

2010 World Challenge Technical Bulletin 3



To: World Challenge Participants
From: Robert Story, SCCA Pro Racing Tech Engineer
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Regarding: PRR Changes: Video, Parking, Manifold Pressure



Version 3 of the PRR is [now available online](#). Below is a list of changes. Text which is changed from the previous version is **red**, text unchanged from the previous version is **blue**.

Article 2.3.4: Parking and Paddock

Article now reads as follows:

Article 2.3.4: Parking and Paddock

2.3.4.1: Parking Schedule

Official parking times will be posted on the SCCA Pro Racing Official Schedule and in the SCCA Pro Racing Event Supplementary Regulations. There will normally be a two hour window for team parking. Transporter drivers and rigs must be at their rigs and ready for parking at the start of this process or they may lose their parking priority.

2.3.4.1.1: No cars or equipment may be parked in empty paddock spaces.

2.3.4.2: Parking Order

World Challenge Series and Series Support transporters will be parked first, followed by team transporters in point order per class. Teams with multiple cars will be parked based on the highest position driver within the team. Teams will not be allowed to unload until the last present transporter is parked.

2.3.4.2.1: Transporters/Transporter Drivers not present when it is their turn to park will forfeit their reserved spot if leaving the spot open would hinder the parking process.

2.3.4.2.2: Teams that are unable to make it for the official parking, for whatever reason, must make prior arrangements with SCCA Pro Racing Officials in order to be parked. SCCA Pro Racing cannot guarantee a paddock space after the end of the officially scheduled parking day/time. Official parking times will be posted on the SCCA Pro Racing/World Challenge schedule and Event Supplementary Regulations.

2.3.4.2.3: Parking spaces may be assigned out of point order at SCCA Pro Racing's discretion.

2.3.4.3 Transporters

Maximum truck and trailer length is 76' not including tailgate. Transporters must display, prior to parking, an 18" x 18" sign in the front window of the transporter that contains the following information: series (World Challenge), class (TC, GTS, GT), car number(s), truck length, and canopy dimensions. All canopies are assumed to be curb side unless noted on this sign. Transporters not displaying this information will be delayed in parking.

2.3.4.3.1: Teams are required to submit the Paddock Information form, available on the Series Website.

2.3.4.3.2: Each entered team/race car will be assigned one paddock space, which will be no larger than what is required for their equipment and is a maximum of 90' long by 40' wide. No allocations will be

made for team cars other than race cars. This dimension may be smaller based on event paddock allocations, such as Long Beach. Event Supplementary regulations will have the most current information posted for each track.

2.3.4.3.3: When there is not enough room to park all team transporters in the main paddock area, SCCA Pro Racing will secure the best overflow paddock possible.

2.3.4.3.4: Teams with 3+ World Challenge cars entered will be given consideration for "garage" style parking under their awning.

2.3.4.4: The arrangement of the team equipment, awnings, pit carts etc., may not block the view of their cars from the public at any time during event hours.

Article 2.8.4.5.2

Add a new Article as follows:

2.8.4.5.2: Engine Monitoring Harnesses must be constructed from 16, 18, or 20 gauge (AWG) wire.

Article 2.8.5: Video

Race-Keeper is now the Official Video Data System for World Challenge. See details below.

Article now reads as follows:

In car video must be provided to series officials from every car, recording any time the car is on track in an official session.

It is the competitor's responsibility to ensure that the in car camera system functions properly.

2.8.5.1: All vehicles must have a camera system installed.

2.8.5.1.1: Vehicles which did not race in the previous season must use a Race-Keeper World Challenge Video Data System. Contact Steve Hoelscher to order the correct system.

Steve Hoelscher

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2.8.5.1.2: Vehicles which raced in the previous season must use a Race-Keeper World Challenge Video Data System, or a ChaseCam PDR-100 system.

2.8.5.1.3: The system must be wired to the vehicle's master electrical switch, such that the system is supplied with power whenever the master electrical switch is turned on.

2.8.5.1.4: The system must record video to a removable flash memory card.

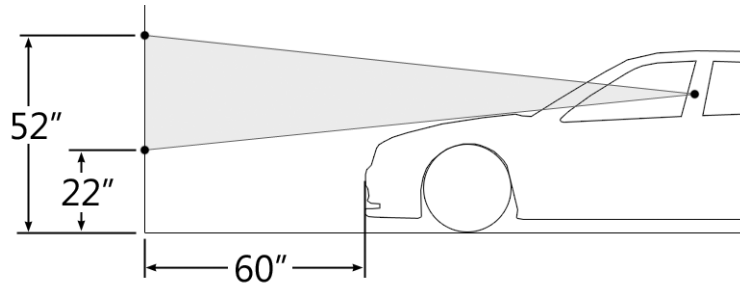
2.8.5.1.5: The system may record video from more than one camera onto the memory card.

2.8.5.2: Teams shall provide the series officials with four flash memory cards for use with the camera system. Three of the memory cards shall be at least 2GB capacity, and one card shall be at least 4GB capacity. Teams will own the memory cards, but the series will maintain possession of the memory cards during the season.

2.8.5.3: At the beginning of an event the series officials will provide teams with the four memory cards for their cars. During any official session, each car must have the correct memory card installed in the camera system, with the camera system recording onto the card any time the car is on track. The memory card must be deposited in the video card box at the series transporter within 60 minutes of the end of the session.

Teams may copy the contents of the memory card during this 60 minute period, but shall not alter the contents of the card in any way.

2.8.5.4: The primary camera shall be pointed forward, in a position that allows it to record the track ahead of the car. The camera shall record objects at heights ranging from 22 inches to 52 inches, 60 inches from the front of the car.



Series officials will have a monitor available to check the positioning of cameras.

Cameras must be mounted such that they do not vibrate excessively while the car is on track. Cameras must be mounted right side up, such that the recording is not upside down or sideways. All cameras and recording units must be mounted rigidly to the car such that they will withstand a sustained 25-G deceleration.

2.8.5.5: The video provided to series officials must record the movement of the vehicle's steering wheel. This must be accomplished in one of two ways. The primary camera may be positioned such that it records the steering wheel, in addition to meeting the requirements in Article 2.8.5.4. Alternatively a secondary camera may be used which records the steering wheel, in which case the primary camera is not required to record the steering wheel.

Article 2.9.1.4

Add a new Article as follows:

2.9.1.4: Structural panels and bracing may be removed from the interior of the doors.

Article 2.14.7: Manifold Pressure Limit Enforcement

Add a new Article as follows:

2.14.7: Manifold Pressure Limit Enforcement

The following articles will be enforced using data collected from the GPS Monitoring system.

2.14.7.1: The following constants will be defined for forced induction vehicles in Appendix A or the vehicle's VTS sheet:

Constant	Symbol	Units
Base Manifold Pressure Limit	MP _{BASE}	mbar
Over Shoot Time Limit	T _{OS}	millisecond
Tip In Time Limit	T _{TIP}	millisecond
Tip In Throttle Rate	RATE _{THROTTLE}	percent/s
Lap Over Boost Time Limit	T _{LAP}	percent

2.14.7.1.1: The Base Manifold Pressure Limit may be defined as a function of Engine Speed (rpm).



2.14.7.2: The Altitude Correction Factor (ALT) will be defined for each event as follows:

Track	Altitude (m)	Correction Factor
St. Petersburg	0	1.00
Long Beach	0	1.00
Mosport	300	0.95
Watkins Glen	500	0.95
Toronto	100	1.00
Mid Ohio	400	0.95
VIR	100	1.00
Miller	1300	0.85

2.14.7.3: The Manifold Pressure Limit will be defined by multiplying the Base Manifold Pressure Limit by the Altitude Correction Factor:

$$\text{Manifold Pressure Limit} = \text{MP}_{\text{BASE}} \times \text{ALT}$$

2.14.7.4: Manifold Pressure may exceed the Manifold Pressure Limit for a period of T_{OS} , if this period begins within T_{TIP} of Throttle Tip In.

2.14.7.4.1: Throttle Tip In is defined as any time when the rate of change in throttle position is equal to or greater than $\text{RATE}_{\text{THROTTLE}}$.

2.14.7.5: In a single lap, Manifold Pressure may not exceed the Manifold Pressure Limit for longer than T_{LAP} of the total lap time. This does not include the T_{OS} permitted on throttle tip in.