

# RICHARD GOODE AEROBATICS

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**WORLD LEADERS IN SOVIET & CHINESE RADIAL AIRCRAFT ENGINES**

In partnership with Aerometal Kft, Hungary

## Price List 2022

- Typically, all overhauled components, where appropriate, will receive a Certificate of Release to Service.
- “Core exchange” prices are those we offer for an old component/ancillary that is worn, but complete and not damaged.
- Core exchange parts **MUST** be sent to Aerometal at the following address: Marcell Marczy, Aerometal Kft., Ipari Park HRSZ:3508/19, Asboth Oszkar utca 4., 2038 Soskut, Hungary, Tel. +36706763869. Please **DO NOT** send them to us at Rhodds Farm.
- Prices in Euros unless otherwise stated, but we have an easy and cheap way for you to pay in your currency and we get paid in Euros.
- With every component/ancillary that requires gaskets or extra fitting parts for installation, these are always included

### Electrical: M14P/PF; AI14 & HS-6

Part	Price	Core Exchange
M9F & M-9 magneto. <i>Totally overhauled with new bearing, new AYC coil, new points, new “pencil” and new rotor. We are the only people in the World able to supply ALL NEW parts when we overhaul a magneto. We believe these magnetos are better than the original Russian production.</i> <i>As is general practise, the magneto cap into which the leads are inserted is part of the ignition harness, so is not included with a new magneto. However, a new cap can be added for an additional €135.</i>	€1,680.00	€330.00
M9 – 35M & CD-5 magneto. <i>Totally overhauled, as the M9F magneto (above), plus the additional overhaul of the complex counterweight mechanism</i>	€1,680.00	€330.00
Points. <i>Finally, we are making our own points. Very high quality and machine-tested for over 2,000 hours!!</i>	€220.00	
Coils (for ALL magnetos). <i>We have made a significant investment to design and produce dramatically improved coils, and, critically, with an external capacitor which gets over the historic problems of capacitor failure through heat and age. Importantly these coils are now fully certified by UK CAA and EASA, who control all aviation in Europe. They are unconditionally guaranteed for five years, but we conservatively expect them to last at least 20 years. Additionally, as part of the testing programme, it has</i>		

<i>been demonstrated that the spark is 20% stronger than with a standard coil, leading to easier starting; less plug-fouling and smoother running.</i>	€430.00	
<i>Coils for M7 magnetos (as in Ash-21 engine). These are more difficult to manufacture; few cores available, but technically identical to M9 coils</i>	€490.00	
Magneto "pencil"	€80.00	
<i>Magneto rotors. New manufacture, using improved materials and extensively tested</i>	€115.00	
<i>Magneto cap. New manufacture, using improved materials and extensively tested</i>	€135.00	
Magneto coupling	€75.00	
Isolator	€65.00	
<i>Automotive plug conversion kit. Our new kit with the "Thundervolt" very low resistance leads, improving performance and limiting radio interference. Also includes the much improved modifications from Aerometal. Totally complete with everything needed, including latest NGK spark plugs. Uniquely, these kits are fully certified by EASA; UK CAA and French DGAC</i>	€650.00	
<i>Electric start conversion. Cost when fitted to an engine during overhaul.</i>	€4,750.00	
<i>Electronic ignition. Net cost if fitted to an engine undergoing overhaul.</i>	US\$9200.00	
Tacho-generator	€595.00	€140.00
<b>Overhaul cost</b>	<b>Price</b>	<b>Core Exchange</b>
<i>M9F, M-9, M9-35M &amp; CD-5 magneto. Totally overhauled with new bearing, new AYC coil, new points, new "pencil" and new rotor. We are the only people in the World able to supply ALL NEW parts when we overhaul a magneto. We believe these magnetos are better than the original Russian production. As is general practise, the magneto cap into which the leads are inserted is part of the ignition harness, so is not included with a new magneto. However, a new cap can be added for an additional €135.</i>	€1,350.00	€330.00
<i>Magneto check. Physical check, individual test of components and then 2 hour test in high-temperature test cell; new paperwork.</i>	€320.00	
Tacho-generator	€455.00	

### Fuel System: M14P/PF, AI14 & HS-6

Part	Price	Core Exchange
<i>Carburettor AK14P, K-14A &amp; QHQ-14A. Zero-timed and to include 2 additional suction jets, one either side of size fitted. We do not include the composite gasket for installation of the carburettor, since these are almost always reusable.</i>	€1,250.00	€385.00
Carburettor membranes (2) for M14P engines	€215.00	
Carburettor membrane (1 large one) for M14V, AI14 & HS-6 engines	€130.00	
Suction jets, each. Sizes 0.8mm to 1.9mm.	€19.00	
Acceleration jets, each. Sizes 0.6mm to 0.9mm	€19.00	
Fuel pump for all engines. Zero-timed.	€540.00	€105.00
Fuel pump membrane.	€80.00	

Overhaul cost	Price	Core Exchange
Carburettor AK14P, K-14A & QHQ-14A. <i>Including new membranes; mechanical overhaul; new paint and to 2 additional suction jets, one either side of size fitted. We do not include the composite gasket for installation of the carburettor, since these are almost always reusable.</i>	€865.00	
Carburettor check. <i>To check an unused carburettor, including new membranes and test bench session.</i>	€430.00	
Fuel pump, all engines. <i>Please see below for price for internal blades</i>	€435.00	
Fuel pump internal blades (4). <i>Replaced during overhaul if originals not useable</i>	€110.00	
Fuel pump check. <i>To check an unused fuel pump, so total disassembly; check; new membrane and formal test on test-bench</i>	€200.00	

### Cylinders: M14P/PF, AI14 & HS-6

Part	Price	Core Exchange
Cylinders. <i>After total overhaul, including resurfacing cylinder walls; new or overhauled valves; new valve guides; x-rayed valve springs; all overhauled valve gear</i>	€1,315.00	
Cylinders. <i>Complete, used with valves, valve gear, etc. In good condition, but needing overhaul</i>	€330.00	
Loose exhaust insert. <i>Copper plated, machined, refitted exhaust insert into cylinder</i>	€205.00	
Set of gaskets for reinstalling all 9 cylinders	€380.00	
New exhaust valves	€210.00	€30.00
Overhauled exhaust valves. <i>Hard chromed stem to new dimensions &amp; new "seat".</i>	€165.00	€35.00
Overhauled inlet valves. <i>Good condition and to correct dimensions</i>	€110.00	€20.00
New valve guide	€130.00	
Valve covers, newly painted	€45.00	
Valve cover gasket	€10.00	
Valve cover wire	€15.00	
Set of 5 new Russian piston rings	€180.00	
M14P R1 Russian pistons. <i>Set, complete with rings, pins and plugs. Limited availability.</i>	€3,180.00	
SPC pistons. <i>Set, complete with rings, pins and plugs.</i>	€3,130.00	
Carillo pistons. <i>Set, complete with rings, pins and plugs.</i>	€3,780.00	
Exhaust nuts <i>each</i>	€50.00	
Exhaust Olive (gasket), standard size, 10mm thick	€30.00	
Exhaust Olive, special size, any thickness	€40.00	
Intake tube gasket at supercharger end. <i>This is a rubber ring.</i>	€5.00	
Intake tube gaskets at cylinder end. <i>Three composite gaskets needed per tube</i>	€7.00	
Set of exhaust clamps (7)	€795.00	
Exhaust stub. <i>About 8cms</i>	€40.00	
Connecting rod. <i>Used, but fully checked and crack tested.</i>	€270.00	
Connecting rod bushings. <i>Two needed @ €65 each</i>	€145.00	

Part	Price	Core Exchange
Big manifold oil drain plugs, for fitting oil drain system	€50.00	
Air start valves, totally overhauled	€105.00	
Air start pipe (from distributor to air start valve). <i>Fully checked and nickel plated</i>	€45.00	
Overhaul cost	Price	Core Exchange
New baffle "pads", including rivets to attach to baffles (17 in total per engine). Price each	€35.00	
Cylinders, price per cylinder. <i>including resurfacing cylinder walls; new or overhauled valves; new valve guides; x-rayed valve springs; all overhauled valve gear.</i>	€985.00	
Honing (per cylinder)	€170.00	
Exhaust valves. <i>Hard chromed stem to new dimensions &amp; new "seat"</i>	€145.00	

### Ancillaries: M14P/PF, AI14 & HS-6

Part	Price	Core Exchange
Compressor AK-50A, AK-50P12 & KY-2, zero-timed. <i>Including new pistons and cylinders if not to new tolerances.</i>	€1,540.00	€385.00
Compressor drive coupling	€90.00	€45.00
Compressor air filter & retaining clip	€15.00	
Air compressor gasket	€10.00	
Propeller governor. R2 & TS-1	€680.00	€185.00
Oil cooler. <i>Standard Yak and Sukhoi.</i>	€950.00	€440.00
Large oil cooler. <i>50% more cooling capacity. Same fittings as standard. Used but fully overhauled.</i>	€950.00	
Oil pump MM-14A & CB-32A. <i>Zero-timed.</i>	€540.00	€105.00
Airstart distributor	€510.00	€95.00
Generator, all engines	€900.00	€160.00
Modification kit for air start distributor to fit UMA tachometer	€215.00	
Overhaul cost	Price	Core Exchange
Generator, all engines	€740.00	
Compressor AK-50A, AK-50P12 & KY-2. <i>Total overhaul to new condition, but not including new cylinder or new piston if these are needed. Additional costs are new cylinder Euro 430 and new piston Euro 330, if needed.</i>	€1,155.00	
Compressor drive coupling	€45.00	
Propeller governor. R2 & TS-1	€495.00	
Oil cooler. <i>Standard Yak and Sukhoi.</i>	€510.00	
Oil pump	€435.00	
Airstart distributor	€415.00	
Air bottle pressure testing. <i>Including x-ray and crack test; boroscope inspection; electronic measurement of precise wall thickness (results given); pressure test to 100 bar; recertification and Certificate of Release to Service.</i>	€435.00	

## Gearbox & Pyramid: M14P/PF, AI14 & HS-6

Part	Price	Core Exchange
New M14 propeller shaft/flange. <i>Russian or SAE. Core exchange price only if corrosion does not prevent overhaul.</i>	€900.00	€250.00
Overhauled M14 propeller shaft/flange. <i>Russian or SAE. Core exchange price only if corrosion does not prevent overhaul.</i>	€600.00	€250.00
Uprated MT governor springs (2). <i>For better aerobatic performance in R2</i>	€30.00	
Gearbox oil seal rings	€85.00	
Gearbox satellite gear, each	€160.00	
Micro-polishing gears in drive gearbox and ancillary/supercharger gearbox	€650.00	
M14 propeller adapter. <i>Russian engine to SAE prop</i>	€650.00	
M14 reverse adapter. <i>SAE engine to Russian prop</i>	€650.00	
Gearbox, after total overhaul	€3,850.00	€2,035.00
Pyramid after total overhaul.	€4,455.00	€1,210.00
M14 pyramid after total overhaul and conversion to PF specification	€8,305.00	€1,210.00
Overhaul cost	Price	Core Exchange
Gearbox painting and new data plate	€325.00	
Gearbox: Full shock load test and inspection after ground-strike	€1,020.00	
Gearbox total overhaul	€1,815.00	
Ground-strike: dismantling, inspection, disassembly of gearbox, pyramid, crankcase, cylinders and 3 hour dynometer test run. But excluding any repair	€8,250.00	
Prop shaft/flange overhaul	€495.00	
Pyramid overhaul: overhaul of complete "pyramid"; supercharger; accessory case; accessory gearbox	€3,245.00	
Pyramid total overhaul and conversion to PF specification.	€7,535.00	
Additional cost of converting engine to "PF" specification during overhaul	€3,850.00	

## Airframe Parts

Part	Price	Core Exchange
Wing tip sights for Sukhoi	€215.00	
Yak 18T aileron bracket	€290.00	
Yak 18T door pins	€205.00	
Overhaul cost	Price	Core Exchange
Yak 50/52/18T undercarriage actuator overhaul. <i>Please note there will be extra charges if we need to replace major items such as end cap; pistons; etc. But we will dismantle the old unit and provide a detailed quote with no obligation.</i>	€530.00	
Yak undercarriage cockpit selector overhaul	€275.00	

## General

Part	Price	Core Exchange
Flexible hoses. <i>Our established price for all hoses to include crack test &amp; x-ray of metal ends; machining to fit Aeroquip 303 hose; anodizing; assembly; pressure test; fireproof cover; EASA form 1. There are often two flexible hoses in a complete set which are permanent factory installed "pressurised" hose ends which we cannot replace. So we need to purchase complete new hoses from a specialised factory – cost of these is an additional €190.</i>	€115.00 per hose	
Engine lifting eye for M14P	€215.00	
Engine lifting eye for AI14	€65.00	
Tools. <i>Complete set of 11 necessary tools for all work on M14, AI-14 &amp; HS-6 engines.</i>	€525.00	
Tool for removing and replacing air start distributor	€105.00	
Intake tubes, after OH	€75.00	€15.00
Intake tube gaskets ( <i>price for a pair</i> )	€10.00	
Engine mount rubbers, set of 16, including new backing plates.	€445.00	
Engine mounting bolt complete with stud, 2 nuts & 3 washers	€40.00	
Pushrod tube hoses, set of 18	€80.00	
Pushrod tube clamps, set of 36. <i>Expensive, but we have them made especially and these are the only ones that are properly oil tight</i>	€280.00	
M 14 P, AI 14 and HS 6 engine, after total zero-time overhaul. Please contact us for full details.	€38,500.00	
M 14 PF engine, after total zero-time overhaul. Please contact us for full details.	€42,500.00	
Zero-timed V-530 propeller	€7,600.00	
Shipping box for V-530 propeller	€300.00	
Engine shipping crate. <i>Made of treated wood, so acceptable for all international shipping. Includes all internal tubular metal engine supports</i>	€575.00	
Poster books. <i>Reprint of the 21 Russian M14 technical posters, double A4 size, full colour, printed on heavy art card. English translation. Price includes packing and shipping.</i>	€50.00	
Rudder cables for Yak and Sukhoi. <i>We can manufacture these, please contact us for details.</i>		
<b>Overhaul cost</b>	<b>Price</b>	<b>Core Exchange</b>
Engine overhaul to zero-time condition. Please contact us for full details.	€33,000.00	
Overhaul of V-530 propeller	€4,750.00	
Remove and check cylinders	€1,815.00	
Engine dynonometer test. <i>Full three hour test run on the dynonometer, with all results given to the customer</i>	€1,650.00	
Preservation, long term	€620.00	
Preservation, short term	€290.00	
Chip detector cable sensor	€115.00	