



How To Develop A Replacement Parts Purchasing Policy

depending upon the risk.

Here is a sensible risk classification:

Level 1 parts – Safety critical or compliance critical. A single part failure is likely to cause a crash. The part determines the long-term health of a driver. The exposure to this failure occurs whenever the vehicle is driven. Changing the part is likely to invalidate compliance or roadworthiness or permit conditions.

Level 2 parts – Moderate safety or certification importance. A single failure is very unlikely to cause a crash because there are other protections, or the exposure is very occasional. The part may be relevant to certification status, but it is not a key component. The part could affect the comfort of the driver.

Level 3 parts - Minimal risk parts. Minimal safety risk and minimal affect on legal or roadworthiness status. No effect on driver comfort.

Note that 'safety' in these definitions refers both to road safety and occupational health and safety. Table 1 gives my risk classification for a range of common parts.

Here are some rules that could be applied:

1. Purchasing decisions should never be 'ad hoc'. A written policy and a consistent assessment process is needed.
2. Parts are always bought on quality and features with cost as a key consideration.
3. All parts that the company purchases should be classified as Levels 1, 2 or 3.
4. Sourcing changes for Level 1 and 2 Parts need to be approved by the Workshop Manager.
5. The purchasing officer can change sourcing of Level 3 Parts without reference.
6. Feedback on performance life, installation problems, supplier helpfulness and cost effectiveness should be fed back from the workshop, drivers, dispatch and purchasing staff. A satisfaction level (score out of 100) should be allocated by the Purchasing Officer for each part. A filing system/spread sheet report is needed.



Australia urgently needs an approval status for replacement brake linings and pads.

Leading trucking companies have a replacement-parts purchasing policy. Why? Because they seek to achieve high safety levels whilst remaining legal, minimising risk levels and hopefully getting good value for money. The worst possible approach is to buy on price only – the best approach may not be to always buy OEM. So what is in a sensible policy? Firstly, parts needs to be classified according to risk level. Different purchasing rules should be applied

7. Every six months or earlier, the satisfaction with the existing supply for each part should be reviewed by the Purchasing Manager.
8. The Purchasing Officer establishes a technical file for every part. The file includes product brochure, installation instructions, warranty agreements, correspondence, cost information, justification for the purchasing decision and the satisfaction-level report.
9. Level 1 Parts are either OEM or the part is used at OEM level in a comparable situation or a CRN approval exists or a convincing test report or certification certificate exists.
10. Level 2 Parts meet the requirements for Level 1 Parts or there is a satisfactory service history inside the company or the part is widely used in the industry and others report satisfactory performance.
11. Level 3 Parts meet Level 2 requirements or there is reasonable prospects for success.

ADRs are system performance rules. The in-service rules require that a heavy vehicle is not modified from its original ADR condition unless an approval is obtained. The approval might be a modification certification issued by an accredited vehicle engineer or it might be a written agreement from the registering agency. There is no recognition of 'approved' replacement parts in this framework. Some parts can get individual approvals (called Component Registration Numbers – CRNs) from the federal authority if they are proven to comply with the ADR requirements. Hence, headlights, turn lights marker lights and tail lights should have an approval number or be marked with an ECE approval mark (of the form "Ex" in a circle). Mechanical couplings (fifth wheels, pintle hooks and kingpins) and bus seats (but not truck seats or seatbelts) can also get a CRN. Brake system components cannot get a CRN because the brake rules (35 & 38) are system rules rather than recognising approved brake components. It is true that trailer foundation brakes can be approved, but the approval includes the actuator, slack adjuster setting, brake

drum / rotor and the brake shoe or pad. The lack of an approved status for non-genuine replacement brake linings and pads leaves operators vulnerable to legal challenge the vehicle be involved in a 'fail-to-stop-in-time' crash. Despite this, non-genuine brake linings and pads are commonly used. Australia urgently needs an approval status for replacement brake linings and pads. The USA has inertia dynamometer test requirements for the foundation brakes in its brake rule. This allows replacement brake linings to be certified separately from the truck. The Europeans have a specific technical rule for certifying replacement brake linings based upon ECE Regulation 90. This recognises comparison tests that are conducted either on a brake dynamometer or on a test vehicle. Australia should adopt a similar approach. The problem is that the federal government has no responsibility for in-service standards. In the meantime, operators should only use genuine brake friction materials.

Yours Sincerely,
Dr Peter Hart

Level 1 – Safety and compliance critical.	Level 2 – Moderate safety and compliance relevance	Level 3 – Minor safety and compliance relevance
Steer tyres.	Windscreen and glazing.	Cosmetic equipment without any design-rule implications.
Brake linings.	Tyres on non-steer axle groups.	Coolant additives.
Steering arms, boxes, pins and links.	Mudguards and mudflaps.	Roof lights and spot lights.
Lifting chains.	Ropes, chains, straps and dogs.	Cabin comfort equipment and interior sunshades.
Fifth wheel and kingpins.	Sleeping mattress.	Air conditioner compressors.
Suspension pedestals, torsion bars and sway bars.	Suspension bushes.	Draw fridges.
Installed mobile phone equipment.	Suspension airbags.	Gloves, safety vests, safety glasses.
Chassis rails.	Brake actuators and air valves.	Batteries.
Headlights, tail-lights and direction indicator lights.	Brake drums and brake rotors.	Bug deflectors.
Engines.	Engine and transmission oils.	Wheel nut covers and indicators.
Mufflers.	Bodies and sub-frames.	Coolant additives.
Seatbelts.	Side marker lights, reflectors.	Roof lights and spot lights.
Seats.	Brake hose.	Cabin comfort equipment and interior sunshades.
Monitoring systems.	Cooling system hoses.	Air conditioner compressors.
Abs and ebs retrofits.	Fuel tanks and fuel hoses.	Draw fridges.
Steering kingpin kits.	Wheel jacks and stands.	Gloves, safety vests, safety glasses.
Mufflers.	Air suspension bags.	Batteries.
		Bug deflectors.
		Wheel nut covers and indicators.

Australia does not have legal technical standards for most replacement parts. This situation exists because of the split in responsibilities for heavy vehicles between federal and state/territory governments. The Australian Design Rules (ADRs) apply to new vehicles. The Australian Design Rules (ADRs) are administered by the federal Department of Infrastructure and Regional Development. Mostly, the