



## LOGGING AND HARVESTING EQUIPMENT

### History of Southern Logging

Logging in the southeastern states is in its infancy compared to the logging experience of the U.S. west coast and Canadian provinces. The terrain is more varied and the trees are generally smaller so the logging techniques have evolved through trial and error and communication of successful efforts from one operator to another.

The first piece of mechanized equipment introduced to the southern logging industry was the chainsaw which replaced handsaws and axes. Trees were felled and bucked in the woods and transported to yards by animal power. The development of the big stick loader mounted on a truck changed the entire transport concept and extended the range in which timber conversion facilities could operate. Farm tractors with winches replaced log transport by animals and in the early 1960's, the first skidders were developed. Shortly thereafter, the knuckle boom hydraulic loader was introduced and permitted log sorting as well as expedited truck loading. The gradual reduction of available wood crews and the need for higher production harvesting methods have resulted in the development of mechanical harvesting machines. These machines generally have hydraulic shearing devices for cutting the trees at ground level and directional felling devices. More sophisticated equipment has become available which have tree accumulating devices in the shear (feller-bunchers), or accumulating carriages (feller-forwarders), and mechanical delimbing devices.

In the south, shearing devices have replaced up to eighty (80) percent of the traditional chainsaw harvesting. The only state that reported less than fifty (50) percent replacement was Mississippi. The large mechanized harvesters have had a limited acceptance from southern loggers because the typical contractor does not have the capital to purchase equipment of this nature, and the density of the forests does not facilitate the utilization of large size equipment unless clear-cutting mature stands. Large corporations such as Weyerhaeuser and Georgia-Pacific have been the only markets for the larger machines and have used them extensively in Oklahoma and Arkansas.

### Description of Logging Methods

Logging methods and the resulting demand for harvesting equipment are dependent upon the desired end-use for the timber, terrain, accessibility of the timber, and size of the trees to be harvested.

The trend has been to change from bucking logs in the woods to conventional dimension lumber lengths, or four (4) or five (5) foot lengths for pulpwood, to retaining whole tree lengths up to fifty-four (54) feet. The breakdown of the tree length stems is then done at a remote site where the logs can be merchandised to the highest yield. Tree length hauling also has the advantage of lower transportation costs.