



Ferrari North America

Technical Information

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Model Type:



Model Year: All

Subject: Procedure for checking and cleaning SAP and CCP connectors

The procedure for checking and cleaning the SAP and CCP connectors on the DCT gearbox of the aforementioned models is described herein.

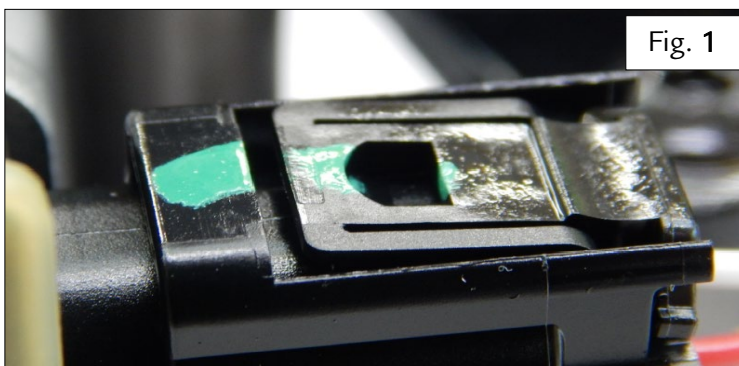
SAP connector

Checking connection

Check that the connector is connected correctly, as shown in the following images – Fig. 1, 2.

Connector NOT OK

Locking tab is not fully seated
by the retaining clip



Connector OK

Locking tab is seated correctly





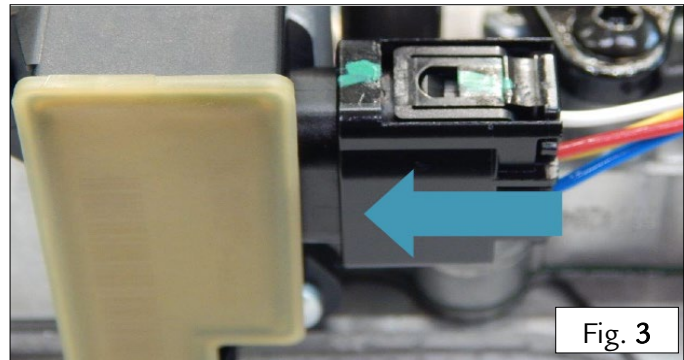
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If the connector is connected correctly, perform the **PUSH – PULL** test described as follows.

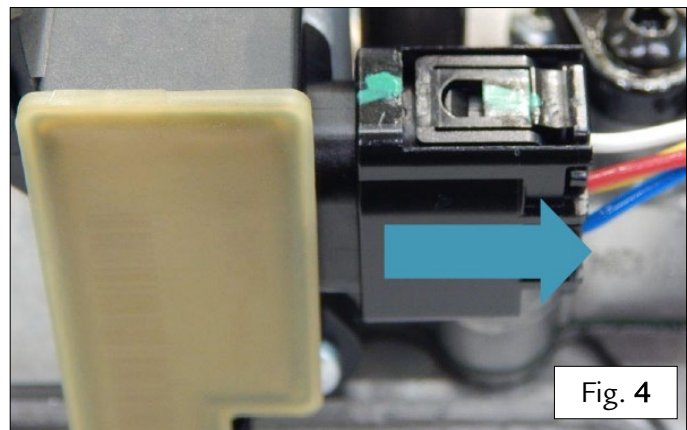
- IMPORTANT -

Always grip the plastic housing of the connector when connecting and disconnecting. **DO NOT** pull or push the connector by the cables.

- Push the connector towards the sensor – Fig. 3.



- Pull the connector away from the sensor – Fig. 4.



- If the connector remains in position, the connection is secure and no corrective action is necessary.



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Cleaning the pins and connector

Clean the pins and the connector as follows:

- Use pure cleaning alcohol (96% ethanol) to clean the connector and the pins. Repeat the procedure as necessary to remove all traces of oil from the connector and the pins – Fig. 5, 6.



Fig. 5

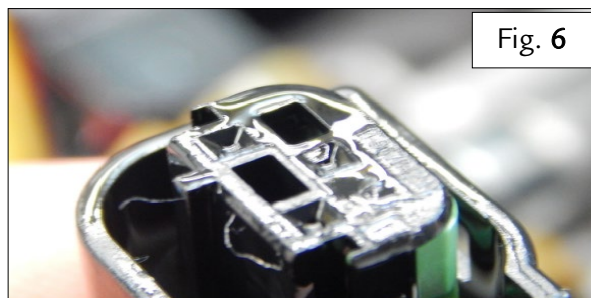


Fig. 6

- IMPORTANT -

Any oil within the connector will increase the electrical resistance between the male and female pins, causing the sensor to malfunction or produce incorrect readings.

Inspecting the pins and connector

After cleaning, carry out the following checks – Fig. 7, 8:

- Check that the connector pins on the sensor are not broken or bent;
- Check that the pins on the connector side are in the correct positions;
- Check that the connector seal is fitted correctly in place;
- Check that the lock tabs on the sensor and connector sides work correctly.



Fig. 7

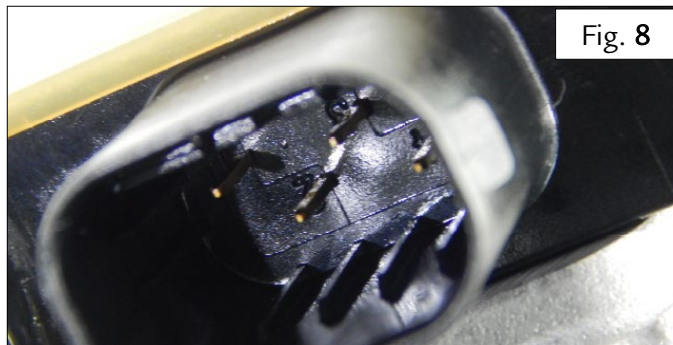


Fig. 8

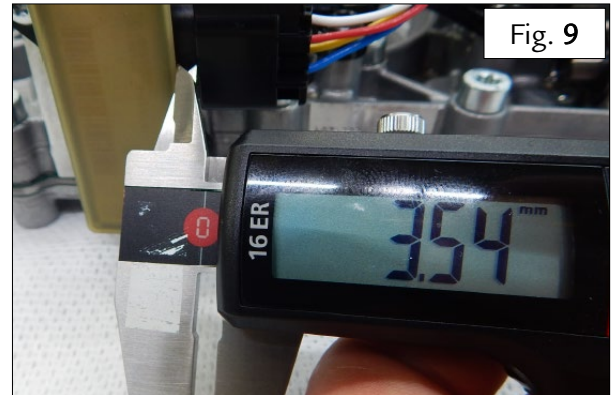


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Checks

After performing the tests described above, carry out the following additional checks to ensure that the components are assembled correctly:

- Use a digital caliper to measure the distance between the connector and the sensor after connection. This distance must be approximately **3.5 mm** – Fig. 9.
- Perform out the **PUSH/PULL** test.



If the connector passes both tests, proceed with reassembly.

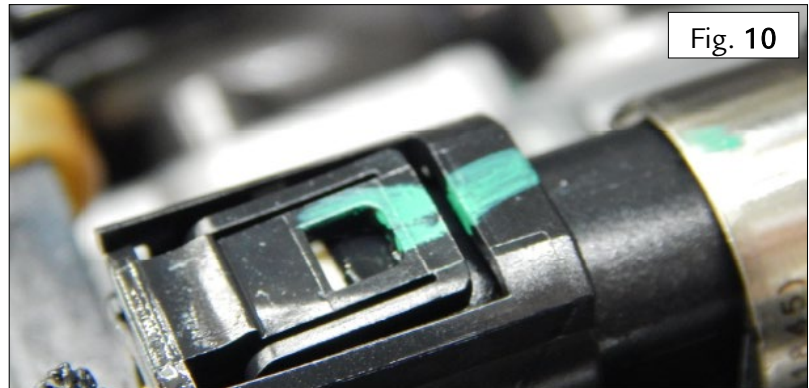


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CCP connector

Check that the connector is connected correctly, as shown in the following images – Fig. 10, 11.

Connector NOT OK
**Locking tab is not fully seated
by the retaining clip**



Connector OK
Locking tab is seated correctly



- Perform the **PUSH – PULL** test, pushing and pulling the connector and checking that it remains firmly in place.

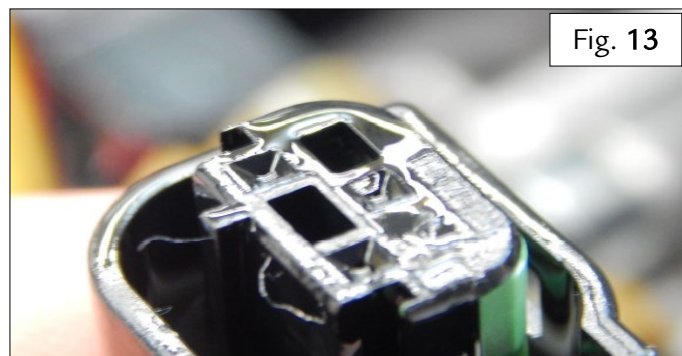
Cleaning the pins and connector

Clean the pins and the connector as follows:



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- Use pure cleaning alcohol (96% ethanol, see product data sheet attached to this Technical Information) to clean the connector and the pins. Repeat the procedure as necessary to remove all traces of oil from the connector and the pins – Fig. 12, 13.



- IMPORTANT -

Any oil within the connector will increase the electrical resistance between the pins and the respective sockets, causing the sensor to malfunction or produce incorrect readings.

Inspecting the pins and connector

After cleaning, carry out the following checks – Fig. 14, 15;

- Check that the connector pins on the sensor are not broken or bent;
- Check that the pins on the connector side are in the correct positions;
- Check that the connector seal is fitted correctly in place;
- Check that the lock tabs on the sensor and connector sides work correctly.



Thank you for your co-operation.