

# Mobil™

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## MOBIL™ MANUAL GEAR OILS

Tech Talk TIPS / TECHNIQUES / TRAINING

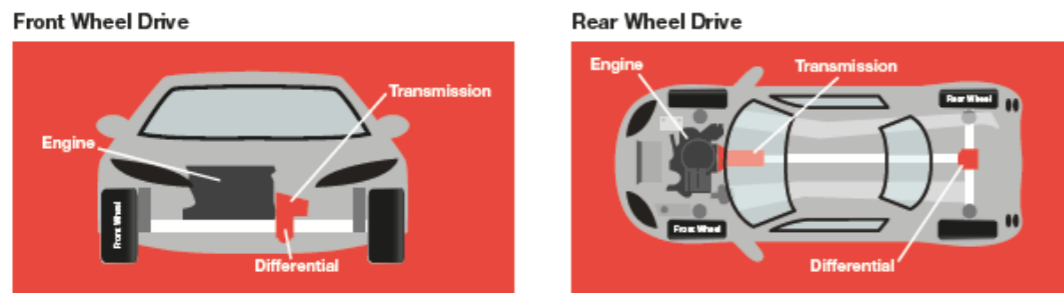
# Mobil™ Ancillaries

## Manual Gear Oils

### What are Gear & Transmission Oils?

Gear & Transmission oils are oils that lubricate the drive train of a vehicle – that's any component that is responsible for transmitting power from the engine to the drive wheels. The major components of the drivetrain are the transmission, or gearbox, and the differential or final drive.

Depending on your type of vehicle these components come in various shapes, sizes and orientations but they are always present and they always need lubrication.



### Types of Driveline systems

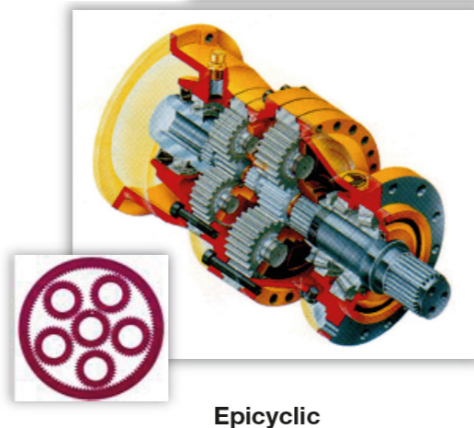
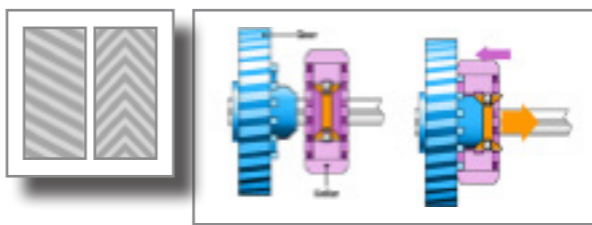
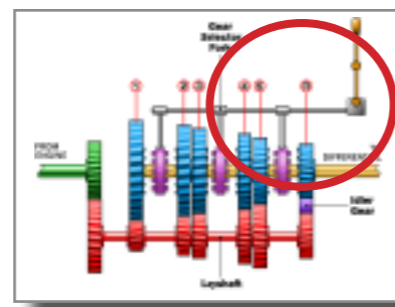
#### Manual Transmissions

The manual gearbox consists of a series of constantly engaged, helical gears. The gears themselves do not move but instead are engaged by the movement of a special gearing system called synchromesh. When you put your foot on the clutch and move the gear stick into the next gear you are actually moving the synchronisers and not the gears themselves.

The synchroniser is entirely dependent on friction to do this job properly. If the frictional characteristics of the fluid you choose are not right then shifting performance can be radically lowered or, worse, you might find that you are unable to engage any gears at all.

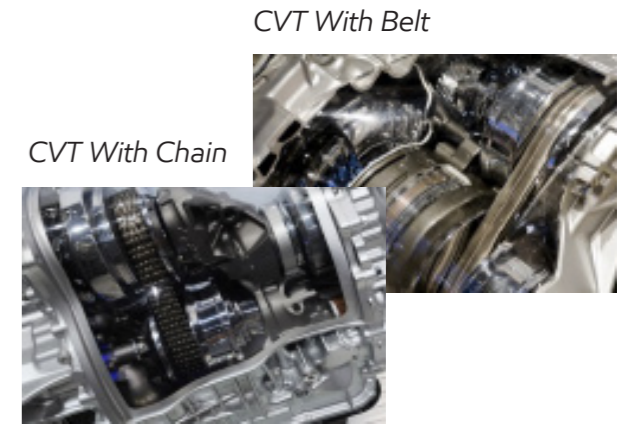
#### Conventional Automatic transmissions

The conventional automatic gearbox is significantly more complicated and is based around epicyclic gearsets and instead of a mechanical clutch, automatic gearboxes require the use of what's called a torque converter. In order for a gearbox to be automatic it needs to have a complex hydraulic control system which places another set of demands on the lubricating oil. As if that wasn't complicated enough, automatic transmissions use brake bands and clutch plates for different gears. If the frictional characteristics of the fluid aren't right then these systems cannot engage. Generally speaking if you are going to have a problem caused by a transmission fluid then you are likely to notice it immediately as you won't be able to get the vehicle off the ramp.



#### CVT (Continuously Variable Transmissions)

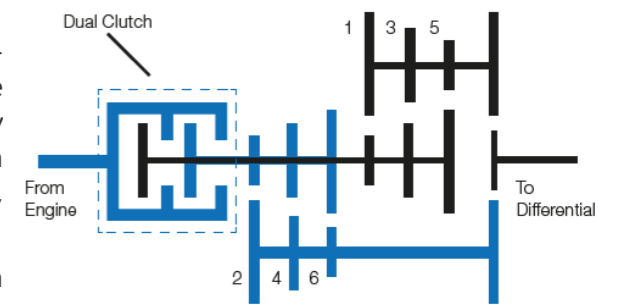
In a CVT, conventional gears are replaced by two variable size drums and a drive belt or chain. The belt or chain runs in a groove formed between the sides of each drum. The diameter of each drum is controlled by the transmission computer through the action of hydraulic cylinders, applying or reducing oil pressure to the movable part of each drum. The efficiency and durability of the pulley system used in CVTs depends on the system's friction performance. Also, some of these transmission systems do not use a conventional clutch but instead use a torque converter, just like the conventional automatic.



#### DCT (Dual Clutch Transmissions)

A dual-clutch transmission or DCT is a type of semi-automatic automotive transmission. It uses two separate clutches for odd and even gear sets. It can fundamentally be described as two separate manual transmissions (with their respective clutches) contained within one housing, and working as one unit.

There are two fundamental types of clutches utilised in dual-clutch transmissions: either two wet multi-plate clutches which are bathed in oil, or two dry single-plate clutches. In terms of lubrication, the "dry" conventional type requires conventional manual gearbox oil, however, the "wet" type has some extra requirements for oil so that the oil does not influence the friction characteristics of the clutch which can cause the clutch to slip and ultimately to not work at all.



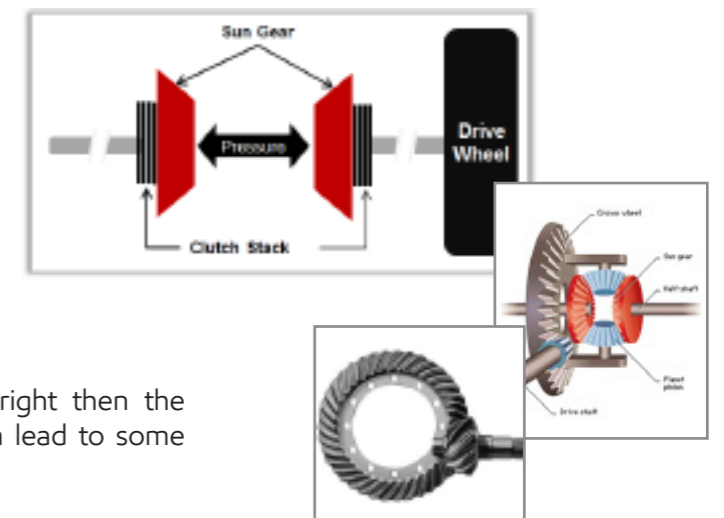
**"Wet" Clutch**  
Special Requirements

**"Dry" Clutch**  
Manual Transmission Oils

#### Differentials

Friction is also a consideration for certain types of differential, specifically limited slip differentials. A fixed differential requires only lubrication – there are no components that depend on friction for correct operation. However, the limited slip differential has clutch plates that connect the sun gears, the red ones in the diagram, to the drive shafts which, under certain torque conditions, allow a degree of slip between the drive wheels driveshaft to improve handling.

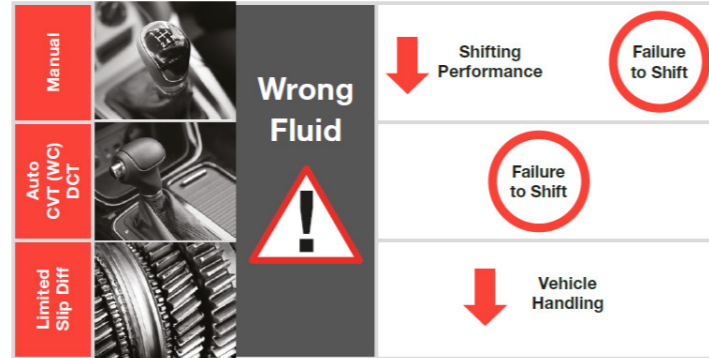
If the frictional characteristics of the fluid aren't right then the clutch plates do not behave as intended which can lead to some unpredictable effects on the handling of the vehicle.



## Mobil™ Ancillaries Manual Gear Oils

### What happens if the wrong fluid is used?

Not using the right product can cause serious performance issues and even render the vehicle undrivable as different gearboxes and differentials have different lubrication requirements. Remember, gear oils come with industry/multiplier's specifications and not using a product that meets the requirements can void warranties.



### How to get it right?

Use our online product finder at CommaOil.com to find the right Gear & Transmission oil recommendation for a vehicle and it's covered. We stand behind all our industry-leading application data with a written Compatibility Guarantee.

Quite simply, our Guarantee gives Motor factors and technicians - especially those servicing in-warranty vehicles under EU Block Exemption provisions - complete confidence to use Comma's application data to specify the correct oil for passenger car and LCV applications dating back more than 30 years. It also covers engine oil, brake fluid, antifreeze & coolant and power steering fluid recommendations.



### FAQs

**Q. Why is there no gear & transmission oil recommended for some vehicles?**

A. Comma's range of gear and transmission oils cover a large part of the UK vehicle parc, however transmission oils can be very complex and sophisticated and are sometimes developed along with the transmission manufacturer; therefore the specification or viscosity is very specialised, so in some cases we cannot always recommend a product, however you can contact our Technical support helpline on +44 (0) 1474 546 318 for additional advice.

**Q. Can I use a gear & transmission oil with the specification API GL-5 instead of API GL-4?**

A. Usually when vehicle manufacturers recommend a GL-4 gear oil, this is what should be used. We would not suggest the use of a GL-5 version in these cases. It may cause difficulty in changing gear or in some extreme cases can lead to not being able to change gear at all. Some vehicle manufacturers will allow for both specifications to be used, however, generally GL-4 products are used in gearboxes and GL-5 in differentials.

**Q. Why do some vehicles list an engine oil as the transmission oil recommendation?**

A. This is due to what the vehicle manufacturer has specified as the most suitable specification. Its typically more common in older vehicles where an API S or C as a xW-30/xW-40 grade was required.

**Q. Why do some vehicles list an automatic transmission oil for a manual transmission and vice versa?**

A. This is again due to what the vehicle manufacturer has specified as the most suitable specification. This is usually only seen in a small number of cases where the automatic or semi-automatic transmission is based on the manual version.

### MOBIL™ 75W MULTI-VEHICLE



Mobil™ 75W Multi Vehicle is a manual gear oil fluid with excellent bearing and gear protection and proven synchroniser performance in a variety of BMW, Ford, Land Rover & VAG group applications and generally where a 75W, API GL-4 oil is specified.

Size	Package	Product Code
1 l	12	765442

**Recommended for:**

**BMW:** MTF LT-3; **Ford:** WSS-M2C200-D2; **General Motors:** GM 19259104 (BOT 303); **Volkswagen:** VW G 052 178, VW G 060 726, VW G 052 171, VW G 052 726, VW G 052 512, VW G 070 726 A2, VW G 052 527 A2, VW G 055 512; **BOT** 350 M3.

### MOBIL™ 75W-80 MULTI-VEHICLE



Mobil™ 75W-80 Multi Vehicle provides excellent bearing and gear protection as well as proven synchroniser performance in a variety of BMW, Vauxhall/Opel, Mini, Land Rover, Honda, Volvo and MG applications and generally where a 75W-80, API GL-4 oil is specified.

Size	Package	Product Code
1 l	12	765443

**Recommended for:**

**BMW:** MTF LT-2; **Ford:** M2C 186-A; **General Motors:** GM 1940768; MTF 94; **Nissan:** MT-XZ TL (JR Type), MT-XZ; **Special Honda** MTF, MTF II, MTF-III; **Tranself** TRX, NFP, TRP, TRZ; **Volvo** 97308; **API** GL-4

### MOBIL™ EP 75W-80 MULTI-VEHICLE



Mobil™ EP 75W-80 Multi Vehicle is an enhanced mineral gear oil formulated from selected high-quality base oils combined with an advanced additive system. It is recommended for a variety of Citroën, Peugeot, Renault, Nissan & Mazda applications and generally where a 75W-80, API GL-4 oil is specified.

Size	Package	Product Code
1 l	12	765441

**Recommended for:**

**EZL** 848; **Renault Tranself** TRJ, TRT; **API** GL-4

### MOBIL™ 75W-90 MULTI-VEHICLE



Mobil™ 75W-90 Multi Vehicle provides excellent bearing and gear protection as well as proven synchroniser performance in a variety of Ford, Vauxhall, Mazda, Volvo, & VAG Group applications and generally where a 75W-90, API GL-4 oil is specified.


Size	Package	Product Code
1 l	12	765444

**Recommended for:**

**BMW:** MTF LT-4; **Ford:** WSD-M2C200-C, WSD-M2C200-B; **General Motors:** GM 1940768, GM 1940182, GM 1940764; **Volvo** 97309; **Volkswagen** G 50; **API** GL-4 synthetic



Here at Moove we have a team of experienced sales and technical staff that have been trained to meet the highest standards of product knowledge and customer service.

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