

INFORMATION NOTE

ODW 7.13

SYSTEMS FOR ADDING VALUE

HUSQVARNA 250PS HIGH PRUNER

Introduction

This Information Note is one of a series produced for a Technical Development Branch (TDB) Outdoor Workshop (ODW) and is produced as a guide to part of a harvesting system suitable for use in small scale woodlands. ODWs are a TDB initiative designed to offer practical advice to practical people through presentation, demonstration and user guidance. The ODW programme will involve repeating trials and introducing new systems around Great Britain so that a wide range of sites, systems and practitioners can be included.

Information has been gathered from equipment and method trials based at a single location. This information therefore must be taken as indicative only. Variation could be expected for other operations where factors such as terrain, crop specification, product specification, operating distances or operator efficiency differ.

The System

High pruning can:

- Enhance vision to surrounding area.
- Enhance safety to surrounding area/property.
- Increase the stability of the tree.
- Improve the quality of the stem and enhance the value.

The following case study assessed the suitability of the Husqvarna 250PS for high pruning.

Machine Description

The Husqvarna 250PS High Pruner provides a mechanical method of high pruning (delimiting) a growing tree. It consists of a shoulder harness, mounted 49 cc two stroke engine which, via a centrifugal clutch, drives a hydraulic pump submerged in its own tank.

The hydraulic oil travels in pipes up the telescopic shaft to a motor, at the top of the pole, which drives the chain via a sprocket.



The telescopic pole is split into three 2 m sections giving a full reach of over 6 m when fully extended. A knuckle joint at the top of the telescopic shaft allows the saw bar to be adjusted against the branch being cut. Chain lubrication is from the hydraulic supply to the motor at the top of the pole.

The machine tested was fitted with an Oregon 3/8" pitch 91SG chain and a 6" bar.

The throttle control and on/off switch are located on a cable which can be clipped onto the pole and moved to the desired position when in operation.

The shoulder harness has been designed so that the weight of the saw sits at the base of the spine at the top of the operator's hip and the weight is distributed over the shoulders. Anti vibration rubbers isolate the engine, tank and pump unit from the harness and the operator.

Operation

The operation of the Husqvarna 250PS is straight forward. Adjustments to the harness, fuel and oil systems of the saw must be carried out and the saw started before the harness is fitted to the operator.

The poles are extended to the desired length and locked in place. The pole is held in both hands, which allows the it to be balanced and positioned to cut the branch.

The position of the operator is important, the higher the extension the closer the operator has to be to the tree. This ensures that the telescopic extension is kept correctly balanced. The pole should be kept at an angle of between 30° to 35° from the vertical when cutting.

Outputs and Costs

Results from the limited case study (Table 1) indicated that the Husqvarna had a higher output and lower cost than a comparable manual method using a brashing saw.

Table 1

Comparison with Manual Brashing Saw

Output Comparison		
Mean Branch Diameter (cm)	Branches Cut per Standard Hour	
	Husqvarna 250PS	Manual/Brashing Saw
6	109	92
Cost Comparison		
Costs/10 branches (£)*	0.92	0.98

* Assuming an operator cost of £9.00/hr and a Husqvarna cost of £1.07/hr.

Safety

The necessary personal protective clothing is, safety boots, non-snag clothing, safety helmet, eye protection, ear protection and a first aid kit.

A safety zone of 20 m from the operation must be observed at all times when the saw is in operation.

Operators should be trained in the correct working technique.

Extreme care must be taken when operating in the vicinity of overhead electrical cables.

Supplier and Cost

The Husqvarna 250PS is available from Husqvarna Forest & Gardens UK Ltd, Oldends Lane, Stonehouse, Gloucestershire GL10 3SY. The cost (1998) is in the region of £1500.

Comments on System

The Husqvarna is mechanically reliable and capable of good output levels with the potential to achieve higher outputs than manual methods.

Particular care must be taken when the machine is used with the extension is at full reach.

The operator should be aware of his surroundings when working, especially near public highways, footpaths and overhead power lines.

Associated TDB Publications

Technical Note 12/93 - The Husqvarna 250PS *High Pruner*

Technical Note 21/96 - *Adding value to Farm Woods.*

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Technical Development Branch

Develops, evaluates and promotes safe and efficient equipment and methods of work, maintains output information and provides advice on forest operations.