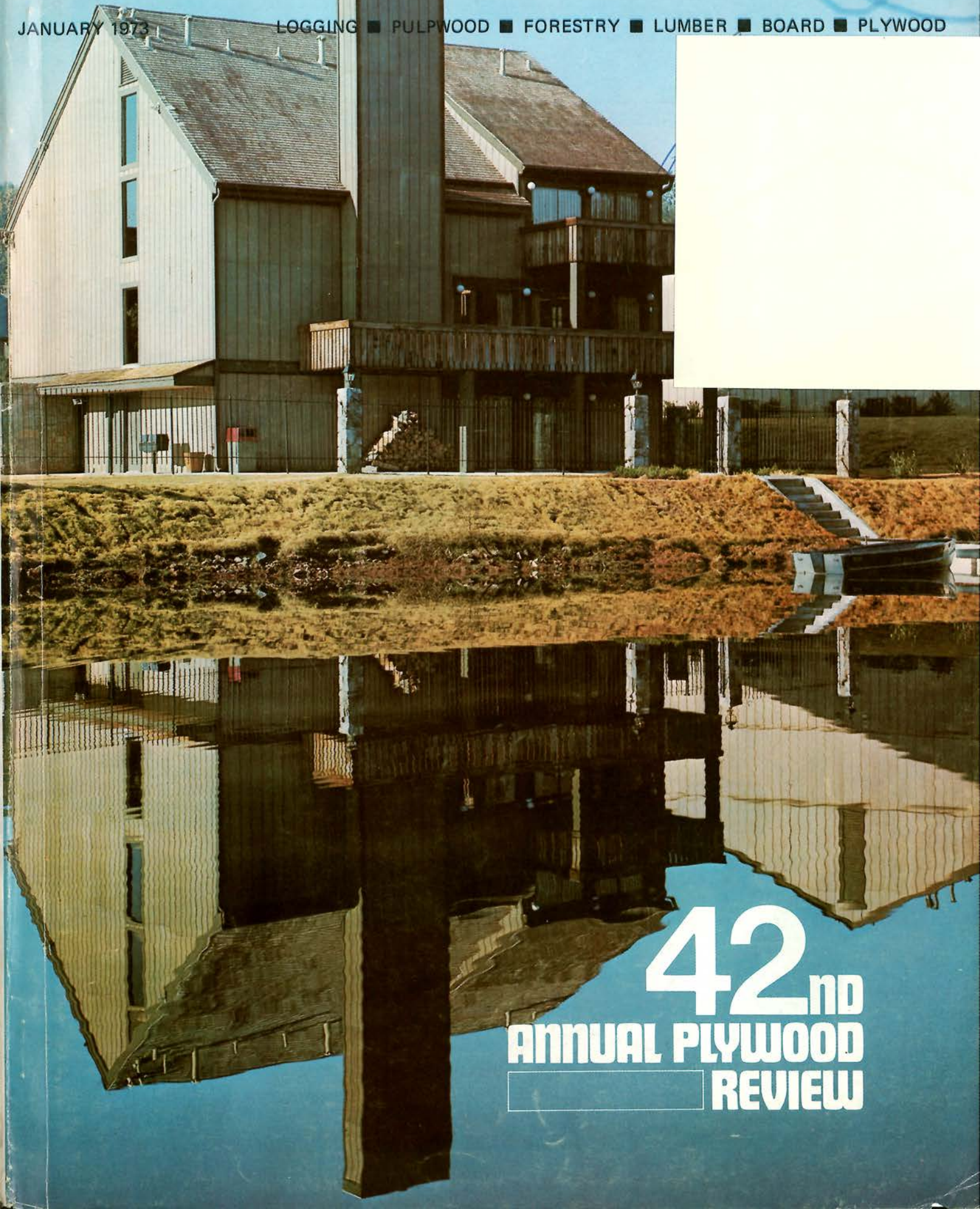


# FOREST INDUSTRIES

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**REVIEW**

# Helicopter salvages bug-kill

Twin-rotor machine, once used in passenger service, now transports logs on timber sale set up to take out Douglas fir killed by beetle infestation

ESTACADA, ORE.—Helicopter yarding is being employed to salvage beetle-killed Douglas fir on a national forest timber sale near here. The technique is similar to helicopter operations described previously in this magazine, but the machine is a new one on the logging scene—a twin-rotor Boeing Vertol 107.

Purchaser of timber on the Whirlybug sale, on the Mt. Hood National Forest, is Avison Lumber Co., Molalla, Ore. Columbia Construction Helicopters Inc., Portland, subcontracts the yarding. Crown Zellerbach Corp. handles cutting, loading and hauling. Logs go to CZ's Park Division sawmill at Estacada, and to the Avison mill at Molalla.

Timber is clearcut in irregular patches of varying size. When a stand of dead trees is located, the cutting unit is enlarged if necessary to the minimum size considered feasible to log—about one acre. The sale volume is guaranteed at four million board feet.

The Boeing Vertol 107 is powered by two General Electric T58 jet engines, each rated at 1,250 hp. Flying a static line, its maximum lifting capacity is 8,000 lbs. High altitudes and dry air reduce this capacity, however. Maximum log volume is about 800 board feet. *ca 4 to*

The helicopter's drop line is made of 11-strand, 5/8-inch cable, terminating at an electric-release hook. A 200-foot line is used when working near standing timber, and a 100-foot line is used in the clear.

On the ground, one man works with each set of fallers, tagging logs with color-coded tags to indicate approximate weight. Choker setters preset chokers 30 to 60 logs ahead of the helicopter. Working under the helicopter, a hooker combines chokers to achieve maximum payload within the machine's lifting capacity, using the colored tags as a guide. The hooker carries a two-way radio to communicate with the flight crew.

Some small logs run up to treelength, and the biggest possible log to lift would be 54 inches in diameter, bucked to eight-foot peeler length.

Yarding distance ranges up to a maximum of one mile. Beyond that distance, the cost-time ratio is adverse.

Average cycle time varies with the nature of the clearcut area, length of line and number of logs per turn. When FOREST INDUSTRIES visited, the helicopter was yarding about three-quarters of a mile out of a small block, flying the 200-foot line because of nearby standing trees at the edge of the clearcut area. Cycle time was running about three minutes. Two-minute cycles were achieved in other areas of the sale, it was pointed out.

Backing up the Boeing Vertol is a crew of four pilots and four mechanics. Flying in teams of two, pilots average five hours a day in the cockpit. Flying time is limited because of the concentration necessary to drop the hook literally in the hooker's hand.

At the landing, a Caterpillar 966C front-end loader removes logs from the drop zone, forms decks and loads trucks. The operation produces 15 to 17 loads per day. ■



On the way to the drop zone at far right (off camera), Boeing Vertol 107 twin-rotor helicopter approaches above Caterpillar 966C loading out Peterbilt truck with Peerless trailer. Before it was stripped down for cargo work, chopper shuttled passengers between airports in New York City. Twin jets develop 2,500 hp.