

FRA: http://www.mr2.com/TEXT/oil_filter_test.html

NOTE: *When reading this article, please keep in mind the date it was written and that the oil filters in question will have been upgraded and revised. Also note that this test was done by an independent European car magazine and the test results may or may not be accurate.*

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Subject: Oil filter test results!

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The Finnish car magazine "Tuulilasi" compared oil filters in its latest issue. The filters tested were all for Toyota Corolla with A-series engine.

Results in short:

Champion C138		Very good	
Clean	DO 851		Very good (with size reservations)
Biltema	502077		Good (with size reservations)
Purolator Micronic	Good		
Teho	OK 174		Good (with reservations)
Fram	PH 4967		Satisfactory
Motorcraft EFL391		Satisfactory	
Mann	W68/80		Passable
M-Filter MH 3347		Passable	
Toyota	90915-10001		Inferior
Vic	C-110		Inferior

"Clean" filter was wider than others, and "Biltema" longer.

What did they test?

1) Filtration

Filters were tested with a test equipment conforming to standard ISO 4572. The test oil was recirculated through the filter, and dirt was continuously added to it. The test dirt consisted of particles smaller than 200 micrometers. I've picked the figures below from the graphs on the magazine. 15 mg of dirt was added to each liter of oil passed through the system. Oil flow rate was 25 liters per minute.

After 5 minutes, % of each particle size [micrometers] filtered:

	40	30	20	10
Champion 98	91	64	19	
Clean	99	91	66	16
Biltema	99	91	62	16
Purolator 97	86	60	11	
Teho	96	89	61	17
Fram	98	87	55	9
Motorcraft 99	90	61	12	
Mann	98	88	56	10
M-Filter 96	85	50	10	
Toyota	88	77	31	0
Vic	87	71	39	4

After 10 minutes, % of each particle size [micrometers] filtered:

		40	30	20	10
Champion	97	90	63	18	
Clean		97	91	62	13
Biltema		95	88	56	11
Purolator	97	82	52	9	
Teho		98	86	56	15
Fram		97	85	51	5
Motorcraft	97	92	62	16	
Mann		96	83	50	7
M-Filter	94	80	47	9	
Toyota		81	60	25	1
Vic		81	68	39	4

time until blocked (bypass valve opens):

Champion	16-18 min	
Clean		21-23 min
Biltema		29-33 min
Purolator	22-26 min	
Teho		16-18 min
Fram		22-26 min
Motorcraft	13-15 min	
Mann		25-27 min
M-Filter	19-27 min	
Toyota		16-23 min
Vic		20-20 min

2) Anti-drainback valve operation

All except Vic held the oil.

You can test this yourself, if you want. Find a bolt that fits on the thread in the filter, fill the filter with oil, and with the bolt screwed in, turn the filter to its side, like it is on the engine block. Does it leak?

3) Bypass valve operation

Some filters leaked slightly through the bypass valve early before the filter elements were blocked, but at worst only 22ml/min. Compare that to the 25000ml/min total flow in the test, and you see that it is totally insignificant.

Make your own conclusions. Before this I thought Toyota filters would be the best one could get (even though I've used Teho myself because it's 5 times cheaper).