

Reference Manual



F22 COMPLETE VEHICLE



Technical Training

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BMW Technical Training

F22 Complete Vehicle



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F22 Complete Vehicle

Model: 228i, M235i

Production: From 11/2013

OBJECTIVES

After completion of this module you will be able to:

- Describe the features of the F22
- Identify the two model variations available

Introduction



BMW of North America is pleased to announce the all NEW MY2014 BMW 2 Series Coupe.

The 2 Series Coupe will start production in November 2013, with retail launch planned for early 2014.

The BMW 2 Series Coupe builds on the brand's tradition of compact models offering an outstanding degree of driver engagement. The presence of the number "2" in the model designation creates a close link to this heritage. The introduction of the BMW 2002 in 1968, for instance, opened up a whole new vehicle segment. Inspired most profoundly by its precisely tailored package of powertrain and chassis technology, the two-door Coupe became a global standard for sporty handling and intense driving pleasure in the sub-compact car segment.

The 2 Series Coupe features many EfficientDynamics measures and technologies to reduce fuel consumption while enhancing driving performance, handling, and aerodynamics.

Measures include:

- Auto Start/Stop system
- Optimized aerodynamics with Air Curtains in the front bumper
- Electric Power Steering
- Optimum Shift Indicator
- Intelligent lightweight construction
(132 lbs lighter than the E82 despite increased dimensions)
- Brake Energy Regeneration
- ECO PRO mode with intelligent energy and climate management

Models

The 2 Series will be offered with two powerful TwinPower Turbo engines and both are available with 8-Speed Sport Automatic or a 6-speed manual transmission to match its expected sporty character. The following models will be offered:

- 228i (8-Speed)
- 228i (Manual)
- M235i (8-Speed)
- M235i (Manual)

M Performance Automobile

As a World Premiere in the 2 Series Coupe, the M235i will be the first BMW featuring a "M Performance Automobile (MPA)" Model in its line-up. Designed for enthusiast, the M235i is destined to set new standards in the segment. MPA is taking the well-known "is" Model-designation to the next level.

Designed and refined by BMW's M Division this model features the following as standard equipment:

- M Performance 3.0 liter inline 6-cylinder TwinPower Turbo with unique 320 hp and 330 lb-ft of torque
- 18" M Light Alloy wheels with Michelin Pilot Super Sport performance tires (A/S as no cost option)
- Adaptive M Sport Suspension (Specifically enhanced and tuned for the M235i)
- Variable Sport Steering (Specifically enhanced and tuned for the M235i)
- Sport Automatic Transmission with Shifting Paddles (MT at no cost option)
- M Performance Exhaust system
- Dual Exhaust Pipes
- M Sport Brakes with blue calipers (4-piston fixed calipers front / 2-piston fixed calipers rear)
- Launch Control
- M Steering Wheel
- M Aerodynamic Package
- Rear Spoiler



Standard Equipment

The 2 Series Coupe comes with significant improvements to its standard equipment profile compared to the outgoing 1 Series Coupe.

Comfort and convenience are greatly improved thanks to the following new standard features:

- 8-speed Sport automatic transmission with paddle shifters
- 17" light alloy wheels on 228i / 18" light alloy wheels on M235i
- 6.5" central display with iDrive Controller
- 60:40 split folding rear seats
- Power front seats with driver memory (M235i only)
- Moonroof (M235i only)
- Storage compartment package, including four 12V power outlets, a retaining net on the trunk floor and a strap to divide the luggage compartment
- BMW Assist eCall
- BMW TeleServices
- Comfort Go function
- Automatic trunk release
- Bottle holders in door pockets
- Storage compartment package, including 12V power outlets, nets on back of front seats, on trunk side panel and trunk floor, retaining strap and bag hooks in trunk, storage tray under trunk floor



Meanwhile, the 2 Series Coupe has retained the best technologies and comfort features of the previous generation Coupe, such as:

- Hands-free Bluetooth and USB audio connection
- Xenon adaptive headlights (M235i only)
- Dual-zone automatic air conditioning
- Dynamic cruise control
- HiFi system with 9 speakers and 205 W amplification power
- Leather upholstery on (M235i only)
- 3-spoke Sport leather steering wheel
- Rain sensor and automatic headlights
- Ambient lighting

Power front seats with memory M235 only



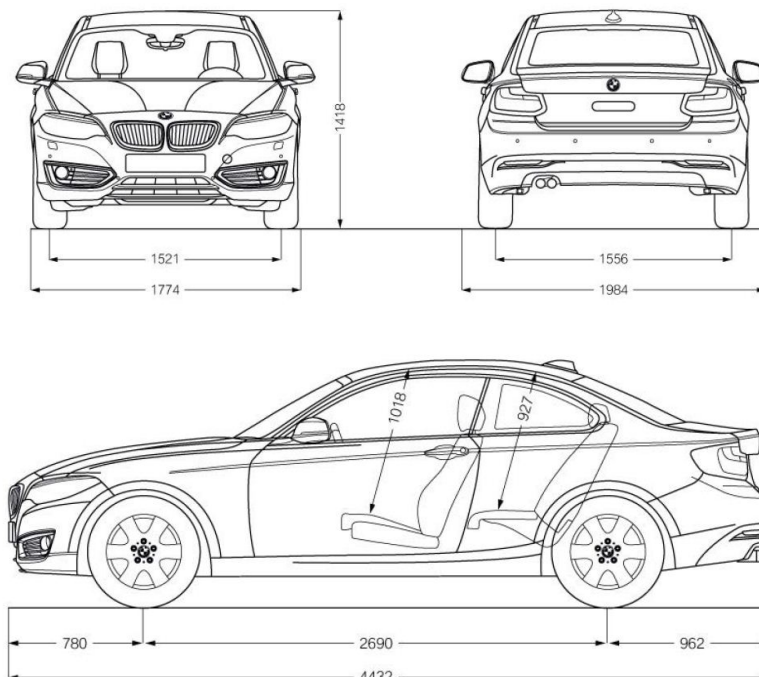
Exterior

Sporting presence, muscular agility and assured elegance come together in the exterior design of the BMW 2 Series Coupe. The car's more clearly distinguished design identity illustrates its progress in moving the game on from its predecessor. The BMW 2 Series Coupe embodies the Ultimate Driving Machine in more concentrated and intense form than ever before in the premium sub-compact segment.



Dimensions

Compared to the previous 1 Series Coupe, the 2 Series increased in every direction with one clear focus: taking dynamics to the next level. The 2 Series displays a significantly wider track (front +1.6" / rear +1.7"), increased wheel base (+1.3"), increased length (+2.8") and a sleeker roofline. Additional benefits of this new design are increased trunk volume (+0.7 cu.ft) and rear leg room (+0.8"). The curb weight was lowered by 4% (-132 lbs) and the center of gravity is close to the 4 Series Coupe which is with the lowest in the BMW line-up. Lastly the F22 only 3mm taller than the 4 series coupe.



Interior

Defining elements of its interior, meanwhile, include the driver-focused cockpit design you expect of a BMW and a light and contemporary brand of functionality. The cockpit design ensures maximum driving pleasure; premium ambience which can be enjoyed from all four seats.

Interior Dimensions

With a wheelbase stretched by 1.2 inches compared to the 1 Series, the 2 Series Coupe provides passengers with more space than ever.

Dimensions (front / rear):

- Head room (front / rear): 40.1in. / 36.5in.
- Leg room (front / rear): 41.5in. / 33in.
- Shoulder room (front / rear): 54.4in. / 53.4in.
- Trunk space: 10 cu-ft



Interior Features

Highlights include:

- Standard 6.5" iDrive screen, optional 8.8" and touchpad controller with Navigation system option
- Standard silver matte chrome highlight trim
- Standard 3-spoke Sport leather steering wheel with paddle shifters
- Highlight trim finishers extension into front and rear side panels
- Chrome finish around center console to highlight premium appeal

Seating

The 2 Series Coupe can be equipped with standard 8-way power front seats that include a 2-person driver's memory system (seat position and exterior mirrors).

The seat controls are located on the outer edge of the front seats, and adjustments include:

- Seat cushion forward/backward slide
- Backrest angle (recline)
- Seat height
- Seat cushion angle
- Head rest height (manual adjustment)
- Head rest tilt (manual adjustment)

Models equipped with Sport Line or M Sport also add the following adjustments:

- Manually adjustable thigh support
- Power adjustable backrest side bolsters

The standard 60:40 split fold-down rear seatback that can be lowered to provide added cargo space.

Sport seats



Lines

To underline the very sportive character of the vehicle, the BMW 2 Series Coupe is available with only one optional Line as well as M Sport to further enhance and personalize the design of the vehicle.

Also, Sport Line and M Sport are only available on the 228i. Since there is an extraordinary level of standard equipment on the M235i, it does not require any further enhancements lines.

The Sport Line further increases the visual dynamic impression of the car through use of black exterior design elements, and through striking contrasts on the inside. M Sport transforms the 2 Series Coupe into the perfect athlete with its aerodynamically optimized body kit and race inspired interior featuring typical enhancements such as an M steering wheel and sport seats.

To help you visualize the differences, see the images below.

Sport Line (ZSL)



M Sport Line (ZMM)



Standard (no line)



M Performance Automobile (M235i)



Options and Equipment Packages

The all-new 2 Series Coupe.

Options

The following features are available to order:

- Automatic transmission
- Power front seats with driver seat memory
- M Sport brakes
- Anti theft alarm
- Heated front seats
- Automatic high beams
- Navigation system
- Parking Assistant
- Concierge Services
- Harman Kardon surround sound system

Equipment Packages

Cold Weather Package (ZCW)

- Heated steering wheel
- Heated front seats
- Retractable headlight washers

Driver Assistance Package (ZDA)

- Rear view camera
- Park distance control

Driver Assistance Plus (ZDB)

- Active Driving Assistant
- Speed Limit Info

Dynamic Handling Package (ZDH)

- Adaptive M Suspension
- Variable sport steering
- M sport brakes

Lighting Package

- Xenon Headlights
- Adaptive light control

Premium Package

- Comfort Access keyless entry
- Universal garage door opener
- Moonroof
- Auto-dimming interior and exterior mirrors
- Lumbar Support
- Auto-dimming rearview mirror
- Power front seats with driver seat memory
- Ambiance lighting
- Satellite radio
- Dakota leather

Technology Package

- Navigation system w/touchpad
- BMW Online
- Advanced Real-Time Traffic Information
- Remote Services
- BMW Apps
- Enhanced USB and Bluetooth plus Smartphone Integration
- Instrument Cluster with Extended Contents

Performance and Dynamics

Engines

The BMW 2 Series Coupe is powered by two critically acclaimed TwinPower Turbo engines: a 2.0 liter, inline 4-cylinder engine (N20) and a 3.0 liter, inline 6-cylinder engine (N55). In keeping with BMW's principled EfficientDynamics strategy, both engines offer enhanced performance while also substantially reducing fuel consumption and emissions.

This is made possible by the use of some of the most advanced engine technologies, such as:

- A twin-scroll single turbocharger
- Valvetronic
- Double VANOS
- Direct-injection

In case of the M235i the regular inline 6-cylinder TwinPower Turbo engine was even further enhanced by BMW M Division. Specific enhancements in hardware (e.g. crankshaft) and software (e.g. dynamic mapping) contribute significantly to the outstanding performance of the M235i.

Engine specifications:

- N20 - 2.0l TwinPower Turbo 4-cylinder (240 hp / 255 lb-ft) 228i
- N26 - 2.0l TwinPower Turbo 4-cylinder (240 hp / 255 lb-ft) 228i SULEV
- N55 - 3.0l TwinPower Turbo 6-cylinder M Performance (320 hp / 330 lb-ft) M235i

Performance

The table below summarizes the key performance specifications for the 2 Series Coupe:

Model	Horsepower (hp)	Torque (lb-ft)	0-60mph (seconds)
228i (6-speed MT)	240	255	5.5 (-0.6 vs. E82)
228i (8-speed AT)	240	255	5.4 (-1.3 vs. E82)
M235i (6-speed MT)	320	330	4.9 (-0.2 vs. E82)
M235i (8-speed AT)	320	330	4.8 (-0.2 vs. E82)

Transmissions

All models come equipped with the Sport 8-speed STEPTRONIC automatic transmission with paddle shifters. Its wider spread of ratios from lowest to highest gear enhances acceleration and response across the range of driving speeds while its “taller” cruising gears make a significant contribution to reduced fuel consumption and carbon dioxide emissions, as well as quietness.

A 6-speed manual transmission is available on both models.

Automatic Transmission



Manual Transmission



Chassis and Suspensions

Precision chassis engineering has long been a hallmark of BMW design, and the 2 Series will set new standards in its segment for ride comfort coupled with unparalleled directional stability and dynamic handling. The car is based on the platform of the latest 3 Series Sedan, but our engineers went the extra length to ensure the 2 Series Coupe offers the driving experience that's expected of a BMW Coupe.

The 2 Series Coupe also has a longer wheelbase, wider tracks and lower ride height than the 1 Series Coupe it replaces. This allows the driver to fully exploit the dynamic potential of the new Coupe, to which a low center of gravity, a much wider track compared to its predecessor and ideal 50:50 weight distribution make key contributions.

Additionally, the 228i can be equipped with two optional suspension systems:

- M Sport suspension, with Sport Line or M Sport
- Adaptive M Suspension, part of the Dynamic Handling Package (ZDH)

Both optional suspension systems do lower the ride height of the 2 Series Coupe by 10 millimeters. The M235i is already equipped with this features in its standard configuration.

Steering

The 2 Series Coupe utilizes Electric Power Steering (EPS). This system uses an electric motor that is activated only when necessary. The consumption of energy is therefore reduced to zero when driving in a straight line or when maintaining a steady steering angle.

Also standard on the 2 Series is BMW's Servotronic variable assist steering system. It modulates the effort required to turn the steering wheel based on vehicle speed. Less effort is required at lower speeds to facilitate tight maneuvers (parking, U-turns, etc.) while the steering effort increases at higher speeds for more road feel and safety.

The 228i 2 Series Coupe can also receive an additional Variable Sport Steering system which reduces the steering wheel turns from lock to lock by 25%. This benefits comfort as it facilitates maneuvers in tight spots such as parking, yet it also contributes to greater sportiness as it requires less steering angle in evasive maneuvers. This feature is standard on the M235i.

Brakes

The 2 Series Coupe comes with two distinct braking systems:

The 228i models feature lightweight sliding calipers with large vented discs and Anti-Lock Braking capabilities at all four wheels.

The M235i Coupe features the M Sport brakes which feature:

- 4-piston fixed calipers front / 2-piston calipers rear
- Lightweight brake discs
- High-performance brake pads
- Blue-painted calipers with "M" designation

M Sport brake caliper

