

# BULLETIN-FINAL



**BULLETIN No.: 2018-01**

**Subject: O4WD, P4WD & P2WD Rule Changes**

**Issue Date: April 17, 2018**

**Effective Date: Immediate Implementation**

## **RULE CHANGES – Open 4 Wheel Drive (Immediate Implementation ~~March 15, 2018~~)**

### **24.1.11 Eligibility**

The Canadian Rally Championship is an open championship and all CRC competitors are eligible to score points with the exception of competitors who are excluded from scoring in the CRC by 12.4.7 and 12.5.1.1. In the case of scoring exclusion, any championship points that would be earned will be awarded to the next eligible competitor and so on until all points are awarded. In order for a championship to be awarded.....

### **12.4.7 US Vehicles**

Vehicles registered in any of the United States of America, where the driver is competing on CARS entry permit (See 11.1.10), shall be acceptable to compete in Canadian events provided that they meet the requirements of current ARA/RA/NASA Rally Regulations. Entrants whose cars are entered under this provision must be able to produce, upon request by CARS or event officials, a copy of the relevant Rally Regulations. Failure to produce these regulations may result in vehicle being judged according to CARS regulations.

US vehicles entered in Canadian rallies shall be classified by CARS vehicle class regulations. US Vehicles not in compliance with CARS class rules will be allowed to compete, but will not be eligible for Championship points. Competitors using these vehicles They will be eligible for applicable contingency payouts and podiums.

## 12.5 Open 4WD

### 12.5.1 Definition

Any AWD or 4WD vehicle which meets the requirements of 12.1 to 12.4 and 12.5.2 to 12.5.7. This includes vehicles of series or limited production, which are modified beyond what is permitted in Production 4WD. Innovation and modifications within the rules are encouraged, including modifying production based 2WD vehicles into 4WD rally vehicles.

#### 12.5.1.1 FIA Vehicles

- a) Vehicles that comply with their original FIA homologation requirements for Group A rally cars (Including World Rally Cars, S2000, R5 and AP4) are permitted to compete in open 4WD class and score points for the Canadian Rally Championship provided these FIA vehicles meet the homologation specifications for that particular vehicle and comply with:
- 12.1 to 12.4;
  - The lesser of 12.5.3.1 or the homologated restrictor size;
  - The lesser of 12.5.3.2 or the homologated boost pressure limit;
  - 12.5.6;
  - 12.5.7.

These FIA vehicles will be required to have their homologation papers available at tech inspection.

- b) FIA Vehicles that comply with the FIA regulations for their class, but do not comply with CARS Open 4WD class rules, will be eligible to compete in CARS events. Competitors using these vehicles are not eligible to score points in the Canadian Rally Championship, but will be eligible for applicable contingency payouts and podiums.

### 12.5.2 Engine

The engine is unrestricted, but must be derived from the product line offered by the vehicle manufacturer.

#### 12.5.2.1 Engine Displacement

The maximum displacement limit for forced induction engines is 2500cc.

The maximum displacement for naturally aspirated engines is 4000cc.

Rotary engines are restricted to twin rotors. Peripheral porting is not permitted.

### 12.5.3 Turbocharger/Supercharger Restrictions

#### 12.5.3.1 Restrictor

Forced induction engines must have an air inlet orifice of 34mm diameter or less. If the forced induction is equipped with a larger inlet, the use of a restrictor is required. It must have a

minimum width (parallel to the direction of the airflow) of three (3) mm and be placed within 50 mm of the compressor blades.

If a vehicle is fitted with multiple induction systems, then the total area of the two restrictors cannot exceed the area of the restrictor listed above. Competitors must have in place a mechanism to allow the induction system to be sealed by the use of wire and CARS seals. With the wire and seal in place, it must be impossible to access the restrictor without removing the wire and seal. The wire and seal cannot be installed without a detailed examination of the restrictor and, without the seal being in place, competitors must be prepared to dismantle the induction system to allow for verification of compliance with the rule above.

### 12.5.3.2 Boost limit (**implementation January 1, 2019**)

A series-specific boost limiting device, or pop-off valve, is required for all Drivers having a Speed Factor of 70 or higher. The pop-off valve, in conjunction with the restrictor, is designed to cap the performance of forced induction engines. It is a precision mechanical valve that opens at a predetermined manifold pressure, effectively limiting the maximum boost pressure available.

Upon achieving a Speed Factor of 70, the competitor is responsible for having a pop-off valve installed in their vehicle within 3 months of the event at which the Speed Factor was earned.

Boost is limited to 2.5 bar absolute (1.5 bar nominal boost) using a series specific, tamper proof “pop-off” valve installed in the induction tract, downstream of the turbo. The pop-off valve must be clearly visible with the vehicle hood open. The part number of the valve is:  
CARS – XXX (where XXX is the valve serial number).

Any tampering with the “pop-off” valve is grounds for exclusion and possible further sanction.

The pop-off valve attachment flange may be purchased from various suppliers or manufactured by the competitor. However, the air passage to the pop-off valve must be a minimum of 32mm diameter. The flange shall be installed directly to the induction plumbing in such a manner that all induction air must pass the flange and pop-off valve.

The Supplier is:

Angle Consulting Limited  
40 Wayside Avenue  
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[www.angleconsulting.com](http://www.angleconsulting.com)  
Contact: [perry@angleconsulting.com](mailto:perry@angleconsulting.com)

## 12.5.4 Bodywork

Except for 12.5.4.2, the modification, reinforcement, substitution, addition or deletion of parts and components is permitted without restriction.

Exterior bodywork (i.e.: all components licked by the airstream) must be visually similar to the original item. Except for front doors and roofs, bolt-on body pieces may be constructed of an alternate material. A and B pillars must remain original. The original floor pan and firewall must remain and may be modified only to the extent necessary to accommodate allowed alternate components. Roof mounted vents, flared fenders, modified front and rear bumper covers, and wings are allowed. Wings must not protrude beyond the maximum width of the vehicle body.

## 12.5.5 Mechanical Components

Brakes, carburetor/injection, transmission, suspension, cooling, final drive ratio and type, clutch, pressure plate and flywheel are unrestricted.

## 12.5.6 Electronic Controls

No type or form of electronic control is permitted for the following components: suspension, braking, gear change/clutch, front and rear differentials. Simple engine cut, operating during a mechanically activated gear change, is permitted.

### 12.5.6.1 Sequential Gear Change

The use of an unassisted manual sequential gear change mechanisms is allowed.

## 12.5.7 Weight

The minimum weight of the vehicle is set at 1318 kg (2900 lbs.)

This is the real weight of the vehicle, without consumable fluids, with neither driver nor co-driver nor their equipment and with a maximum of one spare wheel. When two spare wheels are carried in the vehicle, the second spare wheel must be removed before weighing.

At no time during the event may a vehicle weigh less than the minimum weight.

The use of securely fixed ballast to complete the weight of the vehicle is permitted.

In case of a dispute during weighing, the full equipment of the driver and co-driver must be removed.

## 12.7 Production 4WD

### 12.7.1 Definition

Vehicles available through normal marketing channels in Canada and/or US, with limited modifications in order to make them more suitable for competition with respect to safety and reliability. Modifications, unless expressly permitted under 12.7.2 to 12.7.15, are not allowed. Note that with respect to any modifications to the vehicle, the burden of proof that these

modifications comply with the regulations rests solely with the competitor. Competitors must bring any relevant documentation to Tech Inspection.

#### 12.7.1.1 Minimum production or importation

There must have been a minimum of 100 units of the specific make and model and of a specific model year commercially available in Canada or 1000 units in the United States. Commercially available means a new vehicle for the Domestic North-American market, sold by the manufacturer through its dealer network, in Canada and/or the U.S.

#### 12.7.1.2 Original equipment (OEM)

Exchange of original equipment parts or components from the same model and same generation from Canadian/US domestic market is allowed, per definitions 12.2.2, 12.2.3 and 12.2.5.

Only original equipment parts, per definition 12.2.4 are allowed.

#### 12.7.1.3 Tolerances

All adjustment machining must be at the manufacturer's specification and/or within the manufacturer's specified tolerances.

### 12.7.2 Engine

#### 12.7.2.1 Over boring

Over boring for the use of oversize pistons is prohibited, unless it is within OEM specifications and using OEM oversize pistons.

#### 12.7.2.2 Motor Mount

Motor mounts are free.

#### 12.7.2.3 Engine Displacement

The maximum displacement limit for normally aspirated engines is 4000cc.

The maximum displacement limit for forced induction engines is 2500cc.

Rotary engines are restricted to twin rotors. Additional porting is not permitted.

### 12.7.3 Turbocharger/Supercharger Restrictions

Turbocharger and supercharger units must be un-modified OEM for the model.

#### 12.7.3.1 Restrictor

Forced induction engines must have an air inlet orifice of 32mm diameter or less. If the forced induction is equipped with a larger inlet, the use of a restrictor is required. It must have a minimum width (parallel to the direction of the airflow) of three (3) mm and be placed within 50 mm of the compressor blades.

If a vehicle is fitted with multiple induction systems, then the total area of the two restrictors cannot exceed the area of the restrictor listed above. Competitors must have in place a mechanism to allow the induction system to be sealed by the use of wire and CARS seals. With

the wire and seal in place, it must be impossible to access the restrictor without removing the wire and seal. The wire and seal cannot be installed without a detailed examination of the restrictor and, without the seal being in place, competitors must be prepared to dismantle the induction system to allow for verification of compliance with the rule above.

#### 12.7.3.2 Boost limit (**implementation January 1, 2019**)

A series specific boost limiting device, or pop-off valve, is required for all Drivers having a Speed Factor of 70 or higher. The pop-off valve, in conjunction with the restrictor, is designed to cap the performance of all forced induction engines. It is a precision mechanical valve that opens at a predetermined manifold pressure, effectively limiting the maximum boost pressure available.

Upon achieving a Speed Factor of 70, the competitor is responsible for having a pop-off valve installed in their vehicle within 3 months of the event at which the Speed Factor was earned.

Boost is limited to 2.5 bar absolute (1.5 bar nominal boost) using a series specific, tamper proof “pop-off” valve installed in the induction tract, downstream of the turbo. The pop-off valve must be clearly visible with the vehicle hood open. The part number of the valve is: CARS –XXX (Where XXX is the valve serial number).

Any tampering with the “pop-off” valve is grounds for exclusion and possible further sanction.

The pop-off valve attachment flange may be purchased from various suppliers or manufactured by the competitor. However, the air passage to the pop-off valve must be a minimum of 32mm diameter. The flange will be installed directly to the induction plumbing in such a manner that all induction air must pass the flange and pop-off valve.

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www.angleconsulting.com  
Contact: perry@angleconsulting.com

#### 12.7.4 Body Work

Weight reduction and modifications of *ORIGINAL* parts and components is permitted as listed below:

- The interior cockpit bodywork (including the dashboard and the elements contained in or part of the dashboard) may be modified to fit around the roll cage.

- Carpets, padding, liners, etc. may be removed or modified.
- Standard seat/shoulder belts may be removed.
- The glove box door may be removed/replaced.
- Seam welding the body work is permitted.
- The rear seat may be removed.
- Side, roof, pillar, door and rear moldings may be removed or modified. (see 12.3.15)
- Interior lighting may be removed or modified.
- Roof mounted vents are allowed.
- Center console may be removed or modified.
- Heat shields and covers may be removed.

### 12.7.5 Mechanical Components

- a) The following components are free:
  - Dampers.
  - Springs.
  - Clutch disc, pressure plate and flywheel.
- b) The addition of a mechanical limited slip differential is permitted.
- c) Brakes are free, but the following items must retain OEM:
  - Pedal box, (brake pedal, location, mounting and actuation).
  - Anchor points for calipers.
  - Equal number of master cylinders as OEM.
  - Dual hydraulic circuits.
- d) ABS pump, wiring and electronic controls may be removed.
- e) Brake calipers and rotors are free.
- f) An additional master cylinder for a hydraulic hand brake is permitted.
- g) Suspension must retain the OEM attachment points and geometry. The following modifications are permitted:
  - Non-OEM strut tops as long as the upper pivot remains within 20mm of the OEM location.
  - Pick-up points on the chassis may be reinforced by the way of plating.
  - The addition of strut tower braces.
  - The substitution of OEM bushings and sway bars.
  - Reinforcement of stock control arms.

#### 12.7.5.1 Transmissions

Any transmission normally installed by the manufacturer for the model and generation may be used.

## **12.7.6 Electronic Controls**

### **12.7.6.1 General**

With the exception of the ECU and center differential controller, only OEM electronic controls, OEM control systems and sensors are permitted.

### **12.7.6.2 ECU**

The ECU is free. Launch control and Anti-Lag are permitted only if these features are available as OEM features.

## **12.7.7 Minimum weight**

The minimum weight of the vehicle shall be the original curb weight listed by the manufacturer, or 1409kg (3100lbs) if the competitor has not provided evidence of the original curb weight. This is the real weight of the vehicle, without consumable fluids, with neither driver nor co-driver nor their equipment and a maximum of one spare wheel. When two spare wheels are carried in the vehicle, the second spare wheel must be removed before weighing.

In case of a dispute during weighing the full equipment of the driver and co-driver will be removed.

At no time during the event may a vehicle weigh less than the minimum weight. The use of securely fixed ballast to complete the weight of the vehicle is permitted.

## **12.7.8 Induction**

The carburetor(s) or fuel injection normally installed by the manufacturer must be OEM for the model. The electronic control unit (ECU) for the fuel injection is free per 12.7.6.2. The elements that control the quantity of fuel fed into the engine may be modified, but not those that control the volume of air.

### **12.7.8.1 Intercooler**

The intercooler(s) must remain OEM or OEM equivalent and mounted in the original mounting location(s).

### **12.7.8.2 Air Filter**

The air filter housing and the air filter are free. All air entering the engine must pass through the air filter.

## **12.7.9 Exhaust**

The exhaust system is free, except that the stock exhaust manifold(s) must be retained. The pipe(s) must exit behind the driver and external to the body. A functioning catalytic converter must be retained or installed.

## **12.7.10 Fuel Cells and Fuel Lines**



Fuel cells, not to exceed the capacity of the stock fuel tank or 70 liters, whichever is greater, are allowed to replace stock fuel tanks. Location is free. Fitting of such cells must conform to 12.3.11.3. Rerouting of fuel lines is permitted, but they must conform to 12.3.11.5.

### **12.7.11 Electrical Equipment**

#### **12.7.11.1 Battery and Alternator**

The original battery and alternator may be replaced by another commercial automobile unit of equal or larger capacity. The location and make are free.

#### **12.7.11.2 Lighting Devices**

Additional lighting is permitted, but must conform to 12.4.2

### **12.7.12 Wheels**

Wheel diameter and width are unrestricted. See 12.4.9

### **12.7.13 Cooling System**

Engine Cooling System is free but must remain in the stock location. Additional oil coolers are permitted.

### **12.7.14 Supplementary Accessories**

Supplementary accessories are authorised without restriction provided they have no influence whatsoever on the behaviour or the outside appearance of the vehicle. Such items are those which concern the aesthetics or the inside comfort (lighting, heating, radio, etc.) or those enabling easier or safer driving of the vehicle (extra windshield washer, etc.) provided they do not affect, even indirectly the performance of the engine, the steering, the transmission, the road holding or handling characteristics of the vehicle. The following is authorised:

- Nuts and bolts may be freely exchanged and locked by any means.
- The mounting of additional gauges, meters, etc.
- The horn may be changed or an extra one added, at the disposal of the co-driver if desired.
- Extra relays, switches, wiring, fuses and circuit breakers may be added to the electrics.
- The original accelerator cable may be replaced by another one whether supplied or not by the manufacturer.
- The luggage boot may be adapted for better accommodation of the equipment carried (straps for fixing of a tool box, additional spare wheel, etc.). The location and attachment system of the original spare wheel may be altered and "Space Saver" spares may be removed.
- Filler caps may be locked by any means.
- The steering wheel is free.
- The addition of protection for the engine sump, transmission, fuel tank and all fluid lines is permitted.
- Cruise control systems may be removed.
- Anti-theft systems may be removed.

- Any elements of the air conditioning system and related hardware may be removed.
- Replacement and removal of electric window mechanisms by wind-up window mechanisms is permitted. Removal of sun roof mechanisms is also permitted.
- Removal of standard radio/stereo systems is permitted.

### **12.7.15 Consumable Items**

The replacement of normally consumable items (oil filters, air filters, spark plugs, fan belts, etc.), by others of equivalent OEM specifications is permitted. Spark plug heat range is free.

## **12.8 Production 2WD**

### **12.8.1 Definition**

Vehicles available through normal marketing channels in Canada and/or US, with limited modifications in order to make them more suitable for competition with respect to safety and reliability. Modifications, unless expressly permitted under 12.8.2 to 12.8.15, are not allowed. Note that with respect to any modifications to the vehicle, the burden of proof that these modifications comply with the regulations rests solely with the competitor. Competitors must bring any relevant documentation to Tech Inspection.

#### **12.8.1.1 Minimum production or importation**

There must have been a minimum of 100 units of the specific make and model and of a specific model year commercially available in Canada or 1000 units in the United States. Commercially available means a new vehicle for the Domestic North-American market, sold by the manufacturer through its dealer network, in Canada and/or the U.S.

#### **12.8.1.2 Original equipment (OEM)**

Exchange of original equipment parts or components from the same model and same generation from the Canadian/US domestic market is allowed, per definitions 12.2.2, 12.2.3 and 12.2.5.

Only original equipment parts, per definition 12.2.4 are allowed.

#### **12.8.1.3 Tolerances**

All adjustment machining must be at the manufacturer's specification and/or within the manufacturer's specified tolerances.

### **12.8.2 Engine**

#### **12.8.2.1 Over boring**

Over boring for the use of oversize pistons is prohibited, unless it is within OEM specifications and using OEM oversize pistons.

#### **12.8.2.2 Motor Mount**

Motor mounts are free.

### 12.8.2.3 Engine Displacement

The maximum displacement limit for normally aspirated engines is 4000cc.

The maximum displacement limit for forced induction engines is 2500cc.

Rotary engines are restricted to twin rotors. Additional porting is not permitted.

## 12.8.3 Turbocharger/Supercharger Restrictions

Turbocharger and supercharger units must be un-modified OEM for the model-

### 12.8.3.1 Restrictor

Forced induction engines must have an air inlet orifice of 32mm diameter or less. If the forced induction is equipped with a larger inlet, the use of a restrictor is required. It must have a minimum width (parallel to the direction of the airflow) of three (3) mm and be placed within 50 mm of the compressor blades.

If a vehicle is fitted with multiple induction systems, then the total area of the two restrictors cannot exceed the area of the restrictor listed above. Competitors must have in place a mechanism to allow the induction system to be sealed by the use of wire and CARS seals. With the wire and seal in place, it must be impossible to access the restrictor without removing the wire and seal. The wire and seal cannot be installed without a detailed examination of the restrictor and, without the seal being in place, competitors must be prepared to dismantle the induction system to allow for verification of compliance with the rule above.

## 12.8.4 Body Work

Weight reduction and modifications of *ORIGINAL* parts and components is permitted as listed below:

- The interior cockpit bodywork (including the dashboard and the elements contained in or part of the dashboard) may be modified to fit around the roll cage
- Carpets, padding, liners, etc. may be removed or modified.
- Standard seat/shoulder belts may be removed.
- The glove box door may be removed/replaced.
- Seam welding the body work is permitted.
- The rear seat may be removed.
- Side, roof, pillar, door and rear moldings may be removed or modified. (see 12.3.15)
- Interior lighting may be removed or modified.
- Roof mounted vents are allowed.
- Center console may be removed or modified.
- Heat shields and covers may be removed

## 12.8.5 Mechanical Components

- a) The following components are free:
- Dampers.

- Springs.
  - Clutch disc, pressure plate and flywheel.
- b) The addition of a mechanical limited slip differential is permitted.
- c) Brakes are free, but the following items must retain OEM:
- Pedal box, (brake pedal, location, mounting and actuation).
  - Anchor points for calipers.
  - Equal number of master cylinders as OEM.
  - Dual hydraulic circuits.
- d) ABS pump, wiring and electronic controls may be removed.
- e) Brake calipers and rotors are free.
- f) An additional master cylinder for a hydraulic hand brake is permitted.
- g) Suspension must retain the OEM attachment points and geometry. The following modifications are permitted:
- Non-OEM strut tops as long as the upper pivot remains within 20mm of the OEM location.
  - Pick-up points on the chassis may be reinforced by the way of plating.
  - The addition of strut tower braces.
  - The substitution of OEM bushings and sway bars.
  - Reinforcement of stock control arms.

#### 12.8.5.1 Transmissions

Any transmission normally installed by the manufacturer for the model and generation may be used.

### 12.8.6 Electronic Controls

#### 12.8.6.1 General

With the exception of the ECU, only OEM electronic controls, control systems and sensors are permitted.

#### 12.8.6.2 ECU

The ECU is free. Launch control and Anti-Lag are permitted only if these features are available as OEM features.

### 12.8.7 Minimum weight

The minimum weight of the vehicle is unrestricted.

### **12.8.8 Induction**

The carburetor(s) or fuel injection normally installed by the manufacturer must be OEM for the model. The electronic control unit (ECU) for the fuel injection is free per 12.7.6.2. The elements that control the quantity of fuel fed into the engine may be modified, but not those that control the volume of air

#### **12.8.8.1 Boost**

For forced induction engines, the boost is free.

#### **12.8.8.2 Intercooler**

The intercooler(s) must remain OEM or OEM equivalent and mounted in the original mounting location(s).

#### **12.8.8.3 Air Filter**

The air filter housing and the air filter are free. All air entering the engine must pass through the air filter.

### **12.8.9 Exhaust**

The exhaust system is free, except that the stock exhaust manifold(s) must be retained. The pipe(s) must exit behind the driver and external to the body. A functioning catalytic converter must be retained or installed.

### **12.8.10 Fuel Cells and Fuel Lines**

Fuel cells, not to exceed the capacity of the stock fuel tank or 70 liters, whichever is greater, are allowed to replace stock fuel tanks. Location is free. Fitting of such cells must conform to 12.3.11.3. Rerouting of fuel lines is permitted, but they must conform to 12.3.11.5.

### **12.8.11 Electrical Equipment**

#### **12.8.11.1 Battery and Alternator.**

The original battery and alternator may be replaced by another commercial automobile unit of equal or larger capacity. The location and make is free.

#### **12.8.11.2 Lighting Devices**

Additional lighting is permitted, but must conform to 12.4.2

### **12.8.12 Wheels**

Wheel diameter and width are unrestricted. See 12.4.9

### 12.8.13 Cooling System

The Cooling system is free but must remain in the stock location. Additional oil coolers are permitted.

### 12.8.14 Supplementary Accessories

Supplementary accessories are authorised without restriction provided they have no influence whatsoever on the behaviour or the outside appearance of the vehicle. Such items are those which concern the aesthetics or the inside comfort (lighting, heating, radio, etc.) or those enabling easier or safer driving of the vehicle (extra windshield washer, etc.) provided they do not affect, even indirectly the performance of the engine, the steering, the transmission, the road holding or handling characteristics of the vehicle. The following is authorised:

- Nuts and bolts may be freely exchanged and locked by any means.
- The mounting of additional gauges, meters, etc.
- The horn may be changed or an extra one added, at the disposal of the co-driver if desired.
- Extra relays, switches, wiring, fuses and circuit breakers may be added to the electrics.
- The original accelerator cable may be replaced by another one whether supplied or not by the manufacturer.
- The luggage boot may be adapted for better accommodation of the equipment carried (straps for fixing of a tool box, additional spare wheel, etc.). The location and attachment system of the original spare wheel may be altered and "Space Saver" spares may be removed.
- Filler caps may be locked by any means.
- The steering wheel is free.
- The addition of protection for the engine sump, transmission, fuel tank and all fluid lines is permitted.
- Cruise control systems may be removed.
- Anti-theft systems may be removed.
- Any elements of the air conditioning system and related hardware may be removed.
- Replacement and removal of electric window mechanisms by wind-up window mechanisms is permitted. Removal of sun roof mechanisms is also permitted.
- Removal of standard radio/stereo systems is permitted.

### 12.8.15 Consumable Items

The replacement of normally consumable items (oil filters, air filters, spark plugs, fan belts, etc.), by others of equivalent OEM specifications is permitted. Spark plug heat range is free.

12.8 will be re-numbered 12.9