



SIB 66 05 23

ADCAM CAMERA-BASED ASSISTANCE SYSTEM LIMITS

2023-03-01

 THIS REPAIR IS MOBILE FRIENDLY

## MODEL

E-Series	Model Description
G07	(X7 Sports Activity Vehicle)
G70	(7 Series Sedan)
I20	(iX Sports Activity Vehicle)
U11	(X1 Sports Activity Vehicle)

## SITUATION

Various functions of the camera-based driver assistance systems (ADCAM system) can lead to customer complaints.

The camera-based driver assistance systems provide support for the following systems:

- Lane Departure Warning with active feedback
- Collision warning with city braking function
- Pedestrian/cyclist warning with city braking function
- Road sign detection / Speed Limit Assist
- Lane Change Warning/Assist
- Crossing-traffic Warning
- Distance information
- Active Cruise Control with Stop & Go function
- Steering Assistant and Steering and Lane Control Assistant
- Emergency Stop Assistant
- Lane Keeping Assistant with active side collision protection
- Evasion Assistant
- Crossing-traffic Warning
- Wrong-way Warning (Wrong-way Assist)
- Hands-off option 35 & 80 mph (extended Steering and Lane Control Assistant)
- High-beam assistant

Possible customer complaints:

- ADCAM camera system deactivates itself, due to system restrictions that are not clear to the customer
- ADCAM camera system cannot be activated due to system restrictions that are not clear to the customer
- Road signs are sporadically not detected
- Check control messages (930: Lane Departure Warning & 2260: Front protection functions) are active excessively frequently

Various Check Control messages and the following fault memory entries may also appear alongside these complaints:

Fault code - 7E0197 - ADCAM camera - Front Main: Short-term sensor blindness

## CAUSE

Limitations of camera-based driver assistance systems (ADCAM).

## PROCEDURE

### **If ADCAM fault memories are available, they must be diagnosed with ISTA first.**

In a customer complaint case, the marginal conditions that may be linked to the complaint situation must be clarified and, if applicable, stopped as follows: **Visual inspections below**

- Is the windshield in the camera area clean from the outside and not covered (miscellaneous soiling, streaks, road salt, stickers, etc.)?
  - Yes
    - Clean the windshield, check the wiper quality (smearing especially in the camera field of view), recommend that the customer renew the wiper blades, if necessary.
  - No
    - Continue with steps below.
- Check the ADCAM camera installation and check that the camera holder is correctly installed. Is the ADCAM camera correctly locked into the holder?
- Is vehicle wiring in the field of view of the camera (e.g. driving light sensor cable)?
- Is the camera holder glued straight onto the window glass?
- Is the camera pointing straight ahead (visual inspection from the outside)?

Note: If a fault was detected on the camera holder (not glued correctly), the windshield needs to be replaced, according to the repair instructions.

### **Ask the customer clarifying questions prior to diagnosis.**

- Was visibility was restricted at the time of the complaint due to heavy rain, snowfall, icing, fog, low or dazzling sun (strong back light), tunnel entries / exits (rapid change from bright / dark)?
- Does the customer encounter such weather phenomena or special conditions (driving every morning looking into the sun low down on the horizon, regular dew/frost on the windshield, regular thick fog, etc.)? All these environmental conditions can lead to reduced visibility and therefore to functional restrictions for safety reasons.
- Were vehicles with a non-typical rear end (whether passenger car / truck) not recognized, for example trucks with tree trunks, heavy loads, passenger cars with a loaded trailer?
- Did a vehicle driving ahead suddenly change lanes?
- Was another obstacle too close to the edge of the road (pedestrians, cyclists, motorcyclists, side road traffic), or was a parked vehicle protruding into the own driving route?
- Was the vehicle driving ahead a two-wheeled vehicle?

If the above-mentioned points yielded no result, then carry out the diagnosis with ISTA and work through the corresponding test module if necessary.

If no faults could be identified and no entries have been made in the fault memory, inform the customer about the limitations of the camera based ADCAM system (see also operating instructions).

Various limitations of the camera-based system are described in more detail in the Owner's Manual in the "Driver assistance systems" section.

### **Important additional points.**

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- **The system does not absolve the driver from taking responsibility for speed, distance and adapting his/her driving style to the traffic conditions and ambient conditions ("Personal responsibility").**
- The camera cannot see the traffic ahead in these situations and thereby loses the reference to the vehicle ahead and switches off for safety reasons. A parts replacement does not provide a solution in this case.
- After replacing the windshield, calibration must be started manually using the diagnosis system. Calibration not yet completed, Fault code (7E00A0 ADCAM - Front Main: Initial calibration not completed / not carried out) appears.
  - Start calibration via the diagnosis system and inform the customer that the calibration may take some time along with possible limitations on individual functions as a result
- Is the tire size within the range permitted by BMW for the vehicle? Non-approved tires can lead to anomalous system behavior, because of which the ADCAM camera switches off for safety reasons.
- Chassis modifications (raised or lowered suspension) can lead to deviating system behavior and customer complaints. In vehicles with chassis modifications, the ADCAM camera can switch off for safety reasons after a chassis modification and display various Check Control messages.

## **FEEDBACK REGARDING THIS BULLETIN**

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