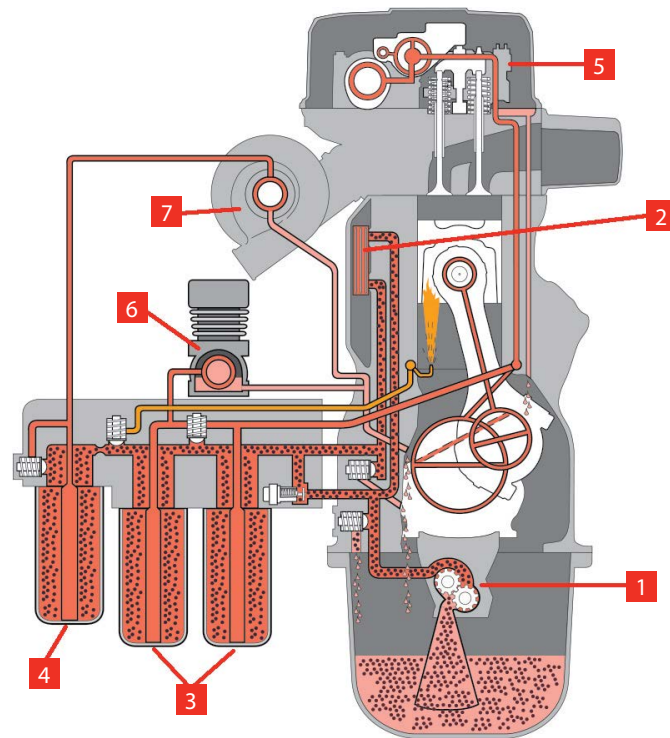


OIL FILTERS COMPONENTS



THE MAIN COMPONENTS OF THE PATH OF THE LUBRICATING OIL:

- 1 Oil pump
- 2 Oil cooler
- 3 Full-flow filters
- 4 By-pass filter
- 5 Control valve
- 6 Air compressor
- 7 Turbocharger

The lubrication oil pump **1** is geared and is driven by the engine's crankshaft. The pump forces lubricating oil via the oil cooler **2** that is built into the cooling jacket to the filter housing with both of the full-flow filters **3** and the by-pass filter **4**. The oil is then fed to the engine block gallery and is distributed via channels to all of the engine's lubrication points. The camshaft and rocker arm mechanism are lubricated via a duct through the cylinder block and cylinder head. On engines fitted with REB (Renault Engine Brake), the oil passes through a control valve **5**. The air compressor **6** is lubricated via an external pipe from the filter housing, and the turbocharger **7** is lubricated via a pipe from the by-pass filter.

ALL ABOUT OIL FILTERS

RENAULT TRUCKS DELIVER

PRODUCT COMMERCIAL KNOWLEDGE



PRACTICAL ADVICE

MAXIMISE THE SALE

Don't just sell the part – look for further opportunities to maximise the sale.

Make it easy! Order a maintenance kit! With only one PN, you have all filters you need to change.

RENAULT FITTED-PART

One year warranty.
Fitted by Renault Trucks trained technicians.

RENAULT TRUCKS 24/7

Professional roadside assistance 24 hrs a day, 7 days a week, 365 days a year.

Dedicated to getting customers' trucks back on the road with minimum delay.



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FACT

For oil to do its job it must be clean, so the combination of the right quality of oil and filter maximises the service life of the engine.

Once inside the engine, any foreign particles could potentially seriously damage the engine, resulting in the need for a replacement engine costing thousands of pounds in repairs and downtime. A GENUINE Renault Trucks oil filter with robust construction is built to withstand a pressure of more than 14 bars, which can occur during cold starts.

Any filter unable to withstand this pressure over its lifetime will simply let unfiltered oil pass to the engine with potentially disastrous consequences.

THE DIAMOND DISTINCTION

1 | The Renault Trucks filter media

Renault Trucks filters contain a specially produced, densely pleated and embossed filter media made from fine and coarse cellulose fibres, which give the correct efficiency and capacity. The crimped joint in the filter media on a Renault Trucks filter is particularly effective giving 100% sealing along its full length.



Renault Trucks oil filters stay effective under greater pressure and temperature variations for longer, so providing longer service life and greater operating efficiency, at lower cost.

2 | The Renault Trucks construction

The robust outer casing of the Renault Trucks oil filter is made from corrosion protected sheet steel in order to resist damage when being fitted. A damaged casing could conceal internal damage which could reduce the filtration effect to virtually zero, plus also lead to external oil leak after fitment.

FEATURES	BENEFITS
Sturdy sheet steel case.	No risk of damage – less risk of breakdown.
Flexible adhesive joint	No leakage due to vibrations and pressure – increased protection from unnecessary damage to the oil system.
Special filter media.	Filters out all particles that may damage the oil system – eliminating unnecessary repair costs – lower repair costs. Good filtration without clogging.
Large filter media area.	High capacity, no risk of clogging between filter changes – no unnecessary stoppages.
Uniform folding.	The entire filter surface is used – avoids unnecessary wear.
Flexible rubber seal.	Seals perfectly even during cold starts – eliminates the risk of damage.

TWO PARTS MAY LOOK ALIKE BUT...

There will always be non-genuine suppliers wanting to sell oil filtration components to Renault Trucks operators. The quality of these non-genuine makes naturally varies as much as their prices.

However, even if a well-known non-genuine Renault Trucks make is chosen – it is by no means certain that their oil filters are tailored to the specification of the Renault Trucks oil filtration system, in the same way as a GENUINE Renault Trucks part.

STURDY SHEET STEEL CASE

The case is of steel 0.66 mm to 0.75mm thick. It can withstand installation without denting, so there is no risk of fatigue failure leading to leakage. This means greater protection from engine failure.

To prevent the oil filter being confused with similar filters – the thread is unique. To guarantee engine function, Renault Trucks's oil filter casing has a built-in safety valve, which allows oil to pass if the oil filter should become blocked.

FLEXIBLE ADHESIVE JOINTS

The joints between the ends of the cartridge and the filter media are bonded with a compound which withstands vibration and pressure.

This avoids the risk of unfiltered oil finding its way round the engine. Should the joint leak, this leads to unfiltered oil doing the lubrication and premature wear on high expense items such as the turbo, bearings and cylinder linings.

SPECIAL FILTER MEDIA

The filters contain a specially produced, pleated and embossed filter media, which is made from fine and coarse cellulose fibres. The fibre mix produces the precise filtration efficiency and capacity that is required. In order to accommodate the drop in pressure associated with fast flow at high temperatures under heavy running conditions, the filter media is impregnated with phenolic resin and is hardened at high temperature.

This impregnation counteracts the ageing process the filter media experiences and thus extends the service life of the filter media.

LARGE FILTER MEDIA AREA

The area of the filter media in a Renault Trucks filter is 0.65m². This means that the filter has a high capacity. If the filter media surface is too small the filter will clog up before the end of the maintenance interval.

Unfiltered oil will be forced past the filter, with a risk of engine damage.

UNIFORM FOLDING

In Renault Trucks filters the filter media is uniformly folded so that the entire area is exploited – eliminating uneven folding which reduces the filtration capacity and the filter clogging. The joint in the filter media is via a special metal clamp (crimped joint), which is completely impermeable and guarantees no impurities can pass.

FLEXIBLE RUBBER SEAL

Rubber seal has been designed taking into his direct environment (engine temperature for instance). Therefore, the rubber seal between the filter and mounting is made of nitrile rubber. This material retains its elasticity and pliability and therefore its sealing properties in virtually all pressure and temperature conditions.

A non Renault Trucks engineer don't have access to this data, therefore, using a non genuine part will not assure that non genuine part are robust enough.

If rubber is not well designed, this can cause some leakage around a hot environment with potential risk for the engine or people (fire, etc...).

OIL FILTER – HOW IT WORKS

The filter housing features a number of valves which controls the oil flow in the engine lubrication system. The oil flows through the filter cartridge and oil contaminants are collected by the filter media.

A rubber ring, attached to the filter cartridge's upper outer rim, seals the filter with the oil filter housing.

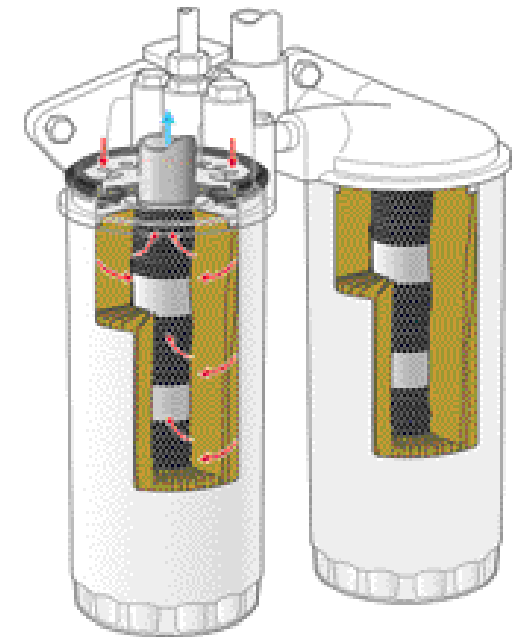
Renault Trucks oil filters are tested in a variety of ways. Filtration efficiency test, collapse/burst test, pulsation pressure fatigue test, cold test and more ensuring the high quality demand of Renault Trucks original oil filters. The filters are designed to have a specified minimum effective lifetime.

Important factors related to filter performances are:

Cleaning efficiency.

Pressure drop as a function of the flow.

Contaminant holding capacity.



LUBRICATION SYSTEM

Oil has the following functions:

To lubricate all moving engine parts. Wear and friction should be as little as possible.

To conduct heat away from the engine's moving parts and dampen engine noise.

To function as a sealing agent between pistons and liners. The plateau honing design keeps oil on the cylinder wall.

To keep the engine clean by carrying off all soot particles and dirt. This prevents the build-up of sludge and corrosion inside the engine.

In order to carry out all these tasks, modern engine oils are very complex.

Today's Renault Trucks engines use engine oils which are synthetic (RDL-2 for Euro 4/5/EEV Engine - RDL-3 and RDL-4 for Euro 6 engine).

MAINTAINING ENGINE OIL QUALITY

In engines, the oil is exposed to products of combustion. Coke particles from black soot accumulate in the oil during operation. Also the rubbing of metal engine parts produces fine metallic particles which could end up circulating in the oil causing premature engine wear – the task of the oil filter is to remove these particles.

Thermal and mechanical degradation of the oil is the reason why the engine oil and the oil filters need to be replaced periodically. Present day engine management systems monitor engine running time, fuel used along with engine speed and temperature to give an indication of oil and filter change intervals. According to the service schedule; how often the oil and filters need to be replaced depends on several factors.

1 | Oil quality

The quality of the engine oil is of decisive importance for the oil's service life. By using the Renault Trucks recommended RDS (Renault Drain Specification) quality, the oil change intervals can be maximised.



**MAKE IT EASY!
ORDER
A MAINTENANCE KIT!
WITH ONLY ONE PN,
YOU HAVE ALL FILTERS
YOU NEED TO CHANGE**

2 | Pressure Lubrication

All Renault Trucks engines feature pressure lubrication, whereby almost all the engine's components are lubricated by oil supplied under pressure. An oil pump circulates the oil to the relevant lubrication points. The oil is sucked from the oil sump, via a strainer by a gear pump, which is driven by the crankshaft. The oil is then force-fed to the various parts of the engine.

At low oil temperature the oil will by-pass the oil cooler and go direct to the oil filters to reduce the engine warm-up phase. As the oil temperature increases, oil will gradually be routed via the oil cooler to maintain a satisfactory oil temperature.

Some Renault Trucks engine lubrication systems involve both full-flow and by-pass filters, others have only full-flow filter. All oil is fed through the full flow filters, but only a fraction of the oil passes through the by-pass filter for further filtration.

After filtration the oil is fed into two longitudinal channels (galleries) that are drilled in the cylinder block. Other components including turbo and air compressor feature within this lubrication circuit.