



Repair Manual

BMW 8 Series – E 31

Edition 5/90

00 Maintenance and General Data

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00 Maintenance and General Data

BMW Maintenance System — US Version

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INTRODUCTION

This repair manual microfiche is to assist you in performing the necessary maintenance and repair work expertly and correctly. It must be placed at the disposal of shop foremen and mechanics, and will complement the practical and theoretical training offered by our service training centers.

Since 1985 models there are two types of repair manuals.

- Specific model repair manual
- Construction group repair manual

The construction group repair manual consists of Groups 11, 12, 13, 23, 24 and 33. It does not depend on pertinent models and contains repairing descriptions for removed equipment, tests and trouble-shooting tables.

Specific model repair manuals (3, 5, 6, 7 and 8 Series) consist of all groups. Descriptions for the construction groups mentioned above are chiefly in reference to removal and installation or replacement.

Specifications and adjusting values are shown on the technical data and nominal value microfiches.

Use of this repair manual is in reference to a standard production car free from accident damage and not subsequently modified in any way.

The group system has been taken from the flat rate manual.

The job numbers used in the text are meant for use as cross reference. They will frequently contain job procedures, which must not be used for extension of the flat rates. They are only provided to make the finding of repair procedures easier.

The individual page numbering, for example 64-11/8, means:

64 Main Group
11 Subgroup
8 Page Number

The special tools essential for correct repair work are summarized on the special tool microfiche, Order No. 01 99 9 699 422. Their use is illustrated in the descriptions of the various repair jobs.

The removal work is described for each repair job in this manual. If installation does not take place in the reverse order of work, an "Installation" note is provided.

In addition to the improvements supplied to you regularly in the form of "Service Information", you are recommended to consult the parts microfiches for additional illustrated data.

Workshop materials and operating fluids (cement, grease, etc.) can be ordered from Parts and Accessories Sales (HWB).

BAYERISCHE MOTOREN WERKE AG
TECHNICAL SERVICE DEPARTMENT

List of Main Groups

00	Maintenance and General Data	52	Seats
11	Engine	54	Hood, Sun Roof
12	Engine Electrical Equipment	61	Electrical System
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25	Gear Shift Mechanism	99	Paintwork
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36	Wheels and Tires		
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41	Body		
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GENERAL INFORMATION

Precautions for Working with Parts Containing Asbestos

The inhaling of fine asbestos dust could lead to impairment of health.

Safety Regulations for Working with Parts Containing Asbestos:

- Only work outdoors or in well ventilated rooms.
- Use hand-operated or slow-running machines whenever possible, with dust extractors if necessary! Only operate fast-running machines with dust extractors.
- Wet down parts prior to machining whenever possible.
- Do not clean brake and clutch parts by blowing off dust with compressed air.
- Wet down the dust, pack in a well-closed container and dispose without danger.
- Asbestos waste must be collected and eliminated in appropriately marked containers in a manner which is without danger for man and the environment.

0 - 3

GENERAL INFORMATION

Important When Disconnecting Battery!

Location: two batteries in trunk, one each behind left and right wheel housings. Disconnection will erase the fault memories of control units, so that fault memories must be read and, if applicable, faults printed first.

Always disconnect both ground leads to prevent short circuits!

Important After Reconnecting Battery!

Re-initiate front power windows: shut doors, raise windows with switches, hold switches pressed at least 3 seconds.

Re-initiate power sun roof: close sun roof with switch, hold switch pressed at least 3 seconds.

Checking Initiation: automatic tipping in closing direction must work. If not, repeat the procedures.

Important With Connected Battery!

Working on components, wire connections, etc. could cause faults in the fault memories of concerned control units.

If repairing instructions specify disconnection of the battery, this is absolutely necessary in the interest of safety.

Windshield Wipers (Wiper Motor)

Intermittent wiping and wipe speed 1 are switched off by an interlock in case of disturbance.

This interlock remains effective even after elimination of the fault.

Switch off the ignition (terminals 15 and R) for 3 minutes to cancel interlocking.

Instructions for Removal and Installation of Electronic Control Units

Important!

Disconnecting the car battery will erase fault memories of the control units.

Consequently always interrogate fault memories and, if applicable, print faults with the printer of a BMW SERVICE TESTER before disconnecting the car battery.

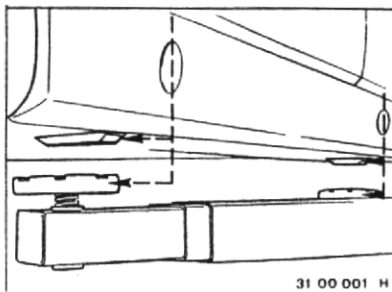
The ignition must always be switched off before control unit plugs are disconnected or connected.

Faults could be stored in the fault memories of control units with self diagnosis by removing and installing components, relays, fuses, etc.. Consequently always interrogate fault memories after working on the electric system. Investigate and erase stored faults.

GENERAL INFORMATION

LIFTING CAR WITH A CAR HOIST

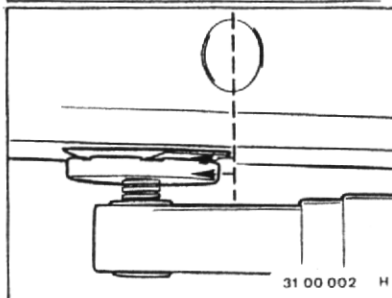
Before driving a car on the platform, make sure that there is sufficient space (clearance) between the hoist and car (if applicable, spoiler or splash guard, etc.).



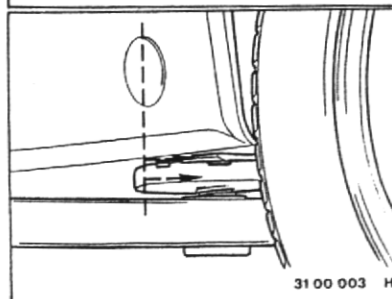
Car hoists must conform with local and national legislative measures concerning accident prevention and maintenance.

Arms of a car hoist must always be applied only on the reinforced points of the frame members.

Make sure that the underside is not damaged.



Front:
Apply rubber block of lifting arm on the front reinforcement of the frame member, below a cover for the supplied car's jack.

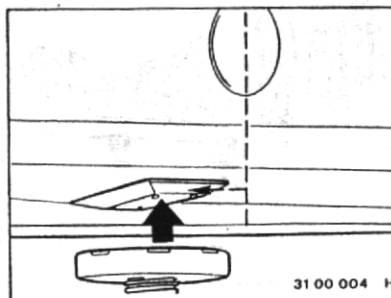


Rear:
Apply rubber block of lifting arm on the rear reinforcement of the frame member, below a cover for the supplied car's jack.

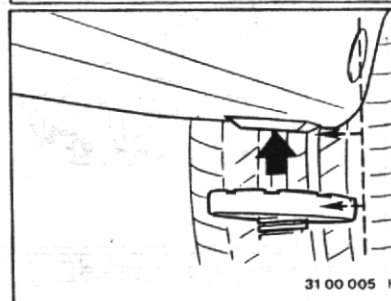
LIFTING CAR WITH A GARAGE JACK

A garage jack may also be only applied for lifting the car on the same take-up points described for the car hoist.

A suitable liner (rubber, wood or plastic) must be used between the jack and car to avoid damage to the undercoating, frame members or floor plate.



Front Take-up Point



Rear Take-up Point

Important!
Conform with safety precautions and top speed specifications when a car is "driven" on a car hoist or with the rear end jacked up. Also refer to Group 26.

TOWING

Always conform with local and national legislative measures concerning the towing of vehicles as applicable.

Turn the Ignition key to position "1" to unlock the steering wheel and be able to use the turn signals, horn and possibly windshield wipers.

Since the brake booster only works with the engine running, greater force will be required on the brake pedal of cars with a brake booster when the "engine is stopped".

The towing cable should be elastic to protect the towing and towed vehicles. Consequently only use plastic fiber cables or cables with elastic links.

Cars with Automatic Transmission:

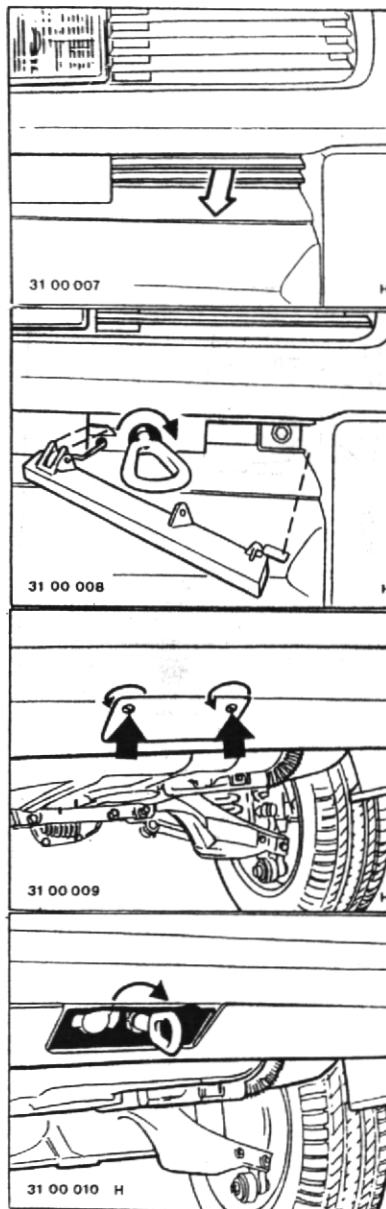
Selector lever in "N".

Max. towing speed:
50 km/h (30 mph).

Max. towing distance:
40 to 50 km (25 to 30 miles).

If the car has to be towed further than 50 km (30 miles) add an extra liter (2 pints) of ATF than the specified oil volume for automatics or remove the propeller shaft.

After repairing the car it is absolutely essential to correct the ATF volume to the specified amount.



Lift out front right grill.

Screw in front towing cable eye.

Open flap.

Screw in rear towing cable.

00-1

BMW MAINTENANCE SYSTEM 00 00 009 Pre-delivery inspection	General Information					Important Information!
	Repair Manual	Technical Data	Nominal Values	Operating Fluids	Owner's Manual	
Call faults in diagnosis system.						See operating instructions for BMW diagnosis system.
Check / correct engine oil level.				Gr. 11	+	Connect BMW Service Tester. Use approved oil.
Check fuel pipes, tank and hoses for correct routing, condition and leaks.						
Check/correct hydraulic fluid level in supply tank for brakes and clutch.				Gr. 34	+	Use approved brake fluid
Check connections and lines of brake system for leaks, correct location and damage.						Visual inspection
Check tightened torque of wheel bolts.		Gr. 36				
Check rim size, tire size and type as well as tire inflation pressure (including spare wheel).		Gr. 36		SI Gr. 36	+	

SI = Service Information

00-2

BMW MAINTENANCE SYSTEM

00 00 009 Pre-delivery inspection

General Information

Check / correct level and antifreeze concentration of washing fluid in supply tank for windshield and headlights.

Check / correct level in intensive cleaning fluid tank.

Check operation of windshield wipers/washer and aiming of spray nozzles; remove protective sleeves on wiper blades.

Check acid level and charge of battery underneath rear seat or in trunk, correcting with distilled water when necessary. Charge battery when necessary.

Check lights: headlights/front fog lamps, parking lights, stop lights, turn signals, tail lights, backup lights, rear fog lights, license plate lights, passenger compartment light, glove box light, engine compartment light and trunk light.

Check horns, headlight flasher and hazard warning lights.

Check instrument and sign lights.

Check control and warning lights in instrument cluster and Check Control (incl. ABS, Airbag).

Check heating, ventilating and blower.

Check operation of headlight cleaners and central locks.

Insert and check operation of cigar lighters.

Repair
ManualTechnical
DataNominal
ValuesOperating
FluidsOwner's
Manual

Important Information

+

+

SI Gr. 00

+

+

+

Gr. 64

+

SI = Service Information

00-3

BMW MAINTENANCE SYSTEM

00 00 009 Pre-delivery inspection

General Information

Repair
ManualTechnical
DataNominal
ValuesOperating
FluidsOwner's
Manual

Important Information!

Check operation of other special equipment.

Initialize sender of remote control system.

Check data plate, vehicle identification and engine numbers.

Compare ordered car equipment against delivered car equipment.

Tune in radio station and check shielding with engine running while switching all electric equipment on and off.

Place tools in toolbox and secure jack and wheel bolt wrench.

Paste label for BMW Emergency Service on lid of toolbox.

Place owner's manual/service booklet, list of BMW service stations and BMW emergency service stations, spare keys and key case in glove box.

Stamp and insert service booklet.

+

BMW MAINTENANCE SYSTEM

00 00 009 Pre-delivery inspection

General Information

Check operation of engine, clutch, transmission, final drive, steering, foot and hand operated brakes. Break in parking brake. Check function of control lamps for ABS and ASC.

Check function of speedometer with odometer and daily trip recorder, tachometer, clock, temperature and fuel gages.

Check engine, transmission, steering, final drive, dust covers on drive shafts, fuel, clutch and brake systems for leaks.

Remove seat and other protective covers.

Reset the service indicator.

Important!

The service indicator (SI) must be reset after completion of the pre-delivery inspection as follows.

Switch off all electrical equipment.

Turn on Ignition; do not run engine.

Plug SI-R* with adapter in diagnosis socket.

Push in and hold recessed, red INSPECTION button – green lamp (function control) comes on.

Red lamp also comes on after approx. 3 sec. and goes out after approx. 12 seconds.

Release inspection button – green lamp goes out.

Load and time memories are separated and resetting must be repeated to reset the time memory. The break before the 2nd inspection reset must be at least 10 seconds long, but may be up to 17.5 hours after the first reset.

Check Service Indicator (SI):

All five green diode lights must be on.

Yellow and possibly red diodes as well as INSPECTION sign should go out.

* SI-R = Service Indicator Resetter, Order No. 62 1 100.
Adapter, Order No. 62 1 140.

New SI-R, Order No. 62 1 110

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FluidsOwner's
Manual

Important Information!

BMW MAINTENANCE SYSTEM

00 00 210 BMW Running-in Inspection at 2,000 km (1,200 miles)

General Information

	Repair Manual	Technical Data	Nominal Values	Operating Fluids	Owner's Manual	Important Information!
Call faults in diagnosis system.						See operating instructions of BMW Service Tester.
Replace engine oil and oil filter at operating temperature.	Gr. 11	Gr. 11		Gr. 11	+	Use approved oil.
Replace oil in manual transmission at operating temperature.	Gr. 23	Gr. 23		Gr. 23	+	Use approved oil.
Replace oil in final drive at operating temperature.	Gr. 33	Gr. 33		Gr. 33	+	Use approved oil.
Final inspection with operating safety test, brakes, steering, control and warning lamps as well as check control reports.						

00-6

BMW MAINTENANCE SYSTEM

00 00 220 BMW Inspection I

Call faults in diagnosis system.

Replace engine oil and oil filter at operating temperature.

Replace spark plugs.

Check coolant hoses for leaks; check / correct coolant level and concentration.

Check condition and routing of fuel pipes, tank and hoses, and for leaks.

Check condition, routing and suspension of exhaust assembly, and for leaks.

General Information

Repair Manual	Technical Data	Nominal Values	Operating Fluids	Owner's Manual	Important Information!
Gr. 11	Gr. 11		Gr. 11		See operating instructions of BMW diagnosis system.
	Gr. 12				See operating instructions of BMW Service Tester.
			Gr. 17	+	Use approved oil.
Gr. 13/16					Replace coolant every 2 years at latest.

BMW MAINTENANCE SYSTEM

00 00 220 BMW Inspection I

General Information

	General Information					Important Information!
	Repair Manual	Technical Data	Nominal Values	Operating Fluids	Owner's Manual	
Check power steering for leaks; check / correct oil level.				Gr. 32		
Check / correct steering play. Check condition of tie rods and front axle joints. Check steering gear, steering linkage, joints and dust covers.						
Remove and install front and rear disc brake pads. Check total thickness. Replace pads when necessary. Check surface condition of brake discs. Check brake calliper dust covers for leaks. Lubricate centering pins of wheel rims with grease.	Gr. 34/36					Correct tightening torque for road wheels.
Check connections and lines of brake system for leaks (as well as damage) and correct location. Check movement of parking brake cables. Adjust parking brake.						
Check / correct hydraulic fluid level in supply tank for brakes and clutch.	Gr. 34			Gr. 34		Use approved brake fluid. <i>Important!</i> Replace brake fluid every 2 years.
Check/correct tire pressure (including spare wheel). Check condition of tires (in case of uneven wear and after receiving permission from customer, check and correct wheel alignment with separate invoicing).	Gr. 32			Gr. 36 SI	+	

SI = Service Information

BMW MAINTENANCE SYSTEM

00 00 220 BMW Inspection I

General Information

Check/correct level and antifreeze concentration in washing fluid tank for windshield and headlights. Check/correct level in intensive cleaning fluid tank.

Check windshield wipers/washer, wiper blades and aiming of spray nozzles.

Check lights: parking lights, turn signals, tail lights, stop lights; backup lights, rear fog lights, license plate lights, passenger compartment lights, glove box light, engine compartment light and trunk light.

Check headlights and front fog lamps.

Check horns, headlight flasher and hazard warning lights.

Check instrument and sign lights.

Check acid level in battery, correcting with distilled water if necessary.

Replace microfilter for heater or heater and air conditioner. Replace more frequently for cars driven in dusty regions.

Check condition and operation of seat belts.

Check locks of doors, engine hood and trunk lid.

Check entire body.

Check condition of body panels, doors, hood, trunk lid, bumper, fenders, wheel arches, and roof rails. Check for damage, rust, and paint condition.

Check condition of tires, wheels, and suspension components. Check for proper inflation, tread wear, and alignment.

Check condition of brakes, steering, and drivetrain components. Check for proper operation and wear.

Check condition of engine, oil, and coolant levels. Check for leaks and proper operation.

SI = Service Information

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Important Information!

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Gr. 64.

Gr. 72

See Service Information
of Group 00

00-9

BMW MAINTENANCE SYSTEM

00 00 220 BMW Inspection I

General Information

Check all transmissions for leaks.

Final inspection with operating safety test (check ABS and Airbag control lamps), rear disc brakes: break in parking brake, steering, clutch or automatic transmission, coil springs and shock absorbers in visual inspection; check operation of power steering.

Check control and warning lamps in instrument cluster as well as mirrors and heater blower.

Check reports from Check Control.

Important!

The Service Indicator (SI) must be reset as follows after completion of Inspection I.

Switch off all electrical equipment.

Turn on ignition – do not run engine.

Plug SI-R* with adapter in diagnosis socket.

Push in and hold recessed, red INSPECTION button – green lamp (function control) comes on.

Red lamp also comes on after approx. 3 sec. and goes out after approx. 12 seconds.

Release INSPECTION button – green lamp goes out.

A clock symbol lights up together with the INSPECTION sign to announce a time-dependent inspection interval and has no influence on the green diode lights. When load and time dependent inspections occur together, resetting must be repeated after 10 seconds to cancel the clock symbol and INSPECTION sign.

Checking Service Indicator (SI):

All five green diode lights must be on.

Yellow and possibly red diodes as well as INSPECTION sign should go out.

* SI-R = Service Indicator Resetter, Order No. 62 1 100.
Adapter, Order No. 62 1 140.

New SI-R, Order No. 62 1 110

SI = Service Information

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Important Information!

Gr. 34

+

Gr. 62 SI

Visual Inspection

00-10

BMW MAINTENANCE SYSTEM

00 00 230 BMW Inspection II = Inspection I + Additional Jobs

General Information

	Repair Manual	Technical Data	Nominal Values	Operating Fluids	Owner's Manual	Important Information!
Both intake air cleaners: replace air filter cartridges. Shorten intervals between replacement if car is operated in dusty regions. Clean both air intake manifolds.	Gr. 13					
Replace oil in manual or automatic transmission at operating temperature.	Gr. 23/24			Gr. 23/24		Use approved oil.
Replace oil in final drive at operating temperature.	Gr. 33			Gr. 33		Use approved oil.
Replace both fuel filters.	Gr. 13					
Check condition of dust covers on output shafts and for leaks.						Visual inspection.
Check thickness of parking brake liners, replacing if necessary.	Gr. 34	Gr. 34				
Replace filter element in feed of cars with automatic stability and traction control (ASC + T).	Gr. 34					

00-11

BMW MAINTENANCE SYSTEM

00 00 230 BMW Inspection II = Inspection I + Additional Jobs

General Information

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Important Information!

Check entire body.

See Service Information
of Group 00.*Important!*

The Service Indicator (SI) must be reset as follows after completion of Inspection II.
Switch off all electrical equipment.
Turn on Ignition – do not run engine.
Plug SI-R* with adapter in diagnosis socket.
Push in and hold recessed, red INSPECTION button – green lamp (function control) comes on.
Red lamp also comes on after approx. 3 sec. and goes out after approx. 12 seconds.
Release INSPECTION button – green lamp goes out.

A clock symbol lights up together with the INSPECTION sign to announce a time-dependent inspection interval and has no influence on the green diode lights. If load and time dependent inspections occur together, resetting must be repeated after 10 seconds to cancel the clock symbol and INSPECTION sign.

Checking Service Indicator (SI):

All five green diode lights must be on.
Yellow and possibly red diodes as well as INSPECTION sign should go out.

* SI-R = Service Indicator Resetter, Order No. 62 1 100.
Adapter, Order No. 62 1 140.

New SI-R, Order No. 62 1 110.

BMW MAINTENANCE SYSTEM

00 00 249 BMW Engine Oil Service

General Information

Replace engine oil and oil filter at operating temperature.

Important!

The Service Indicator (SI) must be reset as follows after completion of the oil service.

Switch off all electrical equipment.

Turn on Ignition – do not run engine.

Plug SI-R* with adapter in diagnosis socket.

Push in and hold yellow OIL SERVICE** button – green lamp (function control) comes on.

Yellow lamp also comes on after approx. 10 seconds and goes out after approx. 3 seconds.

Release OIL SERVICE button – green lamp goes out.

Checking Service Indicator (SI) After 10 Seconds:

All five green diode lights must come on.

Yellow (possibly red) diode light and OIL SERVICE sign must go out.

- * SI-R = Service Indicator Resetter, Order No. 62 1 100.
Adapter, Order No. 62 1 140.
Order number for new Service Indicator Resetter = 62 1 110

- ** *Caution!* Resetting with the wrong button cannot be corrected. Service intervals would be mixed up – also refer to BMW Technik Information of Group 62.

SI = Service Information

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Important Information!

Gr. 00

Gr. 62 SI

Use approved oil.

00-16

BMW MAINTENANCE SYSTEM	General Information					Important Information!
	Repair Manual	Technical Data	Nominal Values	Operating Fluids	Owner's Manual	
00 11 229 Oil change in manual transmission	Gr. 23			Gr. 23	+	Use approved oil.
00 11 239 Oil change in automatic transmission	Gr. 24			Gr. 24	+	Use approved oil.
00 11 259 Oil change in final drive				Gr. 33	+	Use approved oil.

BMW MAINTENANCE SYSTEM - USA

00 00 009 Pre-delivery inspection

Call faults in diagnosis system

Check engine oil level (check for dilution of lubricating oil), replacing oil and oil filter if necessary.

Check seal of filler cap.

Check coolant hoses for leaks and correct routing.

Check tightness of hose clamps.

Check coolant level and antifreeze protection, correcting if necessary.

Check battery acid level, adding distilled water if necessary. Check tightness of battery terminals.

Check spark plugs and replace or clean and adjust electrode gaps.

Check fuel lines, tank, tank cap and filter for tight fit and leaks. Check fuel injection parts for tight fit or leaks.

Check exhaust system for correct installation.

General Information

Repair Manual	Technical Data	Nominal Values	Service Information	Owner's Manual	Important Information!
			Gr. 00, 11*	+	See operating instructions of BMW diagnosis system.
					Use approved oil.
					Visual inspection.
			Gr. 00, 17*	+	Longterm antifreeze and corrosion inhibitor.
Gr. 12	Gr. 12				Visual inspection.
					Visual inspection.

* See Operating Fluid Specifications

BMW MAINTENANCE SYSTEM - USA

00 00 009 Pre-delivery Inspection

General Information

Repair Manual	Technical Data	Nominal Values	Service Information	Owner's Manual	Important Information!
Check nuts and bolts of steering gear, coupling, tie rods, front axle for tightness, or presence of cotter pins.	Gr. 32/34				Check locks and cotter pins.
Check power steering for leaks.					Visual inspection.
Check fluid level in tank for hydraulic brake and clutch systems.	Gr. 34		Gr. 00, 34*		Use approved brake fluid. Correct tightening torque.
Check connections and lines of brake system for leaks, damage or wrong routing.					Visual inspection.
Check tire condition, tire size and type as well as tire inflation pressure (also spare wheel).	Gr. 36		Gr. 36	+	
Check wheel bolts for specified tightening torque. Check for correct size and type of rims.	Gr. 36				
Check function of lights: parking lights, turn signals, tail lights, stop lights, high and low beam headlights, side marker lights, fog lights, backup lights, license plate lights, passenger compartment light and delay system, glove box light, trunk light and engine compartment light, sun visor mirror light, map reading lamps - front and rear.				+	
Check aiming of headlights (adjust if necessary).	Gr. 63			+	
Check function of horns, headlight flasher and hazard lights with control lamps.				+	
Adjust digital clock.				+	
Program on-board computer and check operation of lever and push button controls.					

* See Operating Fluid Specifications

00-22

BMW MAINTENANCE SYSTEM - USA

00 00 009 Pre-delivery inspection

	General Information					Important Information!
	Repair Manual	Technical Data	Nominal Values	Service Information	Owner's Manual	
Check instrument and sign lights, and brightness control.					+	
Check indicator and warning lamps, clock, buzzer and check control: alternator, oil pressure, coolant temperature, turn signal indicator, brake lining/level control, fog light indicator, oxygen sensor, seat belt lamps, ignition key warning buzzer, high beam indicator, fuel gage, ABS and SRS light, check control function, transmission range display.						
Fill supply tank for windshield washing system, check anti-freeze protection.				Gr. 00	+	Fill with antifreeze additive if necessary.
Fill intensive cleaning fluid supply tank.						
Check function of windshield wipe/wash system and aiming of spray jets, remove protective sleeves on wiper blades.					+	
Check intensive cleaning function.						
Check rear window defogger.						
Check function of cigar lighters.						
Check function of headlight cleaners.					+	
Radio: check antenna, trimming, tune in station, check shielding with engine running while switching all electric equipment on and off, check cassette tape player.	Gr. 65					
Check function of other special equipment, e.g.: electric windows front and rear, sun roof in all positions, fog lights and aiming, electric radio antenna and speaker balance control. Check other equipment installed by dealer.						
Check outside mirrors.						
Check operation of central locking system.					+	
Check seat adjustment manual / electric.						
Check seat belts.						

00-23

BMW MAINTENANCE SYSTEM - USA

00 00 009 Pre-delivery inspection

General Information

Repair Manual	Technical Data	Nominal Values	Service Information	Owner's Manual	Important Information!
Check data plate, chassis and engine numbers. Compare ordered car equipment against delivered car equipment. Place car tools in toolbox, secure jack and wheel bolt wrench. Mount label for BMW advice telephone number and annual brake fluid change. Place owner's manual, list of BMW service stations, spare keys and key case in glove box. Battery and accessory warranty cards. Radio operating manual (If equipped). Factory Invoice (Monroney Label). Tape unit cleaning cassette kit.					

00-24

BMW MAINTENANCE SYSTEM - USA

00 00 009 Pre-delivery inspection

General Information

Test drive:
check acceleration, coasting, brake system (before and during road test).

Check idle speed (RPM).

Check function of Motronic.

Check car for rattling and squeaking noise.

Check handling and wheel balance.

Check function of engine, clutch, transmission, rear axle, steering (wheel in straight ahead position), cars with rear disc brakes: break in parking brake.

Heater, fresh air ventilation / air conditioner.

Check function of all instruments.

Cruise control.

Gr. 34

+

Important Information!

Caution! Increased
braking effect on systems
with Politex brake linings.

00-25

BMW MAINTENANCE SYSTEM - USA

00 00 009 Pre-delivery Inspection

General Information

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Manual

Important Information!

After Test Drive:

Leak test on: engine, transmission, steering, final drive, dust covers on output shafts, fuel system, clutch and brake hydraulic systems and cooling system.

Check interior of car and clean.

Car cleaned and polished.
No damage on underside.
Car without scratches or damage.

Remove seat and protective covers.

Important!

The Service Indicator (SI) must be reset as follows after completion of the pre-delivery inspection.

Switch off all electrical equipment.

Turn on Ignition.

Do not run engine.

Plug SI-R* with adapter in diagnosis socket.

Push in and hold recessed, red INSPECTION button - green lamp (function control) comes on.

Red lamp also comes on after approx. 3 seconds and goes out after approx. 12 seconds.

Release INSPECTION button - green lamp goes out.

Check Service Indicator (SI):

All five green diode lights must be on.

Yellow and possibly red diode lights as well as INSPECTION sign should go out.

Visual Inspection.

Visual Inspection.

- * SI-R = Service Indicator Resetter, Order No. 62 1 100.
Adapter, Order No. 62 1 140.
New SI-R Order No. = 62 1 110

BMW MAINTENANCE SYSTEM – USA

00 00 210 1200 Mile Inspection

General Information

BMW MAINTENANCE SYSTEM - USA		Repair Manual	Technical Data	Nominal Values	Service Information	Owner's Manual	Important Information!
00 00 210	1200 Mile Inspection						
Call faults in diagnosis system.							
Replace engine oil and oil filter at operating temperature.		Gr. 11			Gr. 00, 11*	+	Use approved oil.
Check coolant hoses and connections as well as heater hoses for leaks; check coolant level and concentration, correcting if necessary.					Gr. 00, 17*	+	Longterm antifreeze and corrosion inhibitor.
Replace oil in manual transmission at operating temperature (not applicable to automatic transmissions).		Gr. 23			Gr. 00/23, Gr. 23*	+	Use approved oil.
Check ATF level in transmission, correcting if necessary.		Gr. 24			Gr. 00/24, Gr. 24*	+	Use approved ATF.
Check exhaust system and catalytic converter for correct installation, routing, damage or leaks.							Visual inspection.
Tighten nuts and bolts of running gear: steering, brake calipers and wheel bolts.			Gr. 32/33/34/36				Tightening torque; check self-locking nuts.
Check power steering for leaks and oil level, correcting if necessary.		Gr. 32					

* See Operating Fluid Specifications

- See Operating Fluid Specifications

00-27

BMW MAINTENANCE SYSTEM - USA

00 00 210 1200 Mile Inspection

General Information

Replace final drive oil at operating temperature.

Check fluid level in tank for brake and clutch hydraulic systems.

Replace filter element in feed and clean fine mesh filter in supply tank of cars with automatic stability and traction control (ASC + T).

Check tire inflation pressure, correcting if necessary (including spare wheel).

Fill supply tank for windshield washing system / check antifreeze protection.

Fill supply tank for intensive cleaning fluid if necessary.

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Important Information!

Gr. 34

Gr. 33

Gr. 00, 33*

Gr. 00, 34*

Gr. 36

Gr. 00

Use approved oil.

Use approved brake fluid.

* See Operating Fluid Specifications

00-28

BMW MAINTENANCE SYSTEM - USA

00 00 210 1200 Mile Inspection

General Information

Check function of following equipment:

Lights: headlights, parking lights, backup lights, license plate lights, interior lights and delay system, glove box light, map reading lights (front/rear), sun visor mirror light, engine compartment light and trunk light.

Aiming of headlights, adjusting if necessary.

Indicators: turn signals, hazard lights, stop lights, headlight flasher and headlight dimmerswitch.

Inspect check control panel operation.
ABS and SRS lights.

Check instrument lights, indicator lamps, windshield wiper/wash system and aiming of spray jets, heater and air conditioner blowers, rear window defogger.

Final inspection and test drive with check of fuel injection system and operational safety of:
brakes, steering, clutch or automatic transmission and mirrors, breaking in of parking brake.

Gr. 63

Gr. 34

+

+

Important Information!

Caution! Increased braking effect on systems with Politex brake linings. See 34 10 014 in Repair Manual for breaking in parking brake.

00-29

BMW MAINTENANCE SYSTEM – USA

General Information

00 00 220 BMW Inspection I

Call faults in diagnosis system.

Replace engine oil and oil filter at operating temperature.

Check fuel tank, tank cap, lines and connections for leaks.

Check cooling system and all connections as well as heater hoses for leaks; check coolant level and concentration, correcting if necessary.

Check condition, routing, suspension and leaks on exhaust assembly.

Replace automatic transmission fluid at operating temperature (only in Inspection I).

* See Operating Fluid Specifications

00 00 220 BMW Inspection I

Repair Manual	Technical Data	Nominal Values	Service Information	Owner's Manual
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Repair
Manual[illegible]

Owner's Manual

Important Information!

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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Gr. 23

Gr. 00, 23°

Use approved oil.

Gr. 32

Gr. 00, 32"

Gr. 31/34/36

**Tightening torque /
visual inspection of
self-locking nuts.**

Gr. 32

Gr. 00, 33*

Use approved oil.

Gr. 34

Gr. 34

Gr. 36

Gr. 34

Gr. 00. 34*

Use approved brake fluid.

Gr. 34

Gr. 00

Visual inspection.

- See Operating Fluid Specification

00-31

BMW MAINTENANCE SYSTEM - USA

00 00 220 BMW Inspection I

General Information

Check brake lines and connections for leaks, damage or distortion. Check movement of parking brake cables. Adjust parking brake.

Check tire inflation pressure, correcting if necessary (including spare wheel). Check trunk for gasoline odor.

Check condition of tires.

Tighten and check function of locks on doors, engine hood and trunk lid.

Check battery acid level, adding distilled water if necessary.

Check function of air conditioner and Freon charge.

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Important Information!

Gr. 34

Gr. 36

+

Gr. 64

BMW MAINTENANCE SYSTEM - USA

00 00 220 BMW Inspection I

Check function of following equipment:
 Lights: headlights, parking lights, license plate lights, backup lights, interior lights and delay system, glove box light, engine compartment light and trunk light.
 Indicators: turn signals, hazard lights, stop lights, horn, headlight flasher and dimmer switch. Check aiming of headlights, correcting if necessary. Test check control panel operation, ABS and SRS lights.

Fill supply tank for windshield washing system, check anti-freeze protection. Add intensive cleaning fluid if necessary.

Check function of windshield wipe/wash system and aiming of spray jets.

Check condition and function of seat belts.

Final inspection and test drive with check of operational safety: brakes, steering, clutch or automatic transmission and mirrors, break in parking brake.

Important!

The Service Indicator (SI) must be reset as follows after completion of Inspection I.
 Switch off all electrical equipment.
 Turn on Ignition - do not run engine.
 Plug SI-R* with adapter in diagnosis socket.
 Push in and hold recessed, red INSPECTION button - green lamp (function control) comes on.
 Red lamp also comes on after approx. 3 seconds and goes out after approx. 12 seconds.
 Release INSPECTION button - green lamp goes out.

Checking Service Indicator (SI):
 All five green diode lights must be on.
 Yellow and possibly red diodes as well as INSPECTION sign should go out.

* SI-R = Service Indicator Resetter, Order No. 62 1 100.
 Adapter, Order No. 62 1 140.
 New SI-R Order No. = 62 1 110

General Information

Repair Manual	Technical Data	Nominal Values	Service Information	Owner's Manual	Important Information!
Gr. 63			Gr. 00	+	
Gr. 34					Caution! Increased braking effect on systems with Poltix brake linings. See 34 10 014 in Repair Manual for breaking in parking brake.

00-33

BMW MAINTENANCE SYSTEM – USA

General information

00 00 230 BMW Inspection II = Inspection I + Additional Jobs

Replace spark plugs.

Both air cleaner: replace air filter cartridges. Replace filter cartridges more frequently when car is operated in dusty regions. Clean both air intake manifolds.

Replace both fuel filters.
Shorten intervals when contaminated fuel was used.

Check automatic transmission fluid level, correcting if necessary (only in Inspection II).

Replace oil in final drive at operating temperature.

Replace filter element in feed of cars with automatic stability and traction control (ASC + T).

* See Operating Fluid Specifications

00-34

BMW MAINTENANCE SYSTEM – USA

00 00 230 BMW Inspection II = Inspection I + Additional Jobs

General Information

Check condition of dust covers on output shafts.

Check parking brake liner thickness.

Gr. 34

Gr. 34

Important!

The Service Indicator (SI) must be reset as follows after completion of Inspection II.

Switch off all electrical equipment.

Turn on Ignition.

Do not run engine.

Plug SI-R* with adapter in diagnosis socket.

Push in and hold recessed, red INSPECTION button – green lamp (function control) comes on.

Red lamp also comes on after approx. 3 seconds and goes out after approx. 12 seconds.

Release INSPECTION button – green lamp goes out.

Checking Service Indicator (SI):

All five green diode lights must be on.

Yellow and possibly red diode lights as well as INSPECTION sign should go out.

Important Information!

Visual inspection.

- * SI-R = Service Indicator Resetter, Order No. 62 1 100.
Adapter, Order No. 62 1 140.
New SI-R Order No. = 62 1 110

00-35

BMW MAINTENANCE SYSTEM – USA

00 00 240 BMW Annual Check (at intervals of 11 to 13 Months)

General Information

BMW MAINTENANCE SYSTEM – USA					
00 00 240 BMW Annual Check (at Intervals of 11 to 13 Months)					
Repair Manual	Technical Data	Nominal Values	Service Information	Owner's Manual	Important Information!
Important! Replace brake fluid annually. Check operation of master cylinder and servo, and inspect for leaks. Check and adjust aiming of headlights and front fog lamps. Check steering: lock angle limits, threaded connections, power assistance. Important! Coolant must be drained completely and replaced every two years, check antifreeze protection (invoiced separately). Inspect body according to the terms of the BMW 6 year limited warranty for rust perforation. Reminder Only! Replace oxygen sensor every 50,000 miles.	Gr. 34		Gr. 00, 34*		Use approved brake fluid.
			Gr. 00, 17*	+	Use approved antifreeze additives. Register check or repairs in owner's manual.
	Gr. 11				

* See Operating Fluid Specifications

00-36

BMW MAINTENANCE SYSTEM - USA

00 00 249 BMW Engine Oil Service

General Information

Replace engine oil and oil filter at operating temperature.

Important!

The Service Indicator (SI) must be reset as follows after completion of the Oil Service.
 Switch off all electrical equipment.
 Turn on Ignition.
 Do not run engine.
 Plug SI-R* with adapter in diagnosis socket.
 Push in and hold yellow OIL SERVICE** button – green lamp (function control) comes on.
 Yellow lamp also comes on after approx. 10 seconds and goes out after approx. 3 seconds.
 Release OIL SERVICE button – green lamp goes out.

Checking Service Indicator (SI) After 10 Seconds:
 All five green diode lights must be on.
 Yellow (possibly red) diode light and OIL SERVICE sign must go out.

* SI-R = Service Indicator Resetter, Order No. 62 1 100.
 Adapter, Order No. 62 1 140.
 New SI-R Order No. = 62 1 110

** Caution/Resetting with wrong button can not be corrected.
 Service intervals would be mixed up – also refer to BMW Technik Information of Group 62.

*** See Operating Fluid Specifications

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Important Information!

Gr. 00, 11***

Use approved oil.

00-37

BMW MAINTENANCE SYSTEM - USA	General Information					Important Information!
	Repair Manual	Technical Data	Nominal Values	Service Information	Owner's Manual	
00 00 259 Additional Recommended Service (Invoiced Extra)						
Steering Test: Steering gear, linkage, coupling, connections, leaks, oil volume and condition of power steering.	Gr. 32			Gr. 00, 32*		Use approved oil.
Brake Test: Brake pads (remove and install wheels), brake discs, pipes, hoses, connections, brake fluid level and parking brake. <i>Important!</i> Replace brake fluid at least annually.	Gr. 34			Gr. 00, 34*		Use approved brake fluid.
Tire and Wheel Rim Test: Condition, tire inflation pressure and specified size (including spare wheel).		Gr. 36		Gr. 36		
Light Test: Headlights, front fog lamps (also aiming), parking lights, tail lights, backup lights, license plate lights, instrument and sign lights, glove box, engine compartment and trunk lights, indicator and warning lamps, check control panel operation of ABS and SRS control lights.	Gr. 63					
Warning Equipment Test: Horn, flasher, turn signals, hazard lights, stop lights.						
Wipers and Washer/Cleaners Test: Wiper blades, washer (windshield and, if applicable, headlights) tank (fluid level/antifreeze), spray jet aiming (windshield and, if applicable, headlights); if equipped, intensive cleaning fluid.				Gr. 00	+	
Seat Belt Test: Condition and function.	Gr. 72					
Clean cassette tape head capstan and pinch rollers every 50 to 100 hours of operation or earlier if quality of sound is impaired.						
Final inspection and test drive with operational safety test of: brakes, steering, clutch or automatic transmission and mirrors.						Caution! Increased braking effect on systems with Poltix brake linings.
Remarks: Repairs and adjustments are invoiced separately.						
* See Operating Fluid Specifications						