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**BMW 3-Series 320i & 320xi (12-14), 325i, 325xi, 330i & 330xi (06) & 328i & 328xi (07-14) Haynes Online Manual**

## Specifications

### Recommended lubricants and fluids

#### Note:

Listed here are manufacturer recommendations at the time this manual was written. Manufacturers occasionally upgrade their fluid and lubricant specifications, so check with your local auto parts store for current recommendations.

#### Engine oil

Type API rating SM, BMW synthetic

Viscosity SAE 5W-30 or 5W-40

Fuel Unleaded gasoline, 91 octane

#### Automatic transmission fluid

328i and 328xi models DEXRON VI automatic transmission fluid

325i, 325xi, 330i and 330xi models Shell M1375 automatic transmission fluid

8-speed models (GA8HP45Z, GA8HP70Z, GA8HP90Z, GA8P70H, GA8P75H) ATF-3, ATF-3+ or Shell oil L12108\*\*\*

#### Manual transmission lubricant\*

GS6-17BG MTF-LT-3, BMW #83227533818 "lifetime" fluid

GS6X-37BZ and GS6-53DZ (to 03/2007) MTF-LT-2, BMW #83220309031 "lifetime" fluid

Transfer case lubricant (AWD models) BMW part number 83220397244

Front differential lubricant (AWD models) SAF-XO synthetic lubricant

Rear differential lubricant SAF-XO synthetic lubricant

Brake (and clutch) fluid DOT 4 brake fluid or DOT 4 low-viscosity brake fluid

Engine coolant 50/50 mix of demineralized water and long-life, phosphate-free, nitrate-free and amino-free ethylene glycol antifreeze\*\*

Power steering system ATF or CHF, as marked on reservoir cap

\* Models requiring MTF-LT-2 fluid will have a yellow or green label next to the filler plug, while a blue label indicates MTF-LT-3 is required.

**\*\* Caution:** *Do not mix coolants of different colors. Doing so might damage the cooling system and/or the engine. The manufacturer specifies either a green colored coolant or a yellow colored coolant to be used in these systems, depending on what was originally installed in the vehicle.*

**\*\*\*** *8-speed models are filled with ATF-3 lifetime fluid, in the event fluid must be added or replaced, only Shell oil L12108 ATF can be mixed with the ATF-3. Do not mix ATF-3 with ATF-3+ or any other type of fluids*

## Capacities\*

### Engine oil (including filter)

2.0L engine	5.3 qts (5.0 liters)
3.0L engine	6.9 qts (6.5 liters)

### Coolant

#### Manual transmission models

E90, E91, E92 and E93 chassis	2.17 gallons (8.2 liters)
F30 chassis	
328i and 328i xDrive	1.84 gallons (7.0 liters)
320i and 320i xDrive	1.76 gallons (6.7 liters)

#### F31 chassis

320i	2.17 gallons (8.2 liters)
320i xDrive, 328i and 328i xDrive	1.82 gallons (6.9 liters)

#### F34 chassis

320i, 320i xDrive	1.87 gallons (7.1 liters)
328i	1.90 gallons (7.2 liters)

#### Automatic transmission models

E90, E91, E92 and E93 chassis	2.23 gallons (8.4 liters)
F30 chassis	
328i, 328i xDrive, 320i and 320i xDrive	2.00 gallons (7.6 liters)

#### F31 chassis

320i	2.40 gallons (9.1 liters)
320i xDrive, 328i and 328i xDrive	2.00 gallons (7.6 liters)

#### F34 chassis

320i, 320i xDrive	2.03 gallons (7.7 liters)
328i	1.98 gallons (7.5 liters)
328i xDrive	2.00 gallons (7.6 liters)

### Automatic transmission models (dry-fill)

6 speed models	Up to 10.0 qts (9.5 liters)
8 speed models	Up to 9.3 qts (8.8 liters)

**Note:**

Since this is a dry-fill specification, the amount required during a routine fluid change will be substantially less. The best way to determine the amount of fluid to add during a routine fluid change is to measure the amount drained. Begin the refill procedure by initially adding 1/3rd of the amount drained. Then, with the engine running, add 1/2-pint at a time (cycling the shifter through each gear position between additions) until the level is correct on the dipstick (if equipped). It is important to not overfill the transmission (see [Chapter 7B](#) for more on checking fluid level and temperature).

**Manual transmission (fluid change)**

ZF GS6-17BG/DG	1.4 qts (1.3 liters)
ZF GS6-37BZ	1.6 qts (2.2 liters)
Transfer case (AWD models)	0.55 qts (0.52 liters)
Front differential (AWD models)	0.63 qts (0.6 liters)
Rear differential	1.05 qts (1.0 liters)

\*All capacities approximate. Add as necessary to bring up to appropriate level.

## Ignition system

**Spark plug type**

2.0L engine	Bosch 8165
3.0L engine	Bosch FR7NPP332

**Spark plug gap**

2.0L engine	0.035 inch**
3.0L engine	0.040 inch

**Engine firing order**

2.0L engine	1-3-4-2
3.0L engine	1-5-3-6-2-4

\*\* Gap is preset from the factory. Do not adjust.

## Brakes

Disc brake pad lining thickness (minimum)	3/32 inch (2.4 mm)
Parking brake initial adjustment	8 to 9 clicks
Parking brake final adjustment	See <a href="#">Chapter 9</a>

Ft-lbs (unless otherwise indicated)    Nm

## Torque specifications

**Note:**

One foot-pound (ft-lb) of torque is equivalent to 12 inch-pounds (in-lbs) of torque. Torque values below approximately 15 foot-pounds are expressed in inch-pounds, because most foot-pound torque wrenches are not accurate at these smaller values.

**Engine oil drain plug\*\*\*****2.0L engine**

With all-wheel drive	18.5	25
Without all-wheel drive	72 in-lbs	8

3.0L engine	18.5	25
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**Automatic transmission drain plug**

With metal fluid pan	106 in-lbs	12
With plastic fluid pan	71 in-lbs	8

**Manual transmission drain plug**

GS6-17 transmission	33	45
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**GS6-37 transmission**

M12 bolt	18.5	25
M18 bolt	26	35

Front differential drain/fill plug (AWD)	44	60
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Rear differential check/fill plug	44	60
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**Spark plugs****2.0L engine**

M12 x 1.25 thread	17	23
M14 x 1.25 thread	22	30

3.0L engine	18.5	25
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**Drivebelt tensioner bolt(s)**

2.0L engine	168 in-lbs	19
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**3.0L engine**

Step 1	18.5	25
Step 2	Tighten an additional 90 degrees	

**Wheel bolts**

E90, E91, E92 and E93 chassis	88.5	120
F30, F31 and F34 chassis	103	140

\*\*\* Always replace the plastic drain plug and sealing washers on non-plastic plugs