Forest Health Protection, Southern Region

IPS ENGRAVER BEETLES,

Ips avulsus (Eichhoff), *grandicollis* (Eichhoff),
and *calligraphus* (Germar)

Importance. - Ips engraver beetles kill more pine timber in the South than any other forest insect, with the exception of the southern pine beetle. Ips beetles usually attack injured, dying, or recently felled trees and fresh logging debris. Infestations are particularly common in trees weakened by drought or lightning strikes.

Identifying the Insect. - Adult beetles are dark red-brown to almost black and 1/8 inch to 1/5 inch (3 to 5 mm) long. They are distinguished from other bark beetles by their scooped-out posterior with 4 to 6 spines on each side. Larvae have white bodies with orange-brown heads and are legless. Pupae are waxy-white and similar to adults in size.

Ips adult.

Identifying the Injury. - The first signs of attack are reddish-brown boring dust in bark crevices or reddish-brown pitch tubes about the size of a dime on bark surfaces. If the bark is removed, there are Y- or Hshaped egg galleries with short larval galleries extending

perpendicular to them. Egg galleries will usually be free of boring dust. The foliage of Ips-killed pines will eventually turn yellow, and then red about the time the beetles complete development under the bark. Often only the top portion of the crown is killed, leaving lower branches green. Blue-stain fungi, introduced when the beetles attack the tree, is visible in the sapwood and hasten the death of the trees.

Vertical egg galleries.

Biology. - The female constructs an egg gallery and lays her eggs beneath the bark of attacked trees. The larvae make individual feeding galleries in the inner bark and pupate at the end of their galleries. New adults emerge after 21 to 40 days during the summer or after several months during the winter.

Control. - The best control is prompt removal and utilization of actively infested trees, making sure that the bark and slabs are destroyed. Insect parasites and predators, woodpeckers, and weather provide natural controls. Chemical control is seldom warranted under forest conditions, but may be used to protect pines in urban or high value areas. Preventive control practices include minimizing logging damage to residual stands and quick removal of felled trees.