



AUTOMOTIVE OIL FILTERS
自動車用オイルフィルタ

Tradition in motion
www.totachi.com



Oil Filter Construction

It is almost impossible to differentiate between a good quality oil filter from an inferior one, until you look at the components.

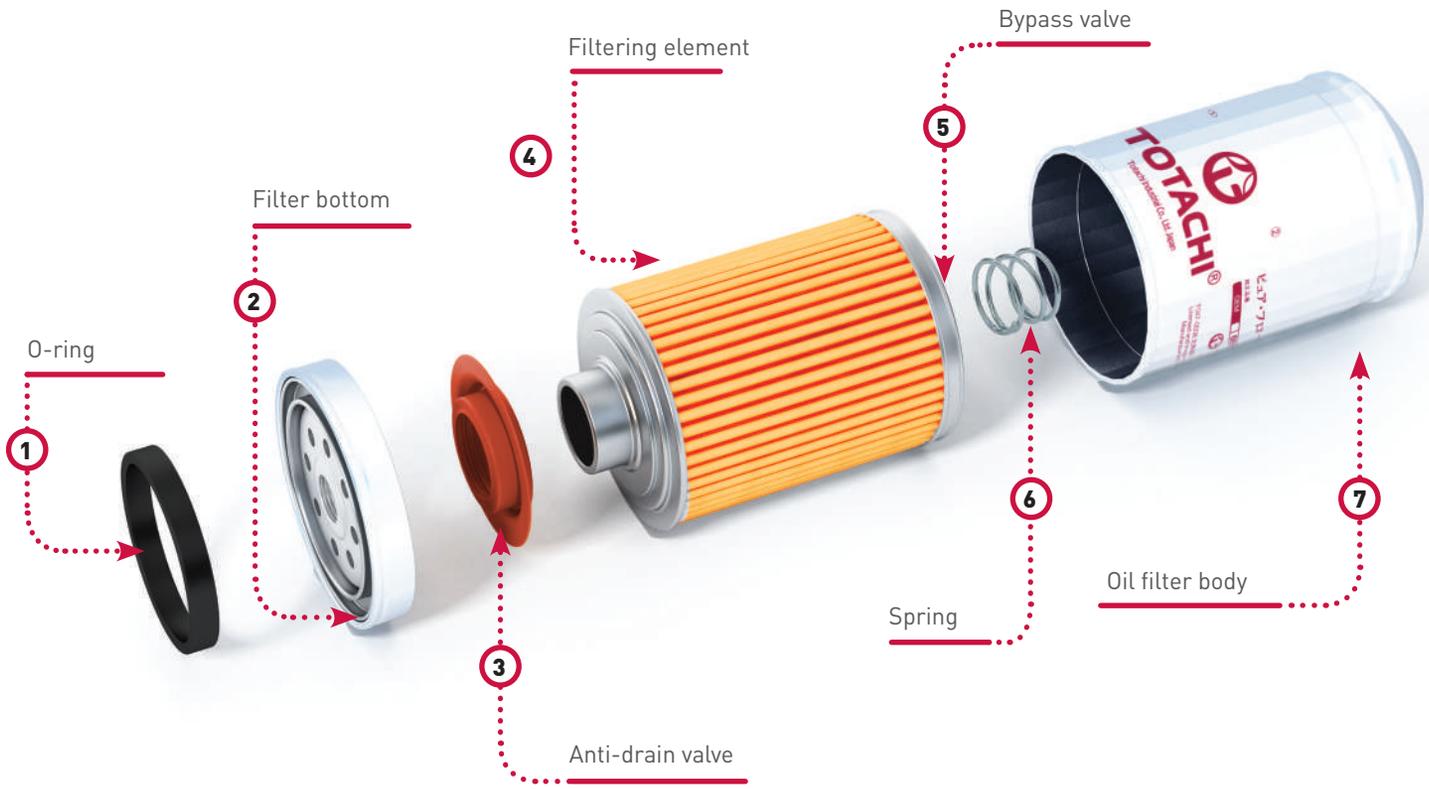
We will review every part of a spin-on oil filter and tell you why Totachi filters are worth using in your vehicle.



NO NAME



Oil Filter Design



Filter Body and Paintwork

High quality spray painting and text application on Totachi filter body: Paint and text do not wear off under mechanical stress and exposure to oily and chemically active liquids.

TOTACHI



NO NAME

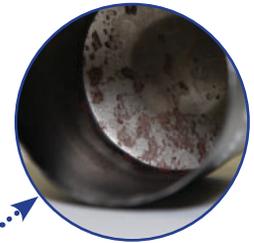


The paint wears off under physical impact

TOTACHI



NO NAME



Filter body is not corrosion resistant

Filter Body and Paintwork

Filter body has sufficient thickness and durability to prevent deformation under excessive pressure.

Production date is imprinted on each and every Totachi oil filter. This ensures thorough quality control of each batch and shift of production.



TOTACHI



NO NAME



Weak filter body walls



TOTACHI



NO NAME



No manufacturing date indicated, no means to conduct quality control

Filter Bottom

Automation of metalworking processes and final assembly guarantees a 100% quality product.

- A.** High-precision thread cutting.
- B.** Drain holes and threads are formed without burrs.
- C.** The filter bottom has stable anticorrosion coating.



- A.** Low quality of thread cutting.
- B.** Burrs on drain holes.
- C.** No anticorrosion coating on filter body bottom.



Anti-drain Valve

Anti-drain valve in oil filter is designed to:

- Retain oil in lubrication system and filter after engine shut-off.
- Prevent leakage of unfiltered oil into filtering element.

NO NAME

Simple Rubber



Anti-drain valve in Totachi oil filter provides:

Tight adherence to oil filter bottom and reliable sealing;



Maintains flexibility in all climate conditions;

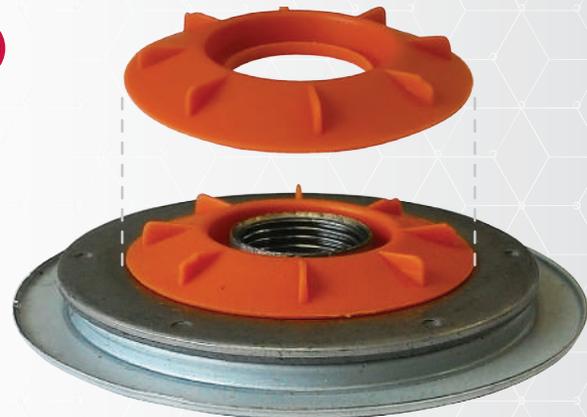


Maintains flexibility during the whole service life.



TOTACHI

Special NBR Rubber



The filtering element is the most critical part of the oil filter!

Filtration effectiveness (fineness of filtration, completeness of filtration and resistance to flow) as well as the ability to hold dirt particles (dirt capacity) and service life of filter depend both on quality and on the area of filtering material.

Totachi uses only high-quality filtering materials that are able to provide compliance to OEMs' requirements in all characteristics.

Filtering material is one of the most expensive components of filter. Many manufacturers, seeking for low price, compromise quality of filtering material.

Totachi provides fineness of filtration in its products at the most advanced global standards.

* 100 X magnification

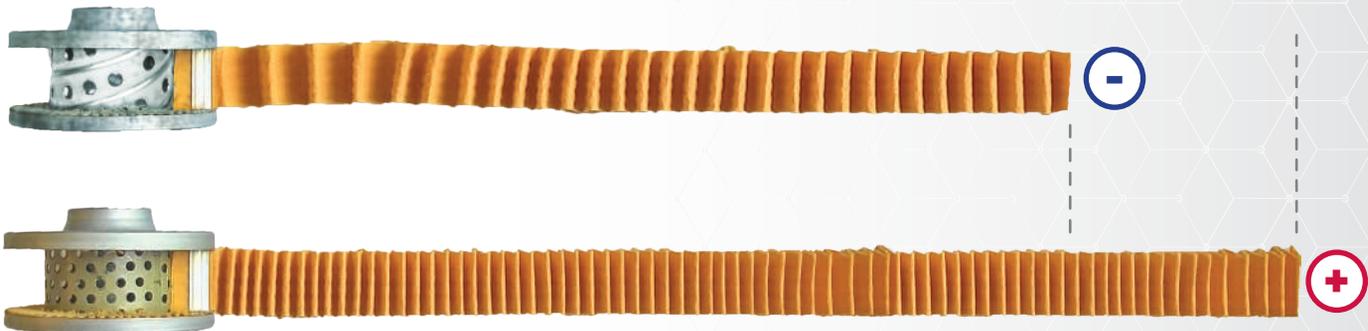
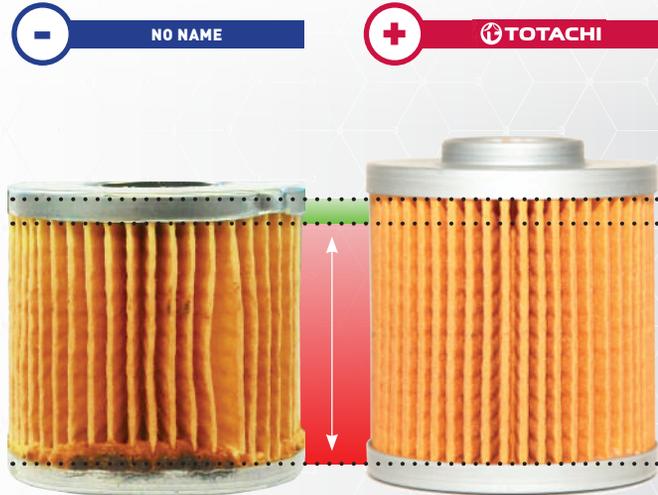


Filtering Element

More often than not, Totachi ensures that the largest possible filtration area is provided for each application.

Homogenous layout of folds offers a stable flow of oil and low resistance through the filtering element.

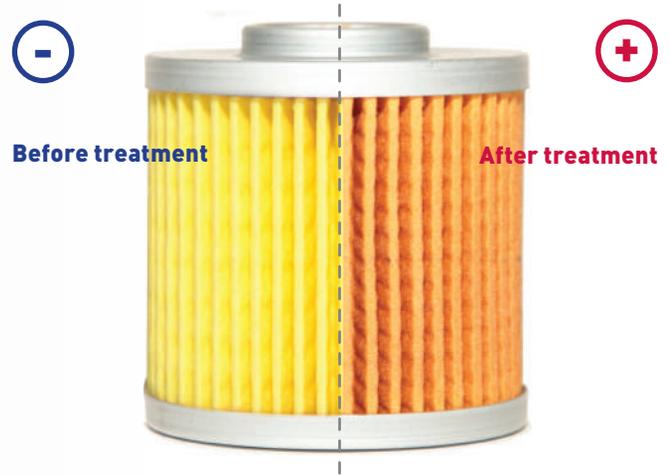
Maximising the filtration area means a possible increase in the number of folds and this results in better filtration.



Filtering Element

Thermal treatment of filtering material prevents the absorption of moisture and swelling of the material in oil.

Totachi corrugates the material in the longitudinal direction, thus making each fold stronger; preventing clumping of adjacent folds during operation.



Another critical part of filtering element is the internal enhancer

Totachi offers an internal enhancer, as well as top and bottom cover of a quality metal with an anti-corrosion coating.



Bypass Valve

In the normal operation of the filter, the bypass valve is always closed.

The purpose of the bypass valve is to protect the engine from oil starvation and excessive pressure inside the filter.

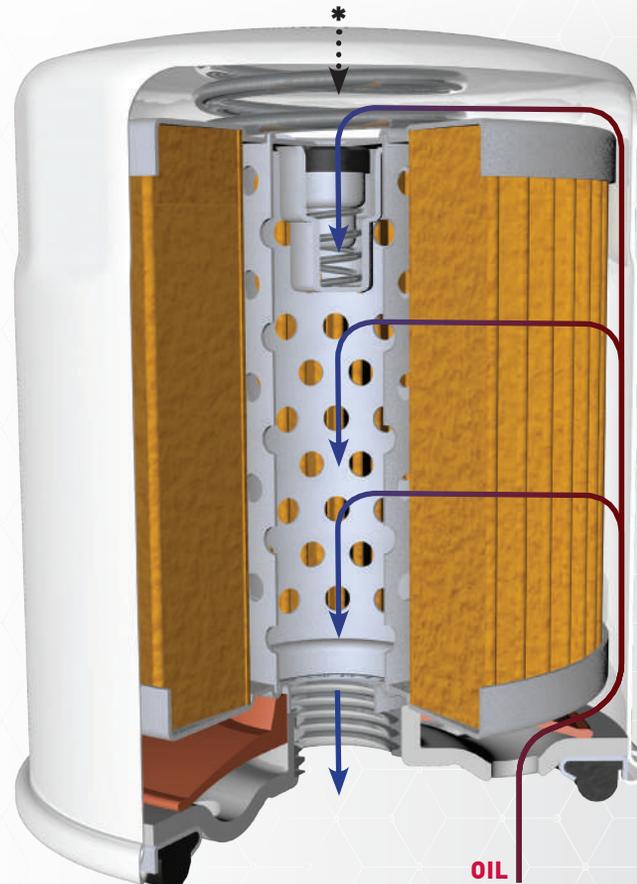
Under excessive pressure, the valve opens and allows free circulation of oil bypassing the filter element (this usually occurs during cold start-up in subzero temperatures and in high viscosity of oil).

The pressure of opening the bypass valve is strictly regulated by the vehicle manufacturer.

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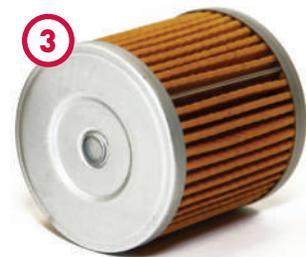
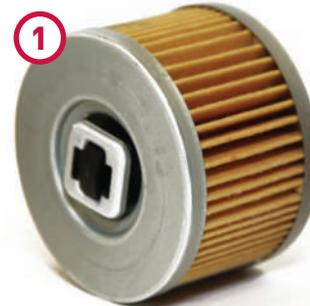


Bypass Valve

To achieve reliable filtration, we use high-quality materials for enhanced sealing of filters corresponding to OEM's requirements:

1. Special polymers.
2. Metal with rubber coating.
3. Metal with anti-corrosion coating.

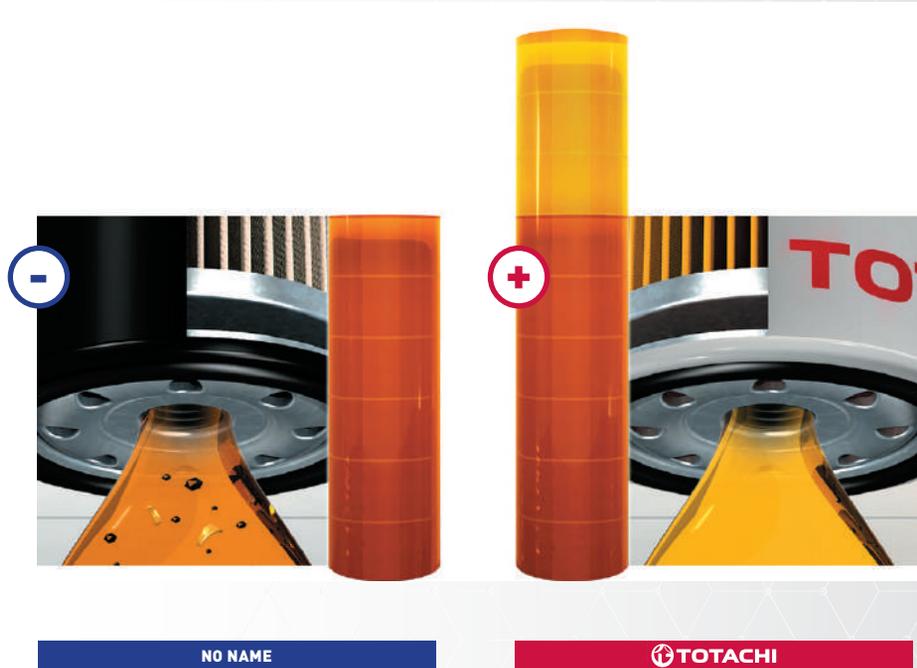
Totachi strives to provide OEM-level quality of assembly.



Only time-proven designs in combination with high quality materials and thorough assembly processes can provide an OEM-level of filtration and service life, and be sufficient to last till the next maintenance.

Totachi filters possess:

- ▮ High fineness of filtration.
- ▮ High completeness of filtration.
- ▮ Low resistance to flow.
- ▮ Increased dirt capacity.
- ▮ Long service life, exceeding OEMs' requirements to service intervals.



Durability, Reliability, Technology

The service life of a good filter should exceed the service interval established by the vehicle OEM.

Oil filters are designed to accumulate and retain contaminant particles during operation. As contamination increases, hydraulic resistance of the filtering element grows. At some point, the filtering element is no longer able to hold any more contaminant, opening the bypass valve; thereby turning the filter into an ordinary metal pipe which is unable to prevent contaminants from entering the engine.

Over the past 25 years, the requirements for precision in manufacture of engine parts have significantly increased, and the gaps in engine friction pairs have decreased.

This fact required significant increase in fineness of filtration (it is necessary to filter out smaller particles). This, in turn, leads to an increase of filtering material density and hydraulic resistance of filters.

Thus, the manufacturers of good filters are required to simultaneously solve the problems of increasing the filtering fineness, while maintaining the service interval of them.

The main concern about poor quality cheap filters is that due to compromising the quality of the filtering material and its area:

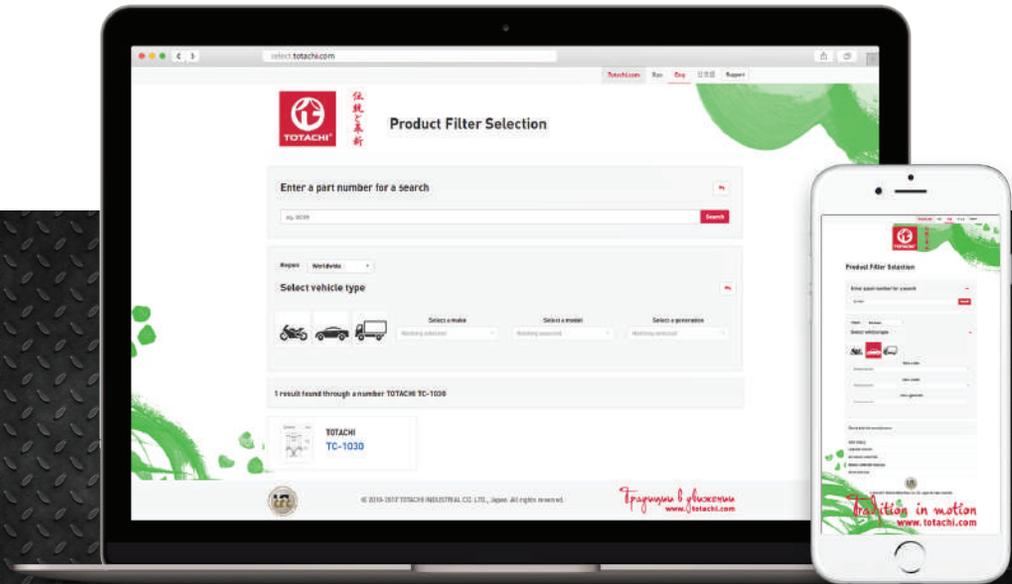
- The required fineness of filtration is not provided (contamination particles are simply not retained by filter);
- Dirt capacity and filter service life are reduced significantly when oil circulates in the engine without any filtration.



Online filter selection catalog features:

- Information on filter application.
- Detailed description.
- Model specific selection.
- Cross Reference guide.

select.totachi.com





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