



# German Touring Series

## Official 2022 National Rules

(Rules subject to change)

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(Note: Latest revisions are in **blue** font, and all previous revisions are in **green**)

### 1. **Introduction**

The NASA German Touring Series (GTS) is comprised of six classes of German Cars organized strictly based on power to weight ratios. This simple formula provides broad flexibility in both – vehicle choice and in the modifications allowed (which include just about anything). The result is a broad range of modifications and extraordinary close racing.

### 2. **Intent**

GTS classes range from GTS1 (which is the highest weight to power ratio) all the way up to GTS 5 and the unlimited GTS U which has no limits. Most GTS cars tend to be either Porsches or BMWs but GTS fields include vehicles from Audi, VW, Mercedes-Benz, Mini and others. GTS discourages body contact and encourages good sportsmanship.

### 3. **Sanctioning Body**

The Series is supported and sanctioned by the National Auto Sport Association (NASA). All race events are governed by the rule set forth by the Series Directors and NASA officials. All

competitors agree to abide by the rules set forth in NASA's current Club Codes and Regulations (NASA CCR) and any supplemental rules issued by the Series Directors.

#### **4. Eligible Vehicles Manufacturers**

Any vehicle of German manufacture meeting NASA CCR standards for competition is eligible. The vehicle must have originally been badged and assigned a VIN by one of the following manufacturers:

- Audi
- BMW (including MINI)
- Mercedes-Benz
- Merkur
- NSU
- Opel
- Porsche
- Volkswagen

Competitors with **other marquee** cars or German cars with non-German swapped engines interested in racing in GTS Classes may apply to request an exemption to the above list for Regional participation only. That exemption will not apply for the National Championship Events. Please, apply with the Regional GTS Leader and /or National GTS Director. Upon issuance of exemption, a signed allowance must be attached to the logbook.

#### **5. Safety**

All cars, drivers, and entrants will be subject to the NASA Club Codes and Regulations, specifically the Technical Requirements, Required Safety Equipment, Vehicle Safety Inspection, Vehicle Legality Inspection, and General Competition Vehicle Rules sections (NASA CCR Sections 15-18). These sections cover rules for safety equipment, including full roll cages, window nets, belts, extinguishers, as well as appearance and other items. All cars must have a NASA vehicle logbook and all drivers must have a current NASA competition license.

#### **6. GTS – Specific Rules / Classification / Procedures / Modifications**

##### **6.1. Modified 13/13**

**GTS is a no contact Class. Any contact is strongly discouraged and will be thoroughly investigated. Drivers found at fault could be subjected to penalties.**

GTS reserves the right to administer penalties on a regional level above and beyond those outlined in NASA's CCR. These penalties may be applied as deemed appropriate by series and/or race officials to drivers whom on-track conduct causes on-going concern to those officials, whether that be from habitual contact, dangerous driving, or other circumstances.

The Modified 13/13 is not intended to be used for individual instances of contact or other driving situations as NASA has clearly-defined and well-documented protocols for addressing individual racing situations. Rather, this rule and its inherent flexibility are intended to provide race officials with a discretionary means of dealing with habitual offenders.

Penalties may be imposed by series and/or race officials on a sliding scale subject to their own discretion up to a maximum of the 13 months probation and/or 13 months suspension, may be applied in addition to any other penalties, and may be assessed up to 30 days following an event as it is not always possible to determine fault at the track in a timely manner. Probationary penalties begin based on the terms of the probation. Suspension begins immediately.

Penalty appeals may be heard by any combination of NASA Race Directors, GTS officials, and/or review boards, which may be formed and operated per the NASA CCR. No Modified 13/13 penalty may conflict with the findings of a NASA Race Director.

## **6.2 Modified “racing room” Definition**

In the NASA CCR, under section 25.4.2 "Punting," the rules define "racing room" as: "at least three-quarters of one car width." For racing between two or more GTS cars, "racing room" is hereby defined as: "at least one car width plus 6 inches.

## **6.3 Classification**

There are six classes for GTS: GTS1, GTS2, GTS3, GTS4, GTS5, and GTSU. All cars will be classed on a Weight to Average Horse Power (HP) ratio. A vehicle's classification and minimum allowable weight (as the car would exit the track with the driver) will be determined by using the online calculator found at <https://gts.nasaseries.com>

Entering the required information into the online form provided by NASA GTS will generate the official classification. This is the only recognized method of officially calculating the class.

Dyno runs must be entered from actual raw data using values exported from the dyno test. The pull with the highest maximum HP out of 3 consecutive dyno pulls must be used for the data. All pulls should be done in RPM mode and the HP values exported at specified RPM increments and printed. In case when Redline and Max Power values fall in between the specified increments, [-]

those values must be entered from the dyno graph directly. All compliance results will be determined from data. Four (4) documents are required to be presented and available for the review by the officials at every event:

1. Dyno graph
2. Table of exported HP values at specified RPM increments
3. Printed Calculator page with displayed Minimum Weight for the class
4. The Dyno Declaration and Certification Form filled out and signed by both driver and the dyno operator at the time of the dyno testing.

Dyno testing must be done in simulated race conditions with regards to oil level, engine temperature, tire compound, size and pressure, etc.

Drivers are responsible for following the Dyno testing procedure and required documentation. Inconsistencies or misrepresentations will result in harsh penalties.

Dyno upload to the GTS website is mandatory. Each driver is required to upload the Dyno Documentation following the instructions on the <https://gts.nasaseries.com> in order to participate.

No Dyno variance will be assessed. Drivers are responsible for declaring their Minimum Weight and meeting it regardless of dyno or scale variance, just like all other weight to HP classes (ST, PT, AI, SI, CMC, etc.).

The following table shall be used to determine each car's base minimum weight when multiplied by the engine's average horsepower or Peak TQ multiplied by .9, whichever is higher - in case Peak TQ is even or higher than Average Horsepower - the Minimum Weight will be determined by Peak TQ ratios:

Minimum Ratio for	D.O.T Approved Tires	Non - D.O.T Tires
GTSU	No limit	No limit
GTS5	6.6	6.6
GTS4	8.5	8.5
GTS3	10.0	11.0
GTS2	13.5	14.5

GTS1	17.0	18.0
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All FWD cars will be given minus .4 Correction Ratio, excluding non-production factory build race cars like Audi RS3 LMS, VW TCR and similar.

Drivers are fully responsible for classing their own cars. It is expected that cars should be classified in the “Natural Class”, which is defined as where the car would fall based on published factory HP and Curb Weight“ (For Example – BMW w. S54 engine naturally expected to be in GTS 3 and advised not be classed below GTS 2 regardless of the detune). Cars chosen to run outside of the “Natural Class” range with significant detunes are strongly advised to have an on board data system available for download per officials request.

Any driver caught in violation of the Spirit and the Honor of the Rules may face serious penalties.

#### 6.4 Car Modifications

Any modification to the car is allowed subject to the following restrictions:

Engines must have originally been delivered in a GTS-eligible vehicle from the same manufacturing parent company as the chassis. In other words, a Porsche may use an engine originally delivered in any Porsche, Audi, or Volkswagen, but may not use a Bentley or Bugatti engine because those two marques have not been defined as a GTS-eligible (in section 3, Car Eligibility, above). Similarly, BMW and MINI engines may be used interchangeably but Rolls-Royce engines may not. For the purpose of these rules, the engine is defined as the engine block.

Cars which competed with an engine made by a different manufacturing parent than that of the vehicle's chassis in at least one GTS race prior to 11/07 may continue to race with that same configuration. However, such cars may not switch to another engine from a different manufacturer that does not meet the above rules. For example, a Porsche that competed prior to November 2007 with a Chevrolet engine may be changed to use a Porsche, Volkswagen, or Audi engine but may not be changed to use a Ford engine.

For the purpose of these rules, the test of engine eligibility is intended to recognize that some manufacturers (e.g., MINI) use engines not manufactured by either themselves or by any of their sibling companies. However, because such engines were delivered in these otherwise GTS-eligible cars from the factory, the engines shall also be considered eligible within the other constraints described above.

All tires, whether DOT-approved or not, must be commonly available to all competitors from typical national retailers or directly from their respective manufacture. Special compounds not available to the public are not permitted.

Additional roll cage bracing and construction is allowed and recommended.

#### 6.4.1 Tube Frame Cars

The following table shall be used to determine a tube frame car’s class based on the calculations shown in section 4, above.

Minimum ratio for	D.O.T Approved Tires	Non D.O.T Tires
GTSU	No limit	No limit
GTS5	7.2	7.2
GTS4	9.0	9.0
GTS3	11.0	12.0
GTS2	14.5	15.5
GTS1	18.0	19.0

“Tube frame,” as used here, is defined as: “A car intended solely for racing, whose main structure or frame is fabricated from an assembly of tubing, and which cannot be driven with the tubing removed.”

Modification of suspension and drive train mounting points alone does not constitute a tube frame.

#### 6.4.2 Cockpit adjustable engine management systems

All adjustable engine management systems must be declared on the Dynamometer Certification Form. Failure to do so will result in disqualification of all timed sessions for the weekend at minimum. Adjustable engine management systems include but are not limited to systems such as Mo-Tec and Mega-Squirt that can upload and download from external computers, potentiometers, diodes, and switches (to include remote RF switches) that can alter signals from engine sensors and other factory installed devices such as traction control that change engine performance when non-drive wheels are stationary.

### **6.4.3 Remote and/or wireless connection to the ECU**

Any hardware that allows a competitor to wirelessly connect to the ECU at any time during competition or post - competition impound is strictly prohibited, regardless of whether such hardware is external or internal to the ECU.

### **6.4.4 Sequential/Dog Ring Type Gearboxes**

Sequential and Dog Ring gearboxes specifically intended for racing shall be assessed an additional plus 0.2 lb./hp penalty in addition to the vehicle's normal GTS power-to-weight ratio.

For the purpose of these rules, the term “sequential and dog ring gearboxes” are defined as any sequential and dog ring gearbox not offered in a street-legal version of a GTS-eligible vehicle sold by the manufacturing parent company. This includes purpose built racing gearboxes such as those found in Porsche Cup Cars as well as BMW, Audi and Mercedes factory racing cars. Specifically excluded from this rule are Porsche’s PDK, BMW’s SMG and DCT, and older conventional “automatic” gearboxes.

### **6.5.5 Side windows**

Side windows are permitted in GTS. They must be made of 1/8 inch thick minimum Lexan (Polycarbonate) and have fasteners no closer than every 4 inches.

Drivers with side windows must be able to meet the open door exit requirement as set forth in CCR.

### **6.6 Engine Power Testing/Protest Procedure**

NASA will attempt to have a Dyno at each event available for testing.

Impound for testing and weights shall be handled in one of the following manners:

1. At least top three finishing positions (or as many as requested by Race or Series Director) in each class will report to impound immediately following the race.
2. A designated class or classes shall report to impound. In this method, all competitors in the selected class report regardless of finishing position. Competitors may be given notice prior to the session of which class will be required to report.
3. Competitors as designated by the Regional GTS Director, Race Director, or Chief of Tech, will report immediately to impound for testing, which can include random verification of safety equipment installation or protests.

If a competitor does not report to impound when required, then their results for that session will be disqualified.

It is the Driver's responsibility to address any inaccuracies or deviations from the standard protocol in regards to scales or Dyno testing immediately and ask for corrections if needed.

It is the Driver's responsibility to acquire the new minimum weight calculations after each Dyno impound and make changes to the car accordingly.

Each driver is encouraged to carry enough ballast in the car to satisfy the Dyno variance and meet the minimum weight requirements.

**"The competitor is responsible to present the car in 'as raced' condition for all official inspections (Scales, dyno, etc). Failure to present the car for inspection or choosing to not permit an inspection will result in disqualification. Dyno inspection results and electronic monitoring equipment results must be similar (not more than 10% below) to declared dyno results or the competitor may be disqualified."**

Competitors must produce a dynamometer certification from the last 12 months and a Dyno graph with corresponding page of exported table of WHP values at the specified RPM increments. Drivers must also produce the completed class online calculator upon demand and should keep copies of these documents with their vehicle logbook. Any competitor without a Dynamometer Certification or the Dyno Declaration form will be placed into GTSU until they can produce both forms. A competitor must re-certify their car if any changes have been made since the last certification run. Competitors must use a Dynojet brand dyno, and all compliance runs at events will be made on a Dynojet Model 248, 224, or 424 in SAE mode with a smoothing factor of 5 in RPM mode.

Protest procedures will be handled per the NASA CCR with the exception that a bond must accompany a protest requiring a dyno run from the protestor in the amount of the cost of a dyno run. The losing party of the protest will be required to pay for the run, so if the protest is upheld the protestor shall have their funds returned and the protestee will be required to pay for the run.

Notwithstanding any of the above, NASA reserves the right to use alternate compliance checking tools including in-car, GPS-based data collection devices and other technologies it deems appropriate. All such technologies will be considered valid for use in GTS compliance checking if declared so by NASA.

#### **6.6.1 Data Compliance Requirements to begin at 2022 NASA Championships.**



NASA intends to announce details regarding a mandatory data compliance initiative early 2022. This program, when announced, will require anyone participating in GTS Classes at the 2022 NASA Championships to supply specific data to NASA officials upon request. This section will outline those program details when announced and also is meant to service notice to GTS competitors that further details are coming.

### **6.7 Dynamometer procedures for AWD (All Wheel Drive) Cars**

Because it is nearly impossible to have an AWD dynamometer at an event, all AWD cars must have Dyno results before entering their first event. This Dyno testing must be done on a Dynojet brand dynamometer. Dyno test results must be accompanied by a Dynamometer certification form. **There will be no exceptions.** Any car without the certification will run in GTSU. The Dynamometer certification form must be completed at the time of the Dyno testing and signed by the dyno operator and the driver.

Dyno Certification form: [http://www.nasapracing.com/rules/gts\\_dyno\\_form.pdf](http://www.nasapracing.com/rules/gts_dyno_form.pdf)

In the event of a protest against an AWD car, the protested and protesting parties must both be represented at the re-testing. Retesting must follow the same procedures and the fees will be paid by the party in error. If a GTS official's presence at the re-testing is required, the party in error shall pay the GTS official's expenses.

All Cars equipped with modern PDK/DCT/DSG type transmission must produce accurate Dyno Compliance testing prior to attending the first event either by using the Dyno with the locked front + rear rollers or appropriate factory tools (for example – PiWis in case of Porsche Cayman S and similar) to avoid generating Dyno in the limp mode producing lower values. Cars must be Dyno'd AS RACED (IE – no fuse pulling, switching off ABS / TC controllers, etc.). Dyno Operator must indicate the method used on the Dyno Certification Form. In case when not available – contact Regional GTS Leader for assistance. Cars with No Correct Compliance Dyno available must run in GTS U.

### **6.8 GTS Logos and Car Classification Identification**

All cars shall display GTS class identification plates on all four sides of the vehicle as described below and as shown in Figures 1, 2, and 3, below.

**Figure 1:** GTS class identification plate colors.

All four GTS class identification plates must be used without modification except as noted herein.

Left and right side placement: GTS class identification on both sides of the vehicle shall be done with 6” tall number plates. These must be positioned on a vertical or near vertical panel located in the area defined as being: (1) between the front and rear wheel openings; (2) above the bottom of the door; and (3) below the bottom of the side windows (see Figure 2).

Front placement: Class identification on the front of the vehicle will be done with one 4” tall GTS number plate. This must be located on a vertical or near vertical surface, in an area that includes the center and passenger side of the vehicle (see Figure 2). For clarity, “passenger side” is defined as the right side of the car as seen from the driver’s seat. The GTS number plate must be easily and readily visible from directly in front of the vehicle.

Rear placement: Class identification on the rear of the vehicle will be done with one 4” tall GTS number plate. This must be located on a vertical or near vertical surface, in an area that includes the center and driver’s side of the vehicle (see Figure 2). For clarity, “driver’s side” is defined as the left side of the care as seen from the driver’s seat. The GTS number plate must be easily and readily visible from directly in behind the vehicle.

**Figure 2:** Acceptable GTS class identification sticker locations are indicated in red. 6” tall number plates belong on the sides of the car, with 4” tall number plates at the front and rear.

The GTS number plate may be incorporated with other markings (e.g. number plate) so long as the logo and class number remain unaltered and are easily identifiable. On vehicles which match or are quite similar in color to the class identification color, the entire GTS number plate shall be bordered by a contrasting color no less than 1/4” in width.

Multiple classes: Drivers needing to display multiple class numbers (because they may periodically change between GTS classes) may indicate all potential classes by adding additional number plates, in numerical order, immediately to the right of the lowest-class number plate, as shown in Figure 3.

**Figure 3:** Multiple class numbers shall be displayed in numerical order, as shown above, with all but the current (i.e., active) class clearly marked out with contrasting tape or by other readily understandable means.

## 6.9 Car Numbers

All cars shall display their car number in accordance with the CCR.

## 6.10 Regional Decal Requirements

Regions may have additional requirements for car markings above and beyond the stated GTS requirements. Regional GTS Directors will communicate these requirements to the Regional competitors as necessary. A one event grace period may be granted at the Regional GTS Director's discretion to allow for compliance.

#### **6.11 Scoring**

Scoring shall be done per the NASA CCR. GTS Regional Directors may elect to allow competitors to drop a certain percentage of events and will alert competitors prior to the beginning of the season.

#### **7. Series Directors/Website**

Contacts for the Regional Series Leaders and National Series Director as well as the latest news, car's Dyno information, forms and other relevant data can be found at the GTS website – <https://gts.nasaseries.com>