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## Passenger Car Motor Oils

Rallye 100% Synthetic – Rallye Partial Synthetic – Rallye Turbo Approved  
Rallye Heavy Duty Turbo – Rallye Premium Non-Detergent

(2/15/2012 edition)

**Rallye 100% Synthetic Motor Oils** offer the ultimate in engine protection for both gasoline and diesel engines - even those that are turbo-charged or super-charged. Formulated with state-of-the-art additives and 100% synthetic base stocks, Rallye 100% Synthetic Motor Oil has been carefully developed to meet the most current API Service Classification. These oils are formulated to meet or exceed all new car manufacturers' warranty requirements as well as stringent industry standards such as API SN/CF, ILSAC GF-5. These oils also meet most European ACEA specifications. These oils are also formulated to exceed the standard for the Thermal Engine Oil Stability Test (TEOST MHT) and the Ford M2C 930-A, which supersedes M2C153-H requirements. The special low-phosphorous level design ensures that these superior oils are environmentally friendly and will help to extend the life of the expensive catalytic converters. These full-synthetic oils offer the ultimate in engine protection for engines operating in the most extreme driving and operating conditions and in the worst ambient operating temperatures from the extreme arctic cold to the searing desert heat. Rallye 100% Synthetic Motor Oil exceeds the stringent lubricating performance requirements of American, European, Korean, Japanese and other worldwide engine manufacturers.

**Rallye 100% Synthetic 5W-30 dexos1®** is specifically engineered and licensed to meet the stringent GM dexos1® engine oil specification, as well as all of the specifications outlined above for the Rallye 100% Synthetic motor oils.

**Rallye Partial Synthetic Motor Oils** are formulated with new and more robust engine oil chemistry combined with an optimum level of high quality synthetic and first quality mineral base stocks to provide outstanding engine protection for severe driving situations, including high-stress competition engine applications. Rallye Partial Synthetic Motor Oils offer superior engine protection for both gasoline and diesel engines - even those that are turbo-charged or super-charged. These high performance motor oils are engineered and formulated to meet API SN/CF - ILSAC GF-5 and meets most European ACEA specifications. These oils are also formulated to exceed the standard for the Thermal Engine Oil Stability Test (TEOST MHT) and the Ford M2C 930-A, which supersedes M2C153-H requirements. These high quality motor oils also help to provide better emission control, increased fuel economy and reduced engine wear and piston deposits. They are designed to lubricate and protect well outside of the range of conventional motor oils and are compatible with a variety of different fuels including competition fuels. Week in and week out Rallye Partial Synthetic Motor Oils withstand the brutal pounding of professional top fuel racing. These high performance motor oils exceed the stringent lubricating performance requirements of American, European, Korean, Japanese and other worldwide engine manufacturers.



**Rallye Turbo Approved Motor Oils** multi-viscosity oils provide superior engine protection no matter what the operating temperature. These oils are designed to protect domestic and imported vehicles and equipment powered with either gasoline or diesel engines - even those that are turbo-charged or super-charged. This high quality oil has been specifically formulated to meet or exceed all new car manufacturers' warranty requirements as well as the stringent industry standards API SN/CF - ILSAC GF-5 and meets most European ACEA specifications. These oils are also formulated to exceed the standard for the Thermal Engine Oil Stability Test (TEOST MHT) and the Ford M2C 930-A, which supersedes M2C153-H requirements. Rallye Turbo Approved will protect with equal vigor both new, modern, close-tolerance engines and older, high-mileage engines running in a wide range of operating temperatures and conditions. These high performance motor oils exceed the stringent lubricating performance requirements of American, European, Korean, Japanese and other worldwide engine manufacturers.

**Rallye Turbo Approved Motor Oils** are single grade or straight-viscosity motor oils. They are a balanced blend of high VI base stocks and an advanced additive package to deliver superior performance. They provide thermal and oxidation stability, deposit control, anti-wear protection, corrosion protection and improved pumpability. Rallye Turbo Approved Motor Oils may be used in turbo-charged, super-charged or naturally aspirated foreign and domestic engines recommending an API SN/CF and meets some European ACEA specifications. These heavy duty motor oils exceed the stringent lubricating performance requirements of American, European, Korean, Japanese and other worldwide engine manufacturers.

**Rallye Heavy Duty Turbo Motor Oils** are high quality detergent motor oils recommended for gasoline and diesel engines manufactured by American, European, Japanese, Korean and other engine manufactures from around the world. These oils are manufactured to meet the requirements of API SG, SF/CF, CF-2 and CF-4 as well as some ACEA. They are manufactured from select blends of high quality base oils and additives to promote long engine life, protect against rust, corrosion and harmful oxidation, and are designed to help reduce engine wear and oil consumption.

Rallye Heavy Duty Turbo Multi-grade Motor Oils are coupled with a premium viscosity modifier to assure easy starts in cold temperatures and protect against oil thinning at higher temperatures. Also, these energy conserving formulations may result in fuel savings to the consumer.

**Rallye Premium Non-Detergent Motor Oils** are a quality line of non-detergent, straight mineral crankcase engine oils and general purpose oils. Rallye Premium Non-Detergent Motor oils are built from high-quality mineral base stocks and may be used wherever an API SA/SB mono-grade oil is recommended.

*Some performance levels are limited by viscosity grades. Please consult the Performance Application Chart, the Inspection Data Table for the appropriate product or contact your District Manager for more complete information and recommendations.*



## TYPICAL INSPECTION DATA – Passenger Car Motor Oils

	API Gravity	Flash Point, °C.	Viscosity cSt @ 100C	Viscosity cSt @ 40C	VI	Pour Point, °C.
<b>100% Synthetic</b>						
0W-40	35.0	210	13.20	75.5	171	-45
5W-30 (dexos1®)	35.0	210	10.00	58.0	170	-45
5W-50	34.0	220	17.50	110.0	170	-39
15W-50	33.7	230	17.50	150.0	150	-39
<b>Partial Synthetic</b>						
5W-20	31.3	210	7.40	42.0	140	-42
5W-30	33.5	210	10.30	57.0	168	-42
10W-40	29.9	210	13.40	84.0	160	-36
15W-50	29.2	230	17.70	126.0	155	-33
<b>Turbo Approved</b>						
5W-20	31.3	200	6.50	37.0	130	-42
5W-30	30.5	200	10.50	60.0	145	-39
10W-30	29.5	205	10.50	69.0	140	-35
10W-40	30.0	205	13.50	97.0	145	-32
15W-40	29.0	215	14.00	100.0	135	-27
20W-50	28.9	220	18.00	165.0	125	-18
30	28.5	220	11.80	103.0	103	-21
40	28.0	230	14.60	141.0	103	-15
50	27.5	240	17.90	189.0	103	-12
<b>Heavy Duty Turbo</b>						
5W-30	30.5	190	10.20	60.0	157	-39
10W-30	29.5	200	10.50	69.0	140	-35
10W-40	30.0	200	13.50	97.0	145	-32
15W-40	29.0	210	14.00	100.0	135	-27
20W-50	28.9	220	18.00	165.0	125	-18
25W-50	29.6	230	18.00	165.0	125	-18
10						
30						
40	28.0	220	14.60	141.0	100	-12
50	27.5	230	17.90	189.0	100	-12
<b>Non-Detergent</b>						
10W-30	30.2	200	10.50	69.0	140	-35
10W-40	30.0	200	13.50	97.0	145	-32
15W-40	29.0	210	14.00	100.0	135	-27
20W-50	28.9	220	18.00	165.0	125	-18
30	23.2	200	10.10	-	-	-12
40	21.8	210	13.50	-	-	-10
50	20.6	220	17.50	-	-	-8

# PERFORMANCE APPLICATION CHART

SPECIFICATIONS	100 % Synthetic	Synthetic Blend	Super Turbo Multi-grade	Super Turbo Single	Heavy Duty Turbo	Premium Non-Detergent
<b>API:</b>						
SN	√	√	√	√	-	-
SM	√	√	√	√	-	-
SL	√	√	√	√	-	-
SJ	√	√	√	√	-	-
SG	√	√	√	√	√	-
SF	√	√	√	√	√	-
SB	√	√	√	√	√	√
CF/CF-2	√	√	√	√	√	-
CF-4	-	-	-	-	√	-
<b>ILSAC:</b>						
GF-5	√	√	√	-	-	-
GF-4/GF-3/ GF-2	√	√	√	-	-	-
<b>ACEA:</b>						
A3/B4, A3/B3	**	**	**	**	-	-
A5/B5, A1/B1	**	**	**	**	-	-
C3	**	**	**	**	-	-
C2, C1	**	**	**	**	-	-
<b>Ford:</b>						
M2C 929 A (M2C 205A)	5W-30	5W-30,10W-30	√	-	-	-
M2C 930A (M2C 153H)	5W-30*	5W-20, 5W-30*	-	-	-	-
<b>DaimlerChrysler:</b>						
MS 6395K	√	√	-	-	-	-
<b>Mercedes Benz</b>						
MB 229.1	√	√	-	-	-	-
MB 229.3	√	5W-30	-	-	-	-
MB 229.31	5W-30, 5W40	-	-	-	-	-
MB 229.5	√	√	-	-	-	-
MB 229.51	5W-30, 5W40	-	-	-	-	-
<b>General Motors:</b>						
GM 4718M	√	√	-	-	-	-
GM 6094M	√	√	√	-	-	-
GM dexos1®	5W-30	-	-	-	-	-
<b>Volkswagen:</b>						
VW 50200	√	√	√	-	-	-
VW 50300	√	5W-30	5W-30	-	-	-
VW 50500	√	√	√	-	-	-
VW 50501	√	5W-30	5W-30	-	-	-
VW 50600	√	5W-30	5W-30	-	-	-
<b>BMW:</b>						
LL-O/M54	√	√	√	-	-	-
LL-04	√	-	-	-	-	-
<b>CID AA-52039</b>						
Mil-L-2104-B	√	√	√	√	√	-
Mil-L-46152	√	√	√	√	√	-

\* 5W-20 preferred viscosity grade for M2C 930A (M2C 153H). \*\* Suitable for Use