

Product data

R 30, R 40, M

Product Description

Castrol provide a range of speciality motor oils designed to meet the needs of the motoring enthusiast.

Castrol R Series

What are they?

The **Castrol R** oils are castor-based lubricants containing specially selected additives to prevent rapid deterioration through oxidation. Their tenacious affinity for adhesion to metal surfaces, even when these surfaces are subjected to extreme temperatures, provide their excellent anti-seize properties - an important consideration with highly stressed engines running at peak revolutions.

While **Castrol R** was primarily designed for the world of motor racing, because of these unique properties the private enthusiast can also benefit from their use in their performance machine.

Why use them?

When selecting an engine lubricant for sports cars, modified saloons or high performance motorcycles, it must not be assumed that a special oil is always necessary. In the majority of cases, the well-known and widely available brands of Castrol Formula R Synthetic, TXT or GP50 motor oils are entirely satisfactory for racing. Most modified and tuned production vehicles will operate perfectly well on these high performance lubricants. **Castrol R** grades have also proved successful in some competition manual transmission applications where normal 4-stroke engine oils are recommended.

While it is difficult to define where **Castrol R** grades would be preferable to the use of one of the Castrol Synthetic or fortified mineral oils, for racing and high speed rallying **Castrol R** does provide close to the ultimate in lubrication. If high performance, coupled with reliability, is the aim, then the extremely high film strength of **Castrol R** will provide a valuable 'margin of safety' at ultra-high engine speeds and temperatures. The use of **Castrol R** grades usually results in a distinct and very pleasant exhaust odour.

Which grade of CASTROL R?

Castrol R 40

In common with all SAE 40 oils, it is relatively viscous when cold; circulation may, therefore, be sluggish in the colder weather immediately following start-up. For this reason, care should be taken to ensure that the engine is thoroughly warm before stressing it heavily.

Castrol R 40 is ideal for heavy duty work, where sustained high speeds and high ambient temperatures are experienced.

Castrol R 30

May be used beneficially in total loss systems, or where the manufacturer calls for an SAE 30 oil. Assists by reducing viscous drag (due to churning losses) within the engine.

The ultimate selection of **Castrol R 30** or **Castrol R 40** depends upon the particular application and tuner/user preferences.

How often should oil changes be made with Castrol R upgrades?

Castrol R 30 or **R 40** are not recommended for normal road use. They are recommended for competition applications only.

They are "one meeting" only lubricants. Fresh oil should be used at the commencement of each meeting and drained at completion.

Vehicles should not be stored indefinitely with these products remaining in the crankcase. It is better to 'lay up' the vehicle, using either synthetic or mineral engine oil or Castrol Storage Oil, following the change-over procedure outlined below:

Recommended draining and flushing procedure when changing from mineral oil to Castrol R - or vice versa:

1. Drain the mineral oil (**Castrol R**) when warm.
2. We recommend the following:
Flush the engine. After draining the **Castrol R**, refill with Castrol Flushing Oil* to a level approx 25-30mm above the normal fill level. Restart the engine and run at fast idle for 5-10 minutes. During that time, the engine should be given a few bursts to moderate revs.
NOTE: The vehicle should not be driven or the engine put under heavy load during this period. Stop engine and thoroughly drain all flushing oil and replace or drain any filters in the system.
3. Refill with the desired **Castrol R** (or Castrol engine oil) grade.
 - ◆ Please consult Castrol office for recommendation if Castrol Flushing Oil not available.

Precautionary Notes:

NEVER MIX CASTROL R WITH MINERAL-BASED OILS.

Castrol R grades contain no detergent/dispersant additives, so although the oil may remain relatively clean in service, the internals of the engine will not. Engines run on **Castrol R** grades will not be as clean internally as those run on Castrol Formula R Synthetic, TXT or GP50, for example.

It should always be remembered that **Castrol R** grades will not mix with conventional mineral oils. When changing from one type of oil to another, the recommended change procedures should be followed.

Additives

Further additions to the **Castrol R** grades - in the form of proprietary compounds or additives - are strongly advised against. In fact, definite harm could result from attempting to add mineral oil based compounds to any **Castrol R** grade. Incompatibility could lead to separation and may be followed by deterioration in performance.

Castrol M

Castrol M is a castor-based oil which has been developed specifically for use when methanol-based fuel is used.

These two materials are soluble and, as such, will not separate in use. However, for other fuels refer to the Oil/Fuel Selection Chart.

Castrol M may be used successfully as the lubricant for methanol-fuelled 2-strokes, including miniature engines used for model vehicles, aircraft and boats.

NOTE: **Castrol M** is not recommended or suitable for 4-stroke engines. Companion products, Castrol Racing Oil 60, R 30, R 40 and GP50 are our recommendations for use with methanol.

Two-Stroke Applications

All three of these products can be used as 2-stroke petrol/oil mixtures, but it is imperative that the user check the compatibility and stability of the lubricant and the fuel.

Note: Due to the non-detergent nature of **Castrol M** and **R**'s, engine internals will not be as clean as they would be if Castrol A747, TTS or Super TT were used.

The results associated with incompatibility/insolubility of an oil-fuel mixture become quite obvious. Separation of the fuel mix into two phases can lead to:

- ◆ Difficulty in starting
- ◆ Erratic running
- ◆ Poor performance
- ◆ Spark plug fouling.

While operating under these conditions, there will be periods in which the engine receives no lubrication, resulting in piston scuffing and possibly engine seizure.

For optimum 2-stroke engine performance, refer to the table below:

Oil/Fuel Selection Chart

Castrol Lubricant	Fuel				
	ULP	Premium ULP	Super Petrol	100/130 Octane Racing Oil (Green)	Methanol (Alcohol) Base
Castrol R 30	Suitable*	Suitable*	Suitable*	#	Suitable**
Castrol R 40	Suitable*	Suitable*	Suitable*	#	Suitable**
Castrol M	Suitable*	Suitable*	Suitable*	#	Suitable

Legend:

- * The suitability of CASTROL R or M in standard or super petrol will depend on the Toluene and/or Benzene content of the petrol. Advisable to check compatibility before mixing. Isopropyl Alcohol may have to be added to gain solvency.
- # As Castrol cannot monitor nor control the formulations of racing fuels produced by other companies, it is suggested that a compatibility test be carried out prior to the addition of lubricant to the fuel.
- ** Benzene or Acetone may have to be added to the fuel/oil mixture to improve solubility.

Fuel mixing table for Petrol Oil Premixes

Ratio Petrol to Oil	Litres of Petrol to MLS of Oil			
	1 Litre	5 Litres	10 Litres	20 Litres
16:1	70 ml	315 ml	625 ml	1250 ml
20:1	50 ml	250 ml	500 ml	1000 ml
24:1	40 ml	210 ml	415 ml	835 ml
25:1	40 ml	200 ml	400 ml	800 ml
30:1	35 ml	170 ml	335 ml	670 ml
32:1	30 ml	155 ml	315 ml	625 ml
35:1	30 ml	145 ml	285 ml	570 ml
40:1	25 ml	125 ml	250 ml	500 ml
50:1	20 ml	100 ml	200 ml	400 ml
100:1	10 ml	50 ml	100 ml	200 ml

Note: Volumes rounded to the nearest 5ml

Fuel mixing table for Alcohol / Ether type fuel where Castrol M used

Proportion of oil used in fuel mix	Litres of Alcohol / Ether oil to be made							
	1 Litre		5 Litres		10 Litres		10 Litres	
	Oil (mls)	Fuel (mls)	Oil (mls)	Fuel (L)	Oil (L)	Fuel (L)	Oil (L)	Fuel (L)
5%	50	950	250	4.75	0.5	9.5	1	19
10%	100	900	500	4.50	1	9.0	2	18
15%	150	850	750	4.25	1.5	8.5	3	17
20%	200	800	1000	4.00	2.0	8.0	4	16
25%	250	750	1250	3.75	2.5	7.5	5	15

Health, Safety & Environment

Castrol R is considered non-hazardous according to Worksafe. However, in line with safe handling practices, it is recommended that the handling instructions outlined in the Castrol Material Safety Data Sheet be followed.

Spillage

- Small:** Soak up using an inert mineral adsorbent such as Castrol Diatomaceous Earth and dispose of in the appropriate manner.
- Large:** Corrective action usually dictated by individual company safety procedures. Immediate containment and subsequent removal is essential.
- Disposal:** Oily materials must not be allowed to enter groundwater, watercourses, sewerage or drainage systems. Refer to local Waste Disposal Authority for legal requirements.

Product Removal

- Bare Metal Surfaces:** Remove with Castrol solvent cleaners or water based degreasers.
- Hand Cleaning:** Use any of the Castrol range of hand cleaners, e.g. CareClean Plus.
- Other Surfaces:** Contact your local Special Products Division in each State Office.

Although all reasonable care has been taken to ensure that the information contained in this publication is accurate as at the time of printing, such information is nevertheless liable to variation in the event of changes occurring subsequent to the date of printing it: the blend formulation, methods of storage, or due to the improper handling or application of any of the products referred to, or in the requirements of any specification or approval relating to any of the products.

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