



## Maintaining Your Equipment for Next Hay Season

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The winter has arrived and cooler temperatures are signaling dormancy of forage crops for about six months before the hay season resumes. During this time of the year, hay equipment gets stored in a shed or left outside to the inclement of the weather. This window is an ideal time to inspect your hay equipment and make any necessary maintenance or repairs and be ready for next year. Do not wait until the last minute when repairs can delay your hay production. Now it is the time to start inspecting the equipment and making a maintenance list that can be achieved during the winter.

Before starting any inspection and maintenance, I would recommend to check your equipment manual and familiarize yourself with all the parts and especially those sensitive electrical components such as circuit boards and all the necessary safety procedures. If you do not have a manual, contact your equipment dealer for service and maintenance information. Before starting any maintenance, be sure to wear protective gear including safety glasses and gloves. *Turn off any equipment and remove any keys to avoid accidental ignition during maintenance and follow standard safety rules.* Immobilize any hay equipment on stable ground before providing maintenance. Disconnect the hydraulic couplings from the tractor, disconnect equipment from hitches and use safety pins when advised and required.



In today's forage systems, there is a large number of equipment pieces that makes hay production more efficient, and therefore, makes regular maintenance a vital component of the enterprise. These implements are as important as the forage crop itself. Proper maintenance can extend the life of the equipment and cost less than having to repair a major damage. It is easier to budget for a small expense than a larger expense when your hay equipment breaks down with no warning. Regular equipment inspection allows the farmer to see visible signs of wear and tear and provide preventive measures before they fail. Always budget for regular equipment maintenance in your annual budget. Figures are for reference purposes only and reference to commercial products or trade names is made with the understanding that no discrimination or endorsement is intended and no endorsement by Mississippi State University, Mississippi Agricultural & Forestry Experiment Station or Mississippi State University Extension Service is implied.

Cutting, but specially baling, could be a dusty process that can impact the moving parts in your hay equipment. Nonetheless, plant debris (leaves and stems), dust and dirt can also accumulate in your equipment (cutter, baler, rake, and windrowers) and they can hold moisture and overtime increase corrosion and rusting on parts and protective casings or shields. The accumulation of debris can also be a good habitat for rodents and birds to build their nests and can cause damage to electrical board, chips, cables, hoses and belts. A good inspection, cleaning and repair during the winter can prevent creatures from forming a nest in your equipment. Begin your inspection by looking for wear on parts and components that are in constant movement during the hay making process. There are steps that can be taken during the winter months to help prevent costly breakdowns during the peak of hay season and that will also save money.

**Maintaining You Baler** – Use high-pressure air to blow out any debris from the chambers in your equipment and be careful around sensitive electrical components. Using a leaf blower, high-pressure compressor or vacuum could do the job depending on how accessible is the debris. Do not use a power washer to avoid rust in chambers with moving parts. Start any inspection and maintenance from the outside first. Make sure that all shields in moving parts such as PTO and safety chains are in good condition, in place and functional. During hay season, baling dry hay could be a source of fire ignition, make sure that the fire extinguisher mounted in the baler is properly stored and fully charged.

Harvesting all the biomass from the field depends on making sure that the pickup and feeding areas in your baler are in good condition and has a good synchronization. It will be ideal to replace any bend or missing tines to reduce leaving hay in the field as well as lubricating and replacing any pickup cam bearings. Inside the chamber, check the wear and tear of the plunger bearings for missing seals, flat spots and roughness that make it hard to turn or causes any unfamiliar sound. Check the mounting bolts in the gear box to make sure that properly tightened and greased. Sharpen and adjust the stationary knives. Replace broken pickup tines and teeth as needed. Inspect the billhook and twine discs for wear and adjustment. If there is excessive wear and tear, replace them. It is also important to inspect the belts for cracks and other wear and the pulleys for proper alignment or damage. It is recommended to loosen the belt tensioners while in storage during the winter and make sure to adjust idlers and tensioner back to specifications in the spring. The timing in the baler is also important component that needs to be addressed. Check the shear bolts and replace them once a year by applying the correct torque to avoid damage during the baling season.

**Maintaining Cutters, Rakes, Windrowers, and Wrappers** – Remove dust and hay debris by using a high-pressure air or high-pressure washing (mower or conditioner cutter blades and rakes). After cleaning them, make sure that all fittings and bearings on wear points are properly greased, especially all lift-systems wear points. On disk mowers, inspect the knives, sharpen or replace them if necessary and rotate them along with any shields covering the knives. Look for wearing in parts that need to be replaced such as mower knife sections or hay rake tangs. In a bale wrapper, the following parts should be greased every 200 bales: central axis of the rotating table, axes in the tilting table, chains and gear-wheel, and stretcher's gearwheels.

**Hydraulic Systems and Tires**– If your equipment has hydraulic systems, inspect the lines and hoses. Change the hydraulic-system filters and make sure that you run the equipment to get any air out of the hoses and avoid condensation during the winter. Check the gear boxes and reservoirs for fluid levels and change them according to manufacturer's recommendations. Lubricate all drive chains with a high-quality lubricant and grease points to prevent moisture infiltration. Some of your hay equipment will have wheels and tires. Make sure that you inspect the tires for damage, punctures, cracks, or dry rot and inflate them to the correct pressure. It will be a good idea to remove the wheel to check and repack the bearings and seals.

**Equipment Storage** – The best way to protect your equipment is under a dry and covered place such as a roof or shed, but it might not be possible for every forage producers. In that case, cover your equipment with water-resistant tarps and protect any computerized parts from sun, wind and water damage.

Hay production is a serious investment in your forage/livestock operation and hay equipment is a costly long-term investment that you want to protect. Either you are doing the maintenance yourself or utilizing a trained service provider, always put a maintenance cost plan in place and prioritize to avoid the cost being a fluctuating expense throughout the year. Check your implements for broken, worn or missing parts. Do not overlook lubrication even if you greased all the bearings and shafts thoroughly at the end of last hay season. It is also important to make sure that safety decals and SMV signs are in place and legible. Making hay (cutting, raking and baling) is weather depend and the window of opportunity to harvest the crop could be quite narrow. Providing a complete inspection and routine maintenance to any hay equipment will extend the life span of the machinery, help hay producers to be more efficient and prevent losses during the hay season. Always consult the equipment operator's manual for safety and maintenance procedures or contact your service provider.



*On behalf of the MSU Forage Program, We wish each of you a happy holiday season and thank you all for the support and trust that you provided to make our program a success in 2016. We look forward to a bright future of the forage industry in 2017 and the growth of the Mississippi State University Forage Extension Program. **In this holiday season, cowbells will be ringing true maroon!***

### **Upcoming Events**

January 22-24, 2017—American Forage and Grassland Conference, Roanoke, VA  
February 1-3, 2017—Cattle Industry Convention & NCBA Trade Show, Nashville, TN  
February 10-11, 2017—Mississippi Cattlemen Convention, Jackson, MS

For detailed information related to upcoming forage events please visit:  
<http://forages.pss.msstate.edu/events.html>

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