



MAINTAIN THE ROLLER

For Best Compaction Results

— by —

ASPHALTPRO

PRODUCTION - PROFESSIONALS - PRODUCTS

The roller operator will be responsible for much of the [basic maintenance](#) on this piece of equipment. He will take ownership for its proper operation from day to day, so give him the tools and training he (or she) needs to [keep the roller in shape](#) for optimum compaction on every project.

THE DAILY WALK-AROUND

This is the pre-shift inspection and it is vital, whether you have a fancy telematics system communicating with a dealer's service department or not.

- For the pneumatic tire roller, top off the release agent tank and make sure the water spray system is operating correctly. These systems prevent material pick-up before the tires heat up.
- Also for the pneumatic tire roller, make sure the ballast compartments are filled with the correct type and correct amount of ballast material to meet specified tire pressure loading.
- If the rubber-tire roller has a tire-inflation system compressor, check it for proper operation.
- Inspect the cocoa mats/scrapper bars—more on this below
- Check engine oil
- Check the water tanks—more on this below
- Test the water pumps
- Check that all fluids are topped off
- Double-check all the lights for safety
- Grease points. When it comes to greasing, newer roller models tend to offer fewer routine maintenance points than older models. But let's face it—in the real world, contractors still have older machines on the job putting in long hours. Those old workhorses have maintenance needs, such as an articulating joint and pivot points that require daily greasing—and greasing caution. Grease the nipple fitting on the top of the articulating joint at least once a week, if your machine has one.

A QUICK MAINTENANCE TIP:

Don't over-grease the articulating joint, or you'll have an area that attracts and pulls dirt and sand into the bearing. In fact, beware of over-greasing any points on older rollers for that reason.

CHECK ON SCRAPER BARS

If a scraper is bent, it obviously can't do its job. There are four scraper bars on the tandem steel drum roller; they work together. Two of them "trough" or spread water along the drum while two of them prevent pickup of detritus or material. When the roller reverses direction, the scrapers "switch jobs." If the scraper is bent or the rubber worn, it can't press against the drum properly, which means it's not spreading water evenly or stopping material pickup.

- Check the springs, shock absorbers and pins that help control the scraper's pressure; replace them if there's any problem.
- Check the rubber on the scraper; adjust it once a month.
- Check the metal of the scraper bar; ensure it's not bent or damaged.



If the spring is damaged, it can't hold the scraper bar in place properly. Check this on your daily walk-around and make sure it gets fixed. *Photo courtesy of John Ball of Top Quality Paving & Training*

A QUICK MAINTENANCE TIP:

Do not leave the cocoa mat resting against hot rubber tires at the end of the shift. If you do, you'll have a melted, congealed mess to pull apart in the morning.

The rubber on the scraper bar is a wear item, so you want to adjust it once a month or so, whether there's a problem with the metal bar holding it or not. To solve the problem of a bent scraper bar or worn rubber, follow these steps from Paving Consultant John Ball:

Step 1. Take out the holding pins.

Step 2. Take the scraper bar off the roller.

Step 3. Remove the rubber from the bar.

Step 4. Heat up the metal.

Step 5. Straighten the metal, if possible. If the metal cannot be unbent, replace it with a new scraper bar.

Step 6. Replace the rubber, if necessary.

Step 7. Reverse the steps to put the scraper bar assembly back in place.

If you're working with a pneumatic tired roller, the scraper is different. The cocoa mat on the rubber tire is designed to help lubricate the drum with the water it absorbs and distributes, and to scrape material from the tire's surface. No matter which roller or scraper you're working with, make sure to lift it from the drum or tire before driving the machine on a roadway between jobs. Not only do you turn off vibratory mode and turn off the water system, but you also pivot the spray bar away from the drum.

A QUICK PERFORMANCE TIP:

If you need to drive the roller along the road for any distance, the operator should flip up the scraper bar to prevent wear or to prevent the potential for it to be sucked into the drum.

A QUICK MAINTENANCE TIP:

If you notice this problem: The roller keeps running out of water too quickly on the job.

Check this: Look at the position of the scraper bars. Check the spring to ensure it holds the scraper bar against the drum correctly.

The fix: Ensure the springs have proper tension to hold the bars in place to spread water across the surface of the drum properly. If the scraper bars are loose or positioned off the drum during operation, you're wasting water. You're probably getting poor performance with material pickup as well. Solve this problem by replacing broken springs and worn scraper material, and then positioning bars to trough water optimally.

THE ENGINE

- Clean the radiator daily.
- Check the air filter's condition at the start of the day.

A QUICK PERFORMANCE TIP:

If you notice the temperature gauge rising while compacting the mat, check the radiator for debris to prevent overheating.

STOP MOLD GROWTH

Don't neglect the water system for your roller. The three-part filtering for water systems is designed to keep sand, dirt, rust and other impurities from mucking up the spray nozzles of the spray bar.

FIRST PART: a sock-like filter in the filling tube, through which water is pumped when you fill the tank. You might think this filter is restricting your water flow or slowing you down, but you must resist the urge to remove this filter. Leave it there or you'll be cleaning tanks more often and clearing big ol' clogs in the system.

SECOND PART: a canister filter in the bottom of the tank (or on the side of the machine). This is the main filter for the system and you want to clean it out from time to time.

TO CLEAN THE MAIN FILTER...

Step 1. Drain the water tank.

Step 2. Remove the canister/filter.

Step 3. Take the filter out of the canister.

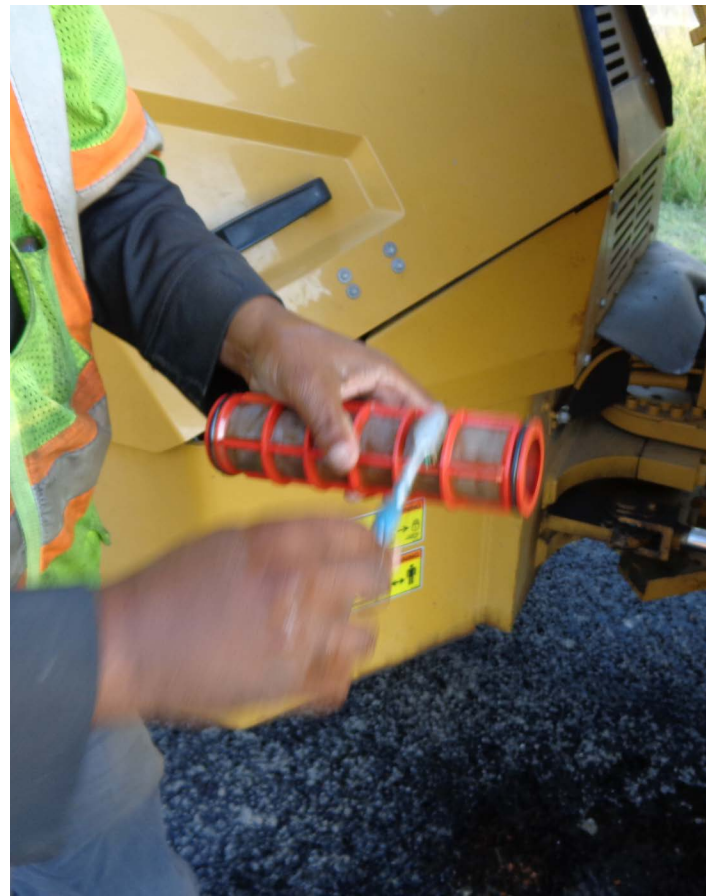
Step 4. Make a chlorine-and-water solution.

Step 5. Use a toothbrush dipped in the chlorine-and-water solution to scrub away fungus, mold or other particulates from the filter screens.

Step 6. Run clear water over the screens to make sure they're clean.

Step 7. Reassemble the filter, double-checking the O-ring has no damage.

Step 8. Put the canister/filter back in the tank and refill with water and Dawn liquid.



Use a toothbrush dipped in chlorine-and-water solution to scrub the filter screens clean before rinsing the filter with clear water and reassembling the filter. Double-check the O-ring to ensure it's free of damage before replacing the filter in the tank. *Photos courtesy of John Ball of Top Quality Paving & Training*



When the spray tips themselves need cleaning, remove the tips from the spray bar and use a welding tip cleaner to get into the crevices.
Photo courtesy of BOMAG Americas

THIRD PART: micron filters on the spray tips. If water sits here too long, it can “gum up” or get slimy. Keep these tips clean and clear by keeping the filters clean and clear.

TO CLEAN THE SPRAY BAR FILTERS...

Step 1. Remove the tips from the spray bar.

Step 2. Make up a bottle of soapy water with a drop or two of Dawn dishwashing liquid.

Step 3. Dip a toothbrush into this solution to clean the filters.

Step 4. Run clear water over them and replace them for work.

When the spray tips themselves need cleaning, use a welding tip cleaner to get into the crevices.

Even the tanks and the connecting tube between the tanks need cleaning. If working in cold weather, treat the water with anti-freeze. If the roller will be down for days—especially over a cold spell—drain the tanks after treating the water with anti-freeze. You want the anti-freeze to get up through the nozzles, through the lines and through the tips. Of course, check with your operator’s manual to be sure the product you use is safe for the water pump and seals.

A QUICK PERFORMANCE TIP:

Don’t use water from fire hydrants or nearby ponds to fill tanks. The rust in the hydrants will cause problems for your filters and tips. Water from a pond will have algae that will clog up hoses. If someone has used a questionable water source, drain and clean out tanks.

TELEMATICS VS. YOUR SENSES

The roller operator spends the most time on the machine and probably knows it best. That means he or she will know when the equipment is working properly and when something isn’t quite right.

As soon as the operator notices something not working right, he or she should notify the service department, so the problem can be addressed during off hours or before a small repair turns into a major downtime issue. This practice is especially critical if the roller isn’t equipped with a [telematics system](#) that offers early detection of operating issues.

To help the operator, roller manufacturers equip the dashboards with multiple gauges for critical components. These gauges provide a quick glance at critical operating parameters such as engine temperature, oil pressure and charge control.

Fluid level indicators and gauges inform the operator when items like the fuel, water or DEF tanks need to be filled. This means you can call for a laborer to top off a tank when it’s convenient and keep the paving train moving forward.

A QUICK MAINTENANCE TIP:

If you notice this problem: The inside of the roller drum(s) has become dark and dingy.

Check this: Look at the seals on the eccentrics.

The fix: If the seals on the eccentrics have blown/started to leak, your machine may seize during operation. That’s guaranteed to ruin anyone’s day. Have the mechanics schedule some quality time with the roller to fix the eccentrics and get the machine back to top operating condition before your next project.

SPARE PARTS

Because you’re rolling in harsh conditions with sensitive equipment, you never know when some stray component might fail. You might as well be prepared for the unexpected so you can fix it and get back to production. Experts recommend having a toolkit onboard the roller with the basics.

THE ROLLER OPERATOR’S UPTIME KIT

- Phillips screwdriver
- Flathead screwdriver
- Pliers
- Toothbrush
- A welding tip cleaner
- Dawn dishwashing liquid
- Vice grip
- Putty knife
- Temperature gun
- WD40
- Spare fuses
- Extra spray nozzles