



ACEA engine oil specification

What does ACEA mean?

ACEA is the abbreviation for *Association des Constructeurs Europeens d'Automobiles* (Union of European car manufacturers). This committee has developed new classifications for the application of engine oils in gasoline, passenger cars diesel and heavy-duty diesel engines.

(ACEA European Oil Sequences for Service Fill Oils).

Why new classifications?

While revising the former CCMC classifications and the regrouping to the ACEA norms the following aspects have been in the limelight:

1. Updating of the demands and the employed motor tests to achieve a more topical testing of the lubricants and to meet the increased requirements because of the present motor engineering. The CCMC classifications partly have been over 10 years old and therefore did not present the current state of engineering any longer.
2. Introduction of a quality system to record the test results. The new system provides that all achieved results (both the reference tests and the real candidate tests) have to be registered at the European Registration Centre. With that, ACEA tests shall be auditable by neutrale authorities and it shall be prevented that not tested products can be assessed in ACEA classifications.

This way, the new ACEA classifications are representing a higher and more current standard of performance as the former CCMC categories.

What has changes at the ACEA?

Apart from the name some more things have changed at ACEA. Therefore, a direct translation from CCMC to ACEA is not possible. Gas engines (Gasoline)= A1, A2, A3, A4 and A5. The rating into categories for conventional oils (so far CCMC G4) and lightrun oils (so far CCMC G5) is not longer valid and a differentiation of this kinds of products is no longer possible because of the fulfilled ACEA specification. In return, a new category for so called „Fuel Economy-Oils" has been introduced, which is showing a noticeable lowered high temperature viscosity.

Car diesel engines (Light Duty Diesel) = B1, B2, B3, B4 and B5. Here also a new category for fuel-economy oils has been introduced. In addition, the demands of modern diesel engines now are covered by the inclusion of new motor tests.

Heavy-duty diesel (= E1, E2, E3, E4 and E5) The fixing of these categories has been done in close following to the Mercedes-Benz pages (MB 227.1/228.1/228.5).

ACEA	Capacity		HTHS (mPa·s)
A1, B1	●●	standard quality, normal intervals	min.2,9 max 3,5
A2, B2	●●	standard quality, normal intervals	>3,5
A3, B3	●●●	heavy-duty oil, extended intervals are possible	>3,5
B4	●●●○	as B3, but also for diesel direct injection	>3,5
(A4)		reserved for fuel direct injection	
A5, B5 ₅₎		as A3/B4, but lowered HTHS	min.2,9 max.3,5
E1	●	<i>No longer valid since March 2000</i>	≥3,5
E2 ₁₎	●●	normal operation, normal intervals	≥3,5
E3 ₂₎	●●●	heavy operation, extended intervals are possible	≥3,5
E4 ₃₎	●●●●	High-heavy operation, extend intervals are possible	≥3,5
E5 ₄₎	●●●○	heavy operation, extended intervals are possible	≥3,5

¹⁾²⁾³⁾ meets ¹⁾MB 228.1 or MAN 271, ²⁾MB 228.3 or MAN M 3275, ³⁾MB 228.5 or MAN M 3277

⁴⁾performance similar to E3, but also tested in American motors (Mack and Cummins)

⁵⁾introduction expected in autumn 2001