



SETTING UP AND ADJUSTMENT OF SK30H AXLE COUNTER HEADS ON AZLM SYSTEMS

Relevant Standard: RT/SMS AX15 and RT/E/WI00105

The detection points for AzLM axle counters are fitted with a circuit to detect "drift" in adjustment of the head. On certain versions of the analogue card, this circuit can itself drift, giving a false warning despite the head being correctly adjusted. This effect is minimised when the heads are accurately set up using the mechanical adjustment and keeping the electrical adjustment (R2 and R4) to a minimum.

A second problem has been identified where drift warnings can become stuck and continue to be reported after the fault has been cleared. These faults are characterised by the History file downloaded from the Evaluator showing repeated, identical drift warnings every 5 minutes.

If the head is set up using the procedure below, both of these problems can be avoided.

SK30H set up procedure

The SK30H set-up procedure will cause the associated sections (s) to become disturbed. Therefore, the appropriate protection/possession shall be agreed prior to work commencing.

Before making any adjustments to the SK30H:

- Torque the three M12 rail mounting nuts to 45Nm;
- Using a multi-meter set to ohms, measure the resistance between each of the rail mounted RX heads and the running rail, and RX heads to the M12 bolts. If the resistance is below 2M ohms the rail mountings need to be cleaned or replaced

BEFORE PLUGING IN THE TEST KIT MAKE SURE THE EVALUATOR (DIGITAL) AND ANALOGUE CARDS ARE FULLY HOME IN THE EAK SUBRACK

1. Turn potentiometer **R3** all the way anticlockwise
2. Inside the `Axle Counter Test Box`, select switch position 10, SK1 Received Rectified Voltage (+ve MESSAB 1).
3. Reset the potentiometer **R2**, until the voltage MESSAB 1 has its greatest value.
4. Measure +ve MESSAB 1, which should be between +80 mVDC and +1VDC.
5. Place the dummy wheel (part number 19982 3100x, set to 40mm), centrally over RX1 vertically to the running rail (see Figure 4) measure –ve MESSAB 1, which should be between -80 mVDC and -1VDC i.e. with the same amplitude but opposite polarity as the received rectified signal with no dummy wheel present (+ve MESSAB 1).
6. Undo the M8 nuts adjust the TX head up / down until +ve MESSAB 1 and –ve MESSAB 1 are as near the same amplitude as possible
7. If adjustments are made to the heads the M8 nuts will be re-tightened to a Torque setting of 25Nm.
8. If, after adjusting the TX head, the difference between +ve MESSAB 1 and –ve MESSAB 1 is more than 10mv then adjust **R2** until +ve MESSAB 1 and –ve MESSAB 1 are within 10mv.

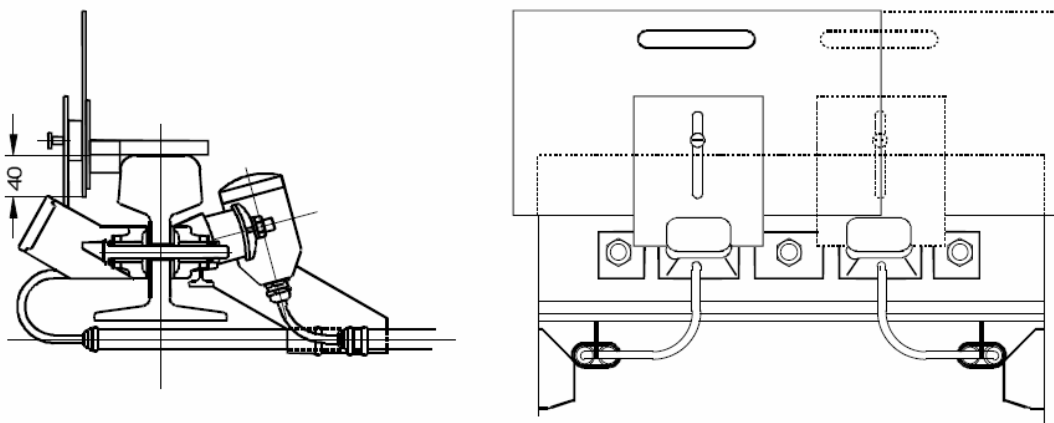


Figure 4 Dummy Wheel Set up

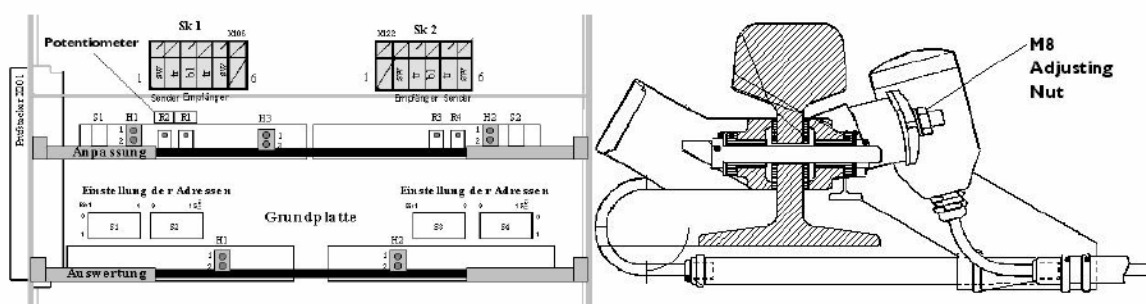


Figure 5: MESSABE / PEGUE Adjustment

9. Inside the `Axle Counter Test Box`, select switch position 11 reference voltage (PEGUE). Adjust potentiometer **R1** (PEGUE 1) so that the reading is equal to +ve MESSABE 1 +/- 2 mV.
10. Ensure that that green LED H1/2 is flashing continuously (this indicates MESSAB 1 voltages are within the +/- 20% tolerance).
11. For SK2, repeat steps 2 to 10, using switch position 12 for MESSAB 2 use potentiometer **R4** and switch 13 potentiometer **R3** for PEGUE 2.
12. Ensure that that green LED H2/2 is flashing continuously (this indicates MESSAB 2 voltages are within the +/- 20% tolerance).
13. Place the dummy wheel (part number 19982 3100x, set to 40mm) centrally over RX1 vertically to the running rail (see figure 4) for two minutes – this will clear any latched warnings
14. Remove dummy wheel and axle counter test box` and replace EAK cover.

END

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PUBLISHED UNDER NR/SP/SIG/11120