ALRTA
Australian Livestock and Rural Transporters Association

Purchasing guide

Brake Even

Tips for maximising value-for-money when purchasing smart brake equipped livestock trucks and trailers

Know your plan

Choose a strategy for your fleet

Before making any equipment purchasing decisions, it is worthwhile to first step back and determine the strategy and priorities for your business.

Do you want to be on the front foot and minimise future roll-over crashes, or take a more conservative approach and integrate EBS only as you replace equipment.

Natural fleet equipment turn-over only

In this strategy, EBS-equipped trucks and trailers progressively replace existing equipment through either fleet expansion or turnover.

Pros:

- No additional capital cost

Cons:

- EBS trailers may operate unpowered in combinations
- Risk of rollover crashes not being prevented due to unpowered and inactive technology

Prime mover power and trailer pass-through cable retrofit

This approach retrofits EBS power supplies and sockets to prime movers and fits pass through wiring on trailers, to ensure any EBS-equipped trailers are powered.

Pros:

- Increased likelihood that EBS on equipped trailers will be functioning
- Reduced rollover risk

Cons:

- Additional capital cost of retrofit process
- If all equipment is not retrofitted, need to try to match up equipment to maximise value

EBS retrofit on partial or full fleet

In the most proactive approach, equipment is either progressively retrofitted with EBS technology or removed from the fleet.

Pros:

- Demonstrated safety leadership
- Consistency of equipment
- Lowest rollover risk

Cons:

- Highest capital cost
- Retrofit to trucks is generally not viable, so may be limited to EBS power supply fitment

Know what you've got

Before you think about new equipment, it is worth taking stock of what you've currently got. It is not uncommon to discover equipment in a fleet is already fitted with EBS. Beyond that, it is worth tracking which of your prime movers have EBS power sockets.

In checking your trailers, there are two relatively easy items to look for to identify that they may be fitted with EBS. Firstly, the presence of an EBS connection socket. Secondly, they should also be fitted with an EBS data plate.

EBS Sockets from a trailer (left) and prime mover (right)

EBS data plate as fitted to a trailer

Once you've got a sense of what equipment you may already have, it's worthwhile to determine what you want to achieve.

Here are some questions to guide you:

- What does success look like?
- Are you happy to introduce EBS as you turn over equipment or do you want to retrofit?
- What amount of EBS servicing do you want to be able to do in-house?
- Can any of your existing vendors (e.g. telematics) integrate EBS data into your existing systems?
- If you have existing trailers with EBS, you can organise a data download to see how frequently stability events are occurring, are you happy with that number?

Specify right

Make your expectations clear

When working with your truck dealer or trailer builder during your equipment purchasing process, be clear on your expectations around the braking system. Here are some items to consider:

Know your brake system vendor

When specifying a new trailer, talk with the manufacturer around which brands of brake system they offer. If you undertake servicing operations in-house, then confirm with your workshop team that they can support whatever system you're about to buy.

If you outsource 100% of your maintenance, then talk with your service providers around their preferences. Either way, it is likely that having fewer different brands will simplify your future maintenance.

End of line

Include in the purchase agreement that at delivery, that the trailer must have an end-of-line test completed and have the test report printed and included with the documentation at hand-over.

This should ensure that the system is functional, however it is important to verify this through a thorough commissioning process.

Get the details right

There are some small details which can make a big difference to the reliability of your system once it is in service:

O-ring sealed EBS socket crimp terminals

- Require the use of O-ring sealed crimp-type EBS sockets, do not accept screw clamp connections
- Specify that all wiring must be abrasion protected, either via grommets or appropriate conduit
- Consider requiring pre-terminated cables, this reduces the reliance on the auto-electrical skills of your trailer builder
- Ensure EBS sockets are mounted horizontally or downwards at up to 35 degrees down to avoid filling with debris and to reduce water ingress. With upward connectors and unsealed terminals, water can travel along inside the multi-cored wire and into other components

Downward-facing trailer connections to reduce debris build-up

- Ensure EBS valves are as protected as practical and that their mounting complies with brake system manufacturer specifications. Some brake systems vent against their mounting face and this surface must not have any holes which can allow ingress of debris.

Trust, but verify

Have a robust commissioning process

Purchasing new trailers is a big capital investment and confirming that you've received what you ordered - and that it is fully-functional - sets you up to maximise the return on that investment.

Pre-commission

- Compile your records on what items were specified in the original design
- Determine what evidence you want to generate in case of future dispute, a dozen photos taken at commissioning may be very valuable in case of a dispute later.

Example EBS Checklist

- ☐ Confirm that the EBS data label is fitted and that the VIN, brake chamber size and slack adjuster length all match to the trailer
- ☐ EBS socket is between horizontal and 35 degrees downwards (including rear connection where applicable)
- ☐ EBS socket(s) features O-ring sealed crimp terminals
- ☐ Wiring to EBS socket(s) matches correct colour code
- ☐ Wiring between EBS socket and brake modules is appropriately supported, protected from abrasion and impact
- ☐ Brake module is securely mounted in protected location with shielding from incidental splash from washdown operations
- ☐ Wheel speed sensor wiring is routed to minimise risk of damage and is well-secured
- ☐ EBS socket tester (if available) shows correct operation
- ☐ When connected to prime mover, the trailer EBS dashboard light illuminates when the ignition is turned on, then goes out after 3-5 seconds.
- ☐ EBS software (if available) connects and status reports show no active faults

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