OBW Calibration

Items to Consider

Definition of Requirements

- What has to be considered to define the calibration process
- How to weigh an axle
- What to do with the data
- Calibration must be at a certified workshop (what is the definition)
- ECU-OBW capable of storing calibration record
- Maintenance of central calibration record

Definition of the Calibration

- Does this mean resetting the zero point when the vehicle is empty? (or is this not required and only the full load matters)
- What is required when measuring the accuracy when the vehicle is full?
  - Just GVW or GTW
  - Trucks, tractor units and trailers
  - Requirement for individual axles
- What is the defined Accuracy requirement for the vehicle system?
  - At what point will the vehicle system be adjusted to match the weigh pads or weigh bridge?
  - How to deal with OEM systems that may not be adjusted?
- What accuracy of “weighing device” will be required? (either weigh pads or weigh bridge…or can this be a brake tester?)
- The actual process of measuring a loaded vehicle is not complicated

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Example of How to Weigh an Axle

Weighing the vehicle

Each axle on the vehicle must be weighed in order to calibrate the system. This can be done using weigh pads or a weigh bridge.

Vehicle weighing should be performed on a flat, level surface, in calm weather conditions. If possible, weigh the vehicle indoors.

Weigh pads

1. Use one pair of weigh pads per axle.

If possible, weigh all axle at the same time. If not, use levelling mats to maintain the overall level of any axles which are not being weighed.

2. Add together the weight measurements for both sides of the axle to calculate the current weight of the axle.

Weigh bridge

The weigh bridge must have a level approach.

1. Drive the vehicle on to the weighbridge
2. Take the weight measurement
3. Drive the front axle off the weigh bridge
4. Take the weight measurement

How to Weigh an Axle

5. Drive the vehicle off the weighbridge, one axle at a time. Take the weight measurements until you have a value for each time an axle is removed from the weigh bridge

It is recommended that you copy or recreate the zero weights and span weights tables to complete and calculate the weight values for each axle. See "Zero and span weights tables" on page 129. See below for an example of this calculation.

It is recommended that the same weighbridge is used to take all weight measurements for both the zero and span calibration processes.

Weighbridge Measurements		Weight Calculation	Axle Weight
G =	11500	Gross Weight = G	11500
a =	9500	Axle 1 = g - a	2000
b =	7500	Axle 2 = a - b	2000
c =	6000	Axle 3 = b - c	1500
d =	4500	Axle 4 = c - d	1500
e =	3000	Axle 5 = d - e	1500
f =	1500	Axle 6 = e - f	1500

The example above shows an how each axle weight can be derived by subtraction using a weighbridge.

What to do with the data
(Calibration set at 2 years)

- How is the record stored in the MVU
  - Details of last calibration (date, test centre)
  - Unique identifier of the test centre
  - Unique identifier for the vehicle
- How are the records held in the TU in separate trailers?
  - For example against trailer serial number?
- How are central records of calibrations held in each member state?
- Who will be responsible for collecting / sending the data?

Certified Workshop

- How to manage the accuracy of the test scales (weigh pads or weigh bridge) – this should already be controlled by regional “Weighing Organisations”?
- What is the legal position on testing the OBW system (this is not a recognised weighing device)?
- Does the legal framework require OIML approved test weigh pads or weigh bridge?
- Will there be a network of approved testers?
- Regional interpretation of weighing certification at a local level:
  - PTB – Germany
  - DRIRE – France
  - SWEDAC – Sweden
  - CEM - Spain

Proposed Steps

- Simple definition of what the two year check needs to achieve?
- How to manage or test a fully loaded vehicle?

Summary of Discussion

Wednesday 11th October 2017

- A simple check of the vehicle OBW system performance should be carried out at least every two years;
- The implementing regulation will state that the vehicle OBW system should be calibrated in line with the manufacturer's guidelines;
- The driver will check the vehicle OBW system at near to full load (defined as greater than 90% of maximum load);
- The minimum requirement for the driver will be to check the vehicle OBW measurement for GVW or GTW (depending on vehicle), against the actual weight derived from a weigh bridge or portable weigh pads;
- The vehicle OBW system will securely log the calibration event (date, time, calibration value entered);
- Member states will be responsible for determining the administration and management of portable weigh pads, weigh bridges and/or approved workshops.