Power Tips:

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What Makes A Great Brake Job?

The #1 MOST IMPORTANT PART Of Any SERVICE Is SAFETY!!

Things to consider:

1. Why are you doing the brake job? Are the shoes oil soaked? Is it a regularly scheduled service or have the automatic brake adjusters quit working? This will determine how you approach the brake job.
2. Remember that according the Federal D.O.T. one axle (both sides of the axle) is one brake. If you are a certified brake technician you are bound to service both sides alike.
3. This is the ideal opportunity to inspect the vehicle and offer solutions to the operator. (Shocks, bags, broken fasteners, u-joints, wheels, etc.)
4. Automatic brake adjusters have become more sensitive over the years to minor changes in the wear of the foundation brakes. It's a good idea to do a cam bushing job with every scheduled brake job!
5. Sell lining to the application not price, safety is what it's all about.

Procedures:

1. Take the vehicle through the wash bay and park outside the shop to dry.
2. When ready pull the vehicle onto a clean level and dry surface.
3. Set the brakes, leave in neutral and chock the wheels.
4. **REMOVE THE IGNITION KEYS AND STORE AWAY FROM THE VEHICLE!!**
5. Use jack stands in good working order and place under the vehicle so as not to impede access to the undercarriage.
6. When the vehicle is securely suspended from the jack stands slide under the vehicle and cage the spring brakes and back off the slack adjusters to the point the lining clears the 'lip' of the brake drums.
7. This is the ideal time to inspect the undercarriage of the truck. Look for missing or broken suspension fasteners, worn air springs or shocks, missing grease zerks, 'slop' in the driveline, gear case seal leaks, damaged air lines (both rubber and nylon), hoses of unequal length, broken springs (if mechanical suspension), shifted leaves in the springs (indicating broken tie bolts), broken welds on the 'banjo' housing, loose bushings, cracked frame members, etc.
8. Inspect the 'outside' of the vehicle. Look at the wheels for evidence of loose lug nuts or broken studs. Look at the wheels for cracks and examine the tires for 'flat spotting' or uneven wear which could indicate brake imbalance or suspension problems.
9. Most vehicles are equipped with 'outboard' drums these days, which is great for a quick brake job. The problem is that often cam bushings aren't services and bearings aren't inpsected. If the customer is willing to incur the additional expense of wheel seal replacement and cam bushings it really is the best way to do a brake job, especially when automatic slack adjusters can quit working due to excess play in the cam bushings.
10. On a Tractor put a 'drip pan' in the wheel well and remove the axles. Inspect the grease for particles or water that could indicate an impending rear end failure. Look for broken and loose drive flange studs, and wedges (if applicable). Position the wheel dolly under the duals and remove the hub, drum and wheels assembly.
11. After pulling back the assembly and before removing the brakes inspect them on the vehicle. Look for odd wear patterns and burned lining (typically severe heat cracks) inspect the drums for deep grooves and use a drum micrometer to check the drum to see if it is beyond specifications (typically .125"). Inspect the seal 'land' for wear. If the brake job is due to a seal failure pay particular attention to hot spots (where the drum is harder in some places than others due to oil soaked lining)
12. Remove the brake shoes and hardware; it is advisable to replace the anchor pin bushing(s) as well so knock out the old bushings. Remember, oil soaked lining cannot be cleaned, no matter how much brake clean you waste trying!
13. Inspect the cam and the cam bushings. Just using a pry bar really isn't sufficient anymore. A few thousandths wear in the system will cause adjustment failure so use a dial indicator to check the cam bushings. Use the axle manufacturers' specs for a reference.
14. Remove the seal (use a rolling wedge or a seal removal tool to prevent bearing damage)
15. Inspect the bearings for wear. Look for 'spalling', color change due to heat, etc. If bearings are worn replace bearing and cones as a set.
16. When reassembling the components be sure to pay close attention to the various manufacturers specs. Torque specs on drums, use the seal manufacturers' tools to install the seals, and the axle manufacturers' preload instructions.
17. Some people pack the bearings to be sure they are lubed before the grease gets to them in operation. This tactic is fine if you use grease that is compatible with the lube.
18. After assembly adjust the slack adjusters, and uncage the brakes. Take the vehicle off of the jack stands.
19. Run the vehicle and burnish the brakes per manufacturers' specs.