

Vehicle Technical Specifications

Vehicle: _____ BMW E46 M3 Class: GTS



Partial Eligibility **Models out of production 4+ years.**

A vehicle will be in FULL ELIGIBILITY for World Challenge competition from the time it is homologated, until the end of the 4th year after the body style goes out of production throughout the world, or until the vehicle is declassified by SCCA Pro Racing. Once a vehicle has passed out of FULL ELIGIBILITY, it will pass into PARTIAL ELIGIBILITY, and may continue to compete in no more than five (5) World Challenge races per year, with a single driver for three (3) additional years. Competitiveness of a vehicle in partial eligibility will not be guaranteed, and the VTS sheets will, generally, not be adjusted after it has passed out of FULL ELIGIBILITY.

Competitors needing additional information about rules and specification that is not listed should contact the World Challenge Technical Department.

SCCA Pro Technical Department

E-Mail: tech@sccapro.com

Phone: (785) 357-7223

Fax: (785) 233-7223

Packages: 6700 SW Topeka Blvd.
Building 300
Topeka, KS 66619

Vehicle Technical Specifications

Vehicle: _____ BMW E46 M3 Class: GTS



DRAFT VTS Approved / Not Approved for Racing

Vehicle Manufacturer: _____ BMW

Year and Model: _____ 2001-2006 E46 M3

This draft of the listed vehicle's VTS is posted with the specifications that we currently have for the vehicle. If a specification is highlighted in green, we are waiting to acquire that information from the manufacturer, or from certified documentation provided by the team(s). If a specification is highlighted in yellow, that specification is under review and may not be set until all blanks in the VTS sheet are completed. The specifications that are listed, and not highlighted, are considered to be a work in progress and may be changed without being posted by technical bulletin. Therefore, competitors may use the specifications listed to begin preparing their vehicles. The missing specifications will be added as they are received.

When a vehicle is in this draft form, it will be permitted to compete in any World Challenge competitions. Once the World Challenge Technical Staff has determined that this specific vehicle has demonstrated reasonable performance in relationship to other cars competing in the series and all specifications have been obtained, then this VTS sheet will be removed from DRAFT status and transformed into a final VTS. From that time forward, all changes to the VTS will be subject to VTS change request approvals.

Competitors needing a specification that is not listed should contact the World Challenge Technical Department to find out when that specification will be available and should not make assumptions as to what these specs might be unless otherwise directed to do so by the World Challenge Technical Department.

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Vehicle Manufacturer: _____ BMW

Year and Model: _____ 2001-2006 E46 M3

This specifications form was developed by SCCA Pro Racing and will be used by the TECHNICAL MANAGER to establish technical compliance for vehicles competing in the SCCA PRO RACING WORLD CHALLENGE series. The TECHNICAL MANAGER can also use, but is not limited to also using the following items to check compliance: Electronic Parts Catalog (EPC), Technical Information System (TIS), and the FIA/ASN Homologation forms (or equivalent documentation).

The specifications within this form include all modifications that have been approved by SCCA Pro Racing specifically for the vehicle model(s) and year(s) listed on this page. The parts, specifications and assemblies used shall be those for the unmodified stock vehicle, those permitted within the Pro Racing Regulations (PRR) and/or within this VTS. If the stock parts, specifications and/or assemblies exceed the performance potential of those approved with this form, then the parts, specifications and/or assemblies used shall meet those listed within this form.

Refer to SCCA PRR and Appendix A. for rules regarding all vehicle specifications not specifically listed within the VTS.

The most current rules can be downloaded from the official website: www.world-challenge.com and look under the "Competitors" section for the latest Technical Bulletins, Participant Bulletins, and Appendix A.

The Vehicle Technical Specification sheet is a permissive document. The exact configuration of any modification allowed within this VTS is subject to the approval of the TECHNICAL MANAGER.

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1. General Vehicle Description

1.A. Body Type:	2 door Coupe	1.B. Engine Location:	Front
1.C. Drive Wheels:	Rear	1.D. Wheelbase:	
1.E. Induction Type:	Naturally Aspirated	1.F. Competition Weight:	See Appendix A
1.G. Weight Distribution:	See Appendix A		

2. Engine

2.A.1. OEM Engine Designation:	3246cc (198 cu in)	2.A.3. Number of Cylinders:	6
2.A.2. Maximum Displacement:		2.A.5. Rev Limit Method:	
2.A.4. Rev Limit:	See Appendix A	2.A.7. Maximum Piston Stroke:	91.0mm
2.A.6. Max. Compression Ratio:		2.A.8.a. Percentage Restriction:	
2.A.8. Restrictors:	See Appendix A	2.A.8.b. Hole Diameter:	
2.A.9. Cylinder Firing Order:	1-5-3-6-2-4	2.A.10. Direction of Engine Rotation:	clockwise

2.B. Cylinder Block

2.B.1. Part Number:	11 11 7 831 917	2.B.3. Maximum Cylinder Bore:	87.0mm
2.B.2. Cylinder Block Material:	Cast iron		

2.C. Cylinder Head

2.C.1. Part Number:	11 12 7 834 244
2.C.2. Cylinder Head Material:	aluminum

2.D. Valve System

2.D.1. Number of Valves Per Cylinder:	2.D.1.a. Intake:	2	2.D.1.b. Exhaust:	2
2.D.2. Maximum Valve Head Diameter:	2.D.2.a. Intake:	35.0mm	2.D.2.b. Exhaust:	30.5mm

2.E. Intake Port Dimensions

2.E.1. At Intake Manifold Face	2.E.1.a. Height:	33.5mm	2.E.1.b. Width:	52.0mm
2.E.2. Intake Port Work Allowed:		2.E.2.a. Depth From Face:		

2.F. Exhaust Port Dimensions

2.F.1. At Exhaust Manifold Face:	2.F.1.a. Height:	41.5mm	2.F.1.b. Width:	41.5mm
2.F.2. Exhaust Port Work Allowed:	no	2.F.2.a. Depth From Face:		N/A

2.G. Piston and Connecting Rod

2.G.1. Connecting Rod Length:	2.G.1.a. Stock:	139.0mm	2.G.1.b. Approved:	
2.G.2. Reciprocating Assembly Mass:	2.G.2.a. Stock:	1137g	2.G.2.b. Minimum:	
2.G.3. Aftermarket Rods Allowed:	no	2.G.4. Aftermarket Pistons Allowed:		no

2.H. Camshaft

2.H.1. Part Number:	743238 BMW	or	2.H.2. SCCA Profile Number:	
2.H.3. Rocker Arm Ratio:	1.043:1	2.H.4. Valve Actuation:		Translating Follower
2.H.5. Type of Cam Follower:	Solid finger			

2.I. Crankshaft

2.I.1. Part Number:	New-11 21 0 301483	Remanufactured-11 21 0 301484	
2.I.2. Stock Mass:	22.0kg	2.I.3. Minimum Mass:	stock

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2.J. Flywheel

2.J.1. Stock Ring Gear Diameter: 215mm

2.K. Forced Induction Intake System

2.K.1. Turbocharger Manufacturer and Model: _____

2.K.2. Supercharger Manufacturer and Model: _____

2.K.3. Compressor Inlet Diameter: _____ 2.K.4. Number of Compressors: _____

2.K.5. Maximum Boost Pressure: _____

2.K.6.a. Number of Intercoolers: _____ 2.K.6.b. Intercooler Locations: _____

2.K.6.c. Intercooler Dimensions: _____

2.K.7. Permitted Modifications _____

2.K.8. Required Boost Sensor Location: _____

2.K.9. Turbo Compressor Map: _____

2.L. Intake Manifold

2.L.1. Part Number: 7833497

2.L.2. Stock Port at Cylinder Head Face: 2.L.2.a. Height: 33.5mm 2.L.2.b. Width: 52.0mm

2.L.3.a. Allow Port Match to Head: no 2.L.3.b. Port Matching Depth: N/A

2.L.4.a. Throttle Body Bore Dia.: 50.0mm 2.L.4.b. Throttle Body Part Number: See engine/Misc.

2.L.5. Number of Throttle Bodies: 6 2.L.6. Butterflies per Throttle Body: 1 see Engine/Misc.

2.L.7. Intake Manifold Material: Carbon composite 2.L.8. Manifold Pieces: 1

2.L.9.a. Intermediate Port Matching Allowed: no 2.L.9.b. Depth from Face: N/A

2.M. Required Engine Seal Locations

2.M.1. Valve Cover Seal #1: _____

2.M.2. Oil Pan Seal #2: _____

2.N. Engine Miscellaneous:

13547832168 (cyl-1); 13547832169 (cyl-2,4,5); 13547832170 (cyl-3); 13547832171 (cyl-6) Std exhaust manifold may be replaced with a header. Alternate clutch may be used.

3. Drivetrain

3.A. Transmission

3.A.1. Number of Forward Speeds: 6 3.A.2. Manufacturer: Gertrag S65420G

3.A.3. Gear Ratios: 3.A.3.a. 1st: 4.22 3.A.3.b. 2nd: 2.51 3.A.3.c. 3rd: 1.67

3.A.3.d. 4th: 1.23 3.A.3.e. 5th: 1.0 3.A.3.f. 6th: .83

3.A.4. Gear Shift Pattern: H pattern 3.A.5. Gear Engagement: Fully synchronized

3.B. All Wheel Drive System

3.B.1. Transfer Case Manufacturer and Model No.: _____

3.B.2. Center Differential Type and Manufacturer: _____

3.C. Final Drive

3.C.1. Axle Ratio: 3.91

3.D. Drivetrain Miscellaneous

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4. Suspension

4.A. Suspension Type: 4.A.1. Front: MacPherson Strut 4.A.1. Rear: Trailing Arm

4.B. Suspension Miscellaneous

5. Chassis

5.A. See Technical Department for information

5.B. Chassis Miscellaneous

13" front rotor and 4 piston caliper are approved.

6. Body

6.A.1. Stock Coefficient of Drag: _____ 6.A.2. Total Frontal Area: _____

6.B. Body Overhang: 2.B.1. Front: _____ 2.B.2. Rear: _____

6.C. Stock Body Materials: _____

6.D. Maximum Body Width: _____

6.E. Permitted Rear Wing Design: _____

6.F. Body Miscellaneous:

Carbon fiber hood and decklid are allowed. Hood may be louvered. Ront splitter (per GT guidelines) is allowed. Rear wing allowed. Rear spoiler allowed.

Camshaft Profile

SCCA Profile Number: _____

Vehicle: _____

Intake Lobe	Cam Lift (in)	Duration (°)	Open	Close	Area
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Maximum Lift:

Exhaust Lobe	Cam Lift (in)	Duration (°)	Open	Close	Area
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Maximum Lift:

Permitted Cam Tolerances

Camshafts used for this car must meet the specifications above within the following tolerances:

Duration at the seat	(From 0.020" lift to 0.030" lift)	+/- 6.5 degrees
Duration on flank	(From 0.100" lift to 0.100" before maximum lift)	+/- 4.0 degrees
Duration over nose	(From 0.100" before maximum lift up to maximum lift)	+/- 6.0 degrees
Maximum Lift	(This tolerance applies to maximum lift only)	+/- 0.005 in (0.127 mm)