

# 4. HEAVY VEHICLES

## SEATS AND RESTRAINTS

**OBJECTIVE:** To ensure that all seating and restraints fitted to the vehicle provide a comfortable and secure position for the driver to control the vehicle and control the deceleration of all vehicle occupants

### SEATING

#### Reasons for rejection:

- Seat cushions, backrests, head restraints and seat frames are not fitted, not secure, are structurally damaged, have sharp or jagged edges, or protrusions.
- A seat slide or other seat control used for adjustment of a seating position is not operational and does not hold any selected position allowed for in the mechanism's design.
- Any reduction or increase in seating capacity is not certified by an Approved Person. **(See Note 1)**

### SEAT BELTS

#### Reasons for rejection:

- All seat belts installed by the vehicle manufacturer as original equipment are not fitted. (Seat belts removed or added as part of an approved modification are permitted). **(See Note 2)**
- Seat belt assemblies are not securely attached to the respective anchorage point and show signs of distortion, cracks, fractures or other damage likely to cause failure.
- Seat belt webbing is not correctly and firmly secured to each end fitting or is damaged, frayed, split, torn, altered or modified. **(See Note 3)**
- The buckle and tongue mechanisms are not operational and effective.
- Seat belt retractors, locking mechanisms and pre-tensioners are not operational.
- Non retractable seat belts do not have sufficient adjustment to allow effective use of the belts and do not maintain the adjusted positions.

## **SEAT BELT ANCHORAGES**

### **Reasons for rejection:**

- Anchorages provided by the vehicle manufacturers are not used wherever seat belts are fitted.
- Additional anchorages (those not provided by the vehicle manufacturer), are not positioned and Reinforced in accordance with the requirements of the Code of Practice for Commercial Vehicle Modifications and certified by an Approved Person.
- Seat belt anchorages are not securely anchored to the structure of the vehicle or show signs of corrosion, distortion, cracks, fractures or other damage likely to cause failure.

## **CHILD RESTRAINTS (OMNIBUSES)**

### **Reasons for rejection:**

- Any child restraint system fitted to a heavy motor vehicle is not attached to anchor points provided by the vehicle manufacturer, or to those fitted as an approved modification outlined in the Code of Practice for Commercial Vehicle Modifications and certified by an Approved Person.
- Child restraints do not use the correct anchorage bolts and nuts.
- Child restraint seat belt assemblies are not securely attached to the respective anchorage point and show signs of distortion, cracks, fractures or other damage likely to cause failure.
- Child restraint webbing is not correctly and firmly secured to each end fitting or is damaged, frayed, split, torn, altered or modified.
- Child restraint anchorage points are weakened or obstructed by the fitting of accessories (e.g. radio speakers etc.).

### **NOTES:**

1. **Where seats and seat belts have been removed from a vehicle (e.g. seats in a bus), mounting holes in floor panels must be blanked off to prevent the entry of fumes/gases to the vehicle's interior. A modification plate to confirm the reduction or increase in seating capacity is required.**
2. **AIS Information Sheet 2 contains details of the ADR seat belt requirements.**
3. **It is advisable, if additional seats and seat belts or replacement seat belts are fitted, that second-hand seat belts are not utilised.**

## **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 (See Note 4)**

#### **Reasons for rejection:**

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

### **HEADLIGHTS**

#### **Reasons for rejection:**

- Are not correctly focused.
- Lenses are not secure and not free of cracks or holes that would permit the entry of dirt or moisture.
- Reflector surfaces are not free of tarnish or other damage which could reduce the intensity of high or low beam. **(See Note 1)**
- Are not clearly visible under all normal conditions and of a consistent intensity, or are affected by dirty lenses or poor electrical contact.
- A dipping device to change the headlights from the high beam position to the low beam position and operated from the normal driving position is not fitted and operational. **(See Note 2)**
- A device to indicate to the driver that the headlights are in the high beam position is not fitted and operational. **(See Note 2)**

### **OTHER LIGHTS AND REFLECTORS (See Note 4)**

#### **Reasons for rejection:**

- Are not clearly visible under all normal conditions and of a consistent intensity, and 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:
  - front park or side lights;
  - brake lights;
  - tail lights;
  - turn signal indicator lights;
  - clearance/side marker lights (if fitted);
  - number plate light/s;
  - reversing lights (mandatory/optional);
  - additional lights (if fitted). **(See Note 2)**
- The number plate light/s direct light onto surfaces other than the rear number plate.
- The turn signal switch is not readily operable by the driver from the driving position and, if fitted as original equipment by the manufacturer, is not self-cancelling.
- The turn signal operation is not indicated by means of a visible and/or audible telltale.
- The reverse light (if applicable) operates other than when reverse gear is selected.

#### **ADDITIONAL LIGHTING**

##### **Reasons for rejection:**

- Additional lighting (fitted as accessories) is fitted in such a way that their operation will impair the operation of statutory lighting and contravene prescribed standards.

#### **ADDITIONAL HEADLIGHTS (DRIVING LIGHTS)**

##### **Reasons for rejection:**

- Additional headlights (driving lamps) do not operate in conjunction with the high beam circuit, and are not fitted with an independent on/off switch.

#### **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 5)**

## **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.
- Electrical wiring hinders driver or passenger movement.

## **BATTERY**

### **Reasons for rejection:**

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

## **WARNING DEVICE (HORN)**

### **Reasons for rejection:**

- A warning device is not fitted and operational and the tone is not of a single pitch. **(See Note 3)**
- A warning device is not clearly audible and the actuating mechanism is not located within the reach of the driver in the normal seated position.

## **NOTES:**

- (1) Fitted clear headlight covers are acceptable provided the intensity of high or low beam is not affected.**

**Tinted headlight covers are acceptable but must be removed when high or low beam headlights are operated.**

**Lens repairs are acceptable but must not reduce the effectiveness of the light when the light is lit.**

- (2) White coloured lights or reflectors are only permitted for front facing lights, number plate and reversing lights.**

**Amber lights are only permitted for forward facing clearance or outline lights on goods vehicles and buses and for indicators on all vehicles.**

Flashing lights are not permitted on a vehicle except as indicators and for use on special use vehicles i.e. vehicles fitted or built for use in hazardous situations on a road or emergency vehicles.

For pre-ADR vehicles, clearance lights must be fitted to all vehicles which exceed 2.2 metres in width and be mounted not more than 400 mm in from the side of the vehicle, at least 750 mm higher than the centre of any low beam headlight or not lower than the top of the windscreen.

Clearance lights must be fitted to ADR complying vehicles which exceed 2.1 metres in width, be mounted not more than 400 mm in from the side of the vehicle and not lower than the top of the windscreen.

A motor vehicle built after 1934 that can travel at over 60 km/h must be fitted with a dual beam headlight system.

A motor vehicle built after June 1953 must be fitted with a device to indicate to the driver that the headlights are in the high beam position.

- ADR complying vehicles - maximum low beam headlight height is 1200 mm.
- non ADR complying vehicles – maximum low beam headlight height is 1400 mm.

- (3) Dual air or electrical horns are acceptable but must be of a single note.
- (4) 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“.
- (5) Further information on rear marking plates is contained in AIS Information Sheet 9 – Rear Marking Plates.

## **WINDSCREEN AND GLAZING**

**OBJECTIVE:** To ensure that the windscreen, windows and associated components are in such a condition that the driver has a clear field of vision at all times under the normal range of climatic conditions.

### **WINDSCREENS/GLAZING**

**Reasons for rejection:**

- Vehicles first registered, built or had replacement glass fitted on or after 1 July 1953, are not equipped with safety glass or non-shatterable transparent material wherever transparent material is used in windscreens, windows and interior partitions. **(See Note 1)**

- Factory tinted windscreens do not comply with ADR requirements. **(See Note 5)**
- Tint film is applied to the windscreen. **(See Note 5)**
- Side and rear windows have a light transmittance factor less than 35% (T35) unless specifically approved.
- Tint films are not free of bubbles, scratches or other defects that significantly affect the driver's vision.
- Windscreens are removed and not replaced.
- That part of the windscreen swept by the wiper blades (primary vision area) is cracked, scored, chipped, badly sandblasted or otherwise damaged so as to impair the driver's vision or damage the wiper blades. **(See Note 2)**
- Windscreens are not repaired in accordance with Australian Standards. **(See Note 3)**
- Repairs in the wiped area of the windscreen reduce the effectiveness of the wiper blades.
- In the case of a laminated glass windscreen, the interior surface is cracked.
- Replacement windscreen glass is not of an approved type of safety glass and does not bear an identification mark indicating the standard to which the glass has been manufactured (e.g. AS2080). **(See Note 4)**
- Apart from any pillar or other part of the vehicle's structure or fittings, there are internal obstructions to a driver's view through the swept area of the windscreen.
- Windows are not free of posters, stickers or other non transparent materials which would interfere with the driver's vision.
- Windows are cracked or broken.
- At least half of the number of windows fitted, which must include the driver's window, are not capable of being opened.

#### **WIPERS/WASHERS/DEMISTER**

##### **Reasons for rejection:**

- Windscreen wipers are not operational at all speeds, do not return to their correct parked position and are not operable from the normal driving position.

- Blade rubbers and wiper arms are not in good condition (i.e. rubbers are split, frayed or perished or wiper arms/blades are missing etc.).
- The vehicle is not fitted with a windscreen washer system that is operational, correctly aimed and operable from the normal driving position. **(See Note 6)**
- The windscreen is not able to be demisted in accordance with Australian Design Rule (ADR) requirements. **(See Note 6)**

**NOTES:**

- (1) **Non-shatterable means not able to break or be broken into many small pieces.**
- (2) **To determine if a windscreen should pass or fail, the area of windscreen swept by the wipers to the right of the centre of the vehicle may have bull's-eyes and star fractures up to 16 mm in diameter and cracks up to 150 mm long which do not penetrate more than one (1) layer of the glass in a laminated windscreen, provided they do not interfere with the driver's vision.**

**In addition, the "primary vision area" (the area of the windscreen which is swept by the windscreen wipers) must not be cracked, scored, chipped, sandblasted or otherwise damaged to the extent that it impairs the driver's vision or damages the wiper blades.**

- (3) **Repaired windscreens must comply with the following requirements:**
  - **When inspected from the inside of the vehicle, the repair should not exhibit any significant optical defects which would distort or distract the vision of the driver and should restore clarity to the damaged area.**
  - **Any repair to the windscreen should not reduce the effectiveness of the windscreen wipers. (See Note 6)**
  - **Windscreen repair material must be used in accordance with the manufacturer's instructions.**

**Further information on windscreens is contained in AIS Information Sheet 10 – Replacing or Repairing Windscreens.**

- (4) **Replacement glass must be etched or indelibly printed. Decals and adhesive labels are not acceptable.**



- (5) A strip of tinting material with a reflectance of more than 10 percent and of any shade may be fitted to the upper edge of a windscreen. It must not extend lower than a horizontal line contacting the uppermost point of the arcs swept by the vehicle manufacturer's original wiper blades or the upper 10 percent of the windscreen, whichever is the lesser.
- (6) Windscreen demisters and washers were required in all heavy vehicles as listed in AIS Information Sheet 14 (ADR's 15 and 16 apply). If the specific vehicle was manufactured after these dates, the demister and washers must be in working order. If the vehicle was built after 1982, it must be fitted with a windscreen washer system.

To be in working order, the demister must have a working fan capable of forcing air (hot or cold) onto the base of the windscreen inside the vehicle and be able to effectively demist the screen.

## **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/BONNETS/HATCHES/HINGES/ CATCHES**

Reasons for rejection:

- Doors, bonnet, tilt cab, boot lid, hatch and removable covers (including safety catches, as applicable) are not securely fitted, mounted and operating correctly. Where fitted, seals are damaged to an extent that allows the entry of fumes into the cabin.
- The doors/bonnet/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 Notes 1 and 3)**
- Door fastenings, hinges, inside and outside door control handles (as applicable) are not fitted, secure and operating correctly.
- Internal door trims and, where applicable, inner door panels and hood linings are not fitted or are not secured.

## **BODY AND CHASSIS FRAME (FLOOR PAN AND SUB FRAME)**

### **Reasons for rejection:**

- All body panels, fittings and structural components (internal and external) are not free of sharp edges and protrusions.
- The cabin, body or chassis frame are cracked, broken, distorted or corroded to the point where a component is weakened or failure of a component is likely to occur. **(See Notes 1 and 3)**
- The cabin, body and any attachment/fitting are not securely mounted to the frame or chassis. **(See Note 2)**
- Any repairs carried out do not retain the original strength of the component/section. **(See Note 3)**

## **BULL/ROO BARS**

### **Reasons for rejection:**

- The fitting of bull/roo bars adversely affects the safety of the vehicle, and in particular, obscures the driver's view or the view of any mandatory lighting. **(See Note 8)**

## **BODY FITTINGS**

### **Reasons for rejection:**

- The vehicle body is not free of protrusions or fittings likely to cause injury to any person with whom the vehicle may come into contact.
- Permanently mounted driving lights and fog lights protrude above or forward of the top rail or leading edge of the bumper or bull bar.

## **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 5)**

## **REAR VISION MIRRORS**

### **Reasons for rejection:**

- Rear vision mirrors are not fitted in accordance with prescribed standards. **(See Note 6)**
- Rear vision mirror(s) do not provide a clear view to the rear.
- Mirror(s) are not securely mounted and free from damage, blemishes or tarnishing which would reduce the view to the rear of the vehicle.
- The right side rear vision mirror fitted to a vehicle over 3.5 tonnes Gross Vehicle Mass (GVM) is not fitted with a flat reflecting surface.

## **FAIRINGS/SCOOPS**

### **Reasons for rejection:**

- Bonnet scoops are not fitted in accordance with prescribed standards. **(See Note 7)**
- Side skirts, front and rear spoilers and dress-up kits (if fitted) adversely affect ground clearance and air flow for brake cooling.

### **NOTES:**

- (1) **Minor rust/corrosion in body panels is not considered dangerous to structural integrity.**
- (2) **Particular attention should be paid to seat belt and seat anchorages.**
- (3) **Further information on rust is contained in AIS Information Sheet 11 – Rust and Corrosion.**
- (4) **Vehicle manufacturer's bumper bar mounting points are preferred for this purpose.**
- (5) **Further information on mudguards and mudflaps is contained in AIS Information Sheet 3 – Mudguard and Mudflap Requirements.**
- (6) **At least 1 rear vision mirror must be fitted to each side of a motor vehicle over 3.5 tonnes Gross Vehicle Mass (GVM).**
- (7) **Further information on bonnet scoops is contained in the brochure "All About Modifications to Motor Vehicles".**

- (8) Reflective material should be painted matt black to reduce glare in the drivers field of view.

## **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:**

- Tow bars, tow hooks, automatic pin type couplings, fifth wheels/turntables and their attachments, if fitted to a vehicle, are not operational, not secure, or are cracked, excessively worn, deformed or damaged in a way likely to cause failure.
- All electrical wiring, connectors, couplings, flexible pipes etc. associated with a device for coupling a trailer to a motor vehicle are not securely mounted and operational.
- Tow coupling tongue assemblies are repaired by heating or welding.
- Tow coupling tongue assemblies are not securely mounted to the tow bar/frame assembly.
- The tow ball (if fitted) is not secure, is cracked or is excessively worn.
- The tow ball assembly (50 mm type) is not legibly and indelibly marked with the mark "50" in characters not less than 5 mm high. **(See Note 1)**
- The tow ball or hook assembly (127 mm or hook type) is not legibly and indelibly marked with the manufacturer's name or trademark and the rated 'D-value'. **(See Note 2)**
- Safety chain/s or cables (if required) are not able to be connected or affixed in such a way that the safety chains/cables are not liable to accidental disconnection and are not readily detachable from the towing vehicle.

### **TOWING CAPACITY**

#### **Reasons for rejection:**

- The tow coupling capacity does not equal or exceed the Aggregate Trailer Mass (ATM) of any trailer being towed (if applicable).

**NOTES:**

- (1) For information on 50 mm ball couplings, refer to Note (1) on Page 12 (Light Vehicles).
- (2) 127 mm ball couplings to be marked in letters not less than 6 mm in height and to be readily visible when coupled.

**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.

## **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 steering components are not in good condition, securely mounted and free from damage or distortion. **(See Note 1)**
- Steering components are removed, heated, welded (modified) or bent without approval from Queensland Transport. **(See Note 2)**

### **STEERING FREEPLAY**

**Reasons for rejection:**

- With the road wheels in the straight ahead position, and the engine running (if the vehicle has power steering), freeplay in the steering wheel exceeds 75 mm in steering wheels up to 450 mm diameter or 100 mm for steering wheels over 450 mm diameter.

### **STEERING WHEEL**

**Reasons for rejection:**

- Is not securely fixed to the mast shaft and is not free from structural damage.
- Accessories fitted to steering wheels (padded hubs, covers etc.) are loose. **(See Notes 3 and 6)**

### **STEERING SHAFT**

#### **Reasons for rejection:**

- Is not secured to the steering box worm shaft, pinion or coupling.
- Where a coupling is fitted, it is not secure and free from fraying or other damage.

### **OUTER COLUMN**

#### **Reasons for rejection:**

- Is not securely mounted and free from cracks.
- Wear in the bushes/bearings supporting the shaft is not within manufacturer's tolerances.

### **STEERING BOX**

#### **Reasons for rejection:**

- All manual or power steering componentry is not securely mounted and free from excessive side or end play, roughness, binding or oil leaks. **(See Note 1)**

### **STEERING LINKAGES MECHANISM**

#### **Reasons for rejection:**

- Steering linkages are not free of damage, wear, misalignment and not correctly located or fitted.
- Tie rod and drag link ends are not secured in both the rod and taper with fasteners suitably locked (e.g. split pins, lockwire, tabs or self locking nuts).
- 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.

### **ARMS AND LINKAGES**

#### **Reasons for rejection:**

- Pitman arm is loose.

- The free movement measured at the front and rear of the tyre when attempting to turn the assembly right and left with the vehicle supported on the lower control arm exceeds the manufacturer's specifications. Where the manufacturer does not provide specifications or they are no longer appropriate, the free movement exceeds the measurements in the following table:
  - 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.
- The looseness at any one point is responsible for half or more of the movement specified in the above table.

### **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. **(See Note 5)**
- 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.
- Suspension heights are lowered or raised by more than one-third of the manufacturer's bump stop clearance. **(See Note 4)**
- 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.

### **SWAY BARS/LINKAGES/BUSHES**

#### **Reasons for rejection:**

- Are broken, loose, unduly worn, disconnected or have been removed.

### **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 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.

### **KING PINS AND BUSHES/BALL JOINTS**

#### **Reasons for rejection:**

- King pin/ball joint freeplay exceeds the manufacturer's specifications. Where the manufacturer does not provide specifications or they are no longer appropriate, the free movement exceeds the measurements in the following table:



- |   |                                     |        |
|---|-------------------------------------|--------|
| ➤ | 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. |

**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.**
- (3) **The minimum diameter of any replacement steering wheel must not be less than 350 mm. The replacement wheel must be no more than 26 mm smaller than the original steering wheel.**
- (4) **Mandatory lighting heights must not be affected by the lowering or raising of suspension heights.**
- (5) **Air bag controls must be located or fitted in a manner that prevents operation while the vehicle is moving.**
- (6) **Steering wheel rims, knobs and other devices which have deteriorated to an extent that they are hazardous are unacceptable. Steering wheel covers, if fitted, must be secure.**

## **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 vehicle 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 run out.

#### **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 or the vehicle's top speed, whichever is the lesser, unless a lower rating has been specified by the manufacturer. **(See Note 3)**
- Where a vehicle 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 do not have a tread pattern at least 1.5 mm deep, other than at tread wear indicators, in a band that runs continuously across at least 75 percent of the tyre width that normally comes into contact with the road surface, and 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 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.
- The wheels and tyres contact any part of the vehicle under any combination of steering and/or suspension movement.
- Where wide wheels and tyres are fitted which comply with the manufacturer's specifications or are approved by the manufacturer and protrude beyond the vehicles extremities, additional flared mudguards are not fitted. **(See Notes 4 and 5)**

##### **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 crossply must not be mixed.**
- (3) If a vehicle is fitted with tyres that have a speed rating specified by the vehicle manufacturer, this information should be noted on the tyre placard attached to the vehicle.**
- (4) Where the manufacturer offers the option of a wider track measurement (e.g. where wider wheels are optional), the maximum allowable track will be the maximum wheel track offered by the manufacturer.**
- (5) 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, when operated, do not cause the corresponding brake to operate (with the engine running, if necessary).
- All failure indicators, pressure/vacuum gauges and warning devices do not operate correctly.

### **PEDAL CONDITION**

#### **Reasons for rejection:**

- A brake pedal does not have an effective anti-slip surface.
- The pedal shaft is bent, damaged or misaligned (outside scope of manufacturer's original design).
- The pedal and associated components are not secure, not correctly adjusted, bind or are worn so as to affect efficient operation.

### **PEDAL TRAVEL**

#### **Reasons for rejection:**

- Maximum brake pedal height, in vehicles utilising a hydraulic brake system, is not achieved with one application of the brake pedal and is not at least 50% of the maximum pedal travel.
- The pedal, in vehicles utilising a hydraulic brake system, does not remain firm when light foot pressure is maintained in the applied direction.
- There is an indication of air in the hydraulic system.
- A brake pedal does not have free travel in accordance with the vehicle manufacturer's specifications.
- When not in use, the brake lever, handle or pedal does not return to the fully released position.

## **HAND/PARK BRAKE AND CONTROL LEVERS**

### **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 vehicle 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, are incorrectly adjusted, and not 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.
- Vacuum is not available immediately the engine is started.
- After engine shut down, there is not sufficient vacuum reserve to allow for at least one assisted brake application.
- 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 are worn or machined below manufacturer's specifications. **(See Note 4)**
- There are 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 approval marking is required.
- (3) Where manufacturer's specifications are not provided, the minimum thickness for bonded linings is 1.5 mm or 0.8 mm above the head of a rivet.
- (4) Where manufacturer's specifications are not provided for drums, scoring must not be more than 3.0 mm for heavy vehicles. Refer to AIS Information Sheet 16 –Brake drums and discs.

## **ENGINES/DRIVE LINE/EMISSIONS**

**OBJECTIVE:** To ensure the engine, drive line and associated components provide a controlled transmission of power to the driving wheels.

### **CLUTCH OPERATION**

**Reasons for rejection:**

- Clutch components are not operational, are incorrectly adjusted or are cracked, bent or broken.
- There is leakage of hydraulic fluid from the system.

### **GEARBOX OPERATION (MANUAL/AUTOMATIC)**

**Reasons for rejection:**

- Any gear selected disengages whilst the vehicle is in motion.
- The gear selector linkage is worn so as to affect the safe use of the motor vehicle on a road.
- The transmission is worn so as to affect the safe use of the motor vehicle on a road.
- The vehicle automatic gear selection indicator and light are not operational.

- The vehicle is able to be moved when park is selected (automatic transmission equipped vehicles).
- The engine is capable of being started in other than the park or neutral positions (automatic transmission equipped vehicles).

### **ENGINE/TRANSMISSION MOUNTINGS**

#### **Reasons for rejection:**

- The engine and transmission are not securely mounted to the chassis of a vehicle.
- Mounting brackets and mounts are not securely fastened and not free of cracks or distortion.
- Rubber components are perished, broken or deteriorated.

### **LEAKS**

#### **Reasons for rejection:**

- An engine, transmission, differential and associated piping leaks oil on to the roadway or on to any exhaust system or brake component.

### **ENGINE**

#### **Reasons for rejection:**

- An engine and associated emission components manufactured to comply with the requirements of the relevant Australian Design Rules, is altered or modified so that they no longer comply with those Rules.

### **REPLACEMENT ENGINE**

#### **Reasons for rejection:**

- A replacement engine, other than one offered as an option by the vehicle manufacturer for that make and model, is not certified by an Approved Person under the Code of Practice for Commercial Vehicle Modifications or Queensland Transport (endorsed approval letter). **(See Note 1)**

### **ENGINE CONTROLS**

#### **Reasons for rejection:**

- Engine controls as fitted by the manufacturer (including cruise control) do not operate in a smooth and efficient manner.



- Engine speed does not return to normal idle position upon release of the accelerator pedal or throttle control.
- Vehicles fitted with a compression ignition engine (diesel) are not fitted with a locking device which prevents the engine from being started by accidental and inadvertent means.

## **DIFFERENTIAL**

### **Reasons for rejection:**

- The differential is worn so as to affect the safe use of the motor vehicle on a road.

## **DRIVE SHAFTS, AXLES, FLEXIBLE COUPLINGS**

### **Reasons for rejection:**

- Constant velocity joints, universal joints, support bearings, splines, and other drive line components are not secure, free of excessive wear, back lash or seizure which could cause component failure.
- Constant velocity joint boots are not in good condition, or are perished or deteriorated in such a way that lubricants can escape.

## **FUEL SYSTEM**

### **Reasons for rejection:**

- Replacement carburetors fitted to any motor vehicle do not continue to comply with the emission requirements of the Australian Design Rules applicable at the time of the vehicle's manufacture.
- Air cleaners are not fitted.
- The fitting of an aftermarket turbocharger or supercharger assembly, other than one offered as an option by the vehicle manufacturer, is not certified by an Approved Person in accordance with the Code of Practice for Commercial Vehicle Modifications or Queensland Transport (endorsed approval letter). **(See Note 1)**
- Nitrous oxide injection equipment is fitted irrespective of its operational ability.
- The fuel filler pipe inlet and cap are not located on the outside of the vehicle unless originally fitted inside by the manufacturer.
- Fuel system components are not securely mounted and free of leaks.

- The fuel tank/s is/are affected by rust or corrosion.
- A fuel tank cap that complies with manufacturer's specifications is not fitted.

## **EXHAUST CONSTRUCTION**

### **Reasons for rejection:**

- Exhaust extractors or headers fitted to any motor vehicle:
  - foul any part of the steering, suspension, brake or fuel system;
  - do not have fittings (if applicable) for emission control equipment (E.G.R. valve, pipes etc.) and do not retain exhaust pipes and mufflers incorporated in the exhaust system to ensure the vehicle maintains compliance with Australian Design Rules for vehicle emissions.
- Any alteration or modification to the exhaust system is not to a standard provided originally by the motor vehicle manufacturer. **(See Note 2)**
- An exhaust system component fitted external to the motor vehicle body is not protected by suitable guarding.
- An exhaust system does not discharge in accordance with prescribed standards. **(See Note 3)**
- The manifold, pipes, muffler, resonator and all exhaust system components are not securely mounted with adequate clearance between other parts of the vehicle and the road.

## **EMISSIONS**

### **Reasons for rejection:**

- There are leaks or excessive noise from the exhaust system and joints during operation.
- When operating, an engine of a motor vehicle emits visible emissions for a period of 10 seconds or more. **(See Note 4)**

## **EMISSION CONTROL SYSTEM**

### **Reasons for rejection:**

- Vehicles manufactured with emission devices do not have all emission control equipment properly located, connected or are damaged, deteriorated or altered in any way to reduce effectiveness.

## **DUAL FUEL SYSTEMS**

### **Reasons for rejection:**

- A vehicle operating on liquid petroleum gas (LPG) or compressed natural gas (CNG) and petrol does not have the emission control equipment fitted to enable compliance with emission levels when operating on petrol.

## **GROUND CLEARANCE**

### **Reasons for rejection:**

- A vehicle does not have a ground clearance equal to or more than 100 mm except where specified by the manufacturer. **(See Note 5)**

### **NOTES:**

- (1) **Engines/turbochargers/superchargers fitted as optional equipment by the vehicle manufacturer are acceptable. This may require upgrading of vehicle componentry to ensure it is identical to a vehicle originally produced by the manufacturer in this configuration.**
- (2) **Proof of testing to an acceptable standard may be required.**
- (3) **The exhaust outlet must extend at least 40 mm beyond the furthestmost outboard or rearmost joint of the floor pan which is not continuously welded or permanently sealed which could permit direct access of exhaust gases to the passenger compartment, but not beyond the perimeter of the vehicle when viewed in plan;**
  - **the exhaust outlet, if to the side of the vehicle, must discharge to the right hand side of the vehicle and downwards at an angle to the horizontal of not less than 15 degrees and not more than 45 degrees; and**
  - **the exhaust outlet, if to the rear of the vehicle, must discharge at not more than 10 degrees above or 45 degrees below the horizontal.**
- (4) **This does not apply to emissions that are visible only because of heat or the condensation of water vapour.**
- (5) **Ground clearance requirements for motor vehicles are detailed in the brochure "All About Modifications to Motor Vehicles" and AIS Information Sheet 13.**