

Engine Oil Analysis Results

Analysis Rating:



Customer Name	Mr Fred Bloggs	Vehicle Registration	Honda Jazz 1.4 Petrol
Sample Date	24/08/2015	Vehicle Make	Honda
Received Date	25/08/2015	Vehicle Model	Jazz
Report Date	26/08/2015	Component	Engine
Job Ref No	12345	Fuel Type	Petrol
Interpreted By	Steve Haughton	Oil Type	Castrol Edge
		Oil Grade	15W/40

Sample Detail	Units	Test Results	Target Results
Lab No		452371202	
Sample Date		24/08/2015	
Meter Hrs		12000	
Fluid Hrs		1000	
Oil Added		N	
Fluid Changed		N	
Filter Changed		N	
Oil Condition	Units	Test Results	Target Results
Soot	% Allowable	-	
Oxidation	% Allowable	165	50
Nitration	% Allowable	37	50
Sulphation	% Allowable	47	50
Water	Pos / Neg	N	N
Fuel	% Weight	-	Less Than 4%
Antifreeze	Pos / Neg	N	N
Viscosity (40°C)	Centistokes	48.0	55.0
Additives	Units	Test Results	Target Results
Magnesium	Parts Per Million	7	10
Calcium	Parts Per Million	1599	1600
Phosphorous	Parts Per Million	553	575
Zinc	Parts Per Million	632	650
Molybdenum	Parts Per Million	58	60
Boron	Parts Per Million	25	30
Barium	Parts Per Million	1	1
Wear Metals	Units	Test Results	Target Results
Lead	Parts Per Million	1	Less Than 3
Tin	Parts Per Million	0	Less Than 3
Copper	Parts Per Million	3	Less Than 15
Iron	Parts Per Million	5	Less Than 50
Chrome	Parts Per Million	0.1	Less Than 5
Aluminium	Parts Per Million	3	Less Than 5
Nickel	Parts Per Million	0	Less Than 3
PQI	Ferrous Index	11	Less Than 15
Contaminants	Units	Test Results	Target Results
Sodium	Parts Per Million	334	Less Than 10
Potassium	Parts Per Million	2	Less Than 10
Silicon	Parts Per Million	19	Less Than 10

Diagnosis Summary:

SODIUM IS RATHER HIGH AS IS THE LEVEL OF OXIDATION. WE ALSO NOTE THAT THE VISCOSITY IS QUITE LOW. FT-IR ANALYSIS SUGGESTS THE POSSIBLE PRESENCE OF COOLANT – SODIUM IS ALSO AN INDICATOR OF COOLANT ENTRY. A FURTHER SAMPLE SHOULD BE TAKEN WITH MORE MILES ON THE OIL SO WE CAN SEE IF THE SODIUM IS INCREASING OR REMAINS STABLE.

Next Steps:

If you're unsure about elements contained in this report or would like advice on what to do next, our team of experts are waiting to help with your query.

Call us 03332 021 844, Option 5*

*0333 numbers are mobile friendly, charged at national call rates and included in inclusive minute plans from landlines and mobiles. Calls may be monitored and/or recorded.

For more information, or to view your results online, please visit www.fluid-analysis.com

Fluid and Condition Monitoring Services, Unit 3 Triangle Business Park, Oakwell Way, Birstall, Batley, West Yorkshire, WF17 9LU.

Tel: 0113 201 2065

Email: info@fluid-analysis.com.

This information is supplied for your benefit only and should not be relied on by any third party whatsoever.

ANALYSIS GUIDE

NOTE: THESE CHARTS ARE FOR GENERAL USE ONLY AND DO NOT INDICATE DEFINITE LIMITS OF WEAR METALS FOR ANY SPECIFIC MAKE OR MODEL. Wear patterns are best established after evaluation of three samples taken at the same oil change interval. Make, model, application, age, makeup oil added, time of use or recent repairs can cause the values to vary greatly from those shown.

Primary Elements	Secondary Elements	Potential Wear	Problem Area & Causes
Silicon, Aluminium	Chromium	Pistons, Rings, Liners	Air Induction System Filters, Turbocharger Breathers, Contamination – Dirt Ingress
Iron		Liners, Pistons, Crankshafts, Valves, Gear Train	Contamination – Dirt, Abnormal temperatures, Lack of lubrication, Storage (Rust)
Chromium	Molybdenum	Piston Rings	Blow-by, Oil consumption
Aluminium	Chromium	Pistons & Rings	Blow-by
Aluminium or Copper	Lead, Tin	Bearings	Low or fluctuating oil pressure
Sodium	Silicon, Boron	Cooling System	Water Pump, Cylinder head, Liner seals, Oil Cooler, Anti-freeze
Iron	Chromium, Aluminium	Piston Rings, Liners	Abnormal operating temperature – dirt ingress, Restricted air induction system
Lead-Tin	Copper, Aluminium	Bearing	Dirt contamination, Lack of lubricant

INFRA-RED ANALYSIS

Soot warning on levels exceeding 150% allowable
 Oxidation warning on levels exceeding 50% allowable
 Sulphation warning on levels exceeding 50% allowable
 Nitration warning on levels exceeding 50% allowable

I.R. Readings are derived from spectral comparison between the new/used oil. The brand & type information **must** be submitted with samples.

ISO FLUID CLEANLINESS GUIDELINES FOR HYDRAULIC COMPARTMENTS

ISO Code	Recommendations Component	Relative Sizes of Particles and Comparison of Dimensional Units		
		Substance	Micron	Inch
18/15	Hydraulic systems			
18/15	Electronically controlled Powershift and Hydrostatic Transmissions	Grain of Table Salt	100	.0039
21/17	Transmission system without electro-hydraulic valves	Human Hair	70	.0027
		lower Limit of Visibility	40	.00158
		Talcum Powder	10	.0003

KINEMATIC VISCOSITY

Viscosity is the measure of a fluids resistance to flow. Absolute viscosity divided by the fluids density (weight/volume) provides the fluids kinematic viscosity. Kinematic viscosity provides important information about an oil's ability to maintain an adequate boundary of lubrication between moving parts.

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