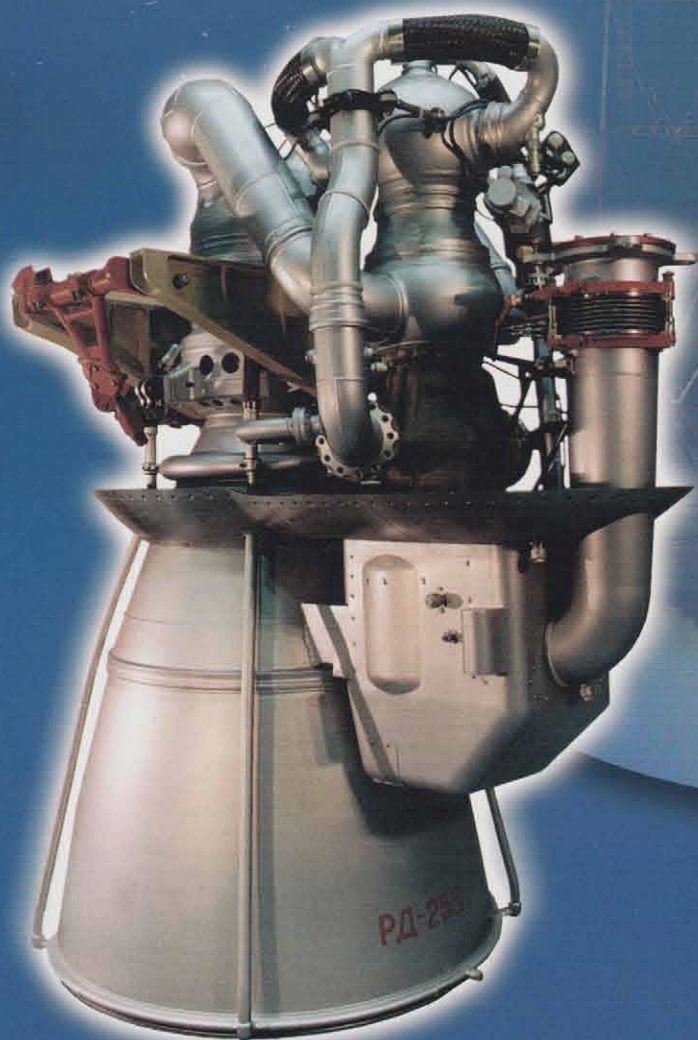




NPO ENERGO MASH

named after academician V.P. Glushko
founded in 1929



RD – 253 engine

Liquid propellant rocket engine
for first stage of «Proton» LV

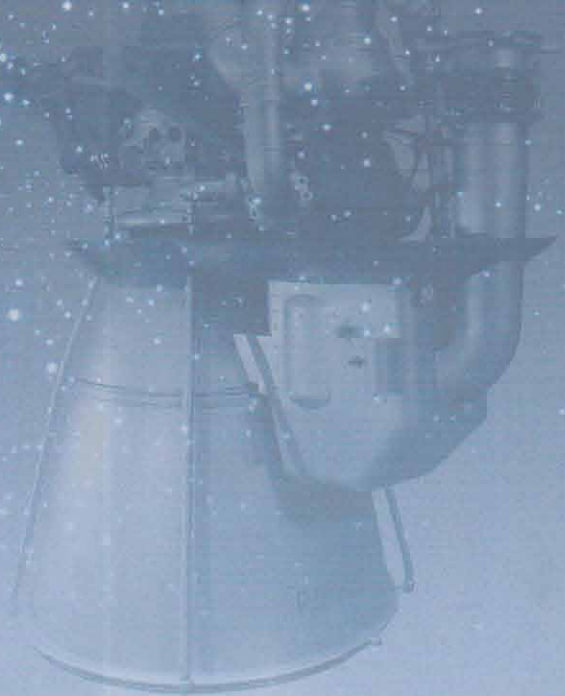


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RD-253 engine



Main parameters of RD-253 engine family

Liquid propellant rocket engine with afterburning of oxidizer-rich gases
Propellant: nitrogen tetroxide + UDMH

Engine modification	RD-253	RD-275	14D14M
Thrust, sea level / vacuum, tf	150 / 166	162 / 178	170,4 / 186,8
Specific impulse, sea level/vacuum, sec	285 / 316	287 / 316	288 / 315,8
Pressure in combustion chamber, kgf/cm ²	150	160	168,5
Mass, dry / filled, kg	1080 / 1260	1070 / –	1070 / –
Dimensions, height / diameter, mm	3000 / 1500	3050 / 1500	3050 / 1500
Development period	1962–1966	1987–1993	2001–2005
Destination	«Proton» LV	«Proton» LV	«Proton» LV

«Proton» LV booster engine modification program

RD-253 engine modification – 1987–1993.

New engine modification was designated as RD-275.

Advanced project of RD-275 engine was issued in December, 1987.

Increase of thrust – 7,7% (162 ton instead of 150,3 ton), it is allow to increase payload mass on 600 kg.

Development tests were completed in March, 1990.

Interbranch tests were conducted within 27.06.1990 till 14.09.1990.

Serial production of RD-275 engine from 1992.

First flight test of «Proton» LV with RD-275 – October 11, 1995.

NPO Energomash's Kamsky filial (Perm city) began development of 14D14M (RD-275M) engine (modification of RD-275 engine forcing at 5,2% by thrust) in 2001. It is allow to increase payload mass for 150 kg.

14D14M engine' design and technological documentation was issued in 2002–2003.

The program of interbranch tests of 3 engines was completed succesfully at summer of 2005.

Serial production of this engines is conducting at JSC «Proton-PM», Perm, Russia.



Uwe W. Jack

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