

Title (en)
LUBRICATING OIL COMPOSITION FOR AUTOMATIC TRANSMISSION

Title (de)
SCHMIERÖLZUSAMMENSETZUNG FÜR AUTOMATIKGETRIEBE

Title (fr)
COMPOSITION D'HUILE DE GRAISSAGE CON UE POUR UNE TRANSMISSION AUTOMATIQUE

Publication
EP 1422287 A4 20140416 (EN)

Application
EP 02746088 A 20020716

Priority
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Abstract (en)
[origin: EP1422287A1] A lubricating oil composition for automatic transmissions wherein the mass ratio of phosphorus : calcium : boron : sulfur determined by elemental analysis is 1 : (0.1 to 2) : (0.06 to 2) : (0.2 to 20), the concentration of phosphorus is from 0.01 to 0.06 percent by mass, the concentration of the sulfur derived from a base oil is from 0 to 0.1 percent by mass, and the concentration of the sulfur derived from sulfur-based additives is from 0.01 to 0.15 percent by mass, based on the total amount of the composition. The lubricating oil composition can prevent the occurrence of scratch phenomenon even over a long period of time when used in a metal belt type continuously variable automatic transmission.

IPC 8 full level
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CPC (source: EP US)
C10M 169/04 (2013.01 - EP US); **C10M 171/00** (2013.01 - EP US); **C10M 2203/1006** (2013.01 - EP US); **C10M 2203/1025** (2013.01 - EP US); **C10M 2209/084** (2013.01 - EP US); **C10M 2215/28** (2013.01 - EP US); **C10M 2219/02** (2013.01 - EP US); **C10M 2219/022** (2013.01 - EP US); **C10M 2219/024** (2013.01 - EP US); **C10M 2219/046** (2013.01 - EP US); **C10M 2219/066** (2013.01 - EP US); **C10M 2219/08** (2013.01 - EP US); **C10M 2219/106** (2013.01 - EP US); **C10M 2219/108** (2013.01 - EP US); **C10M 2223/02** (2013.01 - EP US); **C10M 2223/045** (2013.01 - EP US); **C10M 2223/047** (2013.01 - EP US); **C10N 2010/04** (2013.01 - EP US); **C10N 2030/06** (2013.01 - EP US); **C10N 2040/042** (2020.05 - EP US); **C10N 2040/045** (2020.05 - EP US); **C10N 2060/14** (2013.01 - EP US)

Citation (search report)
• [I] EP 1055722 A1 20001129 - JAPAN ENERGY CORP [JP]
• [I] WO 0071646 A1 20001130 - LUBRIZOL CORP [US]
• See references of WO 03020858A1

Cited by
EP1544278A1; WO2006057292A1; US7803332B2; US8034754B2; US7531486B2; US7648948B2; US7902132B2

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