

Production of Large Rubber-Tired Skidders

Issue: Developments in skidder design have provided loggers with the option of purchasing more powerful, high-capacity skidders. While more power and hauling capacity is always better, it is of interest to a logger to know if a more advanced model skidder enhances production enough to justify the extra capital investment.



Study Description: Timberjack models 460 and 660 rubber-tired grapple skidders were studied while operating in stands of plantation loblolly pine performing a clearcut harvest. Both models were studied over a wide range of skid distances. The model 460 was observed in a 15-yr old plantation with a mean DBH of 6.2-in. The model 660 operated in a 24-yr old plantation with a mean DBH of 7.0-in. Standard time and motion study techniques were used to measure travel empty, position and grapple, travel loaded, and delimiting times. DBH and total length of individual trees were measured to determine total haul volume.

Status: Preliminary analysis shows the model 460 skidder can produce 46 gr. tons per Productive Machine Hour (PMH) at a mean one-way skid distance of 1037 ft., while the 660 model is capable of producing 51 gr. tons per PMH at a mean one-way skid distance of 1129 ft. These production estimates do not include delimiting. More detailed analysis is being done and a paper is being prepared for the upcoming ASAE meeting in Milwaukee this summer.

Benefits:

- *Valuable for loggers to know production potential of new models*
- *Enables loggers to evaluate investment by knowing machine cost per ton*

Cooperators: USDA Forest Service; Taylor Logging

Contact: John Klepac—USDA Forest Service

