

5. TRAILERS

LIGHTS AND ELECTRICAL COMPONENTS

OBJECTIVE: To ensure that all lights, reflectors and other electrical lighting components as required by prescribed standards are operational.

LIGHTING EQUIPMENT

Reasons for rejection:

- Lights and reflectors fitted to a trailer are not operational and not located in positions as required by prescribed standards.

LIGHTS AND REFLECTORS (See Note 1)

Reasons for rejection:

- Are not clearly visible under all normal conditions and of a consistent intensity, or are affected by dirty lenses or poor electrical contact.
- Lenses and light reflectors are not securely mounted, are faded or discoloured and are not free from cracks, holes, or other damage which would allow the entry of moisture or dirt to impair the efficiency of the light or reflector.
- The following lights do not operate correctly and are not fitted with appropriate lenses:
 - park or side lights;
 - brake lights (on hand and foot control);
 - tail lights;
 - turn signal indicator lights;
 - clearance/side marker lights (if fitted);
 - number plate light;
 - reversing lights (if fitted);
 - additional lights (if fitted).
- The number plate light/s direct light onto surfaces other than the rear number plate.
- The reverse light (if applicable) does not operate when reverse gear of the towing vehicle is selected.

ADDITIONAL LIGHTING

Reasons for rejection:

- Additional lighting (fitted as accessories) must be fitted in such a way that their operation will not impair the operation of statutory lighting, and not contravene any Act or Regulation.

REAR MARKING PLATES

Reasons for rejection:

- Retro/reflective rear marker plates are not fitted to all vehicles with a Gross Vehicle Mass (GVM) or a Gross Combination Mass (GCM) exceeding 12 tonnes and are damaged, faded, discoloured or insecure.
- Marker plates are not fitted in locations specified by the prescribed standards. **(See Note 2)**

WIRING HARNESS

Reasons for rejection:

- Electrical wiring is not securely mounted and insulated, is exposed to excessive heat or chafing or located in such a way that would cause danger to the operation of the vehicle.

BATTERY

Reasons for rejection:

- A battery (if fitted) is not secured in a cradle or carrier using hold down clamps, is cracked, leaking or has missing caps.

NOTES:

- (1) Further information on location and colour of lights is contained in AIS Information Sheet 8 – Motor Vehicle Lighting and the brochure "All About Modifications to Motor Vehicles".
- (2) Further information on rear marking plates is contained in AIS Information Sheet 9 – Rear Marking Plates.

BODY AND CHASSIS

OBJECTIVE: To ensure the vehicle body is free of protrusions, structurally sound and free from any defects or additional fittings that are likely to increase the risk of bodily injury to any occupant and other road users.

DOORS/HATCHES/HINGES/CATCHES

Reasons for rejection:

- Doors, hatches and removable covers (including safety catches, as applicable) are not securely fitted, mounted and operating correctly.
- Doors/hatches/hinges/catches are cracked, broken, distorted or corroded to the point where a component is weakened or failure of a component is likely to occur. **(See Note 2)**
- Door fastenings, hinges, inside and outside door control handles (as applicable) are not fitted, secure and operating correctly.

BODY AND CHASSIS FRAME (FLOOR PAN AND SUB FRAME)

Reasons for rejection:

- All panels, fittings and structural components (internal and external) are not free of sharp edges and protrusions which would increase the risk of injury to any person who comes into contact with the vehicle.
- Body componentry (including rear underrun protection, where applicable) or chassis frame are cracked, broken, distorted, corroded or otherwise weakened to the point where structural failure of any component is likely to occur.
- The body is not securely mounted to the frame or chassis.
- Any repairs carried out do not retain the original strength of the component/section.

BODY FITTINGS/COMPONENTS

Reasons for rejection:

- The body is not free of protrusions or fittings likely to cause injury to any person with whom the vehicle may come into contact.
- Where sliding axles are fitted, the axle does not lock and securely engage in position.
- Secondary securing devices and locking indicators do not operate correctly.

- Cargo anchor points are structurally damaged or repaired in a manner that does not retain the original strength of the component.

MUDGUARDS/WHEEL ARCHES

Reasons for rejection:

- Mudguards are not fitted and do not cover the full width of all wheels and tyres for which they are provided.
- Mudguards and mudflaps are not capable of deflecting downwards any mud, water, stones or any other substance thrown upward by the rotation of the wheels. **(See Note 1)**

NOTES:

- (1) **Further information on mudguards and mudflaps is contained in AIS Information Sheet 3 – Mudguard and Mudflap Requirements.**
- (2) **Minor rust/corrosion in body panels is not considered dangerous to structural integrity. Further information on rust is contained in AIS Information Sheet 11 – Rust and Corrosion.**

TOW COUPLINGS

OBJECTIVE: To ensure that all tow couplings and associated components are in a serviceable condition and that they provide the necessary load carrying capacity.

TOWING COUPLINGS, WIRING HARNESS, HOSES AND SAFETY CHAINS

Reasons for rejection:

- All electrical wiring, connectors, couplings, flexible pipes, skid plates, king pins etc. associated with a device for coupling a trailer to a motor vehicle are not operational, not secure, or are cracked, excessively worn, deformed or damaged in a way likely to cause failure.
- Coupling bodies fitted to light trailers up to 2.3 tonnes (GTM) and heavy trailers up to 10 tonnes (ATM), are not legibly marked, displaying the manufacturer's name or trademark, capacity in kg and the size (i.e. 50 mm) **(See Note 1)**
- Tow couplings are repaired by heating or welding.
- Tow couplings are not securely mounted to the trailer draw bar.

- The coupling is not of a positive locking type and not fitted with an efficient and secure latching/fastening device.
- The draw bar of a trailer is not securely fixed to the trailer frame/chassis.
- All draw bar componentry is not free of cracks, corrosion, distortion or other damage.
- Safety chain/s or cables (as required) are not securely and permanently attached to the trailer drawbar.
- Safety chains or cables (if required) are stretched, nicked, frayed or cracked.
- Trailers with an Aggregate Trailer Mass (ATM):
 - of 2.5 tonnes or less, do not have at least one safety chain capable of being attached to the towing vehicle; **(See Note 2)**
 - greater than 2.5 tonnes, do not have two safety chains capable of being attached to the towing vehicle. **(See Note 2)**
- The length of the safety chain/s does not prevent the trailer's draw bar hitting the ground if the trailer is detached from the towing vehicle.

TOWING CAPACITY

Reasons for rejection:

- The tow coupling capacity does not equal or exceed the Aggregate Trailer Mass of any trailer being towed (if applicable).
- In the case of light trailers manufactured after 1 July 1988, the tow coupling manufacturer's name or trade mark and maximum operating capacity is not displayed on the coupling in a conspicuous position.

NOTES:

- (1) **A 50 mm ball coupling is, generally, not acceptable for trailers which have an Aggregate Trailer Mass (ATM) in excess of 2.3 tonnes.**

However, 50 mm ball couplings meeting the requirements of AS 4177.2 (Caravan and light trailer towing components – 50 mm tow balls) are suitable for motor vehicles towing very light and light trailers of up to 3.5 tonnes ATM.

- (2) All pig trailers with rigid drawbars and any other trailers without breakaway brakes, must be fitted with safety chains. The fitting of safety chains to other types of trailers with a Gross Trailer Mass (GTM) greater than 2.0 tonnes and fitted with a brake system that automatically applies if the trailer becomes detached from the towing vehicle is optional.

Safety Chains for trailers less than 3.5 tonnes ATM must be fitted in accordance with the information contained in AIS Information Sheet 12(a) – Safety Chain Requirements.

Safety Chains for trailers above 3.5 tonnes ATM and for rigid draw bar pig trailers above 2.5 tonnes GTM and fitted with automatic pin type couplings must be fitted in accordance with the information contained in AIS Information Sheet 12(b) – Safety Chain Requirements.

Aggregate Trailer Mass (ATM) is the total mass of the laden trailer when carrying the maximum load recommended by the manufacturer. This includes any mass imposed onto the drawing vehicle when the combination vehicle is resting on a horizontal supporting plane.

Gross Trailer Mass (GTM) is the mass transmitted to the ground by the axle or axles of the trailer when coupled to a drawing vehicle and carrying its maximum load approximately uniformly distributed over the load bearing area.

STEERING AND SUSPENSION

OBJECTIVE: To ensure that the steering and suspension is in good working order and allows the driver effective control of the vehicle.

STEERING COMPONENTS

Reasons for rejection:

- All fitted steering components (e.g. dog trailer or trailer with steerable axles) are not in good condition, securely mounted and free from damage, excessive wear, damage or misalignment. **(See Note 1)**
- Steering components are removed, heated, welded (modified) or bent without approval from Queensland Transport. **(See Note 2)**
- Free play in any component exceeds the manufacturer's specifications. Where the manufacturer does not provide specifications or they are no longer appropriate, the free movement exceeds 3 mm.

SUSPENSION COMPONENTS

Reasons for rejection:

- Suspension components are not securely mounted and aligned with no distortion, cracks, corrosion, fractures or other damage likely to cause failure.
- Link ends are not secured with fasteners suitably locked (e.g. split pins, lockwire, tabs or self locking nuts).
- Suspension components are missing, or repaired or modified by heating or welding unless specifically approved by Queensland Transport.
- Suspension components are worn beyond manufacturer's specifications.

SPRING MEDIA (I.E. SPRINGS, AIR BAGS, SPRING HANGERS, TORSION BARS)

Reasons for rejection:

- Components are not correctly aligned, adjusted, securely mounted or are unduly worn, rusted, damaged and nuts do not fully engage "U" bolts.
- Airbags are not in working condition and free of air leaks or perished components.

AXLE LOCATING ARMS/DEVICES (SHACKLES, BUSHES ETC.)

Reasons for rejection:

- Axle locating arms/devices and associated componentry are not in good working order, not securely mounted and not correctly adjusted.
- Any free movement in pivot pins, bushes or trunnions, when measured at the outer extremities of the tyre, exceeds:
 - Wheel rims 405 mm or less 7 mm;
 - Wheel rims over 405 mm up to 455 mm 10 mm;
 - Wheel rims over 455 mm 13 mm.

WHEEL BEARINGS

Reasons for rejection:

- Are incorrectly adjusted, rough, noisy, loose on stub axle, do not rotate freely or are leaking.
- Movement between disc brake rotor/brake drum and backing plate exceeds manufacturer's specifications.

SHOCK ABSORBERS

Reasons for rejection:

- Shock absorbers (if applicable) are not fitted, not securely mounted and brackets and rubbers are missing, worn, or damaged.
- Shock absorbers do not effectively dampen or show signs of leakage.

NOTES:

- (1) **Must be inspected through the full range of steering movement, steering stops must prevent wheels or tyres from fouling vehicle chassis or suspension components on full lock.**
- (2) **Steering components that are modified or repaired by heating or welding without approval from Queensland Transport are not acceptable.**

WHEELS AND TYRES

OBJECTIVE: To ensure that road wheels and tyres are of a suitable type and condition and that they provide the necessary load carrying capacity, speed rating and control of the vehicle.

WHEELS (See Note 1)

Reasons for rejection:

- Wheels/rims are not of an approved type and construction.
- Wheels/rims fitted to an axle or axle group of a trailer are not of the same size unless otherwise specified by the vehicle manufacturer.
- Wheels/rims are not secure or are cracked, corroded, bent, buckled or otherwise damaged.
- Stud or bolt holes are expanded or elongated or wheel and retainer tapers do not match.

WHEEL STUDS AND NUTS, LOCK RINGS

Reasons for rejection:

- Wheels/rims are not fitted with the correct number and type of nuts and studs.
- Studs/nuts are not securely fitted, are damaged and not engaged for at least the same thread length as provided originally by the vehicle manufacturer.

- Spacer plates are used between hub and wheels (except where fitted by the vehicle manufacturer).
- Tyre retaining rings are not in good condition and correctly located.
- On spider wheels, appropriate nuts and clamps are not used and there is slippage or runout.

TYRES

Reasons for rejection:

- Tyres are not compatible with the rim to which they are fitted and not of a type suitable for normal road use.
- All tyres fitted to rims on the same axle are not of the same case construction. **(See Note 2)**
- Tyres fitted to rims on an axle or axle group are not of the same size.
- Tyre load ratings are less than the minimum ratings specified originally by the vehicle manufacturer.
- The speed rating of all tyres is not of at least 100 km/h unless a lower rating has been specified by the manufacturer.
- Where a trailer has been fitted with retreaded tyres, the tyres are not compatible with the rims and do not have a load rating which is adequate for the vehicle's laden mass.
- Tyres fitted to the trailer do not have a tread pattern at least 1.5 mm deep, other than at tread wear indicators, in a band that runs continuously:
 - (a) across –
 - (i) for a trailer with a loaded mass over 4.5 tonnes – at least 75% of the tyre width that normally comes into contact with the road; or
 - (ii) for another trailer – the tyre width that normally comes into contact with the road; and
 - (b) around the whole circumference of the tyre.
- Tyre tread, shoulder or side wall rubber are damaged.

- Tyres have cuts, bulges, tread separation, exposed or damaged cords or other evidence of case failure.
- Valve stems are cracked, damaged, perished or loose.
- regrooved or recut tyres fitted to a trailer are not clearly marked "suitable for regrooving".
- Any tyre clearly marked "suitable for regrooving" is regrooved or recut beyond the maximum permissible groove depth or is regrooved or recut in such a way that the ply or cord is exposed or damaged.

TYRE/WHEEL WIDTH

Reasons for rejection:

- When in the straight ahead position, the wheels and tyres project beyond the extreme width of the mudguards or trailer frame.
- The wheels and tyres contact any part of the trailer under any combination of steering (if applicable) and/or suspension movement.
- Where wide wheels and tyres are fitted which comply with the manufacturer's specifications and protrude beyond the vehicle's extremities, additional flared mudguards are not fitted. **(See Note 3)**

NOTES:

- (1) **Road wheels relate only to those wheels in contact with the road. The spare wheel is not included in a safety check.**
- (2) **Steel radials, textile radials or conventional cross-ply must not be mixed.**
- (3) **Maximum regulation dimensional limits must not be exceeded.**

BRAKES

OBJECTIVE: To ensure that the brakes operate effectively and are correctly adjusted.

BRAKE SYSTEM OPERATION

Reasons for rejection:

- The brake controls of the towing unit, when operated, do not cause the corresponding trailer brake to operate (with the engine of the towing unit running, if necessary).

- Trailers with a Gross Trailer Mass (GTM) in excess of 0.75 tonne but not exceeding 2.0 tonnes, are not equipped with a braking system which operates on at least one axle. (Override or electric are acceptable.) **(See Note 5)**
- Trailers exceeding 2.0 tonnes Aggregate Trailer Mass (ATM) are not equipped with brakes which operate on all wheels. (See Note 5)
- Brakes fitted to trailers exceeding 2.0 tonnes Aggregate Trailer Mass (ATM) are not operated from the driver's seated position in the towing vehicle.
- Brakes fitted to trailers exceeding 2.0 tonnes Aggregate Trailer Mass (ATM) do not apply immediately in the event of the trailer becoming detached from the towing vehicle (breakaway system).
- Trailers fitted with double line braking systems do not automatically apply and remain applied for at least 15 minutes after the control and supply lines are disconnected from the towing vehicle.
- All brakes do not operate efficiently.

HAND/PARK BRAKE AND CONTROL LEVERS (IF FITTED)

Reasons for rejection:

- Linkages are not complete or parts are unduly worn.
- Cables are frayed, damaged or restricted.
- Rods and cables are repaired by welding or joining.
- The brake does not fully release when the release control is operated.
- Any handle or control lever is not fitted with a locking device capable of holding in any position.
- Any handle or control lever is insecure, damaged, bent, broken, restricted or missing.
- A handle or pedal of a parking/hand brake fitted to a trailer does not have a reserve of travel of at least one-fifth of the maximum range of application.

HYDRAULIC LINES

Reasons for rejection:

- Hydraulic lines are not securely mounted, not free from damage or corrosion, show evidence of leakage and are not constructed of approved material. **(See Note 1)**

HOSES

Reasons for rejection:

- Flexible hoses are cracked, chafed, deteriorated, show evidence of leakage and are not manufactured and marked to relevant Australian Standards (or equivalent). **(See Note 2)**

CYLINDERS AND CALIPERS

Reasons for rejection:

- Hydraulic/air components, master cylinders, wheel cylinders/calipers etc. are not secured in a manner as recommended by the manufacturer or are seized, restricted or show evidence of leakage.

RESERVOIRS

Reasons for rejection:

- Any reservoir is not filled to the manufacturer's recommended minimum level and/or show evidence of leakage.

MECHANICAL LINKAGES

Reasons for rejection:

- Mechanical linkages and cables are not in a serviceable condition, incorrectly adjusted, and free of binding or excessive wear.
- Correct locking devices are not fitted, where applicable.
- There is evidence of repair by welding or brazing.
- Cables are frayed or have broken strands.

VACUUM/AIR COMPONENTS

Reasons for rejection:

- Brake air lines, hoses, pumps, valves, chambers, switch controls, actuators and any associated componentry are not secure and operational.

- Components are frayed, perished or misaligned, or show evidence of leakage or damage.
- Componentry is not correctly adjusted and free from binding.

DISCS AND PADS, DRUMS AND LININGS

Reasons for rejection:

- Linings are worn below wear indicators. If no indicators are provided, the thinnest part of the lining is worn below manufacturer's specifications. **(See Note 3)**
- Drums or disc rotors must be worn or machined below manufacturer's specifications. **(See Note 4)**
- There are any substantial cracks on friction surfaces, external cracks or mechanical damage.
- Lining material is contaminated with oil, grease or brake fluid.

NOTES:

- (1) **Normal commercial copper tubing has been prohibited from use in brake systems because it is considered prone to cracking due to work hardening. However, there is a Society of Automotive Engineers (SAE) Recommended Practice called Tubing – Motor Vehicle Brake Tubing Hydraulic – SAE J1047 which is the accepted industry standard. Persons wishing to use copper tube for vehicle hydraulic brake lines, must first provide proof of compliance with SAE J1047 or equivalent standard.**
- (2) **Made up hoses are not acceptable. Where brake hoses are replaced with aftermarket products, relevant standards marking is required.**
- (3) **Where manufacturer's specifications are not provided, the minimum thickness for bonded linings is 0.8 mm or 0.8 mm above the head of a rivet for light trailers, or the minimum thickness for bonded linings is 1.5 mm or 0.8 mm above the head of a rivet for heavy trailers.**
- (4) **Where manufacturer's specifications are not provided for drums, scoring must not be more than 1.5 mm for light trailers or 3.0 mm for heavy trailers. Refer to AIS Information Sheet 16 – Brake drums and discs.**
- (5) **Aggregate Trailer Mass (ATM) is the total mass of the laden trailer when carrying the maximum load recommended by the manufacturer. This includes any mass imposed onto the drawing vehicle when the combination vehicle is resting on a horizontal supporting plane.**

Gross Trailer Mass (GTM) is the mass transmitted to the ground by the axle or axles of the trailer when coupled to a drawing vehicle and carrying its maximum load approximately uniform