

# How to reduce the occurrences of brake failure during roller brake testing

INFORMATION SHEET

December 2012



## SERVICING GUIDELINES

When you are servicing your heavy vehicle brakes, and before presenting the vehicle for a certificate of fitness (CoF), you may want to apply these guidelines.

No matter how many brake wheel-end overhauls you have done, always check the manufacturer's service bulletins – they are always updating their advice and tips for ensuring good brake performance and reliability.

Some very basic rules are:

- Do not adjust brakes when hot or over-heated.
- Re-line and complete any brake work in axle sets.
- Re-line linings before they wear out.
- Do not attempt to remove oil contamination by burning linings.

When making any repairs at the wheel-end such as:

- re-lining brakes
- replacing cams or cam bushes
- replacing return springs.

Measure critical items and check they are within the limits set by the manufacturer. Also, check for similar dimensional size in symmetrical situations to ensure mechanical losses are minimised and wheel-end performance is consistent.

Avoid mismatches in wheel-end performance by not mixing old and new or worn and new components as this can lead to brake imbalance and poor performance.

When servicing a wheel-end, always check that components are not distorted in any way as this can indicate a greater problem.

If steel shoes are crowned, take extra care to ensure proper bedding-in, or even consider profiling.

Check that the cam rollers and bushes are appropriately lubricated and ensure that cam rollers are not flat-spotted.



Do not ignore the performance of the air valves in the brake system. Check the air supply system:

- is working as it should, eg compressor capacity
- for any evidence of chambers hanging up or actuating slowly
- is fitted with replacement valves of the correct type and crack pressure
- for damaged hosing, restrictions and kinks, etc.

Do not mix brake cams from different sources. Ensure each cam used in each wheel-end is of the same profile as not all cams are created equal. Some have high lift profiles, others constant lift and others again promise constant torque.

Do not use chambers or slack adjusters from different manufacturers on the same axle.

Do not use discs or drums from different manufacturers on the same axle.

There are manufacturer specified processes for bedding-in new linings. Check with your brake equipment supplier for their guidelines and follow these to avoid subsequent problems.

After new linings are bedded-in, check the actuation components for proper adjustment. Check again a few days before presenting the vehicle for its brake test.

Ensure wheel bearings are correctly adjusted and check for worn or loose spring or torque rod anchor points.

When servicing any components on vehicles always use safe work practices.



*When you are servicing your heavy vehicle brakes... you may want to apply these guidelines*



## TESTING GUIDELINES

Read and understand the CoF brake test protocol – [www.nzta.govt.nz/resources/heavy-vehicle-brake-testing/docs/heavy-vehicle-brake-testing-protocol-and-procedures.pdf](http://www.nzta.govt.nz/resources/heavy-vehicle-brake-testing/docs/heavy-vehicle-brake-testing-protocol-and-procedures.pdf).

Do not adjust brakes immediately before the test. Do that a few days beforehand to ensure complete bedding-in.

Consider de-dusting brake friction surfaces prior to a brake test.

Ensure tyre pressures are equal – especially on the same axle (although tyre tread matching is not critical, it can make a difference).

Warm brakes up before testing (reduces chances of residual moisture).

Align vehicle correctly in the brake rollers.

Apply brakes slowly and evenly.

Conduct the test in the manner prescribed by the vehicle inspector. Listen to what they are asking for during the test process.

Brake imbalance can occur part way through a brake application. If this is so, look for other possibilities, eg broken spring eye, worn torque rods.