



# Installation Instructions

Page 1 of 16

August 2009

Equipment Parts, Trailer Hitch

Ver 5.0

Accessory  
Development

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## SUBJECT

**TRAILER HITCH KIT (US Only) - P/N 71 60 0 413 359**

## MODEL

X5 (E70):                      Select Vehicle Production SOP - 03/10\*  
X5 Diesel (E70):              Select Vehicle Production SOP - 03/10\*

\* Not for vehicles with accessory Aerodynamic kit or M Sport Package.

**SUGGESTED INSTALLATION TIME:      2.5 HOURS\*\***

\*\*Suggested installation time includes re-coding of the vehicle only for this retrofit kit. This time is based on a vehicle that is at the current software level and does not require any updates.

Please refer to SI B09 05 01 for latest BMW approved Retrofit coding procedures.

**Total installation time may vary depending on vehicle options and equipment.**

The instructions below are developed for BMW vehicles and are not to be compared to any other existing instructions for vehicles other than BMW. No methods other than those specified in this document are to be used for installation in BMW vehicles. Left and right are determined from the driver's seat.

Carefully read all instructions and supplements before proceeding with the installation. Reference should be made to TIS for instructions dealing with a stock part of the vehicle but not stated in detail in these instructions.

The instructions were complete and up to date at time of publication; however, changes to the vehicle or installation may have occurred. Please report any problems or changes noted with the installation to BMW Technical Hotline, along with VIN, date of manufacture and as much detail as possible.

***Warning: For trailers with LED lighting, in order to prevent the battery from draining over a long period of time, you should disconnect the wire harness that connects the trailer to the vehicle when the vehicle is not in use.***

★ ★ DO IT RIGHT THE FIRST TIME, ON TIME, EVERY TIME ★ ★

**PARTS INFORMATION****Contents of Kit - P/N 71 60 0 413 359**

<b>Description</b>	<b>Qty</b>	<b>BMW Part Number</b>
Cross Member with Receiver Tube	1	71 60 0 413 360
Cross Member Mounting Nuts	8	71 60 6 772 024
White Capacities Label	1	71 60 0 413 357
Receiver Tube Cover/Cap	1	71 60 0 303 882
Electrical Kit	1	71 60 0 413 361
Contents of Electrical Kit:		
Trailer Control Module (AHM)	1	61 35 9 146 234/ 61 35 9 111 947
Trailer Hitch Wiring Harness	1	61 12 0 413 519
7-pin Trailer Wiring Connector	1	N/A
7-pin to 4-pin Trailer Wiring Adapter	1	72 11 0 404 323
Hardware Kit	1	N/A

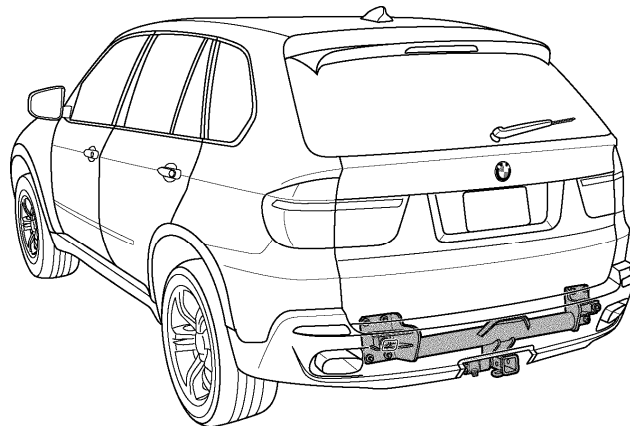
**ADDITIONAL REQUIRED PARTS**

<b>Description</b>	<b>BMW Part Number</b>
Rear Bumper Fascia Trim Piece Kit	71 60 0 035 371
Ball Mount Kit	71 60 0 413 358

**ADDITIONAL OPTIONAL PARTS**

<b>Description</b>	<b>BMW Part Number</b>
Electric Trailer Brake Controller	82 11 0 420 082
3 ft Trailer Connector - 4/5 Wire Flat***	61 13 0 412 965
5 ft Trailer Connector – 7 Blade Round (Female)	61 13 0 412 966
5 ft Trailer Connector – 7 Blade Round (Male)	61 13 0 412 967

\*\*\* *Not for use with trailers with electric brakes.*



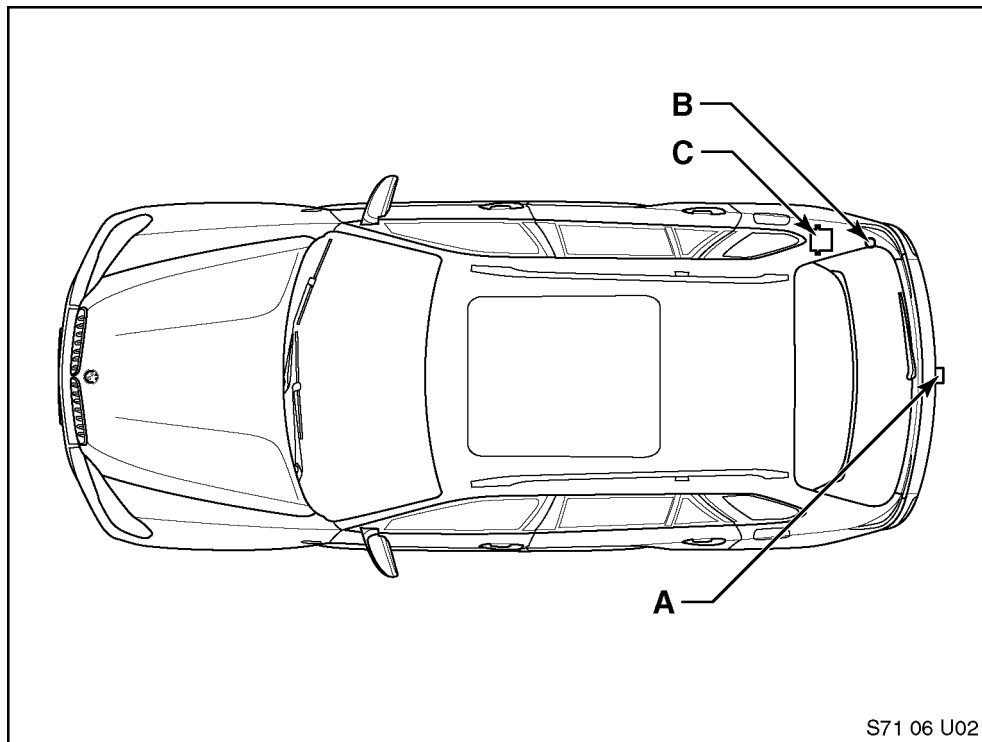
**LOCATION OF KIT PARTS**

Illustration S71 06 U02 shows the location of the major components/connections of the X5 (E70) Trailer Hitch System.

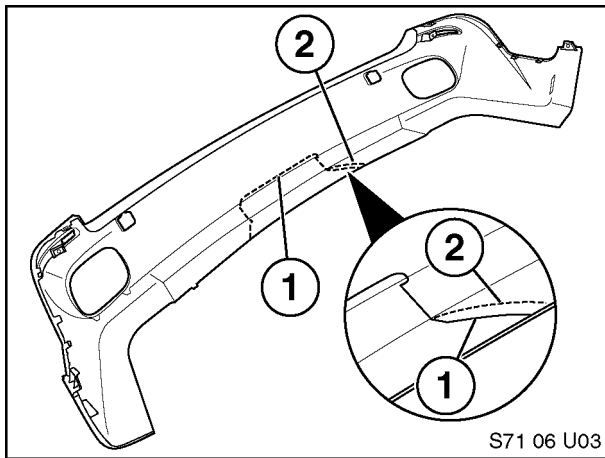
**A = Trailer Hitch Receiver**

**B = Vehicle Body Pass Through Grommets for Trailer Wiring Harness**

**C = Trailer Control Module (AHM)**

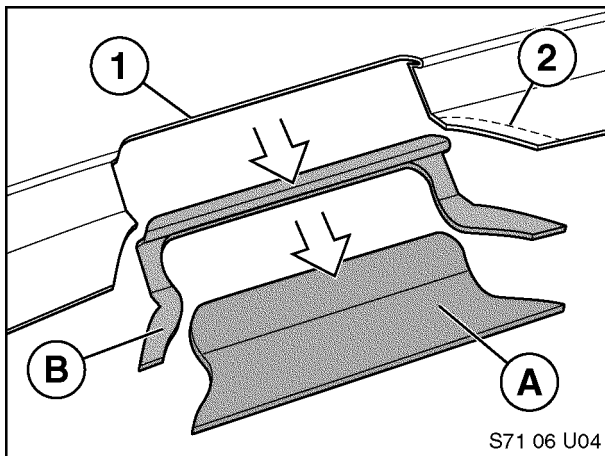


## Bumper Preparation



1. Remove bumper fascia from vehicle and position as illustrated. Protect outer surface of fascia during the following operations.
2. Tape around outer edge of scribe line (1) to more clearly mark line to be cut.

**Note:** *There may be an additional “outer” line (2) on the left side of the fascia. Ignore this line if present. The correct cut out line (1) is symmetrical and matches the profile of the bumper fascia Trim Piece P/N 71 60 0 035 371.*



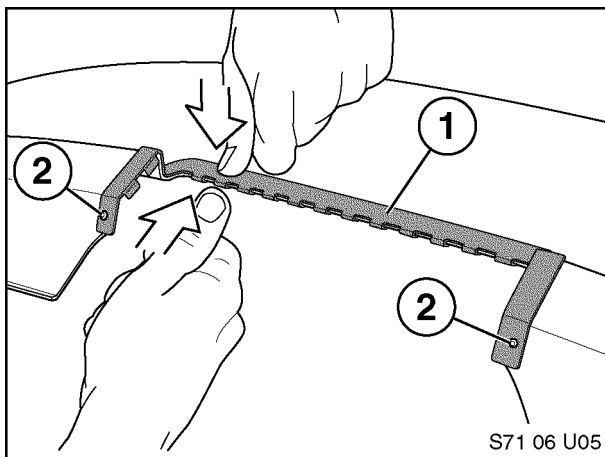
**Caution:** Wear safety glasses during the following operations.

3. Use a reciprocating saw (such as the Blue-Point® # AT192) to carefully cut along cut line (1).

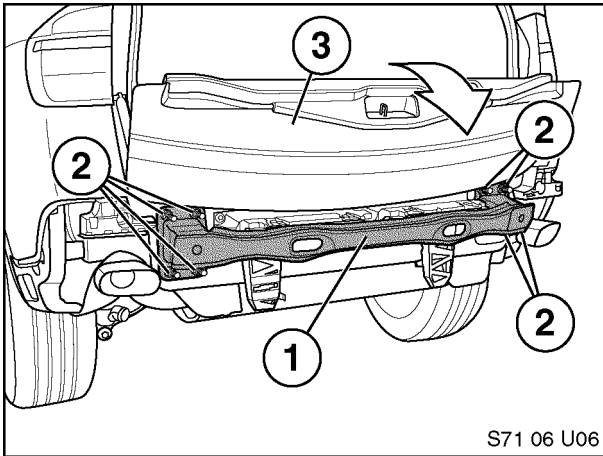
**Note:** *Depending on the type of tool used and the confidence of the user, you may find it easier to remove the fascia material in two steps. Remove the majority of material (A) first then make the final cut, removing area (B).*

**Making the final cut as smooth and accurate as possible will make the installation of the bumper fascia trim piece (in the next step) easier and result in a more “finished” look.**

4. Clean and smooth cut edge with an X-Acto™ Knife and/or a fine hand file.
5. Remove tape from fascia; clean/wipe area around cut line. Turn fascia over to access outer cosmetic surface of fascia.
6. Install bumper fascia trim piece (1) along the cut line, starting at the top corner as illustrated, using both hands to work the tabs around and behind the fascia.
7. Use the two 1/8” pop-rivets and backing washers from the kit [installed into the 1/8” holes (2)] to secure the lower edges of the trim piece to the fascia.

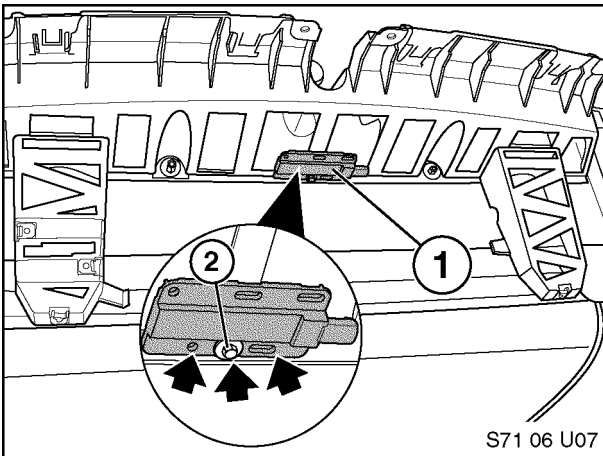


## Trailer Hitch Installation



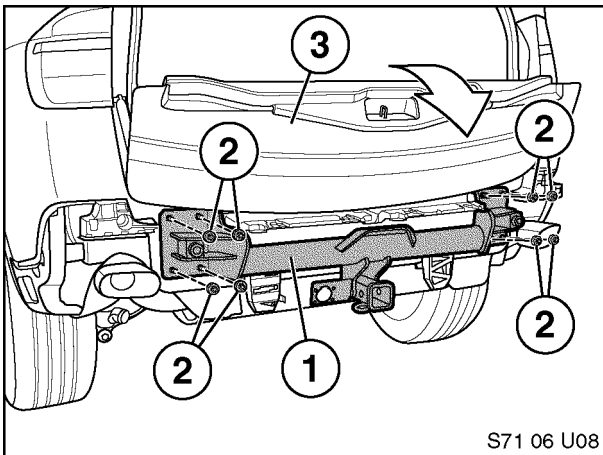
1. Remove and discard steel bumper (1) and eight mounting nuts (2) from vehicle.

**Note:** Access to the upper mounting nuts will be easier if the tailgate (3) is lowered approximately 45°.



2. If vehicle is equipped with optional Comfort Access (SA 322), note position of antenna (1) and mounting/adjustment Screw (2). Antenna position may have to be changed when installing trailer hitch wiring harness.

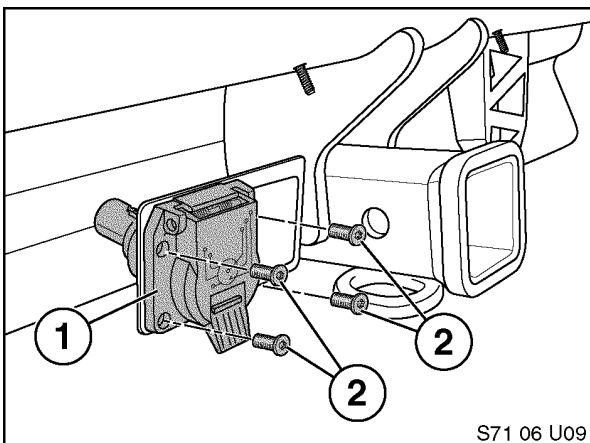
**Note:** If so equipped, antenna wiring harness must be disconnected from Antenna (1) and re-routed back through body access hole, into vehicle fuse panel area. (Reference illustration S71 06 U12, page 6, in wiring section)



3. Install trailer hitch (1) using eight HCN-nuts (2) with spaces (2) from installation kit.

**Note:** Access to the upper mounting nuts will be easier if the tailgate (3) is lowered approximately 45°.

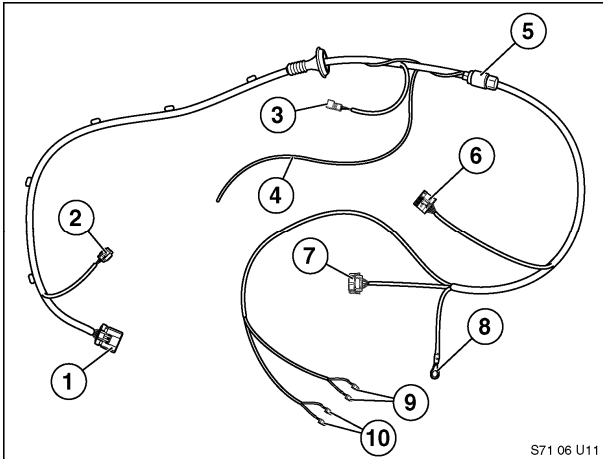
**Note:** Torque nuts to 108Nm (80ft. lbs.) Reference TIS AZD 51 12 for additional torque information as required.



4. Install 7-pin trailer connector (1) onto mounting plate as illustrated using four T25 TORX® head screws (2) from installation kit.

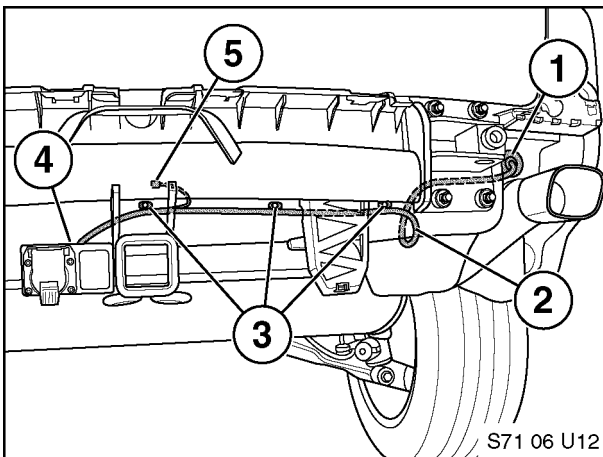
## Vehicle Wiring / Routing

1. Remove cover panel and storage well from right side of vehicle cargo area to access main fuse panel and vehicle wiring.
2. Disconnect vehicle battery.



3. Remove trailer wiring harness from kit.
4. Harness will be routed with connectors (1) and (2) located at the 7-pin trailer connector area near the receiver tube and connectors (3) through (10) inside the vehicle at the fuse panel location.

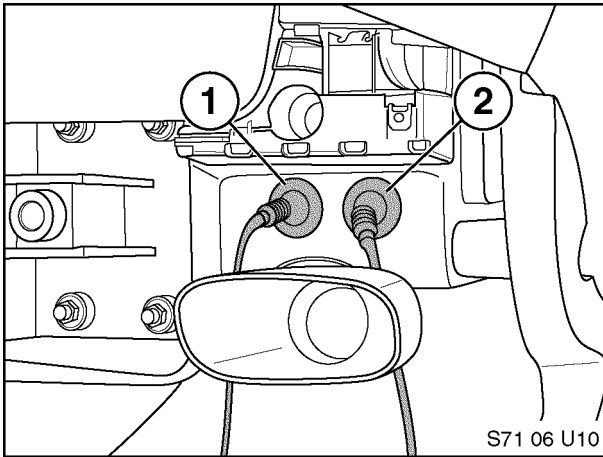
**Note: Small plastic bag (containing 2 connectors and 4 pins), taped to wiring harness, is to be given to customer for future option use.**



5. Route trailer wiring harness behind 7-pin connector mounting plate (4), behind receiver tube & supports - with Comfort Access antenna connection at location (5), along vehicle body below trailer hitch, looped behind body panel (2) and through body access hole (1).

**Note: Reference illustration S71 06 U10 on page 7 and next steps if vehicle equipped with optional Comfort Access and or PDC.**

6. Secure harness along body utilizing integral body studs and harness oval plastic mounting clips located at (3) and behind body panel near areas (1) and (2).



**Note:** Vehicles with optional Comfort Access (1) and/or PDC (2) will have one or both body access holes occupied. Vehicles without either option will have a blank plug covering these holes.

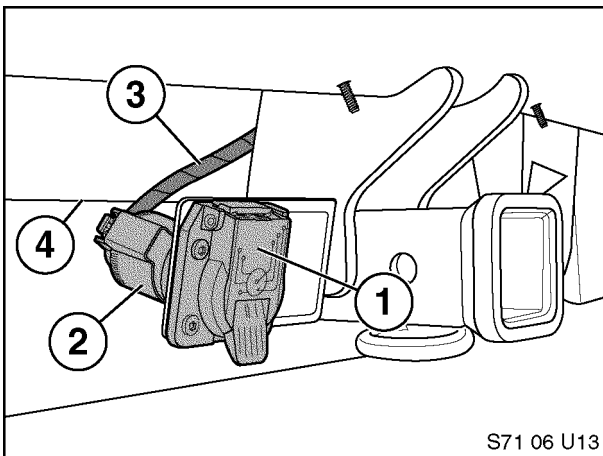
- If the vehicle has Comfort Access the antenna wiring harness must be disconnected from the antenna and (with grommet) re-routed back through body access hole (1) into vehicle fuse panel area.

**Note:** This antenna wire will be connected to the comfort access antenna wire that is part of the trailer wiring harness.

- Connect trailer-wiring connector (2) to trailer connector (1).

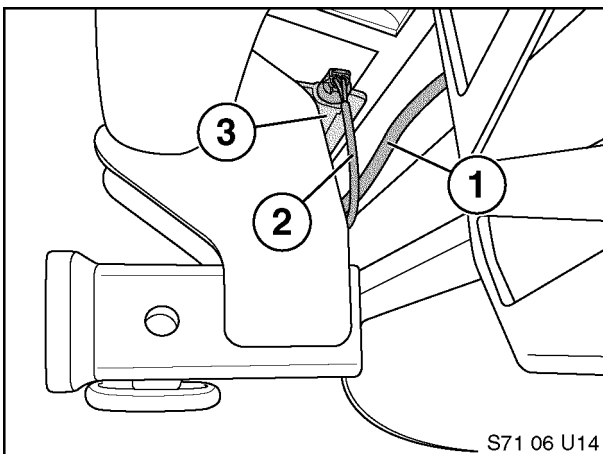
**Note:** Ensure that harness connector (2) is fully seated and gray locking tab is in full locked (closed) position.

**Note:** Wrap trailer wiring harness several times with a 2 inch wide piece of duct tape (3) in the area where the harness passes along the edge of the vehicle body panel (4). This will add an additional layer of protection to the harness.



- If vehicle is equipped with optional Comfort Access connect 2-pin connector [blue/gray, blue/yellow wires (2)], branched from trailer wiring harness (1), to antenna (3).

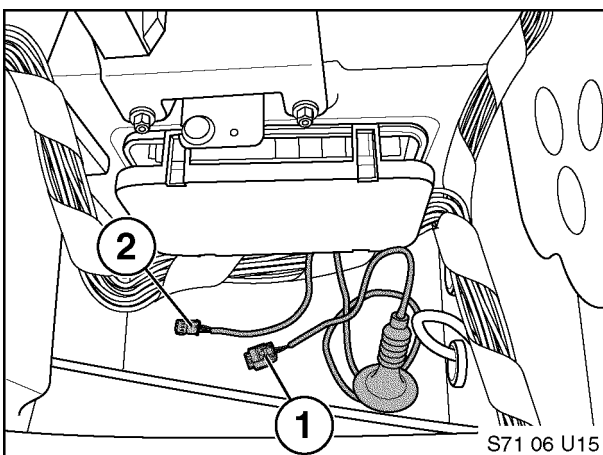
- Adjust antenna position as required. (Reference Illustration S71 06 U 07 page 5).



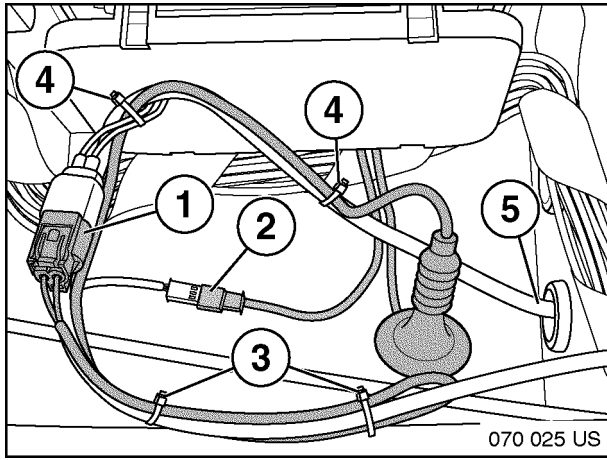
- Locate the 3-pin vehicle BUS connector (2) and (if vehicle so equipped) re-routed Comfort Access Antenna Wire with connector (1).

**Note:** Illustration does not show trailer wiring harness for clarity.

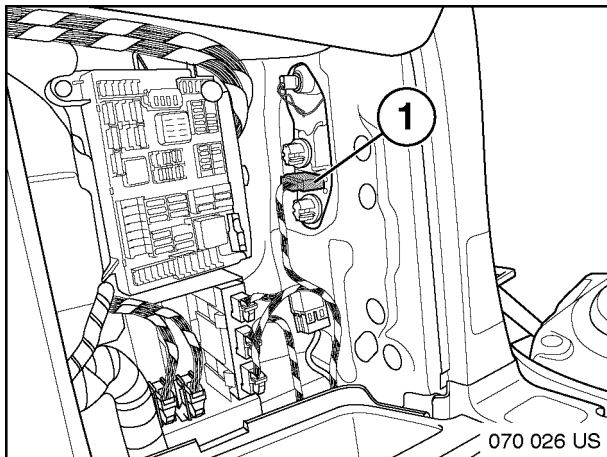
**Note:** In the following steps, reference page 14 for Wiring Harness Diagram (illustration S71 06 U11) and detailed description of harness connections and wire colors.



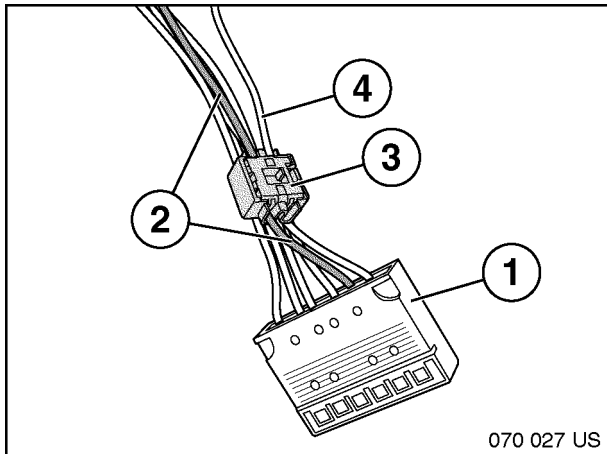
8



12. Connect 3-pin connector (green, orange/green, black/yellow wires) from trailer wiring harness (5) to vehicle BUS connector (2).
13. If vehicle so equipped, connect 2-pin connector (blue/gray, blue/yellow wires) from trailer wiring harness (5) to connector (1) on re-routed Comfort Access antenna harness.
14. Carefully route single blue/brown wire from trailer wiring harness along existing harnesses to area behind right tail light assembly. Secure all harnesses with wire-ties (3) & (4) from installation kit.

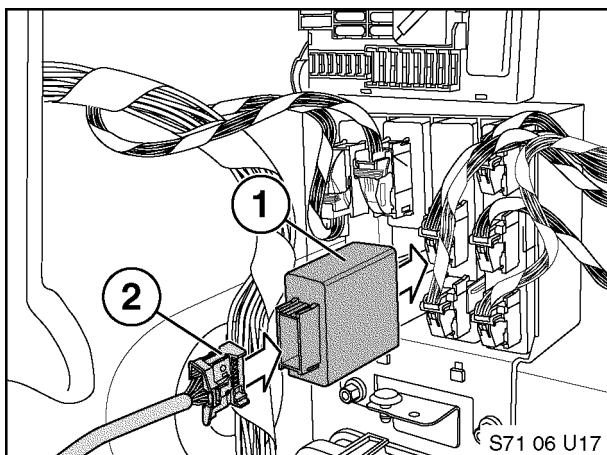


15. Locate and remove Connector **X318** (1) from Tail Light Assembly.



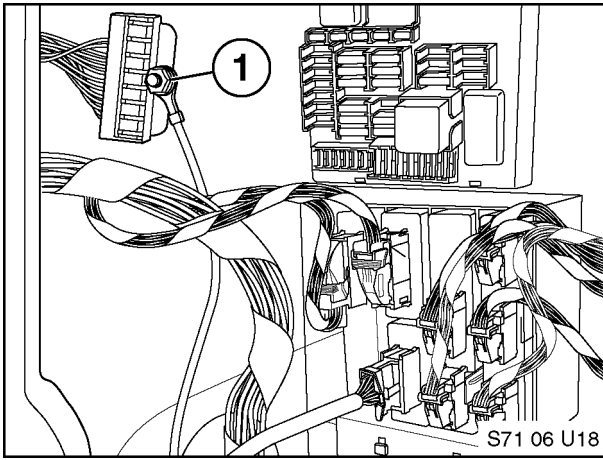
16. With connector **X318** (1) removed from tail light assembly, use BMW approved tap connector (3) p/n 61 13 8 364 566 [included in kit] to connect blue/brown wire from trailer wiring harness (4) to the blue/brown wire (pin 3) in the connector. Make certain single wire from trailer wiring harness does not protrude from tap connector.

17. Reconnect connector **X318** to tail light assembly.



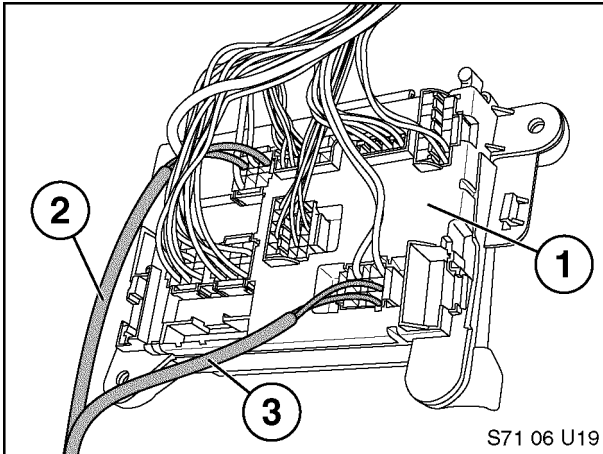
15. Install Trailer Control Module (AHM) (1) into empty slot in module carrier as illustrated.
16. Connect 16-pin connector (2) from trailer wiring harness to AHM module.





17. Connect trailer wiring harness ground (single brown wire with ring connector) (1) to vehicle ground point as illustrated.

**Note:** 4-pin connector (red, yellow/red, yellow/green, brown wires) branched from trailer wiring harness near ground wire branch is for optional electric trailer brake control and is not used for this installation.



18. Remove three screws from fuse panel (1) and carefully turn panel around to access individual connectors. Reference TIS RA 61 13 042 as required.

19. Plug paired single wires from trailer wiring harness (2) into fuse panel blue connector **X11016** as follows:

20. Red/blue wire to pin position 1 (Fuse F116). Install 20 amp fuse from installation kit.

21. Red wire to pin position 3 (Fuse F118). Install 30 amp fuse from installation kit

22. Plug paired single wires from trailer wiring harness (3) into fuse panel black connector **X11014** as follows:

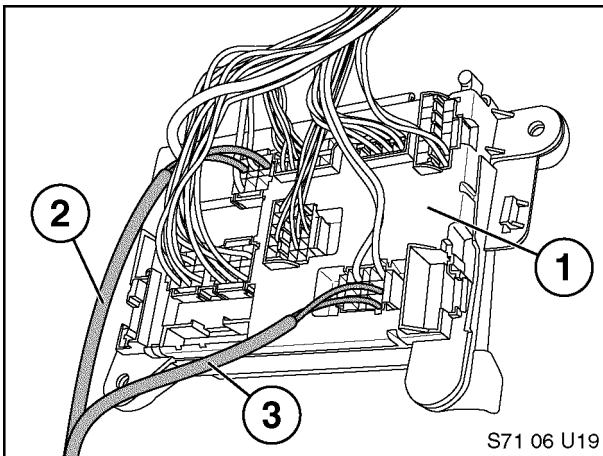
23. Red/violet wire to pin position 2 (Fuse F143). Install 25 amp fuse from installation kit.

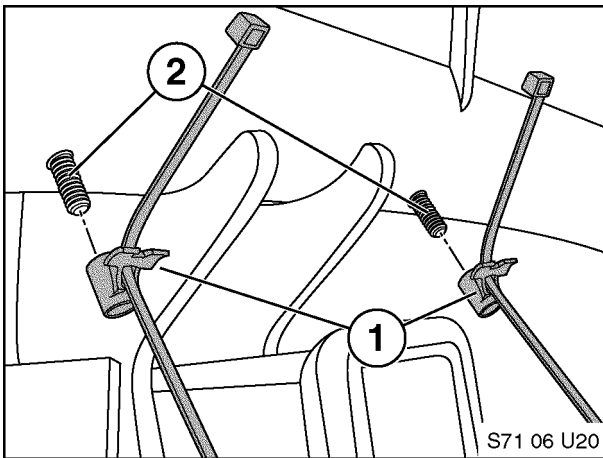
24. Red/green wire to pin position 3 (Fuse F144). Install 25 amp fuse from installation kit.

**Wiring is Complete.**

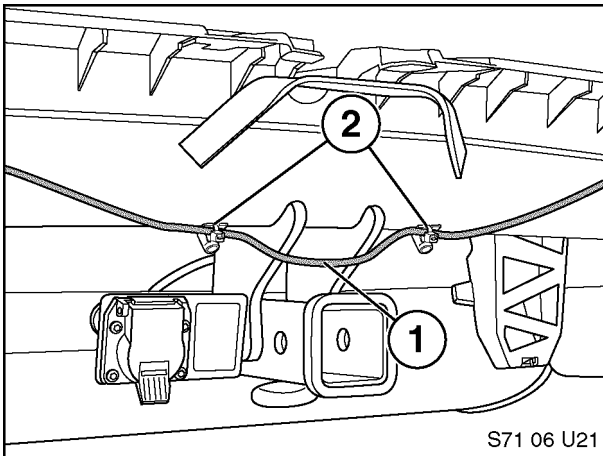
**Proceed to Assembly and Ball Mount Installation section unless, vehicle is equipped with optional PDC.**

**Re-mount fuse panel. Secure all harnesses with wire-ties as required. Re-connect vehicle battery.**



**Only for Vehicles Equipped with Optional PDC**

1. Install wire-ties with brackets (1) from installation kit onto mounting studs (2), located on trailer hitch cross member, as illustrated.

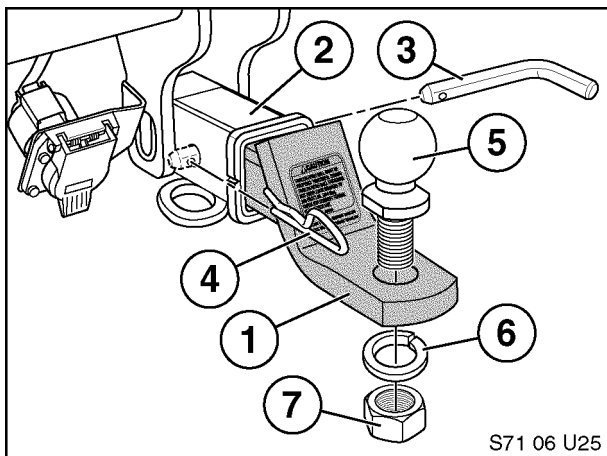
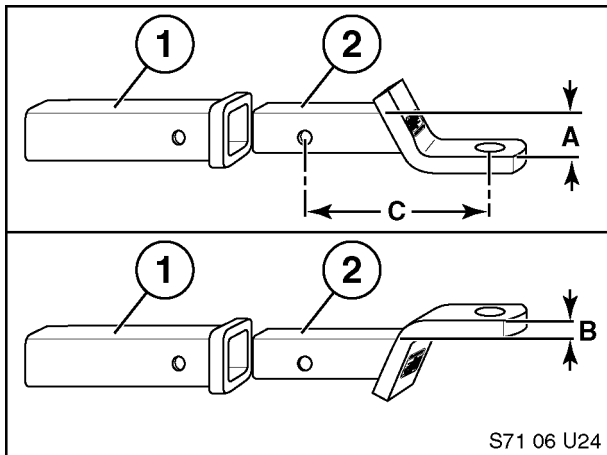
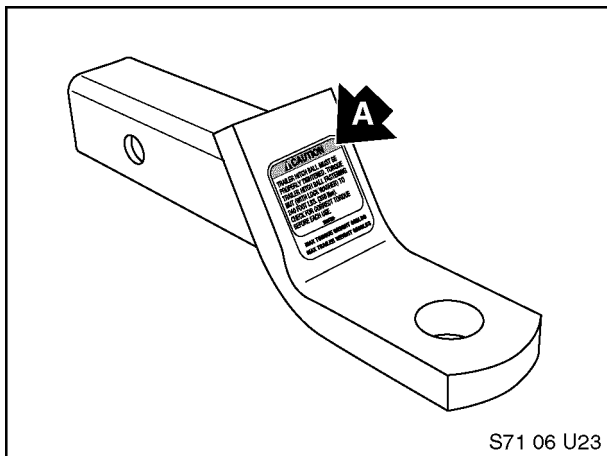
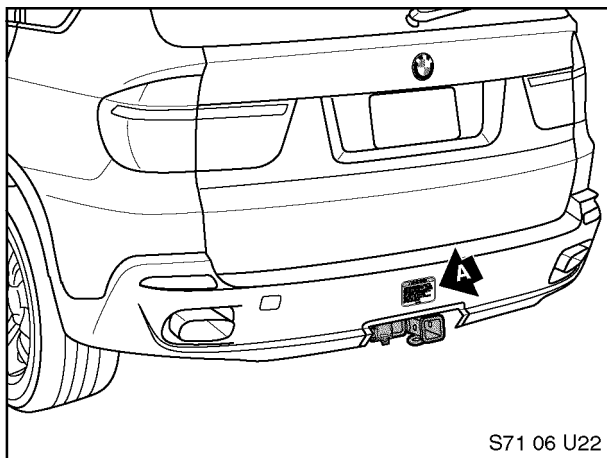


2. PDC wiring (1) is to be re-installed on bumper fascia in original locations with the exception of harness center section which must be attached to the hitch cross member as illustrated.

***Note: Depending on harness tension, wrap areas of harness that might come into contact with receiver tube vertical supports with duct tape to provide an additional layer of protection to the harness.***

**Proceed to Assembly and Ball Mount Installation section.**

## Reassembly And Ball Mount Installation



- Reinstall bumper fascia and vehicle interior components.

**Note:** Clean bumper with a mild cleaner and or alcohol in the area where label (A) is to be positioned.

**Important:** Install white Capacities Label (A) from installation kit onto bumper fascia centered just above trailer hitch receiver tube as illustrated.

- Ensure that silver Caution Label (A) is located on ball mount as illustrated.

**Note:** Silver caution label is not available as a separate part.

**Important:** Use only the BMW X5 (E70) ball mount kit, available from BMW centers, with the following specifications:

- A (Drop) = 2 ¼" (57mm)
- B (Rise) = 1" (25mm)
- C (Length) = 8" (203mm)

- Install trailer ball (5) onto ball mount (1) with lock washer (6) and nut (7).

**Important:** Torque nut to 240 foot lbs. (330Nm).

**Note:** Reference information and warnings on ball mount label.

- Install ball mount assembly (1) into trailer hitch receiver tube (2) by aligning holes in mount and tube and inserting pin (3) and clip (4) as illustrated.

12

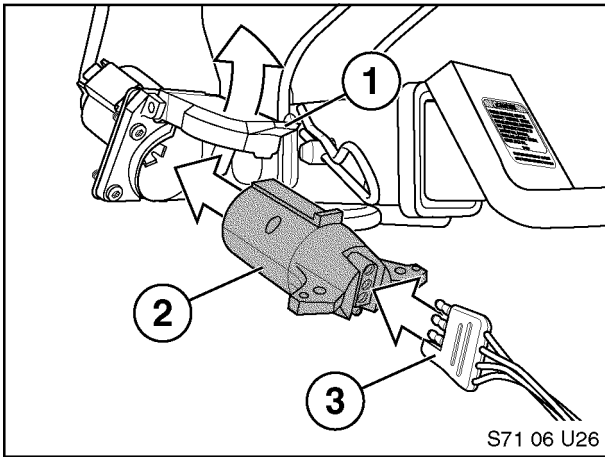
7. When towing a trailer with a four-pin wiring harness (3). Use the 4-pin to 7-pin adaptor (2) included in the installation kit to connect the trailer electrical system to vehicle connector (1).

**Note: The adapter should be kept with vehicle at all times.**

**Installation is Complete.**

**Proceed to Retrofit Coding**

**See pages 15 and 16 for customer guidelines / cautions sheets to be left in vehicle for customer reference.**



## **RETROFIT CODING**

**Note: Please refer to SI B09 05 01 for latest ISTA/P retrofit procedure before starting vehicle coding.**

Retrofit Trailer Hitch AHM Module using ISTA/P Ver. 34.2.0 or later.

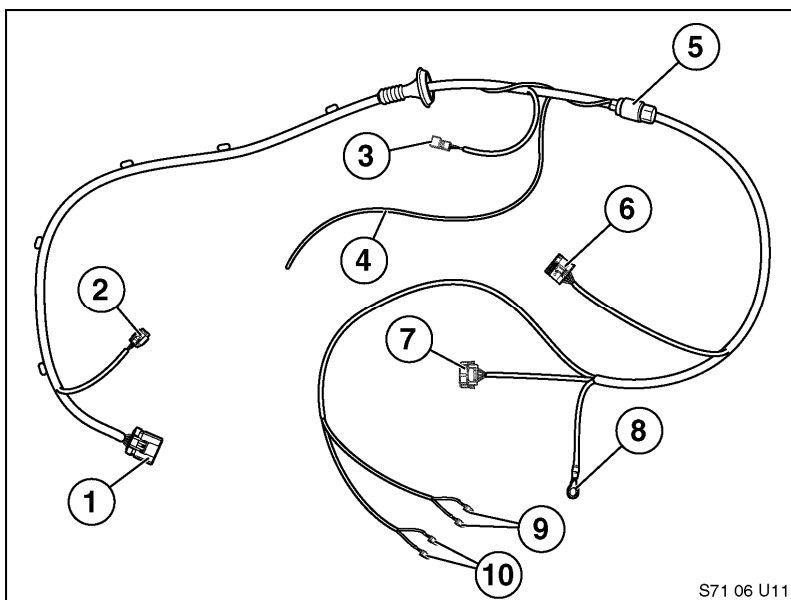
*Follow approved ISTA/P Retrofit procedures until Retrofit selection appears then:*

### **Procedure**

1. Select "Load SW" and answer the question as to whether the control units have been replaced with "No".
2. If a routine for updating the vehicle software appears, completely work through this routine first. Follow the on-screen instructions. Then repeat points 1 to 4.
3. Select the "Vehicle" menu item in the navigation bar.
4. A submenu will appear. Select "**Retrofit, Detachable Trailer Tow Hitch**".
5. Confirm the determined routine and the estimated execution time and follow the on-screen instructions. **AHMU** will be added to the VO.
6. A final report appears on completion of the routine. Other than undeletable fault code entries, this report should contain no error messages. If errors occurred, follow the instructions in ISTA/P user documentation.
7. Perform Complete Vehicle Encoding
8. Turn off the ignition, wait 15 seconds and switch on the ignition again.
9. Now check whether all systems are functioning correctly.

If additional problems persist then perform a vehicle battery reset and then submit a PuMA case.

### **Retrofit Coding Complete**

**TRAILER HITCH WIRING HARNESS**

<b><u>Reference</u></b>	<b><u>Description</u></b>
<b>1</b>	10 pin connector - Connect to back of 7-pin trailer wiring receptacle
<b>2</b>	2 pin connector (blue/gray, blue/yellow) - Connect to Comfort Access antenna
<b>3</b>	3 pin connector (green, orange/green, black/yellow) - Connect to vehicle BUSS
<b>4</b>	Single wire (blue/brown) - Lighting Signal for Trailer Control Module (AHM)
<b>5</b>	2 pin Receptacle (Blue/Gray, Blue/Yellow) - Connect to vehicle Comfort Access antenna harness.
<b>6</b>	16 pin connector - Connect to Trailer Control Module (AHM)
<b>7</b>	4 pin connector (red, yellow/red, yellow/green, brown) - Electric Trailer Brake Control Module
<b>8</b>	Single wire (brown) with ring connector - Ground
<b>9</b>	Single wires - Red/violet wire to fuse No.143 (25A), red/green wire to fuse No. 144 (25A)
<b>10</b>	Single Wires - Red/blue wire to fuse No. 116 (20A), red wire to fuse No. 118 (30A)

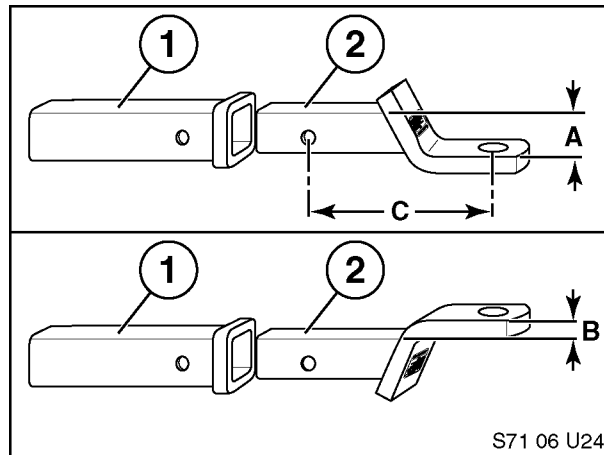
# BMW X5 (E70) Trailer Hitch Guidelines and Cautions

Page 1 of 2

These Guideline Sheets should be left in the vehicle (for customer reference) after installation of the Trailer Hitch

- The BMW X5 Trailer Hitch is rated **Class 3** (gross trailer weight 6000 lbs., maximum tongue weight 600 lbs.). Never exceed these specifications. This rating is based on a standard equipped vehicle with driver. Additional passengers and/or cargo will reduce maximum vehicle/trailer ratings.
- Do not exceed gross vehicle weight or front/rear axel weights as specified in the vehicles Owners Manual and displayed on the Safety Certification Label located on the drivers door jam.
- Do not use weight distribution equipment.

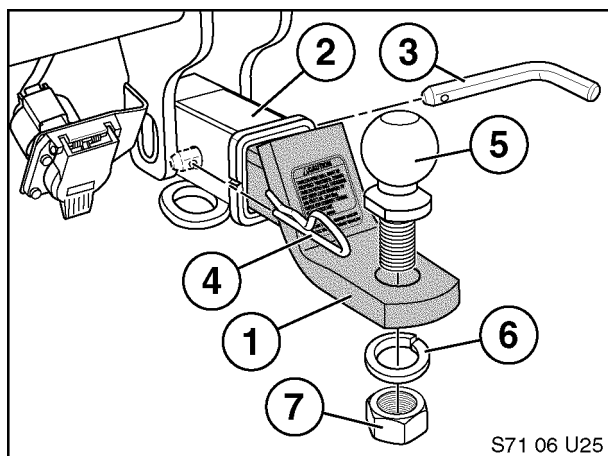
Use only the BMW X5 (E70) Ball Mount Kit (p/n 71 60 0 413 358) available from BMW Centers with the following specifications. Reference Illustration S71 06 U24.



A (Drop) = 2 ¼" (57mm)

B (Rise) = 1" (25mm)

C (Length) = 8" (203mm)



Install trailer ball (5) onto ball mount (1) with lock washer (6) and nut (7).

**Important: Torque nut 240 foot lbs. (330Nm).**

**Reference information and warnings on ball mount label.**

Install ball mount assembly (1) into trailer hitch receiver tube (2) by aligning holes in mount and tube and inserting pin (3) and clip (4) as illustrated.

# BMW X5 (E70) Trailer Hitch Guidelines and Cautions

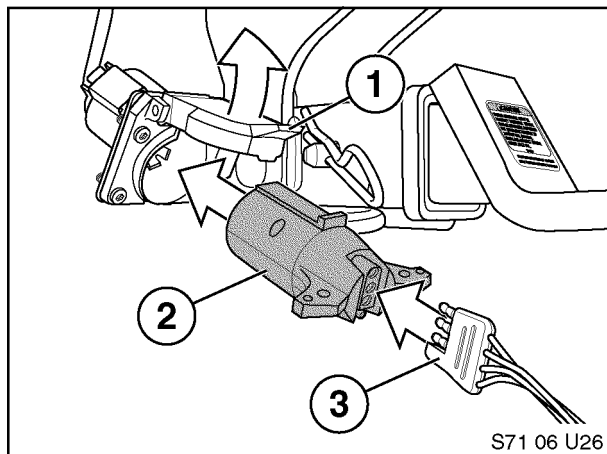
Page 2 of 2

These Guideline Sheets should be left in the vehicle (for customer reference) after installation of the Trailer Hitch

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- Before attaching, loading, or towing a trailer please read the brochure (included with the installation kit, available from your BMW Center, available on line at the NHTSA Web Site [www.nhtsa.gov](http://www.nhtsa.gov) or available by calling the DOT Auto Safety Hotline at 888-327-4236): TOWING A TRAILER – Being Equipped for Safety, NHTSA Publication DOT HS 809 433, April 2002.
- Check all connections (mechanical and electrical) before and during the towing of a trailer.
- Check the function of all vehicle lights and the lights on the trailer before and during the towing of a trailer.
- Do not cut, weld, drill or modify the trailer hitch.
- Do not modify any wiring or electrical components.
- BMW NA does not supply or have an approved electrical brake controller for your Trailer Hitch (Tow Bar) Kit.

**For trailers with LED lighting, in order to prevent the battery from draining over a long period of time, you should disconnect the wire harness that connects the trailer to the vehicle when the vehicle is not in use.**



When towing a trailer with a 4-pin wiring harness (3) use the 4-pin to 7-pin adaptor (2) included in the installation kit to connect the trailer electrical system to vehicle connector (1).

**The adapter should be kept with the vehicle at all times.**