

International Hydrofoil Society Correspondence Archives...

Sources of Engines, Their Maintenance, and Repair Parts

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Correspondence

Diesel Engineering Text

[30 Mar 11] Author: Andrei Makartchouk

Title: Diesel Engine Engineering 2: Thermodynamics, Turbocharging, Dynamics, Design, Control

ISBN: 0984634606

Available on Amazon.com

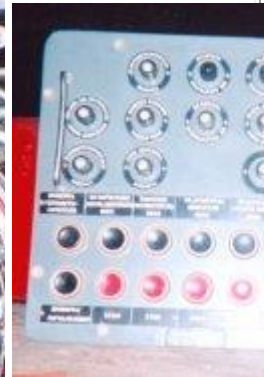
This book is a revised and extended edition of my previous book below, and provides the foundation for design of diesel engines based on traditional methods in thermodynamics, dynamics, structural analysis, chemistry, heat transfer, applied analysis of system operation, and etc. This edition offers an additional material and examples for calculation of combustion process, thermal efficiency, heat release, NOx emissions, and etc. A diesel turbocharging is included into this edition also.

Providing detailed strategies to analyze, control, and design diesel engines, their systems, and major components, this text can be used as a manual for calculation of diesel engine thermodynamics and dynamics, design of turbocharging, evaluation of structural mechanisms, and modeling of diesel engine systems for optimal performance, efficiency, and maintenance in marine, industrial, automotive and genset applications.

Thank you, Andrei

A Gas Turbine Engine For Your PHM

[2 Jun 03] GTE For Sale: proposed as suitable to replace the LM2500 in a surplus PHM or a commercial vessel requiring this kind of power: 20,000 HP. Built by Mashproekt in Ukraine; No operating time accumulated; Model designation D59 (original USSR designation for same model, only with a reversing mechanism: GT16000); Maximum continuous rating (MCR) - 20,000 hp in ISO conditions; Power turbine rated speed : 5200 rpm (A 3000 RPM power section is available from Russia for only \$128,000 and it includes exhaust plenum and driveshaft ready to couple up to the PHM gearbox); Direction of rotation: counter-clockwise (looking at the output shaft flange), non-reversible (reversing mechanism not needed to power a water jet) ; Fuel control system operation: stabilized fuel flow rate; MTBO - 10 000 hr: (100% MCR - 300 hr, 80% MCR - 900 hr, 70% MCR and less -10 000 hr). If engine load never exceeds 70% MCR, MTBO can be extended to 20 000 hr.; Total life time - 60 000 hr. Stored in Michigan USA; Asking US\$500,000 with 2 water jet drives. I would like to be put in touch with some boat builders around the Mediterranean area who might be interested. -- E J Potter email: potterej@earthlink.net; phone: 1-561-468-3587.





53-Page Technical Manual

(Adobe Acrobat
File - 612 kb)

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Kart Engine Utility

[11 Nov 01] I am considering building a hydrofoil as a university project and I've already been looking into some of the practicalities. Today I have mostly been considering how to power a small hydrofoil and looking at lots of engine and propeller websites. One option I've been looking at is the widespread availability of Kart engines. Do you think a 28HP Kart engine could be geared down to provide propulsion for a lightweight hydrofoil say 12-15ft in length? It just got me thinking because kart engines are very lightweight and also surprisingly cheap. -- Mark Landers (mark.landiers@baesystems.com)

LITTLE SQUIRT's Gas Turbine Engine

[20 Oct 01] In the article on Boeing's *LITTLE SQUIRT* it mentions Boeing 425 hp gas turbine engine. Do you know any more about this engine or who might. Are these available or something comparable? -- Matt Kirk (matric39@gte.net)

Response...

[21 Oct 01] Boeing built the small gas turbine for about 20 years primarily for the air start carts used to start jet engines at the airports. I believe some may have been used as Auxiliary Power Units (APUs) as well. The jet planes have the APU usually near the tail to provide hydraulics, electricity, and starting air so they can be independent of ground services. Due to the age, I don't know if they are still in service. Other gas turbines of this horsepower range that I am aware of were built by Solar (I believe the parent organization was International Harvester) and Airesearch. I know Airesearch was bought out by Garrett who was bought but again, but I don't remember the name of the current owner. Current versions of the gas turbines in this category are about half the size of the previous units. -- Sumi Arima (arimas1@juno.com)

[26 Feb 03] Boeing made these engines: T50BO-12 also T50BO-10, T50BO-8. I have a few of them and have used them in my boat. -- Tim Pratt (timp%compatiblecomputers.com)



Reactivating the Indonesian Jetfoil Fleet

[24 Jan 01, updated 17 Feb 01] Would you advise who know the Standard Test for Fuel Nozzle of Allison 501 KF Gas Turbine Engine used on Boeing Jetfoil 929 type? There are five Jetfoils in our country, Indonesia. One is a commercial type with around 225-passenger seats. This vessel has been in use for several years, and the 2 501 engines are burned out. There are Allison documents with the ship, but I can't get the answer to my question from them. Two of the other Jetfoils are troop transport type with around 100 passengers on first deck. We plan to operate one of these at Surabaya-Indonesia as a chartered vessel for plant or offshore services. Another two Jetfoils are patrol type unfinished yet. The two patrol type units are hull (one deck) with engine and Automatic Control System (ACS) only. They have never been used since they arrived in our country in the beginning of the 1980s. We have planned to modify Patrol type to be a Commercial type. Do you have any idea how much the approximate cost for this project? Do you know who has the surplus of Allison 501 KF engine; we need two units. -- Sentot Adi Pramono, Operation Director at PT Indonusa Ocean (sentot@lycos.com); Jln. Dukuh Kupang XXI - 16 Surabaya, 60225; Indonesia. Phone: 62 81 133 6557; 62 31 567 2257; Fax: 62 31 561 2293

Response...

[17 Feb 01] Allison was bought by Rolls Royce in 1995. There is a descriptive information about the Allison 501 engine on the [Rolls Royce website](#) (use the search feature to search for "Allison," but no specific info on sales of new or reconditioned units or on maintenance

procedures. They do offer parts and maintenance service in various countries, but you will have to contact them directly for specifics. The US Navy uses this engine, but I have no idea whether they have put any into surplus. -- Barney C. Black (Please reply via the [BBS](#))

Need Meteor Parts...

[18 Jul 00] I am hoping someone can tell me the contact numbers for the Zelenodolsk Ship yards who manufacture the Russian hydrofoil Meteor. -- Hans Enri (hengermarine@hotmail.com)

Response...

[18 Jul 00] The Zelenodolsk Shipyard has [its own website](#).

Source of Engine Parts for Russian Hydrofoils

[5 May 00] My company, Comeract, Ltd is a source of spare parts of Russian engines, including engines in Russian hydrofoils like Kometa and in other Russian vessels of the type Alexander Green and Efpatoria. My fax is: 0030 241 22728; address is: 9 Mitropolitou Apostolou; Rodos-Greece -- Mihail Hatziapostolou (comeractgr@hotmail.com)

Russian Source of Spare Parts

[1 Mar 00] I wanted to let you know that my company has successfully ordered new spare parts out of Russia. We have received our 1st shipment (5 propeller shafts and 1 V-drive). Also have we ordered 3 (new) front and 2 (new) aft foils. -- Mark van Rijzen (dutchhydrofoils@wanadoo.nl)

Warbird Engine

[31 Dec 99] I am looking for information about the gas turbine engines made in the USA by Avco Lycoming that were used on the Grumman OV1 Mohawk airplanes. These engines are the turboprop version of the famous Huey helicopter engine. I am looking for a engine specification list, installation drawings, and an operations manual. If anybody out there knows how to get these documents, please contact me. You are probably wondering why I am asking: I have a idea that these engines will suit a Russian Voskhod hydrofoil perfectly as a main propulsion engine. The light weight and small dimensions will suit ideally for this application. I know that in the USA, Unlimited hydroplane race boats also use the bigger version T55 as main engine. -- Peter Venema (venem107@wxs.nl)

Response...

[31 Oct 98, updated 5 May 03] There is a web-based [bulletin board for buying and selling aircraft and parts](#). Use the "Search Ads" function to look for ads with Mohawk as the key word. -- Barney C. Black (Please reply via the [BBS](#))

2nd Response...

[7 Nov 99] Check out our website at www.ssturbine.com. We would love to supply technical information regarding LM-1500 and LM-2500 power plants, as well as potentially supplying engines. If there is any interest, please contact us. -- Robin C. Sipe (rsipe@solarwinds.com)

Russian/Chinese Parts Sources

[30 Oct 97] I am looking for the manufacturer or maker of hydrofoil engines that is supposedly based in China. Originally the manufacturer of this particular model was from Russia. The vessel is a ferry. I am not sure of the manufacturer of the engines, but I know it is the same engine as used in the Chinese Navy. I also have the specs, (not with me at the moment) but it was like an M-104A model. -- Rachel L. Haynie (Rachel@hol.gr)

Responses...

[updated 24 Jul 98; originally 2 Nov 97] We use engines M401A and M417A on hydrofoils [METEOR](#) and *VOSKHOD* produced now in Russia. The producer of these engines is AO "ZVEZDA": Russia, 193012, St. Petersburg, ul. Babushkina, 123; phone: +7-812-2620747, marketing department: +7-812-2628142, fax +7-812-2673776. -- Konstantin Matveev (matveev@cco.caltech.edu) (website: www.hydrofoils.org)

[10 Nov 97] I contacted China State Shipbuilding Corporation (CSSC) that is the state owned enterprise and controls the most of shipbuilding industry in China, including shipbuilding, engines and ship equipments. Under CSSC there are a number of diesel factories for marine use. Among those, there are two factories manufacturing high speed diesel engines for high speed crafts and hydrofoils. They are Luoyang Diesel Factory and Sichuan Diesel Factory. Luoyang Diesel Factory is in Luoyang, Henan Province. It manufactures 12V180 diesel, 1200 HP and MWM diesel 400-1000 HP. They have the license of manufacturing MWM. Sichuan Diesel Factory is in Sichuan Province. They have the license to manufacture STYER diesel about 1000 HP. If you need detail information, please let me know the items. CSSC promised to offer the information. -- Shi-Tang Dong, Professor in Ship Hydrodynamics (stdong@online.sh.cn)

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