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Saudi Standards, Metrology and Quality Org(SASO)



SASO DRAFT 2971/0000

TOW TRUCKS

ICS: 43.160; 53.020.20

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TOW TRUCKS**1- Scope**

This Standard specifies the technical requirements for tow trucks equipment for light and heavy duty tow trucks.

2- Complementary references

2.1 SASO GSO 42 "Motor Vehicles - General Requirements".

2.2 SASO 469 "Motor vehicles - Dimensions and weights".

2.3 SASO GSO ISO 15442 "Cranes – Safety requirements for loader cranes"

2.4 SASO GSO EN 1012-1 "Compressors and vacuum pumps. Safety requirements. Air compressors"

2.5 SASO GSO ISO 2408 "Steel wire ropes for general purposes -- Minimum requirements"

2.6 SASO ISO 3076 "Round steel short link chains for general lifting purposes — Medium tolerance sling chains for chain slings — Grade 8"

2.7 SASO 2913 "Retro - Reflective markings for vehicles"

2.8 SASO 2955 "Motor Vehicles – Front under run protective devices in trucks and its methods of test "

2.9 SASO 2956 "Motor Vehicles – Lateral protection of trucks and trailers and its methods of test"

2.10 SASO 2957 "Motor vehicles-rear under run protective devices for truck and trailer and its methods of test"

2.11 SASO UL 1839 "Standard for Automotive Battery Booster Cables"

3- Terms and definitions

For the purposes of this standard, the following terms and definitions are applied:

3.1 Bed assembly

The part of a tow truck that is located behind the cab, is attached to the frame, and is used to mount a boom assembly, hoist, winch, or equipment for transporting vehicles.

3.2 Boom assembly

Device, consisting of sheaves, one or more winches, and wire rope, that is attached to a tow truck and used to lift or tow another vehicle.

3.3 Collision recovery

Initial towing or removing a vehicle involved in a collision from the collision scene.

3.4 Flatbed

Open platform that is located behind the cab and attached to the frame of a truck.

3.5 Gross Vehicle Weight Rating (G.V.W.R)

The value specified by the manufacturer as the fully assembled weight of a single motor vehicle.

3.6 Hook

Steel hook attached to an end of a wire rope or chain.

3.7 Power-operated winch

Winch that is operated by electrical, mechanical, or hydraulic power.

3.8 Snatch block

Metal case that encloses one or more pulleys and can be opened to receive a wire rope and redirect energy from a winch.

3.9 Steering wheel clamp

Device used to secure in a fixed position the steering wheel of a vehicle being towed.

3.10 Tow bar

Device attached to the rear of a tow truck to secure a towed vehicle to the tow truck by chains, straps, or hooks.

3.11 Tow plate

Solid metal support attached to the rear of a tow truck to secure a towed vehicle to the tow truck by chains, straps, or hooks.

3.12 Tow sling

Two or more flexible straps attached to the wire rope or boom assembly of a tow truck to hoist a towed vehicle by chains, straps, or hooks.

3.13 Tow truck

Motor vehicle designed, manufactured, or altered to tow or transport one or more vehicles, the following are tow trucks:

- a) A truck with a flatbed equipped with a winch;
- b) A motor vehicle that has a boom assembly or hoist permanently attached to its bed or frame;
- c) A motor vehicle that has a tow sling, tow plate, tow bar, under-lift, or wheel-lift attached to the rear of the vehicle.

3.14 Under lift

Electrical, mechanical, or hydraulic device attached to the rear of a tow truck used to lift the front or rear of a vehicle by its axles or frame.

3.15 Wheel lift

Electrical, hydraulic, or mechanical device attached to the rear of a tow truck used to lift the front or rear of a vehicle by its tires or wheels.

3.16 Winch

Device used for winding or unwinding wire rope.

3.17 Wire rope

Flexible steel or synthetic strands that are twisted or braided together and may surround a hemp or wire core.

3.18 Work lamp

Lighting system that is mounted on a tow truck capable of illuminating an area to the rear of the tow truck.

3.19 Light Duty Vehicles

Vehicles with a maximum gross weight of 3,500 kg and which are primarily used to transport passengers or goods.

3.20 Heavy Duty Vehicles

Vehicles with a gross weight of more than 3,500 kg.

4- Classification**4.1 Light duty tow trucks****4.1.1 Light-duty tow truck****4.1.2 Light-duty flatbed tow truck****4.1.3 Light-duty flatbed tow truck with collision recovery capabilities.****4.2 Heavy duty tow trucks****4.2.1 Heavy-duty tow truck****4.2.2 Heavy-duty tow truck with collision recovery capabilities****4.2.3 Heavy-duty flatbed tow truck****4.2.4 Heavy-duty flatbed tow truck with collision recovery capabilities****5- Technical requirements****The truck shall be comply with SASO/GSO standards****5.1 Light duty tow trucks has a minimum of**

5.1.1 A G.V.W.R. of 4500 kilograms;

5.1.2 A boom assembly with a rated capacity of 3600 kilograms, which complies to SASO GSO ISO 15442, if so equipped;

5.1.3 A power-operated winch with a line pull capacity of 3600 kilograms and wire rope with a breaking strength of 5500 kilograms, if so equipped; Refer to the SASO Standard in item 6.8;

5.1.4 A tow sling, tow plate, or tow bar shall have a manufacturer weight rating capacity that exceeds any load carrier on it, or a wheel-lift or under-lift with a lifting capacity of 1100 kilograms when fully extended;

5.1.5 Chains or straps and hooks that meet the requirements of item 6.1;

5.1.6 Axles, wheels, and tires that meet the requirements of item 6.11;

5.1.7 Brakes that meet the requirements of item 6.12;

5.1.8 Dollies or supplementary wheels (optional);

5.1.9 vehicle width and length that meet the requirements of item 6.10.

5.2 Light-duty flatbed tow truck has a minimum of

5.2.1 A G.V.W.R. of 4500 kilograms;

5.2.2 A power-operated winch with a line pull capacity of 3600 kilograms and wire rope with a breaking strength of 5500 kilograms, if so equipped; Refer to the SASO Standard in item 6.8;

5.2.3 A bed assembly with a distributed load capacity of 3400 kilograms;

5.2.4 Chains or straps and hooks that meet the requirements of item 6.1;

5.2.5 Axles, wheels, and tires that meet the requirements of item 6.11;

5.2.6 Brakes that meet the requirements of item 6.12;

5.2.7 vehicle width and length that meet the requirements of item 6.10.

5.3 Light-duty flatbed tow truck with collision recovery capabilities has a minimum of

5.3.1 A G.V.W.R. of 6350 kilograms;

5.3.2 A power-operated winch with a line pull capacity of 3600 kilograms and wire rope with a breaking strength of 5500 kilograms, if so equipped; Refer to the SASO Standard in item 6.8;

- 5.3.3 A bed assembly with a distributed load capacity of 3400 kilograms;
- 5.3.4 Chains or straps and hooks that meet the requirements of item 6.1;
- 5.3.5 Axles, wheels, and tires that meet the requirements of item 6.11;
- 5.3.6 Brakes that meet the requirements of item 6.12;
- 5.3.7 Vehicle width and length that meet the requirements of item 6.10;
- 5.3.8 Tow truck with collision recovery capabilities shall be equipped with a crane, which complies to SASO GSO ISO 15442.

5.4 Heavy-duty tow truck has a minimum of

- 5.4.1 A G.V.W.R. of 15800 kilograms;
- 5.4.2 Tandem rear axles;
- 5.4.3 A boom assembly with a rated capacity of 22700 kilograms complies to SASO GSO ISO 15442, if so equipped;
- 5.4.4 Two power-operated winches with a line pull capacity of 11350 kilograms each and wire rope with a breaking strength of 12250 kilograms, if so equipped; Refer to the SASO Standard in item 6.8;
- 5.4.5 A tow sling, tow plate, or tow bar shall have a manufacturer weight rating capacity that exceeds any load carrier on it, or a wheel-lift or under-lift with a lifting capacity of 5450 kilograms when fully extended;
- 5.4.6 Chains or straps and hooks that meet the requirements of item 6.1;
- 5.4.7 Axles, wheels, and tires that meet the requirements of item 6.11;
- 5.4.8 Air brakes that meet the requirements of item 6.12;
- 5.4.9 Vehicle width and length that meet the requirements of item 6.10.

5.5 Heavy-duty tow truck with collision recovery capabilities has a minimum of

- 5.5.1 A G.V.W.R. of 15800 kilograms;
- 5.5.2 Tandem rear axles;
- 5.5.3 A boom assembly with a rated capacity of 22700 kilograms complies to SASO GSO ISO 15442.
- 5.5.4 Two power-operated winches with a line pull capacity of 11350 kilograms each and wire rope with a breaking strength of 12250 kilograms, if so equipped; Refer to the SASO Standard in item 6.8;
- 5.5.5 A tow sling, tow plate, or tow bar shall have a manufacturer weight rating capacity that exceeds any load carrier on it, or a wheel-lift or under-lift with a lifting capacity of 5450 kilograms when fully extended;
- 5.5.6 Chains or straps and hooks that meet the requirements of item 6.1;
- 5.5.7 Axles, wheels, and tires that meet the requirements of item 6.11;
- 5.5.8 Air brakes that meet the requirements of item 6.12;
- 5.5.9 Vehicle width and length that meet the requirements of item 6.10;

5.6 Heavy-duty flatbed tow truck has a minimum of

- 5.6.1 A G.V.W.R. of 15000 kilograms;
- 5.6.2 A power-operated winch with a line pull capacity of 9100 kilograms and wire rope with a breaking strength of 9700 kilograms, if so equipped; Refer to the SASO Standard in item 6.8;

5.6.3 A bed assembly with a distributed load capacity of 9100 kilograms;

5.6.4 Chains or straps and hooks that meet the requirements of item 6.1;

5.6.5 Axles, wheels and tires that meet the requirements of item 6.11;

5.6.6 Air brakes that meet the requirements of item 6.12;

5.6.7 Vehicle width and length that meet the requirements of item 6.10;

5.7 Heavy-duty flatbed tow truck with collision recovery capabilities has a minimum of

5.7.1 A G.V.W.R. of 15000 kilograms;

5.7.2 A power-operated winch with a line pull capacity of 9100 kilograms and wire rope with a breaking strength of 9700 kilograms, if so equipped; Refer to the SASO Standard in item 6.8;

5.7.3 A bed assembly with a distributed load capacity of 9100 kilograms;

5.7.4 Chains or straps and hooks that meet the requirements of item 6.1;

5.7.5 Axles, wheels and tires that meet the requirements of item 6.11;

5.7.6 Air brakes that meet the requirements of item 6.12;

5.7.7 Vehicle width and length that meet the requirements of item 6.10;

5.7.8 Tow truck with collision recovery capabilities shall be equipped with a crane, which complies to SASO GSO ISO 15442.

6- Required Equipment

6.1 Chains or straps and hooks requirements

6.1.1 A light-duty tow truck shall be equipped with straps and a minimum breaking strength of the strap should be between 2 and 3 times the gross vehicle mass (GVM) of any vehicle it is used with and/or chains with hooks on each end of each section and shall be comply with SASO ISO 3076. The straps or chains shall have an identifiable mark indicating a minimum working load limit strength of 1770 kilograms.

6.1.2 A heavy-duty tow truck shall be equipped with straps and a minimum breaking strength of the strap should be between 2 and 3 times the gross vehicle mass (GVM) of any vehicle it is used with and/or chains with hooks on each end of each section and shall be comply with SASO ISO 3076. The straps or chains shall have an identifiable mark indicating a minimum working load limit strength of 5450 kilograms.

6.2 Wheel-lift, under-lift, tow bar, tow plate, or tow sling securement devices requirements

Appropriate load securement devices if equipped with a wheel-lift, under-lift, tow bar, tow plate, or tow sling.

6.3 Lights requirements

6.3.1 A warning flashing light assembly with a minimum of two light emitting sources. The lights shall:

a) Be mounted on the tow truck as high as practical and be visible from the front and rear of the tow truck for a distance not less than 300 meters under normal atmospheric conditions.

b) Show amber to the front and amber or red to the rear.

c) Be wired independently of all other electrical circuits.

6.3.2 A minimum of two work lamps. The lamps shall:

a) Have clear lenses.

- b) Be capable of illuminating the area directly behind the tow truck for a distance of 15 meters.
- c) Be wired independently of all other electrical circuits.

6.3.3 Two portable lamps consisting of tail lights, brake lights, turn signals, and emergency flashers, if a tow truck is equipped with a wheel-lift, under-lift, tow bar, tow plate or tow sling. Each portable lamp shall be visible from not less than 300 meters under normal atmospheric conditions.

6.4 Safety equipment requirements

- 6.4.1** A fire extinguisher.
- 6.4.2** First aid kit.
- 6.4.3** Road triangles and road cones.
- 6.4.4** Work gloves.
- 6.4.5** Fire blanket.
- 6.4.6** Safety glasses.
- 6.4.7** High visibility reflective vest with reflective strips.

6.5 Additional equipment requirements

- 6.5.1** A steering wheel securement device of sufficient strength to lock the steering mechanism in a straight, forward position, if a tow truck is equipped with a wheel-lift, under-lift, tow bar, tow plate or tow sling.
- 6.5.2** Jumper cables shall be comply with SASO UL 1839 .
- 6.5.3** Lug wrench and jack.
- 6.5.4** Assortment of wood blocks and boards.
- 6.5.5** An operational battery-powered flashlight.
- 6.5.6** Assortments of tools.

6.6 Motorcycle securement devices requirements

A flatbed tow truck used to transport motor-driven cycles shall be equipped with at least:

- a) Motorcycle loader, chock, pit/trailer stop, or brackets.
- b) Ratchet straps (motorcycle tiedowns).
- c) Handlebar straps.

6.7 Collision Recovery Equipment Requirements

A tow truck with collision recovery capabilities shall be equipped with at least:

- a) One #2 or larger square-point shovel.
- b) 1 large push broom.
- c) 19 liters or 9 kilograms of fluid absorbent material stored in a weatherproof container.
- d) One snatch block for each installed winch on the tow truck. Each snatch block shall be of a size and rating compatible with the size and rating of the installed wire rope.

6.8 Wire Rope Restrictions

A tow truck agent shall ensure that a wire rope is not used in a tow truck if it:

- a) Has kinks, bird caging, or knots.
- b) Is crushed more than 33% of original diameter.
- c) Has core protrusion along the length of the rope.
- d) Has more than 11 broken wires in six diameters of length.

- e) Has more than three broken wires in any one strand.
- f) Has more than two broken wires at the end connection or fitting.
- h) The wire rope shall be comply with SASO GSO ISO 2408.

6.9 Wire Rope End Specifications and Installation

A tow truck agent shall ensure that:

- a) All wire rope eye loops used on a tow truck are protected by a thimble.
- b) Cable clamps are not used on a wire rope.
- c) Thimbles are not cracked, deformed, worn, loose, or have a strand of wire that slips.

6.10 width, length and weight

The overall width, length and weight of a towing vehicle must not exceed the limits imposed by SASO 469.

6.11 Axle, Wheel, and Tire

6.11.1 Axles shall meet the requirements of SASO 469.

6.11.2 All Tyre shall meet the requirements according to Saudi Standard SASO GSO 647 when tested in accordance SASO GSO 646.

6.12 Brake Requirements

6.12.1 A tow truck shall have a power-assisted service brake system, separate from the parking brake system, capable of stopping and holding the tow truck and its load under all conditions and on any grade on which the tow truck is operated. If a tow truck's service brake system is actuated by air, the tow truck shall be equipped with:

- a) A truck-tractor protection valve.
- b) An audible or visible low air warning device that actuates at a minimum of 380 kPa.

6.12.2 A tow truck shall have a parking brake system, separate from the service brake system, which is capable of holding the tow truck and its load. If the tow truck's parking brake system is actuated by air, the tow truck shall be equipped with:

- a) A truck-tractor protection valve.
- b) An audible or visible low air warning device that actuates at a minimum of 380 kPa.

6.13 Mechanical components

6.13.1 General

All exposed components shall be made of corrosion resistant material or have a corrosion resistant finish e.g. paint or plating.

Components that could be affected by road dirt e.g. bearings, controls and cylinder rods shall be sealed.

Components that are intended to be handled during recovery operations or are accessible to the operator shall not have sharp edges or rough surfaces.

NOTE: Components which are intended to be fitted to other components during a recovery operation should be easy to assemble under adverse working conditions.

6.13.2 Rotating shafts, housings and slideways

Any rotating, or partially rotating shafts, housings and slideways shall either:

- a) be of a non-lubrication material or self-lubricating material; or

b) be provided with a means of lubrication.

Any lubrication nipples shall be of a similar size and type and shall be readily accessible.

Any rotary/sliding/moving components shall provide necessary protection for the operator(s) during operation processes .

6.13.3 Containment of motion

The motion of the recovery equipment shall be contained within its design limits by means of limiters conforming to SASO GSO ISO 15442.

Manually extending booms shall be fitted with a pull out limit stop and mechanical locking means for their retracted and incremental positions.

6.13.4 Partially slewing booms and fully slewing booms

NOTE: In the case of proprietary slewing rings, it is particularly important that the manufacturer is consulted and given details of the rated loads to be applied so that the correct components can be selected.

Provision shall be made to enable the boom to be mechanically locked to prevent inadvertent movement.

A slewing check device shall be fitted to prevent booms slewing uncontrollably whilst in use.

6.13.5 Lift and tow equipment

Lift and tow equipment shall incorporate a means to prevent accidental disconnection of the casualty vehicle during use.

NOTE: Lift and tow equipment should allow safe and easy connection to and disconnection from the casualty vehicle under adverse working conditions.

6.14 Hydraulic equipment

NOTE: It is the object of the following requirements to protect the operator and others in the vicinity of the recovery equipment against failures in the hydraulic or other system, caused by excessive loads on the recovery equipment and components.

6.14.1 Safe hydraulic pressure

One or more pressure relief valves shall be fitted to ensure that the hydraulic pressure never exceeds the working pressure of any component within the hydraulic system.

Devices shall be fitted to prevent back pressures that can affect the safety of the recovery equipment.

6.14.2 Safety of the recovery equipment and casualty vehicle

The hydraulic system shall be fitted with devices to prevent the following:

- a)** a gravity fall of the casualty vehicle in the event of hydraulic failure;
- b)** hydraulic shock, caused by the sudden closure of any control valve, leading to over running of the associated motion;
- c)** uncontrolled movement or release of the casualty vehicle in the event of loss of oil supply pressure or flow;
- d)** uncontrolled movement or release of the casualty vehicle in the event of a hose burst;
- e)** runaway of the casualty vehicle in the event of a load reversal;
- f)** the overloading of any stabilizers or stiff legs.

6.14.3 Motion drives

Devices shall be fitted to prevent forces imposed by the casualty vehicle from driving hydraulic motors and hydraulic cylinders beyond their limits as specified by the manufacturer of the motor or cylinder.

6.14.4 Hydraulic fluid

The manufacturer shall state the hydraulic fluid to be used, which should be appropriate for the components of the hydraulic equipment and the ambient temperature in which it is to be operated.

The fluid system shall be fitted with a filter which gives the maximum level of filtration specified by the manufacturer of the components.

6.14.5 Hydraulic fluid reservoir(s)

The hydraulic fluid reservoir(s) shall have a sufficient capacity to ensure an uninterrupted flow of hydraulic fluid to all actuators when all hydraulic cylinders are operating at full stroke.

Provision shall be made for checking the fluid level, and the minimum and maximum levels shall be clearly marked.

6.14.6 Venting

Any venting of fluid or pressure relief of fluid shall be within the system. No venting system shall open into the atmosphere.

6.14.7 Hydraulic hoses

Hydraulic hoses shall be shielded to prevent hydraulic fluid spraying onto operators or other people near the recovery vehicle in the case of a hose failure.

6.14.8 Sink rate of booms

When the boom is in the lift and tow configuration, the sink rate shall be no greater than a loss of vertical height of 5 mm/h when subjected to the maximum working load. The measurement shall be taken between the ground and the point of lift on the boom in its normal working position.

In all other configurations the sink rate shall not exceed 10 % of the boom radius measured over a minimum period of 1 h with the boom subjected to the maximum working load.

6.14.9 Protection of hydraulic components

Hydraulic components shall be protected against physical damage by locating them in areas which are free from stowed equipment and where they cannot be hit by the casualty vehicle, or by the use of guards.

NOTE This could be achieved by use of an enclosure.

Hydraulic components shall be protected from road dirt where this would have a detrimental effect upon the component.

6.15 Pneumatic equipment**6.15.1 Pneumatic supply**

The rate of the pneumatic supply shall be sufficient to ensure an uninterrupted flow to the pneumatic system when all functions are in operation.

Where the pneumatic supply to the recovery equipment is from a host chassis pneumatic system, then this supply shall be connected in accordance with the vehicle manufacturer's recommendations.

Where the pneumatic supply is from a compressor forming part of the recovery equipment, then the compressor, receiver and overload valves shall be comply with SASO GSO EN 1012-1.

6.15.2 Safe pneumatic pressure

One or more pressure relief valves shall be fitted to ensure that the pneumatic pressure never exceeds the working pressure of any component within the pneumatic system.

6.15.3 Air filtration

The pneumatic system shall be fitted with a filter which gives the maximum level of filtration specified by the manufacturer of the components.

6.15.4 Protection of pneumatic components

Pneumatic components shall be protected against physical damage by locating them in areas which are free from stowed equipment and where they cannot be hit by the casualty vehicle, or by the use of guards.

NOTE: This could be achieved by use of an enclosure.

Pneumatic components shall be protected from road dirt where this would have a detrimental effect upon the component.

6.15.5 Pressure relief valves and pneumatic exhausts

Pressure relief valves and pneumatic exhausts shall be vented to areas where the exhausted air cannot come into direct contact with the operator or other persons during operation of the recovery equipment or during driving of the recovery vehicle.

6.16 Underrun protection**6.16.1 Front under run Protection**

- a) All tow trucks shall be equipped with front under run protective devices according to SASO 2955 .

6.16.2 Lateral Protection

- a) All tow trucks shall be equipped with Lateral Protection Device according to SASO 2956 .

6.16.3 Rear under run Protection

- a) All tow trucks shall be equipped with rear under run protective devices according to SASO 2957.

6.17 Equipment conditions

Tow truck components including, but not limited to, winches, booms, cables, cable clamps, thimbles, sheaves, guides, controls, blocks, slings, chains, hooks, bed locks, hydraulic and pneumatic components, etc., shall be in good working order and maintained to manufacturer/factory specifications.

7 Safety**7.1 Overload protection devices**

Powered recovery equipment shall be fitted with one or more overload protection devices to warn the operator of overloading and prevent dangerous movement of the equipment.

The device shall be such that if it is not functioning it is not possible to start or continue the operation that the device is intended to protect.

Where these devices are adjustable at the time of manufacture, after adjustment they shall be locked and sealed by the manufacturer of the recovery equipment.

7.2 Rated capacity charts and markings**7.2.1 General**

The recovery equipment shall be marked with the maximum casualty vehicle mass.

7.2.2 Non-slewing booms: vertical loads

For non-slewing booms which have four or more rated capacities, or where any rated capacity can change (e.g. due to the effect of boom angle, stabilizers/stiff legs or number of falls from a winch rope) a chart shall be provided by the equipment manufacturer. The chart shall show, without ambiguity, the rated capacity for each condition including any lift and tow conditions. The chart shall be displayed on the vehicle such that it is clearly visible from the control stations mounted on the recovery equipment.

NOTE: Where there are no more than three rated capacities for a boom, unaffected by boom angle and stabilizers/stiff legs, the rated capacities may be simply marked on the boom at the relevant positions.

7.2.3 Partially and fully slewing booms: vertical loads

The rated capacity chart or markings shall be in accordance with 19.2.2. In addition, the chart shall show the rated capacities throughout the slewing range.

7.2.4 Ancillary equipment

Ancillary recovery equipment shall be clearly marked with its rated capacity.

7.3 Reflectors on stabilizers

Stabilizers that extend beyond the sides of the recovery vehicle shall be fitted with reflectors. The forward face of the stabilizer shall be fitted with a white reflector. The rearward face shall be fitted with a red reflector. These reflectors shall be within 100 mm of a vertical line drawn through the extreme outside part of the stabilizer. They shall be a minimum of 350 mm and a maximum of 900 mm from the ground .

The reflectors shall be comply with SASO 2913.

7.4 Level indicators

Recovery equipment fitted with a slewing boom shall incorporate one or more level indicators to indicate to the operator when the vehicle is level within the tolerances specified by the manufacturer for the safe slewing of the boom.

7.5 Flatbed Requirements

7.5.1 Rear overhang

The rear overhang of a vehicle must not exceed the lesser of :

- 60% of the distance between the center of the front axle and the rear overhang line; and
- 3.7 m

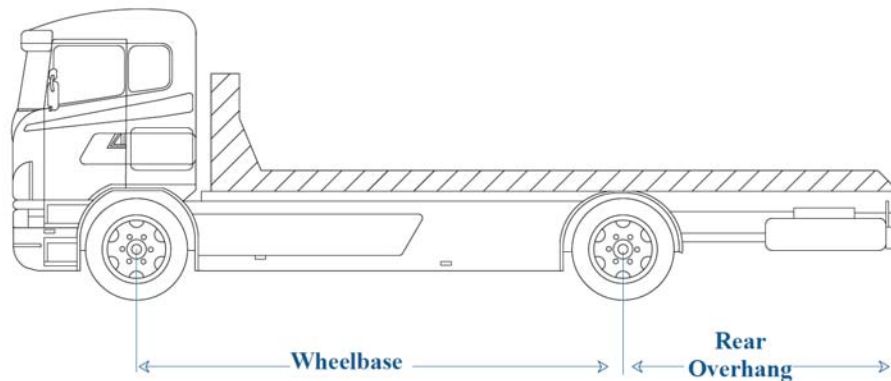


Figure1: Two axles trucks

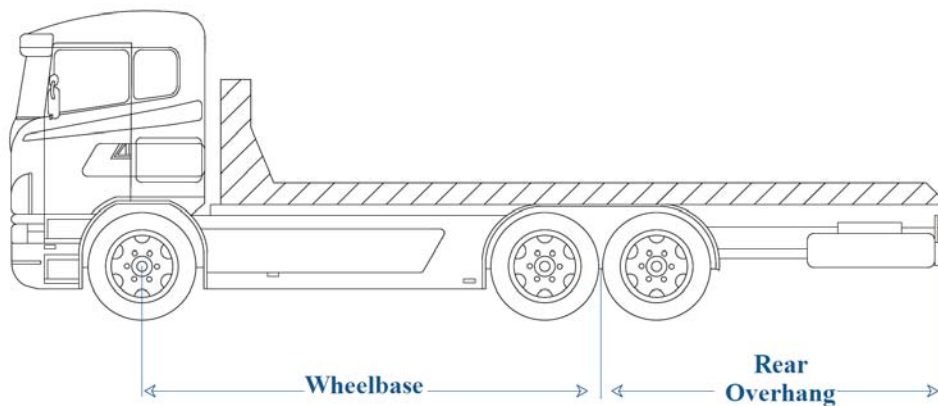


Figure2: Three axles trucks

7.5.2 Sharp edge

The sharp edge of the rear flatbed shall be covered to reduce collision effects according to manufacturer design and the approval from Conformity Assessment Bodies approved by SASO.

See annex (A) for Example of design for The rear edge of flatbed.

Annex (A)
(Informative)

Example of design for the rear edge of flatbed



Bibliography

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- [2] BS 7901:2002 "Specification for recovery vehicles and vehicle recovery equipment".
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- [4] Louisiana Administrative Code - Chapter 19 - Towing, Recovery, and Storage.
- [5] Consumer Goods (Motor Vehicle Recovery Straps) Safety Standard 2017 – AUSTRALIA
- [6] Requirements for Tow Trucks in Western Australia (WA).