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RYKER YAW Rate - SAS Sensor Faults - 137209

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Summary:
YAW rate sensor faults might be triggered due to loose front suspension components.

Type:
General

TST Detail:

Problem:

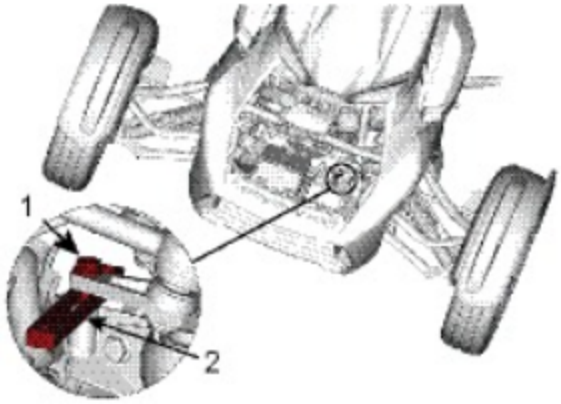
These 3 faults (C0063 and/or C0051 and *C006C) can be triggered if the front suspension has excessive play **or** the front wheel alignment is out of specification.

NOTE: Do not attempt to fix a unit if your dealership is not equipped with the BRP alignment laser tools.

Solution:

Code set at PDI or low miles;

- Check the wheel alignment with the BRP laser tools. The alignment procedure is attached below as a PDF.
- ALIGNMENT TOOL 529 036 475
- ALIGNMENT ADAPTOR C RYKER REAR WHEELS 529 036 483
- ALIGNMENT ADAPTOR B RYKER FRONT WHEELS x 2 529 036 482
- Important to reset with BUDS2 the SAS/YAW sensor with the steering lock tool once the alignment is done. Simply lock the steering system on the LH pitman arm. Use Alignment screw (P/N 529 036 490)



1. Alignment screw
2. Steering column spacer

Code set with higher mileage;

- If the unit has some miles and these codes (C0063 and/or C0052 and *C006C) are triggered, the first thing to have a look at is the Monitoring ID. The ID18 is a very good indicator that there is an excessive play of the front steering components. Simply click on the fault and then environmental data.
- Before replacing any parts, save the BUDS2 file with the steering locking tool installed and attach it to the technical case

Active/Occurred Possible

Fault Codes

Module	State	Code	Description	Detailed Description
VCM	Occurred	C0063		

More Details...

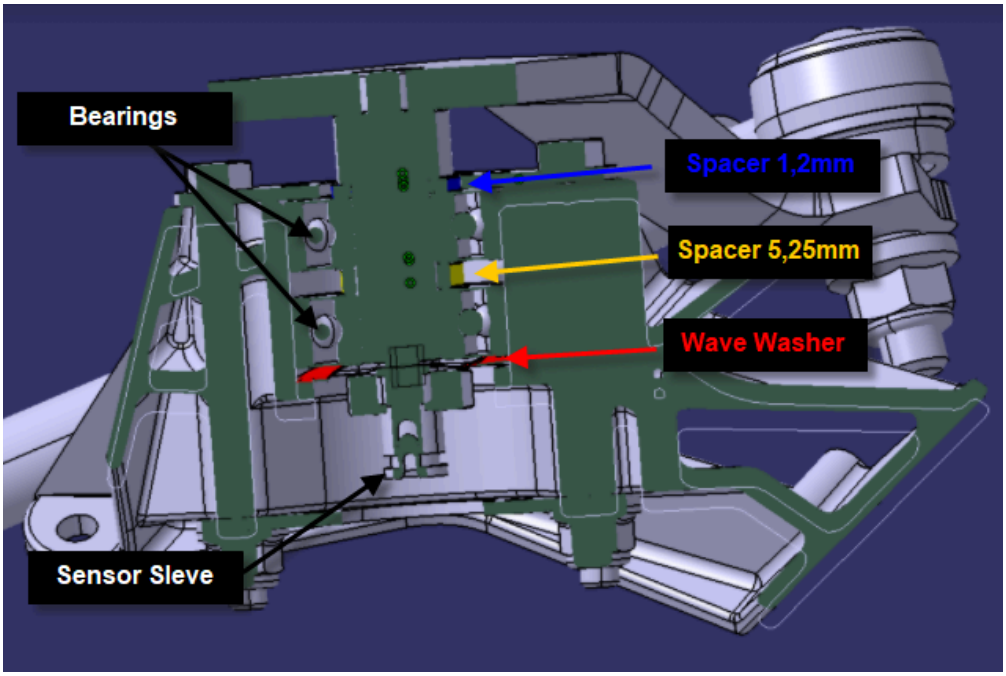
Environmental Data | Possible Causes | Service Actions | DFC

Parameter Name	Value	Unit
Engine Running Time	2335	MIN
Failure Counter 1	8	
Failure Counter 2	0	
Monitoring ID	18	
Odometer	1909	km
System Status 1		

- If monitoring ID18 is there, replace the following;

Order kit P/N 219800513 (**Note that this kit P/N is already installed from production on MY22 & up units**)

- **Kit Parts List for MY19 to MY21:**
  - 1x 219800512 - Spacer 1.2 mm
  - 1x 219800511 - Spacer 5.25 mm
  - **2x 709402450 - Bearing**
  - 1x 219800510 - Wave washer
  - **1x 709401527 - Sensor Sleeve**
  - 1x 487802246 - Generic Sheet



- **For MY22 & up**,

The 1.2mm spacer has been removed and the pitman arm has been revised to fill the gap. Do not install the revised kit on these units. Simply replace the service parts as listed in the electronic parts catalog.

- **709401527 - Sensor Sleeve (SAS bushing)**

The front plastic sensor sleeve is critical and it is most of the time the reason why these faults are triggered. The attached video below shows a worn-out sleeve that needs to be replaced.

- **Aluminum bearing support** 705208908

On very high mileage units, it is possible that the aluminum bearing support has some abnormal play. This part needs to be replaced if there is still excessive play with new bearings installed. Same as the 2 LH side 709402919 Half Bushings.

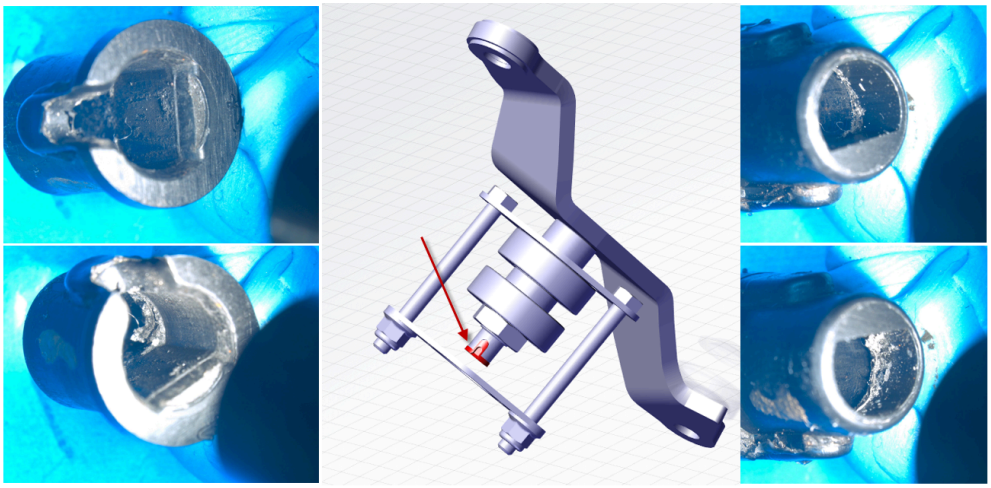
- Once parts are replaced, perform the wheel alignment. Important to set the alignment right on the specs.

Once again, the wheel alignment is critical and these faults can be triggered if the alignment is off. Wheel alignment has to be done with the BRP laser tool, refer to the shop manual for tool P/N and alignment specs. It is recommended to align Rykers once a year (10000km / 6000 miles), when a suspension has been replaced or when a big pothole has been hit.

Inspection Procedure:

SAS Bushing;

- A good sign that the steering components are too loose is that the SAS plastic bushing will be worn out by the excess of axial movements. The bushing is a tight fit on the SAS shaft. It needs to be replaced if you can easily remove it with your fingers. Here are some examples;



Other things to consider;

- Wheel alignment (Use BRP laser kit as mentioned in the manual shop)
- LH steering column half bushing
- loose rod end
- Damaged suspension components by an impact

If the problem remains there, open a technical case including a BUDS2 report and wheel alignment measurement (reading A-B-C).

- Below is attached a video showing an excessive play of the pitman arms and SAS bushing

Warranty:

Normal & BEST warranty applies
Use job code 07-07

Attachment: **Roadster 2019 Steering.pdf**

First Published By: Eric Fauteux **on** 2019-11-08
Last Modified By: Eric Fauteux **on** 2024-06-21