

Engine

Service Engineering

This Service Information bulletins supersedes S.I. 11 04 00 **dated September 2000.**

## **SUBJECT            Engine Oil Level Check**

**MODEL**            E39 M5 with S62 engine  
 E52 Z8 with S62 engine  
 E36 M roadster, M coupe with S52 and S54 engines  
 E46 M3 with S54 engine

**SITUATION**      General Information:

The race bred engines incorporated in BMW M vehicles include increased power output and maximum engine speeds compared to conventional BMW engines.

Due to their high performance design characteristics all M engines may exhibit slightly higher oil consumption compared to conventional BMW engines.

A spirited driving style (especially during the critical engine break in period) will lead to further increased engine oil consumption.

BMW recommends checking the oil level and if necessary topping up using the correct viscosity whenever refueling is required to maintain the value of your BMW throughout its service life.

### **Engine Oil Recommendations / Engine Oil Level Checking Procedure**

#### **8 Cylinder Engine (S62)**

Engine Oil Recommendation:

M5 produced up to 3/00:

Castrol Formula RS SAE 10W-60 or

Castrol TWS Motorsport SAE 10W-60

Synthetic Oil

BMW Part Number: 07 51 0 009 420

M5 produced from 3/00, Z8 all:

BMW High Performance Synthetic Oil

SAE 5W-30

BMW Part Number: 07 51 0 017 866

#### **6 Cylinder Engines (S52, S54)**

Engine Oil Recommendation:

S52:

BMW High Performance Mineral Base Oil

SAE 15W-40\*

BMW Part Number: 07 51 0 017 868

or

BMW High Performance Synthetic Oil SAE 5W-30

BMW Part Number: 07 51 0 017 866

S54:

**Note:** For logistical reasons Castrol Formula RS SAE 10W-60 Synthetic Oil has been renamed and is now called Castrol TWS Motorsport SAE 10W-60 Synthetic Oil. Since the formulation has remained the same it is sold under the same BMW part number (07 51 0 009 420).

**Engine Oil Level Check Procedure:**

- | <b>S62</b>  | <b>S52, S54</b>   |
|---|---|
| 1. the engine must be at operating temperature                    | 1. the engine must be at operating temperatur                     |
| 2. let the engine idle for at least 15 seconds                    | 2. turn the engine off  |
| 3. turn the engine off  | 3. wait at least 1 minute for the oil to drain down into the sump |
| 4. wait at least 1 minute for the oil to drain down into the sump | 4. check the level using the dipstick**                           |
| 5. check the level using the dipstick**                           |   |

**Notes:**

All vehicles must always be parked on a flat surface when checking the engine oil level, it is recommended to always check the level whenever refueling is required.

This will ensure that the proper oil level is maintained throughout the life of the vehicle and during the critical engine break-in period (approximately 5000 miles) when the engine may have a tendency to consume slightly more oil.

\*For reliable engine performance in all temperature ranges mineral based engine oil viscosity must be matched to the temperature range at which the vehicle will be operated. Check the temperature viscosity chart in the Owners Manual or Operating Fluids Manual for further information.

\*\* The space between the two marks on the dipstick corresponds to approximately 1.1 US quarts (1 liter). Do not fill beyond the upper mark on the dipstick. Excess oil will damage the engine.

M5 produced up to 3/00:

**Only if a customer needs to top up oil** between oil changes and Castrol Formula RS SAE 10W-60 or Castrol TWS Motorsport SAE 10W-60 Synthetic Oil is not available is it permissible to use synthetic engine oils with a lower viscosity which conform to the API classification SH or higher.

Engine oil consumption will increase when Castrol Formula RS 10W-60 Synthetic Oil or Castrol TWS Motorsport SAE 10W-60 Synthetic Oil is diluted (topped up with other low viscosity synthetic engine oils).

Other causes for oil consumption may be a spirited driving style during the vehicle break-in period

which does not conform to the owners manual and on the sticker located in the upper left hand corner of the windshield (Example: "Up to 1200 miles / 2000 kilometers no full throttle, Max. engine speed: 5500rpm, Max. speed 106m/h - 170km/h",etc.).

As with fuel economy, engine oil consumption is directly influenced by driving style and vehicle operating conditions.

The BMW M Engine Oil Information brochure (see attached illustrations) is included in all BMW M vehicles and will give the customer quick reference information regarding engine oil recommendations and checking procedures.

Due to the new oil recommendations for the S54 engine the new M Engine Oil Information brochure (print date 6/01, see illustration below) supersedes the earlier version brochure (with out a print date).

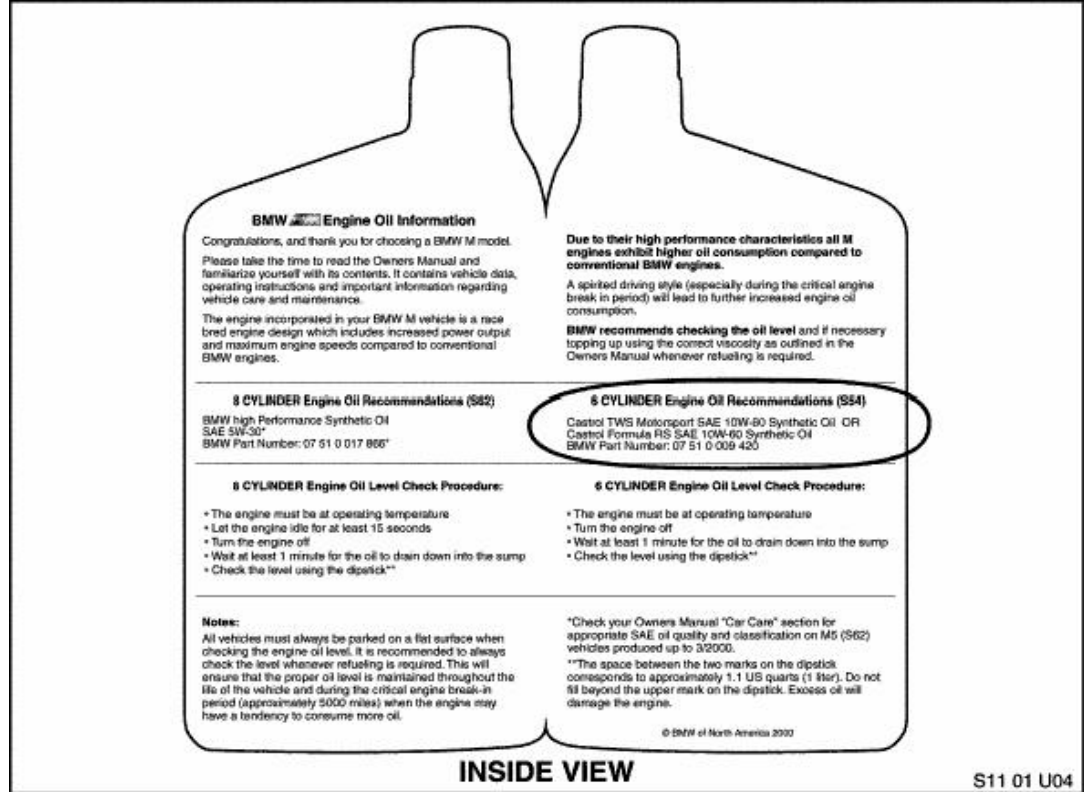
Additional brochures are available under part number SD92-116 and can be ordered from Product Engineering (a pre-printed order form is attached).

## WARRANTY INFORMATION

Information only.



Note: New print dat - 6/01



Note: All S54 Engines now use Castrol Formula RS SAE 10W-60 or Castrol TWS Motorsport SAE 10W-60 Synthetic Oil.