

AS 6-51 A METALLURGICAL LITERATURE CLASSIFICATION



REZNIKOV, V. D.

30V/5055

PHASE I WORK ON LUBRICANTS

Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. Id. 1958.  
 gidrodinamicheskaya teoriya snazhi. Opory skozhneniya. Smazka i smazochnyye materialy (Hydrodynamic Theory of Lubrication, Slip Bearings, Lubrication and Lubricant Materials) Moscow, Izd-vo AN SSSR. 422 pp. Errata slip inserted. 3,500 copies printed. (Series: Izv. Trudy, v. 4)

Sponsoring Agency: Akademiya nauk SSSR, Institut mashinovedeniya, Respubl. Eds. the Section "Hydrodynamic Theory of Lubrication and Slip Bearings"; Ye. M. Gat'yar, Professor, Doctor of Technical Sciences, and A. K. D'yachkov, Professor, Doctor of Technical Sciences; Resp. Ed. for the Section "Lubrication and Lubricant Materials", G. V. Vinogradov, Professor, Doctor of Chemical Sciences; Ed. of Publishing House: M. Ya. Klebanov; Tech. Ed.: O. M. Gus'kova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.  
 COVERAGE: The collection, published by the Institut mashinovedeniya AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-11, 1958. Problems discussed were in the following areas: Hydrodynamic Theory of Lubrication and

Hydrodynamic Theory (Cont.) 30V/5055

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AUTHORS: ~~Reznikov, V. D.~~ and Belyanchikov, G.P.

TITLE: Filterability as an Index of the Engine Properties of Lubricants

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960. No.10.  
pp.41-44

TEXT: One of the characteristics used to assess the performance of lubricating oils in engine tests is the weight of deposit retained on the oil filter. In the case of straight mineral oil high filter deposits indicate poor thermal stability of the oil. Additive type oils usually give smaller amounts of deposits on filters, and the scatter of results is very great, and so the amount of deposit formed on the filters is not a reliable index of the quality of additive type oils. However, if the criteria are correctly chosen the amount and nature of deposits formed upon the filter can serve to characterize the oil. For given test conditions, the deposit properties are fairly stable, thus in testing an engine type  $\Delta$ -35 (D-35) deposits contain 66 to 80% of Card 1/3

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Filterability as an Index of the Engine Properties of Lubricants

oil and resin, the remainder is benzene insolubles. The main factor governing the amount of deposits retained on the filters is the dispersion of the deposits. Accordingly, oils with detergent or dispersant additives are best characterized not by the absolute amount of filter deposit but by the proportion of the total contamination in the oil that is retained on the filter. Kadmer and Mauser (Ref.2) defined the degree of filterability in this way and Soviet work has shown that this factor is related to the anti-deposit forming tendencies of the oil in an engine under laboratory conditions. It is considered that high-ash heavy-duty oils should give filterability factors not greater than 30%; oils of high quality can give up to 50% but samples giving values greater than 70% are of unsatisfactory engine performance. This applies to filters type AC~~FO~~ (ASFO) and other values will doubtless be valid for different filters. The results apply to an engine type D-35 using fuel with 1% sulphur content. The degree of filterability is of less significance as a characteristic of anti-deposit forming tendencies. The complete absence of deposits  
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on a type ASFO filter indicates a very high degree of dispersency and stability, but there may be a risk of wear if there is no deposit. If nothing is retained by the filter it is as if the engine had no filter and particles capable of causing wear can accumulate in the oil. It is accordingly recommended as a guide that the degree of filterability that corresponds to the best conditions, both from the standpoint of deposit formation and wear, is 20 to 35%. Minimum engine wear resulting from iron in the oil and on the filter was observed when the filter retained 40 to 60% of the contaminants that enter or form in the oil. There are 5 figures and 4 references: 1 Soviet and 3 non-Soviet. ✓

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