Installation Instructions

ELECTRICALLY OPERATED STEP

FORD TRANSIT V363 (F7)

The vehicle manufacturer's body fitting guidelines must be adhered to during installation !

www.amf-bruns.de

Foreword

Dear Reader,

these Installation Instructions serve to provide information for the correct installation of the electrically operated step.

Having read these Installation Instructions thoroughly for the first time, keep them in a safe place for the entire life of the electrically operated step so that they are available for a possible future re-installation.

In case of a change of ownership of the electrically operated step, the Installation Instructions must be handed over to the new owner.

This document must not be reproduced or duplicated, in full or in part, without the prior, written permission of the manufacturer.

The electrically operated step must never be converted or modified in any way, without seeking the prior, written permission of the manufacturer. The manufacturer will not be held responsible in any way whatsoever if conversions or modifications are carried out without authorisation.

Explanation of symbols and signs

To improve understanding, the following conventions should be met for these Installation Instructions:

1.

The following conventions are used to highlight important information:

DANGER!

- warns of a situation of immediate danger, which will lead to severe or fatal injuries, if not avoided.

WARNING!

- warns of a potentially dangerous situation, which will lead to severe or fatal injuries, if not avoided.

CAUTION!

- warns of a potentially dangerous situation, which will lead to slight or minor injuries or material damage if not avoided.

ATTENTION!

...warns of a potentially dangerous situation, which can cause material damage, if not avoided.

...contains general notes and useful information.

...gives a reference to important information in other sections and documents.

2.

Some texts serve a particular purpose. These are identified as follows:

- Lists.

⇨ Instructional text, e.g. a sequence of activities.

Contents

1 Safety

The installation company itself is responsible for adherence to the safety regulations when installing the electrically operated step.

Installation is insofar carried out at the sole risk installation company. The manufacturer will accept no liability whatsoever for damage caused during installation. Unless such damage is caused by grossly negligent or intentional breach of contract on the part of the manufacturer.

In addition to the information given in these Installation Instructions, local legislative regulations must be taken into consideration, in particular those regarding safety and accident prevention.

Detailed information regarding safety when operating the electrically operated step can be found in the Operating Instructions. The Operating Instructions are also available in PDF format on our Internet site, www.amf-bruns.de.

Personnel Requirements

The electrically operated step must only be installed by specialist personnel,

- who have read and understood these Installation Instructions,
- of whom it can be expected, that they will execute the job entrusted to them in a responsible and reliable manner and
- who have been assigned to install the electrically operated step by the owner of the vehicle.

2 Installation

2.1 Safety Information for Installation

WARNING!

Danger through incorrect installation.

An incorrectly installed step can become loose during operation or when the vehicle is travelling. Faults in the electrical connection can cause the step to extend when the vehicle is travelling. This can cause serious accidents.

Therefore:

- The electrically operated step must only be installed in a vehicle by specialist personnel under adherence to these Installation Instructions.
- The vehicle manufacturer's body fitting guidelines must be adhered to.
- The installation material provided must be used to install the electrically operated step.
- All screws/bolts must be tightened to the tightening torques specified in Section 2.5, page 17.
- If any of the vehicle's original screws are loosened or removed to install the electrically operated step, they must be re-tightened to the torque specified by the vehicle manufacturer.
- To ensure that the electrically operated step has been installed correctly, it must be inspected by a technical expert.
- The electrically operated step must not be used until this has been done.

ATTENTION!

Material damage can be caused by incorrect installation.

Therefore:

- Read these Installation Instructions thoroughly before installation, so that you are familiar with the entire installation procedure.
- Secure the vehicle, to prevent it from rolling away.
- Do not start installation until this has been done.

2.2 Installation Work

Figure 1: Cutting Out the Door Sill Cladding

Figure 2: Marking the Cut Away Section (1)

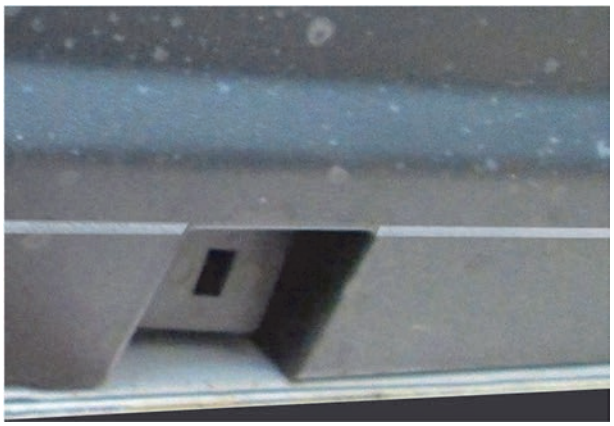


Figure 3: Marking the Cut Away Section (2)

⇨ Raise the vehicle on a vehicle lift.

⇨ Cut away a section of the door sill cladding beneath the side door (see Figure 1 to Figure 5, page 9).
The cut away section must start 60 mm back from the front edge of the door sill cladding.

Vehicles with short wheelbase (L1):

The section must be 900 mm long and be approx. 40 mm in depth.

Vehicles with medium wheelbase (L2) and long wheelbase (L3):

The section must be 1150 mm long and be approx. 40 mm in depth.

The cut must be made around the fastening points of the door sill cladding (see Figure 3).

⇨ Mark the course of the cut on the door sill cladding.

Figure 4: Making the Cut

⇨ Make the cut.
Adhere to the course of the cut shown in Figure 5.
Make certain that the fastening points on the door sill cladding are not cut off or damaged.

Figure 5: Course of the Cut

Figure 6: Positioning the Step (1)

⇨ Bring the electrically operated step into position under the vehicle with the aid of a lifting device.
The electrically operated step must be at the height of the cut away section of the door sill cladding.
Initially position the electrically operated step such that its fastening edge is located behind the door sill.

⇨ Mark the positions of the six fastening holes for the electrically operated step on the edge of the door sill.

Figure 7: Positioning the Step (2)

⇨ Now position the electrically operated step such that its fastening edge is located on the outer side of the door sill.
Make certain that the position of the step remains constant along the length of the vehicle.

Figure 8: Fastening the Brackets

⇨ Position the brackets at both sides of the step.

⇨ Mark the position of the holes for fastening the brackets on the vehicle member.

⇨ Remove the electrically operated step from beneath the vehicle.

Figure 9: Door Sill Fastening Holes

⇨ Drill the Ø = 6.5 mm fastening holes in the edge of the door sill.

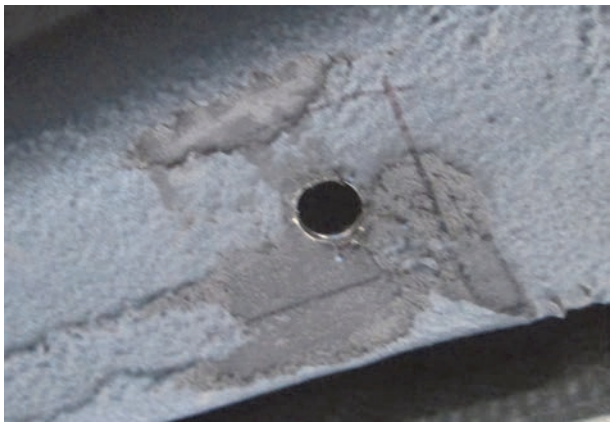


Figure 10: Member Fastening Holes

⇨ Drill the Ø = 10 mm holes for fastening the brackets to the vehicle member.

⇨ Deburr the holes.
⇨ Remove all traces of swarf.
⇨ Apply rust proofing paint to the holes.
⇨ For front-wheel drive vehicles, cut the brackets off below the required fastening holes
⇨ Apply corrosion protection paint to the brackets.
⇨ Wait until the corrosion protection paint has dried.

Figure 11: Hole with Anchorage Plate

⇨ Insert the 60 x 20 x 8 mm anchorage plates provided into the vehicle member.
The 8 mm threaded hole in the anchorage plates must come to rest above the holes in the vehicle member.

Figure 12: Assembly Paste

⇨ Bring the electrically operated step into position beneath the vehicle.
⇨ Insert the M 6 fastening bolts provided.
Place washers on the bolts.
⇨ Apply assembly paste so that the bolts do not seize up.

Figure 13: Bolting the Step (1)

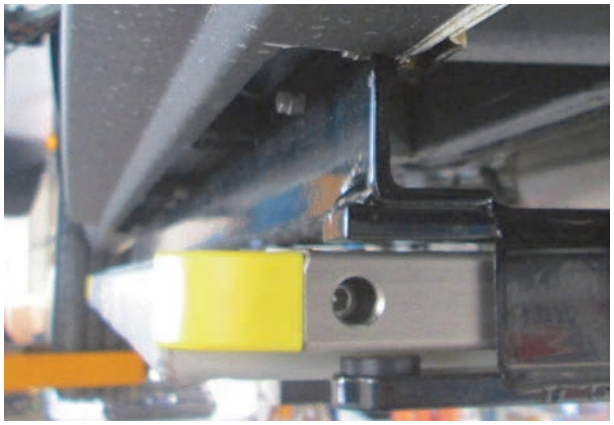


Figure 14: Bolting the Step (2)

Figure 15: Bolting the Step (3)

⇨ Bolt the step on.
Use the large diameter washers and self-locking nuts provided to do this.

⇨ Screw the brackets on using the M 8 x 35 stainless steel bolts provided.

⇨ Place washers on the bolts. Use the self-locking nuts provided to do this.
If necessary, place washers between the brackets and the vehicle member so that the step is exactly flush with the floor of the vehicle.

⇨ Check that all bolts are tight. Adhere to the tightening torques given in Section 2.5, page 17 when doing so.

⇨ Apply corrosion protection to all fastening parts.

2.3 Electrical Connection

The electrically operated step can be connected for one of two operating modes.

In the automatic operating mode, the step automatically extends when the side door is opened. It automatically retracts when the side door is closed. The door contact switch and control unit provided must be installed for the automatic operating mode.

In the manual operating mode, the step is extended and retracted using a toggle switch installed in the B-pillar.

WARNING!

Risk of accidents through an extended step.

If, in the manual operating mode, the toggle switch is operated when the vehicle is travelling, the step can be extended. This can cause serious accidents.

Therefore, for an electrically operated step in the manual operating mode:

- Install the toggle switch in the B-pillar, such that is concealed by the side door when it is closed.
- It must be impossible to operate the toggle switch when the side door is closed.

ATTENTION!

If the toggle switch is under stress when installed, it can jam. The electrically operated step's drive motor can suffer irreparable damage.

Therefore:

- Make certain that the toggle switch is stress-free when installed.
- After installation, check that the toggle switch automatically returns to the mid-position when released.

Refer to the electrical circuit diagram when carrying out any work on the electrical system (see Figure 22, page 16).

Figure 16: Laying the electrical cables (1)

Figure 17: Laying the electrical cables (2)

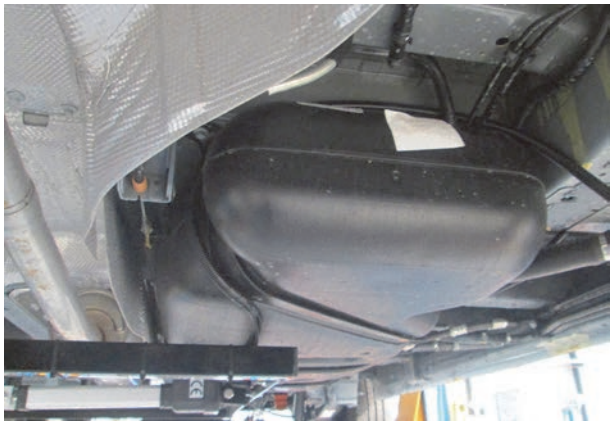


Figure 18: Laying the electrical cables (3)

⇨ Make certain that the negative pole of the vehicle's battery is disconnected.

⇨ Lay all cables so that they cannot chafe and are adequately fastened (see Figure 16 to Figure 19, page 15).
Use the cable conduits and fastening clips provided to do this.
Make certain that the cable insulation remains full y intact.
The power supply cable conductors must not be bare at any point.

Figure 19: Laying the electrical cables (4)

⇨ Feed the cable into the battery box under the driver's seat.
Drill the hole necessary for the cable entry.
Make certain that there is sufficient space in the battery box at the position where the hole is to be drilled.

⇨ Seal the cable entry holes.

⇨ For manual operation: Install the toggle switch provided in the B-pillar, such that is concealed by the side door when it is closed.

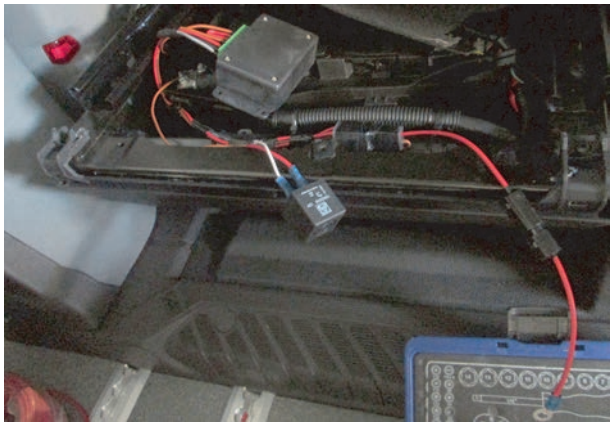


Figure 20: Control Unit and Fuse

⇨ For automatic operation: Fit the control unit.

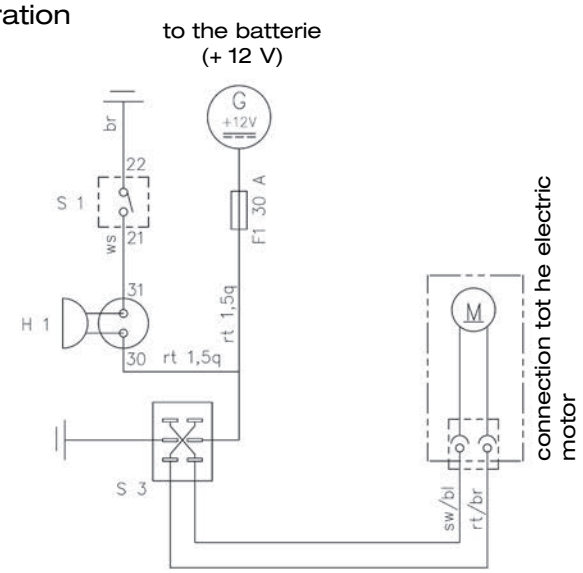
Figure 21: Door contact switch

⇨ Fit the door contact switch provided.

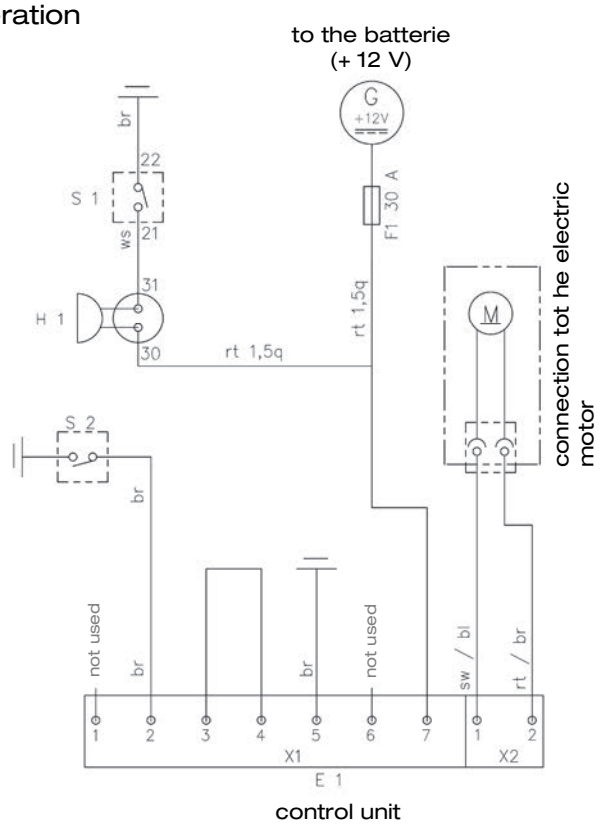
⇨ Connect the power supply cable to the positive pole of the vehicle's battery via the 40 A fuse provided.

2.4 Electrical Circuit Diagram

Manual Operation



Automatic Operation



rt	red
sw	black
br	brown
ws	white
bl	blue

F1	fuse 30 A
M	motor
H1	buzzer
S1	limit switch
S2	door contact switch
S3	rocker switch
E1	control unit
G	to battery (+ 12 V)

Figure 22: Electrical Circuit Diagram

2.5 Tightening Torques

NOTE

The tightening torques specified here do not apply to original vehicle-specific screws.

All screws must be tightened to the standard tightening torques (+/- 15 %).

If deviating tightening torques and tolerances are required for individual screws, a note to this effect will be included in the respective installation steps.

The specified tightening torques are recommendations. The company responsible for the conversion is also responsible for making certain that all screws are tightened to the correct tightening torque.

2.5.1 Standard Threaded Steel Screws

Property Class	8.8		10.9
Screw connection	Steel in steel	Steel in aluminium	Steel in steel
M6	10 Nm	7 Nm	15 Nm
M8	25 Nm	18 Nm	36 Nm
M10	50 Nm	30 Nm	72 Nm
M12	85 Nm	50 Nm	125 Nm
M14	135 Nm		200 Nm
M16	210 Nm		310 Nm

2.5.2 Standard Threaded Stainless-Steel Screws

Property Class	A2/A4-70
Screw connection	Steel in steel
M5	3.5 Nm
M6	10 Nm
M8	20 Nm
M10	35 Nm
M12	60 Nm
M16	135 Nm

2.5.3 Deviating Tightening Torques

Airline rails Smartfloor profile installation	M10; A2-70	18 Nm
Airline rails, floor installation	M8; A2-70	20 Nm
Mono-Fitting, (bottom part)	M12; 10.9-zn	50 Nm
Belt screws / E-belt	7/16“ 20–UNF	40 Nm
Floor Pocket		47 Nm
T-Bolt	M8	25 Nm
	M10	35 Nm
AMF seat installation	M8; 10.9	36 Nm
Battery cable		8 Nm
Nuts on cable lugs and terminal blocks	M5	5 Nm
	M6	8 Nm
	M8	12 Nm
Seat fastening	Manufacturer’s specifications	
Wheel nuts / bolts		

NOTE

The current tables of the tightening torques can be found under https://www.amf-bruns-mobility.com/service/downloads/.

3 Faults

WARNING!

Risk of severe injury and material damage if repair work is carried out incorrectly.

Therefore:

- Only allow specialist personnel to carry out repair work.

If faults occur when operating the electrically operated step, proceed as described in the troubleshooting table in the Operating Instructions. The Operating Instructions are also available in PDF format on our Internet site (www.amf-bruns.de). Contact the customer service department if faults are encountered which cannot be remedied using the information given there (see Chapter 4, page 20).

4 Customer Service

The AMF-Bruns customer service department will be more than pleased to assist in ordering spare parts, maintenance and repair work and help with general problems or queries.

See also the service page on our Internet platform.

The address is:

AMF-Bruns GmbH & Co. KG
Hauptstraße 101
D – 26689 Apen

Tel.: +49 (0) 44 89 / 72 72-30
Fax: +49 (0) 44 89 / 62 45

service.hubmatik@amf-bruns.de
www.amf-bruns.de

NOTE

Guarantee work on the electrically operated step must only be carried out with the prior agreement of AMF-Bruns GmbH & Co. KG.

The costs of such work will not be accepted by AMF-Bruns without prior agreement.

AMF-Bruns GmbH & Co. KG | Hauptstraße 101 | 26689 Apen
Telephone +49 (0) 4489 / 72 72 30 | Fax +49 (0) 4489 / 62 45
service.hubmatik@amf-bruns.de

www.amf-bruns.de

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