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The extreme cold conditions of winter present special challenges to loggers and their equipment. Following certain maintenance steps and operating procedures in severe cold temperatures will go a long way to help protect your equipment and keep it running productively.



Winter can be the busiest season for some loggers. Frozen ground enables them to get into some areas with equipment, and they are trying to produce as much wood as possible. Maintenance takes on even greater importance for cold weather operations because the harsh temperatures and conditions make everything more difficult. At a

time when the logger is busiest, winter may make it tougher to get parts, to access a remote machine, and to perform repairs.

As the weather begins to turn colder, it is time to get your equipment ready to run smoothly in the winter months. The following are a few suggestions for proper operating and maintenance procedures.

Prepare your machine for winter. If a pump is approaching the end of its life, for example, consider changing it out before harsh weather.

Because the number of acceptable lubricants is limited in arctic conditions, manufacturers like Caterpillar may have special recommendations. Caterpillar also offers an arctic transmission-drive train oil. Ask your equipment dealer to recommend the best suited oil for the conditions, and use a dealer-recommended oil that meets or exceeds recommendations.

Use diesel fuel formulated for cold weather; again, check with the equipment dealer about the type of fuel recommended for the climate conditions.

Also, make sure engine coolant is adequate for the coldest possible expected temperatures.

Use the correct hydraulic oil for the expected temperature range. Depending on your location, temperatures may soar to hot levels in summer and fall considerably below freezing in winter; no one hydraulic oil is good for such a wide





temperature range. If the oil is too thick, in cold conditions it will take a long time for it to warm up enough to run. In addition, operating machines at low ambient temperatures with hydraulic oil recommended for warmer temperatures runs the risk of pump cavitation: the oil is not delivered fast enough to the pump, and compressed air bubbles cause tiny implosions that eat away metal components of the pump.

One of the single most important operating procedures is allowing enough warm-up time for the machine when temperatures are extremely cold. However, there is no benchmark rule for how long the engine should idle to warm up. In addition to allowing the engine and oils to warm up sufficiently, the equipment should be operated slowly at first.

Pre-heaters can warm up the engine block, and they also can warm and circulate the engine coolant. However, they do not necessarily work well for hydraulic oil because the volume of hydraulic oil is so much greater. It takes considerable time to warm up hydraulic oil. In addition, warming hydraulic oil in the tank does not warm hydraulic oil in boom pistons and elsewhere. For these reasons, use a slow, steady operation to cycle the hydraulic oil and allow it to begin mixing with the warmed oil. Avoid high production operation until the hydraulic oil is about 60 degrees F.



At the end of the shift, clean the tracks properly. Clean any build-up around the track rollers, track slides, and the tracks; removing mud, snow, slush and ice will prevent the material from freezing overnight. Also, grease the machine while the components are still warm; joints will take grease better because they've been moving. (The grease gun can be kept in the operator's cab while working to keep the grease warm.)

