VDO KIENZLE

Installation Instructions Adaptor Kit (Hall)

for vehicles with mechanical speedometers

X 39.397/106/191

X 11.397/106/006

VDO Kienzle Vertrieb und Service GmbH

...a Mannesmann company

Safety Instructions

• The product has been developed, manufactured and tested in accordance with the basic safety requirements of EC directives and the acknowledged state of the art.

• The product is only intended for use in landbound vehicles with 12 V electrical systems (except motorcycles).

Before installation

• Withdraw ignition key from ignition lock.

• Before installation refer to the vehicle documents for details of vehicle type and any special features.

• Refer to the construction diagrams to find out about the positions of the fuel/hydraulic/pneumatic and electrical lines.

• Take account of any modifications to the vehicle which have to be considered during installation.

• Failure to use the product correctly may cause harm to people, property and the environment. Therefore make sure you use our product correctly.

• Basic knowledge of vehicle electrics and mechanics is necessary for installation to prevent harm to people, property and the environment.

• Make sure that the engine cannot be unintentionally started during installation.

Short-circuits

• Short-circuits in the vehicle's wiring can cause cable fires, battery explosions and damage to other electronic systems. Therefore disconnect the minus pole of the vehicle battery before starting work.
If the vehicle has supplementary batteries, the minus poles of these batteries should be disconnected as well.

• Modifying or tampering with the product may affect safety. It must not therefore be modified or tampered with.

Possible data loss

• When the batteries' minus poles are disconnected, all the temporary electronic memories lose their entered data. Therefore note down all the relevant data for re-programming before disconnection.

During installation

• During installation make sure that the product's components do not affect or restrict vehicle functions and are themselves not damaged.

• Only install undamaged parts in vehicles.

• When working beneath the vehicle, secure the vehicle in accordance with the vehicle manufacturer's instructions.

• If any work is necessary while the engine is running, take special care. Only wear suitable work clothes owing to the risk of injury due to pinching and burning. Long hair should be worn in a hair net.

• Only use the designated multimeters or diode test lamps to measure wattages and currents in motor vehicles. The use of conventional test lamps can cause damage to control units and other electronic systems.

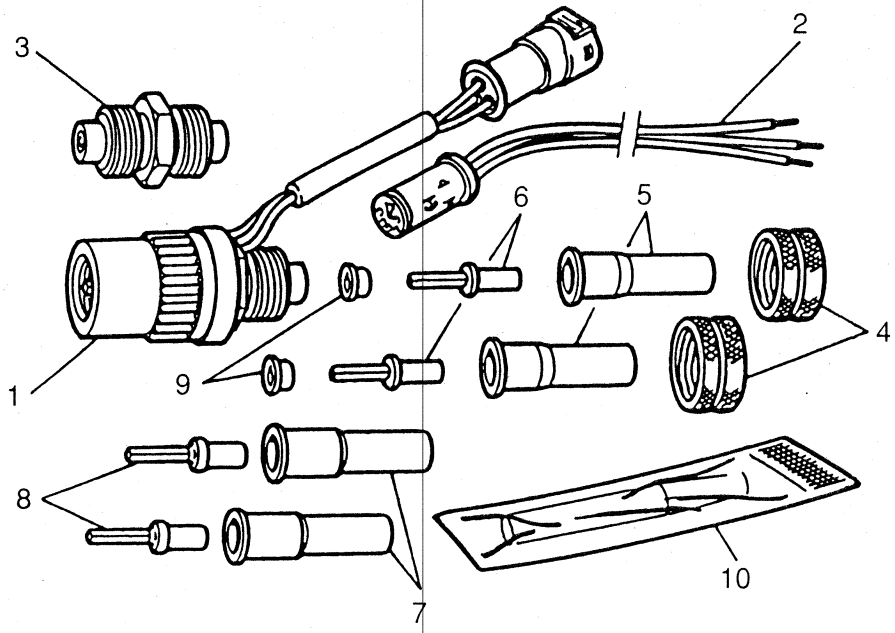
After installation

• Firmly connect the earth cable to the minus pole of the vehicle battery.

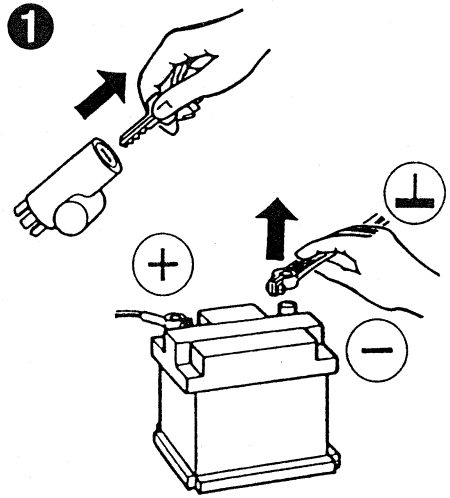
• (Re-)program the data in the temporary electronic memories.

• Test all (!) vehicle functions.

No smoking!
No open fire or lights!



Pos.	Description	(Remarks)	
1	Hall sensor (12 V)		1x
2	Extension cable		1x
3	Shaft coupling		2x
4	Sleeve nut		2x
5	Sleeve (Ø 7.2)		2x
6	Drive part (Ø 3.2)		2x
7	Sleeve (Ø 8.0)		2x
8	Drive part (Ø 3.8)		2x
9	Plastic bush		2x
10	Special glue		1x



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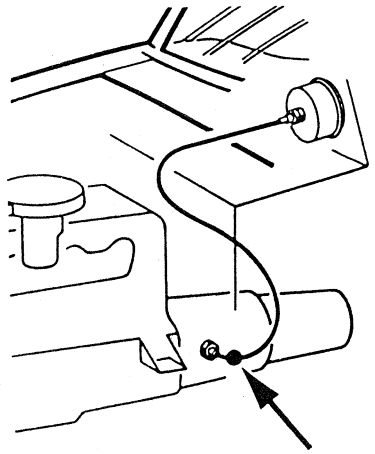
Install the Hall sensor directly on the gearbox connection (M18 x 1.5) of the speedometer drive shaft or in the speedometer drive shaft. Separate the speedometer drive shaft at a straight run, if possible close to the gearbox.

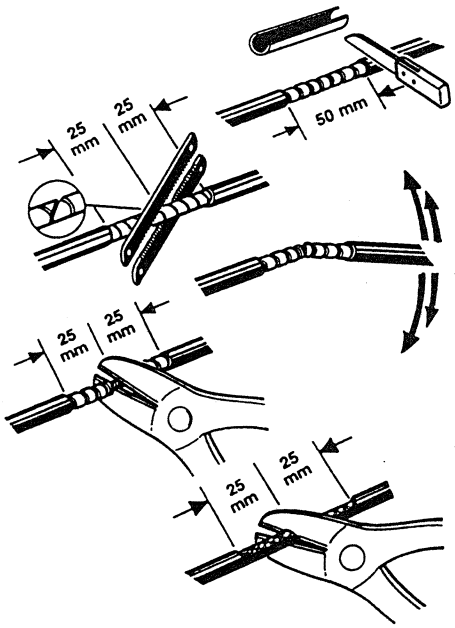


3

Mounting of the sensor in the speedometer drive shaft

Carefully strip the plastic sheath of the outer tube over a length of 50 mm. Make a saw cut, depth about 1 mm, vertical to the tube profile and break the tube. Cut the flexible shaft in the middle with diagonal pliers.

In the case of an outer tube made of wire braiding cut the wire braiding and the flexible shaft directly with diagonal pliers.



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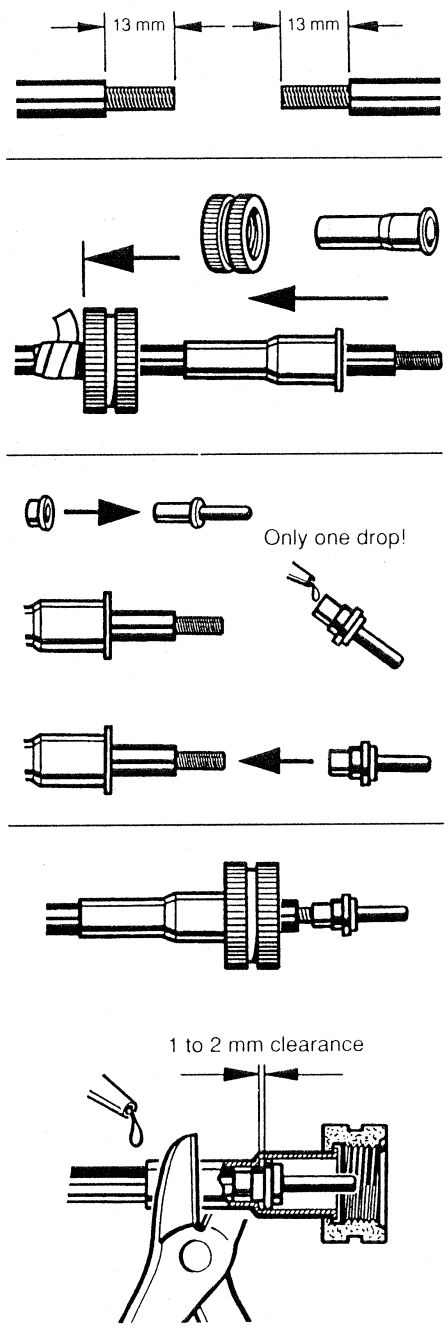
Remove the stripped outer tube at both ends of the speedometer drive cable up to the plastic sheath so that the flexible shaft is free. Shorten flexible shaft to an offset of 13 mm. Check that the flexible shaft is still engaged in the speedometer and in the gearbox.

The adapter kit contains 2 x 2 ferrules and tips of different diameters. Check for the adequate ones.

Push union nut and ferrule on the speedometer drive shaft. Secure against slipping with insulating tape.

Push platic bushing on tip. Carefully degrease flexible shaft. Put only one drop of special cement into tip hole, push flexible shaft in. Curing time is about 1 minute.

Pull ferrule and union nut towards tip to have a remaining clearance of 1 to 2 mm. Crimp ferrule with diagonal pliers and add one drop of special cement to secure.



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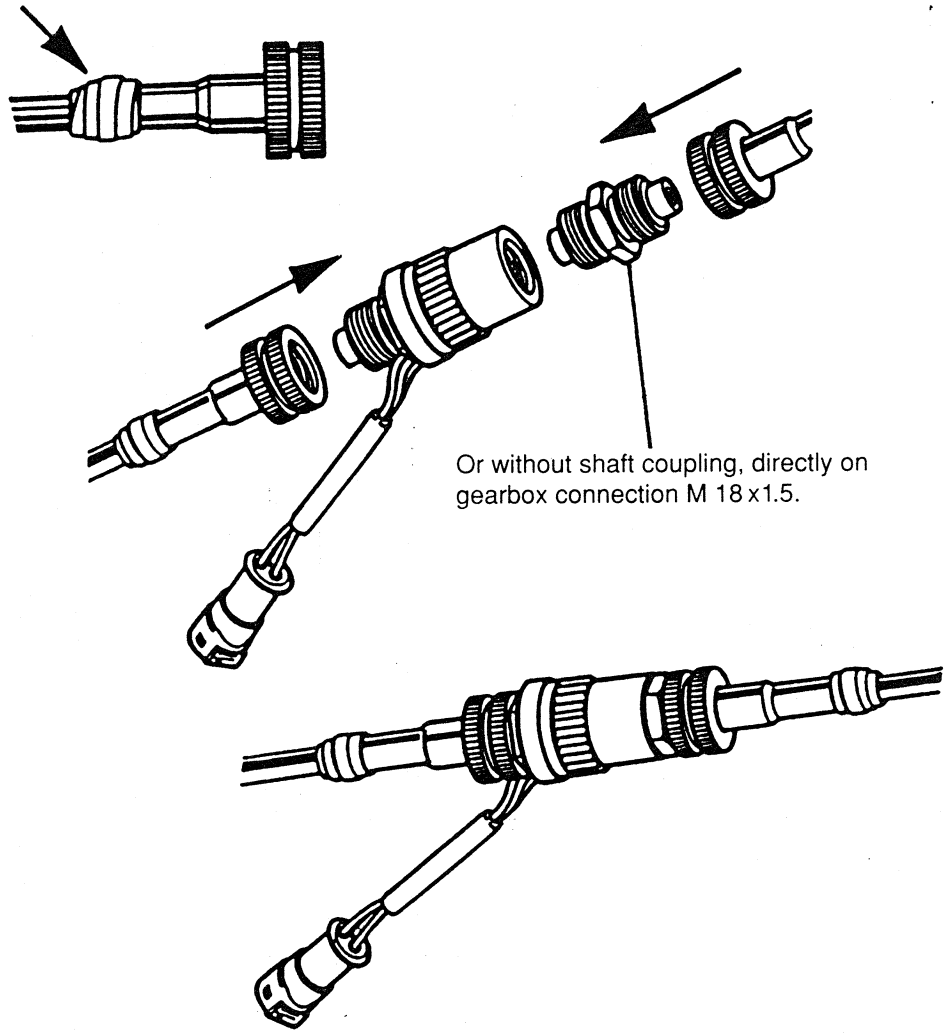
Wind insulating tape around ferrule end. Screw the shaft coupling to the Hall sender. Connect the two speedometer drive shaft ends to the Hall sender. Add cable and connect cable according to circuit diagram.



Electrical Connection

Use the supplied pre-assembled cable harness for electrical connections.

Connect the cables in accordance with the electrical connection diagram.

Safety Instructions

- Take account of the cable cross section. A reduction in the cable cross section results in a higher current density. This can cause the cable to heat up.

- When laying electric cables, use existing cable ducts and routes but without laying cables prallel to ignition cables or cables leading to high current consumers. Fix the cables with cable tape or adhesive tape.

- Do not route cables over moving components. Do not fasten cables to the steering column.

- Make sure that the cables are not exposed to tensile, compressive or shear forces.

- If the cables are routed through drilled holes, protect them with rubber sleeves or the like.

- Strip cables only with a cable stripper. Adjust the stripper so that no strands are damaged or severed.

  Solder new cable connections only with the soft soldering process or use standard crimp connectors.

- Crimp connections should only be made with a crimping tool. Follow the tool manufacturer's safety instructions.

- Insulate exposed strands so that no short-circuiting can occur.

- Danger of short-circuiting due to faulty connections or pinched cables.

  Short-circuits in the vehicle's wiring can cause cable fires, battery explosions and damage to other electronic systems. For this reason all connnections in the voltage supply must be either soldered or provided with weldable connectors and sufficiently insulated.

Other connections, such as for tapping the vehicle speed or rpm signal or the connection to brake-light or coupling switches, can be made with conventional crimp connectors. Make particularly sure that the wiring is properly grounded (earthed).

- Faulty wiring can cause short-circuiting. Wire the cables only in accordance with the electrical connection diagram.

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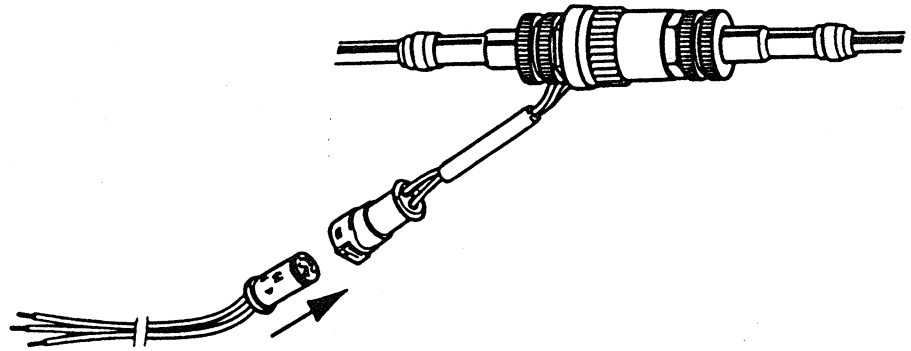
Add cable and connect cable according to circuit diagram.

Wire	Connection
blue	v-Signal
brown	– 31 Ground
black	+ 15



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