Tips & Technology
For Bosch Partners

Current topics for successful workshops No. 85/2014

Miscellaneous subject

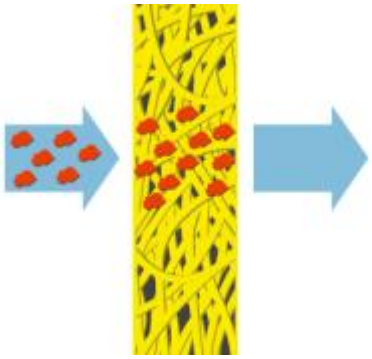
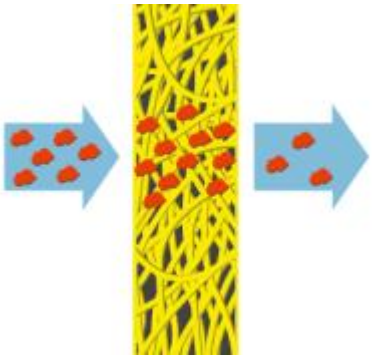
BOSCH
Invented for life

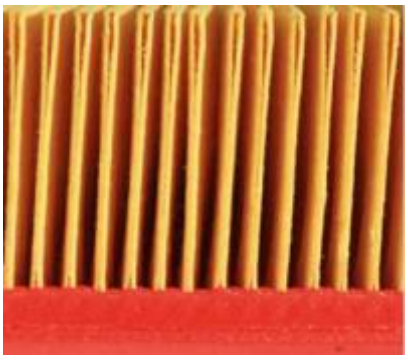
Air filters – How to recognize a quality filter

Air filters protect the engine against dirt particles in the intake air and in this way against wear. In addition, they guarantee a supply of clean air for optimal mixture preparation and reduce the noise level. Fuel consumption is also reduced while achieving optimal power output.

Quality filters are essential to long and trouble-free operation. But how is the quality of an air filter recognized?

The filter medium

Quality filters	Low-cost filters	Consequences
 High particle collection rate by microporous filter medium	 Low-quality filter medium	- Increased wear in the engine - Dirt buildup in the air-mass meter

Quality filters	Low-cost filters	Consequences
 High dirt retention capacity from large number of pleats	 Smaller number of pleats	- Shorter service life
 Wet strength from resin impregnation	 Pleats stick together when wet	- Poor fuel mixture preparation - Reduced engine output - Increased fuel consumption
 Special coating to protect against catching fire	 Risk of fire from sucked in cigarette butts or backfiring	

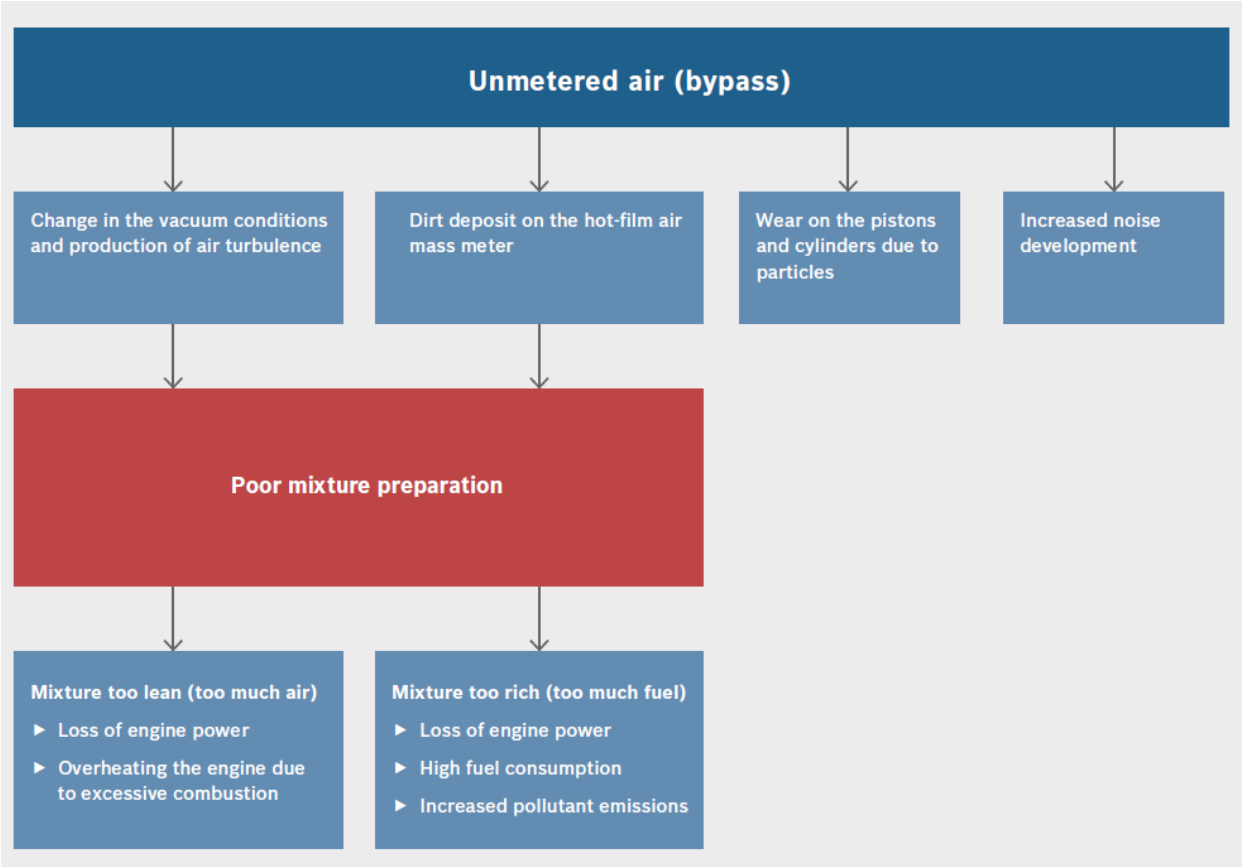
Stability

Quality filters	Low-cost filters	Consequences
 Stable pleat geometry from sufficiently sized adhesive bead	 Unstable pleat geometry	- Shorter service life - Poor fuel mixture preparation - Reduced engine output - Increased fuel consumption

Sealing

Quality filters	Low-cost filters	Consequences
 No bypassing of unfiltered air thanks to high-quality polyurethane seal	 Poor workmanship, low-quality seal material	- Increased wear in engine - Dirt buildup - in the air-mass meter
 No loss of filter surface area thanks to careful processing of the seal material	 Use of too much seal material	- Shorter service life - Poor fuel mixture preparation - Reduced engine output - Increased fuel consumption

The consequences of a leaky air filter: False air (bypass)



Workshop tips when changing air filters

- Remove the old filter and then clean the filter housing. To prevent dirt particles from entering the (unprotected) HFM, never use compressed air!
- If installed: Check crankcase ventilation filter and replace as necessary.
- During installation, check that the filter element is seated correctly to prevent false air in the intake tract and noise
- After changing the hot film air-mass sensor, change the air filter as well, since the hot film air-mass sensor needs a stream of clean, turbulence-free air for a correct measurement of the air