The Swedish Transport Agency's Code of Statutes

THE SWEDISH TRANSPORT AGENCY

TSFS 20: [Year]:[No]

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ROAD TRAFFIC

The Swedish Transport Agency's Regulations Amending the Swedish Road Administration's Provisions and General Advice (VVFS 2003:19) on cars converted to tractors and cars converted to class II motorised equipment;

adopted on . [Select a date]

Pursuant to Chapter 8, Section 16 of the Vehicle Ordinance (2009:211), with regard to the Swedish Road Administration's regulations and general advice (VVFS 2003:19) on cars converted to tractors and cars converted to class II motorised equipment, the Swedish Transport Agency issues[1] the following

that Chapter 1, Section 3, Chapter 4, Section 33, and Sections 160-164 shall read as follows;

that the six new sections, Chapter 4, Sections 33a-e and 164a, a new annex, and immediately before Chapter 4, Sections 33 and 33e, new headings, shall be inserted, worded as follows;

and that the following general advice is adopted.

Chapter 1

Section 3 For references to requirements that apply to original vehicles that were put into service on 1 June 2010 or later, the Swedish Transport Agency's regulations and general advice (TSFS 2016:22) on cars and trailers towed by cars and which were put into service on 1 July 2010 or later, shall apply.

If the original vehicle was put into service before 1 June 2010, the requirements of the Swedish Transport Agency's regulations and general advice (TSFS 2013:63) on cars and trailers towed by cars shall apply instead.

[1] See Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services.

Chapter 4

General requirements

Section 33 An A-tractor shall be so converted that its maximum design speed does not exceed 30 km/h on a horizontal road. The conversion shall consist of:

1. a speed limitation device (speed limiter) which shall meet the requirements of Annex 1; or

2. mechanical conversion where the speed is limited only by the gear ratio and where the speed in the lowest gear shall be no more than 10 km/h at 2/3 of the maximum engine speed of the original vehicle. The conversion shall be carried out in such a way that it is only with great difficulty that the maximum design speed can be increased.

Section 33a When controlling the speed of an A-tractor, the maximum design speed may be exceeded by a maximum of ten percent.

General advice
The design speed should be checked by testing on a flat road where the maximum speed of the vehicle can be reached.

Section 33b An A-tractor which has been converted in accordance with Section 33(1) and is equipped with a manual gearbox may, if its total weight is:

1. No more than 3 500 kg, at most have the three lowest gears and the reverse gear available. If the A-tractor's gearbox is equipped with high and low gears, these may be operational.

2. Over 3 500 kg, have enough gears available, including reverse gear, so that at idling speed in the highest gear available, it cannot exceed the maximum design speed.

Section 33c An A-tractor which has been rebuilt in accordance with Section 33(1) and is equipped with an automatic gearbox shall have all possibilities for manual shifting blocked or dismantled.

Section 33d An A-tractor may not have cruise control. If the original vehicle is fitted with a cruise control system, it shall be dismantled or permanently disengaged.

Speedometer

Paragraph 33e An A-tractor shall have a speedometer showing the speed in kilometres per hour, with a maximum error margin of ten per cent. It shall

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be connected to the vehicle's main electrical system and shall be readable both in daylight and in the dark.

Section 160 An A-tractor and a trailer towed by an A-tractor shall have an LGF sign (sign for marking of slow-moving vehicle) that:

1. is type-approved and marked in accordance with ECE Regulation 69 or by the Swedish Road Administration or the Swedish Transport Administration, and
2. complies with the requirements set out in Sections 161-164a.

A trailer towed by an A-tractor does not need to meet the requirements of Sections 163 and 164.

Section 161 The LGF sign may not be folded or otherwise altered in size. It shall not be fitted with anything that affects its reflective function.

Section 162[2] The LGF sign shall be positioned as follows:

1. As far back on the vehicle as possible.
2. Vertically, not less than 0.6 metres and not more than 1.8 metres above the ground, measured from the lower edge of the sign.
3. Horizontally, centred or within the left outer boundary line of the vehicle.

The LGF sign must not be placed inside a window pane, behind grilles or anything else that may obscure or impair the visibility of the LGF sign.

If the design or use of the vehicle makes it impossible to comply with the requirements of paragraph 2 of the first subparagraph, the dimensions may be adjusted as necessary.

Section 163 The LGF sign shall be securely mounted so that it cannot become detached or change position. Mounting with double-sided tape, Velcro or similar solutions does not constitute secure mounting.

Section 164 If there is no suitable surface for mounting on the vehicle, a holder for the LGF sign shall be present. This holder shall be securely mounted so that it cannot become detached or change position.

Section 164a The LGF sign shall be mounted vertically and perpendicular to the vehicle's longitudinal direction, with a maximum deviation of 10º. The LGF sign shall be directed backwards and have one of the points of the triangle pointing upwards.

The geometric visibility of the LGF sign shall be

1. horizontally, 30° inwards and outwards, and
2. vertically, 15° above and below the horizontal line.

Entry into force and transitional provisions

1. This statute enters into force on DD month 20YY.

[2] The amendment entails, among other things, the removal of Figure 5.

2. For a car converted to a tractor and put into service before DD Month 20YY, the provisions on design speed in Chapter 4, Section 33 shall apply in their previous version. When Section 33 is applied in the previous version, Sections 33a-e shall not apply.

The transitional provision in the first paragraph shall not apply if the speed limitation device or the maximum design speed has been altered.

On behalf of the Swedish Transport Agency

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Annex 1

Requirements for the design of the speed limiter

The speed limiter shall be designed so that:

1. It acts as a stand-alone unit and is not dependent on other components, except for any cables for connection.
2. It is fitted with a protective cover which cannot be opened without visible damage or without the speed limiter becoming inoperable. A separate protective cover may be used if paragraph 7, Requirements for the installation of the speed limiter, can be met.
3. The speed control is regulated via the electronic accelerator pedal of the original vehicle, and the speed signal is received from the vehicle's CAN bus system.
4. It is equipped with connectors adapted for connection between the accelerator pedal of the original vehicle and the engine control unit, where the cables are of the multiconductor type. All internal conductors in the transition between the multiconductor cable and the connector at the accelerator pedal shall be protected against external damage.
5. It continuously detects faults and deviations on the limiter and input signals. In the event of a failure or deviation of the limiter or input signals, the value to the engine control unit shall be equivalent to zero per cent accelerator pedal without delay. If the power supply is interrupted, the output signal to the engine control unit shall be broken or zero volts without delay.
6. It does not have a system or device for remote control, or anything else that could affect its operation or set values. However, the speed limiter may have the option of setting control parameters during installation, provided that paragraph 5, Requirements for the installation of the speed limiter, can be met.

Electromagnetic compatibility (EMC)

The speed limiter shall comply with the requirements of the National Electrical Safety Board's regulations (ELSÄK-FS 2016:3) on electromagnetic compatibility.

Requirements for the installation of the speed limiter

The installation of the speed limiter shall meet the following requirements:

1. The speed limiter and the cables for installation shall be located in such a way that control can be carried out without the need for any disassembly. The connection to the CAN bus system does not have to meet this requirement.

2. The insulating material on the cables of the installation shall be intact, and the cables shall be installed in such a way that abrasion or damage cannot occur. The cables must not be spliced.

3. The cables of the installation shall be kept separate from the other cables in the vehicle and shall not be capable of being mixed with these. The cables between the accelerator pedal and the speed limiter shall not be longer than is necessary for installation.

4. Connection to the vehicle's CAN bus system shall done be by soldering or an equivalent solution ensuring good contact.

5. Possibilities for setting control parameters shall be locked after setting, in such a way that they cannot be altered subsequently.

6. The connector between the speed limiter and the engine control unit shall be sealed.

7. If a separate protective cover for the speed limiter is used, this shall be sealed.

8. Each seal shall be a uniquely numbered wire seal issued by the inspection body. The seals shall be durable and shall not be broken without tools.