

**EnginAll**

Product tested **Popular Commercial Synthetic Brand 15w-40**

Test type **Falex Pin in Vee Block**

(in PSI)	Straight oil no additive				Oil with additive				Variance			
	(min:sec) Run time	Time to next pressure mark	(lbs./in.) Torque	% change	(min:sec) Run time	Time to next pressure mark	(lbs./in.) Torque	% change	Run time difference	Variance	(lbs./in.) torque difference	Variance
<b>Break-in start</b>	10:07:00 AM		10.5		10:28:00 AM		12.0				1.5	14.29%
300	5.00		11.0	4.76%	5.00		10.0	-16.67%			-1.0	-9.09%
500	5.00		14.5	31.82%	5.00		10.0	0.00%			-4.5	-31.03%
750	0.08	0.08	18.0	24.14%	0.12	0.12	13.0	30.00%	0.04	-33.33%	5.0	27.78%
1,000	0.23	0.15	27.0	50.00%	0.29	0.17	17.0	30.77%	0.06	-20.69%	10.0	37.04%
1,250	0.36	0.13	29.0	7.41%	0.42	0.13	20.0	17.65%	0.06	-14.29%	9.0	31.03%
1,500	0.50	0.14	40.0	37.93%	1.01	0.19	38.0	90.00%	0.11	-30.50%	2.0	5.00%
1,750					1.17	0.16	60.0	57.89%				
2,000					1.35	0.18	52.0	-13.33%				
2,250					1.56	0.21	50.0	-3.85%				
2,500					2.15	0.19	52.0	4.00%				
2,750					2.34	0.19	52.0	0.00%				
3,000					2.47	0.13	53.0	1.92%				
3,250					3.06	0.19	54.0	1.89%				
3,500					3.20	0.14	55.0	1.85%				
3,750					3.38	0.18	57.0	3.64%				
4,000					3.52	0.14	58.0	1.75%				
4,250					4.06	0.14	58.0	0.00%				
4,500					4.24	0.18	60.0	3.45% (1)				
<b>End test</b>	<b>0.00</b>		<b>40.0</b>	<b>175.86%</b>	<b>2.15</b>		<b>38.0</b>	<b>280.00%</b>				
					<b>4.24</b>		<b>60.0</b>	<b>500.00%</b>				
<b>Ave. increase per second</b>			<b>0.51</b>				<b>0.18</b>					

(1) The oil tested with additive was still running at the 4,500 PSI direct pressure mark.

**Conclusion**

After break-in, at a direct pressure of 1,500 PSI, the torque for the oil tested without additive increased to 40.0 lbs./in. and failed 50 seconds after break-in. At the same direct pressure, the torque for the oil tested with the additive increased to 38.0 lbs./in. Based on this information, the oil tested with the additive had a 5.00% reduction in torque at a direct pressure of 1,500 PSI. However, it is important to note (1) the torque for the oil tested with the additive was 31.03% less than without and (2) The oil tested with the additive was able to continue and achieved the maximum direct pressure the test allows (4,500 PSI) in a period of 4 minutes and 39 seconds.

In analyzing the results, it appears that after 1,750 PSI direct pressure, the additive provided significantly more benefit. It is interesting to note, that after the additive "kicked-in" the average increase in torque per pressure point was only 2.056 lbs./in.; the average increase in torque was .062 lbs./in per second.