

Figure 1

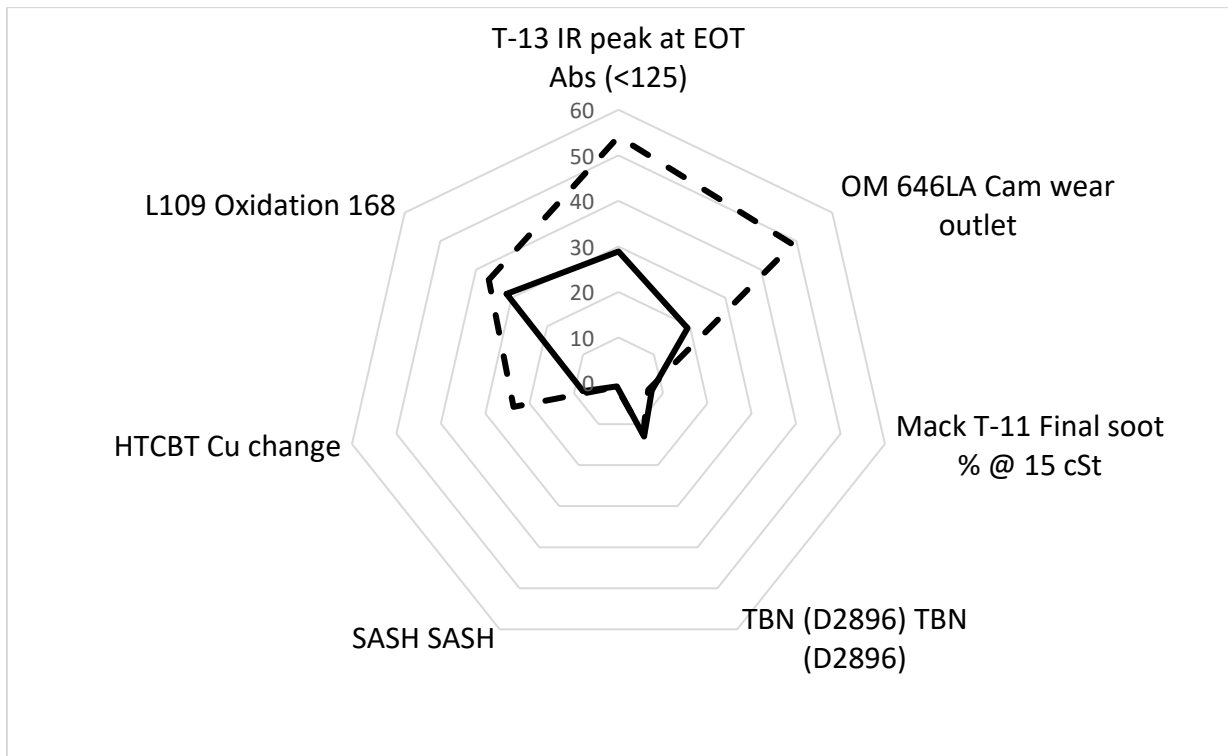
Constituent/Blend	B-3	B-4	B-5	B-6	B-7	B-8	A-2	A-3	A-4	A-5	A-6	A-7
B- PIBSA-PAM-950	0.801	0.801	1.000	1.000	1.000	1.000	0.968	0.968	0.966	0.905	0.905	0.968
PIBSA-PAM 1000 Mn	2.401	2.430	2.700	2.851	2.727	2.851	2.899	2.899	2.898	2.712	2.712	2.899
PIBSA-PAM 2200 Mn	7.999	7.999	8.004	8.004	8.004	8.004	5.797	5.797	5.796	5.424	5.424	5.797
Amine Funct EP Copol	--	--	--	--	--	--	1.382	1.382	1.381	1.293	1.293	1.382
Ca Salicylate-350 TBN	1.050	1.050	1.050	1.050	1.050	1.050	0.483	0.483	0.483	0.452	0.452	0.483
Mg sulfonate-400 TBN	1.000	1.000	0.920	1.000	0.920	1.000	0.968	0.968	0.966	0.905	0.905	0.968
Ca salicylate -64 TBN	--	--	--	--	--	--	1.642	1.642	1.642	1.537	1.537	1.642
ZDDP	1.000	1.000	1.000	1.000	1.000	1.000	0.919	0.919	0.918	0.860	0.860	0.919
Mo Friction modifier	0.089	0.089	0.090	0.090	0.090	0.090	0.117	0.117	0.100	0.110	0.110	0.117
DPA Antioxidant	1.000	1.000	1.430	1.430	1.430	1.430	2.329	2.319	2.000	2.170	2.170	2.329
Phenol antioxidant	1.000	1.000	2.600	2.600	2.600	2.600	--	--	--	--	--	--
Sulfurize FAME	--	--	--	--	--	--	0.774	0.774	0.773	0.724	0.724	0.774
LAO	--	--	--	--	--	--	0.580	0.580	0.580	0.542	0.542	0.580
PIBSA	0.600	0.600	0.600	0.600	0.600	0.600	0.194	0.194	0.194	0.181	0.181	0.194
Anti-foamant	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
PIB- 950 Mn	1.500	1.500	1.500	1.300	1.480	1.500	--	--	--	--	--	--
diluent	2.307	2.278	2.302	2.302	2.302	1.172	1.147	1.157	1.201	1.083	1.083	1.147
LOFI	--	--	--	--	--	--	0.200	0.200	0.200	0.200	0.200	0.200
H-SIB block copol VM	9.100	9.100	5.300	11.900	11.900	11.200	--	--	--	--	--	--
Star H-SD block copol VM	--	--	--	--	--	--	11.400	3.900	11.400	--	12.000	11.400
Purity™ VHVI 4	57.150	57.150	--	--	--	--	--	--	--	--	--	--
Purity™ VHVI 8	13.000	13.000	--	--	--	--	--	--	--	--	--	--
Priolube™ 3970	--	--	5.000	5.000	5.000	--	--	--	--	--	--	--
Yubase 4	--	--	--	--	--	--	49.100	53.000	47.900	67.100	46.200	47.700
Yubase 4+	--	--	58.502	52.100	52.395	56.100	--	--	--	--	--	--
Yubase 6	--	--	8.000	7.771	7.500	10.400	19.100	22.700	20.600	13.800	22.700	20.500
Package (wt%)	20.750	20.750	23.198	23.229	23.205	22.300	20.200	20.200	19.900	18.900	18.900	20.200
KV100 (cSt)	11.55	11.60	9.73	12.27	12.14	12.12	12.01	9.65	12.19	7.74	12.01	11.96
HTHS150 (cP)	3.52	3.48	3.03	3.49	3.51	3.50	3.56	3.03	3.68	2.55	3.57	3.50

Figure 2

Test/Blend		B-3	B-4	B-5	B-6	B-7	B-8	A-2	A-3	A-4	A-5	A-6	A-7
OM 646LA	Cam wear outlet (µm)			48.9							19.4		
Mack T-11	Final soot % @ 12 cSt	6.09						7.13					
Mack T-11	Final soot % @ 15 cSt	6.71						7.48					
Mack T-11	Final soot % @ 4 cSt	4.7						5.11					
OM 501LA	Bore polishing (%)					0				0			
OM 501LA	Engine sludge, avg. (Merit)					9.8				9.8			
OM 501LA	Oil consumption (g/hr)					5.432				4.508			
OM 501LA	Piston cleanliness (Merit)					30.3				28.1			
Mack T-12	Avg. Liner Wear (µm)		10.1						14.5				
Mack T-12	Avg. Top Ring Wt Loss (mg)		64						76				
Mack T-12	Delta Pb 250-300 hr (ppm)		13						10				
Mack T-12	End of test lead (ppm)		25						31				
Mack T-12	Mack merits (T-10)		1548.2						1402.3				
Mack T-12	Oil consumption (g/h)		57.4						61.4				
OM 646LA Biodiesel	Engine sludge, avg (Merits)				9.6							9.7	
OM 646LA Biodiesel	Piston cleanliness (avg. 4 pistons) (Merits)				29.3							28.9	
OM 646LA Biodiesel	Ring Sticking (ASF value)				N							N	
OM 646LA Biodiesel	RL255 Piston Cleanliness (Merits)				13.9							12.3	

Figure 3: graph of selected data from Example 2.

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Solid line is oil A-8, Dashed line is oil B-8.