



REFERENCE	BT_2013_X98CUP_05_UK
DATE	2013 May 23th
SUBJECT	Brakes and rear axle geometry

CONCERNED : 2013 EURO CUP CLIO

Dear Competitors,

Please find below some mandatory updates for SPA

1) Brake disc

1.1 New brake disc

We inform you that following a specific development session last week, several technical solutions were tested and we validated a new fully floating front brake disc (Performance Friction 330x28mm). The calliper remains the same but it's necessary to change the calliper support.

This brake disc kit should be delivered on Thursday 30th afternoon in Spa. We can't unfortunately guarantee at 100% the availability due to the manufacturing time needed and the shipment (made in USA) but be aware that Renault Sport Technologies is fully engaged to respect this commitment with its supplier.

The following kit (1 allowed per car) will be proposed for free and will be available directly at the Renault Sport Spare parts truck:

Parts	References	Quantity per car
Left hand side disc	77 11 162 569	1
Right hand side disc	77 11 162 588	1
Brake disc hat	82 01 463 411	2
Snap ring	82 01 463 412	2
New calliper support	8201463174 (update of the current version) or new version 82 01 458 856	2
Screw M14x150-87	82 01 463 358	4

1.2 Backup solution

In case that the new brake discs can't be available in Spa, the same offer proposed for IMOLA is still valid:

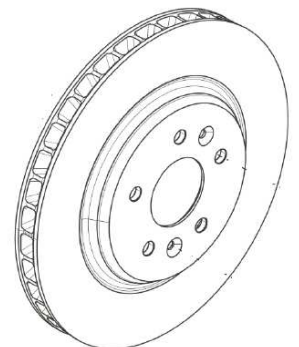
Renault Sport spare parts department proposes the current AP 320x28mm front brake disc at the special price of 42.37€ excl VAT under the new reference 00 01 395 136.

Condition of the offer:

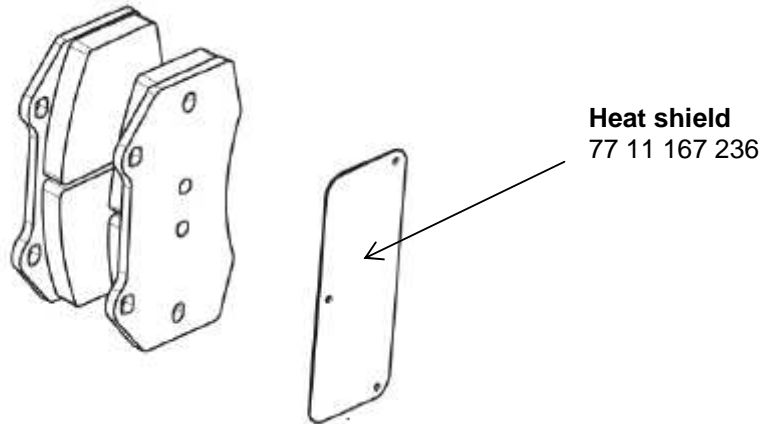
- 1 set of 2 brake discs per car for Spa
- The 2 brake discs must be exclusively ordered to Renault Sport spare parts truck in Spa (not possible to order them directly to the spare parts department in Alpine)
- No credit note can be provided on new brake discs already bought

Therefore, a maximum of 2 brake discs (00 01 395 136) can be bought at 42.37€ each per car during the EURO CUP Clio SPA meeting and exclusively at the spare parts truck

All other brake discs you may require are still available under the reference 82 01 395 136 at the current price of 139.88 excl VAT



2) Brake pads and heat shield



2.1 Brake pads

The front brake pad compound will be free for the next EURO CUP Clio Spa meeting and can be subject to any change before the EURO CUP Red Bull Ring event. You have to respect the following conditions:

- The mounting of the pads have to be done without any modification of the calliper.
- The fastenings of the pad must remain the original ones

NOTE : The current CL Brakes rear brake pads are still the only references allowed (82 01 419 435 and 77 11 167 103)

2.2 Brake pads heat shield kit (4 pads)

Regarding some specific brake problems (supposed to be vapor-lock related) experienced in IMOLA, we remind you that the heat shield kit 77 11 167 236 can be fitted.

This heat shield must be placed behind each brake pad to be in contact with the calliper's pistons

The gluing of the heat shield on the back of the brake pad is not mandatory but it must be fitted using the original brake pads fasteners

→ Its presence is optional but is strongly recommended (allows a reduction of the brake fluid temperature of approx. 30°C).

That's why Renault Sport offers 1 kit 77 11 167 236 per car for the EURO CUP Clio Spa meeting.

This kit is available from the Renault Sport Spare parts truck.

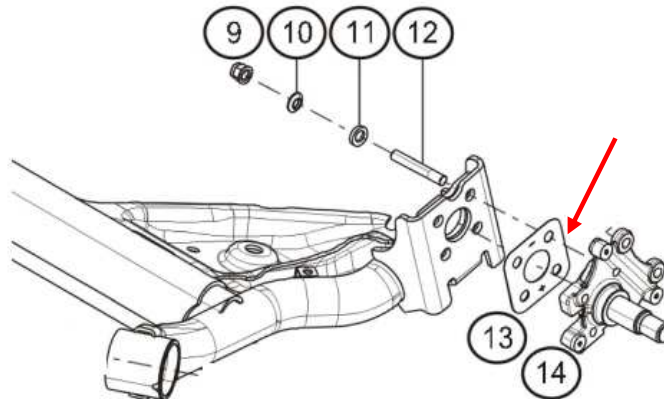
NOTE : To maintain a top level of efficiency, these heat shields have to be changed every 500km (approximately 2 meetings)



3) Rear axle geometry

3.1 Camber :

As decided for IMOLA, the **theoretical** maximum camber allowed (stacking of shims) remains **4°50'** for the EURO CUP Clio meeting in SPA next week.



This angle is obtained as explained below:

- Maximum 4 shims of 1° allowed per wheel → theoretical angle = 4°

CAUTION : The 1° and multiples of 1° can only be obtained by combinations of 1° shims. No other combinations using lower angle shim are allowed.

- To reach the maximum value of 4°50', you must respect the table below:

Camber required	Combinations allowed (per wheel)	Combinations forbidden (per wheel)
10'	1x10'	
20'	1x20'	2x10'
30'	1x30'	(3 x 10') or (1x20' + 1x10')
40'	(1x30' + 1x10') or (2 x 20')	4 x 10'
50'	1x30' + 1x20'	(5 x 10') or (1x20' + 3x10') or (2x20' + 1x10')

CAUTION : please refer to §3.3 before fitting any shim

The non respect of this maximum theoretical stacking will be considered as a technical non conformity.

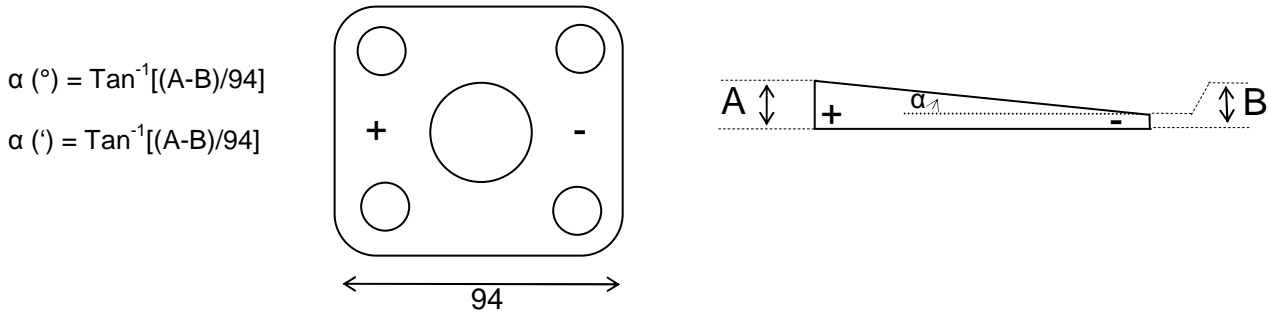
3.2 Toe :

Free.

3.3 Camber / toe shims :

We found in IMOLA a few shims with value and reference engraved which didn't correspond to the real physical angle measured.

We kindly ask you to measure the physical angle of all your shims regarding the following table and drawing:



α (engraved)	Renault Sport reference	Thickness A (+)	Thickness B (-)
10'	82 01 369 770	2 +/-0.1	1.75
20'	82 01 369 771		1.5
30'	82 01 369 772		1.2
1°	82 01 369 773		0.4

Instructions:

If you find some suspicious shims, we ask you to bring them back to Renault Sport Spare parts trucks to exchange them with the right version (reference + value engraved = real physical angle measured)

REGULATIONS:

In case of technical scrutineering, **only the real physical angle measured using a vernier calliper (dimensions A and B) will be considered** in accordance with §3.1 (even if the value and reference engraved don't correspond with the real angle).

We remind you that the compliance with this rule is the responsibility of the team / driver.

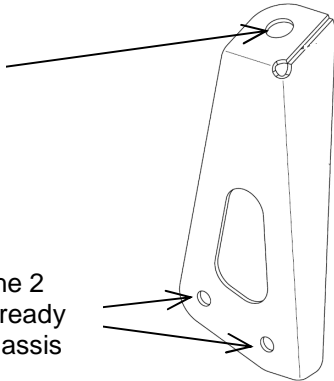
The non respect of this rule will be considered as a technical non conformity.

4) Front cover fasteners supports

We inform you that the front cover fasteners supports have been improved.

2 new stainless steel supports have been designed to be fitted directly to the chassis using the 2 existing screws

Existing front cover fastener



The new supports are available directly to Renault Sport Spare parts truck for free under the following references:

Right hand side support: 82 01 457 712

Left hand side support: 82 01 457 713

Only one set of 2 supports will be available per car.

For safety reasons, the presence of these new supports is mandatory from SPA event.

FITTING: Use the 2 existing screws already screwed in the chassis



Left hand side support



On both left and right sides, a cut of the front cross member must be performed respecting the red square (just follow the existing pre cut)

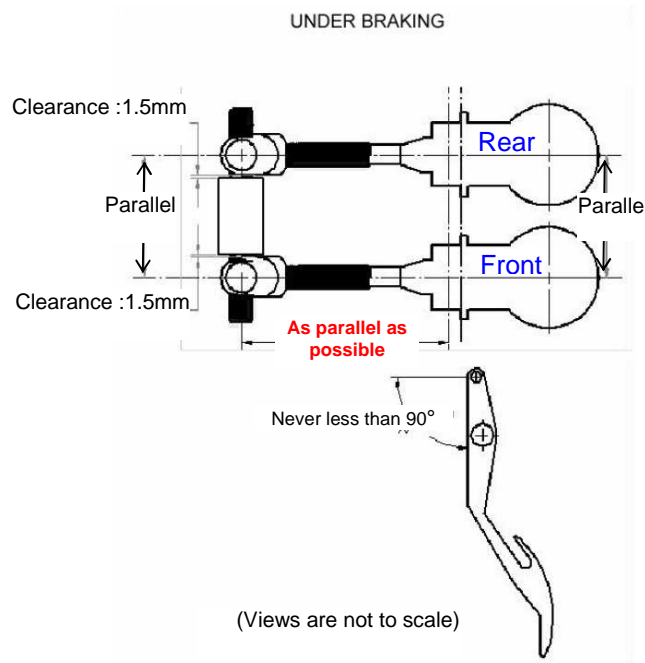


Right hand side support

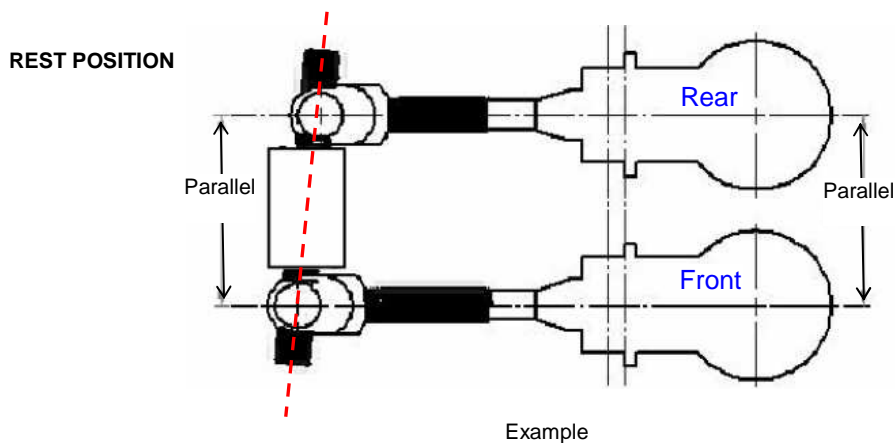
A cut has to be performed on the front headlight original lateral plastic guide to allow the fitting of the support

5) Pedal box

We remind you that **under braking**, the balance bar and master cylinder threaded rods must be set as indicated below:

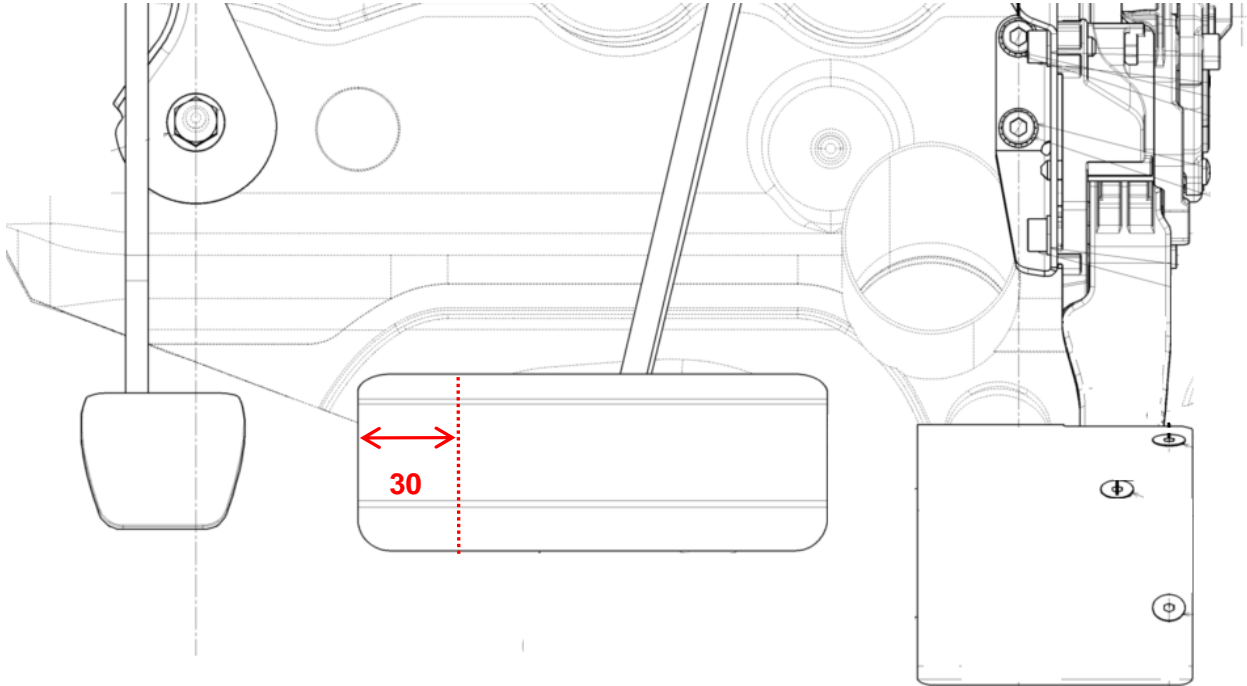


This means that you have to adjust the master cylinder rod lengths with the 2 balance bar brackets (the front master cylinder push rod will be longer than the rear master cylinder one of a few mm as the front master cylinder will travel more under braking). At Rest, the setting should be as below:



NOTE: The brake balance shall not exceed 55% front to allow a proper stress repartition in the balance bar. This value can be measured on diagnostic pages of the dashboard (chassis page).

6) Brake Pedal



We ask you to reduce the brake pedal width of 30mm on the left side. This dimension corresponds to limit of the support welding behind the plate

This cut is **mandatory** for Spa

RENAULT SPORT TECHNOLOGIES
Motorsport Department