



AIR BRAKE SYSTEM MAINTENANCE

The maintenance of air brake systems is an important topic. It is essential that any maintenance technician trying to diagnose and repair the air brake system understand how and why things that affect the system happen. The information contained in this bulletin is designed to assist you in your diagnosis of air brake system problems.

AIR BRAKE ESSENTIALS #2: BRAKE BALANCE

In our February issue we discussed the timing of a brake system. This month we are venturing into the topic of balance in the air brake system. Balance deals with the side-to-side braking action of the heavy-duty vehicle. Each axle must deliver an equal amount of stopping ability to insure that there is good braking and no loss of control during any braking condition. If a vehicle pulls to one side or the other, the results could be very dangerous.

Balance of a braking system starts with consideration of each axle set on a vehicle. The basic foundation brake components, the spider and the drum condition are all very important in maintaining the balance of the axle and the entire vehicle. Friction material is also very important to this balancing of each truck axle. When stopping in all conditions, a heavy-duty vehicle must remain in the same lane and not sway back and forth. We spoke in February of the importance of proper timing for correct braking; balance is the second ingredient for that safe braking action.

The rules for good balance are simple:

1. Do both sides of an axle set.
2. Replace all hardware, springs and hold-downs.
3. Use the same friction material on all brake shoes.
4. Adjust brakes properly for stroke.

In every instance all brake service must be done as axle sets. Do not replace one side or one shoe without doing all of the shoes on that axle set. Everything must be done in axle sets to insure that the stopping power is equal side to side. When replacing brake hardware, realize that all of the items on the axle are designed to hold the brake shoe in the proper position and activate and retract it after braking. If heat and corrosion have compromised the hardware, it will not function properly when required. Hardware costs so little in the overall price of a brake job, and it is necessary to maintain good balance.

Brake shoe friction material is not all the same! Be aware of that, and learn the differences in the various kinds. If brake shoe friction is mixed, you will get uneven, unbalanced performance in the axle set. This alone will cause balance and braking problems. BRAKEPRO, Ltd. does offer the industry the proper friction material for the job, whatever your load or requirements. Brake adjustment is the third part of the balancing act for heavy-duty vehicles.

Brake adjustment must be the same from side to side. Further, all brakes on the vehicle should be adjusted at the time of any axle reline and service. Slack adjusters play an important part of this adjustment. Consult the individual slack-adjuster manufacturer specification for proper details on this item. Proper timing and balance are essential to safe brakes on the highways of our country!