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## Focus on ... Field Foresters: How to Use a Cordless Drill to Extract Increment Cores

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### How to Use a Cordless Drill to Extract Increment Cores

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 ½ 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 counter-

**increment borer** an auger-like instrument with a hollow bit and an extractor used to extract thin radial cylinders of wood (increment cores) from trees having annual growth rings, to determine increment or age —note in wood preservation, the borer measures the depth of penetration of the preservative (Helms 1998, p. 96)

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

We offer several additional observations:

- We recommend using an auxiliary handle to maintain control of the drill because the torque is substantial.

- 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).



clockwise 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.

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.

#### Literature Cited

- HELMS, J.A., ed. 1998. *The dictionary of forestry*. Bethesda, MD: Society of American Foresters.
- SCOTT, J.H., and S.F. ARNO. 1992. Using a power increment borer to determine the age structure of old-growth conifer stands. *Western Journal of Applied Forestry* 7:100–02.

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