Bodybuilder's Bulletin (New Truck Generation)



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Additional Electrical Consumers Fusing

In principal MAN is happy for extra electrical consumers to be added to its vehicles, as long as the below requirements are followed. With the launch of the MAN New Truck Generation (New TG), the connections for bodybuilders have changed from the previous generation.

This bulletin documents what connection points can be used and how much current draw connection is allowed.

More information can be found about additional electrical consumers starting on page 238 of the MAN Guidelines to Fitting Bodies, which can be accessed <u>HERE</u>.

There are no spare fuses in the central electrical system for use by the bodybuilder.

- Do not tap into existing vehicle power circuits.
- Every additional circuit must be adequately scales and protected by its own fuse. The dimensioning of the fuse is to protect the cable and not protect the system connected to it.
- When installing additional fuse carriers, only those with protection type IP54 and fire protection class UL94 V0 should be used. Fuse carriers that are open underneath (Picture 1) and ring fuses (Picture 1A) are not allowed. Picture 2 shows a fuse carrier with the MAN item number 83.25441-0661 that fulfils the above requirements and can be used. **The body manufacturer bears sole responsibility if this is not observed and damage occurs as a result.**
- Electrical systems must offer sufficient protection against all possible electrical faults and environmental influences without affecting the vehicle electrics.
- Freedom from feedback must be ensured in all cases. When selecting the size of the wire crosssection, the voltage drop and the heating of the conductor must be taken into account. Crosssections below 0.75 mm² are to be avoided because their mechanical strength is not sufficient. The bodybuilder is responsible for the dimensioning of wires and cables.
- Negative and positive cables within a system must have the same minimum cross-section.
- Current draw for 12-V equipment must be effected only via a voltage converter.
- Drawing from only one battery is not permissible because unequal charges lead to overloading and damage in the other battery. Under certain circumstances, e.g. for body-mounted equipment with a high power requirement (e.g. electrohydraulic lift gates) or in extreme climatic conditions, higher capacity batteries will be required.

Picture 1 Fuse carrier open underneath





Picture 1A Ring Fuse



Picture 2 Permitted fuse carrier



Terminal 15 Power supply cab connection

As a general principle, fit a relay that is controlled via terminal 15. The load must be connected to terminal 30 via a fuse.

For information on further implementation, see terminal 30 power supply.

At a maximum load of up to 10 amperes, connect to an additional fuse holder via a fuse (Picture 3), Central electric system).

Additional fuse holders are to be used for preference. If all existing fuse holders are already connected, an existing fuse holder can be used. Note that a maximum continuous load of 60A

(85A rated current of fuses) per fuse holder must not be exceeded. Connecting additional fuses to fuse holders with the coding A (X6), B (X7) and F (X11) is not permitted

Terminal 30 Power Supply Cab Connection

In the case of a maximum load of up to 10 amperes, connect via a fuse on an additional fuse holder (Picture 3) Central electric system.

Additional fuse holders are to be used for preference. If all existing fuse holders are already connected, an existing fuse holder can be used. Note that a maximum continuous load of 60A (85A rated current of fuses) per fuse holder must not be exceeded. Connecting additional fuses to fuse holders with the coding A (X6),B (X7) and F (X11) are not permitted.

In the case of a load >10 Ampere connect via a fuse directly to the battery averted connector of the main battery switch in the battery box (Picture 5, connector main battery switch) or on the fuse box (see Picture 12 fuse box on the TGL/TGM battery box or Picture 13 fuse box on the TGS/TGX battery box).

Connector main battery switch: tightening torque of 20 Nm +/- 2 Nm must be maintained. Directly tap-off the voltage on the battery plus pole is not permitted.



Picture 3 Central electric system

Fuse holder item number: Coding C 81.25441-6224 (Terminal 15) Coding D 81.25441-6225 (Terminal 15) Coding E 81.25441-6226 (Terminal 15) Coding G 81.25441-6228 (Terminal 30)

Coding H 81.25441-6229 (Terminal 30) Coding I 81.25441-6230 (Terminal 30) Coding J 81.25441-6231 (Terminal 30) Blade contacts: 07.91201-2214 (1.0 - 2.5)Ground point X6395 / X6396 behind the control units next to the central electrical

Picture 4 Example of a fuse holder for the central electrical system



- 1) Fuse holder (coding A-J)
- 2) Busbar
- 3) Secondary catch

The respective item number of a fuse holder always includes the components 1, 2 and 3.

Picture 5 Main battery switch connection



For the new TGL/new TGM by selecting the special equipment 0P1DD – Interface for power supply to body, behind front panel, an additional 50-ampere power tap can be obtained (picture 6). If the interface is present, it can be found on the co-driver's side under the front panel; it is possible to connect a maximum load of 50 amp to the interface. The associated 50-A fuse is located in the fuse box at the battery box.

Picture 6 50 A interface under the front panel



1) 50 A interface

The interface is equipped with the plug 81.25432-6313. The socket for connecting to the interface must be used as described below.



Picture 7 Socket

2-pin plug connector: X4556	MAN item number/socket (body)
	81.25475-0464
Contact for socket/blade terminal	07.91202-4410

Terminal 31 Earth Connection Cab

Do not connect to the batteries, but rather to the ground points within (Picture 11) and outside (ground point X100 right rear engine mount) of the cab.

Vehicles that are equipped with a ZDR body interface or ZDR with data exchange ex-works have an additional ground connection. The additional ground connection is located on the right of the area of the cab isolation point. (see Picture 8 additional ground connection for body).

Ground point behind the central electrical system: tightening torque of 7 Nm +/- 1 Nm must be maintained.

Ground point of engine mount: tightening torque of 9 Nm +/- 0.9 Nm must be maintained.

Picture 8 additional ground connection for body



1) additional ground connection (X7429)

plug connector: X7429	MAN item number/socket (body)
	81.25435-0051
Contact for socket/blade terminal	07.91202-2818 (0.5-1) 07.91202-2819 (1.5-2.5)

The body manufacturer's ground cable may be connected for a load of up to 50 A at the clamping rail in the battery box (see Picture 9 and Picture 10). Both fastening points may be used to connect the ground cables. In the case of a load of over 50 A, the ground point must always be connected to the engine mount. Ensure that the cable routing is correct and neat.

Battery box ground point: tightening torque of 35 Nm +/- 3.5 Nm must be maintained.

Direct tapping of ground at the battery's negative terminal is not permitted.

Picture 9 Ground connection, clamping rail in battery box, large





Picture 10 Ground connection, clamping rail in battery box, compact





Picture 11 Ground point X6395 / X6396 behind the control units next to the central electrical



Electrical Connections on the chassis frame

Fuse Box

In the case of TGL/TGM, there is a fuse box that is always mounted to an additional bracket behind the battery box (Picture 12 fuse box on the TGL/TGM battery box)

In the case of TGS/TGX vehicles the fuse box is mounted either to an additional bracket on the front mudguard or to an additional bracket on theframe near the rear front spring-loaded bearing (Picture 13 fuse box on the TGS/TGX battery box)

Picture 12 fuse box on the TGL/TGM battery box



1) Fuse box

Picture 13 fuse box on the TGS/TGX battery box



1) Fuse box

Depending on the vehicle equipment the fuse box contains the following fuses:

- Main fuse
- Engine/interaction of engine components
- Gearbox
- Fuel filter
- Flame-start system
- Body interface

The (Picture 14 Fuse Box) shows the body interface in the fuse box. The body interface must only be used if it is not yet occupied

Maximum tap of 50A at connection F8 must not be exceeded here. The line inputs A and D must be used.

Picture 14 Fuse Box



1) Connection F8 – body interface (maximum 50A)/tightening torque (Ma) M5 - 5 Nm/M8 14 Nm

2) Line input A (NW 10)

3) Line input D (NW 10)