

Monday, 22 May 2017

Joysteer Technical Service Bulletin (FFBUP.17-TSB01-05)

Background: This TSB concerns the mandatory software update **before April 1st 2018** of all joysteer systems shipped before 22 May 2017. The update improves on all systems (including Low Force) the driving comfort, and on Force Feedback systems with a one hand joystick also the safety.

A) Instructions for joysteer dealers:

- Fix with the owner of the joysteer system a date before April 1st 2018, to implement the installation of the latest available Software Release. Installing the latest software is part of the mandatory annual safety/parameter check-up, as mentioned in the joysteer Maintenance manual.
- The latest joysteer software is always available to you via our website, which you can access via <http://www.joysteer.ch/login/>
- Install the new software release, following the procedure described in our Universal System manual. Installing software updates was part of the initial training by Bozzio of your joysteer Certified Technicians. In case of problems, you can contact Clock Mobility for remote or local support with this task against remuneration.
- Install also the latest version of the Servicemanager on the customer computer, to insure the proper functioning of the Remote Access for this system.
- Install also the latest version of the Servicemanager on the CDRS computer, so he will be able to communicate with the new software in the customer car.
- Hand over the car to the CDRS or driving instructor who has already been working with your customer on this joysteer system.
- After the driving tests are finished, you must complete the UCC (Update Completion Confirmation) form and return it before April 1st 2018, signed by both you and the CDRS involved, to matthias.hell@bozzio.ch.
- This form will be kept on file by Bozzio and will be submitted to both Federal (NHTSA) and your State authorities.

B) Instructions for joysteer driver instructors (CDRS):

- Make sure the latest version of our Servicemanager is installed on your computer, so you will be able to communicate with the new software in the customer car.
- As soon as the dealer has finished the installation of the new software, you should make a first test drive - without the customer - to verify the driving behaviour of the car. Ensure you do this in a closed off area with sufficient space.

- Because the new software has new parameters and a different driving performance, it is likely that a new parameter-set has to be developed with this customer. We suggest you load the most appropriate factory pre-set (including the new steering parameters) from the Servicemanager as a starting base (soft / medium / hard).
- While making test drives with your customer, you can adapt the parameters as usual until the customer feels comfortable, on both low and high speeds.
- Find the optimal setting for the dynamic Force Feedback. Now you must assure: *(except of course for our Low Force systems, which don't have any Force Feedback)*

A) That your customer always has enough force to fully reach the end stops.

This can be verified by:

- 1) Noting down the value of the parameter "Force Feedback" at this setting.
- 2) Change the parameter "actuator torque limit" to zero and make your customer move the MMI to the left and right end stops.
- 3) While doing that, the MMI Output in the Servicemanager must reach the value of the set "Force Feedback" (see point one).
- 4) If your customer is not able to reach the end stops, then the parameter "Force Feedback" must be reduced until the customer is passing this test.
- 5) Once the test is passed, the parameter "Actuator Torque Limit" must be set back to the initial value of 212.
- 6) Verify and change the other parameters with driving tests until the end customer shows his best driving performance.

B) That your customer can control a sudden loss of the dynamic Force Feedback

Background: The system contains a dynamic Force feedback which, in case of a failure, can fall away. The end user must control the car at any time, even when the Force Feedback is falling away. In order to get to this:

- 1) A test drive with a simulation has to be done. Ensure you do this in a closed off area with sufficient space.
- 2) Use the Servicemanager to set the parameter "Force Feedback" to a value of zero, after writing down the actual value before starting this test.
- 3) Set the new safety relevant Parameters (P Torque and Retraction) to the correct value
- 4) Set the Parameter "SAM Range" according to the indications in the Servicemanager.
- 5) Set the Parameter "SAM Dynamics" according to the indications in the Servicemanager.
- 6) Increase the values of the Sensor parameters (P Torque and Retraction) until the desired driving performance is obtained.
- 7) Once the test is finished, the parameter "Force Feedback" should be set back to the original value (see point B2)

This completes the mandatory software update and test drives. The car is now ready to be returned to the customer