

**EnginAll**

Product tested **Popular Heavy Duty Commercial Brand SAE 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>	9:20:00 AM		15.0		9:43:00 AM		12.0				-3.0	-20.00%
300	5.00		15.0	0.00%	5.00		12.0	0.00%			-3.0	-20.00%
500	5.00		17.0	13.33%	5.00		12.5	4.17%			-4.5	-26.47%
750	0.07	0.07	25.0	47.06% (1)	0.08	0.08	15.0	20.00%	0.01	-12.50%	10.0	40.00%
1,000					0.26	0.18	20.0	33.33%				
1,250					0.42	0.16	35.0	75.00%				
1,500					0.55	0.13	45.0	28.57%				
1,750					1.13	0.18	47.0	4.44%				
2,000					1.31	0.18	48.0	2.13%				
2,250					1.50	0.19	52.0	8.33%				
2,500					2.06	0.16	54.0	3.85%				
2,750					2.26	0.20	60.0	11.11%				
3,000					2.42	0.16	62.0	3.33%				
3,250					2.56	0.14	64.0	3.23%				
3,500					3.16	0.20	66.0	3.13%				
3,750					3.32	0.16	68.0	3.03%				
4,000					3.51	0.19	69.0	1.47%				
4,250					4.01	0.10	70.0	1.45%				
4,500					4.20	0.19	71.0	1.43% (2)				
<b>End test</b>	<b>0.00</b>		<b>25.0</b>	<b>47.06%</b>	<b>2.06</b>		<b>52.0</b>	<b>20.00%</b>				
					<b>4.20</b>		<b>71.0</b>	<b>468.00%</b>				
<b>Ave. increase per second</b>			<b>1.14</b>				<b>0.23</b>					

(1) The oil Tested without additive failed after reaching 750 lbs. of direct pressure.

(2) 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 750 PSI, the torque for the oil tested without additive increased to 25.0 lbs./in. (a 47.06% increase) and failed 7 seconds after break-in. At the same direct pressure, the torque for the oil tested with the additive increased to 15.0 lbs./in.(a 20.00% increase). Based on this information, the oil tested with the additive had a 40.00% reduction in torque at a direct pressure of 750 PSI.

The oil tested with the additive was able to continue and achieve the maximum direct pressure the test allows (4,500 PSI) in a period of 4 minutes and 20 seconds. In analyzing the results, it appears that after 1,500 PSI direct pressure, the additive provided significantly more benefit.