



Procedure for power measurement on dynamometer

Panigale V4 (all model versions)

Service Repair Bulletin SRV-SRB-19-034

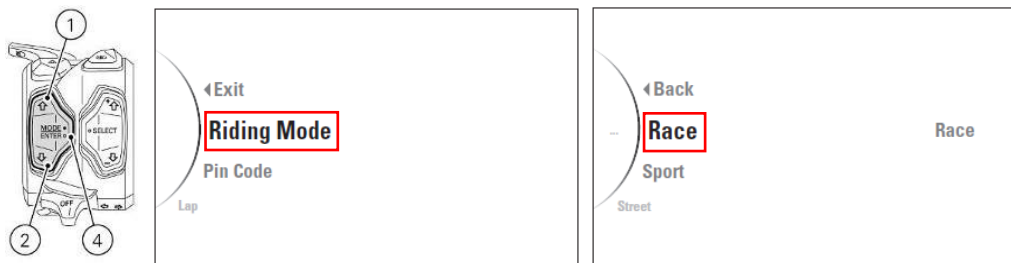
Date: September 5, 2019
To: Dealer Principal, General Manager, Service Manager, North American Dealer Network
From: Richard Kenton, Technical Director
Eric Bradley, Technical Training and Publications Manager

Dear Dealers,

This bulletin provides the procedure and settings to correctly measure the performance of the Panigale V4 on the dynamometer (both inertial and braked).

Riding Mode setting

To measure the correct power and drive torque of the engine it is necessary to select the "Race" Riding Mode by accessing the dedicated menu of the instrument panel and pressing **button (4)** for 1 second; the riding modes available (Race, Sport, Street) are displayed on the left side of the display while the currently set Riding Mode is displayed on the right side.



Any time you press **buttons (1)** or **(2)**, the instrument panel will display the riding modes and the "EXIT" indication. Once the desired "Race" Riding Mode is selected, press **button (4)** to confirm.



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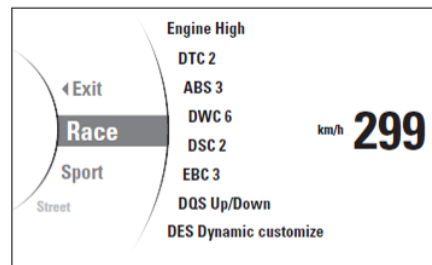
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Setting the "Race" Riding Mode parameters

Parameter information is displayed for any riding mode:

- Engine power (ENGINE)
- DAVC (DTC, DWC, DSC)
- ABS system
- EBC system
- Info Mode
- DQS system
- DES system

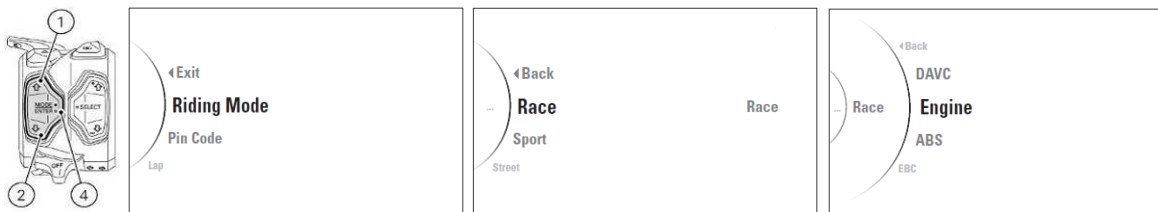


For the set "Race" Riding Mode, it is necessary to check that:

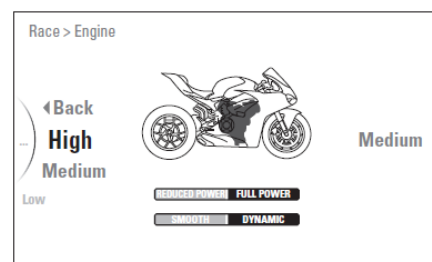
The parameter related to the engine power "Engine" is set to "High".

Access the Setting menu, select "Riding Mode" indication by pressing **button (1)** or **(2)** and press **button (4)** to confirm.

Select the "Race" riding mode and then the "Engine" parameter confirming with **button (4)**.



Customization options are listed on the left: "High", "Medium", "Low" while the set value is shown on the right. Using **buttons (1)** and **(2)** select the "High" level and confirm with **button (4)**.





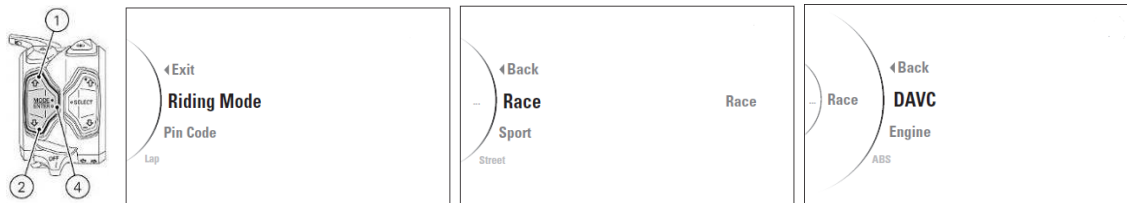
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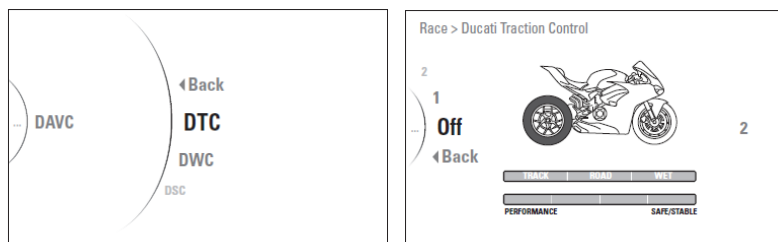
The parameter of the Ducati Traction Control (DTC) is disabled:

Access the Setting menu, select "Riding Mode" indication by pressing **button (1)** or **(2)** and press **button (4)** to confirm. Select the "Race" riding mode and then the "DAVC" parameter confirming with **button (4)**.



In this way, it is possible to select the "DTC", "DWC" and "DSC" functions to be customized. Select the "DTC" function and confirm with **button (4)**. All customization options are listed on the left (from 1 to 8 and the OFF status), while the set DTC level or status are shown on the right.

Using **buttons (1)** and **(2)** set the intervention level to "OFF" and confirm with **button (4)**.





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Setting the dynamometer parameters

Dyno (e.g. Bapro)

If using a roller dynamometer, it is necessary to correctly enter the drive ratio in the dynamometer configuration (refer to the specific manual).

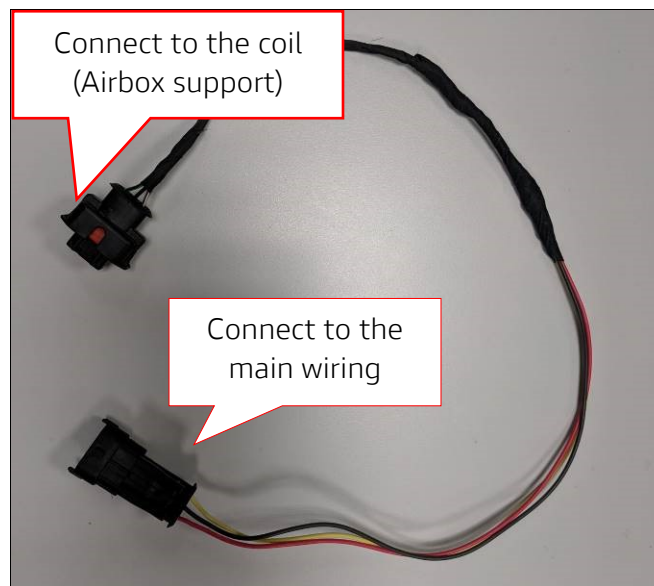
Since the motorbike runs at high engine rpm, it is recommended to set the drive ratio to the configuration in which the motorbike runs at half its speed (for example 8,000 rpm).

Inertial dyno (e.g. Dynojet)

It is necessary to use an inductive clamp to acquire the engine speed.

The inductive clamp must be connected to the circuit of the primary coil to measure the engine speed during the test.

In the specific case of the Panigale V4, to be able to connect the inductive clamp, remove the fuel tank to access the connectors of the rear bank ignition coils and apply an extension (not supplied, must be made with local resources) to one of the coil cables.

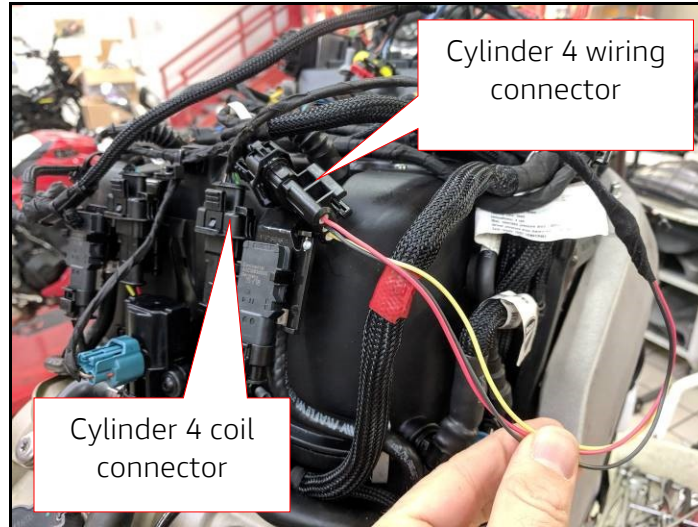




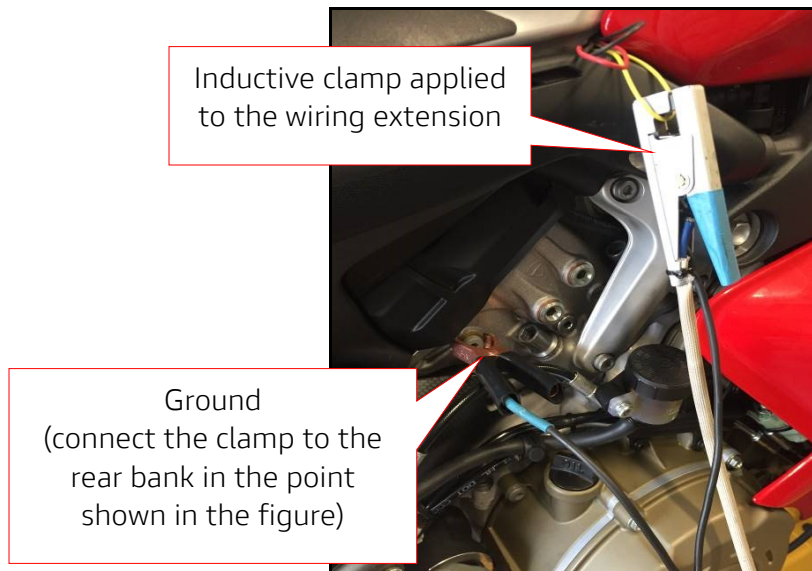
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Connect the extension to the coil cable of cylinder 4 on one side and to the main wiring connection on the other.



Restore the motorbike configuration paying attention to position the extension outside the fairing in order to connect the clamp. The clamp must be applied to read the drive current of the coil (PIN1 or PIN3, taking the marks of the connector as reference).



At this point, the motorbike is ready for the power measurement.



NOTE

Run the test in 6th gear and make sure that the engine has already heated and started the fans.



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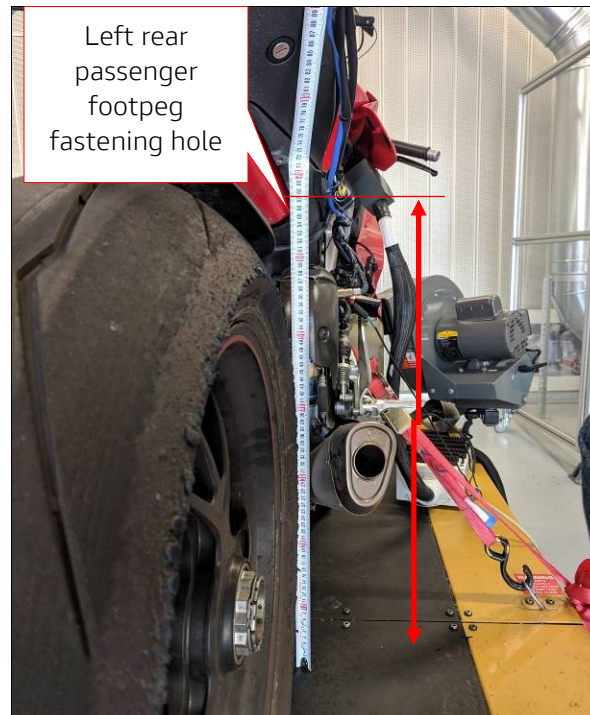
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NOTE

To fasten the motorbike to the dynamometer, we kindly ask you to apply tie downs at the back of the motorbike in order to have a certain preload on the rear wheel. Lower (starting from a reference value) the distance between the fastening hole of left rear passenger footpeg and the dynamometer plane by 200 mm, as shown in the figure:



Global guidelines

Ducati recommends performing the test at the reference temperatures of coolant (between the second and third reference bar indicated on the instrument panel) and air ($\leq 30^{\circ}\text{C}$) to avoid having marked corrections of the ignition advance.

Important information for a correct calculation of the power of the engine at the crankshaft

Usually, the most common dynamometers allow measuring the power at the rear wheel. To have power at the crankshaft it is necessary to multiply the power by a mechanical efficiency coefficient that takes into account all losses related to the drive.



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The Desmosedici Stradale engine has a counter-rotating crankshaft and, compared to classic engines, it has a dedicated chain tensioning sprocket. To have the power value at the crankshaft it is necessary to correct the measurement taken on the inertial dynos considering an additional coefficient that combines the different efficiencies indicated in the following table:

Couplings	Coefficients
Idle gear	0.98
Primary drive gear	0.98
Drive ratio	0.98
Chain	0.95

The total coefficient to apply is 0.8941.

Power at the crankshaft = Power at the rear wheel / 0.8941

Similarly, if you wish to calculate the power at the crankshaft that takes into account only of the idle gear (by pulling the clutch at the end of the launch during the deceleration) you will need to consider only the coefficient of the idle gear.

In this case, the coefficient to apply is 0.98.

Power at the crankshaft = Power at the rear wheel / 0.98

For questions about this Service Bulletin,
please contact your Service Area Manager.

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