

Sujet: Kit Acquisitions supplémentaires

Afin de vous permettre d'optimiser les réglages et l'utilisation de votre C3Rally2, nous vous proposons un kit d'acquisitions supplémentaires (ref ACQUIS-SUP) composé des éléments suivants :

Désignation	Référence	Qté/ kit
EMETTEUR IR SIGMALIS	904615488A	2
CELLULE IR SIGMALIS	904621128A	2
Faisceau cellule sigmalis	904701178A	1
CENTRALE INERTIELLE	9811627180	1
Prolongateur centrale inertielle	904701168A	1
SONDE TEMPERATURE FREIN	903895318A	1

Ce kit vous permettra d'améliorer l'exploitation de votre C3rally2 sur les séances d'essai. En effet, cette instrumentation n'est pas autorisée en course.

Ce kit se compose de 3 parties :

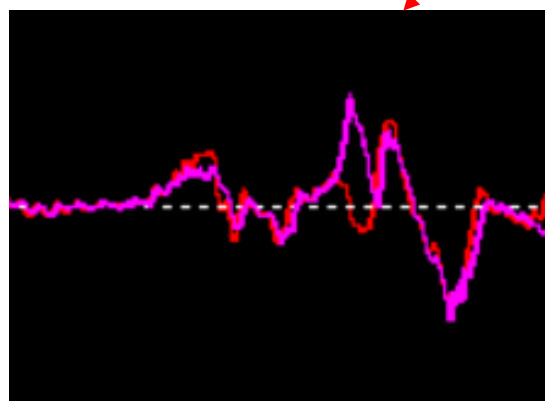
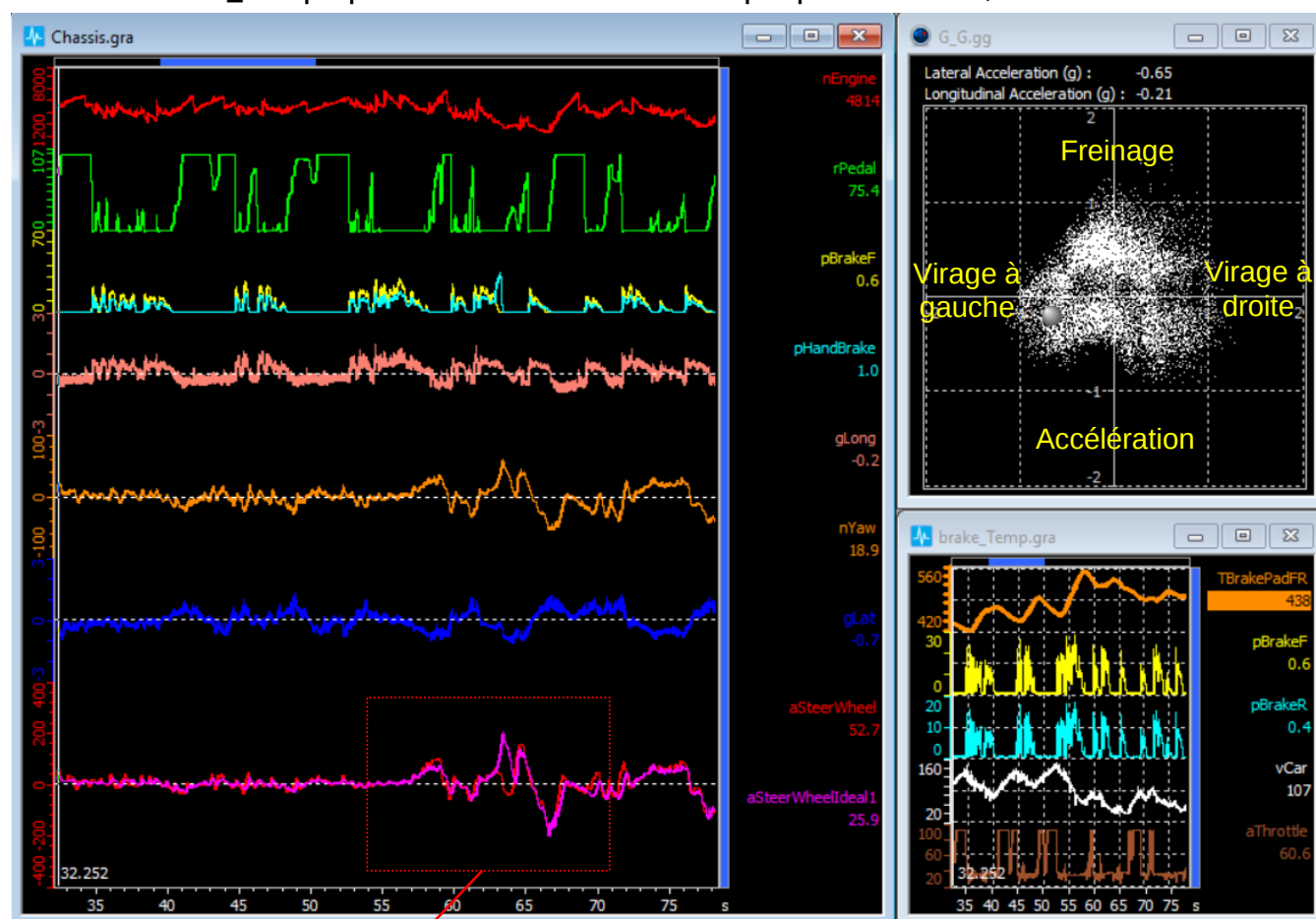
- découpage des runs grâce aux cellules ce qui permet d'avoir des prises de temps réelles, répétables et de se repérer plus facilement,
- La centrale inertielle permet de suivre le comportement dynamique de la voiture et d'en ressortir les tendances au sous ou sur-virage, de corréler les commentaires pilotes et d'effectuer les changements de setup adaptés,
- La sonde de t° de frein, pour surveiller la t° de fonctionnement en roulage,

Merci de vous référer à l'annexe pour les instructions d'utilisation et de montage.

Pour vous aider à utiliser ce kit, un onglet wintax "Chassis_Att" a été créé à cet effet.

Il est décomposé en 3 fenêtres :

- Chassis : le comportement châssis y est trouvé ainsi qu'un canal "aSteerWheelIdeal1" donnant l'angle volant idéal recalculé en fonction de la vitesse de lacet. Ceci vous permet d'identifier les phases de sous ou sur virage.
- G_G : diagramme G_G traçant les accélérations latérales en fonctions des accélérations longitudinales.
- brake_Temp : permet de monitorer la t° de plaquette de frein,



Notion de sous ou sur-virage :

Quand $aSteerWheel > 0$:

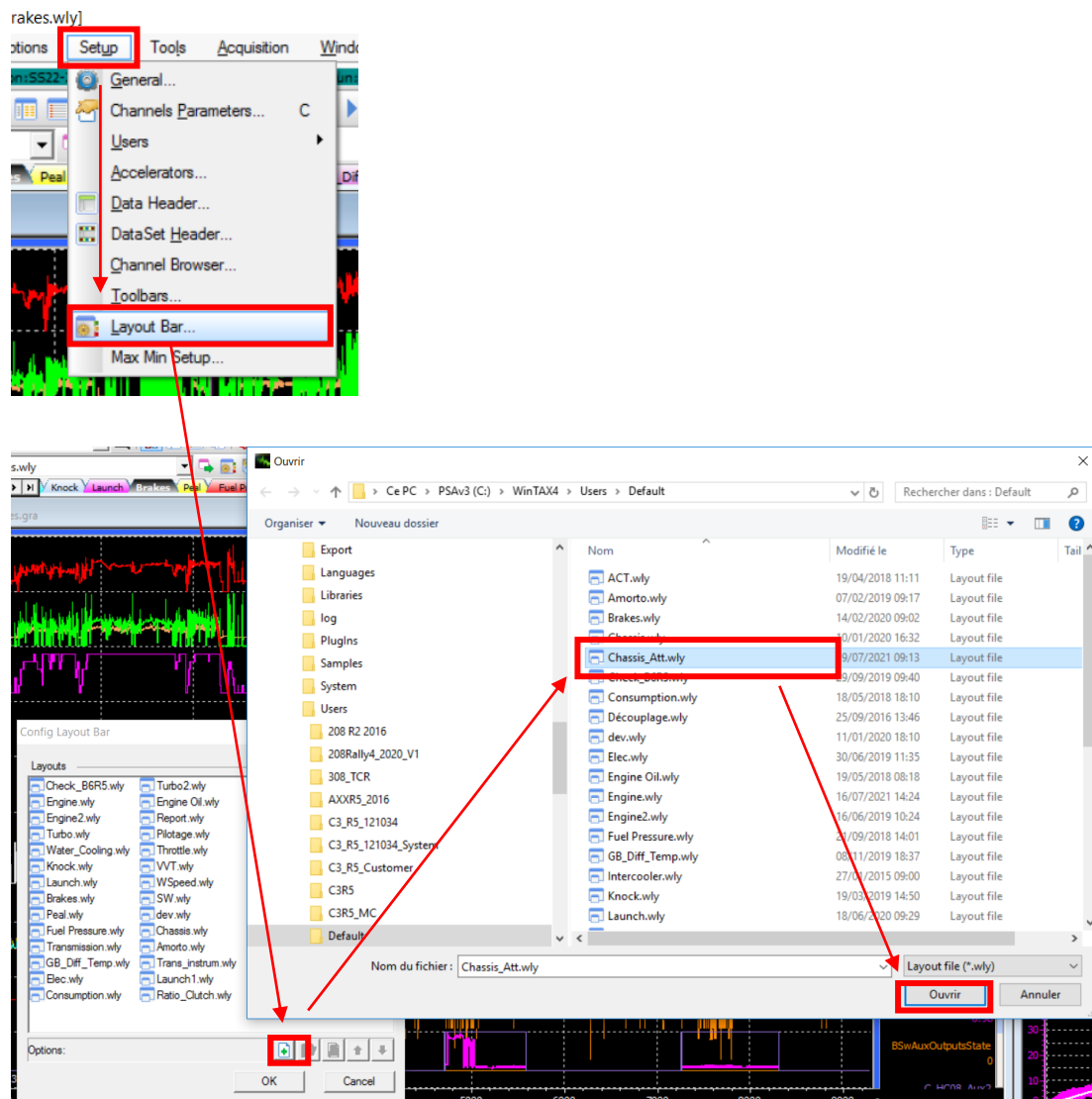
- si $aSteerWheel > aSteerWheelIdeal1$ -> sous-virage
- si $aSteerWheel < aSteerWheelIdeal1$ -> sur-virage

Quand $aSteerWheel < 0$:

- si $aSteerWheel > aSteerWheelIdeal1$ -> sur-virage
- si $aSteerWheel < aSteerWheelIdeal1$ -> sous-virage

Pour utiliser cet onglet, il est nécessaire de copier les fichiers Chassis.gra, Chassis_Att.wly et G_G.gg qui se trouvent dans le dossier "Acquis_Sup" dans votre User.
Le fichier Acquis_Sup.vch est à copier, quant à lui, dans "Librairies".

Ensuite, sous Wintax, ajouter l'onglet en suivant les instructions suivantes :



L'équipe du support technique,

Damien Arbonnier
damien.arbonnier@mpsa.com
 Mobile : +33 6 74 56 77 86

Yann Chalmeton
yann.chalmeton@mpsa.com
 Mobile : +33 6 31 83 00 89

Subject: Supplementary data acquisition

To help you in engineering your C3Rally2, a set of optional sensors is now available. This kit (ref ACQUIS-SUP) is composed from the following parts:

Part	Reference	Qty/ kit
Laptrigger transmitter	904615488A	2
Laptrigger receiver	904621128A	2
Laptrigger receiver loom	904701178A	1
Inertial measurement unit	9811627180	1
Inertial unit loom	904701168A	1
TCK t° sensor	903895318A	1

This kit will allow you to optimize the settings of your C3Rally2 during test sessions only. Indeed, these sensors are not allowed during racing as not homologated.

This kit is split in 3 parts:

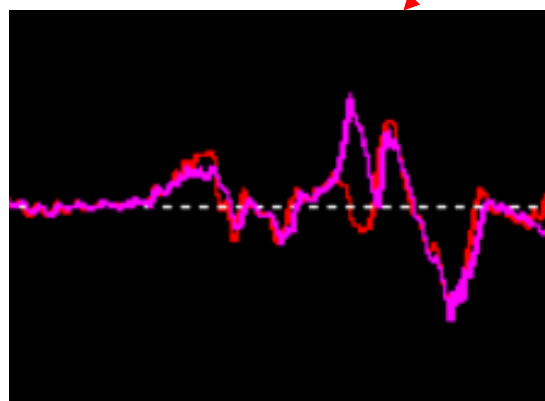
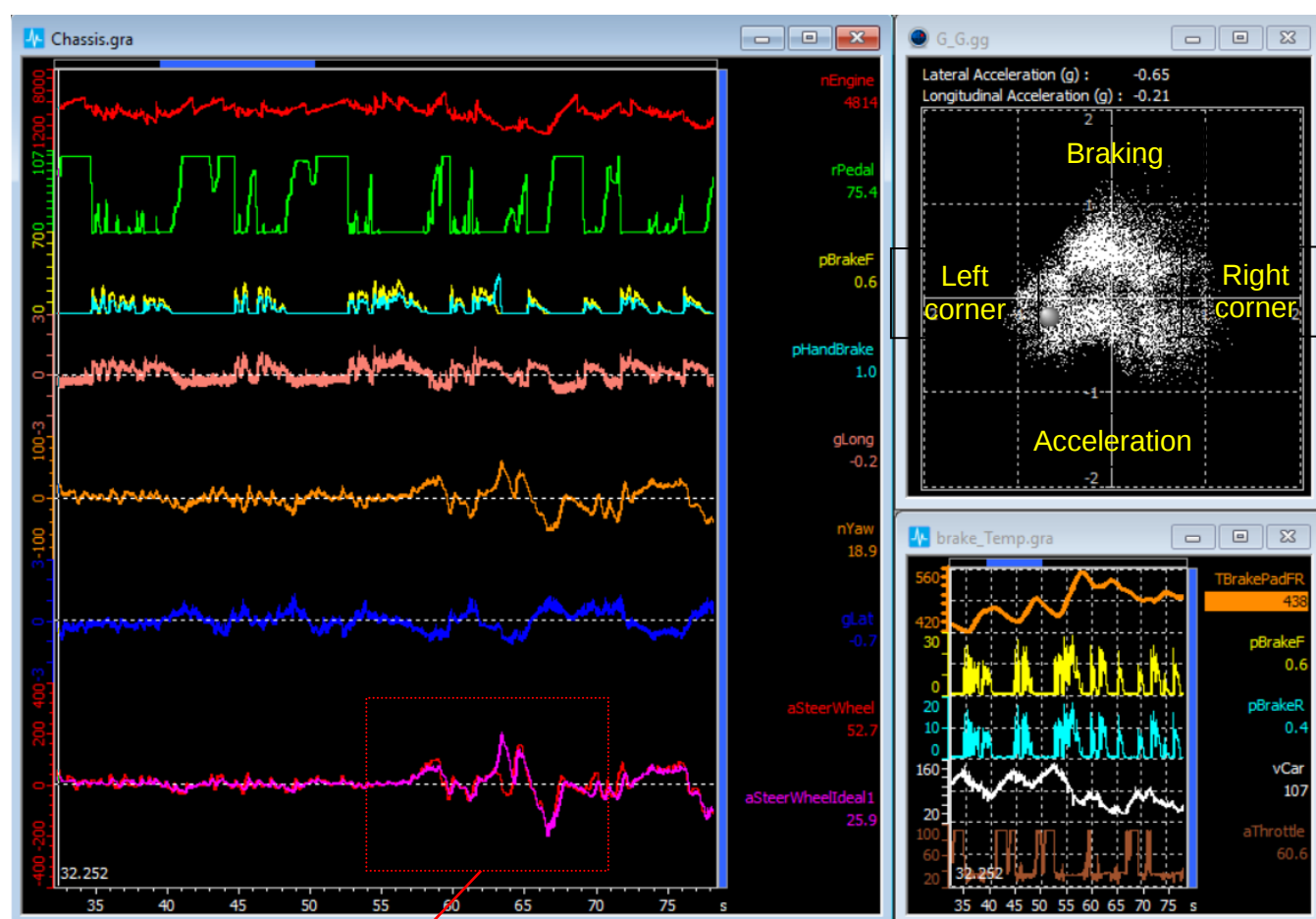
- laptrigger device (transmitter and receiver) to get the lap time and to located more easily,
- Inertial measurement unit to monitor the car behaviour to get the U/S or O/S tendency, to correlate with the driver comments and to do the adapted setup changes,
- a TCK sensor to check the FR brake pads t°,

See appendix for fitting instructions.

To help you in using this kit, a Wintax tab "Chassis_Att" has been created:

It's split in 3 windows :

- Chassis : you will find here the chassis behaviour as well as a math channel "aSteerWheelIdeal1" giving the ideal steering wheel angle calculated from the yaw speed. This will help you to identify the under/over steering phasis.
- G_G : G_G diagram with Lat g plotted against Long g.
- brake_Temp : to follow brake pad t°,



Under or over steering notion:

When $aSteerWheel > 0$:

- if $aSteerWheel > aSteerWheelIdeal1$ -> under-steer
- if $aSteerWheel < aSteerWheelIdeal1$ -> over-steer

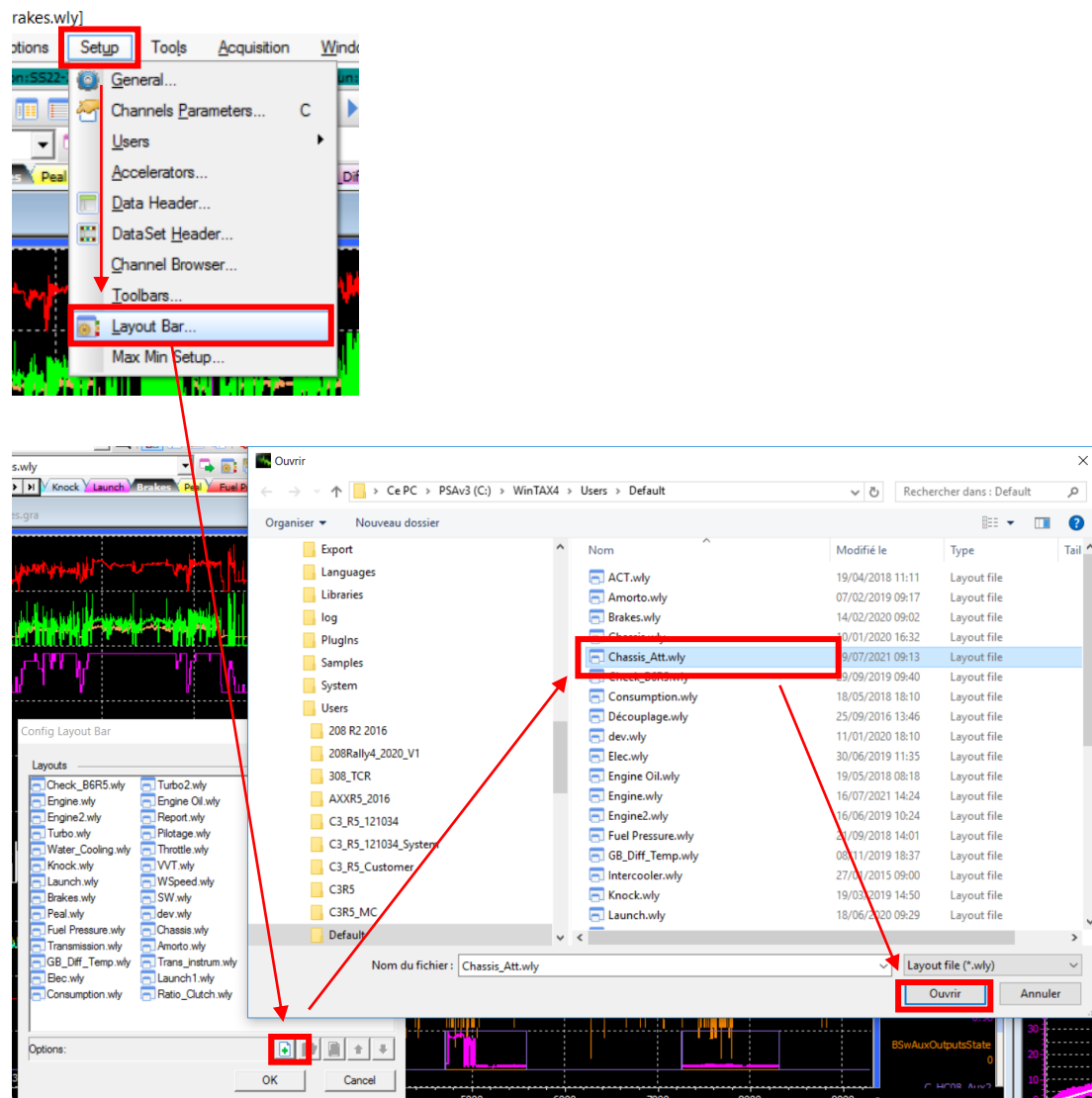
When $aSteerWheel < 0$:

- if $aSteerWheel > aSteerWheelIdeal1$ -> over-steer
- if $aSteerWheel < aSteerWheelIdeal1$ -> under-steer

To use this tab, it's necessary to copy the files Chassis.gra, Chassis_Att.wly & G_G.gg located in the folder "Acquis_Sup" into your User.

The file Acquis_Sup.vch has to be copied into the "Librairies" folder.

Then in Wintax, you need to add the tab by following the instructions below:



The technical support team,

Damien Arbonnier
damien.arbonnier@mpsa.com
 Mobile : +33 6 74 56 77 86

Yann Chalmeton
yann.chalmeton@mpsa.com
 Mobile : +33 6 31 83 00 89

Instructions de montage / *Fitting instructions*

Emetteur / Transmitter:



System Installation advice:

- 1- Install the transmitter on the side of the track with an auxiliary power supply
- Supply voltage..... 8-18 V
- Current consumption@12V..... typ. 200 mA
- 2- Insure to get the same height between receiver and transmitter
- 3- Verify that the red LED is blinking (= transmitter is working)
- 4- Pay attention that the maximum distance between transmitter and receiver (vehicle) is 20m.
- 5- The vehicle must come to within receiving distance with line of sight.
- 6- Position the transmitter 15m away from other transmitters.

Note: A code change is only accepted after power off/on.

Récepteur / Receiver:

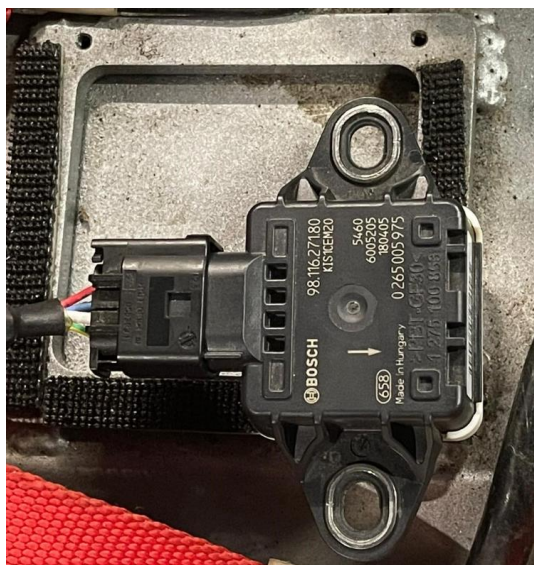
A bracket (neither supplied nor available for sale) will be necessary to fit the receivers to the rollcage (sse picture below).

Then plug the receivers to the loom (plug Balise IRD and IRG) and the loom the the connector "Balise IR" from the car (which is located at the rear of the tunnel).



Inertial measurement unit:

Place the unit at the back of the tunnel (you can remove the ADR box **only for test**) with the arrow pointing toward the front. Use to dual lock tape to fit it.

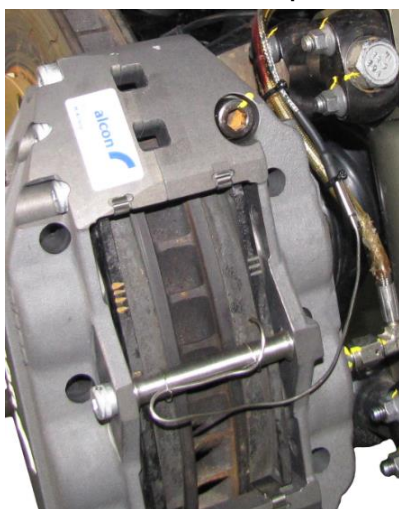


Connect the unit to the "inertiel" plug of the inertial unit loom then this loom to the CAN_500 connector from the chassis loom (located at the rear of the tunnel)

TCK sensor:

Drill the pads (front right inner one) at 2mm. The depth of drilling must be enough to measure the t° at the middle of the pads height.

You can fit the sensor to the caliper using locking wire.



Example of TCK sensor fitting and hole drilling (taken from DS3R3 as no picture available for C3Rally2)

Data acquisition:

Here are the additional channels:

nYaw = yaw speed (in °/s)

gLong = longitudinal acceleration in g

gLat = lateral acceleration in g

TBrakePadFR = temperature in °C given by the TCK sensor

To get these additional channels, you need to use the data table:

"C3R5_14.2.2.22_Test_xxx.clx".