



HEAVY DUTY SERVICE BULLETIN

AMERICAN BRAKEBLOK DIVISION



BULLETIN NO. 15

HOW IS THE BRAKE BALANCE!

Before attempting any repairs it is advisable that we first refer to the maintenance records to get the history. The nature of the previous repairs and the drivers' reports can often give direction how to proceed. Next check out the particular complaint with a road test to verify and possibly isolate the problem. Now we come to something basic and on which the success of all repairs depends. This is the degree of Brake Balance in the overall system. It is essentially what the name implies -- balance in every area. Not only a balanced input but a balanced output; balance between brakes on the same axle and balance too between all the axle brakes in the complete train.

What do we need to do to check Brake Balance? Either two air gauges or preferably a duplex air gauge to check the air deliveries are first on the agenda. Attach one gauge or outlet to the tractor or truck rear brake with the other gauge or outlet connected to the front axle brake. Make checks at 30 and 60 psi and observe the two gauges or both needles of the duplex gauge. If the needles move together the air input is well balanced. Should one needle lag during application or release, we have an air delay. If one needle levels off appreciably lower than the other we have a pressure unbalance. Next duplicate this check by transferring the gauge from the front axle line to the trailer axle brake. You continue checking axle by axle in this fashion. All we have actually done in these checks were to establish the pneumatic balance. The next step should take us to each wheel brake. With the wheels off, we should determine how much air is necessary to spread the shoes at the cam an equal distance on both sides of the axle. If there are differences in air readings from side to side on the same axle in this check, we must look for some mechanical binding conditions associated with the foundation brake.

Now to check the output balance. After you adjust all brakes you will need a decelerometer and an air gauge. Next load the vehicle like in service and with the air gauge connected to the treadle and the vehicle on level ground, apply the brakes on the complete train at speeds of 10 and 15 mph with a delivery pressure of 42 psi. Should this be a tractor and semi, disconnect the trailer and check the tractor at 42 psi. Knowing the weight on each axle will permit us to recognize good output balance by comparing the ratio of the partial decel (tractor) to the full decel (tractor and semi) with the same ratio of the weights carried on both vehicles. The 42 psi spec which is the acknowledged one of AMA - TTMA should give a 9 ft. per second per second decel.

Checking the brake operating temperatures would give some indication of the degree of output balance as the heat is the result of the work being done. A pyrometer can be used to contact the outer circumference of the drum to get the temperature reading. These temperatures should not differ more than 50 degrees between brakes on the same axle and 100 degrees between axles.

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