



TRUCK & TRAILER COMPATIBILITY

Important Information for Trailer Builders and End Users operating predominantly ABS Tractors with EBS Trailers

EBS trailers should always be used, wherever possible, in conjunction with EBS tractors. The combinations of ABS tractor and EBS trailer, however, remain a strong possibility. In order to encourage compatible operation, please observe the following:

The commencement of truck and trailer braking at all wheel positions should be at the same nominal service line pressure - P_m, for the laden and unladen states of loading.

The exception is with a drum and disc brake combination where the drum P_m is expected to be 0.1 to 0.2 bar less than that recorded for the disc.

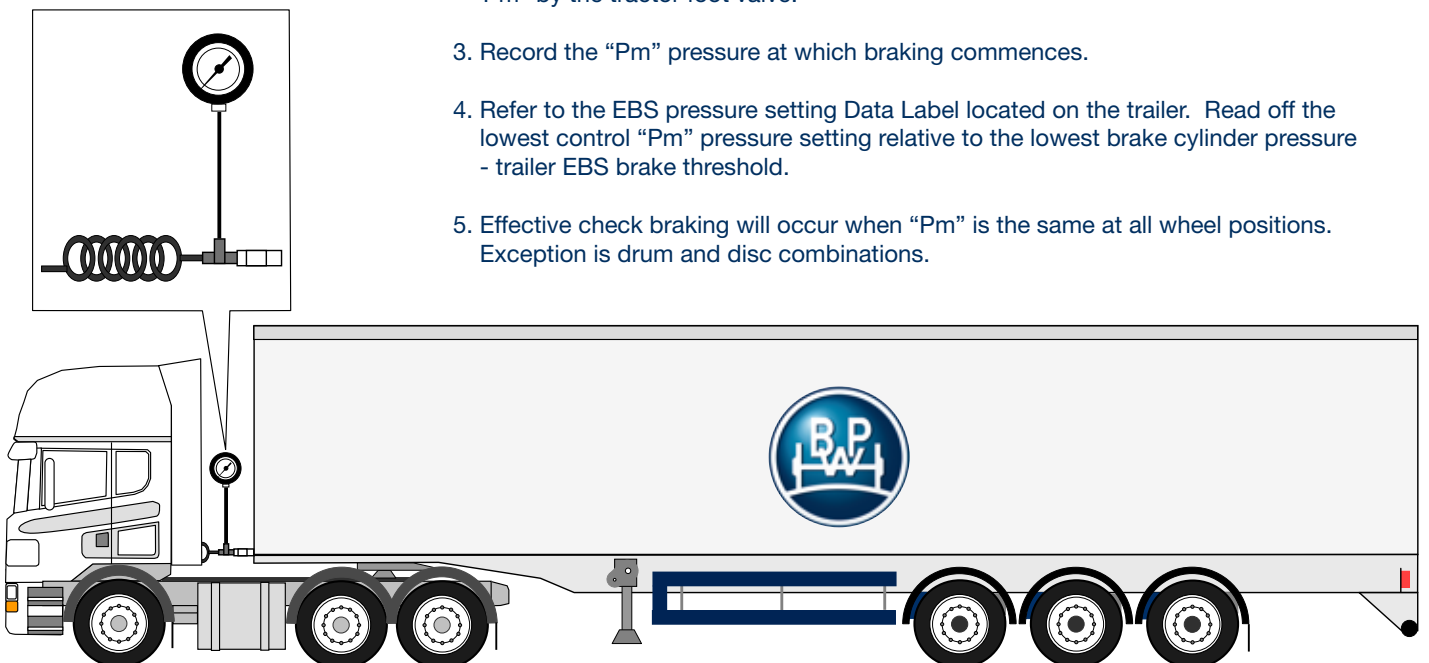
Practical adjustments to tractor predominance settings may be required to ensure compliance. However, it is important that the EBS trailer “map” is tailored to meet our considerations, especially in the area of commencement of braking. The EBS software excludes the possibility that the range values, 0.2 to 1.0 bar P_m, are exceeded.

The requirement for an ISO 7638 electrical connector between tractor and trailer is of utmost importance. The trailer braking system will not function correctly if the ISO 7638 connections are compromised.

THRESHOLD CHECKING FOR ABS TRACTOR AND EBS TRAILER OPERATION

1. Connect a reference gauge at the front coupling.
Referred to as “P_m” (Service line).
2. Lift each wheel of the tractor unit in turn and rotate whilst applying a pressure at “P_m” by the tractor foot valve.
3. Record the “P_m” pressure at which braking commences.
4. Refer to the EBS pressure setting Data Label located on the trailer. Read off the lowest control “P_m” pressure setting relative to the lowest brake cylinder pressure - trailer EBS brake threshold.
5. Effective check braking will occur when “P_m” is the same at all wheel positions.
Exception is drum and disc combinations.

Reference gauge
“P_m” (Service line).



For EBS / EBS combination - see next page



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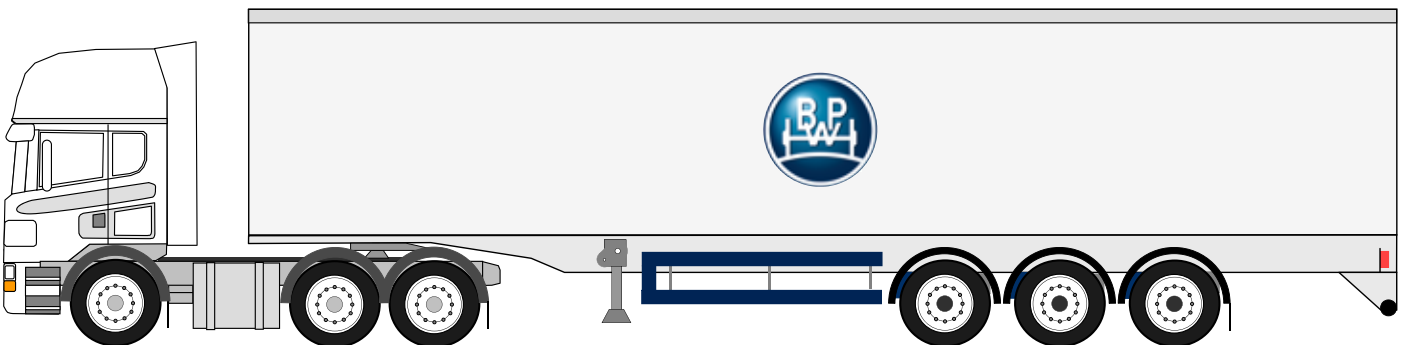
Coupling force control allied to EBS tractors, functions in the dynamic condition. BPW Limited thus advise the following method to encourage balanced braking in a truck and trailer combination, assuming consistent and acceptable performance from all foundation brakes within the combination.

Practical adjustments to tractor predominance setting may be required to ensure compliance. However it is important that the EBS trailer “map” is tailored to meet considerations, especially in the area of commencement of braking. The EBS software excludes the possibility that the range values 0.2 to 1.0 bar Pm, are exceeded.

The requirement for an ISO 7638 electrical connector between tractor and trailer is of utmost importance. The trailer braking system will not function correctly if the ISO 7638 connections are compromised.

DYNAMIC COMPATIBILITY CHECKING FOR EBS TRACTOR AND EBS TRAILER OPERATION

1. Ensuring safety is maintained at all times and that all brakes are functioning correctly, commence a 10 to 15 minute road trial.
2. Apply a series of brake applications, (consistent with normal operation), to ensure adequate heating.
3. Record the number of applications made for future reference.
4. Using temperature measuring equipment (e.g. Pyrometer), record the temperature values at each wheel brake. On the brake drum or brake disc.
5. Compare the average temperatures recorded for each axle of the tractor against those for the trailer.
Note: Homogenous brake types (Disc/Disc or Drum/Drum) should show similarities in temperature.
Non-homogenous brake types generally function at different temperatures and may thus require several tests in order to ascertain acceptable operation.
6. If unacceptable temperatures are recorded then the tractor EBS control function must be adjusted.
Note: This control function effectively modifies the trailer predominance.
A re-test run over the same course will be required to determine effect.



These general guidelines have been published to reduce the risk of unbalanced braking within the combination and assume all valve settings, functions and EBS electronics functionality, where applicable, to be correct. More detailed information may be found in our document “The Compatibility of Drum and Disc Brakes in Articulated Combinations”, available on request from BPW Limited.