



**Subject:**

Clarification around eligible engine blocks for IPRA

**Proposal:**

To make the rules surrounding block eligibility clearer and provide a pathway for block substitutions.

**Date:**

13 October 2020

**For Endorsement by:** Motorsport Australia

**Purpose:**

- To clarify the process for block recognition and eligibility where a block is not automatically or clearly eligible under the regulations.
- To provide clarity around the family of engine criteria.
- To facilitate the continuation of all existing competitors with blocks that may not meet the specified criteria.
- To provide the capability of imposing a performance cap on blocks that are not eligible showroom specification/delivered blocks.
- To create the facility for replacement items for hard to get blocks/housings/end plates for engines common within IPRA.

**Is this rule proposed to attract new competitors?**

No

**Background:**

**Rationale:**

In late 2019, a CEC meeting was held in regard to the Eligibility of a Ford Boss block, produced by Ford Performance, and which was in use in Improved Production. The CEC considered the word "Derived", and using this interpretation considered the engine to be legal (amongst other reasons). Notwithstanding this outcome the CEC, via the AMRC also recommended that



IPRA re-examine this rule with the intent to make it clearer which blocks would be permitted, and which blocks would not.

To help determine what a new rule should look like, IPRA went out to its members with this question.

**"SHOULD AFTERMARKET BLOCKS BE PERMITTED IN IPRA?"**

**Definition of Aftermarket engine block**

*An aftermarket engine block is an engine block that differs from the mass-produced block in any way. For example, it may differ by being altered in material type, in material thickness/structure, it may have moved the location of ancillaries, or altered for better performance. It may also differ only by not being manufactured by the original vehicle manufacturer. These aftermarket engine blocks are sometimes referred to as Replacement blocks, Motorsport blocks, competition blocks, racing blocks, etc.*

The results of the survey were as follows:

<b>Emails sent</b>	
Successfully sent	353
Opened emails	269
Total of opens (ie, opened same email multiple times)	1364
<b>Unique clicks from email to survey</b>	<b>161</b>
Total clicks through (unique IP addresses)	270
<b>Should aftermarket blocks be permitted in IPRA?</b>	
Yes	28
No	103

Given the results of the survey, and the request from the CEC to consider the potential impact of the current rule, IPRA has suggested a number of changes.

The intent of the new rule is to make clearer which mass produced engines are permitted, as well as giving the IPRA National body the ability to recommend to Motorsport Australia additional engines, that they believe should be permitted to be used in IPRA.



The new rule would give IPRA the ability to list engines that are unclear in terms of their eligibility (just for clarity), as well as listing engines which clearly don't comply, but IPRA would like them to be permitted.

The new rule and list would also give IPRA the opportunity to place a performance limit on an otherwise non-compliant engine block. This performance limit would be intended to ensure that any non-compliant blocks are limited to a similar performance level to their mass produced variants, for example a 700hp air limiter on the GM and Ford aftermarket blocks.

Whilst the intent of the membership is clear, the board also recognises that if these non-mass produced engine blocks were not allowed for here by IPRA, then there would be a number of cars that may not be able to continue to run their existing engines. The exact number of competitors with aftermarket blocks is not clear, (but is in excess of 6) but the category are concerned that those that have them may leave the category without this balanced recognition pathway.

Where any member does not have a block that is considered eligible, IPRA will work with that competitor to facilitate the assessment process to ensure that competitor has an ongoing pathway for that block, where it meets appropriate criteria.

**Intent:**

- To provide clarity around which engine blocks are eligible for IPRA.
- To clarify and formalise the family of engine assessment criteria.
- To provide an assessment process for blocks to become eligible for IPRA and be added to an approved block substitutions list.
- To provide for a restriction to be placed on some 'approved blocks' to ensure they do not exceed the general performance expectations of production delivered blocks.
- To exclude billet blocks from the derived block application process.



For member guidance, derived blocks that are significantly removed from other eligible blocks, including those currently used in NASCAR, would be expected to fail the evaluation process.

### **Proposed wording:**

4.1 GENERAL Subject to the limitations contained in 4.2 and 4.3 below, the engine and components directly associated with its function are free. The crankshaft centreline as viewed from above must be parallel to that of the original engine.

### 4.2 BLOCK

(a) The block must have the same number of cylinders/rotors, and the same configuration as was standard or available as a manufacturer's option for that particular model (e.g. in line, horizontally opposed).

(b) The block must be from the same manufacturer (e.g. Ford, GMH, and Nissan) as the original Automobile.

(c) The cylinder block must either be:

(i) from an eligible Automobile as detailed in Article 1.1; or

(ii) from the same family of engines as an eligible Automobile with the following items being identical:-

- bore spacing
- oil filter location
- sump mounting pattern
- engine mounting points
- oil pump location and mounting pattern
- water pump location and mounting pattern
- cylinder head bolt pattern and number
- deck height and design (e.g. open or closed)
- main bearing cap fastener number
- made from the same core material (aluminium or iron)
- same processing method, (cast or machined)

Differences in transmission mounting pattern, and minor external casting differences are acceptable. The block type must be clearly identifiable as being from the same family of blocks from a mass produced Automobile and available to the general public through normal manufacturer outlets, not exclusively developed for sporting evolution models produced for homologation purposes in small numbers for



competition use-only. Motorsport Australia will be the final arbiter in determining the eligibility of a block.

- (iii) Derived from the same family of engines as an eligible automobile. A billet block will not be considered as being a derived block. Where a block is a derived block, it requires approval for use from IPRA and Motorsport Australia. A Block Substitution Application (BSA) is to be submitted to IPRA for assessment. Those blocks that are then deemed eligible are listed in the table below. These blocks may only be fitted to the vehicle make specified in the List of Approved Block Substitutions and may have restrictions applied. 4.2(b) does not apply to the blocks on the list below.

**LIST OF APPROVED BLOCK SUBSTITUTIONS**

BLOCK	VEHICLE MAKE	RESTRICTION

- (d) Motorsport Australia reserves the right to add any engine block at its discretion.

**4.3 ROTARY ENGINES**

A reciprocating engine may be interchanged with a twin rotor rotary engine from the same manufacturer in the following Automobiles: Mazda 1200 coupe, Capella, 808, 929 (pre-1978), 121 (RWD).

- a) A rotary engine may utilise peripheral porting but only in the following installations:

1200 Coupe / R100	10A only
Capella / RX-2	12A only
808 / RX-3	10A or 12A
929 (pre-1978 / RX-4	12A or 13B
121 (RWD) / RX-5	13B only
RX-7 (series 1,2 and 3)	12A only
RX-8	13B only

- (b)The rotor housings, intermediate and end plates shall be identifiable as mass produced Mazda items or comply with 4.2c (iii) above. Only engines identified as 10A, 12A or 13B are permitted. Such engines must not be exclusively from evolution/racing models.



## Amendments

The AMRC have reviewed the intent as agreed by the IPRA Executive Committee and decide that aftermarket blocks will not be accepted in the category. Please find the AMRC Proposed amended rule below which differs from the original intent. Further fine tuning of the rule may occur prior implementation.

### Proposal 5-20 Amendment

#### 4.2 BLOCK

- (a) The block must have the same number of cylinders/rotors and the same configuration as was standard or available as a manufacturer's option for that particular model (e.g. in line, horizontally opposed).
- (b) The block must be from the same manufacturer (e.g. Ford, GMH, and Nissan) as the original Automobile.
- (c) The cylinder block must either be:
  - (i) derived from an eligible Automobile as detailed in Article 1.1; or
  - (ii) derived from the same family of engines as an eligible Automobile using identical internal dimensions (with differences only in transmission mounting pattern, minor external casting differences etc.). The block type must be clearly identifiable, i.e. Nissan SR20DE, SR20DET, Holden Family II, Toyota 4AG series etc.
- (d) The **derived** block must be identifiable as being from a mass-produced Automobile. **It must not have been exclusively developed for sporting evolution models, produced for homologation purposes in small numbers for competition use only or be an aftermarket replacement block, unless eligible in accordance with 4.2(e).** Motorsport Australia will be the final arbiter in determining the eligibility of a block.
- (e) **A road car replacement block, supplied by the original vehicle manufacturer, is permitted if approved by Motorsport Australia and listed in the table below. To be listed as an approved replacement block, the replacement block may not have any changes that could offer increased performance over the mass-produced vehicle's engine block.**

Mass produced engine block	Approved replacement block
General Motors LS blocks – all models	GM XXX-XXX

- (f) **An engine block that complies with the 2020 3J improved production regulations is permitted to be used until the end of the 2021 season.**
- (g) Motorsport Australia reserves the right to add any engine block at its discretion.



**Notations:**

Vote by	
Executive Member Name	
Was this distributed to all members	
Date distributed (if applicable)	
Date accepted by National board	
Read out by:	
Witnessed:	

**Was the proposal accepted:**

Feedback:

Signed.....State.....Date.....