

2007-08 ACCESSORIES & EQUIPMENT**Cruise Control Systems - Repair Instructions - X5****20 PARK DISTANCE CONTROL****66 20 508 REMOVING AND INSTALLING (REPLACING) CONTROL UNIT (PARK DISTANCE CONTROL)**

IMPORTANT: Read and comply with notes on protection against electrostatic damage (ESD protection). Refer to 61 35... NOTES ON ESD PROTECTION (ELECTRO STATIC DISCHARGE)

Necessary preliminary tasks:

- Remove flap in luggage compartment panel **51 47 172 REMOVING AND INSTALLING/REPLACING FLAP IN LUGGAGE COMPARTMENT TRIM, LEFT OR RIGHT** on right

Fold insulating mat (1) to one side.

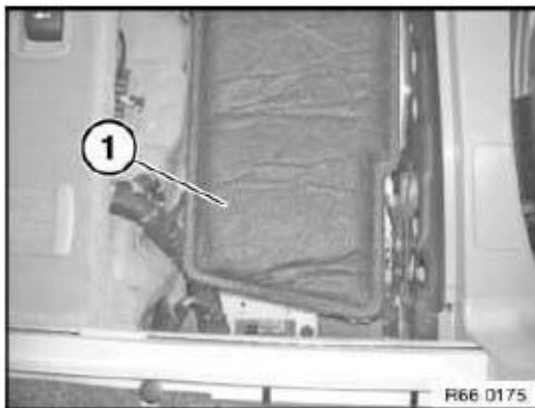


Fig. 1: Identifying Insulating Mat
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

Remove control unit (2).

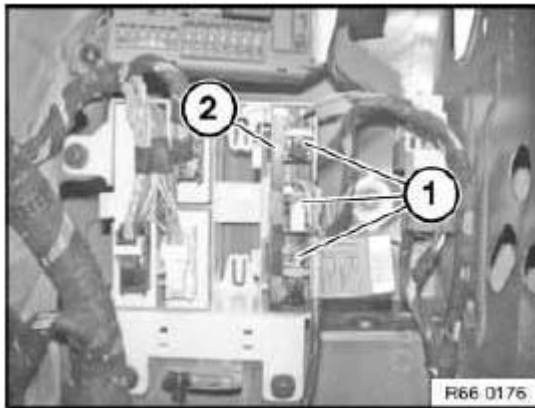


Fig. 2: Identifying Control Unit And Plug Connection
 Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out programming/coding. **CODING & PROGRAMMING**

66 20 518 REMOVING AND INSTALLING/REPLACING A FRONT ULTRASONIC TRANSDUCER (CENTRE)

Necessary preliminary tasks:

- Remove front bumper trim **51 11 FRONT BUMPER**

Disconnect plug connection (1) and unclip ultrasonic transducer from retaining lugs (2).

Installation:

Retaining lugs (2) must not be damaged!

Make sure ultrasonic transducer is securely seated.

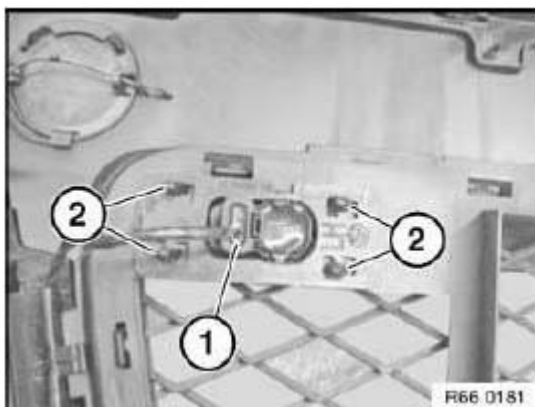


Fig. 3: Identifying Retaining Lugs And Plug Connection

Courtesy of BMW OF NORTH AMERICA, INC.

66 20 520 REMOVING AND INSTALLING/REPLACING A FRONT ULTRASONIC TRANSDUCER (SIDE)

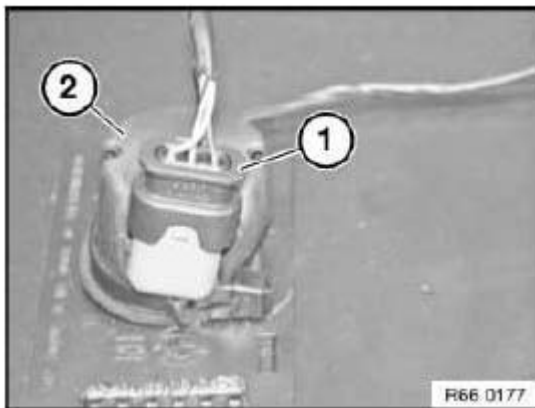
Necessary preliminary tasks:

- Remove front bumper trim **51 11 FRONT BUMPER**

Disconnect plug connection (1) and remove rubber grommet (2).

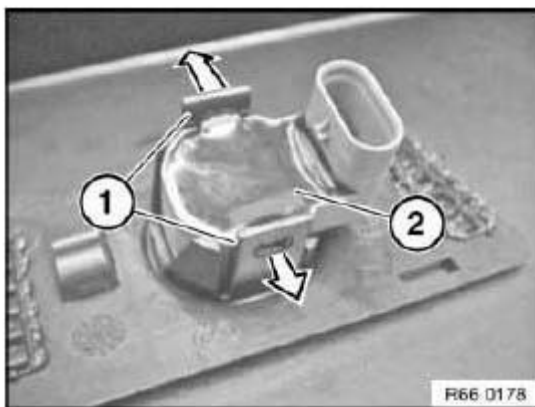
Installation:

Make sure rubber grommet (2) is securely seated.

**Fig. 4: Identifying Rubber Grommet And Plug Connection**

Courtesy of BMW OF NORTH AMERICA, INC.

Unlock retaining tabs (1) in direction of arrow and pull ultrasonic transducer (2) out of holder.

**Fig. 5: Unlocking Retaining Tabs And Ultrasonic Transducer**

Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Make sure rubber ring (1) is correctly seated on ultrasonic transducer (2).

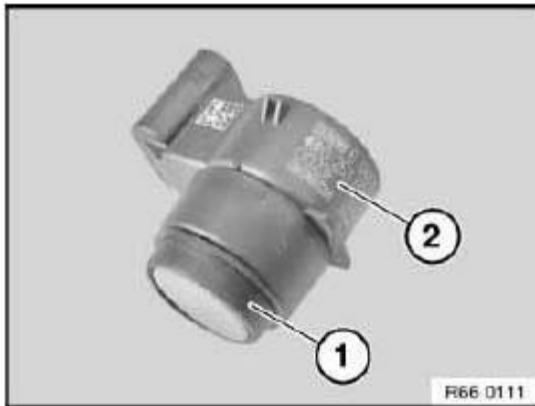


Fig. 6: Identifying Rubber Ring

Courtesy of BMW OF NORTH AMERICA, INC.

66 20 540 REMOVING AND INSTALLING/REPLACING A REAR ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)

Necessary preliminary tasks:

- Remove rear bumper trim **51 12 REAR BUMPER**

Disconnect plug connection (1) and remove rubber grommet (2).

Installation:

Make sure rubber grommet (2) is securely seated.

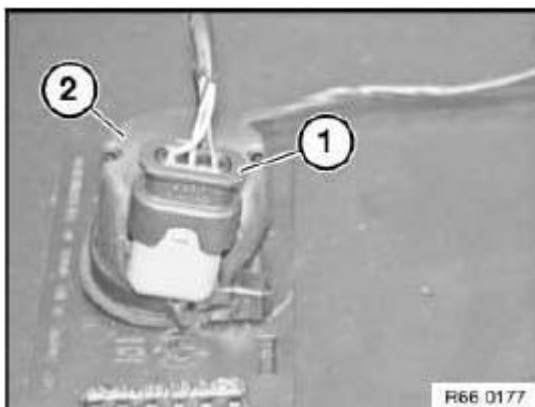
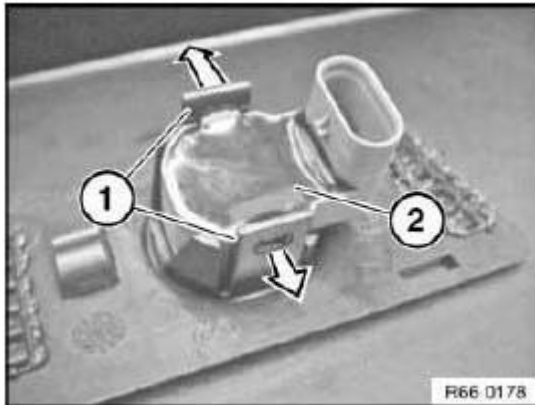


Fig. 7: Identifying Rubber Grommet And Plug Connection

Courtesy of BMW OF NORTH AMERICA, INC.

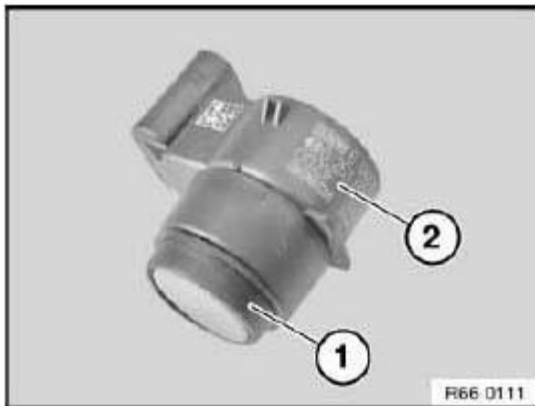
Unlock retaining tabs (1) in direction of arrow and pull ultrasonic transducer (2) out of holder.

**Fig. 8: Unlocking Retaining Tabs And Ultrasonic Transducer**

Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Make sure rubber ring (1) is correctly seated on ultrasonic transducer (2).

**Fig. 9: Identifying Rubber Ring**

Courtesy of BMW OF NORTH AMERICA, INC.

53 REVERSING CAMERA**66 53 ... INSTRUCTIONS FOR ADAPTING ADJUSTMENT UNIT FOR REVERSING CAMERA (CORGI KDS QUICK - ACTION CLAMP)**

NOTE: The operation is described for the left-hand side; proceed in the same way for

the right-hand side.

Remove support plate (1) from spindle (2).

Replace spindle (2) by spindle (3).

Press support plate (1) on to spindle (3).

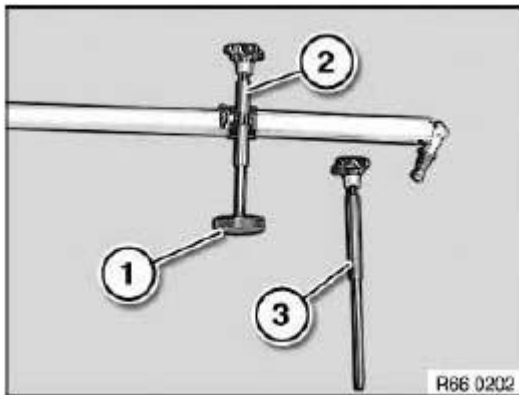


Fig. 10: Identifying Support Plate And Spindle
Courtesy of BMW OF NORTH AMERICA, INC.

Release retaining clip (1).

Remove ball pin (2) from rod (3).

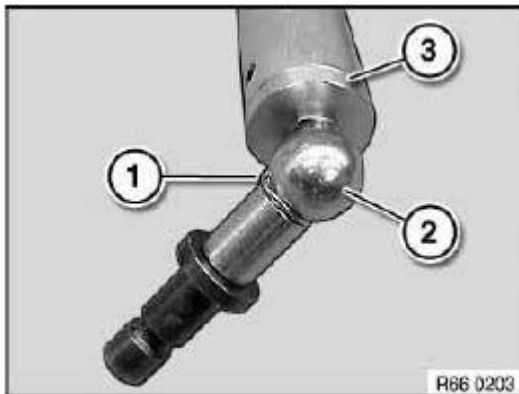


Fig. 11: Identifying Retaining Clip And Ball Pin
Courtesy of BMW OF NORTH AMERICA, INC.

Fit new ball pin (1) on rod (2) and secure with retaining clip (3).

Fit ball pin (1) on CORGHI KDS quick-release clamp and secure.

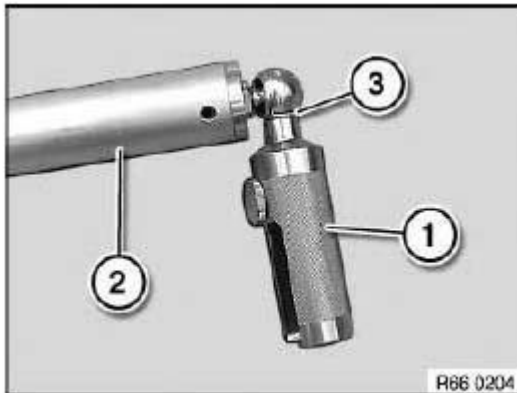


Fig. 12: Identifying Ball Pin And Rod
Courtesy of BMW OF NORTH AMERICA, INC.

Remove all spacers (1) on cross bar (2).

NOTE: Follow the same procedure for calibrating the reversing camera.

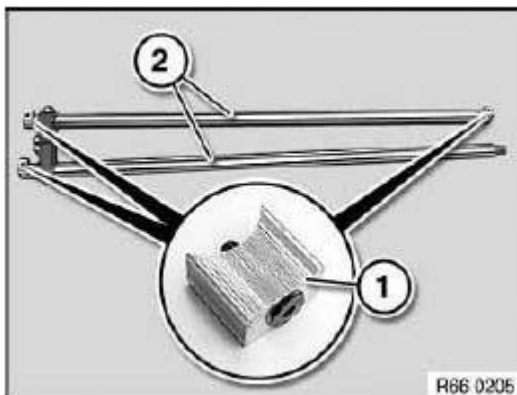


Fig. 13: Identifying Spacers And Cross Bar
Courtesy of BMW OF NORTH AMERICA, INC.

66 53 010 CALIBRATING REVERSING CAMERA

WARNING: Danger of injury!
Laser radiation at adjustment unit.
Do not look into the beam!
Laser class 2
As per EN 60825-1: 1994
 $P < \text{or} = 1 \text{ mW}$
 $\text{Lambda} = 632.8 \text{ nm}$

NOTE: Calibration of reversing camera must be carried out after the following work:

- Removal and installation/replacement of reversing camera
- Chassis tuning
- Body repair work at rear end of vehicle
- Adjustment of rear lid

IMPORTANT: Follow instructions and specifications in test module.

To obtain an optimum result, always adhere to the following conditions:

- Vehicle standing level on headlight aiming station
- Correct tire inflation pressure (see instruction plate on car).
- Vehicle is free of load
- Rear seat bench is unoccupied
- Do not swap seats during calibration
- Steering wheel in straight-ahead position
- Do not move steering wheel

NOTE: Once the laser has been aligned to the camera lens, it is necessary to calibrate the reversing camera via the DIS Tester. Calibration can only be carried out with the BMW diagnosis system.

Observe information on use of CORGHI KDS quick-action clamp! 66 53 ... Instructions For Adapting Adjustment Unit For Reversing Camera (CORGHI KDS Quick - Action Clamp)

Secure KDS quick-action clamp on rear wheels on both sides.

Insert ball pivot (1) in guide (2) up to stop and secure with screw (3).

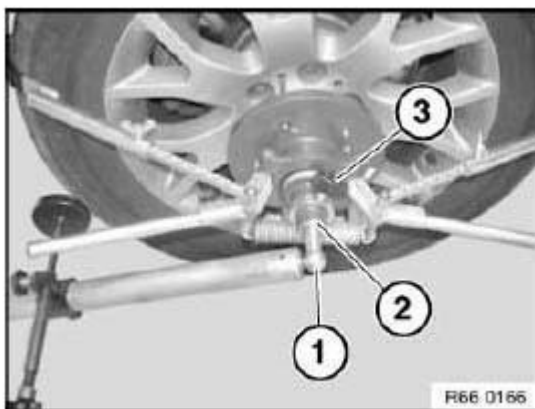


Fig. 14: Identifying Ball Pivot And Guide

Courtesy of BMW OF NORTH AMERICA, INC.

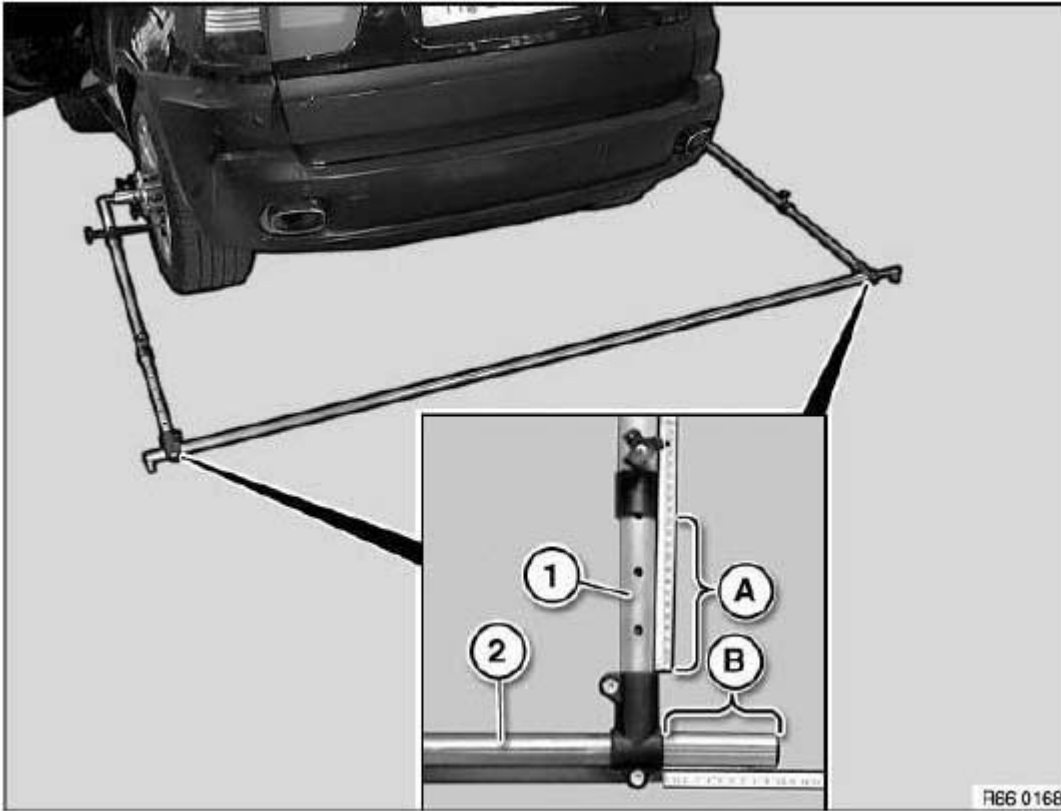


Fig. 15: Identifying Dimension Of Longitudinal Rod And Transverse Rod
 Courtesy of BMW OF NORTH AMERICA, INC.

Dimension (A) of longitudinal rod (1) and dimension (B) of transverse rod (2) must be adapted to the type of vehicle. Refer to 66 53 010 Calibrating Reversing Camera on both sides.

Position target (1) on transverse rod with scale and align to zero point on scale (2).

Secure target (1) using knurled screws (3).

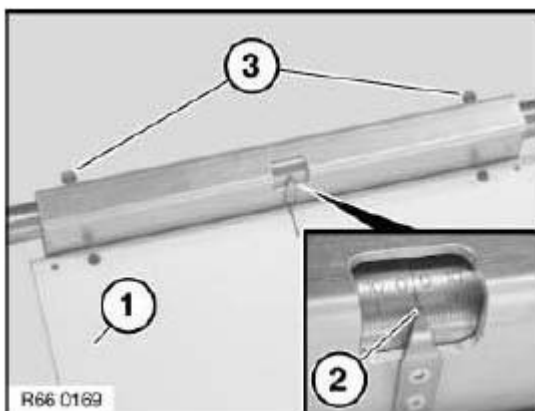


Fig. 16: Identifying Knurled Screws

Courtesy of BMW OF NORTH AMERICA, INC.

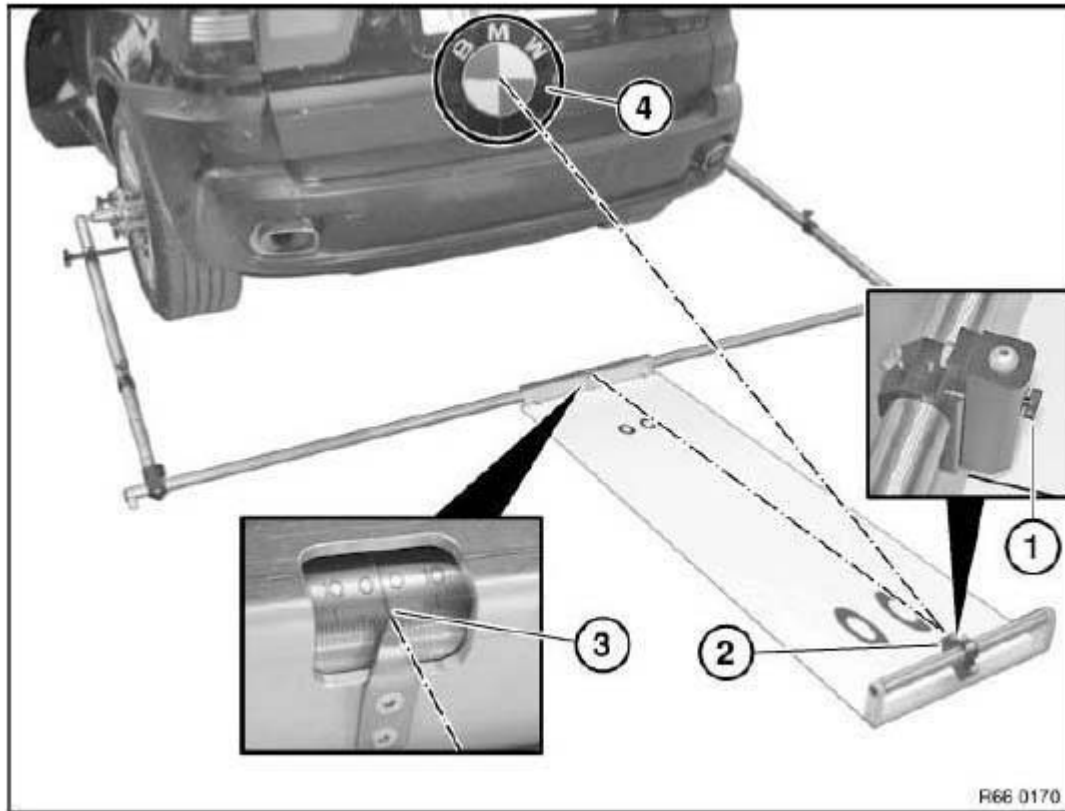


Fig. 17: Identifying Switch On Laser Pointer With Knurled Screw
 Courtesy of BMW OF NORTH AMERICA, INC.

Switch on laser pointer (2) with knurled screw (1).

Align laser pointer first to zero point on scale (3), then upwards to centre of BMW badge (4).

In the event of a laser deviation from the BMW badge centre, this must be compensated for by shifting the complete linkage in the corresponding direction.

After realigning the target, check the position of the laser again and correct if necessary.

Align contact surface (1) on both sides to tire side wall.

Tighten linkage simultaneously on both sides with adjusting screw (2).

NOTE: After securing linkage, check position of laser pointer again on vehicle's BMW badge.
 If necessary, correct by means of adjusting screws.

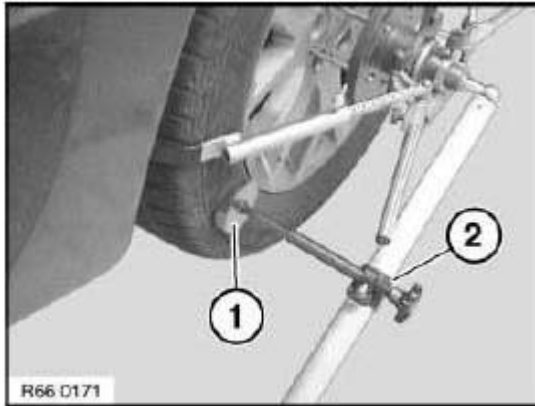


Fig. 18: Identifying Contact Surface Of Tyre Side Wall And Adjusting Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Slacken knurled screws (2).

Adjust scale value (1) as specified. Refer to **66 53 REVERSING CAMERA**

Tighten down knurled screws (2).

Version with ride-height control:

- Pull fuse F107 in luggage compartment distribution box.

Start calibration of reversing camera by way of BMW diagnosis system.

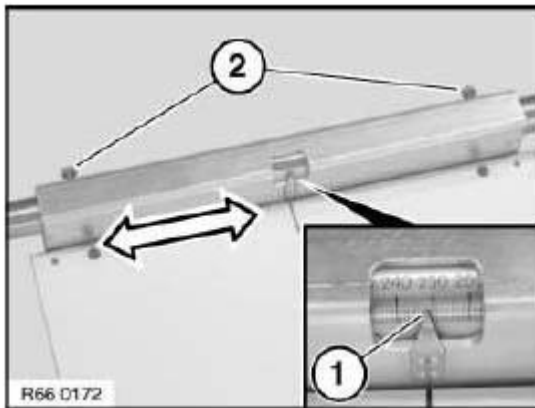


Fig. 19: Identifying Knurled Screws
Courtesy of BMW OF NORTH AMERICA, INC.

66 53 020 REPLACING REVERSING CAMERA

IMPORTANT: Read and comply with notes on protection against electrostatic damage (ESD protection). Refer to 61 35... NOTES ON ESD PROTECTION (ELECTRO STATIC

DISCHARGE)

Necessary preliminary tasks:

- Disconnect battery negative lead
- Remove rear lid upper section panel

Release screws (1).

Disconnect plug connections (2) and carefully feed out reversing camera (3).

Tightening torque 66 54 1AZ, go to **66 53 REVERSING CAMERA**

Replacement:

Remove protective film from reversing camera lens.

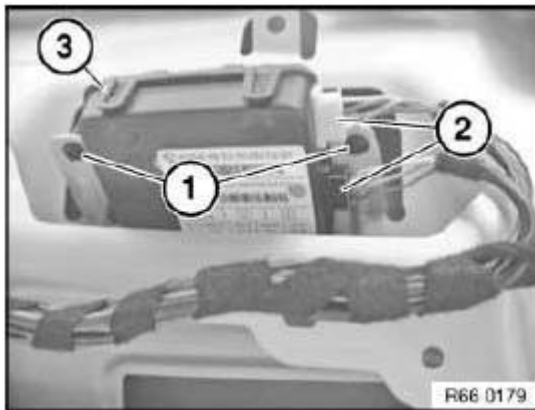


Fig. 20: Identifying Plug Connections And Reversing Camera Lens
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Moisten seal (1) slightly to facilitate installation.

Seal (1) must be correctly seated in rear lid (2).



Fig. 21: Identifying Seal And Rear Lid
Courtesy of BMW OF NORTH AMERICA, INC.

After installation:

- Calibrate reversing camera. Refer to **66 53 010 Calibrating Reversing Camera**

54 NIGHT VISION

66 53 010 CALIBRATING REVERSING CAMERA

WARNING: Danger of injury!
Laser radiation at adjustment unit.
Do not look into the beam!
Laser class 2
As per EN 60825-1: 1994
 $P < \text{or} = 1 \text{ mW}$
 $\text{Lambda} = 632.8 \text{ nm}$

NOTE: Calibration of reversing camera must be carried out after the following work:

- Removal and installation/replacement of reversing camera
- Chassis tuning
- Body repair work at rear end of vehicle
- Adjustment of rear lid

IMPORTANT: Follow instructions and specifications in test module.
To obtain an optimum result, always adhere to the following conditions:

- Vehicle standing level on headlight aiming station
- Correct tire inflation pressure (see instruction plate on car).
- Vehicle is free of load

- Rear seat bench is unoccupied
- Do not swap seats during calibration
- Steering wheel in straight-ahead position
- Do not move steering wheel

NOTE: Once the laser has been aligned to the camera lens, it is necessary to calibrate the reversing camera via the DIS Tester. Calibration can only be carried out with the BMW diagnosis system.

Observe information on use of CORGHI KDS quick-action clamp! 66 53 ... Instructions For Adapting Adjustment Unit For Reversing Camera (CORGHI KDS Quick - Action Clamp)

Secure KDS quick-action clamp on rear wheels on both sides.

Insert ball pivot (1) in guide (2) up to stop and secure with screw (3).

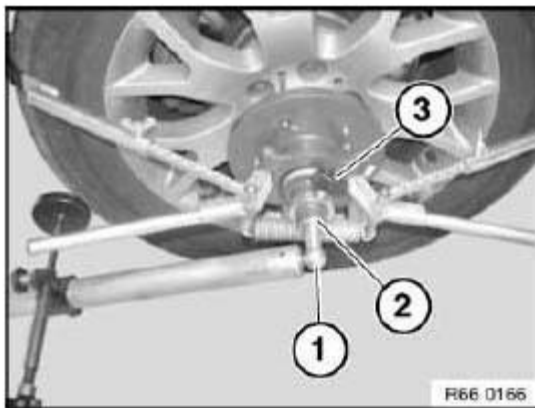


Fig. 22: Identifying Ball Pivot And Guide
Courtesy of BMW OF NORTH AMERICA, INC.

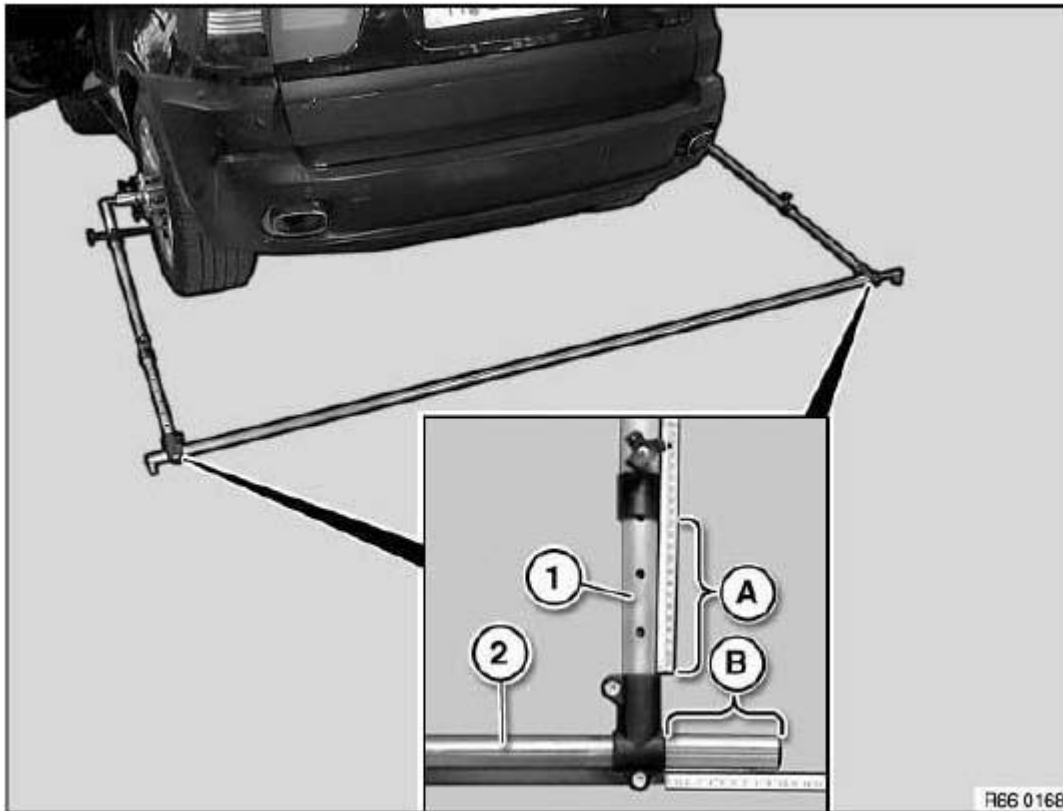


Fig. 23: Identifying Dimension Of Longitudinal Rod And Transverse Rod
 Courtesy of BMW OF NORTH AMERICA, INC.

Dimension (A) of longitudinal rod (1) and dimension (B) of transverse rod (2) must be adapted to the type of vehicle. Refer to **66 53 REVERSING CAMERA (RFK) E70** on both sides.

Position target (1) on transverse rod with scale and align to zero point on scale (2).

Secure target (1) using knurled screws (3).

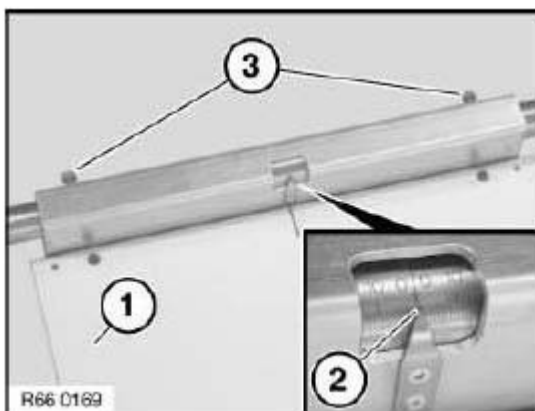


Fig. 24: Positioning Target On Transverse Rod With Scale And Aligning To Zero Point On Scale

Courtesy of BMW OF NORTH AMERICA, INC.

Switch on laser pointer (2) with knurled screw (1).

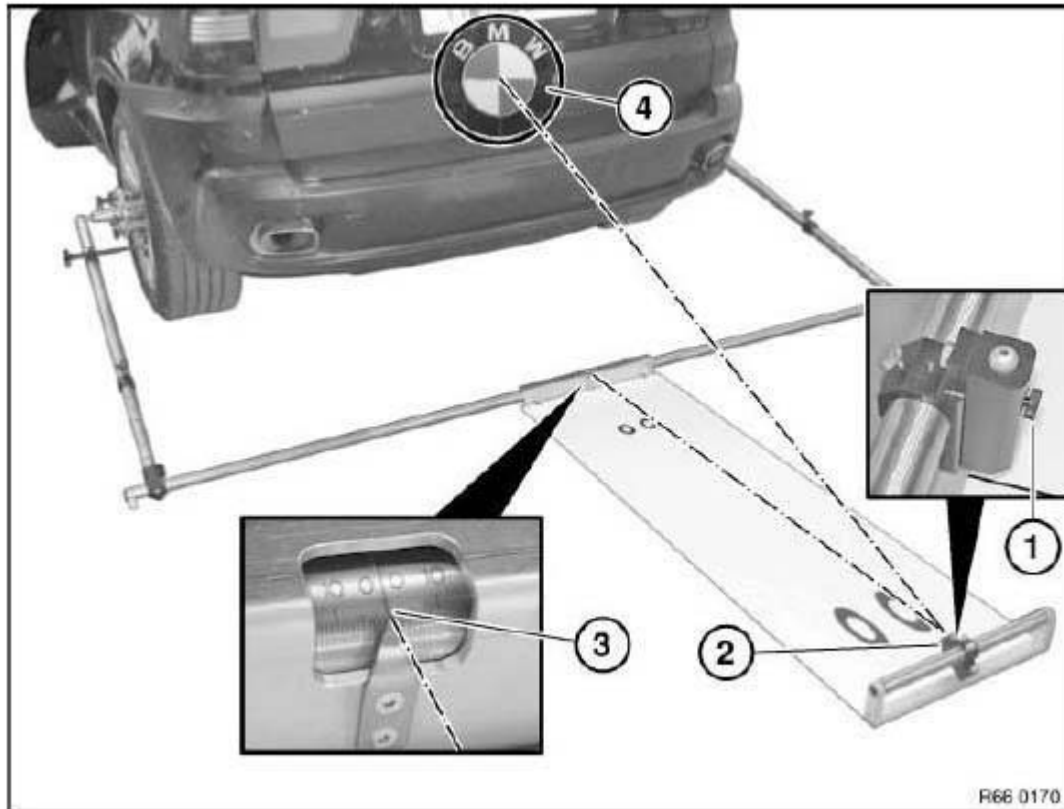


Fig. 25: Switch On Laser Pointer

Courtesy of BMW OF NORTH AMERICA, INC.

Align laser pointer first to zero point on scale (3), then upwards to centre of BMW badge (4).

In the event of a laser deviation from the BMW badge centre, this must be compensated for by shifting the complete linkage in the corresponding direction.

After realigning the target, check the position of the laser again and correct if necessary.

Align contact surface (1) on both sides to tire side wall.

Tighten linkage simultaneously on both sides with adjusting screw (2).

NOTE: After securing linkage, check position of laser pointer again on vehicle's BMW badge.
If necessary, correct by means of adjusting screws.

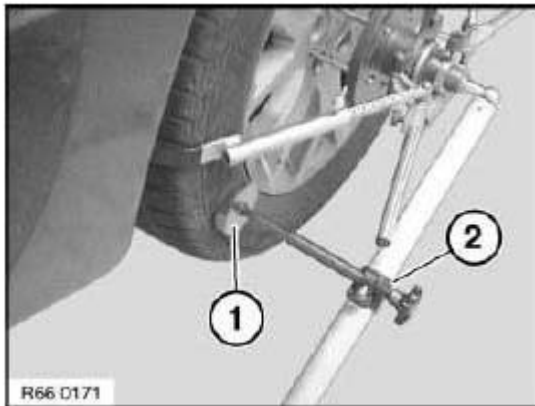


Fig. 26: Identifying Contact Surface Of Tyre Side Wall And Adjusting Screw
 Courtesy of BMW OF NORTH AMERICA, INC.

Slacken knurled screws (2).

Adjust scale value (1) as specified. Refer to **66 53 REVERSING CAMERA (RFK) E70**

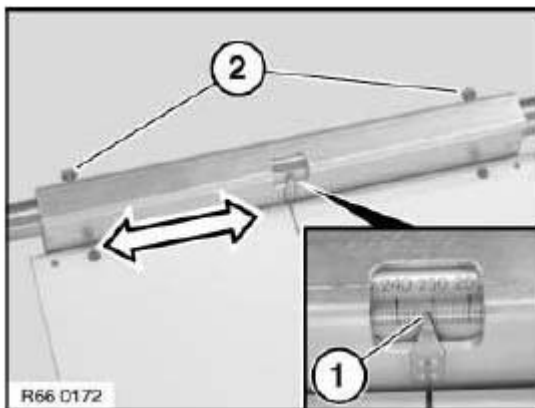


Fig. 27: Adjusting Scale Value
 Courtesy of BMW OF NORTH AMERICA, INC.

Tighten down knurled screws (2).

Version with ride-height control:

- Pull fuse F107 in luggage compartment distribution box.

Start calibration of reversing camera by way of BMW diagnosis system.