

LubAnac

expert

➤ The in-depth diagnostic system for driveline components

LubAnac Expert is an in-depth, personalised diagnosis system for engines, gearboxes and other driveline components. It combines the data of the LubAnac database with the experience and knowledge of the LubAnac experts.

LubAnac Expert is recommended for:

- Detailed follow-up of component wear and lubricant behaviour.
- Spot analysis and diagnosis in special cases (breakdowns, claims, expertise, ...)
- Analysis of new lubricants.

➤ Measured characteristics

Mechanical wear:

Wear elements (ppmc) : Iron, Lead, Copper, Tin, Chromium, Aluminium, Nickel
Large ferromagnetic particles ($>5\ \mu\text{m}$) are measured by FDM (Ferrous Debris Monitor).

Contamination of the lubricant:

Silicon (ppm), Soot* (%), Water (%), Cooling Liquid*(presence), Fuel* (%)

Characteristics of the lubricant:

Viscosity (mm^2/s) at 40°C and 100°C , Viscosity Index
Total Base Number - TBN* (mg KOH/g) or Total Acid Number - TAN** (mg KOH/g)
Sulphated Ash and Oxidation/Nitration*

Optional:

Additive elements Ca, Zn, P, Mg, Mo, Ba, V, Na, B, K, Ag

* engines - ** other components

➤ Did you know?

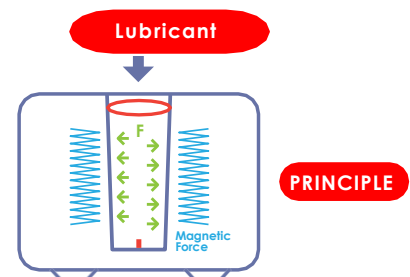


The presence of large ferromagnetic particles (Size $>5\ \mu\text{m}$) often indicates a major part dysfunction.

FDM (Ferrous Debris Monitor) allows to measure the content of these large particles in the oil.



Associated with the small particles of Fe (Iron) measured with ICP ($<5\ \mu\text{m}$), the large particles allow a better diagnosis on the state of the parts subjected to high shocks and loads.



➤ Presentation of results

The diagnosis report is available within 72 hours after reception of the oil sample in the lab and can be dispatched e-mail or be consulted on a secured Internet portal.



Satisfying diagnostic



Slight deviations



Anomaly observed



Dangerous situation

ANAC references : FANU-80 --1
Your references :
 Vehicle: P2100678
 Component: Diesel engine / MOT

Make and type:
 Vehicle: Renault KERAX
 Component: Renault DC11EJ01

Diagnosis date: 11 february 2021
 Oil : Total Tp Star Max Ht 15W40

	OFF-ROAD	OFF-ROAD	OFF-ROAD	OFF-ROAD	EXPERT
Sample date	14-NOV-17	18-MAY-18	25-APR-19	09-NOV-20	09-FEB-21
Sample Number	55042811	55096477	55110547	55167693	60275244
Working time	460581 K	475173 K	503757 K	540079 K	543054 K
Mileage oil	22181 K	14562 K	28584 K	16784 K	20000 K

Wear

	ppm	27	26	30	23	33
Iron	ppm	27	26	30	23	33
LP (Fe)	ppm	5	4	5	3	0
Lead	ppm	11	10	8	86	196
Copper	ppm	< 1	< 1	< 1	< 1	1
Tin	ppm	< 1	< 1	< 1	< 1	1
Chromium	ppm	< 1	< 1	< 1	< 1	1
Aluminium	ppm	< 1	< 1	< 1	< 1	2
Nickel	ppm	< 1	< 1	< 1	< 1	< 1

Contamination

	ppm	5	4	8	13	4
Si-Foreign	ppm	5	4	8	13	4
Soot	%	1.3	1.2	2.0	0.2	1.6
Water	%	OK	OK	OK	OK	OK
Cooling liquid	%	OK	OK	OK	OK	OK
Fuel	%	OK	OK	OK	OK	OK

Oil

	mskOH/g					
B.N.	mskOH/g				10.2	
Visc. 40°C	mm ² /s				75.2	
Visc. 100°C	mm ² /s	12.1	11.7	12.2	11.5	
Visc. Index					159	
Sulph. Ash	%	1.1	1.0	1.3	1.2	1.1
IR ox. meas	A/cm	22.0	25.8	28.4	27.8	30.7
IR ox. net	A/cm	0.0	3.0	3.3	5.3	7.1

Wear coefficient

	0.95	0.90	1.04	3.29	4.41
Wear coefficient	0.95	0.90	1.04	3.29	4.41

Colour code : green , orange, red

Administrative data on customer, machine, part, oil sample

Wear elements and evaluation (colour)

Contamination elements and evaluation (colour)

Characteristics of the lubricant and evaluation (colour)

Comments:
 • User memo
 • Diagnosis comments by the LubAnac expert
 • Remarks

The history of the 5 most recent diagnosis is displayed on the report. Reports are available in 19 languages.

A website that helps to manage the park monitoring: lubanac.totalenergies.com
 A personal and secured access for:

- the consultation of new reports and history
- the possibility of creating QR codes for machine identification
- the management of diagnosis data
- the download of the data in Excel or pdf files
- compatibility with smartphone and tablet.



➤ Diagnosis and comments

The diagnosis and comments are generated by a LubAnac experts who are specialized in lubricant and driveline technology. They use the LubAnac database with reference data of all current part types. The experts consider all feedback on successful corrective actions by the users as well as the specific knowledge on the usage conditions and possible remarks by the user. The experts give personalised comments on the state of the part and the lubricant and are available for discussion and questions with users. They fully apply all advantages of the LubAnac system :

- More than 8,5 million performed analyses, over 400.000 parts in follow up.
- Customer feedback of successful interventions after LubAnac diagnosis.
- Follow up of new technologies in lubricants as well as in drivelines.
- More than 45 years of experience