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Technical Note

Using a Cordless Drill to Extract Increment Cores

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Key Words: Increment cores, cordless drills.

Using an increment borer to extract many cores can be tedious. The performance of cordless drills has improved greatly, making them an alternative for driving and removing increment bore bits. High torque cordless drills can reduce the time required to extract cores by a third and substantially reduce the effort required.

We evaluated a Bosch™ 24 volt 1/2 in. cordless drill with 16 and 18 in. Mora increment borers. We used the drill to drive the bit to the desired depth; then loosened the drill chuck and attached the increment borer handle to the bit and turned it counterclockwise 360° to loosen the core. After extracting the core, we reattached the drill and backed the bit out of the tree. We extracted at least 20 cores with one charged battery. Batteries can be recharged in an hour using a rapid charger plugged into an inverter in a vehicle.

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In a simple "time trial," we compared the time required to bore five Engelmann spruce (*Picea engelmannii*) ranging from 9–31 in. dbh using the drill with the time required to manually bore the same trees. Manual coring took 9 minutes; using the drill to drive and remove the bit took less than 6 minutes. We found a three-flute borer to be slightly faster than a two-flute borer, perhaps because it allowed slower boring (Scott and Arno 1992). There was no difference in the quality of the cores.

We offer several additional observations. First, we recommend using an auxiliary handle to maintain control of the drill because the torque is substantial. Second, during our battery "longevity" test, the drill became hot. To avoid damaging the drill, it should occasionally be allowed to cool. Time spent coring trees could be reduced even more by using an adapter such as that used by Scott and Arno (1992) or the adapter for drilling power poles sold by Forestry Suppliers item number 63180 (Jackson, MS.)

Literature Cited

SCOTT, J.H., AND S.F. ARNO. 1992. Using a power increment borer to determine the age structure of old-growth conifer stands. *West. J. Appl. For.* 7:100–102.