

KOMATSU Genuine Parts vs. Non Genuine How to Choose The Right One ?

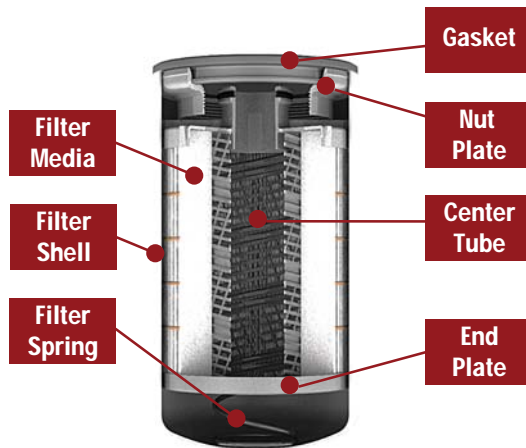
Counterfeit parts have been a growing problem over years. Customers would see short-term savings after their machinery was repaired, not even aware that Non-Genuine parts were used to bring these repair costs down. Short-term savings can have adverse long-term implications on the machine and operators, which ultimately ends up costing more.



Basic Guide of Filter Components



While there are many different types of filters, this diagram shows the basic components of a metal spin on filter commonly used across all engine applications.



Basic Guide to Identify Genuine Filters

- Compare the number of pleating of filters against Komatsu genuine filters.
- Compare the filter media cartridge height and overall length of the media paper against Komatsu genuine filters
- For used filter, compare the containment level of the sludge against Komatsu genuine filters based on the same operating hours visually
- For used filter, check if the media collapsed before the proclaim operating hours

How to Visual Check Filter Quality

Fuel Filter



- ✓ Genuine Product
- ✗ Non Genuine Product

1. Packing :



Genuine Filter is protected well during shipment.

Non-Genuine filter is left uncovered and can not protect dust during transportation. This is risky to the engine system. Non-Genuine manufacturer usually deduct any material to make price lower without trial test. In contrast, Genuine filters undergo efficient test to ensure quality filters are used on Komatsu equipment.

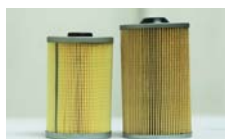
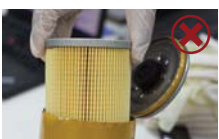
2. Filter Shell :



Genuine Filter has anti-rust coating.

Rust occurs when metal is exposed to moisture. It is a chemical reaction that, if left unchecked, can corrode the metal and make it fragile. Significant and widespread rust can present a more serious problem. In order to avoid the damage to machine components, Genuine filter is designed by adding on the anti-rust coating. This contribute to the durability of genuine filters.

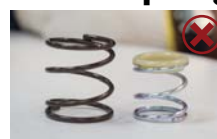
3. Filter Media :



Longer Media paper, more compact pleat, higher filtration.

Genuine filter has longer media compared with Non-Genuine filters. Non-Genuine filter has less number of pleats from each medias. With more pleats and density, the capability in comparing the dust will be much higher.

4. Coil Spring :



Having bigger & Stronger Spring Coil assure a good sealing pressure.



Coil Spring is used to hold element sealed against gasket. It can help to maintain the sealing pressure. Genuine filters have bigger & stronger coil spring that can ensure a robust sealing to withstand any pressure fluctuations.

How to Visual Check Filter Quality

Engine Oil Filter



✓ Genuine Product

✗ Non Genuine Product

1. Plug at Outlet :



Plug prevent dust entered during transportation.

Genuine oil filter is sealed with pink plug to protect dust from entering inside during transportation. In contrast, Non-Genuine filter have no protection for the filter. So, there will be high risk that particles will enter before installation. If particles can enter into engine oil system, it will result in wear on significant components and increase the oil consumptions, including pre-mature failure that contribute to higher repair cost.

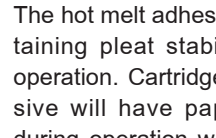
3. Number of Pleats & Depth of Media



Genuine filter has better construction of paper media. Less pleats are less paper and contribute to lower capacity as well. The better quality filters can be noticed from the media and its pleats.



6. Hot Melt Adhesive :



The hot melt adhesive is important for maintaining pleat stability during flow engine operation. Cartridge without hot melt adhesive will have paper pleats deformation during operation which may bend and tear the media. In case of glued cartridge, all the pleats will hold together and have strength to oppose the flow load including keeping the pleat paper media intact.

2. Filter Shell :

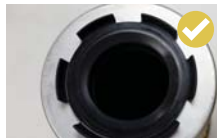


Anti-Rust Coating prevent Metal corrosion .

Even engine oil filter can be exposed to moisture too. Customer is often not aware of this. Rust is very corrosive and will make metal fragile.



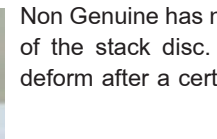
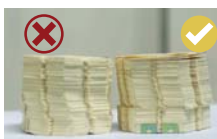
4. Different Design :



Seal designed for oil flow efficiency.

Cartridge design is different. The design of Non-Genuine filter is prone to have restriction in the oil flow rate. Genuine filter includes a robust seal designed for smoother and higher efficiency in oil flow rate. The punched holes found on the Non-Genuine filter will be restrictive to flow as compared to one single flow passage in genuine filter.

5. End Plate :



Non Genuine has no end plate at the bottom of the stack disc. This mean the filter will deform after a certain operating hours.



Is It Worth to Keep Using Non-Genuine Filter ? :

Studies have revealed that Non-Genuine filters can cause serious detrimental effects to an engine. Dust contamination at metal and other particles eats away at vital engine components causing severe engine damage. This would leave machine owners with a hefty repair bill for a complete engine rebuild. As well as poor filtration, the bench testing found that the Non Genuine filters also demonstrated reduced service life.

How to Identify Quality Filters

Air Filter



✓ Genuine Product

✗ Non Genuine Product

1. Fitting Well :



Non-Genuine One can not fit well with center core.

Some Non-Genuine filters could not fit well when installed because dimension is not same with Genuine standard. So, this might allow dust to enter easily into the engine. In contrast, genuine filter is designed according to the engine specification, so its dimension will fit well with the filter core.

2. Loose of Element :



Element is quite loose when install at cartridge.

Non-Genuine filter element is quite loose when is assembled with the cartridge. With this, it is likely that dust can escape into the combustion chambers. These dust will create damage and reduce the engine performance. It will cause of abnormal wear to cylinder and piston ring.

3. Media Construction :



Dust pass through filter paper due to faulty joint.

Due to end plate and filter material of Non-Genuine element are generally jointed with low quality adhesive, they tend to open up and allowing dust to enter easily.

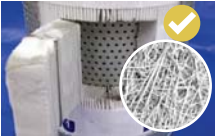
Hydraulic Filter



✓ Genuine Product

✗ Non Genuine Product

1. Filter Media :



Non-Genuine media has gap which is reduced the efficiency.

It is not easy to distinguish the media by visual but we can know the difference after cutting them. Most low cost filter use low quality paper media. The diameter of paper fiber is 10-40um. The Genuine filter use high quality "Glass Fiber" with diameter at 0.1-2 um. which is more finer. So, Genuine filter can capture more dust efficiently and its glass fiber can be used longer than paper media.

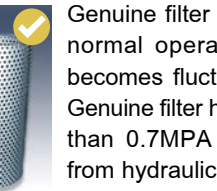
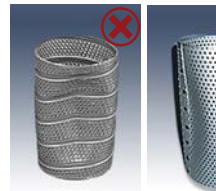
2. Adhesive :



Poor adhesive can not retain element.

Genuine filter uses a high quality adhesive. There is no gap between plate and element and even adhesive itself. Most of Non-Genuine filters uses low quality glue and insufficient amount. There is a high possibility of leaking then the dust will go into the hydraulic tank.

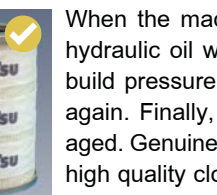
3. Inner Tube :



Strong inner tube to withstand high hydraulic oil pressure.

Genuine filter has strong inner tube. In normal operation time, the pressure becomes fluctuated. The inner tube of Genuine filter has enough strength more than 0.7MPa which prevent crushing from hydraulic oil pressure. From many experiments, we found that most of Non-Genuine filter inner tube is weak. They are not strong enough for hydraulic oil pressure.

4. BAND :



Genuine band is stronger than Non Genuine.

When the machine works, flow rate of hydraulic oil will be fluctuated, and will build pressure to the media, again and again. Finally, the media will be damaged. Genuine filter use band which has high quality cloth with enough adhesive but Non Genuine filter do not. So, the band is easily damaged by the high pressure followed by the filter media and dust pass through easily to the engine.



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Non Genuine parts fail to meet the expected performance because of inferior quality. These filters may damage to related components resulted in extensive damage and associated repair-cost.

Engine Oil Filter

Non-Genuine

Genuine



How Non Genuine Filters Destroy Your Machine.

Fuel Filter

Non-Genuine

Genuine



Bad Effect from Contamination

Not enough quality of filtration can lead to poor starting, reduced performance and low power which lead to reduced fuel economy while creating wear throughout the engine. Solid contaminants as small as 4 microns can lead to premature failure of fuel injectors and other components.



Bad Effect from Contamination

Particles will result in wear on the piston rings, and also cam shaft mechanism. These make the oil consumption and become higher cost. Still, you can save cost from buying cheaper filters but your repairing cost might be much higher than expected.



Hydraulic Filter

Non-Genuine

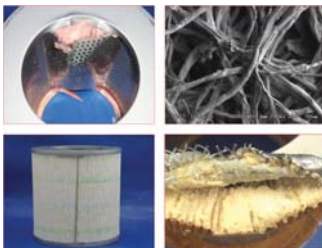
Genuine



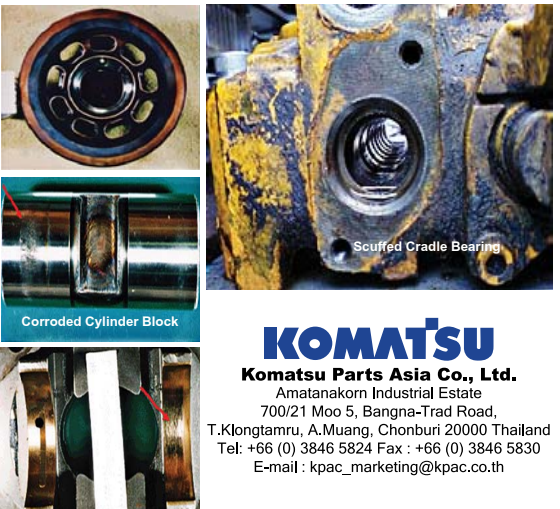
Genuine filters has better efficiency to smaller particles.

Bad Effect from Contamination

Having the right filters is essential to the success of the contamination control. Genuine and Non Genuine filters might



look the same but more expensive genuine element have better dust capturing obviously. If you take regular particle counts on the machine and you change the filter elements based on condition - i.e. when they are clogged. You'll soon know if the cheaper filter element is false economy.



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